

Clayoquot Applications for a Knowledge Database

The database developed for the Tuktu and Nogak Project is currently in use by the Dene, Dogrib, Metis and Inuit in both Nunavut and the Northwest Territories. With these disparate groups using the same database, different knowledge systems can easily fit together like pieces of a jigsaw puzzle. Interesting overlap occurs in traditional use areas shared by two aboriginal groups. In this way, data are further corroborated particularly for wildlife, habitat and land features.

Information entered into the database is not limited to traditional knowledge -- scientific knowledge can also be integrated. One might imagine layers in a cake that build upon one another such that, for example, habitat classifications may be overlaid by traditional knowledge of spiritually important areas. In the north, it is particularly interesting to compare scientific information about caribou migration routes gathered via satellite collars, with Inuit knowledge of traditional caribou migration routes as well as traditional Inuit travel routes. The overlap between these three knowledge bases is remarkable. In this way, both short- and long- term trends can be identified.

The database allows for limited access to information and informants by employing a password system. In this way, intellectual property rights can be protected.

With this compatibility, expandability and security in mind, it is clear that the same process of developing a database, and the same model for synthesis of many forms of knowledge or sources of information could be pursued in the Clayoquot Biosphere Reserve setting. Links with the Long Beach Model Forest Traditional Ecological Knowledge Working Group, and with the Traditional Use Studies, would be obvious first steps in establishing a foundation for ongoing work of this kind.

The Tuktu and Nogak Project Database: The Merging of Textual and Spatial Traditional Knowledge in a User-Friendly, Compatible, and Expandable Format

--Natasha Thorpe, Principal Researcher, Tuktu and Nogak Project (nthorpe@telus.net)

Kitikmeot GeoSciences Ltd. in conjunction with Environmental Systems Research Institute Inc. (ESRI), developed an ArcView GIS database of information collected by the Tuktu (Caribou) and Nogak (Calves) Project. This database was designed to provide a PC-based interface for designated individuals to access data collected through the TNP in graphic format, as well as additional environmental and traditional knowledge (Inuit *Qaujimagatuqangit*) information in text format.

