Exploration Activities, Queensway Gold Project – Queensway North
Environmental Assessment Registration

Pursuant to the Newfoundland and Labrador Environmental Protection Act (Part X)

Submitted by:
New Found Gold Corp.
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Date: August 10, 2022

EXECUTIVE SUMMARY

New Found Gold Corporation (NFG) is proposing to conduct line cutting for a proposed seismic survey on its mineral licences associated with the Queensway Gold Project, particularly at Queensway North located west and north of Appleton, in central Newfoundland (Figure 1.1). The various mineral licenses associated with this Project include 023861M, 025205M, 024266M, 025008M, 024026M, 024140M, 027636M, 023866M, 023721M, 023720M, 007984M, 024141M, 024031M, 023962M, 023875M, 022491M, 023987M, 024265M, 024138M, 024139M, 024264M, 023804M, 022216M, 023916M, 030768M, 024136M, and 024997M. In addition, a portion of the survey will cover a portion of Licence 027636M held by Labrador Gold Corporation and over an area currently cancelled in the mineral licence system awaiting to be gazetted and staked. Permission letters will be collected from licence holders outside NFG claims.

The seismic survey will occur over approximately 48 square kilometers (km^2) and will occur on the same property described in Registration 2106, previously released from the Environmental Assessment (EA) review process in October 2020 for diamond drilling. The seismic surveys will include 226 km of source cut lines and 43 km of receiver cut lines, totaling 269 linear km. Furthermore, an exploration trench is proposed to better understand vein orientation and mineralization characteristics within the Keat's Zone. This trench will have a footprint of approximately 8,000 m^2 and has an estimated overburden removal volume of 40,000 m^3. In addition to the Queensway North mineral licenses, NFG also holds mineral licenses associated with two other areas, Queensway South (QWS) and Twin Ponds (TP) (Figure 2.1). This document does not describe exploration activities associated with these two areas. There are currently no plans to conduct ground-based geophysical surveys in the other areas. If exploration within QWS and TP is proposed in the future, NFG will complete a separate registration document for them.

NFG will complete all Project work in accordance with regulatory permits, approvals and/or authorizations and with procedures outlined in their exploration Environmental Protection Plan and other associated plans. Most Project activities align with activities described in a previously released Project (Registration 2106), and NFG will abide by conditions of release associated with this Project and those associated with Registration 2106.

The natural environment was characterized and assessed using background information, confirmatory fieldwork, aerial imagery, publicly available data and GIS software. The Study Area, as defined on Figure 1.4, has been subject to significant historical alteration from logging and past mineral exploration activities. The biophysical features that remain undisturbed were identified and assessed to determine potential impacts and associated mitigation measures, if necessary. Mitigation measures are provided in Table 12 for all anticipated impacts to the biophysical environment that may result from the proposed exploration. NFG will notify the EA Division and the Mineral Lands Division of any significant changes to their planned exploration work.

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LIST OF ABBREVIATIONS AND TERMINOLOGY

%	Percent
ºC	Degree Celsius
ACCDC	Atlantic Canada Conservation Data Centre
CAC	Criteria Air Contaminant
CBPP	Corner Brook Pulp and Paper
cm	Centimetre
CO	Carbon monoxide
CO_2	Carbon dioxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFO	Department of Fisheries and Oceans
DO	Dissolved Oxygen
DTI	Department of Transportation and Infrastructure
EA	Environmental assessment
EC	Electrical Conductivity
ECCC	Environment and Climate Change Canada
EPP	Environmental Protection Plan
ESRP	Environmental Spill Response Plan
GHG	Greenhouse Gas
GRUC	Gander River Ultramafic Complex
ha	Hectares
IP	Induced polarization
kg	Kilogram
km	Kilometre
km/hr	Kilometre per hour
m	Metre

masl	Metres above sea level
mm	Millimetre
NL	Newfoundland and Labrador
NLDFFA	Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture
NLDECC	Newfoundland and Labrador Department of Environment and Climate Change
NLDIET	Newfoundland and Labrador Department of Industry, Energy and Technology
NLDTI	Newfoundland and Labrador Department of Transportation and Infrastructure
NL EPA	Newfoundland and Labrador *Environmental Protection Act*
NL ESA	Newfoundland and Labrador *Endangered Species Act*
NL OHS	Newfoundland and Labrador *Occupational Health and Safety Act*
NLTCAR	Newfoundland and Labrador Department of Tourism, Culture, Arts and Recreation
NOC	National Occupation Classification
NO_2	Nitrogen Dioxide
ORP	Oxidation-Reduction Potential
PAO	Provincial Archaeology Office
PES	Petroleum Environmental Services Inc.
PIRI	Atlantic Partnership in RBCA Implementation
PM	Particulate Matter
PPD	Pollution Prevention Division
PPWSA	Public protected water supply area
QA/QC	Quality Assurance/Quality Control
RBCA	Risk-Based Corrective Action
RFP	Request for Proposals
RTK GNSS	Real-time Kinematic Global Navigation Satellite System
SAR	Species at Risk
SARA	*Species at Risk Act*
SOCC	*Species of Conservation Concern*
TPH	Total Petroleum Hydrocarbons
WD	Wildlife Division
WEP	Women's Employment Plan
WMP	Waste Management Plan
WRMD	Water Resources Management Division

1.0 INTRODUCTION

1.1 Project Name: Exploration Activities, Queensway North Gold Project

New Found Gold Corporation ('NFG' or the 'Company') is proposing to conduct exploration activities on its mineral licences associated with the Queensway Gold Project, more specifically at the Queensway North located west of Appleton, in central Newfoundland (Figure 1.1 and 1.2). A portion of its exploration activities were described in a registration document submitted to the Newfoundland and Labrador (NL) Environmental Assessment Division (EAD) on October 30, 2020. That Project, consisting of diamond drilling, (Registration 2106) was released from the environmental assessment (EA) review process by the Minister of the Department of Environment, Climate Change (NL DECC) on December 17, 2020, with several conditions.

This Registration document describes the proposed line cutting required to conduct 3D seismic surveys in a similar but expanded footprint as Registration 2106 that were not included in the project description for Registration 2106 (Figure 1.3). The various mineral licenses associated with this Project include 023861M, 025205M, 024266M, 025008M, 024026M, 024140M, 027636M, 023866M, 023721M, 023720M, 007984M, 024141M, 024031M, 023962M, 023875M, 022491M, 023987M, 024265M, 024138M, 024139M, 024264M, 023804M, 022216M, 023916M, 030768M, 024136M, and 024997M. In addition, a portion of the survey will cover a portion of Licence 027636M held by Labrador Gold Corp. and over an area currently cancelled in the mineral licence system awaiting to be gazetted and staked. A permission letter from Labrador Gold Corp will be obtained prior to undertaking the proposed project. NFG was advised on October 26, 2020, that these additional activities would require registration under Part X of the NL *Environmental Protection Act.* The additional exploration activities described in this Registration document include the following:

- Line cutting and ground geophysics surveys (seismic) in a similar but expanded footprint as described in Registration 2106, over approximately 48 km^2, and in the two same corridors proposed for drilling, the JBP Corridor and the AFZ Corridor (as shown on Figure 1.3).
- An exploratory trench within the Keat's Zone, east of South Herman's Pond, to gain a better understanding of vein orientation and mineralization characteristics (Figure 2.2). The proposed trench will require removal of an estimated overburden volume of 40,000 m^3 within area footprint of less than 8,000 m^2.

In addition to the Queensway North mineral licenses, NFG also holds mineral licenses associated with two other areas, Queensway South (QWS) and Twin Ponds (TP). This document does not describe exploration activities associated with these two areas, at this time.

On behalf of NFG, GEMTEC has undertaken a 2021 and 2022 field program to begin baseline studies for separate portion of the site which is planned to include specific project components including mining infrastructure, tailings ponds, open pits, waste rock and other mine features in

anticipation of future project registration. The baseline studies were conducted within a portion of the Study Area where the conceptual project components are currently planned. The area within the Study Area where field baseline field investigations have occurred is referred to as the Sample Area (Figure 1.4). The results of the baseline investigations in the Sample Area are included in this registration document.

The main predicted impact on the environment from Project activities is the potential for temporary disturbance to flora, fauna, watercourses, and wetlands. Mitigation measures provided in this registration document, as well as outlined in permit conditions and in the Environmental Protection Plan (EPP) are proposed to address any potential impacts.

Funding for Project activities and associated permitting requirements will be provided directly by NFG.

