

# Eabametoong First Nation

## Knowledge and Use Scoping Study

GREENSTONE GOLD'S PROPOSED HARDROCK PROJECT

Rachel Olson PhD, Steve DeRoy MSc, and Firelight Research Inc. with  
Eabametoong First Nation

February 2, 2017



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

FINAL REPORT / February 2, 2017

Prepared and authored by:

Rachel Olson PhD, Steve DeRoy MSc, and Firelight Research Inc.



On behalf of:

Eabametoong First Nation



Submitted to:

Chief and Council, Eabametoong First Nation

Thanks and acknowledgements go to Eabametoong members, elders, knowledge holders, land users, staff, and leadership who contributed. This report could not have been completed without their support and expert knowledge. The following project team was involved in collecting, analysing and writing this report.

- Principle Investigator: Dr. Rachel Olson
- Project Manager: Steve DeRoy
- Community Coordinator: Roy Bois (EFN)
- Researchers: Steve DeRoy, Tessa Bois (EFN), Janelle Kuntz, Katy Dimmer
- Mapping and GIS: Dr. Christopher Ames

Disclaimer:

The information contained in this report is based on research conducted by Firelight Research Inc., as well as published works and archival research. It reflects the understandings of the lead authors and is not intended to be a complete depiction of the dynamic and living system of use and knowledge maintained by EFN members. It may be updated, refined, or changed as new information becomes available. All mapped information is based on interviews with EFN knowledge holders conducted within constraints of time, budget and scope. Base map data originate from Natural Resources Canada. The information contained herein should not be construed as to define, limit, or otherwise constrain the Treaty or Aboriginal rights of the Eabametoong First Nation or any other First Nations or Aboriginal peoples.

## **EXECUTIVE SUMMARY**

---

Eabametoong First Nation (EFN) retained Firelight Research Inc. to conduct a traditional knowledge and use scoping study (the Study) in relation to the Hardrock Project (the Project) proposed by Greenstone Gold Mines GP Inc. (The Proponent).

The Project is an open-pit gold mine and ore processing facility located approximately 5km south of the town of Geraldton, Ontario. The Project is situated on a historical mine site which was actively mined between the 1930s and 1970s. The Proponent acquired the mineral claim in December 2008 and has been actively exploring the area since. According to the Proponent's website, other Project components will include a main open pit and satellite pit, ore processing facilities, waste rock storage areas, a tailings management facility, a natural gas-fuelled power plant, a liquefied natural gas (LNG) plant, explosives manufacturing and storage facilities, and other ancillary facilities<sup>1</sup>. In Phase 1 of operations, the mine is expected to extract 12,000 tonnes per days (tpd) of minerals in the first two years. In Phase 2 (year three) of the mine, plant capacity is expected to increase to approximately 30,000 tpd per year. The mine is anticipated to operate for 15 years<sup>2</sup>.

This report provides non-confidential baseline information and existing and anticipated Project interactions based on current and available EFN knowledge and use data collected about the traditional lands of EFN, with a specific focus on the vicinity of the Project. This Report includes analysis of mapping interviews (of knowledge and use) conducted with 13 EFN members during the period of August 16-20, 2016.

Analysis of site-specific data was based on the proposed Project's footprint (within 250 m of the Project), a Local Study Area (LSA; within 5 km of the Project), and a Regional Study Area (RSA; within 25 km of the Project). Within the Project footprint, EFN members reported 11 site-specific use values, while 15 were reported within the LSA (including the footprint), and 28 within the RSA (including the LSA and footprint). While not every site-specific value recorded included time information, reported personal use values dated from the 1950s to present (2016).

The Study area is important to EFN members as it is situated off of Highway 11, an important road for accessing important hunting, fishing, camping and gathering areas. The Study area is also important to EFN members as it is located near Kenogamisis

---

<sup>1</sup> Project description from Greenstone Gold Mines GP Inc. 2016. Hardrock Project: <http://www.greenstonegoldmines.com/hardrock> (Accessed August 29, 2016)

<sup>2</sup> Terms of Reference prepared by Stantec Consulting Ltd. 2015. Hardrock Project Terms of Reference: [http://www.greenstonegoldmines.com/upload/documents/provincial-ea/tor\\_moecc\\_notice\\_of\\_approval-june2015.pdf](http://www.greenstonegoldmines.com/upload/documents/provincial-ea/tor_moecc_notice_of_approval-june2015.pdf) (Accessed August 29, 2016)

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Lake, whose waters and adjacent streams are relied on by EFN members for fishing, collecting subsistence plants and hunting for small game.

Through discussions and interviews, EFN members identified a set of Valued Components (VCs) relating to EFN knowledge and use that may be impacted by the Project. These are:

- Water and Fishing
- Hunting
- Cultural Continuity

The site-specific data demonstrates that EFN members continually use the project footprint, LSA and RSA for the hunting of animals (including moose, rabbit, and ducks), fishing for multiple species (northern pike, minnow, pickerel, and whitefish) and the gathering of subsistence plants (i.e. blueberries). Interview participants also reported sites important to supporting the cultural continuity of EFN members, including travel routes (i.e. canoeing routes), habitation sites, and fish spawning areas. Use in the Study area was particularly concentrated around the township of Geraldton, Kenogamisis Lake and its adjacent streams.

EFN members reported a range of potential Project interactions and impact pathways from the Project.

Potential Project interactions from the proposed Hardrock Project with EFN water and fishing values include:

- Contamination of groundwater, rivers and lakes during Project construction and operation phases, which could travel downstream to EFN, leading to the decreased quality of high value water sources;
- Reduction in the quantity and quality of fish species available to EFN members due to water contamination and disruption of fish habitat; and
- Increased access for non-EFN members to the area, which may contribute to the decline of fish populations and decrease EFN member's ability to harvest desired quantities of fish species.

Potential Project interactions from the proposed Hardrock Project with EFN hunting values include:

- Construction of roads in the Project area, which may contribute to the loss of important wildlife habitat and the loss of important wildlife relied on by EFN members;
- Increased access for non-EFN members to the area, which may contribute to the decline of large game species, small game species and waterfowl species, in

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

addition to an increased competition of resources between EFN and non-EFN member's over desired wildlife species;

- Project construction and operation, which may result in the loss of important hunting areas for EFN members;
- Reduction in the quantity and quality of large and small game species (such as moose, beaver, otter, marten, grouse, partridge etc.) available to EFN members due to contamination and disruption of wildlife habitat.

Potential Project interactions from the proposed Hardrock Project with EFN cultural continuity values include:

- Reduced access to important areas which are relied on for fishing, trapping animal processing, food preparation, traditional crafts and collecting firewood;
- Decreased transmission of knowledge and culturally important activities to younger EFN generations; and
- Impacts on future generations, including their ability to return to culturally important areas and their ability to continue to practice important cultural activities.

These potential impacts should be considered in the context of cumulative adverse impacts (past, present and future). Although a comprehensive cumulative effects assessment was not conducted for the purposes of this Study, EFN members discussed a range of existing impacts on their lands from industrial development. These cumulative effects are likely to increase with the growth of industrial development on EFN lands. The proposed Hardrock Project should be considered and understood within this context. Project construction is likely to contribute to the loss of important harvesting areas, the loss of wildlife habitat, and reduced access to key resources and species (such as water, fish, large and small game, and subsistence plants). As a result, EFN members will have to travel farther to access these resources and areas that are less impacted by development may become increasingly relied upon and important to EFN members. As such, this Project is likely to result in adverse effects to EFN lands, use of lands, practice of Treaty rights, and wellbeing.

When the physical works and activities required by the Project are considered alongside data collected in this Study, evidence indicates that Project interactions have the potential to constrain EFN treaty rights practiced in the footprint, LSA and RSA over multiple generations.

---

## TABLE OF CONTENTS

---

<b>Executive Summary</b> .....	<b>2</b>
<b>Table of Contents</b> .....	<b>5</b>
<b>List of Figures</b> .....	<b>7</b>
<b>List of Tables</b> .....	<b>7</b>
<b>Acronyms and Abbreviations</b> .....	<b>8</b>
<b>1. Introduction</b> .....	<b>10</b>
1.1 Overview .....	10
1.2 Scope of Work.....	10
1.3 What is a Project-specific Knowledge and Use Study.....	11
1.4 Limitations .....	12
<b>2. Background</b> .....	<b>14</b>
2.1 Eabametoong First Nation Profile.....	14
2.1.1 Eabametoong First Nation and Treaties.....	14
2.1.2 Industrial Development on EFN Lands.....	14
2.2 The Project .....	15
<b>3. Methods</b> .....	<b>19</b>
3.1 Valued Components .....	19
3.2 Mapping Interviews .....	19
3.2.1 Site-specific Data Collection and Analysis.....	20
<b>4. Results</b> .....	<b>22</b>
4.1 Site-specific data.....	22
4.1.1 Overview of Site-specific Data .....	22
4.1.2 Site-specific Values Reported in the Project Footprint, LSA and RSA .....	23
4.2 Valued Component: Water and Fishing.....	26
4.2.1 Importance of Water and Fishing .....	26
4.2.2 Project Interactions with Water and Fishing.....	26
4.3 Valued Component: Hunting .....	28
4.3.1 Importance of Hunting.....	28
4.3.2 Project Interactions with Hunting .....	31
4.4 Valued Component: Cultural Continuity .....	32
4.4.1 Importance of Cultural Continuity .....	32
4.4.2 Project Interactions with Cultural Continuity .....	34
4.5 Preliminary Characterization of Cumulative Impacts.....	36
<b>5. Conclusion</b> .....	<b>38</b>
5.1 Summary and Recommendations .....	38
5.2 Closure .....	39
<b>Citations</b> .....	<b>41</b>
<b>Interview Citations</b> .....	<b>43</b>
<b>Appendix 1: Consent Form</b> .....	<b>45</b>
<b>Appendix 2: Interview Guide</b> .....	<b>46</b>

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

**Appendix 3: C.V. Rachel Olson ..... 63**

**Appendix 4: C.V. Steve DeRoy ..... 69**

**LIST OF FIGURES**

---

FIGURE 1: GREENSTONE GOLD MINES GP INC.'S HARDROCK PROJECT WITH THE PROJECT FOOTPRINT, LSA, AND RSA..... 18

FIGURE 2: EFN REPORTED SITE-SPECIFIC VALUES WITHIN THE FOOTPRINT, LSA, AND RSA OF GREENSTONE GOLD MINES GP INC.'S PROPOSED HARDROCK PROJECT ..... 25

---

**LIST OF TABLES**

---

TABLE 1: EFN SITE-SPECIFIC USE VALUES REPORTED WITHIN THE PROJECT FOOTPRINT, LSA, AND RSA OF GREENSTONE GOLD MINES GP INC.'S PROPOSED HARDROCK PROJECT. NUMBERS ARE CUMULATIVE WITH INCREASING SPATIAL SCALES (I.E., RSA INCLUDES LSA AND FOOTPRINT). ..... 22



## **ACRONYMS AND ABBREVIATIONS**

---

AANDC	Aboriginal and Northern Development Canada
CV	Curriculum Vitae
EA	Environmental assessment
EFN	Eabametoong First Nation
Firelight	Firelight Research Inc.
GIS	Geographic Information System
ha	Hectare
HBC	Hudson's Bay Company
km	Kilometre(s)
LNG	Liquid natural gas
LSA	Local Study Area
m	Meter
MA	Master of Arts
MSc	Master of Sciences
MFNM	Matawa First Nations Management
NAN	Nishnawbe Aski Nation
ON	Ontario
PhD	Doctor of Philosophy
The Proponent	Greenstone Gold Mines GP Inc.
The Report	EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project
ROW(s)	Right-of-Way(s)
The Study	Hardrock Project

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

tpd	Tonnes per day
TUS	Traditional Use Study or Studies
VC(s)	Valued Component(s)
ZOI	Zone of Influence

# 1. INTRODUCTION

## 1.1 OVERVIEW

Firelight Research Inc. (Firelight) is pleased to provide this report (the Report) to the Eabametoong First Nation (EFN). The Report documents the background, methods, and findings of a traditional knowledge and use scoping study (the Study) specific to the Hardrock Project (the Project) proposed by Greenstone Gold Mines GP Inc. (the Proponent).

This Report provides baseline information and consideration of anticipated Project interactions based on current and available EFN knowledge and use data collected within the traditional lands of the EFN, and in the vicinity of the Project. This Report includes non-confidential site-specific (i.e., mapped) and qualitative information related to Project areas.

This Report is organized into five sections:

- **Section 1** provides a brief overview of the scope of work and report limitations
- **Section 2** provides background information regarding EFN and the proposed Project;
- **Section 3** provides information on the methods used for the Study;
- **Section 4** provides presents the findings, including site-specific and qualitative baseline data, and potential project interactions from the proposed Project; and
- **Section 5** summarizes the findings and conclusions.

## 1.2 SCOPE OF WORK

EFN has retained Firelight to support a knowledge and use scoping study specific to the Project. As detailed in the March 24, 2016 work plan, this includes:

- Work planning, preliminary meetings with EFN staff and leadership, and project management
- Data and document review of existing EFN data relating to the Project area and review Greenstone's proposed Project documents;
- Carry out a community meeting to discuss the purpose of the study and identify key valued components and interests
- One day direct-to-digital map training with one EFN member;

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

- Research methods development;
- Completion of up to 15 individual mapping interviews with EFN members at a scale of 1:50,000 or better. Interviews will be based on a standard interview protocol with D2D mapping, and data will be collected in a manner consistent with existing EFN standards;
- Analysis of interview results (transcription of interviews, post-processing GIS data, preparation of maps);
- Prepare a draft 'red flags' scoping report;
- Revising draft 'red flags' scoping report based on one round of input received from EFN; and
- Final reporting, including supporting EFN staff on communications to EFN leadership and members. The final report will summarize non-confidential EFN knowledge and use in the Project area, identifying key issues or valued components (VCs), and identifying potential Project effects.

The primary goals of the Study are to provide:

- Reliable and defensible use and occupancy mapping, and documentation of EFN knowledge and key issues or concerns identified by EFN members relating to EFN traditional resource use and livelihood specifically relating to the Project;
- Maps that indicate EFN key resources in the vicinity of the Project (e.g. moose, fish, migratory birds, water, and others) and an analysis of how use patterns have changed over time in response to development related change
- A non-confidential EFN traditional knowledge and use 'red flags' scoping report that considers likely Project-specific effects on EFN resources, knowledge and use based on EFN traditional knowledge.

### **1.3 WHAT IS A PROJECT-SPECIFIC KNOWLEDGE AND USE STUDY**

The term *project-specific knowledge and use study* refers to a study that considers First Nations, Inuit, or Métis use and occupancy of lands, as well as related issues or concerns based on First Nations, Inuit, or Métis knowledge. Such a study includes “the collection of interview data about traditional use of resources and occupancy of lands ... and the presentation of those data in map form” (Tobias 2000:xi). It is a systematic and evidence-based form of investigation that applies traditional Indigenous knowledge and social science to accomplish goals. The goals of a project-specific knowledge and use study may include:

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

- Describing and contextualizing from a First Nations, Inuit, or Métis perspective and worldview the knowledge, use, occupancy, and interests of a community in relation to a proposed project or area; and
- Documenting and assessing potential project effects.

## **1.4 LIMITATIONS**

Limitations of this Report include the following:

- Not all knowledge holders were able to participate in this Study. Efforts were made to include key knowledge holders active within the LSA and RSA, but many EFN members with important knowledge of the Study area may have been unable to participate due to time and budget restrictions. As such, this report is preliminary in nature, and likely demonstrates only a very small portion of total EFN knowledge and use in the study area.
- Data collected for each participant is limited by what the participant is able and willing to report.
- The area demarcated by mapped site-specific use values should be understood to be a small portion of the actual area required for the meaningful practice of a EFN way of life, as well as Treaty and Aboriginal rights. Site-specific mapped values (e.g., cabins and kill-sites) reflect particular instances of use that anchor wider practices of culture, livelihood, and other Treaty and Aboriginal rights within a particular landscape. For example, a single moose kill-site may be mapped with a precise point, but that point does not capture the entire spectrum of related practices and values.

Given the above limitations, this report can be used as a representational spatial account of some EFN use in the Study area. It is important to note that the Study does not reflect all EFN current use in those areas, and **an absence of data does not signify an absence of use or value.**

The report itself also has a number of limitations and should only be considered a first step in identifying EFN uses and values that may be impacted by the Project. Report limitations include:

- The Study area in this Report was limited to the main physical works and activities identified by the Proponent. Ancillary developments such as access roads may be expected but were not identified spatially by the Proponent prior to the conduct of this Study and therefore were not considered part of the physical footprint. The lack of detail on the location and nature of ancillary development components available for this Study require that the analysis herein be considered conservative, with actual effects likely to be greater than predicted.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

- This report does not include extensive recommendations on mitigation and monitoring measures. The process for collaboration between EFN and the Proponent regarding monitoring and mitigation should be decided upon in dialogue with EFN and for that reason specific recommendations are not presented or proposed in this report.

Additional work is necessary to properly characterize EFN use and occupancy within the study area, and to assess the likely effects of the Project on EFN use of lands and resources. This report should not therefore be taken as a replacement for other studies that may be required, such as studies or assessments based on socio-economics, cultural impacts, diet, health and wellbeing, indigenous rights, governance, planning and policy, or cumulative effects.

This report is based on the understandings and analyses of the authors and is not intended as a complete depiction of the dynamic way of life and living system of use and knowledge maintained by EFN members.

This report is non-confidential and intended for consideration by the Crown and the Proponent within the Project regulatory process. However, all data included in this Report is the property of the EFN, and may not be used or reproduced outside the Project regulatory process without the written consent of the EFN.

Nothing in this report should be construed as to waive, reduce, or otherwise constrain EFN rights within, or outside of, regulatory processes. Nor should this Report be construed as to define, limit, or otherwise constrain the Aboriginal or Treaty rights of other First Nations or Aboriginal peoples. It should not be relied upon to inform other projects or initiatives without the written consent of the EFN.

