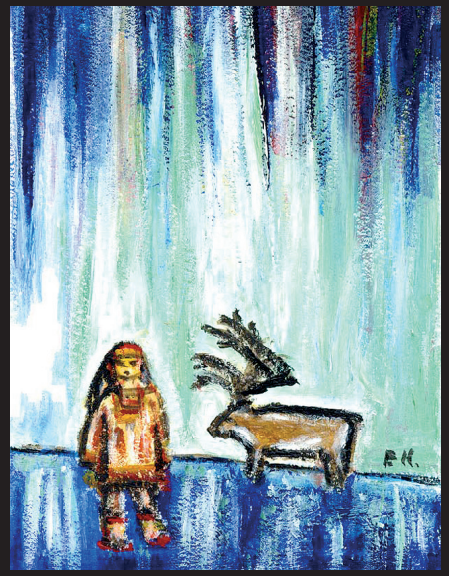

Snows


Dreams





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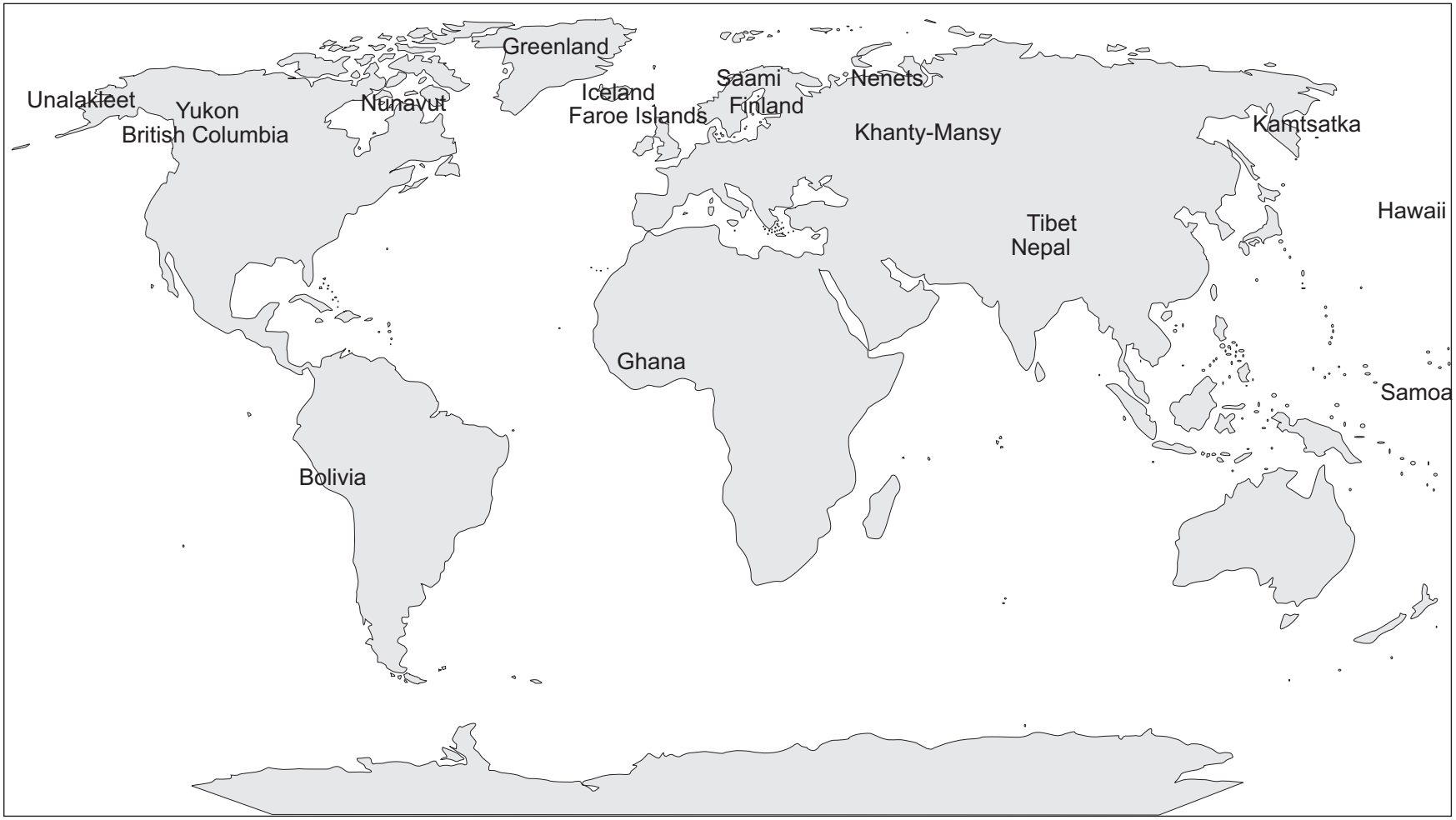
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Bolivia

A Note From the Editors

Snowchange project under Tampere Polytechnic [Finland], Department of Environmental Management and Engineering, started officially in 2001. However before that in 1999 Northern Environment Student Forum and other partnerships in the Arctic and North were being built.

Our aim was to document and work with local communities and Indigenous peoples to present their findings of climate and ecological change in a way that would offer new environmental education to all stakeholders.

Networks of concerned people and organisations came together. Out of these partnerships Snowchange grew. This development and these voices have been collected in this volume. While most of the communities and individuals that we have worked with come from the Circumpolar North in the course of the project selected pilot work was initiated to see whether similarities could be found in other regions. These voices can be found in the Chapter 'Snowchange International'.

For Indigenous and local people knowledge derives from their being in the world, from their experience of things and their relationship with other people, animals, birds, fish, plants, and spirits.

We, the editors, would like to share thoughts and knowledge of the Indigenous and local people on climate and ecological change based on their own experience and cultural understanding. We wish to give space to those meanings and positions that the Indigenous people articulate and interpret themselves. They negotiate and renegotiate these into being. One can think "hillajänkä", cloudberry marsh, as a metaphor for knowledge. This metaphor suggests a trip to a landscape or a space where there are numerous possibilities to approach views, categories and knowledge.

In this landscape we see the perspectives from which Indigenous and local people come to knowing and directly participate in their world. Other similar metaphors could be a riverbank, a snow-covered mountain or reindeer corral.

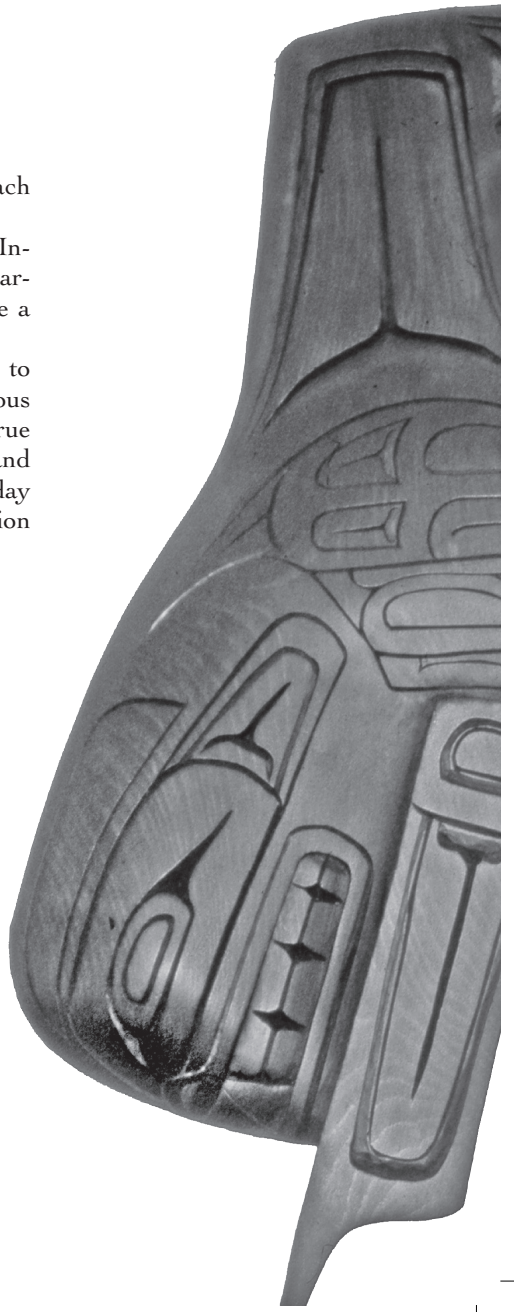
Indigenous perspective gives the reader a possibility to rethink through the hillajänkä-metaphor that Indigenous knowledge is contextually relative in the sense that it is true and valid in terms of its own discourse. This discourse and the knowledge embedded in it are mainly local, of everyday character, deep and spiritual, based on long-term observation and personal experience.

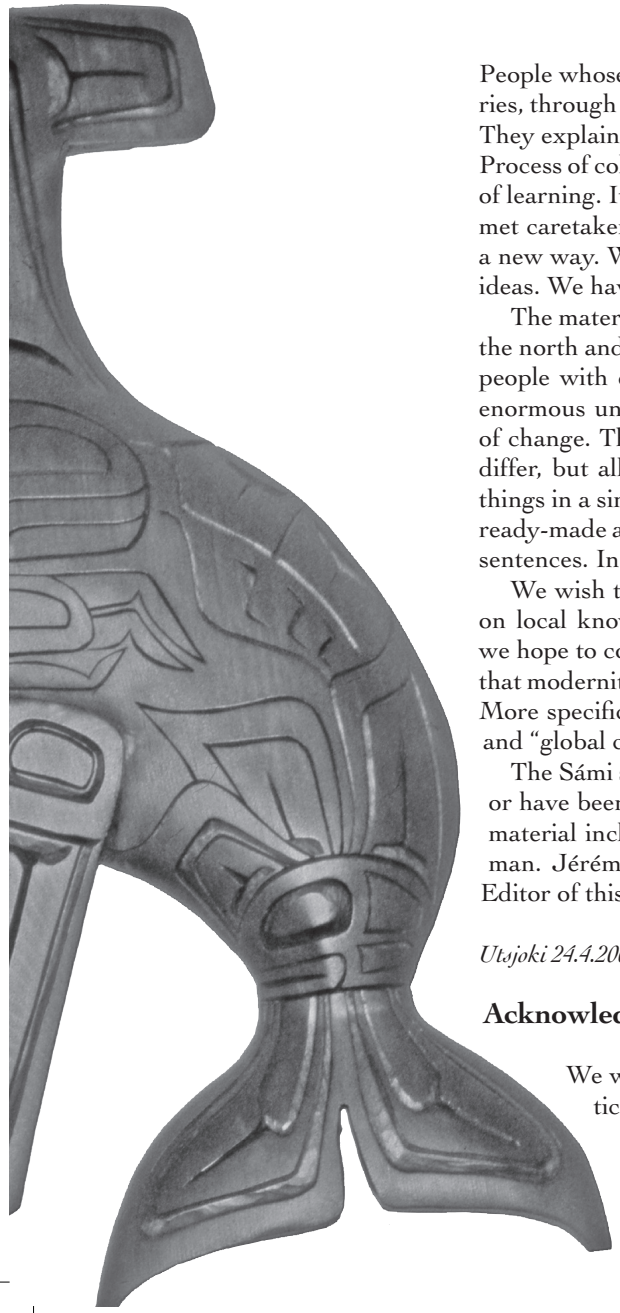
'Marsh Knowledge'

eye for an eye
eye to eye
eye - gatekeeper
of realms
of layers of knowledge
since time began
since we began
eye of the marsh
drumskin like eye
wisdom sits in places
between which you do not go
straight
quickly
or easily
it takes time on the marsh
to know

not to think you know
but to know
what lies beneath
what meets the eye now
may not be all
much is hidden
it takes time on the marsh
silence of the northern skies
northern lights
sun the ever-father
songs of birds
trees pine trees
theirs is the breath of the sky
- bear! -
it takes time on the marsh

Poem by Tero Mustonen





People whose voice we hear in this book live inside their stories, through their stories and partly also outside their stories. They explain things within the context of their everyday life. Process of collecting these stories (and material) has been one of learning. It has provided a place where young people have met caretakers of knowledge and learned about the world in a new way. We all have been speaking, listening and sharing ideas. We have had a dialogue.

The material we present in this book is from many areas of the north and also from other geographic areas. It shows that people with different cultural and social backgrounds have enormous unity, for instance, in terms of their observations of change. The cultural meaning and ways of discourse may differ, but all people know a lot and they experience many things in a similar way. The context of the book does not give ready-made answers, offer grand theories or controlled truth-sentences. In effect, it embraces all knowledge as equal.

We wish to evoke in readers thoughts and wisdom based on local knowledge and everyday life. Generally speaking, we hope to contribute to the overall understanding of threats that modernity and global change create and are trapped into. More specifically, we hope to trap the concepts "modernity" and "global change" into a critical dialogue with locality.

The Sámi stories and poems of this book are collected and/or have been written by Elina Helander. Sámi mythological material includes also an article by Professor Louise Bäckman. Jérémie Michael McGowan is an English Language Editor of this material.

Utsjoki 24.4.2004 Tero Mustonen and Elina Helander

Acknowledgements

We would like to thank all Indigenous and local participants to Snowchange – Elders, hunters, fishermen, reindeer herders and others who took time to share their knowledge and time with us.
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Writers

Taiaiake Alfred, warrior, Mohawk, is a professor and director at the University of Victoria Indigenous Governance Programme.

Larisa Avdejeva a Kola Sámi and the director of the Cultural Centre in Lovozero, Russia.

Jusquan, Amanda Bedard is from the Tsiij git'anee Eagle clan from Old Massett, Haida Gwaii [Haida Nation].

Louise Bäckman is a South Sámi professor from Sweden.

Alisha Chauhan is working for the Inuvialuit Joint Secretariat, Inuvialuit Settlement Region, NWT, Canada on climate change issues.

Marjukka Dyer is the head of the Department of Environmental Engineering in Tampere Polytechnic, Finland. She lives in Tampere.

Jaalen Edenshaw is from Haida Gwaii [Haida Nation].

Raino Heino is employed by the Finland's National Weather Service (Finnish Meteorological Institute, FMI) since 1965. Today he is the vice-president of the European Meteorological Society and national focal point of the Intergovernmental Panel on Climate Change under the United Nations.

Leena Heinämäki is a researcher at the Arctic Centre, University of Lapland, Finland.

Elina Helander is a Sámi raindeer owner from Ohcejohka. She is a special researcher at the University of Lapland, the Arctic Centre.

Timo Helle is a scholar at the Finnish Forest Research Institute, Finland. He lives in Rovaniemi.

Dimitri Ottovitš Horolje is the president of the Russian Association of Reindeer herders.

Henry P. Huntington is an independent researcher from Eagle River, Alaska. He climbs mountains among other things.

Peter Irniq is the commissioner of Territory of Nunavut, Canada.

Jelena Jakovleva is a Kola Sámi from a traditional family.

Taina Kaivola is a researcher at the University of Helsinki, Faculty of Arts, Finland.

Pekka Kautovaara is an author and accomplished photographer as well as a teacher from Savo, Finland.

John Keogak is a hunter from Sachs Harbour, Inuvialuit Settlement Region, NWT, Canada.

Kaisa Emilia Keski-Nisula is working on issues affecting the local communities in Bolivia. She is from Finland.

Vladimir Kotkin works for the Yasavey Organisation of the Nenets people in Naryan Mar, Russia.

Marko Kulmala is a Finn. He works as a teacher and a webmaster in Tampere Polytechnic. His speciality is research of information society and information politics, including information warfare.

Penehuro F. Lefale is a Pacific climate analyst, National Institute of Water and Atmospheric Research (NIWA) of New Zealand.

John Macdonald is at Igloolik Research Station, Igloolik, Nunavut, Canada.

Jérémie Michael McGowan is an English language editor, scholar and artist originally from the United States of America.

Katriina Menza is a student at Department of Urban and Regional Planning, University of Hawai'i at Manoa. Originally she comes from Turenki, Finland.

Stefan Mikaelsson is the vice-president of Sámi Council and a reindeer herder from Harads, Sweden.

Tero Mustonen is a Finn from Tampere. He works at the Tampere Polytechnic, Finland as a project manager and a teacher.

Pentti Nikodemus is a Sámi reindeer herder from Purnumukka, Finland.

Kristian Olsen aaju is from Arsuk, Greenland. He is a well-known artist and a poet.

Chris Paci is a manager, Lands & Environment for Dene Nation, Canada.

Michael Yaw Poku-Marboah completed his MSc. in Environmental Science (TEMMPRO Programme) at the University of Turku in June, 2001. He is currently studying at the University of Helsinki, Finland.

Curtis Rattray is a Tahltan from Dease Lake, British Columbia, Canada. He has worked with the Snowchange Project since 2000. Today he is working with educational issues in the Tribal Council of his people.

Johanna Roto is a student of geography at University of Helsinki, Finland. She is as well the president of the Finnish-Faroe Islands Association.

Mike Salomons was the manager of science at Aurora Research Institute, Inuvik, Northwest Territories, Canada until the end of 2003.

Leanne Simpson is a researcher, writer and activist of Mississauga ancestry. She is currently on leave from her position as director of Indigenous Environmental Studies at Trent University in Peterborough, Ontario, Canada.

Viktoria Šarahmatova comes from the Kamtšatka Region, Russia.

Norm Snow is the executive director of the Inuvialuit Joint Secretariat, Inuvialuit Settlement Region, NWT, Canada.

Pavel V. Sulyandziga works for the Russian Association of Indigenous Peoples of the North, Siberia and Far East, Moscow, Russia.

Karina Suominen is a researcher, University of Helsinki, Department of Folklore Studies, Finland.

Joseph Tigullaraq, a hunter, works for the Government of Nunavut, Canada. He lives today in Igloolik.

Tatiana K.Vlassova is a researcher working for the Russian Association of Indigenous Peoples of the North, Siberia and Far East, Moscow, Russia.

Galina Volkova comes from the Khabarovsk Region, Russia.

Sergey Zavalko is professor of Ecology at the Murmansk State Technical University, Russia. Kyrill Zavalko is his son.

Hanna Eklund, Ari Hiltunen, Niina Huovari, Mika Korkeakoski, Kaisu Mustonen [Pulli], Aija Mäkinen, Mika Nieminen, Ville Peltovuori, Tiina Salin, Eija Syrjämäki, Samuli Teittinen are or have been students of Environmental Management and Engineering at the Tampere Polytechnic, Finland.

SNOWCHANGE

Introduction

By Henry P. Huntington, Independent Researcher, Alaska, USA

Share these stories

Near and far—

Our future requires

We work together

Connecting and learning,

Helping each other

Across shifting snows,

Neighbors and strangers

Getting engaged,

Enlightened, empowered!

In Search for Values and New Approaches

Marjukka Dyer
Head of Environmental Engineering and Management, Tampere Polytechnic

In her book 'Ariadne's Thread, The Search for New Modes of Thinking', Mary C. Clark, Professor of Biology at San Diego State University wrote,

"We live in a world undergoing multiple, large, rapid and mostly unprecedented changes, in the face of which most of us feel utterly helpless. For any thoughtful person – for anyone who cares about the future of the young, this world is a nightmare."

No matter how pessimistic a picture Clark paints, her book reflects indeed the concerns of thoughtful people, who see reason to trust in the value of education.

I personally share her view that college and university students are becoming more and more aware of the fact that former ways of thinking are no longer sufficient to explain the rapid changes in our environment.

The importance of forming a holistic view on issues such as global warming, resource depletion, urban environment problems, deficiency of potable water resources, lack of fertile land for growing food, to name only a few, cannot be over-emphasized.

Until recent times, education in general concentrated on too narrow an approach to such problems. The usual approach was to list problems without any effort to relate one problem to another, or looking into the deeper reasons for their existence.

After introducing her interdisciplinary course *"Our Global Future"* to the study programs in various institutes, she asserted that "the response from the students has been powerful" in this integrated approach on environmental issues introduced in the course.

Looking back over the last ten years of environmental education at the Tampere Polytechnic, I share the conclusion of Professor Clark that students have an admirable capacity to become deeply enthused about issues they consider important and worthwhile.

Devoting oneself in the search for truth has inspired generations of people of every age, and this has always been the case, but when one is actually surrounded by this kind of enthusiasm, one's breath is taken away to share the atmosphere of passion and dedication shown by students.

One such high point of my life has been the opportunity to follow students as they have fully immersed themselves in research concerning environmental impact assessments, and one can only admire and wherever possible, encourage such students.

After attending the Kyoto Protocol follow-up meeting in Bonn, Tero Mustonen was invited to share his reflections about the issues discussed at that meeting, with the environmental students at Tampere Polytechnic. As an offspring from that lecture, a series of publications dealing with observations about global warming (not only in Finland but in many Arctic regions and even some Pacific islands) have been printed, altogether some 2000 pages.

Thousands of hours were used to interview Indigenous people in Alaska, Yukon and the Northwest Territories, and also in the Kola Peninsula, in northern Scandinavia with the Sámi people, and even the Sherpa in the mountains of Himalaya.

They were questioned as to how they have experienced the rising temperatures in their region, and how their way of life has changed. They were also asked about their observations of the effect of such changes on the flora and fauna, and whether or not snow and ice patterns have changed.

Fishermen were interviewed in Finland and other localities. Water samples were analysed, and in general, the climate change policies of different nations were studied.

Many thousands of hours were spent to translate, type and prepare material for the final printing.

Several international seminars and conferences have been organised and conclusions resulting from those events have been widely discussed by an "international Arctic network".

During the years in question, Snowchange has acquired several well known sub-names for the various undertakings, such as NESF (Northern Environment Students Forum), Snowchange 2003, Snowschange 2004, Icescapes, and no doubt by other names as well.

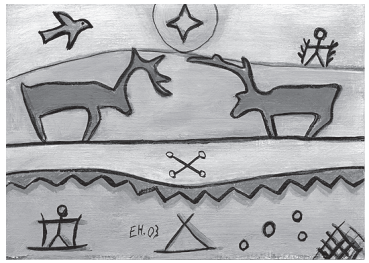
This project has evolved as the most time and effort-consuming study undertaken during the last 4 years of the Degree Programme of Environmental Management and Engineering of Tampere Polytechic.

Consequently, as a result of the studies, we now know that climatic change has not only been very rapid, but has dramatically changed the living patterns of people, their hunting, fishing and transportation activities in Arctic areas and other regions.

Mary C. Clark shook the tranquillity of the western universities by questioning the fragmentation of research and calling for a holistic approach in order to understand what has happened to our environment the birds and fish in particular.

She started to look for the magic ball, which could lead our modern society out of 'its present impasse' as she calls it. Ariadne's Thread was, according to Creek mythology, a magic ball that unwound spontaneously to lead Theseus safely into and out of the labyrinth housing the Minotaur.

It is my sincere hope that this book will offer the foundation for an alternative and even new way of thinking and reacting, to help the reader understand a Chinese proverb from the 11th century, which at the same time, happens to be the first law of sound Ecology …*'everything depends on everything else'* and what that means in a modern world. Briefly, it means survival.



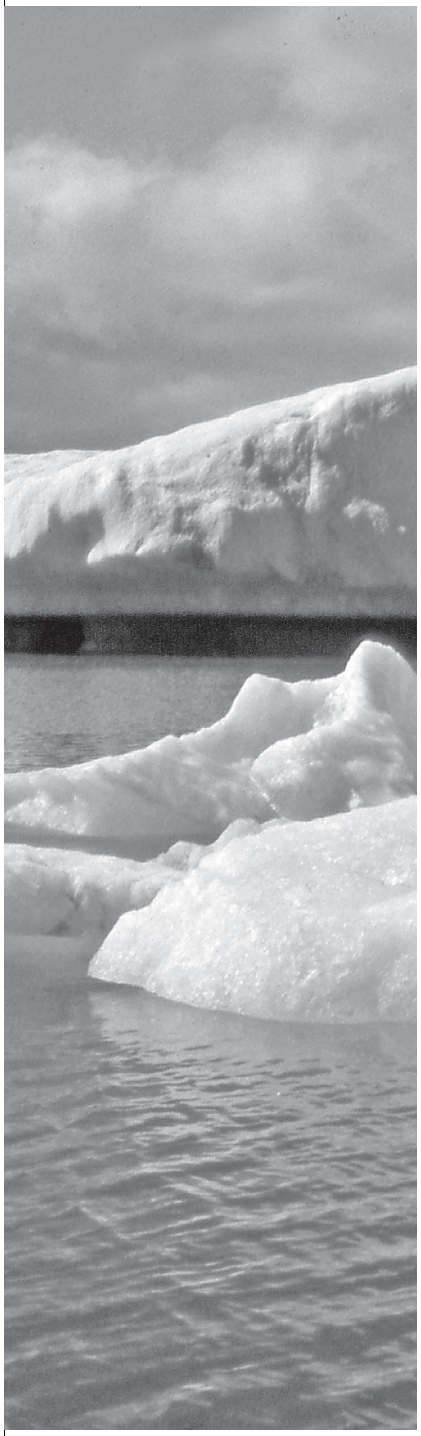
Dear Reader,

On behalf of the Aurora Research Institute, I would like to thank you for the opportunity to participate in this effort to document and publicize Indigenous observations of climate change from the circumpolar north. I am honored to have the chance to work together, to share, and to learn from other individuals, groups and organizations from across the north. I would like to especially thank the Tampere Polytechnic for taking the lead on this initiative and for hosting this workshop and project.

The specific mandate of the Aurora Research Institute is to work within the Northwest Territories of Canada, but we are also aware that the issue of climate change is one that affects us all and that only by working together on an international scale can we really begin to affect change.

Thank you,

Mike Salomons
Manager, Research Programs until December 2005
Aurora Research Institute, Inuvik, North West Territories, Canada



Scientific Perspective On Climate Change

Raino Heino, Finnish Meteorological Institute (the text is based on the material available in the Web pages of the IPCC, cf. http://www.ipcc.ch) A version of this paper was delivered at Snowchange 2002.

The Earth's climate has been relatively stable since the last ice age. During this time modern society has evolved, and, in many cases, successfully adapted to the prevailing local climate and its natural variability. However, the Earth's climate is now changing.

The surface temperature of the latest century is clearly warmer than any other century during the last thousand years. In addition, there is evidence that precipitation patterns are changing, that sea level is increasing, that glaciers are retreating world-wide, that Arctic sea ice is thinning, and that the incidence of extreme weather events is increasing in some parts of the world.

The weight of scientific evidence suggests that the observed changes in the Earth's climate are, at least in part, due to human activities. Climate models that take into account the observed increases in the atmospheric concentrations of greenhouse gases, sulphate aerosols and the observed decrease in ozone in the lower stratosphere, in conjunction with natural changes in volcanic activity and in solar activity, simulate the observed changes in annual mean global surface temperature quite well. This, and our basic scientific understanding of the greenhouse effect, suggests that human activities are implicated in the observed changes in the Earth's climate.

The majority of scientific experts believe that human-induced climate change is inevitable. The question is not whether climate will change in response to human activities, but rather how much, how fast and where. It is also clear that climate change will, in many parts of the world, adversely affect socio-economic sectors, with developing countries being the most vulnerable.

Decision-makers should realise that once carbon dioxide, the major anthropogenic greenhouse gas, is emitted into the atmosphere, it stays there for more than a century. This means that if policy formulation waits until all scientific uncertainties are resolved, and carbon dioxide and other greenhouse gases are responsible for changing the Earth's climate as projected by all climate models, the time to reverse the human-induced changes in climate and the resulting environmental damages, would not be years or decades, but centuries to millennia, even if all emissions of greenhouse gases were terminated, which is clearly not practical.

If actions are not taken to reduce the projected increase

in greenhouse gas emissions, the Earth's climate is projected to change at a rate unprecedented in the last 10,000 years with adverse consequences for society, undermining the very foundation of sustainable development.

The Intergovernmental Panel on Climate Change (IPCC) and Its Working Groups

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP) in 1988.

The aim was, and remains, to provide an assessment of the understanding of all aspects of climate change, including how human activities can cause such changes and can be impacted by them. In the 1980s it had become widely recognised that human-influenced emissions of greenhouse gases have the potential to alter the climate system, with possible deleterious or beneficial effects.

It was also recognised that addressing such global issues required organisation on a global scale, including assessment of the understanding of the issue by the worldwide expert communities.

From the beginning the IPCC was organised into three Working Groups.

- *Working Group I to address the scientific aspects of the climate system and change,*
- *Working Group II to address the impacts of and adaptations to climate change, and*
- *Working Group III to address the options for the mitigation of climate change.*

The IPCC reports are (i) up-to-date descriptions of the knowns and unknowns of the climate system and related factors, (ii) based on the knowledge of the international expert communities, (iii) produced by an open and peer-reviewed professional process, and (iv) based upon scientific publications whose findings are summarised in terms useful to decision makers. While the assessed information is policy relevant, the IPCC does not establish or advocate public policy.

Scientific Aspects Of the Climate System by the IPCC

The First Assessment Report (1990) described broadly the status of the understanding of the climate system and climate change that had been gained over the preceding decades of research. Several major points were emphasised.

The greenhouse effect is a natural feature of the planet, and its fundamental physics is well understood. The atmospheric abundances of greenhouse gases were increasing, due largely to human activities. Continued future growth in greenhouse gas emissions was predicted to lead to significant increases in the average surface temperature of the planet, increases that would exceed the natural variation of the past several millennia and that could be reversed only slowly.

The past century had, at that time, seen a surface warming of nearly 0.5°C, which was broadly consistent with that predicted by climate models for the greenhouse gas increases, but was also comparable to what was then known about natural variation.

Lastly, it was pointed out that the current level of understanding at that time and the existing capabilities of climate models limited the prediction of changes in the climate of specific regions.

The Second Assessment Report (1996) assessed the new state of understanding based on the results of additional research and special reports produced in the interim. The re-

port underscored that greenhouse gas abundances continued to increase in the atmosphere and that very substantial cuts in emissions would be required for stabilisation of greenhouse gas concentrations in the atmosphere, which is the ultimate goal of Article 2 of the Framework Convention on Climate Change.

Further, the general increase in global temperature continued, with recent years being the warmest since at least 1860. The ability of climate models to simulate observed events and trends had improved, particularly with the inclusion of sulphate aerosols and stratospheric ozone as radiative forcing agents in climate models.

Utilising this simulative capability to compare to the observed patterns of regional temperature changes, the report concluded that the ability to quantify the human influence on global climate was limited.

The limitations arose because the expected signal was still emerging from the noise of natural variability and because of uncertainties in other key factors. Nevertheless, the report also concluded that *"the balance of evidence suggests a discernible human influence on global climate"*. Lastly, based on a range of scenarios of future greenhouse gas abundances, a set of responses of the climate system was simulated.

The Third Assessment Report (2001) was building upon the past assessments and incorporated the results of the past five years of climate research. Its summary report aimed to describe the major features of the understanding of the climate system and climate change at the outset of the 21st century.

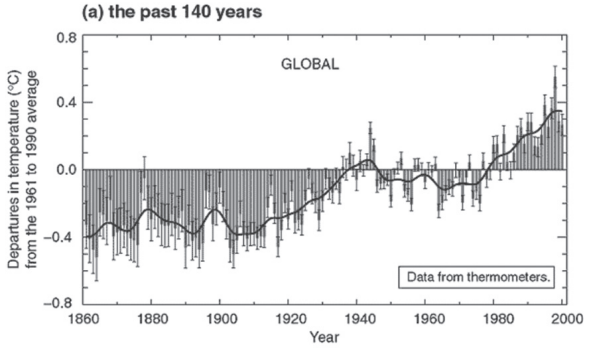
The report concluded that there is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.

Specifically:

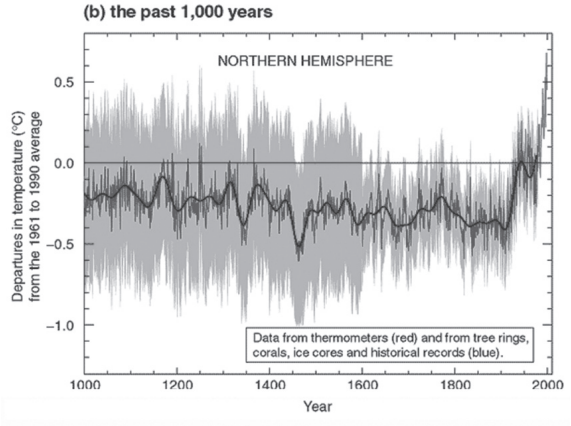
- Concentrations of atmospheric greenhouse gases and their radiative forcing have continued to increase as a result of human activities
- Global average surface temperature has increased over the 20th century by about 0.6°C
- Temperatures have also risen in the lowest 8 kilometres of the atmosphere
- Snow cover and ice extent have decreased.
- Global average sea level has risen and ocean heat content has increased.
- Confidence in the ability of models to project future climate has increased
- Human influences will continue to change atmospheric composition throughout the 21st century.

The preparations of the Fourth Assessment Report have been initiated, and the report should be ready in early 2007.

Variations Of the Earth's Surface Temperature Over the Last 140 Years And The Last Millennium



(a) The Earth's surface temperature is shown year to year (red bars) and approximately decade by decade (black line, a filtered annual curve suppressing fluctuations below near decadal time-scales). There are uncertainties in the annual data (thin black whisker bars represent the 95% confidence range) due to data gaps, random instrumental errors and uncertainties, uncertainties in bias corrections in the ocean surface temperature data and also in adjustments for urbanisation over the land. Over both the last 140 years and 100 years, the best estimate is that the global average surface temperature has increased by 0.6 ± 0.2°C.



(b) Additionally, the year by year (blue curve) and 50 year average (black curve) variations of the average surface temperature of the Northern Hemisphere for the past 1000 years have been reconstructed from "proxy" data calibrated against thermometer data (see list of the main proxy data in the diagram). The 95% confidence range in the annual data is represented by the grey region. These uncertainties increase in more distant times and are always much larger than in the instrumental record due to the use of relatively sparse proxy data. Nevertheless the rate and duration of warming of the 20th century has been much greater than in any of the previous nine centuries. Similarly, it is likely that the 1990s have been the warmest decade and 1998 the warmest year of the millennium.

Raino Heino

European Meteorological Society [EMS] Council Member in 2001-2002, has been employed by the Finland's National Weather Service (Finnish Meteorological Institute, FMI) since 1965. Today he is the Vice-President of the EMS and National Focal Point of the Intergovernmental Panel on Climate Change under the United Nations.

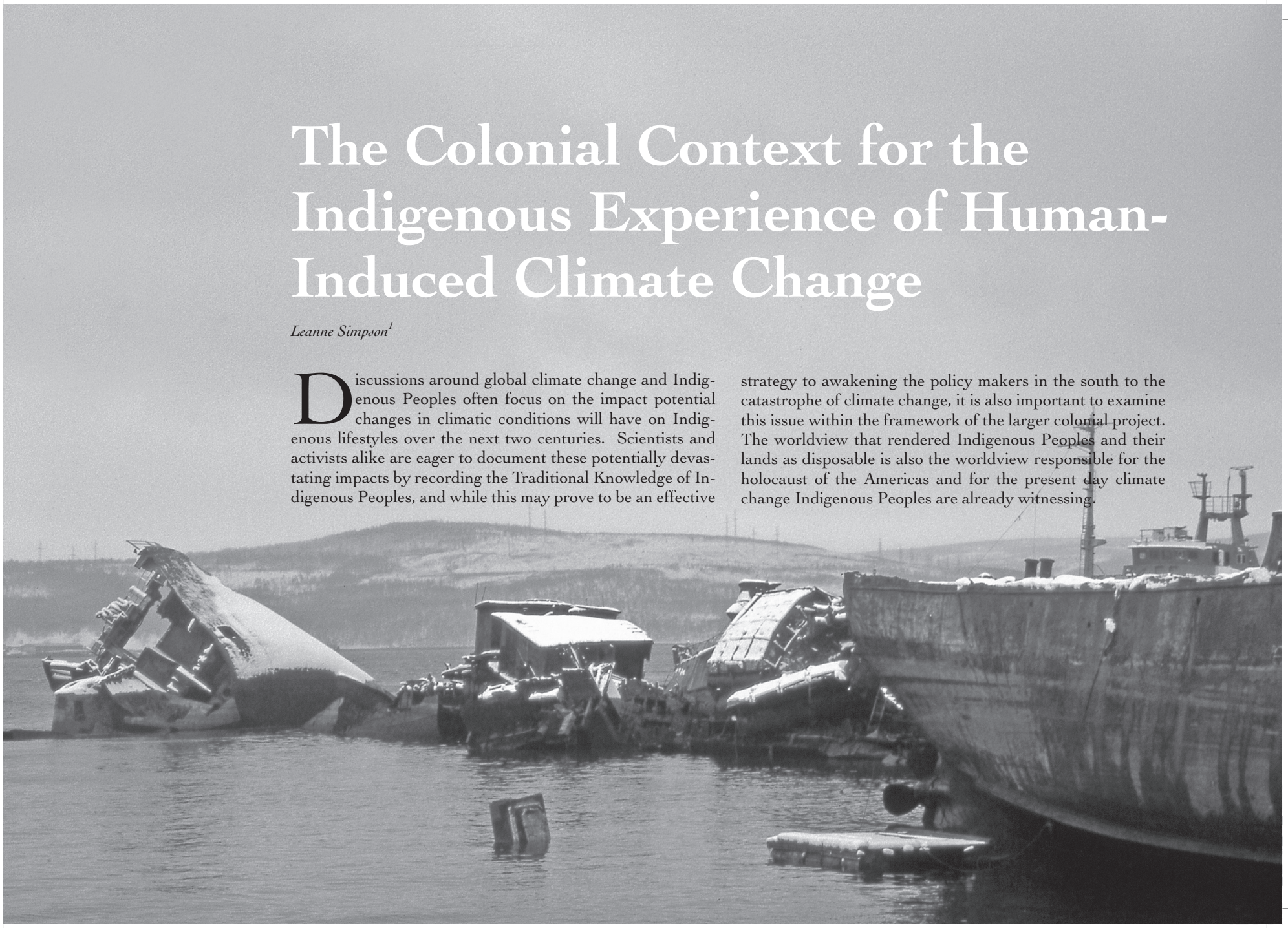
He has worked in the fields of climate services, data management, instrumentation and observing networks, and climate research. He was the Head of Climatology Division of FMI in 1993-95, and since then the Research Manager of FMI Meteorological Research. He has also lectured courses of climatology, statistics, and physical meteorology at Helsinki University (Department of Meteorology), where he was also working as the Associate Professor in 1977-1979. He serves as the Finnish delegate in various international bodies (e.g. WMO, GCOS, IPCC, ECSN, Nordklim).

He was the president of the Geophysical Society of Finland in 1998, and the chair of its Meteorological Division since then. His special hobby is meteorological philately, and his collection "Weather from Gods to Satellites" has been rewarded in several international exhibitions. He is married with two adult children.

The Colonial Context for the Indigenous Experience of Human-Induced Climate Change

Leanne Simpson[1]

Discussions around global climate change and Indigenous Peoples often focus on the impact potential changes in climatic conditions will have on Indigenous lifestyles over the next two centuries. Scientists and activists alike are eager to document these potentially devastating impacts by recording the Traditional Knowledge of Indigenous Peoples, and while this may prove to be an effective strategy to awakening the policy makers in the south to the catastrophe of climate change, it is also important to examine this issue within the framework of the larger colonial project. The worldview that rendered Indigenous Peoples and their lands as disposable is also the worldview responsible for the holocaust of the Americas and for the present day climate change Indigenous Peoples are already witnessing.



Human-induced climate change (HICC) is the direct result of the globalization of the European industrial revolution, a revolution that was quickened by the flow of stolen raw materials from the Americas, achieved through the invasion and occupation of independent and sovereign Indigenous nations. The export of potatoes, cotton and cochineal dyes, rubber, gold, silver, fur and Indigenous slave labour to Europe and the inexhaustible agricultural potential for crops of tobacco, sugar cane, rice, coffee and indigo in the Americas facilitated industrial advances and the development of the modern manufacturing process[2]. Imprisoning Indigenous nations in the grips of colonialism in essence accelerated the production of greenhouse gases generated by industrialization and the violent globalization of the western world- view. Human-induced climate change is a symptom of the colonial mentality that has supported the destruction of the environment and the destruction of Indigenous national territories in order to promote unfettered industrialization and globalization. Switching to greener technologies will not in and of itself solve the problem; contemporary societies of the world must learn how to build cultures and civilizations based on sustainability, justice and peaceful coexistence with Indigenous Peoples and the land, rather than relationships continued to be based on exploitation and conquest.

The Destruction of Indigenous Territories

Indigenous national territories in Canada, as in other colonial countries have experienced and are continuing to experience the destruction of their lands, waters, air and climate. Lacking the ability to make land use decisions within their traditional territories, Indigenous Peoples have little influence over the extent to which outside industrial development occurs on their lands. Facilitated by state governments, large multi-nationals are engaging in logging, mining, and oil exploration, industrial development that generate huge profits for corporations and very little for local communities who are left to deal with the often devastating environmental consequences of this kind of development.

Indigenous Nations currently face some of the most disturbing effects of environmental destruction in Canada. The Gwitch'in and First Nations in the Yukon are battling toxic contamination brought into their territories through long-range atmospheric transport. The Mohawks of Akwesasne, like many other communities in the Great Lakes region, continue to fight against industrial contamination of their waters, air, land, fish, animals and mother's milk. Several Indigenous nations in northern Manitoba demand to be treated fairly and equitable by governments insisting on flooding their land for hydroelectric development. Burnt Church First Nation in New Brunswick continue to exercise their Treaty Rights to fish lobster despite non-Native violence and injustice on the part of the Department of Fisheries in Oceans. Cree, Anishinaabe and Dene people fight to protect their national territories from massive and intensive deforestation efforts by logging companies eager to reap the profits of one of the most lucrative forest ecosystems in Canada. Métis farmers in Manitoba and Saskatchewan are concerned with the impact of biotechnology on their traditional seed stocks. In the west, the Haida Nation is fighting to protect their forests from intensive industrial deforestation, while others such as the Saanich Nation protect their sovereign rights to fish in their waterways following their traditional laws and culture. From the vantage point of those people who remain imprisoned by the dominating societies responsible for the instigation and exportation of the Euro-centric thinking that made both colonialism and large -scale environmental destruction possible, it is critical to view climate change within the political reality that continues to deny Indigenous self-determination and land rights.

The Disappearing Boreal?

Human-induced climate change's has genocidal potential for the cultures of Indigenous Peoples' whose national territories sit within the bounds of the boreal forest. Some models have indicated that most areas of the boreal would almost completely become temperate forests and grassland with a doubling of atmospheric carbon dioxide.[3] At our current rate of production, this could happen in about 100 years and represents the drastic destruction of the boreal environment in a relatively short period of time.

The traditional economies of Cree, Dene and Anishinaabek peoples living in the boreal forest have sustained their nations for countless generations and many believe that the revitalization of traditional economic principles represents a necessary step towards decolonization and the recognition of Indigenous sovereignty. Traditional economies however, are born out of the land and an ancient knowledge base accumulated and recorded for thousands and thousands of years. The potential destruction of the boreal ecosystems represents the destruction of the traditional economies operating currently in Indigenous communities but it also destroys the potential for these economic principles to deliver Indigenous nations from poverty and dependency.

But this is not the first time the boreal ecosystem has been threatened. The boreal is one of the most lucrative forests in Canada and deforestation is currently an extreme threat to the traditional cultures of Indigenous Peoples living in the boreal. The people of the Asubpeechoosewagong Netum Anishinaabek (Grassy Narrows First Nation) have been blocking logging roads in their traditional territory for the past year and a half. Intensive industrial deforestation is ravaging their lands, destroying animal habitat, waterways, sacred sites, medicine gathering spots and trap lines. When a trap line is destroyed, a trapper and her community loose much more than just a source of food and income. People are so disheartened with the destruction that they go out on the land less, reducing the opportunities for young people to learn from traditional teachers. They also loose opportunities to renew their relationships with their families on the land and with the essential forces of nature.

Indigenous Knowledge systems are highly contextual, *how* one learns is as important as *what* one learns and the methodologies knowledge-holders employ to transmit their knowledge to younger generations are both dynamic and complex. Rooted in a spirit-mitigated foundation, knowledge-holders often view themselves as merely conduits to knowledge that is controlled by spirits and ancestors in other realms of reality. Nurturing relationships with the essential forces of nature is critical to this process, and this requires and intimate, personal and continual relationship with the localized natural world[4]. All something that will be nearly impossible to maintain if that localized natural world is suddenly another ecosystems with different plants, animals and spiritual forces.

Indigenous languages have evolved and developed to articulate and communicate the conceptualizations embodied in Indigenous worldviews. Indigenous languages come from the land, and the relationships people foster and nurture to the essential forces of nature. HICC has the potential to very quickly transform the ecological context for Indigenous traditions and languages creating a great chasm between the land and the knowledge that comes from it.

Any process that attempts to remove or disconnect Indigenous Peoples from their lands represents an act of cultural genocide, and only further entrenches the relationship between the colonizer and the colonized. Indigenous Knowledge systems are dynamic, fluid and adaptable, and that have a fantastic ability to encode and track environmental change, but human induced climate change represents an attack on Indigenous Knowledge systems at their core, by further re-

moving young people from the land, their indigenous languages, their traditional economies, and from the structures and processes that ensure Indigenous Knowledge is transmitted to the next generation. Had Indigenous Knowledge systems and Indigenous Peoples been healthy and strong going into a period of intensive climatic change, there is no doubt that their survival would have been ensured. But human induced climate change is occurring in the context of corporate deforestation, mining, environmental pollution and contamination, encroachment, road-building, hydro-electric development and countless other major environmental problems facing Indigenous nations. Environmental problems that will not be solved until Indigenous Peoples are able to disentangle themselves from the web of colonial oppression and establish a new relationship with settler governments.

Threatened Decolonization

Indigenist scholars have advanced the political ideologies around Indigenism as a strategy for the decolonization of the relationships between Indigenous nations and setter governments[5]. These ideologies are rooted in the specific cultural knowledge of each Indigenous nation, combined with political drive towards self-determination and the recognition of Indigenous authority. To many, these anti-colonial strategies represent hope for a future based on the notions of justice, coexistence and peace embodied in Indigenous Knowledge systems and encoded in the original treaties. A substantive requirement for this strategy is the revitalization, recovery, promotion and application of Indigenous Knowledge pertaining to political culture, leadership, governance, decision-making, and economy in a contemporary context. Human-induced climate change is a substantial threat to that recovery and to the energy required to make that transformation at the community level. It is difficult to recover and to heal when one is still under attack.

Anti-Colonial Solutions to Climate Change

Indigenous Peoples and Indigenous Knowledge systems have survived through 500 years of fantastic violence making the traditions of Indigenous resistance strong. Indigenous Knowledge is noted for its dynamicism and fluidity and its ability to adapt to changing environments. Indigenous Peoples and some aspects of our knowledge will no doubt survive through the potential catastrophic nature of climate change, but our knowledge-holders, Elders and traditional leaders are demanding that we act now to mitigate the colonizing nature of the most drastic impacts of human induced climate change.

Current proposed solutions to human induced climate change that do not address and dismantle the mentality of the colonial project are destine to undermined Indigenous efforts to restore the peaceful coexistence imagined by our Ancestors. This kind of justice is necessary for the indigenizing of western environmental thinking and the establishment of sustainable indigenous and non-indigenous communities. The ideologies of Indigenous Knowledge and the values they embody hold answers to how humans can live as a part of their environments in a peaceful and humble manner, but these ideologies also require a transformation of colonial thinking and a resurgence of justice and righteousness. Perhaps climate change, with its potential devastating impacts for both Indigenous and non-Indigenous peoples will provide the impetus for this transformation.

Endnotes

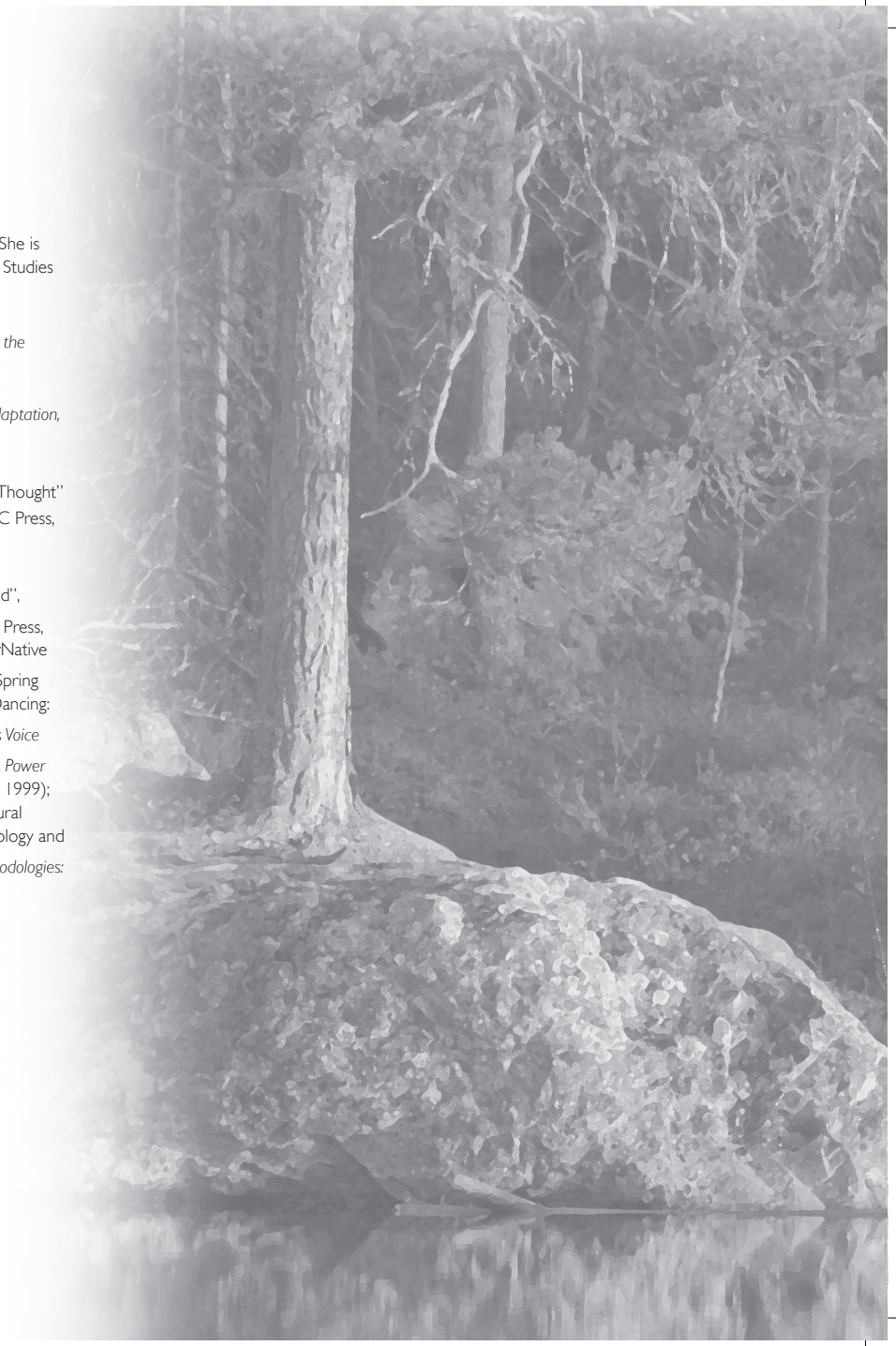
[1] Leanne Simpson is a researcher, writer and activist of Mississauga ancestry. She is currently on leave from her position as Director of Indigenous Environmental Studies at Trent University in Peterborough, Ontario, Canada.

[2] Jack Weatherford, *Indian Givers: How the Indians of the Americas Transformed the World.* (New York: Fawcett Books, 39-59.

[3] (Maxwell, B. et al. (1997), *The Canada Country Study: Climate Impacts and Adaptation, National Summary for Policymakers,* Environment Canada, p.21).

[4] James (Sákéj) Youngblood Henderson, "Ayukpachi: Empowering Aboriginal Thought" in Marie Battiste, ed., *Reclaiming Indigenous Voice and Vision.* (Vancouver: UBC Press, (2000), pp. 248-279).

[5] Ward Churchill, "I Am Indigenist: Notes on the Ideology of the Fourth World", in *A Native Son: Selected Essays on Indigenism, 1985-1995* (Boston: South End Press, 1996); Kiera Ladner , "Governing within an Ecological Context: Creating AlterNative Understandings of Siiksiikaawa Governance". *Studies in Political Economy 70* (Spring 2003):125-152; James (Sákéj) Youngblood Henderson, "Post-Colonial Ghost Dancing: Diagnosing European Colonialism" in Marie Battiste, ed., *Reclaiming Indigenous Voice and Vision.* (Vancouver: UBC Press, (2000), pp. 57-77); Taiaiake Alfred, *Peace, Power and Righteousness: An Indigenous Manifesto.* (Toronto: Oxford University Press, 1999); Lester-Irabinna Rigney, "Internationalization of an Indigenous Anticolonial Cultural Critique of Research Methodologies: A Guide to Indigenist Research Methodology and Its Principles" *Wicazo Sa* 14:2 (1999); Linda Tuhiwai Smith, *Decolonizing Methodologies: Research and Indigenous Peoples.* (London: Zed Books, 1999).



The *Noaiȣi* and the *Noaiȣi's* Worldview: A study in Sámi shamanism from an historical view point

LOUISE BÄCKMAN, author, language eȣitor Jérémie Michael McGowan.

There is no doubt that the Sámi, like other members of human kind, are searching for answers to the eternal and fundamental questions of life: where do we come from; why are we here; and where are we going? The *noaiȣi,* or Sámi shaman, was thought able to answer these questions, being uniquely chosen by powers from another reality to act as the representative of the collective as the mediator between the human world and the world of the gods. The mythical truths the Sámi believed in and the worldview the Sámi embraced are partly characterised by the *noaiȣi* and the *noaiȣi's* experiences, in so far as the available sources concerning Sámi religion can be understood and trusted.

These sources result from documents that were written by non-Sámi people. An encounter with the divine revelation is deeply personal, and a wholly individual acceptance. All *noaiȣi* did not have similar experiences during contact with the gods, or 'the other reality,' but all *noaiȣi* were acting within a culture that supplied each with the same frames of reference. *Noaiȣi* were brought up with the same religious traditions, and interpreted experiences in a traditional way, but in accordance with personal experience. Due to individual personality, a *noaiȣi* was able to renew Sámi mythology, but did not change the fundamental structure of the belief system or the religious ideas. When looking at the pictures on the ceremonial drums that *noaiȣi* made and used while searching for spiritual help, it can be concluded that *noaiȣi* were able to lead religious traditions in personal directions. *Noaiȣi* preserved and effectively transmitted the traditional myths, and were also able to renew old myths as well as create new ones. The *noaiȣi* also acted as mythopoets. Additionally, the Sámi were involved in an historical process, during which time Sámi culture encountered other worldview systems, through which the *noaiȣi* gained new perspectives on 'the other reality.' Then, *noaiȣi* were able to conceptualize new things. This continual process of change is happening still.

The Sources

The source writers, especially the clergymen and missionaries of the 17th through 18th centuries, were all men. Consequently, available information about the Sámi *noaiȣi* is from an anthrocentric perspective, meaning that according to the authors, the male culture was the norm. The authors were looking at what Sámi men believed in and were observing how men acted in ceremonial situations. Inherent to this anthrocentric perspective is the assumption that women followed the men's behaviour. Another thing that we must take into

consideration is that the information the writers received did not come directly from the Sámi, mostly generating instead from people living adjacent to the Sámi. These informants had prejudices against the Sámi 'otherness' that rendered the Sámi terrifying in the eyes of neighbouring cultures. The actions of the *noaidi* were looked upon as *'trolldom,'* or sorcery, a phenomenon the non-Sámi Northerners were quite familiar with. For example, Northerners believed that certain human beings were able to place evil upon antagonists by sending *'maran,'* the nightmare, in order to injure the enemy. The Northerners believed in guise changing and hag riding, etc (1), skills, it was opined, that the noaidi also practised. The *noaidi* was 'the wizard of the first order' and belonged to the powers of chaos that were threatening the social order of the non-Sámi societies. Furthermore, in the accounts about the Sámi, 'Sáminess' is defined by outsiders, and the Sámi were named as giants, dwarves, and elves, all beings from the supernatural world (2). The 'we' and the 'others' in these stories are surely recognisable. The two culture groups lived side by side and seem to have been cooperating sometimes, but the mental universes of the Sámi and the Northerners remained apart. The worldview system of the Sámi was not really disturbed until Christianity was introduced. Even then the impact was, at best, gradual.

Encountering Other Religions

During the course of history, the Sámi in Scandinavia encountered at least four different systems of religious belief. Each belief system had an impact on traditional Sámi mythology. Generally, the Sámi seem to have tolerated new gods, and even incorporated these new gods into the Sámi pantheon. However, the rituals surrounding the Sámi gods did not change. When needed, new rituals were created, always in accordance with Sámi cultural traditions. Sámi mythology was extended, while the system of ritual, in a large extent, remained traditional. The Sámi encountered:

1. *The religion of the Scandinavians before the Viking time.*
2. *The religion of the Vikings.*
3. *The Roman Catholic mission.*
4. *The Lutheran mission.*

(5. The multitude of religions in modern time, also Laestadianism, and today, neo-shamanism.)

In spite of these revolutionary impacts from the outside world, there are elements in the Sámi belief system that are genuine and general Sámi traditions, holding a place from the very beginning, and still living in the narratives of today:

A) The cult of the Master of the Place or Animal, manifested in a stone, a cliff, or a fell, and named *sieiđi* among some Sámi, and looked upon as sacred;
B) Animal ceremonialism that is connected with the *sieiđi* and maintained in the bear ceremonies of modern time; and, above all,
C) The *noaidism* (shamanism), or the behavior and knowledge of the *noaidi*, called 'noeitetemmie' in the South-Sámi language, and '*noaidivuohta*' in the North-Sámi.

The clan system settled the rules of Sámi society, a system usually named *siida*, a word from the North-Sámi language. The elements noted above are still known very well in the oral narrative traditions among the Sámi of today, but the names of the goddesses and gods are completely gone.

The *Noaidi*

For the Northerners, the closest neighbours of the Sámi, the *noaidi* was the Great Sorcerer, possessing mighty skills that

were believed to originate from the Evil World. For the Sámi, the *noaiδi* was the Religious Specialist that fulfilled many duties. The *noaiδi* was the mediator between human kind and the divine, the healer and diagnostician of ill health, prophet and foreteller of the future and leader of some sacrifices and ceremonies. Sometimes a *noaiδi* acted as the 'cultural guide,' meaning that the *noaiδi* exhorted people to behave in a Sámi manner, likewise preserving the traditional myths and tales, while simultaneously creating new myths and transmitting Sámi knowledge to the younger generations. The *noaiδi* is both a conservative authority and a re-newer. In some regions a *noaiδi* was consulted when a name was needed for a newly born child, because it was of great importance that the child received the right name. By receiving a traditional name the newborn was encultured into Sámi society because the infant's name was found within the kinship network to which the child belonged. It is not certain that noaidi acted as the head masters in funeral rites or in other kinds of rites of passage. However, the most important task of the *noaiδi* was to be the 'stabilizer' of society, because in times of distress among the collective, the *noaiδi* had to assume the agony that society was subjected to, and the *noaiδi* prevented society from mental chaos. The *noaiδi* may be called a 'therapeut.'

What is the role of the *noaiδi* in a changeable society, and did coexistence with a people of another pantheon and system of religious behavior change the *noaiδi's* ethnic and traditional religion, or status in society? The economy of the Sámi took different directions as history progressed. Most scholars are of the opinion that some groups of Sámi changed a fundamental economy based purely on hunting, trapping, and fishing, into an economy based on reindeer rearing and breeding. Instead of having a hunter's mobility, i.e. a life of following game, the Sámi switched to reindeer nomadism, i.e. a life of following a herd of reindeer (3). This basic economic shift means that the collective economy of the hunters changed into an individual economy of herd owners, but the *siida* system still regulated work to a certain degree. The role of the *noaiδi* also changed, as did some elements of Sámi religion (4). However, some of the basic elements of this belief system did stay intact, such as the three elements named above, together with the belief in a multiple cosmos.

1. The Pre-Viking Period

From the time before the 9th century, there are some archaeological finds, above all grave gifts, that show the Sámi and the Northerners had trade relations. In addition to archaeological proofs, linguists have also found a few words of Germanic extraction that have enriched the Sámi language, loan words from before the sound shifting of the Old Nordic language, i.e. before the 8th century (5). Likewise, some words in the Nordic languages are related to the Finno-Ugric tongues. This means that the two culture groups must have had close contact with each other. Did this acceptance of foreign words mean that the Sámi language was seen as a language of lower status than the neighbouring Scandinavian languages? Or were the Sámi and the Northerners bilingual? There is no clear answer to this question, and curiously enough there is no information about the language the two people used when communicating with each other. Obviously, however, the Sámi and Northerners understood each other. In later times, a trade language developed in the Finnmark region of Norway. This *'pomor'* language was used between Russian traders and the Sámi and Norwegian people living along the Northern Norwegian coast. A similar mode of communication may have existed in earlier times as well. Some early historians of religion also maintained that the sources from the 17th and 18th centuries concerning the Sámi people describe a religious system that is reflective of the Bronze Age religion of the Scandinavians (6). No historian of today will

totally support this opinion. However, some current students of Nordic religion are more inclined towards the idea of a common religious origin for the Scandinavians and the Sámi, including the Finns. This is an interesting turn of an old opinion. Regardless, during the pre-Viking period, the *noaiđi* clearly acted in a traditional role as the sole religious leader and religious specialist of the Sámi.

2. The Viking Period

The time of the Vikings, approximately 800 A.D. until 1000 A.D. is of great interest. The Vikings were above all traders (and sometimes robbers), and expanded trade expeditions throughout all the Sámi lands. Vikings certainly met the *noaiđi* in person. In the Icelandic Sagas, written in the 12th or 13th century, there are many tales about the Sámi concerning supernatural skills. From that time until now, the *noaiđi* is called a *'trollkarl'* (sorcerer), and the *noaiđi'*s ceremonial drum is called the *'trolltrumma'* (sorcerer's drum). The Icelandic Sagas, as well as other documents describing the confrontation between the Sámi and the Norsemen in Northern Scandinavia, are based on oral traditions that had been transferred from one generation to another long before being written down. The stories tell of the frustrations of the bold Vikings when confronted with the power and supernatural skills of the *noaiđi.* It can be inferred that the Scandinavians were able to take advantage of the *noaiđi'ɔ* skills for personal purpose, and that the Sámi 'sorcerers' were eager to show off supernatural powers, even using this power as a weapon. For example, in the Norwegian 'Kristinn réttr,' approximately 1120 A.D., the Scandinavians are forbidden to go to the Sámi in order to exploit Sámi 'paganism,' i.e. witchcraft. This documented ban indicates that the Scandinavians had a long tradition of making use of Sámi sorcery.

The conditions of Sámi life were still a hunter's, but according to archaeological finds hunting was combined with holds of small reindeer herds as beasts of burden or decoy. It is also possible that the hunters milked reindeer cows. Ottar, a Nordic chieftain and large landowner who lived in the vicinity of the Sámi in Halogaland, tells in his accounts (approximately 830 A.D.) that he owned about 600 tame reindeer. Ottar also describes that four of these reindeer were animals of decoy, useful to the Sámi. Sámi herders most likely tended Ottar's reindeer.

Judging from this early literature, the *noaiđi* was the person who was able to reach the world of the spirits, and accordingly acted as a religious specialist. By participating in and observing the ceremonies of the neighbouring Scandinavians, for example *'blot'* (sacrifice), the *noaiđi* was introduced to another belief system. The *noaiđi*'s own mythological speculations were broadened, and the *noaiđi* accepted, at least in part, some designations of Nordic origin for Sámi gods. This is true especially in the regions where the Sámi and Norsemen practiced varying forms of close cooperation. However, the traditional Sámi characteristics of the Sámi gods were not changed. For instance, the Sámi thunder god bears many names, referential to different activities. One of the thunder god's names among the South-Sámi is *Hora-gallɛ* (Hovren-gaelles in modern spelling). The word *'gaelle'* is the same as *'kall,'* meaning 'man' in the Nordic language. Tor, or Thor, is the name of the Scandinavian thunder god. Seemingly, Hovren-gaelles is the Sáminised Thor. According to linguists, this name for the Sámi thunder god was accepted by the Sámi around the beginning of the 11th century (7). This does not mean that the Sámi imported the thunder god, Tor, from Nordic mythology. Rather, the Sámi only adopted the designation of 'the Thorr-Man' for an already existing Sámi god (8). Linguistic interpretation of the name *Hovren-gaelle* means 'the Man of the rugged landslip.' According to Sámi mythology, 'the Thundergod strikes the cliffs into pieces.' There are

other god names in Sámi mythology of Nordic extraction, for example *Vearalden Olmai* (Man of the World) and *Radien*, or *Rararet* (Ruler), all designating 'The High God.' Maybe by using Nordic words, the Sámi wanted to be better understood when trying to explain Sámi myths to outsiders (9).

During the Viking period the Sámi were still primarily hunters. Some Sámi, at least those living in the coastal areas of northern Norway, were also small-scale cattle breeders, just like the Norsemen of the time. Due to encounters with an encroaching culture holding different religious speculations, the *noaiđi* was able to renew Sámi mythology and, as usual, insert an individual personality into the traditional Sámi religious ideas. The *noaiđi* still held the position of religious leader in Sámi society during the Viking era. *Noaiđi,* being tolerant of other gods and flexible in mind, also widened the Sámi pantheon by placing names on some diffused systems of belief.

3. The Roman Catholic Mission

During the Roman Catholic mission, the *noaiđi* began to lose power as the sole carrier of religious knowledge. By the beginning of the 13th century or earlier, Catholic monks were meeting Sámi people at the market places. Market places were usually the locations where churches were built, first along the Norwegian coast, initially serving non-Sámi populations. In the middle of the 13th century, a church was built in Tromsö, called *'ecclesia sancte Marie de Trums iuxta paganos,'* In order to serve both the non-Sámi and Sámi (10). There are also documents showing that the monks went into the mission field, meeting people in a home milieu as sellers of indulgences and teachers of another religious system (11). This encounter between the Sámi and the Catholic monks was intensive in some regions, leaving a profound impression upon Sámi mythology as well as on Sámi life as a whole. According to 18th century sources, the Sámi idea of what came after death is clearly influenced by a dogma of Purgatory and the dichotomy of Hell and Paradise, instructing that a realm exists for those obedient to god(s), and another for the non-obedient. In traditional Sámi beliefs there was only one universal realm for those who died in an ordinary way. But if death was caused through violence the victim reached another destination, likewise with a woman who died during childbirth. The Christians, as the new religious specialists in the Sámi areas introduced the concepts of sin, retribution and redemption to the Sámi. These Christian ideals consequently held influence over some of the Sámi mythmakers.

4. The Lutheran Mission

The fourth religious system that the Sámi encountered and had to cope with was the Lutheran mission that started in approximately the first half of the 16th century. During this time integration into the Church congregation intensified. The Swedish authorities became more conscious of Sámi 'paganism' and churches were planned and built at traditional Sámi meeting places. In the first half of the 17th century the mission became increasingly more active. For example, Sámi people had to stay at the church's location in order to be instructed in Christianity. This was true concerning the Sámi throughout Sweden and Finland. As described above, Sámi living in Norway were attached to Christian teachings earlier, because churches and monasteries were built in Norway as early as the 13th century along the Atlantic coast in northern Norway.