Figure 1.1: Queensway North Project Location

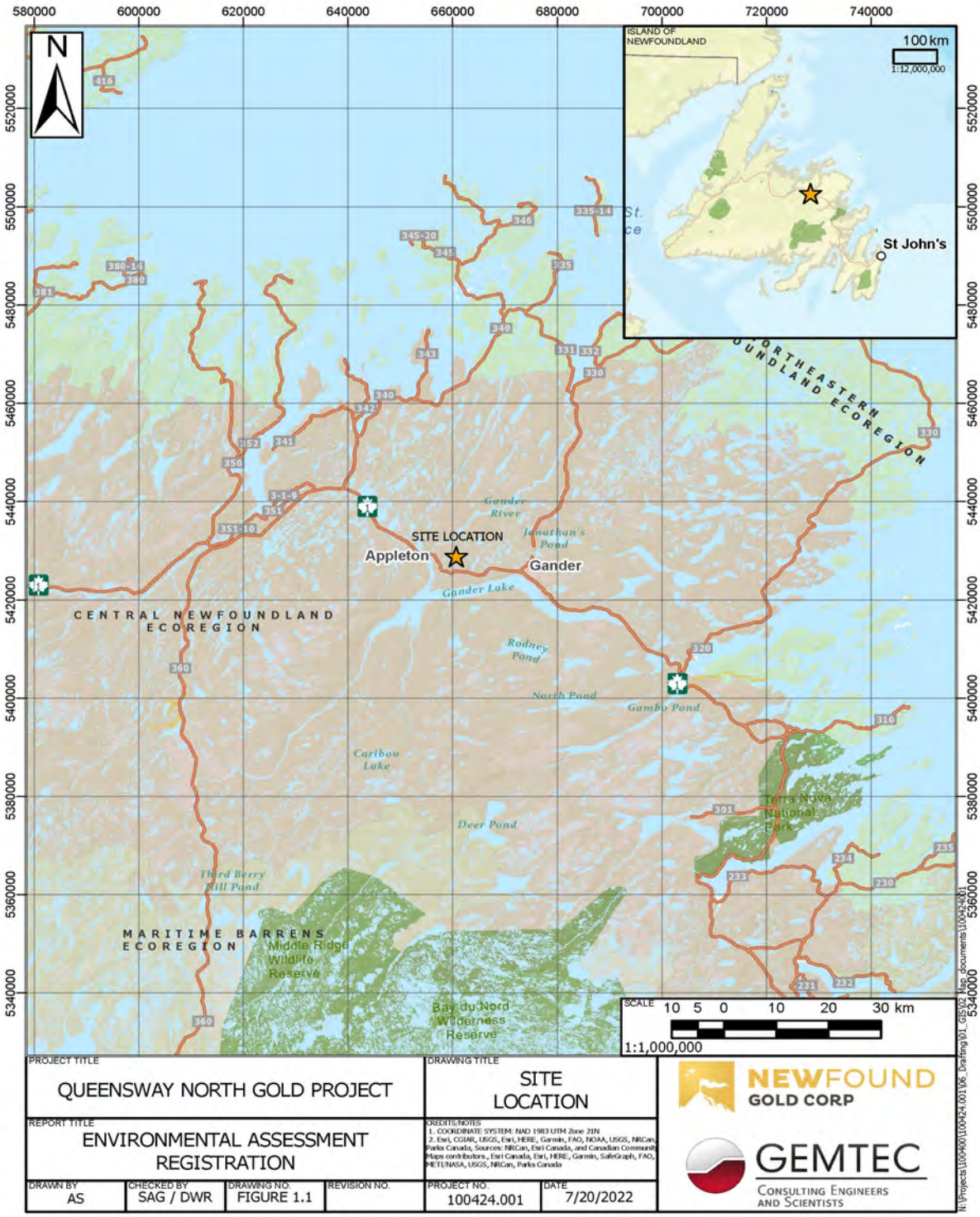


Figure 1.2: Queensway Site Location

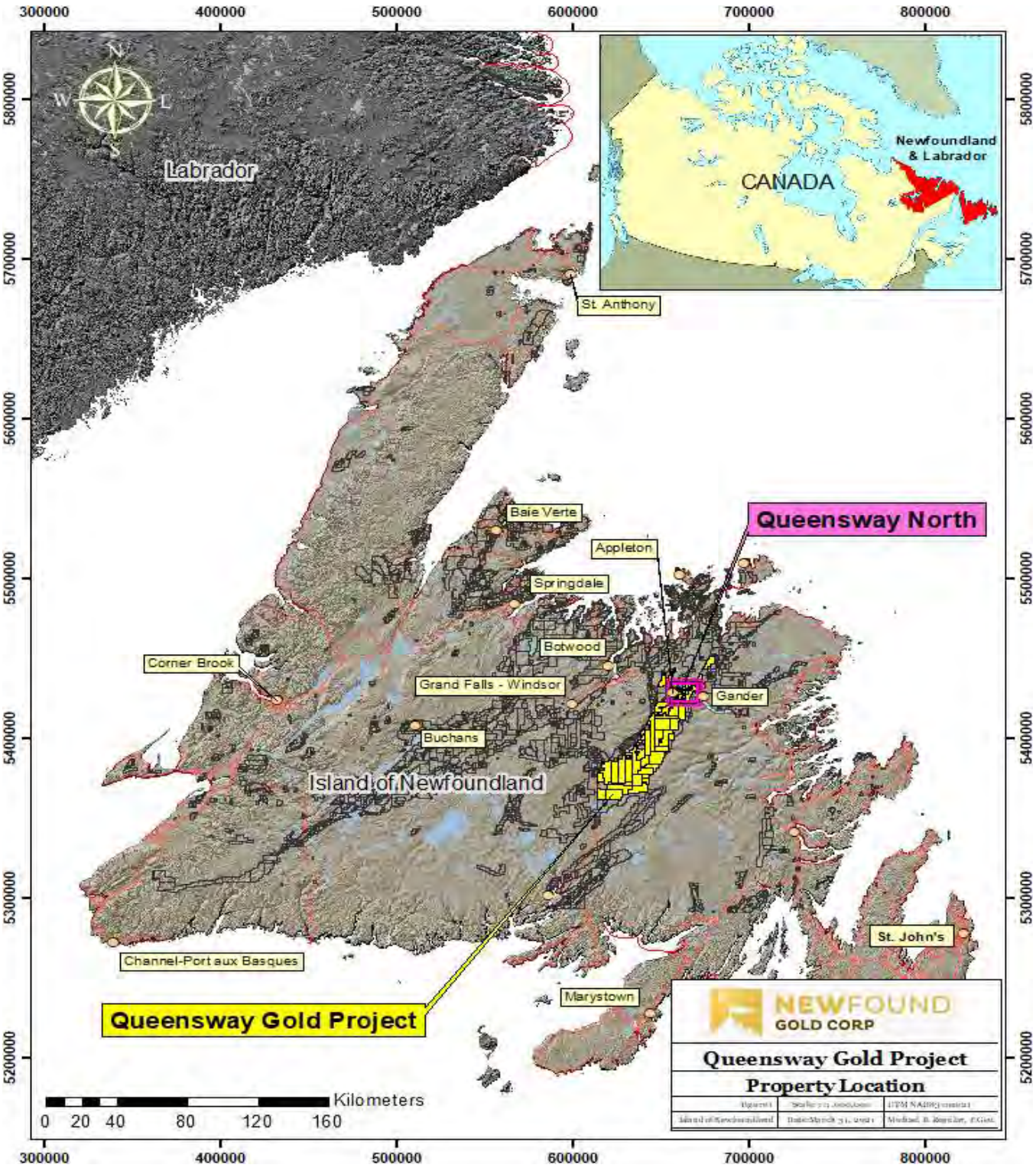


Figure 1.3: Queensway North Exploration Licences

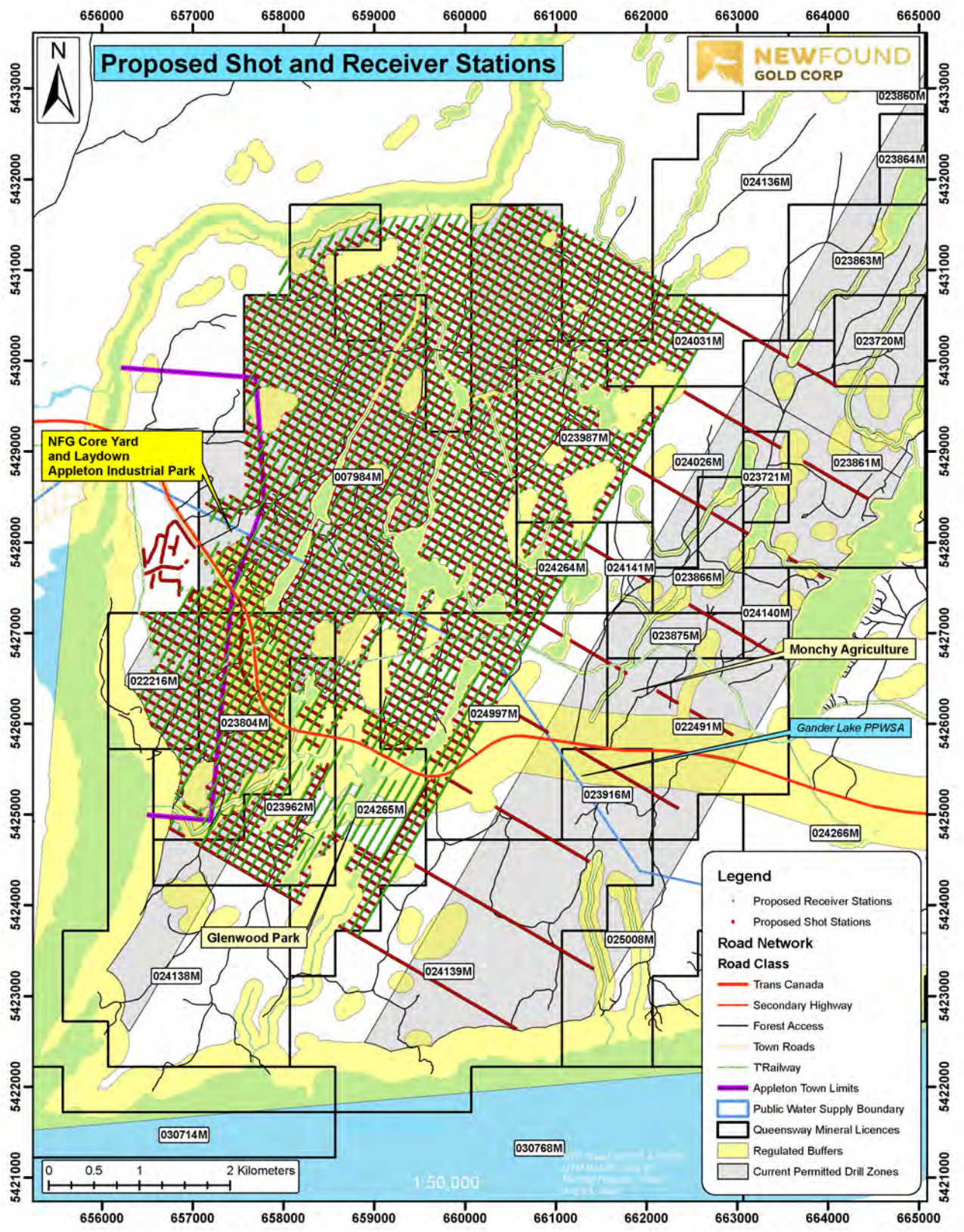
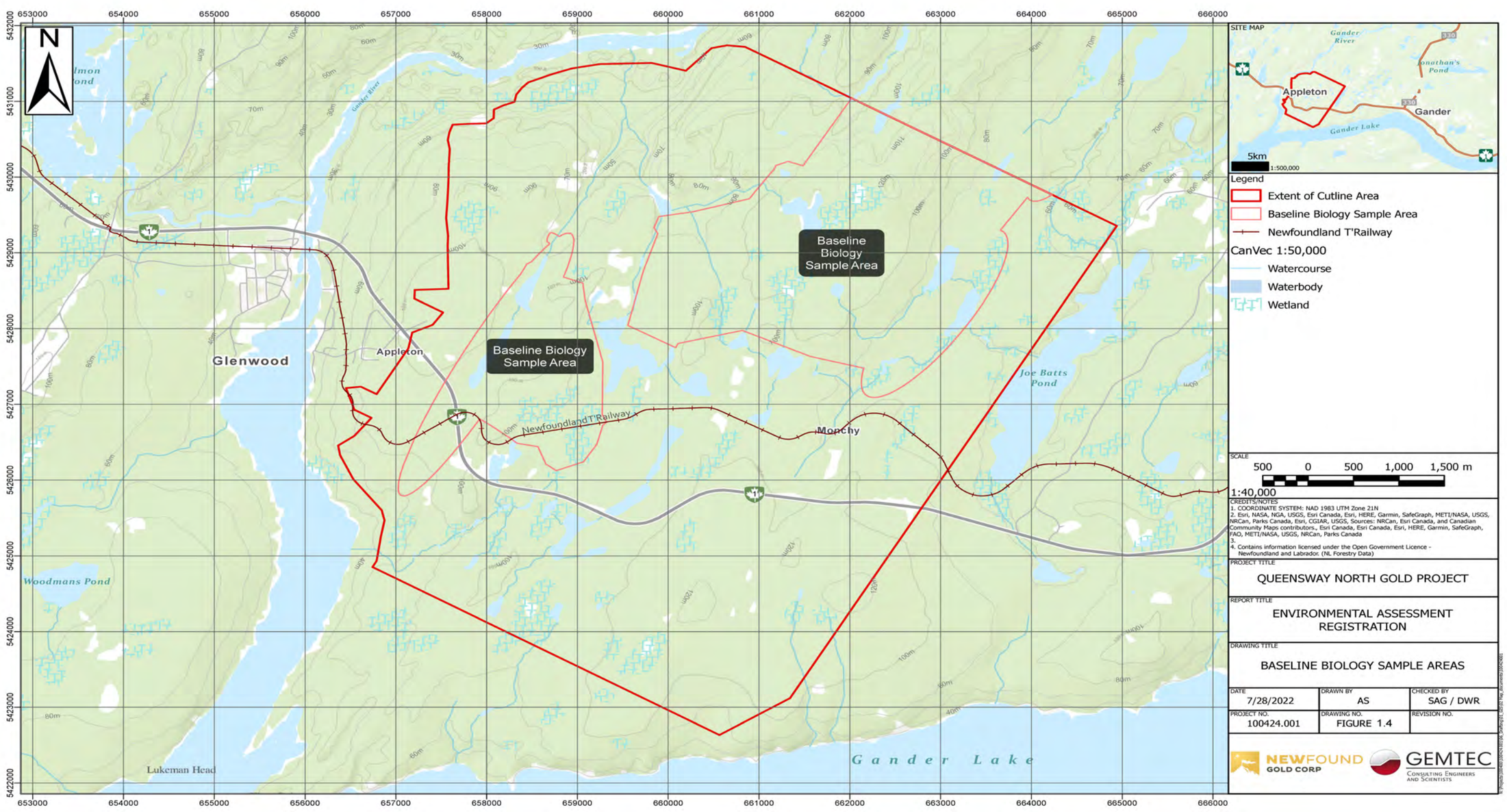


Figure 1.4: Study Area and Sample Area Location



1.2 Proponent Information

NFG is public mineral exploration company exploring for gold on the Island of Newfoundland that has 100% ownership of the Queensway North Gold Project, near Appleton, NL.