## **2. BACKGROUND**

### **2.1 EABAMETOONG FIRST NATION PROFILE**

#### **2.1.1 Eabametoong First Nation and Treaties**

Eabametoong First Nation (EFN) is an Ojibway Nation located in the Kenora District of Northern Ontario, Canada. Situated on the shores of Eabamet Lake on the Albany River System, EFN is located approximately 240 kilometres north of Beardmore, Ontario, and 400 kilometres north of Thunder Bay, Ontario. The community is accessible year-round by regularly scheduled charter air services, by water in warmer months, or via the 96-kilometre-long ice road during the winter months. Presently, there are over 2,500 registered EFN members. Approximately 1,400 EFN members are living on the reserve (AANDC 2016).

Eabametoong is a traditional Ojibway name that means “the reversing of the waterplace” (EFN 2016). Every spring, the water at the Eabamet Narrows, which normally flows into the Albany River, reverses due to spring run-off and temporarily flows into Eabamet Lake. Eabamet Lake has been occupied by EFN peoples for generations, predating the fur trade, settler and colonial contact.

Eabamet Lake's abundance of natural resources attracted many fur traders and settlers to the region in the early 1800s. The Hudson's Bay Company (HBC) established Fort Hope, a fur trade post, on the shores of Eabamet Lake in 1890. The predominance of the HBC in the fur trade led to them having a significant role in the making of Treaty No. 9.

The traditional name of Eabametoong First Nation was officially adopted in 1985, replacing the Treaty name of Fort Hope Indian Reserve (EFN 2016). Today, EFN is part of the Matawa First Nations Management (MFNM) tribal council, which is comprised of nine Ojibway and Cree First Nations communities in the James Bay Treaty, Treaty No. 9 area. EFN is also a part of the Nishnawbe Aski Nation (NAN), which represents 49 First Nations communities in the Northern Ontario<sup>3</sup>. The majority of these communities are in the Treaty No. 9 area. NAN represents the political and socioeconomic aspirations of its First Nations members to all levels of government to allow for self-determination (NAN 2016).

#### **2.1.2 Industrial Development on EFN Lands**

Mining has been present in EFN territory since the early 1920s. Gold was first discovered at the Fort Hope mine (also known as Round Lake) in 1927. The Gold Rush

---

<sup>3</sup> <http://www.nan.on.ca/article/alphabetical-listing-of-first-nations-in-nan-398.asp>

**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.’s Proposed Hardrock Project**

swept the region in the 1940s following the discovery of gold deposits east of the reserve in Williamson. In 1958, more gold deposits were found by Little Long Lac Mines at the reserve lake (EFN 2016).

Today, EFN’s traditional territory is located near the area commonly referred to as the “Ring of Fire.” Spanning across several First Nation’s territories in Northern Ontario and approximately 5,120 km<sup>2</sup>, the “Ring of Fire” is an area considered to be rich in mineral resources. The development of the “Ring of Fire” has been a top agenda item for the Province of Ontario, which is estimated to generate \$9.4 billion towards Ontario’s gross domestic product within its first ten years of development (Hjartarson et. al, 2014). The “Ring of Fire” is considered to be one of the most significant mineral development opportunities in Ontario in over a century. The province of Ontario anticipates its development to bring social and economic opportunities to northern residents, including the construction of an all-season east-west road to currently isolated First Nations communities in the “Ring of Fire” area, which includes EFN.

In March 2014, the MFNM tribal council signed a Regional Framework Agreement with the Province of Ontario. The purpose of this agreement is to formalize and provide a framework for government-government negotiations between the MFNM, government and industry proponents related to mineral and other resource development in the “Ring of Fire.” The Agreement is designed to ensure MFNM are meaningfully engaged in development and exploration decisions, ensuring First Nations communities receive maximum benefit and minimal harm from resource development, and to foster economic opportunities for First Nations communities (MFNM and the Minister of Northern Development and Mines 2014).

## **2.2 THE PROJECT**

The Hardrock Project, proposed by Greenstone Gold Mines GP Inc., is an open-pit gold mine and ore processing facility located approximately 5 km south of the town Geraldton, Ontario, and 275 kilometres north of Thunder Bay, Ontario. The mine is located approximately 220 kilometres south of EFN. The Hardrock property is accessible year-round by Highway 11.

The Project is situated on a historical mine site which was actively mined between the 1930s and 1970s. The Proponent acquired the mineral claim in December 2008 and has been actively exploring the area since. In total, there are 292 patented claims, leases and Licenses of Occupation and 39 unpatented mining claims spanning across the 15,276.3 hectare Hardrock property<sup>4</sup>.

A summary of major Project activities includes:

---

<sup>4</sup> Project overview from Greenstone Gold Mines GP Inc. 2016. Overview at <http://www.greenstonegoldmines.com/article/overview-122.asp> (Accessed August 30, 2016)



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

- **Road construction/operation:** expansion of the existing roads and Highway 11 realignment
- **Tailings pond and processing:** tailings storage facility and associated water reclaimed from mill occupying 518 hectares within 125 meters of Kenogamisis Lake
- **Mine Construction and extraction:** Open pit mine comprised of two pits occupying 175 hectares over 22 plus years of operation (construction, operation, closure)
- **Goldfield Creek diversion:** water diversion channel from Goldfield Creek around Tailings Management Facility to the Southwest Arm Tributary

According to the Proponent's website, other Project components will include an ore processing facilities, waste rock storage areas, a natural gas-fueled power plant, a liquefied natural gas (LNG) plant, explosives manufacturing and storage facilities, and other ancillary facilities<sup>5</sup>.

The mine is anticipated to be developed in two phases. In Phase 1, the mine is expected to extract 12,000 tonnes per day (tpd) of minerals in the first two years. In Phase 2 (year three) of the mine, plant capacity is expected to increase to approximately 30,000 tpd per year.

Construction of the mine site, such as site preparing, equipment installation, and commissioning, is anticipated to take two years. The Proponent anticipates the mine to be in operations for 15 years, with closure and reclamation taking an additional five to six years. In total, the Project is expected to last approximately 23 years from construction to closure.<sup>6</sup>

The Project is currently under review with both the Provincial and Federal EA processes. The EAs will include the construction, operation, closure and abandonment of the mine. Both the Provincial and Federal EA reviews for the Project are being coordinated so that a single document can satisfy both Provincial and Federal EA requirements. At the time of writing, neither Provincial or Federal EA processes have

---

<sup>5</sup> Project description from Greenstone Gold Mines GP Inc. 2016. Hardrock Project: <http://www.greenstonegoldmines.com/hardrock> (Accessed August 29, 2016)

<sup>6</sup> Terms of Reference prepared by Stantec Consulting Ltd. 2015. Hardrock Project Terms of Reference: [http://www.greenstonegoldmines.com/upload/documents/provincial-ea/tor\\_moecc\\_notice\\_of\\_approval-june2015.pdf](http://www.greenstonegoldmines.com/upload/documents/provincial-ea/tor_moecc_notice_of_approval-june2015.pdf) (Accessed August 29, 2016)

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

been approved or completed. Some permits and approvals that may be required, according to the Proponent<sup>7</sup>, include:

- Environmental compliance approval (Air and Noise; Industrial Sewage)
- Permit to take water
- Environment effects monitoring program
- Species at risk permit
- Construction and building permits
- Mine closure plan

---

<sup>7</sup> EA and Approvals from Greenstone Gold Mines GP Inc. 2016. EA and Approvals: <http://www.greenstonegoldmines.com/article/ea-and-approvals-124.asp> (Accessed August 29, 2016).

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

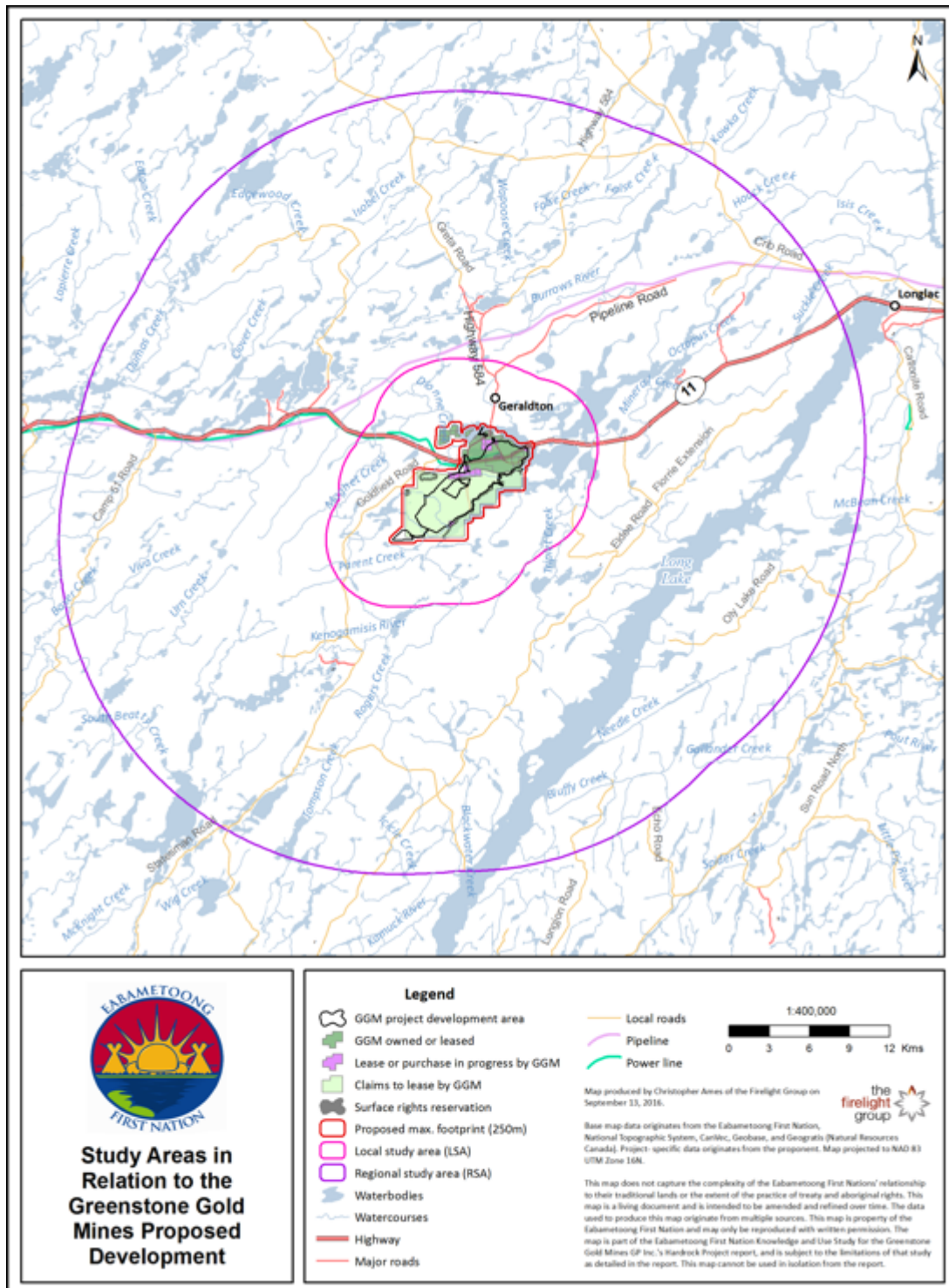


Figure 1: Greenstone Gold Mines GP Inc.'s Hardrock Project with the Project footprint, LSA, and RSA.

## **3. METHODS**

### **3.1 VALUED COMPONENTS**

Data collection and analysis for this Study is organized around three Valued Components (VCs). A VC is defined as an important aspect of the environment that a project has the potential to affect (Hegmann et al. 1999). VCs may include tangible or biophysical resources (e.g., particular places or species), and may also encompass less tangible social, economic, cultural, health, and knowledge-based values (e.g., place names, Indigenous language, or traditional knowledge regarding a particular area).

For the purpose of this Study, the VCs were chosen to represent the critical conditions or elements that must be present for the continued practice of EFN culture and livelihoods, and that may be impacted by the Project. As such, VCs can range from the direct presence of traditionally hunted animals and gathered plants, to continued habitation, travel, and cultural activities on the land. VCs are also designated to include intangible cultural resources, such as the transmission of knowledge across generations. VCs for this Study are:

- Water and Fishing
- Hunting
- Cultural Continuity

These VCs were determined through an analysis of data collected by Firelight with EFN for this Study.

### **3.2 MAPPING INTERVIEWS**

Thirteen EFN members were interviewed in seven separate mapping interviews for the Study from August 16<sup>th</sup>, 2016 to August 20<sup>th</sup>, 2016. Interviews were conducted at the Resources Stewardship Department in Eabametoong, the Thunderbird Friendship Centre in Geraldton, and the Airlane Hotel in Thunder Bay. Interviews ranged from approximately 1.5 to 3 hours in length. Interview teams prioritized the documentation of values within the LSA and those in close proximity of the Project. Values within and beyond the RSA were documented where time and opportunity permitted.

Interview participants were identified and contacted by EFN staff. Participants were chronologically assigned identifier codes in the form of E01. Participants who had already been interviewed for previous Firelight studies retained their original identifier codes. Informed consent was obtained for all interviews (see Consent Form in Appendix 1).

Data collected from other site-specific knowledge and use studies with the EFN were also included in maps and site-specific analyses, and are listed below in Section 3.2.1.

## **Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

All data included in this Study were collected using the same methodology as described in Section 3.2.1. In total, the site-specific values of four unique individuals were found within this Project's Study Area (i.e., RSA), and included in this Report.

Interviews followed a semi-structured format, including open-ended and closed questions (see Interview Guide in Appendix 2). Interview and mapping protocols used were based on standard techniques (Tobias 2009; DeRoy 2012). All interviews were conducted in English; all audio was recorded digitally.

### **3.2.1** *Site-specific Data Collection and Analysis*

For the purpose of this Report, *site-specific data* are values reported by EFN members that are specific, spatially distinct, and that may be mapped (however, exact locations may be treated as confidential).

Site-specific data were mapped and managed using a 'direct-to-digital' process, in which Google Earth imagery was projected onto a wall or screen. Points, lines, or polygons, geo-referenced at a scale of 1:50,000 or finer, were used to mark areas of reported use and value. Data collection focused on the proposed Project's footprint (within 250 m of the Project, and where available, related physical works, access routes, and activities)<sup>8</sup>, Local Study Area (LSA; within 5 km of the proposed Project)<sup>9</sup>, and Regional Study Area (RSA; within 25 km of the proposed Project)<sup>10</sup>. See Figure 1 for a map of the Project and the Study Area.

Maps of site-specific values presented in this Report are generated from data mapped during the interviews. Points are randomized within a 250 m radius and then buffered by one kilometre. A one-kilometre buffer is also generated around each line and polygon. Buffering is done to account for a margin of error and to protect information confidentiality.

Site-specific data were mapped according to five categories that were designed to capture multiple aspects of the Study's VCs:

---

<sup>8</sup> To designate the Project's footprint, a 250 m zone of influence (ZOI) around the Project's physical footprint is used to document the Project's impacts, based on evidence that this distance is a reasonable approximation of a zone within which the abundance of wildlife and land use by humans may be altered (MSES 2010).

<sup>9</sup> Five kilometers is an approximation of the distance easily travelled in a day from a point of origin (e.g., a cabin, camp, or other location), by foot, through bush, and back again, as when hunting (Candler et al. 2010). It is used as a reasonable spatial approximation of use surrounding a given transportation or habitation value. Direct and indirect Project effects may interact with EFN values in this area.

<sup>10</sup> The RSA is a broad area within which indirect effects of the Project may be anticipated, such as noise, dust, odors, access management activities, traffic, effects on water, and other forms of disturbance. Along with cumulative effects, these Project effects may be expected to interact with community values.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

- Habitation values (including temporary, occasional, seasonal, and permanent camps and cabins);
- Cultural and spiritual values (including burial sites, ceremonial areas, and community gathering areas);
- Subsistence values (including harvest and kill sites, plant collection areas, and trapping areas);
- Environmental feature values (including specific, highly valued habitat for moose, elk, and deer); and
- Transportation values (including trails, water routes, and navigation sites).

The temporal boundaries set for the baseline data collection include past, current, and planned future knowledge and use. For the purpose of this Study:

- A past value refers to an account of knowledge and use prior to living memory, passed down through history;
- A current value refers to an account of knowledge and use within living memory; and
- A planned future value refers to anticipated or intended knowledge or use.

## 4. RESULTS

### 4.1 SITE-SPECIFIC DATA

The findings in this report are organized around three VCs:

- Water and Fishing
- Hunting
- Cultural Continuity

Each VC is presented with site-specific data, qualitative data (explaining the importance of the VCs to EFN members), Project interactions, and a brief description of their potential impacts.

#### 4.1.1 Overview of Site-specific Data

A total of 28 site-specific values were reported in the Study Area (the Project footprint, LSA, and RSA combined; Figure 2; Table 1).

Valued Components	Within 250 m of the proposed Project (footprint)	Within 5 km of the proposed Project (LSA)	Within 25 km of the proposed Project (RSA)
	# of reported values	# of reported values	# of reported values
Water and Fishing	10	13	19
Hunting	1	1	4
Cultural Continuity	0	1	5
TOTAL	11	15	28

Table 1: EFN site-specific use values reported within the Project footprint, LSA, and RSA of Greenstone Gold Mines GP Inc.’s proposed Hardrock Project. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint).

The site-specific data clearly demonstrate that EFN members use or have used the Project footprint for fishing a variety of species (northern pike/squaw fish, pickerel/walleye, and whitefish), the hunting of large game (i.e. moose) and small game (ducks and rabbits) and for the gathering of subsistence plants (i.e. blueberries). Additionally, there are important sites that support the cultural continuity of EFN members such as habitation sites (camping sites, cabin locations and permanent homes), travel routes (i.e. canoeing), and high value environmental features (spawning areas for walleye and sucker fish).

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

**4.1.2** *Site-specific Values Reported in the Project Footprint, LSA and RSA*

Within the proposed Project's Study area, EFN members reported 28 site-specific values. Figure 2 provides a map of these data. While not every site-specific value recorded includes time information, EFN use was reported from the 1950s to present (2016).

