

Nan t'aih nakwits'inahtsih (The Land Gives Us Strength)
The Medicine Plants used by Gwich'in People of Canada's Western Arctic
to maintain Good Health and Well being.

by

Alestine Mary Terese Andre
B.A., University of Victoria, 1994

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of

INTERDISCIPLINARY (INTD) MASTER OF ARTS

in the School of Environmental Studies

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Nan t'aih nakwits'mahtsih (The Land Gives Us Strength)
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ABSTRACT

An ethnobotanical research carried out by Gwich'in people from the Northwest Territories in July 2002 documented traditional plant knowledge. Ruth Welsh, Gwich'in Elder and Plant Specialist, identified 96 plants from traditional camp sites in the Gwich'in Settlement Area. Of this total, 34 plants are used traditionally as medicine plants to treat and heal skin and eye conditions, internal, respiratory, nasal and urinary problems, common colds and flu, as well as broken limbs, insect bites, stings, burns and to maintain good health. Prominent medicine plants are birch (*Betula papyrifera*), poplar (*Populus balsamifera*), juniper (*Juniperus communis*), black and white Spruce (*Picea mariana* and *P. glauca*), tamarack (*Larix laricina*), willow (*Salix* spp.), plantain (*Plantago major*), wintergreen (*Pyrola gradiflora*), wormwood (*Artemisia tilesii*), yarrow (*Achillea millefolium*) and horsetail (*Equisetum arvense*). Documented too are the Gwich'in, English, Latin, and common plant names as well as cultural knowledge about the Gwich'in traditional way of life on the land.

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DEDICATION

To the memory and strength of our Gwich'in ancestors, our grandmothers and grandfathers, whose ancient wisdom and traditional plant knowledge we have today to pass on to our children, grandchildren, and for others to use in the future.

CAUTIONARY NOTES!

Readers are advised to heed the following cautionary notes about Gwich'in cultural practices and values that relates to intellectual property right and harvesting practices.

- Gwich'in people traditionally believe that Gwich'in cultural knowledge and stories that make up Gwich'in traditional knowledge, that is referred to as intellectual property rights, are to be shared with people. Their use must not be abused in any way. This practice has been like this for thousands of years.
- Gwich'in people believe that the land and all on it are sacred and must be respected and the resources upon it must be harvested with care and respect. An important unspoken rule of the land states that an area must not be over-harvested. This practice is to safeguard and ensure that the resources will be there for future use.

WARNING!

Please note that this Master's thesis is not a medical guide and it must not be used for medical advice or self-medication. **DO NOT USE** any parts of a plant if you are not certain about the plant's identity or its medicinal use. Rather seek the advice of a local medicine plant specialist for plant information.

PREFACE

The following describes my personal journey through the Masters research process, navigating through the academic, community requirements and cultural obligations.

I knew after I completed my Bachelor of Arts degree in Anthropology and Women's Studies from the University of Victoria in 1994 that I wanted to pursue more education. In the years that followed, I often thought that more land-based knowledge could take me on the land. My love for the land and my desire to return there stemmed from being on the land with my family. In my earlier life, from the inside of a dog team sleigh, I recalled passing landscape scenery as my family travelled in the winter through forested areas, along creek beds lined with willows, and across white frosted lakes in the winter. From those times, my Gwich'in culture, language, and the land that made up the northern environment held a special place in my heart. In my later life, the work that I was involved in with the Gwich'in Social and Cultural Institute (GSCI) provided me with an excellent opportunity to work and learn about Gwich'in names and the stories associated with the places on the land. Our traditional way of life on the land that I wanted to learn more about opened up before my eyes through this work.

The land-based knowledge that I was seeking surfaced in September of 1996 at a 10-day traditional knowledge and western science camp. The Delta Science Camp organized by the GSCI was held at the Mouth of the Peel camp in the Mackenzie Delta. It is an early September morning and the air outside the cabin and tents is brisk and cool on my face. Inside the main cabin, warm air radiates out from the cook stove among high school students. Their bright eyes are focused on a box that contains samples of plants in plastic bags. There is a momentary pause as everyone expectedly waits for the next instructor to begin her presentation. Ruth Welsh, Medicine Plant Specialist, and a Gwich'in Elder from Fort McPherson, smiles and welcomes everyone. Ruth starts with diet and good living before she begins talking about medicine plants, their medicinal uses, and method of application. I began to write notes as Ruth spoke about the plants that were traditionally used for medicine but I soon realized that there was so much information

that it might be better to just listen. I was totally amazed with her wealth of plant knowledge. I knew at this moment that this was the area of study that I could undertake and I wanted to learn more about the medicine plants. I thought that Ruth would make a fine teacher because she talked about the medicine plants, about nutritional diet, and about being in a good frame of mind when working with the plants. That, indeed, was my interest!

Before I left to attend the 10th anniversary of the Women's Studies Department at UVIC in the fall of 1997, I contacted Dr. Nancy Turner to set up an appointment to talk to her about my interest in pursuing a Master's degree in an environmental study-related area. A proposed Master's program and potential committee and courses were discussed at this meeting. At the end of our meeting Nancy Turner gave me the book, "Ulkatcho Food and Medicine Plants", a study that looked at the medicine plants of the Ulkatcho People of British Columbia.

I began my Master's program in September 2000. I went to the Yukon to be with Ruth Welsh the next summer. We went by boat to her tent camp on Tagish Lake. In the few days that I was with her, Ruth showed me and named the many plants that grew in various places around the lake.

Over the course of writing my thesis, there were periods of time where my thesis material and outline were clear. However there were also times when I was confused about the whole thesis, and then times when I was in the doldrums about the overall thesis, its focus, the research question and the theoretical underlay. I wish to elaborate about my times in the doldrums because I felt like I was trying to squeeze this vast collection of thesis material through a narrow canyon. There were times, too, when I had concerns about how traditional knowledge and western science could be blended and interwoven into my thesis. I could not see the forest for the trees. I believe that part of my frustration came from the fact that English is not my first language. So I struggled to put words together to form sentences to make paragraphs to express my thoughts in an

organized manner. For example, I sometimes switched the words around many times before I was happy with the sentences that express my exact thoughts.

Over the course of my Master's work, the Gwich'in value of caring for my people and especially my aging father is so strongly ingrained in me as a cultural obligation that I cannot push it aside lightly. I grew up with this tradition and this responsibility is still very strong in me today. Throughout the course of working on my Master's thesis, I have had concerns about the care for my aging father who as he was advancing in age was requiring more care and monitoring. These responsibilities have challenged and sometimes slowed the progress of my thesis. It has been reassuring to speak with Ruth Welsh on the phone and to hear that she is behind me.

Today, it is a pleasure to be on the land or to be driving alongside the plant life on the highway during the different seasons and to feel the plants pulling my attention to them. They beckon as if to say, "Look at us! Look at us!" This has happened many times to me as a certain plant will catch my eyes - dock, coltsfoot, red willow, cotton grass, tamarack trees, pea-vine, and the tall proud spruce trees. My eyes would then be drawn to certain plants however the trees that command my eyes the most are the spruce trees.

Chapter 1

Gwich'in Culture under Pressure

"Use the (spruce) pitch that looks white and clear or slightly yellow. Spruce, pine, and balsam (poplar) trees produce pitch. The lumpy spruce gum is good to chew."
- Ruth Welsh (1997)

There is a Gwich'in story about spruce gum (Appendix I). My 95 year-old father, Hyacinthe Andre, tells this ancient story about a man with injured eyes. The man is holding his eyes and walking through the bush saying, *"How can I heal the eyes?"* From a distance someone is saying, *"Me. Me. Me."* The man approaches the voice and finds a piece of spruce gum on a tree. The spruce gum talks to him and tells him, *"I am a good medicine. If there is anything wrong with your body, I can heal it. However, if I am removed too soon I cannot find what is wrong and I cannot heal what is wrong with your body. But if I am left on for a long time, I will come off by myself. Then I have found the ailment and have healed the body."* The healing power of spruce gum told in this story from ts'ıı deıı or pre-contact times is still understood as Gwich'in people who use this remedy today wait until the spruce gum application that is applied to a bodily ailment comes off on its own.

There is another Gwich'in story and this one is about Daıı dhakhıı or Bluefly Killer (Appendix II); this one tells about change. My father and my uncle, Gabe Andre, tell an old time story that predicts that change would occur on the land that was occupied by the Gwich'in people. The story takes place at Daıı dhakhıı chi' (Bluefly Killer's Hill), a Gwich'in named place located in the northern end of Gwichya Gwich'in lands. In

speaking to the historical strength of Gwich'in stories as they relate to history, and to life on the land, these stories have a lot in common.

The change predicted in the second story does happen and it is a change that occurred to a traditional way of life on the land. As a consequence of this change, two critical elements that help keep an oral tradition intact have been greatly weakened: the practice of story telling and the passing on of traditional knowledge from one generation to the next. Today there are few Gwich'in Elders who still remember or can recount the legends, the stories or the traditional and cultural knowledge or who practice teaching and passing on traditional knowledge like the story at the beginning of this chapter about the healing power of spruce gum. Their number is diminishing by the year. The research I introduce in this section addresses problems created by this weakening of the traditional practices.

1.1 Changes to the Gwich'in traditional way of life

According to Gwich'in legends change has been happening on Gwich'in lands since Raven created the animals and birds. This was when humans and animals had medicine power to change back and forth into either form. As time moved on, more changes occurred. The greatest change began with the arrival of early European explorers and traders who travelled through Gwich'in lands in the late 18th century.

The Gwich'in traditional way of life was on the land. This way of life began to change for the Gwich'in people as early as the mid-1800s as missions and trading centers were

being established. New beliefs and systems introduced by the missionaries, the traders and the Northwest Mounted Police were gradually adopted by the Gwich'in people. The greatest changes, however, occurred between the 1920 and the late 1960s when Gwich'in families were separated and Gwich'in children left their homes, families, culture and language to be placed in residential schools. These schools, administered by the Anglican and Roman Catholic missions, were located at Hay River, Fort Providence, Fort Simpson, Aklavik and Inuvik. The repercussions of these residential schools and hostels will be felt by the Gwich'in people for generations to come. The spirit of the Gwich'in people has been weakened by this separation of the children from their families and traditional lifeways. Subsequently, the beginning of a new way of life in town and the end of a way of life on the land began to take shape as families were coerced into placing their children in government-run schools in the newly developing towns. Gwich'in people slowly began to move away from the land, their language and their traditional way of life out on the land. The family unit began to deteriorate rapidly.

These changes in the Gwich'in culture coincide with present trends in the larger ecosystem that will place additional pressures on the viability of the traditional culture. An issue of particular concern in this context is the proposed development of a resource extraction industry in northern Canada. This is aggravated further by global warming trends that impact the Canadian north in particular, and by resource development involving mega projects such as the proposed Mackenzie Valley Pipeline and the Mackenzie Highway. Further mineral exploitation is sure to follow in the tracks of these developments.

1.2 Gwich'in counter-strategies

The Gwich'in Tribal Council (GTC) is the political organization that represents the Gwich'in people of the Northwest Territories (NWT) and they signed the *Gwich'in Comprehensive Land Claim Agreement* in April 1992 with Canada that includes provisions in the economic, the cultural, and political areas. A few months later in August 1992, concerns over the erosion of the Gwich'in culture and language - the statement of the problem - were expressed by Gwich'in delegates at the Gwich'in Annual Assembly. The Gwich'in leaders soon developed strategies to counter these cultural pressures and established the Gwich'in Social and Cultural Institute (GSCI). In the fall of 1993, the Institute began operation with the mandate *to document, preserve and promote the practice of Gwich'in culture, language, traditional knowledge and values*. The Institute then joined other established Gwich'in organizations such as the Gwich'in Lands Administration that is mandated to manage Gwich'in lands, the Gwich'in Development Corporation to advise on business investments, the Gwich'in Enrolment Board to register Gwich'in beneficiaries, and the Gwich'in Education and Training Program to provide training and employment.

Since it was established in 1993, the GSCI has been responsible for the documentation of Gwich'in traditional knowledge for the future generations. GSCI researchers noted,

An important part of the Institute's mandate is to document Gwich'in heritage and traditional knowledge so that culturally appropriate educational material, training, and other programs and services can be developed and implemented by the Gwich'in, or in partnership with government or education institutions within the Gwich'in Settlement Area. It is believed that these types of initiatives will build a new awareness and pride in the Gwich'in culture and ultimately

contribute to the social well being of all individuals within the Gwich'in Nation.... Elders are considered crucial to this process as they are the sources of traditional knowledge and can give guidance in terms of cultural matters and values (Kritsch and Andre 1997).

The Institute has since developed several strategic plans that were approved by the Gwich'in leadership to help preserve the Gwich'in language, to document Gwich'in traditional knowledge, and to implement a policy to safeguard Gwich'in traditional knowledge. The three key documents are described as follows:

- *Dinju Zhu' Ginjik Hahtr'agoodinjih Sru' (We must not lose our language) - The Gwich'in Language Plan (1999).* The GSCI and the Gwich'in Tribal Council developed the Gwich'in Language Plan, *Dinju Zhu' Ginjik Hahtr'agoodinjih Sru'* (We must not lose our language) in 1999 that was designed to help direct various cultural and language activities in the Gwich'in communities to promote the use of the Gwich'in language.

- *Iindo khehtok tr'eedah (Moving forward as one) - GSCI Five-Year Plan (2003-2008).* The Gwich'in people in the communities who were consulted for their input into the GSCI Five-Year Plan (2003-2008) reiterated that the documentation of traditional knowledge, culture and language must remain the focus. In the future cultural, educational and social programs appropriate for Gwich'in needs could be developed with the documented material that the GSCI has been collecting since they were established in 1993.

• *Gwich'in Tribal Council Traditional Knowledge Policy (2004)*. As more oral history projects were carried out, concerns began to be raised about intellectual property rights and Gwich'in traditional knowledge. An increase in oil and gas exploration and other development and associated research interests in the Gwich'in Settlement Region (GSR) has resulted in the development of a policy to safeguard Gwich'in traditional knowledge. The GTC Traditional Knowledge Policy 2004 will guide all traditional knowledge research conducted in the Gwich'in Settlement Region in both the Northwest Territories and the Yukon.

Then more recently counter-strategies of another kind were initiated at the local level by concerned Gwich'in individuals who saw the need to preserve and to work hands-on with Gwich'in traditional knowledge. For them the timing was crucial as they could see that the custom of passing on cultural knowledge is not happening as frequently as it used to in the past. Mrs. Ruth Welsh and myself, two Gwich'in women from the GSR, decided to come together to keep our Gwich'in traditional knowledge alive. Ruth Welsh who is originally from Fort McPherson, Northwest Territories now lives in the Yukon. She was raised at her family's traditional camp at Husky River where she learned traditional bush skills and received medicine plant teachings from her mother and other Gwich'in Elders at the camp. She grew up with stories like the spruce gum legend that introduces this thesis. The stories are a part of the Gwich'in teachings and are shared and retold time and again by the Gwich'in people. Ruth (Tape #1), herself, heard stories from her mother when they lived on the land.

...she used to tell us stories about a long, long time ago...these stories her parents, her mother and grandmothers...passed down.... We used to sit in the kheh di' (horsetail) on the beaches or wherever we're gathering. We sit there gathering...and she'd tell us stories.

During our work and time together Ruth recounted stories she heard from her mother and other Elders. The plant stories are about horsetail (Tape #1), birch fungus (Tape #5, #9), low-bush cranberry (Tape #6), punky wood (Tape #6), silverweed (Tape #8), cloudberry (Tape #9), and soapberry (Tape #11). Ruth also recalled stories about grizzly bear (Tape #2, #3), caribou (Tape #3), and snaring a moose with her mother (Tape #3). Ruth spoke with great respect about such Gwich'in Elders as the late Charlie Rat and his wife, Lucy (Tape #5) and she named the people who are Lucy Rat's descendants today (Tape #5). Ruth (Tape #8) told stories about Annie Henry from the Yukon who regarded the broomrape plant as one of the medicine plants she held in high regard, "*Annie Henry is always wanting someone to go out and gather the broomrape for her...and she says that she uses it for sores. She makes...a powder poultice out of it and puts it on sores....*"

1.3 Gwich'in people of Canada's Northwest Territories

As mentioned earlier, the Gwich'in people of the NWT negotiated a land claim agreement with the government of Canada in 1992. The map caption from Thompson and Kritsch (2005) shown in Figure 1 below describes the GSR as follows, "The Gwich'in Comprehensive Land Claim Agreement (1992) created the Gwich'in Settlement Region: a region that includes the Gwich'in Settlement Area, the Primary Use Area and the

Secondary Use Area. The Gwich'in Tribal Council has title to the Gwich'in Settlement Area. The map shown here is adapted from one included in The Gwich'in Land Use Plan - Nanh' Geenjit Gwitr'it T'igwaa'in: Working for the land, August 2003" (Thompson and Kritsch 2005).

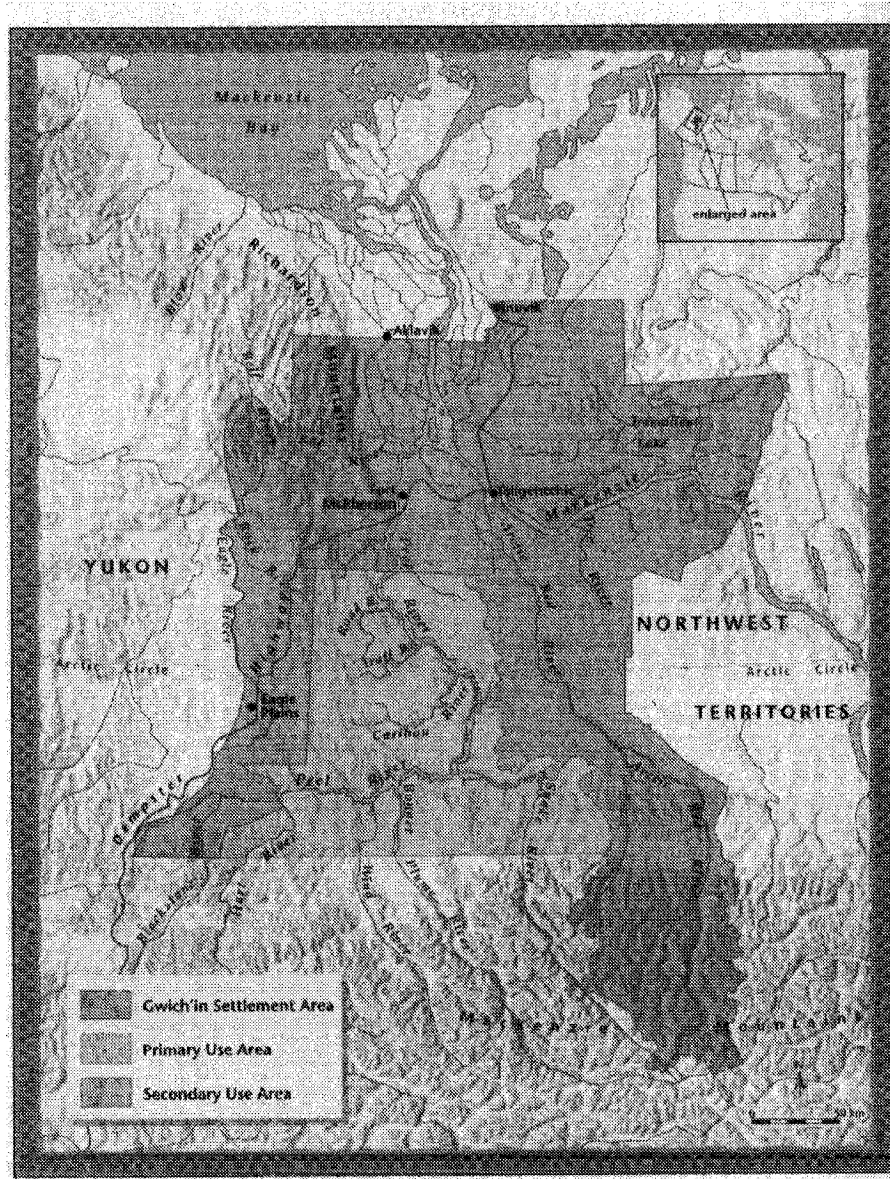


Figure 1: Map of Gwich'in Settlement Area (Thompson and Kritsch 2005)

The Gwich'in people are the most northerly aboriginal group of Athabaskan peoples.

Their traditional lands extend from north-central Alaska, east across northern Yukon and into the lower Mackenzie River Valley in Canada's Northwest Territories (NWT). Heine et al. (2001) writes,

Their homeland...is located in the subarctic boreal forest, a broad expanse of woodland stretching across most of northern Canada and Alaska. It is replaced by the temperate forest to the south, and by the treeless tundra to the north, beyond which lies the high Arctic. The northwestern part of this territory is inhabited by a distinctive group of aboriginal cultures. These are sometimes referred to by the term 'Athapaskan' or 'Athabaskan' (see Figure 2 below).

All the Athapaskan peoples speak languages that belong to the same linguistic group. So widespread is this group of languages that even the Navajo and the western Apache of the south-western United States are included in it, although they are separated from the northern Athapaskan by aboriginal peoples speaking languages that belong to other linguistic families (Kraus and Golla 1981). The Navajo, western Apache and other Athapaskan groups in the United States belong to the southern Athapaskans, whereas the groups living in the Canadian north and interior Alaska are referred to as northern Athapaskan people.... The Gwich'in belong to the group of Athapaskan-speaking peoples as do neighbouring groups such as the Slavey, Mountain, Chipewyan, and Tutchone, to name only a few.

Of the approximate 5,000 Gwich'in people that now live within these northern lands, about 2,500 Gwich'in people live in the Northwest Territories communities of Aklavik, Fort McPherson, Inuvik and Tsiigehtchic. The Gwich'in people from these communities speak the Gwichya Gwich'in (GG) and the Teetl'it Gwich'in (TG) dialects. The Gwichya Gwich'in and Teetl'it Gwich'in dialects are spoken by Gwich'in speakers who are from Tsiigehtchic and Fort McPherson respectively. Gwich'in speakers who live in Aklavik and Inuvik, which are more recently established towns, are originally from Tsiigehtchic or

Fort McPherson. The Gwich'in people who live in the NWT today are mentioned throughout this thesis.

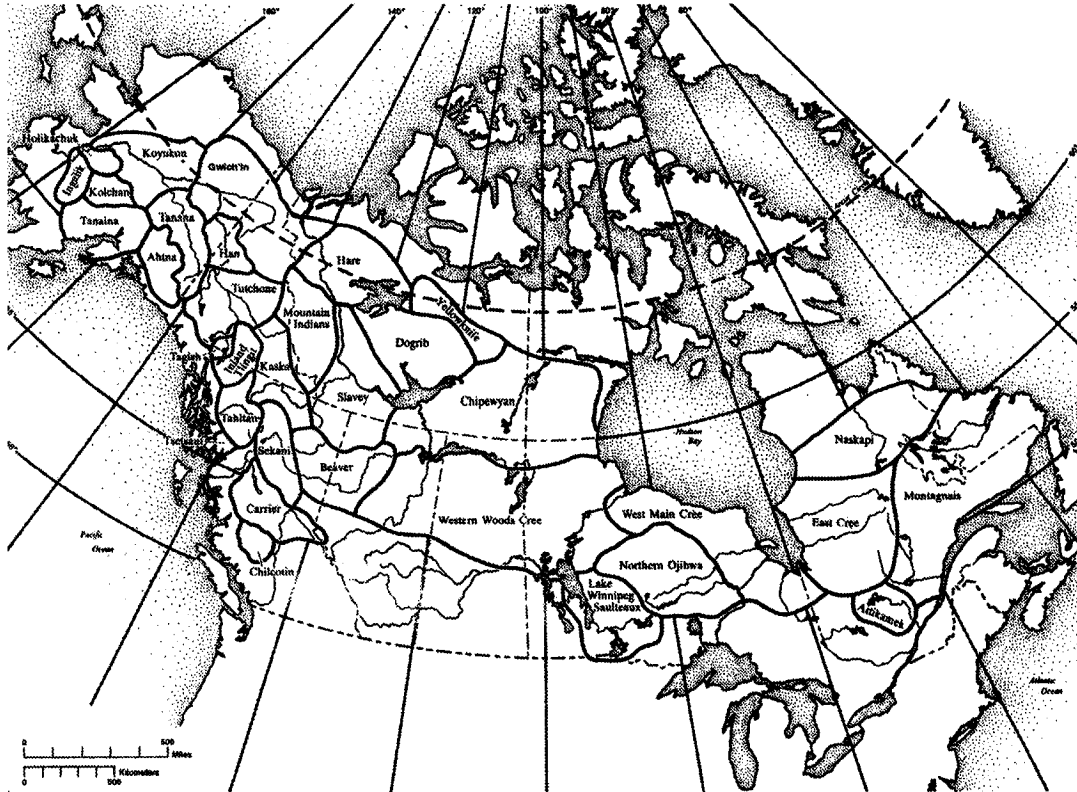


Figure 2. Map of Northern Athabaskan peoples and their associated languages. Map: Heine et al. (2001).

The map (Figure 2) originally from Helm (1981) shows the approximate regional territories of the northern Athabaskan peoples that include the Gwich'in people in the northern regions.