Name of Corporate Body	New Found Gold Corporation
Corporate Address	595 Burrard St. Suite 2600 Vancouver, BC, V7X 1L3 https://newfoundgold.ca/
Chief Operating Officer	Mr. Greg Matheson, P.Geo. 300 Garrett Drive Gander, NL A1V 1H5 Telephone: 705-570-1233 Email: gmatheson@newfoundgold.ca
Principal Contact Person for the Purpose of EA	Mr. Ron Hampton Chief Development Officer 300 Garrett Drive Gander, NL A1V 1H5 Telephone: 709-330-9424 Email: rhampton@newfoundgold.ca
GEMTEC Consulting Engineers and Scientists Limited Contact	Mr. Darrol Rice, PMP 19 Dundee Avenue Mount Pearl, NL A1N 4R6 Telephone: 709-722-2275 Email: darrol.rice@gemtec.ca

1.3 Rationale for the Undertaking

NFG wishes to conduct exploration activities using modern land based seismic systems to better define the structural geology, lithologies and alteration zones associated with the gold mineralization systems at Queensway North. A previous Registration document detailed most of those activities in the Queensway North area. This current Registration is focused on line cutting to facilitate three-dimensional (3D) seismic surveys in a similar but expanded area. Ground-based geophysical surveys provide a higher resolution definition of underlying geological structures, information that is needed as a project advances towards mine design. This work, coupled with core drilling at the Project site for geological examination, will aid in determining the orientation and size of the gold mineralized bodies. Laboratory testing of samples obtained through different exploration methods will provide details on the gold content and the economic viability of potential development. This registration document is provided for the ground-based seismic geophysical survey and trenching. All drilling associated with exploration will be carried out under appropriate exploration licenses.

Mineral exploration described in this Registration document presents an opportunity to create economic growth in the region with minimal adverse environmental effects. The exploration portion of the Project is anticipated to take approximately 5-9 months and will create direct and indirect employment opportunities, and spinoff economic benefits.

The Project will start once required permits, approvals and/or authorizations are in place.

1.4 Environmental Assessment Process and Requirements

The NL *Environmental Protection Act* (NL EPA) (GNL 2002) requires any party planning a project that could substantially affect the natural, social or economic environment (an "undertaking") to present it for examination through the provincial EA process. Under the NL EPA definitions, an undertaking includes "an enterprise, activity, project, structure, work or proposal and a modification, abandonment, demolition, decommissioning, rehabilitation and an extension of them that may, in the opinion of the minister, have a significant environmental effect."

The associated *Environmental Assessment Regulations* (Part 3) (GNL 2003) list those types of projects (potentially including proposed modifications and extensions of same) that require registration and review. On October 23, 2020, the NL EAD advised NFG that this Project required registration based on sections 48(1)(h) and 52(b) of the *Environmental Assessment Regulations*, 2003 (Appendix A). For information, Section 48(1)(h) and Section 52(b) is presented below.

Spectator Sports and Recreation
s.48 (1) (h) an undertaking that will be engaged in the establishment or operation of trails where the length of a trail will be more than 10 kilometres, shall be registered.

Limitation
s.52 (b) Notwithstanding that an undertaking is not required to be registered because it is smaller than a specified limitation with respect to time, area, length, volume, size or output, where the total size of the extended or new undertaking added to the existing undertaking will exceed the specified limitation with respect to time, area, length, volume, size or output, that extended or new undertaking shall be registered.

Following public and governmental review of this EA Registration, the Minister of the NL DECC will issue a decision that will be one of the following:

- Release, with or without conditions.
- Further review, in the form of an Environmental Preview Report (EPR) or an Environmental Impact Statement (EIS); or
- Rejection of the proposed undertaking via a recommendation to Cabinet.

Based on a review of the federal *Regulations Designating Physical Activities,* it is NFG's understanding that this Project should not trigger a federal EA.

2.0 PROJECT DESCRIPTION

2.1 Site History

Gold exploration began in the Project area in the early 1980s and has continued since then. The Project area which included gold showings along the Appleton and JBP faults (Figure 1.2) was acquired by NFG by option form late 2016 through 2018. Several generations of cut grid surveys for previous ground geophysics and soil geochemical programs were completed in the Project area since the 1980s. Many of these grids have since been lost to timber harvesting and forest regeneration.

2.2 Geographic Setting

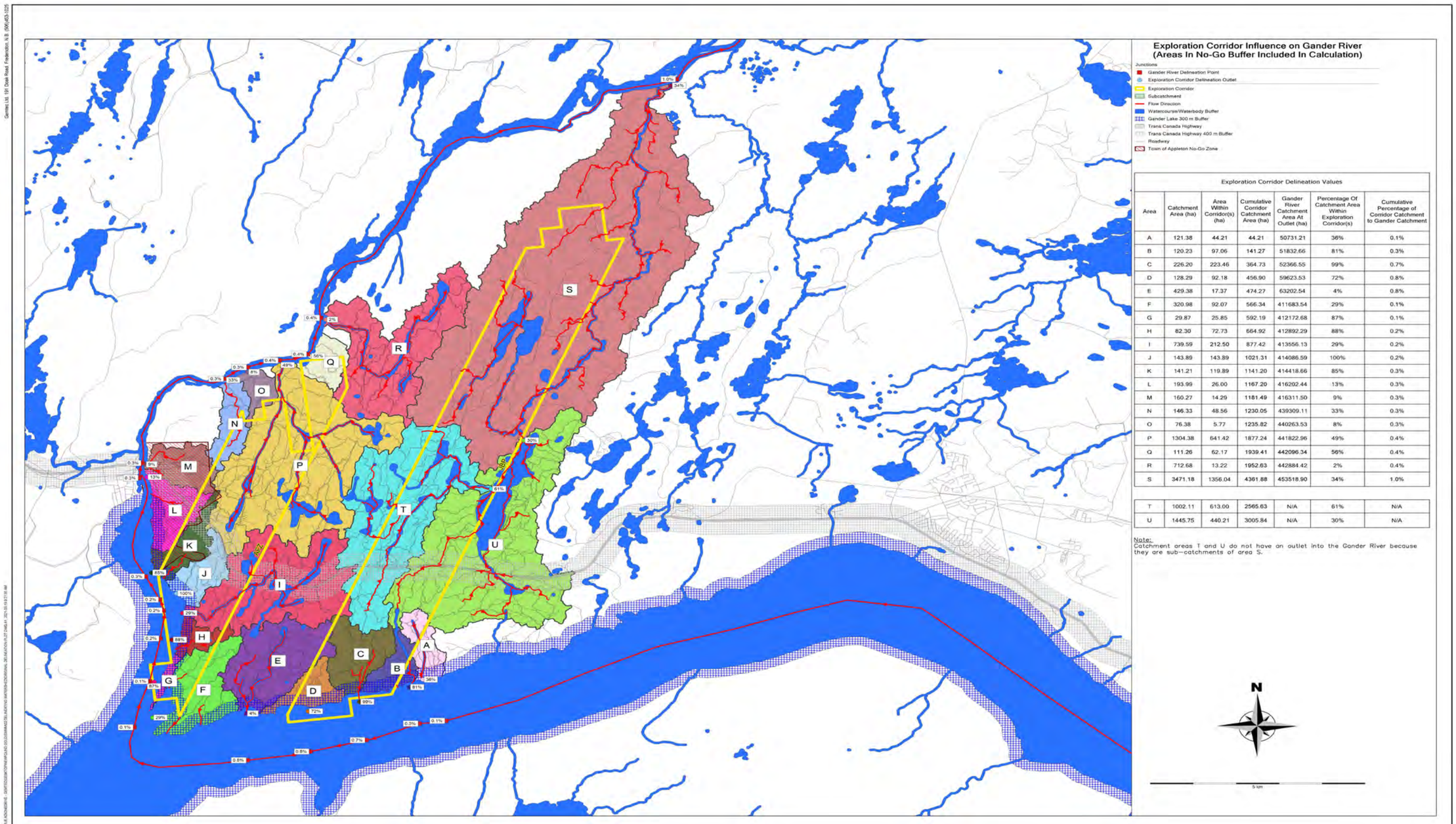
The Project is located between the Gander River south to Gander Lake, and the Town of Appleton in the west to Joe Batts Pond in the east, with the Trans-Canada Highway (TCH) extending through the south-central part of the property in an east-west direction (Figure 1.1).

The topography in the Study Area is dominated by broad, northeast-trending ridges with linear bogs, brooks, and larger ponds in the lower areas. Gander Lake, at elevation 29 metres above sea level (masl), and the Gander River are the major waterbodies nearest to the Study Area. The maximum elevation in the Study Area is approximately 100 masl at Appleton on the TCH with a minimum of 22 masl along the Gander River in the northern portions of the project (NFG 2020). Regenerated forest resulting from historical wood harvesting covers much of the Study Area, with some substantial cut-overs dating from 1990s to the 2010s. Recently harvested areas of the Study Area have been replanted with a mix of genetically-enhanced black and white spruce and are part of the forest land managed by Corner Brook Pulp and Paper (CBPP). Older harvested regions around the Town of Appleton have regenerated naturally with ongoing harvesting of suitable firewood by local residents. Old access roads run throughout the region, along with ATV trails and trails developed by exploration companies who have operated in this area since the mid-1980s.

The overall area in which Project activities, will occur is approximately 48 km^2 and occurs across 11 sub-basin catchment areas (Figure 2.1). A Public Protected Water Supply Area (PPWSA) for the Towns of Gander, Appleton and Glenwood is also located within NFG mineral leases for the Project.

Although NFG has mineral licenses in the areas of Indian Arm Brook and Rodney Pond, where exploration is ongoing, this Registration does not include exploration activity associated with these areas.

