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Natural Resources Institute, University of Manitoba
and
Shoal Lake Resource Institute,
Iskatewizaagegan No. 39 Independent First Nation

The Changing Practice of Traditional Ecological Knowledge Research In Canada: Partnerships and Processes in Northwestern Ontario

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Technical Report #1

NCE Sustainable Forest Management Network Project

Combining Scientific and First Nations Knowledge
for the Management and Harvest of
Traditional and Commercial Non-timber Forest Products

Revised
January, 2001
February, 2001

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[1]Funding was provided for this research by the Sustainable Forest Management Network of the National Centres of Excellence.

[2]Davidson-Hunt also received funding during this time from a Doctoral Fellowship awarded by the Social Sciences and Humanities Research Council (SSHRC), a Canadian Forest Service SSHRC supplement and a SSHRC research grant held by F. Berkes, University of Manitoba.

Acknowledgements

This work could not have been completed without the assistance of the Shoal Lake Resource Institute of Iskatewizaagegan #39 Independent First Nation (IIFN) and its members: Edward Mandamin; Phyllis Jack and Brennan Wapioke. Brennan Wapioke also worked on the project as community researcher and was integral to the completion of fieldwork and for translation during interviews and processing of interview transcripts. Many of the ideas in this paper emerged from conversations held with a number of elders of the community: Walter Redsky; Robin Greene; Jimmy Redsky; Ella Dawn Greene and Dan Green. The work was also supported by the Chief and Council of IIFN who participated in the meetings necessary to draw up the protocol and agreement regarding the research project: Chief John Wapioke; Councillors Randy Paishk, Dennis Hunter, Susan Adams and Laverna Green.

Colin Bowling and Bob White of the Kenora office of the Northwest Science and Technology Unit of the OMNR, Peter Uhlig of Ontario Forest Research Institute, Luc Duchesne of the Canadian Forest Service and John Zasada of the United States Forest Service provided assistance with designing the research methodology and/or obtaining access to data. Colin Bowling and Bob White also provided support in the field. Peter Schaffer, Gerry Simmons, and Ian Pyke of the OMNR, Kenora were instrumental in obtaining access to the digital data of the Ontario Forest Resource Inventory, NW Ontario fire history and air photos.

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1. Introduction

This technical report provides a summary of the progress made in ethnobotanical and ethnoecological research undertaken in year 1 of the research project: Combining Scientific and First Nation Knowledge for the Management and Harvest of Traditional and Commercial Non-timber Forest Products. The purposes, objectives, methodologies and preliminary findings of the ecological analysis of non-timber forest products can be found in Technical Report #2 of the project prepared by Tracy Ruta. This report begins with a description of the overall research project (Section 2) and then moves onto the specific methodology and findings of the ethnobotanical/ethnoecological research on NTFPs in sections 3 through 6. A detailed compilation of research documentation can be found in Technical Report #3, Traditional Ecological Knowledge Research Documentation. Following Davidson-Hunt, Duchesne and Zasada (2001) the term non-timber forest products (NTFPs) is defined as those biological organisms, excluding timber, valued by humans for both consumptive and non-consumptive purposes found in various forms of forested landscapes. NTFPs moves the focus on forest management away from large industrial interests in forested landscapes and toward a consideration of the interests, values and activities of people who have largely been excluded from forestry research, planning and management.

2. The Research Project

3) The Purpose of the Research Project

The purpose of the research project between the Natural Resources Institute, University of Manitoba and Iskatewizaagegan #39 Independent First Nation is to develop a model for cooperative research between First Nation harvesters and scientific researchers. Although the research project includes an interest in theory building the research project also has the practical purpose of findings ways that research partnerships can work towards sustainable rural livelihoods through the traditional and commercial harvesting of non-timber forest products. A broader policy objective of the research is to provide an example of how the Federal and Provincial governments of Canada can move toward meeting their obligations under Article 8(j) of the Convention on Biodiversity. The Convention on Biodiversity, signed by Canada in 1992, requires the signatories to incorporate the knowledge of indigenous and local communities in the sustainable use of biodiversity, equitable benefit sharing which results from such knowledge, and the promotion of customary uses of resources by indigenous and local communities (Higgins 1998).

2) A Brief Background for the Research Project

One of the customary means of managing ecosystems by the Aboriginal people of North America was through the use of fire and other technologies (Blackburn and Anderson 1993; Boyd 1999; Cronon 1983; Lewis and Fergusen 1988; Pyne 1982). Through the use of such technologies Aboriginal peoples used their resources to meet their material and spiritual needs. The suppression of aboriginal technologies and practices, such as burning (Lewis and Fergusen 1988), by forest management agencies diminished the traditional and commercial potential of non-timber products of the boreal forests. However, in recent years, some ecosystem

management practices, such as burning, are re-entering the toolbox of forest management agencies like the United States Forest Service (Berkes and Davidson-Hunt 2001; Christensen et al. 1996; Grumbine 1994). One of the findings of ecosystem-based forest management is that fire, and other technologies, should be utilized as management tools to emulate natural disturbances. This reflects a broader conclusion of the international and inter-disciplinary research network, the Resilience Network, which suggests that disturbance and adaptive learning are integral components necessary for managing natural resources (Berkes and Folke 1998; 2001; Gunderson, Holling and Light 1995; Perrings, Mäler, Folke, Holling and Jansson 1995; Pinkerton 1998). The ecological knowledge of North America's Aboriginal peoples and the scientific community appear to be converging in suggesting that multi-functional and biologically diverse landscapes are linked to the incorporation of disturbance events into flexible and adaptive resource management systems (Berkes 1999; Trosper 1998).

The role of multi-functional and biologically diverse landscapes in creating flexible and adaptive rural livelihoods is receiving international attention (EFI 1998; FAO 1995; USDA 1997) but has been under-represented in the Canadian research on ecosystem-based forest management (Duchesne, Zasada and Davidson-Hunt 2000). A conference organized by the Canadian Forest Service, the United States Forest Service, the Manitoba Model Forest, the National Aboriginal Forestry Association, the Saskatchewan Department of Agriculture and the Taiga Institute was held in October, 1999 in an effort to increase our basic knowledge of the role played by non-timber forest products in rural livelihoods. It was found that many Aboriginal and other rural communities still utilize a diversity of forest species for domestic and commercial purposes and that such knowledge and products provided an opportunity for rural economic development. However, due to the lack of knowledge about the local uses of diverse ecosystem products on the part of forest management agencies, non-timber forest products have yet to be incorporated into ecosystem-based forest management planning. At the same time there is an accelerating loss of knowledge about the traditional uses of forest diversity. While an ecological value is often imputed for natural disturbance and succession stages of forest dynamics there is no recognition of the linkage between these processes and the livelihoods of forest communities. This proposal has emerged from the discussion among scientific researchers and First Nation peoples in Canada and the United States to develop applied research proposals on non-timber forest products which builds upon both local and scientific knowledge in order to strengthen sustainable rural livelihoods.

3) The Objectives of the Research Project

The initial objectives of the research project were:

1. To develop a model of cooperative research between rural/First Nation communities and scientific researchers which builds upon the contributions of both science and local/indigenous knowledge towards multi-functional and biologically diverse landscapes.

2. Develop a plot system with Iskatewizaagegan #39 Independent First Nation in Northwestern Ontario which can be utilized to understand the processes of natural disturbance from a scientific and indigenous knowledge point of view. The focus of this

proposal is on the collection of indigenous knowledge related to the use of non-timber forest products and linkages with processes of ecological resilience and disturbance.

3. Document the traditional ecological knowledge of botanical NTFPs and the perception of the forest in terms of disturbance, succession and forest patches.

4. Document potential of plants found within plots for commercial non-timber forest product markets using scientific literature.