Unlike the Christian priest, monk, or missionary, the *noaiđi* is not a 'preacher.' A *noaiđi* is an administrator of religious matters, and acts when needed by the group. Due to the arrival of foreign religious specialists that actively and openly

conducted religious practice, the *noaiđi* was out manoeuvred as the person who was responsible for the well being of Sámi society. Thus, the importance of the *noaiđi's* traditional role declined. The *noaiđi's* skills, however, have never been forgotten. Perhaps *noaiđi* have only lost a 'congregation.' Therefore, the *noaiđi's* visits to 'the other reality' on behalf of the needs of the Sámi clan-members have ceased.

Even if the Sámi encountered Christian missions as early as the 12th century, the Christianization of the Sámi took a very long time. In the 18th century the authorities of the Nordic kingdoms still had to deal with 'paganism.' Why did Christianity have such difficulties in changing the Sámi mind and influencing the Sámi mentality? It took approximately 700 years before the Sámi accepted the new (Christian) and almighty God as the only god. One of the reasons for this prolonged process is that no internal chieftains or kings existed to direct, decree, or dictate that the Sámi should accept and embrace the new belief system. The *noaiđi* is not a political leader. Therefore, becoming Christian was not an order from anyone, the *noaiđi* for instance. Conversion to Christianity was a personal decision, although there were surely pressures from the outside. Each individual had to consider the consequences of abandoning the traditional gods and powers of the Sámi for a foreign and, according to the Christian message, more powerful god.

In contrast to earlier time periods, the Lutheran Mission represented a parallel political agenda. The Sámi were faced with not only a religious decision, but a political affiliation as well. Starting with the Lutheran mission, integration of the Sámi into national states became intensified. Integration equals Christianization. For example, it was required that all Sámi children be baptised by clergymen. Therefore, Sámi children received Christian names, consequently identifying these children as members of Church congregations and members of states under the rule of kings. However, Sámi children were often first given a traditional Sámi name and an identity unique to Sámi culture. Thus, many Sámi possessed two identities. The first identity, often kept secret, located a person within a specific Sámi clan-circle. The second, ecclesiastical identity was used as an official identity in juridical and other state business (12).

The Christianization of the Sámi is a long, complex, and exciting story, worthy of further study. A deeper analysis of this problem is needed, but falls beyond the scope of this study that discussed historical issues concerning the *noaiđi* and the *noaiđi's* religious duties in a changeable world.

Notes

1. See Raudvere 1993
2. See Pálson 1998, Mundal 1994
3. On nomadism see Lundmark 1982, Ruong 1969
4. See Bäckman 1978
5. See Sköld 1979, Bergsland 1967
6. See Fritzner 1877
7. Sköld 1985
8. Pettersson 1961
9. Bäckman 1986
10. Kolsrud 1947
11. Widén 1964 and 1980
12. See Randulf 1903 and Olsen 1910

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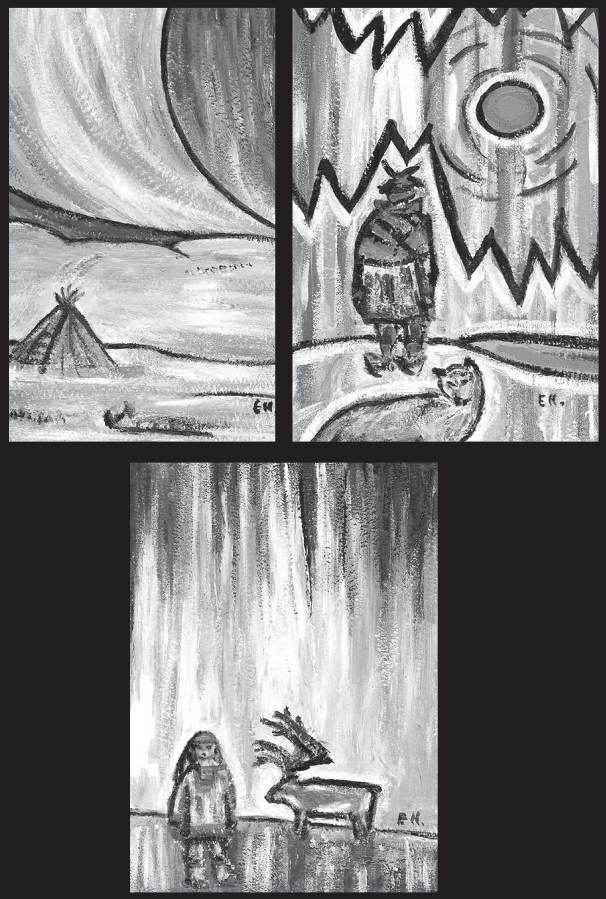
Walking in the Land of Dreams

by Jérémie Michael McGowan, English Language Editor for the Dreamscape Stories

The idea of Elina Helander's *Dreamscapes* revolves around the experience of creation. The English version of Elina Helander's writings, originally titled *Niehkogovat* in Sámi, is not simply translation. Rather, the English *Niehkogovat* result from a process of renewal and revision, as the experiential knowledge of an English audience is different from the Sámi. The English *Dreamscapes* exist to purposely affect an English audience in a distinctly Sámi way. For this reason, first contact with *Dreamscapes* may be confusing, as the material's content and organization is unorthodox within the English-speaking world.

As an aid to the English audience, a text by Louise Bäckman is included in this volume, providing an historical perspective on the cultural context surrounding the Sámi *noaidi*. The cultural environment behind *Dreamscapes* can be understood through Bäckman's outline, and *Dreamscapes* can be seen as a current representation of the ever-changing role of the Sámi *noaidi*.

Another addition to the original Sámi text is Elina Helander's supplemental paper discussing Sámi knowledge and mythology from an indigenous viewpoint. The ideas in this supplemental text outline principles central to an understanding of traditional Sámi knowledge and culture. Familiarity with basic Sámi themes provides a structural framework for navigating the nontraditional material in *Dreamscapes*.
The translation of the title from the Sámi *Niehkogovat* into the



English *Dreamscapes* is indicative of the creative process defining the entire project, and illustrative of the creative manner in which the *Dreamscapes* texts may be used. *Niehko* is "dream, dreaming, vision" and *govat* are "pictures, drawings." Yet the cultural meaning embedded in these words is dynamic and multidimensional. In the Sámi context, knowledge, language, and belief are closely tied to the land, and the land exists as a vibrant, living landscape. This living landscape is important for the Sámi as a physical resource, and is a fundamental part of Sámi society. The land also reflects a mythical landscape, housing the symbolic elements central in the secular and sacred lifestyles of the Sámi. By dreaming, the Sámi, especially *noaidi*, are able to travel in the landscapes of the familiar world and within the territories of the supernatural. Through naming the *niehkogovat* "dreamscapes," the multidimensionality of traditional Sámi thought patterns is evoked, as references to land and landscape are surely awakened within the English audience. Accordingly, *Dreamscapes* is arranged spatially, a multifaceted literary landscape where order, time, use, and sequence no longer traditionally exist. If *Dreamscapes* is experienced as a landscape, then like a walk in nature, this is an adventure of constant change.

Let these texts be an invitation, calling the reader forward into the unknown. Place one foot on the fell, wander off in some direction, and drift silently above the dwarf birch tree line.

Here begin the Dreamscapes, Sámi stories and images by Elina Helander. These stories are set in between the book parts. These stories are an invitation to read and enjoy some of the stories of the Sámi people from Northern Finland.

Bear

Guovža, the bear, can be dangerous in the world of men, especially if you surprise one or interfere with its children. The bear is a sacred animal, and is buried with very careful ceremonies. Leibolmmái is the spirit of hunting and the bear chase, to whom offerings are given for the bear hunt. Alder is the tree of Leibolmmái.

Stories about the bear festival ceremonies are well known, especially in the Swedish Sámi areas. Hunters would use a sacred door in the goahti, through which the bear meat was brought in. The hunters would also exit and enter through this sacred door, called boassu, in the goahti. There are many taboos and forbidden acts surrounding the bear hunt rituals, especially for woman, and many people think these rules are to protect women.

It is told that the main reason for the bear ritual is because one woman, a long time ago, married a bear and bore a child. In the story, the bear lets this woman's brothers kill him. But before his death, the bear first told the woman about the bear ceremony and the proper way to keep his bones for a burial.

According to this story, the woman had three brothers, who hated her so very much, forcing her to move to the forest, and live in the wild. The woman took refuge in a cave, and as she was resting, a bear came inside and became fond of her. The bear took the woman as his wife, and they conceived a child.

When the bear became old, he told his wife that his was going to allow her brothers to kill him at the time of the first snow, in early winter.

But first the bear asked his wife which brother had hurt her most, and caused her the most pain. She replied that it was her two oldest brothers. Yes, they were the evil ones. So the bear attacked the older brothers, gnashing his teeth and swinging his claws, tearing them to pieces.

The bear took his wife from their den, and they went out so that the youngest brother could see them, there together. The woman told her youngest brother to slay the bear, but turned her eyes from the killing. It was hard for her to see her husband be killed. Since this time, the tradition has emerged that women are not to look directly at the bear and the bear hunters.

A woman may only look, and they have seen everything, through a ceremonial brass ring, or in some other sacred way. Before he was slain, the bear advised his wife about the bear hunt and bear hunt ceremonies, so that the hunter may conquer the bear.

The rock paintings in Alta show the ancient connection between humans and the bear, and that the bear was already a sacred animal then.

Bear-joik

Awaken my brother, na na nan-nan na,
Beaivváš now shines upon mountains,
Ants run on the tree stump,
Women mend seine nets,
Men already store their sleds,
Children even now play with bow and arrow.

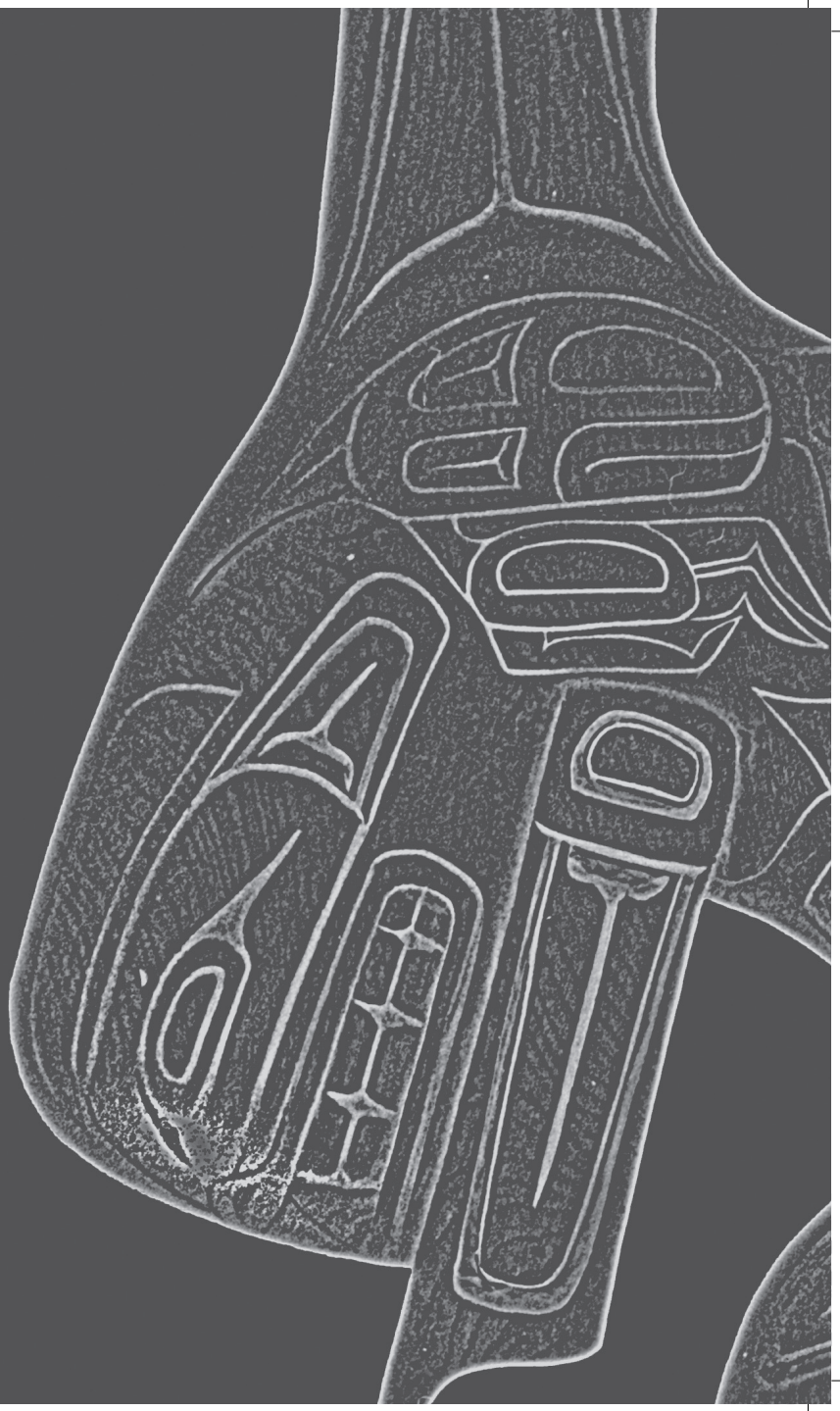
Bear Teeth and Other Medicine

A bear has over 30 teeth in its jaws. The Sámi traditionally use bear teeth as medicine. It is told that a bear has the strength of nine men. A bear's teeth hold the bear's power, and can help to heal a toothache, for example. You should press the bear tooth on the place of pain. Try it!

Bear gall bladder bile is traditionally a quite common medication, useful for nearly any ailment. Drink the gall bladder bile, blended with alcohol or meat broth, as a remedy for stomach aches and other internal ailments. You may anoint a wound with a salve, made from the bear's bile, or drink a cold-curing mixture. In the past, young boys were given fresh bear's bile to drink, stopping the child's fear of the bear. Bear hunting is one way to show others the male strength and power, so the young boys had to learn to take part in bear hunting. Bear´s penis bone when chewed gives strength and is used in the contemporary Sámi society by some families and individuals.

Bear fat makes a good balm for joint, rheumatism, and gout related problems. A man should use the fat of a female bear, while a woman should use the fat of a male bear, as treatment.

Snowchange
North America



Peace

by Taiaiake Alfred. This essay has appeared previously in a book "Peace, Power, Righteousness, 1999". It is reprinted here with permission.

The clear-minded ones will take to the road, walking to the place where they are in mourning, and there at the edge of the ashes, one will stand up saying words of sympathy to raise their spirits. At once they will begin to feel relieved, the mourners, and they will resume the path of the great peace.

-from the Kaienerekowa

Native American Political Traditions

Native American community life today is framed by two value systems that are fundamentally opposed. One, still rooted in traditional teachings, structures social and cultural relations; the other, imposed by the colonial state, structures politics. This disunity is the fundamental cause of factionalism in Native communities, and it contributes significantly to the alienation that plagues them. What those who seek to understand and remedy the problems that flow from it often don't realize is that this separation was deliberate. Without a good understanding of history, it is difficult to grasp how intense the European effort to destroy indigenous nations has been, how strongly Native people have resisted, and how much we have recently recovered. Not to recognize that the ongoing crisis of our communities is fuelled by continuing efforts to prevent us from using the power of our traditional teachings is to be blind to the state's persistent intent to maintain the colonial oppression of the first nations of this land.

Indigenous people have made significant strides towards reconstructing their identities as autonomous individual, collective, and social beings. Although much remains to be done, the threat of cultural assimilation to the North American mainstream is no longer overwhelming, because substantial pride has been restored in the idea of being Native. The positive effects of this restoration in terms of mental, physical, and emotional health cannot be overstated. But it is not enough. The social ills that persist are proof that cultural revitalization is not complete; nor is it in itself a solution. Politics matters: the imposition of Western governance structures and the denial of indigenous ones continue to have profoundly harmful effects on indigenous people. Land, culture, and government are inseparable in traditional philosophies; each depends on the others, and this means that denial of one aspect precludes recovery for the whole. Without a value system that takes traditional teachings as the basis for government and politics, the recovery will never be complete.

Indigenous people have successfully engaged Western society in the first stages of a movement to restore their autonomous power and cultural integrity in the area of governance. This movement-which goes by various names, including 'Aboriginal self-government', 'indigenous self-determination', and 'Native sovereignty'-is founded on an ideology of Native nationalism and a rejection of models of government rooted in European cultural values. It is an uneven process of re-establishing systems that promote the goals and reinforce the values of indigenous cultures against ongoing efforts by the Canadian and United States governments to maintain the systems of dominance imposed on Native communities in the last century.

Recent years have seen considerable progress towards ending the colonial relationship and realizing the ideals of indigenous political thought: respect, harmony, autonomy,

and peaceful coexistence. Many communities have almost disentangled themselves from paternalistic state control in the administration of institutions within jurisdictions that are important to them. Many more are currently engaged in substantial negotiations over land and governance, which they believe will give them significantly greater control over their own lives. Perhaps because of this progress, people in the communities are beginning to look beyond the present to envision a post-colonial future. However, that future raises serious questions in the minds of those people who remain committed to systems of government that complement and sustain indigenous cultures.

To many of these traditionalists it seems that, so far, all the attention and energy has been directed at the process of decolonization-the mechanics of removing ourselves from direct state control and the legal
and political struggle to gain recognition of an indigenous governing authority. Almost no attention has been paid to the end goals of the struggle. What will Native governance systems be like after self government is achieved? Few people imagine that they will be exact replicas of the systems that governed Native communities in the precolonial past. Most acknowledge that all Native structures will have to incorporate modern administrative techniques and technologies. But the core values on which the new government systems will be based remain a mystery.

The great hope is that those systems will embody the underlying cultural values of the communities. The great fear is that they will simply replicate non-indigenous systems-intensifying the oppression (because it is self-inflicted and localized) and perpetuating the value dichotomy at the root of our problems.

What follows will be considered a bold assertion in government and academic circles, though its truth is widely recognized in Native communities. The fact is that neither the state-sponsored modifications to the colonial-municipal model (imposed in Canada through the Indian Act and in the US through the Indian Reorganization Act) nor the corporate or public-government systems recently negotiated in the North constitute indigenous governments at all. Potentially representing the final solution to the white society's Indian Problem, they use the cooperation of Native leaders in the design and implementation of such systems to legitimize the state's long-standing assimilationist goals for indigenous nations and lands.

Non-indigenous people have always seen indigenous people in problematic terms: as obstacles to the progress of civilization, wards of the Crown, relics of savagery and dregs of modern society, criminals and terrorists. Over the centuries, indigenous people themselves have consistently defended their nationhood as best they could; and they have sheltered and nurtured their cultures, keeping the core alive despite all manner of hostility and degradation. It would be a tragedy if generations of Native people should have suffered and sacrificed to preserve what is most essential to their nations' survival, only to see it given away in exchange for the status of a third-order government within a European/ American economic and political system.

Has anything changed in the way white society looks at Native people? It is still the objective of the Canadian and US governments to remove Indians or, failing that, to prevent them from benefiting from their ancestral territories. And by insisting on their ownership of traditional territories, cultural autonomy, and self-determination, the original people of this land remain a problem for the state. Particularly in Canada, where the legal title to large portions of the land is uncertain, the policy goal is to extinguish Aboriginal title and facilitate the exploitation of the natural resources on or under those lands. In the area of culture, folklore and the arts are promoted while traditional political values are denied validity in

the process of negotiating new relationships, and the state defends its 'right' to create Native communities and determine their membership. In politics, indigenous nations continue to face denial of their international rights to autonomy, imposed wardship status, and intensive efforts to coopt community leaders. In fact, nothing has changed. Why, then, are we now so accepting of what Canada and the United States have to offer?

Throughout the process of supposed decolonization, many Native politicians have steadily moved away from the principles embedded in traditional cultures, towards accommodation of Western cultural values and acceptance of integration into the larger political and economic system. It is as if they had stopped believing that their indigenousness is a holistic state of being. Rather, contemporary Native politicians seem to assume that indigenousness can be abstracted and realized in convenient (and profitable) ways, that being indigenous does not have an inherent political dimension, and is simply a matter of looking the partpossessing tribal blood, singing traditional songs, or displaying tribally correct behaviour. They ignore the basic traditional teaching that just as we must respect and honour our songs, ceremonies, and dances, so too we must honour the institutions that in the past governed social and political relations among our people, because they are equally part of the sacred core of our nations. As long as this is the case, the underlying value dichotomy will remain.

An indigenous existence cannot be realized without respecting all facets of tradition: culture, spirituality, and government. Those mystics who ignore politics and live their Indian identity only through ritual and the arts are just as lost as the often vilified yuppie Indians who don't go to traditional ceremonies. This is not to say that people have to immerse themselves in all aspects of tradition in order to be indigenous-simply that the basic values and principles of traditional political philosophy must be respected to the same degree as cultural and spiritual traditions.

Should we as indigenous people consider ourselves as individuals, or as representatives of our cultures and members of our nations representing distinct and identifiable values and world-views? Many people recognize the obvious injustices and misuses of power, and the absence of traditional values, in the new structures, but they can only point to the problems. The lack of any coherent strategy to solve them around the struggle to recover those values. Yet among non-indigenous people there has been little movement towards understanding or even recognizing the indigenous tradition.

In fact, it is one of the strongest themes within Native American cultures that the modern colonial state could not only build a framework for coexistence but cure many of its own ills by understanding and respecting traditional Native teachings. The wisdom encoded in the indigenous cultures can provide answers to many questions; many seemingly intractable problems could be resolved by bringing traditional ideas and values back to life. Pre-contact indigenous societies developed regimes of conscience and justice that promoted the harmonious coexistence of humans and nature for hundreds of generations. As we move into a post-imperial age, the values central to those traditional cultures are the indigenous contribution to the reconstruction of a just and harmonious world.

Indigenous people have many different perspectives on what constitutes tradition, and what is good and bad about traditional ways. My own views have been shaped by life in Kahnawake, a Kanien'kehaka (Mohawk) community of over 8000 people located on the south shore of the St Lawrence River outside Montreal. Our people have come a long way towards recovering their identity and power in recent years, but during my childhood, in the 1960s and early 1970s, we were fractured, dysfunctional, and violently self-destructive, colonized and controlled to a large degree by white men.

Yet that period was also a revolutionary time. As my generation awakened politically in the late 1970s, we refused to participate in our own colonization and embarked on the path of tradition, rejecting the identities and power relations that characterized us as a dominated people. It has been an enormous, costly, and sometimes violent struggle, but today the Kahnawakero:non are part of a reemergent nation, self-confident, cohesive, and assertive in the promotion of their goals. We are not yet free, but we do not hesitate to contest our colonization. In one generation we have accomplished the rebirth of tradition in Kahnawake. The transformation of the community in terms of personal, familial, and collective peace, empowerment, and happiness has been truly amazing.

Yet the return to traditional values and identities is not uniform among Native peoples, either in its pace or in its intensity; it is not even universally accepted as an objective. To gain a better understanding of how different nations are dealing with the internal and external conflicts that are inherent in the process of decolonization, in the summer of 1997 1 spoke with a 33-year-old Kwa'kwala'wakw woman living in Victoria, British Columbia, who has worked extensively in various Native political organizations and is active in the revival of traditional culture among her people. We talked about the effects of colonization and shared thoughts on the most serious problems undermining the health and security of indigenous people today. We also considered the lessons and strategies represented in this book (Peace, Power, Righteousness, 1999) and explored the relevance of a message drawn from the Rotinohshonni tradition to the situations of other indigenous peoples. Our conversation pointed to the particularity of each community's struggle, but also to the underlying similarities that make it possible to speak of a Native American perspective rooted in traditional values. The words we shared captured some of the complex intensity that seems to motivate all those committed to a traditionalist critique of the prevailing colonial structure and mindset.

Now that I've explained the traditional Condolence ritual, I'd like to know your thoughts about your own traditions and nation. Remember that in 'Adding to the rafters' there is a reminder that the longhouse as a metaphor for our teachings-sometimes needs additions. As the present generation, that's our responsibility: we have to add sections to the longhouse. That's where we're failing now, in my view, and in the book I will deal with that by projecting this traditional perspective onto some key contemporary issues: We have the rafters-the traditions that our grandmothers and grandfathers, great-grandfathers and great-grandmothers built. But there is an explicit instruction in the teachings that some day we will have to add to those rafters. Now it seems we're so jealous and protective of our traditions that we aren't thinking about that, in my nation anyway. From what I've seen in my travels, it's much the same in other nations. We're afraid to change, to update. As in the ritual, that's where I want to leave off: by concluding that what we really need to do is embark on a creative rethinking of ourselves, rooted in tradition.

In relation to the first part-the rhetorical lament for the loss of traditional knowledge-what do you think we have lost as a society? I look around our communities and there's something missing. What is it?

What I keep doing is looking at the causes of the losses. You know, when you look back on the smallpox and TB and all the different things that contact with white people brought, I don't think the implications of those things over the generations are anywhere near being understood.

Even amongst our own people?

Amongst our own people, that's true. Think about how contact and everything that came with it affected the transference of knowledge. We don't have the skills that we would have

learned if everything had stayed the same. People's experience in residential schools is a good example. On one level the family gets broken up; on the next level the community gets broken up. That's a big factor. But on the individual level it's even worse. If you don't have the benefits of the nurturing and the teachings in the first place, when you come out of the school you still don't know how to learn, let alone how to teach. You end up going back home and it's as if the community had blown up, as if a bomb had been dropped in the middle of the village and we were just salvaging the leftover pieces, just trying to stick them back together. But because nobody has the real internal, individual knowledge, nobody's able to work together. So there are all kinds of fragments floating around. When you talk about what's missing-it's some very basic individual, healthy sense-of-self.

You notice this in a lot of communities because you do a lot of travelling, right?

Right. I've noticed it more this last time around because we were talking about education and traditions, and I became interested in knowing how different parts of the province, different tribal groups, had handled things. Everyone talked about learning from the elders, but on the other hand they recognized that not all elders are the same-some are respected, but there are others who have fallen victim to the system. These elders have been victims in a really bad way for their whole lives, and ended up sort of 'faking it'. Now they're trying to appear knowledgeable, to sound knowledgeable, but all you have to do is put a couple of their statements together and you realize that they don't know what they're talking about, because it doesn't make sense. The way people were talking about all the things we've been trying to do-economic development, community development, self-government, the whole treaty process ... I don't think it's going to work be-

cause people, at an individual level, don't understand where they're supposed to be going anyway. On a very personal level, people don't know what you mean when you talk about 'jurisdiction', they don't know what you're talking about when you say 'control'-other than the negative idea of control that they have from their own direct experience of government in the communities. People don't know what it means to really have self-respect. I've talked to lots of women out in the communities who tell me that our young people don't know what it means to make a statement like, 'I'm going to make a choice about getting involved in drugs or not, and my choice is based solely on the fact that I have enough selfrespect that I wouldn't do that to myself.' There's always another reason; it's always because 'My family says so.' It's always very external. The only thing that's holding people together is that, peripherally, they're seeing another way. They see something is there but they don't know what it is, they are just seeing this shadow that kind of follows them around. People keep trying to look at what it is, but they don't have enough ... I don't know what the words are ...

What is it for you, that thing?

I think maybe it's intuition. No. It's not so much intuition itself, as the ability to recognize intuition. And to trust it-to be able to trust yourself and your own choices based on your intuition and your knowledge. It's as if all those little things are sitting there waiting for you, but it's hard getting the connecting factors and finding how they all work together inside. So that's what we're up against.

I'm thinking about our treaty process. I walk in there and I don't know where to begin. You'd have to go through every individual and wipe out all of the superficial ideas that people have about what treaties are going to bring them, and get down to what they believe in, philosophically. When I was up in North Island [Vancouver Island] I asked people, 'Philosophically, why are we doing this? Why do you want to negotiate a treaty?' They'd answer, 'Because it's the only game in town, and other external reasons, or maybe mention some really cerebral kinds of ideas about what they want to do. You know, it was interesting when you mentioned 'seven generations'. I asked people at home and in several communities, 'What do you really mean by seven generations?' I was sure that that sort of thinking, wherever it comes from, has a full story behind it. But I kept hearing everybody use the words, when it was clear that nobody knew what the hell they were talking about. Yeah, that sounds like a nice buzzword, 'seven generations' from now!

Penetrating that superficiality is one of the things I want to do, because what you just described is certainly a problem in our communities as well. Everybody seems to use that expression, because it comes directly from the ceremonies, but we don't really think about it-it just sounds good. The principle of 'seven generations' involves children, it involves some foresight, and all of that. But as for living it as a person, either in a treaty or even in your own life-I get the sense that not a lot of people have thought about how it applies, what it actually means. That's one of the things that I want to get at.

In the past, everyone knew who he or she was in relation to one another. I look at the medicine wheel and its message about the different races, and I think that somewhere our teachings probably talk about who we are as the red people in the medicine wheel, that there is a spiritual link. When you look at our ceremonies in the big house, the cedar bark, and things like the spiritual creature that comes from the north end of the world-all those things contain messages that we haven't figured out how to interpret today; but I think it's all there in our songs. The answer to who we are in relation to everybody else is sitting there, and has been sitting there for

many generations now, but nobody has quite deciphered what it means because no one has thought to put a little energy into it. And that's because people think, 'We're in the 1990s and we've got our potlatches, at least we still have our language, our culture'. They think they can just take in whatever else is going on around them and stay true to their traditions too. But if we don't get a sense of who we really are from the old teachings, then all this tradition stuff is just going to become watered down in a couple of generations.

So you think that this might be the gap in the traditional movementthat people are singing the songs without looking at what they really mean?

Yep. For a while it was just surface, then we got a little bit beneath the surface, but nobody's gone any deeper than that. So the traditional movement has the appearance of something that's going to carry on, that's going to last. But the traditional culture is only going to last, I think, as if it were in a glass box. It's all recording, videos-now we even have CD-Rom and Internet connections. All of that doesn't mean anything. The culture is going to sit in a little glass box that we'll all go to the museum and see one day, just the way we look at all our other stuff right now.

Well, that's what I call folklore. It's all just folklore unless you act on it. In fact, that's a criticism that's been directed at some 'traditionalists'. They act as if they're traditional and they sort of parrot what they're supposed to be doing, but then they go and live their lives totally differently and ignore the inconvenient messages-the ones that don't conform to their own choices in life. They ignore the important teachings that they don't like, and then they try to give the impression that those sections are obsolete. I would argue that they aren't obsolete at all. All the basic teachings are part o f a unified whole that's crucial to understanding the tradition and the wisdom; we have to understand the way they all interrelate. You can't just ignore sections of it. If you haven't ever got to the real meaning, then I agree with you-in two or three generations it'll just be folklore.

Nobody understands the bottom-line, basic principles that form the framework for everything. All the other stuff-the fact that we use button blankets, the fact that we're video-taping and audio-taping songs-those are just little tools that we've adapted along the way. 'The basic principles'-people keep saying those words but nobody's living them. They're not saying that the bottom line is doing what I do in my life with respect and humility and understanding and honour. If I'm doing these things in a serious way, then anything that blossoms out of it is going to be right. Everyone figures, you know, that if we go to enough ceremonies, and get seen enough and have a presence and visibility and appear to be involved in all this culture stuff, then we're truly balancing both worlds. But you don't have to balance both worlds. What you have to do is know your basic principles in the first place, and then blend the contemporary and traditional together-but you have to have the principles right. I grew up watching some people at ceremonies thinking they had all the knowledge, and then when I got into my mid-twenties I went back to ask them what it means. I said, 'I watched you do that when I was a kid, I saw you do that in a potlatch.' But they didn't even know why! Now I'm finding out in the last five or six years that all along they were just following what they were told, or mimicking what they had seen themselves. They don't know why they're doing anything.

Do you fault them for that? No.
Or do you see it as an evolutionary thing?

Yeah, I think that there were a lot of factors in the 1950s and '60s that affected that generation. Everyone in that era had a

whole bunch of other things to deal with that we're not dealing with now: the right to vote, all the civil-rights stuff happening south of the border, the American Indian Movement, and then the Indian Act here. In the late 1960s and early '70s, actually getting band offices and our own councils in the first place, and having our own Native people sitting in Department of Indian Affairs offices serving as Indian Agents. And they believed at that time that we were going to become white. So if there was a potlatch and they were told by their elders, 'Here's how you do the dance, just go do it, they did what they were told because they had had enough of the old teachings to know that they had to. But they still weren't getting the consistent, everyday exposure that they would've had in the past. When it came around to potlatch time they would get into it and go through the motions. But every other day of the rest of their lives, it was just-you know-go out, get a job, participate in the economy, make some money and have a big house.

Some of which might be contrary to the values and the objectives of the potlatch in the first place.

I think it brought about an interesting way of thinking-and I ended up being on the receiving end of it. In the potlatch system there are various ranks-in effect you've got noble people and commoners, and the whole range in between-but everybody has a role, and everybody is acknowledged in that role and you don't actually look down on people, and you don't treat them poorly. In the mentality of the 1960s and '70s, if you potlatched in a really big way, you had the right to call anyone down because you were so great. You were so humble that you would never do it, you had too much respect to do it-but you knew that you could. Another reason I think it happened was that people were getting mixed messages about whether they were Indian or white. They would equate participation in the potlatch with material wealth, as being one and the same. And that meant that if you didn't have a big house, plus a fishing boat, plus $100,000 per year coming in from your job, then you were poor. You were poor materially, and poor in the potlatch system.

I think that's one of the differences between our cultures, even today. Yours is much more hierarchical and divided among families. I believe ours is much more egalitarian. When I was growing up, our identity was always 'Mohawk', and not really defined by clan or family. Whenever any of us did something good, people would say, 'Way to go, Mohawk' You know, it was 'for the nation'. When someone did something good, I would always identify with it. At home it's still that way. People get upset when someone claims to speak as a Mohawk but isn't really part of the society, because for us, when someone says they're speaking as a Mohawk, we expect the message and the perspective to be consistent with what the community thinks. In my basic identification, I don't say I'm from the 'Alfred' family, or from Kahnawake, or this clan or that clan. I say I'm Kanien'kehaka, Mohawk. And that's it, there's only one group. Whereas out here, on the West Coast, it seems to me that identity is family- or clan-based. It's very different.

Yes it is. And residential schools are a big part of life out here too. It's not a just generational thing either; it's not just the individuals who actually went to the schools, it's their entire families. Their parents feel guilty for sending their kids in the first place, and finding out it wasn't such a good place after all. So first there are the parents, and then the kids, and then all their children. This 'recognizing pain and sorrow' that you talk about, people don't know how to do that. They don't know how to name it, they don't know what to call it, and they don't know what the spin-off effect is when you deprive yourself of the opportunity to grieve. And all the grieving that never happened around the losses from disease ... If you don't go through the process of acknowledging what you've lost,

you don't have a way to come back and get it ... get it back again.

Do you feel that some of the efforts that are under way now, with the social-work or social-services approach, are helping?

I think it's all a pile of crap.

Why don't you tell us how you really feel? Try not to hold back, okay? (laughter). Why is that so? I don't like the dominant social-work approach either. I think they're using a foreign set o f assumptions, goals even, to address the problem. But why do you think it's crappy? Maybe it comes from experience?

I'll have to smoke on that one. But I'll tell you the image I get in my mind when I think about social work, all the self-help groups, therapy, and all. I think of us trying to make a bike wheel: we've already got the outside rim, we know where the spokes need to go, and all of those spokes are possible, but people have to work together to make them a reality. And everyone has to have an understanding of that, right?

Is that our traditional culture, the wheel that you're talking about?

Everyone describes it in a different way, or visualizes it in a different way. For me it's as if everyone has to understand where the spokes need to go before we can get anywhere, but the information about where the spokes go is scattered right now. So if all the people who understand where just one spoke needs to go came together and put their one spoke on the wheel, we'd have something. But instead, what social work and all these self-help things try to do is create more spokes. And they keep putting them in the wrong place-they're all on one side of the wheel. The social-work approach is taking what's already fragmented and fragmenting it even more. They've got all these spokes on one side of the wheel, and they get frustrated with us because they can't understand why, after they've given us all these spokes, we haven't been able to make the wheel turn. Well, one, it doesn't have any of our spokes, and two, they're all on one side. White people are just starting to discover that yes, we do have a lot of answers, and we did have really elaborate, complex systems that spoke to every aspect of life.

'Excuse the pun', heh? What pun?

'Spoke' to....

At the end of the day, any social workers who've been in our communities for twenty years or more have resigned themselves to the fact that the discipline of social work, or psychology, doesn't have a clue.

I'd like to shift over and talk about the role of women in Native societies, both traditionally and today. In your life right now, you're involved in politics, you're involved with the culture. Is there respect for women?

To be really honest, no. I think that men who are in their forties, fifties and sixties say the words. But only a rare few really know what it means to show respect and to actually demonstrate it.

How would someone do that? You could give me a positive or a negative example. How would someone disrespect women-if you're comfortable talking about it?

On the positive side, there's one man at home in particular that comes to mind. He was brought up with the old people;

he understands the language, understands the culture. His words are so carefully orchestrated, and I don't think that's because he's trying to appear respectful; he is respectful, and it comes out in the way he speaks. Because he has such an understanding of Kwa'kwa'la language, when he translates to English he does it in a very eloquent way. As for guys who aren't respectful, I always hear them talk about 'our women', 'our women', as if we were possessions still. They keep saying We have respect for our women.' The biggest insult, to me, is that they go through the motions in the big house, but then when we come out of the big house into our contemporary lives, they don't show any of that respect.

What about the young guys?

I think among the young people that I'm spending the most time with, it's about an 80 per cent to 20 per cent split. There's 20 per cent or so that have had the benefit of the band school, hearing the language in the home, or learning the values and the principles in the home or through the potlatch. So they're okay, they're on the right path, even though they're still being distracted by the contemporary influences. The other 80 per cent are doing what the previous generations have done, in that they're using whatever works for them, whatever will serve their personal agenda. A couple of years ago, when a bunch of us women started getting together at night for dance practices and singing practices in the big house, some young guys-16 or 17 years old--were saying things like 'First of all, there should be no women sitting up at the log singing'; or 'Women shouldn't be learning the songs anyway'; or 'When we have our potluck dinners or when we have feasts, we should be served first.'

'We' being the men?
They haven't been taught that you will be shown respect when you give respect in the first place. So the women in the community here in Victoria started getting together and thinking about how we could address this. Because we realized that we hadn't succeeded in teaching these boys everything they needed to know. We hadn't carried out our responsibilities either. At first we just thought their families should have done more. Then we started realizing-holy cow, we've got residential schools, and alcoholism, and all kinds of issues around adoption and families getting back together. There were too many things happening at once for any of us to assume that anyone was doing anything outside of our own activities. So we started, just over the last couple of years, rebuilding the whole scheme. We focus first on the young kids, because we can't afford to lose this time with them-they need to learn it the fastest now. A bunch of us are going to focus on that, and some of us are going to take a look at what we are learning in the way of contemporary skills--doing projects, workshops, healing kinds of things. There's some of us who are proposal writers, ideas people. So we'll sit and think about things. And then over time, whenever we feel like we need to, we'll just get together and brainstorm, piece it together-make it happen.

Who's the leader that you respect most and why? I'm asking you now what you would consider to be a leader. In spite of everything that you've talked about, there are obviously still people, men and women, that you would respect. What is it about them that makes them true leaders? Or maybe I'm making a big assumption. Maybe it's not the case ...

There are some, but they're very few, and they are all elders. Agnes Cranmer, who just passed away recently, was a hell of a leader because she knew that her upbringing in the potlatch, her understanding of the potlatch, was right. That's all there is to it. She never thought, 'Maybe I'm wrong about

this.' She believed she was right. There was also, in the same time period, a woman we all called Granny. Those two women, along with lots of women in that generation, just believed that it was right to do what they were doing. Regardless of whether there was funding, regardless of whether there was a hall or a place to go and do things, they just kept doing them. They kept teaching their kids, they made sure their kids were brought up in the potlatch way, that they understood what basic principles are, no matter what happened. They lived through the potlatch ban.

It was Mrs Cranmer's husband, Dan Cranmer, who threw the potlatch on Village Island where everybody got arrested and thrown in jail. They lived through all of that, and saw the worst of it, but they kept doing it anyway, because they believed it.

Did she embody all the traditional values ... ?

She lived them. I think that's what the neat thing was, considering the era she lived in. She made it through the potlatch ban, she lived through the 1960s, and '70s and '80s, and throughout all of that she was still carrying on the culture. She opened up her own corner store, and pool hall, she ran a business, and at the same time she was working with the community to teach children in the nursery school. She did all these incredible things, and none of them ever interfered with one another; they actually complemented one another. So even though she was very much participating in the local economic activity, she was still one of the foundations of our culture in everything that she did. There was another lady who was I don't know how much older than Agnes. She never involved herself much in contemporary economic stuff, but she supported those who did. She gave them enough common-sense information to go out there and look at business as though it was a traditional activity: 'As long as you follow these basic principles you'll be fine.' To me, that's all of it right there. I never watched how the old men conducted themselves. To me it was simple-I just had to follow the path that those women led. I'm not going to be able to do what those men do, I'm not a speaker, I'm not a singer, I'm not any of those things, so I didn't pay attention to any of that: just to what those ladies did.

But there are men that you would respect in that category, as well?

The man from home I spoke about earlier. What I think is neat about him is that when he's wrong he comes right out and admits it. He doesn't try to make excuses. He just says, 'This is what happened, this is what I understood at the time to be true, this was my action as a result of my thinking. It turned out that it wasn't correct, and now I stand corrected.' Then he goes through the traditional way to correct it. I don't know how many male 'leaders', or people who are sitting in political positions now, do that. I've not heard any of them admit they were wrong and really mean it. I've seen them do it for the sake of appearing to be humble. And I've seen them do it because if they didn't admit it, the repercussions would be worse, and they stood to lose more in terms of material things. So I've seen them do it. But you know, you can tell when they're just faking.

So how do these internal issues that we've been talking about affect our status relative to other peoples? How have they affected the strength of our nation, vis-à-vis others? Has our 'sovereignty' been undermined? Has our nation lost power in a real way because of these problems? Or is it more a matter of other people doing things to us? That's another question I want to address in this book. What is the relationship between our problems and those that have been imposed on us? Maybe

we haven't responded well. If so, does that have ongoing implications? Can we rebuild our nations in the midst of these internal issues? Or do we have to resolve those issues first, and then confront the outside?

Well, I think one of the simplest things it comes down to is this: if you don't respect yourself, no one else will. As for rebuilding internally and externally, I think they can be done simultaneously. In fact, they have to be done simultaneously, the healing and the rebuilding. If we stop nation-building now and do nothing but healing, then the whole treaty process-which is going down the tubes anyway-will be down the tubes even faster, because all the resources will get scooped up while we're all busy trying to heal. There is a lot of healing to be done. But the flip side is that there's so much strength; the fact that we're still here is testimony to the fact that we've got some good coping skills. Why don't we pat ourselves on the back for what we've done well? It's amazing that we've managed to survive this far. We should emphasize that instead of always saying, 'I'm a victim of residential schools, I'm a victim of alcoholism.' You can play that game for a few years, but you're wasting time. In the meantime, you could be learning a little bit about how to run a home-based business and get self-sufficient. If you don't understand what self-sufficiency is in your home, you can't contribute that to the nation. Why would you think you can contribute something to the nation, when you have no concept of it in your own life? That's why I think the rebuilding has to happen simultaneously, inside the community and outside.

In terms of nations, what would be the ideal relationship between your nation and the rest of Canada once things get back on track? If you compare the militancy of Mohawk politics with things here in BC, where do you stand?

Well, I like to look at all sides of the question. I do think there's a need for us to get militant again, in a big bad way. I think we have to. But at the same time there are people who are nowhere near ready for that. They're scared. And they'll sabotage things for the militants because they're afraid-afraid for a lot of reasons. I'm close to the militant extreme, because I really believe that we have to nail this down just get on with it. But at the same time I know from the people I've talked to around the province that there are many people who couldn't physically, emotionally, or intellectually bring themselves to that level. They're not prepared to die. Whereas personally, I remember that when Oka flared up, I was thinking, 'If this is how it has to be, I'm prepared to die.' But lots of people I worked with were saying, 'What the hell are the Mohawks doing? They're gonna get us all in shit!'

Are you a Canadian?

No. Actually, I've tried to search for the moment in time when Canada decided legally-at least legally-that we were considered citizens. Which is kind of a joke, because as I've heard someone say, 'Legally, yes, we are regarded as citizens. Yet the same legislation-the Indian Act-is always there to remind us that we're not.' To me, you can't look at the Indian Act, and look at the precedents in the courts, and then draw the conclusion that we're citizens.

Well, I think legally they gave Indians the vote in the 1960s. Formal citizenship came before that, but not much before. It wasn't asked for: it was given because they realized that in order to tax and do the things they wanted to do for Indians-or to Indians-they needed them to be citizens. They resisted as long as they could, then they made Indians second-class citizens and imposed the Indian Act on them. I'm not a Canadian. I don't believe in that. I think that if you're strong in your nation, then that's what you are. If you have a good relationship with Canada, fine, so much the better.

Some of my best friends are Canadians (laughter). No, I do not regard myself as a Canadian. You see all the things like the Olympics, the Commonwealth Games, all those things that people get excited about it. For what? These people are going to go off to-where is it, Bosnia? -and the government is going to give them $15 million. Somebody just died on one of our reserves this week-someone died on every reserve this week-of malnutrition or infection, because of poor conditions. Oh yeah, we're citizens.

They gave $2 billion to China, to buy nuclear reactors, and they complain about $58 million for a Royal Commission on Aboriginal Peoples.

I was surprised, the commentaries in the papers on the Royal Commission's recommendations were not that bad. They were even a little bit supportive. Got to watch out for that though. Watch out for what is it again…?

'Beware the magic.'

The magic, and the lurking dangers.

Is there a fundamental or inherent difference between indigenous and white society? This is a relevant question, given the tendency of the dominant Western tradition to draw racial distinctions. Indigenous traditions, by contrast, include all human beings as equal members in the regimes of conscience. Yet some Native people have been influenced by the divisive European approach. Representing this perspective in an academic context, Donald Fixico has claimed that white people can never come to terms with indigenous values because they 'come from a different place on earth'. He writes:
Anglo-Americans and Natives are fundamentally different. These differences in world-view and in the values that go with them mean that there will always exist an Indian view and a White view of the earth.
I believe, on the contrary, that there is a real danger in believing that views are fixed (and that cultures don't change). Fixico's polarization of Indian and European values suggests he believes that white people are incapable of attaining the level of moral development that indigenous societies promote among their members with respect to, for example, the land. Not only does this dichotomization go against the traditional Native belief in a universal rationality, but it offers a convenient excuse for those who support the state in its colonization of indigenous nations and exploitation of the earth. If Fixico is right, they can't help it: their worldview is preordained.

Challenging mainstream society to question its own structure, its acquisitive individualistic value system, and the false premises of colonialism is essential if we are to move beyond the problems plaguing all our societies, Native and white, and rebuild relations between our peoples. A deep reading of tradition points to a moral universe in which all of humanity is accountable to the same standard. Our goal should be to convince others of the wisdom of the indigenous perspective. Though it may be emotionally satisfying for indigenous people to ascribe a greedy, dominating nature to white people, as an intellectual and political position this is self-defeating. It is more hopeful to listen to the way traditional teachings speak of the various human families: they consider each one to be gifted and powerful in its own way, each with something different to contribute to the achievement of peace and harmony. Far from condemning different cultures, this position challenges each one to discover its gift in itself and realize it fully, to the benefit of humanity as a whole. It is just as important for Europeans as it is for Native people to cultivate the values that promote peace and harmony.

The value of the indigenous critique of the Western world-

view lies not in the creation of false dichotomies but in the insight that the colonial attitudes and structures imposed on the world by Europeans are not manifestations of an inherent evil: they are merely reflections of white society's understanding of its own power and relationship with nature. The brutal regime of European technological advancement, intent on domination, confronted its opposite in indigenous societies. The resulting near-extinction of indigenous peoples created a vacuum in which the European regime established its political, economic, and philosophical dominance.

The primitive philosophical premises underpinning that regime were not advanced or refined in the deployment of microbes and weapons. At their core, European states and their colonial offspring still embody the same destructive and disrespectful impulses that they did 500 years ago. For this reason, questions of justice-social, political, and environmental-are best considered outside the framework of classical European thought and legal traditions. The value of breaking away from old patterns of thought and developing innovative responses has been demonstrated with respect to environmental questions. But in fact many of these and other pressing questions have been answered before: indigenous traditions are the repository of vast experience and deep insight on achieving balance and harmony.

At the time of their first contact with Europeans, the vast majority of Native American societies had achieved true civilization: they did not abuse the earth, they promoted communal responsibility, they practised equality in gender relations, and they respected individual freedom. As the Wendat historian Georges Sioui put it in a lucid summary of the basic values of traditional indigenous political and social thought:
With their awareness of the sacred relations that they, as humans, must help *maintain* between all beings, New World men and women dictate a philosophy for themselves in which the existence and survival of other beings, especially animals and plants, must not be endangered. They recognize and observe the laws and do not reduce the freedom of other creatures. In this way they ensure the protection of their most precious possession, their own freedom.

The context of life has changed, and indigenous people today live in a materialistic world of consumerism and corporate globalization-a world diametrically opposed to the social and political culture that sustained our communities in the past. It may be difficult to recognize the viability of a philosophy that originated in an era unaffected by European ideas and attitudes. Nevertheless, revitalizing indigenous forms of government offers a real opportunity to inspire and educate mainstream society, and to create and empower a genuine alternative to the current system.

In my own community of Kahnawake, as part of an effort to determine the cultural appropriateness of various social services in the early 1990s, people were asked to consider a list of statements about traditional values, and to say whether they agreed that those concepts were still important today.

VALUE	% STRONGLY AGREE
Importance of extended family	89
Respect for inner strength or wisdom	88
Importance of educating youth	88
Sacredness and autonomy of children	78
Importance of family unity	78
Wisdom of the past	71
Sharing and cooperation	71

The survey points to the community's recognition of traditional values, despite the imposition of European culture. Indigenous people who seek to realize the goal of harmonious coexistence within their communities find that this is impos-

sible within the mainstream political system as it is currently structured. The Lakota philosopher Luther Standing Bear, writing in 1933, presaged this frustration with Western values:

True, the white man brought great change. But the varied fruits of his civilization, though highly colored and inviting, are sickening and deadening.... I am going to venture that the man who sat on the ground in his teepee meditating on life and its meaning, accepting the kinship of all creatures, and acknowledging unity with the universe of things was infusing into his being the true essence of civilization. And when native man left off this form of development, his humanization was retarded in growth.

Having had their freedom stolen and their civilizations crushed by colonialism, Native people are well aware of the social and political crisis they face. But the crucial goal of restoring a general respect for traditional values, and reconnecting our social and political life with traditional teachings, remains elusive. Standing Bear's thoughts on true civilization are echoed in conversations all over Indian Country. So why have we not yet rejected the European ways that hurt us and rejoined the indigenous path to peace, power, and righteousness?

The answer to this question is the reason why, of all the important issues we need to address, the most crucial is leadership. Understanding leadership means understanding indigenous political philosophy: conceptions of power, and the primary values that create legitimacy and allow governments to function appropriately and effectively. Good indigenous leadership ensures that government is rooted in tradition, is consistent with the cultural values of the community. This is a key element in restoring the necessary harmony between social and political cultures in Native societies. Non-indigenous political structures, values, and styles of leadership lead to coercive and compromised forms of government that contradict basic indigenous values and are the main reason our social and political crisis persists.

We have not fully recovered from colonialism because our leadership has been compromised, and we will remain subject to the intellectual, political, and economic dominance of Western society until the leaders of our communities realize the power of indigenous philosophies and act to restore respect for traditional wisdom. Leadership is essential if we are to disprove the rule that societies must hit rock bottom before they begin to realize meaningful change. Is it not possible to reach into the depths of tradition and begin to build the future now?

Returning to indigenous traditions of leadership will require an intensive effort to understand indigenous political life within the moral and ethical framework established by traditional values. Without obscuring the distinctiveness of individual societies, it is possible to see fundamental similarities in the concept of 'Native leadership' among indigenous cultures. Most agree that the institutions operating in Native communities today have little to do with indigenous belief systems, and that striking commonalities exist among the traditional philosophies that set the parameters for governance. The values that underpin these traditional philosophies constitute a core statement of what indigenous governance is as a style, a structure, and a set of norms.

In their most basic values, and even to a certain extent their style, traditional forms of government are not unique: similar characteristics can be found in other systems. The special nature of Native American government consists in the prioritization of those values, the rigorous consistency of its principles with those values, and the patterns and procedures of government, as well as the common set of goals (respect, balance, and harmony) that are recognizable across Native American societies. Adherence to those core values made the achievement of the goals possible; it was because of the sym-

biotic relationship between the traditional value system and the institutions that evolved within the culture that balance and harmony were its hallmarks. Indigenous governance demands respect for the totality of the belief system. It must be rooted in a traditional value system, operate according to principles derived from that system, and seek to achieve goals that can be justified within that system. This is the founding premise of pre-/decolonized Native politics-and we are in danger of losing it permanently if the practices and institutions currently in place become any further entrenched (and hence validated).

On the west coast of Vancouver Island, I spoke with a Nuu-chah-nulth elder who recognized the danger of continuing to think of governance in the terms of the value system and the institutional structures that have been imposed on Native communities by the state. Hereditary chief Moses Smith used to be a band councillor under the Canadian government's Indian Act system, but now he recognizes the harm that system has done to his community. As a leader, he is now committed to teaching his people's traditional philosophy so that an indigenous form of government can be restored. Lamenting the loss both of traditional values and of the structures that promoted good leadership, Moses said that 'in the old days leaders were taught and values were ingrained in hereditary chiefs. The fundamental value was respect.' In his view, contemporary band councils are not operating according to traditional values, and Native leadership premised on traditional power and knowledge will vanish forever unless 'the traditional perspective is taken up by the new generation'.

In choosing between revitalizing indigenous forms of government and maintaining the European forms imposed on them, Native communities have a choice between two radically different kinds of social organization: one based on conscience and the authority of the good, the other on coercion and authoritarianism. The Native concept of governance is based on what a great student of indigenous societies, Russell Barsh, has called the 'primacy of conscience'. There is no central or coercive authority, and decision-making is collective. Leaders rely on their persuasive abilities to achieve a consensus that respects the autonomy of individuals, each of whom is free to dissent from and remain unaffected by the collective decision. The clan or family is the basic unit of social organization, and larger forms of organization, from tribe through nation to confederacy, are all predicated on the political autonomy and economic independence of clan units through family-based control of lands and resources.

A crucial feature of the indigenous concept of governance is its respect for individual autonomy. This respect precludes the notion of 'sovereignty'-the idea that there can be a permanent transference of
power or authority from the individual to an abstraction of the collective called 'government'. The indigenous tradition sees government as the collective power of the individual members of the nation; there is no separation between society and state. Leadership is exercised by persuading individuals to pool their self-power in the interest of the collective good. By contrast, in the European tradition power is surrendered to the representatives of the majority, whose decisions on what they think is the collective good are then imposed on all citizens.
In the indigenous tradition, the idea of self-determination truly starts with the self; political identity-with its inherent freedoms, powers, and responsibilities-is not surrendered to any external entity. Individuals alone determine their interests and destinies. There is no coercion: only the compelling force of conscience based on those inherited and collectively refined principles that structure the society. With the collective inheritance of a cohesive spiritual universe and traditional culture, profound dissent is rare, and is resolved by

exemption of the individual from the implementation and implications of the particular decision. When the difference between individual and collective becomes irreconcilable, the individual leaves the group.

Collective self-determination depends on the conscious coordination of individual powers of self-determination. The governance process consists in the structured interplay of three kinds of power: individual power, persuasive power, and the power of tradition. These power relations are channelled into forms of decision-making and dispute resolution grounded in the recognition that beyond the individual there exists a natural community of interest: the extended family. Thus in almost all indigenous cultures, the foundational order of government is the clan. And almost all indigenous systems are predicated on a collective decision-making process organized around the clan.

It is erosion of this traditional power relationship and the forced dependence on a central government for provision of sustenance that lie at the root of injustice in the indigenous mind. Barsh recognizes a truth that applies to institutions at both the broad and the local level: 'The evil of modern states is their power to decide who eats. Along with armed force, they use dependency-which they have created-to induce people's compliance with the will of an abstract authority structure serving the interests of an economic and political elite. It is an affront to justice that individuals are stripped of their power of self-determination and forced to comply with the decisions of a system based on the consciousness and interests of others.

The principles underlying European-style representative government through coercive force stand in fundamental opposition to the values from which indigenous leadership and power derive. In indigenous cultures the core values of equality and respect are reflected in the practices of consensus decision-making and dispute resolution through balanced consideration of all interests and views. In indigenous societies governance results from the interaction of leadership and the autonomous power of the individuals who make up the society. Governance in an indigenist sense can be practised only in a decentralized, small-scale environment among people who share a culture. It centres on the achievement of consensus and the creation of collective power, bounded by six principles:

- **it depends on the active participation of individuals;**
- **it balances many layers of equal power;**
- **it is dispersed;**
- **it is situational;**
- **it is non-coercive; and**
- **it respects diversity.**

Contemporary politics in Native communities is shaped by the interplay of people who, socially and culturally, are still basically oriented towards this understanding of government,with a set of structures and political relationships that reflect a very different, almost oppositional, understanding.

The imposition of colonial political structures is the source of most factionalism within Native communities. Such institutions operate on principles that can never be truly acceptable to people whose orientations and attitudes are derived from a traditional value system. But they are tolerated by cynical community members as a fact of their colonized political lives. As a result, those structures have solidified into major obstacles to the achievement of peace and harmony in Native communities, spawning a non-traditional or anti-traditionalist political subculture among those individuals who draw their status and income from them.

The effort needed to bring contemporary political institutions, and the people who inhabit them, into harmony with traditional values is very different from the superficial and

purely symbolic efforts at reform that have taken place in many communities. Symbols are crucially important, but they must not be confused with substance: when terminology, costume, and protocol are all that change, while unjust power relationships and colonized attitudes remain untouched, such 'reform' becomes nothing more than a politically correct smokescreen obscuring the fact that no real progress is being made towards realizing traditionalist goals. Cloaking oneself in the mantle of tradition is no substitute for altering one's behaviour, especially where power is concerned. In too many Native communities, adherence to tradition is a shallow facade masking a greed for power and success as defined by mainstream society. Recognizable by its lack of community values, this selfish hunger for power holds many Native leaders in its grip and keeps them from working to overturn the colonial system.

The indigenous tradition is profoundly egalitarian; it does not put any substantial distance between leaders and other people, let alone allow for the exercise of coercive authority. Yet these are fundamental features of the political systems imposed on Native people. The hard truth is that many of those who hold positions of authority in Native communities have come to depend on the colonial framework for their power, employment, and status. How many of them would still hold their positions if the criteria for leadership reflected indigenous values instead of an ability to serve the interests of mainstream society? Very few contemporary Native politicians can honestly claim to possess the qualities and skills needed to lead in a non-coercive, participatory, transparent, consensus-based system. The hunger for power, money, and status prevents many people from seeing what is best for the community in the long run. But even when the people who seek that power do so with the best intentions, for the good of the people, the fact remains that holding non-consensual power over others is contrary to tradition. Whatever the purpose behind the use of arbitrary authority, the power relationship itself is wrong.

Proponents of indigenist government aim to overturn that unjust power relationship along with the government systems that have been imposed on our communities since colonization. Those systems cannot be defended on grounds of history (they are foreign), morality (they are intended to destabilize), or even practice (they do not work). Yet many people who are entrenched politically or bureaucratically within them resist any attempt to recover the traditional basis for governmental organization. Their defence of the status quo reflects a need to preserve the power relationships of contemporary Native politics. This is both a political and philosophical problem, a corruption that must be addressed if the values embedded in the European/American political system are not to form the general criteria for status, prestige, and leadership in our communities.

Efforts to recover the integrity of indigenous societies are not new. The first post-European Native cultural revival, at the start of the nineteenth century, was aimed largely at expunging cultural influences that were seen to be destructive. Various social and religious movements, including the Ghost Dance, Peyoteism, and the Code of Handsome Lake, sought to overcome the loss of spiritual rootedness and refocus attention on Native value systems. Experience since then has shown that cultural revival is not a matter of rejecting all Western influences, but of separating the good from the bad and of fashioning a coherent set of ideas out of the traditional culture to guide whatever forms of political and social development-including the good elements of Western forms-are appropriate to the contemporary reality. It is this rootedness in traditional values that defines an indigenous people; a culture that does not reflect the basic principles of the traditional philosophy of government cannot be considered to be indigenous in any real sense.

In lamenting the loss of a traditional frame of reference, we must be careful not to romanticize the past. Tradition is the spring from which we draw our healing water; but any decisions must take into account contemporary economic, social, and political concerns. We seek the answer to one of the basic questions any society must answer: what is the right way to govern? For generations, foreigners have provided the answer to this question. Our deference to other people's solutions has taken a terrible toll on indigenous peoples. A focused re-commitment to traditional teachings is the only way to preserve what remains of indigenous cultures and to recover the strength and integrity of indigenous nations. At this time in history, indigenous people need to acknowledge the losses suffered and confront the seriousness of their plight. There is no time left to wallow in our pain. Instead, we should use it as a measure of how urgent the challenge is. The power of our most important traditional teachings will become evident as they begin to ease our suffering and restore peace.

Reorienting leaders and institutions towards an indigenous framework means confronting tough questions about the present state of affairs. It would be unrealistic to imagine that all Native communities are willing and able to jettison the structures in place today for the romantic hope of a return to a pre-European life. But it would also be too pessimistic to suggest that there is no room at all for traditional values. Mediating between these extremes, one could argue that most communities would simply be better served by governments founded on those principles drawn from their own cultures that are relevant to the contemporary reality. In a practical sense, this is what is meant by a return to traditional government.

The persistence of political apathy, ignorance, and greed does not mean that traditional forms of government are not viable. These problems simply demonstrate that imported forms of government do not work in Native communities. In those places that have embarked on a traditionalist path and still find themselves plagued by these problems, they indicate that there is still too much distance between the idea of traditional government and the reality of the issues that need to be addressed. In both cases, traditional knowledge has to be brought forward and translated into a form that can be seen as a viable alternative to the imposed structures-as the culturally appropriate solution to fundamental political problems.

Some may be tempted to ask why it is so important to return to a traditional perspective. Aren't there are other paths to peace, paths that would take us forward rather than back? Some may even see the problems besetting Native communities as the product not of colonialism, but of the people's own failure to adapt to a modern reality shaped by forces that traditional values cannot comprehend, let alone deal with. Tradition, in their view, is a dream no more grounded in reality than clouds that disappear on the first wind-a beautiful dream, unsuited to the harsh realities of the world.

Such people are mistaken. Rediscovering the power of the traditional teachings and applying them to contemporary problems is crucially important to the survival of indigenous people. There is more than one Indian in this world who dreams in the language of his ancestors and wakes mute to them, who dreams of peace and wakes to a deep and heavy anger. If a traditionally grounded nation is a dream, it is one worth pursuing. It has been said before, and it bears repeating: sometimes dreams are wiser than waking.

Native Political Elites

in the midst of the current crisis, there are still people who embody the traditional virtues of indigenous cultures. There are generous men and women who hold fast to the traditional way, and who know its power to bring people together. These are the true leaders-the ones to whom communities should be

looking to take them beyond the division and greed of contemporary politics. But it is rare for such people to obtain positions of authority or influence within the current colonial structure. Often the qualities that make them leaders in the traditional sense are not sufficiently appreciated. As well, many of them make a conscious decision to withdraw from a foreign political system. Either way, the public sphere comes to be dominated by people who conform to the criteria for leadership imposed on Native communities, while those who meet the indigenous criteria for leadership remain secluded in the private realm of traditional life in the communities. There is a division between those who serve the system and those who serve the people. In a colonial system designed to undermine, divide, and assimilate indigenous people, those who achieve power run the risk of becoming instruments of those objectives.

Most of those who possess authority delegated by the Canadian or United States government are less leaders (with apologies to the rare and admirable exceptions) than tools of the state. This does not necessarily mean they are evil. Some are simply blind to the reality of their co-optation; others, however are complicit in the political subjugation of legitimate leaders.

Near the end of his tenure, the former Canadian Assembly of First Nations head Ovide Mercredi made a bitter admission: 'I'm not going to run interference for the white government. I've done that already. And the white politicians have done nothing to help in return.' Apparently, the style of politics practised by the present indigenous political elite includes the cynical manipulation common to non-indigenous systems. In the mid-1990s, seeking to block revision of the Canadian government's Indian Act legislation-one of the Indian Affairs minister's major initiatives-Mercredi sought approval for a new, more militant posture from his organization at its annual meeting. The meeting was attended by only about 150 of the 633 band-council chiefs in Canada, and fewer than 80 were even present for the vote on the new stance. So with the support of perhaps one in every ten band-council chiefs-whose own legitimacy is questionable, given the very low rates of political participation in the community-Mercredi claimed that he had gained the 'consensus' of Native people in Canada!

Those who challenge the status and style of the entrenched elite may do so on a moral basis, as the Native Women's Association of Canada (NwAc) did during the 1992 negotiations to revise Canada's Constitution, when they were excluded by Mercredi'S AFN. But they lack an indigenous philosophical base. And without a solid grounding in traditional values, such criticism is incapable of asserting indigenous rights; it becomes just a lever for those who want to replace the entrenched leaders and wield power themselves, still within a non-indigenous framework. The efforts of NwAc and other politically marginalized people to resist Mercredi's exercise of his claimed authority as the Native representative exemplified this futile 'mainstreaming' of dissent.

There is a difference between indigenous and Western forms of leadership. Simply to gain control of an institution is not enough. It is the quality and character of that institution that are of primary concern to indigenous people. Noel Dyck has described how indigenous youth in the 1970s were quick to recognize the distinction between true indigenous organizations and ones fronted by 'brown bureaucrats'. As Dyck observed, 'Brown and bureaucrat, or put another way, Indian and government, represent two different and opposing categories of social organization.... In the culture and experience of the [association] the two categories are not compatible.'

The idea that 'indigenous' and 'bureaucratic' are mutually exclusive categories has been rethought since the 1970s. But even with the focus now on values and intentions as the

criteria for determining whether or not an organization is good for the community, structure still matters. Working for the system in a political arm of the Canadian or US government almost always means working against your own people. There are a few rare cases where communities have decolonized their local governments and people have set up their own systems of representation. But the sad reality is that it's still difficult to justify working directly for the state.

So why do people do it? Jack Forbes has described a spectrum of identities, from a very firmly rooted Native nationalism to an opportunistic minority-race identification. Forbes's spectrum points to the lines of cleavage that the state manipulates in its efforts to legitimize its own institutions among Native people. In the war against indigenous nations, the state first alienates individuals from their communities and cultures and then capitalizes on their alienation by turning them into agents who will work to further the state's interests within those communities.

Adapting Forbes's analysis to the present situation, we can mark four major points along the spectrum of identity: (1) the Traditional Nationalist represents the values, principles, and approaches of an indigenous cultural perspective that accepts no compromise with the colonial structure; (2) the Secular Nationalist represents an incomplete or unfulfilled indigenous perspective, stripped of its spiritual element and oriented almost solely towards confronting colonial structures; (3) the Tribal Pragmatist represents an interest-based calculation, a perspective that merges indigenous and mainstream values towards the integration of Native communities within colonial structures; and (4) the Racial Minority ('of Indian descent') represents Western values-a perspective completely separate from indigenous cultures and supportive of the colonial structures that are the sole source of Native identification.