Figure 2.1: Watershed Delineations within the Study Area



Exploration Corridor Delineation Values

Area	Catchment Area (ha)	Area Within Corridor(s) (ha)	Cumulative Corridor Catchment Area (ha)	Gander River Catchment Area At Outlet (ha)	Percentage Of Catchment Area Within Exploration Corridor(s)	Cumulative Percentage of Corridor Catchment to Gander Catchment
A	121.38	44.21	44.21	50731.21	36%	0.1%
B	120.23	97.06	141.27	51832.66	81%	0.3%
C	226.20	223.46	364.73	52366.55	99%	0.7%
D	128.29	92.18	456.90	59623.53	72%	0.8%
E	429.38	17.37	474.27	63202.54	4%	0.8%
F	320.98	92.07	566.34	411683.54	29%	0.1%
G	29.87	25.85	592.19	412172.68	87%	0.1%
H	82.30	72.73	664.92	412892.29	88%	0.2%
I	739.59	212.50	877.42	413556.13	29%	0.2%
J	143.89	143.89	1021.31	414086.59	100%	0.2%
K	141.21	119.89	1141.20	414418.66	85%	0.3%
L	193.99	26.00	1167.20	416202.44	13%	0.3%
M	160.27	14.29	1181.49	416311.50	9%	0.3%
N	146.33	48.56	1230.05	439309.11	33%	0.3%
O	76.38	5.77	1235.82	440263.53	8%	0.3%
P	1304.38	641.42	1877.24	441822.96	49%	0.4%
Q	111.26	62.17	1939.41	442096.34	56%	0.4%
R	712.68	13.22	1952.63	442884.42	2%	0.4%
S	3471.18	1356.04	4361.88	453518.90	34%	1.0%
T	1002.11	613.00	2565.63	N/A	61%	N/A
U	1445.75	440.21	3005.84	N/A	30%	N/A

Note:
Catchment areas T and U do not have an outlet into the Gander River because they are sub-catchments of area S.

2.3 Land Tenure

The Project will take place on land included in existing Exploration Licences 023861M, 025205M, 024266M, 025008M, 024026M, 024140M, 027636M, 023866M, 023721M, 023720M, 007984M, 024141M, 024031M, 023962M, 023875M, 022491M, 023987M, 024265M, 024138M, 024139M, 024264M, 023804M, 022216M, 023916M, 030768M, 024136M, and 024997M. In addition, a portion of the seismic surveys will cover a portion of Licence 027636M held by Labrador Gold Corporation as well as an area currently cancelled in the mineral licence system awaiting to be gazetted and staked (Figure 1.3). All leases and licenses for the Property are in good standing. The Town of Appleton is located adjacent to NFG exploration licences.

All of the Project lands are map-staked crown mineral licenses issued by the Department of Industry, Energy and Innovation (DIET), Mining and Mineral Development Branch, Mineral Lands Division. NFG does not own surface rights within the Study Area. Surface rights owners within the property boundaries include cabin owners and residents of the Town of Appleton. Consultation with surface rights owners will take place as needed with approval from owners provided prior to execution of the proposed program. NFG has been in regular contact with the Town of Appleton regarding project details. NFG understands it can explore areas with surface rights held by others with the owner's permission, while being responsible for damage incurred within these surface rights resulting from that exploration.

2.4 Alternatives to the Project

3D seismic surveys are exploration techniques that can yield valuable information on the projects underlying mineralization potential, lithological components and geological structures that have allowed for the deposits. Airborne surveys including multi and hyperspectral satellite imagery have been completed over the Study Area in July 2021 and again in 2022 to provide updated information on the site features. Multiple airborne geophysical surveys including gravity, electromagnetic and magnetic have been flown. These geophysics-focused aerial surveys have been useful, but are of lower resolution than ground surveys, and do not provide the necessary data required as part of this exploration program. Ground-based surveys, such as the proposed 3D seismic survey, provide a very high resolution of underlying structures, which is needed to advance the project toward a mine design and could alleviate unnecessary drilling and other exploration in areas that do not require it. Seismic surveys are a key component used to evaluate gold deposits of this type. In addition, an exploration trench has been identified as the most accurate and reliable way to understand the Keat's Zone by exposing it at surface to complete appropriate geological surveys aimed at understanding the mineralization characteristics and vein orientation. Geologic surveys may require controlled removal of material (i.e., channel samples, and selected grab samples) for analysis but will not require a bulk sample at this time.

Based on the above, NFG considers that there are no satisfactory alternatives to the Project.

2.5 Project Components

The proposed Project includes approximately 269 km of approximately 1.75 m wide (75% of lines) and 2.75 m wide (25% of lines) grid lines established to facilitate the 3D seismic geophysical surveys in an area with an extensive history of disturbance. The Project will not require permanent infrastructure and NFG will use the numerous existing all-weather and forestry access roads in the area to access survey start points. Modern low-impact seismic line construction methods will be employed for the seismic portion of the exploration to reduce environmental impacts. Natural features, including wetlands, watercourses, and forests, are present within the proposed Project area (Figure 2.6). Protective vegetated buffers will be established along regulated features (e.g., watercourses, wetlands, SAR habitat) to further reduce environmental impacts. No cutlines are proposed within these environmental features, or their respective buffers, as described below. A portion of seismic surveys are required within buffers of the TCH and the T'Railway as well as within the Town of Appleton limits. Consultation and approvals from the Town of Appleton, TCH and T'Railway agency representatives, as well as private surface right owners and outfitters will be completed prior to execution of the proposed project.

A lack of outcrop and bedrock exposure in the Queensway North area has resulted in limited surface mapping. A trench in the Keat's Zone is proposed (Figure 2.2) to better understand vein orientation and mineralization characteristics, including alteration types and structural relationship of veins to host rocks. A trench will provide a better understanding of the zone through geoscience studies, geological mapping, and drone imagery. Channel samples and selected grab samples may be utilized for analysis.

2.5.1 Line Cutting for Geologic Surveys

2.5.1.1 General

Line cutting is typically the first ground-based geology exploration work done on a claim and involves cutting a main base line through the middle of the mining claim with a series of grid or wing lines running off the base line at 90-degree angles. Several grids have been cut in the area over the years but have subsequently grown in and are not suitable for current needs.

HiSeis Ltd. based in Subiaco, Australia will be carrying out the seismic surveys on behalf of NFG. HiSeis is an experienced, leading international seismic services company and have proposed a modern, low-impact seismic line construction method for this project. The width of the lines in the Study Area is regulated by the requirements of an issued exploration permit.

Approximately 43 km and 261 km of receiver and energy source cutlines, respectively, are proposed (Figure 2.3). Cutlines will meander through the forest to avoid and preserve large individual trees. A 1.75 m wide vehicle mulcher will be used for vegetation removal where possible to promote vegetation regrowth in specific areas. Where there are access limitations for machinery (e.g., saturated soils), vegetation clearing will be completed with the use of chainsaws and hand tools.

There are many previously disturbed areas where clearing has already been undertaken as a result of earlier line cutting, logging, or other exploration activities. GEMTEC has identified the disturbed areas based on 2021 aerial imagery and has delineated these features (Figure 3.5). Based on the recent mapping, provincial historical logging data, and the proposed seismic plans, NFG estimates that 140 km of the proposed 269 km of grid lines will occur in historically disturbed areas or in areas harvested after 2004. Minor vegetation clearing in these areas will be required.

At regular intervals along the grid, markers with written coordinates will be driven into the ground that can be used to accurately locate features on maps of the area. The coordinates of these stations will also be recorded using a surveyor grade Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) so that people and equipment can move with more certainty using the grid. A portion of this grid will cross the TCH between the Town of Appleton, to the east to an area just south of Joe Batts Pond between H Pond and Joe Batts Pond Forest access roads.

2.5.1.2 Seismic Energy Recorders

The planned seismic surveys will provide information on subsurface structures and will further define target mineral deposits in the Study Area. Thousands of small (10cm x 10cm x 15cm) geophone sensors will be temporarily installed along the receiver lines approximately 8 cm into the ground (Figure 2.4) at regular intervals by foot to record seismic energy data from a received energy source. A cutline is proposed every 5th receiver line north and south of connecting wires to allow for access throughout the site (Figure 2.3). These cutlines will meander through the landscape, avoiding natural features and large timber. Cutlines will be established using low impact technology (i.e., mulchers and/or by hand).

2.5.1.3 Energy Sources

The energy sources for this project include Vibroseis machines as well as small biodegradable Pentolite charge. Energy source cutlines (Figure 2.4) are necessary to allow for machinery to traverse the site to provide seismic energy sources via pentolite charges (requiring 1.75 m wide lines for auger drills) as well as Vibroseis trucks (requiring 2.75 m wide lines). It is expected that 75% of the survey will be completed using Vibroseis trucks with the remaining 25% completed using small pentolite charges. Small explosive charges are used where ground conditions prohibit the use and access of more modern Vibroseis trucks.

HiSeis will use Vibroseis trucks, commonly referred to as thumper trucks, to generate a controlled seismic energy source. A thumper truck is a vehicle-mounted ground impact system that lowers the central section to the ground and vibrates for a short period which produces no marked sounds or vibrations beyond the immediate work area. Returning signals from subsurface structures or rock strata are detected by seismic geophone sensors and then subjected to specialist processing and interpretation to provide comprehensible information about the subsurface. Cutlines for this energy source are required to be 2.75 m in width to allow for the 2.2 m wide thumper truck and will be completed using a mulcher or by hand.

A small 250g biodegradable pentolite charge will be used as the alternate energy source for approximately 25% of the survey. A narrow drill rig will be used to drill a 100-120 mm diameter 3 m deep borehole every 25 m along the source lines where the bentonite plug will be placed. Secure firing wires at the surface are used for electronic detonation when the seismic survey is ready to be recorded. This energy source will not be used near residential areas and the charge will have limited impact on the area immediately adjacent to the detonation. The charge will only produce a low thumping sound and very minimal vibration. Cutlines for this energy source will be 1.75 m in width and will be completed using a mulcher or by hand.

2.6 Trenching

An exploratory trench in the Keat's Zone, to the east of South Herman's Pond, is proposed to gain a better understanding of vein orientation and mineralization characteristics. The proposed trench as illustrated on Figure 2.2 will be approximately 210 m long and vary in width from approximately 10 m to 70 m with a total exposed surface area of less than 8,000 m^2. There is an estimated overburden (till) thickness between 3-9 m with a total estimated volume of 40,000 m^3 expected to be removed.

An industry standard tracked excavator will be used for this portion of exploration. Excavation will include sloping of the trench sides which will comply with applicable guidelines. Organics and overlying till will be stockpiled in separate piles away from the edge of the trench in adjacent, previously cleared, lands to the east and south of the trench for future reuse. Excavation and sloping will comply with the Newfoundland and Labrador's *Occupational Health and Safety Act (1990)*. All material will be placed back in the trench and revegetated upon completion of the mapping and sampling. Erosion and sediment control measures will be implemented to minimize impacts, associated with erosion, water quality, and water quantity, on the surrounding landscape, specifically South Herman's Pond located to the west of the proposed trench. The natural landscape to the east of South Herman's Pond where material will be stockpiled has been subject to significant alteration in recent years resulting from the drilling program completed under Registration Number 2106. The trench and associated slope is proposed to be located 65 m from South Herman's Pond which will be separated from the pond by a 30 m vegetated buffer.