4) Theoretical Significance of the Research Project: Ecological Resilience and Biodiversity

Biodiversity, the variety of earth's genes, species and landscapes, plays an important role in Holling's ecosystem resilience theory (Holling et al. 1995). Genetic and species diversity play both a role in the structure (physical architecture) and function (nutrient, carbon and energy cycles) of ecosystems. Biodiversity is not so important from a straight consideration of numbers, i.e. more is better, but due to the overlapping roles which different genes and species play within an ecosystem. This is similar to the diverse portfolio strategy of investors. However, ecosystems are not static but change over time. This idea has been captured by utilizing a model of an adaptive-renewal cycle which represents succession as a four phase cycle during which ecological time flows unevenly. As summarized by Holling et al (1995), the progression in the ecosystem proceeds from the exploitation phase; slowly to conservation; very rapidly to release; rapidly to reorganization; and, to complete the cycle rapidly back to exploitation. During the slow sequence from exploitation to conservation, connectedness and stability increase and ecological capital such as nutrients and biomass slowly accumulate. The diversity of species thus changes not only across space but over time as different species emerge into an ecosystem during different stages of the adaptive-renewal cycle. Disturbance and change are attributes of an ecological system and not exceptions to a dominant state of stability and equilibrium. This understanding of ecosystems, biological diversity and the adaptive-renewal cycle have important implication for human's as they construct livelihoods based on ecosystem products and services.

5) Practical Significance of the Research Project: Non-Timber Forest Products and Rural Livelihoods

Non-timber forest products (NTFPs) are those components of a forest ecosystem which have not been captured by equilibrium based forest inventories and economic models. This has begun to change with recent movements toward ecosystem-based forest management in Canada. However, the time period of an ecosystem preceding mature timber still remains a "black box" in regards to human livelihoods. This has led Marla Emery of the United States Forest Service (1998) to characterize NTFP harvesting activities as "invisible livelihoods" in her ground-breaking study of the non-timber forest products of Michigan's upper peninsula. This study would focus on specifying the role of different categories of forest following disturbance in terms of human livelihoods. This will be done in two different ways:

(1) There are still people within rural/First Nation communities who remember, or practice, the harvesting of plant and animal species from the boreal forest. This

research would look at the contribution of plants from different forest categories to the subsistence, trade, commercial, ritual and spiritual aspects of historic and contemporary First Nation livelihoods; and,

(2) Non-timber forest products do offer the potential of commercial use and have been increasing in importance in numerous regions of North America and the World. One of the reasons that non-timber forest products are seen as increasingly important is that they provide supplemental income, products and spiritual value for people in rural communities. It is also possible to look at the plants which occur within different forest categories from the point of view of their potential for contributing to contemporary livelihoods on the basis of the role of these products in commercial markets.

By undertaking research which looks at disturbance and succession from an indigenous knowledge point of view, the research provides a means to reveal the relationship between rural/First Nation livelihoods and the "black box" of forest management. It may reveal that there are other goals for forest management which value the forest categories which occur between timber harvests from both a "traditional" and contemporary perspective of rural/First Nation peoples. This process may allow the construction of a predictive model which links commercial non-timber forest products to ecosystem-based inventories for use as a rural economic development tool.

6) The Partners

The research is based on a partnership between the Natural Resources Institute at the University of Manitoba and Iskatewizaagegan #39 Independent First Nation. The Natural Resources Institute is an interdisciplinary research and graduate unit based at the University of Manitoba in Winnipeg, Manitoba. It undertakes interdisciplinary research to increase society's understanding of natural resources and their management and to train future resource managers in an interdisciplinary approach to resource management. Iskatewizaagegan #39 Independent First Nation (IIFN) is an Aniishinaabe community located on Shoal Lake which transcends the border of Ontario and Manitoba. The shoal lake watershed is the source of drinking water for the City of Winnipeg which constrains the economic opportunities of the First Nation. IIFN has established a unit called the Shoal Lake Resource Institute which participates in a watershed management committee for Shoal Lake and explores other issues related to natural resource management, conservation and economic development. IIFN also has a strong tradition of including elders in questions of resource management and economic development for their people. The partnership was established to explore the potential of scientists and elders working together to ask and answer questions related to the sustainable use of biological diversity.

3. Traditional Ecological Knowledge Research and Methodology

> *A formidable barrier to research is the scientists' lack of credence in folk specialists. This manifests itself in a reluctance to allow the informant to lead the researcher along unfamiliar lines of logic and into areas of research that the native chooses. Scientists resist the loss of control of the questioning paradigm and fear leaving the base line of the "reality" that control signifies. Concerns about research time also inhibit emic analysis, since restraints on field stays often mean that researchers are reluctant to trade assured results from their project design for possible "finds" from informants.* (Posey 1998)

The specific purpose of the research presented in this technical report was to prepare an ethnography of resilience focused on the use, knowledge, institutions and ecology of non-timber forest products for the Shoal Lake Watershed. The specific objectives of the research were to: (1) Collect historic information on the plants utilized by Aniishinaabe people of Northwestern Ontario; (2) Document the Aniishinaabe names and uses of plants; (3) Record Elders' knowledge and perception of NTFP ecology with respect to forest patches and disturbance events; (4) Describe NTFP harvesting patches using ecological and botanical methods for plant community categorization; and (5) Relate findings to current systems of ecological land classification.

The methodology utilized in the research was a combination of non-structured, qualitative interviews based upon thematic conversations, excursion to harvesting locations with elders to identify plants and plant associations with Aniishinaabe terms, and, description of harvest locations by ecological land classification methodologies. The specific activities undertaken included:

1. Research team and First Nation jointly developed a cooperative research model and research protocol.

2. Archival Research - Ethnographic, governmental, and archival documents were identified
   related to the historical use and management of NTFP by Aniishinaabe people in the region. Scientific reports and publications were also collected related to plant distribution, associations and commercial uses.

3. Research Team/Community workshop - A workshop was held with the First Nation prior
   to the beginning of year 1 field research. During the workshop the purpose and objectives of the research were presented and time was allowed for discussion, comment and suggestions for objectives to be included in the research. A research team was identified with members from Chief and council, the Shoal Lake Resource Institute, the NRI and community elders.

4. Selection of "apprentice" researcher and translator. A youth was selected by the research team to work with university researchers in the ecological and ethnobotanical field work. A community researcher was utilized in the research so that a youth from the community would be able to gain field work skills and learn about plants from community elders.

5. NTFP excursions - Elders took researchers to the field to find specific plants about which they wanted the researchers to learn in terms of Aniishinaabe names and uses. Specimens of the plants identified by elders were collected or photographs taken if the plant was commonly known. Conversation were also held with elders at this time about topics such as: whether the habitat in which the plant was found had an Aniishinaabe name; the specific ways in which certain plants should be harvested and the historic and contemporary harvesting of such plants.

6. Thematic conversations - Unstructured, qualitative interviews were also held in the elders' complex about the Aniishinaabe way of becoming "skilled" plant harvesters.

7. Patch excursions - Forest patches were identified which were considered to be important blueberry (*Vaccinium* sp.) habitat. The patches were found on a sandy soil and represented a mature forest and a early post-disturbance (logging) plant community. Patches were botanically described by utilizing a methodology described in the technical report prepared by Tracy Ruta. Elders accompanied the researchers to the patch in order to discuss the plants which could be found in these patches and their memories in terms of the importance of these patches for certain types of plants. Conversation were also held at this time about the use of fire by Aniishinaabe people in order to create disturbance patches.

8. Transcription and Translation of Interviews - All interviews and excursions were recorded on digital video or audio media. After the field season the community researcher and the university researcher went through the tapes to transcribe the names given for specific plant specimens or photographs. A start was also made to transcribe the interviews undertaken in English and translate some of the key interviews from Aniishinaabe to English. This work is still underway. An index of materials collected during the field season were prepared.