Site-specific values reported in the Project footprint include:

- **Water and fishing** values including: In the Project footprint, EFN members reported a number of places for catching a variety of fish species. Species include northern pikeminnow (also known as squaw fish), pickerel (also known as walleye), and whitefish. A fish spawning area for pickerel and sucker fish was also reported. In the LSA, EFN members also reported fishing for a variety of fish species, such as northern pikeminnow, pickerel, and whitefish. In the RSA, the same species of fish were reported being caught by EFN members, in addition to another spawning area for pickerel and sucker fish. Fishing sites were reported from the mid 1950s to present (2016).
- **Hunting** values including: In the Project footprint, an EFN member reported a rabbit snaring site they used for several days in 2006 in the company of relatives; In the RSA, a site for harvesting moose was reported in 1969, which is an area noted to be abundant for moose. EFN members also reported an area that has been continuously used for duck hunting since the 1990s. The EFN member's reported accessing this duck hunting this area by canoe. Subsistence harvesting sites were reported from 1969 to present (2016).
- **Cultural Continuity** values including: In the LSA, an area that an EFN member lived with their family was reported. In the RSA, EFN members reported habitation areas used for camping several weeks at a time in the late 1960s. A subsistence plant gathering site was also reported by an EFN member where they would collect blueberries in the company of family members.

EFN participants noted that the ecological health of many of their preferred areas for subsistence harvesting, fishing and other cultural activities are reliant on the integrity of adjacent habitats, particularly for providing clean water and healthy habitats for a variety of animal and plant species. EFN members expressed concern about increasing access to these areas, which has the potential damage and/or contaminate wildlife habitat and important resources, such as water, mammals and plants. These broader areas, which were generally not mapped in the Study area because of their large size and distance from the proposed Project location, are crucial to EFN members and their way of life.

As noted in Section 1.4 of this Report, this report is based on the interviews of a small number of EFN members; 13 members out of the approximate population of 1,400. While a past study was included in the findings where such data falls within the Study area, this is considered to be a small representation of EFN use within the Study area.



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Nonetheless, **an absence of data does not signify an absence of use or value.** The above limitation is a necessary consideration when interpreting the geographic distribution and quantity of mapped values. It is possible that new information regarding use by EFN members will become available in the future.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

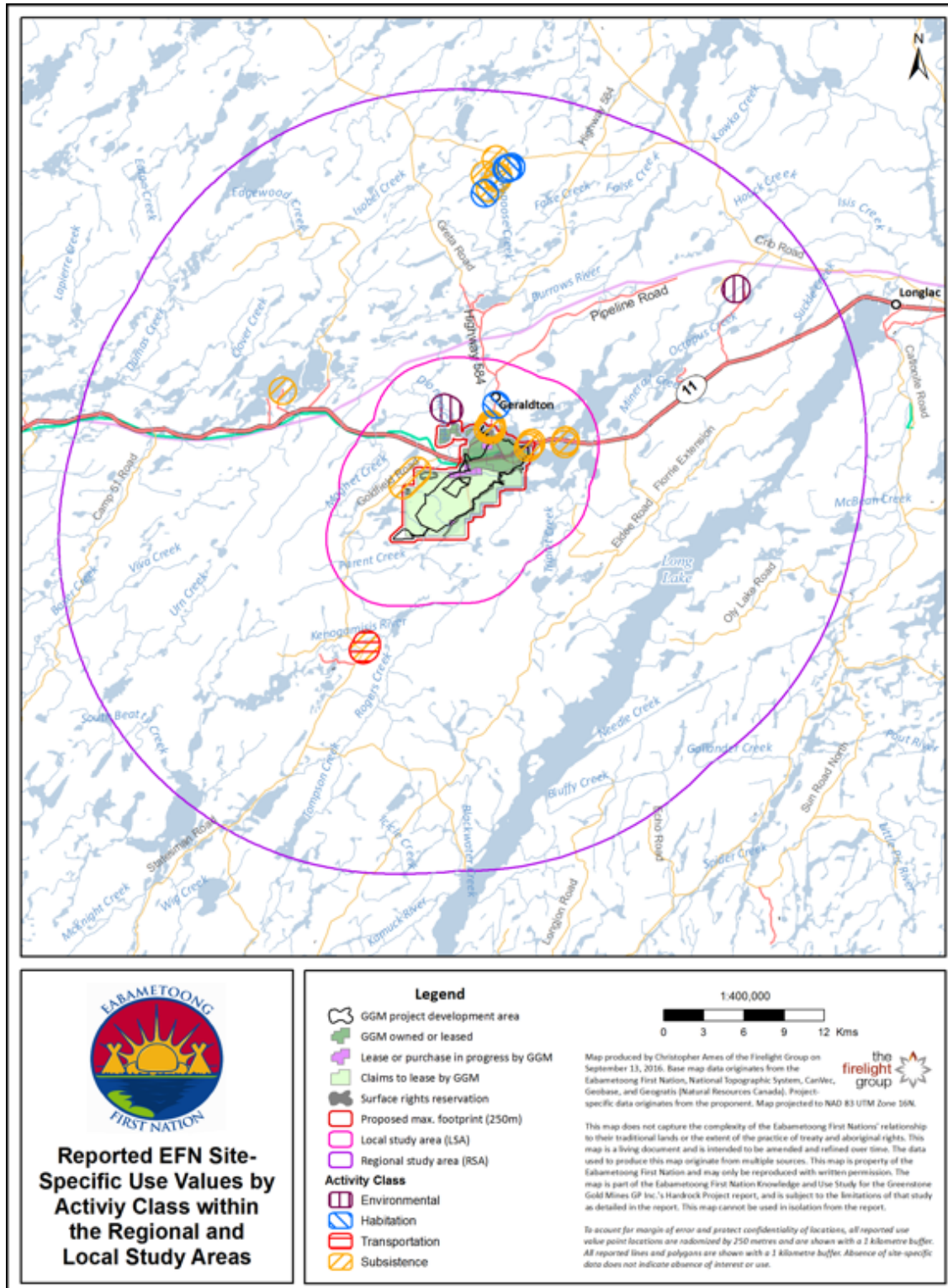


Figure 2: EFN reported site-specific values within the footprint, LSA, and RSA of Greenstone Gold Mines GP Inc.'s proposed Hardrock Project

## **4.2 VALUED COMPONENT: WATER AND FISHING**

This section discusses the importance and potential Project interactions with the EFN Valued Component for water and fish. This draws primarily from the qualitative data collected during semi-structured interviews, but also integrates these with the quantitative results summarized above in Section 4.1.

### **4.2.1 Importance of Water and Fishing**

Water and fishing was identified as a key valued component by EFN members within the Study area. A large portion (68%) of the overall site-specific use values reported in the study area are water and fishing values.

Several EFN members reported site-specific data in Kenogamisis Lake, which is located near the town site of Geraldton. This lake is considered to be an important place for fishing where EFN members go with family members. Many EFN members reported fish as a staple food in their regular diet. Fishing continues to be an important aspect of EFN member's way of life because that is how they were "brought up" (E26 2016).

Water and fishing are important to EFN members for food security and cultural continuity. Several EFN members spoke about fishing as an important cultural activity where they often return to fishing areas that have been used for several generations.

*My parents and my grandparents used to commercial fish, they'd set nets out. So yeah ... I've been doing it most of my life. (E20, 2016)*

EFN participants also discussed several important sturgeon and walleye spawning habitats. These spawning areas are considered to be crucial to maintaining fish health, fish quantities and ensuring there is enough fish for EFN members to harvest.

*Yeah, sturgeon spawning ... in May ... it's when those Willow buds come out ... Yeah, that's when they spawn ... When they sprout, when they first come out, that's when you know the sturgeon are spawning (E19, 2016)*

EFN members reported a number of important water and fishing locations outside of the Study area. As stated in section 4.1.2, EFN members consider these areas to be reliant on the integrity of adjacent and downstream habitats. While many of EFN member's overall water and fishing site-specific data are not shown in Figure 2, they are nonetheless connected to the health and integrity of water and fishing sites shown in the Project area.

### **4.2.2 Project Interactions with Water and Fishing**

Study participants reported that the proposed Project will likely have a negative effect on their ability to access nearby water sources and fish populations.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Study participants expressed concerns and fears about the potential for water and fish species contamination. EFN members reported that potential spills or contamination from the mine may affect water quality of adjacent lakes, rivers and streams, which heightened their concerns about water quality.

*Well just like any other mine, you know? There's the, what are the risks ... is it going to make its way up, is it going to make it into the water? ... I don't know if they have spills of any sort ... Is it going to affect us? (E19 2016).*

*Well I think it would, it would, the water, once water gets contaminated it's pretty much done, all over the place. (E18, 2016)*

*He's wondering what will become of the rock that's there in terms of chemical compounds and chemicals coming into the air ... What will happen when the tailing is breached? (E27 translating for E29, 2016).*

The risk of water contamination is linked to EFN member's concerns about the safety of their drinking water. EFN resides downstream from the Project and Study area, and therefore the quality of the water nearer EFN is reliant on the health and integrity of adjacent habitats. One participant expressed concern over the potential impact the Project may have on EFN's source of drinking water.

*If we can't drink that water, what are they going to do, give us bottled water? (E26, 2016)*

The health and integrity of water bodies is inextricably linked to the health and integrity of fish species and populations. EFN members expressed concern that the overall quality and taste of fish may be affected as a result of development and high traffic in the area.

*Are the animals going to stay here because we're growing, all the waste and stuff? So is it going to be edible, the fish and stuff or the animals that are going to be different? ... Even the fish. When you catch fish up here, and when you eat fish from down south over here when they've been throwing stuff, it tastes a little different. I've never eaten fish down there but I've eaten fish up here and it tastes different, it tastes better. (E20, 2016)*

In addition to the concerns and fears about the decline of water and fish health, EFN members also expressed concerns about increasing access to preferred fishing locations. Participants noted that increasing the numbers of non-EFN peoples to the area will contribute to an increased competition over important resources, and a loss of fish species.

*Later on in the future that road is going to be open to a lot of people after. If that happens, us guys are going to lose all our hunting ground and fishing and whatever we're doing there. Once this gets built. These people are going to go up, and up, up, up. (E18, 2016)*

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

*Yeah, it'll be fished out in no time ... and possibly the pollution too will get all the fish. (E18, 2016)*

In summary, potential Project interactions from the proposed Greenstone Gold Mine GP Inc.'s Hardrock Project with EFN water and fishing values include:

- Contamination of groundwater, rivers and lakes during Project construction and operation phases, which could travel downstream to EFN, leading to the decreased quality of high value water sources;
- Reduction in the quantity and quality of fish species available to EFN members due to water contamination and disruption of fish habitat; and
- Increased access for non-EFN members to the area, which may contribute to the decline of fish populations and decrease EFN member's ability to harvest desired quantities of fish species.

### **4.3 VALUED COMPONENT: HUNTING**

This section (Section 4.3) discusses the importance and potential Project interactions with the EFN Valued Component for hunting. This draws primarily from the qualitative data collected during semi-structured interviews, but also integrates these with the quantitative results summarized above in Section 4.1.

#### **4.3.1 Importance of Hunting**

Hunting was identified as a key valued component by EFN members within the Study area.

Several EFN members reported site-specific data near Kenogamisis Lake, which is located near the town site of Geraldton. Areas and water bodies adjacent to Kenogamisis Lake are considered to be important places for hunting, which EFN members often do with their families. Many EFN members reported moose as a staple food in their diet, both for cultural and subsistence purposes. Hunting for large game (i.e. moose) and small game (i.e. ducks, rabbits) continues to be an important aspect of EFN member's way of life.

Hunting is important to EFN members for food security and cultural continuity. Several EFN members spoke about hunting as an important cultural activity that is inextricable from the EFN way of life.

*It's [hunting] been passed down from generation to generation I guess. I guess it's kind of a way of survival. It's our tradition. (E18, 2016)*

*To me it's my, I guess I'm used to doing that [hunting] even if I don't have to do it I wouldn't mind just to get out there in the bush, I've always been in the bush, I've never been in town too much. (E23, 2016)*

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

For EFN members, moose were reported as an important species that is relied on for subsistence harvesting and cultural purposes. Participants described moose as a preferred source of food for EFN members, which continue to be hunted in the Study area.

*Because for me, I grew up on it [moose]. I would prefer it over what they have in the stores any day ... It's just something that, something that I was grown up with you know? It's how they taught me, it was just a teaching, I don't know how else to describe it. Something that's imbedded in you and you just want to continue. (E19, 2016)*

*So you just drive up all along the river, all along the roads just looking for moose ... A couple of times I got a moose up here [Geraldton] ... That's where her dad used to take me all the time ... All these roads we'd just drive up to see if there's tracks, turn around and come back ... There's a lot of moose around this area. (E20, 2016)*

Food sharing is an important cultural practice for EFN members. Several participants discussed the importance hunting and sharing the moose meat with elders who may no longer be able to participate in hunting.

*Well we'd give most of it, some of it to the elders. Yeah, it would last us a couple of weeks, eh? ... Yeah, we gave some to the elders, some widowers who can't go hunting. (E20, 2016)*

*I shot two moose up there last year ... I gave Aroland one big moose. The ladies came over and chopped it up at Sam's place. Ziploc bags and done. Bones. Everything. And then I brought one moose home, I'd flown it home, de-boned it – they de-boned it for me – I didn't have to touch the moose they cut it up. (E19, 2016)*

Processing moose and other game is an important aspect of hunting. This can include butchering the animal, skinning the hides, tanning the hides, making clothing and crafts from the hide, and preparing the meat for consumption. Several EFN members discussed some of their methods used for processing moose after a kill.

*We bring it home ... Yeah, we leave it overnight if it's, yeah, we usually leave it overnight but if it's a young bull like, a year, we just bring it up because it's already tender. But if it's a big bull [moose] we'll just leave it over night to kind of tenderize the meat. And then we bring it up, we quarter it and then we bring it up and then we butcher it in my basement. (E19, 2016)*

*I sank it [a moose] there overnight just to tenderize the meat ... And then the next day we came back, picked it up and drove – brought it back up ... Just keeping it away from the animals, too ... Yeah, we gut it, we took the heart and all the intestines out. Just things we eat. We took the heart, liver, kidneys ... we take that and we flip that over and we eat that too ... Yeah, I brought*

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

*that back up and sank him, just overnight I tied him up to the shore ... So that a wolf or a bear doesn't take it or eat it.... We do that to the big ones. (E20, 2016)*

In addition to moose, EFN members discussed a wide range of animal species they hunt and trap, such as beavers, marten, mink, grouse and partridge. Participants reported using these animals for subsistence purposes, medicines and other purposes.

*Beaver, marten, mink, otters, uh, whatever we can come across there. We don't have too much, wolverine we had, we just had wolverine move into our area just the two past years maybe I just started noticing them. (E18, 2016)*

*Yeah, I trap like beaver, we eat beaver too, so we trap around October ... And then I trap marten, otter ... And yeah mink, once in a while ... I've been trying to get a wolf, but I haven't gotten a wolf in a while. The last time I got a wolf was about ten years ago. (E20, 2016)*

*The old people smoked bear. I used to eat smoked bear meat, but I don't eat it no more ... my old man, he would smoke it, he would burn it. (E26, 2016)*

*Grouse, there's partridge ... In the fall time we hunt partridge, it's partridge hunting time too in the fall ... Right around October I guess ... I usually take the boys, the kids out hunting. (E20, 2016)*

*Well what we use them [beaver] for is save them for eating later so we have to get them before that time and we have to keep it right .... Most of the stuff we using it for medicines and stuff like that, like beaver castor and stuff like that, that's what we use. (E23, 2016)*

One EFN member provided a detailed account of how he sets up beaver and marten traps in the fall and winter.

*I'd set beaver traps on the house. Sometimes there's no beavers living there ... every couple of days I would go check ... And before it freezes up, before November I'd take out all my traps and I'd wait for it to freeze, then I'd go back and set them again with a skidoo ... Then where I usually stop, I usually set a marten trap too so I can just check a marten trap and a beaver trap at the same time ... Well a beaver trap is in the water and the marten trap is in a tree. Hanging in a tree, you hang it up. So the marten, they climb trees ... everywhere I set a beaver trap I usually set a marten trap, too ... every time I check I normally get one or two. But last year I got 33 beavers and the year before I got 30 beavers. (E20, 2016)*

Study participants described hunting as a primary method for procuring food for their families throughout the year. Hunting remains an integral part of EFN identity and way of life.

#### **4.3.2** *Project Interactions with Hunting*

EFN participants reported concerns about the proposed Project having a negative impact on their hunting areas and important wildlife species. EFN members are particularly concerned about the potential increase of non-EFN members accessing their hunting areas with the construction of new roads, reducing the number of wildlife resources available to EFN members and their families. Additionally, participants expressed concerns about the loss of wildlife and wildlife habitat if the proposed Project is constructed.

*Too much people coming in, taking our game away ... I think it will affect my hunting areas with all these people moving around there. (E18, 2016)*

*These workers – do they get to go hunting? Because like, every fall we were racing with hunters so to speak to get a good spot. You know how white people only get certain tags and their hunting season is limited? ... So that would be my worry. The question is there going to be places to hunt, is it going to be crowded? (E19, 2016)*

*In the future that road is going to be open to a lot of people after. If that happens, us guys are going to lose all our hunting ground and fishing and whatever we're doing there. Once this gets built. These people are going to go up, and up, up, up. (E18, 2016)*

*They'll be nothing to hunting there if there's going to be roads there. You're going to replace animals with people and roads is what I think. (E20, 2016)*

As expressed above, fear and uncertainty surrounding the potential Project construction – including road access and an increase of non-EFN members to the area – may deter EFN members from accessing the Project area in the future. If wildlife are no longer in the area, EFN members stated they are less likely to access the Project area.

*With the animals we hunt I think it's [the impact] going to be extreme because I don't think there's going to be moose down around there where there's going to be drilling and stuff like that. There's going to be no animals there. (E20, 2016)*

The potential for wildlife to come into contact with contaminated land or water is another concern of EFN members. Participants emphasized the impacts the Project may have on the wildlife species health, potentially affecting both their population size and the quality of their meat.