It goes almost without saying that state agencies recruit their Native people among the latter two groups. For people with a traditionalist perspective and a little cultural confidence, co-optation by the state is difficult. Undeniably, many Native people who work in state institutions, or in state-sponsored governments within communities, see themselves as working in the interests of their people. There is a strong, though fundamentally naive, belief among them that it is possible to 'promote change from within'. In retrospect, those who have tried that approach and failed see that belief as more of a justification than a reason. There are many political identities across Native America, and even within single communities the dynamics of personality and psychology produce varying responses to the colonial situation. The people who choose to work for or with the colonial institutions have constructed a political identity for themselves that justifies their participation. This is no excuse for being wrong-and they are-but it indicates the dire need for a stronger sense of traditional values among all Native people. In the absence of a political culture firmly rooted in tradition and a common set of principles based on traditional values, it is not surprising that individuals will tend to stray towards mainstream beliefs and attitudes.

The co-optive intent of the current system is clear to anyone who has worked within it, as is the moral necessity of rejecting the divisive institutions and leaders who emerge from a bureaucratic culture. It is one thing to seek out the heart of whiteness in order to prepare yourself for future battles-'know thine enemy is still good advice. But it is quite another thing to have your own heart chilled by the experience. Whether in a bureaucratic context or an indigenous one, individual conduct and values are crucial in determining who the real leaders are.

To plant a tree of peace, power, and righteousness, the ground must be prepared.

`Rejoicing in our survival'

The strength and quality of indigenous peoples' greatest accomplishment is almost buried under the weight of the problems they confront. That accomplishment consists in their survival. Indigenous peoples have every right to celebrate their continued existence, and to draw strength from the fact that their nations live on despite the terrible losses of the past 500 years. Today's challenge must be shouldered proudly because it is no less than the sacred heritage passed on by generations of ancestors who sacrificed and died to preserve the notion of their being. For all the chaos and pain brought by colonization, and all the self-inflicted wounds, the first step in getting beyond the present crisis must be to celebrate the inherent strength that has allowed indigenous people to resist extinction. That strength must then be turned to a different purpose, because beyond mere survival lies a demanding future that will depend on indigenous peoples' confidence, pride, and skill in making their right of self-determination real. The lesson of the past is that indigenous people have less to fear by moving away from colonialism than by remaining bound by it; in their resistance, they demonstrate an inner strength greater than that of the nations that would dominate them.

`Recognizing our pain and sorrow'

With confidence in the integrity and power of their traditions, and faith in their ability to overcome the worst, indigenous people must face the reality that much of their pain and sorrow today is self-inflicted. What is the legacy of colonialism? Dispossession, disempowerment, and disease inflicted by the white man, to be sure. The ongoing struggle consists mainly in an effort to redress such injustice. Yet a parallel truth-and in most cases it is almost unspeakable-is that the injustice and sickness are perpetuated and compounded from within.
The only way to erase this pain and sorrow is to confront it directly. Most Native life is a vortex of pain in need of an anchor of hope. The pain is the result of colonialism. Yet the real tragedy is that many Native people are left to sink for want of the hope that a healthy, supportive, and cohesive community could provide. Cultural dislocation has led to despair, but the real deprivation is the loss of the ethic of personal and communal responsibility. The violence and hate directed at our own people and ourselves that is so prevalent in Native communities is what the Sto:lo writer Lee Maracle has called 'a cover for systemic rage' common among colonized peoples. Her poem *Hatred* exposes this often ignored reality: 'Blinded by niceties and polite liberality, we can't see our enemy, so we'll just have to kill each other.' Yet the enemy is in plain view: residential schools, racism, expropriation, extinguishment, wardship, welfare. In fact, the problem is not so much blindness as it is aversion to the truth that, although 'they' began our oppression, 'we' have to a large degree perpetuated it.

Long-term subjugation has a series of effects on both the mind and the soul. We must recognize and take seriously the effects of colonial oppression on both individual and collective levels. In many people's view, political and economic problems are less urgent than the damage to our psychological health. As the psychologist Eduardo Duran has characterized the problem:
Once a group of people have been assaulted in a genocidal fashion, there are psychological ramifications. With the victim's complete loss of power comes despair, and the psyche reacts by internalizing what appears to be genuine power-the power of the oppressor. The internalizing process begins when Native American people internalize the oppressor, which is merely a caricature of the power actually taken from Native American people. At this point, the self-worth of the

individual and/or group has sunk to a level of despair tantamount to self-hatred. This self-hatred can be either internalized or externalize d.

Could there be a clearer statement of the essential problems besetting Native communities? Denied, medicated, rationalized, ignored, or hated, this is a reality that affects all indigenous people to one degree or another. Men bear a special guilt. Many have added to Native women s oppression by inflicting pain on their wives, daughters, mothers, and sisters. Once we fully understand the idea of oppression, it doesn't take much further insight to see that men's inability to confront the real source of their disempowerment and weakness leads to compound oppression for women. This is a deep and universal problem that continues to exist despite the positive economic and political developments that have taken place in indigenous communities during the last two generations. Internalized oppression manifests itself in various ways. Women as well as men express it in many kinds of self-destructive behaviour. In many indigenous men, however, rage is externalized, and some cowards take out their frustration on women and children rather than risk confronting the real (and still dangerous) oppressor. The 1995 film *Once Were Warriors*, about spousal abuse among the Maori of Aotearoa (New Zealand), captures the essence of this problem for all indigenous people. Gendered violence is endemic in most societies, but the fact that our cultures were founded on gender equality and respect makes it a special betrayal in Native communities. That the violence perpetrated by Native men on Native women constitutes a further subjugation compounds the gravity of the crime.

We are entitled to lay blame, but not to make excuses. Colonialization created the conditions of material and social deprivation, but the failure to confront them is our own. Why have we directed our anger at ourselves and our families rather than its source? There are three prerequisites for recovery: awareness of the pain's source, conscious withdrawal from an isolated, unfocused state of rage, and development of a supportive community and the courage to begin attacking the causes of discontent and deprivation.

'A responsibility to our ancestors'

It is incumbent on this generation of Native people to heal the colonial sickness through the re-creation of sound communities, individual empowerment, and the re-establishment of relationships based on traditional values. This is the burden placed on young shoulders by the elders and ancestors who carried the torch through many years of darkness. It is not enough to survive and heal; there is also a responsibility to rebuild the foundations of nationhood by recovering a holistic I pray that I can take care of myself until the day I go, because I see so many elders being badly abused by their families. This is a loss of culture, a loss of identity, and a loss of tradition. One of the things I find is that people will fall back on how they were raised and what happened to them, saying, Well, my father was a cruel man, and I have low self-esteem, and I can't comprehend what you are teaching me about love and kindness and giving. And I say, Do not fall back on that kind of garbage. The Creator gave you a sound mind and an incredible spirit and a way of being so that you can do anything right now! You can change that attitude same as you wake up in the morning and it's a new day. Your mind and everything else can be new. I've lived through hardships and horror, and I'm a loving, caring, giving person because I choose to be that way. I choose to listen to the other side to guide me. We all have the ability with our spirit to change things right now.

-Osoka Bousko, Woodland Cree (Johnson, ed., The *Book* of *Elders, 60)*

traditional philosophy, reconnecting with our spirituality and culture, and infusing our politics and relationships with traditional values.

The gradual transformation of Native communities from threatened to confident, from sick to healthy, from weak to strong, will be a collective effort. But the collective will require the shining lights of leadership provided by individual guides and mentors. This kind of leadership will be the most crucial element in our recovery from colonial oppression.

Native people can't cry their way to nationhood. Fulfilling the responsibility to reconstruct the nation means moving beyond the politics of pity. A sensitive pragmatism is needed to reinfuse our societies with the positive energy required to confront the continuing injustice, protect what remains, and build our own future. Mainstream self-help and 'New Age' esteem work is not enough. Without a foundation in the traditional teachings and a connection to community development, such efforts represent nothing more than self-centred escapism and denial of the fundamental problem. It is not enough to think of individual healing. As the Cree educator Roslyn Ing told me, if we are to 'honour what our ancestors went through and died for', we have 'a responsibility ... to want to exist as Cree people and to carry on'.

The time for blaming the white man, the far away and long ago, is over. People should recognize that the real enemy is close enough to touch. As a chief of the Ehattesaht tribe on North Vancouver Island told me:

People don't appreciate traditional values, and don't live according to them. They have more immediate concerns and have neglected the important things. The biggest problem is that people have developed a victim mentality and blame everyone else for their oppression rather than doing the work to raise themselves out of it. The culture of dependency and the feeling of defeat are our biggest problems.

As long as the state works to keep Native people politically and economically dependent, leadership will consist in resisting its efforts to undermine the integrity of the culture and prevent the reclamation of the traditional ways that are the keys to empowerment.

But what does it mean to reclaim traditional ways? One kind of 'retraditionalized' leadership has been defined with reference to indigenous women who have extended 'traditional care-taking and cultural transmission roles to include activities vital to the continuity of Indian communities within a predominantly non-Indian society':

American Indian women have achieved success by exhibiting independence, leadership, confidence, competitiveness, and emotional control. Without ignoring their cultural heritage, losing acceptance among their people, or forfeiting the ability to behave appropriately within Indian cultures, Indian women leaders have increased respect and status for Indian people and gained professional recognition for themselves.

These people are to be respected for their abilities and their success in challenging racism within the professions. However, there is a substantial difference between this type of activity and the perspective on leadership that I am advocating. While gaining the respect of mainstream society is perhaps a necessary element in the decolonization process, it is essentially individualist. What the authors of the passage above would term a Native 'leader' is actually a person who has become successful in Euro-American society by mastering the skills, knowledge, and behaviours required for white success. To become a role model and contribute to the mainstream society while still maintaining a respected position in one's nation is very fine; but it is not leadership in the truest sense.

This notion of retraditionalized Native leadership lacks one essential component: participation in and support for the nation's collective struggle. It is the duty of Native leaders to

satisfy not mainstream but indigenous cultural criteria. To be sure, making a positive contribution is an important aspect of leadership, but individual success is not enough. To become a true leader, one must go far beyond.

Is it possible to be prominent and esteemed in one world without being marginal in the other? Is it possible to compromise, to meet the demands of both worlds? Ultimately, I think the real question is: can Native people afford to lose even one potential leader to the pursuit of success as defined by the mainstream society?

Brothers and Sisters:

These words are a prayer of hope for a new
path to wisdom and power.

Anguished hearts, minds, and bodies
are the profound reality of our world.
We have lost our way
and the voices of our ancestors go unheeded.

This is our ordeal.

There are those who remember
what has had meaning since time began
but we are deaf to their wisdom.

Why do we not hear them?
Suffering; the dragons of discord.

Wipe the tears from your eyes
Open your ears to the truth
Prepare to speak in the voice of your ancestors.

This is a discourse of condolence.
A prayer o f hope for a new path.

Alaska

Tero Mustonen, Kaisu Mustonen with the participants of the Unalakleet Snowchange Documentation Project

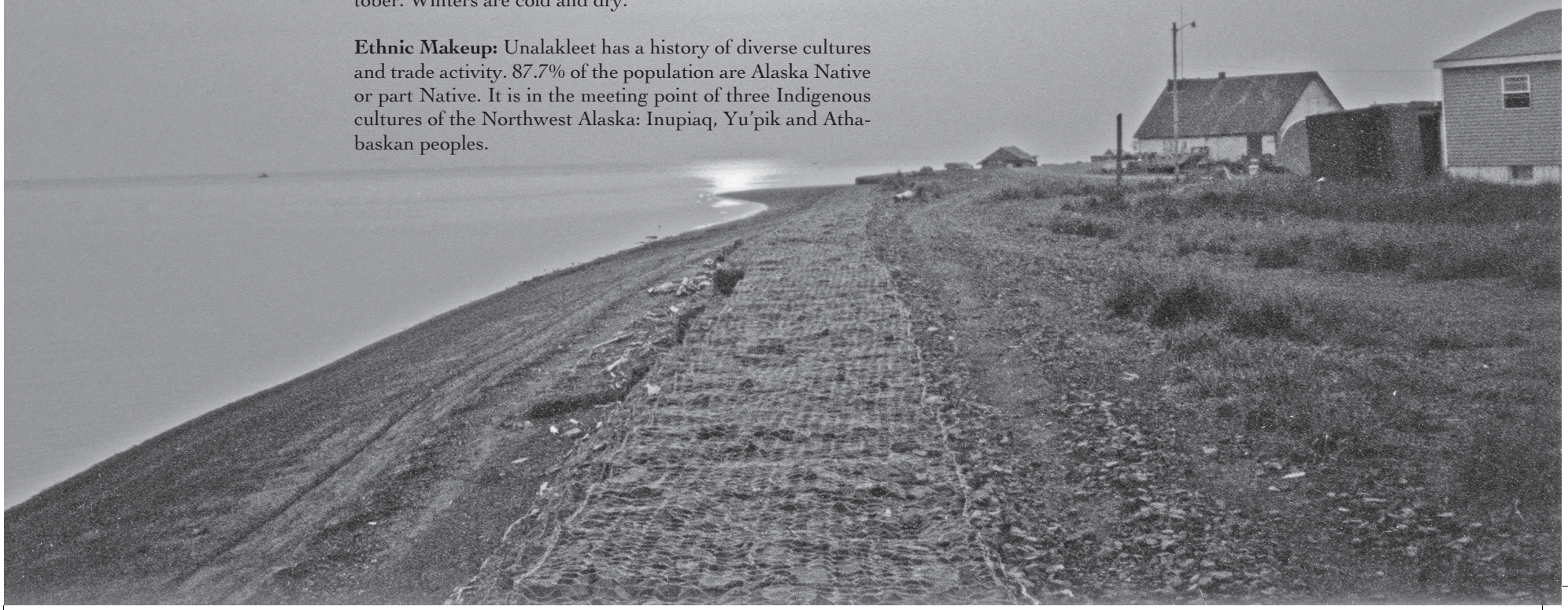
"It's Been In Our Blood For Years And Years That We Are Salmon Fishermen"- Community Voices of Change from Unalakleet, Alaska

Information on Unalakleet

Location and Climate: Unalakleet is a small coastal community on Norton Sound, at the mouth of the Unalakleet River, 395 miles northwest of Anchorage, Alaska. Unalakleet has a sub-Arctic climate with considerable influence of the nearby sea when Norton Sound is ice-free, usually from May to October. Winters are cold and dry.

Ethnic Makeup: Unalakleet has a history of diverse cultures and trade activity. 87.7% of the population are Alaska Native or part Native. It is in the meeting point of three Indigenous cultures of the Northwest Alaska: Inupiaq, Yu'pik and Athabaskan peoples.

Population and Income: The population of Unalakleet is 741 (2002 DCED Certified Population). During the 2000 U.S. Census, the unemployment rate was 14.57%, although 48.61% of all adults were not in the work force. The median household income was $42,083, per capita income was $15,845, and 11.04% of residents were living below the poverty level.



Economy: Commercial fishing for herring, herring roe and subsistence activities are major parts of Unalakleet's economy. 109 residents hold commercial fishing permits. The Norton Sound Economic Development Council operates a fish processing plant. Government and schools employ many people. Tourism is becoming increasingly important, with world-class silver fishing in the area.

Way of Life: The traditional lifestyle is hunting and fishing. Traditional knowledge of the Unalakleet residents is passed from generation to generation. It is knowledge built on ages old experience of habitats, animals and eco-systems.

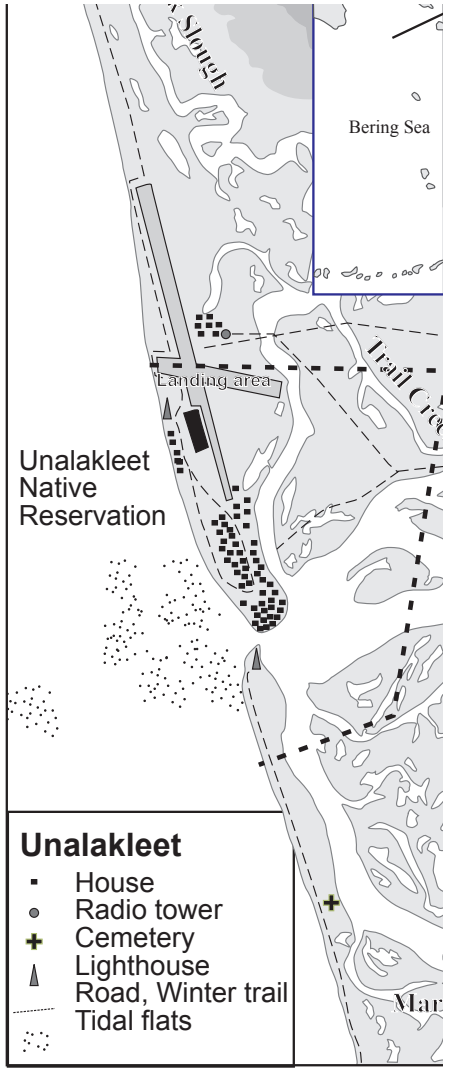
Mary A. Brown preparing salmon.

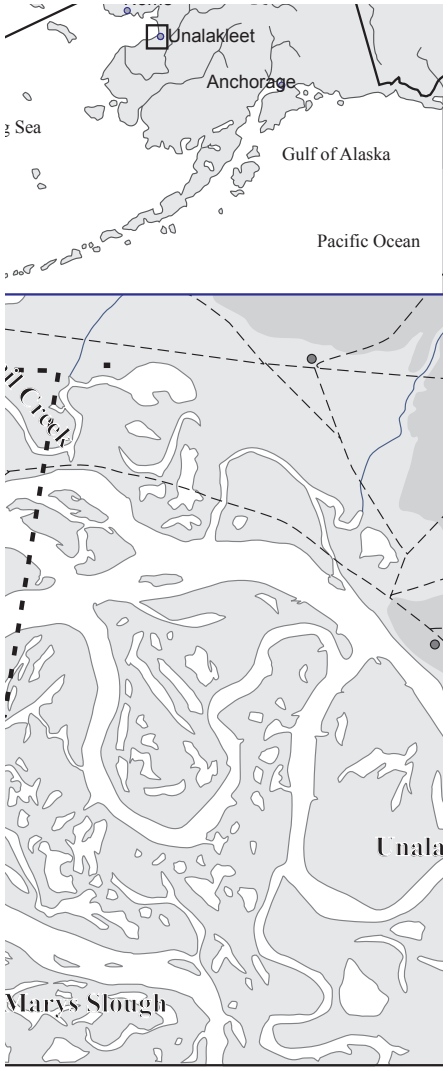
Village has witnessed disturbing changes and observations regarding the local ecosystem. The traditional knowledge of the Unalakleet residents is building on generations of observational experiences regarding the habitats, animals and eco-systems. It is a form of science. The Snowchange community documentation was carried out in August 2002 following an invitation of the Tribal Council.

Paul Ivanoff III, a member of the community, summarized the relationship of the people with the land in 2002 workshop in the following way:
"I think that [we are] so salmon dependent, being a coastal community, and it's been in our blood for years and years that we are salmon fishermen."

Stanton Katchatag, is a well-respected Elder in the village, carrying a lot of knowledge of the history and understanding of the place.
"My name is Stanton Katchatag, I was born and raised here in Unalakleet. I haven't been to high school. The reason was that my parents didn't want me to leave Unalakleet. There is an Inupiaq way of life what they call 'subsistence'. After Alaska became a state [of the Union] they changed the rules and regulations. Before statehood Alaskan Department of Fish and Game never used to be around. The thing in subsistence way of life is that if our ancestors were not the stewards of these resources we wouldn't have any resources now. I found out that the [local] sea current [got] real strong not like the way it was before. That was noticeable. I think that may have been affected by the global warming.

The weather change has been coming noticeable in about 25-30 years. It is slow but when I think back that's about the time when it seems like it changed because long ago especially last part of December around Christmas and new years that used to be extremely cold and the temperature would drop down to 60 below [Fahrenheit] and so forth. My wife even said that one Christmas that, she saw the temperature was 75 below [Fahrenheit].
What we've noticed lately is a lot of animals seem to be coming in [near the community] when they used to stay out long ago. The behaviour of the animals might be affected by the global warming.





If it's the global warming, if some of the insects or the plants life is affecting their food it's just a chain reaction. What I always think about too is that, our people, they rely on these resources so much. I worry about that. If the global warming really affects the salmon and I think it does, salmon and all these other resources that natives subsist and rely on when those are gone it'll be hard on a lot of people here in our area. One of the things that I'm really concerned about is suicide. Lot of our young people are committing suicide and really for no good reason. And I cannot really pinpoint the problem 'cause there are so many; one of them is alcohol."

The subsistence hunting provides for an important link between the Unalakleet people and animals. One of the harvested species is the beluga whale.
Oscar Koutchak, another respected Elder in the Village, spoke of the beluga:
"My name is Oscar Koutchak and I am an Alaskan Eskimo, I was born 1930 and I've lived here just about all my life. One year my wife and I was sitting [home] in the spring time and when we looked out the window we saw a lot beluga out there, maybe one mile and a half maybe, mile and a half out that way [to the ocean] and they were migrating up north and right away I knew they were beluga, there's a lot of beluga and I guessed they go all the way around up to North Slope area."

The harvest is constant and part of the yearly cycle of activities. As Joan Johnston puts it:
"The beluga, white beluga, we try to get, my husband sets a net every a fall."

Leonard Brown and Mary A. Brown, long-time residents of the community, spoke about the methods of harvesting beluga:
"We used nets, tangle nets, regular nets that they'd put together themselves. They're a lot shorter and we used different anchors, it's not like a salmon net. That went on for a while and then they started using guns. Well the beluga took off, they ran away. Eventually they started coming back. Now they're using nets again. There was a change there, and it came back the old way. You don't scare them off. They come in and you catch one in the net and don't scare the other ones off. But the minute they'd start shooting, BANG BANG, and they're gone. So that's the difference there. But the beluga has been increasing in the population, quite rapidly."

Cutting Beluga, A Young Persons Perspective

The Unalakleet youth take active part in the harvest of the marine resources, such as the beluga. Galen Doty spoke about his experiences of handling the catch.
"I'm Galen Doty. I'm not originally from here but I was born and raised in Anchorage. I lived in Anchorage for four years. After that I moved here so I've been living here for 12 years and I'm sixteen and that's mostly my life. You cut the layer of the beluga. First you cut down the middle of the beluga. It's like butchering. You just cut, there's a layer of real soft, the outside fleshy part. And then there's a real rubbery part in the middle between the outside and there's another part on the inside, which is blubber. And in between it's like real chewy place and you lift both of the flesh flabs up. Then you just cut along and it just comes off and you just cut like big layers and then you just cut 'em up in to squares and put them up. After you cut off all the maktak [whale blubber] around the whale you usually just leave it for the birds. The birds will usually eat it to the bone."

Stanton Katchatag reflects on the observed changes on beluga behaviour. He says:
"There are some people that blame that beacon by the airport - they claim that when they put that beluga were absent for years! Several years we'd hardly see any. They used to even come inside the slough here, back here when I was a child at night time. And they don't come in no more, I think that shallow thing might have an effect on them.

But they are starting to show up in spring and I think even towards fall too. They get a few now in the last five-six years. But there used to be lot of those long ago and even killer whales used to chase 'em. Used to see them from here, from town those killer whales out there, but that changed."

Cultural Change and Role of Traditions in Unalakleet

Like all Northern Indigenous communities, Unalakleet has undergone significant changes in the last decades, affecting the local culture, social, economic and ecological realities. One of the affected spheres is the traditional knowledge and the intergenerational passing of this unique pool of human wisdom. Jerry Ivanoff, a fisherman reflected on learning the knowledge:
"If the knowledge about cultures in oral tradition breaks, there is a break in communication from father to son, and we can't stand to lose generations of knowledge. That's not written down, the knowledge that the elders have is far more important because that's the tradition, that is what brought us to [a] people we are today. If oral tradition is not transferred then there is a break in the communication and some of those traditions will not make it to the next generations. We are not eating seal as much [as we used to]. I know that there is a change in the eating patterns of younger generation today. I just grew up in time when [new things] was not available."

An outspoken member of the community, Donna Eriksson, originally from Barrow, Alaska, spoke wisely of the cultural change:
"Everything has to change with time, everything must change. I think that the little that I know I can teach my children and they can still be college-educated and continue on, they don't need to resist religion, they can depend on God, I mean. I think that you can't get back to the old ways, there's absolutely no way. I've spent so much time with old people and listening to their stories of their hardships and how life was so hard a long time ago. We can take the best part of that culture, hang on to it and move on and take the best from both worlds and try to continue on."

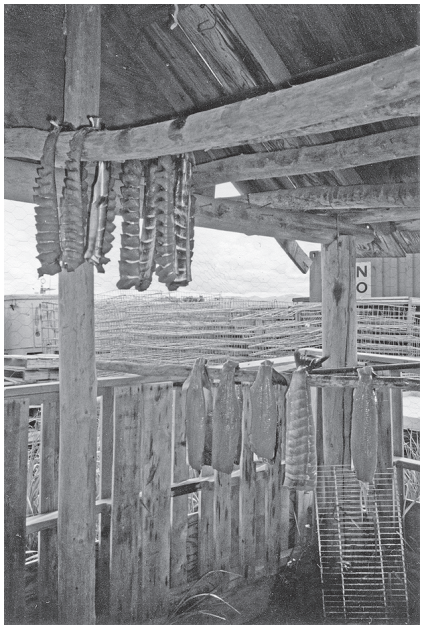
Oscar Koutchak spoke of the family traditions of subsistence:
"Me and my wife, we try to teach our girls as much as we can about subsistence way of living. We try to pick berries, make seal oil, put away food, and I'm glad they are doing it right now but you know, I think it's up to themselves that they should learn to do that."

The youth in the community reflected on the Elders wisdom and learning from that. Youngster Galen Doty spoke of school work involving the Elders:
"In our history classes we have a lot of questions to ask about Alaska and this village. So we go and interview the elders. And after we [have] interviewed our elders we stick all our slides together, all our tapes together and then watch our tapes that we interviewed. We go through them and get answers to our questions that we are looking for. The elders have stories and the young guys have questions and we try to bridge them together."

Loss of Salmon – Loss of a Way of Life?

Joan Johnston is worried of the changes in salmon as a fisherwoman. She did a report on subsistence in Unalakleet in 2001 and spoke on the salmon levels: *"It's really declining."* She has concerns for this crucial resource.

Paul Ivanoff III expressed similar views on salmon in his lifetime:
"In the last five years we have noticed a considerable drop in the amount of salmon. I'll even go back twenty years. Probably when I was in high school and right out of high school in 1983, and I started working for the cargo company that transports fish out of here, the


Drying salmon.

commercially caught fish. In the summer months we used to be able to, on any given day to send out 20 to 45 thousand pounds of salmon, caught commercially. We don't see that anymore. But during the last 20 years we've seen a very noticeable decrease in the number of fish and the last five years a really big noticeable difference in the amount of kings coming in."

Jobina Ivanoff made a powerful link between cultural survival of the community and the salmon:

"I think the thing that's most scary is that we're losing our subsistence, our fish are getting less. That's my concern, that we're eventually going to lose it. I think so because some of us live off the fish and the caribou. It's becoming so industrialized, the kids later on eventually are not going to know about the subsistence life."

Jolene Katchatak Nanouk is worried of the warming waters:

"I think about the fish. Fishing for silvers right now is low, we're not as far as where we were compared to last year and I keep thinking it's because the ocean is too warm right now. The river is too low. Maybe if we get rain then maybe they'll come in, but I'm concerned about the fish because I work with fish and game in the summer and we hardly get any fish there. It's scary to think that Unalakleet would someday have no fish just like the other communities."

Oscar Koutchak, an Elder is wondering the decreasing salmon numbers, reflecting on over 70 years of experiences in the community:

"There is not enough fish over here; their numbers have gone down, I don't know why. Like the Bristol Bay used to be the salmon capital of the world, it's not anymore; I don't know how they are depleted so much."

Observations of Weather Change in Unalakleet

During the community workshop, climate and weather

Leonard Brown with a salmon.

change came up many times, in different contexts. Changes had been observed and their impacts had affected the subsistence life. Donna Eriksson spoke on the dangers of changing ice:
"You can't travel on the ocean [ice] anymore in the winter like we used to. Ice seems thinner and more fragile. During the winter we have had some warm spells in the last few years. [During these] it would be too dangerous to go on the river with snow machines. So there have been changes."

Joan Johnston has similar experiences during ice travel:
"The sea ice it doesn't stay. It used to, when my husband and I were first married, it was 20 years ago, we used to go crabbing on the ice. We can't anymore because the ice goes out. Its kind of like open water, you have to be careful, it's young ice. The river ice it doesn't break-up like it used to. When I was young it used to be like thunder, I mean loud, real loud, you could hear it all over town. Now it just goes out. It was a lot more fun back then!"

Paul Ivanoff III spoke of the need to spend time observing the local ecosystems. On the surface, changes are not too visible, but *"I've noticed a lot of subtle differences. It seems the amount of snow we get is less. I remember growing up, first of all the snow here doesn't just fall down, it blows in. For whatever, just because we're in a valley. And growing up I remember these huge snow banks, monster snow banks and now they're not there. They're probably about half the size what they used to be."*

» A Special View - Jerry Ivanoff, Fisherman «

Jerry Ivanoff, a fisherman was born 1963 to Ralf and Rainik Ivanoff.
"I've hunted them ever since I was a little boy. My dad took me up, when I was so small and I could not see the land in any direction and I was worried that, I would hoping that he'd know the way back, because I didn't know where I was…You know, but he taught me how and he taught me wind direction and how to catch [animals]. I haven't had any problems catching beluga, both in the spring time and in the fall time. I don't hunt them too much in the spring, but when I go set my net in the fall, I get enough to feed quite a few people.
I think the skills are still here and can be transferred, but I've learned it from my dad, and I'm sure he learned it from his parents, generation to generation, father to son, but as the educational system takes over, modern education from kinder garden [it changes]

I think the skills of hunting and the conditions where to go to find what you're looking for, how to take it apart and what to bring back, what to save, what not to save, it's still here, but it needs to be transferred as it has been through oral tradition. If oral tradition is not transferred then there is a break in the communication and some of those traditions will not make it to the next generations. Of course it is 'McDonalds

Thanks to the community of Unalakleet, Unalakleet Tribal Council, Art Ivanoff, Elders for their wisdom and all participants to the Community Workshop, Vickie Steere in Anchorage. Thanks for assistance to mr. Henry Huntington in Alaska, Sini Stubbe, Marjukka Dyer in Tampere Polytechnic, Finland.

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Community documentation was carried out in August 2002. (Note! All quotes, comments and references are to the 2002 season, unless otherwise marked) Personal communication with Art Ivanoff, March 2004

time' - we are not eating seal or as much. I know this is a change in the eating patterns of younger generation today. Who is to blame?
It just doesn't seem like we've had too much of the blizzards, like we used to have when I was younger. A long period of bell blizzards, not the one day two day kind, I mean it used to blow seven-ten days in a row, can't see anything, that's why we had the big snow banks, but it seems a little bit warmer. I don't burn as much fuel, I use both wood and stove, with my job I'm able to buy some fuel, for the time I'm travelling. Most of the time I like the radiator heat, the wood fire in the winter time not to foresee the oil burning, you can't beat that radiation heater for a good wood fire.

Killer Whales

They are the cooperative line in the ocean, the top of the food chain. They have, just for learning from books and learning from the elders that they're to be respected. Their brain is bigger than ours, they can communicate longer and longer distance than we can without the telephone and they have a communication, they are able to communicate with each other. They hunt as a team. They're smart. And they got sharper teeth than me, they are faster in the water and they are bigger. They need to be respected. We got small boats, and men are out hunting with a 16 foot lander nowadays, but long time ago they were wooden boats and even back further they were kayaks. They are kind of small compared to a big old killerwhale.

Fish

Our culture our being dependent of fish. I've grown up eating fish all my life. To watch and see what is happening now, it is scary with the commercialisation of pollack catch. Americanisation [happened] in the 1980s. In the year 2000, 200 miles out they brought in American fleet. They were doing the same thing, catching millions of tons of fish and towing out my salmon, my catch, millions of tons of it with no economic return to the people who are suffering. Myself as a commercial fisherman, now I feel that I deem to have a law suit against the federal and the state government for depletion of stocks. I take them to court, to the Supreme Court I think I will. It is not about the money, I worry about the culture.
All governments are hurting us on the international scene. The pirates that come out here beyond the two hundred mile limit, even within the 200 mile limit and catch whatever they can and off they go. Japanese with their nets miles long catching all species, catching all marine mammals and whatever they can pull into that boat and go back and sell it. Of course with a country that has no natural resources they come here and take what we've survived with for generations, I'm worried of that. I saw that king salmon species go from 20 000 to nothing in 20 years, the jump salmon are in dire straits since 1992.

Land Rights and Cultural Change

They did not discover us until way later, funny that

we should have to be discovered, it's only since you know 1800s, that this happened. 1867 they say all of Alaska [was bought]. I am sure it is folly, I didn't sign no piece of paper that gave away our rights to my land, to my subsistence lifestyle, when they signed the state product, I didn't as a native person. Didn't sign any proclamation saying that we give up any native rights to our subsistence lifestyle, the land that we've used for generations. They resolve to get the oil, 'how do we settle this land thing to get at that oil'?

Our land, they have taken the land, they've taken the money derived from that land, they've taken the money derived from the oil, and they've spent it in urban centers, while our communities go without water and sewer yet. That's kind of nice, I like flushing toilet and I like using siphon instead of doing brown paper bags. It's the modern conveniences are nice, but again the injustices of modern society. It is infringed. [It is hard to have] the right of a native person to remain a native person. It's our people that pay the ultimate price, and they look after their big money, the big checking accounts and they are dealing with billions of dollars. And I'd like to keep fishing and hunting, and pass on what my dad taught me, plentiful, bounty of the ocean and the bounty of our land that we live in, it's amazing what we have. I mean people pay money to go fishing on rivers for king salmon and they came on and they want to go caribou hunting, they'd love to go over hunting like we can. And if don't raise [issues] then nobody cares for the generations to come.

[Talking about] fishing, that's core to me. It's the a lot of what brought us this far, it comes on my table and it's fresh all the time. I depend on it on annual basis. Of herring - when the ice melts and we get herring, we used to dry before April, now we haven't been able to do it because the retail prices are so good and they brought McDonald's so younger wouldn't be eating, here.

The driving force in the ability to our people to survive has been subsistence, that's the most important thing, outside the urban definition that you find in the Webster Dictionary. It means basically that we've survived for generations on those patterns of life that we depend on."

Yukon First Nation Observations Of Climate Change

SnowChange 2002 Conference

Presented by Marilyn Jensen and Doris Mclean

Climate change is a topic of great significance and importance to the Gwitchen, the Tr'ondek Hechin, the Upper Tanana, the Northern and Southern Tutchone, the Tagish, the Kaska and the Inland Tlingit who are the Aboriginal peoples of the Yukon Territory in Northwestern Canada. From the earliest times, the people have noted climatic changes, which have affected their lives and played a role in the development of their cultures. These changes and observations are present in Yukon First Nation Oral Tradition from the legends of the past and in the memories of the people alive today. Yukon First Nation people have always been successful in their ability to adapt to new situations, particularity those related to the environment. It is an integral component to the story of their survival.

First Nation people in the Yukon, like all North American Indigenous people have a profound connection to the land, to the animals and to all aspects of the environment. This bond has endured through thousands and thousands of years and exists today among people who live out much of their lives in the wilderness. There is a powerful sense of spirituality related to the environment, as all aspects of life are interwoven into others. The spirits of the wind, the mountains, the water and the land are present and must be addressed following the proper protocols of the traditional law system.

Every aspect of life is interwoven within another, you cannot separate the clan system from the potlatch and this cannot be seen isolated from our spirituality. All is connected like and likened to a circle. The land and the environment is everything that we are, without it our survival would be destined to end. It is only at the mercy of the animals who decide if they want to be sacrificed and give themselves up for our food do we exist. Because of this we treat the land and the animals with the greatest and utmost respect, this is the way of the ancestors and it persists today exhibited in our worldviews and values today.

With the onset of dramatic climatic changes there is a sense of fear often expressed by the elders, fear of their world changing around them at an alarmingly rapid pace. These changes are obvious and sometimes obtrusive, so they are known by everyone. Dramatic changes in the weather patterns as seen two winters ago when the temperature rose to +10c at Christmas time and all the snow melted revealing grass, new buds on the trees and other vegetation. This kind of dramatic change in weather patterns has been a trend over the last decade or so.

Yukon elders in the southern regions remember when the winter temperatures were very cold all winter long, as cold as –60c. Today the winter felt in the southern Yukon rarely gets colder than –25-30c. Temperatures are erratic and unpredictable; the elders are no longer able to predict temperatures. The ability to predict the weather has been with the people for countless generations and is a skill that was extremely important to people who lived their lives out on the land.

Animals unknown to the Yukon region are beginning to migrate into the Yukon from the South. Cougars have been spotted as far north as Pelly Crossing in the central Yukon. How does a person act when they come into contact with a cougar when they are in the bush? Yukon First Nations do not know, as they are not familiar with this animal. White dear have also migrated into the Yukon, this is a species not seen before.

Other animals that once lived in the Yukon are seldom seen anymore. The frog, who is an important figure in the clan system and also in our legends is rarely seen at all. A 33-year-old Tagish/Inland Tlingit woman has never in her entire lifetime seen a frog in the Yukon; her mother remembers a time when they were abundant and spotted often. The children were taught to be respectful to the frog and the legend of how a frog helped Skookum Jim discover gold in the Yukon is a celebrated story. The story is of how the frog helper brought wealth to a man who assisted the frog at one time. The frog is the emblem of one of the Tlingit clans, this clan is a very small in numbers.

The swans were seen back to their summer grounds in February of this year (2002). That is too early and many of the elders worry about the effects this may cause to the swans and their survival.

The elders possess much knowledge, they are like our encyclopedias and they are called upon more and more by the scientific world. This has caused some concern amongst First Nation people. There are examples of when outsiders have extracted traditional knowledge and used it in ways that hasn't shown any benefit to the aboriginal people. In a time when the Yukon First Nation people have spent the last 30 years fighting for the preservation of their rights, keeping traditional knowledge safe is extremely important. This is a message Yukon First Nation people would like to express. Please respect our culture and us by respecting our traditional knowledge.

Climate change has been and remains a serious concern to Yukon First Nation people. It has become more and more obvious over the last decades and particularly with extreme changes in weather patterns. The First nation people are confused and unsure of what this will mean in their future. A culture, which relies so heavily on the land for subsistence and for cultural identity, has much to lose. It is our hope that we will be able to adapt and persevere through climatic and environmental changes.

Legendseekers Doris (1. row first on the left) and Marilyn (1. row second on the left) together with Alestine Andre, Gwitch'in (1. row, right) with students at 2002 Conference.

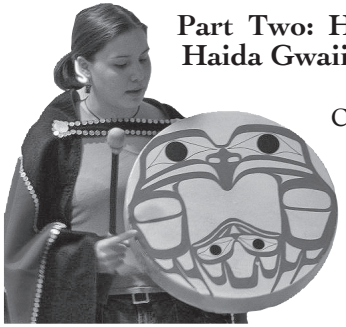

British Columbia

Haida Gwaii Climate Change Observations

Jusquan – Amanda Bedard, a paper delivered at Snowchange 2002 - Tampere, Finland

Part One: Introduction

My name is Jusquan, Amanda Bedard. I come from the Tsiij git'anee Eagle clan from Old Massett, Haida Gwaii. The Haidas are indigenous peoples as defined in International Law; we have a common language, culture, and land base. Our homeland is located outside the territorial sea (the 13-mile limit) off of the west coast of Canada and includes islands now claimed as part of the state of Alaska by the United States of America.[1] The ecology of our islands is that of temperate rainforest, and because so little of this type of northern forest remains from its previous extent.[2] The Haida are extremely dependent on the oceans for our foods and economy. We are sensitive to changes in marine climate.
What I am will say here is as a Haida woman, and I am proud to be here as such to share with you the views and observation of myself and other Haidas.



Part Two: Haida Connectedness to Haida Gwaii

Climate change is a looming threat that is a danger to the land, air, and water of Haida Gwaii, and all of those who live in these elements. The *Constitution of the Haida Nation* reflects the importance of the land to us as Haidas. The proclamation at the beginning of the *Constitution* states the following:

THE HAIDA NATION IS THE RIGHTFUL HEIR TO HAIDA GWAII.

OUR CULTURE IS BORN OF RESPECT AND INTIMACY WITH THE LAND AND SEA AND THE AIR AROUND US.

LIKE THE FORESTS THE ROOTS OF OUR PEOPLE ARE INTERTWINED SUCH THAT THE GREATEST TROUBLES CANNOT OVERCOME US.

WE OWE OUR EXISTENCE TO HAIDA GWAII.

THE LIVING GENERATION ACCEPTS THE RESPONSIBILITY TO ENSURE THAT OUR HERITAGE IS PASSED ON TO FOLLOWING GENERATIONS.

ON THESE ISLANDS OUR ANCESTORS LIVED AND DIED AND HERE TOO WE WILL MAKE OUR HOMES UNTIL CALLED AWAY TO JOIN THEM IN THE GREAT BEYOND.

Haidas feel that we are responsible for the land that makes us who we are. Without the land, and the resources and life

forms that come from it, we would not be Haida. The salmon: *chiin,* halibut: *haguu,* other fish including shellfish like crab: *kustaan,* mussels: *∂'a,* clams: *gabay;* also devilfish: *nuu,* row on kelp: *g'aaw,* seaweed: *skew,* as well as the cedar tree: *t'uu,* the spruce tree: *k'iid,* and our traditional plant medicines… these things are a part of Haida Gwaii, and are therefore a part of us. We have continued to gather, harvest, and fish for these things since our beginning, and they have shaped us as people as well as nurtured us to grow into the Nation we are and have been throughout numerous cycles put before us.

Historically, we have recognized the importance of these things from the land and waters. We have many narratives and accounts that define this critical relationship between the environment and ourselves as one rather old human society. Our heritage is of the land. Land gives us life, shapes our history and shapes our future. The current threats to our land and waters are significantly linked to corporate and governmental confusion, ignorance or even greed. Environmental dangers such as climate change increase the risk of harm to all of us. We Haidas are inclined to be forceful in defense of our values. The canoe that we use to harvest from the waters is the same vessel that we fight from. We are fighting these threats on many different levels, and our strongest paddle is knowledge.[3] Education needs to be paramount in teaching our people and our allies the real potential disastrous impacts of current corporate, foreign, and even tribal practices on the ability of future generation to live a clean life.

Over the millennia recorded in our history[4], the Haidas have gone through major changes that were at the time either immense or catastrophic. We saw the coming of the trees; our people are now connected to the forest, to the cedar, and to the spruce[5]. These trees have become part of our culture. We have numerous accounts of great floods, one that covered one third of the archipelago of Haida Gwaii. Also, there was the ice age some 10,000 years before the current date, which did not cover all of Haida Gwaii, but did affect our islands. These huge environmental changes were similar to climate change, and we have survived. However, the context surrounding the change is different; on one side natural phenomena seemingly occurring over significant time lines so that the biology has a chance to adapt, and on the other a change brought about by human effects occurring within extremely short periods of time.

The most recent impact that brought about change was the coming of the yaats Xaade, iron people: Europeans. There is a hegemonic[6] view in anthropological and historical accounts that our relationship with these wandering ships filled with men but no women began in 1774, when Juan Perez and his ship, the Santiago, first traded with our peoples two hundred and twenty six years ago. However, there is other evidence of other contact with Europeans much earlier.[7]

> *When the first European ship appeared on the horizon, our people thought it to be a strange cloud formation. As it came closer, they noticed spiderwebs on it and knew this was not just a cloud – as they realized it must be the prophesized spirit of pestilence.*[8]

Although the trading relationship between Haidas and Europeans has been oft- characterized as a mutual exchange, it was in fact the opposite according to many historical facts.[9] Since contact, there has been the introduction of disease resulting in death that destroyed up to 90% of our population in some cases within days. The disease and other attributes of Canadian colonialism continue to this day.[10] All of these things have been major changes to our people, and we have survived and adapted. This shows that we have and can adapt. And yet, the future, our future, cannot be determined or predicted. We, those who are still alive are the strongest ever. We have survived the very worst that Europe and Canada could visit upon us. We are ready to face new chal-

lenges and we are ready to win victories.

Part Three: Current Effects of Climate Change On Haida Gwaii

One thing that is of concern with increased climate is the increase in *dinoflagetlates*, or, "red tide." Red tide occurs with a bloom because of episodes of explosive population growth of *dinoflagetlates*. When this happens, the *dinoflagetlates* produce toxins which affect invertebrates: shellfish, other fish, and can be deadly to humans if we digest toxic shellfish. As the Haida dig for razor clams, butter clams, cockles, and other clams, as well as collect mussels and other shellfish, an increase in red tide is of great concern.

A second concern is, of course, temperature change. Haida Gwaii has not yet felt any major temperature change, but a recent study shows that in the last 100 years, our temperature has rose an average of 0.6 degrees Celsius.[11] With this temperature change comes erratic weather, of a concern when there are more frequent storms that are sure to erode our coast.

The effect on our waters of climate change is a third concern, and the life within it. Salmonid stocks are on the decrease, and although over-fishing seems to be a major culprit, climate change is listed as a reason for a certain number of salmonid stock extinction.[12] Also, it is observed that predators that are usually Southern fish are moving up to Haida Gwaii. All of these changes are of concern.

Part Four: Haida Observations of Climate Change

The Haida people do not have one mind. We are made up of many distinct individuals who are as varied as any population of peoples, and we cannot be characterized or stereotyped into one mold. Yet, there are undercurrents of similarities, despite the differences in the ways individual people express themselves. We are Haida, meaning we connect ourselves to the land of Haida Gwaii, and this is our similarity.

My late old naanii, (great-grandmother,) *Saanlaanee,* Emma Matthews, spoke of the importance of land and how we as Haida utilized our surroundings.

Everybody goes up the Inlet to get their fish, even the young ones. The whole village goes up there and they eat from that river.[13]

She explained the importance of the Yakoun River, and how we rely on that river for our supply of fish.

Guujuuw is current President of the Haida Nation, the most senior political authority in our government. He gives the following views towards climate change and its effect on the Haida people:

Firstly, our culture depends on our relationship to the land… our potlatches, everything. When the ice age was here, this land was basically tundra. Our relationship was different then, because we had no cedar. We lived in a tundra environment. We relied on caribou, salmon, and other things. Then things changed and we adopted cedar into our culture.

A trick of colonial people is to sever the ties to our land, to prohibit hunting and fishing through law. [At the same time,] they deplete [our resources and our] culture suffers. Before, they used to relocate people, to sever relationships to the land, to suffocate these Aboriginal peoples the best they could. What will happen is that Haida culture [Aboriginal Peoples] will be the first thing to disappear because of climate change when the salmon disappears. With the changing of temperature, mackerel and other predators come up [to Haida Gwaii.] Our culture will be wiped out; we are salmon and cedar people. As the temperature warms, even the plants will change.

The reason [climate change] has happened is because European culture isn't built around relationship to the land, it is built around economics. They [North Americans – descendants of the European

newcomers] don't consider the land when they factor in economic things. In the end, they too are affected by the changes to the land. But the difference is that they go to the store and not to the beach. There will be other things for us, but the core of our culture will be gone. Where does that leave us?

The reason why the Canadian politicians and the whole system are not geared toward responding to environmental damage and change is because they are on a four-year election cycle. So they cannot take a long- term view, they are only concerned with the fiscal reports after their term is up. They want to get elected again, so they only want to look after their own immediate interest.[14]

This observation brings important factors to light: the role of the Canadian government and the economic factor in terms of resource use and regulation on Haida Gwaii, as well, that our salmon and cedar are threatened by climate change. As of now, the Canadian government considers us *Indians as stated by the Indian Act:* wards of the Canadian nation-state. Canada has long made efforts to limit any application of International law to us as Indigenous Peoples, preferring to keep us captive to laws they alone control. Nevertheless, we have fought them in their own courts and our "Rights as Peoples" in International Law is defined as Aboriginal Rights in Canada. Our Aboriginal rights are recognized under section 35 (1) of the *Canadian Constitution, 1982.* Yet still, Canadian laws that pre-exist the Constitution limit us. Canada law attempts to limit us to small parcels of land called Reserves. Lands outside these reserves are presumed, contrary to their Constitutional Law, to be exclusively the property of Canada. We are forced to watch as foreign corporations, such as Wayerhauser, cut down our trees and our waters are fished by anyone who has a fishing license from the federal Department of Fisheries and Oceans (DFO). In all these cases the tendency and the bias of Canadian permitting systems is to those who have large corporate structures and who are not linked to human communities that rely directly on the land and waters around them.

As the federal and provincial governments, and their corporate alliances, make money off of the land that is ours, a history of corruption, waste and inefficient use, disregard for law and lack of integrity is repeated. What have we, the Haida done in response? We have maintained our rightful ownership. We continue to utilize the resources of the land. We publicly speak out: we will not be silenced. We stand in the middle of roads that lead to ruin. Currently, we are involved in a court case with the provincial government to halt the illegal issuance of forestry licenses. We will old them accountable to their own fine and noble principles. We will also speak to the Supreme Courts in Canada for recognition of our maintained Aboriginal title to the land. If this title recognized, *The Indian Act* and other inconsistent legislation such as fisheries and forestry regulations will be de-powered, and we as Haida people will be in a position to empower our relationship and respect to the land in a recognized way. We have also recently come out of a Tree Farm License case against the provincial government and Weyerhauser, to refute the unlawful logging of Haida territory.[15]

Terri-Lynn Williams-Davidson, a Haida woman and lawyer for the Haida Nation in the up-coming and current court proceedings against the provincial government, gives the following views regarding climate change and Aboriginal Title recognition:

Hopefully with [Aboriginal title], we would have law making authority to put restriction on industry and emissions. I'm not clear what that jurisdiction would be. In the title case, we need to link the acts that are causing damage to the environment to the current actions of government and industry. In the end, we would have to impose our principles to the current practices of government. An example of this now would be the Fisheries division of water, (the dividing line determined by government of Haida territory off of Haida Gwaii.) In court, it is a battle of scientific experts. It becomes based on science in

terms of what damage is currently being done to the environment. We [the Haida] have to show that without the ability to control interests, there would be no interests left. Many indigenous groups believe that it is their responsibility to take care of the species that they live with… But the projected loss of species because of current environmental practices is immense! The CHN constitution states first thing Haida responsibility to the land.

Regarding climate change, as of now, it is an open-ended question; I would need to know more about it.[16]

Importantly, this brings our future challenge as to our own management of our resources, and how we can lessen the effects of climate change, to mind. It is clear that we need to minimize the damage to our resources, and search for the best way to do that with the companies and peoples who utilize our resources on the islands. As for the last observation, it is true that there is more to be known about climate change. There are only vague references to Haida Gwaii in any current study of its effects. There has been no collaborative work with the Council of the Haida Nation and any environmental or scientific group to study the effects of climate change on Haida Gwaii. There are only speculations in terms of what the change has actually done to our resources.

William J. Bedard, a Haida commercial fisherman, gives the following account:

Fifteen to nineteen years ago, the summer always had hot and sunny weather. There was usually one day for storms where we had to stay in the harbour. Now, the wind is always there, there are a lot more storms. We are in the harbour for 5-6 days an opening. Regarding red tide, there has been more than usual. The elders always know when red tide is an actual threat. When [the local newspaper] issues a warning saying that it is unsafe to eat shellfish, it is usually not true. The elders always know when it is actually unsafe. The DFO are doing what they can to stop Indian food gathering. They use the increase in red tide against us. They have other intentions when they issue warnings.[17]

This is important because of the fact that there is a real threat of increasing red tide with the change in climate. As mentioned before, there are already observations regarding this environmental phenomenon in the North. Also important to note is that elders, the old people, are of major importance in communities to note environmental changes, as well as the weight of their influence as being listened to, because of their familiarity with the land.

Jaalen Edenshaw, a Haida attending university, gives the following views climate change on Haida Gwaii:

Because of climate change, there will be more storms on Haida Gwaii. There will be abnormal weather: longer hotter stretches and longer stormy stretches. All of our villages are coastal villages and there have already been effects from erosion coming into the roads and coastal properties. These changes are due to more storms, and once this is added to rising sea level it will be more harmful because people will have to relocate.

Climate change will be the biggest thing to change our lives since the recession of the glacier at the turn of the ice age. The last ice age was said to be 5 degrees cooler than today's temperatures, and they say that in 100 years the temperature could be on average five degrees warmer (because of climate change.) The change will be on the other end of the spectrum.[18]

Another account is from Kwiaans, Kenneth C. Bedard, who tells of his experience both as a Haida man and as the Aboriginal Liaison officer for DFO in the North[19]:

I used to fish commercially back in 1966 for about five to six years, and back then it was more abundant than now. I food fished for a number of years on the Yakoun river, and I noticed a change there. The Yakoun is the last system on Haida Gwaii where there are five species of salmon: Sockeye, Pink, Chums, Coho, and Chinook. It is the only system where you get that, but you don't see anything but Sockeye now. You also get steelhead, or trout as well. But the system is affected by other things; like experimental mining that happened on Haida Gwaii, for things like gold. A lot of accidents happened, there

were lots of leaks. The Yakoun naturally had a high level of mercury, but from the mines the level was up. Another major effect was when they were building highways for logging, and they went to the beds and dug them up to build the roads. People used to be able to "smell the roads" from the rotting eggs, some people working on the roads said that the directive from the companies was to dig up the gravel where the salmon were spawning.

The DFO are now starting to realize the effects of El Nino. What El Nino has done is warmed up the water and brought other predators, and this has affected salmon food. The salmon have had to share their food with mackerel that have come back with abundance. Other warm water fish that normally fed off the California coast and South of there are now coming up. All sorts of warm water fish, like sunfish have come up [here to Haida Gwaii] and become predators to what has traditionally been salmon food.

The DFO has claimed that it has been a natural warming of water, but there has been nothing natural about it. Currently, there is basically no sockeye fishery up here, and we are already hurting from last year. Another major factor to this is the sport fishing industry, which is basically commercial fishing. It is a major industry. The warming weather conditions have affected them as well.

What warm water does now is drive fish down to deeper waters. It has affected all fisheries; ground fisheries used to go outside Haida Gwaii, and are now moving inside Haida Gwaii affecting our fisheries. Unregulated deep-sea fishery is affected as well by global warming. The factory ships that usually operate outside the Canadian 200 mile limit now are driven inside the border. Proofs of the effects are the dolphins and other warm water fish and mammals that are forced further North. A couple of years ago someone caught a big sunfish in their nets. Also Tuna used to stop at the West Coast of Vancouver Island, and they have come quite far north now.

People have been affected by red tide, and DFO have had closures on shellfish for quite number of years because of it. There are some areas they've closed for twenty years; the whole North Coast is closed- including Haida Gwaii – for any shellfish harvesting. We [the Haida] are allowed to harvest razor clams. There is a management plan the Haida put together with fisheries. All other species of clams fisheries claim they don't allow, but most First Nations go out and get butter clams, cockles. First Nations know when to go out; certain times during the year they know not to go, they've understood for years the natural high level of toxin and when that occurs. We have been pretty careful.

Global warming is because of factors such as the depletion of the ozone, and the government has to take action. We have to work with other agencies to control toxins that go into our air and into our water.

The earth warmed before, and that's what caused the floods. The Haida have stories about two floods… We survived those.

It is important to note the fact that because of climate change there are noticeable effects on our fish, such as warm water fish moving up. Again too that First Nation peoples know when it is not safe to collect food. Above all, this account tells that other factors, such as competing interest in the fishing industry, produce more noticeable effects on food harvesting than that of climate change. I will return to this notion.

There is another view, told to me by Kenneth W.J Rea, a Haida man and fisherman extraordinaire:

There are two major salmon producing rivers in BC: the Thompson River and the Fraser River. Haida Gwaii doesn't have any major salmon producing rivers, only tiny rivers. The Yakoun isn't that big in comparison. Climate change affects those two rivers more; they have had to deal with the negative effects of warmer weather, whereas we have only got more rain. We aren't as affected as down south. As for Tuna moving up: they have always stayed about 20 miles or so off of our coast. Tuna are blue water fish, so any contact with any local mariner is very rare. The porpoise is a natural predator to the area and definitely has a place here. Mackerel have come with the warmer waters and seem to mainly hang out on the west coast feeding mostly on a large concentration of herring and needlefish that draw a

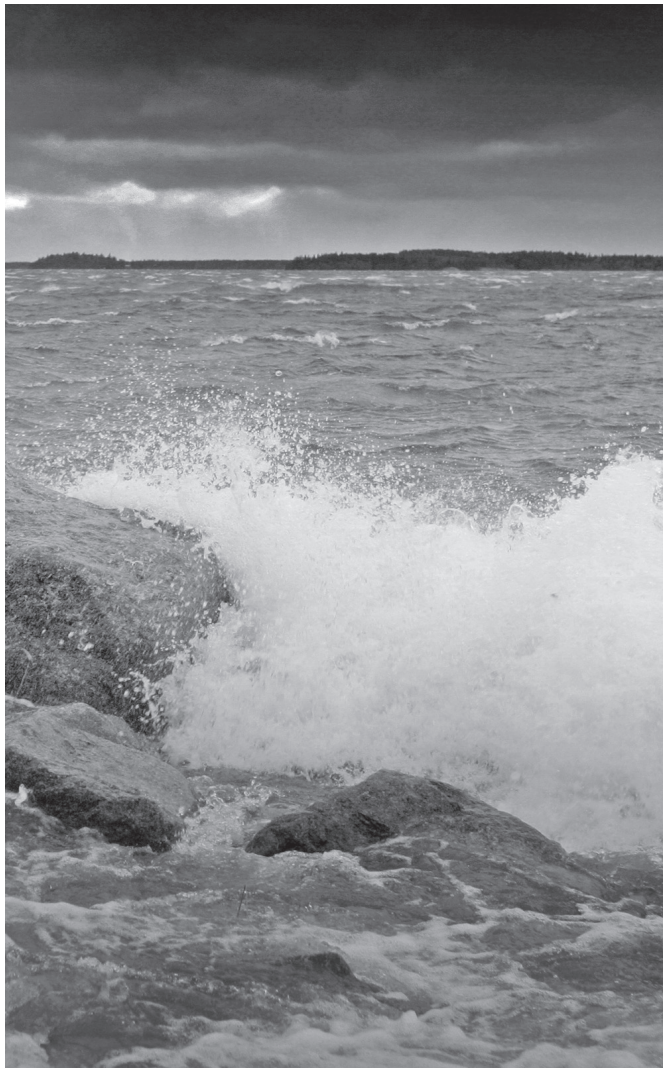
number of predators. It's the main reason salmon fishing is so good on the west coast. Farther south on the west coast of Vancouver Island these mackerels are feeding on the salmon fry as they leave their river systems this is not good news for those [southern First Nations] who like to eat fish. The biggest things affecting our little rivers would be in my view logging and to a smaller degree mining. Only recently have logging companies been made to factor in salmon streams when conducting operations… far too late for a lot of rivers that were too tiny to adjust.[20]

It is clear that there is not yet enough change on Haida Gwaii for much serious concern. It is important to note that the depletion of fish and of our natural resources and food can be linked to other activity; it cannot just be linked to global warming. This is why people are not noticing the change, because there are other things changing these things more.

Part Five: Future Effects of Climate Change On Haida Gwaii

It is predicted that over the 21st Century, global temperatures could rise as much as 5.8 degrees Celsius.[21] Also, that rising sea levels could result in erosion of shores and associated habitat, and some coastal flooding.[22] Even more disturbing is the data that with temperature increases, water availability becomes a concern. Therefore, forests in temperate and northern latitudes would suffer major changes.[23] Linked to this is the threat of invasion of new pests and diseases from warmer regions. Also, there are studies showing that because of climate change, commercial yields of softwood lumber would decline.[24]

It has been suggested that another addition to change would be that migration of fish stocks would be at risk as a result of increased temperatures and reduced flows in rivers



and streams.[25] This supports observations from Haida fishermen and concerned citizens, as exemplified above.

Also, it is also suggested that with the fall-out from climate change, there could be new conflicts over land use, bringing up possible effects on parks and other protected areas. Another major concern regarding future additions to climate change, the real possibility of oil and gas exploration in the Hecate Straight. Not only are the risks of oil and gas exploration off of Haida Gwaii immense (and preposterous) but also the increased emissions from such an operation are ridiculous.

Part Six: Where We Need To Go From Here

These and other concerns that are starting to arise will be very helpful to bring awareness back to Haida Gwaii. Clearly, the Haida are aware of the *possible* change, but because there is not major *present* change, it is hard to take action. However, the history of our peoples shows that the environment of Haida Gwaii is very important to us, and when we acknowledge a threat to our livelihood, we fight with the strength of who we are as people behind us.

Immediate action should take place against the threat of climate change on Haida Gwaii. For one, there needs to be concentration on reducing or eliminating all fossil fueled vehicles. Also, there is the fight against oil and gas exploration of the Hecate straits, an earthquake prone area between Haida Gwaii and the mainland.[26] There needs to be awareness at all levels in the Haida community, as well as in the surrounding communities around us. The current governments of Canada and British Columbia need to be aware of the harmful effects of climate change, and also need to know that the Haida do not take threat to our habitat lightly. It is stated in our constitution that we are responsible to the land and to future generations of Haida. We will follow through with that responsibility when we are all aware and versed in the current future effects of climate change. Our lives are connected to the environment of Haida Gwaii, and as always, we will change with the environmental changes around us.

I plan to take back to Haida Gwaii the information that I am gathering at this conference, in conjunction with the insights that are shared from the peoples here. I am also planning on co-writing an article to publish in the Journal of the Haida Nation; the *Haida Laas*, regarding my findings and also my observations from *Snowchange 2002*. I believe that coming here was of utmost importance. Responsible action for positive change is the message to get out while looking into all damage to the environment caused by human factors, and this is the message to convey regarding climate change and the world. I say *how'aa* again for having me here.

Part Seven: Endnotes

1 Haida Gwaii is an archipelago of 140 islands located at latitude 53 to 55 degrees north. Longitude is 136 degrees west.

2 Greenpeace identified in 1996 that this forest was the single most threatened forest type of the planet. (M. Nicoll Yahgulanaas, 2002. How'aa very much to Michael, for his support in this paper.)

3 M. Nicoll Yahgulanaas, 2002

4 The Haida have flood narratives, and I suspect an ice age narrative, and we have accounts 14,000 years old in which we saw the first tree on the land, an observation supported by analysis of pollen samples taken from core sampling in peat bogs. M. Nicoll Yagulanaas, 2002

5 The spruce trees are said to come 7,000 years before current date. (M. Nicoll Yagulanaas, 2002)

6 My understanding of hegemonic is that it is a widely understood definition of something based on subjective cultural understanding.

[7] Sir Francis Drake actually visited Dixon entrance almost 200 years earlier. As well, there is possibility that the Spanish had even arrived earlier. In 1500 there were Spanish ship building in Acapulco, Mexico, and a trade route from that west coast to the Philippines. Indeed, some unauthorized ships traveled north into California in search for gold. The Nuu chah nulth have records of Spanish ships that were not registered in their own archives because they sailed for gold and did not want to cut in the crown as was required by Spanish law. (M. Nicoll Yagulanaas, 2002)

[8] "Spanish Eyes & Iron People," in Haida Laas; Journal of the Haida Nation. Published by the Council of the Haida Nation, February 2000, p.4

[9] European trade activity was exclusive to "males only." Europeans refused to trade with women, and yet women were the exclusive traders in some commodities such as *k'aww*, and other commodities in which they as a gender or as an individual were the harvester. The refusal of Europeans to trade "below" their gender station resulted in internal social changes between Haida men and women. (M. Nicoll Yahgulanaas, 2002)

[10] Blatant examples of this would be the imposition of Residential schooling, established by state and church and designed to injure our children, as well as the fact that Indians were only allowed to vote in federal elections in the 60s.

[11] Map: "Effects of Global Climate Change Indicator," http://wlapwww.gov.bc.ca/soerpt/06-1-climate-change.html

[12] Canadian Institute for Climate Studies, Victoria. 1999.

[13] Yakoun: River of Life, Council of the Haida Nation, 1990, back cover. I know my old naanii to be a very important person in my life, my family's life, and the community history. She is the ultimate matriarch.

[14] Guujuuw is the current president of the Council of the Haida Nation. The observations here are from an interview in February, 2002.

[15] "The Council of the Haida Nation, on February 24, 1995, SDLF filed a petition in the Supreme Court of British Columbia seeking to prevent the Minister of Forests from replacing MacMillan Bloedel's Tree Farm License (TFL) 39, part of which is on Haida Gwaii….The Haida Gwaii portion of the TFL involves an Annual Allowable Cut of over 1.25 million cubic metres. If TFL 39 is replaced, MacMillan Bloedel will have cutting rights over most of Haida Gwaii's productive forests until the year 2020….
The Petition is based on s.28 of the Forest Act which requires the tree farm licenses include only unencumbered forest. According to Sierra Legal lawyer Greg McDade, "there have been a number of aboriginal title cases in BC which have referred to aboriginal title as an encumbrance."" For the Environment with the Sierra Legal Defense Fund, "Haida Nation/TFL 39", by David Boyd. This case went before the courts February 8, 2002, in the Supreme Court in Vancouver. The outcome has not yet come through. (with many thanks to Vince Collison…)

[16] Interview with Terri-Lynn Williams-Davidson, Haida Gwaii, February, 2002.

[17] Interview with William Bedard, Victoria, 2002.

[18] Interview, Jaalen Edenshaw, February, 2002. Jaalen Edenshaw is committed to finding future solutions to climate change, on Haida Gwaii and everywhere. He is co-writing an article in collaboration with my work in Finland at Snowchange, 2002, for the upcoming issue of Haida Laas, the journal of the Haida Nation.

[19] Kenneth Bedard's job description essentially says that he should be a liaison between First Nations and the government of Canada. Now, he says that everything has changed, and much responsibility is taken over by Resource Management.

[20] Interview, with Kenneth WJ Rea, 2002. He is a personal mentor of mine.

[21] Dermot Foley, in Climate of Change: Fuelling the Climate Crisis: The Continental Energy Plan, Finding Solutions, David Suzuki Foundation. June, 2001.

[22] Intergovernmental Panel on Climate Change (IPCC), "Climate Change 2001: Impacts, Adaptation and Vulnerability," in Chapter 15. North America.

[23] IPCC, Ch. 15

[24] IPCC, Ch.15.

[25] IPCC, Ch.15.