9. A workshop was held at the end of year 1 of the field research in which results were presented by the researchers and the elders, council representative and Shoal Lake Resource Institute members could provide comment. A discussion was also held among the research team as to how the data which had been collected should be made available to the community.

4. Developing the Research Partnership Model

1) A Brief Consideration of Theory

The model that we are exploring for cooperative knowledge production draws from the practical experiences gained with rapid and participatory rural appraisal and theoretical approaches to knowledge studies. A partnership model for cooperative knowledge production does not attempt to indicate specific forms or structures of the process. Rather, it provides a conceptual approach to think about the ontology and epistemology of the knowledge production processes. The specific partners and institutional models may vary from location to location. The specifics of the model will vary from place to place and time to time. However, the model reflects our position on knowledge as a dynamic, socially and culturally embedded process.

The intent of the model is to push our thinking toward a consideration of how smaller scale, decentralized nodes of knowledge production, might emerge which are embedded in local social, cultural and ecological systems. The objective of this line of thinking is to facilitate the emergence of decentralized, place specific, centres of knowledge production which draw upon diverse sources, scales and processes of knowledge production and which result in adaptive learning institutions. The incentive for thinking about this model has been provoked by a call for increased transparency and accountability from many local communities who work with a variety of centralized centres of knowledge production. While the model does represent increased research transaction costs it is only through such attempts that we may find a bridge across the chasm which has opened between science and local livelihoods. As scientists become embedded in smaller scale social, cultural and ecological systems, however, the transaction costs over the long term will decrease. In our work with Iskatewizaagegan #39 Independent First Nation a long process of discussion and negotiating research protocols was a necessary first step.

2) Research Partners and Partnerships

An obvious, but often overlooked or ignored, prerequisite for successful partnerships is an interest on the part of both communities (scientific and local) in forming a partnership for the cooperative production of knowledge. Ideally, this interest should transcend a specific interest in the resource and knowledge flows of the research project, although researchers should pay attention to issues of equity regarding the immediate benefits of the partnership. Although the form of local interest can be quite variable and informal, there is a need for a formal organization which can enter into a partnership for the purposes of signing agreements, archiving the products of the process, administering the research project and etc. However, as important as the formal organization is the involvement of individuals who are committed to the process and see themselves as the “keepers” of the knowledge artifacts (reports, maps, lists, videos, audio tapes and etc.) and artifice. Finally, there needs to be a minimum level of trust already established between the local actors and those from centralized centres of knowledge production. The history of the relationship between decentralized and centralized sites of knowledge production make it difficult to establish research partnerships except on the basis of such social networks.

In our process we were fortunate to work with three Iskatewizaagegan individuals who were interested in starting a partnership for the cooperative production of knowledge. The basis

of this initial discussion was previous work which had been undertaken between members of the Shoal Lake Resource Institute and researchers from the Natural Resources Institute. The Shoal Lake Resource Institute was an incipient institution which emerged out of the personal interests and experience of Edward Mandamin and Phyllis Jack in forest management. However, the Institute was also one way of trying to formalize the participation of Iskatewizaagegan in the comanagement processes for the Shoal Lake watershed which acts as the source of drinking water for the City of Winnipeg. As the institute is in the early stages of its existence it is still quite an informal enterprise. However, as part of the band administration it is able to enter partnerships through the band council.

C) Negotiating the Research Protocol

The first step of formalizing the research partnership and negotiating the research protocol occurred through informal discussions with two members of the Shoal Lake Research Institute regarding non-timber forest products. Ed Mandamin, Phyllis Jack and Iain Davidson-Hunt had been involved in organizing a conference on non-timber forest products in Kenora in the fall of 1999. One outcome of this conference was a recognition that more research was required to understand the non-timber values of First Nations. However, it was also recognized that a methodology was needed which would allow those values to be related to categories of ecological land classifications as well as specific harvesting locations. Due to Ed and Phyllis's participation in land use mapping projects with elders, and forest management based on scientific forestry, they were interested in looking at these questions from the both perspectives. As a specific case study it was decided that the focus should be birch due to the probability that a new mill would be established which would harvest hardwoods (birch, poplar). Research on birch and poplar have received little attention from both a forestry and a traditional ecological knowledge perspective. Other partners involved in the research project also expressed an interest in research on these forest types. Through these informal discussions it was decided that the preliminary focus of the research project would be non-timber forest products associated with birch forest types. These informal discussions took place over a three month period during the fall of 1999.

Once the goals, objectives and methodology of the research had been discussed the researchers from the Natural Resources Institute prepared a discussion paper which described the proposed research project in clear language. At this time, a letter was also submitted to the Shoal Lake Research Institute which summarized the interest of the Natural Resources Institute in undertaking the research project. This was presented to the First Nation council along with opportunity for questions and discussion. At this meeting a Band Council resolution and workshop agenda was passed which gave permission for members of the Shoal Lake Resource Institute to work with the Natural Resources Institute to solicit funding and draft a research protocol for the proposed research project. Shortly thereafter the workshop was held which discussed the content of a research protocol and the proposed theme of the research project with elders who were selected by the Shoal Lake Resource Institute. Elders were selected by the Shoal Lake Resource Institute due to their knowledge about the forest and/or their ability to provide spiritual guidance for the project. We have extracted, and included in this document,

the general items that we think form the basis for negotiating a research protocol.
Duration of the Project. This item allows the two partners to negotiate a degree of comfort and security over the minimum and maximum time of the commitment. It is important from a researcher point of view as they have the commitment of the First Nation that they will be given permission to finish their research. From a First Nation point of view it provides the community with the ability to end the research process after a certain time period. It allows provides both parties an idea of each others time commitment to the research process.

Preamble. The preamble puts down on paper why the research partnership is being negotiated. The preamble should articulate why both sides are interested in undertaking the research partnership.

Summary of the Research Project. A summary of the research project provides the boundaries on the topics that will be researched along with a description of the methodologies to be utilized.

Project Partners. It is important that both sides indicate who will be involved in the project as partners so that the community knows who may be active on the First Nation territory as well as present at meetings.

Research Team. A research team is identified who will undertake the research activities of the project.

Accountability. This section lays out a number of mechanisms by which the members of the research team will be accountable to their respective communities. The Shoal Lake Research Institute, as part of the First Nation government, is directly accountable to the community through the band council. NRI researchers were accountable to the academic community through traditional academic mechanisms such as graduate committee and ethical statements.

Advisory Committee. An advisory committee is set up an in order to monitor the activities of the research team and the knowledge generated by the research project. The members of the advisory committee are, in our case, a representative of the First Nation council; elders; members of the Shoal Lake Resource Institute; and, members from the university. Members from the First Nation can also be asked to sit on student research committees and/or invited to meetings where the student presents their research results. If specific problems arise which can not be solved by the research team then special meetings of the advisory council can be called to resolve such problems through consensus.

Review of Research Results. There are a number of mechanisms which have been set up to provide for a review of the research project and its results. Research proposals are orally presented to the advisory committee and a written copy is submitted to the members of the advisory committee so that consensus is reached on the proposals. In addition, a number of workshops are structured into the research project in order to provide oral presentation of the research results to the advisory committee. Written results of the research project are also submitted to the advisory committee for review. These would include student dissertations;

reports; academic and popular publications and any other written material that will be released into the public domain. A consensus based approach will be utilized to resolve disputes over interpretation of results before they are released into the public domain. It may be decided by the advisory committee that some results are too sensitive to be released. When interpretations over data differ, alternative interpretations and objections to the conclusions drawn will be included in written documents released to the public. A two month review period is utilized for such objections to be raised and included in the written documentation.