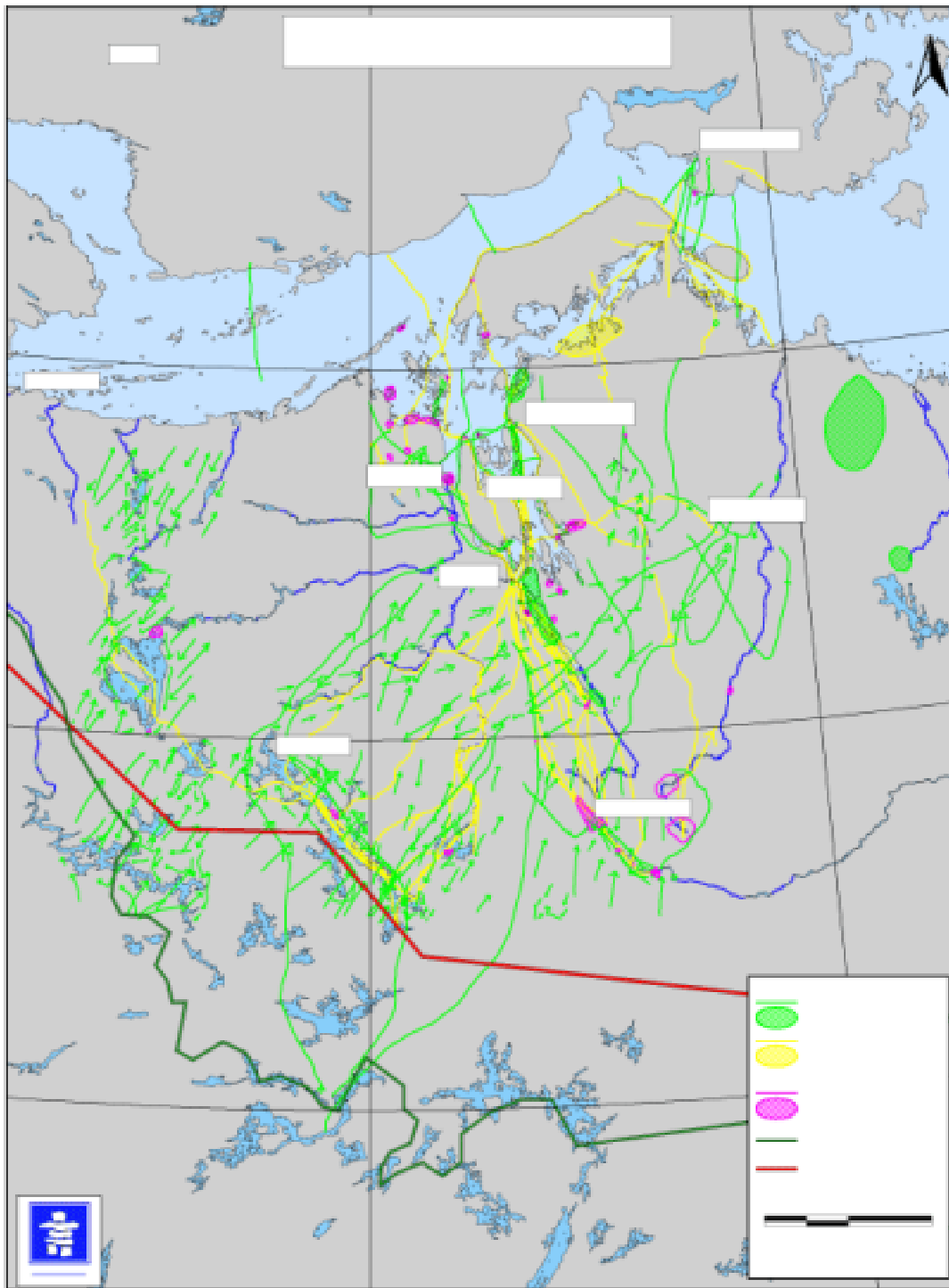
The user-friendly, expandable program provides the user with a graphical interface featuring a 1:1,000,000 scale map. The project involved digitizing mylar overlays of TK information obtained through interviews with Inuit elders and hunters. The full transcript of each elder's or hunter's interview is accessible from ArcView through a link to an AskSam database. This link allows the user to conduct a keyword search on the transcripts to get more information on a particular theme.

In other words, the database is like a giant library that classifies and stores all of the interview transcripts and maps in a manner that provides for easy retrieval of specific information. Sections of the interview transcripts were coded by keywords, such as 'traditional use', 'calving', or 'migrations', so that similar sections could be grouped together. Thinking of the database as a library, each transcript section is filed under several different headings on various bookshelves. In this way, anybody using the database can learn more about a particular caribou topic by simply entering a keyword that triggers a search through all of the interview transcripts.

Within the database, interview transcripts were linked with the map overlays created by the interviewed elders and hunters. The database allows the interviewees' knowledge to be connected with places on the land through the use of maps and text boxes that pop up when one uses the mouse to point at a specific feature on a map as illustrated below. For example, a story about caribou migration was linked to a series of arrows on a map, and a traditional camp, marked with an 'X' on a map, was linked to an elder's story about how he spent the summer hunting caribou with his family at this camp. The maps that are found throughout this chronicle are a sample of the total number of maps created by the TNP.

A key advantage of this database¹ is that it is compatible with other traditional knowledge and IQ efforts ongoing in Nunavut and the Northwest Territories. In this way, the two Inuit IQ projects can easily supplement one another and future IQ efforts can build upon this database.

¹ For more information about this database, contact rspicker@MeridianGeoscience.com Kitikmeot GeoSciences Ltd. in Vancouver, BC.

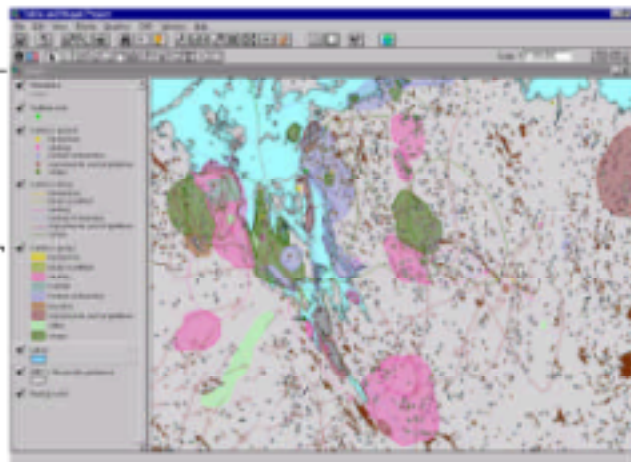


When you press OK a new view called View1 showing the results of your selection appears. Each time you use the 'Add Theme' button, a new view gets created.