[26] Is oil and gas exploration the best policy for a country like Canada that signed the Kyoto Protocol? M. Nicoll Yahgulanaas, 2002.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300 km
Pacific Ocean
Yukon Territory
North West Territories
Alaska
Dease Lake
Haida Gwaii
(Queen Charlotte Islands)
Masset
Graham Island
Queen Charlotte
Sandspit
Moresby Island
Kunghit Island
British Columbia
Alberta
Prince George
Alert Bay
Kamloops
Vancouver Island
Vancouver
Victoria
USA
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Northwest Coast Offshore Oil & Gas: Understanding the Issues of Haida Jurisdiction and Aboriginal Title

By Jaalen Edenshaw, Haida Nation

The Haida Nation as well as other First Nations, which have inherent interests and concern based on their ties with the lands and waters of the Northwest coast, feel strongly that it is not in the best interests of their people to lift the oil and gas moratorium. The BC Provincial government created this moratorium in 1989 due to the potential environmental harms that oil and gas drilling could cause in the waters and coast of the Province.[1]

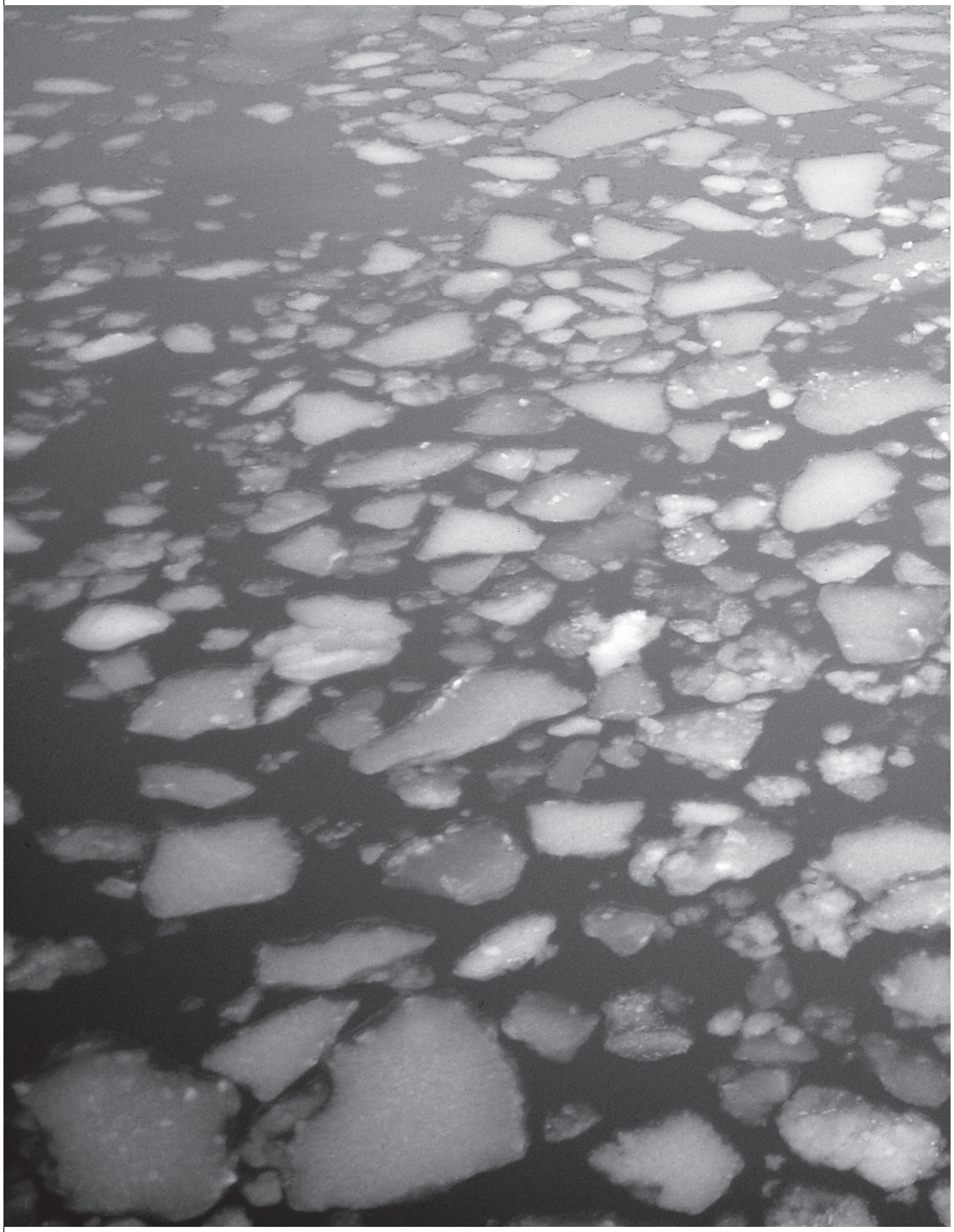
In recent years however, after the virtual collapsing of the commercial fisheries, the Provincial government has made steps to lift the moratorium. The government has said that due to new technologies it believes that it is safe to pursue drilling in the waters around Haida Gwaii.[2] The Haida Nation believes that it is not safe to pursue offshore drilling and furthermore that the Provincial government does not have sufficient jurisdiction over the waters and lands of this area to make such a decision.

The Haida Nation has continually asserted their rights and authority to all Haida lands and waters that are also currently claimed by Canada. The other First Nations of the area have taken similarly, their own stance with regards to their lands. The assertions of the different Nations go directly against the Provincial government and Canada, which believes that they have jurisdiction and that with this jurisdiction, that they have the legal right to lift the moratoriums and peruse economic interests over the interests of the different First Nations peoples of the Northwest coast.

This paper will examine the roots and legal precedent of Haida jurisdiction and how this jurisdiction creates a conflict to the position that the British Columbian government has taken in regards to offshore oil and gas. It will also look at how all interested governments may come to some resolution.

In order to understand the present day conflict over the territory one must understand, at least in brief, where the Haida base their Title to the lands and waters. The Haida have an understanding of their Title through their songs, stories, art, dances, and oral histories, which have been passed down for over fifteen thousand years. These histories recall the ice age, the first trees to grow on Haida Gwaii, visits from Chinese monks, and the coming of the Europeans. Throughout this time other nations have recognized the Haida as the rightful owners of the land. The Haida protected these lands and their waters from those who were not welcome. Their Title was never questioned nor threatened.

This changed in 1787, when the British captain, George Dixon, on the *Queen Charlotte* sailed to Haida Gwaii and claimed the territory in the name of Britain.[3] The Haida did not consent to Britain's claiming of the land nor did Britain force the



Haida to accept their rule. As the relationships between the immigrants and the Haida were strengthened and the Haida populations were devastated by disease, British Columbia, as it was now called, grew strong. The immigrants established settlements and industries on Haida Gwaii. Some of these establishments had the consent of the Haida while others went ahead without permission.

The immigrants adapted to the lands finding wealth in the earth, forests and rivers of Haida Gwaii. The Haida also adapted, establishing themselves in a new economy, integrating the new with the old. Throughout all this time the differences of opinion about ownership of Haida Gwaii was never settled to the satisfaction of either the Haida or the government of Canada.

In 1913, Haida leaders were attempting to force Canada to recognize Indian Title by taking their case to the Privy Council, which was the highest court in the British Empire at that time.[4] This would have forced Canada to face the unresolved issues of Title over Haida Gwaii. However, the Indian Title case never reached the Privy Council; the Haida were forced to abandon the case when Canada amended the Indian act to make it illegal for an Indian to raise funds or to hire a lawyer to pursue land claims.[5]

It was not until the 1951, when the Indian Act was again revised, allowing First Nations to bring the question of "land claims" to the Canadian courts.[6] Over the next forty years, many First Nations brought different Aboriginal Title and Rights issues to court. These court cases have provided to BC and Canada a legal understanding, according to their own laws, of what constitutes Aboriginal Title and Rights and the legal position that the governments should take in honoring and accessing these Titles and Rights, and that these issues should be addressed. There have been many court cases that should be understood in order to get a full picture of the different legal arguments the Haida have in asserting their Title.

However, this paper cannot possibly look at each influential case individually, but such cases may be referred to in relationship with the Haida legal action.

The Haida have also integrated other Western political and legal structures into their pre-existing ones in order to be recognized and function within a world dominated by Western institutions. It has created the political institution called the Council of the Haida Nation (CHN), which is democratically elected and represents the Haida Nation in Nation-to-Nation talks. It also has entrenched the traditional system of hereditary leaders of the different clans. The Council of Heredity Chiefs is comprised of select clan Chiefs that meet and make decisions on behalf of their clan, and advise and influence the CHN and the Haida Nation in many political and social decisions. The CHN created a Haida Constitution in the 1980's. This Constitution reflects the Haida Nation's ties with the land and lays out principals that set a legal framework that reflect their relationship with the land. The Constitution was ratified by ninety-eight percent of a quorum in March of 2002.

The Haida Proclamation, as provided in Appendix 1, which is at the beginning of the Constitution, gives a good example of how and why the Haida see themselves as responsible for Haida Gwaii. The Constitution also has specific sections that apply to the Title of Haida Gwaii. Article 1, Section 1 describes the Haida territories as such,

The Territories of the Haida Nation include the entire lands of Haida Gwaii, the surrounding waters, and the air space. The waters include the entire Dixon Entrance, half of the Hecate Straits, Halfway to Vancouver Island and Westward into the abyssal ocean depths.[7]

In Article 3, Section 1 a) it states that: "The Haida Nation collectively holds Hereditary and Aboriginal Title and Rights to Haida Territories."[8] Taken together these Constitutional statements represent the Haida's position on their territories and Title and why the Haida Nation cannot sit back and let the Provincial government proceed with possibly harmful oil and gas exploration.

Canada bases its claim to Haida Gwaii and the surrounding waters from colonial practices and unilateral assertions of sovereignty. Canada then entrenched its claim in the British North American Act, which was amended in 1982 to become the Canada Constitution. It lays out in sec 91, 92 and 92 a) all the Federal and Provincial powers. These powers lay a framework that divides jurisdiction between the two governing bodies. According to this division of powers, the Province has jurisdiction over land and non-renewable natural resources within their territory.[9] The Federal government has jurisdiction to sea coast and inland fisheries. It is also responsible for Indians, and lands reserved for the Indians.[10] The Constitution also lays out in section 35 and 35.1 the general rights of the First Nations of Canada. Most notable in these sections is 35 (1), which states, "The existing Aboriginal and treaty rights of the Aboriginal peoples of Canada are hereby recognized and affirmed"[11]. It is important to keep in mind that these Rights are not granted by the Crown; rather, these Rights existed prior to the formation of Canada and exist not because of, but in spite of Canada.

Although the Provincial and Federal powers are fairly comprehensive Sec. 35 is vary broad and is open to much interpretations. Since all Aboriginal Rights are not yet fully understood and recognized by the Federal and Provincial governments or by Canadian law it is hard for First Nations who are working within the framework of Canada to fully utilize their Aboriginal Rights. Problems arise when Aboriginal Rights are in conflict with either Federal or Provincial powers because these governments do not want to relinquish or weaken their authority.

In certain circumstances, the Haida have been able to ne-

gotiate with the different governments to create solutions that have been beneficial to all parties. However, the Haida and the Crown have never been able to resolve many of their political differences due to the underlining conflict of Title and ownership of the lands. Thus is the case with the plans by the Provincial government to lift the offshore oil and gas moratorium. In these instances the Haida are left with only two chooses, to step outside of the Canadian framework or to work within it and bring the issue into the Canadian courts.

The Supreme Court of Canada ruled in the Delgamuukw decision that Aboriginal Title is a pre-existing Aboriginal Right. In British Columbia this Aboriginal Title, for the most part, has never been relinquished and therefore still exists. The Court however, ruled that it was the responsibility of the First Nation to prove this Title through different tests that the Court laid out in order for it to be recognized by Canada.[12]

The Provincial government translated the later part of the ruling to mean that it could ignore Aboriginal Title until it was proven in the courts. The Province continued with "business as usual" granting Tree Farm Licenses, (TFL) mining and fishing licenses, and other such activities that infringed on Aboriginal Title. This also meant that given the Provinces position it would be able to lift the offshore oil and gas moratorium without Haida approval.

The CHN disagreed with the Provinces translation of the Delgamuukw ruling. They believed that the issuing and renewing of licenses to companies that infringed on their Aboriginal Title and Rights was and is illegal regardless of if Aboriginal Title was proven or not. In the summer of 2000 The CHN brought BC and Weyerhaeuser to court over the transfer of TFL 39 block 6 from MacMillan Bloedel to Weyerhaeuser in 1999 without first consulting the CHN. After the CHN lost the case in the BC Supreme Court it was brought before the BC Court of Appeal.

One question that was brought before the court asked if Aboriginal Title would be considered an encumbrance on the crown in regards to granting, renewing or transferring TFL's. The Court of Appeal affirmed the Supreme Court of BC's ruling by Mr. Justice Esson who answered the question as follows,

"I therefore see no reason to doubt that, as a matter of plain or grammatical meaning, the Aboriginal title claimed by the Haida Nation, if it exists, constitutes an encumbrance on the Crown's title to the timber."[13]

Although this ruling is on TFL's it is not a giant leap to apply the same logic to offshore oil and gas. With this statement from the courts, we can assume that Aboriginal Title would be an encumbrance on the Provincial government's authority to lift the moratorium. However, the court was sure to state that Aboriginal Title would only be an encumbrance if it existed. The statement 'if it existed' would still have give the Province the right to go ahead if Aboriginal Title was not proven, allowing the Province to keep its former position of business as usual.

The other part of this court case deals with the question of weather or not the Province is legally bound to address Aboriginal Title as an encumbrance were there is reasonable evidence that it exists but where it is not yet proven in court. This question, which is much larger than the previous question, would fundamentally change how the BC government does business.

In the BC Supreme Court, the Judge ruled that the Crown had a moral duty to consult the Haida but that it did not have a legal duty until Aboriginal Title was established. In the BC Court of Appeal, the courts overturned the former ruling stating that the Provincial government had both a moral and legal duty to consult and accommodate Haida interests where Aboriginal Title would be infringed upon regardless if Title was proven or not.

The Court of Appeal stated that, the Crowns legal duty to the

Haida is derived from the Crowns fiduciary duty to the Aboriginal people. Although the Aboriginal Title was yet to be proven the Crown had in its position, provided by the Haida, and available to it on reasonable inquiry enough evidence to conclude that Aboriginal Title was a very likely possibility on Haida Gwaii.[14]

One reason that the court stated for making this decision is that if the Crown was to continue to infringe on the Haida's Aboriginal Title without consulting, by the time the Haida Aboriginal Title was established the infringement would already have taken place and the claim would be to late. The Court has always stated that the Crown should negotiate in good faith with the First Nations; so far, the Crown policies have not shown actions in good faith.

…If the Crown can ignore or override aboriginal title or aboriginal rights until such time as the title or rights are confirmed by treaty or by judgment of a competent court, then by placing impediments on the treaty process the Crown can force every claimant of aboriginal title or rights into court and on to judgment before conceding that any effective recognition should be given to the claimed aboriginal title or rights, even on an interim basis.[15]

Based on the arguments laid out above it is reasonable to assume that if the Provincial government was to try and unilaterally lift the offshore oil and gas moratorium without consulting the Haida, the Haida could win an injunction to block, or at a minimum delay it and bring it before the courts. However, although this would give the Haida a substantial say in the lifting of the moratorium, this injunction would be based on fiduciary trust and the assumption of Aboriginal Title, which would only perpetuate Canada as being the caretakers of the First Nations of Canada. The Haida Nation wants more than just to be granted a say in what happens in their lands based on Canada's laws; it wants Canada to recognize Haida Title based on preexisting Haida authority.

The CHN has decided, after coming to the realization that the Provincial government is not prepared to negotiate in good faith, to once again go to the Canadian courts in order to finally prove to Canada that they have Aboriginal Title to the entirety of Haida Gwaii and its waters.

In preparation for this case, the Haida made a treaty with the Tsimshan, the Heiltsuk, and the Kwakiutl.[16] This Treaty secured the border between the Nations; the line runs along the half way mark between the mainland and Haida Gwaii and the tip of Vancouver Island. The CHN also approached the First Nations Summit in 1999 to ask for support in their Title case. The First Nations Summit fully supported the Haida's intentions and went further by donating money both as individuals and on behalf of their bands.[17] On March 6, 2002, a runner for the CHN presented a write of summons to the Supreme Court of BC. The following is a brief overview of the Haida writ.

In the writ the CHN is seeking "A declaration (from the Crown) that the Haida Nation holds Aboriginal Title over Haida Gwaii…" that "…the Haida Nation holds Aboriginal Rights over Haida Gwaii…" and that the Crown has "unlawfully issued licenses, leases, permits and other tenures over Haida Gwaii". It goes further in seeking that "such licenses…" that are "incompatible with Aboriginal Title or… Rights" be quashed. In addition, that accounts be taken of profits made from Haida lands and waters be calculated and fair compensation be paid for the infringements that have taken place. The writ of summons is only an outline of the action that the Haida plan to pursue, the statement of claim is the document that would lie out the particulars of the action, however, it has not yet been presented to the courts.

To get a better understanding of what the Haida are pursuing through their main goal of having Canada recognize their Aboriginal Title, one must look at the Delgamuukw ruling. In this 1997 ruling, the Courts have laid out their interpretations of what evidence will be allowable in courts, how a First nation must prove their Title, and what Aboriginal Title encompasses.

As stated earlier the courts have placed the burden of proving Aboriginal Title on the First Nations that claim this Title. This task proved to be very difficult for the Gitksan and Wet'suwet'en when in 1987; they first took their case to the Supreme Court of BC. Justice McEachern, the judge that was hearing their case ruled after hearing the oral testimony of the elders that oral histories were not valid and that Aboriginal Title did not exist in law and if it did it was extinguished when BC joined Canada.[18] However, in the Supreme Court of Canada's ruling in the same case the court ruled that oral histories must be recognized as equal to other types of historical evidence.[19] This will be beneficial to the Haida, which have many oral histories that clearly show their exclusive ownership of the land prior to and at the time that Canada claimed sovereignty.

The Supreme Court of Canada laid out the guidelines for an Aboriginal group to prove Title. The test of Aboriginal Title is as follows:

…(1) prior to (Canadian) sovereignty, the land must have been occupied by the ancestors of the Aboriginal group claiming title, (2) continuity between existing and pre-sovereignty occupation must be demonstrated when existing occupation of the lands in question is being offered as proof of pre-sovereignty occupation and, (3) at the time of sovereignty (1846), the occupation of the Aboriginal group must have been exclusive.[20]

Although these tests are Euro-centric in nature it should not be difficult for the Haida to meat these criteria set out by the courts. The Haida have overwhelming evidence that support their assertion of Title to Haida Gwaii. As well as oral histories the Haida have ship loges that date back to 1774 and continue up until and well after Canadian claimed sov-

ereignty. These logs show that the Haida exclusively owned the land and would protect it from those who wished to prosper from it without Haida consent. In 1865, Robert Burnaby wrote that he had…

Found it necessary to withdraw the miners who were employed… at the Queen Charlotte Islands for the present, owing to annoyances and dangers arising from the disposition of the natives… The last batch of men were removed about two months since, and were ill treated and robed by the natives before they left, and it was with some difficulty that they were allowed to leave.[21]

This is but one example of the Haida asserting their control and a Canadian company not being able to do anything but withdraw from the islands. In fact even the BC court of Appeal judge, Mr. Justice Lambert has stated his opinions on the likely hood of Haida success in proving title.

… There is a reasonable probability that the Haida will be able to establish Aboriginal title to at least some parts of the coastal and inland areas of Haida Gwaii, …there is a substantial probability that the Haida will be able to establish the Aboriginal rights to harvest red cedar trees from various old-growth forest areas of Haida Gwaii…[22]

Once Aboriginal Title is proven and Canada acknowledges this title there is still some questions how it will effect Crown Title, however, the courts have specified certain points that will be a guideline for negotiations or other litigation to follow. Aboriginal Title would mean that the Haida Nation would hold the Title as a collective. They would have rights to the lands and waters and would have the authority of the use of this territory. "It is a right to the land itself, encompassing the exclusive use and occupation of the lands… (which) encompasses mineral rights including oil and gas."[23] However, Aboriginal Title is a burden on Crown Title and the Crown can, in some cases, infringe on Aboriginal Title with justification and compensation for their infringement.[24]

The idea that Aboriginal Title is a burden on Crown Title and that it can be infringed upon is definitely a large step away from the Haida holding exclusive Title to Haida Gwaii and its waters. However, it is not unexpected considering that it comes from a Canadian court. If the court was to go any further than they did, it would effectively be undermining the whole bases for the existence of British Columbia and perhaps even Canada.

After Aboriginal Title is recognized on Haida Gwaii the Crown will be forced to deal with the Haida Nation under the legal terms of Aboriginal Title. The Haida will have authority that is protected under the Canadian Constitution and will continue to have authority based on their own understanding of their Title. Much will still need to be worked out between the Crown and the Haida Nation but it is a large step in creating a workable, convergence or co-existence of Title.

There are however, some hopeful options of how co-existing Titles can work in benefiting each other. The CHN and the government of Canada have created the Gwaii Haanas/South Moresby National Park Reserve and Haida Heritage Site. In the Gwaii Haanas agreement, which was signed in 1993, both the Crowns and the CHN's understanding of Title is laid out side by side. In this agreement the two parties virtually decide to set aside their different views of who owns Title to work together in running and maintaining the area.[25] This area is recognized by Canada as one of the best run National parks in Canada and by the Haida Nation as effective in both protecting their interests in the land and encouraging economic growth amongst all Island communities. Using Gwaii Haanas as a lose model, it may be possible to create effective co-managed government and business on the Islands that will be beneficial to both Crown and Haida interests. However, in the case of offshore oil and gas drilling of off Haida Gwaii, as of now the Haida position and the Provincial position are far from reaching a co-beneficial agreement.

The Haida do not want oil and gas exploration because they feel the negative environmental damage to the land far out way any economic benefits that may come to the Haida Nation or to the Province. Whereas the Provincial government believes that the economic interests of the Province out ways the concerns posed by the Haida. The Province may try to lobby the Federal government to infringe on Aboriginal Title due to economic interests of the country, however, if this route is taken by the Crown than it will likely be to the detriment of all. The Haida will be forced to once again take an adversarial position to the Crown.

The Haida Nation has already stated that one of the reasons that they are perusing Aboriginal Title within Canadian courts is to continue the relationship that has been established over the years. The Haida Nation has also stated that it is within their capabilities to enter into negotiations with another country if Canada is not willing to work cooperatively with them. Canada would surly not want the embarrassment, let alone the real possibility that this action could succeed, and would probably accommodate the Haida needs in regards to keeping the offshore oil and gas moratorium in place. The future in this area of politics is still very speculative and still much needs to be established. In all likely hood the Haida will come out with more meaningful authority than they presently have and will probably have a substantial say in whether the oil and gas will be opened for drilling. One thing that is for certain is that relationship between British Columbia and the Haida Nation will continue to change. It will be very interesting to follow the situation as it unfolds.

Appendix 1
HAIDA PROCLAMATION

THE HAIDA NATION IS THE RIGHTFUL HEIR TO HAIDA GWAII.
OUR CULTURE IS BORN OF RESPECT AND INTIMACY WITH THE LAND AND SEA AND THE AIR AROUND US.
LIKE THE FORESTS THE ROOTS OF OUR PEOPLE ARE INTERTWINED SUCH THAT THE GREATEST TROUBLES CANNOT OVERCOME US.
WE OWE OUR EXISTENCE TO HAIDA GWAII.
THE LIVING GENERATION ACCEPTS THE RESPONSIBILITY TO ENSURE THAT OUR HERITAGE IS PASSED ON TO FOLLOWING GENERATIONS.
ON THESE ISLANDS OUR ANCESTORS LIVED AND DIED AND HERE TOO WE WILL MAKE OUR HOMES UNTIL CALLED AWAY TO JOIN THEM IN THE GREAT BEYOND.[26]

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Constitution of the Haida Nation, 2002 Article 1, Section 1 and Article 3 Section 1 a).
Exploring the Future of Offshore Oil and Gas Development in BC: Lessons From the Atlantic. (Vancouver: Simon Fraser University Burnaby, May 2000.) http://www.sfu.ca/cstudies/science/oilgas.htm (23 March 2002).

Haida Nation v. B.C. and Weyerhaeuser, 2002 BCCA 147.

Haida Nation v. B.C., Writ of Summons, March 6, 2002, Supreme Court of B.C.

Minister of Competition, Science, and Enterprise and Minister of Energy and Mines, "Report and Recommendations Regarding": The Offshore oil and Gas Moratorium Process Design Team Consensus Report, John Backhouse (2001), 2.

Endnotes

[1] Report and Recommendations to Honourable Rick Thorp, Minister of Competition, Science, and Enterprise and Honourable Richard Neufeld, Minister of Energy and Mines, Regarding: The Offshore Oil and Gas Moratorium Process Design Team Consensus Report. From Northern Development Commissioner, John Backhouse, (July 5, 2001),

[2] Exploring the Future of Offshore Oil and Gas Development in BC: Lessons From the Atlantic. . Simon Fraser University Burnaby, May 17-18, 2000. http://www.sfu.ca/cstudies/science/oilgas.htm (23 March 2002).

[3] Robin K. Wright. Northern Haida Master Carvers (Seattle: University of Washington Press, 2001), 31.

[4] "Royal Commission on Indian Affairs Skidegate September 13, 1913," Haida Laas: Journal of the Haida Nation (September 2001) 20.

[5] Paul Tennant, Aboriginal People and Politics: The Indian Land Question in British Columbia, 1849-1989 (Vancouver: UBC Press, 1997), 111-112

[6] Tennant, Aboriginal People and Politics, 112.

[7] Haida Nation Constitution Article 1, Sec. 1.

[8] Haida Nation Constitution Article 3 Sec. 1 a).

[9] Canadian Constitution Act 1867, Sec. 92 a). (It is important to note that Provincial jurisdiction to land also refers to Canadian waters except for where specifically mentioned in the Federal powers. This is important because the Haida are claiming Aboriginal Title to both the lands and waters of Haida Gwaii and the only legal president available would be that Aboriginal Title would apply to waters based on Canadian and international law.)

[10] Canadian Constitution Act 1867, Sec. 91 (12) and (24).

[11] Canadian Constitution Act 1982, Sec. 35 (1).

[12] Thomas Isaac, Aboriginal Law: Cases, Materials and Commentary (Saskatoon: Purich Publishing, 1999), 11.

[13] Haida Nation v. B.C. and Weyerhaeuser, 2002 BCCA 147, paragraph 4.

[14] Haida Nation v. B.C. and Weyerhaeuser, 2002 BCCA 147, paragraph 49 a) and b).

[15] Haida Nation v. B.C. and Weyerhaeuser, 2002 BCCA 147, paragraph 10.

[16] Haida Laas: Journal of the Haida Nation (February 2000), 3. (Also see appendix 2)

[17] "Over The Top" Haida Lass: Journal of the Haida Nation (February 2000), 17.

[18] Stan Persky, Delgamuukw: The Supreme Court of Canada Decision on Aboriginal Title (Vancouver: Gray Stone Books, Douglas and McIntry, 1998), 8.

[19] "At the Plesure of the Crown" Haida Laas: Journal of the Haida Nation (February 2000), 12.

[20] Isaac, Aboriginal Law, 11.

[21] "Fourtun Seekers" Haida Laas: Journal of the Haida Nation (February 2000), 10.

[22] Haida Nation v. B.C. and Weyerhaeuser, 2002 BCCA 147, paragraph 47.
[23] "At the Plesure of the Crown," 11.

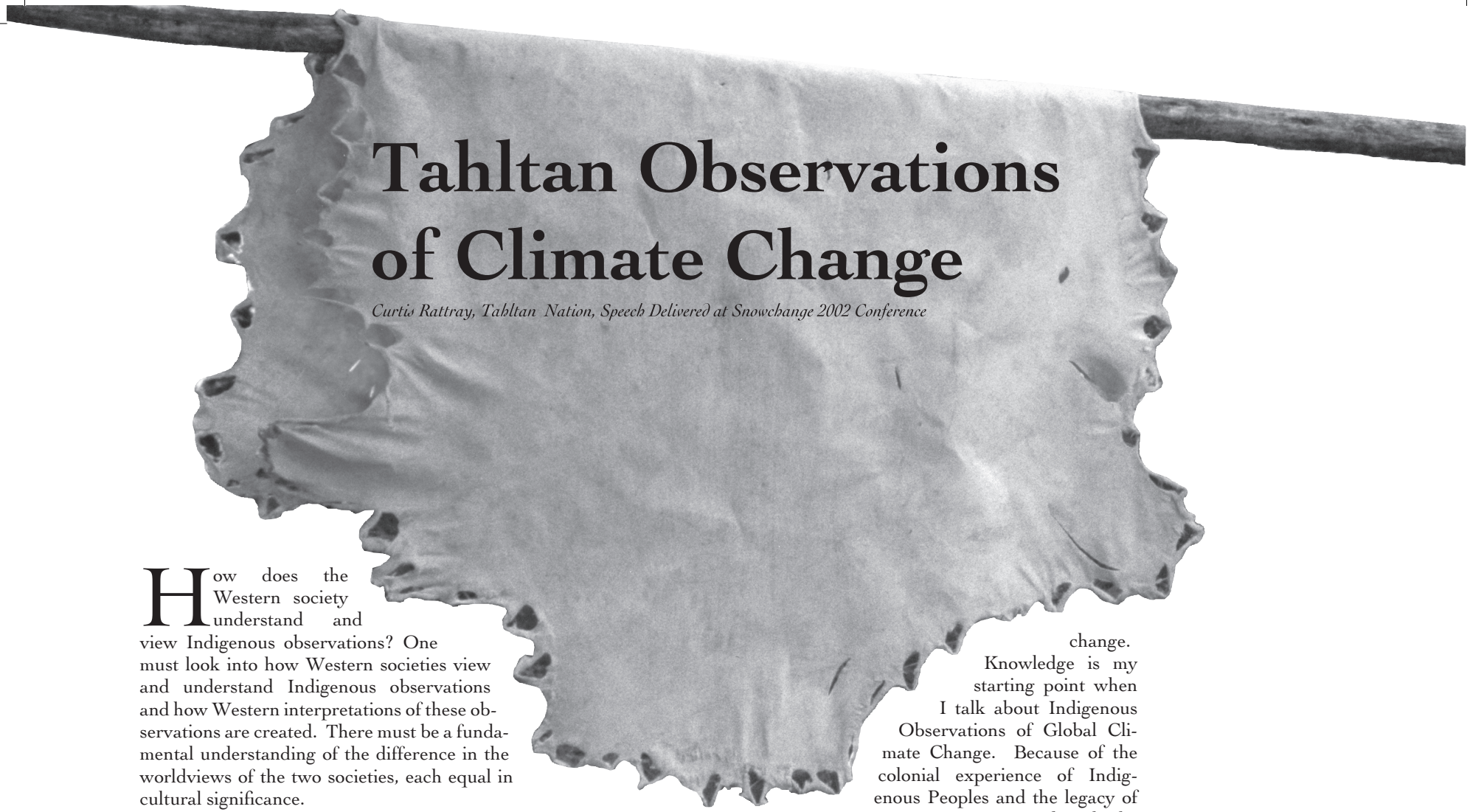
[24] "At the Plesure of the Crown," 11.

[25] Agrement between the CHN and the Crown, Gwaii Haanas Agreement, February 1993.

[26] Constitution of the Haida Nation, Haida Proclamation p. 1.

Tahltan Observations of Climate Change

Curtis Rattray, Tahltan Nation, Speech Delivered at Snowchange 2002 Conference



How does the Western society understand and view Indigenous observations? One must look into how Western societies view and understand Indigenous observations and how Western interpretations of these observations are created. There must be a fundamental understanding of the difference in the worldviews of the two societies, each equal in cultural significance.

There must also be an understanding that Western society has a reputation of viewing the world through racist assumptions. I will first talk about my assumptions of the Western society before I enter the world of Tahltan observations of climate change.

Knowledge is my starting point when I talk about Indigenous Observations of Global Climate Change. Because of the colonial experience of Indigenous Peoples and the legacy of mistrust, I'm concerned with the Western uses and interpretation of Indigenous knowledge. I'm concerned with intellectual property rights and discriminatory notions of inferiority of Indigenous knowledge. Our culture is based on concepts of sharing, and

I want to forgive and share our knowledge to improve western society, which we have become a part of.

World View

For most Indigenous Peoples we do not see a "universe", we see a *"multi-verse"*. There are many stories about the creation of the 'multi-verse', most have common themes, such as the Creator did not make it perfect in the first try.

There are stories of a trickster/transformer who 'fixes' up the world by bringing and teaching things to the people using many techniques like stealing, tricking and outsmarting (see Tahltan tales documented by James Teit).

There is a master plan for the 'multi-verse'. We can only influence the master plan through ritual and ceremony, there is no chaos. Author John Trudell describes:

"the situations that are happening to us in our life are part of an initial deliberate design...there is a system operating that feeds upon the spirit of the people".

However, to the West, the universe is chaos, for me that explains the "Big Bang Theory". There is nothing more chaotic than an explosion. People who believe in chaos can only see the huge expanse of the 'universe' as chaos and find the origins of the 'universe' from a chaotic start point. It must be understood that both theories are important as they both explain, from different perspectives about the creation of the worlds we live in.

Notions of Superiority

My experience and education has made me believe that Canada is a colonial nation state that has its foundations based in racism. How is it Canada is able to legally and morally assert Crown sovereignty and displace Indigenous sovereignty? Indigenous sovereignty, is the right for Indigenous peoples to be self-determining, and has been in existence since the beginning of time. Canada does not question its right to assert Crown sovereignty with its political and legal institutions.

Canadian courts have created a legal test in which Indigenous Peoples have to prove that our ancestors had a sufficiently 'advanced' society, before the Canadian legal system could recognize any legal rights of aboriginal peoples.

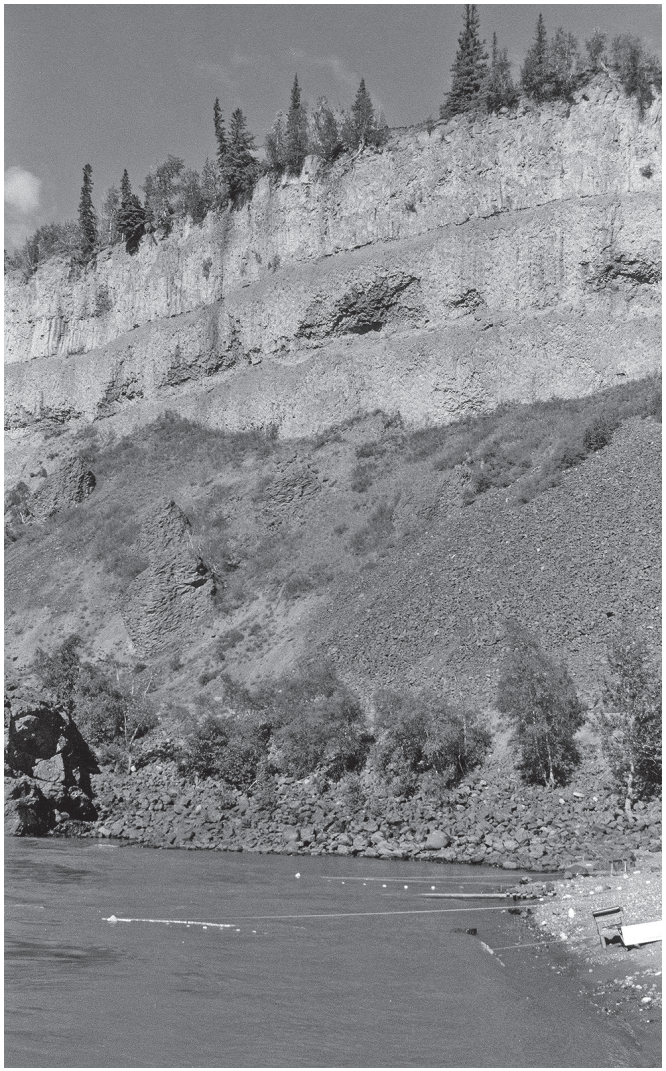
Canada maintains that Indigenous Peoples are not 'advanced' enough along the progression line of 'civilization' from "primitive" to "civilized", and therefore do not have any right to our traditional lands or rights to self-determination[1].

In other words, the Indigenous Peoples are not 'Peoples' as defined by the United Nations with no legal rights, this legal reasoning supports *"terra nullius"* (empty lands) and the doctrine of discovery in the Americas.

Tahltan Observations

For the Tahltan people, from the northwest of North America, our observations tell us that the weather in our territory is warming. As a Tahltan person I have heard and seen a number of factors that tell us that climate change is happening. I will present the evidence from Tahltan observations that I have documented by interviewing Tahltan Elders and hunters. I will conclude this section by looking at other Indigenous ways of providing evidence to climate change.

The Tahltan are an Indigenous Peoples, we occupy the Stikine River watershed and the surrounding headwaters in what is now known as northwest British Columbia, Canada. Our language is grouped in with what linguists call "Athabascan", and what I call Dene. Dene is the word in the language group for 'people'. Our culture is a mix of Dene and Northwest Coast, and our social organization is matrilineal. Our land use is cyclic. It follows the seasons. The way we use the land, I think is captured in our traditional name *'Kay-ya Ho*



Dene', which means *"country town people".*

Tahltan observations of the environment are viewed through a cultural lens, like all other peoples. The ecosystem is made up of patterns, patterns that interconnect the environment. I feel it is the patterns within nature are what Indigenous culture attempts to replicate[2]. The following is what I jutted down in my note book I call "The Note Book":

"Patterns appear in nature, science calls ecological processes and physics and mathematics attempt to discover those patterns using mathematical equations. For Indigenous Peoples, we seek those patterns and attempt to replicate them also, not with math but with 'art'. We replicate the patterns of nature in our 'art', song, dance and even in our political and social structures like the potlatch." 18 November, 2001

Thomas Hobbes on the other hand sees nature as mechanical and humans attempt to duplicate nature based on a mechanical interpretation of nature. Hobbes in Leviathan:

"seeing life as a motion of limbs...that all automata (engines that move themselves by springs and wheels as doth a watch) have artificial life? For what is the heart, but a spring".

There are other Indigenous ways of determining climate change besides interviewing aboriginal people and documenting their observations. Keith Basso in his book Wisdom Sits in Places talks about how Apache name their places. One of the ways is what Basso calls "descriptive place names"[3], an Apache Elder explains and Basso summarizes

"its name gives a picture of it, just as it was a long time ago...They made a picture of it with words...Now they had a picture they could carry in their minds. You can see for yourself. It looks like its name" (Basso, 1996, p. 12).

These Indigenous names of places give a description of the place, usually as they did a long time ago. By finding out the descriptive names of places, and determining what the place

'looked' like before, one can determine if any changes took place. Basso in his research found that is the case,

"[there] is an absence of fit (a 'lack of match' is what he says in Apache) between the place itself and the way its name describes it. The name it was given a long time ago shows that it has changed" (Basso, 1996, p. 14).

I recommend that more research be done into the prospect of looking at Indigenous 'descriptive' names of places as a means of determining possible environmental and climatic changes to specific and regional sites.

For example, our people have a name for an area[4] in our traditional territory - *"Tlhogo Dene"* - which means *'long grass people'.* I have been in that area as a BC Parks back country ranger and the provincial government calls the place, 'Spatsizi Plateau Wilderness Park'.

A number of years ago I hiked into this valley that contained a few trees on the gentle slopes of the mountains and the rest of the valley was grassland or alpine meadow. I then came to the realization how the traditional name describes the land and why the Dene[5] who lived there got their name, from their land[6]. This is my understanding of a regional descriptive place name.

Notes

[1] The Canadian courts have recognized certain aboriginal rights, such as the right to hunt and fish, and are protected by section 35 of the Constitution Act, 1982. In the past 10 years the legal definition of what 'aboriginal rights' are and which are protected by section 35 are expanding. However, there continues to be lack of any real progress as to the extent of the aboriginal rights of self-determination and aboriginal title. The courts still require aboriginal peoples to prove they are an 'organized society' before aboriginal title is recognized (for more info see Delgamuukw v. R Supreme Court of Canada decision). *Aren't all societies organized?*

[2] I attribute my thinking in this direction in some reading (like: Peter Sutton, ed., 1988. p. 3 & 6) and my attempts to practice a Tahltan traditional 'art'; which are patterns carver onto bone spreaders. Bone spreaders are used in a load carrying pack that is carried from the forehead with a strap. This is what I see when I look at Indigenous "art" now, it is an interpretation of nature, and seeing nature as patterns.

[3] Tahltan people also have names for places that are descriptive.

[4] The name given to this area is also the name given to the clan who use and occupy as their hunting grounds. Basso comments, *"names of clans...are based upon descriptive-place-names"* (Basso, 1996, p.30).

[5] Dene is the Tahltan word for 'people'.

[6] I still carry that image around me in my memory.

Local Observations on Salmon and Environmental Change in Kwakwaka'wakw Territory

Hanna Eklund, Environmental Management, Tampere Polytechnic. Dedicated to the memory of Harry "Cash" Mountain (1920-2004).

1 INTRODUCTION

The purpose of this study was to find out if there have been any environmental changes in *Kwakwaka'wakw area* according to the *knowledge of the local elders* and how they *prioritise the possible changes* in the environment. Main focus in the interviews was on fish and fishing and especially salmon and changes in its living environment. I also wanted to find out if the possible changes were due to *climate change. Possible loss in animal biodiversity* in the Kwakwaka'wakw territory was also one of the main concerns of this report. British Columbia's Ministry of Water, Land and Air Protection has made a report "Indicators of Climate Change for British Columbia 2002" (BCMWLAP, 2002) and I wanted to compare the results of this report to the observations of the locals. Environment Canada, Canadian Wildlife Service compiled a publication "Biodiversity in British Columbia: Our Changing Environment" in 1994 (Harding & McCullum, 1994) and I tried to find the links between the local observations and the publication.

I wanted to *focus on the traditional ecological knowledge* (TEK) and *the information* the elders possess. The word 'possess' sounds a bit wrong here, for I don't believe that one can own information. Actually I can say that I wanted to focus on what the elders know and what they want to tell and share. The interviewees have all been spending time out on the land and water and have a good first hand knowledge of what has changed if something has changed.

The study was made of the suggestion of Snowchange. It is a multi-year, education oriented project, which is coordinated by the Department of Environmental Management and Engineering of Tampere Polytechnic School of Technology and Forestry. Snowchange-project started in 2001 and documentation and its work is still continuing. It collects and documents Indigenous observations on climate and ecological change mainly in the North and supports and encourages Indigenous participation and work in climate change issues. The website of the project works as a presenter of the observations, so that peoples and decision makers in the South will hear them too. (Snowchange, 2003)

2 WORK DESCRIPTION

2.1 Methods of Fieldwork

Alert Bay, where the work started, is a village on a small island between Vancouver Island and adjacent mainland. It is the home of the 'Namgis First Nation and on the traditional ter-

ritory of Kwakwaka'wakw First Nation. There are 15 tribes nowadays that belong under the Kwakwaka'wakw First Nation and 'Namgis is one of those (Coull, 1996, p. 55). First thing I did when I arrived to Alert Bay and started working was ask people whom to interview. The criteria for me were that they were elder fishermen, either retired or still working, from Alert Bay or near-by areas. They could be either commercial fishermen or non-commercial fishermen. Or just people who would know something about fish and had been out on the land a lot. They needed not be of indigenous background like Huntington says (Huntington, 2000, p. 1270) even though traditional ecological knowledge was asked. The Kwakiutl Territorial Fisheries Commissions employees helped a lot with this and we set up a letter of invitation to a luncheon to all possible interviewees. The response to the letter was ok and four participants came to the luncheon. Of these four I could interview three and they suggested more people whom to interview. With their and KTFC's help I interviewed six people individually and four people in a group interview. So ten people all together took part to the interviews. Of those ten, all were born on the Kwakwaka'wakw area and nine interviewees were from the First Nations.

2.1.1 Interviews

There is several kind of interviewing methods. The method I used was supposed to be semi-directive interviewing but they ended all to be quite directed interviews with a set of questions. I wanted to use semi-directive interviewing at first so that I could find out what was important in the opinion of the local elders and not give strict topics to the interviews. As Huntington describes, the participants or the interviewees in a semi-direct interview are guided in the discussion by the interviewer but the interviewee has a freedom to choose what to tell and how deep to go to (Krupnik and Jolly, 2002, p.24). These interviews were quite free in my opinion, though I ended up using a set of questions prepared for the interviewee. The interviewees had got familiar with the questions beforehand for a set of questions was sent to them via mail if they wanted it. Because of limited time in Alert Bay, this method of interviewing felt best at the moment. As Huntington states about the questionnaire method "This method is useful when the interviewer knows in advance what he or she is seeking" (Huntington, 2000, p.1271). And as I had a research plan about the topic, it was easy to do the interviews this way.

2.1.2 Documentation

The idea was to do interviews with the local elders in Alert Bay. I met the interviewees either at the office in KTFC or at a place where they wanted (e.g. boat, hospital). The interviews were recorded to a minidisk and the interviews were transcribed to text format. Photographs of the interviewees were taken if it was allowed. All of the interviewees filled a consent form or agreed verbally to the consent form. Paper copies of the interviews were given to the U'mista Cultural Society and Kwakiutl Territorial Fisheries Commission. Copies of this report are going to be delivered to them too and possibly to the interviewees, if they want it. The original recordings of the interviews are with the Snowchange project at Tampere, Finland and copies (CD's) of the recordings are going to be delivered to the U'mista.

2.1.3 Interviewees

Roy Cranmer is a semi-retired commercial fisherman and he has been involved in working in various positions as assistant band manager, band manager, councillor, chief councillor off and on since 1969 for the 'Namgis tribe. His brother Bill Cranmer is now the chief councillor for the 'Namgis tribe.

Chas, Cash, Oxley and Douglas.

Harry " Cash" Mountain (1920 - 2004) was born in Village Island where his family comes from.

Charles "Chas" Coon comes from Gilford Island and he was born in 1937. He has been working as a carpenter.

Douglas Scow is about 65 years old and he comes from Gilford Island. He has been working as a fisherman and as a logger.

Thomas "Oxley" Alfred was born in Alert Bay and he is 'Namgis. He is about 60 years old and he has been working as a fisherman in his youth.

Brian Wadhams is from Turnour Island from the Tlouuitsis band. He was born in 1952 and he was transferred to the 'Namgis when he was six - seven years old. He has been a commercial fisherman for 37 years and he works as a band councillor for the 'Namgis First Nation and as an Outreach Coordinator for the Musgamagw Tsawataineuk Tribal Council.

Alfred "Baker" Coon comes from Kingcome Inlet. He works at the Kwakiutl Territorial Fisheries Commission as a fisheries observer. He has been a fisheries observer since 1985 to the present day. He used to be a logger, a welder and a commercial fisherman.

Eddie "Bones" MacDougall is from Alert Bay and he has lived there all his life. He was born in 1949. He started fishing when he was young, five or six years old and he was a commercial fisherman for about 44 years.

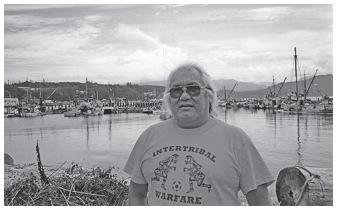
Henry S. Beans has been living in Alert Bay since 1947. He is from the Mamalilikulla Band from Knight Inlet but they joined the Nimpkish Band in 1947. He is a retired fisherman.

Edgar Lansdowne was born on the 13th of May in 1912 at the Nimpkish River. He worked as a hunter, a logger, a whale watch guide and in many more professions.

2.2 Traditional Ecological Knowledge - Local Knowledge

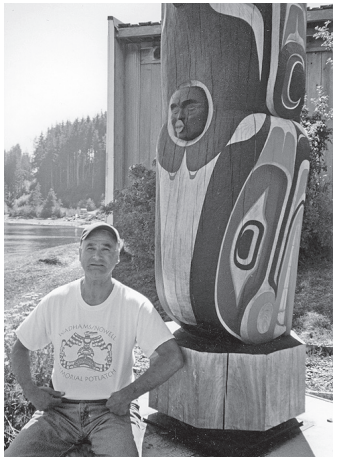
"Traditional knowledge is embedded in the community and is unique to a given culture, location or society." (UNESCO, 2003)

I wanted to use the concept *traditional knowledge or local knowledge* instead of indigenous knowledge in this study. Indigenous refers to aboriginals which all of my interviewees were not. It may be so that "local knowledge" sounds a bit misleading for the area where the interviewees came from was quite



Eddie MacDougall.

Henry Beans



Brian Wadhams

large.

According to Berkes (1999, p. 9), traditional ecological knowledge (TEK) is generally thought to differ from Western scientific ecological knowledge in a number of substantive ways. TEK is seen often as an essential part of the local culture and traditional systems tend to have a large moral and ethical context for there is no separation between culture and nature. In the western culture people have more or less alienated from the nature. First Nations people use their knowledge, that we may call traditional knowledge, in their everyday lives while they are out at sea, out on the land and in general in their life. This knowledge they have learnt from their ancestors or by experiencing themselves. Huntington states also that TEK may be knowledge or observations of and area or a species and this knowledge may be passed down in an oral tradition or shared among other users of a resource (Huntington, 2000, p. 1270).

"TEK is seen as a cumulative body of knowledge, practice, and belief, evolving by adaptive process and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment". (Berkes, 1999, p. 8)

From this I can sum that TEK lives all the time and evolves when necessary. It changes with its environment and culture if necessary for there is no separation between these two in TEK. I see traditional ecological knowledge myself as knowledge that I can learn from my elders. They know when and where to go picking mushrooms or when is the right time to do a birch-switch so that it lasts the whole year. I know that I could also learn this by doing and trying it myself, but this might take a while.

2.3 Scientific Studies That Form A Basis For This Study

2.3.1 What is Climate Change and Weather?

Climate is the average long-term weather of an area and it consists of general weather conditions including seasonal variations and weather extremes (Miller, 2000, p. 157).

Climate varies from place to place and it depends for example on the latitude, distance to the sea, vegetation, and other geographical factors and it varies also in time like from season to season and from decade to decade. (IPCC, 2004) Changes in the climate are dependent on many factors and one of the most easily seen factors is the weather.

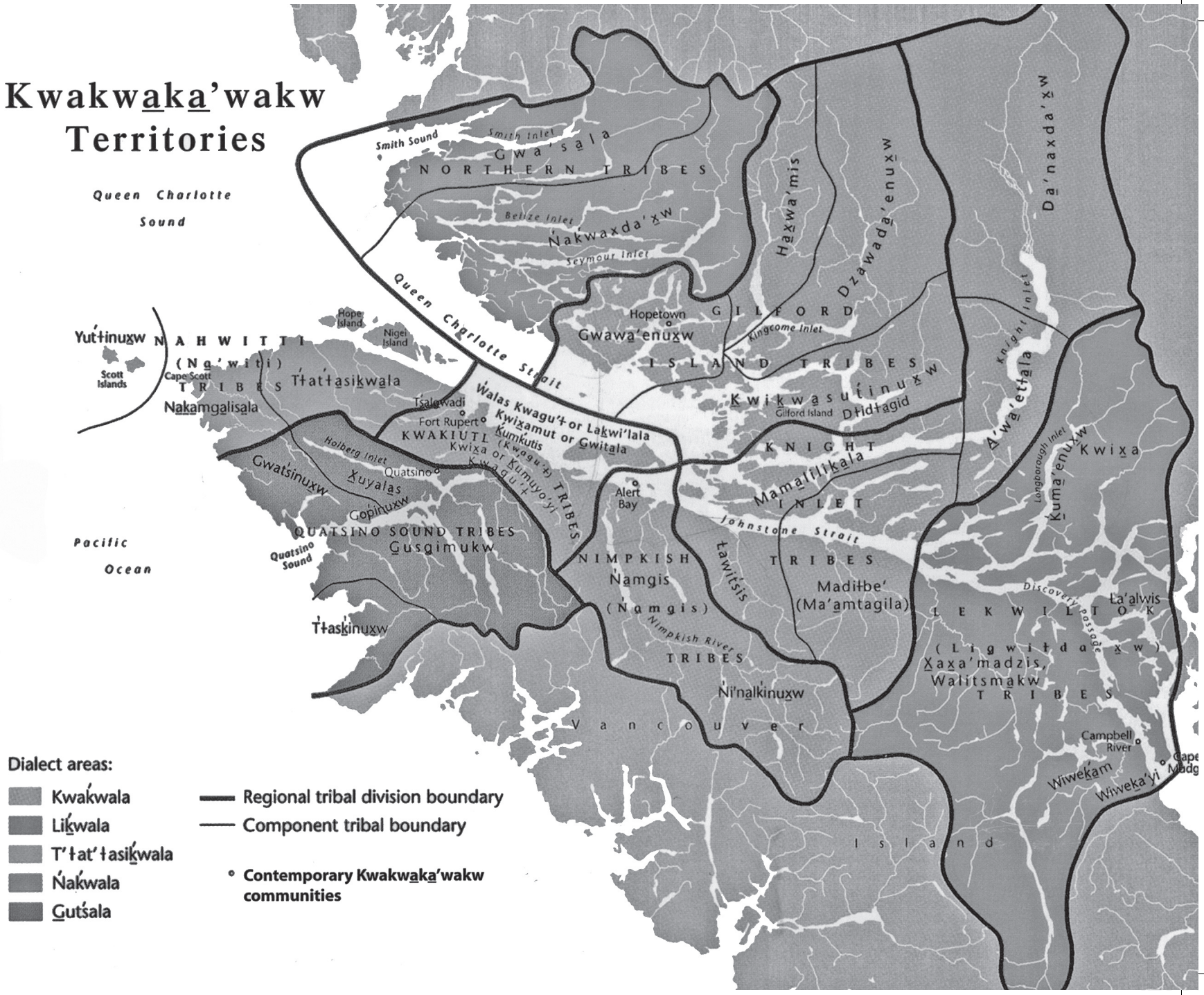
Weather is the changing state of the atmosphere around us and we can see it as temperature, winds, precipitation, clouds and other weather elements. Weather has only limited predictability but it is easily seen in every day life. Statistically important variations of the mean state of the climate are referred to as climate change. (IPCC, 2004) The impacts of climate change are expected to be most extreme in the Northern parts of the World (Northern Climate ExChange, 2002) but the impacts are seen also in the Southern parts of the World.

2.3.2 Climate Change and British Columbia

The Government of British Columbia and The Ministry of Water, Land and Air Protection did a report in 2002 about how the climate in British Columbia changed during the 20th century. This report presents the potential impacts of these changes in the climate on freshwater, marine and terrestrial ecosystems and on human communities and it predicts if and how climate change is going to affect British Columbia's area. The report is based on a set of environmental indicators that represent key properties of the climate system, or important ecological, social, or economic values that are considered sensitive to climate change and it describes changes in these indicators over time (BCMWLAP, 2002, p. 4). The past impacts are summarized below:

- Average annual temperature warmed by 0,6°C - 1,7°C


British Columbia
Alberta
Prince George
Alert Bay
Kamloops
Vancouver Island
Vancouver
Victoria
USA
Jr04


Kwakwaka'wakw Territories
Queen Charlotte Sound
Smith Sound
Smith Inlet
Gwa'sala
NORTHERN TRIBES
Belize Inlet
Nakwaxda'xw
Seymour Inlet
Queen Charlotte Strait
Haxwa'mis
Dzawada'enuxw
Da'naxda'xw
Knight Inlet
Hopetown
Gwawa'enuxw
GILFORD ISLAND TRIBES
Kingcome Inlet
Hope Island
Nigei Island
Yut!inuxw
NAHWITTI (Na'witi) TRIBES
Scott Islands
Cape Scott
T!at!asikwala
Nakamgalisala
Walas Kwagu't or Lakwi'lala
Tsalgwadi
Fort Rupert
Kwixamut or Gwitala
KWAKIUTL (Kwagu't) TRIBES
Kumkutis
Kwixa or Xumuyo-yi
Kwagu't
Holberg Inlet
Quatsino
Xuyalas
Gwatsinuxw
Gopinuxw
QUATSINO SOUND TRIBES
Gusgimukw
Quatsino Sound
Pacific Ocean
Alert Bay
Kwikwasutinuxw
Gilford Island
Dłidłagid
KNIGHT INLET
Mamalilikala
Johnstone Strait
Longbarough Inlet
Kwixa
Kuma'enuxw
Ła'wa'ettala
NIMPKISH TRIBES
Namgis
(Nąmgis)
Nimpkish River
Ławitsis
Madiłbe'
(Ma'amtagila)
LEKWILTOK (Ligwiłdaxw) TRIBES
La'alwis
Discovery Passage
Xaxa'madzis, Walitsmakw
T!asKinuxw
Ni'nalkinuxw
Vancouver Island
Campbell River
Wiweka'm
Wiweka'yi
Cape Mudge
Dialect areas:
Kwakwala
Likwala
T'łat'łasikwala
Nakwala
Gutsala
Regional tribal division boundary
Component tribal boundary
Contemporary Kwakwaka'wakw communities

- Night-time temperatures increased across most of BC in spring and summer
- Precipitation increased in southern BC by 2 to 4% per decade
- Lakes and rivers become ice-free earlier in the spring
- Sea surface temperatures increased by 0,9°C to 1,8°C along the coast
- Sea level rose by 4 to 12 cm along most of the coast
- Two large BC glaciers retreated by more than a kilometre each
- The Fraser River discharges more of its total annual flow earlier in the year and its water is warmer in the summer
- More heat energy is available for plant and insect growth (BCMWLAP, 2002, p. 4).

I highlighted the most essential ones above concerning this study. I wanted to find out if the interviews I did and this report had results in common. I concentrated mainly on the chapters about "Climate Change and Freshwater Ecosystems" and "Climate Change and Marine Ecosystems" for salmon lives in both waters.

2.3.2 Biodiversity in British Columbia

British Columbia is the most bio diverse province in Canada. There are 4500 marine invertebrates, 2850 vascular plants, 1088 vertebrates, 1240 macro fungi and 35000 terrestrial insects in British Columbia. From the 1088 vertebrates, 458 are fish, 20 amphibians, 19 reptiles, 448 birds and 143 mammals. (Harding & McCullum, 1994, p. 1) This is no wonder for the province has an amazing nature. It seems to have every kind of ecosystem and vegetation zone in it's area - the mountains with glaciers and snow, the shorelines of the Pacific Ocean, rivers and inlets, the more drier areas in the inland and plenty more.

A book about British Columbia's biodiversity was published in 1994 by Environment Canada. It lists rare and endangered species, tells about the different species and ecosystems in British Columbia and suggests prospects for the future. It ranks the species that are endangered or threatened in British Columbia in to a "Red List" and species that are considered to be vulnerable or at risk in British Columbia in to a "Blue List". The red and blue lists are made of provincial ranks. (Harding & McCullum, 1994, p. 17 - 21)

On the Red list there are for example:
- Mountain Beaver *(lat. Aplodontia rufa fufa)*
- Wolverine *(lat. Gulo gulo vancouverensis)*
- Sea Otter *(lat. Enhydra lutris)*

And on the Blue list there are for example:
- Bald Eagle *(lat. Haliaeetus leucocephalus)*
- Sandhill Crane *(lat. Grus canadensis)*
- Black-chinned Hummingbird *(lat. Archilochus alexandri)*
- Grizzly Bear *(lat. Ursus arctos)*
- Roosevelt Elk *(lat. Cervus elaphus roosevelti)*
- Rocky Mountain Bighorn Sheep *(lat. Ovis canadensis canadensis)* (Harding & McCullum, 1994, p. 17 - 21).

These Red and Blue Lists have an important role in the protection of British Columbia's biota, but they work only as a guideline and as a first step in proper conservation to the biota in risk (Harding & McCullum, 1994, p. 23). I wanted to collect the observations of the interviewees about some different species and compare them to this book and see if the mentioned species are rare, endangered or even extinct. Sometimes this comparison was hard for the interviewees spoke about species in general and not of a specific subspecies.

2.4 Research Question

The research question changed during the process several times. When I first started to do the interviews, my emphasis was on the potential changes in the environment due to cli-

mate change. As the work proceeded, I realized that it was going to be quite hard to concentrate only on those potential changes of climate change. I wanted to limit it mainly to the *changes in salmon, its living environment and biodiversity, main focus being on salmon.*

A majority of the locals I interviewed would have wanted to give longer interviews about fish farming on the area, but we with the Kwakiutl Territorial Fisheries Commission decided that there was enough of fish farming related studies going on and that it was good to concentrate and study something else too. But as I did the interviews, I noticed that almost every interviewee told about the effects of fish farms on the local environment and ecology. So it was hard to limit the topic to just one main concern like climate change. But if it is important according to the locals who know about the problem, it should be talked about.

I wanted to find out *how the locals see the environment, ecology and climate changed and if it has meaning to them.* These kinds of studies have been made a lot on the Northern hemisphere and the potential impacts of climate change may be more visible in the North, but it definitely has huge impacts to South as well.

I also wanted to find out if there were things in common with the Biodiversity report, Climate Change report and the interviews. Like *do the local observations confirm the reports claims* and vice versa.

3 PACIFIC SALMON

3.1 Habitat

Salmon are anadromous, which means that they live part of their life in fresh water and part of their life in salt water. Only about 1% of the world's fish species belong to this group. (Miller, 2000, p. 301) There have been plenty of rivers and streams in BC where salmon have been able to spawn. Nowadays, when the rivers and their surroundings are in more effective use, the survival of salmon birth environment is at stake and due to this salmon survival too. Also warming and changing waters have effects to salmon life. Here, I am talking about wild Pacific salmon species unless otherwise told.

According to British Columbia's Ministry of Water, Land and Air Protection, salmon tolerate temperatures of up to approximately 24,5°C but prefer it from 12°C to 15°C. The report also tells that sockeye prefer colder temperatures than other salmon species and that due to this sockeye might be the one that is most sensitive to climate change and its impacts to water temperature. (BCMWLAP, 2002, p. 28)

3.2 Subspecies

There are five different Pacific salmon species. These are sockeye (lat. *Oncorhynchus nerka),* coho (lat. *Oncorhynchus kisutch),* pink (lat. *Oncorhynchus gorbuscha),* chum or dog salmon (lat. *Oncorhynchus keta)* and chinook or spring salmon (lat. *Oncorhynchus tshawytscha).* (DFO, 2003)

English	Latin	Kwak'wala
Sockeye	Oncorhynchus nerka	malik
Chum or dog salmon	Oncorhynchus keta	gwax̱'nis
Chinook or spring	Oncorhynchus tshawytscha	sat'sam
Coho	Oncorhynchus kisutch	dza'wa'n
Pink	Oncorhynchus gorbuscha	hanu'n

Table 1. The names of different Pacific salmon species in English, Latin and Kwak'wala (DFO, 2003; Sanborn 2004)

Silver-blue sockeye is the slimmest and most streamlined of the Pacific species and it usually weighs from 2,2 kg - to 3,1 kg but can reach 6,3 kg. The young sockeye stay in the freshwater nursery lakes a year or more before migrating to the sea. (DFO, 2003) Sockeye is used for fresh food, mainly barbecued over an open fire but also baked, fried, etc. Sockeye is also canned both fresh and barbecued and it can be also dried and smoked. This is called K'awas. (Sanborn, 2004) Sockeye is said to be the best salmon of all. I agree.

Coho usually live for three years and grow rapidly in the last year. They weigh between 1,3 kg - to 14 kg and they are bright silver with a metallic blue dorsal surface. (DFO, 2003)

Pinks are the smallest of the Pacific salmon weighing only 2,2 kg - 5,5 kg and pink is the only one that has no silver in its tail when compared to other salmon species. Pinks live only two years. (DFO, 2003) Pinks are not used too much due to their short fresh state and difficulty in handling. Some do though use it for smoking and then canning after that. (Sanborn, 2004)

Chums live three to five years and weigh about 4,5 kg to 6,5 kg. Chum resembles sockeye but chum is larger and usually a white tip on the anal fin identifies a chum salmon. (DFO, 2003) Chum is usually smoked in the fall, when the weather is cooler and the chums are entering the rivers (Sanborn, 2004).

Chinook is the largest salmon weighing between 1,5 kg to 30 kg. It lives from three to seven years and one can identify it from its black gums and silver, spotted tail. Average-sized chinooks are known as springs in B.C. (DFO, 2003)

3.3 Lifecycle of Salmon

The lifecycle of salmon begins at the spawning streams that are well aerated and clear. There the salmon hatch and develop for about 1-2 years (depending on the species). After this development time they migrate to the Pacific Ocean to feed. (Miller, 2000, p. 301) For example most of the Fraser River sockeye leave the river and enter the ocean in the spring and spend some weeks in the Straight of Georgia and then in early summer migrate towards the North to Alaska along the coast of British Columbia. They stay close to the shore on the continental shelf. When they reach the Aleutian Islands in late fall and winter, the salmon move towards south into the open ocean. (BCMWLAP, 2002, p. 34) After 1-3 years at the ocean they have reached sexual maturity. This is the time when they return to the spawning rivers to reproduce and eventually they die in the same river where they were born. (Miller, 2000, p. 301)

3.4 Threats to Wild Salmon

There are many risks on the life of salmon. First there are the dangers and threats in the hatchery rivers and streams. For example changes in the river flow and temperature that may be linked to climate change are expected to have serious negative impacts to salmon stocks (BCMWLAP, 2002, p. 35).

If salmon succeed to migrate from the rivers to the sea, more threats are to come. During warmer years, the ocean productivity is relatively low and this may result in fewer amounts of food and slow growth in juvenile salmon. If so, salmon become more vulnerable to predation for a longer time period. Increasing sea surface temperatures may also decrease the habitat of salmon (sockeye) for the migration areas in the Northern Pacific are closely associated with water temperatures. (BCMWLAP, 2002, p. 34)

One of the reasons that affect the salmon populations survival is the generic diversity. Escaped farmed Pacific Salmon can interbreed with wild salmon and in this way weaken the generic diversity of the wild stocks. Between Atlantic and Pacific Salmon this apparently does not happen for there is a gap across the two species. (Ryan, 2003, p. 27)

According to Environment Canada there is evidence of decreasing diversity of salmon stocks, which are presumed to be genetically distinct. "90% of the coho, chinook, pink and chum salmon escapements are produced now from only half as many streams as in 1950. The decreases in generic diversity have been most severe in the Straight of Georgia." (Harding & McCullum, 1994, p. 296) This is a big concern, for if the generic diversity gets too simple the survival of salmon populations may be at stake.

3.4.1 Fish Farms

In fish farming, fish is cultivated in a controlled environment (like a pond or a tank) and they are harvested when they have reached the desired size. In fish ranching, anadromous species are held in captivity for the first years, then released and harvesting the adults when they return to spawn. These require lots of feed, land, water, energy and produce huge outputs of wastes. The surrounding environment is in danger, for pesticide runoffs occur and viral and bacterial infections may outburst in the densely populated pools. (Miller, 2000, p. 302) These may also contaminate the wild. Some escapes may also happen and the farmed fish may mix with wild fish and this might leed to weakening generic diversity mentioned above.

There are 28 fish farms at the moment in the Broughton Archipelago and the first ones came in the early 1980's. Atlantic salmon, which is and alien species to the area, is farmed in those with Pacific Salmon. The problems arising from fish farms are the escapes from them, pollution that comes from the feed and the antibiotics used in the feed. (Musgamagw Tsawataineuk Tribal Council)

Nowadays, after the escapes of farmed Atlantic Salmon, there is a second generation of Atlantic living in the wild. The problems are that they eat wild salmon fry in the rivers and streams and they compete with the wild salmon for habitat and food. (Musgamagw Tsawataineuk Tribal Council)

3.4.2 Changes in Ocean and River Water Temperature

When the water temperature in the rivers rises, salmon tend to start burning energy faster. Warmer water also increases the potential of bacterial and fungal infections of salmon and this may cause salmon to die en route due to the stress from infection and exhaustion. The stressed salmon may reach the spawning grounds, but they might fail to spawn. (BCMWLAP, 2002, p. 29) This is a studied example from Fraser River, but it may happen also in other spawning rivers.

The changes in the ocean temperature regimes affect the salmon in such way that they change their migration routes and major salmon runs are showing unexpected behaviour in the timing of their return to B.C.'s rivers. To make matters even more difficult, salmon are facing extreme stresses in the final stages of the homeward migrations - in the freshwater environment. In 1998, water temperatures in the Fraser River were among the highest on record while water levels were the lowest. (Glavin, 1998, p. 7)

A major change has occurred during the 1990's in the ocean ecosystem off British Columbia's coast. In 1998, nitrates disappeared from surface water in offshore areas, which poses grave threats to various plankton populations, low-trophic level species, and ultimately to the "forage" species necessary for salmon survival. (Glavin, 1998, p. 13) This may have been due to warming sea surface temperature. And the less food for salmon there is, the harder the salmon survival is.

The Ministry of Water, Land and Air Protection predict that the climate in BC will continue to change during the 21st century. One impact may be that the salmon migration patterns and success in spawning are likely to change. (BCMWLAP, 2002, p. 35) Salmon is the most important fish species in the area both economically and culturally and it would truly be devastating if it would disappear.