1.3.1 The landscape and the Gwich'in seasons

As mentioned earlier the Gwich'in traditional way of life was exclusively land-based.

The Gwich'in people lived and moved on the land on a seasonal basis in small extended family groups. They moved to fish lakes or to the mountains to hunt caribou for the winter months and in the summer to fish camps along the rivers. All the resources they needed to live were available to them from the land. The traditional lands of the Gwich'in people, shown in Figure 1, include the areas east to the Travaillant Lake area, south of the Mackenzie River, up the Arctic Red River and the Peel River, west to the Richardson mountains, and north to the Mackenzie Delta (Andre and Kritsch 1992; Greer (In prep.); Jerome et al.1996).

The traditional lands of the Gwich'in people feature several geographic landscapes in the western sub-arctic region. They include the Taiga Cordillera Ecozone and the Taiga Plains Ecozone. The first ecozone, the Taiga Cordillera Ecozone includes "...the Richardson and Mackenzie mountain ranges and the Eagle Plains, a high, rolling plateau of stunted spruce trees and wetlands...The Taiga Cordillera is at the edge of the Arctic, where only small pockets of spruce forest remain on warm, south facing slopes. Most of the vegetation consists of shrubs, low-growing plants, mosses and lichens" (Western Arctic Handbook Committee 2002). The Taiga Plains Ecozone or the northern forest is the second ecozone in the western arctic. "The Mackenzie River basin is the second largest watershed in North America and 12th largest in the world. Lying at the lower end of the immense Mackenzie Valley, this ecosystem is a flat or gently rolling landscape dominated by water...Typical vegetation consists of stunted black spruce, dwarf birch,

labrador tea, blueberry and a thick carpet of moss. Willows typically line the edges of lakes, rivers and other wetlands, but impressive stands of white spruce can be found along the shores of lakes and rivers" (ibid). The Gwich'in people of the Northwest Territories lives within this geographic landscape.

For most of their remembered history, the Gwich'in people lived in a close relationship with the land and relied on seasonal resources for food, clothing, shelter, tools and medicine. They knew when and where to travel from long experience; passing on their knowledge through generations of practice and teaching they were able to use the resources in a sustainable way. They knew the landforms, the creeks, the hills, the lakes and rivers, and the mountain valleys throughout the seasons. They knew the habits and seasons of the animals, fish and birds, edible and medicinal plants and knew where these resources could be found throughout the seasons. Even now, when the Gwich'in people have settled into modern-day communities, some continue to carry out traditional activities by the seasons of the year.

1.3.2 Gwich'in use of plants

Although the Gwich'in people today live in permanent communities, they still live near the land, and some of the traditional ties to the land still endure. *Nan t'ah nakwits'inahtsih* (*The land gives us strength*) is the title that is appropriate to express the importance of resources available from the land that the Gwich'in people use for food, shelter, tools, and medicine that was mentioned earlier. Yet the Gwich'in words in the title has a broader and deeper cultural meaning, one that implies that strength is gained from *all* that the land

provides. It is that part of the strength of the land that one can gain for using traditional plants to maintain good health and well being that I wish to document in this study. In addition, I will consider the associated cultural knowledge attached to their medicinal use, as well as the creation of sense of well being and pride in Gwich'in people as they learn and apply this knowledge that has been passed down through the generations. Ruth Welsh (Andre et al. 2003) explains the use of plants very clearly.

...what we call 'traditional medicine'...has been used for thousands of years. All native people in this land have used these medicines. These medicines have been gathered by these people and prepared for use by their elders or parents, who in turn were taught by their elders before them. Children and young men and women in each family were taught how to identify, gather and use the plants that they could use for minor illnesses or injuries. These days, we would call this first aid.

The Gwich'in use of plants thrives today as it did in the past. At their seasonal camps, the Gwich'in people, then as now, use a variety of plants for medicinal purposes, as a food resource, or as a means to construct their shelters, tools, or means of transportation (Andre 1995; Andre and Fehr 2002; Heine et al. 2001; Sherry et al. 1999). They knew the best areas on the land where they could find medicine plants like trees and shrubs, flowering plants, mosses and lichen and how to prepare and apply them using a variety of methods. Like Ruth Welsh said above, all members of the family groups used to be familiar with the uses and applications of certain medicine plants for basic ailments. For example, everyone knew the use and application of spruce gum and they could prepare a tea for the treatment of colds or as a body application for healing internal and external conditions. Today, Gwich'in people still have this basic knowledge.

1.4 The purpose of this study

Much use can be derived from increasing the knowledge about the Gwich'in traditional life style, a way of life that was closely connected to the land. The present significance of this knowledge is indicated by the 'counter strategies' described above and it also informs the intent of this study. Strengthening the traditional culture involves its reconnection to the traditional cultural knowledge about the land. One fundamental element of this land-based knowledge was the traditional plant knowledge. It is the purpose of this study to re-discover the traditional plant knowledge that is still in our Elders' keeping. This traditional knowledge will be of great benefit to the Gwich'in people today and in the future, in restoring their culture and strengthening their sense of well being and identity as Gwich'in people.

Today as Gwich'in people become more immersed in the dominant culture introduced from southern Canada, the Gwich'in traditional knowledge and teachings are not being passed on to younger generations, as we keep mentioning. When Ruth Welsh, Gwich'in Elder and Plant Specialist, and I met in the fall of 1996 at the Delta Science Camp¹ sponsored by the Gwich'in Social and Cultural Institute, we discovered we had a common interest and concern. While Ruth was looking for a serious Gwich'in individual to pass her traditional plant knowledge on to, I was looking for a Gwich'in plant specialist who could teach me about medicine plants. That is the reason why Ruth Welsh, who believes in the value of traditional knowledge and who practices her mother's teachings, sits on

¹ The Delta Science Camp, later renamed the Gwich'in Science Camp, was a 10-day on-the-land traditional knowledge and western science camp for senior high school students from the Beaufort-Delta region. Students from Aklavik, Fort McPherson, Inuvik and Tsiigehtchic worked with Gwich'in Elders and scientists from the disciplines of anthropology, biology and geography.

my graduate committee. Ruth Welsh's extensive plant knowledge provides a solid foundation for the research question of this study - *What is the relationship between the Gwich'in peoples' teachings of medicine plants and the maintenance of their health and well being?* The research question thus opens the door for learning and passing on cultural teachings and documenting traditional plant knowledge for future generations of Gwich'in people.

The focus of this study is therefore on the teachings related to traditional medicine plants that are used in particular by the Gwich'in people of Canada's Western Arctic as a means to maintain good health and well being. The research will produce a case study of traditional plant teachings by compiling the life history of Gwich'in Elder Ruth Welsh, where she recalled stories about the medicinal uses of plants as she learned them from her own mother, and other stories about the Gwich'in people's seasonal life on the land. It is hoped that teaching of Gwich'in medicine plant knowledge will involve related stories about the land, the language, the people, and teachings about cultural practices related to plants and resources. The maintenance of health relates to physical healing and maintaining good healthcare; the well being refers to the psychological and cultural sense of well being and pride that Gwich'in individuals will feel when they know who they are and where they come from as they learn about medicine plants. The practical application of plant knowledge in combination with its cultural significance will exert a positive influence on Gwich'in people's total well being.

In order to place Ruth Welsh's teaching in the proper cultural context, it is necessary to describe first the Gwich'in traditional way of life that Ruth speaks about in this chapter, Chapter 1. Also related is the cultural importance of plant use and knowledge that is part of the title of the thesis (see section 1.3.2 above).

The review of related literature and methodological considerations will be presented in Chapters 2 and 3. This order of presentation is indicated by the fact that traditional forms of teaching, learning and instruction inform the methodological design of my study. The methodology used in this study, practical participant-observation, learning by doing, and transmission of information through oral narrative, were closely embedded into the traditional way of life. In this sense, I as researcher and learner will seek to integrate traditional knowledge into the methodological design of this study. Chapter 3 will therefore look specifically at the two approaches that were used concurrently in this study.

Chapter 4 contains the in-depth analysis of Gwich'in traditional plant knowledge as determined through this research. I will also consider the specific process of learning and teaching that took place during the fieldwork.

In Chapter 5, I discuss the relevance of this practical knowledge for present health and cultural concerns of the Gwich'in people, and the potential and application of the study results.

Finally, in Chapter 6, I conclude by discussing the future use of research and cultural information that was documented. Hopefully, other Gwich'in individuals will carry out similar research in the future.

Chapter 2

Stories and Teachings

The objective of my research is to document the use of traditional medicine plants by the Gwich'in people. My research study and the results described in my thesis are intended to benefit future generations of Gwich'in people, and contribute to a greater awareness and appreciation of the Gwich'in culture and knowledge.

In gathering information for this thesis I used two methods. The main body of traditional plant and cultural knowledge was provided by Ruth Welsh who learned about the medicine plants from her mother. My father, Hyacinthe Andre, provided plant stories that are associated with the medicine plants. As a Gwich'in woman indigenous to this area, I will also include plant and traditional knowledge that is based on my own experience, knowledge and observation during my own time on the land. Up to the age of six, I lived on the land with my family, moving around to inland fish lakes in the winter and to muskrat lakes in the spring. In the summer, we lived at our fish camp at Tree River, which is located along the Mackenzie River. During this time, my grandmother, my parents, my aunt and uncle harvested and prepared plants as we needed them for medicine and other purposes or we consumed plants as food with our regular meat and fish diet. I have also included personal conversations that occurred between members of my immediate family and myself. Today I continue to collect and prepare medicine plants for people who request them.

In addition, a literature review of oral narrative, ethnobotany and related sources for the Arctic regions and relevant aboriginal linguistic and other groups will be presented. Most of the items focus on language work and the cultural knowledge and plants that are used by particular groups. These sources provide additional information on how the teaching(s) of Gwich'in traditional plant knowledge relate to the maintenance of people's health and well being. The sources are placed in two categories: oral narratives and northern ethnobotany.

2.1 Oral narratives - a story-telling tradition

Gwich'in culture and language were traditionally passed on through the oral recounting of stories, legends and the carrying out of traditional activities. The oral tradition and cultural teachings provide crucial knowledge and information about all aspects of a traditional way of life on the land. For example, Gwich'in story-tellers would give their listeners a sense of place and an image of the land so that the events in the stories were displayed vividly and colorfully as they were told in the Gwich'in language. Such oral narratives and imagery include legends recounted by Hyacinthe Andre as he tells the spruce gum story mentioned in Chapter 1, and various Raven stories, and by Ruth Welsh as she tells her stories about the land. These latter stories would include named places, travelling and hunting stories, seasonal weather conditions, and plant names. Oral narratives also provide a context for cultural teachings as they relate to traditional plant and cultural knowledge. This is the case, for example, as Ruth Welsh recalls events and teachings at her family's camp at Husky River.

Not only the academic literature but the growing body of northern oral history, compiled either in English or the aboriginal language and English, also contributes to our understanding of the cultural relevancy of traditional knowledge. Woven into the teaching of traditional knowledge are the cultural teachings described throughout this thesis. The story telling traditions of aboriginal/indigenous people like the Gwich'in people therefore intend to teach, to inform, to entertain, and to pass on traditional knowledge for immediate and future use and reference.

2.1.1 Northern Athabaskan languages

The review of northern Athabaskan literature describes the different methods used by various aboriginal language groups to revitalize, preserve, maintain and keep their mother tongues alive. Ruth Welsh's teachings are about medicine plants but they are also a language lesson about named places on the land, cultural and harvesting practices. The instruction in the Gwich'in language can be as important as the medicinal teachings because the language describes the plants, the culture, and landscape and evoke a clear mental imagery. It brings to life the way the language was used to teach about the Gwich'in way of life. Gwich'in language speakers such as my father, Hyacinthe Andre, are the force behind promoting the Gwich'in language.

Talk to your children often in our language, even if they do not hear you. They listen and learn fast when they are small. Talk to them then. Ask them to give you something and ask them again, and again, and eventually they will know what you mean. Even those who do not have any children should talk to a small child in our language when they see them. Maybe then our children will hear and learn our language. Hyacinthe Andre, Gwichya Gwich'in Googwandak (Heine et al. 2001).

The Gwich'in language spoken by the NWT Gwich'in speakers is part of the Northern Athabaskan language², a linguistic grouping that consists of 23 languages (Krauss and Golla 1981) (See figure 2 above). Athabaskan linguists have collaborated with aboriginal language groups to develop language dictionaries since Petitot (1876) authored *Dictionnaire de la Langue Dènè-Dindjié* in which French, Slavey, Dene Suline, and Gwich'in words are presented. The Gwich'in words presented in the 1876 dictionary belong to the Gwichya Gwich'in dialect spoken by Gwich'in speakers from Tsiigehtchic, N.W.T. Other similar but more recent dictionaries and grammars include *Gwich'in (Loucheux) Noun Dictionary* (Ritter 1976), *A Grammar of Slave* (Rice 1989), *Ahtna Athabaskan Dictionary* (Kari 1990), and *Koyukon Athabaskan Dictionary* (Jette and Jones 2000) belong to this group. More recently, aboriginal language groups and language speakers themselves have begun to develop their own language dictionaries. The groups include the Gwich'in and the Dogrib people. The Gwich'in language dictionaries include *Gwich'in Gı̄jık Dı̄neht'eh: A Dictionary of the Gwich'in Language* (Firth 1991), *A Dictionary of the Gwichya Gwich'in and Teet'it Gwich'in Dialects* (Andre and Mitchell 1997, 1998, 1999), and *Gwichya ts'at Teet'it Gwich'in Gı̄jık Gwi'dı̄nehtlee': Gwich'in Language Dictionary*. 4th Ed. (Mitchell-Firth et al. 2003). The Gwich'in words and terms in these dictionaries are listed in the Gwichya Gwich'in and Teet'it Gwich'in dialects. The Dogrib language dictionary includes *Tı̄chq Yatı̄ Enı̄htı̄'è / A Dogrib Dictionary* (Dogrib Division Board of Education 1996).

² The audio form of language that Hyacinthe Andre speaks of are sometimes presented on Northern Athabaskan aboriginal websites. For example, sound bites of Gwich'in place names can be heard on the

Materials for Northern Athabaskan languages have also been documented in a dual language format where the text serves simultaneously as a cultural and language lesson. The indigenous text and the corresponding English translation are arranged on facing pages. For example, my father Hyacinthe Andre's *Story of Dinizhòh* in Kritsch and Andre (1993) is intended as a language learning tool. The gloss or meaning is presented under each Gwich'in word or phrase and this is followed by the translation of the story itself. Similarly, Stephenson (2001) presents a boy's story in the Gwich'in and English languages that tells about a special wedding taking place on the land; illustrations of the story accompany the text. The spruce gum story told by my father (Appendix I) in Chapter 1 is presented in the Gwich'in language and an English translation of the story is provided. Some of the sources discussed subsequently (see Section 2.1.2 below) are constructed similarly.

As we move forward into the 21st century, aboriginal language groups must be vigilant with their language work as the number of language speakers is decreasing yearly. A noted Athabaskan linguist, Michael Krauss, (Hale et al. 1992) provides a sobering report on the realities of language loss around the world. He distinguishes languages that are no longer being learned as mother tongue by children as doomed to extinction, "like species lacking reproductive capacity." Hale et al. (1992) and Krauss and Golla (1981) describe in their articles, the condition and state of each language as either being "viable, precarious or moribund." The modern health of the languages are assessed based on children speaking their language and are rated as 'viable', when a language is spoken by

Gwich'in Social and Cultural Institute website. Website addresses for other northern language communities are listed in the Literature Cited section of this thesis.

most children, or 'precarious', when a language is spoken only by some children, or 'moribund', when a language is not spoken by the children. The aboriginal language communities in North and Central America, such as the Gwich'in people from Canada, whose languages are near extinction or may be rated 'moribund', are responding with remedial and revitalization efforts to reverse this trend. Their language work efforts were just described in this section. Such findings require action by aboriginal political decision-makers belonging to the endangered language communities to initiate and/or to support the work of community-based language revitalization advocates. This will include the Gwich'in language community in the Northwest Territories. For example, Appendix III describes the current state of the Gwich'in language. Presently, it is in particular the engagement of the Elders in promoting the Athabaskan languages that determine their viability. As long as there are aboriginal language speakers, the work to document stories, legends and teachings in the spoken languages must continue.

2.1.2 Northern oral tradition - texted knowledge

A review of northern oral tradition literature indicates that aboriginal languages are key to passing along cultural teachings and traditional knowledge. The oral tradition, in its written form, includes the stories and legends, life histories and history books, named places, traditional knowledge baseline, and cultural beliefs and practices of Gwich'in people in northern Canada and Alaska, and other non-Gwich'in groups elsewhere.

Aboriginal stories and legends are presented in the dual or multi-format that was mentioned earlier, or in English. *The Bell with a Name* (Stephenson 2001), a Gwich'in

wedding story, is present in a Gwich'in-English format. *Two Old Women* (Wallis 1993) and *Bird Girl* (Wallis 1996), two Gwich'in legends, are written in English. *When the World was New* (Blondin 1990), a collection of North Slavey stories, is written in English.

Life stories of aboriginal people, and more recently community history books written in collaboration with aboriginal groups and individuals, have been published. They include *Collection of Stories of Life on the Land. Told by Gwichya Gwich'in Elders* (Andre 1990); *Gwichya Gwich'in Googwandak: The History and Stories of the Gwichya Gwich'in* (Heine et al. 2001); *The Land Still Speaks: Gwitch'in Words About Life in Dempster Country* (Sherry et al. 1999); *Nerrihunjik: We Traveled From Place to Place: Johnny Sarah Haa Googwandak: The Gwich'in Stories of Johnny and Sarah Frank* (Mishler 1995); *Life Lived Like a Story: Life Stories of Three Yukon Native Elders* (Cruikshank 1990); *Shandaa: In my Lifetime* (Herbert et al. 1988); *Part of the Land, Part of the Water: A History of the Yukon Indians*; and *John Fredson Edward Sapir Haa Googwandak: Stories told by John Fredson to Edward Sapir* (McGary 1982). The Committee for Original Peoples Entitlement (COPE) tapes (no date), known also as the COPE tapes, are a collection of stories that was recorded in the 1960s and early 1970s of Gwich'in, Inuvialuit, and Slavey speakers telling stories about their life on the land in the Northwest Territories. The Gwichya Gwich'in community history book by Heine et al. (2001) is of particular importance and relevance to this thesis.

Aboriginal place names, the language, and the land are important teaching tools. There are a number of sources that focus on traditional land use and named places by indigenous groups. Within the body of this literature, the most notable sources are Andrews and Zoe (1997, 1998) who worked with Dogrib cultural landscape and sacred sites; Basso (1996), who worked with Apache named places in the American Southwest; Tom (1987), who worked with Tutchone place names in the southern Yukon; and Andre and Kritsch (1992), Kritsch and Andre (1993, 1994), Greer et al. (1995), Greer (In prep.) and Jerome et al. (1996), who worked with Gwich'in place names in the Northwest Territories.

Traditional knowledge baseline studies are starting to emerge in the Northwest Territories. Increasing mineral and resource exploration and development activities in northern areas require that companies develop a traditional knowledge baseline for monitoring environmental changes or for project planning purposes. For the Dogrib traditional lands, Chocolate et al. (2000), Legat et al. (1998, 2000, 2001) and Saxon et al. (2003) worked with Dogrib Elders who provided information about place names, site descriptions, and habitat types for their land use areas extending out from Rae, Northwest Territories. The Sahtu Heritage Places and Sites Joint Working Group (2000) prepared an inventory of heritage places and sites report for the Sahtu and Fort Good Hope area. For the Trout Lake traditional lands, the Sambaa K'e Dene Band (2004) prepared a traditional knowledge report relating to the proposed Mackenzie Gas project within their traditional land use area. Similarly, Benson (2005) prepared a traditional knowledge

baseline report for the Gwich'in traditional lands around the Travaillant Lake area relating to the same proposed Mackenzie Gas Project.

Cultural beliefs and practices and relations with the land are an integral part of a land-based people. Sources relating to cultural beliefs and practices (Blondin 1990, 1996, 1997; Cowan 1995; Gwich'in Renewable Resource Board 1997, 2001; Kawagley 1995; Ryan 1994) examine the spiritual connection that aboriginal groups have with the plant and natural world.

2.2 Northern Ethnobotany

There are many sources on northern ethnobotany to be found in the literature. However, few sources focus specifically on medicine plants used by northern indigenous groups. There is currently no single source on medicine plants described for any aboriginal group in the Northwest Territories. The information remains in its oral form. This study intends to fill this research gap by documenting traditional plant knowledge and the use and application of medicine plants among the Gwich'in people. Our study is unique in that the traditional plant teachings provided by a Gwich'in plant specialist has been documented by a Gwich'in researcher.

There are NWT ethnobotanical sources that include information on plant utilization for food, materials or medicines by aboriginal groups. These works represent collaboration between researchers and aboriginal groups about their use of plants. Gwich'in ethnobotanical research conducted by Andre (1995) and Andre and Fehr (2002) with

Gwich'in Elders has documented information on plants used for food, shelter, tools and medicine. Ryan (1994) describes the traditional use and preparation of plants and animals for healing by the Dogrib people. The Inuit neighbors to the north of the Gwich'in people, the Inuvialuit Elders Group (in prep.), will describe the traditional use of plants by the Inuvialuit people in their traditional territory (see the Website listed in the Literature Cited section of this thesis).

There are other ethnobotany sources from the Northwest Territories, Yukon and Alaska that describe the use of plants for food, material and medicinal purposes by aboriginal or non-aboriginal groups. In a herbarium display and report, Simmons (1999) describes the various medicinal uses of plants by the Sahtu people of the Northwest Territories.

Russell (1995) describes the ethnobotany of the Dena'ina people of south central Alaska. Holloway and Alexander (1990) describe the ethnobotany of the Gwich'in people of the Fort Yukon region in Alaska. In an unpublished manuscript Linder (1987) describes plant use by "Kutchin" (Gwich'in) people of Alaska and the Yukon that she compiled from selected literature. Garibaldi (1999) provides a compilation of traditional plant knowledge and use by Alaskan indigenous groups from literary sources. Viereck (1987) describes the medicinal and culinary uses of plants in Alaska. Walker (1984) describes the use of plants by Northwest Territories Dene groups that she compiled from historic sources.

2.3 Southern and International Ethnobotany

There are several ethnobotany studies relating to aboriginal groups in areas south of the Northwest Territories that are comprehensive in their description. Marles et al. (2000) describes the aboriginal uses of plants from the northwest boreal forest region of Canada, an area that encompasses a significant number of traditions. Included are food uses, medicinal uses, properties of the plants, and economic potential of commercial development of the plants. Moerman (1998) provides a comprehensive description of the plants used by Native American peoples for medicine, food, and other purposes. Gunther (1995) describes ways plants were used as food, medicines, and material uses by indigenous groups of western Washington State.

British Columbia (B.C.) ethnobotany sources likewise document plant use for food, medicine, and materials by aboriginal groups in that province. Hebda et al. (1996) provides a description of plant knowledge and use of plants as food, medicines, and other purposes by the Ulkatcho people of west central B.C. Turner et al. (1990) and Turner (2005) describe the collaborative work carried out with Elder Annie Z. York and the knowledge and use of plants by the Nlaka'pmx (Thompson) of B.C. Turner et al. (2005) describes the traditional ecological knowledge of aboriginal groups in British Columbia. Turner's report (2004) provides a detailed record of the uses and importance of over 150 species of native plants used by the Haida people. Turner et al. (1983) describes the ethnobotany of the Nitinaht (Ditidaht) Indians of Vancouver Island whose homeland is along the southwestern coast of B.C.

Sources for this thesis include several international ethnobotany works that reference plants used as food and/or medicines. Palevitch and Yaniv (2000) describe in two volumes the use of plants by herbal practitioners in various areas of Israel from ethnic and traditional literature. Medicinal plants and their uses according to disease groups are listed by plant names, medicinal use, parts of plant used, and method of preparation and applications. Isaacs (1987) provides a description of Aboriginal herbal medicine and foods in Australia and includes the names, regions and use of food in a table of plant foods and a table of herbal medicines as appendices.

2.4 Nomenclature

When working with plants that are used for medicinal purposes, it is crucial to identify the plants correctly. We consulted a number of plant books during the course of the research project to ensure that the plants that we worked with were properly identified with their Gwich'in, English, Latin names or other common names. The sources include *Gwich'in Ethnobotany* by Andre and Fehr (2002), *Dictionary of Plant Names* (Coombes 1985), *Wild and Wacky Plants of the NWT* (Resources, Wildlife and Economic Development 2002), *Native Trees of Canada* (Hosie 1969), *Plants of the Western Boreal Forest and Aspen Parkland* (Johnson, Kershaw, MacKinnon and Pojar 1995), *What's Blooming: A Guide to 100+ Wild Plants of Northwest Territories* (Milburn 2002), *Vascular Plants of Continental Northwest Territories* (Porsild 1980), *Plant Life in the Arctic* (Porsild 1951), *Discovering Wild Plants* (Schofield 1989) and *Edible and Medicinal Plants of the Rocky Mountains and Neighbouring Territories* (Willard 1992).