*What my parents are saying is that their concern is the water fowl - the migratory water fowl, when they land on these tailing ponds - what they'll contract. (E27 translating for E28 and E29, 2016)*



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

*I notice that from where I trap, there's a lot of beaver everything turns dry and trying to regrow again, it won't grow, and just everything if getting spoiled and the brush is getting thicker and fires just whip through when it comes through. (E23, 2016)*

*The moose, are they going to taste the same? Because some people say that the animals that they kill along the highway taste different because they eat the salt ... The salt and stuff they put on the highway. Some say they eat the salt from the highway and it tastes different than the ones you kill up here. (E20, 2016)*

In summary, potential Project interactions from the proposed Greenstone Gold Mine GP Inc.'s Hardrock Project with EFN hunting values include:

- Construction of roads in the Project area, which may contribute to the loss of important wildlife habitat and the loss of important wildlife relied on by EFN members;
- Increased access for non-EFN members to the area, which may contribute to the decline of large game species, small game species and waterfowl species, in addition to an increased competition of resources between EFN and non-EFN member's over desired wildlife species;
- Project construction and operation, which may result in the loss of important hunting areas for EFN members; and
- Reduction in the quantity and quality of large and small game species (such as moose, beaver, otter, marten, grouse, partridge etc.) available to EFN members due to contamination and disruption of wildlife habitat.

#### **4.4 VALUED COMPONENT: CULTURAL CONTINUITY**

This section (Section 4.4) discusses the importance and potential Project interactions with the EFN Valued Component for cultural continuity. This draws primarily from the qualitative data collected during semi-structured interviews, but also integrates these with the quantitative results summarized above in Section 4.1.

##### **4.4.1 Importance of Cultural Continuity**

The transmission of EFN knowledge and ability to pass on important cultural and traditional practices to younger generations is crucial. For the purposes of this report, these practices are referred to as cultural continuity, which include, but are not limited to, teachings, travelling, place-based stories and values, spirituality, burial sites, and a variety of cultural practices associated with subsistence activities (i.e. berry picking, medicines).

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

A close connection to the land and the ability to practice cultural activities is an integral aspect of the EFN way of life and identity. Accessing these areas and feeling undisturbed continues to provide EFN members with a connection to their culture, their ancestors, animals and the land. Several participants explained that these characteristics of the land are central to EFN activities, such as fishing, trapping, hide and food preparation, and important teaching areas.

*That feels really good ... when you go out to the bush and the world, all those worries that you take to the bush with you, they just disappear. That's what I find anyway, everything goes away ... And when you get to somewhere where nobody's around there's no stress no nothing. That's why I keep going out there is, there's no worries. Like I say, I spend a lot of time in the bush by myself and I have no worries. (E18, 2016)*

*I can't even describe it. It's an unbelievable peaceful feeling. I don't think about work, I don't think about anything. I don't think about life. Just relaxation, pure relaxation. That's why I go there [Makokibatan Lake] all the time ... It's my heaven. That's the best way I can describe it ... That's where I want to go live when I'm done working, you know what I mean? I wouldn't mind going back and living on the land ... that's where I learned to cut fish, that's where I learned to skin marten. That's where I learned to cook, you know, wild food. And that's where I taught my children too. And I continue to teach them ... it feels like home. (E19, 2016)*

EFN member's connection to the land, and accessing important areas, is crucial to the transmission of knowledge. Participants described the importance of passing on traditional knowledge to younger generations so that youth may carry on EFN cultural practices and way of life.

*Us guys, the things we learned as youth we pass down ... Because of my beliefs about being a Native. I don't really know how to put it but it's important for me to pass down what I was taught by my parents and grandparents so it's important to pass it down to my kids. (E18, 2016)*

Study participants explained that being able to practice their traditions and cultural activities is central to their identity and way of life, including trapping, making traditional crafts, and collecting firewood. Learning these traditions often takes place out on the land through the practice of traditional activities, including learnings and teachings from other community members and elders.

*If you don't do it, you're just lost, eh? You don't get to do something you want to do. (E20, 2016)*

*Well people I go with once in a while, when they go out I go with them to look at their traps. So I look at them and I help them out, shovel the snow and with the snowshoe and all that, cutting firewood and little pieces of sticks, what to use and where to make a tea and fire ... old persons they*

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

*come ask me if I want to go with them when they go hunting so that's where I learned. I start in the habit, get the habit and then I never want to stop. (E23, 2016)*

Interview participants often spoke of other EFN members and family members when discussing cultural and traditional activities they participate in. Rarely did EFN members speak of practicing important cultural or traditional activities alone. In this sense, efforts aimed at cultural continuity are reliant on the interactions of EFN members across multiple generations.

#### **4.4.2** *Project Interactions with Cultural Continuity*

For the past several decades, EFN members have experienced impacts on their cultural continuity, including disruptions to the loss of subsistence plant harvesting areas, reduced transmission of knowledge caused by development and industrialization, and the loss of important areas relied on by EFN members for carrying out traditional activities. These impacts have the potential to be exacerbated by the proposed Hardrock Project.

Several EFN members noted that areas they relied on for berry picking in the past have been lost or contaminated due to herbicide spraying.

*I don't know what kind of chemicals they are using ... everything dies. Even, my blueberry patches don't grow anymore ... there's no blueberries there anymore. (E26, 2016)*

*Well whatever I see I pick it, but as long as there's no spraying ... you got to go far to get your good blueberry picking ... [sprayers] are already all over. (E23, 2016)*

In addition to the loss of berry picking areas, EFN members highlighted their concerns about EFN member's ability to practice cultural activities and traditions in the wake of industrial development.

*Well I just feel like [my traditions] that's the only thing I can do, there's no other way now you have to have a great university or something like that if you want to do other things you got to have at least education. This way here before we didn't need no education as long as we were standing up we'd make a living. Right now these young people they're in welfare and everything, they don't think about doing anything anymore because there's no jobs anymore for anyone, that's the big machines there taking over and there's nothing nobody can do. (E23, 2016)*

Interview participants expressed concerns about existing impacts being exacerbated with the construction of the proposed Project. Cultural continuity is sensitive and has the potential to be affected by industrial development, environmental change or a reduction and/or loss of land access. Changes in these factors may result in a

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

decreased transmission of knowledge, a reduction of cultural activities being practiced, and may make an area less appealing to return to.

EFN members reported that the proposed Hardrock Project is likely to have a negative effect on cultural continuity. Specifically, they expressed concerns about potential road access leading to loss of important areas for practicing cultural and traditional activities, an increase of activity in the area, as well as an impact on younger EFN member's ability to access the area in the future.

For EFN, the transmission of knowledge and culture are inextricably linked to their ability to access and utilize important areas and places. Many EFN members expressed concerns about the effect that the proposed Project will have on their ability to return to the area.

*All the people who'll be coming up this way will be moving around and I think it would affect us. A lot I guess. We wouldn't have that peace you're looking for in the woods. Like that place I have in my trap line. That's where I go to get away from everything. I don't think I'd like it if I see other non-Aboriginal people coming into my area ... [EFN youth] don't have that [peace] anymore. It's gone away from them. I still have it and this reserve still has a chance to live the way we used to but I don't think they [youth] have a chance once the road comes. (E18, 2016)*

*I think about what they're [the Proponent] doing right now, and then after that we'll be scared to go. (E26, 2016)*

The transmission of traditional knowledge and cultural activities is inextricably linked to EFN member's ability to access the land. As stated in the quotes above, the proposed Project has the potential to reduce EFN member's ability to pass on important cultural and traditional knowledge to younger generations.

Several EFN members highlighted the need to focus on the well-being of their youth in order to maintain their cultural identity and EFN way of life.

*Well they have to do something like for the young people to get everything, they have to get a share of everything with they born on and they're there to whatever the government signed to give them they should keep right on I think to keep going, and there's some of it they missed out here, I'm not educated but that's what they missed anyway. (E23, 2016)*

*Educate them [youth] more ... But also, I wouldn't want to leave what I learned, what I like doing. (E18, 2016)*

*I don't want nothing going on there. Like, any drilling or anything ... I told my kids, anyways. You know, do something maybe, try to do something here before it gets ruined. (E20, 2016)*

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

As indicated in the preceding quotes, participants emphasize that these challenges make efforts aimed at utilizing potentially affected areas and educating their youth as crucially important.

In summary, potential Project interactions from the proposed Hardrock Project with EFN cultural continuity values are:

- Reduced access to important areas which are relied on for fishing, trapping animal processing, food preparation, traditional crafts and collecting firewood;
- Decreased transmission of knowledge and culturally important activities to younger EFN generations; and
- Impacts on future generations, including their ability to return to culturally important areas and their ability to continue to practice important cultural activities.

#### **4.5 PRELIMINARY CHARACTERIZATION OF CUMULATIVE IMPACTS**

The potential impacts to EFN knowledge and use from the Project identified in Sections 4.1 to 4.4 should be understood in the context of adverse effects from other sources (past, present, and likely future). Although a comprehensive cumulative effects assessment was not conducted for this Study, the data presented below serves to underscore that impacts from the Project would be adding to, and compounding, damage already incurred on EFN culture and cultural continuity efforts. EFN members highlighted a number of existing impacts on their lands, which were presented in the VC's above. In a brief summary of the preceding sections, the Project is expected to further:

- Reduce the ability of EFN members to fish, hunt, trap, gather medicines and harvest food plants;
- Increase the risks of water pollution and degradation;
- Increase the risks of wildlife contamination and degradation;
- Disturb and reduce important habitat for a variety of wildlife species;
- Disturb and alter the character of preferred places; and
- Negatively impact the transmission of knowledge and cultural practices, a poignant concern for younger EFN members;

The potential future impacts from the proposed Hardrock Project on EFN rights and traditional activities should therefore be understood in this context. As increasing

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

amounts of development encroach on EFN territory, EFN members may be forced to travel greater distances to practice traditional cultural and subsistence activities. Areas that are relatively less impacted by industry in the wider region therefore have the potential to become increasingly important to EFN members.

## **5. CONCLUSION**

### **5.1 SUMMARY AND RECOMMENDATIONS**

In summary, the Study for the proposed Hardrock Project by Greenstone Gold Mines GP Inc. points to the importance of the Study area for the ongoing practice of EFN rights. Fishing locations and a hunting area for small game were reported in the Project footprint, additional fishing sites and a cultural site were reported in the LSA, and subsistence plants, habitation areas, hunting sites for large and small game, and additional fishing sites were reported in the wider Study area. EFN members also noted that the high value habitat available in the Study area make it important for the practice of EFN rights, as it supports a variety of wildlife populations that may move away with the construction of the proposed Project. The Study area is also important to EFN members as it is located near Kenagomasis Lake, wherein the lake and its adjacent streams are relied on for fishing, harvesting berries, hunting waterfowl and small game.

Potential impacts from the proposed Hardrock Project reported by EFN members include:

- Increased road access to preferred areas allowing more non-EFN hunters into the area, adding pressure to fish, large and small game populations, and deterring EFN members from returning to the area;
- Contamination of subsistence resources, including bodies of water, plants, fish, birds, and mammals during Project construction and operations;
- Fear and uncertainty about potential contamination from the Project, deterring EFN members from drinking river and lake water and eating fish, waterfowl, and small and large game;
- Reductions in harvestable resources and increasing restricted access to the Study area leading to a decreased transmission of knowledge and time being spent on the land practicing traditional activities such as hunting, fishing and plant gathering;
- Damage and disruption to important wildlife habitat including moose habitat, spawning areas for fish and subsistence plant growth areas; and
- Disruption to the landscape and fears of contamination decreasing the spiritual connection that EFN members feel towards the landscape.

Based on the above analysis, it is not possible to characterise the full extent of EFN use in the Study Area, its importance, or the significance of possible effects resulting from the proposed Project on its own or in combination with other existing and/or proposed projects and changes in the environment. However, when the physical works and activities required by the Project are considered alongside EFN data collected in this

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Study, evidence indicates that Project interactions have the potential to constrain EFN rights practiced in the footprint, LSA, and RSA over multiple generations. In the context of existing and likely future cumulative impacts in the region, the magnitude of potential impacts from the Project can be expected to increase.

Further work that should be undertaken includes (but is not limited to):

- Additional interviews with EFN members not yet interviewed (especially around Kenagomasis Lake and downstream) regarding knowledge and use of the Study area;
- Additional review of existing sources, including ethnographic and archival documents, should be conducted to develop a 'pre-development' picture of the Study area and its role in supporting First Nation practice. This pre-development baseline would support consideration of cumulative effects on the Study area, and whether thresholds of unacceptable change have likely already been surpassed, or will be contributed to by the Project.
- Using a baseline derived from interviews, and consideration of pre-development conditions, an assessment of Project effects should be conducted in order to identify the potential for significant impacts to EFN knowledge, use and rights.
- Alternatives to improve water management on the Study area should be explored.

The above recommendations are preliminary and for initial work. Additional effort and issues may be required in order to fully address EFN rights and interests, and potential effects of the Project, or the Project in combination with other Projects and changes in the environment (such as climate warming). Required further work, and resources required to support it, should be the subject of discussion between EFN and the Proponent.

## **5.2 CLOSURE**

Should you wish to discuss any aspect of this Report further, please do not hesitate to contact Rachel Olson by email at [rachel.olson@thefirelightgroup.com](mailto:rachel.olson@thefirelightgroup.com).

Sincerely,

<Original signed by>

Rachel Olson, Director



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

---

Firelight Research Inc.

505-510 West Hastings Street

Vancouver, BC V6B 1L8

T: +1 604 563-2245

E: [rachel.olson@thefirelightgroup.com](mailto:rachel.olson@thefirelightgroup.com)

## CITATIONS

---

Aboriginal and Northern Development Canada. 2016. Eabametoong First Nation: Registered population. Available online at: [http://fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND\\_NUMBER=183&lang=eng](http://fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND_NUMBER=183&lang=eng)

DeRoy, Steven. 2012. Using geospatial and network analysis to assess accessibility to core homeland areas of the Athabasca Chipewyan First Nation (ACFN) in the context of increasing oil sands development. Dissertation for Masters of Geographic Information Science. University College London.

Greenstone Gold Mines. 2016. EA and approvals. Available online at: <http://www.greenstonegoldmines.com/article/ea-and-approvals-124.asp>

---. 2016. Hardrock overview. Available online at: <http://www.greenstonegoldmines.com/article/overview-122.asp>

---. 2016. Hardrock Project. Available online at: <http://www.greenstonegoldmines.com/hardrock>

Hjartarson, Josh, Liam McGuinty, Scott Boutilier and Ontario Chamber of Commerce. 2014. *Beneath the surface: Uncovering the economic potential of Ontario's Ring of Fire*. Toronto, Ontario: Ontario Chamber of Commerce.

Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling and D. Stalker. 1999. *Cumulative Effects Assessment Practitioners Guide*. Prepared by AXYS Environmental Consulting Ltd. and the CEA Working Group for the Canadian Environmental Assessment Agency, Hull, Quebec.

Long, John. S. 2006. How the Commissioners Explained Treaty Number Nine to the Ojibway and Cree in 1905. *Ontario History* 98 (1): 1.

Indigenous and Northern Affairs Canada. 2016. First Nation Profiles: Eabametoong First Nation. Registered population as of July, 2016. Available online at: [http://fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND\\_NUMBER=183&lang=eng](http://fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND_NUMBER=183&lang=eng)

Matawa First Nations Management. 2016. Treaty. Available at: <http://www.matawa.on.ca/66-2/>

Matawa First Nations Management and the Minister of Northern Development and Mines. 2014. The Regional Framework Agreement. March 26, 2014. Available online at: [http://www.mndm.gov.on.ca/sites/default/files/rof\\_regional\\_framework\\_agreement\\_2014.pdf](http://www.mndm.gov.on.ca/sites/default/files/rof_regional_framework_agreement_2014.pdf)

Nishnawbe Aski Nation. 2016. About us. Available online at: <http://www.nan.on.ca/article/about-us-3.asp>

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Premier Gold Mines Hardrock Inc. 2015. Hardrock project terms of reference – editorial amendment. Submitted by Stantec Consulting Ltd. Available online at: [http://www.greenstonegoldmines.com/upload/documents/provincial-  
ea/tor\\_moecc\\_notice\\_of\\_approval-june2015.pdf](http://www.greenstonegoldmines.com/upload/documents/provincial-<br/>ea/tor_moecc_notice_of_approval-june2015.pdf)

Province of Ontario. 2015. The Treaty No. 9 Expedition of 1905-1096. Available online at: [http://www.archives.gov.on.ca/en/explore/online/james\\_bay\\_treaty/expedition\\_1905.aspx](http://www.archives.gov.on.ca/en/explore/online/james_bay_treaty/expedition_1905.aspx)

R. v. Marshall 1999. 3 SCR 456.

R. v. Morris 2006. SCR 915.

Scott, Duncan C., Samuel Stewart and Daniel G. MacMartin. 1905. "Report," 1905, 6.

Stantec Consulting Ltd. 2015. Hardrock Project Terms of Reference – Editorial Amendment. Submitted to Premier Gold Mines Hardrock Inc. Available online at: [http://www.greenstonegoldmines.com/upload/documents/provincial-  
ea/tor\\_moecc\\_notice\\_of\\_approval-june2015.pdf](http://www.greenstonegoldmines.com/upload/documents/provincial-<br/>ea/tor_moecc_notice_of_approval-june2015.pdf)

Tobias, Terry, 2000. Chief Kerry's Moose: A Guidebook to Land Use and Occupancy Mapping, Research, Design and Data Collection. Vancouver, BC: Union of British Columbia Indian Chiefs.

---. 2009. Living Proof: The Essential Data-Collection Guide for Indigenous Use-and-Occupancy Map Surveys. Vancouver: Ecotrust Canada and the Union of British Columbia India Chiefs.

## **INTERVIEW CITATIONS**

---

E08. 2016. Transcript of August 16, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E18. 2016. Transcript of August 16, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E19. 2016. Transcript of August 17, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E20. 2016. Transcript of August 17, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E21. 2016. Transcript of August 18, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E22. 2016. Transcript of August 18, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E23. 2016. Transcript of August 19, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E24. 2016. Transcript of August 19, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E25. 2016. Transcript of August 19, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E26. 2016. Transcript of August 19, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E27. 2016. Transcript of August 20, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

E28. 2016. Transcript of August 20, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

E29. 2016. Transcript of August 20, 2016 Interview from the EFN Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project. Firelight Research Inc. for the Eabametoong First Nation.