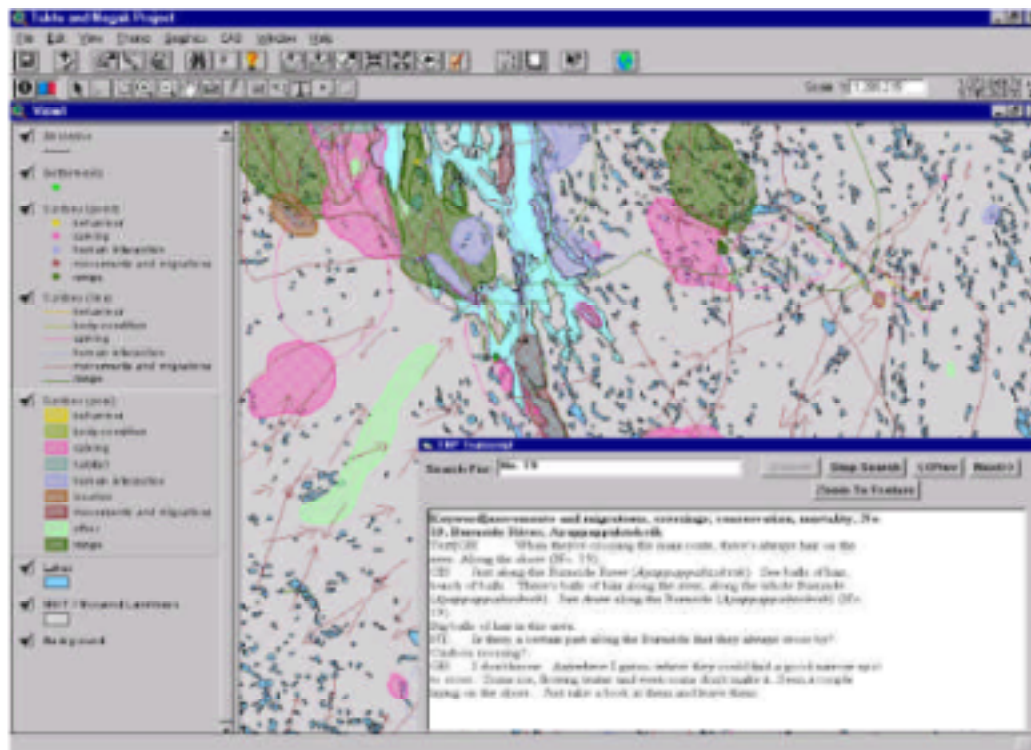
For example,

Name of newly created View

Caribou theme with different sub-themes



AskSam Icon: This icon launches AskSam- a text database program. AskSam is used to obtain text information on themes.



HIGHLIGHTS

- Extensive project management experience including client liaison, staff supervision, public speaking, media relations, fund raising and budget administration.
- Seven years of experiential learning, capacity-building and working with Inuit, Dogrib, Dene and Gwich'in (Canada), Saami (Sweden), and Akha, Hmong, and Karen (Thailand).
- Negotiated and executed joint projects with Nunavut Co-Management Boards, mining companies, heritage societies, colleges, and federal and territorial governments.
- Lectured nationally and internationally on conducting traditional ecological knowledge (TEK) and cross-cultural research on mining, wildlife and climate change issues.
- Co-developed a computer program linking Inuit TEK with places on the land that is used as an educational and decision-making tool in land and wildlife management.
- Trained indigenous employees and networked with indigenous communities while working as on-site environmental manager for the Ekati Diamond Mine.
- Presented and co-presented with Inuit, government and industry research partners at approximately 40 public and planning meetings in Bathurst Inlet, Bay Chimo, Cambridge Bay, Kugluktuk, Vancouver, Whitehorse and Yellowknife.
- Together with Inuit hunters and elders, co-wrote training manuals and held educational workshops on conducting oral history research, building computer skills, gathering internet information, speaking in public arenas, overcoming cross-cultural barriers, resolving conflict, writing funding proposals and networking with stakeholders.
- Superior experiential knowledge of and sensitivity to barriers to capacity-building for indigenous communities, and forging indigenous-corporate partnerships.