4 KWAKWAKA'WAKWS AND KWAKWAKA'WAKW TERRITORY

"...I like to be close to the water, that's my home. That's my front yard and back yard. ...You don't have fields or farming land...this is our farm. This ocean. This is where we get our food from, most of the time..." (Henry S. Beans)

Cormorant Island, where Alert Bay is located, is a small island between Vancouver Island and the mainland. On the neighbouring Malcolm Island is located Sointula, a former utopian Finnish community. My people and the Kwakwaka'wakw have a long shared history, documented for example by Kaapro Jääskeläinen in his book 'Elämää Malkosaarella' (Life on Malcolm Island). The Coast Mountains, straights and sea domain the scenery. This part of British Columbia belongs to the coast and mountain area. There are 14 biogeoclimatic zones in British Columbia and the Kwakwaka'wakw territory is on two of them: coastal western hemlock and mountain hemlock (Harding & McCullum, 1994, p. 232).

4.1 Ecological Environment and Landscape

British Columbia is located on the southwestern coast of Canada. Vancouver Island shelters almost half of the coastline and creates a unique environment between the adjacent mainland and the island. It's many islands and fjords offer many hiding places for different animals living in the waters and on the land. Old-growth temperate rain forest and mountains dominate the area and the rain from the Pacific Ocean nourishes this green area.

The Kwakwaka'wakw territory is in the centre of the Northwest Coast region of British Columbia, along the northern and eastern coasts of Vancouver Island and adjacent mainland from Rivers Inlet in the north to Cape Mudge in the south. (Kwakiutl Territorial Fisheries Commission, 2004) The area varies in landscape - from the glaciers to the rivers and to the archipelago. From the Northern windy open ocean to the sheltered inlets and sounds in the southern part.

4.2 Cultural Environment

Kwakwaka'wakws (known also as Kwak'wala speaking tribes, Kwakiutl or Kwageulth) are known for their potlatches, stories and amazing carvings on masks, totem poles and other traditional carving work. The original language is Kwak'wala and the word "Kwakwaka'wakw" means speakers of Kwak'wala as Coull writes in her book (Coull, 1996, p. 55). The language is being taught in schools and cultural centres nowadays but the language was almost lost due to the government and missionaries, who forced children apart from their families and culture to residential schools for almost a century between 1880 - 1980 (Coull, 1996, p. 13). Painful memories still live strongly among those who experienced the horrors of the schools.

Potlatching, "doing a great thing" (Coull, 1996, p. 55) or "to give" (Halliday & Chehak, 2000, p. 30), has a very important meaning in the life of the Kwakwaka'wakws. Various occasions, such as marriage, birth and death, are witnessed at a potlatch and the host tells through words, dances, songs and masks what is happening in his life. Witnesses or guests are honoured with a feast and gifts are given too. Potlatches take place usually in bighouses or longhouses. (Coull, 1996, p. 10) The Government between forbade Potlatching between 1884 - 1951. (Rattray, Mustonen et. al., 2001, p. 16) Nowadays it is though very alive although it has lost some of its traditions and gone more commercial as Eddie MacDougall says in the interview:

"...Even our potlatches are commercialised. Big time... You don't have to dry the halibut or dry the salmon to give the guests...Instead Coca Cola, chips, sugar, flowers. So that's a big change."

Fishing has had and still has a very important role in the culture and economy of this area. The Supreme Court of

Canada agreed in 1990 that aboriginal peoples have the right to fish for food, ceremonial, and societal purposes and that maintaining this is second only to the conservation of salmon (Coull, 1996, p. 15). This was not the case for many decades. As the Europeans came in the early 1800's and started to take use of the fish stocks with the help of the First Nations. But it was the First Nations who were not allowed to sell the fish anymore by 1888 and they couldn't even feed themselves without licence (Coull, 1996, p. 15). The European settlers made it truly difficult for First Nations to keep up their culture and livelihoods. Salmon had always been the fish that the First Nations survive on in this area. Both food fishing and commercial fishing still take place within the families. Agriculture is quite impossible in the area when thinking about the mountainous scenery and that is why fishing has such an important role. Like Brian Wadhams says in the interview:
"...my garden is the ocean. I don't grow anything on land."

5 RESULTS - OBSERVATIONS

5.1 Salmon

5.1.1 Spawning

A. Coon worries about the spawning beds of the salmon. There have been one-night rains that wipe out the spawning beds and destroy those. For the sustainability of the salmon populations this is a big threat. These one night rains have not been seen before in the area.
" Because what we see here too is when salmon do spawn, it won't last. One night rain will wipe it out... When the rain comes, it just wipes it." (Alfred Coon)

According to the British Columbia's Ministry of Water, Land and Air Protection reports prediction, increasing precipitation in the fall may occur in higher water levels and this may mean better conditions for salmon spawning and the development of eggs to fry (BCMWLAP, 2002, p. 16). So increasing precipitation might have both positive and negative effects to salmon spawning.

Water temperatures also have an affect to the salmon spawning. The water in the spawning rivers is sometimes too warm for there are no more glaciers and sometimes there is not even enough water in the rivers for the salmon to go up. All of the interviewees stated that parts of the glaciers have retreated and melted. This may have a very profound effect to the ecosystems around and in the rivers for the environment is dependant on the fresh water coming from the mountains.
" Well, it's difficult for the salmon itself. Because sometimes there's not enough water in the river to go up. Or the water is too warm and they can't go up. They don't go up...certain temperature when they do go up. And sometimes if it's too warm too long, they just die at the mouth of the river instead of spawning. But that's one of the effects warm weather has. And we don't get that much...what keeps...in the water because there are no more glaciers. And with the logging on the river, every time it rains it just floods through the river. There's no more hold bank with the trees that hold approximately 80% of that rain and gradually it comes down. But without the trees... And when it washes down to the river it brings the silt and then covers up the spawning beds of the salmon. They can't spawn there anymore. That's what I see today." (Henry S. Beans)

Also logging on the riverbanks has an effect to the spawning beds of salmon. According to Henry S. Beans the silt that comes from the logged slopes covers the salmon spawning beds and they cannot spawn there anymore.

5.1.2 Populations

Edgar Lansdowne says that the fish populations are different every year.
"Oh, they change every year. They are different every year." (Edgar

Lansdowne)

Both Henry Beans and Alfred Coon have heard that there has been so much fish and salmon that you could walk across the river on top of them. This is what they have heard. Alfred Coon describes fishing in his childhood plentiful compared to today's fishing.

" ... Like I don't think there has been too much loss of amounts. Mind you, before my time there used to be lots... I guess you can say you could walk across the river before. But that's before my time. This is what I used to hear. Maybe they were telling stories! ... " (Henry S. Beans)

" Fishing in my childhood was plentiful! When I was young, we... Our Grandparents used to say that you could walk on the river on top of the salmon, it was so plentiful! And it was so for months." (Alfred Coon)

According to Harry Mountain, there are both good years and bad years in fish populations. Before they were able to fish five days in a week but now the days have gone less. Whether it is due to quotas and permits or fish populations, it is a dramatical change.

"We used to have poor years and good times. But the most of the time when I was fishing... We used to fish five days a week when I first started out. Then it got to two days, three days..." (Harry Mountain)

According to Harry Mountain, everyone had a good sockeye year last year:

"But the sockeye was good last year. Our food fish. Thousands and thousands of them. Like everybody got their share, that food fish... Ever seen it like that since 1932! That sockeye last year. There was so much! Food fish... A couple boats loaded up in the straight around August. After that it disappears. It goes home to spawn, eh, sockeye." (Harry Mountain)

Sockeye is the most important food fish in this area. In food fishing the community works as one and even though you wouldn't have the chance to go fishing, the community shares its catches to all. So that everyone gets his or her share. It used to be so that the family or fisherman who could share the most was most appreciated eg. the leader in the village.

Beans doesn't see that there has been much of decrease in the salmon population. He feels that the difficulties in the industry are due to politics. Like he says in the interview, in the early days he could go fishing where he wanted and when he wanted to. Now he feels that the permits need to begged for. It is really sad that people who have been fishing for their families for long times are now pushed down by the governments to limit their actions in fishing.

" Like the salmon? It really fluctuates. Like up and down, with the air... They are more or less in four years cycles. And sometimes there is a disaster when these little ones are coming...expected too much. But I myself, I don't think we have had too much of decline on it. It's just politics...too much politics!..." (Henry S. Beans)

5.1.3 Effects of Fish Farms to Wild Salmon

The Atlantic salmon and the cross breedings with the farmed and wild salmon are also seen as new fish species. The fish farming industry started to farm Atlantic salmon in the area already in early 1980's and ever since that some escapes have happened. The farmed Pacific salmon may weaken the generic diversity of the wild Pacific salmon by cross breeding and endanger this way the survival of wild salmon.

" Since they brought the Atlantic salmon, and you know brown trout they used to call it... We got a cross breed there and mixture..." (Edgar Lansdowne)

Brian Wadhams points out the sea lice problem and the so-called sockeye disease. Both of these have evolved into problems in the areas where there are fish farms. He knows that

nature takes care of itself, and this is how it has been before. The sea lice attached to the salmon at sea and when salmon got to the fresh water the sea lice just died off, because they couldn't live in fresh water. But now the fish farms offer "floating hotels which are open 365 days of the year" to the sea lice. The sockeye disease (IHN disease) stays dormant until the salmon reach the rivers and streams when salmon are under stress and overpopulated and after this, outbreaks of this disease occur. According to Wadhams, the fish farming industry has turned IHN into a salt-water disease when there are million fish in a small area in the farms. He suggests that the government should realize that local knowledge could be used in solving these kinds of problems in cooperation with science. He thinks that it is just the basics of nature that needs to be understood and this requires just common sense. (Brian Wadhams, 2003) I agree with him.

Roy Cranmer tells that the fish farming industry in the area promised in the early 1980's that no escapes would happen and that the environment would not be harmed in any way.

But those have happened in his opinon. He feels that the people working in the fish farming industry couldn't care less what the locals have to say. (Roy Cranmer, 2003)

5.1.4 Effects of Logging to Wild Salmon Habitat

British Columbia produces more than 50% of Canada's timber and pulp. One-half of the world's remaining temperate rain forests are also in British Columbia. (Miller, 2000, p. 650) The unique environment suffers greatly and may even disappear due to the too-effective logging practices. Once the trees are cut away, the bare land is left with more runoffs and less diverse biota.

The productivity of river systems seems to have gone down from what they used to be. It has everything to do with logging. Logging on the sides of the rivers ease run-offs of the surface water and this has an impact on the river water.

" We had 188 rivers and streams in area 12, which includes parts of the mainland and Vancouver Island, that used to produce some kind of fish when I started skippering a boat, that would be in 1967. Out of those 188 we could only fish probably about eight of those, eight of those systems. And since then probably in the late 70's there's four of those systems that don't produce anything at all now. Nothing. And the only rivers that produce any fish in there now are the Kingcome system and Wakeman, Fraser Creek, Vinar Sound, Bond Sound, Thompson Sound, Sim Creek and Glendale Cove. There are three systems where we're fishing now, out of 188. That directly had everything to do with logging. And you know somehow that's the climate's in there somewhere and that logging somehow effects, you know...I don't know how. But it's pretty sad." (Roy Cranmer)

Also Henry S. Beans agrees that logging has a lot to do with the river water, for when it rains, it just floods through to the river. The river water gets all the silt and surface soil from the surrounding slopes and turn the water muddy coloured. The rivers where salmon go up to spawn are clear coloured and of certain temperature. With all this logging the rivers are in danger of getting "dirty" and this may have a straight impact to the salmon breeding and populations. Also Douglas Scow blames the logging industry for some of the changes in the rivers:

"...at Kingcome it's (the river) always up, eh? And it's kind of a multicolour. ... There are some guys that blame the logged valley up there, they logged it all out. And it damages the river I guess."

Wadhams has been working a lot in the river environment and he feels that the logging industry has not taken good enough care of the buffer zones that would protect the rivers from the silt piling and erosion.

"A lot of erosion. ... I swam down all the rivers and streams, basically three or four months in a year on a daily basis to see the logging that

is having a real impact on the riverbanks. You could see the changes in the rivers, the silt...and the sand, it just builds up to the bottom to one of the runs. You see the changes in the rivers in the way they floated in the past. There are a lot of changes due to logging. There's gotta be a buffer zone for at least minimum of 500 meters for any river or streams to really deal with these concerns, because when you talk about logging, there's no monitoring system. They seem to monitor themselves. It's really tough to deal with them, you know." (Brian Wadhams)

5.1.5 Effects of Warming Waters and Weathers to Wild Salmon

Eddie MacDougall feels that there is more salmon passing by because of the changed water temperatures and that in this way the changing weathers have made commercial fishing easier. The report of British Columbia's Ministry of Water, Land and Air Protection (2002, p. 4) tells also that the sea surface temperatures have increased on the coast of British Columbia. Measurements done on the coast of British Columbia between 1914 - 2001 tell that the sea surface temperatures increased by 0,9°C to 1,8°C.

" ...I think that the changing weathers have made the fishing easier, because of the water temperature we have more fish going through, for fishing commercially salmon." (Eddie MacDougall)

Sometimes the salmon return to the spawning rivers through the other side of Vancouver Island. This might be due to warmer summers and warmer sea temperatures according to Chas Coon and Douglas Scow.

"Salmon... I know, sometimes they go beside the Island when they get to spawn and the weather's too hot. It depends on the summer. They probably go deeper when they travel (Chas Coon). Yes, the water gets too warm (Douglas Scow). Yes, they travel deep in down, where they won't...it's too hot. Or it's easier to travel on the outside of Vancouver Island (Chas Coon). Yes, on the west coast (Douglas Scow). To get down to Fraser... I guess I heard that a couple of years ago... That they travel outside, because it was too hot that year (Chas Coon)."

Changes in the water temperature can cause serious changes in sockeye behaviour and movement as sockeye is the most sensitive one of the Pacific Salmon to water temperature changes. And these changes most likely have effects to fishing for it may make fishing more unpredictable for the fishermen.

The decreasing amounts of snow and ice may have influenced the rivers and waters of the area. Douglas Scow, Eddie MacDougall and Henry S. Beans all agree that the rivers used to freeze up before but not anymore. Beans remembers from his childhood that the rivers froze really fast:

" ... Like there were times when you did see like Knight Inlet river freezing up when the outflow wind...and it was pretty cold. And...not as much as it used to. Now this is before I can remember. My dad went up there; I don't remember what year, on his little boat. And he went trapping. And he went up the river and there was an outflow wind all of a sudden. And it froze his little boat in the river! And there were no radios and nothing to communicate with. Our family thought that he was just lost. Till finally in the spring he came back. He had just lived up there. Because they had houses up there for when they go up there in the spring for eulachons. So that's where he lived. And couldn't do anything with his boat because it froze in the river! But it doesn't do that anymore. It just lasts maybe one or two days or something like that to freeze. But that's about it." (Henry S. Beans)

Winters have got warmer according to all of the interviewees. This is easily seen and well remembered by the interviewees from their childhood. According to Harry Mountain there used to be lots of snow in his early childhood in the 1930's. Also Eddie MacDougall remembers snowy winters from his childhood:

" Well, I've noticed it's getting warmer and warmer and the winters

are getting wetter and wetter. Less snow than when I was a kid in the 50's. Middle fifties we had three four feet of snow here in Alert Bay. Every winter, and it lasted till the end of April. Not anymore, now we get a sprinkling." (Eddie MacDougall)

Wadhams agrees also that snow comes just in sprinkles nowadays if it comes at all. The decreased amount of snow is seen strongly in the scenery. As Scow tells in the interview, the mountaintops near-by are lacking the snow cover that used to be there.
" That's pretty changed too. We don't get snow here. Well you take a look at these mountains now. There's no snow on the mountaintops. There used to be lots of snow." (Douglas Scow)

Scow has also noticed the decreased amounts of snow in southern parts of the area. He feels that the creeks around that area are dying because there is not enough melting water coming from the mountains down to the creeks. Both Oxley Alfred and Chas Coon agree strongly with Scow on this issue. This may have an effect to the fish and other species whose living environment is there.
" But today, now, there's absolutely nothing. I used to go down the island and look at the creeks. This side of Woss and around that area, they are just drying out because there's no snow in the mountains. That's a pretty sad sight." (Douglas Scow)

Wadhams thinks that the changes in the winters affect the fish. He states that the time when fish, like herring, come to the area is affected by the winter - whether it is a cold or a warm winter.
" ...before in the wintertime, like I said, there used to be a lot of snow. We don't seem to get pretty good winters now, especially this year. That's what makes the changes in the fish also... You know, cold winters, herring and others will come later..." (Brian Wadhams)

All of the interviewees agree that there is less snow than before. It has changed during the last few decades considerably. Nowadays the area gets little or no snow at all during the winter. The report of British Columbia's Ministry of Land, Water and Air Protection does not tell any specific information on this about the area, which is strange in my opinion. If the local observations are this strong and from this long time period, why isn't it in the report? Snowfall is very important for the local ecology, for it provides fresh, cold enough water for the species that need it for survival as it packs to the mountains and land and melts down to the streams and rivers.

The effects of warming weathers are also seen in the glaciers. And this may also have an impact to the ecosystems of the area. When and if the glaciers retreat, it causes changes in the flow patterns of the rivers and streams that get the melting waters in to them. (BCMWLAP, 2002, p. 21) This may effect the environment in the streams for the cold water coming from the glacier may decrease and change the temperature of the water. Not to mention the unclearness that Alfred Coon mentions.
" What I've noticed now here is that Kingcome has changed big time. In the early 1950's and 1960's the body used to be so clear. But now you see the glacier, it's melting so fast. Glacier water is just... But only time you can really see clear water in bottom in glaciers... But it doesn't last very long. It disappears. To really see it you have to fly to these glaciers very close together here... You can really see it in Knight Inlet and Kingcome. The glacier is way up here. In Kingcome and Knights where you see the glaciers are really going down." (Alfred Coon)

Beans' brother has seen himself the retreated glaciers. The glacier that was before seen from the river in Knight Inlet has retreated by two mountains. So the evidence is very visible. The Ministry of Water, Land and Air Protection mentions

in its report, that between 1895 and 1995 the glacier Helm in south-western British Columbia retreated by at least 1100 metres (BCMWLAP, 2002, p. 20). These sights are clear examples of the melting glaciers and warming temperatures in Beans's opinion and in my opinion too.

" We go to Knight Inlet almost every year and 1964 we went up, up to where the glacier is and we could see it from the river. And now three years ago, my brother went up there and it's two mountains back! That glacier that we used to see from the river, it has melted that much. Gone back approximately two mountains, peaks or points. So it's definitely warmer! ... We never get cold anymore." (Henry S. Beans)

5.1.6 Effects of Commercial and Sports Fishing to Salmon Populations

According to Wadhams, there is a change in the fish populations. Also like C.Coon said, there are the good and the bad years. Overfishing worries Wadham. He sees that the sports fishing industry has a big influence on the stocks and that the industry is underestimated. It does truly seem to take a big part of the salmon, over 300 million fish in a year!

" Population? Yes, there's so much change in it. I don't know if it's due to overfishing. A lot of the focus is on the, that commercial fishermen are deteriorating the wild stocks in BC but I really don't believe that's true. All the times I've been fishing, you've had the good years and you've had the bad years. But one of the things that never get looked at is the sports fishing industry. When you've got 400 000 anchors in Canada alone, and not counting the Americans and who ever comes to Canada, what impacts are they having on the wild stocks. You know, they fish seven days a week for at least four months of a year times that by seven fish a day and 400 000 anchors, my God, that takes a big bunch of the salmon! That's really frightening to me." (Brian Wadhams)

Beans feels that the fishing industry wants to push the First Nations out from the fishing industry. According to him it seems like the fishing industry would like to close down all the commercial fisheries on the coast. He himself has started fishing with his father when he was six years old and learnt everything on the boat by watching his father. Nowadays learning by doing does not happen for there are no more boats. (Henry S. Beans)

Commercial fishing here has been family centred in the past and there is still will to continue it. But if the commercial mega-fleets overcome the family-centred fishing, it is going to become non-sustainable. Some of the interviewees stated that the Department of Fisheries and Oceans does not play fare. Some interviewees think that DFO directs the regulations to the wrong way - to the First Nations. And not to the commercial fishing industry who bring the big bucks to the province. (e.g. Wadhams) Roy Cranmer tells that there has been an ongoing fight with the DFO as far as he remembers because he feels that the DFO just cannot manage basically anything (Roy Cranmer). He tells that the fishing industry in the area started going downhill in the 1970's.

5.1.7 Future Thoughts on Salmon Fishing

Nowadays the fishing season is shorter than in the old days according to Scow. It may be also because of the fishing permits that are given that limit the fishing season.

"Boy, we used to fish until October! Dog salmon. Not today, no." (Douglas Scow)

According to Wadhams, the average age of the fishermen is now 55 in the area, and he thinks that after ten years, there will not be anymore commercial fishermen who would know how to fish. He is afraid that the industry will turn into a hobby. He feels that the quota system decreases the interest of young to start in the industry, because one would not make a living with it. He himself has tried to encourage his sons to come along to fishing, even food fishing, just to get the

experience and carry on the traditions that they have. (Brian Wadhams, 2003) Harry Mountain and Alfred Coon think that the young in the area just don't want to fish anymore, that there is no interest because there is no future for the industry because of the way things are going right now (Alfred Coon, Harry Mountain, 2003).
"To me if we're not careful this will become just a hobby for a guy who's been doing it all my life, and that really frightens me." (Brian Wadhams)

"...kids...they don't want to fish anymore." (Harry Mountain)

Cranmer feels that the young in the area don't want to fish anymore because they are not going to make any money with it. And that is sad. If one cannot make a living with his work, what is the point?
"Since probably the 70's when fishing started going downhill, we find very few young guys now wanting to go fishing because they've seen what's gonna happen. They're not gonna make any money now." (Roy Cranmer)

Beans thinks that the fishermen on the coast have been more or less pushed out of the industry and that there are no more fishing boats. It seems to him that the commercial fisheries are tried to close down on the coast. (Henry S. Beans, 2003)

5.2 Other Fish and Marine Life

5.2.1 Eulachon, Cod and Halibut
Eulachon (or oolichan) has been called as the little saviour within the Nisga'a because they arrived in March and April before the salmon, and sometimes even before the ice broke on the rivers. This made it possible for the First Nations to survive from the long winter. (Coull, 1996, p. 16) Eulachon travel from the river to sea and back and it depends greatly on the tides, for it is a weak swimmer (Coull, 1996, p. 16). The cultural importance of eulachon is large. The fish is either eaten as it is or oil is made out of it. Barb Cranmer has made a stunning documentary film of the making of the oil (B. Cranmer). The oil is used as a medicine, as a delicacy or condiment into which eg. salmon is dipped into and as a preservative. It has been one of the most important trading goods in the coast-interior trade at the "grease trails" (Coull, 1996, p. 16). But it is not just the material importance of the oil or eulachon that is important. The families have gone in to the Inlets of Kingcome and Knight for ages in the spring to fish eulachon and make the oil. Every family has a place of their own there and children learn by watching and doing from the elders.
" Knight Inlet, we go there every spring. That's where the eulachons are and we make oil out of them." (Henry S. Beans)

Eulachon has a very important cultural role with in the Kwakwaka'wakws. Families have their traditional places in Knight Inlet and Kingcome Inlet where they go to in the spring time and fish eulachon and make "t'lina" oil out of the fish. This oil has been their medicine and food for ages.
" Eulachons were good last year. Everybody got their share last year. It's Knight Inlet and Kingcome. They go up, the eulachon." (Harry Mountain)

What Beans fears is that the rivers where the eulachon go to are getting more run off from the slopes that have been logged off. This turns the rivers water muddy and the surface level rises. He feels that this might have had an influence already on the eulachon population for he says that now it's just a fraction of what it used to be.
" ... Once we go up to Knight Inlet in the spring, the eulachons... We aren't getting as much as we used to before. And that comes back to what I was telling you about the no

logs in the riverside anymore and it all goes down... And sometimes the river will be four feet high and it usually is for the eulachon to go up... and muddy. That would affect, that's the effect I see today. And in the earlier times we used to go up there, there was quite a bit of eulachons there before. Now it's just a fraction of what it used to be." (Henry S. Beans)

Wadhams tells that the river water temperature should be of certain Celsius before the eulachon go up. He feels that the melting glaciers have an impact to the water flow coming from the mountains and that the decrease in that has risen the river water temperature. This is also what Beans told about salmon.

" ...but when it's warm, they (the eulachons) seem to come earlier, that seems to be what's happening right now. This year they, for some reason the eulachons came back on time, but the herring were quite early again, so that's the kind of things you notice in the weather. I don't know whether it has got to do with the water flow coming from the glaciers, there should be a certain temperature before they go up the river, so you know the more ice melts." (Brian Wadhams)

Both Beans and MacDougall believe that the cod population has got smaller because of overfishing. The places where they used to go food fishing for cod have not got it anymore.

" I think we've lost quite a bit of our cod through commercial cod fishing here. We don't have very much left of cod. I used to be able to go to the next island here and go and get three our four for my meal. Now, I can't get it anymore." (Henry S. Beans)

" I think probably the cod has got smaller in population, because of the over fishing, I would say." (Eddie MacDougall)

Cranmer has noticed also the disappearing of cod. He believes that it might have something to do with the fish farms. Cod is a bottom fish and the waste that is dumped from the fish farms surely affects the cod somehow.

" And there are places in there where we used to go up for cod. You can't find a cod anywhere in there. So I don't know whether that's kinda goes relation between that because some of the places are really close to a farm." (Roy Cranmer)

MacDougall says that red cod is one of the best fish and that it is very tasty. He tells that it has been over fished and that he hasn't had one of those in years. The variation of the fish diet that they use is wide as we can see. Therefore it is very worrying if part of the diet disappears like the cod.

" What's the best fish? I has to be sockeye! Halibut also, red snapper. It's a red cod. Comes in different sizes, very tasty... I haven't had one of those for probably ten years, it's over fished." (Eddie MacDougall)

5.2.2 New Fish Species

Some new fish have been seen in the waters. Whether it has been due to warmer waters or whether it is just coincidence, we don't know. There have been sights of new fish species like the sunfish, shiners, sharks and porpoise.

" No, just a couple of years ago there was a kind of a warmer summer and that warmer water from outside didn't move in here and we actually saw a sunfish in here. You usually see that in the warmer climates. Yeah, but that was the only time." (Roy Cranmer)

" ...the dolphins or what they call dolphins. Or porpoise. In the 1950's I never used to see them. 1950's and 1960's...because the change of the water temperature and things like that from the ocean. Years ago they never used to see mud sharks. They came in the 1950's - 1960's... And new species, the Atlantic." (Alfred Coon)

The area where people go and fish is quite large and changes are seen everywhere in the area. El Niño is one of the reasons that Wadhams suggests behind the change. In an El Niño year the sea surface water is warmer than usual (BCMW-

LAP, 2002, p. 33).

" God, it's really hard to tell, I don't know what they are. I don't know if it's a shiner or whatever it is, but it looks like a tropical fish. I don't know what their names are, but it

looks like a big goldfish. You know, we're catching stuff like that. But that was the time El Niño was here, so I thought that's what really pushes them in. And blue sharks, no, I mean white sharks that we've never heard from are coming to BC. ... Not around here, around Queen Charlotte and stuff like that." (Brian Wadhams)

5.2.3 Clams and Seaweed

Beans, A. Coon and Cranmer are sure that the fish farms affect the clams in a harmful way. The clams used to be of nice white colour and big but now they are of dark brown colour. Waste from the fish farms thrift to the beaches with the currents and tides and this has a negative influence on the clam populations like Cranmer says. The First Nations in this area have gone clam digging for ages and this has a strong cultural importance in their life. Now it is threatened.

" All the sea life around that facility would be affected with what ever comes out of those fish farms there that affect the clams. Talking about the clams...we used to get these clams that were so full and very nice colour. And now you get them dark brown inside of them, the shell. Why?" (Henry S. Beans)

" What fish farm industry didn't really do was consult with the first nations for the clam beds. When current flows, where does it go? To the beaches. And you have to...clam beaches are just around the corner. That's where you notice the black and the white clams." (Alfred Coon)

" You can't dig up a clam now where those farms were. They just completely wiped out the clam population." (Roy Cranmer)

Scow thinks that in addition to clams, barnacle and seaweed are also disappearing from the area. He guesses that this is because of the fish farms or just generally changes in water. Seaweed for example is used a lot in the traditional food in the area.

" And even the clams and barnacles and sea weed, they are all disappearing. Because of the... I don't know, water I guess, fish farms. Some beaches in our territory, there's mussels and barnacles, sea weed..." (Douglas Scow)

Mountain has seen that the clam beaches have turned to muddy. This is perhaps due to the pollution that kills the clams.

" Some of them clam beaches are dead now. All muddy." (Harry Mountain)

5.3 Other Animals

A healthy, sustainable ecosystem provides species food and habitat. Salmon in this area make the environment specially unique, for as they go up to the spawning streams and die, they nourish the living environment. The dead salmon is eaten by for example bears and eagles and the carcasses offer their share to the nutrient cycle of the environment on the banks and to the surroundings - from the smallest insects to the tops of the food chains.

Also other animals than salmon have a big importance to the Kwakwa̲ka̲'wakw culture. Bears for example have been in an important cultural and historical role in the area. According to some of the traditional stories, some families in the area descend from grizzly bears, killer whales and wolf.

5.3.1 Mammals and Amphibians

Cranmer hasn't seen any grizzly bears in the year 2003 in Knight Inlet where there usually are grizzlies. He has been used to the bears making noise in the night time in that area. He guesses that the reason why they have disappeared is due

to poaching. Grizzly bears are on the "Blue list" according to the 1993 information in British Columbia and this means that they are vulnerable or at risk (Harding & McCullum, 1994, p. 21).

" Again, up Knights Inlet, when we used to go up there, we used to see grizzly bears. There's fairly big flats up there, you know, where the river is and there was nothing to see eight or ten grizzly bears in the flats in the morning. Now this year we never saw one, not one grizzly bear up there. I don't know whether it's due to poaching, probably, you know, but something has happened to them up there. But there seems to be more black bears up there now that have taken over grizzlies I think. ... Cause there's a little village up there...but there's about ten little shacks up there on the island and before you could hear the bears wandering around at night. They don't bother anybody, they're just checking things out. But not this year. We left the Inlet fairly early and those guys stayed behind, about three weeks after we left, and never saw a bear up there." (Roy Cranmer)

Alfred Coon comments that the bears and peoples relations in the area are on the trial because of logging practices that drive the bears from the upper forests downwards to the reserves. The wolves on the area have gone less in population clearly and that too is due to logging practices in his opinion. The regions where the wolves move and hunt are getting smaller and the same reason drives also the cougars closer to the reserves.

" What's happening at Kingcome and the way we saw it... The grizzlies and the black bears are moving to the reserve. Because of the logging practices. So they go further down...no place to go. And the deer and the wolf they are almost extinct because of the logging practices. No place to eat. ... And when they see cougars moving in, they ask where did they come from? It wasn't here before. It could have come over the mountain." (Alfred Coon)

Beans feels that there is a loss in grizzly bear population and that it may be due to trophy hunters and poaching. He and his family even recognize individual grizzlies and notice if an individual is missing. And that happened in Knight Inlet with them.

" Well bears, yes. I'd think we're losing some of our bears; I'm talking about the grizzly bears. But there's still an abundance of black bears this year... I think that there's quite bit of... I'm talking about this place I usually go to, Knight Inlet. We had...I wouldn't say pets, but we used to feed this great big grizzly bear with a light circle on the side. That was the identification to that one. Every year it came. It kept coming...of course with trophy hunters, you know. It's very sad that I can't proof that so and so did it. But it's not there anymore. It's very sad when they do that...why... But there are lots of black bears." (Henry S. Beans)

MacDougall feels that he is not spending enough time out on the land to see changes in the bear populations, but he has a feeling that both the black bear and grizzly bear populations have increased a little bit. Also Scow has a feeling that there are plenty of both black and grizzly bears. Scow thinks that there are also a lot of wolves on the area.

" Yes, there are a lot of bears and wolves. Both grizzly and black." (Douglas Scow)

The Kwakwaka'wakw territory is quite large and observations of the bears are not from just one place. Both increase and decrease in the bear populations are possible as they are dependant on the place of the observation.

MacDougall has been hunting a lot and he has seen the moose population getting less and less every year. According to Environment Canada, Roosevelt Elk is on the Blue List. Perhaps this is the same species MacDougall refers to.

" It depends if it's a good year or a bad year, whether it's been logged off or burned. But over the years for my moose I think we've seen less and less where we go." (Eddie MacDougall)

Cranmer has noticed also that the mountain goats have disappeared. To which goat or sheep subspecies he refers, I don't know for sure. But according to Environment Canada, there are three sheep species on the Blue list and one on the Red list (Harding & McCullum, 1994, p. 17 - 21).
" I've noticed also that our goats, there used to be a lot of mountain goats all around the...we never saw one this year for some reason." (Roy Cranmer)

Alfred Coon tells that there used to plenty of frogs but not anymore. His opinion is that they have disappeared because of changes in the climate. According to Environment Canada, there is one frog species on the Red List and one on the Blue List (Harding & McCullum, 1994, p. 17 - 21). A. Coon states also that the beavers have disappeared. Mountain Beaver of *rufa* subspecies is on the Red List of Environment Canada and Mountain Beaver of *rainieri* subspecies Blue List of Environment Canada (Harding & McCullum, 1994, p. 17 - 21). Coon thinks that deer has vanished from the area due to bad logging practices and that the logging industry just wipes everything away on its way from the area. There has been a lot of logging in the Kwakwaka'wakw area and one can see it clearly in the landscape.
" And we used to have lots of frogs. That's gone. Because of the climate. And the beavers, that's gone too. And the deer because of the logging practices. Everything's being wiped out." (Alfred Coon)

MacDougall hunted seals and sea lions in the summer and springtime when he was a child. He thinks that there is an increase now in their populations and that it is because of the fact that they cannot hunt them anymore. Some of the interviewees felt that the increase in seal and sea lion populations was because of the fish farms - there is now more food for them because of the escapes. According to Environment Canada, the populations of northern elephant seals, harbour seals, Californian sea lions, Stellar sea lions and killer whales are stable or increasing (Harding & McCullum, 1994, p. 296).
" Seal and sea lions... Well, I think there's probably an increase in their populations. Because we can't hunt them anymore, so they are multiplying faster and faster." (Eddie MacDougall)

5.3.2 Birds
Cranmer has noticed a big change in Knight Inlet's eagle population. It has decreased a lot from what it used to be. On the other hand he has noticed a few more eagles in Alert Bay. The found out that the eagles are attracted by a "mort farm" in Beaver Cove, where the dead fish from the fish farms are dumped.
" I haven't noticed it so much here, but when you go up to Knight Inlet I noticed a big change up there, there's not so many eagles up there as there used to be. They used to have thousand plus up there. Last few years we've been going up, we're lucky to have a couple hundred there. I don't know where they've gone, but they certainly aren't there. But I've noticed there's few more eagles flying around here though..." (Roy Cranmer)

MacDougall has noticed that the eagles have become hungrier and that this might be due to the diminishing salmon populations in the small rivers:
" I notice the eagles are getting hungrier. And the ravens. Maybe that's because there's no more salmon in our rivers, in the small rivers. So they have to come out more and more..." (Eddie MacDougall)

This might be a reason for why there are less eagles in Knight Inlet as Cranmer says. They are talking about both bald eagles and golden eagles. Bald eagle is on the Blue List of Environment Canada and therefore it's at risk (Harding & McCullum, 1994, p. 21).

But this is not the case in Alert Bay as Beans says. And

you can see this clearly on the Cormorant Island - there are plenty of bald eagles now.
" Not the eagles, no. There's always been a few here. I used to wonder why, when I heard it in the news, that it's becoming extinct... We've always had plenty of eagles." (Henry S. Beans)

Scow thinks that there are more both eagles and cranes in the area. In the Cormorant Island surroundings cranes are quite common to see.
" There are more eagles and cranes." (Douglas Scow)

Harry Mountain thinks that there are hardly any ducks around. It might be because of what Lansdowne thinks. In his opinion the ducks have got smarter and that they have learnt self-preservation during time. He used to go hunting them and it was easier then. Now the ducks don't gather up that much as before.
" Yes, the ducks got much smarter. ... They keep guard and they scatter out. In the old days when they had musket loaded like that... If you shot a duck and left one out there, the other ducks would come and see what it all was about! They'd gather up. Now they scatter out! Yes, they are much smarter. ... Well, self preservation." (Edgar Lansdowne)

Scow thinks that the reason behind the loss of ducks is oil spills.
" Well those oil spills they really kill them out, out there. Where I come from, a village on the main land, they've got a big lagoon just there beside the village. That place has a lot of wild life, ducks and everything! Eagles... There's absolutely nothing now. " (Douglas Scow)

Scow and Mountain have both noticed that there are less robins and humming birds around. MacDougall and Beans both think that the robin and humming bird population changes depend on the year, whether it is a cold or a warm year from where they come to the area.
" I noticed that these robins are disappearing. There's hardly any ... They all used to come to the... They were all over the place! But I don't see it now. Well, there's few of them, but not that many. A few of them hopping here." (Douglas Scow)

" They were around for a while and then they are gone. The humming birds are gone. There used to be lots of them!" (Harry Mountain)

What ever the reason behind the change in the migratory bird population is, Wadhams worries about the future. Wadhams remembers clearly the huge amounts of migratory birds there was at the Nimpkish River when he was a child. His biggest worry is that that kind of thing will never be seen again when the birds don't come there anymore. Environment Canada suggests that forestry, pollution and oil spills are the most important reasons for decreasing bird populations (Harding & McCullum, 1994). But because Wadhams is talking about the migratory birds, the reason for their disappearance can be somewhere else.
"... To tell you the truth, when I was a young kid, the Nimpkish River over there used to have thousands of birds. Thousands. Ducks, geese, everykind of duck and goose. It was amazing, when you watch those African shows where all those birds fly. When I was a kid, I used to sit on the sea wall and watch them all. And you would see thousands of them. Now you're lucky to see hundred of them. And that's the changes I see, I don't see different species coming, but I see the ones that used to migrate through here gone. I don't know if there are too many hunters or everybody just loves ducks and geese now. That's my fear, that that's gone and we'll never see that again." (Brian Wadhams)

5.4 Reasons for Change?
I wanted to find out if the locals had any suggestions behind the changes in the environment and here are a few examples below. Some accuse the politicians and the fish farming in-

dustry, some climate change and logging industry. Most of the interviewees felt that they have no saying in any of these reasons behind the changes.

"Politicians! Big time. You don't have a say. It's like fish farms and logging who control big time. It's like fighting the fish farm industry... It's just like that, the way it is." (Alfred Coon)

"The climate change changes everything big time. You see it all over the world. Because we don't have any control. We don't have a voice." (Alfred Coon)

What ever is the reason for the changes, the most worrying thing in my opinion is the fact that Beans points out. He feels that the traditional ways of the First Nations in this area are jeopardised because of the regulations and the humiliation that comes from it. They are not allowed anymore to go and fish for food when they need to, but they are forced to go and beg for the possible permits. If I were a young fisherman in this situation, it wouldn't attract me neither to continue fishing and carrying the traditional ways of the families. There has to be a change in this proceeding.

"As an elder I don't like to be told not to go and not to do this. And now... It was free, I can do anything I wanted...where I wanted to get my fish from, where I want to get my meat and where I want to get what ever I want...in the early days. Now, more or less you have to go holding your hands that please mister, can I get something to eat? It hurts me. To see what's happening to our people here. It's almost like they've pushed us in to a corner and say you stay over there and don't say anything." (Henry S. Beans)

All of the above mentioned reasons for the observed changes are wide concepts and not easily changed to better. In my opinion, the locals should be among the decision-makers so that their opinions and knowledge could be heard and taken into use too.

6. DISCUSSION

According to the British Columbia's Ministry of Water, Land and Air Protection, the *average annual temperatures in BC have increased by 0,6°C - 1,7°C* (BCMWLAP, 2002, p. 4). This increase in temperature is clearly seen also in the local observations as less snowfall, ice and melting glaciers. All of the interviewees stated that there is no more snowfall as it used to be.

The interviewees had also observed the retreating glaciers and rivers becoming ice-free earlier, like the report of British Columbia's Ministry of Land, Water and Air Protection tells. These may have lead to changes in salmon spawning and eulachon rivers, as the water has to be of certain temperature and clear for them to go up and spawn in it.

Potential bacterial and fungal infections may also occur due to warmer river waters as in Fraser River (BCMWLAP, 2002, p. 29).

Precipitation has increased in southern BC by 2 to 4% per decade (BCMWLAP, 2002, p. 4) and the local observations support this strongly. When talking about the salmon habitat the increased precipitation combined to other factors like logging on the riverbanks has had and will continue to have strong impacts to it.

The warming *sea surface temperatures* were seen in the local observations in salmon movement and the report tells that sea surface temperatures have increased along the coast by 0,9°C to 1,8°C (BCMWLAP, 2002, p. 4). It has been studied, that many animal and plant species are reacting to climate change by moving to new habitats or by making their spring activities earlier (WorldWatch Institute, 2004, p . 20 - 23). Perhaps these signs are also seen in salmon and other animal species in the Kwakwaka'wakw area.

As the biodiversity report states, generic diversity of salmon stocks is decreasing (Harding & McCullum, 1994, p. 296). With less productive, healthy rivers and streams, there

are fewer habitats for spawning salmon. And this is what the interviewees have seen. The rivers are less suitable for wild salmon stocks. There are many reasons behind this according to the locals, such as logging, less runoff water from the mountains, diseases, etc.

British Columbia is the most bio diverse province in Canada as the Environmental Canada's report states (Harding & McCullum, 1994, p. 1) and changes in many other animals than salmon are seen too. Beavers and goats have disappeared from the area and changes in the grizzly bear and bald eagle populations have been seen. Both grizzly bear and bald eagle are on the Blue List of Environmental Canada. The changes in the populations may be due to many reasons, just like with the salmon. If the tops of the food chains disappear from the area, it most likely is a sign that there is something badly wrong with the environment.

When compared, the results of the biodiversity-report and climate change-report and the local observations go hand in hand in some parts. In some parts they don't. I think that the local observations and knowledge should be taken more into consideration when talking about salmon and marine ecology.

7. CONCLUSIONS

Logging, fish farming, climate change and politics are raised here in this study as the most significant reasons for changes in the environment and salmon. Which one has the biggest impact to the environment I don't know. All of them have had and will continue to contribute to the environment in one-way or another. Like Terry Glavin writes:
"Changes in climate may have as large an impact on our salmon as the direct effect of our fisheries". (Glavin, 1998, p. 8)

And as we can see from the local observations, fish farms have had a huge impact to the environment and also to the culture of the area.

More specific studies should be made about this in my opinion and in more specific areas in the Kwakwaka'wakw territory (like in Kingcome) to get a better picture of what has happened in the area. The nature and environment varies a lot in the territory like when comparing the open sea environment to the inlets environment. But the most important thing now is to prevent more changes from happening, for they may have a profound negative impact to the environment, economy and even culture of the area. In this prevention, the local knowledge should be taken into account and the interviewees could tell what is really important or of concern in their opinion.

The governments should recognize the value of local ecological knowledge and also realize that common sense and living with the environment are the best ways to know what is happening out there in the environment. Locals should be taken in to the decision-making and their message should be listened to.

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The Heartbeat Of First Nations

By Albert Morrison-Hayward

The drum is the heartbeat of First Nations, it is vital to aboriginal culture; through our songs we relate information about our culture and our history. It is a mechanism that allows for us to pass along our culture, to teach as well as entertain the younger generation so our legacy may live on. Traditionally, our history was passed on orally, nothing was written down. On the northwest coast of British Columbia, this has always been done through devices such as legends, but it has been done primarily through songs in the potlatch. During my time on Vancouver Island I learned a significant amount of songs and as a result learned a lot about the potlatch and First Nations culture as a whole. Just as books are to us today in the school systems, our songs are to First Nations in our long house.

When I first arrived in Victoria I was not at all familiar with my Kwakwaka'wakw heritage. However, after boarding with Kwagiulth relatives of mine I grew familiar with many aspects of traditional Kwakwaka'wakaw culture and they all centered around the potlatch. The potlatch involves every aspect of our traditional culture: language, song, dance and art. The songs tell stories of our origin, our practices and our history, the most prominent being the Hamatsa ceremonies. When I witnessed my first potlatch most of the events were unfamiliar to me, but I asked a lot of questions and learned a lot of what was going on. It was unforgettable and it inspired me to find out more about the culture.

I started learning Hamatsa songs, and others such as Tla'sala (Peace Dance) and Amlala (Fun Songs) and I also had an opportunity to make a drum of my own. Hand drums have become commonplace but in a Kwagiulth big house a

log drum is used. It produces a much different sound than a drum made out of hide; with a hand drum you hear a ring that resonates and harmonizes with the human voice, but with a log drum the wooden batons strike it and you hear a dull crack; a much sharper, punctuated sound. It is an unmistakable sound and I believe it also creates more cohesion among the singers involved as they are all sharing the same drum.

I also learned a part of the Kwakwala language through learning the songs. When I first started learning I had a lot

of doubts as to my ability to sing, hold a steady beat and remember words. After a significant amount of practice I found I could handle it all well, even better then I expected. Since I did not grow up speaking any Native language it was a little difficult to remember a lot of the words but as I learned more of the language outside of singing it became easier to remember. Kwagiulth songs are complex arrangements, often with multiple beat and tempo changes but through practice I built my confidence and, as a result, a fair repertoire of songs.

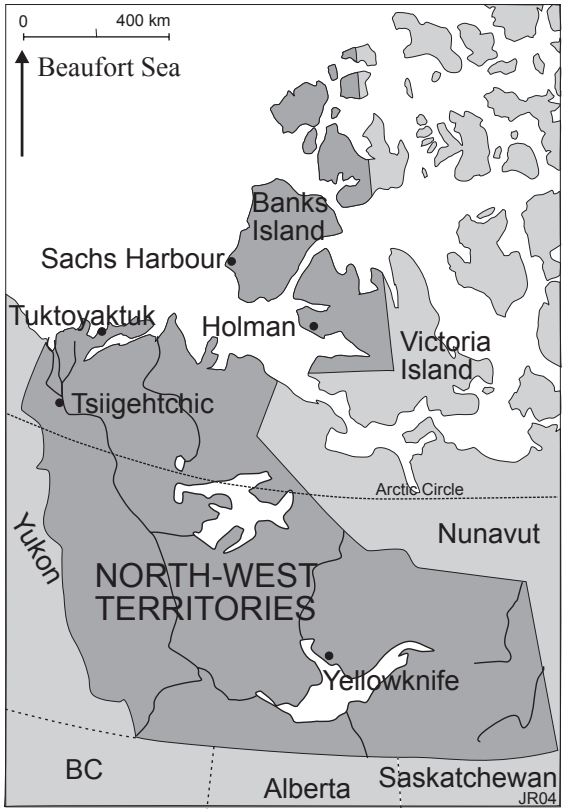
All of this helped a great deal when I moved back to my home territory of Kitamaat Village, which is the home of the Haisla First Nation. I became part of a drum group here and learned the songs quickly. It was ironic that I found I knew more of my Kwagiulth culture now than I did of Haisla, the territory that I was born in. That knowledge has made rediscovering my Haisla heritage easier as I have something to compare it to and have noticed many similarities between the two cultures as well as differences. A lot of words in the two languages are similar, some are even identical and I find I've been learning on the basis of comparison.

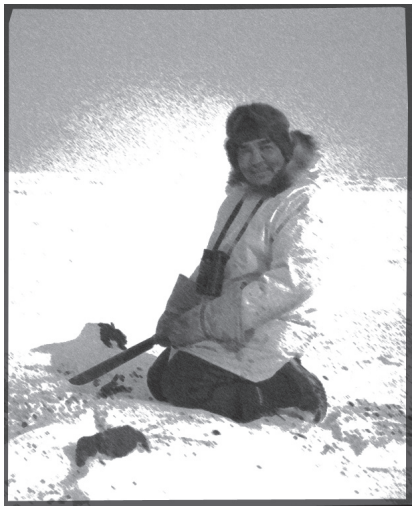
Along with drumming, traditional Northwest coast Native art has had a significant impact in my life as an artist. In fact I'd say it's been the most influential aspect of my life. It was what started me on my road to cultural discovery, everything I've learned has had its roots in traditional northwest coast Native design. I started learning the craft in secondary school, I studied it from grade nine straight through to grade twelve and continued to study it on my own after graduation. When I started my post-secondary education I continued to absorb more of the traditional art but also broadened my horizons by learning more contemporary Western art techniques, history, and theory. Possibly the most important lessons I learned were of color theory as I have always worked diligently at making my color schemes harmonize. I learned a tremendous amount about mixing paint and I believe this has aided significantly me today as most of what I do now is computer graphics. No matter what technique I was learning, I always applied it somehow to my traditional design style.

Much like our design form, songs are composed of standard building blocks. Whereas native design incorporates ovoids, u-forms, and split u-forms; songs are built around drum beats, language and vocal harmonies. Styles vary from tribe to tribe, but the fundamentals remain the same throughout on the Northwest coast. Both music and art are universal and prove to be great learning tools, they have taught me much of what I know of both sides of my heritage.

It is no coincidence that I learned a great deal in the long house, as that has always been our place of learning. I've absorbed a considerable amount of knowledge from both sides of my heritage through art and through the beat of the drum; I continue to learn, and will do so for as long as the heartbeat of our nation carries on.

The Northwest Territories





Inuvialuit Observations On Climate Change

John Keogak, Community of Sachs Harbour, NWT, Canada.
Speech from the Snowchange 2002 Conference

Observations by the Inuvialuit of Sachs Harbour support what has long been predicted that climate change would be felt first in the polar regions. This community's way of life will forever change, an urgent warning of the negative impacts of Global warming to occur elsewhere in the world.

This project documents the impacts of climate from an Inuvialuit perspective. On Banks Island in Canada's High Arctic, the residents of Sachs Harbour have witnessed dramatic changes to their landscape and their way of life. Different species of insects, fish and birds have been observed or harvested. The sea ice is thinner, the permafrost is melting, high water levels causing erosions on the coast lines. In the fall, thunder and lighting, gale force winds, have become more frequent and severe making hunting more difficult.

This year long project was initiated by the International Institute for Sustainable Development and the Hunters and Trappers Committee of Sachs Harbour to document the problem of Arctic climate change and communicate it to southern Canadian=s and international audiences. The project team worked in partnership with specialist from five organizations to develop an innovative method for recording and sharing local observations on climate change. During the year long initiative, the project team produced a video and several journal articles to communicate the negative consequences of climate change in the Arctic and understand the adaptive strategies that local people are using in response. The voices of the Inuvialuit of Banks Island, and the beauty of a fragile and bountiful land leaves us with a clear understanding of what will be lost if climate change is allowed to continue.

Two versions of the video have been produced. A 14 minute package captures the intensity and challenge of climate change in dramatic fashion. The longer 42 minute version includes additional, in-depth observations of climate change including the appearance of salmon, barn swallows, and robins, the impacts of muskox and geese. Interviews with science team members, archival footage and more.

This project was made possible by the support and initiative of the community of Sachs Harbour and through financial contributions from: The Climate Change Action Fund, The Walter & Duncan Foundation; Indian and Northern Affairs Canada; and the Government of the Northwest Territories. Generous in kind support was given by the Hunters and Trappers Committee of Sachs Harbour; the Inuvialuit Game Council; the Inuvialuit Joint Secretariat; the Inuvialuit Communications Society; the Natural Resources Institute; University of Manitoba; the Department of Fisheries and Ocean; the Government of the Northwest Territories; and the Geological Survey of Canada.

Speech in the Snowchange 2002 Conference

Norm Snow, Executive Director, Joint Secretariat, Inuvialuit Settlement Region, NWT, Canada,

Ladies & Gentlemen

It is indeed an honour and a pleasure to be here in Tampere. We would like to thank all those people who have worked so hard to make this gathering possible - especially Tero Mustonen.

The Inuvialuit - the Inuit of the Western Arctic - have been noticing that their climate has been changing very dramatically over the past 10 years. Their observations continue to be documented and you will hear more of these later from John Keogak. They include range extensions of southern species and altered distributions of Arctic Species, but by far the most profound change is to be seen in the thinning and shrinking of the extent of Arctic sea-ice.

This is particularly of concern to the Inuvialuit because a large proportion of their resource species are tied to the sea-ice.

A global increase of 5 0C is difficult to comprehend but a threefold increase in that figure, as predicted by some will be the case for the Arctic, will have effects which are almost unimaginable.

The Inuvialuit will of course adapt to such changes, as they have so done for thousands of years, but to do this expediently, they will require assistance from all levels of government:

- internationally - to reduce the anthropogenic sources of CO_2 and other greenhouse gases.

- nationally - to divert more federal financial resources to northern regions in order to be better prepared for radical changes.

- territorially - to develop the necessary infrastructure, and undertake the re-location of northern communities should this be necessary.

- municipally - to be prepared for drastic changes in the provision and maintaining an adequate level of local services.

Interwoven through all this, are the changes in the distribution and abundance of Arctic Wildlife, upon which our communities depend. Within our region, we are currently experiencing a boom in the exploration for natural gas. The potential effects of climate change on this industrial development and in turn the subsequent effects upon wildlife and habitat constitute an additional overlay of complexity. We are currently assisting in the prediction and assessment of these effects. The Inuvialuit welcome this opportunity to share their observations with their circumpolar neighbours at this - and future - gatherings. There is a pressing need for more meaningful involvement in the whole arena of climate change, and to avoid repetition we endorse the suggestions to be put forward in this regard by Joe Tigullaraq.

Thank you very much
Koanna

Canadian Arctic Climate Change: Observations from the Inuvialuit Settlement Region

by Scot Nickels and Pitsey Moss-Davies, Inuit Tapirüt Kanatami

Inuit Tapirüt Kanatami, International Institute for Sustainable Development, CHUL, University of Laval Research Centre, Inuvialuit Regional Corporation, the communities of Inuvik, Tuktoyaktuk, and Aklavik, Northwest Territories, Canada
Summary from a Presentation in Snowchange 2002

Community driven concerns were the catalyst for this Inuvialuit Region 2002 and the initial Sachs Harbour [2000] Study. This paper mainly discusses the methods of the workshop organisation.

Partnerships played a key role in making this workshop feasible (IISD, ITK, Northern Ecosystem Initiative, Environment Canada, Health Canada, Regional Organizations, IRC, Joint Secretariat, Game Council, Communities of Tuktoyaktuk, Aklavik, Inuvik).

This project aims to put the human face on climate change issues by collecting local observations which are fine-tuned and include information about the environment, wildlife and humans.

Methodologies

The process was community driven beginning with an agenda set by the participants in the "Opening Questions". Information was gathered from the local communities: *Tuktoyaktuk, Aklavik, Inuvik.*

1.0 Opening Questions
2.0 Collection of Observations and Development of Time Line
3.0 Effects
4.0 Reactions Adaptations
5.0 Next Steps

1.0 Opening Questions

The participants were broken into small discussion groups after the opening introductory comments. The small breakout groups were asked to respond to the following questions to help set the agenda for the meeting and to gather initial perspectives, desires etc. for the workshop.

1) Why did you come today?
2) What interests you about the topic?
3) What do you hope will be the results of the workshop?
4) Do you have other interests related to this topic to include in this workshop?
5) Have you attended other workshops that gave you a positive experience? Why? What made this possible?

2.0 Collection of Observations and Development of Timeline

The small groups were then asked to record the changes they have noticed and heard about in and around their community associated with the environment, weather, climate etc. These observations were recorded and grouped for plenary discussion and the assembly of a timeline.

3.0 Effects Identification

Following the placing of the observations in the timeline the small groups were asked to review the observations they recorded and discuss the associated impacts they are experiencing as a result of these changes. These were discussed from the participants' personal perspective.

How do your observations affect you in a positive or negative way?

-Extends the shipping season (positive) [early break-up]
-Need to bring water when traveling.
-Changes travel routes normally used.
-Poor quality in the meat of fish.
-Elder exhaustion.

4.0 Reactions and Adaptations

This section involved the participants discussion of what individuals and the community can do to adapt to these changes, or what they are already doing to adapt. Some issues raised during the discussion were:

•*Provide freezers for storing harvested food properly*
•*There is slower erosion now that the community has put rock out along the point*
•*We need a pool for the community for the hot days*
Relocation/reinforcement study is already being done by IRC
•*Protection of graves!*

5.0 Next Steps

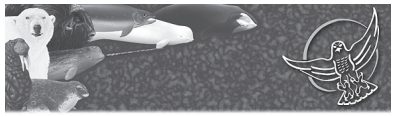
The working groups identified who should be told about this workshop and what was discussed in order to respond to the issues raised here and to be aware of what concerns etc. exist within the community on this issue. Following the presentation of individual group results, the workshop groups came back to plenary and a review of the "Next Steps" as recommended by workshop participants took place.

Recommendations included:

-ensuring that the participants received the resulting reports from the workshop,
-including youth to a large extent when distributing information and carrying out monitoring
research,
-the involvement of the local governments (hamlet councils, community corporations, hunters and trappers committees etc.) in implementing adaptive strategies and research initiatives,
-regional/territorial and federal government and departments should also receive the reports

Development of Indicators - Changing Qualitative Information Into Quantitative

Following the workshop, observations were translated into measurements that could be used to monitor such changes in and around the community. These indicators were developed based on the various observations documented at the workshop and are intended to provide an initial list of community identified indicators for climate change in the area. They will provide a starting point for potential future discussions in this region on monitoring for climate change and associated impacts.



For example:

Observation: Less fish and poorer quality - skinnier and fewer fish (whitefish)
Indicator: Fish stock population survey on important river for community harvesting

Conclusions
Community members were pleasantly surprised to discover that the workshop was based on community members providing information rather than receiving information through presentations.

Community members noted that this process allowed them to: feel their voice was being heard, learn from each other, provide an environment for a mutually beneficial learning experience (between team and community members as well as between community members), contribute extensive important information, more effectively use existing resources and partnerships, and experience community empowerment.

Environmental Change Interviews
June 11- 12, 2002
Holman,
Northwest Territories

Tero Mustonen, Kaisu Mustonen [Pulli], Alisha Chauhan together with Andy Akoakhion, Walter Olifie and Sam Oliktoak

transcribed by: Alisha Chauhan

Introduction

The environmental change interviews occurred in Holman on June 11 and June 12, 2002. The interviewers used a semi-structured interview technique documented with a digital video camera in the home and family settings of the interviewed individuals. Transcription of the first interview occurred during the interview, whereas transcription of the second and third interviews occurred listening to the videotapes.

The interview team included the interviewers: Tero Mustonen and Kaisu Pulli of the Cirumpolar Snowchange Initiative from Finland and Alisha Chauhan of the Inuvialuit Joint Secretariat from Inuvik, Northwest Territories; the Inuvialuktun translator Susie Malgokak from Holman, Northwest Territories; the interviewed individuals Andy Akoakhion, Walter Olifie and Sam Oliktoak from Holman, Northwest Territories.

For making the interviews possible, thank you to Scot Nickels of Inuit Tapiriit Kanatami, Duane Smith of the Inuvialuit Game Council, Norm Snow and staff of the Inuvialuit Joint Secretariat. Thank you to Sadie Joss from Holman for arranging the interviewees and the interpreter.
Thanks as well to the community of Holman, Alisha Chauhan, Aurora Research Institute, Mike Salomons, Elders, Hunters, Susie Malgokak.

Andy Akoakhion - Hunter
June 11, 2002
Andy's Living Room, Holman, Nt

What changes do you notice in the local weather?

Since I was young I noticed a change in the weather. The weather warms up right away.

When?

When I was young the melting started in June. Now the melting starts in May.

What changes do you notice in sea ice?

I noticed that the ice is easier to melt than the time I was young.

How many years ago did you notice this change?

I didn't really notice the number of years ago. A long time ago families knew when the melt would occur, but now we don't know.

Have you noticed a change in the seasonal cycle?

I noticed a change with the snow ice. When I was young the snowflakes were big, now the snowflakes are smaller. (When he was young was about 50 years ago). The snow used to reach up past my ankles, (6 inches from the ground), but now there is not as much snow. Upland where my parents used to hunt there is more snow.

Has this affected the ability to travel with the ice and the snow?

When I was young we only had dog teams, there was a lot of snow and we'd stay away for many days. Now we don't use dog teams, we use snowmobiles and we can go further than the hunting areas of the past. Also, we can get back into town right away.

When we go hunting now, we go into areas where there is snow, but we have to look for snow. When we were young we didn't have to wait long for the snow to come.

When did the snow start falling? What time of the year?

When I was young the snow started falling in September and part of November and the snow was just the right amount for people.

Now?

Today it has changed. We wait longer for the snow to come so we can go to the lake to fish.

Did the consistency of the snow or the texture change, for example, if you had to build an igloo?

I don't really notice the change in the snow for making an igloo. We always had to wait for the right amount. Now we don't even make igloos because there isn't enough snow to make the igloos.

Are there any new words for the snow, or for the snowflakes that are tiny?

Yes, the new snow is soft.

If you break up the types of snow into time periods then in the first period, after many days the snow is not as soft, it is harder. In the second period, after a few weeks the snow is a bit harder still. In the third period, after a month, that's when it's a good time to make an igloo with the snow. In the fourth period, the old snow is used for tea and drinking

Do you find uncertainty in the weather when you go out on the land? That is, in the past did you know how the weather might be, but now do you find you don't know how the weather might be?

Yes, the weather has changed. The weather was easy to predict when we were young. We could tell the weather by the clouds, but now the weather is hard to predict for the young people. One minute the weather will be nice and clear and then in a matter of hours there will be a blizzard.

In the past it took a day or so to see nice weather, but all of a sudden now the weather changes from bad to good. In the past I noticed the weather would be turning nice for weeks, before the weather changed there would be a nice color. (Hilatuk means nice weather).

Now everyone looks to the weather station, but before my father and I knew the weather by looking at the clouds or long winds.

Why do you think the change has happened?

I don't really know why, but the word of the Lord said this would happen. My parents told me something like this "global warming" would happen.

What else did your parents tell you?

My parents told me these things with the weather were going to happen. I didn't believe them when I was young, but now that I've seen it I believe it.

Have you noticed changes in the permafrost?

Yes, in the freeze-up and the thaw-down. When I

was young the land was nice and frozen. We could tell the land was frozen because of the dog team, by the dogs' breath that we saw because of the cold weather. Now the land doesn't freeze-up as cold as it used to get. Now even with the ice condition when we go to the seal-breathing hole we can see the depth of the ice to the height of a person. When I was young we traveled in the month of July.

Now what is the height of the ice?

Even this morning when I went to hunt ducks, I noticed the seal-breathing hole is half the size it was in the past.

How are the seals dealing with the change?

There is a change in the meat and skin of seals. I noticed a change in the food that seals eat. When an abundance of little fish come on shore that's what the seals eat. For years there are no little fish for the seals to eat so they now eat kinooks (shrimp).

In some years when there is abundance of fish then seals are fat and chubby. When there is not much fish then seals eat shrimp. Then there is not much meat on seals and the pelt is different.

How is the pelt different?

The fur is not new looking it is shedded looking. In spring it takes longer for them to grow the fur. When they are not eating then the fur doesn't shed.

Have you noticed storms and lightning?

I don't really know about thunderstorms. Some years I have seen some just for a few minutes. Older folks have sometimes seen them and sometimes not. When the storm is over the lightning stays without making much noise. When the storm happens for a few hours it doesn't make thunder, but when it leaves the area it makes a loud noise. We were so scared of the thunderstorm because we didn't know what it was. Since you asked about thunderstorms, when I was young we had no guns, but we had bows and arrows. When there was a thunderstorm we shot the arrow before we heard thunder. When I was young with Frank Kuptana, there was a thunderstorm at Aneal Bay camp away from here. Frank's dad and my dad were also there. The thunderstorm wouldn't go away from cliff area. So Frank used a 22 magnum to shoot for the thunder to go away.

Have you noticed changes in the rain?

Some summers it hardly rains (then the flowers and plants don't grow much), some summers there is an abundance of rain. When there is a lot of rain then the land is beautiful and flowers and plants grow.

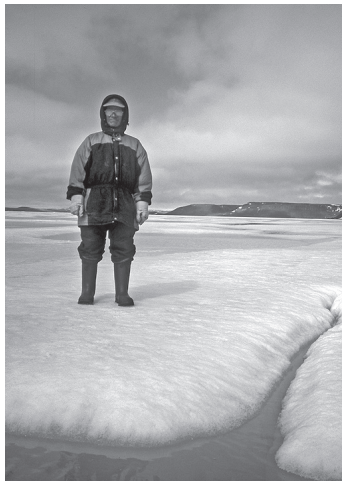
When you were young was the rain regular?

There was always some and some.

Have you noticed changes in marine mammals whales etc.?

I don't really know the changes in the whales be cause they live in too deep water.

One time there was a beluga whale I seen the tail and my dad looked at the whale and saw that the whale had a fish in his mouth it was a char- we seen the head. The following year my parents got two beluga whales.



Walter Olifie.

How about changes in the polar bears?

A lot of polar bears used to be on the ice but now the hunters go out to find them. When I was young we used to follow the bear out on the ice. Maybe because we use snowmobiles now there are no polar bear tracks.

Do you have any other changes other concerns?

Even in the summertime there were always bears around even when we looked by binoculars they were always around.

Thank you.

Walter Olifie – Hunter
June 12, 2002
Walter's House, Holman, NT

Can you please introduce yourself?

My name is Walter Olifie.

Tell us about the weather, how was it when you were young and how is it now?

I noticed a change, the weather used to be cold. I could tell the weather was cold because of the fog from the ice.

How about the seasons, spring, fall, summer, winter and the changes you noticed?

When I was young the summer was not as hot as it gets today.

How about the ice and the snow?

Yes, I noticed a change in the ice and snow. When I was young it was very cold and the ice and snow were thick, but now the ice and snow are thinner.

How thick did the ice used to be, for example, when people were hunting seals?

When I was young I followed my father onto the ice to the seal-breathing holes, the ice used to be thick. Now it doesn't get as cold so the seal-breathing hole ice isn't as thick.

Are there any effects on your travel because of the weather?

When I was young, there were no danger areas on the ice. Now we have to be careful because of the thin ice areas.

How about the wind and storms and thunder?

The winds were strong when I was young, but now it gets really windy real quick.

What about the igloos, the snow consistency and thickness?

Long ago when I grew up in an igloo there used to be a lot of snow, but now the snow igloos are easy to break.

How was life in an igloo?

When I was young in the igloo it wasn't as cold because we had a stone lamp that we used and kept a small flame to keep the igloo warm, but today we don't make igloos anymore so it seems quite cold to people.

What about the land and permafrost?

When I was young the land was cold with ice fog

around. Now it's not as cold or frozen compared to the past.

What about the plants, any changes?

When I was young, out on the land I didn't see many plants, now maybe from the rain I see a lot of flowers bloom.

How about animals, polar bears? Is there a difference in the amount or places found?

According to my parents (he grew up in Prince Albert sound) there weren't many polar bear cubs, now I notice more.

What does nanuk (polar bear) mean to the people for hunting?

When I was young the people caught polar bear and used everything all parts, they didn't put parts to waste like today.

How about musk ox?

When I was young I didn't see much musk ox where I grew up, but now there are a lot around.

How about the insects or different small animals?

When I was young I did not know about bugs because it was so cold, but now I see a lot because of the warm weather.

You say there is warm weather. Can people still read the sky and predict weather as they used to?

When I was young I looked at the clouds and because of the long strips of clouds I knew it was going to be windy. Today I can still tell weather by looking at the clouds, but I notice it's getting warmer.

Why do you think it's getting warmer? What is the reason?