**APPENDIX 1: CONSENT FORM**

---

**Eabametoong Traditional Knowledge and Use Scoping Study for Greenstone Gold's Proposed Hardrock Project**

I (name) \_\_\_\_\_, on this day \_\_\_\_\_, give permission for \_\_\_\_\_ to interview me for the Eabametoong Traditional Knowledge and Use Scoping Study for Greenstone Gold's Proposed Hardrock Project.

I understand that the study is being conducted by the Eabametoong First Nation (EFN). The purpose of this study is to document the rights and interests of the EFN in the area of Greenstone Gold's Proposed Hardrock Project.

By signing below, I indicate my understanding that:

- 1) I consent to have my words and responses recorded on maps, in notes, and using audio and video recording equipment.
- 2) I am free to not respond to questions that may be asked and I am free to end the interview at any time I wish.
- 3) The EFN will maintain intellectual property rights over information and recordings collected through my participation and may use the information and recordings, including audio, video, or pictures, in pursuit of its claims, and for defending and communicating the rights, interests, and titles of its members. This includes, but is not limited to, sharing information for the purposes of negotiation or participation in regulatory or court proceedings.
- 4) The EFN will ask permission from me or my descendents, before using my information for purposes not indicated above.

For more information, please contact Andy Yesno at the Eabametoong First Nation: (807) 242-7221.

Signature of participant

Witness

\_\_\_\_\_

\_\_\_\_\_

PIN #:

## APPENDIX 2: INTERVIEW GUIDE

---

# INTERVIEW GUIDE FOR THE EABAMETOONG TRADITIONAL KNOWLEDGE AND USE SCOPING STUDY OF GREENSTONE GOLD'S PROPOSED HARDROCK PROJECT

---

### **This guide includes:**

- Interview questions
- Mapping notes
- Mapping codes

## **1. INTRODUCTION**

*[Complete the interview checklist, then read with AUDIO & VIDEO RECORDERS ON at the start of each interview.]*

Today is [DATE]. We are interviewing [PARTICIPANT NAME] for the **Eabametoong First Nation Traditional Knowledge and Use Scoping Study** of the **Hardrock Project** proposed by **Greenstone Gold**. Thank you for coming.

My name is [NAME] and my co-researcher(s) is/are [NAME]. We're at the [BUILDING/OFFICE] in [COMMUNITY] in [REGION/PROVINCE]. [PARTICIPANT NAME] has read and signed the consent forms, and we have assigned him/her participant ID [NUMBER]. We have explained the purpose of the study, mapping process, and interview plan. We will be mapping in Google Earth at 1:50,000 or better.

**Primary Goal:** Eabametoong First Nation is working to document community knowledge and use by Eabametoong members in the area of the proposed Project. We'd like to know how you have used these areas, as well as what you may know about how community members have used them in the past.

**The Local Study Area (LSA)** consists of an open pit gold mines with two pits (including a power supply using power lines and substation, aggregate sources, potential LNG plant, temporary camp, sewage treatment, potable water supply, and waste management), ore milling and processing plant, tailings management facility (pond), water treatment and the Goldfield Creek Diversion, all near the town of Geraldton. The project is a 25+ year operation including construction (2 years), phase 1 operation (2 years), phase 2 operation (12 years), closure (5+ years) and post-closure.

## **2. BACKGROUND AND EXPERIENCE**

### **PERSONAL INFORMATION**

- Full name?
- Place of birth?
- Age and year of birth?
- Where you were raised?
- Membership of BRDN?
- Parents' and grandparents' names?
- Do you have a trapline? Who left you the trapline?

### **GENERAL USE QUESTIONS**

#### **Have you ever used the area around the Project, or areas nearby?**

For hunting / trapping / fishing / camping / plant gathering / passing on traditional knowledge or language / gatherings or ceremonies

- If yes
  - When?
  - What do you do there?
  - Who with?
  - How did you learn about this area?
- If no, why?

#### **Have your family or community members ever used the area around the proposed Project, or areas nearby?**

- If yes
  - What activities did they do there?
- If no, why?

#### **Is the Project area important to you / your family / your community? Why?**

#### **RELEVANT INFORMATION TO INCLUDE:**

*How they learned about the Project area*

*First hand experience*

*Second hand knowledge (map with \*)*

*Trapline number(s) of individual / family members*



*Other named family members*

*Remember to spell out all proper names*

### **3. HABITATION**

#### **PERMANENT HABITATION (PX) & TEMPORARY HABITATION (TX)**

##### **Can you show us places you have stayed overnight?**

Examples: a cabin you built or used, campsite, tent, other temporary or permanent structures

- How many times have you stayed there?
  - Once or short-term (less than 3 days): TX
  - More than once or long-term (more than 3 days): PX
- When did you first stay there?
- When was the last time you stayed there?

#### **SUGGESTED PROMPTS FOR DETAILED KNOWLEDGE AND USE ON HABITATION:**

*Describe the location / the conditions*

*Why do you go there?*

*How did you find out about this place? / Who showed it to you?*

*What do you like about the place?*

*What activities do you do when staying there?*

*What does this place mean to you?*

*Is this place important to you / your family / community? Why?*

*Is this place important to sustaining your culture / way of life? How?*

*Do you teach younger generations there? (map as TA)*

*How would you explain the importance of this place to the government / industry?*

### **4. TRAVEL ROUTES**

#### **TRAIL (TR)**

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

**Can you show us routes you have travelled by foot, quad, snowmobile or truck etc?**

(usually for hunting, trapping, gathering plants, accessing camping or fishing areas etc, rather than driving on a highway)

- When did you first use this route?
- When did you last use this route?
- What did you use this route for? (e.g. For hunting or plant gathering, or to reach fishing, camping, or other locations)
- Can you show us old trails that have been used by community members? (*map with \**)
- When was this route used?
- Who was using this route?
- What did they use it for? (e.g. For hunting or plant gathering, or to reach fishing or camping sites, or other locations)

**WATER ROUTE (WR)**

**Can you show us routes you have travelled along creeks, lakes or rivers by boat?**

- When did you first use this route?
- When did you last use this route?
- What did you use this route for? (e.g. for hunting, fishing, or to reach camp sites of other locations)
- Can you show us old water routes that used to be used by community members? (*map with \**)
- When was this route used?
- Who was using this route?
- What did they use it for? (e.g. for hunting, fishing, or to reach camp sites of other locations)

*Travel routes and all linear features should be controlled*

*Follow the actual route and natural features (not a straight line from A to B)*

*Include relevant modifiers after the site code (\*,?,+,\$)*

**SUGGESTED PROMPTS FOR DETAILED KNOWLEDGE AND USE ON TRANSPORTATION:**

*How did you learn about this route?*

*What do you do when you are travelling along here?*

*Is this the only route to get from point A to B, or is there an alternative?*

*Was this a new route, or a well-travelled, well-recognized route?*

*Is this route important to you / your family / community? Why?*

*Is this route important to sustaining your culture / way of life?*

*What is the farthest point that you have travelled along this route?*

## **5. HUNTING, TRAPPING, FISHING & GATHERING PLANTS AND RESOURCES**

*[See codes at back of this guide for species – these may also be used as prompts]*

### **HUNTING AND TRAPPING**

**Can you show us places where you have killed or trapped mammals or birds?**

*[Prompt by most important species first, e.g. moose, elk, deer, bear... See codes at the back of this guide]*

- For each:
  - Which species?
  - When?
  - Why? (e.g. to feed you / your family / your community, or for other uses such as medicines, crafts, ceremonies, sale)

### **FISHING**

**Can you show us places where you have caught fish?**

- For each:
  - Which species?
  - When?
  - Why? (e.g. to feed you / your family / your community, or for other uses such as for medicines, ceremonies, sale, or simply to enjoy fishing / catch-and-release)
- [NOTE: Didn't catch anything and catch-and-release should be marked as EF]

### **SUGGESTED PROMPTS FOR DETAILED KNOWLEDGE AND USE FOR KILLED OR TRAPPED ANIMALS, BIRDS AND FISH:**

*Why do you hunt / trap / fish?*

*Who taught you how to hunt / trap / fish? Where? [mark as TA]*

*Have you taught anyone how to hunt / trap / fish? Who? Where? [mark as TA]*

*How important are these animals / birds / fish to your daily life?*

*What did you do with the meat or fur?*

*How many people can an animal feed? For how long? (individual / family / community)*

*What does it mean to you to be able to hunt / trap / fish?*

*Are these animals / birds / fish important to sustaining your culture / way of life? How?*

*How would you explain the importance of these animals / birds / fish to the government / industry?*

*Are any of these animals / birds / fish hard to find? Which ones?*

## **HARVESTING BERRIES / OTHER PLANTS / FUNGI**

**Can you show us places where you've collected:**

- **berries or other food plants?**
- **medicine plants?**
- **mushrooms or other fungi?**
- **plants for crafts or other uses?**
- For each:
  - Which species?
  - When?
  - Why? (e.g. to feed you / your family / your community, or for other uses such as medicines, crafts, ceremonies, sale)

## **GATHERING OTHER RESOURCES**

**Can you show us places where you've collected:**

- **water?**
- **any other resources? (e.g. rocks, feathers, antlers)**
- For each:
  - When?
  - Why? (e.g. for use by you / your family / your community, or for medicines, crafts, ceremonies, sale)

## **SUGGESTED PROMPTS FOR DETAILED KNOWLEDGE AND USE:**

*How important are these medicines / plants / fungi / resources to your daily life?*

*Who taught you about collecting and using medicine / plants / fungi / resources? Where? [mark as TA]*

*Have you taught anyone about collecting and using medicine / plants / fungi / resources?  
Who? Where? [mark as TA]*

*Are these medicines / plants / fungi / resources important to sustaining your culture / way of life? How?*

*How would you explain the importance of these medicines / plants / fungi / resources to the government / industry?*

*Are any of these medicines / plants / fungi / resources hard to find outside of the Project area and nearby areas?*

*Who were you with when gathering plants / fungi / other resources?*

*Species, if applicable?*

## **6. ENVIRONMENTAL FEATURES**

### **ENVIRONMENTAL FEATURES (EF)**

**Can you show us the locations of good habitat or environmental features that are important for mammals / birds / fish / plants?**

Examples: calving or mating areas, mineral licks, fish spawning areas

### **ENVIRONMENTAL FEATURE CORRIDOR (EC)**

**Can you show us routes that animals use to move across the area?**

## **7. CULTURAL USE**

### **GATHERING PLACE (GP)**

**Can you show us important places where your community holds or attends gatherings?**

Examples: pow wows, rodeos, treaty celebrations

- When?
- Who? (e.g. Use by you / your family members / your community / many communities)
- What happened there?

### **CEREMONIAL PLACE (CP)**

**Can you show us places that are used for ceremonies?**

**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project**

Examples: cultural dances, sweat lodges

- When?
- Who? (e.g. Use by you / your family members / your community / many communities)
- What happened there?

**TEACHING AREA (TA)**

**Can you show us places that are used for teaching knowledge to children or others?**

- When?
- Who? (e.g. use by you / your family members / your community / many communities?)
- What was taught there? How?

**Can you show us any places that have special knowledge or stories associated with them?**

Examples: creation stories, dreamer stories, histories

- Who told you about this place and the stories? When?

**BURIAL (BU)**

**Can you show us places where members of your First Nation are buried or where their remains are (e.g. cremation)?**

- Know firsthand or heard from family / community members?

**SPIRIT (SP)**

**Can you show us places where spirit beings live or there are special rules about how you act or respect the place?**

- Know firsthand or heard from family / community members?

**PLACE NAME (PN)**

**Can you show us any places that have special place names?**

[include the place name and translation in Google Earth description field]

- Include for each mapped site in Google Earth description field of the first and last use (day / month / season AND year / decade)

## **8. IMPAIRED USE**

Specific and general impaired use due to impacts from industry and other environmental or social changes

### **IMPORTANT AREAS (IA), GENERAL IMPAIRED USE (GL), & SPECIFIC IMPAIRED USE (SL)**

**Are there any areas (inside or outside the Study area) that you use or have used that are especially important to you?**

E.g. Preferred hunting areas with a lot of family history

- Why?

Interviewer note: Map at below 1:50,000 (~10km), or if above, add eye height to notes in Google Earth data **and** use modifier “^” e.g. IA03^-S05.

**Can you show us any general areas or specific sites where you used to hunt / gather / fish / camp/ practice other rights, but do not go anymore because of impacts from industry or other reasons?**

- What did you used to do there? Why? (e.g. hunting because there were lots of moose)
- When did you last use that place?
- Why did you stop using that place?

Include for each mapped site in Google Earth description field of the dialogue box:

- First and last use (day / month / season AND year / decade)
- Reason for avoidance

#### **SUGGESTED PROMPTS FOR DETAILED KNOWLEDGE AND USE ON IMPACTS:**

*Why can you no longer go to this area?*

*What activities did you used to do in this area?*

*How often did you go to or use this area?*

*Can you do those activities somewhere else?*

*How does it make you feel that you can no longer go to or use this area?*

*How has the loss of use impacted you / your family / your community?*

*Has the loss of use impacted your culture / way of life? How?*

*How would you explain the importance of this area to the government / industry?*

*How would you explain the impact that not being able to use the area has had on you to the government / industry?*

## **9. KNOWLEDGE AND USE BY OTHER COMMUNITY MEMBERS**

[Map with \*]

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

**Can you show us places where members of your family or community or your ancestors have:**

- Camped or stayed in cabins?
- Killed or trapped animals or birds?
- Caught fish?
- Collected berries / plants / fungi / water / other resources... ?
- Attended ceremonies or gatherings?
- Travelled across the area?
- Other activities... ?

## **10. PROJECT IMPACT QUESTIONS**

**How does it feel when you're out in the bush where you are undisturbed?**

- Can you tell us what that kind of environment looks like, what kind of place do you look for when you go into the bush?

**Based on your understanding of the Project, do you think the proposed Project will affect:**

- your ability to enjoy your treaty rights or way of life?
- your children's or grandchildren's ability to enjoy their treaty rights or way of life?
- If so, how so?



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

**What do you think the most important issues are for your community to focus on in relation to the proposed Project?**

**Are there any other important places or issues related to the Project that you think we should be documenting today?**

**Are there other community members that we should talk to?**

*Note:* You may want to ask some of these questions earlier in the interview, for example if a participant has talked a lot about moose hunting in the Study area, ask them if they think the Project will impact their hunting, and why.

## **11. CONCLUSION**

*[Read with audio & video recorders on after every session]*

Today is [DATE]. We have just finished interviewing [PARTICIPANT NAME] for the **Eabametoong Traditional Knowledge and Use Scoping Study** of the proposed **Greenstone Gold – Hardrock Project**. Thank you for coming.

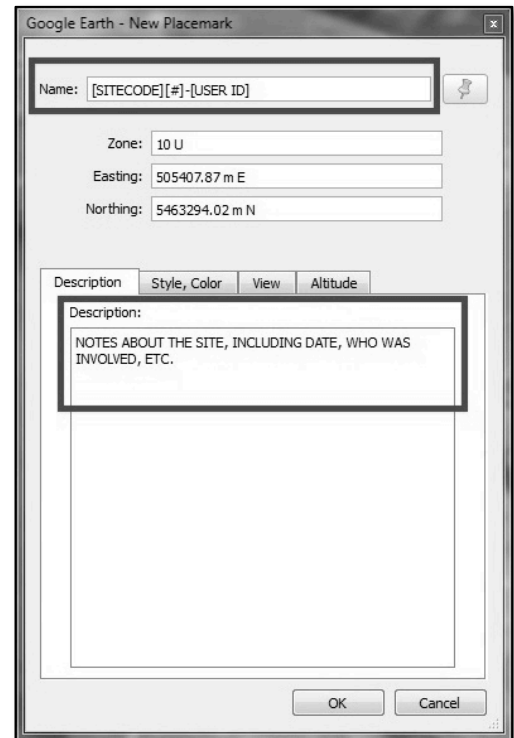
My name is [NAME], my coresearcher is [NAME] and we are here at [OFFICE/BUILDING] in [COMMUNITY/TOWN]. We've given [PARTICIPANT NAME] participant ID [#]. We've mapped a total of [#] sites in Google Earth at 1:50,000 or better, and recorded a total of [#] tracks on the digital recorder. Notes are recorded in/on [NOTEBOOK/COMPUTOR]. This interview has taken approximately [#] hours [#] minutes.

## 12. MAPPING NOTES

Map all points, lines and polygons at an eye height of approximately 10km or less (1:50,000 or better)

Label each site consistently in the NAME FIELD of the site properties dialogue box (see ex.)