The advisory committee will ensure that due recognition is given to the participants in the written documentation of the project. If it is decided that people's names should not be utilized in the written documentation then alias will be utilized to protect research participants privacy. However, at times it is more appropriate to give due recognition to the information provided by research participants through the use of their names. The advisory committee will also ensure that participants in the research will be given a chance to review written documentation for which they have provided information or in which they are identified as having provided specific information. Individuals will be provided with copies of photos in which they appear.

Archiving of Knowledge Artifacts. A copy of all written documentation (transcriptions of interviews; reports; publications), audio, video and photographic materials generated by the research project will be provided to the community to be archived within the appropriate organization. It may also be decided that knowledge artifacts should be held at other institutions with appropriate storage facilities in order to safeguard the materials. Agreements will be negotiated with such organizations by the First Nation in order to determine access to these materials.

Sharing of Research Results. The research results will be available for use by the First Nation community for other purposes. The research team will also share the results of their work for use in school curriculum and other forms of teaching about the topics of the research.

Communication. The research results will be presented to the community in a manner which facilitates the understanding of the results during workshops and in written materials.

Community Researcher. Researchers will work with community researchers in a manner which provides the community researcher with an opportunity to learn field methods of research. The use of a community researcher during interviews also provides a manner in which knowledge may be transmitted between elders and future generations.

Compensation. The advisory committee will set a fair and equitable level of compensation for the community researcher and other participants in the research project through a process of consensus.

Informed Consent. Participants in the research process will be made aware of the purposes of the research and the use which made be made of information provided to the research team. Any participant is free to withdraw from the research at any time with no penalty. Although we had planned to utilize written consent it became apparent that what is more important is to involve

elders who would be involved in the research on the advisory committee and in workshops when the research was discussed. Elders who chose to be involved in the research agreed to participate in interviews and on the advisory committee. Those who were not interested did not participate in the research. It became clear that the use of written informed consent was not applicable to the type of research being undertaken.

Sources of Funding. It was important to clarify who was providing financial support for the project as this influenced whether people chose to be involved in the research project. Attempts were also made to make First Nation participants aware of other funders and provide the ability for the First Nation to directly obtain their own sources of funding.

In summary, what we discovered was that the process of developing a research protocol through workshops, review of written documents and oral presentations became the negotiating arena out of which a final written document resulted. Trust, respect and partnerships were negotiated orally through the process. The signing of the final agreement signified that these conditions had already been established orally through the process. The protocol document was not so much a legal or ethical document but a symbol of the degree of trust which had become established through the negotiation process. The process forced us to engage in a detailed process of communication in order to reach a common understanding of the research project and the use of the results. Formally, the signing of a band council resolution signified the band administration's agreement with the research project. Informally, elders involved in the project indicated their agreement by attending a pipe ceremony and feast which was held to start the field component of the research. Further agreement by the elders was demonstrated by their willingness to show up for interviews. Those that chose not to become involved in the project chose not to attend interview sessions or trips to the bush. The process of writing a research protocol may seem officious, but the importance is found not in the written document, but the intercultural (Aboriginal / Euro - Canadian; Scientist / Practicioner; Botanist / Ethnoecologist; etc.) communication which is necessary to find themes of common interest which the research project can address. If common themes and methods can not be found and which are mutually acceptable, the result will probably be that one of the parties will walk away from the negotiating process before a final protocol is established.

5. Learning NTFPs from an Aniishinaabe Perspective

6) Including the Core Value of Respect in the Research

One of the principal ideas which emerged through discussions about research plant use and knowledge was that of "taking care of what was given us". The concept of *Gemiiniigomozin Kaganoyndagonk*, or "taking care of what was given us" formed the basis of our discussions about the research. As one of our partners in the research process put it: "Gemiiniigomozin covers everything, not only land we see but all the animals ... infrastructure of self-government ... [in a] broad interpretation it covers everything. If we say Gemiiniigomozin Kaganoyndagonk this expresses that what we are given we will take care of." (Robin Green June 2000). It was stressed that "Taking care of what was given us" is a value which should apply to everyone who

is involved in the research process. Elders have a responsibility for the knowledge that they have gained through their life experience. Scientists have a responsibility for the knowledge that they learn through their studies and in particular during the research project. Young people involved in the project have a responsibility for what they learn during the research project from both elders and others. However, taking care of what was given to us requires a familiarity with a core value that may be translated as that of respect for the human and non-human beings who are encountered during the research process. Many of these ideas were expressed by Robin Green when we held a conversation about why tobacco is offered to Elders before asking them to share knowledge and to plants before harvesting.

Learning Respect

DRAFT TRANSCRIPTS - NOT FOR DISTRIBUTION

A conversation held with Robin Green (RG) and Iain Davidson-Hunt(IDH)
Iskatewizaagegan #39 Independent First Nation
June 2000

Tobacco how it came about to be different from the past and the future.

A long time ago, all tribes, in whatever territory they started to have communities, there they found the tobacco in their territories. And that tobacco came about to be something very sacred to us as a, more or less, I would say, if you wanted to understand it, like money. If you want something you got to pay for it, its as simple as that. In our belief, if you want to know something, we have to offer tobacco first. And that varies to ... sometimes you have to have a ceremony and sometimes you can very much do it on your own. And this tobacco I am talking about, the real tobacco, is very strong stuff, its something that you don't smoke everyday kind of thing, it is very strong, stronger than cigar, the way I have noticed it. It goes to show that as you begin to understand, sometimes you say why type of thing. It just goes to show you that you can not really abuse that to get a big supply of it. The teaching is that you only take what you need to use and that's the way it was always followed. Otherwise it begins to abuse of these things ... something what we call consequence catch up to you. So it is told that a strong message flows through the tobacco to the creator or to any spirit that you want to contact. For that reason we always believe tobacco comes first before you do something. Like when I go out to pick plants, I place my tobacco and talk to the plants to say that I want you to, whatever the plant may be, to cure me, of whatever ailment I may have. And so I take that and that's the way I use it and that's the way it works. If I just place tobacco and start picking I didn't really clarify why

did I pick that. So...more likely at times...some people are not aware of that... because in our view and in our belief, everything is alive, regardless of what it is, anything in the environment, everything is alive and that is what we are told to look at. That's how I don't abuse the environment.

IDH - Talking to plants, is that what you mean by not abusing ... that you would have to show respect. Would that be similar, if, in our case, those of us who do research, we pick plants because we want to learn because we want to share knowledge about plants with other people. Would that also be the approach .... in a sense it is not just the act of placing the tobacco ... it is actually placing the tobacco along with talking to the plants that seems to be important.

RG - It is all a matter of understanding it. Why you have to do that. When you talk about respect that is where the why is the answer. Respect ... you respecting what you are about to do and what you are about to take.

IDH - Do you think learning or knowledge is a valid reason to take plants if you show respect in that way.

RG - Well... I find that you can separate again knowledge from being very gifted ... That is another avenue. A gifted person very much knows the medicines and what those plants are. But whereas, when you look at it the other way, you have to study to know what that plant is. That's the difference. So...when you go about it in that way...that's the very important thing to be aware of...Through the vision quest or through the dreams that's where this person already knows yeah that medicine I can use for certain things and so forth. So that is already where the knowledge is. In other words, there are certain people in our Nation who are gifted to know that. It's not everybody. And uh...if I was to go to university and study all these things and get lucky to get my degree there is no value in that through I am educated, the value is of that person identified to have it.

IDH - A number of different questions come up, I am trying to think of which one. Let's try this one. When you share knowledge, to use that term, I don't know if that is the appropriate term, about things, or about plants , is there a sense that, if I am the receiver, if you're sharing with me about things. Is there also that same sense that I should only then take as much, you know the concept that you should only take as much as you need ... does that also apply to knowledge.