Also, from my grandfather I was told that the land and weather will change in the future because of the position of the earth.

So you think the earth is changing position? What else did your grandfather tell you?

When I was young my grandfather also told me to watch out for the weather condition because like before when we go out on land we were also told to check the weather by the clouds.

What about the stars and the moon?

When I was young the moon seemed brighter and there were a lot of stars.

What about the night was light like this or dark?

Yes, when I was young it used to be very dark because there were no streetlights. So you wouldn't see the outline of the land. Now when we go out of the tent we can see the outline of the landscape.

How about the drinking water?

When I was young the drinking water was pure and clear and tasted good. Now, it's not as clear and has a taste.

Do you use tap or lake water?

I use lake water.

Does the water come from the same lake and spots?

I didn't use the same water because we moved from place to place each season because of hunting.

Can people use old skills to locate animals or have the skills been lost by the younger generation?

I didn't learn from my father, but my grandfather told me how to use the land to hunt. I followed my grandfather for hours, but I got hungry cause he took too long to stop for tea. And as I followed him more and more I got used to the time to wait for the tea.

How about seals? Do you see them still?

When I was young and I followed my grandfather I don't recall seeing seals with ugly fur or small sores on their skin.

How do you feel about Holman citizens and the IFA of 1984 (Inuvialuit Final Agreement signed in 1984) and not being part of Nunavut? What do you think about the future of the citizens of Holman?

I didn't like the agreement because it meant the division between families because we have families in other communities.

How about nanuk (polar bear)? Can you tell the story of a nanuk hunt?

I don't really go out for polar bear on the ice, but I bring sport hunters out.

How many sport hunters per year?

In 2002 I brought 2 polar bears hunters out.

Is it a different kind of hunt than when you went out with your grandfather and could you tell about a grandfather hunt?

Yes, it is a big change because when I went out with my grandfather it was not as hard, but now it's hard because I make sure that the hunters are not cold and I make the hunters comfortable.

Some hunters in other Inuit villages told us that they talk to nanuk to find out where to go. Is this power still alive or lost?

I have heard of legends grandfather told about shaman people that used to turn into bears.

What did your grandfather tell of the shaman?

My grandfather told of a legend like how a human changed into a polar bear and in legends people were told not to kill the nice bear. I can't remember the story.

Have you seen other changes on land or ice with the animals that we haven't been asking?

A few days ago I seen an animal that I never seen for a long time. I never seen a white furred musk ox on Prince Albert Sound (where he grew up).

How about birds, geese or little birds in Holman?

I notice the change in the birds. Geese, there were not as many geese in the past, there's more now in a bunch. There are a lot more animals because of the warm weather.

What should be done because of these changes? What is your opinion, since you're not from the south but you're from here?

My advice is to be careful when you go out on the land or ice there is danger and thin ice not like long ago.

Thank you.

Sam Oliktoak- Oldest Elder in Holman
June 12, 2002
Sam's House, Holman, NT

Tell about how life was when you were young, how you grew up and where?

When I was young, the weather was very cold it was so cold so we didn't see many animals in winter. When it was very cold we could hear the sound of the snow when we walked. When I was young when we hunted caribou during the cold days we didn't see the caribou we just saw their tracks because the caribou heard us because of our walking noise.

We only saw caribou when it was blowy windy and a little soft snow moved. Then it was good to hunt because we could see them and they didn't hear us. Same with the polar bear, when it was a clear, cold day because of the noise from walking they heard us.

Same with the seals, when they came out of the breathing hole we saw them and caught them. When I went on the ice I used caribou skin to stand on and I put the skin on the snow and then I made it hard, then that was a good time to look for the seal holes.

We knew when a seal hole was coming closer because we saw the breath of the seal. When we saw the breath of the seal then that was the time to strike.

We tried to find seal breathing holes not far from each other. Then with a family of men each man would go to a hole so we'd have a better chance of catching a seal. That way when one man got a seal he would bring it to his place and his lady would cut it up and distribute it and the blubber to keep lamps lit and share the fat of the seal to the family. The reason why we had each igloo house together was to have a better chance of surviving. This was how our ancestors and grandparents lived.

Tell of your life in the igloo?

To make igloos we had to find a place where there was a lot of snow. With a big family we made igloos with the snow. For the window we used ice from lakes, rivers or ponds. The reason we used ice from the lake was because it made the igloo brighter. In the morning there was frost from the night so we took the frost off the window.

Also with the north or east or south or west wind direction we changed the porch of the igloo so the wind wouldn't go into the igloo. Also, if we didn't keep the wind from coming in then the wind would make holes in the igloo and we had to upkeep the house. After the seal hunting season was over we all gathered and had a great big drum dance as a celebration of a good hunt. When it wasn't a good time to hunt, like when a storm or blizzard happened we played games in the igloo.

We would make a communal igloo like an apart ment with 3 families together.

One of the games we played was the high-kick with a stick.

How about the travel, the land and seasonal activities?

We went out on the land and hunted caribou and also about the bears when we saw a bear we chased after it by foot. When we came upon the

Sam Oliktoak

bear we used a cane and put a knife on the cane and let the dogs loose around the bear to surround it and the hunter came up to the bear and tried to take the bear where it was soft between the ribs. When we came upon the bear we'd stick it and come away from the bear and we did this a quick many times until the bear died.
The hunters walked out on the ice and made camp in an igloo for the night, and then because it was cold the hunters let the dogs go into the igloo and the hunters kept their feet under the dogs' bellies to keep warm.
We thought that another bear might come so we kept some dogs out of the igloo because some bears were hungry and some bears put igloos down with their paws. I never hunted like this, but I heard of it from my grandparents. I owned a rifle.

Can you tell us about people like you and others who predict the weather, I understand Hila means not just weather, but also the land and the surrounding environment.

The melting in the past went very slow. Now it's cold but it's not as cold. I noticed a change is that the melt is quicker now. Also, because of snowmobiles there is a change from using dog teams.

What is the meaning of dogs for the Inuit culture?

Early in the morning when we wanted to go on the ice, we took the dog on a leash and took them along to use the dog to find seal breathing holes. We used the dog to find the hole; when the dog started to move differently we knew there was a seal.

Do you know about the 13 months old calendar?

From the break of dawn to the long days…I don't know if quite understand the question.

The 13 months old calendar is based on the moon; have you heard of this from your grandparents?

Maybe I don't know about this.

What do you think of the weather today and the changes that take place now?

Sam's wife- Even now the young people notice a difference in the weather from when they were young to now.

Why do you think the changes take place?

Sam's wife- We don't really know why, I listen to the radio to tell my husband the weather.

Do you know any stories of weather change from grand parents?

We have been told that this change would happen in our future from our grandparents. They knew for some reason from their ancestors that the weather would change, but we don't know why.
Sam's wife- I was told by my granny, grandfather, mother and father that the weather was going to be changing. The change that they had been telling me about is happening.

What is the meaning of weather change for the people of Holman and Inuvialuit people?

It is very important that we tell the young people the weather is changing because now there is danger when they go out on the land. The youth and children and grandchildren should know about the changes and to be careful.

Are there any other stories from grandparents or ancestors that you can tell?

Sam's wife- It was different because we didn't have any worries about our children or anything. My childhood life was not like today. It was like one big family and there was good communication in the community. Sam- We had a lot of communication between parents and children and therefore we had a good lifestyle. Good communication is very important

Did people have taboos, like things that were forbidden or told not to do?

Sam's wife- It changed from long ago. During the day the grandparents and parents were helpful to the family and if a person got sick or had a disability we went to help or if someone had no food then we shared and we helped each other to not let anyone be sad.

Sam- Also, we helped our elders. If they had no way to get snow or ice then we got it for them and if they had no tea then we helped.

We were always told in the morning after breakfast to go see how our elders are doing and if they needed help then we helped them like our ancestors helped each other.

What about the relationship between animals and people and has this been changing from earlier times?

In one of the hunts, when we went to hunt caribou in the summer, we went with our wives or family because we needed help.

We put the Inukshuk up, then the men made a ditch to hide and we asked the women and children to run around so the caribou could be caught inside.

The elders and children stayed in another group and waited until the hunt was done. The dogs stayed with them so the dogs would not make noise so the caribou would not see the other people.

Can you tell about the Inukshuk; was it used for hunting navigation?

Yes, we used Inukshuks for how far we were going for distance. They were to see whether we were getting close to the destination or not. Also, when we went out to fish or hunt we used Inukshuks for landmarks.

When the fish went upriver to spawn then we made fish webs (rock fish) then we caught fish in fish webs. We made fish spears for the special kind of fish and caught fish in fish spear. When the fish went downriver we made another fish web. When the fish was caught then we picked up the fish web- we have a little piece made out of caribou antlers and a long piece made out of skin and when we put it through that – then the fish die. Afterwards the ladies collect all the fish and put them through the antler.

Thank you.

Yukon Archives, Ernest Brown Fonds, #850

Yukon Archives, Ernest Brown Fonds, #851

Dene Nation Observations of Climate Change

Presented in Snowchange 2003 Murmansk

by Chris Paci

The Raven is known as a trickster. He said let's see who can kill a moose. So everyone ran into the bush. The Raven said he killed a moose. The people asked what are we going to do with the intestines? They said to string it along the creek. They were melting the grease into the intestine. (This was the first pipeline). They were wondering why this grease was never filling up. So a couple of kids followed him. They found the Raven at the end drinking the grease. So they threw a bone in the grease. The Raven swallowed the bone. That's why the Raven today says, KAA!

My mother use to get the best water and spruce bough for the floor. It was natural. Even if we spilt something it would seep through the spruce bough. So when we lived in a house we didn't know how to make the transition. People got sick. There's not many people who can live in both worlds. We have sacred lands that we don't go into. We knew of this one area to be a bad place (Deline). After development, we found out how bad it really was. Scientists like to talk about things apart. We think in holistic terms and cannot think about things separately. Dene spirituality is in traditional knowledge. Dene ways are very formal. We cannot separate spirituality in Dene, but scientists think this is ridiculous. (Bella T'selie, Liidlii Kue, Denendeh, March 12, 2003)

We survive by caribou. When you hunt caribou it can take up to three weeks for the trip. That's why we need to protect our caribou. That's why I brought some caribou for you to taste. (Eddie Camille, Liidlii Kue, Denendeh, March 11, 2003)

Introduction

Like all environmental issues, climate change is understood and talked about by the Dene[1] as it relates to the people and the land.[2] This essay was prepared as a case study for inclusion into the Arctic Climate Impact Assessment, chapter 3 "Indigenous Perspectives". Dene observations and knowledge on climate change have been documented by newcomers, missionaries, fur traders, and others during the early period of colonization in northern Canada between 1790-1930. Where Dene traditional knowledge was observed and noted by visitors, it was clear that the Dene knew much about their relationship with the land. There have been articles and books written on the problems of relying on these observations.[3] The Dene have written their own histories and developed curriculum in their school classes to tell the story of their world in their own way, but these stories are beyond this essay.[4]

This essay for the Snowchange Project website begins with a statement of who the Dene Nation is, followed by a description of the context in which the documentation of Dene observations and knowledge is occurring. The last section examines key findings from the Denendeh Environmental Working Group (DEWG) climate change workshops, illustrating one mechanism and process developed by the Dene.

Denendeh (Northwest Territories, Canada) will face significant changes based on current climate change scenarios and models. The knowledge of Dene, what is being termed traditional knowledge, tells about both the past and helps the Dene understand what they are living now, as well as what may occur in the future. This knowledge is different from what scientists know about climate change. Each form of knowledge can be gathered together, not necessarily to change what each knows, but to allow each to appreciate and increase what can be known about climate change. The DEWG workshops are the first step in a larger effort to bring Dene views and voices into climate change discussions in the north, in Canada, and into international discussions.[5]

Dene Nation

Dene Nation is a non-profit Indigenous governmental organization mandated to retain sovereignty by strengthening Dene spiritual beliefs and cultural values in Denendeh.[6] As Indigenous Peoples their cultures, languages, and title predate time.*7* In the international arena the Dene have developed the Arctic Athabaskan Council (AAC), which is a Permanent Participant to the Arctic Council. Dene Nation is a regional office of the Assembly of First Nations, the national First Nations organization. These institutional linkages enable Dene to tackle difficult science and policy issues of climate change by maintaining activities at all levels. Dene Nation is able to speak as the national voice of the Dene because of the knowledge and participation of the member regions, and the expertise of the staff who regularly deal in-depth with matters affecting Denendeh.

The members of Dene Nation meet annually as a National Assembly[8] and the Leadership meets biannually. At these meetings, membership and leadership provide direction to Dene Nation in the form of motions and resolutions. The property and affairs of the Dene Nation are governed by the Executive, pursuant to the Dene Nation Constitution (2002). Dene Nation has no shares or shareholders, membership is constituted by each region, who in turn define regional and community membership (who is and who is not Dene). Dene Nation's leadership is the twenty-nine band Chiefs, elected by their respective Dene communities. Membership lists are maintained by each community who are, by definition, members of Dene Nation. The National Assembly represents the highest level of authority for the Dene.[9]

Climate Change Policies And Programs In Denendeh

The Dene have always observed climate and have stories that speak about the way things were before time and prophecy that talks about the way the world will become. Climate change, as discussed in this essay, is concerned with the phenomenon of change that has been speeding-up following industrialization. Since the 1970s, a great deal of what has entered into Dene thinking on climate change has come from international discussions of greenhouse gas emissions and global warming. Climate change is indeed being experienced as local changes on the land; however, policies and programs dealing with these changes have sometimes little to do with what Dene are living.

Dene traditional knowledge, impacts and adaptations of changes in climate, will be discussed in greater detail in the next section; however, to begin this discussion it is important to place into context why Dene observations and knowledges are being documented. To some extent the development of national government policy and programs have had a significant influence on how Dene are understanding and talking about climate change. A brief summary of Canadian government policy and programs will provide context from which to understand the development of the Denendeh Environmental Working Group (DEWG).

In 2002, Canada publicly stated that it is committed to reduce Greenhouse gas (GHG) emissions by 240 mega tonnes (MT). These reductions are being made through investments (to date reducing emissions by 80 MT), through planning (strategy is to reduce 100 MT), and by current and potential actions (60 MT). Since the 1980's Ottawa has developed various programs independent of the north, including Canada's Arctic Environmental Strategy (AES) and Canadian Climate Action Fund (CCAF). These programs and policies have profound influences on how climate change in being thought of for northern Canada. The diverse interests in northern climate change are legacy issues operationalized by a number of government departments. For example, Natural Resources Canada –NRCAN, hosts a Climate Change Secretariat, and jointly manages the Aboriginal Northern Climate Change Program (ANCCP, with Indian and Northern Affairs Canada-INAC). Environment Canada programs include the Northern Ecosystem Initiative (NEI) and the Northern Contaminants Program (NCP, with Department of Fisheries and Oceans, Health Canada, and INAC). The Department of Indian and Northern Affairs Canada (INAC) programs include: NCP and the jointly managed ANCCP. Health Canada has a program that looks at climate change impacts and adaptations on health, they also participate in the NCP. The Department of Foreign Affairs and International Development –DFAIT has an interest in the Clean Development Mechanism and Joint Implementation Office, and aspects of funding clean development.

The Canadian Climate Change Secretariat is engaged in a number of initiatives, most notably the modelling of climate change impacts. The Secretariat held national roundtables (2002) and developed a Climate Change Plan.[10] The plan has five key instruments to reducing greenhouse gases of large emitters via Covenants (regulatory or financial backstop), emissions trading (domestic offsets and international permits), development of a partnership fund to direct targeted activities on specific projects (cost shared with provinces/territories), strategic infrastructure investments, and increased investment in innovative technology to reduce climate change, and targeted measures (information, incentives, regulations and taxes). The plan "commits to ongoing collaboration with Aboriginal and northern Communities to build capacity to address their particular priorities"; however, these collaborations and priorities have not been defined in consultation with Aboriginal and northern communities.[11]

The inter-departmental and departmental initiatives noted above are collectively driving climate change policy. Funds are directed at activities within each of the programs described above. The general direction of federal programs towards national objectives means that there is a limit to the specialization of engaging and broadening the scope of climate change activities. Work at the local level, unless it can serve some national priority is not being funded. For example, taken to its full extent the development of the Hub Pilot Advisory Team (HPAT) and the Public Education Outreach (PEO), give the appearance of democratic and public institutions responding to national information needs surround climate change. Likewise, the Canada Climate Impact Adaptation Research Networks (C-CIARNs) facilitate

a transparent network of researchers and government scientists working collectively on climate change. These and other activities give the appearance of developing a critical mass of information on climate change; however, they are not subject to the specific or local realities of how climate change is being experienced. The Climate Change Action Fund (CCAF) and the Joint Ministers of Energy and Environment (JMM) are not concerned specifically with how Indigenous Peoples across the north may be experiencing climate change differently. In order to counter the homogenizing influence of federal programs limited attempts, in particular the NEI[12] and ANCCP,[13] have evolved to respond to the particular needs of northern Indigenous Peoples.

Many of the major northern Indigenous Peoples organizations in Canada have approached climate change independently and the result has been a piece-meal approach to bringing forward their views and knowledges. The importance of hearing from the people themselves is as important as finding ways to interpret what is being said by the people to those who lack the historical and anthropological knowledge necessary to understand what Indigenous Peoples are saying.[14] Dene Nation has only begun to articulate Dene knowledge and this is a major weakness. The Denendeh Environmental Working Group: Climate Change workshops are a step in having some control over what is being said as "Indigenous Observations" on climate change. Dene Nation decided the most effective way of dealing with climate change was by holding a series of workshops where their knowledge could be shared and documented.

The Denendeh Environmental Working Group[15]

The Denendeh Environmental Working Group (DEWG) developed out of two complementary forces. First, a number of climate change issues were of interest to the Dene that had broad policy and program implications for Denendeh. Second, the Environment and Lands division, Dene Nation, had previous experience with a Denendeh environment committee.[16] Dene Nation's objective of forming the DEWG was to work on specific areas of collective interest, to educate and best apply the issues and policies/programs that exist, and to lobby at all arenas in respect of Dene sovereignty, spiritual beliefs and cultural values.

The DEWG is a non-political forum where representatives of many communities, regions and invited guests[17] can gather to share what is going on with the health of Denendeh (NWT). The first workshop on climate change was held in Thebacha-ghe (Fort Smith, 2002) and the second workshop examined more closely the issue of climate change and forests, held at the in Liidlii Kue (Fort Simpson, 2003).[18]

The DEWG membership changes with each meeting; however, the basic composition requires that Dene Nation gather members from all five regions of Denendeh.[19] The core of the DEWG is one technical staff member working on environment and lands issues from each region, one elder selected by tradition to represent the interests of each region, and support staff from the Dene National Office. Within the Dene communities, there are a number of concerns for changes in climate that are specific and unique, others that are held in common. By gathering all regions, these differences and commonalities are recognized and the issues and knowledge brought forward during each meeting are being documented.[20] The mixture of tradition and modernity find common hearing and attempts are made to improve what is known from both traditional knowledge and practices with science and government policy (programs). Serious consideration is given to each person speaking what they know in their own language, and it is felt that in the future, transcripts and tapes

could serve a number of educational and other research purposes.

At the first DEWG meeting in 2002, a number of issues were raised by those in attendance. One important issue was the impacts of climate change on forests across Denendeh. This concern led to the second workshop with a focus on climate change and forests. The next theme for the DEWG will be to focus on water and climate change. The need to study climate change and fish will be the subject of the fourth DEWG. The fifth DEWG will examine invasive and colonizing species and climate change. Monitoring and building community capacity to document climate change in Denendeh is anticipated to be the sixth DEWG. A seventh DEWG might be climate change and mining in Denendeh, hosted at the mines and bringing DEWG members together.

The DEWG facilitates more than the documentation of Dene views and knowledge on climate change issues. A significant goal is to facilitate the sharing among regions of climate change knowledge in a systematic way. The workshops are proving to be an opportunity for people from each region to hear from one another about changes they have observed.

The national and international nature of climate change research and programs, how they interact or function at the regional (national and local) makes the DEWG important for education and outreach. In particular, each meeting challenges us to find ways of communicating the sometimes complex science of climate change, with key messengers brought together under the DEWG (elders and technical staff), in a way that is accessible and free from technical jargon. It challenges elders and technical staff to speak with scientists and build, when necessary, research alliances and networks of researchers.

Two proceedings of the DEWG workshops have been produced which summarize the discussions and outcomes of the meetings. In addition, Dene Nation has developed a web page featuring the findings and activities of the DEWG. Furthermore, digital photos and audio recording, in each of the languages spoken on "the floor" were collected and are housed in the resource center/archives of the Dene Nation.

The workshop was shaped by four basic discussion questions:

1. Is there a difference today in Denendeh and is climate change having a role in these changes, what else may be causing it?

2. What climate change programs are there and how can our communities be more involved in research and communication about these changes?

3. If it is important to document Dene climate change views/knowledge, how should we communicate this knowledge with each other and to policy-makers, governments, others outside the north?

4. Is the Denendeh Environmental Working Group a good mechanism to discuss climate change, what should we be talking about, and what else do we need to do?

Answers to these questions continue to evolve; however, Elders, in particular, find that there is a difference in how climate is changing in Denendeh, that many changes on the land they are experiencing are caused by climate change, or at least it is having a role in the land and animals being different. Our behaviour, including increased use of transportation like vehicles and ski-doos, is blamed for increased changes in our climate and overall health of Denendeh.

Change was manifest in how animals behaved, such as wolves acting unpredictably. Invasive species such as moose

moving further north and buffalo moving into Monfwi region are being observed. Colonizing species such as birds never seen before and increasing variations in insects are being noted across Denendeh. A problem identified for trees was increased pine and spruce parasites and diseases.

A significant question that was raised for forests in Denendeh with changes in climate, are the overall health of trees to fight off disease and the increased frequency of insect infestations. For the past 5-6 years trees are dying in greater numbers. With regards to trees elders noted that trees were soggy and not frozen through so that in cases of emergency one could not easily save oneself by making a fire. This was serious as ice was unpredictable in places and there were increased instances of people falling through.

In the Mackenzie Delta, many channels had changed with some widening making land travel impossible. Ground water is down in some areas because of increased vegetation, especially willows. Changes in vegetation were not the cause, but rather the effect of climate change. Changes in water also lead to increased disease in wildlife; all these changes were attributed to the overall changes in the land caused by climate change. While fish are not normally associated with climate change, elders are observing how many runs are not as healthy and there is increased occurrence of unhealthy fish.

Elder's constantly connect a relationship between all parts of the environment. Interconnectedness is a feature repeated by elders during the workshops to date. The linkages to various activities on the land, development impacts, lack of capacity to deal with change, and the overall adaptive ability of Dene cultures are important considerations. For the Dene it is wrong to separate climate change from human and governance issues. Dene also talk about disease when they talk about climate change, "it was important to think about how things grow."

Climate change is impacting how traditions are maintained and a good indication of the erosion of traditions is that, "in the old days, everything was dried; meat and fish." Less of this was going on and for our meeting we could not secure a supply of dry fish and dry meat, once abundant in Dene communities. At both workshops to date there have been very good lunches and typically there have been few traditional foods.

In order to know what to do traditional knowledge teaches Dene to talk about relationships, to know how things are related to each other. So for example, when asking about how trees are impacted by changes in climate we may look at what is going on with drinking water. What the relationship may be is that there are different trees now, willows are replaced by spruce, trees are dying off for lack of water, water tastes bad because of warming, and so forth, the entire world as it relates to all other parts, including the Dene.

The physical connections Dene have with the land were discussed a great deal by the elders, and always there was an underlying concern about more than just the physical and immediate concerns of everyday life. The stories from all the elders who have shared their knowledge has been that what we do effects other people, whether it is putting garbage in the river and how it effects those down river, or how cities have huge ecological footprints from car exhaust, factories, industries, and so on.

The integrity of culture and land is essential to Dene traditional knowledge. Dene have made many observations, they see climate change as more than the weather becoming warmer, and they explain both the cause and the future in terms of their daily lives and cultural understandings. Holism of ecosystems means equally that both our elders and youth need to work together. When we talk about trees we talk as well about porcupine and fish. It is important to understand Dene concern for the overall health and faith all Dene have for the land. They are not as confident today with the natural

environment. It is being changed in a way by anthropogenic development far removed from Denendeh. The fundamental challenge to adapt to these impacts will be, in part, to strengthen Dene teachings and traditional knowledge.

The Dene are very concern about what was going to happen to the information that was collected at the DEWG and how it was going to be used by others. At the first workshop the working group asked that a book be written. It was suggested that each region, each person speaking should write their own chapter in this book on Dene observations and knowledge of climate change. Each meeting brings out something different from what is going on and what collectively is the traditional knowledge and practical projects the Dene are engaged in. From Dene elder's we are learning a great deal; however, it is often not written as this is not how it has been traditionally conveyed, learned and taught. An important issue raised was how intellectual property rights work and how knowledge holders had rights that had to be respected. Whatever gain made in understanding Dene, profits from production of the documentation of their knowledge, need to be returned to the knowledge holders themselves. In this regard, non-Dene should respect Dene wishes that their knowledge not be commodified and used for material benefits.

Dene want to share and protect their knowledge. Guests and observers to the DEWG workshop were asked not to present information verbatim, as expert testimony, and for profit. The ownership of traditional knowledge and stories, the benefits accrued by appropriating the voices or representations made without permission is a serious consideration in the DEWG. Once written, the form of knowledge that is conveyed is the lowest (crudest) level of understanding. Dene oral traditional and practice is the authority and so even what we have written here is only a single telling of the climate change story.

Following answers from Elders, regional technical staff spoke to the question about changes in climate, causes and responses to these changes, including traditional knowledge and stories passed down from their relatives. Dene have always been able to adapt to change. For example, Gwich'in learned to cope and understand change. In the Sahtu the people lived off the land for generations, and many recalled parents and grandparents teaching how the climate was changing and that the sun changed the most. The strength of the moon was observed to be "not as bright" as it was in the past.

Little discussion was placed on the weather and how it was becoming unpredictable. Dene Elders in the past could predict the weather, now it was not like that. Warmer temperature and changing precipitation patterns, although seasonal and spatially variable, caused concern for animal migrations, in particular lack of snow causing caribou to wonder all over the place whereas in the past they would break trail for each other and stay together. There is a Dene legend of people in the past who were able to control the weather. These people would predict the weather, they could tell what was going to come before it happened by watching the color of the sky and connecting this to cloud patterns. Not many people can predict weather anymore.

Dene demonstrate extensive knowledge on climate change in their daily lives and during the workshop a small portion of this knowledge has been documented. This documentation is being made to share views and observations among regions and to the international level. Dene knowledge is shared here to educate non-Dene. There is a significant concern that traditional knowledge, observations, and activities on the land be made apparent to Canadians and the international community so that what is known can be improved, so that better decisions can be made.

All the problems are man-made. We have to make a lot of noise to be heard. There's some places down south you can't even go fishing but we can still go fishing up here. All the stuff going into the water from down south is coming up here. We need to put the fire out at the source. We can't forget our traditional knowledge and to use our Elders. I want our children a hundred years from now to say 'My god, they did a good job! (Leo Norwegian, Liidlii Kue, Denendeh, March 13, 2003)

Footnotes

1 Haida According to Chief Roy Fabian, De means "river flows" and "suns rays", and Ne means "earth", so the literal translation is the Dene are flowing from the earth (Roy Fabian in *First Report of the Denendeh Environmental Working Group, 2002).*

2 The Dene Nation. 1984. **Denendeh: A Dene Celebration**, with photographs by Rene Fumoleau. Yellowknife: Dene Nation.

3 Brown, J. and E.Vibert(Eds) 1996. **Reading Beyond Words: Contexts for Native History.** Peterborough: Broadview Press.

4 For example, Erasmus, B. C.Paci and S.Fox (unpublished 2003) *A Study in Institution Building for Indigenous Governance in the North: A Short History of the Development of the Dene National Office,* Watkins, M.(Ed) 1977. **Dene Nation The Colony Within** Toronto: University of Toronto Press.

5 The DEWG was the subject of a presentation during the second Snowchange conference, Murmansk, Russia. Dene Nation was encouraged to write a case study of the DEWG for inclusion in the ACIA chapter, Dene have a great appreciation for the need to influence policy processes and initiatives in Denendeh and at the international arena (i.e. AAC activities).

6 Formed in 1970 as the National Indian Brotherhood-NWT. There are over 25,000 Dene living in the Gwich'in Settlement Area, the Sahtu Settlement Area, the Deh Cho region, the Monfwi (Dogrib) region, and Akaitcho territory. Each of these regions is culturally, linguistically and geographically distinct, home to distinctive communities, organized under various modern treaties, land claims, and historic treaties.

7 Linguistically these peoples are the Gwich'in, North and South Slavey, Tlicho, Chipewayan, and Cree.

8 Dene Nation, incorporated under the *Canada Corporations Act* as a not-for-profit corporation in 2002, consists of: the members, leadership, Elder's Council, executive, and staff.

9 The rules and regulations governing eligibility for Chief and elections are maintained by each community and region. A Vice-Chief of Dene Nation is selected for each region and collectively, along with the Elder from the Elder's Council, and the National Chief, constitutes the Executive.

10 Dene Nation was asked, but chose not to comment on the plan (see footnote 11).

11 Dene Nation has not told Canada what their priorities are. Early involvement with "national consultations" meant commenting on national climate change modelling. Dene Nation has not stated to the federal or territorial governments our priorities, with the exception that carbon sinks are Dene lands and resources and not the government's to do with freely. Dene dispute Canada's claim to sinks in Denendeh, but this is an up-hill battle and philosophically impossible to avoid. Individual communities, such as the Wha Ti, are telling Canada their priorities through such efforts as their project with Ecology North, which is being funded by NRCAN. Canada is setting northern priorities from information they gather from Government of the Northwest Territories and the Arctic Energy Alliance (NWT PEO hub).

12 In 2002 Dene Nation, Council of Yukon First Nations (CYFN), and Inuit Tapiriit Kanitami (ITK), reviewed NEI research proposals on a contract basis and formed a social/cultural review team. All three organizations received project funding from NEI. In 2003 each sought partnership funding to participate in the re-development of the NEI. The program was renewed for 5 years (to 2008) and is moving away from competition based project funding to partnered projects and activities under several broad activity areas.

13 Dene Nation, CYFN, the Inuit Circumpolar Conference-Canada (ICC), and ITK have sought funds from the ANCCP. These funds are one time 12-month projects, heavily weighed toward specific project to reduce the use of non-renewable energy and to improve use of renewable energy.

14 Nunavut Tunngavik, KIA, INAC (eds). (unpublished 2001) "Elder's Conference on Climate Change" Cambridge Bay 2001. Krupnuk, I and D. Jolly (Eds.) 2002. **The Earth is Faster Now: Indigenous Observations on Climate Change**. Fairbanks: ARCUS.

15 Dene Nation wrote two reports on the DEWG. The content are protected by Dene Nation any or all parts can not be quoted by academic researchers or others without the full, involved and meaningful consent of the Dene. Benefits from the production and generation of Dene knowledge will not be at the cost of the Dene and the benefit to people from outside Denendeh, whether scientists and policy makers in government or academics in southern research centers.

16 Motion #91/92-024 constituted the Denendeh Environment Committee which met until 1997. Its mandate included political and funding direction; to assist bringing suggestions from meetings to reality.

17 Guests from the federal and territorial government, academics, scientists, and environmental non-governmental groups are asked to attend workshops based on their expertise and knowledge.

18 Funding for the second DEWG was provided, in measure, by the original grant from NEI, with generous contributions from Deh Cho First Nations (DCFN), and with in kind contributions from Dene Nation.

19 It is a mechanism to develop and document current understandings of ecosystem health in Denendeh. Regional environment and climate change workshops develop a greater appreciation for the policy, processes, and initiatives, gathering Dene knowledge and scientific/western approaches. Workshop planning has been led by the Dene National Office in cooperation with each region. DCFN was essential to the success of the second DEWG. In the weeks leading up to the workshop, planning involves coordination of peoples travel, booking facilities, arranging translation services and sound, inviting guests, and establishing an agenda. In organizing these meetings it will be increasingly important to bring together more and more, elders, youth, technical Dene environment staff, with guests from governments, environmental non-governmental organizations, and industry. To date, industry representatives have not been involved in the meetings of the DEWG, but there would be value in tapping both the expertise and other resources that are in Denendeh.

20 Dene concerns and responses to climate change are being systematically documented through the DEWG; however, this work is still in its infancy and conclusions should not be drawn on Dene impacts and adaptations until a critical mass of information is gathered. Just what constitutes "critical mass" will be an important consideration during the 2003-2004 meetings of the DEWG.

"There is a Big Change From Way Back"

Kaisu Mustonen [Pulli] together with Elders of Tsiigehtchic

FOREWORD

"It is hard to explain unless they're raised up in the bush like we do, thus we know the changes right away we can tell the banks is going fast, we can tell there's slides, more slides along Mackenzie than before, and the ice on the lakes is not like it used to. You might have about three feet ice, maybe a one foot and a half of main ice, blue ice, the rest is frozen slush, it's not like long ago, maybe slush on top, that was slush, the rest is blue ice all the way, real main ice so that lakes can and rivers can stay good for a long time in the spring, but now it goes really fast. It even melting from the bottom, I noticed that cause I trap rats, Ice is melting from the bottom."

Billy Cardinal, 2002

– Traditional Knowledge of Ecological and Climate Changes in the Community of Tsiigehtchic, North-West Territories, Canada

Many people have provided help during the different phases of this work, to all of you, thanks. In particular I wish to acknowledge the people working in Aurora Research Institute during Spring 2002, especially research manager Mike Salomons. Also, I'm grateful for Norm Snow from the Joint Secretariat, Inuvik and Leslie McCartney from Gwich'in Social and Cultural Institute, Tsiigehtchic. Most of all I wish to thank the Elders of Tsiigehtchic who participated in this study. For report reviews I am thankful to Eeva-Liisa Viskari and Tero Mustonen. The responsibility for any shortcomings in this study is all mine.

1. INTRODUCTION

The Circumpolar North remains physically remote from the South but pollutants and consequences of various global environmental problems recognize no borders. They eas-

ily reach places that are 'far' for the majority of us, such as the Arctic. The Arctic is one of the few places on the earth where clear symptoms of climate change can be clearly seen already today. Gunther E. Weller from the Center for Global Change and Arctic System Research, Alaska, states that while uncertainties exist about the future, climate change has already caused major impacts on the Artic environment during the past few decades (Weller 2000, p.40 in Huntington (ed.) 2000a).

This research focuses on understanding climate change in the North through local observations and traditional knowledge. In the report I study the effects of climatic and ecological changes in the region from the viewpoint of First Nation Elders in the community of Tsiigehtchic in Northwest Territories, Canada. It is an attempt to sketch a picture of how the environment is changing for these Elders; is there a change and if there is, what is the meaning of such change to the local residents. This study is part of the Snowchange project, which is an education-oriented project to collect and document Indigenous observations of climate change in northern regions. One important aim of the project is to act in a way that will enhance and support indigenous participation and work in climate change issues. This work has a great significance, since until very recently scientists have carried out the majority of the research on northern climate change and its potential impacts. However, residents of the North are discussing the impacts of climate change on daily basis as their lives continue to be well intertwined with the surrounding environment (see for example Thorpe, Riedlinger & Fox, 2000, p.1).

This work started in spring 2002 in northern Canada, Inuvik, Northwest Territories. I was working in the Aurora Research Institute at the time dealing with climate change related issues. Now, almost a year later environmental engineering students have taken the research results back to the community of Tsiigehtchic. Fieldwork for this research was carried out in June 2002 in the village of Tsiigehtchic within the Elders of the Gwich'in Nation. Posters, CDs and thesis was returned to the community in June 2003.

2.1 TRADITIONAL KNOWLEDGE AND ITS RELATIONSHIP TO SCIENCE

"What is Traditional Knowledge?" That alone is a very broad and difficult question and the answer depends on whom you ask, why you are asking it and for what purpose you need the definition. To what extent it is even possible to make one general definition of this term? Terms *Indigenous Knowledge* (IK) and *Traditional Ecological Knowledge* (TEK) are often used to mean the same. However, there is a difference between the two terms. It is that the one possessing traditional ecological knowledge does not have to be necessarily indigenous (Huntington, 2000, Berkes 1999). Henry Huntington, the president of the Arctic Research Consortium of the United States, defines the term TEK as "a system of experiential knowledge gained by continual observation and transmitted among members of a community. It is set in a framework that encompasses both ecology and interactions of humans and their environment on physical and spiritual planes" (Huntington 1997 p.237-238). Also, Erkki Palosuo, a Finnish ice researcher states that "experience is experience", in other words it can be easily argued that the last seal hunters in Finland possess traditional ecological knowledge of the region of Gulf of Bothnia in the Baltic Sea (Palosuo, 2003, pers. comm.). In the case of these hunters, all the basic characteristics of Traditional Ecological Knowledge are fulfilled: these men practically grew up out on the land, learned from their parents or relatives, were dependent on seal and fish for their livelihood, knew how to predict weather and knew what kind of ice would be safe, which was essential for their survival.

A community guide to protecting indigenous knowledge by Canadian Minister of Indian Affairs and Northern Development, states that Aboriginal peoples define IK as "an ancient, communal holistic and spiritual knowledge that encompasses every aspect of human existence" (2001). Furthermore, there are some that would like see more emphasis on wisdom rather that knowledge and others argue that IK should be understood within a spiritual realm, because knowledge cannot be separated from spiritual and most agree that IK is unique to each tradition and closely associated with given territory (Indian and Northern Affairs Canada 2001 p.3). However, in the beginning I referred to IK as it being difficult to be defined. For example Leanne Simpson, a director of indigenous environmental studies in Trent University, Canada, sees various problematic issues in connection to IK or TEK. She's talking about aboriginal people being unhappy with the idea that TEK can be written down and used for the purposes of western science.

Also, the way TEK is defined by "outsiders" so that most often the definitions reflect the values of the dominant society, brings little good for the aboriginal communities. Simpson discusses the difficulties in converting TEK from its oral form into documented knowledge. This process, she argues, "has the impact of separating knowledge from the people who possess it" and also takes the knowledge out of the context (Simpson, 2002). Then again, if it would only be the indigenous people who can study and collect Indigenous Knowledge, that would cease most research. Fikret Berkes, a professor of natural resources at the University of Manitoba, Canada, argues that this would be very effective way to solve various problems but at the same time bridges that have been built between Western and non-Western knowledge would be eliminated (Berkes, 1999. p.28).

How comparable are these two terms Indigenous Knowledge and Traditional Ecological Knowledge and is it possible to use them like this, side by side? In this study both terms have a great relevance and I made a decision to use them both, in an equivalent and congruent manner.

In Nunavut, Igloolik Research Center is carrying out an oral history project collecting IK among the local Inuit Elders. John MacDonald from the research center criticizes the way IK is seen mainly from a narrow perspective, it being TEK and handling only environmental issues. This is why they have tried to cover as many topics as possible in the oral history project in order not to ignore other important aspects of *Inuit Qaujimajatuqangit*, Inuit Knowledge. In Igloolik the Elders feel that documenting their knowledge is very important and they want to take part in the project for the sake of the future generations: this knowledge should not be lost and the traditional way of speaking Inuktitut should be preserved. As well, the Elders feel that it is very important to educate the *quallunaat,* white people, about the Inuit way of knowing and make them understand that the Inuit survived very well without the modern system of knowing and resource management (MacDonald, 2003. pers. comm.).

Now, when we think about the Indigenous Knowledge and its relation to science, many of these arguments are very relevant. Who should benefit from a research that is based or in which IK is used? And even if the goal is to benefit an aboriginal community with a study, will it really benefit from it? Should IK be seen as a separate knowledge system, as valid as the western science and is all IK equally important and equally valid?

I think that one of the biggest challenges for a researcher with knowledge based on Western science is to understand and respect the fact that there are other ways of knowing and that Western science is but one knowledge system among others (Berkes in Krupnik et al., 2002 p.341). However, Traditional Ecological Knowledge goes beyond knowledge, Berkes treats it as a *knowledge-practice-belief complex* where there is no

separation between nature and culture (Berkes 1999 p.13 and 9). Therese Remy Sawyer touches this very same issue in one of the interviews, she is a Gwichya Gwich'in woman, an elder now and was brought up out on the land in the Gwich'in traditional territory. For her, any kind of weather is fine as she learned to respect the seasons in her childhood and there's no complaining about the rain or the snow or about wind, it's part of the season and you ought to respect it. Now, living in Edmonton all this is quite different for her:

"I practice a lot of tolerance because I live elsewhere and I have to do it, understand the environment, different type of environment, different ways of people, but it's hard sometimes." Therese Remy Sawyer, 2002

TEK too, like any other form of knowledge can be incorrect or misunderstood or misinterpreted by researchers (Berkes, 1999 p.147, Huntington 2000, p.1273). Henry Huntington states that

"TEK should be promoted on its merits, scrutinized as other information is scrutinized, and applied in those instances where it makes a difference in the quality of research, the effectiveness of management, and the involvement of resource users in decisions that affect them"(Huntington, 2000 p.1273).

Further, Huntington sees some difficulties in the usage of TEK, concerning issues of ownership and control over the knowledge. Also, sometimes researches are reluctant to approve TEK as something valuable and useful in resource management, but despite all this, when it's well thought of the usage of TEK seems to bring great benefits to various ecological research (Huntington, 2000 p.1273).

2.1 Traditional Knowledge and its relationship to scientific assessments of ecological and climatic changes locally

Traditional Knowledge (TK) studies have their potential in the local context when assessing ecological and climatic changes. This is a kind of knowledge and information that is well tied into a place and the aboriginal nations have a long history of living off their environment and making close observations on what is happening in the nature and within animals. Northern peoples have always been dependent on a healthy land for their survival; they are used to changes in nature and have constructed various adaptation strategies in the past. Who would be a better professional on local environmental changes than somebody who used to go muskrat hunting with his or her parents already in the 1950s and still takes the boat out to go fishing in the very same environment? However, the outcomes of TK studies concerning ecological and climatic changes have a larger meaning in a larger context. Berkes points out that environmental change is a complex systems problem and that complex systems cannot be analyzed at one level alone and thus sharing of knowledge between local experts and scientists help to build more complete environmental change story and local expertise can help us to gain more in-depth understanding to the global change models as well (Berkes 2002, p.337-338 in Krupnik & Jolly, 2002).

Aynslie Ogden from Northern Climate Exchange, an interdisciplinary center that has sought new forms of co-operation to deal with the climate change challenge, states that local observations dealing with climate change are extremely valuable. She argues that local knowledge can assist in pinpointing areas of research, picture the climate change impacts in local level and identify issues that require attention. Ogden mentions that observations and concerns on climate change vary within and even among communities and that community observations and model predictions on climate change are

not always consistent with each other. It is very understandable that variations in culture, economy and location affect communal and personal observations of climate change. Both scientific models and local information indicate that climate in northern areas is indeed changing and it can be clearly seen that many of the observations are consistent with model predictions. However, local knowledge generally provides greater detail on local conditions and focuses more on local concerns (Ogden 2001 p.169, in Coates, Kleinfeld, Graham & Ogden).

Igor Krupnik, a research anthropologist, discusses the difference of scientific studies and local knowledge and he too emphasizes the discrepancy in focuses between these two types of expertise. Scientific studies that handle environmental change are clearly time-focused whereas local knowledge is first and foremost detail-focused. "It values specific and detailed information about the characteristics of the observed environment. There is no issue of statistical reliability and every personal observation is considered sound and equal, as long as it relates to the environment familiar to the given observer" (2000). Krupnik describes the age of an informant to be "the closest equivalent of the scientific concept "reliability", as changes reported by elders are always considered more valid that those observed by younger people" (Krupnik 2000, p.*34* in Huntington (ed.), 2000a).

Gratifyingly, the growing trend within the northern research seems to be that the Native people are treated as professionals in questions dealing with area-specific environmental issues and their knowledge is respected and cited side by side with western scientific data (see for example "Climate Change Impacts on the United States, National Assessment Synthesis Team, 2000, p.*74-75*).

What comes to the relation between this study and Indigenous Knowledge, this work is totally based on people's observations on climate change and thus it would not have been possible without the people who participated and shared their knowledge with us.

2.2 Research question

The topic of my research is "Traditional knowledge of ecological and climatic changes in the community of Tsiigehtchic, Northwest Territories, Canada". The research question is about the role and importance of climate change in the local context in the community of Tsiigehtchic. What kind of meaning climatic and ecological changes have for the local people, in other words do these changes have importance, is climate change happening and even if it is, is it relevant for the residents of the village? Such climate change related work has taken place quite extensively among the Inuit in Canada during the last couple of years (see for example Krupnik & Jolly, 2002) and it now seems clear that climate change has significant effects on the Arctic environment and its people.

3 PROBLEMS, ADVANTAGES AND BENEFITS OF USING TRADITIONAL KNOWLEDGE IN THE STUDIES

How do you recognize Traditional Knowledge and to what extent the gathered information can be defined as TK in distinction from personal opinions and subjective observations? Therese Remy Sawyer, one of the interviewees, claims that an interest needs to be created towards documented cultural stories among young people, because according to her, these stories provide answers to everything. Sawyer states that today there is science and everything is based on science and thus other cultures and other ways of knowing are not recognized or respected.

"You have dreams and you have to learn how to interpret your dreams, you have to learn how to envision what was shown to you… you had to translate what was told to you

and if you went to someone and told them, they will not, you know they will question you and the first thing you are a witch or you're that… It's like aboriginal people can not go very far with our stories and we're not taken seriously. They are always looking at the labeling and sometimes we don't wanna go any further than where we are because we don't want to, we know what is out there and we don't want to meet it." Therese Remy Sawyer, 2002

A community guide to protecting Indigenous knowledge lists some factors that are challenging the preservation and protection of IK, and in many ways these factors are relevant to any researcher entering an aboriginal community. IK is disappearing from many communities since it is not transferred to younger members of the community and the communities themselves have hard time knowing what IK they possess. At the same time it is being misused and often abused by those outside the community (Indian and Northern Affairs Canada, 2001 p.1).

For Igor Krupnik "it is almost trivial to talk about 'barriers' and 'hurdles' on the ways local knowledge can be matched with the scientific studies." He argues that in most cases these obstacles are consequences of untested and incompletely examined presumptions (based on an idea that traditional knowledge is intuitive, holistic, qualitative and orally transmitted whereas scientific knowledge is analytical, compartmentalized, quantitative and literate). He points out, that while there is some truth to these differences, various examples clearly prove that both scientists and Native experts can effectively operate with both types of knowledge (Krupnik 2000, p.34 in Huntington (ed.), 2000a).

One big issue that was already touched a little in the previous chapter is the question that who should collect and use local knowledge. And there are various other challenging issues too, such as how does the community benefit from a study and how to prevent misinterpretations and misuse of the data. Also, one very relevant issue is the access to the community, research licenses and the idea of compensation. Should people get paid and from what they get paid for, their knowledge or their time? In any ways this seems to be a problematic issue in the area, I heard a comment once that Elders who still know the Gwich'in language, won't teach the local kids for free since they are so used to getting paid in research projects. This kind of issues may also have deeper implications in a small community when it comes to respecting the Elders and passing on the traditions.

At times I felt that all the bureaucracy took away some spontaniety from this research. I got eager help from a local student in finding people to be met and interviewed, but I was not sure what to make from those discussions. As well as I had an oral statement from the Inuvialuit hunters and trappers organization that if I want to talk to people, it is fine, it can be done, and there's no need to get a license for that. That kind of practice from my behalf would have set new limitations for the study and lead to questions such as would any knowledge gathered like that, informally without a license, be available for any kind of usage later on. The whole topic of collecting traditional knowledge and conducting respectful research in a meaningful and politically correct way is so sensitive in the discourse in the Canadian arctic, that I found the best possible option to be to follow set guidelines and established practices.

One advantage of using local expertise, to my mind, is that probably the locals are more trusting when it comes to the final results. When you see a poster or a report where a familiar and knowledgeable person talks about the matter, you'd probably trust him more than a strange researcher. But then again, finding "the most suitable participants" might become a problem just as well, with this I mean that how to find the knowledgeable and respected people for your study. According to Huntington it is possible to ask the community council

to help select the most knowledgeable persons (Huntington, 2000, p.1271). In our case the Gwich'in Social and Cultural Institute provided great help and an answer to this question. The mandate of this institute is "to document, promote and preserve the practice of Gwich'in culture, language, traditional knowledge and values" (Gwich'in Social and Cultural Institute, 2002). The institute has a strong experience in Elder interviews and documenting indigenous knowledge.

4 SCIENTIFIC THEORIES THAT FORM BASIS FOR THIS STUDY

In this work I argue that climate change is happening and that traditional knowledge and local observations have a great significance in the global climate change assessment work. These are the assumptions, which form the scientific basis of this study.

"There's no doubt that climate change is here and happening, it has been going on since the dawn of industrialization and the human impact can well be seen also from the historical ice charts of the Baltic Sea." This is a statement of a Finnish Elder, ice researcher professor Erkki Palosuo (Palosuo, 2003, pers. comm.) and this very development can be seen all around the Arctic areas. By now, it is a rather general estimate supported by many scientists that the Arctic is the one to experience more drastic climate change impacts first. There are various studies conducted among the Inuit in the Canadian arctic that start to prove that things are changing in a new kind of manner now (see Krupnik & Jolly, 2002).

According to Miriam McDonald, Lucassie Arragutainaq and Zack Novalinga, the authors of a book Voices from the bay, the Inuit and Cree living in the Hudson Bay bioregion have

"a unique sense of environmental changes in the region. They have gathered and passed on for number of generations a collective body of knowledge based on observation of the environment and experience while hunting, fishing, trapping and gathering. This oral tradition goes beyond simply documenting events: it represents an understanding of complex relationships in the natural environment that influence the behavior of animals and indigenous people" (McDonald, Arragutainaq & Novalinga, 1997, p.1)

The Gwichya Gwich'in as well, have maintained a relationship with the land for thousands of years, making a living with the resources that the land provides. Their system of knowledge is very closely connected with names and stories, places and trails, history and culture and the knowledge that the elders pass on through their stories that comes from the experiences of a life-time spent out on the land (Heine, Andre, Kritsch & Cardinal, 2001 p.54-57).

"It's hard to explain unless they're raised up in the bush like we do, thus we know the changes right away. We can tell the banks is going fast, we can tell there's slides, more slides along Mackenzie than before and the ice on the lakes is not like it used to be... We were raised up in the bush, we know the changes right away." Billy Cardinal about knowledge, 2002

All this is very much in the same lines as what Fikret Berkes is arguing about the meaning of traditional knowledge for environmental assessment. He states that the people who are dependent on local resources for their livelihood are often able to assess the true costs and benefits of development more effectively than somebody coming from outside. Chief Robert Wavey has said that *"people retain a record of what the land and resources have provided for generations, and the Aboriginal people are the first to see the changes"*. Their time-tested, detailed local knowledge can be very useful in compiling inventories of elements of local ecosystems (Berkes, 1999 p.32 italics by author).

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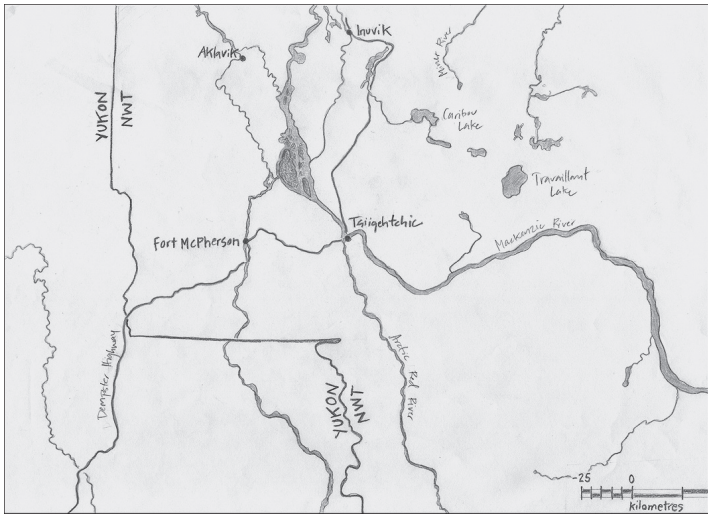

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4.1 Overview of Scientific Climate Change Studies in the North

Even if this particular study does not have its focus on conventional scientific data on climatic change, a brief overview of climate change studies and impacts proven by western academia is presented here. Aynslie Ogden from Northern Climate Exchange argues that climate change is no longer an abstract idea in northern Canada. Clear scientific evidence exists that the northern environment is responding to the changing climatic conditions, evidence that strongly supports the IPCC (Intergovernmental Panel on Climate Change, a body of approximately 2000 scientists and economists who advice the United Nations on climate change) predictions and models on global climatic change (Ogden, 2001, p.14 in Coates et al., 2001). Seth Dunn and Christopher Flavin discuss the most recent IPCC report from year 2001 in a book State of the world 2002. They note that this report clearly suggests that the world is warming and the climate systems are experiencing changes. The document holds evidence of regional climatic changes that have already affected a wide range of physical and biological systems. The third IPCC report also places polar ecosystems among those that have been recognized as especially at risk of irreversible damage when their vulnerability towards the climate change is being assessed (Dunn & Flavin, 2002, p.25-26 in Starke (ed.), 2002).

Canadian science writer Lydia Dotto mentions the Mackenzie Basin Impact Study (MBIS) that was carried out in 1990s and was especially significant because it was one of the first to examine regional impacts of climatic change in the north. This research indicates that warming has already caused thawing of permafrost, increases in landslides, lowering water levels in lakes, more forest fires and longer growing season. According to Steward Cohen from Environment Canada, Mackenzie Basin Impact Study indicates that the changes in climate, vegetation and water would affect the region's wildlife at various stages of their lifecycles, such as migration and reproduction. One example of this is the suggestion of possible negative impact that lower water levels in the Peace-Athabasca delta are having on the local muskrat population (Cohen 1997, p.11).

According to Dotto, two of the more significant impacts that climate change is likely to have on the north are thawing permafrost and altering the timing and extent of ice covers on lakes, rivers and coastal waters. Dotto mentions a report by Environment Canada's Environmental Adaptation Research Group which states that tens of thousands of square kilometers of permafrost in the Arctic are "within one or two degrees Celsius of the melting point. Therefore, much of the permafrost environment would be profoundly affected by the transition to a warmer climate". Further the report states that permafrost is inherently unstable and warming could cause considerable destabilization of the ground, affecting man-made structures such as bridges, roads and pipelines. There is evidence that the frequency of landslides has increased and it is anticipated that there will be more to come in the future. Permafrost thawing is also one of the key climate change issues concerning Alaska listed in the National Assessment Synthesis Team report Climate Change Impacts on the United States (National Assessment Synthesis Team, 2000, p.74).

For Dotto, global climatic change is expected to reduce ice cover on lakes, rivers and coastal waters. She mentions the Canada Country Study (CCS) has projected that the ice season for Arctic rivers could be reduced by up to a month by 2050, for lakes the reduction could be up to two weeks (Dotto, 1999, p.123-124). It is a well-known fact by now that the north is extremely vulnerable to climate change and its impacts. Ogden mentions the variety of positive feedback mechanisms, because of which the northern regions are likely

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to show the effects of climatic changes more rapidly and more severely than any other area on the earth (Ogden 2001, p.15 in Coates et al., 2001). Finnish paleontologist Pirita Oksanen from the Arctic Center discusses the feedback-phenomena: what comes to climate change, the main threat is that the carbon, which is stored in the extensive peatlands in the northern areas, would be released back to the atmosphere. This may happen if the northern climate both gets warmer and drier. Oksanen mentions the permafrost areas in the Canadian North, it is estimated that only in those areas there are 100 billion tons of carbon stored in the ground. She notes that there are scenarios predicting that half of this amount may be released to the atmosphere if the temperature rises by four degrees (Jaakkola, Heikki, 2001, p.8-9).

In 1993, the Canadian Heritage Rivers System prepared a management plan for the Arctic Red River and within the issues listed in association with the river and its future, climate change is mentioned as an external threat to the hydrology, vegetation and permafrost (Arctic Red River Heritage River Planning Office, 1993, p.13). According to the Tsiigehtchic interviews, such impacts are now clearly visible along the shores of Arctic Red and Mackenzie Rivers, where the stream banks are eroding very fast, willows are growing all over the shores now and new fish species have been caught from the Mackenzie River. Aynslie Ogden mentions that discussing unusual environmental and climate conditions is commonplace for northern residents. Local observations appear to follow consistent lines with the science and she states that information is needed from the real climate change experts, the people who are close to the land, as even most sophisticated computer models still lack good local climate projections (Ogden 2001, p.170 in Coates et al., 2001).

The Elders, still active in hunting, claim that ice in the rivers and lakes is not as thick as they used to be. This is something that Finnish ice researcher Erkki Palosuo is concerned over within his "traditional territory", the Baltic Sea. He says that data collected from the ice cover of the Baltic Sea, clearly shows the impact of climate change. Even if the winter is "good" in a sense that it is cold and long, the ice may still be different and that is due to the conditions at the specific time when the ice is forming. If the conditions are not favorable for the forming of the ice at that time, this will have an impact on the final depth of the ice cover (Palosuo, 2003, pers. comm.). Since climate change is a global phenomenon, it may well be one of the impacts on Mackenzie River, the unstable conditions during the freeze-up that results in more slush and rotten ice.

5. METHODS

Why quantitative methods would not work as well as qualitative methods in a community based work? First some practical reasons that come into mind: all research conducted in Northwest Territories has to be licensed and this very process sets some limitations to the research and the methods right from beginning. In the case the researcher wishes to include Traditional Knowledge into the study he or she has to communicate with the "chosen" community / communities. The community has the possibility to reject or accept the research and make notes and corrections to the application, as was also the case with this study. The Gwich'in Social and Cultural Institute reviewed the application and made some amendments to it. In this study the research licence was issued to a representative of a local research centre, Aurora Research Institute, for the purposes of Snowchange project. I was included in the license as a team member.

In some cases this licensing process really works as it is meant to, the community having a say and getting involved in the study but there are also some complications to it. John MacDonald from Igloolik research center says that the case

in Nunavut is such that some communities take active interest on research and some really don't. In his opinion the whole issue of Inuit Knowledge is getting too politicized and even if research licensing is in many ways well grounded, the communities have to have a say in IK-related research, the licensing practices are in many ways incompetent. Research licensing certainly gives more say for the communities but it also enables careless rubberstamping of the license applications. (MacDonald, 2003, pers. comm.).

According to my own experience in Northwest Territories, in some cases there seems to be some obscurity connected to the decision-making process. Is it the band council, tribal council, local research-oriented institutions or other organizations that have the ability to commit themselves and allow research projects to take place in the communities they are responsible over? This can be very confusing at times.

In a qualitative research like this, there is no way one could send a questionnaire into a community since many Gwich'in Elders do not read or write. In some cases also an interpretation is needed because not all Elders do not speak or are not comfortable speaking English. When an interpreter is needed, some thought should be put into finding a suitable person for the job. In this particular study we were lucky to get Noel Andre to interpret for his father Hyacinth Andre. Noel is fluent in both languages, Gwich'in and English and he is often asked to interpret and share his knowledge about Gwich'in language (Heine et al. 2001 p. 238).

Especially when one is interviewing Elders, such basic form of quantitative research as a questionnaire would not be appropriate. This is a traditionally oral culture and according to my experience the Elders like to share their observations and opinions in a form of a story or a memory and here qualitative research methods leave room for peoples original opinions and totally new issues and observations one would not have been able to imagine asking about. In an open-ended interview situation there is a possibility to use maps and other additional material to locate some of the changes and routes etc. The interview situations themselves are often really interesting and many Elders like to have visitors and it seems that many are rather happy to talk about the life in "the olden days". Majority of the Tsiigehtchic interviews were conducted in a relaxed manner over tea and bannock.

When conducting the interviews, John MacDonald recommends that the interviewer knows the topic he or she is going to ask questions about because at least within the Inuit Elders one is able to gain more important and in-depth information if he or she is able to show genuine interest in the topic (John MacDonald, 2003, per. comm.).

In some cases quantitative methods may prove to be useful, e.g. in doing detailed follow-up in animal health and their numbers in a certain region. As a matter of fact, Fikret Berkes strongly criticizes this kind of distinction between Western science and Indigenous Knowledge, the latter being unable to use controlled experiments, to collect synchronic data and to use quantitative measures. Quantitative thinking can indeed be part of traditional systems of management: one of the earliest published uses of traditional knowledge in resource management, Barnston's (1861) nineteenth-century estimate of North American goose populations, was based on a field study conducted within the Cree Indians of James Bay. The study indicated that the Cree killed about *74* 000 geese a year and the Elders had a rule of thumb that "for every goose killed, 20 must leave the Bay". The figure that came up from this estimate (1,200,000) is an entirely plausible figure and well within modern population counts (Berkes, 1999, p.10).

5.1 Method of Fieldwork

This study is based on a one field day that took place in June 2002. Semi-directive open-ended interviews were used as a fieldwork method. Both small group and individual inter-

views took place. Altogether six Elders were interviewed in the course of the day, three of which individually and other three in a group session. Semi-directive open-ended interview is a method where participant or participants are guided in the discussion by the one who is conducting the interview, but the direction and the extent of the interview can freely follow the associations by the participant (Huntington, 1997, p.238).

The whole topic of local observations of environmental change is such that it requires qualitative methods rather than quantitative. Group interviews work well since that allows open discussion between the participants and they are able to steer each other, help remember events, disagree on issues and then have deeper conversation about a specific topic. It may be that the discussion is more natural in such case where there are other people who surely understand the point you are making, whereas it is not necessarily so when a researcher is doing the interview alone.

Also, in our interviews conducted in Tsiigehtchic local elders were trusted to prioritize the most relevant issues and despite the preliminary list of questions it was possible for new topics to pop up in the course of the interview. The documentation was carried out by audio and video taping the interviews.

6 DOCUMENTATION OF KNOWLEDGE

According to the recommendations I got from the Gwich'in Social and Cultural Institute, local people and especially the Elders like to see a poster highlighting the main points of the research. A poster seems to be a well functioning method tested in practice all across the Canadian Arctic. And a poster it is, a group of students went back to the community in June 2003 to return the tapes and the key findings in a poster form. Naturally, a report will be made available in the community but the question then is who will really read this report. A community gathering where the findings of the research are shared with all interested parties could be one possibility, but again depending on the interest of the community members.

Snowchange-project has a well-functioning web site that can be used in communicating the knowledge to research and environmental forums. Maybe before distributing the knowledge to all possible forums and general public, there should possibly be an assessment of parties that would benefit most from this information? Again, is there a way to benefit the community if the knowledge is made available to a specific forum / party?

In Igloolik Research Center the Oral History Project is well organized and the data is documented in a meaningful way. In order to benefit the community the raw tapes should stay in the community in a database, which could be available for other approved researcher as well. In such case the community really has control over the knowledge and it is possible to eliminate redoing same interviews again and again. This seems to be an acute issue at least in the climate change related work that takes place in the Canadian Arctic, various organizations and governmental bodies are interested in the issue, not knowing what others are or doing or have done earlier.

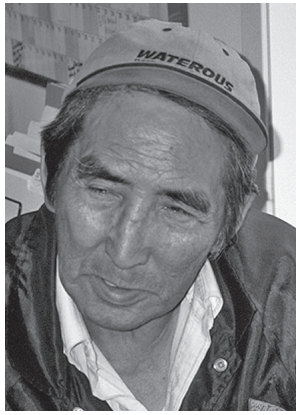
7 FIELDWORK

7.1 Interviewees

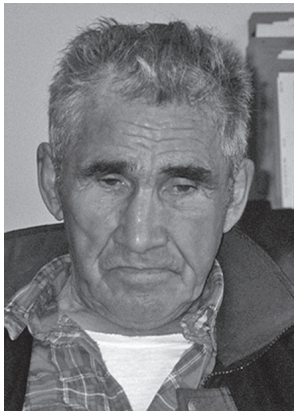
Since Snowchange-project is all about people's observations concerning climate, ecology and environment, it is most beneficial for this project to interview people who are or have been in close connection with the land. To be able to analyze changes in the environment one has to have some grounds to make comparisons on what is and has been changing and this is why all the participants in Tsiigehtchic were Elders. All

Hyacinth Andre

Pierre Benoit



Noel Andre



Dale Clark

the interviewed Elders have been living off the land, hunting, fishing, trapping and traveling in the traditional Gwich'in region. Some of them still go out fishing and trapping or are otherwise observant of their environment. Hyacinth Andre was born in 1910 and he is the oldest elder in the village. He was Chief of Tsiigehtchic for thirty-eight years, longest serving chief in the Gwich'in region. He still remembers a time when moose skin boats and moss houses were used and recalls travels when people walked into the mountains with their dogs, carrying heavy packages. Pierre Benoit was born in 1921 at Tsiigehtchic and he spent most of his life living on the land in the Delta, getting his livelihood from fishing, trapping and hunting (Heine et al, 2001 p. 239, 241).

"You gotta hook up your dogs and then go on, load up your sleigh and everything, just stay there for a week sometime, yeah, come back with a big load of meat, these things I got, and you get lots of fun out of it too, that's right, I sure enjoyed that life, you know." Pierre Benoit about the life out on the land, 2002

Noel Andre is the eldest son of Hyacinth Andre, he was born in 1929 in the Delta and throughout his life he has continued the traditional way of life, making living by trapping, fishing and hunting. When I was interviewing Hyacinth Andre he was speaking in Gwich'in and Noel was the one doing interpretation between us.

Therese Remy Sawyer was born in 1935 and she was brought up by her grandparents traveling out on the land. Today she is very much involved in writing about her life and bringing the culture forward in a story form. Dale Clark has spent a lot of time out on the land hunting and trapping and even when he was working at other jobs he continued to hunt and trap in the bush. Billy Cardinal was born in 1934 and he was raised out on the land. Throughout his life he has been working at different jobs but he still continues to practice the traditional way of life following the seasonal activities of the

Gwich'in (Heine et al, 2001 p.249).

As was mentioned before, the Gwich'in Social and Cultural Institute provided great help in pointing out suitable participants for us and assisted also in setting up the interviews.

8 PRIORITIZING THE ASSESSMENTS

Prioritizing the assessments is a tricky issue since any knowledge can be wrong or misunderstood (Berkes 1999, Huntington 1996) and there's a lot of discussion about the validity of Indigenous Knowledge. But then, this is a project collecting indigenous local observations on climatic and environmental change and what one gets from the interviews is how these people see their environment and understand the changes around them. The importance of a certain change, as well as the viewpoint towards that change, varies a lot even from interviewee to interviewee. When John MacDonald discussed the issue of interviewing Elders he said that this work requires a great deal of respect. If an Elder is giving you an answer to your question as a matter of fact, it won't do any good if you underestimate this piece of knowledge or put that aside because it does not correspond with your ideas or outside scientific factors (MacDonald, 2003, pers. comm.). But from here we get back to the question what is Indigenous Knowledge and what is an opinion and what is relevant in the end. But then it is also possible to follow the rule of thumb of qualitative research, that if the same observation comes up a lot in most of the interviews and there is a consensus, then that is a one way to make assumption that this factor indeed is relevant within the community. And if western science has not had time or interest to prove that there are clearly visible changes along the shores of the Mackenzie and Arctic Red rivers or that an island has disappeared because a lake has disappeared, does not mean that these changes are not happening nor that they are not important for the Gwich'in people.

9 THE PEOPLE AND THEIR LAND – CULTURAL AND PHYSICAL LANDSCAPE OF THE GWICHYA GWICH'IN

9.1 Cultural landscape

The Gwichya Gwich'in, the people of Tsiigehtchic, are one of the regional groups belonging to the to a distinctive native culture known by the general name Gwich'in. The Gwich'in are one of the most northerly peoples on the American continent - only the Inuit live north of the Gwich'in.