- Each code should indicate
  - Site use
  - Site number
  - Modifiers (if relevant)
  - Source (participant ID)
- Modifiers (after the site number)
  - Firsthand knowledge has no modifier
    - Example: TX01-S08 (member with ID# S08 reports first mapped temporary shelter place where she has camped)
  - Secondhand knowledge is mapped with a \*
    - Example: TX01\*-S08
  - Approximate spatial information is mapped with a ?
    - Example: TX01?-S08
  - If the participant was present but did not take part in an activity, map with a +
    - Example: BE01+-S08
  - Commercial use (including guiding/outfitting) is mapped with a \$
    - Example: TX01\$-S08
  - If multiple modifiers are used, a code could look like: TX01\*?-\$-S08



**All other information goes in the DESCRIPTION FIELD of the dialogue box (see example)**

### **Transportation routes and all linear features should be controlled**

- Zoomed in to less than 10km eye height
- Follow the actual route and natural features (not a straight line from A to B)

**Include for each mapped site in Google Earth DESCRIPTION FIELD of the dialogue box**

- First and last use (day / month / season AND year / decade)
- Frequency of use
- Species (if relevant)

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

- Number and names of members who were present
- Any additional information you are told

**Other**

- Keep list of place names
- Spell out proper names and place names where possible for the recording

Use prompts to gain detailed access and use information

### **13. MAPPING CODES**

#### **HABITATION & TRANSPORTATION**

PX = Permanent Habitation

TX = Temporary Habitation

TR = Trail

WR = Water Route

#### **IMPORTANT PLACES & HABITAT**

EC = Environmental Feature Corridor

EF = Environmental Feature

#### **MAMMAL KILL SITES**

BB = Black Bear

MM = Whistler / Marmot

BI = Bison / Buffalo

MO = Moose

CA = Caribou

OG = Other Game

CH = Chicken

PO = Porcupine

EK = Elk

RB = Rabbit

GB = Grizzly Bear

RC = Raccoon

GR = Grouse

SH = Sheep

MD = Mule Deer

WD = White-tailed Deer

#### **FURBEARING KILL SITES**

BG = Badger

CK = Chipmunk

BO = Bobcat

CO = Coyote

BR = Beaver

ER = Ermine

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

FI = Fisher

MU = Muskrat

FO = Other Fur Bearer

OT = Otter

FX = Fox

PA = Partridge

GH = Groundhog

SK = Skunk

GT = Goat

SQ = Squirrel

LX = Lynx

TP = General Trapping Area

WE = Weasel

WE = Weasel

MK = Mink

WJ = Whiskey Jacks

MT = Marten

WO = Wolf

MF = Mouse

WV = Wolverine

**BIRD KILL SITES**

BM = Blue Heron

OW = Owl

CQ = Crow

PT = Ptarmigan

DU = Duck

RV = Raven

EA = Eagle

SC = Sand Hill Cranes

FL = Falcon

SN = Sandpipers

GE = Geese

SO = Snowgeese

GR = Grouse

SW = Swan

HA = Hawk

PA = Partridge

LO = Loon

WW = White Wings

OB = Other Bird

**FISH CATCH SITES**

BH = Catfish/Mariah

BD = Brook Trout

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

BS = Bass

PK = Pickerel / walleye

CD = Carp

RT = Rainbow Trout

JF = Jackfish

SY = Shallow Water Siskel

LT = Lake Trout

MC = Shells / Mussels

MN = Minnows

ST = Sturgeon

NP = Northern Pike

SU = Suckers

OF = Other Fish

WF = Whitefish

PE = Perch

**PLANTS / WATER / OTHER RESOURES**

AB = Aspen Bark

FD = Fireweed

BA = Barks (crafts, construction, etc.)

LP = Lily Pad

BE = Berries / Wild Fruit

MS = Mosses / Mushrooms

BL = Balsam

ON = Wild Onion

CB = Cambium

OP = Other Plant

CT = Cat Tail

PA = Parsnip

CW = Cottonwood

PC = Pine Cones

DL = Dandelion

PI = Pincherry

DP = Dye Plant

PU = Plums

EG = Eggs

PP = Poplar

EM = Earth Material (rocks, clays, etc.)

PB = Poplar Sap

FE = Feathers

RH = Wild Rhubarb

FP = Food Plants (roots, bulbs, cambium)

RS = Rose Bush

FW = Firewood

RW = Rotten Wood

JU = Juniper / Crow Trees

SG = Spruce Gum

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

WA = Water (drinking water sources)

WK = Wild Carrots

WT = Wheat

WS = Wild Lillies

WL = Wild Rice

WB = Wild Root

**MEDICINE PLANTS (MP)**

CC = Choke Cherry Bark

PC = Pine Cones

CE = Cedar Tea

PM = Peppermint

CI = Chi

RD = Red Willow

DC = Devils Club

RE = Red Willow Bark

FR = Flowers

RR = Rat Root / Weecay

FU = Fungus

SA = Sage

LB = Labrador Tea

SE = Sweet Grass

MA = Mountain Ash

TM = Tamarack

MI = Mint Tea

WG = Willow

MG = Muskeg Tea

WI = Willow Fungus

NB = Northern Bed Straw

YS = Yellow Slippers

PR = Processing Hides

**CULTURAL USE**

BU = Burial

**IMPAIRED USE**

CP = Ceremonial Place

GL = General Loss

DR = Drying Rack

SL = Specific Loss

GP = Gathering Place

PN = Place Name

SP = Spirit

TA = Teaching Area

### **APPENDIX 3: C.V. RACHEL OLSON**

---

#### Education

Doctor of Philosophy in Social Anthropology, University of Sussex, Brighton, UK, 2013

Master of Research in Social Anthropology with Distinction, Ethnology and Cultural History, University of Aberdeen, Scotland, UK, 2003

Bachelor of Arts in Anthropology with Distinction, University of Alberta, Edmonton, AB, 1999

#### Employment History

##### **The Firelight Group – North Vancouver, BC**

*Director (2009 to Present)*

Responsible, as co-founder and director, for helping establish The Firelight Group, a firm of aboriginal and non-aboriginal professionals specialized in providing respectful and respected environmental and social science research, consulting, and support services in processes where aboriginal and non-aboriginal interests interact, and where good relationships are desired by all sides. Tasks include business development, as well as design, development, and delivery of technical services including community-based traditional knowledge research and documentation systems, environmental and socio-cultural impact assessments and monitoring programs, indigenous land use mapping, GIS technical support and training, archival research, community involvement processes, and First Nations consultation support services.

##### **National Aboriginal Health Organization – Ottawa, ON**

*Research Officer (2007 to 2008)*

As a member of the First Nations Centre research team, my primary research areas were the topics of maternity care and environmental health. Also held the research proposal development and workshop development files. Tasks included primary research, technical writing, and participating in various committees and workshops across Canada. Was primary author of NAHO's series entitled, "Celebrating Birth".

##### **United Nations Educational, Scientific and Cultural Organization - Paris, France**

*Consultant (2006-2007)*

Worked with the LINKS (Local and Indigenous Knowledge Systems) program in the Science Sector and facilitated ongoing projects with indigenous communities in New Zealand, Micronesia, and Central America. Also focused on proposal development and editing and publishing various LINKS documents, including edited volumes.

##### **School of Nursing Research, University of British Columbia – Vancouver, BC**

*Social Science Researcher (2004-2005)*

Position of Health Research Associate for the research project, "Access to Primary Care Services for Aboriginal People in an Urban Centre." Duties include literature



**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project**

reviews, project coordination, and data collection, including participant observation of an Emergency Department, and in-depth interviews with aboriginal patients and health professionals.

**Ecotrust Canada – Vancouver, BC**

Aboriginal Mapping Network Coordinator (2003-2004)

Managed the Aboriginal Mapping Network program by meeting and engaging with like-minded individuals and organizations at various conferences and workshops.

Coordinated of over 120 aboriginal mapping professionals from across North America, Malaysia and Panama for the “Mapping for Communities: First Nations, GIS and the Big Picture” conference, held on November 20-21, 2003 in Duncan, BC. Conducted a comprehensive evaluation of the Aboriginal Mapping Network.

**Dene Tha' First Nation - Chateh, AB**

Data Collection Manager (2001 to 2003)

Developed and implemented Traditional Use Study in two First Nations communities, Chateh and Meander River. Included developing research design, methodology, training community researchers, and reporting to the Steering Committee of the Dene Tha' Consultation Pilot Project.

**Treaty 8 Tribal Association - Fort St. John, BC**

*Interview Coordinator (1999-2000)*

Coordinated land use mapping and life history interviews with community researchers in two communities, Halfway River and Doig River, focusing on qualitative methods and mapping processes.

Project Experience – Traditional Ecological Knowledge (TEK) and Traditional Use Studies (TUS)

**Tłı̄ch̄ Government**

Northwest Territories

Project manager and technical lead for the Tlı̄cho Government indigenous knowledge study for the Fortune Minerals NICO project. The project involved methodology development, data collection, analysis and final reporting. Presented findings at the public hearings of the MacKenzie Valley Environmental Impact Review Board.

**Treaty 8 Tribal Association**

**Northeastern British Columbia**

Researcher for a Traditional Knowledge, Use and Occupancy Study for the Proposed 'Site C' Area along the Peace River. The project involved work planning, gap analysis, methodology development, and leading field interviews using direct-to-digital mapping.

**Mikisew Cree First Nation**

Northern Alberta

Co-researcher for an Indigenous Knowledge study for assessing Shell-specific oil sands development projects near Fort McKay. The project involved work planning, gap

**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project**

analysis, methodology development, and leading and participating in field interviews using direct-to-digital mapping.

**Athabasca Chipewyan First Nation and the Mikisew Cree First Nation**

Northern Alberta

Co-researcher for the collection of traditional ecological knowledge data for the Athabasca River Use and Traditional Ecological Knowledge Study. The project involved interviews with community members and active land users, established methodologies, data analysis, and final reporting.

**UNESCO-LINKS**

New Zealand

Coordinated the Maori language version of the CD-ROM project, The Canoe is the People, entitled He Waka He Tangata. The goal of the CD-ROM is to revitalize the transmission of indigenous knowledge by strengthening the dialogue between elders and youth. New ICT tools like CD-ROMs are recognized as powerful vehicles for traditional knowledge and the bolstering of oral traditions. The CD-ROM includes 70 videos, 41 stories and accounts, 40 images and diagrams, of which 11 are animated, in addition to numerous maps, photos and texts.

**Dene Tha' Nation**

Alberta

Developed and implemented Traditional Use Study in two First Nations communities, Chateh and Meander River. Included developing research design, methodology, training community researchers, and reporting to the Steering Committee of the Dene Tha' Consultation Pilot Project.

**Halfway River First Nation**

British Columbia

Coordinated land use mapping and life history interviews with community researchers. Included training in qualitative methodologies and mapping processes.

**Doig River First Nation**

British Columbia

Coordinated land use mapping and life history interviews with community researchers. Included training in qualitative methodologies and mapping processes.

**Tr'ondek Hwech'in First Nation**

Yukon

Oral History Project (1999), focused on collecting life history interviews with elders, and stories of life in fish camps along the Yukon River.

**Halfway River First Nation**

British Columbia

Completed site reports for the Halfway River First Nation Traditional Use Study as a research assistant for Third Stone Community Research.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Project Experience – Health and Social

**National Aboriginal Council of Midwives**

Canada-wide

Assisted in the organization of the annual meeting, and wrote the annual report for the Council. Ongoing participation with the Council and continue to support through technical writing/proposal development as requested.

**Norway House Cree Nation**

Manitoba

On-going engagement with the community and local midwifery program. Designing and implementing a body mapping workshop with mother's focused on their childbirth experiences. Working collaboratively with the midwifery program and students on a broader project with regards to rural and remote maternity care.

**Ktunaxa Nation**

Southern British Columbia

Wrote the health and language section of "Section C: Ktunaxa Nation Use, Rights and Interests Assessment for Teck Coal's Line Creek Operations Phase II Project". The project involved interviews, data analysis and final reporting.

**National Aboriginal Health Organization**

Canada-wide

Celebrating Birth Series. Researched and wrote all papers and documents associated with the National Aboriginal Health Organization's series on maternal health.

**Opaskwayak Cree Nation**

Manitoba

Assisted in the conducting of interviews for a qualitative study on mother's experiences of childbirth from a northern Manitoban community. Part of the Strengthening Families: Maternal Child Health Program Evaluation program.

**Red Road HIV/AIDS Network**

British Columbia

Researcher for the "Mapping the Road to Healthier Communities" map directories of health services for the City of Vancouver and the Northern British Columbia region. Guest Editor for "Bloodlines" magazine. Continuing support in research and writing as requested.

**Mother Saradadevi Social Service Society**

**Tamil Nadu, India**

MSSSS is a grassroots NGO working with HIV/AIDS, both in prevention and care, in the Dindigul District of Tamil Nadu. Conducted a baseline survey of youth and sexual health issues to aid in the development and implementation of prevention programmes in the district.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Selected Publications

Olson, Rachel and Carol Griffin. (2012). An Evaluation of Midwifery Services in Manitoba. Midwives Association of Manitoba for Manitoba Health. Winnipeg, Manitoba.

Olson, Rachel and Carol Couchie. (2010). Clearing the Path: An Implementation Plan for Midwifery Services in First Nations and Inuit Communities. Ottawa: Government of Canada.

Olson, Rachel. (2010). Restoring the Connection: Exploring Aboriginal midwifery and the context of the relocation for childbirth and in First Nation communities in Canada. In, *Reproduction, Migration, and Identity*. Unnithan-Kumar, Maya, and Sunil Khana (eds). Forthcoming.

National Aboriginal Health Organization. (2009). Celebrating Birth- Aboriginal Midwifery in Canada. Ottawa: National Aboriginal Health Organization. [Primary Author]

National Aboriginal Health Organization. 2008. Celebrating Birth - Exploring the Role of Social Support in Labour and Delivery for First Nations Women and Families. Ottawa: National Aboriginal Health Organization. [Primary Author]

Olson, Rachel. (2008). Exploring the Potential Role of Doulas and Doula Training for the Children and Youth Division of First Nations and Inuit Health, Health Canada. Ottawa: Government of Canada. Internal circulation only.

Corbett J. M., Giacomo Rambaldi, Peter A. Kwaku Kyem, Daniel Weiner, Rachel Olson, Julius Muchemi and Robert Chambers (2006). Overview - Mapping for Change the emergence of a new practice." *Participatory Learning and Action* 54. 13-20.

Candler, Craig, Rachel Olson, Steven DeRoy, and Kieran Broderick. (2006). PGIS as a Sustained (and Sustainable?) Practice: The Case of Treaty 8 BC. *Participatory Learning and Action* 54.

Guest Editor. *Participatory Learning and Action*. Issue 54, April 2006. International Institute for Environment and Development. London, UK.

Guest Editor. *Bloodlines Magazine*. Issue 5: Spring 2005. Red Road HIV/AIDS Network Society. West Vancouver, BC.

Olson, Rachel. Contributor to *Encyclopedia of the Arctic*. 2003. Ed. Mark Nutall. Fitzroy Dearborn, Routledge: New York, NY.

Conferences / Workshops

Paper presentation, Uncertainty and Disquiet: 12th European Association of Social Anthropologists Association. Paris, France, July, 2012.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Presenter, Workshop on Indigenous Mapping and Cartography. United Nations Educational, Scientific and Cultural Organization, Paris, France, November, 2007.

Keynote Presenter, Mapping for Change, September 7 – 11, 2005 in Nairobi, Kenya, Africa

Participant of Strategic Planning Sessions, ESRI International User Conference, July 2004 in San Diego, California

Paper presentation, Indigenous Communities Mapping Initiative Conference, March 10 – 15, 2004 in Vancouver, British Columbia

Paper presentation, Breaking the Ice: Transcending Borders through Collaboration and Interdisciplinary Research, 7th ACUNS Student Conference on Northern Studies, October 24-26, 2003 at the University of Alberta, Edmonton, Alberta

Other Information

Member of the BC Aboriginal Perinatal Health Committee. Member of the Doula Training Committee.

Member of the Reading Panel for the 2004 Buffet Award for Indigenous Leadership in Portland, Oregon.

Proficient user of software applications such as Microsoft Office, Nvivo, and SPSS.

Completed the Labour Support Course – Training Doulas, held by the Doulas of North America. October, 2004.

Registered member of the Tr'ondek Hwech'in First Nation.

## **APPENDIX 4: C.V. STEVE DEROY**

---

### **Education**

Master of Science in Geographic Information Science, University College London, London, United Kingdom, 2012

GIS/Cartographic Technology, Sir Sandford Fleming College, Lindsay, ON, 1998

### **Employment History**

#### **The Firelight Group – Vancouver, BC *Director (2009 to present)***

Responsible, as co-founder, director, and past president, for helping establish The Firelight Group, a firm of aboriginal and non-aboriginal professionals specialized in providing respectful and respected environmental and social science research, consulting, and support services in processes where aboriginal and non-aboriginal interests interact, and where good relationships are desired by all sides. Tasks include business development, as well as design, development, and delivery of technical services including community-based traditional knowledge research and documentation systems, environmental and socio-cultural impact assessments and monitoring programs, indigenous land use mapping, GIS technical support and training, research, community involvement processes, and First Nations consultation support services.

#### **Centre for Indigenous Environmental Resources – Winnipeg, MB *Research Associate/GIS Specialist (2007 to 2010)***

As a Research Associate/GIS Specialist, my primary role was to build a mapping and GIS service at CIER that would support both internal staff and external clients with technical, advisory and professional support on a range of projects. Responsible for design, development, and oversight of an Ontario-wide risk assessment inventory of fuel systems and waste site inventory project; managed, researched and documented good practices for setting up GIS offices in Aboriginal communities across Canada (this resulted in publication of “Good Practices Guide: Setting up and keeping an Aboriginal Mapping Program.”); conducted an assessment of land use planning issues for First Nations in Ontario; coordinated an indigenous place names mapping initiative for the Little Grand Rapids First Nation; GIS data manager for the Pimachiowin Aki world heritage site nomination; development of environmental monitoring tools for the Mikisew Cree First Nation; species at risk tool development using CyberTracker software; delivery of comprehensive community planning services; advisory support to Clean Energy and Community Adaptation Program; and internal IT liaison. Clients

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

included First Nations, Ivey Foundation, RBC Blue Water Foundation, INAC, Parks Canada, and GeoConnections/ Natural Resources Canada.

**Treaty 8 Tribal Association – Fort St. John, BC**  
***GIS Advisor (2005 to 2006)***

Provided mapping and GIS advisory support to six member First Nation communities (Fort Nelson, Prophet River, Halfway River, Doig River, Saulteau, and the West Moberly First Nations), chiefs and councils, internal staff, and to the Treaty 8 negotiations team. Aided in the storing and mapping of traditional use information and maintained a comprehensive digital data library containing numerous datasets from diverse government agencies, conservationists & industry; expedited the consultation referral and permitting process through ongoing training and technical support for Treaty 8 land use offices; researched, wrote proposals and secured funding for an online mapping application; participated in joint planning and management activities involving government agencies, industry and Treaty 8 First Nations; and acted as Information Technology manager for 25 client users.

**Red Road HIV/AIDS Network – West Vancouver, BC**  
***GIS Technician/Consultant (2004 to 2007)***

Managed the web-based mapping system, utilizing ESRI's ArcIMS software, to map out the locations of HIV and AIDS service organizations throughout the province of British Columbia. Also designed and developed 30,000 map guides highlighting HIV/AIDS and health services for both the city of Vancouver and northern British Columbia; represented the Red Road interactive mapping project at various conferences, workshops and meetings; and coordinated the redesign and maintenance of [www.red-road.org](http://www.red-road.org).