2.5 Printed oral narratives and teachings

The number of written sources by aboriginal people that describe their cultures, languages, and oral traditions in literature is increasing every year. The objective of the stories and traditional knowledge, in text and/or electronic forms, is to pass on the cultural and traditional knowledge and teachings of the various groups. The traditional knowledge is written down for future generations. These presentations, like the oral traditions, speak to the interconnectedness that aboriginal people have with the land, the environment, through their teachings and stories. The elements and essence of the culture are transposed into a written record.

Chapter 3

Grounding Ethnobotanical Research Methods

"...I try to teach this, like my mother did...with a lot of patience and trying to remember everything...and not having to take notes. I do that. I do it that way" (Tape #1).

This chapter outlines the ethnobotanical research methodology used to document the medicine plants that are used by Gwich'in people of the Northwest Territories as a way to maintain good health and well being. The methodology revolves around a unique apprenticeship style using traditional knowledge in combination with a conventional research method.

The first part of this chapter will describe the methodology used by Ruth Welsh to teach about the traditional use of medicine plants. This will be followed by a description of the research design that I, as a Gwich'in researcher, used to document Ruth's traditional plant knowledge. In presenting the methodologies, some overlap and repetition of information may occur as the two approaches were carried out concurrently so each approach requires a specific description because of their style. The limitations and issues related to the use of these methods will be outlined at the end of the chapter.

3.1 Ethnobotanical research

The process used to learn about medicine plants and to complete the traditional plant knowledge research placed me in an 'apprenticeship' position to Gwich'in Elder and plant specialist, Ruth Welsh. Researching from this position enabled me to draw on my traditional knowledge, experience and oral traditions in a culturally appropriate and

respectful way (Andre 1994). I also drew on the experience of my father, Gwich'in Elder, Hyacinthe Andre. The research team³ was selected based on their individual interests in teaching, learning and documenting Gwich'in traditional plant knowledge.

3.2 Roots and traditions: Gwich'in teachings

The traditional Gwich'in teaching method used by Ruth Welsh will be discussed in this section. Throughout this section, the sense of being on the land, from a Gwich'in person's perspective will be provided as Ruth's teachings takes us on the land. Part of the teachings include cultural and resource management practices that are important to land-based groups like the Gwich'in people.

As a Gwich'in woman indigenous to the study area and a researcher eager to learn more about medicine plants, I was pleased to meet a Gwich'in Elder woman who had an extensive knowledge about plants and their medicinal uses. Ruth as a Gwich'in Plant Specialist was also interested and willing to teach me about the medicine plants that she had learned from her mother. Ruth Welsh is a Gwich'in Elder who was born and grew up on the land not far from where I lived, she spoke the Gwich'in language, she knew the Gwich'in culture and stories and was willing to share her knowledge with me.

Ruth Welsh applied the same natural teaching technique she had learned from her mother during our field trips to the traditional camps. The camps we visited continue to be used

³ The research team included Ruth Welsh, Gwich'in Elder and Plant Specialist; three Gwich'in high school students Nijits'al Norbert, Charles Neyando, Bobbie Jean Andre; Itai Katz (my husband), photographer and video-corder; and Bill Medcke, camp assistant, cook and driver. The spruce gum story told by my father, Hyacinthe Andre, made him part of the team.

by Gwich'in families as traditional camps on a seasonal basis (see Table 1). The Tree River and Husky River locations are the traditional camp of Hyacinthe Andre's and Elizabeth Blake's families. These camps were central to both my learning and Ruth's teaching traditional skills and knowledge and living on the land. In the course of our being together, Ruth's teachings went far beyond the medicine plants. Rather her teachings, described in Chapter 4 and Chapter 5, about traditional plant knowledge included stories about the seasonal life on the land, about the importance of food, about diet and activity to good health, about the genealogy of her family, and about changes to Gwich'in lifestyle, diet and to the land that have occurred over her lifetime. The additional information was all part of contextualizing my learning about medicine plants.

The hands-on teaching and learning approach is a natural Gwich'in method that both Ruth and I grew up with on the land. We especially related to this culture-based grounding of our research methodology as we both already had our feet in our Gwich'in culture and we both understood the importance and relevance of our work. In my case, for example, in the spring time of my youth, right after the ice moved out on the Mackenzie River, my siblings, my cousins and I went with our grandmother to dig for treh (GG) (bear root, *Hedysarum alpinum*) along the creek bank at Tree River. We watched as she selected bear-root stems that were bunched together. She did not say much as she dug her digging tool and turned over the ground cover to expose the bear roots hanging out of the dirt. She patiently showed us how to search through the overturned dirt with our small dry willow digging sticks that she made for us. Back at the camp we would scrape the brown

skin off the roots and enjoyed eating the roots with fish grease or duck grease. Powerful and effective learning took place, still recalled decades later.

Ruth Welsh (Tape #3) experienced and recalls a similar hands-on learning from her mother, Elizabeth Blake, at their Husky River camp:

...my mother had to raise us. My father died when I was only a touch over four years old and we were too young, you know. So she was the one that trained us. She trained us from washing our dishes to our clothes to hunting and fishing, to making snowshoes and sleds, tanning hides, making babiche, sewing our own clothes. Even the boys had to learn how to mend their clothes or make a new pair of mitts or duffels because everybody was out in a different place on the land hunting or trapping. They weren't in groups, you know, unless the family was out there. Some were close by where they could come in and have their mothers do it. Otherwise they had to know how to do it themselves. Yeah. She had a lot of work to do when my dad died. She was our teacher.

The hands-on teaching and learning that Ruth and I are familiar with also occurred on the land with Ruth's teachings about the medicine plants. Walks on the land were carried out at each of the traditional campsites. The walks would begin along old time dog team trail, a snare line, a wood trail, or a berry trail that led away from the main camp. Further away from the camp, the walks extended into the bush or out onto the land. Ruth walked ahead as we followed behind. Ruth would stop to identify the various plants along the trail or on the land. She would point to each plant and say their English names out loud so we could learn to identify the plant. Then the team would gather around to have a closer look at the plants, leaves, stems, cones, buds, or flowers as Ruth talked about their medicinal purposes. Back at the camp Ruth would provide the preparation method and medicinal uses and application; often she would show us how to prepare the plants. In

the days ahead, we would continue our walk in the bush with Ruth pointing out and naming the plants and the students listening and watching. As we walked, Ruth would look over the land as we wandered off the trails and into the bush. She would look around and scan the surrounding areas, orientate herself, then walk forward and begin to search for new plants that were not identified yet. The rest of the group would follow along. After two to four hours in the bush we would head back to the camp.

Back at the camp, we would get ready to prepare plant medicines. We would fire up the wood stove or propane stove, have pails of clean water, and two stainless steel pots filled with water ready on the stove. We would help rinse and wash the plants thoroughly to get the dirt and grit out of the roots, stems, or branches. As needed, some plants would be cut into smaller pieces and set aside. As this went on Ruth would tell us about the importance of washing the plants; she then placed the prepared plants into the pots. As we stood by and watched her work with the medicines, she would be mindful of the heat under the pots as she stirred the plants in the pots. She would use a clean dry willow (*Salix* spp.) stick to stir the medicines. As she stirred the plants carefully, she would explain the uses of the prepared plant medicines. She would say how often to take the teas or how long to leave the salve application on an infected area. At the Rock River camp, I contracted a chest cold so we collected black spruce (*Picea mariana*) tips and gyùu tsanh (TG) (wormwood, *Artemisia tilesii*) to be made into a medicinal steam for inhaling. Ruth prepared the medicines and instructed me in proper breathing techniques to get as much of the steam into my congested chest (see Figure 4 below). Ruth would sometimes add a story about her mother's teachings or she would recall an incident

related to the plants that were being prepared. She also provided the Gwich'in names for the plants and information about cultural practices related to harvesting of plant resources. Such practices would include careful harvesting or a caution not to over-pick an area of plant resources or berries, and to share the harvest with other people, especially Elders (Andre et al. 2003). She also explained the season for harvesting plants and the harvesting season of certain animals like cow moose, caribou and rabbits.

The stories that went along with the plants or traditional knowledge teachings were told during the walks on the land, while the medicine plants were being prepared, or as we sat with my father back at our home in Tsiigehtchic. While Ruth told her stories, we would listen and carry on with our other activities at the same time. While my father told his stories, Ruth sat along with us and we listened to him. Ruth's stories were about her life on the land at Husky River with her mother and her siblings and they included information about her life story, family history, friends of her family, and the role of her mother as a midwife. Stories told by Hyacinthe were several well-known legends about Raven and other old time legends that mentioned plants like berries, moss, birch bark, and spruce gum. Family, place and plant names, traditional camps, plant habitat, animal and plant names, seasons of the year, life on the land, and changes to the land are all part of traditional knowledge told through stories. They all formed parts of Ruth's teaching about traditional plant knowledge.

As Ruth Welsh and I came together as teacher and student, a natural learning process began to develop. While I found the teacher I was looking for, Ruth in turn found the

student she wanted. Ruth told me a few years into our time together, *"Yes, I have a lot of patience. It took me a lifetime to find a student"* (Personal conversation with Ruth Welsh, June 1, 2004).

3.2.1 A sense of being on the land - listening and watching

As I mentioned earlier, Ruth Welsh and I would stop to scan the landscape and surrounding areas as we walked on the land. This habit is automatic to both of us. The Gwich'in people who grew up or who spent a lot of time on the land are alert to their surroundings when they are on the land. We scan our surroundings to orientate or position ourselves, to look for animals like bears, moose, or to look for good places to make a camp fire or to pick berries and medicine plants. This sense of being in tune with nature is developed through many years of being and living on the land. This sense of being is crucial for learning and teaching traditional knowledge. The land becomes a classroom for experiential learning where family members carry out every day activities together. Often stories are included to reinforce certain situations or activities. This way of teaching and learning has worked well for the Gwich'in people for generations. The learning would occur when carrying out activities like collecting firewood, picking berries, setting a fish net, digging for roots, moose or caribou hunting, and so forth. At the camps and on the land Ruth Welsh employed this method of teaching to pass on her traditional skills and knowledge about medicine plants and other cultural information. We would watch as Ruth worked with medicine plants, as she looked over the land during walks on the land, as we helped her to prepare plant medicines, and we quietly sat and listened to Ruth and Hyacinthe Andre as they told their stories. Land-based learning

and teachings took place with every activity that was carried out on the land. At such times we would be reminded not to over-harvest animals, birds, fish, or plants and to take care and have respect for the land.

3.2.2 Respect for the land

The traditional camps are ideal settings for learning about and recording plant information. The Gwich'in people would walk through the many trails that networked out from each campsite to gather medicine plants as they were needed. The learning about the plants would take place, right on the spot, as the different parts of the plants were collected. Children and other people would watch as the plants were harvested. They would watch and learn, and learn more about harvesting with each trip to the bush. Back at the camps, they would also watch and learn as the plants were prepared into medicinal teas, salves, or plasters and then applied for various ailments. The trips on the land provided an excellent opportunity to see the plants in their natural habitat and to see and identify suitable medicine plants first hand.

Part of the learning and teaching about medicine plants includes lessons about respect and care for the land, animals, birds, fish, and plants. The teaching about harvesting practices often occurs on the land as students or harvesters are reminded that the traditional rules are meant to ensure having enough resources in the future. These important rules can be described and have been documented as follows:

- *Take only what you need.* Do not over-harvest an area, leave some for next year (Andre and Fehr, 2002, GRRB 1997, 2001). This rule of respect and careful use of resources ensures that plant and animal resources are available for future use. This includes the practice of selective harvesting of trees so that they are not girdled unnecessarily (Andre and Fehr 2002). Girdling trees or stripping the bark around an entire tree kills the trees.
- *Distribute and share harvested resources* such as medicine plants, meat, or berries (Andre et al. 2003; Andre and Fehr 2002; GRRB 1997, 2001). The rule of sharing harvested resources ensures that surplus food is not wasted. This also ensures that elderly people in our communities and those who cannot harvest resources for themselves are taken care of. Older and traditional Gwich'in people believe that 'good luck' will always be with hunters and harvesters who shared their harvested resources. Elders will often share their traditional knowledge and provide moral support to such harvesters.
- *Leave an offering* such as wooden matches (Andre and Fehr 2001, Ryan 1994) when taking parts from tamarack, juniper, and ocher. Older and traditional Gwich'in people believe that unfavorable weather such as high winds or storms can be caused if offerings are not left when harvesting these resources.

Taking care of the traditional knowledge holders such as Elders continues to be important, even as the Gwich'in have settled into permanent communities. Ruth Welsh says, "*Many older people still go out and pick the berries, fish and hunt with their families and have a great time doing these things with them. It gives them time to teach*

the younger ones about taking care of themselves and each other and also teaching them how to survive off the land. Happiness for these people is being with family - grandchildren. Happiness is teaching" (Andre et al. 2003).

These traditional land-based practices are effective when the traditional knowledge concerning them is shared with the next generation. It is important that all harvesters know or be reminded of the care and respect that must be given to ensure that resources will always be there for future generations. The rules ensure that resources are not wasted or over-harvested and that sharing must continue - sharing being an act that ties people together in the community. The traditional practice also creates equality among the user groups, thereby preventing over-harvesting for personal economic gain, since the expectation to share prevents anybody from selling plant and animal parts.

Gwich'in people like Ruth Welsh, myself and others were fortunate to have lived on the land with our parents, and relatives and to have learned about traditional plant and cultural knowledge at the time that we did. From that experience the plants that we use today for medicinal purposes continue to be culturally important to us as Gwich'in people as we continue to rely on and use this land-based local healthcare.

3.3 A Gwich'in re/researcher: a research design

This next section will describe how I, as a Gwich'in researcher, used a conventional research design to document Gwich'in traditional plant knowledge. This description will include the process that we used to prepare for the research that included such steps as

formulating the research question, developing the project, documenting plant information, compiling field research data and submitting a final report to granting agencies. This will be followed by a brief description of the documentation work with Ruth Welsh that produced deliverables like interview tapes and photographs.

A research question is essential

Prior to carrying out any research, a research proposal with a defined purpose and a research question is essential. This question was developed in consultation with my graduate committee at the University of Victoria and my Gwich'in mentor, Ruth Welsh.

In considering the research question, it was important to express the fact that changes in lifestyle among Gwich'in people has resulted in the loss of culture, language, traditional ethnobotanical knowledge. A goal was to show that land-based health care remains relevant and important to Gwich'in people in Canada's Western Arctic area. The research question for our research was thus framed as follows, "*What is the relationship between the Gwich'in peoples' teachings of medicine plants and the maintenance of their health and well being?*" This research question guided the proposed research work, how it was to be carried out and the methodology that was to be used.

An overlay of research methods was used to work with Ruth Welsh's knowledge about traditional use of medicine plants and the Gwich'in culture. An ethnographic, qualitative research and case study method were used to work with Ruth Welsh's oral knowledge about the medicine plants. The conventional research method was used alongside the

traditional Gwich'in teaching method described previously. Further to that, the traditional plant and Gwich'in traditional knowledge information presented in this thesis is based on oral history information provided by Ruth Welsh, my father (Hyacinthe Andre), and myself. The proposed ethnobotanical research project was scheduled to be carried out during the summer of 2002.

Developing the research project

With the initial research design and proposal in place, other tasks followed. Ruth Welsh was involved from the outset and she reviewed the research proposal. The administrative details of the research included drafting a research proposal for my university graduate committee, preparing and submitting proposals to funding agencies, and preparing a field research budget. Preliminary requirements such as a consent form for Ruth Welsh (Appendix VIII), approval and support from community and band council offices (Appendix IX) and Uvic Ethics Committee (Appendix X) was adhered to. A letter of support was also received from a sponsoring Gwich'in organization, the Gwich'in Social and Cultural Institute (Appendix XI). All research carried out in the Northwest Territories requires a Aurora Research Institute Research License (Appendix XII) which requires community consultation, adhering to ethical principles for conducting research, and involving northern residents in research projects. It is important that communities are aware of primary research that involves aboriginal people in our northern communities. It is therefore necessary to inform, involve and later to update them about the purpose and outcome of the research.

The planning details progressed to the pending research work at hand. This included selecting the research team, posting notices for Gwich'in summer students, selecting the study area and planning the details of fieldwork: transportation, accommodation and grocery details for the field trips. Ruth's involvement was determined in 1996 when she expressed an interest in passing on her plant knowledge to a Gwich'in student. Her plant knowledge determined her involvement in my research and thesis work. As is common with Gwich'in research projects, our research approach provided Gwich'in high-school students with a unique opportunity to learn about medicinal plants from a Gwich'in plant specialist while they learned how to conduct oral history research from a Gwich'in researcher.

In selecting the study area, Ruth Welsh and I chose the traditional camps for the field research because this is where Gwich'in people traditionally lived on a seasonal basis. Table 1 below shows the three traditional camp locations, situated inside the Arctic Circle around 67° latitude that are at elevations that range from 8 meters to 470 meters above sea level. The traditional camps have been used by Gwich'in families for many generations.

Gwich'in traditional camps	
Husky River or Dootat gwitshik	This is the camp where Ruth Welsh grew up from 1931 to 1951. It is located along the Peel River, approximately 12 miles downstream from the community of Fort McPherson. This camp with about seven structures (cabins, smokehouses, and warehouses) is situated at the mouth of the Husky River on the edge of the Mackenzie Delta. There is dense willow around the camp area and along the river

	bank. The area behind the camp is open forest. Five trails network out from this camp into the bush.
Tree River or Dechan choo gèhnik	<p>This is the camp where Alestine Andre grew up from 1951 to 1971. Tree River is a place that encompasses a large area within a five-mile radius. The main camp belonging to Hyacinthe Andre has three cabins, two smokehouses, and one warehouse and it is located at the mouth of the Tree River, on the south shore of the Mackenzie River. This camp is located on a sloped hillside. There is a willow flat to the west of the cabins and open hillside to the back or the east of the camp. Trails network out into the bush from this camp.</p> <p>Another camp, belonging to Gabe Andre, has one main cabin, one smokehouse, and three warehouses. This camp is located on the north shore of the Mackenzie River. This camp is also located on a sloped hillside. There is dense willow around the camp area and the area behind the cabins is forested. Several trails also network out into the bush from the camp.</p> <p>Also located within the Tree River area is a summer fish camp called Dughe'tr'aajil and several berry picking places. Two trails run back into the forested area behind the camp.</p>
Dempster Highway camps	
- Rock River	<p>This is a traditional caribou campsite for Gwich'in people from the Northwest Territories. This camp is located in the Richardson Mountains in the Yukon. The Rock River flows through this camp area. There are no permanent structures since the Gwich'in people lived in canvas tents during the fall and spring caribou migration. There are tall tree with sparse undergrowth and very few willows. There are a few trails in this open area.</p>
- Eight Mile or Nataimlan	<p>This is a traditional summer fish campsite located eight miles from the community of Fort McPherson. There are about 15 cabins, smokehouses, and warehouses located on both sides of the Peel River. There is dense willow around the camps and along the river bank.</p>

	There is open forest and forested areas further back from the river. A network of trails run between the cabins at this camp.
- Tsugehtchic	Formerly known as Arctic Red River, the Flats area below the community used to be a traditional fish campsite. Within its vicinity there is a willow flat, open forest and forest areas to the south of the town. There are three fish camps near the community. Many trails network out into the bush from the community and the camps.

Table 1: Traditional Gwich'in camps

Documenting traditional plant knowledge

As the researcher, I was responsible for documenting the traditional plant knowledge with Ruth Welsh. The documentation involved writing the names of the plants in the field into a notebook; listing the names of identified plants into a table of plants that we developed; tape-recording interviews with Ruth Welsh; video-taping the preparation of medicine plants; photographing plants and research work; and entering field notes into a daily journal. It also involved researching and documenting the English, Latin and Gwich'in names of the plants from plant books.

Field research data

At the end of the research project, the table of plants listed in Appendix VI shows all the plants that were identified at each location. At the end of the project, a final report of the field research and the findings were forwarded to granting agencies.

3.3.1 An inventory of plants - documenting traditional knowledge

This section will provide a brief description of the actual work that took place during the field work. In the original research proposal, funds were available for two high school Gwich'in students to participate in the project. However when a third Gwich'in student expressed an interest in participating, at the last minute, she too was included in the project. Two students went out in the field trip while one student worked at a community office in town.

The documentation work required us to walk on the land where the plants are. Over a 30-day period, approximately 20 walks were made along trails, riverbanks and into the bush to identify plants at each of the traditional camps. For example, at the Husky River camp, four walks were made along the shore and through various trails that went out from the camp. In the Tree River area, seven walks in total were made around Gabe Andre's camp, at the Tree River camp, and at the Dughe'tr'aajil fish camp. This includes walks in the camp yards, at the back of the camps, along the shore, and at berry picking places. At the three camps along the Dempster Highway, seven walks in total were made at the Rock River campground and through various trails leading into the bush at two fish camps at Eight Mile and Tsiigehtchic.

Interviews were carried out with Ruth Welsh that was recorded on twelve (12) 60-minute cassette tapes. One tape (Tape #12) includes a half-hour taping session with Hyacinthe Andre, my father, who told plant stories. The students and I transcribed the

tapes and the transcripts. The master tapes and corresponding transcripts will be sent to the Prince of Wales Northern Heritage Centre in Yellowknife for archival purposes.

During the taping sessions, semi-directed, open-ended, semi-structured interviews were used as a method to gather traditional plant knowledge from Ruth. A series of open-ended questions were asked during the interview sessions related to the names of the plants, their medicinal use, their preparation and application, plant habitat, practices about harvesting, and plants that animal used as food and questions related to Ruth's life story (Appendix V). Near the end of our time at each traditional camp, Ruth verified the list of medicine plants that we compiled during our time there. We also double-checked the Gwich'in names and Latin names at this time.

Video-tape recordings of Ruth Welsh showing her preparing medicine plant were also taken. A total of five hours of video-tape was recorded; four hours were of plant preparation with Ruth and one hour of plant related stories with my father. A copy of the Hi-8 tapes will be forwarded to the Prince of Wales Northern Heritage Center for archival purposes.

Photographs were taken of plants as they were sighted in the bush and of the research work. A total of 19 rolls of color film were taken during the research project. There are photographs of plants *in situ*, flowering plants, specimens of whole plants, Ruth Welsh, the research team and the research work. The photographs were placed into three 3-ring

binders and selected photographs will be scanned and burned to CDs to be sent to the archives with the rest of the research material.

At the end of the project the data collection was organized into a table of plants (see Appendix VI) that was developed to keep track of the plant information. This table of plants lists the English, Gwich'in, Latin, and other names, the parts of plants used for medicine, medicinal uses, method of preparation and application, and the location where the plants were found. At the end of the field research information about 96 plants was documented. About 34 of these plants are used for medicine and can be made into teas, poultices, or salves that are used to treat ailments like insect bites and stings, urinary problems, common colds, burns, pain killer, and for general good health.

The traditional knowledge and the research design that I described above as methods will be reviewed in the next chapter in which I present the results of our field research.

3.4 Issues concerning traditional teaching and research design

This section will address key barriers and issues concerning the use of traditional teaching and research design methods to carry out ethnobotanical research. The issues are discussed both from a Gwich'in traditional knowledge and a conventional research methodology perspective.

3.4.1 Issues concerning interviewing only one Elder.

One of the concerns may be why only one Elder was interviewed for this research project when it has been customary to interview many Elders for traditional knowledge projects. Their collective information gives validity to their experience and knowledge that comes from living on the land.

This ethnobotanical research project is the life history project of Ruth Welsh whose traditional knowledge comes from her mother. When I met Ruth Welsh at the Gwich'in Science Camp in 1996, I sensed immediately that I had found the teacher I was looking for when Ruth expressed a urgent need to pass on her plant knowledge to a Gwich'in individual. Ruth was born and raised at her family's traditional camp at Husky River where she learned about medicine plants from her mother. Today there are only very few Gwich'in people who have extensive knowledge and experience with medicine plants, who still work with the plants on a daily basis and who are available and able to travel on the land. Ruth is such a person. Her plant knowledge about medicine plants and other northern plants is broad and detailed. For example, Ruth (Tape #4) provided medicinal information about the wintergreen plant that I did not know had any medicinal use.

...my mother taught us to use (wintergreen) for...pain. We would pick the plant and this is the one plant that you can get the leaves off all winter. You know where your little patches are and you dig...(and)...brush the last of the snow away from the plants and you can still pick the leaves.

*And those we would crush again and make poultices for burns or for pain
(pause). That's about all we used the wintergreen for.*

Furthermore, Ruth knows the Gwich'in and English names of the many plants found in the Mackenzie Delta area. Ruth practices and teaches a healthy lifestyle alongside her teaching about traditional medicine plants. She has a genuine interest that her plant and cultural knowledge and teachings are passed on to future generations. Today Ruth continues to teach the medicinal uses of plants to school students in the Whitehorse area and to community groups throughout the Yukon. How often will a unique opportunity bring together Ruth Welsh, as the willing teacher and, myself, as an interested Gwich'in individual to work on Gwich'in medicine plants? The timing is critical as traditional knowledge is not passed on between generations of Gwich'in people in our communities. Often Gwich'in Elders pass away with their traditional knowledge and stories and valuable information is lost forever.