Today, Gwich'in lands extend from the Mackenzie Delta in the Northwest Territories west through northern Yukon Territory into interior Alaska. The Gwich'in are bound to the north by the tree line, which separates them from their northern neighbors, the Inuit. When the first European explorers arrived around the year 1800, nine regional groups of Gwich'in existed in the area. The different Gwich'in groups identify themselves by including into their names the region of the traditional lands to which they belong. The Gwichya Gwich'in, "the people of the flat land" are the most easterly group of the Gwich'in and their traditional homeland, described by Heine et al, extends south up to *Tsiigehnjik* (Arctic Red River), east towards *Khaii luk* (Travaillant Lake) and *Vihtr'ii tshik* (Thunder River), and north into the Mackenzie River Delta. In the west, the traditional lands extend to about the Peel River. Today the main community of the Gwichya Gwich'in is the village of Tsiigehtchic, located in a setting at the confluence of the Arctic Red and Mackenzie Rivers.

To prevent confusion I should mention that different names such as Loucheux, Kutchin, and Dene, have been applied to the Gwich'in, of which some are real names used by the people themselves, but some have been proposed by explorers, fur traders and anthropologists (Heine et al, 2001 p.

45-52).

The traditional economy of hunting, trapping and fishing is still very important within the Gwichya Gwich'in people and most people of the village of Tsiigehtchic spend extended periods of time each year 'out on the land' (Salomons, 2002b, p.6 in Van Dyke (ed.) 2002).

9.2 Physical landscape

The homeland of the Gwich'in is situated in the sub arctic boreal forest, an extensive expanse of woodland stretching across most of northern Canada and Alaska. The Mackenzie River Delta (the largest delta in Canada) begins at a point on a Mackenzie River near Tsiigehtchic called Point Separation. Between this point and the Beaufort Sea, there are some 25 000 lakes and connecting channels, the delta totaling an area of 13 000 square kilometers. *The Taiga Plains* Ecozone, the transition zone between the southern boreal forests and the tundra to the north, characterizes the Southern and Central Sections of the delta. This is "the land of little sticks" where the permafrost chills the soil and creates a waterlog effect which limits growth to stunted black spruce in many areas. Further north in the delta the trees become sparser, giving way to shrubs, sedges and grasses. Eventually, even the shrubs disappear in the Arctic tundra - also referred to as the barren land (Salomons (ed.) 2002a, p.2-3).

South from the Point Separation begins the Arctic Red River, which is a major river within the lower watershed of the Mackenzie River drainage system.

10 RESULTS

10.1 "Big change from way back" - Changes in the local environment

Northern environment is in a constant change, natural constant change. This is a well-understood fact for the aboriginal people living in the North as they have a long tradition of adapting to changes in nature and thus surviving in the harsh natural conditions. As Therese Remy Sawyer describes the life on the land in her childhood "any kind of weather was good weather, it comes with the season and we accept that", but now, she says that even the seasons are different, they change more quickly. Billy Cardinal, Dale Clark and Noel Andre all note that even if the river is in a non-stop change, now it is changing much faster than before. These observations are in the same lines as the observations of the Inuit living in the higher arctic areas in the same region, the weather and the environment is changing in a new, faster manner (see for example Krupnik & Jolly, 2002).

10.2 "The delta is really getting it" - Changes along the Mackenzie

There is a one phenomenon that is probably the most aggressive in shaping the landscape in the Tsiigehtchic area, erosion on the stream banks and connected to that, changing vegetation along the river shores. Landslides and eroded stream banks are a definite and repeated sight for anyone traveling along the Mackenzie River. There are trees laying partially or totally in the water and houses and little sheds just waiting to fall into the stream. Billy Cardinal is telling stories of lakes that no longer exist, because they have been washed into the river. Also, he used to be able to walk on top of the riverbanks, but that is not possible anymore since willows are growing all over the banks now. There used to be campsites all along the shores, and Billy Cardinal recalls it being nice to walk to the places where people had their camps.

"When you come around this point and you go along shore here, it's, here there is a big point it's way about from here to the mission house, I guess. That is all gone. It is just straight bank over there. Disappeared under water, gone. Just on the shore you see a little birch sticking out, I have even passed

it with a skidoo just going along the shore and just banks, caving in all along, I said to myself there must be a point here some place, supposed to be, so I had to turn around and look. I looked good and I looked out at the lake there and there was just only dry dead birch sticking out at the point that was there, that is all that's left of it" /4/

Billy Cardinal brought a map of the area with him to the interview and he was able to point out other specific places, capes and islands that will be gone soon or have already totally disappeared.

"...That one is worse, that one is getting worse, this whole point is gonna be gone pretty soon. Yeah, right to the narrows, keep caving in, this. This lake here with a little island on it, you could see there? Well, it is no more." /4/
Billy Cardinal

Similar kinds of observations can be found from some of the other Elders' stories collected from the region. The issue of changing river shore comes up for example when the traditional way of traveling and the usage of dogs for this purpose within the Gwich'in people are examined. According to Heine et al before the arrival of European explorers and the fur trade, traveling was undertaken by foot, by canoe and with the help of pack dogs. The dogs may also have been used in pulling the canoes when traveling upstream. Nowadays dogs are not used anymore, but in any case, according to a Tsiigehtchic Elder, Nap Norbert, the dogs would have been more useful for this task in the old days than they would be today. Norbert notes that the river shore was much smoother than it is nowadays and that there are many more cut banks now than before. (Norbert in Heine et al, 2001,p.70). Agnes Mitchell, who was born in 1953, is telling stories about the life on the land in 1970s. When she is talking about the spring hunt of geese and ducks around the Tree River area, she mentions a little island that used to be an excellent hunting ground for "the big birds". In the wintertime the island was used for hunting moose and it was so big that people were able to chase the animals through the island. Today what remains of that big island is a sandbar. (Agnes Mitchell in Heine et al, 2001 p.308).

Also, previous local and traditional observations of climate change in the Mackenzie delta indicate that erosion on stream banks and landslides are significantly shaping the environment (Snowshoe, 2001, p. 47 in Coates et al., 2001).

Therese Remy Sawyer is concerned over the mudslides that are causing the close by eddies become shallower. She points out a bay that used to be a good fishing place but now it is just shallow.

Also in Yukon Native communities concerns exist over landslides and erosion on the coast that may cause land recession and muddying of water (Ogden 2001, p.168 in Coates et al., 2001).

One typical change mentioned by the Elders is that quite a few lakes are getting drier, some have even totally dried out and disappeared, also in the immediate vicinity of the community of Tsiigehtchic.

"It's grass way out now, in the middle of the lake, it is drying out. And at Burnt lake when you put your canoe in the water, water used to be right around there on the shore, now you have to walk in the mud for several meters, put your canoe there and get into your canoe." /4/

"There's lots of lakes just sitting there and just drain out dry, around the delta there's lots of lakes... Even on the flat across here behind the ferry, that's a skinny lake there, that is drying out too, you know, there's a little lake behind the ferry ladder too and the water drop lots, all that's changing, in the last two years." /2/

Lower water levels can also be observed when trying to get into a canoe from a lake or river shore. The Elders tell that it used to be easy to hop into the canoe right from the shore but now one has to walk in the mud for several meters,

because the shore and the water is not quite where it used to be /4/.

10.3 "It's way down now" - Permafrost

There exists quite a lot of both, scientific evidence and local observations that the permafrost is indeed melting in the northern regions. Billy Cardinal shared an observation connected with hunting and storing the muskrat:

"Permafrost is melting, it is right down. I used to scratch the moss away and the permafrost used to be there. If you gonna come back the same way you make a little cache under the moss, take all the moss away and put your rats there and cover it and on your way back you pick it up. But now when you dig, permafrost is way down. It is too hard to dig now." /4/ Billy Cardinal

"Ice pit", a way of preserving food and quarry, was probably rather common during the days out on the land. Gabe Andre used to do this with mallards: "sometimes you just clean them up and just bury mallards under the moss, right next to the permafrost, they will stay cold. They won't freeze but they stay cold, good for a week" (Gabe Andre 1996 in GRRB 1997).

Billy Cardinal also sees a clear connection in between the impacts of the melting permafrost and the eroding stream banks and landslides. While he notes that now the delta is changing faster he explains, that this is happening because the permafrost is melting /4/.

Therese Remy Sawyer recalls the community being bigger in her childhood than it is now and she believes that the land is eroding and the permafrost is melting and thus shrinking the land /6/.

10.4 "We used to get wet rubber boots" - Change in the seasons

According to the Elders, in the springtime when the snow started melting in the old days, there used to be a lot of water on top of the ice. Dale Clark and Billy Cardinal recall driving dogs on water in the springtime and early summer, but now the snow just melts and "disappears", there is much less melt water around.

"It melts and it evaporates, they don't leave no water on the lake, nothing. The lake is just like this clear and no big drifts of snow and after it melt, you don't see it around, nothing. And we used to see all that water melt that used to run into the rat houses, the rat holes (muskrat). Water in it, you don't see that anymore". /4/ Billy Cardinal

Big puddles, which used to be filled with melting waters, are now dry and on places where Billy Cardinal used to get wet despite his knee-high rubber boots, it is possible to walk through with normal shoes and avoid getting wet. The Elders describe some of the pools being "as big as a house" /4/ and they used to be filled with water; nowadays they are just dry and it is possible to go right across them.

Dale Clark has observed a change in thawing and freezing patterns during the seasonal change.

"In the olden days, you know, it used to thaw and freeze at night slowly but now it stays cold for long and all of a sudden snow does melt night and day... we used to go out to trap line and wait till morning that freeze, ah that crust, traveling on frozen snow, ah you get around. You never see that no more now." /5/

Freeze-up and meltdown can vary a lot in the region, however Billy Cardinal is observing an earlier meltdown these days. He notes that one has to get off the lakes earlier and he remembers a time when people used to drive dogs on a lake ice in June and that is not possible anymore. The oldest Elder in the community, Hyacinth Andre also mentions that the ice in the lakes melts very fast now, and that is different than long ago /1/.

10.5 "It's even melting from the bottom" – Observations of Snow and Ice

There seems to be no really clear change in the amount of snow in the Tsiigehtchic area. Noel Andre notes that in the old days when people were still traveling with dogs, the amount of snow was not that important parameter and that the change in culture and the methods of traveling are also affecting the way people observe changes the environment.

"With a dog team you had to be walking ahead of them all the time in order to break the trail for them and that way you don't notice much about the snow, you don't care how deep it is you still have to walk ahead. But now we have skidoo and if there is too much snow we know right away." /2/

According to Dale Clark, Noel Andre and Billy Cardinal there is definitely a change in the ice conditions in the region. All three men note that there used to be more ice in the rivers and lakes.

"The ice on the lakes is not like it used to.... We might have about three feet ice, maybe one foot and a half of main ice, blue ice, rest is frozen slush, it's not like long ago, maybe slush on top, the rest is blue ice all the way, real main ice so that the lakes can and rivers can stay good for a long time in the spring, but now it goes really fast. It's even melting from the bottom, I noticed that cause I trap rats, ice is melting from the bottom." /4/

10.6 "They used to go back to the barren land" - Changes in animal numbers and behavior

10.6.1 Caribou

There is woodland caribou around Tsiigehtchic. Billy Cardinal mentions that the animals usually migrate to the barren land in March and April, in the springtime and come back to the grounds around Tsiigehtchic in the fall. But now he has observed changes in their migration patterns, while part of the herd heads back to the barren land, some of them have started staying around. "Global warming, I guess", Cardinal concludes his answer about the caribou and its changing migration patterns. Fred Pearce from New Scientist is in the same lines as him, Pearce argues that global warming is already changing the animals' migration on the Alaskan side. This is the Porcupine River herd that he is talking about, which migrates back and forth across the U.S - Canadian border. According to Pearce, these animals suffer from warmer summers affecting the condition of the pasturelands and warmer winters that trigger heavier snowfall (Pearce, 2000, p.16-17).

10.6.2 "Them big birds" - Ducks and Geese

Noel Andre, Dale Clark and Billy Cardinal all agree that there is not much geese or ducks around in the springtime. Pierre Benoit remembers how "them big birds from the south were just flying steady, steady" over the region and that kind of phenomenon is not seen anymore. Hyacinth Andre too mentions that he does not see ducks and geese around. There was a suggestion that it might be that the birds have changed their migration patterns.

A document of traditional knowledge about wildlife species used by the Gwich'in, indicates that there is a change in the numbers of black ducks, *Njaa* (white-winged scoter) and *Deetree'aa* (surf scoter). According to the documented Elder observations, these species were common in 1940's and 1950's but their numbers have dropped since. The numbers of mallards and geese vary quite a lot probably mainly due to the changing migration routes (Gwich'in Renewable Resource Board, 1997, p.116, 121-122, 127).

10.6.3 "They used to get hundreds of rats" - Muskrat

Muskrat trapping used to be a very important source of income in the area. All Billy Cardinal, Dale Clark and Noel

Andre used to be trappers, which was the only way to make a living in the region during the fur trade period, as Dale Clark puts it "if you're not a trapper, you've got no money at all." /5/

According to Pierre Benoit, the muskrat numbers have gone right down.

"1930s, 1940s I remember you can go out and get, in the delta anyway, you can get maybe 70, 60 and if they get lucky they get hundred and all that, you don't get that much nowadays." /3/

Muskrat is an interesting animal; a whole lot of knowledge about the Gwich'in culture and the land is tied in with the stories about it. Muskrats were not hunted much before the arrival of the fur traders; people stayed up in the mountains until the spring and rarely hunted or trapped muskrats (GRRB 1997, p.83). In the 1920s and 1930s the fur prices went up and people started changing their travel patterns. Throughout the fur trade period many families used to go to the delta to trap and hunt muskrat (Heine et al, 2001 p.155).

Hyacinth Andre points out that a good spring hunt in the olden days would be when a hunter would get over a hundred rats in one night. Even if trapping has lost it meaning as an important source of income, some people still go out ratting and Andre is picturing the best hunt during last spring (2001) where they got about 30 rats /1/.

Like Igor Krupnik writes in his paper "Native Perspectives on Climate and Sea-Ice changes" that Native knowledge is well organized around key environmental agents (such as wind or ice) or indicators of change or around critical game species (Krupnik 2000, p.29 in Huntington (ed.) 2000). Tsigehtchic Elder Billy Cardinal uses muskrat as an example when he is discussing about various kinds of changes in the local environment, he explains about the recent different kind of melt-down in the spring time using an example on how the melting waters used to run into "the rat houses" or the rat holes and, now one does not see water in those holes anymore. Billy Cardinal states that he knows all this, all these changes, because he still goes out trapping /4/.

"It (ice) is even melting from the bottom, I noticed that cause I trap rats. Ice is melting from the bottom" /4/.

Cardinal gives an example of melting permafrost through his observations and activities connected with the muskrat trapping. He also mentions an island where he used to stop during his hunting trips /4/.

"Well that island is gone, right next to Beaver Lake. Just a little bit of one end sticking out, there's a nice big birch I used to stop there make fire and skin rats under that birch." /4/

The drastic change in the lifestyle, the cultural change, is often discussed on the basis how people do not go trapping rats or hunting or fishing anymore. It was possible to make a living out of hunting and trapping in the old days. Billy Cardinal sees a change in younger generation; people are not interested in muskrat these days. Pierre Benoit is concerned over the same issue, young people do not go fishing or trapping rats anymore, the money one would get from the rats is just not enough nowadays /4/.

10.6.4 "Nothing around" - Insects and Frogs

For me, there still is a great abundance of mosquitoes in the region but there seems to be a very consistent idea that the number of insects is really declining. Pierre Benoit hardly observes any ground bugs around, and Hyacinth Andre notes that there are no kinds of insects around, while in the old days there was lots. Billy Cardinal, Dale Clark and Noel Andre all agree that there are less mosquitoes and blue flies around.

"Nothing around. In the spring like this when you're fishing or you're hunting and put the carcass down on the ground there's flies there ready, but now there's nothing." /4/

Noel Andre remembers going out at this time of the year, early summer time, and there would be buzzing sound all

over, but that was long ago /2/. According to Billy Cardinal this change in insect numbers has taken place during the last 10-15 years /4/.
Not all changes are necessarily bad ones and this decline of insect numbers could be one of the positive impacts from the human point of view, however, at the same time there is a great concern over the large summer bird populations in the North.

Number of frogs seems to be declining too. There are still frogs around Tsiigehtchic, but according to the Elder observations the numbers are getting less.

"In the olden days, frogs were here and there, now it's not so much. You might hear odd ones, but not as much as it used to be." /2/

10.6.5 "It came from the Philippines somewhere" - Fish
"One time there was a different kind of fish in the river, doesn't look like trout, doesn't look like salmon. So one of the skippers of the ferry said us it is a warm country fish, from way down south, some place in Philippines somewhere." /4/

New kinds of fish species have been caught from the Mackenzie River. According to the Elders who are still active in fishing and hunting the sizes of the fish have stayed the same throughout the years.

The Mackenzie Basin Impact Study suggests that if the temperatures of lake and river waters should rise due to the climate change, such impact might put the cold water species to be at a greater risk, but currently not enough is known about the possible climate change effects on freshwater fish habitats (Cohen, 1997, p.11)

Blue Herring has been caught from the Mackenzie River. Dale Clark told a story of a blue herring he caught one time in March and the game warden came and took the fish back to Alberta with him. Others in the group have observed blue herring around Mackenzie River as well /5/. With this observation of blue herring the Elders were also able to surprise Mike Salomons, a research manager from Aurora Research Institute, who is an eager fisherman during his free time.

10.7 "Willows grow like bad weeds" - Plants
According to Billy Cardinal plants in the area grow faster now than before /4/. Dale Clark has a garden with rhubarbs and already in the beginning of June he is able to make rhubarb pie whereas before he would have wait till July to be able to pick them up /5/. As was already mentioned before, willows are growing everywhere on the stream banks.

Billy Cardinal has also observed trees drying out in some places and together with Noel Andre he states that berries "seem to cook in the heat" when they are flowering and then they get less after that /4/.

Previous climate change studies carried out in the Mackenzie Delta, show that people have observed plants that are drier in the summer also before (Snowshoe 2001, p.47 in Coates et al., 2001).

10.8 "It used to be 60 below about a whole month" - Changes in weather
For Noel Andre the winters are not as steady as they used to be. Weather still gets cold, but such cold period might last only for a day or two, then it warms up and then it gets cold again /2/. Hyacinth Andre remembers how it used to be so cold in the wintertime sometimes that you could not go outside. People just stayed inside their skin tents and could not go outside, except to get some wood /1/. Pierre Benoit also remembers that there used to be pretty cold weather in the wintertime, especially in January.

"I remember I traveled a lot in a cold weather when I was young, about 18-19, but the weather start changing, I think around 1960 something, I'm pretty sure of that." /3/
Pierre Benoit

For Noel Andre, the summers have started to get warmer since the year 1990. "It really started to get warm since 1990... We just had maybe one hot summer and that's all but after that it was happening every year". He has recently experienced something new that never happened in the olden days. Andre makes dry fish every summer with his family and now if he leaves his fish outside for too long there is a possibility that it will start cook in the sun /2/. For Billy Cardinal the heat from the sun is getting too intense as well, he notes, that "You can't sit over there and enjoy the sun, you gotta move away". According to Billy Cardinal Tsiigehtchic is now experiencing July weather in May (80 degrees Fahrenheit ~ about 27 degrees Celsius) /4/.

Wind patterns have changed too, Hyacinth Andre, the oldest Elder in the village, mentions the real warm west wind that Tsiighetchic area used to get in much longer periods, sometimes even in the middle of winter /1/. According to Noel Andre, that west wind is still blowing sometimes but it changes into a north wind much faster than it used to /2/.

10.9 "Earth is moving?" - Other observations

Pierre Benoit has observed a change in the frequency of forest fires during his lifetime and according to him there are quite a lot of forest fires around the area nowadays, almost every summer, which was not the case a long time ago /3/.

"I remember in 1930 when I was 9 years old I came back from school that summer, that smoke was in the delta..... There was a big bunch of burnt country and I remember that was the only time I see a big fire in those days" /3/

Increase in the amount of forest fires sounds like a logical consequence of climate change when it is examined in the light of other changes the Elders have observed. Longer and hotter summers certainly may have such effect on the northern ecosystem.

For me, the most puzzling phenomenon that was described by the Elders is definitely a change in the daylight conditions, which has been observed both by Dale Clark and Billy Cardinal.

"I remember in the old days in the 16th of August it was pitch dark out at night around seven o'clock, but now the sun is up all night. We used to go down the hill, there used to be old people stay at the flat there in the thirties, 1939, I know I go down with a flashlight, now that's a big change for it used to be dark at seven o'clock, pitch dark out, in August, and now the sun is up in eleven o'clock in the night, you still see the sun." /5/ Dale Clark

Billy Cardinal, who joined the group a little after Dale Clark's comment, also had a story to tell about the same phenomenon

"I was raised up down here, six miles down, come up and get stuff and play around with the boys for a while, gotta get home before dark, eight o'clock, seven thirty, gotta get home before dark. Now it does not get dark till about two o'clock in the morning, one o'clock in the morning". /4/

10.10 "Too much heat from the sun" – Reasons behind the change

In the case of most of the mentioned changes it is hard to point out the exact cause. It is difficult to make direct linkages with human action and climatic change since the actual "guilt" is somewhere else, it just seems so that the north is the first one show some severe symptoms. Still there is also distress over direct human impacts as well. We had a discussion about flooding in the springtime and some of the Elders were pretty sure that a hydroelectric dam (Dam Bennet in northern British Columbia) is the reason behind lower and steadier water levels in the Mackenzie River. Such concern also exists among the officials of the Northwest Territories, but it has been found out in the Mackenzie Basin Impact study that climate change has also played a role, in causing lower water

levels in the Mackenzie River and exacerbating the significant effect that the Bennet Dam has had on the river (Cohen, 1997, p. 19). There were also people in Inuvik who were saying that they have not seen a big flood in the last ten years.

Therese Remy Sawyer points out the ferry landing and the mud shifts that are at least partly caused by the ferry activity. Therese is concerned over the near by eddies, which have traditionally been good fishing places and have now become shallower by the mud and gravel. For her there are extensive changes in the environment around Tsiigehtchic, but sometimes it is hard to make distinctions what part of it is directly man-made (for example impacts of the ferry activity) and what part is caused by indirect human intervention, including climate change /6/.

For Noel Andre and Dale Clark the main reason behind the changes is in the sun, there is just too much heat around. Billy Cardinal is in the same lines with Clark and Andre, he believes that warmer winters affect the land so that it does not have a possibility to freeze properly.

I'll say it is the biggest change is by the sun, not like long time ago… Mostly it is the heat that melt the permafrost too, that's what changing the landscape, otherwise I don't know. But for me that is the reason." /2/

Summary of the climate change observations can be seen in table 1.

Topic	**Observed Change**	**Evidence, Impacts**
Climate	Warmer winters	-Long time ago it used to be real cold, can't even go outside -It used to be 60 below about a one whole month -Now cold weather lasts only for a day or two -Weather gets cold, then it warms up and then gets cold again
	Warmer Summers	-Weather started changing around 1960's -Long daylight hours in August now -Heat from the sun is more intense -Higher temperatures, July weather in May -Lots of dust -Dry fish can cook in the sun
	Seasons change more quickly now	-Spring is all mixed up sometimes -Less flooding -Faster spring melt -It used to thaw and freeze more slowly -There used to be melting water on top of the lake ice -No water in muskrat holes in springtime -One used to get wet rubber boots travelling during spring time -Have to get off the lakes earlier
	Lakes and River	-Lakes disappear -Points disappear -Islands disappear -Lakes are getting drier -Grass is growing in the middle of some lakes -More landslides along the river banks -Faster erosion of the riverbanks -Willows growing everywhere along the cut banks now -Shores are muddy everywhere, can't get into the canoe right from the shore
Permafrost	Permafrost is melting	-More landslides -Permafrost is deeper down -Land is shrinking

Table 1. Evidence of Recent Environmental Change observed by the Elders of Tsiigehtchic

Topic	Observed Change	Evidence, Impacts
Animals	Less muskrat	
	Change in caribou behaviour	Less geese and ducks flying over Tsiigehtchic
	Less geese and ducks around	
	New fish species	Blue herring in the Mackenzie River Exotic fish caught from the River
	Less insects	Less mosquitoes Less blue flies Less ground bugs
	Less frogs	
Plants	Plants grow faster	Rhubarb can be picked up in early June Willows grow faster
	Plants are drying out	Trees are drying out in some areas in the summertime Berries (flowers) suffer from too much heat
Wind	Changing wind patterns	Long time ago real warm west wind Now wind changes to north wind faster
Forest fires	More forest fires around community	

10.11 "Instead of dogs we hook up skidoos now" - Cultural and Social Change

Even if the environmental changes are disturbing and they are well observed by the still actively hunting Elders, there definitely is a great concern over the degradation of the Gwich'in culture. No culture is ever static and unchangeable but there seems to be a real gap between the Gwich'in generations and the interviewed elders are really concerned that the present youth will not be able to learn and carry on almost any of the crucial aspects of traditional Gwich'in culture. Western education is seen as "okay", but as Hyacinth Andre states: "parents don't train their kids as well as in the olden days" /1/. The Elders feel that there is a great lack of respect towards the nature and the environment. Western education is one of the reasons for the loss of respect among the young people. For Therese Remy Sawyer it is not the climate change or any kind of environmental change that has most affected the ways of Gwich'in people, it is the education, missionaries and monetary economy.

"Western interference, a lot that sort, for our children went to the residential school and that had broken the kind of relationship with the parents. Gwich'in parent used to provide the message of the land and how to survive to their children, the children now were separated and had different thinking from the education." /6/

Therese Remy Sawyer mentions ownership being another problematic issue; western society always wants to own everything. This has affected the traditional way of sharing, and she is sad seeing that part of the culture gone. For her it was also difficult to understand why somebody would comment that one would be living in 'poverty' when following the traditional kind of lifestyle.

"If I had to worry about a dollar and you know for what they say a rainy day, I would rather know something about the land, my skill on the land is much more needed than a dol-

lar in the bank, because that way I will survive, I know I will survive, but my dollar in the bank, there are lots of things it would not work for, that you know, that could happen and it is not gonna work." /6/

She finds strong linkages between the modern human behavior and the changes in the environment. She states that the western world has been very superior to the land, it is a challenging to become superior to all things and such behavior cannot be continued.

"My elders are very afraid to say a wrong thing against nature because when nature takes on its fury, it's something, a lot of times it is devastating and we see that right now" /6/

These are the very things that Pierre Benoit has concerns over as well:

"Back in the years, people were good people, everybody share everything, work and bush traveling, everybody look after one another and people had good home, that's way back in years, as far as I remember. But after the changing, the people want money, that's all they want, work, money, money, money and they don't care about each other at all. There's a big change in that" /3/

Pierre Benoit saw western education and schools coming into the community and alienating the children from the traditional lifestyle. He says that today kids learn well, way better than his generation did, but they do not have a 'bush skill' and they do not have respect. "They don't even know how to make fire in the bush." According to Pierre this is because nobody takes them out to the land enough and in these days it is pretty hard trying to, because the children do not necessarily want to go and they will miss radio, TV, bingo among other things /3/.

Billy Cardinal, Dale Clark and Noel Andre all feel that it is hard to make the kids understand the changes. It is hard to explain the changes when young people think that it has been like that all the time. There is a strong sense among these Elders that the kids would not believe what you are saying and telling them about the changes. Even the terms of speech are different -miles, gallons, Fahrenheit, yards...

"We go by above zero and below zero, you know our own ways, but them, they use Fahrenheit, we don't know what that temperature what they say, well ten, they say, we don't know, but the younger people they study that maybe they will know but we go by below zero and above zero, 1 mile, 2 miles, 3 miles, gallon". /4/ Billy Cardinal

Noel Andre is concerned over the loss of the language, which is an evident problem all across the western Canadian arctic. English has become a real power language in the area, Gwich'in and Inuvialuktun languages are not properly taught in the local schools in the western arctic and there is great general concern among the elderly population. How many people even know that there are 8 official languages in the Northwest Territories alone?

In the old days people were able to predict the weather by just by observing the sky and the environment. Pierre Benoit is one of those few people who still can "read the sky". He learned the skills to read the weather in his childhood, quite a few decades ago. He explains that it depends on the sunset and some of the old people knew the weather rather well years ago, but now if one goes and tells people about that they won't know anything about weather predicting /3/. Also Hyacinth Andre remembers that also his father used to know how to read the sky and predict the weather

"He don't really know how to read the sky, but his dad was the one that knew how to read the sky and he just looked at the sky and then he said tomorrow it will be rather sunny, and it was all true what he was saying." /1/

The Inuit claim that the weather has become more unpredictable (see for example Fox 2002; Riedlinger 2002) but it seems that the change in culture has been rather drastic within the Gwich'in in this respect and such skills are not

passed on. In the interviews the issue of unpredictability was not considered to be an important matter. However, this is a rather sensitive topic and not necessarily the one people wish to discuss about.

The western monetary economy has had a drastic impact on subsistence activities and none of the Elders believe that the young people will go back to the life on the land. Living off the land is hard work and since interests change, traditional kind of life is not possible anymore.

"Now even students get 8 dollars an hour, 9 dollars an hour still is not enough, you know… I don't think they're going back in the bush to make money out of the bush, they go just for camping out and stuff like that, they enjoy that but for hunting and making money out of the bush, I doubt it very much." /4/

However, despite all the observed changes in the surrounding environment, the Elders still believe that the land is 'good' and that it could provide livelihood for the Gwich'in people also today. It just seems that the cultural change is way too forceful:

"There's young people, they'll have to change somehow too, but them they're changing the other way, more on the white peoples side, ways you know, they don't want to go to the bush and make money out of the bush anymore, there's marten out there, rats, beaver… Things like that I don't see young people getting into, even now to set a net in the river, they're not interested." /4/

10.12 "Mackenzie River will be flooded with oil" - Looking towards to the future

10.12.1 Oil and gas

Oil and gas issues are very relevant in this region. Large-scale petroleum resource production and pipeline development is possible in the long term in the Mackenzie Valley (Berger 1988, p.115-26). The region is under the interest of many large oil companies. The first attempt to build a pipeline was voted down in the 1970s and local people were fighting hard against it. The whole issue of pipeline development seems to be a very sensitive one and something that must be discussed in a bigger group. Like Pierre Benoit says he is getting too old for that, and young people should work it out now /3/. Still, there is a lot of concern over such plans within the elders, they are afraid that it's going to spoil the land and the country. Climate change is playing a role in this is as well:

"They should put a little study there how the land is gonna hold out after they build that pipeline, it's kind of risky, maybe they'll be building on ice, we don't know, all of a sudden the permafrost melt and bang, the pipeline broke. It's gotta be solid foundation cause it's melting pretty fast." /4/

10.12.2 "What the land is telling to us" – future predictions

Billy Cardinal told some stories about an old father who used to live in the community of Tsiigehtchic and used to predict things. He has predicted that there will be a time when it is not possible to set a net in Mackenzie River. This man has said that one day there will be oil from one shore to the other shore, that the whole river will be covered with oil. This prediction has not become true yet but Billy Cardinal feels that it is not at all impossible for such thing to happen in reality /4/.

Therese Remy Sawyer mentions the predictions of her Elders that suggest that there will be tropical weather again.

"My Elders say that this land used to be tropical land one time. That is when we had all the giants, and there was a man that came around to kill these giants. When he was coming all the animals, these giant animals, went underground, for there they would be safe. Well they stayed there and died because of the weather changed and the Elders are saying now that we are going to have a tropical weather again, you know, that

is coming. And you know I just think, well the weather is really showing that, but how can 9 months of winter change into tropical weather? I don't think it's gonna happen during my lifetime" /6/ Therese Remy Sawyer

Billy Cardinal believes too, that the land is telling us that we are going to go back to the same way as it was long time ago, warm climate. When he looks at the land, he sees that the signs sure are there /4/.

11 DISCUSSION

As Berkes and Jolly state, climate change provides a good example of a complex systems problem for which place-specific case studies and participatory methodologies are particularly appropriate. Here the impacts of change have a chance to unfold at the local level, right at the spot where they are observed (Berkes & Jolly, 2001, p.16). This report is not pretending to be an extensive summary about the knowledge and information the Gwich'in possess of the environmental change in the region around Tsiigehtchic. This small-scale study is merely the tip of the iceberg, letting a small group of Gwichya Gwich'in elders voice their concerns and observations over the changes they have seen in their environment along the years, showing real evidence over particular changes through the experience of time spent out on the land.

I feel that I made quite a few of mistakes myself when conducting the interviews in Tsiigehtchic. Shari Fox has rather extensive experience in interviewing Inuit elders and she is warning about questions that can lead the person who is being interviewed (Fox in Krupnik et al, 2002 p.) and I realize I did that a lot. But what comes to the reliability of the gathered stories and observations, Gwich'in elders were quite decisive in their comments and they would not follow any of my leads. It feels like these Elders were understanding towards my questions and the phrasing of them, since according to the participants even the local youth has hard time in understanding the changes around Tsiigehtchic. There was a strong sense of "knowing the local environment" within the Elders and getting the observations documented correctly. So even if I feel that I was suggesting something with my questions, the interviewed Elders were quite capable of clarifying my assumption to be incorrect, if needed.

In some cases I probably did not give enough room for the conversation or I did not pick the important things from the discussions, when there would have been a possibility to have more in-depth conversation about some interesting issues.

Luckily, at least those issues were able to come up, thanks to the method that allows participants steer the conversation towards issues they feel are important. This is very relevant since coming from a totally different culture you don't necessarily "know" all the important questions. This is one of the benefits in using the open-ended semi-directive interview, the participant is able to add or skip topics depending on their interest and experience (Huntington, 1997 p.238). If there are any sensitive questions one would like to cover in the interviews, such as weather predicting skills, spiritual aspect of traditional knowledge or issues concerning oil and gas development in the area, this method allows the participant to pass topics he or she does not wish to talk about.

One-day fieldwork was enough to conduct four in-depth interviews but personally I think that at least one additional field day would have been beneficial. Especially if there had been enough time to transliterate the interviews in between the visits, so that the contents could have been gone through with the participants just to make sure that the participants were happy with their statements and that everything was understood correctly by the researcher in order to eliminate any misunderstandings or misinterpretations.

It would have been a good idea to go out on the land with some of the participants and have more informal discussions

right at the sites where the mentioned changes are really visible. This would have helped me as somebody visiting from outside to gain more in-depth understanding about the environmental changes and their impacts on local people. As a general guideline one should reserve enough time for working with the arctic communities, anything can come up and it is good to be prepared. I personally learned that interviewing Elders is not a light task and there's no use to pack too many interview situations into one day. Looking back to that field day, the nature of the interviews would have probably been different, if more time had been spent in the community. This would have enabled more informal discussions with the Elders and less tight phrasing of the questions in the interviews.

12. CONCLUSIONS

People tend to experience changes in different ways, according to their interests and cultural backgrounds. Not all observations are consistent with each other, or with scientific data, but what is important is that real changes do occur, there indeed is a big change from way back. Certain things cannot be done as they have been done before; ice pits cannot be used anymore in storing muskrats and other quarry, easy hop into a canoe has changed into wading in mud and hunters have to get off from the lakes earlier due to the faster melt-down in the springtime. Islands are disappearing and intense landslides mold the landscape along the Mackenzie River. However, while there certainly are concerns over the changes in the environment, the Elders still retain great faith in the land.

There are many lessons to be learned; local observations and Elders' stories have an immense power as a resource to document alterations in the land, waters, wildlife and vegetation caused by climate change. This particular study has a potential to act a basis for a larger environmental impact assessment within the Gwichya Gwich'in of Tsiigehtchic in the future.

13. RECOMMENDATIONS

There is a lot of concern over the younger Gwich'in generation among the Elders. There's a need for different kind of education and passing on the Gwich'in language and traditions. The Elders would like to see the respect over land and animals emphasized in teaching the children. A big question is how to get kids interested and involved.

One elementary school teacher from Fort Smith got really enthusiastic about climate change and the idea of making the children in the communities understand the interlinked nature of ecology and the linkages between human action and the impacts on the local environment as well as the global character of climate change. When appropriate, local children and youth should be involved in the community studies in a meaningful way.

As Therese Remy Sawyer states, an interest towards the stories and TEK should be created within the youth and I feel that one way to succeed in this is to establish a database. Having all Gwich'in / Tsiigehtchic interviews in one database that would be easy to search could be one way to involve the youth. As well, such database would be enormous help in research and also asking the same questions from the Elders could be avoided. I agree with John MacDonald that there is certain urgency in collecting and documenting the oral stories of the Elders who still possess very special kind of knowledge and know how the language is spoken (MacDonald, 2003, pers. comm.).

In terms of climate change also younger people who still go out on the land could be interviewed, whether the observations of the Elders bear any resemblance or relevance to

their observations.

Probably more profound study on socio-economic and cultural change should be carried out in the area, not just within the Elders, but also within the youth to gain deeper understanding why the traditional culture is not valued at present and find more effective ways to introduce the language and certain aspects about life on the land for the youth.

According to my experience in the Canadian North, more cooperation is badly needed in between different organizations working with issues concerning environmental change in the arctic areas. There are many fine guidelines but the actual practices related to TEK are, to say the least, confusing. Aynslie Ogden mentions that it has been found out that northern research is in a state of crisis in Canada. She argues that northern Canada needs to regain its capacity to monitor changing environmental conditions and that a community-based, climate change monitoring is required in order to make the best use of limited resources and avoid duplication of efforts (Ogden, 2001, p. 170-71 in Coates et al., 2001).
Still, many fine examples show that TEK can be used in many ways in the benefit of various stakeholders and that the knowledge is clearly acknowledged and respected. The discussion is only beginning in the European North and thus a lot of what I learned during my time in the Canadian Arctic represented a new kind of thinking for me.

What I would like to see more in the northern regions is collaboration between the native people and scientists, both ways. As was noted by an Elder in a Snowchange information session in Inuvik in April 2002, "It does not require a PhD to push a stick in the snow". She pointed out that they (local hunters and trappers) are out on the land anyway, why not to involve them and at the same time create some job opportunities that are connected to the traditional way of life.

For any beginning researcher I would strongly recommend to keep a diary about the days of the fieldwork (Alasutari, 1995, p.253).

Writing down all questions, ideas, interests and curiosities as they arise makes the planning and writing the actual thesis much more composed work.

A research is always a product of the interests of a researcher and it should be remembered that there are various other issues and interests in the northern communities. A researcher making an issue important just by choosing it to become the topic of his or her research and thus some thought should be given to this matter. Open mind is a key feature when doing research in the north; it can be a very unpredictable place and the results somewhat different than one would expect them to be.

In order to gain more in-depth understanding of the impacts of climate change in the region, a joint effort with science and traditional knowledge and local observations is needed. Thus, I would strongly recommend the verification of these observations with the scientific data that deals with the climate change impacts in Northwest Territories.

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Nunavut


Ellesmere Island
Kalaallit Nunaat (Greenland)
North Magnetic Pole
Baffin Bay
Victoria Island
Baffin Island
Davis Strait
Arctic circle
Iqaluit
NUNAVUT
Hudson Strait
Nortwest Territories
Hudson Bay
Quebec
Manitoba
Ontario
0 300 km
Jr04

Changing Inuit Society and Significance of Snow

Commissioner of Nunavut Peter Irniq of the Nunavut Territory, Canada. Nunavut was established 1st April 1999. This presentation is based on interviews and correspondence of May 2002.

We start by travelling into a period of history of Inuit, to the 1950s and 1960s. A lot of us were sent to the residential schools by the Roman Catholic Church. This church was contracted by the government of Canada to deliver education to the Inuit. And people who went to these residential schools are all holding good positions today - whether they'd be in government or communication or jobs of that nature.

But one of the things that happened in the residential schools was that we lost a lot of our culture, our language as well as spirituality. A number of us have been working to a document Inuit culture, language as well as spirituality over the course of the past 20 years. That's from about the 1970s. We are taking back our culture for example through Inuit Circumpolar Conference - ICC and the Government of Nunavut. We're taking back our language. And we are taking back much of the spirituality that we've lost over the course of going to school in the 1950s and 1960s.

Because in those days we had no one to teach us about our culture, our language. We were there in the residential schools to learn to speak English, learn to write English and to forget about our own culture, forget about our own language, forget about our own spirituality.

[They said] 'You're here to learn to speak English, you're here to learn to become a teacher, doctor, pilot'. So one of the things that we wanted to do with the creation of Nunavut [1st April 1999], was to start taking back our culture. Re-claiming our culture. In my own time, I have changed the spelling of my last name to reflect the new Inuit writing system. My name is IRNIQ.

They gave me a number as they did to many *'Eskimos'* in the 1940s, 1950s and the 1960s. A number on a disc which said 'E3546'. So in recent years with the creation of Nunavut, we're taking back our culture as well as Inuit traditional knowledge. This is the way that we are moving forward in the government as well as in Nunavut communities among the Inuit.

Let me explain what I've done as Commissioner of Nunavut. I've gone to speak to international community about the creation of Nunavut. Nunavut was created over a period of 29 years of negotiations with the government of Canada.

And I've also gone to Australia to talk about the creation of Nunavut because a lot of people want to hear more about Nunavut. Here is a new territory that is based on Inuit traditional knowledge that people want to hear about.

I use three things to describe the work that I do in Inuit traditional knowledge. For example Inuit use *kamiqs,* seal skin boots. They were sown by women, they are sown by women today. They are using what I call 6000-year-old tradi-

tional knowledge. Kamiqs are water proof, they are good for walking, they're light, so you can use for example duffels in them as well as socks.

The western society is making boots to imitate the Inuit-made traditional knowledge boots. Many of the adventurers use them when they walk to the North Pole or when they walk to the South Pole.

The other example that I use in terms of promoting Inuit traditional knowledge is the igloo. I lived in an Igloo for 11 years of my life. I was born in an Igloo. Igloo is round, it's made of snow, it conserves heat. We survived in it for 6000 years and Inuit have used it to survive on the land and living out through the winter conditions.

It is well insulated and it uses Inuit traditional knowledge. We still use it today. Governor-General of Canada [head of the state] has slept with her husband in an igloo last year [in 2001]. It is a shelter that we've used for many thousands of years to use the Inuit knowledge.

Another example that I use to describe Inuit traditional knowledge is the kayak. It's narrow, it's for transport in the water for Inuit. Inuit invented it many thousands of years ago. I think that's the way we went from Siberia to Alaska to Canada and to Greenland. And I think that is how we came to these parts of the world - it was with our kayaks And kayak is now used and copied though without our permission, copied by the Western society. People use it – people imitate the Greenlandic kayak or the Inuit kayak from Canada. And they are now using what we made.

In other ways that on how we are doing Inuit traditional knowledge, we have a department called Culture, Language, Elders and Youth. This department is designed for Elders and youth of Nunavut. It is meant for the Elders to pass on their wisdom and their knowledge to the youth of Nunavut. This is a way they learn something about our knowledge and the Inuit way of life. It tells you how to survive on the land, how to live of the land, use it as an economy. Every time we go out caribou hunting for example or seal hunting, we use Inuit traditional knowledge to hunt.

We use Inuit traditional knowledge to butcher an animal without having to waste any parts of the animal. We use much of our time raising our children using traditional knowledge. So the Inuit traditional knowledge is passed on from 6000 years ago to this day through verbal teaching. Inuit never had a writing system. The recent spelling of Inuktitut [the language] syllabics is introduced to us by the missionaries. We never had a writing system. So the things that we know today have been passed on from 6000 years ago to our ancestors, to our great-great-greatgrandparents, to us and to our children to this day and we will pass them on to our grandchildren.

The Inuit oil lamp is another one that uses a lot of Inuit traditional knowledge to make it. It was the only light that we had when I was growing up, up to my time. It was used for heating, it was used for cooking, and drying. It uses tradi-

tional knowledge to heat and light the igloo.

Traditional knowledge is also Inuit drum dancing that we promote today as much as possible. It is all about celebration of life, of the good years that we had. We celebrate the creation of Nunavut with the drum dance. It is to celebrate joy and happiness of the people.

So taking back our culture in Nunavut is an important issue because Inuit traditional culture is beginning to work here. More and more people want to hear about it to see how it works. They want to apply it to their own regions in Nunavut, as well as outside of Nunavut and within international community. I think that's very good.

Cultural Change

One of the things that we say to our young people in Nunavut is that 'stay in school'. Stay in school, learn lots, get a good education, get a good training. Be able to obtain good jobs and at the same time be able to communicate in the world of modern technology.

But at the same time we say to the young people: 'Know your culture, know your language.'

We do not want to end up in a situation where we are going to lose our language completely. We want to make sure that we strengthen our language, Inuktitut in Nunavut. We do it on CBC radio, we do it on Inuit Broadcasting Corporation, we do it on any publications that we have in Nunavut. We write them in both Inuktitut as well as in French and English.

Think of three pieces that I often use: protection, preservation and promotion of the Inuktitut language.

30 years down the road, I would like to say that our young people of today, they will be 50 in 30 years from now and they will continue to speak the Inuktitut language for the survival of the language in Nunavut.

Inuktitut language is one of the surviving Indigenous languages in Canada. So while it is very strong we want to make sure that it is stronger. It is promoted as much as possible for survival.

One of the things that we recognize is the high rate of suicides in Nunavut. And it's the highest in Canada. Every person in Nunavut has had a relative or a friend committing suicide in the last 30 years in Nunavut.

Every one of us has been touched by that tragic situation that we have in Nunavut. And it is unfortunate that we have so many suicides in Nunavut. In my time or my father's time, it used to be the Elders that committed suicides.

In those days it was because they wanted to have more things for the young people. So when they felt useless to the society, when they felt a burden to the society, they used to commit suicide. That's 60 - 100 years ago.

It is now happening to the young people of Nunavut, that is not acceptable to us in Nunavut. We want to make sure that they live for the future because they are the future of Nunavut. So those of us who are responsible for the future of young people - we were trying to do a number of things.

We try to communicate to the young people in Nunavut: *'Do not commit suicide, we want you, you are a part of Nunavut. Be the best citizens that you can be for Nunavut. We'll help you in the mean time as much as possible.'*

One of the things that I think we need to do more is to have the young people to learn about their history, Inuit history. Because up to my time - we worked really very hard in surviving. Living in an igloo is a very difficult situation, it's very hard thing to do. It's cold, and it is only easier if you have seal meat or seal oil for your Inuit oil lamp. You could only have light if you had seal meat or seal oil. We went through very difficult times in my lifetime.

I think I would like to put more pride into young people.

Teach them about the relocation of Inuit to the settlements in the 1950s and 1960s. Inuit life is based on a hunting society. Inuit life is very much attached to the society. If we could give them self-respect, if we could provide them with the history of their own.

We should teach the young people about the *'new housing programmes'* [initiated by Canadian government] that started in the 1960s. About the forced relocation of the Inuit to the settlements in the 1950s and 1960s. Residential schools. Starvation period of 1957 – 1958. If we could give them the history of their own about Nunavut land claims. Why we wanted to negotiate? Why we wanted Nunavut in the first place? I think that we could put a lot more pride in to the young people. So recognizing the fact that we have suicides in Nunavut, we want to be able to work with the young people so that suicide prevention is there and that future is there for the young people in Nunavut.

And what we have to do is to make them understand, that is what we are doing. We need better communication, we need more communication with the young people of Nunavut.

Snow Knowledge, Global and Climate Change

Snow is white! Snow is survival. Snow is an extremely important aspect of Inuit culture. Snow has many useful, very useful things for us in Nunavut. Especially here in the Arctic because we have very, long winters. Snow - you can build an igloo with it. That's no. 1. When you live up on the Arctic conditions up here, you sometimes see a snow formation that's always pointing from the northerly west to the southerly east. We know in Nunavut, everything is Inuit traditional knowledge-oriented. We know for a fact, that because the prevailing wind is always blowing southerly-east in the winter time we can notice and we can know our way when travelling on the land from the snow formations.

Snow formations are very important to us in Nunavut. Snow is very important to us, melting snow for example to drink water. And drinking water is an extremely important aspect of any society in the world.

Snow is that when we are hunting, we can see caribou tracks, wolf tracks, polar bear tracks, rabbit, or any other kind of animal footprints on snow. On the ice, snow formations behind the ice ridges also means that seals will have their little ones, little pups. They make almost like a little igloo on the snow.

Snow is better for travelling on the land with dog teams, up to my time. And today snow is also very good for travelling on snowmobiles that we have. Snow is also very good for protection for ice. Because with our Inuit traditional knowledge we know that if there's no snow on the ice, especially on great big lakes in Nunavut where we fish, if there's no snow it means that the ice is going to get thicker and thicker. But if it has lots of protection, it's thinner and you can make a hole on the ice that's not as thick as ice that has no snow.

So for fishing we also use snow as protection. So snow has a lot of importance to Inuit as well as animals that we hunt in Nunavut, particularly the polar bears, the seals, sea mammals. It provides protection for smaller animals like the squirrels and mice on the main land. Without it we cannot live and we cannot survive in Nunavut without snow.

Where I was born, you will see some hills where there is always snow in the summertime. Some snow on the side of the hills does not melt.

So it's also a good place to get some water in the summertime because when it's melting, it's very pure good water for making tea and things like that. And for drinking. So snow is an extremely important part of environment up here for both Inuit and the animals.

I've noticed that from the time I was a young man some of the hills that used to have snow all year round, they don't have snow anymore. In the summer time they melt. Living conditions up here have changed quite a bit in 50 years. The days are, in July in particularly, much hotter. And in modern language, it is not unusual to see temperature of 30 - 35 degree Celsius. That is in the month of July. I agree with all kinds of studies that are taking place in Nunavut about climate change, because I'd like to be able to know what is going to happen 30 years down the road. The implications of climate change are going to be very great for Earth. For the entire Earth. It's not just for the Nunavut or the Arctic, but for all of the earth. We are going to be having problems, we are already having problems in the world because of the climate change. You know that the climate change is affecting the polar bears for example.

The climate change is affecting the marine mammals, the seals. Climate change is having a lot of problems for Inuit, who eat country food from the land. So it's going to have a lot of implications down the road if we don't do anything about it.

We have to be aware of changes that are taking place now. Especially those of us who live in the Arctic, Nunavut, Alaska, Greenland, Norway, Finland, Sweden, Nordic countries, Russia, Siberia.

All these countries have everything to worry about, everything to be concerned about the climate change as it applies to the animals and fish and land animals that we eat, that we hunt for food.

I think that this is why it's very important when we say let's do some work right now, let's do as many studies as we can about the climate change implications that are going to be

there in a short period of time. Because we have to know as residents of the Arctic, as residents of Nunavut, what type of problems we are going to be facing 30 years down the road.

In 30 years some of us won't be around, but our children will, our grandchildren will. So it is really important for the governments to undertake studies that relate to changes of climate, impacts that shipping companies may have that travel through the Arctic regions. Every time there is a small oil spill we have a lot of concerns about the small oil spill.

We had a small oil spill last year [2001] here in Nunavut and we had a lot of concern about what impact that may have on the mammals there, the seals and fish, and other animals that live in the bay here.

So we have to aim for one thing - protection of the environment, protecting of the Arctic waters and the land as we do these thing that we are doing for climate change or during the times of climate change in the Arctic, in Nunavut.

I see a lot of hope. No matter what happens, Inuit will always be patient, we will always survive in the Arctic. That's the way we have lived for many thousands of years in the Arctic.

One of the things we are doing in Nunavut within the circumpolar community is that through organizations like Inuit Circumpolar Conference - ICC, the Government of Nunavut, the Government of Greenland, and other governments within the circumpolar region we initiate cooperation.

We Inuit are talking to various governments within the circumpolar region of the Arctic, because we have the first hand experience about animals. We have the first hand experience about the land that we live on. We have the first experiences about protection of animals from pollution, environmental pollution. We Inuit have a message to tell the others about that we know how to do it. We have been the greatest environmentalists in the world. We have always been the greatest conservationists in the world.

The world could learn something from our experiences in Nunavut about the protection of the environment, about the protection of the animals that we have. So I say to the world, I say to the other countries: *'come and talk to us. Come and listen to us. Come and invite us to come to your country. Invite us to your country to talk about what we think is right for the Arctic regions of the world because we need to make sure that we aim for the protection, we aim for cleanliness, we aim for the protection of the entire Northern countries or Northern Circumpolar regions of the Earth here.'*

I say to you, the fight for Nunavut has been worth it. It has been worth it even though it took us 29 years to get here. Because we are seeing positive results for Nunavut. And positive in the sense that people are happier, we feel that we are now in control of our own destiny. We are now in control of our own economies in Nunavut. We are now in control of protecting, promoting and preserving Inuit things that we have.

Young people themselves run Nunavut much more successfully than we are doing now. We think we are very successful, but we want to make it better for the young people of Nunavut. What is happening in the world, I'm concerned about it. I'm extremely concerned about it, especially as I watch almost every day on national TV the problems in the Middle-East, the problems with terrorism. Problems of possible wars in the world. But you know what I think? We should work together more, within the international global community to make life easier for everybody. We cannot work forever to make life miserable for everybody. We have to work to make sure life is better for everyone in the world. That is to work on problems of poverty, that is to work on the problem of shortage of housing. We need to improve our education system all the time. We need to make sure that we have improved technologies to tell people about what's going on in the governments as well as in other parts of the world,

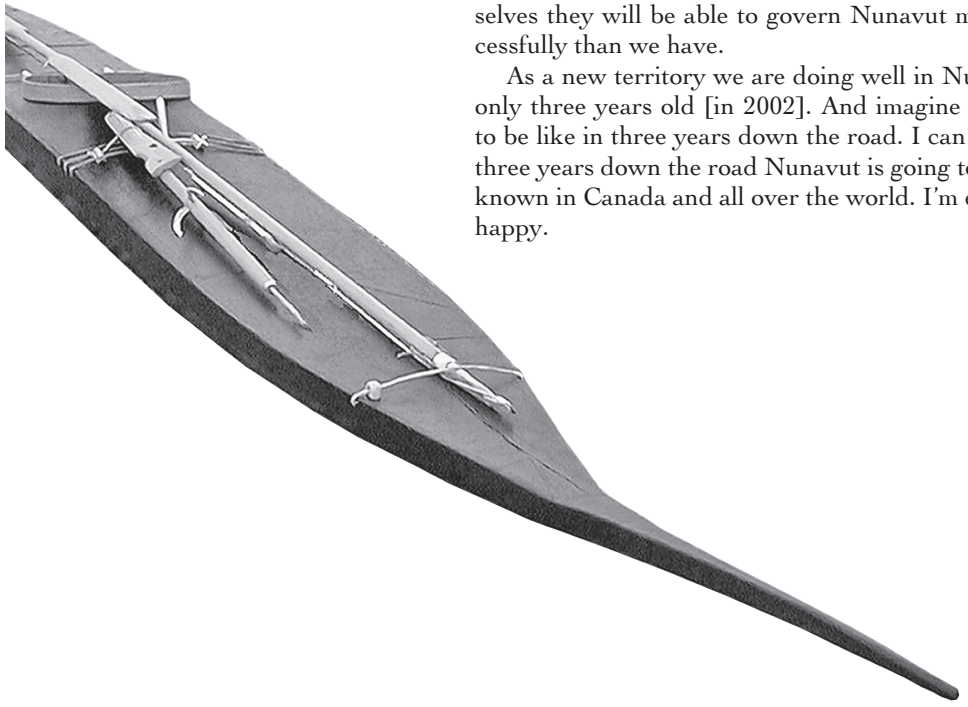
within the global community.

I have come to the conclusion long time ago that we are one people. We are really one people in the world. And we need to make sure that we work as one people to make things better within the global community. We are one big family. That's one thing we need to promote in the world.

Nunavut, I have a lot of excitement for Nunavut. I have a lot of hope for the young people in Nunavut. At the same time I always try to make sure that Elders' knowledge, elders wisdom, is passed on from the Elders themselves to the youth of Nunavut.

It's important because we have to carry the weight in the future. The young people will have to do it in the future and we need to work now to make sure that what we do is that we equip the young people with enough tools, so that by themselves they will be able to govern Nunavut much more successfully than we have.

As a new territory we are doing well in Nunavut. We are only three years old [in 2002]. And imagine what it's going to be like in three years down the road. I can tell you that in three years down the road Nunavut is going to be more well-known in Canada and all over the world. I'm excited and I'm happy.



The View from Nunavut

Remarks prepared for Joseph Tigullaraq Representing Department of Sustainable Development, Government of Nunavut at the SnowChange Workshop Tampere, Finland February 22-24, 2002

Good morning, and thank you for the opportunity to speak with you today. It is a pleasure to share this platform with colleagues that are interested in climate change and its potential effects to the Arctic and subsequently, to the Aboriginal People that live in these areas. There are many issues and concerns for those of us living in the North, especially the possible environmental and social impacts of climate change.

I hope that this conference fosters an open dialogue, by which we can all exchange ideas and share our concerns for the future of the Arctic regions in the face of impending global climate change. I anticipate that over the course of this workshop, many participants will raise other common concerns and issues, all of which I will share with the people and Government of Nunavut. I believe that this conference will also be instrumental in giving these issues a broad exposure to the global community.

One of our major concerns and a source of frustration is that, as northern people, we are not able to directly engage the industries outside the northern latitudes. Yet they are the main source of pollution both in the Arctic and around the globe. We also face challenges in engaging policy makers in our governments, so that they recognize the uniqueness of the north and consider the impact of their activities or decisions, which are often made without consideration of this "uniqueness".

In Nunavut, our view of climate change is that we need to know more about what it is and how it will affect us. We also need to be part of the process and solution that will ultimately determine how we are to respond to this phenomenon.

Global warming, or climate change as it has been called for some time, is already having a noticeable impact on the Earth's climate. Prediction models suggest that the effects of global warming will far exceed just a change in temperature. Temperature is just one element of the climate change system that is already affecting weather patterns and entire ecosystems, including wildlife and humans in every part of the world.

Scientists have predicted the following effects to Nunavut's climate over the next few decades:

- General increases in year-round temperatures in the range of 5 to 7 degrees Celsius, that will result in shorter winters, more rain, and greater extremes in weather;

- Disappearance of over one half of Nunavut's existing permafrost, and flooding of low lying coastal areas as a result of rising sea levels;
- Significant reductions in the overall mass of Nunavut's glaciers and the possible loss of all permanent sea ice;
- introduction of new species of plants and animals, possibly resulting in the loss of native species of plants animals and fish; and, finally,
- introduction of diseases currently not found in the Arctic and that could further affect arctic ecosystems and as well as the health and lifestyles of Nunavummiut.

The arctic regions, including Nunavut, have acted as the "early warning system" to changes that the global community may expect to experience over the coming decades.

The effects of climate change are already exhibiting themselves in the northern reaches of the world. Ice in the Arctic is estimated to have thinned by nearly 40% in the last 30 years; many species that are dependent on cold climates like the polar bear and high arctic caribou have seen changes to their habitat and have altered their behaviour as a result. The most recent example is research indicating that the polar bears of western Hudson's Bay are hunting different species of seals as a result of thinning ice and a shorter pack-ice hunting season.

Nunavummiut are accustomed to adapting to change, however, this change in climate is happening at a rate that exceeds the adaptive ability of most of the world's natural systems. The challenge for Nunavut is to identify these changes and formulate – where possible and feasible -- adaptive techniques to deal with them.

Inuit have occupied the Arctic for tens of thousands of years over which our people have developed solid first hand knowledge of our natural ecosystems. This "traditional knowledge", or as we call it, Inuit Qaujimajatuqangit, has a very important role in identifying changes to the climate and possible adaptive measures to address it. Climate change research in Nunavut has recently been focused on recording the observations and experiences of our Elders in order to determine if they have experienced any noticeable changes in weather patterns, animal movements and behaviour and any other changes outside the bound of their experiences.

Inuit Qaujimajatuqangit, or IQ, presents a challenge to our scientists and policy makers because it is a concept that has not been incorporated previously. Nevertheless, we, and increasingly, many non-Inuit, recognize that IQ, can actually assist and complement scientific research.

Scientific research in the Arctic has started to recognize Inuit Qaujimajatuqangit and has included the communities in their research projects. Our Premier recently visited Washington, D.C. where he met with American scientists, who spoke highly of this partnership approach to Arctic research.

Through the community work, similar issues and concerns across Nunavut. In many cases the answers will not be forthcoming, however, by raising the issues we will ensure that they will be considered and hopefully, at some point in the near future, we will have solutions to our problems.

For example:

1. What are the implications of global warming for northern territories like Nunavut, whose people still rely upon hunting and fishing to feed their families?

The lack of winter snow, altered wind patterns, and warmer winters, have, in some cases, resulted in a loss of traditional sea ice travel routes, thus raising safety concerns for Nunavummiut during hunting and fishing activities. In addition unseasonably warm temperatures and the resulting freeze-thaw cycles have created conditions that make it difficult for caribou to reach the ground forage. This has meant

smaller, thinner animals.

This example demonstrates that climate change is not simply an exercise involving research scientists and policy makers, but presents a real "on the ground" problem. It has a contemporary impact, and is not simply a theoretical, future prospect. It has already created impacts which have placed real present-day socio-economic pressures on the people of Nunavut and that go beyond the academic ponderings on pure research to issues related to Climate change.

There is a real threat that within our lifetime, certain segments of our population will no longer be able to consistently feed themselves in a manner according to their traditional way of life. Inevitably this may lead to other, consequential pressures like higher incidences of diet-related diseases such as heart disease and diabetes.

Another example:

2. How are the policy and legislative impacts of climate being addressed? Is there a mechanism built into this process that allows aboriginal people to be included?

Circumpolar populations – many of whom have no direct input into the processes that are governing our response to climate change -- are experiencing the immediate effects of this phenomenon. In addition, climate change has catalyzed an increased focus and therefore burden upon the Arctic, which inevitably leads to increased pressures both within the communities, and within the governments and agencies that administer the land for the people living there.

What needs to be discussed more openly is the role of aboriginal peoples in this process, and how that role should be defined within the larger context that govern this important global issue. Too often the community-based impacts of climate change are lost in arcane arguments regarding emissions trading and the impacts of national emissions reductions to business and industry. This is not to say that I do not believe that these issues are of less importance, however, the "little guy" ends up getting left behind.

Within Nunavut, we see things from the other perspective: we have no control over emissions trading and the efforts of countries to reduce impacts on existing industry and business infrastructure. In fact, we have no control over the emissions that are being created. Nunavut produces only 1/10th of one percent of the total amount of Canada's greenhouse gas production. Canada in turn, produces about 2% of the world's greenhouse gas emissions..

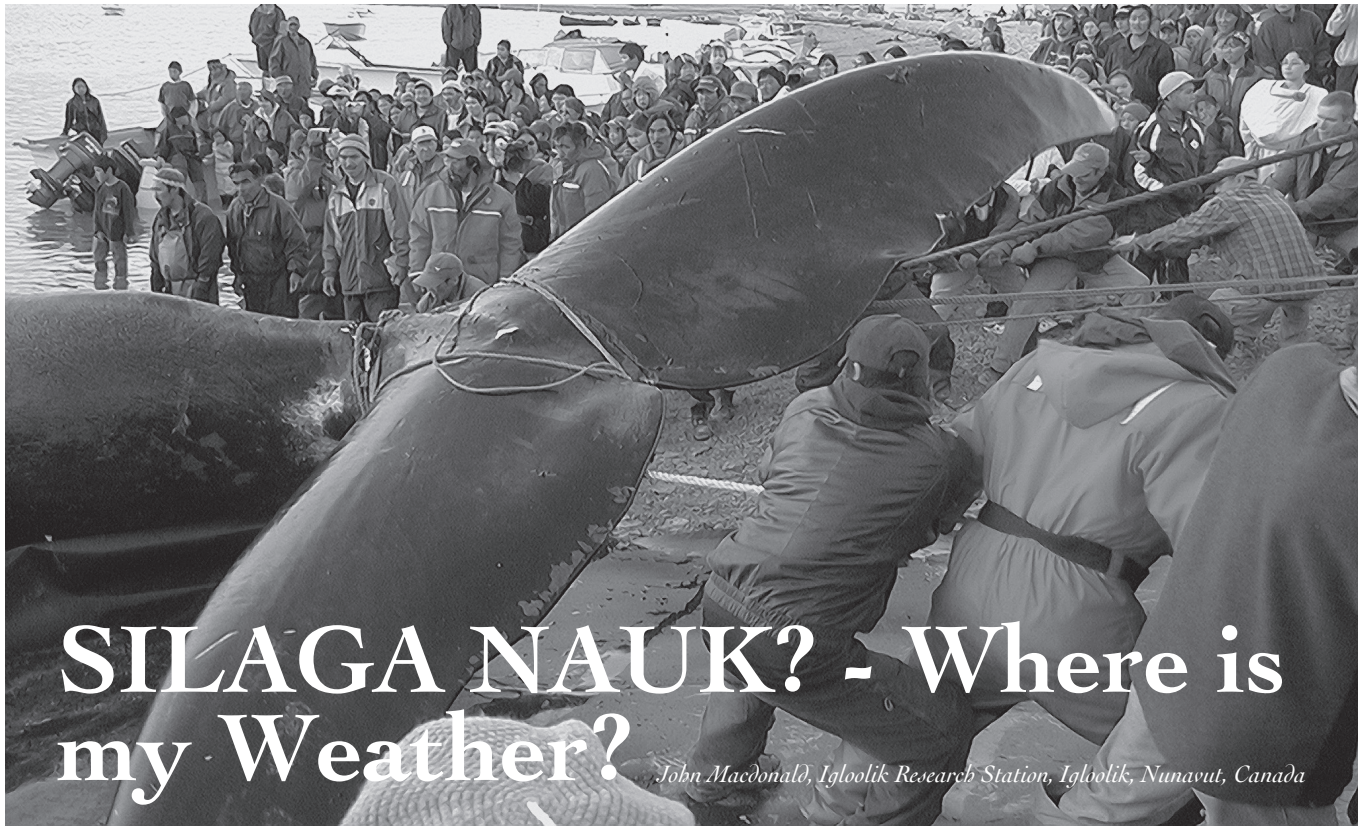
Our concerns are driven primarily by the direct impacts and pressures that climate change has upon our communities. While we recognize the value of climate change research on a global scale, we would like to see some parallel research conducted at the community level. We believe that the best approach for the latter, lies with a partnership approach; a partnership between the Federal government, the research community, the Government of Nunavut, and our designated Inuit Organizations.

We may need to review, as a new government, the science policy and regulatory framework that we inherited from the Government of the Northwest Territories. We need to make these policies truly our own by incorporating the provisions of the Nunavut Land Claims Agreement. We also need to assist external researchers and other governments understand the application of Inuit impact and benefit agreements.

Thank you for providing me with an opportunity to share with you, my views and concerns with respect to climate change in Nunavut. We in Nunavut, with our current and future partners, are working towards developing a strategy that will allow us to adapt to the effects of climate change; this includes finding the answers to the many problems that are likely to result from global warming.

Taima Qujannamiik – Thank You.

Igloolik community members joyously landing a bowhead whale, August 2002



SILAGA NAUK? - Where is my Weather?

John Macdonald, Igloolik Research Station, Igloolik, Nunavut, Canada

This chapter presents a selection of narrative, opinion, and observation on the broad topic of weather - "Sila" in Inuktitut – excerpted from interviews given by Inuit elders of Igloolik, a small community in Canada's Eastern Arctic, situated just below 70° north, in the territory of Nunavut. The chapter concludes with a short discussion on the changing significance of weather to a community concerned about its increasing separation from the natural environment in the face of on-going cultural loss.

The interview excerpts derive from the archives of the Igloolik Oral History Project, an on-going, community-based endeavour, begun in 1986 as collaboration between the Inuit elders of Igloolik and the Igloolik Research Centre. Concerned about the increasing loss and uncertain transmission

of their language, cultural skills, traditions, and values, the elders resolved to record their histories, experiences, knowledge and teachings, primarily for the benefit of the community's youth, but also for the enlightenment the wider world beyond Igloolik.