RELEVANT EXPERIENCE

Principal Researcher

Tuktu (Caribou) and *Nogak* (Calves) Project, Iqaluktuuttiaq, NU 1994 – 2001

- Co-designed, wrote and conducted a participatory action research project with four Inuit settlements to document TEK of caribou in the Kitikmeot region.
- Formed partnerships with and integrated direction from Nunavut Co-Management Boards, designated Inuit organizations, mining companies, environmental organizations, schools, colleges, heritage societies and federal and territorial governments.

- Cooperated with mining companies and Inuit organizations to develop, manage and provide training for a database of stories that links spatial and textual information.
- Teamed with numerous Inuit community researchers and elders for written papers, conference presentations, radio shows, press releases and community meetings across the circumpolar north (Canada, Norway, Sweden).
- With Inuit researchers and elders, co-wrote a book on Inuit TEK of caribou.

Vice-President and Co-Owner

GeoNorth Northern Environmental Consulting, Yellowknife, NWT 1996 - ongoing

- Managed study to link Gwich'in TEK and western science in response to community concerns about increased aggregate material in the Mackenzie River.
- Led and co-facilitated numerous national and international meetings relating to TEK, northern climate change, sustainable development and globalization. These involved up to 160 participants from indigenous and non-indigenous communities.
- Clients include the BHP Independent Monitoring Agency, federal and territorial governments, Nunavut Co-Management Boards, Leadership for Environment and Development International and West Kitikmeot / Slave Study Society.
- Assembled annotated bibliography over 300 references on TEK.

On-Site Environmental Officer

Ekati Mine, BHP Diamonds Inc., Lac de Gras and Yellowknife, NWT May – Aug. 1996

- Trained indigenous peoples to conduct TEK, wildlife, and archaeological surveys in collaboration with industry and western scientists.
- Collaborated with hunters' and trappers' organizations and territorial and federal governments to carry out the *Naonayaotit* Traditional Knowledge Study.
- Supervised indigenous summer students in environmental monitoring programs.

Nunavut Scientist

Indian and Northern Affairs Canada (INAC), Yellowknife, NWT Feb. - May 1996

- Coordinated knowledge engineering between southern consultants and northern (indigenous) environmental experts to customize a northern-specific environmental assessment and screening database for INAC and the Nunavut Impact Review Board.
- Participated in Traditional Knowledge Round Table Meetings that brought together researchers and community members to assess current research projects and policies, and discuss research partnerships and possibilities for the future.

ADDITIONAL EXPERIENCE

Teaching Assistant

University of Colorado at Boulder, Hiukitak River, NU July 1998

- Acted as part of a team of academics and Inuit elders, lecturing and supervising Inuit and non-Inuit students during a month-long ecology course held while kayaking an Arctic river.

English Teacher and Environmental Educator (Volunteer)

Suksasawnkrou School and Larnsang National Park, Tak, Thailand June – Aug. 1995

- Taught English and environmental education to indigenous hill-tribe (Akha, Hmong, Karen) children at a rural residential school located adjacent to a national park.
- Collaborated with park rangers to implement erosion abatement strategies and sustainable tourism initiatives in the park that was predominantly a secondary sub-tropical forest.

Self - Employed Consultant

Aurora Consulting, Yellowknife, NWT

Sept. – Dec. 1994

- Researched, wrote and designed a public plain-language newsletter on water quality and quantity in the NWT that was distributed across the north.
- Interviewed aboriginal people and community members involved in the federal water sampling program with a view to integrate traditional knowledge and scientific data.
- Forged working partnerships with indigenous groups for water quality monitoring.

Water Resources Research Assistant

Indian and Northern Affairs Canada (INAC), Yellowknife, NWT, Canada.