3.4.2 Duration of the study

The duration of the study carried out in the middle of the summer season relates to the seasonal cycle as it is meaningful from a Gwich'in perspective. This slice of time is when the various plants, including medicine plants, are in a high growth cycle. It was during this time period that harvesting these plants would have been most important and relevant in the traditional way of life. The time frame for the study was thus determined by my intent to understand the plant use from a traditional perspective. Furthermore, the knowledge that was passed on to me by Ruth Welsh is the accumulated knowledge that

has been passed on to her by generations of Gwich'in. Thus, while this study only encompasses the most significant harvesting time for the plants, the practical knowledge their use represents far exceeds the customary time frame of one- or multi-year studies.

3.4.3 Criticism of TK-centered methodologies

The use of traditional knowledge research methods has been criticized by pointing to the method's imputed limitations. Such criticism is best answered by pointing to the practical and cultural relevance of the learning and research method used in this study. It is traditional knowledge that Ruth Welsh's mother passed on to her, by means of the traditional methods of learning and instruction, that she in turn can appropriately pass on to me by means of those same methods alone. Many Gwich'in people need to rediscover that their Gwich'in roots and culture are tied to the land and many non-Gwich'in people need to know that the Gwich'in culture, like other aboriginal cultures, is embedded in the land.

3.4.4 Criticism of conventional research methodologies

On the other hand, critics of the western research methodology have also discussed and grunted at its use. As more traditional knowledge research projects are being carried out in the Gwich'in Settlement Area, a few critics from among the Gwich'in people themselves have questioned the western research methodology that is used to collect the information. The main concern centers around the time it takes to interview many Elders, the reason for transcribing the interview tapes, the need to enter the information into a computer database and the need to verify data collected with Elders. The question has

been asked why it takes so long to collect the information especially as every year that goes by more Gwich'in elders are passing away, and with them their traditional knowledge. Critics need to understand that it takes time to work with and to accurately document ancient knowledge and wisdom that have been passed down through the generations. A non-traditional method of capturing Gwich'in traditional knowledge must be used today as families are not passing on their knowledge through stories or oral nor are people on the land teaching their children on-the-land skills and knowledge.

3.4.5 Issues of documenting traditional knowledge

Another issue concerns the documentation of traditional knowledge. As was just mentioned recording traditional knowledge must be done as expeditiously as possible because it is no longer being passed on in our Gwich'in communities. Ruth Welsh (Tape #4) reiterated that the stories must be told otherwise they and the cultural knowledge will be forgotten, "*...they have old legends about how the moon was put up in the sky and the sun and the stars. I've heard those stories for so many years. You know, if you're away from it all the time (or) you don't have to tell anyone these (stories) any more, you forget.*" It is important to say again that the documentation is not only for today but also for the future. Our Gwich'in Elders that GSCI has been working with have asked that their oral stories and information be documented for future Gwich'in generations. Concerns over potential abuse of traditional knowledge by outsiders has been raised by Gwich'in elders as well. Such concerns are addressed in the Gwich'in Traditional Knowledge Policy (2004) that are in place to safeguard Gwich'in traditional knowledge. The Gwich'in people are strong in their belief about care and respect for the land and they

believe that their traditional knowledge can benefit future generations. On the other hand, the documentation makes the TK public and the possibility of abuse is always there. For example, this was another concern expressed by Ruth Welsh (Tape #4) when she spoke about plants and DNA prospecting, "*This traditional knowledge medicine (must) be protected.*" The issue of documenting and safeguarding Gwich'in traditional knowledge is so crucial that I, myself, have included a cautionary note at the front of this thesis to readers regarding this matter. As well, the research material from our research project has been deposited with the GSCI for their database and with the Prince of Wales Northern Heritage Centre archives for safekeeping.

3.4.6 Issue of what 'term' to use in research design

It may be easier for non-aboriginal researchers carrying out research projects in aboriginal communities to use a politically correct term to name their subjects. However one issue that is unique to aboriginal researchers, like myself, relates to what 'terms' to use (indigenous, aboriginal, first nation, first people, native) when referring to ourselves as Gwich'in people or my group back home when presenting my research work. This is problematic and confusing for me as a traditional knowledge holder who is carrying out conventional social science research work. For example, the Gwich'in name we use to refer to ourselves when we speak in our Gwich'in language is 'Dinju zhuh', a term that refers to indigenous people or to people who are native to an area or a country. It is much easier for me to refer to ourselves by our geographic names (Gwichya Gwich'in, Teetl'it Gwich'in, etc.) that says, to other Gwich'in people we meet, what area of the land we come from. Heine et al. (2001) describes this naming as follows.

The Gwich'in identify themselves by describing in their names the region of the traditional lands to which they belong. The name of the area, in turn, often refers to one of its major rivers or some other prominent feature of the landscape. In the Gwich'in language, the traditional names are formed by adding the name of the area that the group lives in to the word Gwich'in. The word 'Gwich'in' by itself translates as 'inhabitant of (an area),' but traditionally it was not used without also stating the name of the area where the person or group lived. These are the original names used by the people themselves. The Gwichya Gwich'in, for example, are 'the people of the flat lands.' The name refers to the entire lowland region around the confluence of Tsiigehnjik and Nagwichoonyik. The people living in the area around Fort McPherson call themselves Teet'it Gwich'in. Teet'it refers to the headwaters of the Peel River, their homeland before the arrival of the fur traders. The names of the other regional groups are formed in the same way.

In earlier times, the Gwich'in people were referred to and even called themselves as 'Loucheux', a term introduced by missionaries and traders, and by 'Kutchin', a term normally found in text books. 'Dinju zhuh', our real name, has been changed recently to 'Gwich'in' and is now used by many people including the Gwich'in people. This term was created and used at the time the Gwich'in signed the *Gwich'in Comprehensive Land Claim Agreement* (1992) to identify people of Gwich'in ancestry who are eligible to be registered as beneficiaries of the claim. These references could act to educate our own people, those who do not know the names, and for other people as well.

Chapter 4

"The Plants are so Healthy and Clean"

"All you have to do is step back in the bush, off the trails and [the plants are] so healthy, so healthy and clean" (Tape #9).

This chapter provides an analysis of the ethnobotanical information that was collected during the field research. What I hope to make clear is that in traditional Gwich'in ethnobotanical teachings more than just medicine plants is unearthed: Ruth's traditional way of teaching covers not only traditional plant knowledge but a wide spectrum of knowledge that views the whole Gwich'in culture. This became clear to me as Ruth Welsh carried out her teaching of traditional knowledge related to the use of medicine plants; documentation of the Gwich'in medicine plants and associated cultural knowledge occurred in conjunction with the teachings.

4.1 A Gwich'in style of teachings

Ruth Welsh blended her plant knowledge teachings with her knowledge about the traditional way of life and way of being on the land. Her teachings came alive, strong and fresh, as she explained and demonstrated the use and application of the medicine plants that she learned from her mother.

Ruth provided her plant knowledge about medicine plants as we were learning and documenting the information. It was early summer and the start of the plant research project on the beach at Husky River, the first traditional campsite selected for this research project. A few minutes into the project when we encountered the first plant,

kheh di' (TG) (horsetail, *Equisetum arvense*), and Ruth already commenced her first lesson in Gwich'in plant knowledge. The first tape recording (Tape #1) reflected the immediacy of her teachings:

...we use the horsetail for people who have kidney problems, bladder infections, urinary tract problems...sometimes they can't pee or their kidney is not working good, we use the horsetail. We make a tea out of it and use that as a medicine...there's many, many other applications and as you, Alestine, go on learning over the years, you're going to find out there's may be a dozen or so other applications for different types of problems. If I stood here and started telling you about one plant, I'd go a long time. So we will cover the basics to begin with.... We also used these as pot scrubbers....

The Gwich'in teachings started right off the bat. That was to be Ruth's teaching style as we carried out our work over the next month on the land, at Husky River, Tree River and the other traditional camps along the Dempster Highway. At the Husky River camp, Ruth (Tape #4) stressed to me the importance of knowing the areas where plants grow:

When you work with plants, Alestine, as time goes on you're going to find that in order to get everything, you have to know your forest because different plants grow in different parts of the forest. Like the evergreen forest...(and) the deciduous like the willows...you have different plants that grow there...and you go into the mixed and you're going to find different plants again...then the high lands, the low lands...you could never walk out into that forest there and get everything that you want. You have to know your land.

Later on at the Rock River camp location, Ruth said more about plant habitats, "*Plants grow in certain areas...and you have to know where they are. And if someone says they want juniper, you know where to go...it's a lot of moving, walking*" (Tape #11).

As Ruth (Tape #8) worked with the yarrow (*Achillea millefolium*) plant or at'àn dagàıı (GG) / at'àn dagàıı (TG) at the Husky River camp, she talked more about plant identification,

And that's another thing that you should really practice, Alestine, is the identification. If you watch your plants from spring till fall and if any should show through the snow or you see it, say, you need some roots from that plant...you should be able to tell by what's left from last year's plant, dried up, in order to have positive identification of this, so you could get the proper roots.

As the field research progressed with more walks through the bush, I began to recognize the plants and to appreciate the sheer number of plants that Ruth was able to identify. In the Tree River camp area where I grew up I said to Ruth, "*...it's...so interesting to find so many different plants. For me, it is just fascinating...I grew up in this area and...(I) didn't know what was there. [There is] medicine all over the place that I could see now*" (Tape #9).

4.2 Gwich'in medicine plants

This section will describe the medicine plants identified by Ruth Welsh that are used by the Gwich'in people to maintain good health and well being. This description will include the English, Gwich'in, Latin and other names that the plants are known by, the parts of the plant that are used for medicine, their medicinal uses, the method of preparation and their application. The two dialects of the Gwich'in language spoken in the Northwest Territories are provided for the Gwich'in names for the plants. As mentioned earlier, they are the Gwichya Gwich'in (GG) and Teetl'it Gwich'in (TG)

dialects that are spoken by Fort McPherson and Tsiigehtchic speakers. Ruth Welsh speaks the Teetl'it Gwich'in dial and I speak the Gwichya Gwich'in dialect. Throughout this thesis, the dialects will appear by a plant name as follows: (GG) or (TG). Sometimes a plant name is the same in both dialects and these will appear without the (GG) or (TG) notation. For example, k'oh, the Gwich'in name for Alder (*Alnus crispa*) is the same in both dialects. Additionally, medicine plants recipes provided by Ruth Welsh will be presented in boxes. Before moving into greater details about the Gwich'in medicine plants, the teaching about the careful harvesting practice of using medicine plants must be repeated.

4.2.1 Gwich'in harvesting practices

The Gwich'in harvesting practices, a resource management practice has been used by generations of Gwich'in people to safeguard plant and other resources for the future. These practices are repeated here in relationship to the harvesting of plants. Ruth reinforced the harvesting rule that all parts of a plant must be used and not wasted, *"Nothing is really wasted...because if you used one part of a tree or a shrub or a plant, what's left you use for something else. And it always goes back to the land...instead of into the garbage"* (Tape #1). Another cultural practice was to harvest selectively, not to deplete an area of all its resources and again not to waste. Ruth Welsh said, *"We couldn't waste. That was just Rule Number One, don't waste!"* The disposal of plants, after they were made and used as medicine, was carried out with care and respect. Ruth added, *"...after we were done making the teas or the poultices or the salves, what's left always went back to the land. Never burned or garbage...it was scattered back on the land"*

(Tape #5). Another important practice was to harvest the resources regularly. For example, Ruth Welsh said that they used to pick a lot of *nee'uu* (TG) / *eneeyù'* (GG) (red currant, *Ribes triste*) at their Husky River camp. Her sister-in-law, Mrs. Agnes Blake said to her one time, "*...you know what mom always told us. If we didn't pick it, we were going to lose the plants*" (Tape #6). Indeed that was what happened. When Ruth went back along the trails at Husky River to check for red currants after she was away for a period of time, the red currants were not there. However, during the field trip in July 2002, Ruth noted healthy red currant plants were growing back again, "*And what a blessing. (pause) It's so great to see it come back again*" (Tape #6). The Gwich'in harvesting rules, when practiced, ensure a bountiful harvest over the next season and the years after that.

4.2.2 Gwich'in medicine plants

The plants that are used for medicine are still strong in Ruth Welsh's memory. The information about the medicines plants dates back to a time when Gwich'in people relied on plants to treat injuries, ailments and to maintain general good health. The Gwich'in medicine plants are not usually classified or grouped together like they would be by botanists. Rather the various plants and their parts have and are known by their own specific Gwich'in names. One generic Gwich'in name that may apply to all low or ground growing plants is *gwinzheh* that translates loosely as 'it grows out'. Larger plants like trees and shrubs do not belong in the *gwinzheh* category however in their dried forms, they are called *dechan* which means 'wood'. For easier reference, the plants that Ruth identified and their use will be presented in five categories including: (1) trees and

shrubs, (2) flowering plants, (3) ferns and fern-allies, (4) fungi, and (5) aquatic plants. There are 18 species of trees and shrubs that are made into medicine, 12 species of flowering plants, one species of ferns and fern-allies, one species of fungi, and two species of aquatic plants. Of the 96 plants that were identified in the study area, 34 plants are used as medicine plants. Most of the plants that are used for medicinal purposes by Gwich'in people are named in the Gwich'in language. For example, all the 18 plants listed in the trees and shrubs category have Gwich'in names (see Table 2 below). Half of the plants in the flowering plants category and horsetail, the only plant in the ferns and fern-allies category are known by a Gwich'in name (see Table 3 and 4 below).

Recipes to make medicines from plants are included in this section to show the method of preparation and the application for some ailments that Ruth talked about. The recipes are enclosed in boxes as figures for easy reference. In Figure 3 below, Ruth explained how to prepare the medicine teas, how much of the tea to drink and for how long to take the medicine. A typical medicinal tea made from the horsetail plant (*Equisetum arvense*) or kheh dye (GG) / kheh di' (TG), for example, is drunk to treat kidney and urinary tract problems and bladder infections (Tape #1, #9).

Recipe for making medicinal teas

"You start with cold water. Of course, you rinse your plants and roots...and make sure they're clean. Put it in cold water and slowly bring that to a boil. And I boil mine for maybe four to five minutes, less sometimes. But then I let it steep for a while before I strain it off. And that way you're not damaging too much of the good medicines that are in there." To the question of how much medicinal tea a person should drink and for how long, Ruth Welsh said, "I usually take about 1/4 cup, no more...I'll take mine maybe three or four times a day." She suggested to drink the medicine tea for one more day after the ailment has receded and then to discontinue drinking the tea.

Figure 3: Recipe for making medicinal teas

4.2.2.1 Trees and shrubs

Medicines made from trees and shrubs make up the greatest numbers of plants (see Table 2 below). Birch, poplar, spruce, and tamarack are the tree species that are used as medicine plants.

Common name(s)	Gwich'in name(s)	Latin name
Trees and shrubs		
Alder	k'oh	<i>Alnus crispa</i>
Birch - dwarf - paper	ɦuu t'an (TG) aat'oo	<i>Betula glandulosa</i> <i>B. papyrifera</i>
Blueberry	jàk zhen (GG) jak zhen (TG)	<i>Vaccinium uliginosum</i>
Cloudberry	nakàl (GG) nakal (TG)	<i>Rubus chamaemorus</i>
Cottonwood or poplar	t'oo	<i>Populus balsamifera</i>
Cranberry	nat'at	<i>Vaccinium vitis-idaea</i>
Dogwood	k'aii kw'uth (TG)	<i>Cornus stolonifera</i>
Juniper	deetrèe jàk (GG) ts'ivvii ch'ok (TG)	<i>Juniperus communis</i>
Labrador tea - dwarf - tall	lidii masgit	<i>Ledum palustre</i> <i>L. groenladicum</i>
High-bush cranberry	dɪnjik jàk (TG)	<i>Viburnum edule</i>

Mossberry	dineech'ùh (GG) dineech'uh (TG)	<i>Empetrum nigrum</i>
Raspberry	ts'eenakal	<i>Rubus idaeus</i>
Red Currant	eneeyù' (GG) nee'uu (TG)	<i>Ribes triste</i>
Soapberry	dìnjik jàk (GG) dìnjik jàk (TG)	<i>Shepherdia canadensis</i>
Spruce - black - white	ts'eevii (GG) ts'ii'vii (TG)	<i>Picea mariana</i> <i>P. glauca</i>
Tamarack	ts'uiteenjùh (GG) tsi'heenjoh (TG)	<i>Larix laricina</i>
Wild rose	mchìh (GG) mchih (TG)	<i>Rosa acicularis</i>
Willow	k'an' (GG) k'àn' (TG)	<i>Salix</i> spp.

Table 2: Trees and shrubs used as medicine plants

Below are some details of the medicinal uses of plants known to Ruth or Gwich'in people.

Birch - aat'oo

The inner bark of aat'oo (paper birch, *Betula papyrifera*) or huu t'an (TG) (dwarf birch, *B. glandulosa*) are made into a mild tea to treat stomach problems (personal conversation, September 2004) and the leaves are used to treat insect bites. Ruth Welsh would cut up and pound the whole dwarf birch tree to make a similar tea (Tape #10). Ruth said, "We use the dwarf birch the same as we do the regular birch. We make the tea out of the birch and use that and again the leaves, like the willow, and other plants for the bee stings or bug bites that are very itchy and they're starting to become infected..." (Tape #12).

Poplar - t'oo

The buds of t'oo (balsam poplar, *Populus balsamifera*) are used to make a salve or a steam to treat nasal and chest congestion caused by colds. The best time to gather the sticky buds is in the springtime. The leaves, like other leaves, are chewed and applied on insect stings and bites.

Ruth used the buds to make a salve or she dried the buds and boiled them in the winter for a cold or to make the house smell nice. The buds are the only part of the tree that Ruth used and she would pick these sparingly off the bough. She did not strip all the buds off the boughs (Tape #9). The buds could also be used as a steam to treat a head cold or to steam the room of a child that has a bad cold (Tape #10). Ruth suggested trying a steam treatment made from buds instead of using something from the drugstore. She said, "*Gather the cottonwood buds and you could either freeze them or dry them. And put that in a pot on the stove and just let it permeate the house...you could keep that in (a child's) room too...close to the bed*" (Tape#11). Ruth also prepared a salve out of the cottonwood buds the same way she prepared a spruce gum salve (Tape #11). Ruth said, "*I use the buds off the poplar tree to make my salve. And again for chest colds, you rub it on your chest or your throat. And you can also add that to a pot to steam. The leaves like other leaves, again, for the bites*" (Tape #12).

Spruce - ts'eevii (GG) / ts'iiivii (TG)

"[The spruce tree] is one of the very best medicines that we have. We can use most of a day to talk about and work with that whole tree. There is so much to it" (Tape #5).

The cones, boughs, inner bark, and the gum of the black spruce (*Picea mariana*) and the white spruce (*P. glauca*) trees are made into teas, salves, and poultices to treat many internal and external ailments. The outer bark is used as a splint. Ruth Welsh said, "*We use the black spruce just like you would the (white) spruce*" (Tape #9).

Ruth Welsh said, "*...the pitch tea is really the number one for clearing up all kinds of health problems*"(Tape #3). A tea is made out of the gum, also called pitch, and drunk for stomach ailments like ulcers or upset stomach. Ruth emphasized, "*And again...it is one of the very best medicines that we have. We can use most of a day to talk about and work with that whole tree. There is so much to it*" (Tape#5). Pitch tea is also used at the onset of a sore throat. Ruth said, "*...you start gargling with the tea and then...spit it out...and then have a few sips every so often. It...washes down over the sore throat and it will clear up a sore throat...overnight*" (Tape #5). For gum disease or canker sores, Ruth said, "*...what you do is...take some (gum) and hold it in your mouth for a while then spit it out, then put a little bit more in. And hold some in your mouth a few times a day*" (Tape #5).

Spruce gum can be used as it is or a salve can be made out of the gum to heal cuts. Ruth would apply soft gum on a bandage for a wound or to extract a sliver. Salve applied to cuts will help to keep the wound clean. Ruth added, "*And it is the greatest healer because in just a few days the wound from the injury will be healed over. And it heals so nice and cleanly...*" (Tape #5). Salve is also put on any kind of skin rashes like cold sores

and eczema. Skin rashes can be bathed with a tea made from pitch, inner bark or spruce boughs then salve is applied and the area is covered with light gauze.

After Ruth Welsh made her pitch tea, she would make a chewing gum with the spruce gum that was left over in the pot, to have a healthy mouth. She warmed the pot slowly and carefully over low heat until the gum began to soften and become pliable. She removed the gum from the pot and began to stretch it like taffy. She then placed the stretched gum on a length of wax paper and began to score the gum with a knife in 2 cm. squares as it started to cool down. The gum would break off easily at the scored mark into chewing gum pieces. Ruth concluded, "*...if more people did that, they'd have less gum diseases and abscesses and canker sores, cold sores. All that*" (Tape #5).

The bark of the spruce tree is used as a splint and to heal broken limbs. Ruth Welsh would cut the bark the length of the broken limb and place the clean side of the bark over the broken area and secure it in place. Later when the bark is removed, oil is rubbed over the skin to remove any sap. Ruth said, "*...the injury will be very, very clean because (the bark) acts just the same as the salve and the other pitch that we use from the tree...it will keep the injury very clean and stop the infections from settling in*" (Tape #7).

In late July at the Rock River Camp, Ruth Welsh (Tape #11) made a spruce tip steam to treat a congested head and chest cold that I developed on our field trip. The steam treatment cleared up the congestion that I had.

Spruce tip steam treatment

Prepare this medicine as a tea to drink for a cold and a sore throat or to use as a steam for a head or chest cold. The spruce tips are collected from either young or older spruce trees. The spruce tips are rinsed well to wash away dust and pollen. In a pot of water, move the tips around and keep them under the water. Bring to a gradual boil and let the medicine simmer for a while. Turn the stove off. Steep the medicine a little while longer then cool it down. Deep breathing is recommended when steaming with this medicine. The nasal passages will start to clear.

Figure 4: Spruce tip steam treatment

Tamarack - ts'uteenjùh (GG) / tsuheenjoh (TG)

The bark, boughs and roots of the tamarack (*Larix laricina*) tree are made into a medicine tea to treat colds. Ruth said, "*...of all the trees, the [Gwich'in people] like the tamarack the best because it's very potent. The medicines that you make from the tamarack is very special to them*" (Tape #9). Later Ruth remarked again about this special quality, "*The tamarack is a really prized plant for our people, not only here in the Northwest Territories but also in the Yukon where I live. When people start feeling unwell or they have a bad cold, (although) they have a lot of these different medicine for colds...they prize the tamarack the most...they use the boughs or the bark of the tamarack to make a tea again and they drink that for colds*" (Tape #12).

In the shrubs category, there are 14 plant species that are used as medicine plants. Seven plant species (blueberry, yellowberry or cloudberry, red currant, cranberry, high bush

cranberry, mossberry, raspberry) are listed as shrubs with edible berries and seven plants (alder, dogwood, juniper, labrador tea, soapberry, wild rose, willow) are listed as shrubs without edible berries.

Blueberry - jàk zheɪ (GG) / jak zheɪ (TG)

The bog blueberry (*Vaccinium uliginosum*) plant is excellent for people who are diabetic. They can eat the berries and make teas from the plant. The stems and leaves of the plant are used to make the tea. The blueberries could be picked, dried and eaten like raisins during the winter. Ruth Welsh suggested that "*People who have diabetes should eat lots of blueberries... We tend to use it more as a food but it does do diabetics good. And also people with heart problems*" (Tape #11). Ruth Welsh said her mom, "*...would always give us the blueberries first and make sure that we had a lot of that to eat. And she always said, 'This will make you better'. And it always seemed to*" (Tape #8).

Yellowberry - nakàl (GG) / nakal (TG)

The leaves of the cloudberry or yellowberry (*Rubus chamaemorus*) plant are crushed and applied to burns, insect bites, and bee stings (Tape #9).

Red Currant - eneeyù' (GG) / nee'uu (TG)

The leaves of the red currant (*Ribes triste*) plant are also applied to burns (Tape #6).

Cranberry - nat'at

The cranberry or mountain cranberry (*Vaccinium vitis-idaea*) plant and berries are made into a tea and drunk to treat kidney or urinary tract problems. In the winter the frozen berries and plant can be found under the snow in boggy areas where cranberry grows.

High-bush Cranberry - dɪnjik jàk (TG)

Ruth Welsh called this plant high-bush cranberry (*Viburnum edule*). The leaves are crushed and applied to relieve bee stings and burns. Ruth (Tape #6) explained how leaves help to relieve burns. She said,

It doesn't matter what kind of a leaf you have when you...do get burned, they all work to cool the burn down. As you know, even on the hottest day you walk into the bush (and) you touch the leaves, they're always cool. And you always want to keep your burns as cold as you can because what's happening when it is continuing to feel hot, when you burn yourself, the heat keeps going down further and further down. What you want to do is put something very cold, if you had ice or snow, that's good and you put that on there. If it melts, so be it. You just keep putting more on until the heat stops going down. That's when it's going to stop hurting otherwise it will just go deeper and deeper.