Inuit elder's knowledge is characteristically personal, its acquisition and application, in varying degrees, specific to communities, families, and individuals. When imparting information elders usually made it plain that they were speaking for themselves, that their opinions were not necessarily correct in any absolute sense, and that others may, and in all probability did, have different views. Conversely, the attempt to crosscheck information between elders - to reach consensus on certain points – was often found to be counterproductive in that it was seen to question the validity of individual knowledge. [MacDonald, 1998:6]

With few exceptions, the project's interviews are conducted in Inuktitut using an informal, conversational approach, encouraging elders to be as discursive as they wish. Those conducting the interviews come with a variety of motivations and interests: community members in quest of family histories; government-paid interviewers working under direction; film-makers in need of a script; and, of course, researchers pursuing a thesis or a paper. A number of the interviews are "self-recorded" and, in some cases, elders interviewed elders, prompting shared memories and engendering rich discourse. But regardless of the interviewer's specific aims, the elder usually, and always gently, takes control of the interview; a subtle process not always immediately apparent to the interviewer. This seemingly unstructured approach to information-gathering occasionally leads to frustration among academic researchers, sometimes impatiently, if privately, voiced as: "we ask elders specific questions but get general answers back!". In fact, the details are always there - embedded in a contextual matrix important to the narrator, if not always to the researcher. Clearly, elders prefer to be circumstantial rather than categorical. For an example of this principle in action see the excerpt below from Eli Amaaq's 1989 interview (IE-074) where he offers a wonderfully discursive response to the question: "did you ever experience rain in the wintertime?"

To date, the project has recorded over five hundred interviews on dozens of topics including legends, shamanism, traditional medicine, hunting techniques, skin preparation and sewing, astronomy, navigation, and social control. A number of interviews deal specifically with aspects of weather, but regardless of the particular topics under discussion, weather-related information, perhaps not surprisingly, finds its way into the narratives of very many interviews, like driven snow through the cracks of a building. A simple word-search of the corpus reveals some 1500 references to weather, a similar number to wind, 3000 to snow, and over 7000 to ice.

A defining characteristic of all traditional Inuit societies was their ability, not only to comprehend the intricacies of Arctic weather and environment from their own spiritual and philosophical perspectives, but also to deal with it in practical terms. Inuit clothing and dwellings, for instance, relying solely on materials at hand stand as unsurpassed adaptations to the Arctic climate. In addition, their cosmology, cooperative social skills, comprehension of the land and its resources, and specialized hunting techniques, all combined to make a people competent and comfortable in a remarkably harsh environment.

The crucial role of weather in traditional Inuit society cannot be over-emphasized. Weather, in all its seasonal variety, was, and remains, the principal arbiter of Inuit subsistence activity, determining on any given day what might be hunted and where or, indeed, if there would be any hunting at all.

As an embodiment of nature, weather's manifestations, bad or good, were usually seen as a direct consequence of broken

taboos followed by shamanic intervention and propitiation - the tangible product of an ever-fraught relationship between the human and the spirit worlds. Manifest as spirit, *Sila* was one of the most powerful and constant forces confronting Inuit in their day-to-day existence. Knud Rasmussen, tells us that among the people of Igloolik, - the Iglulingmiut - *Sila* is "regarded more than all else as a personification of weather" […] a "great, dangerous and divine spirit" that "lives somewhere 'up in the air', out in the universe, between sky and sea, hovering over earth; from there it threatens mankind through the mighty powers of nature, wind and sea, fog, rain and snowstorm". (Rasmussen 1929:71)

Sila is to be respected and, above all, carefully watched. Eli Amaaq tells us that the ability to observe and understand *Sila* is a mark of the real Inuk: "For us true Inuit it was like this. We were told always to observe *[Sila]* and be alert. This was important in order that we did not endanger ourselves unnecessarily. Human life was treasured and so that it not be lost due to carelessness we were told to be on the alert at all times..." (Eli Amaaq, 1989:IE-074)

The following texts have been selected with a view to presenting something of the broad perspective Iglulingmiut have on matters to do with weather and climate1. The texts cover a range of weather-related topics, from the spiritual and mythological *(Sila),* to the more "practical" aspects of weather such as observation, forecasting, and seasonal change. From the Inuit point of view such categories are artificial; in practice they overlap and interrelate, and we use them here merely to gather the material into some convenient, loosely-designated, topic groups.

The Spirit of Sila

The power of Sila was said to mark certain people at birth: those born on fine days were known as silatiariktut *("carriers of good weather") while others, whose births happened to coincide with a period of bad weather, were called silaluktut ("carriers of bad weather"). People marked in this way had the power to invoke certain weather conditions.*

In Tunnunirusiq [the region around Arctic Bay, Nunavut] there was once an older hunter who lived in a camp with others. As the winter approached the snow was late in coming [and so igloos could not be built]. The people had no choice but to continue living in tents in spite of the cold. [...] The tents were becoming harder and harder to heat, even with added coverings. [One day] when the hunters were returning from their sealing, the old hunter [...] mentioned that he was a "carrier of bad weather" [...] adding that he very much wanted to have snow in order to build an igloo. He said he had decided to do something about it. So when they reached the camp he took his outer garments off and walked to a spot near-by where there be no one else around. The others, meanwhile, were putting away their hunting gear and sleds. [...]. The old hunter began to remove his footwear, and after that his upper clothing. All this time the temperature was severe [...] He now started to walk around, calling out: *Silaga nauk? Silaga nauk?, ungaa, ungaa…* ("Where is my weather? Where is my weather? Ungaa, Ungaa"). Finally he got down on the ground and rolled around. The others in the camp now came to see him, so he got dressed again, put his boots on and went back home. That very night the snow started to fall, becoming heavy as the clouds increased. At the same time the wind began to pick up, blowing throughout the night with such ferocity that a blizzard ensued. When the people of the camp woke the following morning they found that some of the snowdrifts had already hardened. In this way the old hunter succeeded in getting enough snow to build an igloo. **(Noah Piugaattuk, 1990: IE-148)**

The ability to control weather, particularly the winds, could be used for revenge and protection. A well-established tradition in Igloolik tells how a shaman took revenge on Parry's expedition, and by extension on all European visitors[ii]. When Parry left Igloolik in 1823 the shaman was said to have invoked wind and ice conditions of an order that would prevent Europeans from ever returning to the shores of Igloolik Island. Remarkably, over a century passed before another ship (the schooner Morrissey - Captain R.A. Bartlett – in 1927) appeared in Igloolik's waters. Indeed, until the present era of icebreaker-escorted re-supply vessels, reaching the Island by ship was notoriously difficult and dangerous.

[…] I have heard about an Inuk [shaman] called Quliiqaujaq. He stole a shovel [from Parry's ship] and was apprehended by the white people. Quliiqaujaq was taken on deck with his hands tied, and made to lie on his back. Because he had stolen the shovel, the white people wanted to cut off his arms. When they struck him with an axe it looked as if his arm was severed, in fact the axe blade would appear to go right through his arm and get wedged fast in the deck. But each time they struck him his arm was untouched. After numerous attempts had been made they gave it up. When the white people were done with Quliiqaujaq he blew them away and told them never to return again. **(Hervé Paniaq, 1990: IE-141)**

In Rosie Iqallijuq's version of the same event, philandering rather than theft is given as the real motive for the shaman's revenge. Interestingly, her account also tells us how the shaman's "spell" was finally broken by the bizarre behaviour of one Alfred Tremblay. Known to the Inuit as "Taamali", Tremblay, a prospector by trade was a member of Captain Joseph Bernier's 1912-13 Minnie Maud expedition to north Baffin Island. In the winter of1913 he travelled overland to Igloolik from Pond Inlet on a dog-team guided by Inuit, thereby becoming the first white man to reach Igloolik from the north.

I have heard when Paarii (Parry) wintered here there was a shaman who was jealous over his wife's philandering with white men. When the ships departed it is said that this shaman, aided by his helping spirit, blew the ship away so that no other ship could ever make it to Igloolik again.
After this, a white man by the name of Taamali (Alfred Tremblay) was brought over by dog team from Mittimatalik (Pond Inlet). Taamali, they say, had a pistol and discharged shots into the ground as he walked around the shoreline. After he had shot the Island he declared that that Igloolik was dead, and that a ship will now be able to get to the Island.

It was not until very recently when I had started to live in this area that we were able to get a ship into Igloolik. This was a small ship called *Tirüsikuluk,* (The Roman Catholic Mission's vessel *M. F. Thérèse)*. This ship brought materials with which to build the mission. And from that that time on we finally started to get ships once in a while. **(Rosie Iqallijuq, 1991: IE-204)**

Strong winds were often associated with tension of one sort or another, sometimes too much sometimes too little, suggesting that balance and harmony promoted calm weather. The spirit of Sila was said to have sinews or muscles which, when tense, caused high winds. In *this passage note that the clouds referred to are clearly of the cirrus type typically associated with windy conditions in European weather lore.*
The autumn was approaching and the weather was foul for an extended period of time. The men were unable to determine the cause of this bad weather. Then a woman presented herself, and undertook to perform a shamanistic ritual. She started to talk to the air and was able to determine that the cause of strong prevailing wind was a tense muscle, a tense muscle of *Sila.*

Sometimes you notice clouds that are streak shaped [cirrus clouds] - well, she hooked one of them with a *niksik* (a seal

gaff). [Having hooked the cloud] she found it to be extremely difficult to hold and was being lifted into the air even though she was trying counter-balance the force with the weight of her body. She called for assistance and immediately two men rushed to her and grabbed her around the hips. She was now steadied, though she still tended to go off the ground from time to time. The woman then asked for a knife. This is the

Rachel Ujarasuk

way the shamans work. When she was handed a knife, she reached for the part of the cloud that she had hooked. At first the knife was not able to reach the cloud, but soon it connected and she started cut the part that she had hooked, cutting with so much vigour that one could hear the resonance of the knife. Finally she severed the cloud [*Sila's* muscle] and folded her arms, her *niksik* now free. The woman then announced that the weather was going to become calm. **(George Kappinaq 1995: IE-329)**

Kappinaq's next excerpt tells of another kind of tension, that between two opposing winds, Nigiq and Unagnaq, personified respectively as male and female.

If *Uangnaq* [the WNW wind] blows hard, Nigiq [the ESE wind] will always retaliate. This is the reason why after a strong blow from *Uangnaq* the wind will shift to Nigiq most of the time... Nigiq has a man inua [spirit] while *Uangnaq* has a woman inua [spirit]. When the woman with her words intimidates him, he does not get agitated as a woman would under the circumstances. He is able to cope with this intimidation for a length of time. That is why he is able to smooth things over, whereas, as always, a woman will make things rough. [...] It is said that when *Uangnaq's* igloo gets holes in it (as a result of the seams between the snow blocks melting), she will move outdoors and remain there until the holes have been repaired. [...] In the winter when *Uangnaq* is prevailing without any sign of easing, a shaman would try to ascertain the cause. He would find the woman standing outdoors, miserable because her igloo is full of holes. Once the shaman properly plugs the holes, the woman would go back into her igloo and the *Uangnaq* wind would abate. **(George Kappinaq, 1993: IE-265; IE-273)**

There are a number of references in the Igloolik interviews to the symbolic ritual of "depriving Sila of his wife", thereby effecting a change (for the better) in weather. The account related here is from the 1930's, a time when some Inuit were beginning to take Sila less seriously and others not. Hence the reprimand at the conclusion of the story that one "should not make fun of serious things".

[Once] on our way from Repulse Bay we became fog-bound and could not make headway. We were camped because of the fog, and Qumangat started to ask me to deprive *Sila* of his wife. This was the first time I ever heard of such a thing. He

told me I should make a motion as if having sexual intercourse and at the same time turn around and cry out repeatedly "I have deprived the fog of his wife". I did not wish to do it but my late sister Akittirq (possibly she was concerned about my well-being) told me that if you are asked to do something, you should obey). [...] So my nephew led me out and I was asked to step on top of a rock […] I pulled my pants down and started to move my hips as if I was making love ... I turned around in a complete a circle in direction of the sun, as I was told to do, saying repeatedly: "I have deprived the fog of his wife! I have deprived the fog of his wife!".

The same day the fog started to lift. It cleared! Qumangat was amazed. [...] That evening after we had played outdoors I went in and he told me 'you have deprived the fog of his wife'. We were all living in one big tent then. I had my bed next to the entrance. [That night] Qumangat had placed a pillow in my bed to make it look as if someone was sleeping there. When I entered the tent I saw something sticking out my bed, and then Qumangat said to me [pointing to the pillow] that I had deprived the fog of his wife now she was going to be my wife. I started to cry. Qumangat got a proper scolding from Isigaittuq! He was told he should not make fun of these serious things. For my part I did not really come to believe it all, and, besides, I never wanted to deprive anyone of his wife! **(Aipilik Inuksuk, 1989:IE-068;1990: IE-165)**

In former times, epidemic illnesses affecting both humans and dogs were attributed to the "workings" of Sila*. Disease, like bad weather, resulted from taboo breaking and it was the shaman's task to discover what particular taboos had been broken and to make appropriate amends.*

[…] Before modern medicine was available and before white people settled [here], there used to be epidemics claiming victims. These unfavourable circumstances happened periodically. Sometimes humans will not be affected but the dogs will suffer the consequences. Dogs used to die in large numbers […]. The working of *Sila* would sometimes bring sickness. Sometimes the dogs would be the victims, usually through rabies and distemper. The foxes and other wildlife would get rabies at the same time as dogs. This is the result of the *Sila's* working. When *Sila* caused unfavourable conditions, hunting was bad throughout the region in some summers, resulting in the scarcity that leads to famine. Weather conditions were extremely important to our survival in the time [when Inuit had] inadequate hunting implements [meaning before firearms] If one camp were affected, the rest of the region would suffer the same consequences. **(Noah Piugattuk, nd: IE-070)**

Ikkiq is the so-called Fury and Hecla Strait separating the northern Melville Peninsula from Baffin Island. For generations, through the "workings of Sila*", its treacherous currents and ice conditions have claimed the lives of many Inuit hunters.*

Indeed, there have been incidents where some hunters never returned [from *Ikkiq*]. I remember when I was but a child, my father said: *"ikkingaasit inugulittualuungmat"* (*"Ikkiq* is once again yearning to claim a human life"). I did not understand what he meant by that then. But now I know that the lives of hunters have been lost from time to time in *Ikkiq*. So I have always remembered his remark. Some shamans in the past use to say that, from the time the world was created *Ikkiq* had claimed so many lives that when the clothing [of the lost ones] are placed side by side, one cannot see the end of it. Well, death is everywhere and will continue so long as we have *Sila*. **(Emile Imaruittuq, 1990: IE-161)**

Weather Observed

*Traditionally among the Iglulingmiut one had to go outdoors each morning to observe Sila, as soon as possible after waking. To the regret of the many elders, this important ritual - known as "*anijaaq"*- once obligatory for adults and children alike, is falling out of practice. For it was through each morning's "anijaaq" that Inuit learned to observe weather conditions closely and consistently, and so make the deductions necessary for accurate short-term forecasts. Excerpts on weather observations, descriptions, and the seasonal cycles follow.*

This is what I think: because we depend only on animals for food you had to see the beauty of Sila first thing in morning. You must appreciate the beauty of *Sila*, in order for to enjoy the outdoors and get used to it. **(Pauloosie Akittiq, 1992: IE-243)**

We were told that we should make a point of seeing *Sila* as soon as we could when we woke up. We did this so that we could live longer. [...] A girl would be told: *'aniutturin, anisaaligin ullaakun makituaruvin, irnisuliruvin irnisaalijumaaravit.'* ("you should go out quickly in the mornings after you get dressed, so that when you are in labour you will deliver your baby quickly"). But we no longer tell our young people that they should hurry outdoors. All we tell them is that they should get up -"it is almost time for school"! Yes, we use to be told to go outdoors first thing in the morning. Perhaps our parents wanted to know if it was windy, for they would always asked if it was windy us when we returned indoors. Maybe that was their excuse to get a weather report without them having to find out for themselves! So as soon as we put on our footwear we would rush outdoors!" **(Zachariasie Panippakuttuk, 1991: IE-201)**

We had to *anijaaq* [the ritual of observing *Sila* each morning]. We would observe the sky conditions - what sort of clouds there were - and the position of the stars. Today even I don't do that anymore. I listen to the radio to hear the weather forecasts. It was different when we had to observe the weather by watching the clouds and noting the wind directions all the time. **(Hubert Amarualik, 1994:IE-314)**

We were conditioned by having to get outdoors in the morning. [On coming back in] we would be asked questions: How is the weather? If you were not observant, you would be asked more questions. Then and there, you would realize that you have to bring in more information. This is when you realize the things that you need to know. I personally had one particular tutor - Siniqqaq. He would say to me:

"Tuattuuq *nakinngajaaqpa?"*(Thin one, which way is the wind blowing?) I had not noticed it. So I'd have to go back out and check it again.

"Nuvujavaa?" (Is it overcast?) *"Aamai"* (I do not know) *"Atii takujartunngua ɛ'arit!"* (Then go out and look!).

This is how I started to learn. He made me aware of the importance of weather. When I finally was able to describe the conditions, he would stop asking me these questions. It was from Siniqqaq that I learned the importance of observing. […]. He would ask me if I thought that there might be winds […] - this was long after the need to get outdoors. If I hadn't noticed I'd go out again and check. Those questions were very useful.

I was able to guess what conditions were coming, but I never really learned about it. Now we don't pay too much attention [to the weather], perhaps because we no longer hunt as much as we used to. **(Nathan Qamaniq, 2001:IE-471)**

[…] To learn about weather conditions you pretty well need to be outside the community if you want to guess what the weather is going to be. […] When you're away from the community you pay a lot more attention to the current weather conditions, observing, for example, that in the evening the daylight is in this direction, in the morning it's in that direc-

tion, at noon the sun is located there, and, at night, certain star is in such and such a position. These are the things that can be learned only outside the community. In town there is too much light [from the street lamps] making it difficult to observe the stars. When you are outside the community, the stars are clear and you can use certain ones for your way finding, so it is easier to navigate. **(Nathan Qamaniq, 2002: IE-496)**

Rain in winter; snow in summer. Many Igloolik elders vividly recall spells of extremely unseasonable weather in the past. These episodes were sometimes a curiosity, sometimes an inconvenience, and, occasionally, a factor in tragedy as in the well-known case of Ataguttaaluk and her family who in the early 1900s were stranded inland, not far from Igloolik, by deep snow. Starvation followed. Ataguttaaluk was the sole survivor

There was a time when I experienced a heavy snowfall in the late springtime [mid-July]. When the birds have lain their eggs the temperatures usually are warm and there is no expectation of snowfall at this time in the year. It happened some years ago, not too far in the past, when hunters started to hunt walrus and cache them for winter, so it was necessary to get as many walrus as possible. We had been staying at Qikirtaarjuk [the northeast peninsula of Igloolik Island] but when the walrus hunting season starts we moved our camp towards Pingiqqalik [a hunting camp on Melville Peninsula southwest of Igloolik] to get to an accessible location before break-up [of the sea ice]. It was about that time when the small birds had laid their eggs including the Arctic terns. We made a trip to Ikpiarjuk [the bay on which the settlement of Igloolik is located] during the day, after we had moved our family to Igloolik Point. While we were here it started to snow, it was not a light snowfall but a really heavy snowfall. It was not cold. Because of the snowfall the ground became deep in snow when we travelled back home. **(Pauli Kunnuk, 1990: IE-087)**

I have seen bad weather in the summer on few occasions. I once experienced a snowstorm in the middle of summer, some years ago. […] There was a snowstorm immediately after the ice broke up. I have never seen one like that before. During spring the birds usually have their eggs. Around the time the ice breaks up the eggs hatch and become chicks. It was when the chicks started to roam around. There was a heavy snowfall, the snowfall then turned to a full-blown snowstorm. The lee of boulders and rocks were piled with snow. I have never seen another storm of that magnitude since. I do not recall what was said of that storm even with elders amongst us. My father was alive then. They never made it known to us what might have caused the snowstorm nor did they mention any similar experience before then. The weather must have been cold at that time for it did not rain. It might have been cold, but I recall the sun was giving off heat in those days. **(Eli Amaaq, 1989: IE-074)**

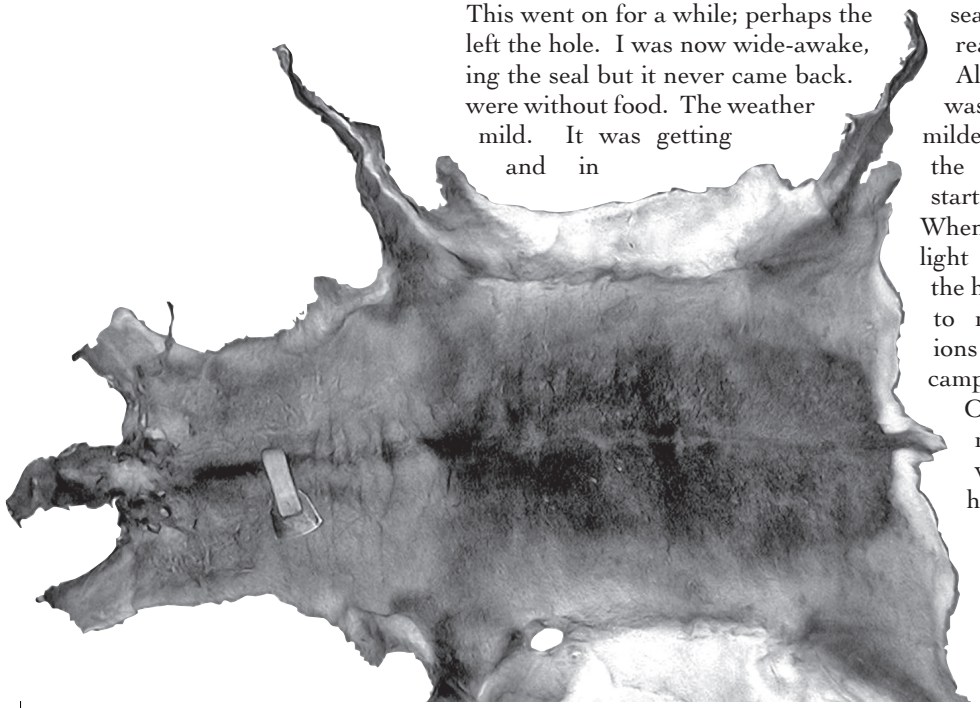
I experience rain in the wintertime, this phenomenon does not happen every year. As a matter of fact this occurrence is more frequent than that of a snowstorm immediately after the ice break-up. It would rain sometimes in the middle of winter. As far as I am concerned it is an unpleasant experience. I was not able to hear the explanation about it from the elders so I cannot elaborate on it. It was around early spring when we lived at Iglurjuat [Cape Thalbitzer, Baffin Island], not too long ago [the 1950's]. When we were running short on food, in fact we were almost out of it. Because of the poor floe-edge we were not able to keep ourselves supplied with food. I decided that I should make a journey in search of caribou. Qulittalik was there to drive his own dog team. There were now two dog teams at our disposal. Qattalik and his younger brother drove one team while we had the other. We started our journey to Kangirłimajuq [Steensby Inlet, Baffin Island] in search of caribou. As we passed Ikpigaarjuit we

came across a seal breathing hole so I decided that I would wait for the seal - all afternoon if need be.

I told the others to drive on so they could set up camp not too far off. So they left and while they were still within sight they stopped and made camp. I was waiting in the aglu [seal breathing hole] in a sitting position. The afternoon passed into night, then night into morning and I started to get so sleepy that I could not keep awake. My harpoon was crossways on my lap as I did not have my harpoon rest with me. I stooped forward and went to sleep unintentionally and started to dream. I knew that I was waiting for a seal. I began to hear a noise coming from below, making its way up getting closer, getting louder. The noise suddenly came into contact and made a ringing sound that went through my harpoon from end to end. I could hear the sound travelling but I could not wake up. This was repeated a number of times; the sound would come from beneath me getting closer and closer until it reverberated through the harpoon and dissipated. This went on for a while; perhaps the seal had finally left the hole. I was now wide-awake, really expecting the seal but it never came back. All this time we were without food. The weather was now very mild. It was getting milder and milder and in the morning it started to drizzle. When the full daylight came, I left the hole and went to my companions that were camped near-by. One sled had mud runners with walrus hide covering the fore arch of the runners. The mud coating had melted, exposing the steel runners beneath. As we left to move on the rain started to fall heavily; we were now really out in the rain. Because it was winter we were wearing our *qulittaq* [caribou skin "parkas]. When we neared the other side of the bay we started […] to search for *aglus* [seal breathing holes]. We came across one and I stood on top of it and waited. My footwear were made from caribou skin and, because of the rain, my feet were making a tapping noise. I waited for a while but decided that a seal would not come […] due to the noise from my feet. I left the *aglu* because of all the rain.

[After successfully hunting caribou] we started for home when it became light. We had a heavy load as we had caught many caribou. As we were going on to the sea ice we made camp before the snow hardened […]. The snow was freezing now so it was very difficult to make an igloo. In later years I noticed some rain in the winter, but I do not remember it as distinctly as this incident. **(Eli Amaaq, 1989: IE-074)**

I remember there was rain in the wintertime when we had taken a trip over to the Agu Bay [Baffin Island] area. I forget exactly how long it rained, not many hours. During that time there was no sun because it was in the month of December. But after the rain, the rabbits disappeared and there were none for years following this incident. It took years before the population was back. […] I was old enough to hunt at that time. It rained so hard that all our dog meat melted. There was a thick ice layer afterwards. I did not understand how it could rain when there is no sun. **(Alain Iyerak, 1997: IE-401)**



The Winds

Iglulingmiut designate four "primary" winds - Uangnaq, Kanangnaq, Nigiq and Akinnaq - from which all other local wind directions can be specified. When related to the divisions of a European compass

"rose" these four primary winds have the following approximate values:[2] Uangnaq, WNW (296°); Kanangnaq, NNE (019°); Nigiq, ESE (119°); and Akinnaq, SSW (202°).[3] It will be noted that there are two sets of roughly opposing, or counterbalancing winds, one on the Uangnaq-Nigiq axis, the other on the Kanangnaq-Akinnaq axis. To the Iglulingmiut this arrangement of "opposites" is symbolically important, especially in the pairing of Uangnaq and Nigiq which, as we have seen, are personified respectively as female and male and are said "retaliate" against each other. It is, in fact, not uncommon to have a west-northwest gale followed by a contrary blow from the east-southeast. In Igloolik wind is the most closely observed and frequently discussed of all environmental phenomena (MacDonald, 1998).

A cogent illustration of the crucial link between wind direction and Iglulingmiut hunting activity comes from Pingiqqalik, an ancient, now abandoned, settlement near Igloolik. Here, a northeast wind - the wind most favoured for walrus hunting on the moving ice - was given its own local name and referred to with unusual metaphorical flourish as Qukturaaqtuq - "the broken thigh".

Near the sod houses at Pingiqqalik there is a small pond lying in a north-westerly direction. They call this pond *Qukturak* (because it is shaped like a human thigh). As was our custom, the first person who went outdoors in the morning would check the weather and inform the rest. If the wind was seen to be coming from the direction of the moving ice, in other words blowing across the pond, it was said that the thigh was broken. The person who observed this, especially if an elder, would then go back indoors and announce that "the thigh is broken!" *(Qukturaaqtuq!)*. At this, the men immediately became lively with anticipation, knowing that the conditions were just right for walrus hunting on the moving ice. That's the way they did things at Pingiqqalik! **(Noah Piugaattuk 1986:IE-054).**

The term qakiijauniq refers to a violent winter wind, which, acting with airborne snow particles, is capable of eroding snow-houses to the point of destruction. There are also dangers associated with building a snow-houses in the lee of hills, including the possibility of avalanches

An igloo can be eaten away by this wind [...]. When it appears that this is going to happen, the best way to treat the igloo is to coat it with water [...]. *Qakiijauniq* can be very dangerous and, for this reason, during a blizzard we always try to build a storage extension on windward side of the igloo. This offers some protection. **(Emil Imaruittuq, 1990: IE-101)**

There are always dangers when one is travelling. Sometimes in a blizzard one is forced to make a shelter, and one might think that the best place to build one would be on a lee side of a hill, or rise, [to escape from the wind] as it is extremely uncomfortable on the face when building an igloo in a blizzard. Always be careful where you build a shelter. One must never build under a cliff or in the lee of high hills as these usually have an aluiqqaniq (a cornice). In blizzards cornices continue to build up making them heavier, increasing the danger of an imminent avalanche. It is well known that people have been killed in avalanches, so care must always be taken. One must not build a shelter, even for the night, under such conditions. **(Emile Imaruittuq, 1990: EI-101)**

The Moon-Months

The Iglulingmiut lunar calendar counts thirteen "moon-months" – one for each lunation in the annual cycle - each named for some recurrent event in the natural world: nesting of birds, birth of seal pups, caribou moulting, winter's darkness, and the return of the Sun, to name a few. Iglulingmiut, aware of the subtle changes around them, recognize eight seasons when often the less observant, poorly acclimatized visitors to their land count only two: winter and summer.

The January moon was referred to as *Qaummagiaq*. At this time it was said that the Moon and the Sun would compete to determine which would come out first. I have heard that if the Sun won the competition then the Moon would not be as bright even when it is full. Should the Moon win it would

shine much brighter when full. […] In addition when a new Moon first appears it is usually very thin. When we were children we would play outdoors at night so we would see the moon as it was just coming out. When we entered a dwelling we would tell the elders about the moon that we just saw, and at once they would ask us: *"usivaa?"* ("Is it carrying a load?")… I was told that when the Moon first comes out it is sometimes tilted so that it appears to be almost facing up [horizontal to the horizon], as if it were carrying a load. When that happens it means that it is carrying *"usijuq"* – "carrying" the wind. If the moon seems vertical to the horizon it means that it is not carrying a load. This is interpreted to mean that throughout this particular month the weather would be favourable without too much wind. […]

February was known as *Qangattaasan*. At this time the Sun has returned to the horizon and it was starting to get higher and higher. The month of March was referred to as *Avunniit,* followed by *Nattian* - April - when the seal pups are being born. I am not certain about May, I believe it was *Nurrait,* when the sun starts to melt the snow, but soon after that there is a period of freezing, known as *Qissuqaq,* or the "freeze over", when the temperatures will plummet freezing the ground that had previously melted. It is at this time the caribou give birth to their young. In the past there was a saying that: " *Sila* does not have any sympathy for the caribou", the reason being that when the caribou are giving birth the weather usually gets really cold and stormy. On the other hand, it is said: *"Sila* sympathizes with the seal pups", because mild weather with new snow blanketing the ground usually accompanies the birth of ringed seal pups. Often I used to hear that *Sila* adored the seals, while not caring for the caribou.[…] June is called *Tirigluit,* referring to the bearded seals pups that are born at this time. July is the "egg month" - *Manniin* – followed by *Sagaruut,* the month when the caribou moults and their hair becomes very thin). Next is *Akulliruut,* meaning that the hair on caribou is now prime - not too thin nor too thick; the word literally means "the middle". September is *Amiraijaut,* when velvet on the antlers of the bull caribou starts to peel. This is an indication that the season is now well on its way to autumn. [We call] October *Ukiuliruut* when the caribou skin is getting thick with winter hair […] The next is moon *Tusaqtuut.* This is the time when the sea freezes over making it possible to visit other camps that had been unreachable since the spring. The camps are now in communication again, hence the name *Tusaqtuut.* [And finally] there is the [mid-winter] moon *Tauvikjuaq* - the "time of great darkness". **(Mark Ijjangiaq, 1991: IE-184)**

Anticipating Weather

Inuit short-term weather prediction involves the observation of clouds, wind-shifts, twinkling stars, halo phenomena, the movement of sea mammals, the look of distant land, bodily aches and pains, and even a ringing in the ears. Long-range forecasting, however, can engage more arcane associations usually played out in the celestial sphere, including the race between the Sun and the Moon following winter's darkness, and the apparently shifting position of the Galaxy. Much Inuit forecasting seems to be based on assumptions of balance and reciprocity, and sometimes of retaliation (as described in the passages from Kappinaq above **[IE-265; IE-273].** *Persistent winds from one direction are eventually answered by winds from the opposite direction; cold, calm periods alternate with windy warmer periods; severe winters*

are compensated by good summers and vice versa.
In the following passages mention is made a number of times of a long, smooth, darkish cloud as being a predictor of windy weather. This is probably "altocumulus lenticularis", typically having the long, lens-like profile of a basking "bearded seal" [Erignathus barbatus] - *hence the Inuktitut name,* Ugjunguaq or Ugjuujait [pl.].

When the sun was going to return, they used to say that the Moon and the Sun would compete with each other so that one would come out before the other. When the sun returns before the first new Moon of the year it was said that the Moon had been defeated and that the spring and summer would be warm. But should the Sun come out after the first new moon [following the dark period] it was said that the spring and summer would not be as warm. This past winter [1990] the Sun came back first and for this reason the spring was very dry, when it would normally have been rainy. So the spring was good because the Sun had come out before the Moon. **(Noah Piugaattuk, 1990: IE-153)**

I have heard that it is called *Avigutaa* [the "Milky Way"] - a "separator" for the winds. It is here that the winds collide [...] and where the stronger wind prevails. This cloud-like mass is not stable, so that when you see it has moved slightly in one direction it means that, for a while, the wind will blow from that direction **(Hubert Amarualik, 1992: IE-212).**

During the winter months when the temperatures are their lowest, clear skies continued for a long period of time with *uangnaq* [WNW] winds prevailing. This was the case this past winter [1992/93]. There was hardly a time when the wind blew from the *nigiq* [ESE] direction this past summer. I thought to myself when I saw the weather's behaviour this winter that the prevailing winds would be coming in from a southerly direction when the temperatures got warm enough to the point where water no longer froze. The reason for this is that the wind hardly blew from the *nigiq* direction this winter. This has happened before only once during my lifetime, at Kapuiviit (on Jens Munk Island). At that time, late in the season when the days were getting shorter again, we had not been able to hunt walrus because of ice floes [brought in by the northwest wind]. I had a feeling that this was going to be again the case this year, and indeed this is the way it's turning out.

When these conditions happened in the past at Kapuiviit we found ourselves running very low on dog food that winter, not being able to hunt for walrus during the preceding summer. I would think that this is going to happen to the people who are hoping to make caches for *igunaq* [fermented walrus meat] this summer.

This happens once in a long while, indeed, once in a long while. The weather conditions change from year to year, there are some summers with much warmer temperatures than other summers and there are those that are not as warm. When these conditions (called *aujjarluktuq* – a "weak, deficient, summer") occur, the areas where it takes longer for the ice to break up under normal conditions will experience hardly any break-up in summer, right through to autumn. It will also start to freeze earlier than normal, and where there are narwhales, especially around Tununirusiq [the Arctic Bay area] and in the waters of Mittimatalik [Pond Inlet], an early freeze-up will periodically trap the narwhales in the ice. When narwhales were caught in this way it will mean that the people will have plenty in that year. That was the way it was in the past. I have not heard of it happening like this in recent times.

When there are too many open crevices on the surface of the sea ice, water from melted snow, which would have contributed to the melting of the ice, drains off into the open crevices thereby delaying the weakening and melting of the ice. Conversely when there are few crevices on the ice, [the surface water accumulates] forming deep puddles that cause the ice to rot faster.

Then there is a condition where the wind blows from *kanangnaq* [NNE] and a strip of dark cloud appears just above the horizon: When this happens they say: *"taikaguuq anuri"* (there is the wind). The following day you do not get any wind, but on the day after that it would start to get windy from the direction where you had seen the strip of the dark cloud. As the wind starts to blow it gets stronger and stronger. For the next three days you will experience very windy conditions from the direction where you had seen the strip of the dark cloud. When these strips of clouds are sighted the hunters are advised against hunting on the moving ice, especially the younger people. They knew that the moving ice would be separated from the landfast ice for a prolonged period of time. This prediction was always accurate.

Then there is another condition from the [southerly] direction of *Kivati.* When you see white clouds [fair weather cumulus] spread out low on the horizon, it is said: *"anuriguuq palaqsimaniattualuuvuq"* ("the winds have been lulled for sometime") or *"ikulliaaraaluitguuq tauva"* ("those are the calm winds"). When you see such cloud formations there is absolutely no danger in going out to the open sea to hunt for walrus.

The only thing that one should be weary about is the thin strip of clouds that I mentioned. They will not get to your location immediately but once they reach you the wind will blow […] for many days. This was the condition that I was warned about. When it prevailed I should take extreme care and be anxious.

There is one thing that I have not been able to find out for myself and that is when, after a long period of calm weather, the wind is finally going blow from the *Uangnaq* [WNW] during the period when the temperatures were coldest. It is said that you could smell *Sila* just before the wind started to blow. I personally have not smelled it, but these are the signs that were closely observed when Inuit had to depend entirely on animals for subsistence.

[When you] notice that marine mammals appear to be heading in one general direction, it is said that they are heading in direction from where the wind will start blowing. In the winter when the temperatures are still cold enough so that the water freezes very easily, the game animals will head towards the direction where there will be open water. This assumption was accurate.

When we were hunting walrus on the moving with a strong *Nigiq* [ESE wind] the wind would abate but still come from that direction. The walrus would start to swim towards the landfast ice. That meant that the wind would soon blow from *Uangnaq* [WNW wind]. When walrus starting to move one direction during extreme temperatures when the sea freezes easily, that means that the moving ice is going to separate from the landfast ice making an area of open water. **(Noah Piugaattuk, 1993: IE-276)**

In the springtime there are great mirages appearing nearby. [...] Sometimes the land [across the strait] appears farther away and sometimes closer. The mirages seem to move the land. They say it is the winds that make the land seem closer or farther. When there are going to be winds blowing the land appears far away, and when the winds are going to calm down the land seems closer. A great mirage means that there are winds ahead of us. Sometimes these forecasts are correct, sometimes not. When you live outside the community you still have to observe the weather. If you don't observe the land it is very hard to know what is happening with the weather **(Hubert Amarualik, 1994: IE-314)**

[Halos] are used to tell what lies ahead. When the Moon gets an *avaluarutaq,* [literally, "framed"- a full halo] it means that bad weather lies ahead. You can use it to guess what the weather will be like. When the Moon is completely surrounded by the *avaluarutaq* there is a strong possibility that bad weather will prevail, and that overcast conditions are

eminent. I know that this is used to guess what the future holds […] **(Nathan Qamaniq, 2002: IE-496)**

The stars and the clouds were also used to tell a change in the weather. The clouds sometimes were known to bring winds. But only certain kinds of clouds were classified as wind clouds. They are the thick, dark, rounded ones known as *Ugjuujait* "those that resemble bearded seals" [*altocumulus lenticularis?*] **(Pauli Kunuk, 1997:IE-402)**

After a good number of clear calm days, you see long thin black clouds forming in the north over the land just above the horizon. They would say the *Ugjunguaq* - " those that resemble the bearded seal" [*altocumulus lenticularis?*] have appeared. Once those clouds have appeared then you shouldn't make plans to hunt on the moving ice. The wind does not begin right away [perhaps] a couple of days later, but once it does there'll be continuous wind for the few days. That is what happens. If the black clouds I mentioned appear from *Kanangnaq* (NNE) then you know that there's going to be bad weather for some time. If you are out in a canoe during these conditions, you should make every effort to get to your destination while the weather is still good. […]. These clouds indicate bad weather that will last for some time. Hunters of the past knew these things ahead of time. **(Noah Piugaattuk, 1988: IE-040)**

We were always guided by the weather for hunting. Our hunting of different animals depended on the kind of weather we had for that day or that time. In fact the prediction of southerly winds meant a time for walrus hunting. It was a time of joy for us all. **(Pauli Kunuk,1997: IE-402)**

Nothing is certain, but there are times when you recognize certain conditions. It is said that when there is so much accumulation of soft snow *(piqsuksalialuulirami)* there is a good possibility of a blizzard.[…] Or it might be that the temperatures are severe – a condition called *singumajuq,* meaning that there is a strong possibility of high winds. We have the saying: *singumajualuuliramiqai anuraatuinarialialuulirami* ("because it is *singumajuq* strong winds are imminent"). These are the conditions that allowed us to guess in advance what the weather conditions would be like.[…] I would not know how long a blizzard would last. If the wind starts to blow from *Nigiq* (ESE) in the morning, it will be moderate, but towards the evening will get stronger. […] That is the way it seems. There is a saying: *"nigirluguuq unnugiksiannuniarani"* - "the *Nigiq* (ESE) wind will not allow a favourable night" – meaning that with nightfall the wind seems to blow even stronger. This is something that I have heard and learned from. **(Nathan Qamaniq, 2002: IE496)**

I am not much of a weather predictor, but I know that in winter, spring, summer and fall, the clouds are all different when you are trying to predict the weather. I have not yet seen any changes globally in the weather; it is still the same as when I was growing up. Sometimes we ask ourselves what the weather will be like tomorrow, and most of the time our predictions are true, mine usually are, but sometimes it is different. Sometimes during the winter, when the weather is mild and there are some clouds, it could look like a good day to go hunting. But if we go hunting under these conditions, you have to worry about something, because you know it's not going to be like that for long. There might be a bad storm right away or a day after. That's something our young people should know about. Also if it gets really cold, colder than usual, then not too long after that the weather usually becomes very mild and so that is something to look forward to, because it will be good to go out hunting. In winter, I think hunters know what the weather will be like for the next day. I know that if it is very clear and calm, you can predict the weather by looking at the clouds to south. You know that there will be north winds. You can tell by the narrow clouds that appear from the south. It is the other way round if there is going to be south wind; you will see narrow clouds coming

in from the north. All this is true. I have experienced this, and I only talk about what I have learned.

I learned from my ancestors and other elders. I don't know why the elders never really tell other people what the weather is going to be like even though they know. I can't understand why they don't tell others. Perhaps it's because they don't want others to know, or maybe because they think they are going to be wrong. […]

If you see clouds that look like the liver of a seal, smooth, long and dark, and you can't really see the outline of them, those kinds of clouds make elders and hunters worry, because they know there's going to be bad weather later on that day, or at night, or the next day. Also if you see cumulus clouds on the horizon then that means there will be good weather soon. And if you see smooth long dark clouds in front of the cumulus clouds, it's an indication that it might become windy later on. Cumulus clouds forming in front of the smooth long dark clouds cause hunters to smile, because they know the weather is going to be good for hunting. **(Maurice Kigutikkaarjuk Arnattiaq, 2001: IE-467)**

The phenomenon of bodily pains and sensations as an indication of imminent change in weather conditions was common among Iglulingmiut. Ringing of the ears, for some a sign of impending strong winds, was for others a prediction of hunting success.

[…] When bad weather is coming, people who have illnesses feel worse […]. Those who have had surgery are especially affected by the storms. Also in the past, when there was no modern medicine, people that were sick felt worse and had no appetite. It happened that when a storm approaching, a sick person would first feel it and then the bad weather would follow. And during the storm, before its abatement was evident, a sick person would feel better ahead of the weather improving. With a sick person you could tell when the weather was changing because they would feel better even before the weather improved. That was my experience when I spent time with sick people. I never felt it myself because I do not really have an illness. **(Rose Iqallijuq, 1997: IE-398)**

When persons that are no longer normal, especially those that have gone through surgery, their behaviour is more connected to weather. With those that are healthy and normal you cannot tell the difference […]. But people that are not normal do change with weather conditions. When my wife had an operation on her lung, I used to use her to predict changes in the weather. It was always accurate. […] It is true - tidal currents and bad weather does affect people just before they occur. **(Noah Piugaattuk, 1992: IE-226)**

Each ringing [of the ears] has its own meaning. An extended ringing will bring prolonged windy conditions. Heavy winds can be predicted with low ringing, and a high-pitched ring, means fair winds. This only happens when the wind is going to blow strongly. **(Antonen Qunnut, 2001:IE486)**

Weather Change

For Inuit, climate change is hardly a new experience. Over generations they have been challenged by the sudden vagaries of extreme, "unseasonable" weather, and usually have come through whether surprised by winter or summer. The following excerpt relates a song commemorating an autumn-less year of 1911. The term "qitissuqtuq" *refers to the "middle" or dividing period between summer and autumn when the first snow of the season falls only to melt quickly and vanish.*

Sila the weather differs from year to year. Sometimes the summer is weak; indeed I have seen it more than once when ice does not break up in some summer. As a matter of fact my father composed a song about one such incident at Aggu (Agu Bay on Baffin Island) around the time I started to take notice of the things that happened around me. The year was 1911 and I was to see a whiteman [the explorer Alfred Tremblay] for the first time […]. That summer it seemed as if *qitissuqtuq* was going to revert to warmer temperatures,

but it didn't. The weather remained cold so that the season just moved right on into winter. The caribou that year had a late migration waiting for the snow to accumulate before they finally started to migrate. I remembered that year my father tried really hard to keep us supplied.[…] [Weather like] this has been known to happen from time to time. Sometimes people think that it is going to happen again but if it does it is not going to be the same. My father composed a song at that time which goes:
Aja... mangataɐʔalirnirmatiguun aja,
Aja... We had been fooled
Silarujuk nigirujuk ija...
By appalling weather, the southeast winds
Aja... ukiakɔaɐʔalirnirmalli aja,
Aja... The autumn has sneaked up upon us
Anurajuk nigirujuk ija.
With constant winds, the southeast winds
Aja... kajuɯiɐʔalirnirmingman manna aja,
Aja... Why does it have to be this way?
Anurajuk ɕilarujuk ija...
The constant winds, the appalling weather.... **(Noah Piugaattuk, 1992: I E-245)**

However, they use to say that long ago *Sila* was much warmer in the spring and the summer. The wind used to blow moderately. That was the way it appeared in the years past, at least from my own personal experience. It seemed as if the temperatures were warmer and the sun's rays use to be much warmer *(kijjiq)*. But now we have started to see that the Sun is much warmer when not covered by clouds. **(Hubert Amarualik, 1993: IE-290)**

In my youth it seems that the weather was really warm and there was hardly any wind in the summer and spring. That was the way it seemed to me then. Someone mentioned to me this morning that the new ice on the shore's edge never appears to have a slippery surface; I then recalled the time when newly formed shore ice used to be really slippery. In the early spring, it did not freeze as quickly as in winter, it used to get very smooth and slippery, but now, with constant snowfall, it never appears to be slippery.

In those days when we wore sealskin pants in the spring, the sun's rays would be so strong that the sealskin pants got really warm. The sky looked much bluer then, but now it is hazy, and easily tends towards snowfall. Even in the summer, it is now constantly blowing.

At the time when we depended totally on sail to propel our boats, the sea would get calm and remain like that for days, preventing us from traveling. But now, because we no longer depend on sail […] it seems as if it's always blowing! **(Nathan Qamaniq, 2001:IE-471)**

Some TV weather forecasts are accurate, but only for the immediate future, like the following day - beyond that they're not too accurate. This past summer and autumn, I took to writing down the forecast shown on TV. I did not record the current conditions for the evening, but only the following day's forecast. I wanted to find out how accurate they were. I found that in a lot of cases they were not right, especially the longer range forecasts. As for the day's current conditions and evening forecast, they were basically right, but at times not exactly so. There were times when the forecasts were completely opposite from the weather that actually occurred. This was mainly the case for longer forecasts. **(Nathan Qamaniq, 2002: IE-496)**

Silaga nauk? - Where Is My Weather?

The variety of perspectives, attitudes, and understandings of weather offered in the foregoing excerpts are rapidly loosing currency, even relevance. *Sila,* as the spirit of weather, is now consigned to the past, its significance held in minds of a

very few elders. Shamans no longer work their propitiatory powers, and there are fewer and fewer weather-wise hunters to make forecasts. Today, exhortations like Eli Amaaq's, to "observe *Sila* and be alert" go almost unheeded; and the once obvious signs of imminent storms go largely unnoticed, or are retailed remotely through radio and television.

Igloolik elders are troubled by the loss of traditional ways brought on, they say, by government policies in the 1960's that resulted in the move of the area's Inuit from the land to the shelter of the government-administered town. Here, their traditional forms of leadership and organization fell apart. Inuit became "wards of the state", their lives dominated by agencies and laws, well-meaning, perhaps, but not their own. Their children were sent to schools for an education having little to do with a life on the land, and, in town, existence for many could, and does, go on with scant reference to the environment and its resources. Store-bought foods compete successfully with the traditional "country foods"; garments of manufactured fabrics, no match for extreme Arctic weather, are replacing caribou and sealskin clothing. The language – Inuktitut – with its extensive, specialized vocabulary, once the conceptual basis of profound environmental comprehension, is being eroded at an alarming pace, terminologies to do with land forms, snow and ice conditions, the celestial sphere, and, yes, weather, being especially vulnerable. The most troubling (and most elusive) aspect of this cultural loss and alienation is, of course, the extent to which it contributes to the community's endemic level of social malaise, expressed through increasing rates of anomie, addiction, malnutrition, and suicide.

An evident result of Igloolik's shifting social and material setting is that the younger generations, to a greater or lesser degree, are not well prepared intellectually, attitudinally, practically, or even physically, to deal with the environment much beyond the limits of the town. To the dismay of many elders, the land and its resources are being increasingly relegated to the realm of weekend recreation. Nathan Qamaniq is not alone among Igloolik elders attributing the demise of life-affirming environmental attachment to the apparent ease of town life:

> […] We get everything so easy now, and do not need to work hard. These are the reasons why the weather conditions are not as well known as they were in the past. We are not hunting as much as we use to, because food is secured from the stores, and it appears that store-bought food is now the main diet of the people. The weather conditions that would have seen hunters going out to hunt are no longer being paid attention to. […] When you depend mainly on animals for your needs, you would want the weather to be favourable for hunting, these are the things that contribute to paying closer attention to the weather. But now we are no longer as active in hunting and, as a result, we no longer pay attention to the weather, because we are now housed in warm houses. **(Nathan Qamaniq, 2002: IE-496)**

Elders tend to see the opposing spheres of "town life" and "land life" as virtually incompatible. socially, culturally, and linguistically. As Qamaniq points out, living in town is hardly conducive to learning about the environment or, for that matter, about life in general:

> […] You need to be outside the community in order to learn these things. You need to away from this place. You have to endure hardship every now and then, for instance when you need to travel over thin ice or face other dangers, or if you need to get to your destination but get lost. You learn from these things. When you have everything so easy, [such as] driving a snow machine, all you have to is follow a trail; you don't need to worry or work hard to reach your destination at night. Now they navigate only by following trails. This slows down learning and makes it more difficult to acquire knowledge about things that need to be known. […] When

you are driving yourself, and not following any trails, this really helps you to learn things. In fact you may find yourself in a situation where you think you are going to get lost. This is a good way to learn. When you endure difficulty or experience hardship, in any way, or get into a desperate situation, this is a good way to learn. **(Nathan Qamaniq, 2002: IE-496)**

For some years now, Igloolik elders, through their association – the Inullariit Society - have been trying to stem this disturbing retreat from tradition by organizing "on-the-land" courses for the community's youth. The courses take place at remote hunting areas and expose the participants to a wide variety of weather and seasonal conditions. There is an emphasis on safety, and practical skills are taught such as hunting and fishing techniques, skin preparation, sewing, shelter construction, navigation, and short-term weather forecasting. Care is also taken to introduce participants to the correct contexts, attitudes, and philosophies needed to live safely and in harmony with the environment. Accordingly, instruction on local geography and ecology, Inuktitut place-names, and associated family histories are intermingled with traditional maxims setting out the rules of life and the proper treatment of animals.

The Inullariit Society's courses are popular and the young participants usually enjoy the experience, having learned some of the basics of survival on the land, and perhaps killed their first caribou, seal, or walrus. Bouts of bad weather confining them to camp and boredom, along with running out of cigarettes and store-bought food, are the most common complaints. Most are not unhappy to get back to the settlement. For some, however, the experience of a life away from the confines of town proves attractive and they return with an enthusiasm for more. Other potential recruits to a hunting vocation come from a few families committed to teaching their children the essential practical knowledge needed for a life on the land.

Continuity of hunting know-how and practice, are crucially important to elders troubled by what they believe is the community's diminishing capacity and desire to access and use the land's natural resources. Some, for example, predict the demise of most walrus hunting, pointing out that there will be few, if any, from the younger generations capable of replacing the dwindling pool of skilled, elderly hunters. It is difficult to know to what extent these fears will be realized, and even harder to imagine Igloolik - a community virtually synonymous with walrus hunting – ever ceasing this activity.

Against such forecasts and concerns, however, the place of weather, good or bad - or for that matter the issue of climate change - in daily life becomes less and less significant: and with it the deepening separation from a uniquely-comprehended environment that, not so very long ago, was the body and soul of Inuit existence.

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(Endnotes)

1 Excerpts have been taken from interviews variously conducted by Louis Tapardjuk, Leah Otak, George Qulauk, Maurice Arnatsiaq, Susan Avingnaq, Paul Irngaut, Wim. Rasing, Shari Fox, Claudio Aporta, and John MacDonald. Translations from the original Inuktitut were provided by Louis Tapardjuk, Leah Otak, and Paul Irngaut. Some of the material presented here was previously published in *The Arctic Sky, Inuit Astronomy, Star Lore, and Legend* (John MacDonald, Nunavut Research Institute, Iqaluit / Royal Ontario Museum, Toronto, 1998).

2i A British Royal Navy expedition (1821 – 23) in search of a Northwest Passage, led by Edward Parry and George Lyon, winter on Igloolik Island.. Parry's and Lyon's published journals are among the earliest detailed accounts of Inuit life and social organization in the Canadian Eastern Arctic.

3i Inuit names for wind directions vary from region to region. They are "absolute" in the sense that they usually relate to local coastal orientation rather than to some universal marker such as "true" north. This system, Michael Fortescue argues, "may be a more reliable guide to Eskimos discussing journeys over complex Arctic terrain than compass orientation can provide" (Fortescue 1988:3)

4 Emile Imaruittuq, September 24, 1993. The bearings of the winds (in degrees) were determined by a theodolite set up outside the Igloolik Research Centre, Igloolik, and aligned (astronomically) to "true" North. Note that when using English, knowledgeable Iglulingmiut usually translate *Uangnaq* and *Nigiq* as northwest and southeast respectively. Among many of the younger generation the "nominalization" process is taken even further; *Uangnaq* becoming "North" and *Nigiq,* "South", a liberty that earns the disapproval of some of the older hunters.

Ziisbaakdoke-Giizis

Leanne Simpson[1]

I am writing this at the beginning of Ziisbaakdoke-Giizis, Sugar Moon. This is the time of year that Anishinaabek people begin to see new life forming in our territory. The land is waking up from her winter's rest, birds are beginning to return and the Aninaatig, Sugar Maple Tree, is sharing its powerful medicine, aninaatig wiishkobaaboo or sap, with us. Anishinaabek people have used sap for generations in the spring to clean our blood and to prepare us for the summer months ahead. We have ceremonies and traditions that mark this important time of year, but human-induced climate change could change all of that. The running of the sap is dependent upon particular weather conditions, long cold nights and warm days, conditions that normally occur in March. As our temperature rises, and our maples become more and more stressed in the northern reaches of their territory, the number of days the sap runs has changed from weeks to just days in some areas.

This is just one of the impacts of climate change on my traditional territory, but it will not be the last, and I worry about the land and how healthy it will be for my children and my grandchildren. They will witness fantastic environmental destruction, driven by the colonial agenda and an unparalleled entrenchment of a global system of economics based on exploitation, conquest and greed. The next generation will be subject to an unprecedented exposure to corporate advertising and manipulation from their earliest years, their immature and unprotected minds the target for advertisers wanting to secure unconscious future recruits for their corporate worldview. Yet our children and grandchildren are ultimately the ones that will have to deal with the most potentially devastating impacts of climate change in the midst of an array of other environmental disasters, the most serious of which are only symptoms of our entrapment within a colonial system. Human-induced climate change is directly related to the colonial invasion and occupation of Indigenous nations. The same Euro-centric thinking that facilitated the near destruction of our nations is responsible for the accelerated climatic change that may result in the total destruction of the ecosystems within our territories, the same ecosystems that provide the basis for our knowledge, cultures and ways of life. We must view climate change as a colonial manifestation and attack the very roots of the problem if we are to inspire our children to carry own our legacy of decolonization and to re-build governments and leadership based on our traditional values. This is a tremendous onus to play on the coming generations, but our children will be the next ones responsible for the survival of Indigenous Peoples, and it looks to me like we are handing them a very difficult task indeed. This Ziisbaakdoke-Giizis, I have been thinking a lot about the knowledge and skills our children are going to need to be able to carry out that responsibility.

Trish Monture-Angus, a prominent Mohawk scholar, mother and activist has written that self-determination and sovereignty begins at home, with individuals, with families[2]. Similarly, Anishinaabek people do not believe that we are to talk and write about our traditions, we are to *live* our traditions in our daily lives, and this represents resistance to the assimilationist agenda, an expression of personal and cultural sovereignty and an act of decolonization. But personal sovereignty is not enough. We must also advance our visions of political self-determination and decolonization and teach our children that another political reality is possible. We must instill in them the values of traditional leadership, of justice and of lib-

eration. We must foster the skills needed to address colonial injustice, re-traditionalize Indigenous thinking and the ability to live our traditional values to contemporary situations. This is our responsibility to the coming generations.

Anishinaabekwe[3] have important responsibilities when it comes to decolonization. We carry the coming generations inside of us for nine months in one of our most sacred ceremonies, we carry the generations that are going to feel the most devastating effects of human-induced climate change. We are responsible, with our partners for nurturing our children into adult-hood and for growing the leaders of tomorrow. If we expect our children to continue to resist the assimilation agenda and to undermine the intellectual premise of colonialism, to act on the moral imperative to change and resist colonialism and to live our traditions[4], we must be willing to spend the enormous amount of time required to foster those skills and that kind of indigenist and anti-colonial intellectual thinking inside of them. Our children are not going to learn those skills spending 40 hours a week in daycares and public schools run by the beneficiaries of the colonial project[5].

When I became pregnant with my first child, my dreams of liberation, of freedom, of self-determination and of nationhood became stronger and more urgent. At the same time, my pregnancy and the subsequent birth of my child was an opportunity to put the politics of liberation into practice by challenging the contemporary western medicalization of pregnancy and birth and by grounding my process in the knowledge of Anishinaabekweg[6]. It was an opportunity to deepen my commitment to embodying the teachings of my ancestors and living those teachings each day. It became a way of breaking free from colonial thinking around pregnancy and childbirth and of linking personal self-determination with the self-determination of the Anishinaabek Nation and the responsibilities of women in re-building Indigenous nations. It was the first step in creating a life for my child grounded in his culture and the responsibilities that come with it.

Mino-Bimaadiziwin: Continuous Re-Birth

Ziisbaakdoke-Giizis is a time of birth. It reminds us of the importance of continual, cyclical re-birth, renewal and new life. I have recently spent the last two years as a stay-at-home mother to my young son[7]. I have continued to engage in community and political work that I can complete on my own time or participate in with child in toe, primarily those events occur in child-friendly Indigenous circles. The decision to leave my career as an academic and university professor was not an easy one, and was certainly not supported by all of my colleagues. The most puzzling comment I received was that by staying home and committing myself fully to mothering that I was somehow ignoring my responsibilities to my people and to my nation. To me, the opposite was true. Committing to my responsibilities as a mother was living my traditional responsibilities as an Anishinaabekwe. Instead of talking and writing about challenging colonial mentalities, I lived that challenge in the way I carried my child through pregnancy and delivered him into this realm. Parenting in way that is both culturally based and politically aware is perhaps the greatest contribution to my people and the decolonization movement I can make. Creating a space for my young child to grow and live as a Mississauga gwiiwizens[8] requires daily commitment to our traditional values. It requires me to decolonize my beliefs and my thinking around parenting and children. It requires a constant anti-colonial analysis of toys, books, and activities. It requires a commitment to heal from the pain of the colonial legacy that has manifested itself in Indigenous families as violence and abuse. Talking about our traditions is easy, living them is hard, particularly when one is surrounded by a dominating society whose values of-

ten exit in direct opposition to our own, but it is absolutely critical as a first step to ensuring the survival of Indigenous Peoples in the coming generations[9].

Decolonizing Pregnancy and Birth

Colonialism has had a tremendous impact on our women, on our pregnancies and the ways we birth. In the times prior to contact, we lived in extremely healthy and well communities. Birth was a sacred women's ceremony and women gave birth often with the help of midwives or female family members, although in some cultures women also birthed alone. Each different Nation and culture had different traditions, but women and the power women had was highly revered and respected. A lot of that reverence and the authority of women came from their role as life-givers and vitalizers. Katsi Cook, a Mohawk midwife writes that:

> "Control over production and the reproduction of hu man beings and all our relations is integral to sovereign ty. It is this area of sovereignty that falls primarily in the domain of the female universe and encompasses the balances and forces, which promote the harmony and well-being of the People. Women are the base of the generations. They are carriers of the culture"[10].

When colonialism high-jacked our pregnancies and births, it also high-jacked our power and our sovereignty as women. By undermining our most sacred and powerful ceremony, our colonizers thought they could achieve the destruction of our nations. So birth was medicalized. Women were medicated and hospitalized. White doctors, who were "experts" on birth replaced our midwives and replaced our confidence in our bodies, our reliance on our traditional knowledge and our trust in our spirit-helpers and our ancestors. Our aunties and grandmothers were not allowed in delivery rooms, and neither were our medicines, our singing, our drumming and our smudges. Our male partners were stripped of their traditional responsibilities around birth and were relegated to waiting rooms. We were told that for the safety of our babies we needed medical intervention and to rely on the western medical system, to do anything else, we were told, would be irresponsible. Birthing, once a sacred ceremony was relegated to a disease, a medical condition that women and their babies needed to be saved from.

In addition to disconnecting families and communities from the birthing process, the western medical system has replaced our children's powerful person creation stories with ones full of pain, isolation, and in which women had a complete lack of power over the process. Birth is about creation, and birth stories provide our people with important information about who they are and their life path. These stories ground children in their cultural roots and help to create strong Indigenous identities and positive self-esteem. It is part of our responsibilities as Indigenous women to take back our birth ceremonies, to challenge the medicalized birthing culture that has disconnected children from their cultures and disempowered Indigenous men and women, and to develop models of pregnancy and birth based on our traditional values. By telling our children powerful stories of resistance, of reclamation and of love, the first stories they carry will be ones of liberation, not colonization. Indeed Indigenous women are doing just that.

Mohawk women at Six Nations and Akwesasne have preserved their traditions of pregnancy, child-birth and midwifery into contemporary times. My generation of Anishinaabekweg are also turning to our Grandmothers and Elders to re-learn our own traditions around pregnancy and birth. My own son was born into my own hands, at home with the assistance of midwives. The first words he heard were my own,

in my own language, greeting him and welcoming him to this world. He was born into cedar water, facing east and his father tended a sacred fire throughout the labour. We were fully present, able to accept the first teaching Anishinaabek babies bring with them, that of love. In return, I was able to offer my first teaching to him, that of sharing as he immediately begin to nurse after his long journey through the doorway and into this world. When I tell Nishna the story of his birth, it is rich with dreams and visions, songs and ceremonies and connections to traditional Elders and to his territory.

Re-traditionalizing: Nursing and Attachment

Decolonizing and re-traditionalizing our personal lives continues after the end of the Pregnancy and Birth Ceremonies. Indigenous women have some of the lowest breast-feeding rates in Canada[11], yet in the times prior to colonization babies were breast fed on-cue and for an extended period of time. Breast milk was recognized as the best food for babies, long before medical doctors and other health care professionals endorsed this fact. Nursing has tremendous nutritional and immunological advantages over corporate produced formula, it gives babies added prevention against allergies and asthma, it increases maternal bonding and attachment and offers protection from a variety of diseases including SIDS and diabetes[12]. Nursing is absolutely free and if more Indigenous women were offered the support needed to ensure successful a successful nursing relationship with their babies, our children would be healthier, connected and better able to meet the challenges ahead. DooDoo[13] is a traditional food and it is a way of living our traditions and disconnecting our babies from their dependency on corporations that produce formula. On-cue nursing reinforces traditional teachings around love, sharing, attachment and respect for the needs of our babies.

High levels of attachment through the first seven years of life was recognized as a key element to developing independent, self-sufficient adults long before it was championed by psychologists and attachment parent advocates. Babies spent all of their time around their mothers and extended families, fully participating in and learning from the daily life of their families, communities and nations. Children engaged in a holistic educational process, learning by doing, experiencing the natural consequences of their actions and nurtured by the gentle guidance of their parents, grandparents, aunties, uncles and Elders. Children were experienced as important teachers as they moved through the developmental stages of their lives, providing important reminders and acting as teachers to the adults whose lives they past through. This style of parenting was an obvious threat to the colonizers who set out to destroy and assimilate our peoples as quickly as possible, not only because it was the foundation of our pre-colonial societies but also because it created traditional leaders with both vision and conviction. Decolonization cannot stop at pregnancy and birth, they must be threads that continue to run throughout our children's lives.

The timing is right. We are the prophetic Seventh Generation. The ones with the responsibility of reclaiming the teachings of our ancestors and setting a new course towards freedom, We cannot expect our children to carry on our liberation work if we do not take the time and effort to equip them with the attachment, the love and the endless nurturing and patience they require in the first seven years of life. We cannot expect our children to carry on our liberation work if they do not know their culture, their language and our collective values or if they grow up surrounded by crushing poverty, violence and hopelessness. We cannot expect our children to resist the assimilationist agenda of occupying governments and the corporate media if we do not teach them their history and nurture strong indigenous identities.

By living our responsibilities as mothers and as parents, we begin this revolution. Ziisbaakdoke-Giizis provides us with an opportunity to reflect upon the importance of new life, of re-birth and of our connections to the land. My hope is that my grandchildren will be able to drink that sweet sap water and cleanse their bodies, minds and spirit to prepare for the coming season.

Endnotes

1 Leanne Simpson is a researcher, writer and activist of Mississauga ancestry. She is currently on leave from her position as Director of Indigenous Environmental Studies at Trent University in Peterborough, Ontario, Canada.

2 Trish Monture-Angus, *Journeying Forward: Dreaming First Nations' Independence,* (Halfiax, NS: Fernwood Publishing, 1999).

3 Ojibwe woman

4 Taiaiake Alfred, *Peace, Power and Righteousness: An Indigenous Manifesto.* (Toronto: Oxford University Press, 1999).

5 I want to recognize here that many Indigenous families have no choice but to put their children into these kinds of daycare and educational situations. I do not mean to criticize these men and women in anyway. I merely want to draw attention to the fact that this kind of education in and of itself is designed to create individuals that will uphold the colonial status-quo, not create individuals capable of carrying out the work demanded by the politics of decolonization and liberation.

6 Ojibwe women

7 I want to recognize that many Indigenous women have no choice but to work outside of the home to support their families. I do however want to draw attention to how little mothering is valued in contemporary societies.

8 We are part of the Mississauga nation, which is part of the larger Anishinaabek Nation. Gwiiwizens means boy.

9 Taiaiake Alfred, "The First Steps to Freedom". Available www.taiaiake.com/pdf/thefirststep.pdf.

10 Cook, Katsi. "The Women's Dance Reclaiming Our Powers" *Indian Studies,* (Fall 1986).

11 Infact Canada, "Health Protection and Health Care in Canada
Protecting the Health of Canadians and the Health Care System in Canada", A Submission to the Commission on the Future of Health Care in Canada, February 13, 2002. Available http://www.infactcanada.ca/health_protection_and_health.htm.

12 Gwen Gotsch et al., *The Womanly Art of Breastfeeding* (New York: Plume, 1997).

13 A common name Anishinaabek children use for mother's milk.