May – Sept. 1994

- Interviewed aboriginal people and community members involved in the federal water sampling program with a view to integrate TEK and scientific knowledge.
- Trained Inuit, Dene and Dogrib community members who were hired as local water samplers for a federal water quality and quantity monitoring program.

VOLUNTEER EXPERIENCE

English Teacher and Environmental Educator

Suksasawnkrou School and Larnsang National Park, Tak, Thailand

June – Aug. 1995

- Co-designed and built an information center for English-speaking park visitors.
- Taught English and environmental education to indigenous hill-tribe children at a rural residential school located adjacent to a national park.
- Collaborated with park rangers to implement erosion abatement strategies and sustainable tourism initiatives in the park that was predominantly a secondary sub-tropical forest.

EDUCATION

Master of Natural Resource Management

School of Resource and Environmental Management 1996 – 2000
Simon Fraser University, Burnaby, BC,

Thesis: Inuit Ecological Knowledge of the Impacts of Climate Change on Caribou of the Bathurst Herd, Nunavut, Canada

Advisors: Dr. Evelyn Pinkerton, Simon Fraser University and Dr. Gary Kofinas, University of Dartmouth

Bachelor of Science (High Distinction Honours)

Environmental Science and Geography Majors, Biology Minor 1991 – 1994
University of Toronto, Toronto, ON

Thesis: The Biogeochemical Cycling of Carbon, Nitrogen and Phosphorus in a Saline and Alkaline Lake in British Columbia, Canada.

General Arts and Science (Economics and Business Focus)

Simon Fraser University, Burnaby, BC 1989 -1991

SCHOLARSHIPS, AWARDS AND GRANTS

- Raised \$500K in research grants from 30 stakeholder agencies and partners for research under the *Tuktu* (Caribou) and *Nogak* (Calves) Project (1996-2001).
- Arctic Institute of North America, Lorraine Allison Scholarship (1998, 1999)
- Northern Scientific and Training Program, Grant recipient (1998, 1999)
- National Science and Engineering Research Council (NSERC)/Social Science and Humanities Research Council (SSHRC) Master's in Science Policy Scholarship (1997, 1998)
- Association of Canadian Universities for Northern Studies, Studentship in Northern Studies Award (1997)
- University of Toronto, Faculty of Arts and Science Deans List (1994)
- Innis College Book Award (1992, 1993, 1994)
- Frances L. Allen Scholarship (1993)
- National Science and Engineering Research Council, Undergraduate Research Award (1993)
- Junior Board of Trade Environmental Studies Award (1992)
- Rhea V. Scott Scholarship (1992)

PUBLICATIONS

- Thorpe, N. (in press). *Factors affecting change in Inuit Qaujimajatuqangit and traditional caribou hunting practices in the Kitikmeot region of Nunavut*. Cultivating Northern Landscapes. Edited by D. Anderson. Berghahn Publishing. Oxford, U.K.
- Thorpe, N. (in press). *Climate and caribou: Inuit knowledge of the impacts of climate change on the Bathurst Caribou Herd in the Kitikmeot Region, Nunavut*. Arctic Conservation Issues: Status and Trends of Arctic Flora, Fauna and Their Habitats. Edited by H. Huntington. Arctic Council, Conservation of Arctic Flora and Fauna (CAFF).
- Riedlinger, D., S. Fox, and N. Thorpe. (in press). *Inuit and Inuvialuit knowledge of climate change in the Northwest Territories and Nunavut*. Native Voices in Research: Northern and Native Studies. Edited by J. Oakes and R. Riewe. Winnipeg, MB: Native Studies Press, University of Manitoba Press, University of Manitoba.
- Thorpe, N., S. Eyegetok and N. Hakongak. 2001. *Thunder on the tundra: Inuit ecological knowledge of caribou*. Tuktu and Nogak Project. Vancouver, BC. 176 pps.
- Thorpe, N. and S. Eyegetok. 2000. *The Tuktu and Nogak Project brings elders and youth together*. Native Journal 9 (7): 9.
- Thorpe, N. and S. Eyegetok. 2000. *Lessons on the land: The Tuktu and Nogak Project elder-youth camp*. Nunavut Tunngavik Incorporated Press. Ittuuaqtuut 2 (2): 32-43.
- Thorpe, N. 1998. *The Hiukitak School of Tuktu: Collecting Inuit ecological knowledge of caribou and calving areas through an elder youth camp*. Arctic 51(4): 403-408.
- Thorpe, N. 1997. *The Tuktu and Nogak Project: Inuit knowledge about caribou and calving areas in the Bathurst Inlet Region*. Arctic 50 (4): 381-4.
- NWT Water Today. 1995. Indian and Northern Affairs Canada. Yellowknife, NWT. 8 pps.