RG - It is always there ... I've never heard of anything either ... to have

somebody tell you that ok this is a good medicine, this is a good plant for medicine ... you can take whatever you want and all you want ... nobody has the responsibility to being even saying that, to even mention that. He'll say the same thing .. take what you need.

IDH - Yeah ... it is understood ... What I am wondering in this context, a slightly different context, if someone is interviewing you, because they are doing a native whatever, one of these land use studies ... let's say that you share information that isn't really important, its not really relevant to one part of what he is trying to do. I'm just wondering if that idea, take only as much as you need, some information he can share but other information he really shouldn't share because it is not really relevant to what he is trying to do.

RG - Well ... in terms of relevant ... I look at how much can you understand ...Ok ... it is the only way that I can see applying to the question of what you want to know. Take a look at it this way ... I can only give you a quarter of this tobacco ... because there are things that I know I can't really, maybe, not of use to me but I can keep that information and that is all. So... in other words, now it's mine, to think its mine, whether I want to release it is another question. That's another way of looking at it.

IDH - In actual fact, I can only, when I begin to learn, or anyone else begins to learn, from you or other elders about things, it would seem that until I know some things I can't really understand other things. So there's not much point in sharing those other things.

RG - That's right ... because ...uhm...I always looked at it in the way what I have come to know through some people ... it does more harm than good ... and that is what you have to be very careful about.

IDH - You have a responsibility for the knowledge that you hold. And how that affects other people when you share it. Is that correct I am sort of summarizing.

RG - Yeah it is. That's the way I tend to understand it. It's better to verify things as we go along rather than to come back and say Oh I forgot what you said about certain things ... you know and that bothers you in how you go about finding that out... its something that is very common that happens because of uh ... again it just goes back to that tobacco that you offered did I accept it properly in the way to ask for these things that I am talking about. Did I take some of that tobacco and put it on the

ground or whatever, that's my responsibility, whatever I say, just like that legal term, hold against you, or it will be held against you.

IDH - Is that to keep, I don't think balance is the right word, but is it relationships between you and the spirits and the animals and the plants. Is relationship the right word to use in English, its not really balance.

RG - There is some point of relationship, its got more to do with communication

IDH - I'll try to get you to explain that a little more.

RG - In a communication you will get it in some form the answer that you are looking for spiritually. And .... sometimes that as we talk together here ... it doesn't say that I am limiting myself to tell you what I have to tell you .. But we are limited to certain things that we talk about that we can only learn from. Just like a school system ... you are taught one subject ... and if you tend to think you know ... you go on to another one. That's principally the way things are in our spirituality. It's the perception also by whoever it is asking that question or wanting to know.

IDH - There's two sides to it.

RG - Yeah there is always two sides to its.

IDH - When it comes to picking plants that you mentioned, and that you talk to the plants, ... or the spirit of the plant ... or the plant as animate, something that is living, has a spirit, the sense of abuse, or offend would be another word. How does that, what does the offence do. If someone doesn't do it correctly, what are the implications of not doing it correctly.

RG - Well it could be anything ... maybe you won't understand it when it happens, you will be having rough, time or bad luck or may not have a job and having difficulties struggling personally. Then when you think back ... why did that happen to me .... maybe I did somebody wrong or did something wrong and that is a hard way to learn, very difficult, and that is one of the consequences. You know I'll be as a young boy growing up foolishly and all that stuff, without thinking or without knowing I might be abusing an animal. Ok, that animal is badly abused and reacts spiritually ... later on in my life it catches up to me and I remember the animal who I had abused so many years and know it has caught up to me and I am going through a rough time. I might be affected directly and getting sick or my family.

The conversation about "learning respect" brings to light some of the values which should be included in research on NTFPs, or other topics, when working with First Nation peoples. The offering of tobacco is not a meaningless ritual but expresses the researchers embodiment of the value of respect. The offering of tobacco to an elder communicates to that person that we have considered the social, ecological, cultural and spiritually implications of the request we are about to make for the sharing of knowledge. Likewise, the offering of tobacco before the harvesting of plants reflects that similar consideration has been given prior to the act of harvesting. This means that the harvesting of plants for the purpose of voucher specimens needs to be considered in light of the value of respect, "taking care of what was given us" and "taking only what we need".

Tobacco signifies that we understand the value of respect before asking a person or plant to share their knowledge with us. The autonomy of a being must be respected by not infringing on that being's autonomy foolishly. Tobacco thus signifies that the exchange of knowledge occurs through a relationship between two autonomous beings who must both be accorded respect. The asker is under the obligation to think deeply about why they need to obtain such knowledge while the giver must consider the knowledge which can be shared with the asker. The offering of tobacco and the reception of such an offer places obligations upon both beings who are engaging in a relationship through which knowledge will be exchanged. Tobacco is like money because it signifies that an exchange is occurring. It is unlike money in that the money does not signify the value of what is being exchanged but rather the obligation of each party to respect the exchange by only taking what is needed and only by only giving what the receiver can responsibly accept.

The text of "Learning Tobacco" provides for reflection and discussion on the concept of knowledge and livelihood. However, it is included in this document as an example of the potential disjuncture between the role of knowledge and the values within which are embedded the practice of science and First Nation livelihoods. Tobacco is an exchange which represents the establishment of a social contract between the researcher, elders and plants. Part of that social contract requires that we consider how we then utilize the knowledge that we have learned. Should it be translated and transcribed into written documents? Should it be made available to others through publishing such knowledge in public domain journals? Should it be utilized for commercial purposes? If so, how? While there are no clear answers to these questions, it is a topic which needs to be discussed in each place-specific research process.

2) Respecting Elders' Authority for NTFP Knowledge and Ways of Teaching Future Generations about NTFPs

Another key value which has emerged through the research project is the importance of acknowledging and supporting the authority over knowledge accorded to individual community members. In our work this value has been specifically noted for the knowledge elders hold about plants in relation to the Aniishinaabe way of learning and teaching. People hold authority over different types of knowledge. In the conversation on "learning respect" held with Robin Green

an initial reference is made to this value when he mentions how knowledge inheres, or exists, in the beings of a specific place. Knowledge is pursued by an individual not for its own sake but due to the fact that the person has had a vision, or dream, that they should pursue such knowledge.

Authority over a domain of knowledge is accorded to such a person as they pursue their vision by communicating with and experiencing other beings of the place. Authority is linked to visions, dreams and experiences which reveal that a person has been given a gift to learn certain types of knowledge. The specific content of knowledge is revealed by the other beings of a place as the person pursues their vision. Elders become knowledgeable about plants as they experience a place, its plants and its people who reveal themselves and their gifts to that person. A person grows in authority regarding plant knowledge as they pursue their vision and become more attentive to the gifts of plants and of others who know plants. Enskilling in plant knowledge is a process by which a person not only learns to recognize specific plants but to become attentive to the plants and other beings in that place. A person who receives a vision that they have a gift for knowing plants will often work with an Elder who can guide their process of enskilling and is already regarded as an authority over such knowledge. In a broad sense, all who recognize this way of knowing as authoritative, follow Aniishinaabe Iekawin or the Aniishinaabe way of teaching.

Alternatively, the Oomtigosih (white) way of teaching moves authority out of beings in a place to external sources of authority over knowledge. Knowledge about the world is extracted from its place and inhabitants and transferred to books and experts who become authoritative about specific realms of knowledge. Books and experts are sought out as teachers who accord degrees to their pupils instead of visions, dreams and the experience of a place and its inhabitants. Place specific knowledge is translated and transcribed into universal knowledge and knowledge authority is moved from the beings of a place to centralized organization and institutions of knowledge. These issues were first brought to our attention through a conversation held between Elladon Green, Walter Redsky and Jimmy Redsky.