Mossberry or Crowberry - dɪneech'ùh (GG) / dɪneech'uh (TG)

This plant with black berries is known by such names as mossberry, blackberry, or crowberry. The above ground parts and roots of the mossberry (*Empetrum nigrum*) plant are used to make a tea and drunk for diarrhea. Ruth Welsh said, "*The stem and the root of the mossberry we use for people who have diarrhea. You crush it all up and boil it and let it steep for a while and get them to drink the tea. And it helps to stop the diarrhea*" (Tape #6).

Raspberry - ts'eenakal

The stem and leaves of the raspberry (*Rubus idaeus*) plant are also made into a tea and drunk to treat diarrhea (Tape #6).

The shrubs without edible berries are alder, dogwood, juniper, labrador tea, soapberry, wild rose, and willow. Many of them have medicinal uses for Gwich'in people.

Alder - k'oh

The alder (*Alnus crispa*) is also called red willow because when the bark is peeled back, the remaining plant will turn a red color. The leaves can either be chewed or crushed and put on bee stings to take away the sting or irritation. A mild alder tea is made and drunk for an upset stomach. Ruth Welsh said alder tea is used "*...for upset stomach but you must not drink it strong. It has to be very mild.... And that's what you drink when you tend to have upset stomachs from overeating in particular*" (Tape #4). The tea must be diluted until there is almost no bitterness.

Dogwood - k'aì kw'uth (TG)

The leaves of the dogwood or red osier dogwood (*Cornus stolonifera*) plant are crushed and used to treat burns, bee stings and insect bites (Tape #8). The white and waxy berries of the plant are not used.

Juniper - deetrèe jàk (GG) / ts'ivv ch'ok (TG)

Ruth Welsh repeated several times during our field work that medicine made from the juniper or ground juniper (*Juniperus communis*) plant must not be given to people with kidney problems. Ruth said, "*Don't give them that. Don't give them that. Either give them the horsetail tea or the spruce (tea), never juniper. You'll end up with their kidneys being totally destroyed. So that's a big red mark beside that one*" (Tape #9).

The juniper plant, with or without its berries, is used to make a tea for colds or an upset stomach. However the tea must be taken very sparingly as Ruth Welsh said, "*Just a little bit. A couple or three tablespoons is about all you take*" (Tape #9). Over and again Ruth voiced caution about the quantity to be taken, "*Use that very sparingly. And if you don't...have any spruce bark or boughs or pitch, you can make the tea from [juniper] but very, very little at a time*" (Tape #9). Ruth emphasized once again that medicine made from the juniper plant must not be given to persons with kidney problems. The above ground or parts of the top of this plant are used to make medicine. The berries can be dried and kept on hand for later use.

Labrador tea - lidu masgit

The whole above ground parts of the labrador tea plant are used to make a relaxant tea. The dwarf labrador (*Ledum palustre*) tea, with its smaller leaves, is more aromatic than the tall labrador (*L. groenlandicum*) tea. Ruth Welsh commented about the dwarf labrador tea plant, "*The aroma is very, very pleasant. And the tea isn't as bitter as the tea made from the taller plant which has the bigger leaves*" (Tape #10). Labrador tea is used as a

medicine to treat colds, either for drinking, gargling, or for steaming. Ruth Welsh cautioned however that "*You don't make it too strong by boiling it too long*" (Tape #10). Ruth added that, "*Our people always made a tea out of labrador tea, both the low and the tall (plants) and drink that for their colds as soon as they have a cold coming on. That's what they look for...you can get it year round...when you are travelling in the forest or on the mountains. All you have to do is dig the snow away and find the plant*" (Tape #11).

Soapberry - ðinjik jàk (GG) / ðinjik jàk (TG)

The soapberry (*Shepherdia canadensis*) or mooseberry plant and roots are made into a tea and given to people who are not feeling well. However, the berries of this plant are not used by the Gwich'in people. Ruth Welsh said, "*...when we were growing up we had so many other berries that we didn't bother with the soapberry*" (Tape #10).

Wild Rose

The rose petals of the wild rose (*Rosa acicularis*) or prickly wild rose plant are used to make an eye or a face wash. Ruth Welsh (Tape #6) provided instructions on how to make this wash. Nìchìh (GG) / nìchìh (TG) is the Gwich'in name for the berries of this plant.

Recipe for making wild rose eyewash

Ruth said it will take a few days to make the wash. Water that is boiled and cooled to room temperature is used. A jar that contains warm water and rose petals is sealed with a lid. The jar is set on a window sill or kitchen counter and the jar is given a shake or turned upside down and then back the other way at least four times a day for about three to five days. The water is then strained into a sterile bottle. The water can be heated up and then allowed to cool down again. To bathe the eyes, use tepid water or water that is skin temperature. The wash will clear red eye or cloudy eye conditions or refresh tired eyes.

Figure 5: Recipe for making wild rose eyewash

Willow - k'aii' (GG) / k'ani' (TG)

The bark and leaves of the willow (*Salix* spp.) shrub are used for medicine to treat pain or to relieve insect bites. Ruth Welsh said, "*You mash the bark up to make the poultice otherwise you just chop up the leaves or the bark rather and make your tea. The leaves can also be made as a poultice*" (Tape #10).

In the summer, willows leaves are chewed and applied to bee stings right away. Ruth said, "*...it takes the soreness away from the bee sting and it will also draw out the venom that's put in there by the bee*". She added, "*Some people are really allergic or they have a terrible reaction...big welts and then they get infected. Black flies in particular are bad for that. They will just take a chunk out of you and of course there's a lot of times infection sets in those open wounds*" (Tape #1). Willow leaves are also crushed between the fingers and a drop of water could be added to provide moisture and crushed some more until it turns into a fine poultice. This is put on the bee sting, black fly bites or rash

and sores around the ankle or hairline. A handkerchief or gauze will help to keep the wad in place. The poultice will draw the infection out, help ease the pain from the sting, or reduce the swelling from the stings and bites. Ruth said, "*We have many different kinds of willows and we treat all of them the same. We use most of them for the same thing except alder*" (Tape #1).

Ruth Welsh (Tape #12) added these comments on the general importance of willow,

We use all the willows the same. We use the bark and the leaves. The bark, we make a tea out of it - again, you just bring it to a boil and let it steep. You put quite a bit of bark in it because you want to dilute your tea. But we use that for headaches (and) for pain. It's a pain reliever, the willow is. And the leaves for poultices, especially...first and foremost, the older people wanted something for the bee stings or anything painful like that, they would go for the willow leaf firs, then the (leaves of other plants).

4.2.2.2 Flowering plants

There are 12 species of plants in the flowering plants category that are made into various medicines to treat conditions like aching muscles, skin ailments, chest conditions, bee stings and insect bites or drunk as a relaxant. The plants are arnica, chamomile, coltsfoot, dock, fireweed, larkspur, plantain, wild rhubarb, silverweed, wintergreen, wormwood, and yarrow.

Common name(s)	Gwich'in name(s)	Latin name
Flowering plants		
Arnica	at'an tsoo	<i>Arnica alpina</i>
Bear root	treh (GG) trih (TG)	<i>Hedysarum alpinum</i>
Bedstraw		<i>Galium boreale</i>

Chamomile		<i>Matricaria matricarioides</i>
Chickweed		<i>Stellaria media</i>
Coltsfoot - at Tree River - at Husky River		<i>Petasites palmatus</i> <i>P. figidus</i>
Dandelion		<i>Taraxacum officinale</i>
Dock		<i>Rumex arcticus</i>
Fireweed - dwarf - tall		<i>Epilobium latifolium</i> <i>E. angustifolium</i>
Larkspur		<i>Delphinium glaucum</i>
Northern ground cone	du'11 nahshèe (GG) doo'11 nahshìh (TG)	<i>Boschniakia rossica</i>
Pigweed		<i>Chenopodium album</i>
Plantain		<i>Plantago major</i>
Silverweed		<i>Potentilla anserina</i>
Wild rhubarb	ts'11 gyùu (GG) ts'11 gyùu' (TG)	<i>Polygonum alaskanum</i>
Wintergreen		<i>Pyrola grandiflora</i>
Wormwood	gyùu tsanh (TG)	<i>Artemisia tilesii</i>
Yarrow - common - Siberian	at'àn dagà11 (GG) at'àn dagà11 (TG)	<i>Achillea millefolium</i> <i>A. borealis</i>

Table 3: Flowering plants used as medicine plants

Arnica - at'an tsoo

The yellow petals of the arnica or alpine arnica (*Arnica alpina*) plant are mixed with grease or oil to make an ointment that is used to rub aching muscles. The above ground plant is used to make a tea to treat skin rash. Ruth Welsh (Tape #12) provided an arnica ointment recipe.

Recipe for making arnica ointment

Ruth Welsh said the petals are mixed with duck, goose, or porcupine grease because these kinds of grease do not freeze hard. Olive oil could also be used. Ruth said, "You warm the oils, put the petals in and just let it sit and you shake it up every so often and then strain that off...." The container holding the petals and oil is left at room temperature for a couple of days. The mixture is strained and then refrigerated. The ointment is then used as a rub for sore knees, joints or sore muscles and cramps. A tea made from the above ground parts of the arnica plant is used to bathe rashes and then the ointment is applied to help dry the rash. As an alternative, a tea made from spruce pitch or spruce boughs is made to bathe the rash if there are no arnica plants around.

Figure 6: Recipe for making arnica ointment

Chamomile

The chamomile (*Matricaria matricarioides*) plant is used as a tea that is drunk as a relaxant. The tea is boiled for only a few minutes and then left to steep. Ruth Welsh (Tape #12) said,

It's a very soothing tea...also used for new mothers that are having problems getting the milk to flow for the baby. You give them the chamomile tea to drink. And maybe the baby is colicky so if they're...breastfeeding, they will get the chamomile through the breast milk. And it helps them to calm down a little bit...if the baby is on the bottle, you could put...a tablespoon...into the milk and let them have it that way. And it helps to get ride of gas usually in their tummy that makes them colicky.

Coltsfoot

The two species of coltsfoot (*Petasites frigidus* and *P. palmatus*) plants found at Husky River and Tree River respectively are used as a steam to treat chest conditions such as asthma, congested chest conditions or colds. Ruth Welsh said, "... (when) your child has

a cold... (and) you want something to steam in the child's room to break the congestion and help them sleep, this is one of the plants that we used for that purpose" (Tape #7).

Ruth (Tape #7) provided instructions on how to prepare a coltsfoot steam treatment.

A coltsfoot steam treatment

The plant is put into boiling water and the water will stop boiling when the coltsfoot is placed in. Bring the water to a second boil and boil it for about five minutes. Turn the stove off. When the water has cooled a bit, put a towel over the head and begin to do deep breathing exercises. This steaming will help clear a congested or stuffy head and congested chest.

Figure 7: A coltsfoot steam treatment

Dock

The leaves or the roots of the dock or arctic dock (*Rumex arcticus*) plant are used to make a tea to wash skin ailments. Ruth Welsh said, "*Dock is another plant that our old people always want when there's lots in the mountains and people were more or less nomadic. And in the mountains you find a lot of dock growing. And they used that for making...a poultice...out of the root and use that...on sores that won't heal. I know even in the Yukon, the older people talk very high of dock root"* (Tape #12). Ruth Welsh said Annie Henry from the Yukon made a tea out of the roots of this plant to bathe rashes or open sores.

Fireweed

The leaves of the tall fireweed (*Epilobium angustifolium*) and dwarf fireweed (*E. latifolium*) are chewed and applied to bee stings and bites. Ruth Welsh said, "*And again, like the willow leaves, you can chew the leaves. The person that gets the sting from the bees or really bad black fly bite problems where they get infected or very itchy, can chew the leaves up or crush them up again and put them on the infected area or where the sting is or was. It will draw out the venom and take the hurt away*" (Tape #3). She added, "*After you've cover the bee stings with the leaves, if it hasn't taken the stinger out, then you go to the (spruce) pitch to help to draw that. And if there's any other infection starting because of the bee stings, the pitch will draw that out*" (Tape #3).

Larkspur

The whole larkspur or wild larkspur (*Delphinium glaucum*) plant is used to make a tea for washing people's hair when they have a lice problem. The whole plant from the ground up is chopped and made into a tea (Tape #11).

Plantain

The leaves of the plantain (*Plantago major*) plant are made into a poultice as a painkiller and the above ground part of the plant is made into a tea to soothe burns. For example, the leaves of the plantain plant are used as a painkiller for cuts or bruises. A leaf that is large enough to cover a cut is used. Fresh leaves are preferred because Ruth said, "*When you dry them in the winter, they will powder. But you can also make a poultice out of that and do the same thing*" (Tape #3). Ruth added, "*But in the summer time, you cover the cut with a leaf and crush the rest of the leaves and put it on, whether it's a bruised*

ankle, twisted ankle, or a cut and it's painful. You make a poultice and apply it to the area" (Tape #3). A tea is made out of the plantain to relief painful burns and especially when the blister from the burns has broken. The blistered area is bathed with plantain tea that has been cooled.

Wild Rhubarb - ts'11 gyùu (GG) / ts'11 gyùu' (TG)

The leaves of the wild rhubarb (*Polygonum alaskanum*), like fireweed or willow leaves, are used on burns in late June and early July. The leaves can also be dried for later use (Tape #8).

Silverweed

The silverweed (*Potentilla anserina*) plant is used to heal cuts or sores. It is a coagulant like the yarrow plant, Ruth (Tape #8) said, "*It thickens the blood and it's a coagulant...therefore when you're bleeding pretty good, you drink the tea from this, or if you suspect internal bleeding and you don't have the yarrow...*" the silverweed plant is used. The whole plant including the roots are washed thoroughly and made into a tea.

Wintergreen

Ruth Welsh said about the wintergreen or large-flowered wintergreen (*Pyrola grandiflora*) plant, "*...what my mother taught us to use it for was pain*" (Tape #4). The leaves of this plant can be used all winter. Ruth said, "*...you know where (the wintergreen) patches are and you dig the snow away, brush the last of the snow away from the plants, and you can still pick the leaves*" (Tape #4). The leaves are crushed and

a warm poultice is made to relieve pain caused by burns or for arthritic or joint pain or pain from cuts.

Wormwood - gyùu tsanh (TG)

The wormwood (*Artemisia tilesii*) plant is used to treat a congested chest and to clear a stuffy head or stuffy nose. The plant is very aromatic. For a steam, the whole above ground wormwood plant is crushed and put into a pot of water to boil. Once the water starts to steam the pot is taken off the stove and set aside to cool. Ruth said, "*Then I cover my head over the bowl with a towel and start doing my deep breathing exercise to get the medicines from this into my lungs. It seems to clear my lungs and open all my breathing passages*" (Tape #3). The leaves of the wormwood plant can be dried for use during the winter. Also in the winter when there are no wormwood plants, use spruce boughs, inner spruce bark, or spruce gum to make a similar steam to treat congestion.

Yarrow - at'àn dagàᐱ (GG) / at'àn dagàᐱ (TG)

The common yarrow (*Achillea millefolium*) and the Siberian yarrow (*A. borealis*) plants both have the same medicinal uses. The above ground parts of the plant are used to make a poultice or tea and the flowers are used to make a poultice. The medicines are used to treat colds, headaches, to stop bleeding or to relieve a sore throat, itchiness from black fly bites and skin ailments. Ruth Welsh said, "*For relieving headaches, you steam yourself with it*" (Tape #3). To stop bleeding, a poultice is made and put on a cut that is bleeding profusely. Ruth Welsh added, "*You...crush the plant up and apply it to the bleeding area. That will coagulate the blood...and stop it from bleeding. You'll slow it down*" (Tape #3).

A tea is made from the whole yarrow plant and used as a gargle to relieve a sore throat. Ruth said, "*You can drink some of the tea but you drink it very diluted, not strong*" (Tape #3). The leaves and the flowers are crushed up and applied as a poultice to relieve black fly, bee stings or insect bites. A poultice could also be applied to infected black fly bites around the hairline or around the ankles of children that will reduce any swelling or stop the itching. A wash is made out of the plant and used for skin ailments like sun rashes or eczema.

Other species of plants in the flowering plants category have been identified as potential medicine plants but little information was provided about their medicinal use because there are other plants in the area that grow in greater abundance or are longer lasting. Bedstraw (*Galium boreale*) could be made into a tea or poultice; chickweed (*Stellaria media*) could be made into a poultice and a tea; the dandelion (*Taraxacum officinale*) roots could be made into a medicine; the roots of the bear root (*Hedysarum alpinum*) could be made into excellent poultice; or pigweed (*Chenopodium album*) could be made into a poultice. Ruth said about the northern ground cone (*Boschniakia rossica*), "*Mother never really taught us to use this for medicine though she talked about it*" (Tape #8).

4.2.2.3 Ferns and fern-allies

In the ferns and fern-allies category, there is only one plant that is used as a medicine.

Common name(s)	Gwich'in name(s)	Latin name
Ferns and fern-allies		
Horsetail	kheh dye (GG) kheh di' (TG)	<i>Equisetum arvense</i>

Table 4: Ferns and fern-allies used as medicine plants

Horsetail - kheh dye (GG) / kheh di' (TG)

The horsetail (*Equisetum arvense*) plant is used to make a medicinal tea to treat kidney problems, bladder infections or urinary track problems (Tape #1). To treat a bladder infection, a tea is made with the horsetail plant and large amounts of the tea are taken to clear the condition. A cup of the tea is taken two or three times during the night. Cups of horsetail tea are also taken during the day along with spruce pitch tea for three days. Ruth said that a bladder infection could occur when the outside conditions are wet and cold and often during camping trips. She said, "*You get on the tea from the horsetail and you'll feel comfortable within just a few hours. And then you stay on it for a few days. And after three or four days, if you feel...you don't have it any more lay off it for a day. And if you feel the discomfort coming back, get on it immediately and go for another three or four days*" (Tape #11). Drink the horsetail tea and water throughout the day to flush out the whole system.

4.2.2.4 Fungi

In the fungi category, there is only one plant that is used as a medicine. There is no Gwich'in name for this plant.

Common name(s)	Gwich'in name(s)	Latin name
Fungi		
Puffballs		<i>Lycoperdon perlatum</i>

Table 5: Fungi used as medicine plants

Puffballs

The brown powder inside the puffballs (*Lycoperdon perlatum*) fungi is used to treat weeping sores when there are no bandages to cover the area. The powder is also used on burns when the blister has broken and the burn area is weepy. The powder is dusted over the affected area. It will dry the area so infection does not set in (Tape #9, #10)

4.2.2.5 Aquatic plants

Of the four aquatic plants that Ruth Welsh identified, two plants are used as medicine plants to treat bladder ailments, colds and back pain. The aquatic plants are bladderwort and water lily or yellow pond lily. There are no Gwich'in names for these plants.

Common name(s)	Gwich'in name(s)	Latin name
Aquatic plants		
Bladderwort		<i>Utricularia vulgaris</i>
Water lily		<i>Nuphar variegatum</i>

Table 6: Aquatic plants used as medicine plants

Bladderwort

Either the leaves or the whole bladderwort (*Utricularia vulgaris*) plant including the roots are made into a tea to treat kidney or bladder infection. The bladderwort and the horsetail plant are used the same way for bladder ailments. Ruth usually makes her bladderwort tea strong but dilutes it before drinking it. "You start with cold water. You rinse your plants and roots...and make sure they're clean...put...in cold water and slowly bring that to a boil. And I boil mine for maybe four or five minutes, less...sometimes. And then I let it steep for a while before I strain it off. And that way you're not damaging

too much of the good medicines that are in there" (Tape #9). Drink a quarter of a cup three or four times a day.

Water Lily

The roots of the water lily (*Nuphar variegatum*) plant are dried and used to relieve a dry throat or the onset of a cold. Ruth Welsh said, "*...you only take small little tiny pieces*" (Tape #10). The roots are also used to ease a sore back. Ruth (Tape #12) explained,

People who had sore backs many years ago were able to get the main root which can be quite large. And they would cut a piece off, maybe a foot or a foot and a half long, depending on how big the person was...and they would heat the root by the fire or heat...just so that it's warm, not hot, and they split the root and put it on each side of (their) back and just tie that up. And it seemed to help a sore back.

4.2.3 Storage and preservation of medicine plants

Gwich'in people have always used plants for medicine and foods and that is why Ruth Welsh (Tape #3) said,

...they knew how to preserve (them) for winter use. Many times they would pick them, prepare them, clean them and put them in containers and then rebury them again especially where's there's a lot of moss. They will dig up the moss, separate the moss until they get down to the permafrost and then bury the containers, put the moss back on top and cover it with boughs and logs or whatever. And then mark the area...and then just dig it up in the winter time whenever they want it.

Ruth Welsh described the best way to dry plants. She dried her plants on a screen in an airy room and then puts them into paper bags. She said, "*I leave the bags open for two or three week...(in a room)...open the door a little bit. It's very airy. There's lot of air circulation. That way I'm sure that my plants are dry*" (Tape #10). After they are

completely dried, the dried plants are put into jars. Ruth added, "*The thing about drying plants like that, you know, when you dry them it looks like you're drying a whole lot...but when they're totally dry, there isn't very much. But all the medicines are concentrated that you don't really need too much to make your medicines. A little bit will go a long ways*" (Tape #10).

The next section will describe in more detail the additional Gwich'in cultural knowledge and teachings that were collected that are associated with the medicine plants.

4.3 Contextual cultural knowledge associated with medicine plants

In the course of her teachings about traditional medicine plants Ruth Welsh provided me with other information about the uses of the plants and stories as well as their medicinal uses. This associated cultural knowledge adds an important dimension to our understanding of the cultural significance of these plants.

Many of the plants that Ruth Welsh identified at the traditional camps could also be used as food plants, plant material or they are pleasing to the eye as showy plants. About 23 plant species from trees and shrubs, flowering plants, mosses and lichen, and fungi groups are used as food plants. About 10 plants from the trees and shrubs, flowering plants, grasses and grass-like plants, ferns and fern allies and mosses and lichens categories are used as plant materials. And about 29 plants from the trees and shrubs, flowering plants and grasses and grass-like plants groups bloom into showy plants during the summer. A shrub like the dogwood or American dogwood (*Cornus stolonifera*) plant

although listed as a showy plant is also used for medicine tea. Ruth said, "*...we don't use the berries...the plant we use again for teas and the bark and the roots for poultices. You just pound it up and make your poultice and...like many other leaves, for burns and stings, bee stings, mosquito bites, black fly bites...*" (Tape #8, #11).

Ruth also provided information about the plants that animals and birds like moose, beaver, muskrat, grouse, black ducks, and geese foraged on. For example, Ruth talked about the dogwood (*Cornus stolonifera*) berries as bear food, "*And we always notice that before the bears go into hibernation in the fall this is the last berry crop that they will eat, if they can get it, because they really put on the fat with the dogwood berry*" (Tape #8). The pumpkin berry (*Geocaulon lividum*), Ruth said is food for grouse in the spring, "*...the grouse...eat them because they stay on the plant well into the spring before the other berries comes and the grouse usually feed on that*" (Tape #11).

4.3.1 The importance of naming the land

The names of plants are also part of the Gwich'in landscape as the names often point to available resources or they describe the landform. Ruth and I provided five Gwich'in plant place names in the study area. For example, in the Husky River area there is a place called Jak rye' njù' which is the Gwich'in name for Black Currant Island (Tape #7).

Another place close to the mountain, west of the camp, is called Shik nanh which means 'Old ground or old land'; this name describes a landform which, as a mossy bog area, is a good place for cranberries, blueberries, cloud berries (Tape #7). Dootat gwitshik (A river that flows between the driftwood piles) is the Gwich'in name for Husky River (Tape #8);

the name refers to the driftwood pile that the spring high water would deposit here yearly. Dachan choo gèhnyik (Big wood river) is the Gwich'in name for Tree River (Andre and Kritsch 1992) that refers to the tall spruce trees that grow along this creek. In the Tsiigehtchic area, there is a Gwich'in place name up the Arctic Red River called Nìchih sree tthò' (Rosehips ripened by the sun). This place name refers to an area along the side of a hill that is a good place for wild rose berries called rosehips (Kritsch and Andre 1993).

4.3.2 Harvesting seasons

Ruth also described the preferred seasons for harvesting the plants. This is at the height of the 24 hours of sunlight that lasts for two months from late May to late July. This is the time of long growing days that becomes a short fast growing season for the plants.

Ruth noted that the start of the field research in early July coincided with the fast growing season, naming the plants that are starting to bloom. They included black currant (*Ribes hudsonianum*), chickweed (*Stellaria media*), dewberry or dwarf raspberry (*Rubus arcticus*), dogwood or american dogwood (*Cornus stolonifera*), low-bush cranberry (*Viburnum edule*), monkshood (*Aconitum delphinifolium*), raspberry (*Rubus idaeus*), tall fireweed (*Epilobium angustifolium*), valerian (*Valeriana dioica*), wild rhubarb (*Polygonum alaskanum*), wild rose (*Rosa acicularis*), and wormwood (*Artemisia tilesii*).