658000

659000

5428000

5427000

N

South Herman Pond

Trans Canada Hwy

SITE MAP

Legend

- Proposed Keats Slope
- Proposed Keats Trench

SCALE

100 0 100 200 m

1:5,000

CREDITS/NOTES

1. COORDINATE SYSTEM: NAD 1983 UTM Zone 21N
2. Esri Community Maps Contributors, Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, NRCan, Parks Canada, Esri, NASA, NGA, USGS, Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, NRCan, Parks Canada, Sources: NRCan, Esri Canada, and Canadian Community Maps contributors., Esri Canada, Maxar
3.
4. Contains information licensed under the Open Government Licence - Newfoundland and Labrador. (NL Forestry Data)

PROJECT TITLE

QUEENSWAY NORTH GOLD PROJECT

REPORT TITLE

ENVIRONMENTAL ASSESSMENT REGISTRATION

DRAWING TITLE

PROJECT COMPONENTS - PROPOSED KEATS TRENCH

DATE	DRAWN BY	CHECKED BY
7/20/2022	AS	SAG / DWR
PROJECT NO.	DRAWING NO.	REVISION NO.
100424.001	FIGURE 2.2	

NEWFOUND GOLD CORP

GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

Figure 2.3: Proposed Seismic Source and Receiver Cutlines

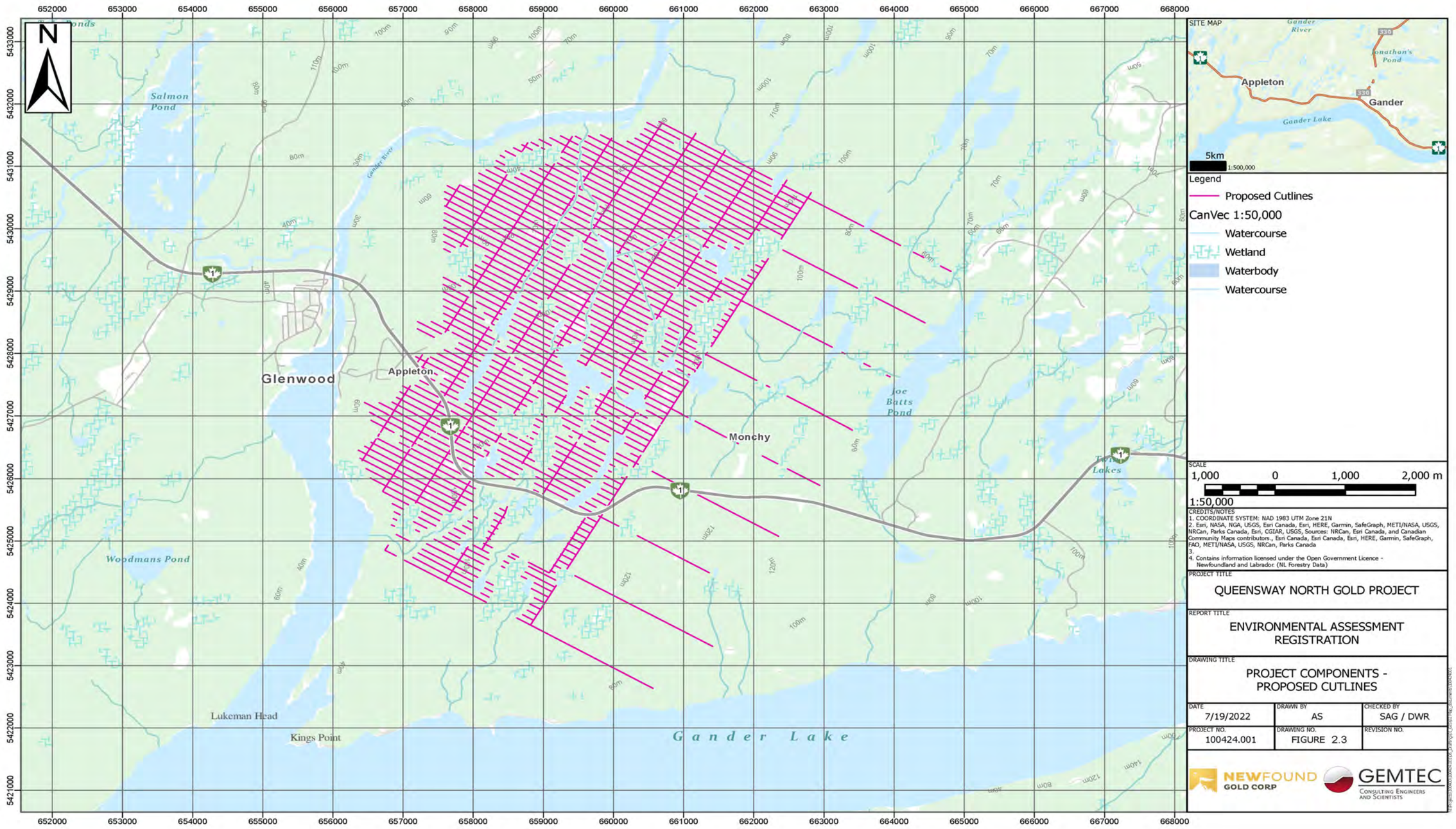


Figure 2.4: Proposed Source Shot Stations

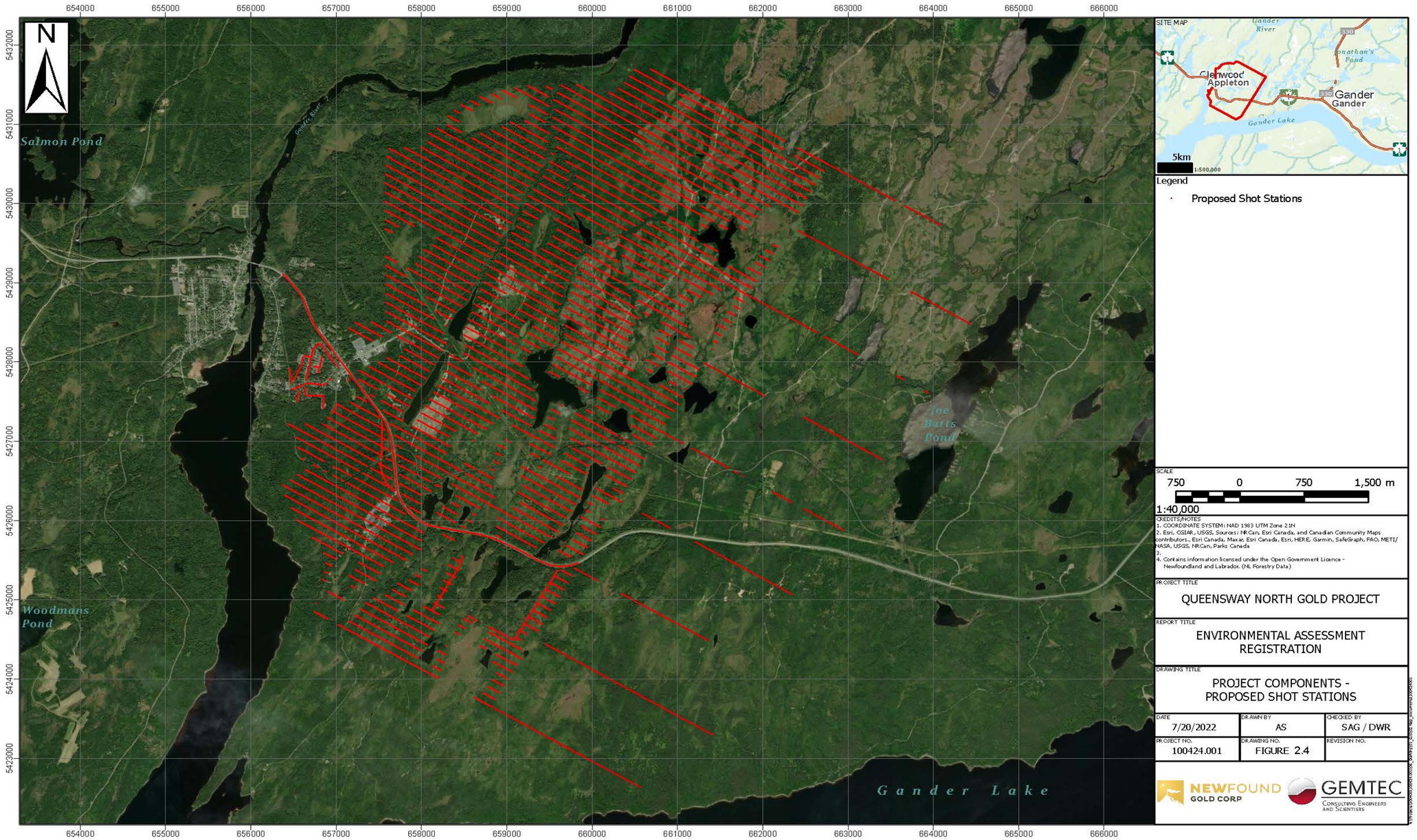


Figure 2.5: Proposed Receiver Stations

Figure 2.6: Study Area Desktop Environmental Buffers

Photo 1: HiSeis Energy Source Thumper Truck (Vibroseis) with Low-Impact Tires

Photo 2: Overburden (Auger) Drill for Seismic Charge Energy Source boreholes

2.7 Construction and Operation

Construction (line cutting) and operation activities (geophysical surveys) will occur concurrently. Typically, a geophysical survey will start once one half of the cutlines have been established. In addition to release from the EA process, other regulatory approvals and permits may be required prior to the start of Project activities, NFG will ensure that all required approvals and permits are complete prior to the start of Project activities.

Project work will follow permit requirements, and guidance and procedures outlined in NFG's EPP (Appendix B) that outlines best management practices to be followed for Project activities. Project work will also adhere to other environmental plans and/or constraints (e.g., Waste Management Plan (WMP), Emergency Spill Response Plan (ESRP), and bird breeding seasons) that are designed to limit potential adverse effects of Project activities on the environment.

Line cutting will total 269 km with gridlines cut approximately 1.75-2.75 m wide, the minimum required to allow crew to pass and conduct the proposed 3D seismic surveys. Gridlines will be flagged in buffered areas adjacent to Appleton, the TCH, roadways, the T'Railway, Gander Lake, Gander River, Gander Lake Tributaries, waterbodies, and wetlands (Figure 2.6). No cutting or clearing will take place in natural features or protected vegetation protection zones. Any work in protection buffers will be completed on foot with no use of motorized equipment. Vegetation will not be cleared beyond the limits of the 1.75 m – 2.75 m cutline. A significant portion of the Study Area (18.4%) where cutlines are proposed has had some level of forest harvesting completed since 2004.

A 1.75 m wide mulcher will be used for clearing lines in specific areas. Larger trees will be avoided where possible. NFG proposes to cut, flag and conduct the 3D seismic surveys as soon as all permits are in place. Vegetation clearing is currently scheduled, pending approval, to take place primarily in Q1 of 2023 with limited clearing taking place in Q2 (Table 2). Completing most clearing during the winter months will minimize impacts to wetlands, streams, and waterbody crossings. Snowmobiles may be used to access starting points during winter months as appropriate. All buffers will be appropriately flagged, and should timelines change such that the 3D seismic surveys are conducted in non-winter months, mitigation measures discussed below as well as in the EPP regarding stream, watercourse crossings and sensitive time periods for wildlife (i.e., breeding bird windows) will be implemented. No use of aggregates or other materials is required for line cutting.

Fuel for Project activities will not be stored on site but will be brought in as required. The handling of petroleum products on site will comply with the *Storage and Handling of Gasoline and Associated Products Regulations* (N.L. Reg 58/03). Complete and regularly checked emergency spill kits will be available on site for containment and cleanup of hydrocarbon leaks or spills.

Appropriate erosion and sediment control mitigations, (e.g., erosion control ditches, hay bales, silt fencing and berms) will be implemented to limit erosion and transport of fine grained particles in water from occurring.

An ESRP (Appendix C) is in place and emergency response teams are on 24hr call from Petroleum and Environmental Services Inc. (PES), located less than 1 km from the Project site in Glenwood.