Learning Plants
A conversation held with Elladon Green (EG), Jimmy Redsky (JR), Walter Redsky (WR) and Iain Davidson-Hunt (IDH)
Iskatewizaagegan #39 Independent First Nation
July, 2000

DRAFT TRANSCRIPTS - NOT FOR DISTRIBUTION

EG - I guess the way I started learning plants is my aunties, they used to take me out in the bush to show me what kind of plants there are and what kind of plants that we can use for medicine. My mom too, she used to take me out on the lake along the shoreline, and she used to tell me all kind of plants which I can't remember, she named them, but I don't remember the names of them. And that was passed on and a lot of these medicines that they showed me and how they are used for, they used to tell me that I would be carrying on to the next generation.

And it was so important to them for me to learn all this and to keep in mind which plants I am supposed to pick, and there are some poisonous plants that I can't touch. And then some of them I received through dreams. Like, I would dream about something, you know. Especially an old lady or an old man would be in my dreams telling me all kinds of things. But after talking to me, like, you know it would be a bird or a four-legged, you know those animals that run around and around, that's how they turn when they leave. Dreams, visions...visions would be like seeing a bear coming to me and telling me what the purpose of a plants is, you know, giving me that plant...That is how I learned to make medicines for anyone. Another thing I learned, when they have shaking tents, the people in there, the spirits, when they give you medicine, and you are supposed to keep that medicine it is for you, eh, for you to heal, I keep that too because it has already been given to me through shaking tents. That's how I received all these things that I carry, that I carry on, from my aunties, my mom and dad, through dreams and through shaking tents. And there are people too that come to you. Sometimes you are sick, they see you are not feeling well, and then they pass that medicine on, they give you that medicine, or they tell you about these plants to go and pick. And that's yours now because it was given to you by that person who felt sorry for you...so you can get healed from medicine. So I keep that too, I take it because it was already passed on by another elder. And that's how I remember all these things and I keep them and I use them when people come to me. And I do the same thing, especially for young people, when they come to me, for healing or anything like that, then I pass that thing on to them, I give it to them. I tell them and I show them what to do. I take them out in the bush and show them where that plant is because I won't be taking that with me. I like to leave it with the young people. That's what I do. I think that's how the teaching of our elders, a long time ago, that's how they did these things. It was passed on, passed on, generation to generation, whoever keeps it will take care of it and learn more about it. You never stop learning...right to the end My time right now is my time to show them, if they come to me with tobacco or with gifts, then I teach them. I show them what the plants are, so they will know and they can use it. I know when I was being taught all this, I never touched nothing, I never even bothered to do anything, until just recently, it all came back...I started feeling that it was very important for me to carry that, and practice it and go on and do that healing for others

IDH - Why not when younger.

JR - There is an answer to that...The elders who brought me up ...growing up ... told me that ... if you don't learn things when you are young...you learn it, but you don't practice it, you don't know these things right away. Because it is your life that is on the line. Because when you are given the medicines ... given your directions ... your life is on the line ... for all these people that you are helping ...so therefore you were told to wait until older to practice healing. Today in this

generation, you see a lot of the younger generation and why, because of that book there. And some of them will actually use that book, use it, in matter in fact I know some.

IDH - And what's wrong with using the book.

JR - The way she was taught was the right way to be taught. But the people, the younger generation that are coming up will look at the book and it is right there what the uses are.
IDH - The right way?

JR - The way you were taught as a young person, as she was just mentioning, her aunt, her mom, her dad, you were taught that way. You were also told not to do it right now, later, later.

.....

JR - The native way - Oomtigosih way - learn from a book - she must have been 18,19 years old and she told me what to eat - and I said how did you learn these things - from a book.

EG - Aniishinaabe Iekawin - Aniishinaabe teachings - Aniishinaabe way of being taught.

....

WR - In order to learn, how much interest you have in wanting to learn has a lot to do with it. And yeah, sometimes in order to learn you have to go out fasting. You have to be careful when you are fasting, see that you don't make a silly move. You will be glad that the spirit has come to you in person to tell you these things. So you have to be careful what kind of a move, what kind of a question, what things you are looking for. For example, one time there was three people who went out fasting and the spirit came to them. I come here to grant you your wish. What is your wish that you ... what is it that you want to learn from me. This is why I say that you have to be careful that you don't make a silly move or a silly question. See that you don't, the spirit will give you what you want. When you fast four days, four nights, the spirit does not live by water or eat bread alone. In order to talk to the spirit, this is why you fast, all that food and water is gone and you become a spirit. And this is the way that you communicate with the spirit. And the spirit will ask you what you want. You have to be careful. What kind of a wish you make. This person in the legend, years back, teachings, what would you like from me? I'll give it to you. He made the silly move of asking the great spirit, the creator, that I want to live forever. He made his wish. Yes if that is what you want, I'll give it to you...you will never die. See that rock over there -

I'll turn you into a rock and you will never die. So...this is why I say that you have to be careful what you wish for, what you want from the great spirit. Another one, two ladies, two young girls were outside and they were laying down on the grass and looking at the stars. They too were fasting so they looked at the stars .... the stars had human form like. Which star would you like. I like that one on the left, I'll take the one on the right. The stars came in and got them and disappeared. And they are up there in the stars now. So this is why I say you have to be careful, what kind of move you make, because the spirits will give it to you.

EG - There was one that my mom and dad used to tell me. There was a young boy who always went to get water at night. Waiting for their grandson to come back.. Getting the water out of the icehole and holding the pail on his right arm and he would stay there for hours. Mom asked why he did that and he said that he wished that he would be up there in the moon. The next day he was looking up and disappeared and ended up in the moon.

The conversation with Elladon Green, Walter Redsky and Jimmy Redsky raised two issues which we hadn't considered when we originally proposed the research project. First, the research process itself and the resultant documentation, can displace the authority over plant knowledge from elders to scientists and documents. The second is that while the elders recognize this as a potential problem they are also concerned that their knowledge may die with them. We were aware of the second issue when we started the research. We proposed that by recording their knowledge about plants we could create a documentary record which could be used in schools to ensure that children would continue to have access to their knowledge. However, the paradox is that it is school, staring with residential schools which many elders attended, which has displaced the time that children are able to spend with elders in the bush. In fact, we are beginning to consider that we can appreciate the erosion of knowledge not by measuring the knowledge of different age cohorts. Rather, it may be more useful to understand the change in time that children are able to spend with elders learning about the bush. A further contradiction which emerged is that we may actually be aggravating the problem of authority over plant knowledge by transferring such authority from elders to documents (eg. specimen photos with Aniishinaabe names) and teachers.

As we became aware of this dynamic between authority, knowledge, research and elders we began to consider ways that we could support existing social and cultural institutions of knowledge while recognizing the role of school in the contemporary First Nation setting. One early change we made was to ensure that we recorded interviews with elders on digital audio and video tapes. At a minimum this would maintain a linkage between knowledge and the elder who shared the knowledge. Due to emerging technology it is then possible to create a multimedia presentation of the recorded knowledge which could be used in a school setting. However, it emerged that what was also needed was a way by which children could spend more time learning about plants and the bush from elders themselves. If the family no longer hunts or traps, or the

children are in school when these activities occur, then a way by which elders could lead structured field trips to teach children about plants and other topics should be considered. The authority of elders over their knowledge would be demonstrated to children and those who chose to pursue an interest in this knowledge further could do so on their own time. Issues such as the harmonization of the topics of such field trips with school curriculum and logistics of field trips need to be resolved. While this topic was not a core aspect of our research project the elders made it clear that these issues must be considered by ourselves and the community during the course of the research project.