CONFERENCE AND WORKSHOP PRESENTATIONS

- Thorpe, N. *Moving Forward: Contributions of Inuit knowledge to understanding the impacts of climate on caribou*. 51st Arctic Science Conference. Whitehorse, YT. September, 2000.
- Thorpe, N., D. Riedlinger, S. Fox and GeoNorth Consultants. *A preliminary assessment of the state of documented traditional and local knowledge research of climate change*. Northern Climate ExChange Workshop. Whitehorse, YT. September, 2000.
- Thorpe, N. *Starting points for research: Contributions of Inuit knowledge to understanding climate change*. 12th Inuit Studies Conference. Aberdeen, Scotland. August, 2000.
- Thorpe, N. *Finding balance in times of transition: Inuit recommendations on sustainability in the mineral-rich caribou calving grounds of Nunavut*. 12th Inuit Studies Conference. Aberdeen, Scotland. August, 2000.
- Thorpe, N. and S. Eyegetok. *Inuit ecological knowledge of climatic influences on caribou*. Workshop on Climate Change Impacts and Adaptation Strategies for Canada's Northern Territories. Yellowknife, NWT. February, 2000.
- Thorpe, N., S. Eyegetok, and Elder L. Kamoayok. *Inuit ecological knowledge of climatic influences on caribou and calving areas in the Kitikmeot region of Nunavut, Canada*. 10th Annual Arctic Ungulate Conference. University of Tromso, Norway. August, 1999.

CONFERENCE AND WORKSHOP PRESENTATIONS (Cont'd)

- Thorpe, N. S. Eyegetok and Elder P. Omilgoitok. *The Tuktu and Nogak Project: Participatory action research in the Kitikmeot region of Nunavut*. Arctic Institute of North America. University of Calgary, AB. August 1998.
- Thorpe, N. *Inuit knowledge of caribou and calving areas in the Bathurst Inlet region*. 5th National Students' Conference on Northern Studies. Association of Canadian Universities for Northern Studies. Simon Fraser University. Vancouver, BC. November 1997.

GUEST LECTURES

- Thorpe, N. *Research in Inuit knowledge of climate change impacts on caribou in the Kitikmeot region of Nunavut*. University of Victoria. Victoria, BC. March 2001.
- Thorpe, N., S. Eyegetok and N. Hakongak. *Thoughtful Reflections on Inuit Qaujimajatuqangit (IQ) research*. Government of Nunavut. Iqaluktuuttiaq, NU. November 2000.
- Thorpe, N. *Lessons learned: Reflections on conducting cross-cultural and community-based research in the Arctic*. Presentation to REM 601. School of Resource and Environmental Management. Simon Fraser University. Burnaby, BC. October 1998.
- Thorpe, N., N. Hakongak and Elder M. Koihok. *Youth are the future: Elders and youth for the Tuktu and Nogak Project*. Kiiliinik High School. Iqaluktuuttiaq, NU. June 1998.
- Thorpe, N. and S. Eyegetok. *Participatory action research in the Arctic: An Inuit and non-Inuit perspective*. Simon Fraser University Co-Management Research Group. Vancouver, BC. March 1998.
- Thorpe, N. *The importance of youth in the Tuktu and Nogak Project*. Umingmaktuuq Elementary School. Umingmaktuuq, NU. July 1997.

ORGANIZATION MEMBERSHIPS

- Arctic Institute of North America, University of Calgary, Calgary, AB
- Co-Management Research Group, Simon Fraser University, Burnaby, BC

OTHER ACTIVITIES AND INTERESTS

- Volunteer, Pacific Animal Therapy Society and Big Buddies Reading Program, Victoria, BC
- Outdoor enthusiast: back-country hiker, kayaker, mountain biker and snowboarder.
- Team player: basketball, ice hockey and running.