Line cutting will commence following release from the EA review process, once all required permits, approvals and/or authorizations are in place. Line cutting, surveying, and related project activities are expected to begin by Q1 of 2023 with exploration activities concluded by Q2 of 2023 (Table 2).

Other land use activities that may occur in the area include recreational activities such as berry picking, firewood cutting, hunting, fishing, hiking, as well as commercial forestry activities. These activities should be able to continue as usual subject to short closures in certain areas for safety reasons. If so, these closures will be publicized in the local areas with appropriate signage in the areas in question.

2.8 Possible Accidents and Malfunctions

Human health and safety, and environmental protection will be key considerations for NFG in the planning and execution of the Project. Established safety procedures specific to human health and environmental protection will be adhered to during all phases of the Project.

Activities associated with the Project will be conducted in compliance with the NL *Occupational Health and Safety Act (OHS, 1990))* and its *Regulations,* and workers will receive relevant training as required by the legislation.

All machinery will be operated by individuals who have completed the necessary training and are appropriately licensed and/or certified.

NFG also accepts responsibility that contractors hired to perform work also comply with this legislation, as per OHS Act s.10.

NFG has an exploration EPP that details policies and procedures for completing work such that the potential for adverse environmental impacts are reduced during Project activities. The execution of the Project will be carried out in compliance with relevant legislation, regulations, standards and guidelines.

Potential accidental events or malfunctions that may occur include, but are not limited to, the following:

- An accidental spill of chemicals, fuels or other deleterious substances into the terrestrial or aquatic environments;
- Traffic mishaps involving Project vehicles or equipment;
- Disturbance of potential historic or heritage sites;
- Fire at the site; and
- Forest fires.

2.9 Decommissioning

NFG will adhere to decommissioning requirements of its exploration license specific to this Project on completion of Project activities.

NFG will undertake necessary rehabilitation on existing forest access roads such that they are left in the condition found prior to Project activity. Necessary rehabilitation in the study areas will be completed as needed and adhere to the restoration activities described in Section 3.3 of the EPP which states:

The rehabilitation process will include the following where applicable:

- Stabilization of surface disturbances on an ongoing basis to limit erosion and promote natural revegetation;
- Natural revegetation of surface disturbances will be encouraged, and active revegetation will be pursued where this is deemed critical, and where terrain and soil conditions permit;
- NFG will incorporate environmental measures in tender documents, and require contractors to conduct their work in accordance with the EPP;
- Dismantling and removal of temporary surface infrastructure (e.g., site trailers, portable lavatories, fuel drums);
- Handling of hydrocarbon and/or hazardous materials according to provincial and/or federal requirements;
- General ground surface contouring to establish permanent drainage patterns, minimize erosion, and promote public safety;
- Replacement of stockpiled overburden, or other suitable materials to encourage natural revegetation, and
- Revegetation will be completed in the backfilled trench area to minimize siltation. During exploration activities, terrain, soil and vegetation disturbances will occur only where necessary, and where possible, overburden and excavated rock will be stockpiled separately and reserved for rehabilitation work.

2.10 Effects of the Environment on the Project

Potential effects of the environment on this Project are a function of the Project's design and the risks of natural hazards and influences of nature. These effects may result from physical conditions, landforms and general site characteristics that may act on the Project such that Project components, schedule and/or costs could be substantively and adversely changed.

While environmental forces such as severe weather and climate change have the potential to adversely affect a Project, good planning, solid environmental mitigation and following industry standards and permit conditions can mitigate these effects.

The Project has been planned and will be implemented with due consideration of the local environmental conditions in and around the Study Area.

2.11 Project Reports

Documents and field studies relevant to the Project are referenced in this Registration document and are available upon request. Note the EPP, WMP and the ESRP are working documents and will be updated as required. Various field surveys including hydrology, terrestrial and aquatic biology studies were completed and are ongoing in the Study Area. Results are referenced in this document, but final reports are not available at this time. The 2016 Registration Document for the Appleton Mineral Exploration and associated conditions were reviewed to ensure completion and compliance.

2.12 Labour Force and Occupations

Over its anticipated 5–9 month life, this Project will generate between 28 and 38 positions. The various occupations required for the Project, and their corresponding National Occupation Codes (NOC), are presented in Table 1. Note that positions associated with line cutting, and seismic surveys fall under surveyors, labourers and supervisors. The Company is an equal opportunity employer and seeks to maintain diversity in its workforce including the hiring of women, men, transgender, minorities and Indigenous people. The Company's current on-site workforce noted above is 37% female and the highest paid positions (Geologist and Management) are 62% women. NFG has an approved Women's Employment Plan (WEP) in place.

Table 1: Project Employment Data

Position Category	NOC Code	Construction/ Operation
Labourer	8614	12-18
Supervisor	8221	4-8
Land Surveyor	2254	12-20
Total		**28-38**

2.13 Project Schedule

NFG will initiate Project activities upon receipt of all required permits, approvals and/or authorizations, and is hopeful initial Project activities will begin by Q1 of 2023. The overall duration of the exploration portion of the Queensway North Gold Project approximately 5-9years). This Project (line cutting and ground-based geophysical surveys) is a component, is expected to be 5-9 months (Table 2). NFG recognizes there may be scheduling constraints due to potential COVID 19 restrictions and appropriate safety precautions will be followed to limit the potential for COVID 19 challenges.

The Project will operate 24 hours (hrs) per day, seven days per week on a 12-hour shift basis. Required closure / rehabilitation activities associated with the Project will take place after the planned exploration work has been completed.

Table 2: Proposed Project Regulatory Approval Schedule

Activity Name	2022			
	Q3 (2022)	Q4 (2022)	Q1 (2023)	Q2 (2023)
Submission to EA Division				
Public & Government Review				
EA Decision				
Environmental Management Plans and Permitting				
Other required Permitting				
Project Start				

2.14 Environmental Management and Protection

2.14.1 Environmental Protection Plan

An EPP is an important tool for consolidating environmental protection information and procedures in a document that provides sufficient detail for the implementation of environmental protection measures in the field. NFG has an exploration EPP that outlines the prevention and mitigation measures to be applied to limit potential adverse environmental effects associated with the Project and other exploration activities at NFG's various properties.

The EPP is considered a working document for use in the field by Project personnel and contractors that identifies and provides guidance for avoidance and mitigation of potentially adverse environmental effects of Project activities. The EPP, and revisions or updates, will be provided to contractors and subcontractors who work at the Project site. Contractors and subcontractors will confirm they have read, understood, and will comply with the requirements outlined in the EPP.

The EPP includes procedures and measures relative to activities such as vegetation clearing, grubbing, storage and handling of fuel, dust control and work in or near water.

In addition to the EPP, any conditions identified by the regulatory agencies will be adhered to throughout the duration of the project.

2.14.2 Waste Management Plan

NFG has prepared a WMP that describes waste management procedures relative to Project activities (Appendix D).

2.15 Other Required Approvals

In addition to approval under the provincial EA process, the Project may require other permits, approvals and/or authorizations prior to the start of Project work. NFG has various exploration approvals in place for exploration in this area as well as in other locations. Table 3 provides a list of potential permits, approvals and/or authorizations that may be required for the line cutting and geophysics surveys.

Table 3: Potential Permits, Approvals and/or Authorizations needed for Project

Permit, Approval and/or Authorization	Issuing Agency	Status
Municipal		
Approval to use Municipal Waste Disposal Site	Town of Appleton. May be addressed in updated Exploration Permit (DIET)	Required
Provincial		
Updated Exploration Permit	DIET	Required
Release from EA Process	EAD & Minister – NL DECC	Required
EPP	PPD and EAD – NL DECC	Existing
WMP	PPD	Existing
Women's Employment Plan (WEP)	DIET	Existing
Permit to Occupy Crown Land	Crown Lands Division - Department of Fisheries, Forestry and Agriculture (DFFA)	Required
Permit to Control Nuisance Animals	Wildlife Division (WD) - DFFA	Potential
Operating Permit to Carry out an Industrial Operation During Forest Fire Season on Crown Land	Forestry Branch – DFFA hhttps://www.gov.nl.ca/ffa/department/contact-forestry/	Required
Permit to Cut Crown Timber		Required
Permit to Burn		Required
Permit to Develop within a Protected Public Water Supply Area / Wellhead Protected Water Supply Area	Department of Environment and Climate Change – Water Resources Management Division (WRMD)	Required

Permit, Approval and/or Authorization	Issuing Agency	Status
Water Resources Act – Section 48 Permit for Wetland and Watercourse Alteration	Department of Environment and Climate Change – WRMD	Required
T'Railway Provincial Park Permit Application	Parks Division – Government of Newfoundland	Required
Federal		
Authorization	Department of Fisheries and Oceans Canada	Potential

NFG will comply with all terms and conditions of release, and will apply for all required permits, approvals and/or authorizations. NFG is committed to employment equity and has an approved WEP in place. A WMP has also been prepared for exploration activities relative to the Queensway North Project (Appendix D) and an EPP for exploration activities is available in Appendix B. If there are operational restrictions relative to COVID 19, NFG will follow recommendations of the provincial Chief Medical Officer of Health.