6. The Iskatewizaagegan Knowledge Legacy of NTFPs: Traditional Ecological Knowledge Recorded in Year 1 of the Research Project.

This section of the technical report provides a summary of the ethnobotanical and ethnoecological research documentation for year 1 of the research project. Further documentation can be found in Technical Report #3, Ethnobotanical and Ethnoecological Research Documentation. The tables which are included in this section should be considered as a work in process with many of the initial findings to be expanded and verified with elders during year 2 of the research project. Table 1 demonstrates how quick results can be difficult to obtain. Further work in year 2 has clarified many of the questions outstanding from year 1. However, it should be noted that it took a good four months to generate ethnobotanical research results in which we now have confidence. These results are in the process of final verification and will be published some time in 2002.

Table 1. Traditional Ecological Knowledge Research Documented during Year 1 of Research Project.

Aniishinaabe Name/s	**English Common Name/s**	**Scientific Name**	Source
Atig	Trees (or stem)		
Meenan (Miin)	Berries		
Aneebezshun	Flower		WR/JR
Bagoon	Leaf		
Ochiibig Opin Okatak	Roots Tubers Swollen taproot (edible)		WR/JR
Other Herbs			

Ginaabigowashing	Ferns		WR
Kamig	Moss		
Ozhushkwetoo	Fungus		WR
Atig			
(Shingwaak)	(Pine)General term for Pines	*Pinus sp.*	DG
Okiggandeg	Jack Pine	*Pinus banksiana*	WR
Okikaandag Okikaandagoosag	Jack pine Jack pine sapling	*Pinus banksiana*	WR WR
Shingwak	Norway Pine	*Pinus resinosa*	WR
(Shingoob)	(Spruce)	*Picea sp.*	DG
Gaagaagiiyaandag	Spruce	*Picea sp.*	
Gaagaagiiyaandag	Spruce	*Picea sp.*	
Pigewaatig	Balsam Fir	*Abies balsamea*	
Pigewaatig	Balsam Fir	*Abies balsamea*	
Miishkiigwaatig	Tamarack	*Larix laricina*	WR
Geezhik	Cedar	*Thuja occidentalis*	WR
TBD	Yew	*Taxus canadensis*	
Gaagaagiaandigoog	Juniper	*Juniperus communis*	WR
Saysaygaandag	Juniper	*Juniperus communis*	RG
Gaagaagiiwaandag	TBD	TBD	RG.
(Aneeb)	American Elm	*Ulmus americana* TBC	WR
(Maani zaate)	(Black Popular) (Trembling Aspen)	*(Populus balsamifera ssp. balsamifera)* *(Populus tremuloides)*	DG

Agimak	Black Ash	*Fraxinus nigra*	DG
Wigwas atik (sing.) Wigwassug (plural)	Birch	*Betula papyrifera* var. *papyrifera*	DG
Wiigob (sing.) (Wiigobiig) (plural)	Willow	*Salix* sp.	DG
Atoop	White willow	*Salix* sp.	
Maananoos	Ironwood	*Ostrya virginiana*	WR
Pagaanamizh (single) Pagaanamizhiig (plural) Pagaan	Bur Oak Oak Stand or Oaks (Oak nut or just any nut?)	*Quercus macrocarpa*	DG
Mitigomish	Bur Oak	*Quercus macrocarpa*	WR
Pigaani moozhiins	Beaked Hazel	*Corylus cornuta*	
Wiin ngiig aatig	Beaked Hazel	*Corylus cornuta*	
Pagesaanaatig (Wild Plum Tree) Pagesaan (plum fruit or any fruit?)	Wild Plum	*Prunus* sp. TBD	WR
(Miinaasag)	(Hawthorn)	*Cratageus* sp.	DG
Atig / Meenan			
Amiko minaatig	Mountain Ash	*Sorbus* sp.	
Makwaminaatig (Tree) Makwamiinan (Berries)	Mountain Ash	*Sorbus sp.*	WR
Saswayminan (berry) Saswayminan mitig (tree) Saswayminaatig (tree)	Chokecherry	*Prunus virginiana* L. var. *virginiana*	DG
Poweminaanan Poweminaan Poweminaatig	Pin Cherry Pin Cherry Pin Cherry Tree	*Prunus pensylvanica*	DG
Paweminaantig (tree)	Pin Cherry	*Prunus pensylvanica*	WR

Paweminann (berries)			
Po we minan	Pin Cherries	*Prunus pensylvanica*	
Ozigwaakomin (berry - single) Ozigwaakominag (berry - plural) Ozigwaakominaatig (tree)	Saskatoon Berry	*Amelanchier sp.*	DG
Aniibemenan	High Bush Cranberry	*Viburnum trilobum*	RG
Aniibmeenan	Highbush Cranberry	*Viburnum trilobum*	RG (WR, EG)
Amikominaatig	(Beaver Berry Tree)	TBD	WR
TBD	Sand Cherry	*Prunus pumila*	WR
Meenan			
Meenan	Narrow-leaved Blueberry	*Vaccinium angustifolium*	DG
Pingomeenan	Velvet-leaved Blueberry	*Vaccinium myrtilloides*	DG, RG
Meenan	Blueberries - Elladon gave 4 different names for blueberries - need to check with her on this	*Vaccinium* sp.	
Shingo minan	Black blue berry	*Vaccinium* sp.	RG
Oteiminan	Strawberries	*Fragaria sp.*	WR
Oshkiizhigominan	Dewberry	*Rubus pubescens*	WR
Miskominan	Raspberry	*Rubus idaeus*	WR
Manito minaan (berry) Manito minaatig (plant)	Red (White) Baneberry	*Actaea rubra*	WR
Manito minaan	Blue bead lily	*Clintonia borealis*	EG (WR, RG)

Manito minaan	Category of plants with poisonous berries		WR / JR
Ezhaabo minag	Gooseberries	*Ribes* sp.	
Azhaaboominag	Red Gooseberries	(*Ribes oxyacanthoides)*	WR
Mikominan	Black Currants	*Ribes* sp. TBD	WR (DG)
Mishichiimenan	(Skunk Currant)	(*Ribes glandulosum*)	WR
Miishiigomenan	Bog Cranberry / Lingonberry	*Vaccinium vitis-idaea*	RG
Miishi chiiminan	Sweet-scented Bedstraw	*Galium triflorum*	WR
Agongsa minan	Bearberries	TBD	
Shkiizhigo minan	TBD	TBD	
Ginay bigoo minan	TBD	TBD	
Nay ngaa minan	TBD	TBD	DG WR
Miko minan	TBD	TBD	WR DG
Bagoon			
Bagoon Bagoonan	leaf leaves		WR / JR
Wiinsii bagoon	Pince's Pine	*Chimaphila umbellata*	WR
Wiinsii bagoon	Wintergreen	*Gaultheria procumbens*	RG WR EG
Gaagebagoon	Wintergreen	*Gaultheria procumbens*	RG
Babigobagoon	Poison Ivy	*Rhus glabra*	WR
Muskigobagoon	Labrador Tea	*Ledum groenlandicum*	WR / JR
	Waterlillies	*Nymphaea tetragona*	WR