**Ecotrust Canada – Vancouver, BC**  
***Aboriginal Mapping Network Coordinator and GIS Mapping Analyst (2002-2004)***

Manager for the Aboriginal Mapping Network, with responsibilities including management of program initiatives, presentation of the program to funders, members, and organizations at various conferences and workshops, and co-facilitation of two workshops with national and international participation addressing issues of concern to aboriginal mappers. Supported identification of funding sources relating to land use and occupancy research (this resulted in publication of "A New Trail: Fundraising for Cultural Research and Land Use and Occupancy Studies - A Reference Guide For Securing Funds."), provided mapping and GIS training and technical support to First Nation communities involved with developing land use plans and bioregional atlases, and maintained the Ecotrust Canada and Aboriginal Mapping Network websites ([www.nativemaps.org](http://www.nativemaps.org)).

**DrakeGIS & Mapping Ltd. – Kelowna, BC**  
***Marketing Manager (2000 to 2002)***

**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project**

Assisted in the development of the company in response to the increasing need for mapping and GIS services in BC. Cultivated strategic affiliations and joint ventures with small consulting companies and First Nation bands; researched, identified and wrote proposals for contract opportunities; project leader for a traditional use study for the Nazko Band Government; responsible for the completion of all mapping phases for fish & fish habitat inventory mapping projects and watershed assessment maps for various clients as well as administrative duties.

**Urban Systems Ltd. – Kelowna, BC  
GIS/Cartographic Technologist (1999)**

Performed tasks for the Digital Information Management and Resource Systems (DIMARS) project including editing watermain, sanitary sewer and storm sewer drawings using AutoCAD 14; setting up databases for each drawing in ArcView; and linking data to scanned drawings in PDF.

**Computer Master – Mississauga, ON  
Microstation Operator (1999)**

Acted as a consultant for the Regional Municipality Of Peel by adding, updating and editing watermain plans and files using MicroStation SE. Involved recording and updating changes made to waterplans into graphic conversion databases using Excel.

**Toronto Hydro Electric Commission – Scarborough, ON  
CAD Operator (1999)**

Produced and created small site plans, single line diagrams, and updated and revised landbase files, strip maps and subdivision maps using IRAS/B within MicroStation SE. Also assisted in training MicroStation SE to co-op students.

**Project Experience – Traditional Use Studies (TUS) and Traditional Ecological Knowledge (TEK)**

**Canadian Environmental Assessment Agency (Canada-wide)**

Project Manager and Senior Researcher for the *Framework for the Consideration and Integration of Indigenous Traditional Knowledge in Federal Environmental Assessment* project. The project involved work planning, scoping, budgeting, methodology development, facilitation of expert advisory meetings, background research, facilitation of a CEAA-specific meeting to discuss the findings, and final reporting.

**Musqueam Indian Band (Southern British Columbia)**

Project Manager, Senior Researcher, and GIS Manager for the *Musqueam Indian Band Marine Shipping Effects Assessment Study for Port Metro Vancouver's proposed Roberts Bank Terminal 2 project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute



**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project**

training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Nadleh Whut'en First Nation** (Northern British Columbia)

Project Manager, Senior Researcher, GIS Manager and Co-Author for the *Nadleh Whut'en First Nation Knowledge and Use Study for New Gold's proposed Blackwater Gold project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Paddle Prairie Métis Settlement** (Northwestern Alberta)

Project Manager, Senior Researcher and GIS Manager for the *Paddle Prairie Métis Settlement Knowledge and Use Study specific to TransCanada Pipelines Ltd.'s Proposed 2017 NGTL System Expansion project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Brunswick House, Chapleau Cree and Chapleau Ojibwe First Nations** (Northern Ontario)

*Brunswick House, Chapleau Cree and Chapleau Ojibwe First Nations Knowledge and Use Study for the proposed Goldcorp Borden Gold project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Blueberry River First Nations** (Northeastern British Columbia)

Project Manager, Senior Researcher, GIS Manager and Co-Author for the *Blueberry River First Nation (BRFN) Knowledge and Use Study for the Shell Canada's proposed and existing developments project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Mattagami First Nation** (Northern Ontario)

Project Manager, Senior Researcher, GIS Manager and Co-Author for the *Mattagami First Nation (MFN) Traditional Knowledge and Use Study for Canadian National Railway's Two Train Derailments*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Matachewan First Nation** (Northern Ontario)

Project Manager, Senior Researcher, GIS Manager and Author for the *Matachewan First Nation - An assessment of current traditional use study (TUS) datasets, and procedures*

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

*for integrating TUS data into consultation processes project.* The project involved providing technical support services to aid and assist MFN lands department to organize, analyze and present traditional land use and occupancy (TLUO) map data to effectively respond to consultation requests for proposed developments.

**T'Sou-ke Nation** (Southern British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *T'Sou-ke Nation's Traditional Marine Knowledge and Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project.* The project involved work planning, scoping, budgeting, methodology development, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Wabun Tribal Council** (Northern Ontario)

Project Manager, Senior Researcher, and GIS Manager for the *Wabun Tribal Council Knowledge and Use Study for the proposed TransCanada Energy East Pipeline project.* The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Eabametoong First Nation** (Northern Ontario)

Project Manager, Senior Researcher, and GIS Manager for the *Eabametoong First Nation Knowledge and Use Study.* The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Samson Cree Nation** (Central Alberta)

Senior Researcher, and GIS Manager for the *Samson Cree Nation Knowledge and Use Study for the Enbridge's proposed Edmonton to Hardisty (E2H) pipeline project.* The project involved work planning, scoping, budgeting, methodology development, leading interviews using direct-to-digital mapping, facilitating field-based data collection, and data management and analysis.

**White River First Nation** (Yukon Territory)

Project Manager, Senior Researcher, and GIS Manager for the *White River First Nation Traditional Use Study (TUS) and Assessment for the Kaminak Gold Corp's proposed Coffee Gold project.* The project involved work planning, scoping, budgeting, methodology development, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Peters Band** (Southern British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Peter's Band Traditional Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project.* The project involved work planning, scoping, budgeting, methodology

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

development, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Blueberry River First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Blueberry River First Nations Knowledge and Use Study for the proposed TransCanada Merrick Mainline project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Blueberry River First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Blueberry River First Nations Knowledge and Use Study for the proposed TransCanada North Montney Mainline project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Mikisew Cree First Nation** (Northern Alberta)

Project Manager, Senior Researcher, and GIS Manager for the *Mikisew Cree First Nation Knowledge and Use Study for the proposed Athabasca Oil Hangingstone SAGD Expansion project*. The project involved work planning, scoping, budgeting, methodology development, facilitating field visits, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Blueberry River First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Blueberry River First Nations Knowledge and Use Study for the proposed TransCanada Prince Rupert Gas Transmission project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Saulteau First Nations** (Northeast British Columbia)

Senior Researcher and GIS Manager for the *Saulteau First Nations knowledge and use review for TransCanada's proposed North Montney Mainline Project*. The project involved data analysis, and final project-specific reporting.

**McLeod Lake Indian Band** (Northern British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *McLeod Lake Indian Band Knowledge and Use Study for EDF Taylor Wind Farm*. The project involved work planning, scoping, budgeting, methodology development, leading interviews using direct-to-digital mapping, data analysis, and final project-specific reporting.

**McLeod Lake Indian Band** (Northern British Columbia)

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Project Manager, Senior Researcher, and GIS Manager for the *McLeod Lake Indian Band Knowledge and Use Study for EDF Sundance Wind Farm*. The project involved work planning, scoping, budgeting, methodology development, leading interviews using direct-to-digital mapping, data analysis, and final project-specific reporting.

**McLeod Lake Indian Band** (Northern British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *McLeod Lake Indian Band Knowledge and Use Study for Glencore Xstrata Sukunka Coal Mine*. The project involved work planning, scoping, budgeting, methodology development, leading interviews using direct-to-digital mapping, data analysis, and final project-specific reporting.

**Saulteau First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Saulteau First Nations knowledge and use study for 3 proposed pipeline projects: TransCanada's proposed Coastal GasLink and Prince Rupert Gas Transmission projects, and Spectra's proposed Westcoast Connector pipeline project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of training, technical support for field interviews using direct-to-digital mapping, data analysis, and final project-specific reporting.

**Saulteau First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Saulteau First Nations knowledge and use study for 4 wind energy projects: EDF Taylor, EDF Sundance, Boralex/Aeolis Babcock Creek Ridge, and Boralex/Aeolis Moose Lake Ridge wind projects*. The project involved work planning, scoping, budgeting, methodology development, facilitation of training, technical support for field interviews using direct-to-digital mapping, data analysis, and final project-specific reporting.

**Saulteau First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Saulteau First Nations knowledge and use study for HD Mining International Ltd.'s proposed Murray River Coal Mine project*. The project involved work planning, scoping, budgeting, methodology development, facilitation of training, technical support for field interviews using direct-to-digital mapping, data analysis, and final project-specific reporting.

**Big Grassy River First Nation** (Northwest Ontario)

Senior Researcher and GIS Manager for the *Big Grassy River First Nation Knowledge and Use Study for the proposed New Gold Mine Project*. The project involved work planning, scoping, budgeting, methodology development, leading interviews using direct-to-digital mapping, data management, data analysis, and final project-specific reporting.

**Blueberry River First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Blueberry River First Nations Knowledge and Use Study for the proposed TransCanada Coastal GasLink*

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

*pipeline project.* The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, execute training programs, leading interviews using direct-to-digital mapping, data management and analysis, and final project-specific reporting.

**Buffalo River Dene Nation** (Saskatchewan)

Project Manager and GIS Manager for the *Buffalo River Dene Nation judicial review in Saskatchewan*. The project involved data management, post-processing, and final cartography.

**Saulteau First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *Saulteau First Nations traditional use study data management project*. The project involved compilation and data management of past TUS datasets, GIS post-processing, and documentation of methods.

**Doig River First Nation** (Northeastern British Columbia)

Technical support and GIS Manager for the *Doig River First Nation TransCanada - Aitken Pipeline traditional use study*. The project involved data management, GIS post-processing, analysis and final reporting.

**West Moberly First Nations** (Northeast British Columbia)

Project Manager, Senior Researcher, and GIS Manager for the *West Moberly First Nations Phase 2 – Strategic Advice Regarding WMFN Treaty Land Entitlement Negotiations*. The project involved methodology development, document review, GIS analysis, semi-structured group interviews, cartography, and final reporting.

**Athabasca Chipewyan First Nation and Mikisew Cree First Nation** (Northern Alberta)

Project Manager, Senior Researcher, GIS Manager and Author for the *ACFN/MCFN Desktop Knowledge and Use Study for BC Hydro's Proposed 'Site C' Dam project*. The project involved methodology development, document review, GIS analysis, and final reporting.

**Mathias Colomb Cree Nation** (Northern Manitoba)

Senior Researcher, Technical support and GIS Manager for the *Mathias Colomb Cree Nation Initial Knowledge and Use Scoping and Mapping Study for three properties belonging to Hudbay Minerals*. The project involved methodology development, GIS post-processing, analysis and final reporting.

**Saulteau First Nations** (Northeast British Columbia)

Technical support and GIS Manager for the *Saulteau First Nations Knowledge and Use Study of the proposed ZED Wind Farm*. The project involved GIS post-processing, data analysis and final map production.

**Doig River First Nation** (Northeastern British Columbia)

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Technical support and GIS Manager for the *Doig River First Nation Gordondale Pipeline traditional use study*. The project involved methodology development, GIS post-processing, analysis and final reporting.

**Tlicho Government** (Northwest Territories)

Technical support and GIS Manager for the *Tlicho Government indigenous knowledge study for the Fortune Minerals NICO project*. The project involved methodology development, on-going technical support, GIS post-processing, analysis and final reporting.

**Mikisew Cree First Nation** (Northern Alberta)

Project Manager, Senior Researcher and GIS Manager for the *Mikisew Cree First Nation coordinated Indigenous Knowledge (IK) study for the Athabasca oil sands region*. The project involved work planning, project scoping, budgeting, methodology development, facilitation of training, lead field interviews using direct-to-digital mapping, data analysis, and coordination of seven final project-specific reports.

**Athabasca Chipewyan First Nation** (Northern Alberta)

Technical support and GIS Manager for the *Athabasca Chipewyan First Nation coordinated indigenous knowledge (IK) study for the Athabasca oil sands region*. The project involved methodology development, facilitation of training, data analysis and final map production.

**Saulteau First Nations** (Northeast British Columbia)

Technical support and GIS Manager for the *Saulteau First Nations Knowledge and Use Study of the proposed Wildmare Wind Farm*. The project involved methodology development, facilitate training in Google Earth, supporting field interviewers using direct-to-digital mapping, data analysis and final map production.

**Treaty 8 Tribal Association** (Northeast British Columbia)

Senior Researcher and GIS Manager for the *T8TA Traditional Knowledge, Use and Occupancy Study for the Proposed 'Site C' Area along the Peace River*. The project involved work planning, gap analysis, methodology development, leading field interviews using direct-to-digital mapping, conducting training in Google Earth, data analysis, final map production and reporting.

**Fort Nelson First Nation** (Northeast British Columbia)

Technical support and training for the *Fort Nelson First Nation Traditional Use Study program (2011-2012)*. The project involved providing high-level technical expertise on an on-going basis, methodology development, development of a training guide, leading a direct-to-digital mapping training session and an on-territory map training session with lands staff.

**Mikisew Cree First Nation** (Northern Alberta)

Co-researcher and GIS Manager for the *MCFN Indigenous Knowledge study for assessing Shell-specific oil sands development projects near Fort McKay*. The project

**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project**

involved work planning, gap analysis, methodology development, leading and participating in field interviews using direct-to-digital mapping, and First Nations liaison.

**Tsleil-Waututh Nation** (Southern British Columbia)

Technical support and training for the *Tsleil-Waututh Nation Knowledge and Use Project (Marine and Foreshore)*. The project involved methodology development, development of a training guide, and leading a direct-to-digital mapping training session with key staff and youth.

**Athabasca Chipewyan First Nation** (Northern Alberta)

GIS Manager for a TEK community-based monitoring of Woodland Caribou and Wood Bison herds, funded in part by the Aboriginal Funds for Species at Risk Program (AFSAR). The project involved GIS data management, analysis, and final map production.

**Athabasca Chipewyan First Nation** (Northern Alberta)

Co-researcher and GIS Manager for the *MCFN use and interests assessment for Shell's Jackpine Mine Expansion project and Pierre River Mine project*. Key tasks include methodology development, participating in field interviews using direct-to-digital mapping, data management, GIS analysis, map production, and reporting.

**Athabasca Chipewyan First Nation** (Northern Alberta)

Co-researcher and GIS Manager for the ACFN TEK/TUS project involving documentation of community use and interests assessment for the Total Jocelyn Oil Sands Mining project near Fort McKay. The project involved methodology development, participating in interviews using direct-to-digital mapping, data management, GIS analysis, map production, and reporting.

**Athabasca Chipewyan First Nation and the Mikisew Cree First Nation** (Northern Alberta)

GIS Manager for the development of relevant base maps and digitization of Traditional Ecological Knowledge data for the *ACFN/MCFN Athabasca River Use and Traditional Ecological Knowledge Study*. The project involved working with researchers, establishing methodologies, GIS pre- and post-processing, final mapping and reporting.

**Ktunaxa Nation Council** (Southern British Columbia)

GIS Manager and researcher for a TEK/TUS component of an environmental impact assessment for Teck Coal's proposed mining project. The project involved working with First Nation researchers and included direct-to-digital mapping interviews, GIS pre- and post-processing, and reporting.

**God's Lake First Nation** (Eastern Manitoba)

GIS Manager for the digitization of all Traditional Use Study data collected for the Historical Resources Branch of Manitoba. The project involved working with First

**Final Report: Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project**

Nation researchers and included methodology review, GIS pre- and post-processing, and reporting.

**Manto Sipi Cree Nation** (Eastern Manitoba)

GIS Manager for the digitization of all Traditional Use Study data collected for the Historical Resources Branch of Manitoba. The project involved working with First Nation researchers and included methodology review, GIS pre- and post-processing, and reporting.

**Wabanong Nakaygum Okimawin** (Eastern Manitoba)

GIS Manager for 13 First Nations involved in the collection of Traditional Use Study data for the Wabanong Nakaygum Okimawin East Side Planning Authority. The project involved working with First Nation researchers and included methodology review, GIS pre- and post-processing, and reporting.

**Little Grand Rapids First Nation** (Eastern Manitoba)

Project leader for the development of a Saulteaux/Syllabics place names map for the Little Grand Rapids First Nation. The project involved working with two First Nation researchers to document and verify toponyms. Tasks have included methodology development, First Nations liaison, training, community-based mapping, GIS pre- and post-processing, and reporting.

**Mikisew Cree First Nation** (Northeast Alberta)

Facilitated the development of a community-based, environmental monitoring program using Indigenous Knowledge and Western Science, to record changes in the environment, and to create tools to assist in environmental monitoring. Tasks included conducting community-based research to develop traditional knowledge indicators of environmental health, customization of CyberTracker software to enable the Mikisew Cree First Nation to collect TEK observations in the field, and reporting.

**Keeseekoowenin Ojibway First Nation** (Southern Manitoba)

Conducted community-based research for the development of an environmental monitoring program using Indigenous Knowledge and scientific monitoring techniques. Tasks included methodology development, First Nation liaison support, training, customization of CyberTracker software, GIS pre- and post-processing, and reporting.

**Coalition of First Nations with Interest in Riding Mountain National Park** (Southern Manitoba)

Completed a needs assessment for completing an Anishnabe Knowledge Study. The report outlined two potential approaches for the Anishnabe Knowledge Study, which differed primarily in the technical skills required for data collection and in the nature of the products that would be developed from the study. Tasks included interviews, literature reviews, methodology development, technical writing, and reporting.