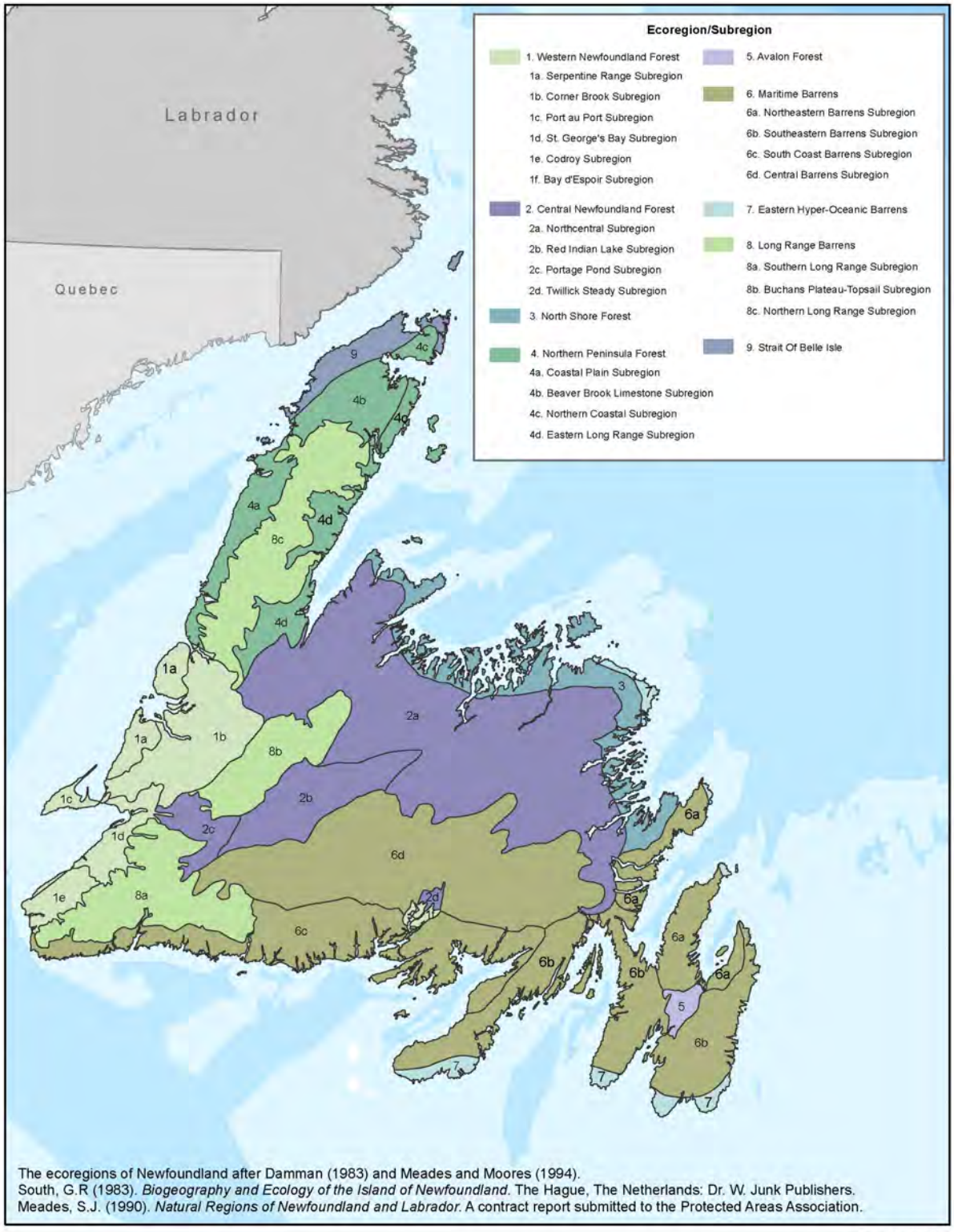
3.0 EXISTING ENVIRONMENT

The Project occurs in the Northcentral Subregion of the Central Newfoundland Forest Ecoregion (Figure 3.1) near Appleton and Glenwood, NL in an area of low industrial activity.

This subregion is characterized by higher summer maximum temperatures, lower rainfall, and higher fire frequency than anywhere else on the Island of Newfoundland. Relatively low moisture, coarse soils and the prevalence of black spruce cover types make this subregion particularly susceptible to regeneration failure. Where tree regeneration is lacking, succession to dwarf shrub heath dominated by sheep laurel (*Kalmia angustifolia*) occurs on the nutrient-poor, coarse-textured till that is prevalent throughout much of this area. The rolling to undulating topography, typically below 200 masl, is characterized by shallow, medium-quality till with a soil texture range from sandy loam to loam (NL DECC, 2008). Ongoing exploration work has noted multi-generational tills greater than 3 m thickness.

The sections below provide an overview of the existing biophysical and socio-economic environments of the Project. The components of the natural environment that are summarized in this document include the atmospheric, terrestrial, and freshwater environments. Descriptions of the natural environment presented below are based on preliminary site-specific biophysical field studies completed since 2021, and summaries of existing documents including Atlantic Canada Conservation Data Centre (ACCDC) reports, literature reviews, best management practices, and government publications.

Figure 3.1: Ecoregions and Subregions of Newfoundland



3.1 Natural Environment Methodology

In addition to a comprehensive desktop assessment that reviewed natural environment data, NFG undertook a 2021 biology fieldwork program to obtain baseline data on the biological conditions in a portion of the Study Area identified on Figure 1.4 as the Sample Area. It covers 13.4 km^2 (27.97 %) of the total 48 km^2 proposed Study Area for exploration. Conditions in the remaining 34.2 km^2 of the Study Area, not field surveyed, have been assumed based on available government data and aerial imagery from 2019-2021 where the biophysical conditions are expected to be similar to that found in the Sample Area.

3.1.1 Background Information Review and Desktop Assessment

The desktop assessment was completed to compile and review existing natural heritage information available for the Study Area. All areas of the subject lands were reviewed as part of the high-level assessment to identify natural heritage features that may be impacted by the proposed exploration. Information acquired through this screening process was used to help guide field efforts, evaluate the significance of on-site observations, and provide vegetation classification results. Information was reviewed from the following sources:

- Aerial photographs (2018, 2021);
- ACCDC (2021);
- Topographic Data of Canada – CanVec Series (Figure 3.2);
- Government of Newfoundland topographic data;
- Government of Newfoundland Forestry Habitat Data (Figure 3.3);
- Regional Climate Data; and
- Forest Management Plans.

NFG made a data request to the ACCDC for a listing of potential rare flora and fauna in the Queensway North exploration area. A summary of results is presented below, with the full suite of data is available in Appendix E.

Figure 3.2: CanVec Topographic Map

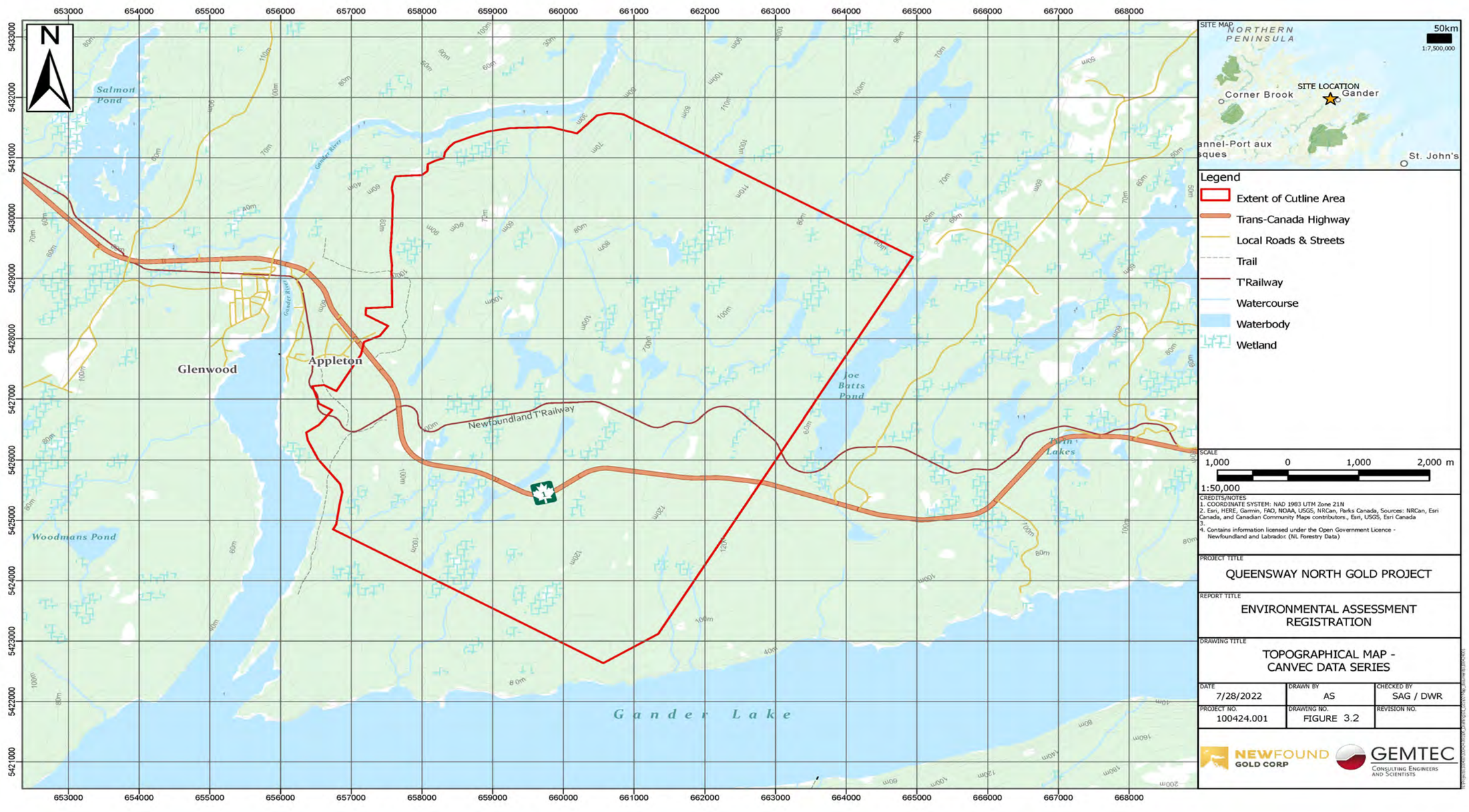
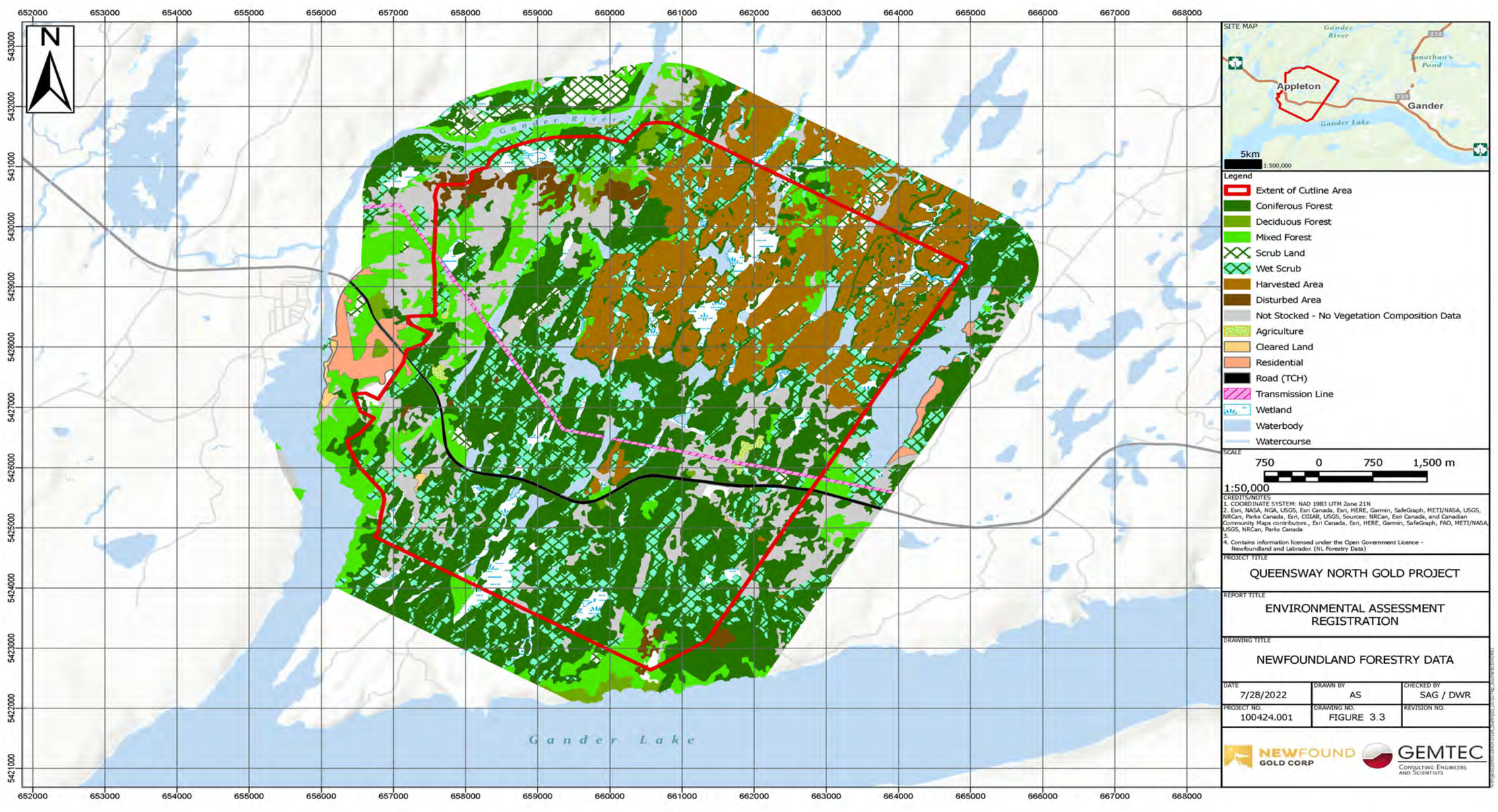


Figure 3.3: Newfoundland Forestry Habitat Data – Habitat Units



3.1.2 Sample Area Biophysical Fieldwork Program Methodology

Biophysical fieldwork was completed within the Sample Area from June to September in 2021 (represents 27.97% of the total Study Area) (Figure 1.4). Three separate field programs were completed to collect information on breeding birds, vegetation composition, wetlands, watercourses, incidental wildlife (including Species at Risk, SAR), fish habitat, and presence or absence of fish.