Ogitaabagoon	White or yellow flower	*N.* spp.	DG
Ogibik	Root		WR
Waabozogibik	(Wild Sarsaparilla)	(*Aralia nudicalis*)	WR
Other Herbs			
Mazonishgoog (plural) Mazaanishk (single)	Stinging Nettle	*Urtica dioica*	WR
(Agitamowanoo)	(Squirrel's Tail)	TBD	WR
(Agobizowin)	Lady's Slipper	*Cypripedium calceolus*	WR
(Catacasiin)	Wild Mint	*Mentha arvensis*	WR
(Ajitamoowanoo)	Looks like Common yarrow but walter said different plant with no fruit/flowers - therefore juvenille stage?	(*Achillea millefolium*)	WR
Manitogaataak	Water hemlock (poison)	*Cicuta maculata*	WR / JR
Ogishkibwaag	Wild Potatoes Jeruselum Artichoke	*Helianthus tuberosus*	WR (DG)
shigaagomish shigaagomishiin	Wild Onion Wild Onions	*Allium stellatum (TBD)*	DG (WR)
Wiingushk	Sage	*Artemisia* sp. TBD	WR DG
(Zhiiwibojik)	Giant Burdock	*Arctium lappa*	WR
Zaganjigesi Zaganjigesiwag	Burr Burrs		WR
TBD	Common Mullen	*Verbascum thapsis*	WR
Miskooninigiin	Bunchberry	*Cornus canadensis*	JC
Piiyesh ganag	Bullrush	*Scirpus lacustris*	WR EG

(Sagungijashig)	Thistle - general or specific?	TBD	WR
Animozitens	Plains Prickly Pear **Cactus**	*Opuntia macrorhiza*	WR DG
Ozhaashimin	TBD	TBD	RG
Mushkeegwaabo	TBD	TBD	RG
Manomin Manominatig Waabemanomi Mashtatimanomi	Wild Rice - grain Wild Rice - plant White Rice (Waabe = white) Oats (Mashtati = horse)	*Zizania aquatica*	WR DG JR
Weekay	Sweet flag	*Acoris calamus*	EG
Nahmaipin	Wild Ginger	*Asarum canadensis*	WR
TBD	Spotted-touch-me-not	*Impatiens capensis*	WR
TBD	Violet	*Viola* sp.	EG
Ginaabigowashing (Ginaabig = snake)	General Term - Ferns		WR
TBD	Fern Rusty Woodsia	 *Woodsia ilvensis*	WG (EG, RG)
TBD	Ostrich Fern	*Matteuccia struthiopteris* TBD	EG (WR, RG)
TBD	Common Polypody	*Polypodium vulgare*	EG
Kamig	Moss - General		
Mashkeego kamig	Swamp moss, harvested in the fall	TBD	EG
Mashkeegokamig	Moss in the swamp used for diapers Sphagnum?	TBD	EG (WR, RG)
Aasaakamig	moss that grows against	TBD	EG (WR,

	the rocks		RG)
Ozhushkwetoo	Fungus - General		WR
Sagataagan	Birch Conk	TBD	WR
Nabagshkoon	**Sedge** Flat, sharp bladed, swampy	*Carex* sp.	EG (WR, RG)
Awesiiyag	Animals (plural)		DG WR
Awesii	Animal (single)		DG WR

Table 2. Linking Aniishinaabe Plant Names and Scientific Names to Facilitate Communication and Information Flow - A Random Selection of Examples from Field Work and Database Searches[1].

Use	Aniishinaabe		Scientific Name	Commercial Use
Cf,	Pigewaatig	Balsam Fir	*Abies balsamea*	*Essential Oil - perfumes, soaps, cosmetics, floor polish etc.* *Resin - turpentine* *Wood - canoe frames, paddles, crafts*
U		Mountain Maple / Moose Maple	*Acer spicatum*	*Bark and twig - medicines for intestinal problems and eyewash*
M	Agongsaminan	Bearberry / Kinnickinnick	*Arctostaphylos uva-ursi*	*Potential - ground cover for landscaping*
M,B,Fw,Cs,Cf	Wigwassug	Paper Birch	*Betula papyrifera*	*Bark - Baskets, Canoes, Decorative, Pharmaceuticals* *Wood - Specialty products, firewood* *Wood and Bark Oils - aromatherapy* *Sap - beverages, flavourings*
U	Miskooninigiin	Bunchberry	*Cornus canadensis*	*Potential - red food colouring*
U		Fireweed	*Epilobium angustifolium*	*Leaf and Root - Pharmaceuticals* *Young shoots - Edible* *Flowers - Honey*
U	Gaagaaagiaandigoog	Juniper	*Juniperus communis*	*Essential Oil - aromatherapy, cosmetics* *Cones - Flavouring*
B,M	Mashkeegobagoon	Labrador Tea	*Ledum groenlandicum*	*Essential oil - aromatherapy*

Use	Aniishinaabe		Scientific Name	Commercial Use
				Ornamental shrub
U		Sweet Gale	*Myrica gale*	*Essential oil - aromatherapy* *Ornamental shrub*
Cs,	Shingoob / Gaagaagiiyaandag	Black Spruce	*Picea mariana*	*Essential Oil - multiple uses + pharmaceutical - tuberculosis?* *Cones - Crafts*
F	Oshkiizhigominan	Dewberry, Dwarf Raspberry	*Rubus pubescens*	*Fruit - edible*
F, M	Meenan / Pingomeenan	Velvet-leaved Blueberry	*Vaccimium myrtilloides*	*Essential Oil - Cosmetics* *Fruit - Edible* *Leaves - Pharmaceutical?*

[1]Davidson-Hunt Field Notes 2000 and Tracy Ruta 2001 Technical Report. See Ruta 2001 for specific details and sources for commercial uses of plants.

Table 3 was produced from descriptions given by elders to describe different types of habitat. As can be seen from the results there is a technical vocabulary which can be drawn upon to describe different types of habitat. However, it would not be accurate to say that these descriptions of habitat are equivalent to universal categories. More discussion on this issue will be presented in the results from year 2 of the project.

Table 3. Anishinaabe Landscape / Habitat Terms with English Gloss and Suggested Equivalents.

Anishiinaabe Landscape / Habitat Terms	English Gloss	Nearest Ecosite / Habitat Type / Life Zone
Pakwaakwaa	Grove of trees in open area i.e. in a field	
Abageeshkenskaag	Oak growing out to point	V3
Mataabiiyaakwaa	Birch grove coming to a point	
Nayaakwaa	Trees growing in a group on a point	
Giinaymitigomiizhkaag	Oak growing to a point	
Minisinaakwaa	An island of trees	Grove
Okokizowug wigwas	Patch / Grove of Birch Trees	V4 / V5 Birch Grove
Okokizowug Agimak	Patch / Grove of Black Ash Trees	V2 Black Ash Grove
Okokitewan miina	Patch of Blueberries	

Anishiinaabe Landscape / Habitat Terms	English Gloss	Nearest Ecosite / Habitat Type / Life Zone
Pasaakwaang	Ravine where Black Spruce and Lab. Tea grow.	V34 Black Spruce Swamp
Shiibe shkoteyaang	Parkland - no underbrush, can see right through	ES13 / V29 Jack Pine Parkland Cedar Grove
Shiibayaakwaa	See through where deer have cleared by eating	
Shiibaakobwaag	Stream with willows (*Salix* spp.) on both sides	TBD
Madaawangoodana Madaawan	Sand Hills Sand	ES 13 / V29
Mashkeeg	Muskeg	W21-23
Totoagaan	Floating Bog	W13 / W14
Wiikweshkosewogaa Wiikweyaa	Bay with Grass Bay	W7, W8
Aziibahminisiing	Island with narrows between	
Taashkaapka Giishkapkaa	Crack in rocks Rock Cut Wall - Sage Location	

Anishiinaabe Landscape / Habitat Terms	English Gloss	Nearest Ecosite / Habitat Type / Life Zone
Mataawong	Sand	
Wabigan	White Clay	
Waabikaang	White Rock	
Nayaapkaang	Rock Point	
Giishkapkaang	TBD	
Kaang	Stone Ridge	
Niisapkaang	Rocky Slope	
Mataabiiyaapkaang	Rocky slope going down to lake	
TBD	Cutover	
TBD	Burn	

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