Ruth noted, "*Some have already gone to making little berries but most of them are still blooming. The seasons gallop here. It's amazing. You can see blossoms one day and little berries the next day. The end of the month you're picking berries...it's very quick*" (Tape #7). As for the best time to collect medicine plants, Ruth said, "*You start in the*

spring for the plants that are not there for you in the winter time...and right up until they're fully bloomed and are going back to seed. And you collect the root of plants during the summer..." (Tape #10). Ruth added that trees and willow can be collected year round. At the end of the field research in late July, Ruth said, *"This is the best time of the year to collect because all the plants right now are at their peak. They're loaded with everything. So it's a good time for those who want to gather and this is...the end of July"* (Tape #12). She added that she would gather the plants that she could collect from the ground up and gather the roots later in the summer.

4.3.3 Knowing the land

As people who lived and continue to live on the land, Gwich'in people knew and, today, know the places on the land where plant and other resources can be found. They know their plant habitat. Ruth Welsh provided a description of where plants grow like k'oh (alder, *Alnus crispa*); kheh dye (GG) or kheh di' (TG) (horsetail, *Equisetum arvense*); ts'eevii (GG) or ts'ivii (TG) (spruce, *Picea mariana*); and k'aii' (GG) or k'aii' (TG) (willow, *Salix* spp). She said, *"Usually you will find horsetail growing where the willows grow in the low moist areas like along shores. Between the high banks and the water is where you find most of the horsetail. The willows grow in that area also...the spruce tree here in the delta...tend to grow taller and bigger near water areas along the rivers and around the lakes"* (Tape #2). The willows are also found among the spruce trees. Ruth added, *"And alder again like moist areas. Then you go in high land, like the hill in Fort McPherson, Tsiigehtchic, those places (are) a littler higher, you find the birch coming into play with willow and spruce"* (Tape #2). Ruth added later where different types of

plants are found. She said, "*And you noticed the different types of plants that were on the shore...in the willows [they] were different again. And in the spruce forest was different again from this other mossy area where we were*" (Tape #9). Ruth noted that a forest fire will change what grows on the forest floor as it returns to normal.

4.3.4 Respecting what the land provides

When people lived on the land year round they depended on the plants, animals, birds and fish for their survival. So people were taught or reminded to take care of the resources and to use them with care and respect. The same spiritual aspect was accorded to plants. For many aboriginal people, offerings such as tobacco, matches, shells, money, or sugar are left or prayers are said by harvesters before any parts of plants are collected. In this way the Gwich'in and groups like the Dogrib people respect the plants that they collect (Andre and Fehr 2002; Andre et. al (In press); Ryan 1994). Ruth (Tape #5) was taught about this when her mother would "*...talk to us before going out to collect.*" Ruth's own mother recalled times when they could not put something like tea or tobacco in place of the plant they collected because their own supplies were low. Ruth's mother said, "*What we do in the evening when we go to bed or in the morning before we get out of bed we meditate and we just lie there and pray, you know, for the day and the plants that we will be able to gather*" (Tape #5). Ruth herself remembered, "*...we were always told not to gather a whole bunch of anything, especially from one certain area. You pick and you choose so that, she always said, 'Gather so that no one will ever know that you were there to gather'*" (Tape #5). This means picking selectively throughout an area so you don't over harvest one area. Ruth then quoted her mother, "*...pray for those who will be*

using...*the medicines that we gather and the plants that will be used for food*" (Tape #5). She concluded, "*...so that's how I was brought up and that is how I do it*" (Tape #5). The spiritual significance of plants was also accorded to sacred objects such as tamarack root; it was braided into a circle that went around Ruth's neck when she was a baby. The root necklace was made and given to Ruth by Charlie Rat (Tape #5). Ruth said, "*The amulet made from the tamarack root that was placed around my neck with the caribou skin thong was, in Charlie Rat's words, 'that I may live a long and useful life, free from harm'*" (personal conversation, January 28, 2006).

Ruth Welsh did not provide any information about poisonous plants as she felt this should be a separate study. The mushroom is in the same category. Ruth said, "*There are so many and I always say, 'Don't pick mushrooms unless you've gone out with someone or you have studied them and know which ones to pick.' And there are a lot of mushrooms that are identical with very little variation, you know, from the ones that you could pick. The best thing is to go out with someone that knows that uses these certain mushrooms, before you do it yourself. Amen!*" (Tape #11).

4.3.5 A changing landscape

As the research crew travelled throughout the study area, Ruth talked about the changes she saw happening to the landscape, the rivers, the mudflats and sandbars, the erosion, the weather patterns and the new plants she noticed. Ruth noticed the change to the area in front of the Husky River camp where the river used to flow along the bank. She said, "*...the willows that you see growing here...totally obliterates the view of the river...(it)*

was never that way before. That was all over on the other side of the river. Now the main channel is way across there and all the mudflats and willows are over here. It's different" (Tape #2). Ruth also remembered the Husky River itself as being a very fast moving creek. She said, *"I remember...there were areas where there were swift water. Now it's just so slow...whereas before you really had to be careful...the creek is very, very low compared to what it used to be"* (Tape #2). The same changes are noticed on the Peel River. Ruth saw permafrost melting behind riverbank erosion along the Peel River, the Dempster Highway and in the Delta. Ruth believes the slumping on the land are caused by global warming. She added, *"That's the good thing about not being here everyday...I can come back every few years and I can see the marked changes"* (Tape #2).

New plants like thistle, sweet grass (*Hierochloe odorata*), domestic rhubarb (*Rheum* spp.), and domestic delphinium are noted as introduced plants. For example Ruth talked about the invasive nature of the thistle plant growing in the forest areas in the Tree River and Tsiigehtchic area. She noted that this plant has a tendency to over grow in an area very quickly (personal conversation, field research, July 2002). Ruth and I were both pleased to find 'sweet grass' growing along the river banks and both wondered if this plant was native to our area or whether it came from the south with the annual spring flood. The domestic rhubarb and the domestic delphinium are plants that were introduced to the area by early traders and missionaries who moved north.

Today some Gwich'in people continue to maintain a strong tie to the land as they gather, prepare and apply various plants for different ailments and medicinal purposes

throughout the seasons. The medicine plant information and the contextual cultural knowledge provided by Ruth Welsh offer an insight into Gwich'in people's way of life on the land and the special relationship that they continue to have with the land. This wealth of plant and cultural knowledge remains strong in the memories of Gwich'in people who, like Ruth Welsh, continue to go out on the land. Ruth said, *"It's such a treat to go through the forest here again for me to see all these familiar plants still growing in the same areas"* (Tape #4).

Chapter 5

Nan T'aih Nakwits'inahts'ih (The Land Gives Us Strength)

[Mother] always said, 'Gather so that no one will ever know that you were there to gather'"(Tape #5).

This chapter will describe the potential relevancy of the traditional knowledge generated through this research, for current social, cultural and health issues. In this regard the plant information documented here will be a highly significant addition to the Gwich'in database and ethnobotany information collected to date. Additionally, the significance of the Healing Room as a program of the Whitehorse General Hospital as described by Ruth Welsh as being important for holistic healing. These initiatives provide relevance and indicate the importance of land-based healthcare, especially in view of the major changes and challenges that have shifted the Gwich'in traditional way of life in contemporary Canadian society. Ruth Welsh's teachings on the medicine plants and Gwich'in traditional knowledge will have the potential to engender in Gwich'in people a renewed sense of pride in their culture and hence a sense of well being.

5.1 Gwich'in and the modern life

Within a few generations, the traditional lifestyle of the Gwich'in people has shifted from a year round life on the land to more sedentary life in towns and communities. New customs are easily adapted and accepted as ties to the traditional way are weakened for many who have moved into new modernized homes with cupboards and freezers stocked with more processed and fast food items than traditional country foods.

5.1.1 The traditional way of life, modern life and changes in lifestyle, diet, health, and well being

Long ago there were many good people. Today there is a new generation of people growing up. But back then, people knew where they came from, which kind of people they were. I have memories of them and they come back real. I see them, I see them laughing, talking, singing and everything, some of them are dancing on the road. You never see that today. Today if you see somebody dancing on the road they would say that person is crazy or he is drinking. There used to be a lot of happy people in this area, that meant a lot of good times. Sometimes I think about it and I cry. It is sad because we will never see that kind of time or life again. Never! Tony Andre, Gwichya Gwich'in Place Name Project 1992, Tape 3, July 18, 1992.

The historical changes described in Chapter 1 have resulted, among other matters, in the acceptance of a by-and-large unhealthy diet by a majority of the Gwich'in people. In this context, plant and cultural knowledge has the potential to reinvigorate traditionally close links to the land that could result in changes in dietary habits.

Not until well after the establishment of the communities of Fort McPherson (after 1840), Tsiigehtchic (after 1896), Aklavik (after 1911), and Inuvik (after 1959), did the Gwich'in gradually begin to change the traditional way of life on the land. Following the seasons, family groups moved around to areas in the mountains, to inland fish lakes, or to fish camps along the rivers where caribou, migratory birds, fish and other resources could be found. The land provided all that the Gwich'in people needed to survive. People lived a healthy lifestyle and people did not get sick very often. Everyone worked and lived well together at traditional camps spread out across Gwich'in lands. Stories told by Gwich'in Elders such as my grandmother, Julianne Andre, on the COPE tapes (n.d.) talked about life in the late 1800s; Sarah Peters' story on the COPE tapes (n.d.) spoke about life in the

early 1900s; and Ruth Welsh remembered life on the land in the mid-1900s; these stories depict the traditional way of life on the land lived by the Gwich'in people.

In her life story Julienne Andre (COPE tapes, n.d.) talked about moving into the mountains where Gwich'in people dried caribou and sheep meat, like living at a fish camp. My late grandmother recalled,

There was no tea, no flour, no cigarettes, no metal traps, only deadfall traps. We would drink only meat broth and water. There was no illness and no colds among people. We lived at the base of the mountains where the sheep would come down like flocks of geese. The sheep were fat.

Sarah Peters (COPE tapes, n.d.) also remembered that, "*People were always healthy and there was hardly any kind of illness or diseases because of the way they lived in the country.*"

Ruth Welsh (Tape #3) remembered,

When we were out in the bush everyone had to work together. It was survival, you know. Whether it was a family group like ours that were in one place or maybe three, or four, or five different groups, it didn't matter. Everyone worked together. If they got an animal they shared it. What they got, they shared. They shared everything. Consequently everybody got along. And in those days there was no such thing as alcohol in the country, right? Everyone treated each other very well. Husbands, they depended on their wives and the wives depended on their husbands. It was a real good relationship. It was a hard life, no getting away from that as far as work and trying to survive was concerned and trying to raise children. But it wasn't until the alcohol came into the country that all this fighting and squabbling and abusing of a spouse came into play.

As people began to settle into framed houses in the communities so their children could attend school and more people were engaged in wage economy, less people were living

on the land and change began to slowly take hold of the traditional ways. Eventually the change in lifestyle would cause a change in diet that in turn caused a change in health and well being as more southern foods such as store bought and processed foods are consumed instead of traditional foods. A national health report on the Health Canada's website (see Website listed in the Literature Cited section of this thesis) reads as follows:

First Nations people and Inuit face some serious health-related challenges such as high rates of chronic and contagious diseases and shorter life expectancy. For example, 15 per cent of new HIV and AIDS infections occur in Aboriginal people. Compared to the general Canadian population, heart disease is 1.5 times higher; Type 2 diabetes is 3 to 5 times higher among First Nations people and rates are increasing among the Inuit; and tuberculosis infection rates are 8 to 10 times higher.

Along the same vein, 'The NWT Health Status Report 2005' released by the Department of Health and Social Services, Government of the Northwest Territories in December 2005 provides a health status report for the Northwest Territories (NWT). According to the report (The NWT Health Status Report 2005), "About one-half of the territory's population is Aboriginal, and 86% of people living in the smaller communities are Aboriginal." The report says, "What emerges is a picture of a population that has experienced improvements in a number of areas, deterioration in others, but overall little change in most health indicators during the past ten to fifteen years" (ibid). The heart of the report provides this picture,

Evidence suggests that a large number of NWT residents across the NWT are still making unhealthy lifestyle choices. The majority of residents 12 years of age and older do not consume the recommended number of servings of fruits and vegetables per day. Almost half are physically inactive, 41% smoke cigarettes, 21% drink heavily on a regular basis and nearly half do not always wear a seat belt when riding in a car, truck or van. About one quarter of adults between 20 and 64 are obese. And about 40% of individuals between 15 and 49 who had more than one sexual partner the past year did not use a condom (ibid).

The governments of Canada and the Northwest Territories have instituted national and territorial health programs to create health awareness and education for communities to choose a healthy lifestyle as more statistics reveal the unhealthy state of First Nations people. These health campaigns are making community people aware that a traditional diet of caribou, moose, fish, ducks, geese, and berries is a healthy choice and that smoking and second-hand smoke is harmful to human health.

The move from the land into communities also introduced addictive lifestyles for some people. This affects the mental health and well being in general as people try to cope with changing times and living in a wage economy. There is an increased use of illegal and prescription drugs and alcohol, gambling; the induced desire to accumulate consumer items weighs heavily on some of our Gwich'in people. Such items include the (preferably) latest model trucks, boats and motors, all-terrain vehicles and snow machines (skidoos), but also computer games and large-screen television sets. The combined life-style impact of these commodities has largely immobilized people into a sedentary life-style in the communities. Health ailments such as stress, depression, fatigue, negativity and personality conflicts are commonly observed resultants of this life-style. Yet, despite the changes and emergence into a modern lifestyle, some people still travel on the land to their cabins, caribou or fish camps.

These are the people in the Gwich'in communities who pass on the traditional way of life, traditional knowledge and stories to their children, grandchildren and other Gwich'in

people. However, the people pass on their knowledge or who go on the land are few in numbers. There is the ever-present danger that valuable Gwich'in traditional knowledge will be lost forever if the knowledge and skills about the land, culture and language are not taught or passed on. An example from the Cree community observed by Ohmagari and Berkes (1997) reports about the transmission of indigenous knowledge and bush skills among James Bay Cree women in northern Ontario. Their findings show how these skills are learned and the level to which such transmission is lost among the Cree people. Their study show that settled lifestyle in town is not conducive to learning indigenous and bush skills. Factors such as the changing education environment, insufficient time spent in the bush, learning the skills later in life, and the effects of changes in value systems are working against the traditional educational system. Such experiences reported from other land-based indigenous groups must be taken seriously. For the Gwich'in people, it will take awareness of one's identity and culture to gain back the strength that the land has to offer.

5.2 Culturally significant plants of the Gwich'in people

Ruth Welsh is one of the Gwich'in people who carries on this land-based traditional way of life and knows about the use of plants as medicine by Gwich'in people. Ruth (Tape #9) spoke about one of the culturally significant plants of the Gwich'in people.

Tamarack...of all the trees the (Gwich'in) like the tamarack the best because it's very potent. The medicines that (are made) from the tamarack is very special to them. And again you use the bark, the boughs, or the roots for making your teas...our people just love the medicines that are made from the tamarack. It was very special to them.

The extensive traditional plant knowledge of the Gwich'in people provided by Ruth Welsh demonstrates that different plants are used for food, medicine, and other purposes. Although there are different levels of traditional plant knowledge among the Gwich'in people, there is a commonly held basic knowledge about the use of some plants for nutrition and for medicinal purposes. It is evident that the different plant species are still culturally important to the Gwich'in people today as traditional plant knowledge continues to be practiced today by some Gwich'in people in the communities.

The following description is a summary of the medicine plants that are used by the Gwich'in people. A total of 96 plants were identified by Ruth Welsh at the Husky River (HR), Tree River (TR), Rock River (RR), Eight Mile (EM), and Tsiigehtchic (Tsii) camp sites and of this total 34 plants are used as medicine plants (see Table 7 below). The categorization of plants used in the last chapter is used again here that include: (1) trees and shrubs, (2) flowering plants, (3) grasses and grass-like plants, (4) ferns and fern-allies, (5) mosses and lichens (6) fungi, and (7) aquatic plants.

Plant species	Plants identified	Medicine plants
Trees and shrubs	27	18
Flowering plants	50	18
Grasses and grass-like plants	9	
Ferns and fern-allies	1	1
Mosses and lichens	5	
Fungi	5	1
Aquatic plants	4	2

Table 7: Plants and medicine plants identified at the traditional camps

The use of plants for medicine or food continues to be important today as it was when Gwich'in people lived on the land year round. The plants are gathered and prepared as medicine to treat various sickness and ailments as they are needed. Most Gwich'in people used to live miles and miles away from the nearest medical doctor, so they took great care with their work or when they travelled on the land so as not to cause injury to themselves or others. Any serious injury or serious ailment like the flu or a cold with a high fever is treated with a salve made from spruce gum, or a strong tea medicine made from branches from the tamarack tree or juniper shrub.

5.3 A land-based medicine cabinet

It is now possible to examine the cultural and medicinal significance of medicine plants for the Gwich'in people's land-based healthcare, and the relevance of the traditional learnings' and teachings' continued existence. Today the Gwich'in people in the communities know who can prepare traditional or bush medicines and they go to them for medicine to treat their cold or other ailments. Gwich'in people usually do not 'pay' medicine makers with tobacco or another form of payment. A request to the medicine makers for plant medicine is never refused. After the plants have been prepared as a medicine the left-over plant parts are dried and then disposed of back on the land. Most of the plants that are used by Gwich'in people as medicine plants have Gwich'in names. As stated earlier and shown in Table 2, all the 18 medicine plants listed under the trees and shrubs category have Gwich'in names and Table 3 shows that half of the plants listed in the flowering plants category are named in Gwich'in.

Almost all of the 27 trees and shrubs that Ruth Welsh identified at the traditional camps are used as medicine plants. All the medicine plants except for the dogwood (*Cornus stolonifera*) plant have Gwich'in names. Ts'eevii (GG) / ts'ivvii (TG) (white spruce, *Picea glauca*), wild rose (*Rosa acicularis*) and k'aii' (GG) / k'aii' (TG) (willow, *Salix* spp.) medicine plants are found at all the locations.

Traditional camps	Trees and shrubs	Medicine plants
Husky River	16	15
Tree River	24	21
Rock River	12	11
Eight Mile	8	8
Tsiigehtchic	24	21

Table 8: Trees and shrubs identified as medicine plants at traditional camps

Ts'eevii (GG) / ts'ivvii (TG) (spruce, *Picea mariana* and *p. glauca*) and ts'iteenjùh (GG) / tsuheenjoh (TG) (tamarack, *Larix laricina*) are the trees most often used as medicine plants to treat a range of ailments. While some plants are available and used for medicines only during the summer months, all parts of the spruce tree are available and can be used any time of the year. The spruce tree is the most versatile plant and it flourishes throughout Gwich'in lands. All parts of the spruce tree are used from the cones found at the top of the tree, to single spruce needles⁴, to the roots buried under the ground. The Gwich'in people use the cones, the boughs, the branch tips, the gum, and the white pulp that lines the inner bark as a medicine for the common cold (Andre and Fehr 2002). The spruce cones and spruce gum are still the most common medicine used

⁴ In a personal conversation with my grandmother, Julienne Andre, in the 1970s she told me how she used to insert a single spruce needle through each of her pierced ears to keep the holes open.

today. Spruce gum is collected and spread on a clean canvas cloth and applied directly on the skin for internal ailments (Andre and Fehr 2002). Today, some Gwich'in people firmly believe that the aromatic scent of spruce boughs that is laid down as flooring in people's tents promotes good health.

The use of certain plant parts to treat accidents can be remembered long after the event occurred. For example, the late Nap Norbert of Tsiigehtchic said his step-father, Louis Cardinal, used the white pulp from the inner bark of a spruce on his sister Rose (Clark) when she cut her finger with an axe. He said, today, there is no scar where the cut used to be (Andre 1995).

Trees like ts'nteenjùh (GG) / tsuheenjoh (TG) (tamarack, *Larix laricina*) still rank high as a medicine plant among older Gwich'in people. A medicine or tea drink made from cut up pieces of branches is used for serious ailments like the flu or a serious cold. An offering must be left when collecting any part of this tree. Caroline Andre of Tsiigehtchic said, "*This is real good medicine. They say you have to pay for it, leave sugar or tea behind*" (Andre and Fehr 2002).

Shrubs like deetrèe jàk (GG) / ts'ivvii ch'ok (TG) (juniper, *Juniperus communis*), Lidi masgit (labrador tea, *Ledum palustre*), and k'aii' (GG) / k'àii' (TG) (willow, *Salix* spp) are used for medicines for a variety of ailments.

The juniper plant (deetrèe jàk (GG) / ts'ivvıı ch'ok), like the tamarack tree, is used only for a serious ailment such as a bad cold. An offering is left when collecting the stems, branches and berries of this plant. The late Joan Nazon of Tsiigehtchic said, "*You have to leave an offering of tobacco, matches or tea in its place in all four directions*" (Andre and Kritsch 1992). The plant is used to make a tea for colds or an upset stomach. Ruth Welsh cautioned that people with kidney ailments must not drink tea made from this medicine plant.

The Lıdıı masgıt (labrador tea, *Ledum palustre*) plant is used as an enjoyable tea. My grandmother, Julienne Andre, brewed the pieces of the plant in a pot and drank it as a tea. Other Gwich'in people added a regular teabag like Red Rose tea into the liquid after the plant was brewed. Some people will pick the stem, leaves and tops of this plant during the summer. Others are 'picky' or particular about what parts of the plants they pick. For example, some will twist the top flower parts off and only use that part, while others will pick the flowers and leaves only, and others will pick the whole plant. My own mother, Eliza Andre, told me once when I was picking lıdıı masgıt (labrador tea, *Ledum palustre*) during a family berry picking trip, "*Pick only enough to use now. Save some for next year. You will want some then too*" (Personal conversation in August 1976).

The willow (*Salix* spp.) or k'aıı' (GG) / k'àıı' (TG) is used as food and medicine. For example, in the early spring, young children would love to lick the juicy sap from peeled back willow branches. At our fish camp we learned from my auntie, Marka Bullock, that

willow leaves are used as a poultice for wasp or bee stings. Any nearby willow leaves are plucked quickly and chewed into a poultice and applied to the sting area.

In the flowering plants category, Ruth Welsh identified 50 species of plants. Fewer flowering plants identified by Ruth Welsh are used as medicine plants. That is less than half of the total numbers of plants found at each location are medicine plants. The medicine plants with Gwich'in names are arnica (at'an tsoo), bear root (treh (GG) or trih (TG)), northern ground cone (du'11 nahshèe (GG) or doo'11 nahshìh (TG)), wild rhubarb (ts'11 gyùu (GG) or ts'11 gyùu' (TG)), wormwood (gyùu tsanh (TG)), and yarrow (at'àn dagà11 (GG) or at'àn dagà11 (TG)). The bear root (*Hedysarum alpinum*), tall fireweed (*Epilobium angustifolium*), plantain (*Plantago major*), and wormwood (*Artemisia tilesii*) medicine plants are found at all the locations.

Traditional camps	Flowering plants	Medicine plants
Husky River	23	11
Tree River	38	15
Rock River	23	9
Eight Mile	15	10
Tsiigehtchic	42	17

Table 9: Flowering plants identified as medicine plants at traditional camps

In the grasses and grass-like category, Ruth also identified about nine species of grasses; however, none are used as medicine plants. A variety of grasses and grass-like plants are found at all the locations. The Gwich'in name for grass is t'oo.

In the ferns and fern-allies plants category, only one plant species was identified as a medicine plant. Kheh dye (GG) or kheh di' (TG) (horsetail, *Equisetum arvense*) medicine plant is found at all the locations.

Ferns and fern-allies at traditional camps	HR	TR	RR	EM	Tsii
Horsetail	x	x	x	x	x

Table 10: Ferns and fern-allies identified as medicine plants at traditional camps

In the mosses and lichens category, a variety of five species of plants are found in the traditional camp areas except at the Eight Mile camp. None of these plants, however, are used as medicine plants.

Mosses and lichens at traditional camps	HR	TR	RR	EM	Tsii
Caribou moss		x	x		x
Fairy cup		x			x
Old man's beard			x		
Sphagnum moss	x	x	x		x
Witches' broom					x

Table 11: Mosses and lichens identified at traditional camps

In the fungi category, a variety of five species of plants are found in the traditional camp areas except at the Eight Mile camp. Only the puffballs (*Lycoperdon perlatum*) fungus is used as a medicine plant. There is no Gwich'in name for this plant.

Fungi at traditional camps	HR	TR	RR	EM	Tsii
Fungus, Birch	x	x			x
Fungus, Willow	x				
Puffballs		x			x
Morel mushrooms	x				
Mushrooms			x		x

Table 12: Fungi identified as medicine plants at traditional camps

Last of all in the aquatic plants category, a variety of four species of plants are found at the Husky River, Tree River and in the Tsiigehtchic area and none are found at the Rock River or Eight Mile camps. The bladderwort (*Utricularia vulgaris*) and water lily (*Nuphar variegatum*) plants are used as medicine plants. There are no Gwich'in names for these plants.

Aquatic plants at traditional camps	HR	TR	RR	EM	Tsii
Bladderwort		x			x
Marsh marigold	x				
Water-hemlock		x			x
Water lily		x			x

Table 13: Aquatic plants identified as medicine plants at traditional camps

5.4 The relevance and importance of land-based local healthcare

This section will show that the land-based local healthcare described by Ruth Welsh above is relevant and important to the Gwich'in people and other aboriginal groups. Ruth teaches about medicine plants by integrating the whole of the Gwich'in culture and language into the medicinal uses and applications of the plants. The traditional teaching used by Ruth's mother and the generations before her is an important tool to inform about traditional plant knowledge and cultural teachings. Through this research it can now be

documented for future generations of Gwich'in people. The teaching of Gwich'in medicine plants does not constitute a discrete subject, since the teachings include relevant and important information about resource management and cultural practices and the traditional way of life that make up the totality of Gwich'in culture. It is a complete and holistic understanding of cultural knowledge.