**Saulteau First Nation and the West Moberly First Nations** (Northeast British Columbia)



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Conducted a cultural values assessment by integrating land use and occupancy research findings from past studies into the Peace Moberly Tract Land Use Plan. The planning committee consisted of representatives from the BC provincial government, industry and First Nations. Tasks included methodology development, gathered data from numerous research studies from both SFN and WMFN, developed maps that showed the distribution of cultural heritage, and created buffered zones for areas of cultural sensitivity. Also facilitated training workshops for land use personnel from the WMFN to create the maps to be used in the land use plan.

**Prophet River First Nation** (Northeast British Columbia)

Provided technical expertise for the development of maps to be used in a land use planning initiative for a 5 square kilometre area around the PRFN's reserve lands. Created a series of maps that integrated scientific and cultural heritage data for a planning initiative between the Oil and Gas Commission (OGC) and the PRFN. The maps were produced for community input on issues affecting hunting, fishing, and other activities.

**Doig River First Nation** (Northeast British Columbia)

Provided technical expertise for integrating land use and occupancy research findings from past studies into the communities Treaty Land Entitlement process. Tasks included facilitating training workshops to land use personnel from DRFN to create maps of cultural heritage, and provide technical support during the community consultation process for identifying potential land parcels that would be added to the DRFN reserve lands.

**Fort Nelson First Nation** (Northeast British Columbia)

Provided technical and training expertise for the development of a community atlas and mapping of traditional use study research findings. Tasks included facilitating training workshops for a community GIS Trainee, and the development of a community atlas that integrated scientific and cultural data, and digitize traditional use study research findings to create deliverables to the OGC on behalf of the community.

**Halfway River First Nation** (Northeast British Columbia)

Provided technical expertise to land use personnel to identify a RCMP historic trail route. Involved researching and identifying maps of historic data highlighting the trail, along with a field reconnaissance with land use personnel from HRFN to GPS the exact location of the trail.

**Bigstone Cree Nation TUS Gap Analysis** (Northwest Alberta)

Assisted with gap analysis, evaluating community goals and needs, and the potential of an existing Traditional Use Study (TUS) data set to meet those goals and needs. Assessed community land use and occupancy study (CLUOS) data and provided GIS training to staff members.

**Aboriginal Mapping Network** (Vancouver, British Columbia)

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Interviewed practitioners and researched funding sources that would support Traditional Use Study research activities in First Nation communities that resulted in the development of "A New Trail: Fundraising for Cultural Research and Land Use and Occupancy Studies - A Reference Guide For Securing Funds."

**Nazko Band Government Traditional Use Study** (Central British Columbia)  
Initiated a Traditional Use Study in accordance with the BC Traditional Use Study guidelines. Project leader for the development of a Traditional Use Study for the Nazko Band Government, coordinating literature reviews, and managing budgets and personnel.

## **Project Experience – Land Use Planning, Atlases and Bioregional Mapping**

**Lytton First Nation** (Southern British Columbia)  
Project Manager, Senior Researcher, GIS Manager and Co-Author for the *Lytton First Nation Strategic Land Use Plan*. The project involved work planning, scoping, budgeting, methodology development, facilitation of community meetings, leading interviews using direct-to-digital mapping, data management and analysis, ongoing technical support, and final reporting.

**Nisichawayasihk Cree Nation** (Northern Manitoba)  
Facilitated a one-day workshop focussed on the use of mapping and GIS for land use planning. Involved collaborating with First Nation staff, academic researchers, and engaging with experienced and knowledgeable land users.

**Treaty Relations Commission of Manitoba** (Manitoba)  
Produced and redesigned the Historical Atlas of First Nations in Manitoba 2013 Portfolio. Involved collaborating with academic researchers and writers, conducting archival and historical research, graphic design and layout, GIS analysis and cartography.

**Fort Nelson First Nation** (Northern British Columbia)  
Provided technical and advisory support for the Fort Nelson First Nation Strategic Land Use Plan, entitled "Respect for the Land". Key tasks included background research, mentorship for map production, and document review.

**Treaty Relations Commission of Manitoba** (Manitoba)  
Updated and re-designed a poster entitled "We are all Treaty people" for the Treaty Relations Commission. Involved spatial conversions, cartography, graphic design and layout.

**Sambaa K'e First Nation** (Northwest Territories)  
Technical support for the Sambaa K'e First Nation to support on-going land claim negotiations with government. Key tasks include analysis of spatial data, data management, and produced a series of maps.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

**Navajo Nation / Bioneers** (Sante Fe, New Mexico)

Co-facilitated a one-day Google Earth training workshop with Google Earth Outreach. Key tasks included work planning, development of training materials, and presenting and facilitating the workshop with youth and membership.

**Athabasca Chipewyan First Nation** (Northern Alberta)

Technical support for the ACFN's Industry Relations Corporation to support on-going consultation with government and industry. Key tasks include digital mapping, data management, and GIS analysis.

**Athabasca Chipewyan First Nation** (Northern Alberta)

Technical support for the ACFN's Lower Athabasca Region Plan, editing maps and conducting GIS analysis to consider ACFN's interests and vision for planning.

**Fisher River Cree Nation** (Manitoba)

Facilitated workshops for the development of a community vision for watershed planning. Involved methodology development, community consultations, coordination with First Nation Liaisons, mapping, and synthesizing responses for inclusion into a community vision.

**Ivey Foundation** (Northern Ontario)

Conducted an assessment of Ontario-based First Nation land use issues to gain a deeper understanding of community-driven, participatory land-use planning priorities. Involved working with First Nations by traveling to and interviewing practitioners, synthesizing data and reporting.

**Treaty Relations Commission of Manitoba** (Manitoba)

Produced and designed a 24-page portfolio for the Historical Atlas of First Nations in Manitoba, 2009 Map Portfolio. Involved collaborating with academic researchers and writers, conducting archival and historical research, graphic design and layout, GIS analysis and cartography.

**Little Black Bear First Nation** (Southern Saskatchewan)

Provided advisory, technical and training support to the Little Black Bear First Nation for the development of a comprehensive community plan. Involved designing implementation strategies for First Nations involvement, including workshop facilitation, mapping, and synthesizing responses for inclusion into a community vision.

**Parks Canada** (Northwest Territories)

In support of the public participation program for the expansion of Nahanni National Park Reserve, develop a 22-layer atlas showing conservation and other values of the area. Prepared relevant data and edited maps for the final production of the Greater Nahanni Ecosystem Atlas. Also prepared satellite imagery suitable for draping on a 3D model.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

**Whitesand First Nation** (Northwest Ontario)

Collaborated with the Aboriginal Strategy Group to work with the Whitesand First Nation to develop a land use plan vision in Armstrong, Ontario. Involved workshop facilitation and synthesizing responses for inclusion into a community vision document.

**Doig River First Nation** (Northeast British Columbia)

Collaborated with Herb Hammond to identify forestry resources within DRFN's territory to give the community options for economic independence. Involved the creation of a series of maps that highlighted forest data (age, species, site class, etc.) that could be analyzed for the visioning process.

**Tahltan First Nation** (Northwest British Columbia)

Provided technical expertise for the production of maps for the Tahltan First Nation's territory. Involved the creation of a series of maps to support the community's interest in identifying potential economic opportunities and protection from industrial development activities.

**Heiltsuk Nation** (Central Coast of British Columbia)

Provided technical and training expertise for the production of the Heiltsuk Nation's land use plan. Tasks included obtaining, filtering and managing all relevant information (scientific and cultural data), resulting in the production of indicator data, spreadsheets and maps. It also involved facilitating training workshops to the land use personnel to identify and filter cultural data from past TUS research for inclusion into the land use plan.

**Sencot'en Alliance** (Southern British Columbia)

Provided technical and training expertise for the development of a bioregional atlas for 5 communities of the Sencot'en Alliance. Involved researching and gathering information and digital data for inclusion into the bioregional atlas. It also involved facilitating training workshops to support land use staff from 5 communities to create maps for the atlas.

**Tseil Waututh Nation** (Southern British Columbia)

Provided technical and training expertise for the development of a park atlas for Say Nuth Khaw Yum (Indian Arm Provincial Park). Researched and gathered information and digital data for inclusion into the park atlas, resulting in over 45 map layers. It also involved facilitating training workshops with the community GIS technician to create maps for the park atlas.

**Hupacasath First Nation** (Southern British Columbia)

Provided technical and training expertise for the development of the Hupacasath First Nation's land use plan. Obtained, filtered and managed all relevant information (scientific and cultural data), resulting in the production of indicator data, spreadsheets and maps. Also facilitated training workshops with land use personnel to create maps that would be included in the land use plan.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

**Nazko Band Government** (Central British Columbia)

Produced a land interest document that provided an overview of the Ndazkoht'en people and their long-term goals and vision. Involved community-based research, interviews and synthesizing results into a comprehensive report.

## Project Experience – Capital Infrastructure

**Indian and Northern Affairs Canada (INAC) – Ontario region** (Ontario)

Development of a risk assessment inventory database tool for fuel tank systems and wastes disposal sites on Indian reserves throughout Ontario for Indian and Northern Affairs Canada (awarded the ESRI Canada 2009 Award of Excellence). Involved developing a comprehensive implementation plan detailing methodology, managing GIS consultants, provided training and technical support to data collectors, conducted quality assurance, developed training manuals and final reporting.

**Swan Lake First Nation** (Southern Manitoba)

Provided technical expertise for the development of a 5-megawatt wind farm on the Swan Lake First Nation. Involved the production of mapping products.

**Treaty 8 Tribal Association** (Northeast British Columbia)

Provided technical expertise for the development of a wind farm tenure application in Treaty 8 territory. Involved laying out the site location using 3D modelling and developing mapping products.

**DIMARS - Summerland** (Central British Columbia)

Conducted GIS data entry and analysis for the Digital Information Management And Resource Systems (DIMARS) project. Involved editing watermain, sanitary sewer and storm sewer drawings and setting up databases that linked to scanned drawings.

**Regional Municipality of Peel** (Southern Ontario)

Conducted GIS data entry and analysis for the adding, updating, and editing of water main plans and files for the entire Regional Municipality of Peel.

**Toronto Hydro** (Southern Ontario)

Conducted GIS data entry and analysis for small site plans and single line diagrams, and updated and revised land base files, strip maps and subdivision maps.

## Project Experience – Health and Social

**Midwives Association of Manitoba** (Manitoba)

Cartographic production for the Midwives Association of Manitoba (MAM) "Midwifery Evaluation Project 2012" final report.

**National Aboriginal Health Organization** (Canada-wide)

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Technical Lead for the production of numerous mapping products designed for use in highlighting Aboriginal midwifery in Canada. Involved methodology development, pre- and post-GIS analysis, quality assurance, map development and reporting.

**Red Road HIV/AIDS Network (British Columbia)**

Technical Lead for the development of a comprehensive listing of HIV/AIDS and health services available to First Nations for the province of British Columbia. Involved methodology development, pre- and post-GIS analysis, quality assurance, map development and reporting.

**Red Road HIV/AIDS Network (Northern British Columbia)**

Technical Lead for the development of 10,000 pocket book guides highlighting HIV/AIDS and health services available to First Nations for the northern region of British Columbia. Involved methodology development, GIS analysis, quality assurance, cartography, managing graphic design consultants, coordination of printing, and reporting.

**Red Road HIV/AIDS Network (Southern British Columbia)**

Technical Lead for the development of 20,000 pocket book guides highlighting HIV/AIDS and health services available to First Nations for the city of Vancouver. Involved conceptualizing and planning, methodology development, pre- and post-GIS analysis, quality assurance, map development, managing graphic design consultants, coordination with print shop, and reporting.

## Board of Directors

The Firelight Group Research Cooperative / Firelight Research Inc. (2009 – present)

West Coast Environmental Law (2015-present)

Raven Spirit Dance Society (2004-2006)

## Selected Publications

Rachel Olson, Steven DeRoy and the Firelight Group Research Cooperative with the Saulteau First Nations. *Desktop Report - Saulteau First Nations Knowledge and Use Review for North Montney Mainline Project (2014).*

Rachel Olson, Steven DeRoy and the Firelight Group Research Cooperative with the Blueberry River First Nations. *Blueberry River First Nations Knowledge and Use Study Report for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project.* Blueberry River First Nations (2014).

Craig Candler, Steve DeRoy and the Firelight Group Research Cooperative with the Mikisew Cree First Nation (MCFN) and the Athabasca Chipewyan First Nation (ACFN).

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

*MCFN and ACFN Desktop Knowledge and Use Report for BC Hydro's Proposed 'Site C' Dam Project.* Mikisew Cree First Nation Government and Industry Relations and Athabasca Chipewyan First Nation Industry Relations Corporation (2012).

Craig Candler and the Firelight Group Research Cooperative. *Integrated Knowledge and Land Use Report and Assessment for Shell Canada's Proposed Jackpine Mine Expansion and Pierre River Mine.* Athabasca Chipewyan First Nation Industry Relations Corporation (2011).

Craig Candler and the Firelight Group Research Cooperative. *Mikisew Cree First Nation Indigenous Knowledge and Use Report and Assessment for Shell Canada's Proposed Jackpine Mine Expansion, Pierre River Mine, and Redclay Compensation Lake.* Mikisew Cree First Nation Government and Industry Relations. (2011).

The Firelight Group Research Cooperative. *Chapter C, Line Creek Operations Phase II, Ktunaxa Nation Rights and Interests Assessment.* Ktunaxa Nation and Teck Coal Limited. (2011).

Craig Candler, Rachel Olson, Steven DeRoy and the Firelight Group Research Cooperative, with the Athabasca Chipewyan First Nation (ACFN) and the Mikisew Cree First Nation (MCFN). *As Long as the Rivers Flow: Athabasca River Knowledge, Use and Change.* Parkland Institute, University of Alberta. (2010).

DeRoy, Steven. 2012. *Using geospatial and network analysis to assess accessibility to core homeland areas of the Athabasca Chipewyan First Nation in the context of increasing oil sands development.* Masters thesis. University College London.

Rachel Olson, Jeffrey Hackett and Steven DeRoy. Mapping the Digital Terrain: Towards Indigenous Geographic Information and Spatial Data Quality Indicators for Indigenous Knowledge and Traditional Land-Use Data Collection. *The Cartographic Journal*, (2016).

Craig Candler, Rachel Olson, Steven DeRoy and Kieran Broderick. Participatory GIS as a Sustained (and Sustainable?) Practice: The Case of Treaty 8 BC. *Participatory Learning and Action*, 54 (2006), 325-356.

"Direct-To-Digital Mapping Methodology Using Google Earth" guidebook produced by the Firelight Group for the Tsleil-Waututh Nation (2011).

"Good Practices Guide: Setting up and keeping an Aboriginal Mapping Program" guidebook produced by CIER for GeoConnections and Natural Resources Canada (2010).

Rachel Eni, Gladys Rowe, and Steven DeRoy. Assessing the Social, Cultural, Health Impacts of Hydro-electric Construction in Fox Lake. Poster presentation at the 10th annual Health Impact Assessment Conference in Rotterdam, Netherlands.

**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

## Conferences / Workshops

Keynote Presenter, Simon Fraser University GIS Day, November 18, 2015 in Burnaby, British Columbia

Presenter, Laurentian University Indigenous Education Week, October 29, 2015 in Sudbury, Ontario

Keynote Presenter, Facilitator, and Organizer, Google Geo Tools for Restoring Ntabelanga, September 29 – October 1, 2015 in Grahamstown, South Africa

Keynote Presenter, Facilitator and Organizer, 2015 Indigenous Mapping Workshop, July 28-30, 2015 in Waterloo, Ontario

Facilitator, Halfway River First Nations Introduction to GIS, May 10-15, 2015 in Halfway River, British Columbia

Facilitator, Nisichawayasihk Cree Nation Land Use Planning Workshop, October 6-7, 2014 in Nelson House, Manitoba

Keynote Presenter, Facilitator and Organizer, 2014 Indigenous Mapping Workshop, August 25-28, 2014 in Victoria, British Columbia

Presenter, Planning Together 3: A First Nations - Ontario Workshop on the Far North Land Use Strategy, May 12-16, 2014 in Thunders Bay, Ontario

Presenter, National Claims Research Workshop, September 17-19, 2013 in Fort St. John, British Columbia

Presenter, CARTO 2013 Conference, June 11-14, 2013 in Edmonton, Alberta

Presenter, CASCA 2013 Conference, May 7-10, 2013 in Victoria, British Columbia

Presenter, Google Trainers Network Workshop and Geo For Good Conference, September 24-28, 2012 in Mountain View, California

Presenter, Central Boreal Learning Network, November 4-6, 2009 in Montreal, Quebec

Presenter, Working Forum on the Duty to Consult: Now What?, October 22-23, 2009 in Edmonton, Alberta

Presenter, Indigenous Mapping Network Conference, June 14, 2009 in Green Bay, Wisconsin

Presenter, Keepers of the Water III, August 13-17, 2008 in Fort Chipewyan, Alberta



**Final Report:** Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project

Presenter, Wabanong Nakaygum Okimawin Traditional Area Land Use Plans, June 24-25, 2008 in Winnipeg, Manitoba

Presenter, Northern British Columbia GIS Conference 2006, May 30-31, 2006 in Prince George, British Columbia

Presenter, Mapping for Change, September 7 – 11, 2005 in Nairobi, Kenya, Africa

Presenter, Indigenous Communities Mapping Initiative Conference, March 10 – 15, 2004 in Vancouver, British Columbia

Keynote Presenter and Organizer, “Mapping for Communities: First Nations, GIS and the Big Picture” Aboriginal Mapping Network conference, November 20-21, 2003 in Duncan, British Columbia.

Presenter, Geotec Event “A Spirit of Collaboration”, May 16-19, 2003, in Vancouver, British Columbia

Presenter, Natural Resources Information Management Forum: Putting Knowledge to Work, 2003 in Richmond, British Columbia

Presenter, Intertribal GIS Council Conference 2003, in Coeur D’Alene, Idaho

Presenter, Sto:lo Environment Conference, April 16, 2003 in Chilliwack, British Columbia

Presenter, UBCIC Land Claims Research Conference, 2003 in Vancouver, British Columbia

Presenter, Northern British Columbia GIS Conference 2002, May 2002 in Prince George, British Columbia

## **Other Information**

Registered with Indian Status through the Ebb & Flow First Nation (Manitoba), Registry Number: 280 00936 01