Part of Ruth Welsh's teachings about medicine plants addressed preventative health care through proper diet as a means to stay well and healthy. Ruth said, "*Many people really abuse their bodies in many ways by the things that they...drink or eat which is really not good for them in the first place. And that is what causes the problems...our belief always was that...it's prevention rather than trying to cure because you want to jump on (an ailment) when it first starts...and then get that and just prevent (ailments) from getting worse*" (Tape #1). Ruth stressed that in the Gwich'in tradition of being healthy it was not only the plants that were taken but people looked after their diet as well. Preventive health is maintained through proper diet, "*And then most times you have to change your fluid intake and your food too. When we work with (medicine plants) it's not only plants and the medicines that we make from plants, a lot of times you have to change what you're drinking and what you're eating. Change your diet...your lifestyle really has to change...you know, in order to get the full benefits and to stay well after that*" (Tape #1). Throughout her teachings about medicine plants, Ruth stressed the importance of proper diet as a preventive strategy.

The land-based local healthcare such as examined in this study is indeed relevant and important. For example, Ruth Welsh was involved in a project that incorporated a traditional medicine and nutrition program for patients at the new regional hospital in Whitehorse, Yukon. Such projects indicate the continued relevance of, and necessity for, ethnobotanical research and the dissemination of results through organizations such as the Gwich'in Social and Cultural Institute. The project at the Whitehorse General Hospital has shown that the application of plant medicine teachings will help maintain healing practices, good health and well being.

5.4.1 The Healing Room of the Whitehorse General Hospital

Convinced of the relevance of plant medicine teachings, Ruth Welsh and other Yukon people made sure that a traditional healing room was incorporated into the design of the Whitehorse General Hospital. The fact that Aboriginal peoples are represented on the hospital board made this work much easier, "*The hospital board is comprised of not only the white community but a good number of native people are always on the board. It's a good mix*" (Tape #4).

The traditional healing center, as described in Appendix VII, is in place now and offers traditional medicine to all patients at the Whitehorse General Hospital. There is a group of people that the hospital can call on to prepare the medicines, such as Ruth Welsh. They then make the medicines and, when they can, they bring them to the hospital. Additional people who live closer to the hospital are now being trained to make the

medicine, therefore those people living outside of Whitehorse do not have to come to town with their medicines as often. Ruth (Tape #4) added,

They have a supply of traditional medicines on hand like the dried plants. And also what I like to say is the healing room is not only for patients but people who work at the hospital and the general public that feel the need to go to a place where it is absolutely peaceful and quiet, and sort of gather their thoughts. Especially if they're having problems, they tend to come there and use the healing room. It is also available to people who want to perform their ceremonies, you know, their healing ceremonies and people who are ready to pass on, (and) if the family wants to and this goes for the general public...to take them there to the healing room for the peace and quiet and the closeness of the family.... They only have to ask and the doors are open to them and they can be there with their loved ones when they do pass over.

The Whitehorse General Hospital also has boarding facilities where family members can stay overnight, and remain in close contact with the patient. Ruth (Tape #4) added,

We have a facility...like a little apartment. It (is) very spacious, you can't get claustrophobic in there. There are a couple of bedrooms... Lupine Lodge is the one that's opened to the general public whereas the one that's offered down at the traditional medicine program...is mostly for natives. It could be used for non-natives too but we thought because the natives have a hard time getting a place most times, you know, we thought it would be good to provide the rooms for them. It's set up like a typical apartment. They have cooking facilities. Everything furnished, you know, except food. You never know what people want for foods so that's left up to them. They have to get their own food. There's a fridge...with a freezer on top. I think they also have, if I remember correctly, a small freezer. But then, that's usually used mostly for the medicines. Yeah it's set up like a regular well-furnished apartment. Many times there's someone in the family that's in the hospital and is there for a long time especially toward the end of their days and the family come from out of town. Those kind of people stay at that place. Lupine Lodge is one floor up and it too is a furnished apartment: bedrooms and kitchen facilities, living room, dining room, everything furnished there, except again, food.

The working group made sure that these facilities were put in place when the healing room was designed so there was family support for the patients. Ruth said, "*We presented it as a whole package,*" a package that includes the medicines as part of the healing, and also the traditional diet and the accommodation for family members and a quiet room to burn sweet grass or other medicines to take care of the spiritual aspect.

Ruth said (Tape #4),

We did the whole thing. And we also in the presentation said that we wanted the healing room to be available to new mothers so they could bond with their babies, you know. It's the whole thing. There was a lot of meetings among us to discuss everything. We wanted to cover the whole spectrum of life, you know. So we did.

A lot of meetings were held to present these ideas to the hospital board and Ruth (Tape #4) added, "*...and then to the architects. They had to be involved in this. It wasn't just a piece of cake (laughs), you know. You had to work at it. That's so with anything that you want to bring to fore, whether it's a meeting or gathering. There lots of organization and discussions that go on to get it right*" (Tape #4). These initial discussions took place before the new hospital was built so that the working group was involved right at the beginning. Ruth said, "*We thought we'd better jump on it while the baby was not even born yet, you know.*"

So for it to be successful, the working group sought the support of the fourteen bands in the Yukon. Ruth (Tape #4) said,

Otherwise it would have been like one person trying to build a castle, you know. There'd be many doubts and questions as to the success of this thing coming into play. It took a little bit of convincing with some bands because of the new chiefs and councils, you know. Councillors are fairly young in some cases and really don't know that much about the traditional health aspect of life. So we had...to explain a lot of things as to why we should have it, who should have it. The elders were the ones that all first came on side, they knew that's what they wanted. Once you get their support of course they have a lot of influence in their community. Then it just went up the ladder. It was really great.

So the patients not only have available to them, if they wish, traditional medicines but also traditional foods prepared in the traditional way. Ruth added, *"We also have a program at the hospital which will train dieticians, you know, to learn how to cook the traditional foods and put out healthy meals. And as full fledged dieticians, they can go to work anywhere they want"* (Tape #4). And so the food is prepared right at the hospital kitchen. Ruth said, *"Most of them were young women that were taking this dietician program and some come from as far away as Saskatchewan. So it's a recognized program"* Tape #4).

How then could such a healing room be integrated into other hospital facilities, for example the Inuvik Regional Hospital? Ruth suggested that it is important to receive the support of general assemblies like the Gwich'in Tribal Council. She (Tape #4) said,

...go to them and ask who would like to be on the working committee to form this group who will come up with ideas, go back to their communities, and discuss among their people, their Chiefs. Their Chiefs are usually at these general assemblies. Talk to the people in their communities. Talk to the elders and see what they want. Then this working group would get together four, five and even if it's six times a year, that's good. You have to get together. Everyone gets together and presents these ideas that come from the community. And then you just put

it all in the pot and take the cream off the top. That's going to benefit everyone instead of maybe one individual from that community as opposed to the whole community. And get all your ideas down on paper. You have to go over and over it quite a few times in order to get down to the bones, you know. And present that. Go back to your Chiefs at the next assembly maybe, and say, 'this is what we came up with.' And it is to be a no nonsense thing. It has to cover everyone. No favoritism whatsoever, you know. Once you have that down and you have an idea in your head what you want, you approach the hospital board. You can go to the government. Everybody that has any power whatsoever. Present this thing to them and just keep plugging away.

Since the Inuvik Regional Hospital also provides services to other groups, they must be involved because they too have their traditional ways, traditional medicine and diet. Ruth added, "*And I'm sure they would be more than glad to support a program such as that*" (Tape #4).

As a result of their efforts and perseverance, the First Nations Health Program at the Whitehorse General Hospital offers a traditional medicine and nutrition program, a self-contained apartment unit for aboriginal and non-aboriginal hospital patients and the general public to stay, and a quiet space to carry out traditional ceremonies.

5.4.2 Gwich'in database at the Gwich'in Social and Cultural Institute

In my apprenticeship with Ruth Welsh, she has taught me more than simply how to collect, prepare and apply the different medicine plants that are used by our Gwich'in people. In working with her, I was able to learn about medicine plants and to document her plant and cultural knowledge as she used the traditional Gwich'in teaching style to teach me about medicine plants. The ethnobotanical knowledge and its place in the traditional way of life on the land were documented on cassette tapes, video tapes and in

photographs. As I was to learn, knowledge and use of medicine plants can serve to open the door to the traditional way of life; the traditional plant knowledge is only a part of that teaching. The information collected for this study shows that everything about the Gwich'in culture and landscape is connected. The medicine plant teachings are part of learning about modern diet, cultural harvesting practices, family relations, where plants grow, the plants that animals and birds eat, landscape and climate changes, stories about grizzly bear and moose hunting, to methods of preserving and drying plants. The Gwich'in language is the 'glue' that binds the component of these stories together, connecting landscape and the culture, land-based knowledge and the traditional way of life. The traditional knowledge collected is presented in two languages, English and Gwich'in by my father, Hyacinthe Andre, and Ruth Welsh. The stories and traditional knowledge spoken in the Gwich'in language now provide an archival record on how the language is structured and spoken. The Gwich'in language recordings can be a means by which to learn the language.

As future generations of Gwich'in people begin to understand their roots and want to learn more about their heritage, a collection of traditional plant knowledge⁵ will be available to them. The documentation of land-based local healthcare used by Gwich'in people when they lived on the land at their seasonal camps will be of great value to them. The recordings explain the relationship between Gwich'in culture and the land, since all

⁵ Upon completion of my Master's thesis program, the research materials from our project will be deposited with the Gwich'in Social and Cultural Institute. Included in the package will be the transcripts for the interviews that were carried out with Ruth Welsh and Hyacinthe Andre, a master tape list, and the place names and plant names list that were recorded. Copies of the cassette tapes, video tapes, and transcripts will also be on deposit with the Gwich'in Social and Cultural Institute Head Office in Tsiigehtchic, Northwest Territories and with the NWT Archives in Yellowknife, Northwest Territories.

Gwich'in history is written on, and into, the land. Places and sites on the land are an integral part of Gwich'in identity. It is this holistic understanding of the traditional culture that can then emerge from a study of Gwich'in traditional ethnobotany.

Chapter 6

Documenting Gwich'in Plant Knowledge for Future Generations

*"Pick only enough lidı masgit (labrador tea, *Ledum palustre*) to use now, save some for next year. You will want some then too"*

Eliza Andre, my mother, August 1976, Tree River.

Today as Gwich'in people walk through the bush and harvest various resources such as medicine plants during the different seasons, the words of our Gwich'in mothers and ancestors are with us. Similar words have been passed down between family members over the generations amidst the multiple changes which the Gwich'in people have encountered over the last two centuries. It has been such careful harvesting practices and the continued teachings that have kept the resources sustainable for the next generation and the cultural knowledge alive for generations to pass on. The careful harvesting practices are one set of knowledge that has been included in the teaching of traditional plant knowledge.

The ethnobotanical research that was carried out in the Gwich'in Settlement Area in the summer of 2002 with Ruth Welsh thus provided an opportunity to watch and learn about medicine plants and other plants. From the traditional plant knowledge and the method of teaching that Ruth learned from her mother at their Husky River camp on the Peel River, the Gwich'in researcher and research assistants set out to explore and document how the Gwich'in used plants for medicine at the various traditional camps. Culture-specific and conventional research methods were used to carry out the research. The main objective of the research, to document knowledge about medicine plants, their uses

and applications for various ailments was achieved. However, much more information was also provided by Ruth Welsh about Gwich'in food plants, plant materials, and the traditional Gwich'in diet that includes plants, animals and birds. The documented plant information will be added to the Gwich'in ethnobotany information collected to date and currently housed at the GSCI office.

Ruth Welsh's involvement, as a renowned authority on Gwich'in plant knowledge and use, provides a new perspective on existing knowledge that can be passed on to future generations. Ruth's traditional and cultural knowledge can now complement existing research work about the Gwich'in culture.

6.1 Future use of this documentation

This research material and cultural information is for future Gwich'in generations who will be able to collect cultural and plant information for their own cultural purposes.

These generations of Gwich'in people will benefit from Ruth Welsh's plant knowledge and cultural teachings. Several documentary sources produced through this project will be available to them.

Recorded are the Gwich'in language, cultural practices, traditional plant knowledge and ways of teachings that could be included into "The Gwich'in traditional way of life" and "Gwich'in Medicine Plants" sections of the school curriculum for the Mackenzie Delta schools. In the future, the Gwich'in Social and Cultural Institute proposes to develop a

detailed Gwich'in Cultural Atlas in two volumes. Kritsch and Andre (1997) describe the Gwich'in Cultural Atlas as follows,

Volume I will be map-based and include information on traditional trails, place names, harvesting location data, traditional camp sites, graves, and known archaeological sites. Volume II will be textual and include chapters on such subjects as Gwich'in Cosmology, Language, Stories, Social Organization, Subsistence, Technology, Medicine, Clothing, Dances, Songs, Games, and a History of the Gwich'in from pre-contact to the present... This two volume atlas will be accompanied by a computerized multi-media display on CD-ROM, which we refer to as a "talking map," that will be used in the local schools and for museum and tourism purposes. A copy may also be made available on the Internet.

The data collected from the ethnobotanical research will be incorporated into such a Gwich'in Cultural Atlas. The medicinal use of plants has been documented not only for future generations of Gwich'in people but for individuals who are interested in Gwich'in ethnobotany. The conventional research method that was used has been described for those who want to conduct similar ethnobotanical research.

6.2 Future research

Ruth Welsh's knowledge can serve as the foundation base for future research on Gwich'in food plants, Gwich'in plant materials, traditional diet, associated place names and stories to be documented in the Gwich'in language. At the beginning of her teachings about Gwich'in medicine plants Ruth Welsh said, *"For each plant there are many, many different applications that you could use it for. But over time, like I said, you will learn all the other things that you could use these plants for. But to begin with, we will want to give a real good solid basic information"* (Tape #3). In future research, 'all the other

things' that the plants can be used for, will be well worth documenting. The first step has been taken.

For me, it's so satisfying to see that these plants are doing so well. They are so healthy. They have not been destroyed in any way. It does my heart a lot of good to see where people have lived, in these areas for, in some cases...hundreds of years. Like Husky River, that goes back from my mother to her parents and their parents - it's on-going. And it's still being used and yet there's no destruction. All you have to do is step back in the bush, off the trails and everything is so healthy, so healthy and clean. I just pray it'll always be that way (Tape #9).

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LEGISLATION

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APPENDICES

Appendix I Spruce gum story

Dzèh gwɪndak

Hyacinthe Andre vi'gwɪndak

Dɪnju ihlee dzèh hàh vɪndee nɪ'taɪsɔj'.

Dzeh ɛɪ ah agoondàh teelaa ɛɛjuurah

"zhit tr'ɪjɪghàh nagwiltse", jùu gwɪnuh.

yaach'uan gwɪts'at, "Shɪ! shɪ'ɛɪ! shɪ'ɛɪ!"

ahgwɪnuh chan geh eh dzèh eet'ɪnuh.

dzèh ɛɪ ah, "shɪ shɪ'ah agòondàh nɪzɪ ihfih."

t'agòonch'ùh jɪrzanùh jɪ dɪndee chan gwɪt nɪjɪn gwɪlts'ɪk t'atr'ɪlɪk dɪtr'ah'ɪ

adaɔ khè' jùu dɪdɪ'ɪhɪ' duuyeh gwɪzɪ gwɪahtsɪ t'adɪ'ɪh duuyeh gwɪzɪ gwɪltsɪ

yeenùh ɛɪ eenjɪt shɔ' gwɪnel'ɪ yeenùh

ts'at ɛjɪn dɔhthee gwɪts'at guukak ɪltshuu, guukak ɪltshuu, guukak ɪltshuu gwɪzɪ

gwɪltsaa eenjɪt akoo dɪlteediyaa eenjɪt dɪnch'ùh jɪrzanùh.

Juu gwɪnuu guuzraɪh gahshɪndàh.

Spruce gum story - by Hyacinthe Andre

One man fixed his eye with spruce gum

Spruce gum was going to be a medicine.

This person was saying, "I wish there was a way to heal this."

From over there, someone was saying, "Me! Me! Me!"

After a while, it was spruce gum, from over there.

Spruce gum was saying, "Me. Me. I am a good medicine, you know."

When it is placed on an eye or anywhere on the body that is sore.

When it is put there, when it does this (falls off) on its own, it won't heal good.

It says, "There is no way I will heal it properly.

That is because I can't see inside very good.

However, if I am left on and left on for a long time, I will be able to heal it good."

That is all I know they said about it.

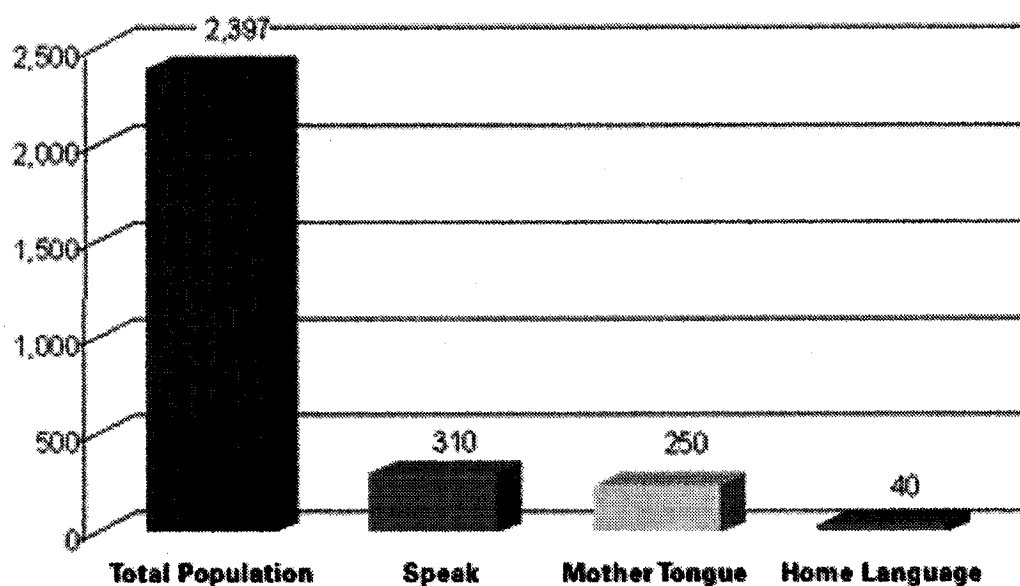
- Hyacinthe Andre, Video-tape #1, July 2002

Appendix II Story about Daꞑ dhakhꞑ (Bluefly Killer)

That guy's name is Daꞑ dhakhꞑ. He wanted to go that place where he dreamed about, huh. But then he wanted to take one person so he went to the foot of that hill and he told that guy to sit away from the hill, turn that way, and the hill is behind, and he, he told him, "Don't look at me." And he got half, just about to that door and the guy must have looked so he slide down right away. He just scream at him, "Don't look!" So he kept on going. He come to that door, he opened that door and he went in, there was a cow, was tied up there. It's what they call, them days they call it Dachan gwaa'aak'ꞑ. Aak'ꞑ they call it, must be buffalo I guess, or, couldn't be musk-ox, so he went and passed that and then t here was a person standing there too, after he pass that cow, huh, and then he ask him what he wanted. He said, "I come to see somebody, come visit one guy," so let him go by and he went in and them people they tell him to...after you leave here, you're going to go out the other door, and he doesn't want to. But they give him some things, huh. Like he, he got a plate and he got something else too, I forgot what it was told, but anyway, he spent quite a time with them too. He said he looked all over, all their rooms and they had lots to eat too. I don't know where, they had everything and if you get out by this other door they said, "This land is going to be like this all the time, but if you go back the other door, someday this land will change." They didn't tell him change in...by what, but they just told him it's going to change. But him, he don't want to go back, go out by the other door. He wouldn't know where he come out. So he wanted to go back the same, same way he come in. That's where he...he should have gone out the other door, huh! [laughter] Because, me I always think of that, why he should have. He know the country and he, I don't think he would got lost. If he get out a hundred miles away from that same door, that might be different but, it's only, maybe 20 miles, something like that. Should have gone out... Yeah, and uh, that's when, uh, they told him to get out the other door and he didn't know what to do himself so, don't know which way to go out, then he went out the same door, and he took those stuff, just to prove that he seen somebody. That's when he came out with the same door and he went back to his partner and they went home. And he's...that's why it's story about him is Daꞑ dhakhꞑ. That's what they mean, they said. "Fly killer went down to"...just like he went to town to get supplies, it pronounce that way anyway in Loucheux, huh. That's where he came back out, the same way and he went home. He should have told the story about where they were living that time. Maybe they left that stuff there. [laughter] And that's the end of it, I guess. Hyacinthe Andre and Gabe Andre, Campbell Lake Oral History (Kritsch 1994).

Appendix III State of the Gwich'in language

The Dinjii Zhu' Ginjik (Gwich'in language) is one of the most endangered Aboriginal languages in Canada. It is the most endangered Athapaskan (Dene) language in the NWT. Due to the encroachment of English into all aspects of daily life, only a small number of our elders and a few determined individuals continue to use the language on a regular basis. It is very rare to hear our children speak their language. Statistics provided in 1998 by the Government of the Northwest Territories bear witness to the seriousness of the situation. Of the 2,397 Gwich'in beneficiaries in the NWT, only 40 people (2%) spoke the language in their home and only 312 (13%) reported they could speak the language.



Efforts to record and revitalize the language are a vital part of the work at the GSCI although we recognize that we have a challenging task ahead of us. All GSCI research projects have a language component whether they are recording Gwich'in place names and oral history, traditional plant use, life stories or the replication of traditional material culture. The products of this research plus language dictionaries, immersion camps and language mentoring are ways in which we are working to revitalize the Gwich'in language.

GSCI is also developing a K-12 second language curriculum in partnership with the Inuvialuit Cultural Resource Centre and the Beaufort-Delta Education Council. On the political front, we recently contributed to the Review of the Official Languages Act in the Northwest Territories.

'State of the Language' (<http://www.gwichin.ca/Language/language.html>)

Appendix IV Mrs. Ruth Welsh: Tr'ıııjðo dulee nıııı (a smart capable woman)

Ruth was born on September 29, 1931 to Elizabeth and Arthur Blake at Husky River. This was their family's year round camp. Most of her siblings were born at Husky River except for her brother, Herbert, who was born at Shingle Point. Ruth said, "*...my mother had a midwife for only one or two of the children, the rest she delivered herself. I guess she was lucky to have very easy births.*"

Ruth's grandparents, her mother's mother and father, were Bella (Campbell) and Peter Ross. Ruth did not get to know her grandparents because they died before she was born; her grandmother, Bella, died two years before her birth and her grandfather, Peter, died one year before her birth.

Ruth said about her father, "*Because my father came from Europe, Briton and in that area, we never knew his parents. We only corresponded and so did he, so maybe his parents were gone by the time he came over. There was only correspondent between him and a brother named Jack. And he was still alive when my father died and it was not too long after that that we sort of lost contact with each other.*"

Ruth said, "*When my father was going to marry my mom, in those days, it was against...the rules of the Royal Northwest Mounted Police...you couldn't marry until you had served at least...six years. And if you went beyond that and then you could only marry a white lady. And if you were going to marry a native person, you had to buy your way out. Which he did.*"

Ruth's father died when she was a little over four years old. Ruth said, "*So mother brought us up. (pause) We lived (at Husky River) year round. Hunted and trapped in the winter time. Muskrat trapping in the spring. Fishing in the summer. Every year, all families did that and we all survived. It was hard work. Nobody had outboard motors to begin with years ago...no skidoos. Just dog teams. You had to look after your dog team, summer and winter. It was a lot of work but we also had a lot of fun because families were very close. It's not like now, nothing like now.*" All of Ruth's brothers lived at Husky River even after they got married and had their families. Their family was a close knit family. Ruth adds, "*I think most families were that way back in those days. We did everything together and hunted and trapped together. Our children all grew up together.*" Ruth said they would have a cook out, go berry picking, or go camping together. The Blake family lived at Husky River.

Life on the land at Husky River was a busy life so their travels to Fort McPherson were usually short trips. Ruth's family went to Fort McPherson at Christmas for about a week. She said, "*The only time we saw town or our chance to go to town was at Christmas. We'd be there a day or two before Christmas and stay there till couple of days after New Year's and come back home*". At Easter, they were in town for about a week and then they would return to their camp to go muskrat trapping. At the end of June after the ridding season was over, they would stay in town for a couple of week. Ruth said,

"Ratting season was not over till almost the end of June so for the first week or two when the bugs were so bad we'd be in town. Then we'd come out here and keep the grass cut. And the bugs didn't bother you too long". By this time it was time to cut fish and make dry fish. Ruth continues, *"I remember we made, all families did, bales and bales of dry fish and they were huge bales of dry fish...because not only did you have to put up fish for yourself but for the dogs too to go for the best part of the winter"*.

Ruth grew up at Husky River until she went to Aklavik to attend school for a while. That was the only school to attend in the area if a person wanted an education. Later a small school was built in Fort McPherson in the 1950s which Ruth and other children attended. Ruth then went down south to go further with her education. Ruth said that she left this area and Fort McPherson for good in 1951 because she wanted to go through training and get a job. She had a job right after she finished school. She said, *"I got one day off between school and my job. First I would baby sit and do housework at the same time. I would do that for a while then."*

Ruth said she was very young when she went to the hospital in Aklavik where she watched as everybody worked. Ruth thought, "

That's what I want to do.' And I talked to the supervisor there, Miss Hawkins, and I said, 'Do you think I could get a job here?'

She said, 'How old are you?'

And I told her. She said, 'Oh my!'

And she said, 'Are you serious?' I said, 'Yes, I'm serious.'

So she talked to my mom. And mom said, 'Yes, if that's what she wants.'

So I started...about a week I was sweeping floors and doing the floors...then she sort of took me under her wing. And I would follow her around the wards...she showed me how to shake down the thermometers. At that time you had to do that. Wash them and sterilize them, shake them down. Did that...then I started taking temperatures with her. She'd give me so many patients and I would do them. It just went from there. I knew then that that was what I wanted to do."

In those days, when the Indian Agents and the Anglican Ministers and their wives came to the area, most times it was one of their wives who would give the people the aspirin or the liniment or other medication that they needed. Ruth said, *"And we were forbidden to use our traditional medicines that had been used for so many years. We were told it was taboo. We were told it was no good. We were told it didn't work and, you know, throw it away and don't take it. But we didn't do that. It just went under cover. Everybody used it. All these years it was used without anybody knowing about it."* Ruth believes that that was why the use of traditional medicine survived. She continues, *"It's really come back now, which is good. Because I see the day when, seeing how the medical system is working now, and it's not going to be long and we're going to have to depend on (traditional medicine) again."*

Ruth recalls a story about a Minister's wife who dispensed cod liver oil. Ruth said they would get a lot of loche or Ling cod in the fall. Her mother would cook up the liver and

save all the oil from the livers in glass jars and keep them in their ice house. Ruth said, *"And we'd use one jar at a time and it was sweet. It was always fresh. It tasted good. We didn't mind taking our tablespoon of cod liver oil in the morning. It was homemade."* Ruth remembers that the Minister's wife wanted to have a meeting with everybody around Christmas in Fort McPherson. She said,

Everyone showed up in those days. Everyone was so obedient, you know. (laughs) If the game department or the Minister said, 'Come to the meeting.' Everyone went. And I could still remember (the Minister's wife) standing up there, she was tall and slim, her saying that she had these cans. One- gallon cans of cod liver oil all lined up there and then boxes of it. And she was telling us about the wonders of this cod liver oil. And she said that she understood that we were taking, most of the native people were taking their own oil made from the livers of fish. She just said 'fish'. She didn't specify. And she looked at the parents and she said, 'I want all of you to destroy the oils that you have because it's no good. It doesn't do anything for anyone.'

Ruth said that no one threw out their loche liver oil as things were hard to come by so if the people could not use the oil themselves, they would feed it to their dogs. They would mix it into their dog food. Ruth continued her story about the Minister's wife, *"And so, she gave everybody this gallon of cod liver oil and the next morning when we always took our cod liver oil, I remember mom opened the can. And you could smell that thing. It's a wonder it didn't kill us. It was so, so rancid. It was just...it was horrible. You know old rancid fish oil? You know what that taste, smells like? Well, it smelled horrible and it tasted worst. So of course we all barfed and mom said, 'This is suppose to be so good for everyone,' she said, 'how come it's making everyone sick?'"* As it turned out, a few more tries of the imported cod liver oil did not help the medicine go down any easier. Ruth said, *"And you couldn't get rid of that taste in your mouth. It was horrible, horrible stuff. Finally (her mother) said, 'I am not going to let my children get sick because someone thinks that I should give them this oil when we have better oil.' So she put us back on our own cod liver oil."* Ruth said she has since talked with other people her age and their parents had done what her mother did. They got rid of the rancid oil and went back to their own oil.

Albert Ross, Ruth's uncle, lived on the Mackenzie River, not far from Horseshoe Bend. They would travel and visit with him Ruth's mom and her uncle Albert would talk about their grandpa Campbell. Ruth said her mother always had a fondness for the Campbell Lake area because the lake was named after him and Campbell was the last name of her mother, Bella.

Appendix V: List of interview questions

Questions related to life history.

1. When and where were you born?
2. What are the names of your parents?
3. What are the names of your relatives?
4. What are the names of your grandparents on your mother and on your father's side?
5. Where did you live with your parents? What were they doing there?
6. What do you remember most about this time?
7. Did you go to school?
8. Do you still go out in the bush?
9. What languages do you speak?
10. How did your mother teach you about medicine plants?
11. Last of all, how were you involved with the Lupin Lodge that was established as the traditional medicine program at the Whitehorse General Hospital?

Questions related to plants

1. What is the name of this plant? Does this plant have another name?
2. What plants are prepared and used for medicine?
3. How long should a person take the medicine for, for how many days, and how much?
4. How should you store the prepared medicines and for how long?
5. Are there other uses for this plant?
6. Have you heard of any stories about the plants?
7. Where or what areas do these plants typically grow?
8. What plants would the different animals and birds eat?
9. What happens when animals and plants are not harvested?
10. What changes have you noticed happening to plants, animals, or the land in this area?
11. Do you know of any places that have plant names in their name?
12. Were there rules about collecting and disposing of plants?
13. When is the best time of the year to collect medicine plants?
14. Are there plants that one should be cautious of?
15. Are there plants that are special to the Gwich'in people?

Appendix VI: Table of plants

Common name(s)	Gwich'in name(s)	Latin name
Trees and shrubs		
Alder	k'oh	<i>Alnus crispa</i>
Birch - dwarf - paper	huu t'an (TG) aat'oo	<i>Betula glandulosa</i> <i>B. papyrifera</i>
Black currant	jak rye' (TG)	<i>Ribes hudsonianum</i>
Blueberry	jàk zheii (GG) jak zheii (TG)	<i>Vaccinium uliginosum</i>
Cinquefoil, shrubby		<i>Potentilla fruticosa</i>
Cloudberry	nakal (GG) nakal (TG)	<i>Rubus chamaemorus</i>
Cottonwood, poplar	t'oo	<i>Populus balsamifera</i>
Cranberry	nat'at	<i>Vaccinium vitis-idaea</i>
Dewberry or dwarf Raspberry	ts'eenakal	<i>Rubus arcticus</i>
Dogwood	k'aii kw'uth (TG)	<i>Cornus stolonifera</i>
Gooseberry		<i>Ribes lacustre</i>
Juniper	deetree jàk (GG) ts'iiivii ch'ok (TG)	<i>Juniperus communis</i>
Labrador tea - dwarf - tall	lidii masgit	<i>Ledum palustre</i> <i>L. groenladicum</i>
Low-bush cranberry	dinjik jàk (TG)	<i>Viburnum edule</i>
Mossberry	dineech'ùh (GG) dineech'uh (TG)	<i>Empetrum nigrum</i>
Raspberry	ts'eenakal	<i>Rubus idaeus</i>
Red currant	eneeyù' (GG) nee'uu (TG)	<i>Ribes triste</i>
Silverberry		<i>Elaeagnus commutata</i>
Soapberry	dinjik jàk (GG) dinjik jàk (TG)	<i>Shepherdia canadensis</i>
Spruce - black spruce - white spruce	ts'eevii (GG) ts'iiivii (TG)	<i>Picea mariana</i> <i>P. glauca</i>
Stoneberry or kinnikinnick	dàn daih (GG) dan daih (TG)	<i>Arctostaphylos uva-ursi</i>
Tamarack	ts'iiiteenjùh (GG) tsiiheenjoh (TG)	<i>Larix laricina</i>
Wild Rose	mchih (GG) mchih (TG)	<i>Rosa acicularis</i>
Willow	k'aii' (GG) k'aii' (TG)	<i>Salix</i> spp.

Flowering plants		
Arnica	at'an tsoo	<i>Arnica alpina</i>
Aster, fringed		<i>Aster ciliolatus</i>
Bear root	treh (GG) trih (TG)	<i>Hedysarum alpinum</i>
Bedstraw		<i>Galium boreale</i>
Bird's eye or bearberry	dzhii ndèe (GG) shih jak (TG)	<i>Arctostaphylos rubra</i>
Chamomile		<i>Matricaria matricarioides</i>
Chickweed		<i>Stellaria media</i>
Clubmoss		<i>Lycopodium spp.</i>
Coltsfoot - at Tree River - at Husky River		<i>Petasites palmatus</i> <i>P. figidus</i>
Columbine		<i>Aquilegia brevistyla</i>
Crocus		<i>Anemone patens</i>
Daisy		
Dandelion		<i>Taraxacum officinale</i>
Death camas		<i>Zygadenus elegans</i>
Dock		<i>Rumex arcticus</i>
Domestic delphinium(*)		
Fireweed - dwarf - tall		<i>Epilobium latifolium</i> <i>E. angustifolium</i>
Flax, blue		<i>Linum lewisii</i>
Gentian		<i>Gentianella macounii</i>
Grass-of-parnassus		<i>Parnassia palustris</i>
Goldenrod		<i>Solidago canadensis</i>
Indian paintbrush		<i>Castilleja raupii</i>
Larkspur		<i>Delphinium glaucum</i>
Lupine		<i>Lupinus arcticus</i>
Marsh cinquefoil		<i>Potentilla palustris</i>
Monkshood		<i>Aconitum delphinifolium</i>
Moss campion		<i>Silene acaulis</i>
Nodding chickweed		
Northern ground cone	du'ii nahshèe (GG) doo'ii nahshih (TG)	<i>Boschniakia rossica</i>
Northern water-horehound		<i>Lycopus uniflorus</i>
One-leaved rein-orchid		<i>Platanthera obtusata</i>
Peavine		
Pigweed		<i>Chenopodium album</i>

Plantain		<i>Plantago major</i>
Pumpkin berry		<i>Geocaulon lividum</i>
Rattleweed		<i>Rhinanthus borealis</i>
Rhubarb, domestic (*)		<i>Rheum spp.</i>
Rhubarb, wild	ts'ni gyùu (GG) ts'ni gyùu' (TG)	<i>Polygonum alaskanum</i>
Shy maiden		<i>Moneses uniflora</i>
Silverweed		<i>Potentilla anserina</i>
Sow thistle		<i>Sonchus arvensis</i>
Speckled toad flax		
Strawberry blite		<i>Chenopodium capitatum</i>
Tall Aster		
Thistle (*)		
Twinflower		<i>Linnaea borealis</i>
Valerian		<i>Valeriana dioica</i>
Wild Vetch		<i>Vicia americana</i>
Wild Sweet Pea		<i>Hedysarum mackenzii</i>
Wintergreen		<i>Pyrola grandiflora</i>
Wooly Lousewort		<i>Pedicularis lanata</i>
Wormseed mustard		
Wormwood	gyùu tsanh (TG)	<i>Artemisia tilesii</i>
Yarrow - common - Siberian	at'àn dagàii (GG) at'àn dagàii (TG)	<i>Achillea millefolium</i> <i>A. borealis</i>
Yellow avens		<i>Dryas drummondii</i>
Yellow hawksbeard		<i>Crepis nana</i>
Yellow poppy		<i>Papaver spp.</i>
Grasses and grass-like plants		
Cotton grass		<i>Eriophorum angustifolium</i>
Fescue		<i>Festuca spp.</i>
Foxtail		<i>Hordeum jubatum</i>
Grasses	t'oo	<i>Various</i>
Hummocks		<i>Eriophorum spp.</i>
Sedge		<i>Carex spp.</i>
Slough grass		<i>Beckmannia syzigachne</i>
Sweetgrass		<i>Hierochloe odorata</i>
Quackgrass		<i>Agropyron repens</i>

Appendix VII: Whitehorse General Hospital; First Nation Health Program

The Framework Agreement reached between Medical Services Branch (M.S.B.), Health and Human Resources (Y.T.G.) and Council for Yukon Indians (C.Y.I.) in 1990, established the transfer process for health services. Special agreements were negotiated to meet the needs of First Nations within WGH.

Purpose:

By recognizing Yukon First Nations' culture as distinct, with unique historical events that have affected the health of First Nations, we can have a relevant framework for prevention and health promotion.

Mission Statement:

We advocate for First Nation people at Whitehorse General Hospital, to ensure quality and culturally sensitive holistic health care.

The seven programs currently being implemented at WGH are:

- First Nations Health and Social
- Liaison Workers
- Child Life Worker
- Traditional Diet
- Traditional Medicine
- Interpretation Services
- In-service Training/Education
- Community Liaison Health Promotion

These positions as well as the Director's are staffed by First Nations.

A Healing Room is available as a place for family members to gather, to be with a patient, to pray and practice traditional ceremonies and private rituals. The Healing Room is open for use by all people who respect our traditional beliefs. The Traditional Medicine Program Coordinator will assist the patient and their family with access to traditional methods of healing. There are two suites available for use by First Nations families to allow them to stay overnight in times of need, as well as one Sleep Room on the end of the East Unit.

Recently, the program established a First Nations Health Scholarship to encourage students of Yukon First Nations ancestry who wish to pursue educational opportunities leading to health careers. Consideration will be given to applicants of Yukon First Nations ancestry who intend to serve in the north.

Hours of Operation:

Monday to Friday 0800 hrs to 2300 hrs, Saturday, Sunday and Statutory holidays 1000 hrs to 1800 hrs.

Appendix X: Human Research Ethics consent form

Human Research Ethics Consent Form

A COPY OF THIS CONSENT WILL BE LEFT WITH YOU, AND A COPY WILL BE TAKEN BY THE RESEARCHER.

You are being invited to participate in a study entitled "Bush Medicine: Plants Used for Medicine by the Gwich'in of the Northwest Territories" that is being conducted by Alestine Andre and two summer students. Alestine Andre is a MA candidate in the Interdisciplinary Masters Degree Program at the University of Victoria and you may contact her if you have further questions by calling (867) 953-3313.

This research is being funded by the following funding agencies:

- Dept. of Education, Culture, and Employment, GNWT, Inuvik
- Dept. of Resources, Wildlife and Economic Dev., GNWT, Inuvik
- Gwich'in Education and Training Fund, GTC, Fort McPherson
- Renewable Resources Council, Tsiigehtchic
- Indian and Northern Affairs Canada, Yellowknife.

The purpose of this research is to document traditional plant knowledge and to gain further insight into the various uses of plants for medicinal purposes by the Gwich'in of the Northwest Territories. The research is part of an MA thesis.

Research of this type is important because it will facilitate an understanding of the changes that have taken place in the environment, and in people's knowledge of the environment. As well, this research will aid in the development of effective, ethical ways of applying Traditional Plant Knowledge together with Western scientific knowledge to ensure that Gwich'in traditional knowledge is documented for future generations.

You are being asked to participate in this study because you are a plant, cultural and/or language specialist from the Gwich'in nation. If you agree to voluntarily participate in this research, your participation will include several one-to-one interviews of one to two hours in length at a location in your community, at your home, or in the field. The number, length and location of interviews are up to you, and other family or community members may be present if you choose.

Participation in this study may cause some inconvenience to you, as the time you take to participate in interviews may infringe on time usually spent fulfilling other duties and responsibilities.

There are some potential risks to you by participating in this research. Some of your relatives or community members may not wish for you to participate in this study. To prevent or reduce this risk, you are absolutely free to decide your level of participation, and may cease or limit participation at any time or stage of this study.

The potential benefits of your participation in this research include financial compensation for your time, having your knowledge recorded, and recognition for your knowledge and its inclusion in educational and environmental projects in your community and others.

As a way to compensate you for any inconvenience related to your participation, you will be given payment of \$350/day (Ruth Welsh) or \$25.00 per hour (other Elders). It is important for you to know that it is unethical to provide undue compensation or inducements to research participants and, if you agree to be a participant in this study, this form of compensation to you must not be coercive. If you would not otherwise choose to participate if the compensation was not offered, then you should decline.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will be used in the study analysis ONLY if you agree.

To make sure that you continue to consent to participate in this research, we will discuss your participation on each occasion that we request an interview and you will be given full opportunity to withdraw from the study, without question.

Your anonymity will be protected if you request it. If you request anonymity, your confidentiality and the confidentiality of the data will be protected by identifying you only by a fictitious name, or by coded initials. As well, any identifying information will be removed from the outcomes of the study.

This data may also be included in ongoing and future ethnobotanical studies, with your permission. Data from this study will be destroyed ONLY if you request it.

It is anticipated that the results of this study will be shared with others in one or more of the following ways: directly with you; in published articles; in presentations at scholarly meetings; or in community-based books, videos or school curricula on the subject of teaching Traditional Plant Knowledge.

In addition to being able to contact the researcher(s) at the above phone number, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice President Research at the University of Victoria (250-721-7968). Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher(s).

Participant Signature

Date

Appendix IX: Gwichya Gwich'in Council's letter of support**TSIIGEHTCHIC CHARTER COMMUNITY /
GWICHYA GWICH'IN COUNCILS**

May 22, 2002

To Whom It May Concern:

RE: Letter of Support -- Alestine

This letter is in support of Alestine André, a Gwichya Gwich'in woman, from the community of Tsiigehtchic who is currently pursuing her Masters degree from the University of Victoria. There are a few Gwich'in people who are pursuing Masters or Doctoral degrees so when one of our own people is working hard to meet this challenge, we are behind them 100%.

Alestine is completing an interdisciplinary Masters degree program that includes subjects from the School of Environmental Studies, the Linguistics Department, and Women's Studies. These are areas of study that are pertinent to us as aboriginal people who live in the circumpolar region of the world. The traditional plant information that will be collected by Alestine will include an extensive bibliography and an interesting arrangement of cultural information that will be shared not only with the Gwich'in communities and the sponsoring Gwich'in Social and Cultural Institute, but with groups or people who have an interest in Arctic ethnobotany.

We wish Alestine every success and we know that she will do well.

Sincerely,

original signed

Chief Peter Ross

General Delivery * Tsiigehtchic, NT XOE OBO * Telephone (867) 953-3201 * Fax (867) 953-3302

Appendix X: UVIC Human Research Ethics Committee



challenge minds
change worlds



University of Victoria - Human Research Ethics Committee

Certificate of Approval

Principal Investigator Dr. Nancy Turner Faculty	Department/School ENVI	Supervisor
Co-Investigator(s): Dr. Marianne B. Ignace, Prof. SFU Kamloops Ronald Ignace, Chief, Skeetchestn Band, Savona Dr. George Nicholas, Prof. SFU Kamloops Alestine Andre, grad student, Env. Studies, UVic		Ann Garibaldi, grad student, Env. Studies, UVic Judith Thompson, grad student, Env. Studies, UVic
Title: <i>Partners in Evidentiary, Landmark Change and Communication of Traditional Ecological Knowledge</i>		
Project No. 111-02	Approval Date 26-Apr-02	Start Date 08-Nov-00
		End Date 25-Apr-03

Certification

This is to certify that the University of Victoria Ethics Review Committee on Research and other Activities Involving Human Subjects has examined the research proposal and concludes that, in all respects, the proposed research meets appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Subjects.

original signed

J. Howard Brunt
Associate Vice-President, Research

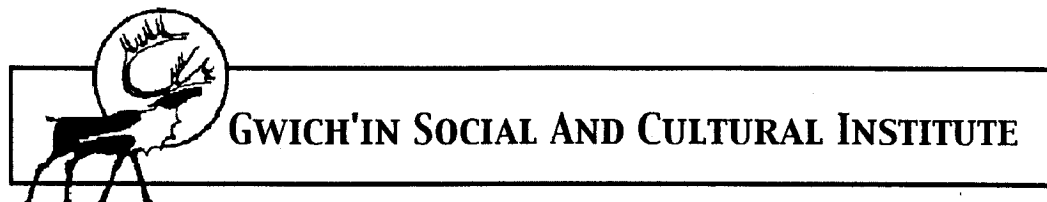
This Certificate of Approval is valid for the above term provided there is no change in the procedures. Extensions/minor amendments may be granted upon receipt of "Request for Continuing Review or Amendment of an Approved Project" form.

Office of Vice-President, Research - UVic
Room 424, BEC - P.O. Box 1700
Victoria, BC V8W 2Y2

Tel: (250) 472-4342
Fax: (250) 721-8960
E-mail: ovprc@uvic.ca

111-02 Turner, Nancy

Appendix XI: Gwich'in Social and Cultural Institute's letter of support



Head Office: P.O. Box 46 Tsiigehtchic, NT X0E 0B0 Tel: (867) 953-3613 Fax: (867) 953-3820 Email: l_mccartney@learnnet.nt.ca Attn: Leslie McCartney, Executive Director	Research Office: 50 Rycon Drive Yellowknife, NT X1A 2V6 Tel: (867) 669-9743 Fax: (867) 669-7733 Email: ingrid_kritsch@learnnet.nt.ca Attn: Ingrid Kritsch, Research Director	Language Centre: P.O. Box 54 Fort McPherson, NT X0E 0J0 Tel: (867) 952-2377 Fax: (867) 952-2433 Email: wgfirth@learnnet.nt.ca Attn: William Firth, Manager of Languages
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December 23, 2003

Leslie McCartney
Executive Director
Gwich'in Social & Cultural Institute
P.O. Box 46
Tsiigehtchic, NT X0E 0B0

Re: Alestine Andre and Gwich'in Ethno-Botany Research Assistance for Master's Degree

As requested by the GSCI Board of Directors, I am pleased to provide a letter of support to Alestine Andre for financial assistance of \$500 to offset field research expenses incurred in the summer of 2002 for her Master's degree. Alestine is pursuing ethno-botany research related to Gwich'in knowledge and use of plants for medicine at the University of Victoria.

As GSCI Research Director, I believe it is important that the GSCI support Alestine's research as it builds upon a project the Institute conducted in partnership with the Aurora Research Institute from 1997-99. This research resulted in the publication of a guide book in 2001 by the authors Alestine Andre and Alan Fehr entitled, *Gwich'in Ethno-botany: Plants used by the Gwich'in for Food, Medicine, Shelter and Tools*. This book has stimulated so much interest in Gwich'in traditional knowledge and use of plants, that it was revised and reprinted in 2002.

Alestine's present research for her master's degree explores the subject of how the Gwich'in used plants for medicine. By working alongside Gwich'in elder Ruth Blake Welsh, a renowned authority on Gwich'in plant knowledge and use, Alestine is recording Mrs. Blake Welsh's extensive knowledge so that it can be passed on to future

generations. Her work with Mrs. Blake-Welsh will be an invaluable addition to the Gwich'in ethno-botany information collected to date.

I am happy to offer my support for Alestine in her research and look forward to including her research materials (i.e. tapes, transcripts, photos, etc.) in the GSCI research archives. Alestine's research will greatly benefit future generations and contribute to a greater awareness and appreciation of Gwich'in culture and knowledge.

Sincerely,

Ingrid Kritsch
Research Director

Appendix XII: Aurora Research Institute Scientific Research License

SCIENTIFIC RESEARCH LICENCE

Licence # 13322N

File # 12 410 588

ISSUED BY: Aurora Research Institute - Aurora College
Inuvik, Northwest Territories

ISSUED TO: Ms. Alestine Andre
Gwich'in Social & Cultural Institute
Box 16
Tsiigehtchic, NT X0E 0B0
867-953-3313

ON: 16-Jun-02

TEAM MEMBERS: Ruth Welsh, Gwich'in Elder and Plant Specialist & Grad Committee Member, 2
Gwich'in Senior High students, Research Assistants

AFFILIATION: Gwich'in Social & Cultural Institute

FUNDING: ARI, Global Forest Society, NSTP, West Kitikmeot Slave Study, Phillips Fund,
Jacobs Fund

TITLE: Bush Medicine: Plants Used for Medicine by the Gwich'ya and Teet'it Gwich'in of the Northwest Territories

OBJECTIVES OF RESEARCH:

The past two centuries have brought tremendous change to the Gwich'in culture. Since the 1940's the Gwich'in people began to move off the land slowly and they are now settled into 4 main communities in the NWT. The change in life style, from bush life to westernized wage economy life, has changed how traditional knowledge about Gwich'in culture and language is passed from one generation to the next. Committed effort must be made to ensure that Gwich'in traditional knowledge is passed on or this knowledge may be lost forever within the next 10 years. The primary objective of this collaborative research work between Ruth Welsh, Gwich'in Elder and Plant Specialist, and myself as a Gwich'in Graduate student is to make sure that the traditional plant knowledge and the uses of plants for medicine is documented for future use by the Gwich'in. The text and pictorial documentation will include the identification, the collection, the preparation, the uses and the names of the plants, trees, and shrubs in the Gwich'in language.

DATA COLLECTION IN THE NWT:

DATE(S): June 13-23, July 2-12 & Aug 6-16, 2002

LOCATION: along the Dempster Highway, in the Husky River and Tree River area

Licence# 13322 expires on December 31, 2002.

Issued at the Town of Inuvik on Sunday, June 16, 2002

original signed


Valoree Walker, Ph.D.

Science Administration Officer