Avifauna surveys were completed between the hours of 4 AM and 11 AM. The surveys were completed in the appropriate survey window to capture the presence of breeding migratory birds and SAR.

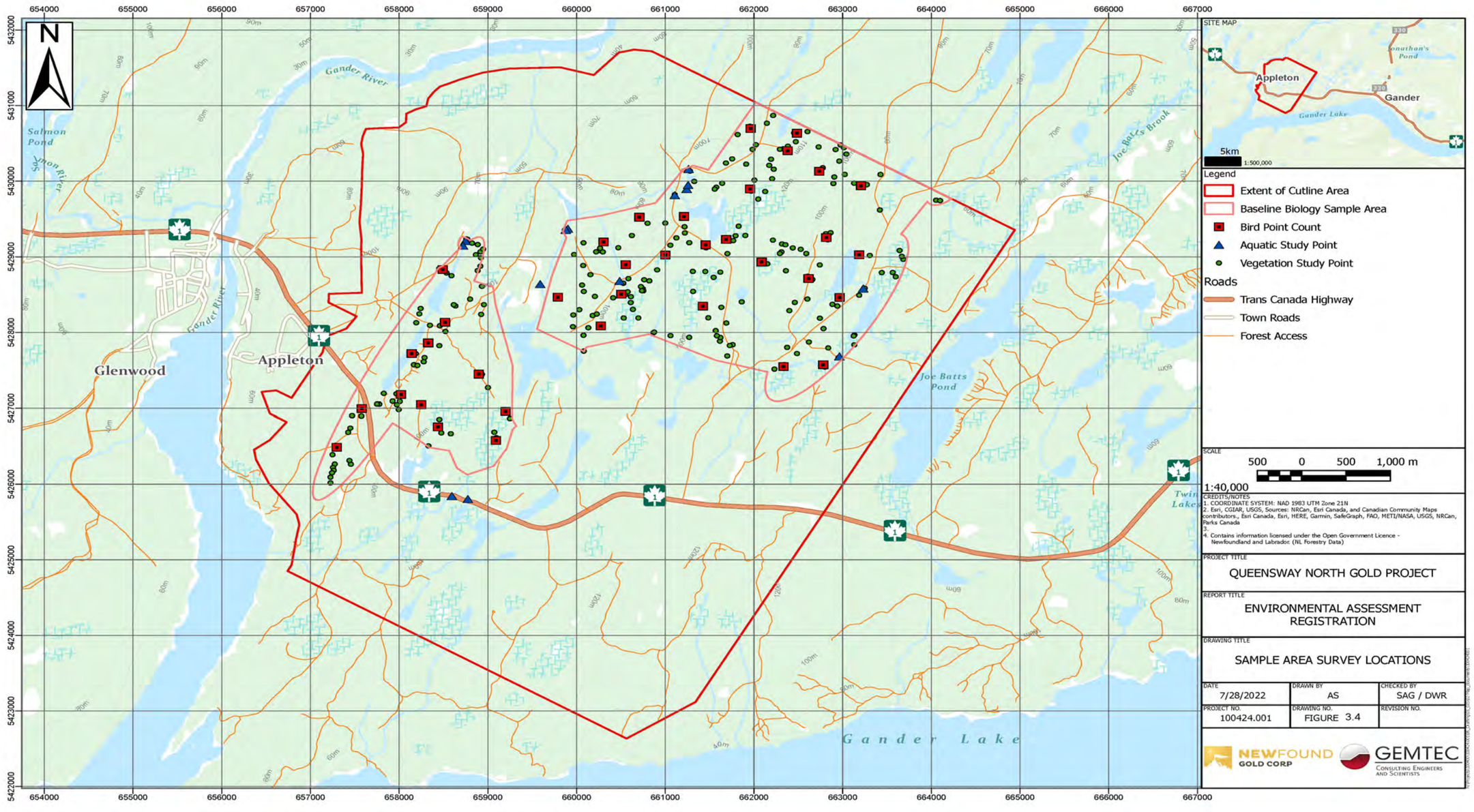
Dominant vegetation data was collected throughout the Sample Area. Dominant tree, shrub, and herbaceous species were identified, and photos of the vegetation communities were taken. Forest, thicket, wetland and open aquatic features were identified. A comprehensive wetland delineation according to the US Corps of Engineers Wetland Delineation Manual (1987) was not completed as part of this investigation. Data was collected to confirm the presence of and correct delineations of the CanVec mapping.

Watercourses and open water features were identified prior to undertaking the field program. A general characterization of these features from an aquatic habitat suitability perspective was completed for the identified aquatic features in the conceptual site plans.

Aquatic surveys were completed to evaluate the quality of fish habitat as well as to complete an electrofishing program for certain watercourses in the Sample Area. A formal Stream Assessment was not completed as part of this investigation. Where possible, data such as watercourse depth, channel width, bank characterization, presence of riffles / pools, and substrate conditions, etc. were collected. Photos of the watercourses were also collected. The electrofishing program was completed in selected areas of the Sample Area watercourses to identify presence of fish populations and to identify fish species. Where electrofishing was not possible, due to poor access or shallow water depth, small minnow traps were set and checked regularly to determine fish presence in the watercourse.

Watercourses in the Sample Area were identified using 1:50,000 scale CanVec mapping data and investigated to identify the presence / absence of fish populations. Electrofishing was undertaken from September 20 – 24th using a Smith Root, Inc. LR-20B backpack electrofisher. Selected areas that exhibited suitable fish habitat, as determined by the team biologist, were surveyed based on the anticipated presence of fish populations. Survey locations are presented on Figure 3.4. Fish species were recorded and tallied based on total fish length. These results, as well as the general water quality parameters (temperature, dissolved oxygen, conductivity, and pH) are presented in Appendix F.

Figure 3.4: 2021 Sample Area Survey Locations



3.1.3 Exploration Area Biophysical Methodology

Beyond the limits of the Sample Area, the remainder of the proposed exploration area (identified on Figure 1.4 as the Study Area) was evaluated using available background information. No fieldwork was completed to confirm or update the biophysical data collected from sources listed in Section 3.1.1. Where possible, assumptions from data confirmed in the Sample Are was used to describe conditions in the remainder of the Study Area.

Vegetation communities presented on Figure 3.5 were derived using species composition and delineation data from the Newfoundland Forestry Habitat Mapping. Habitat characteristics such as dominant species, level of dryness, and historical harvesting were used to characterize these features. 2021 imagery, provided by NFG, was reviewed to confirm the accuracy of the delineations.

Wetland communities and watercourses were derived using the Government of Canada's CanVec Series topographic maps (Figure 3.2). Recent discussions between GEMTEC and the Government of Newfoundland's Water Resources Department concluded that it is the internal policy of the department to regulate these features even when no confirmatory field delineations have been completed. The boundaries, and presence of, the wetlands identified on the CanVec Series topographic maps have not been confirmed to date.

3.2 Results

3.2.1 Atmospheric Environment

3.2.1.1 Regional Climate

The climate is a blended maritime-humid continental, with pleasant summers, a cool, wet, spring and autumn, and snowy, often windy, winters. Summer temperatures are typically in the low to mid 20's°C but highs can exceed 30°C. Winter temperatures range from -15°C or occasionally colder to +5 or more during warmer winters however temperatures are variable averaging a high of 16°C and a low of 0°C. Snow usually occurs from December through April but can start earlier and extend later. Rainfall occurs through the spring, summer and fall mainly as showers to heavy rain, frequently with strong winds. Weather is dominated by ocean currents, prevailing westerlies and storms from the Maritimes and Canada from the west or south along the US eastern seaboard.

Table 4 shows that the estimated monthly precipitation at Gander, NL, located approximately 20 km from the Project site, ranges from 89.8 mm to 114.1 mm between May to October, and ranges from 113.0 mm to 94.8 mm during November to April. Monthly average snowfall ranges from 11.2 cm to 95.8 cm in the winter months (October to April). The average annual total precipitation is approximately 1272.2 mm (ECCC 2021).

The estimated annual average temperature at Gander is 3.5°C. The average monthly temperatures from November to April range from -8.5°C to 1.0°C, and the average monthly temperatures from May to October range from 5.5°C to 16.2°C.

Table 4: Estimated Climate Normals at Gander, 1981-2010

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Rainfall (mm)	26.7	26.4	29.5	51.0	77.9	85.7	95.4	104.2	114.7	102.3	75.2	48.9	837.8
Snow (cm)	95.8	84.3	85.9	42.2	10.7	2.0	0.0	0.0	0.0	11.2	37.3	82.4	451.9
Precipitation (mm)	111.9	104.6	112.6	94.8	89.8	88.3	95.4	104.2	114.8	114.1	113.0	126.7	1270.2
Temperature Mean (°C)	-7.1	-7.1	-3.9	1.6	7.0	11.6	16.3	16.2	11.9	6.3	1.4	-3.5	-7.1
Temperature Max (°C)	-3.1	-2.9	0.2	5.6	12.0	17.1	21.6	21.1	16.4	9.9	4.7	-0.1	8.6
Temperature Min (°C)	-11.0	-11.3	-8.0	-2.5	1.9	6.1	11.0	11.3	7.4	2.5	-1.9	-6.9	-0.1

3.2.1.1 Air Quality and Noise

There is minimal industrial activity in the Study Area. For short durations, the Project will generate criteria air contaminants (CACs) and greenhouse gas (GHG) emissions from mulcher vehicles, chainsaws, ATV/snowmobile use.

The proposed program will require exploration within the town limits of the Town of Appleton. Work here is expected to include approximately 20 km of line cutting, installation of geophone sensors, and the use of a thumper truck. The noise and air impacts will be limited to the immediate work area and will be conducted in consultation with the Town and relevant private landowners.

Noise levels are anticipated to be well within maximum allowable levels in nearby communities as a result of Project activities. Seismic surveys in the Town of Appleton will require the use of thumper trucks and vegetation removal equipment as noted above. There will be no use of pentolite charges within the limits of the Town of Appleton. The thumper trucks will provide limited noise due to the vibrations generated, to the immediate work area. Similarly, vegetation removal equipment (using mulchers and chainsaws) will produce limited sound and impacts to air quality in the immediate work area. The closest residential neighbourhood is in Appleton, with noise and vibration effects as a result of exploration activities substantially attenuated by rugged topography, dense vegetation, and limited sound output from the proposed program activities.

Figure 3.5: 2021 Study Area Vegetation Classification

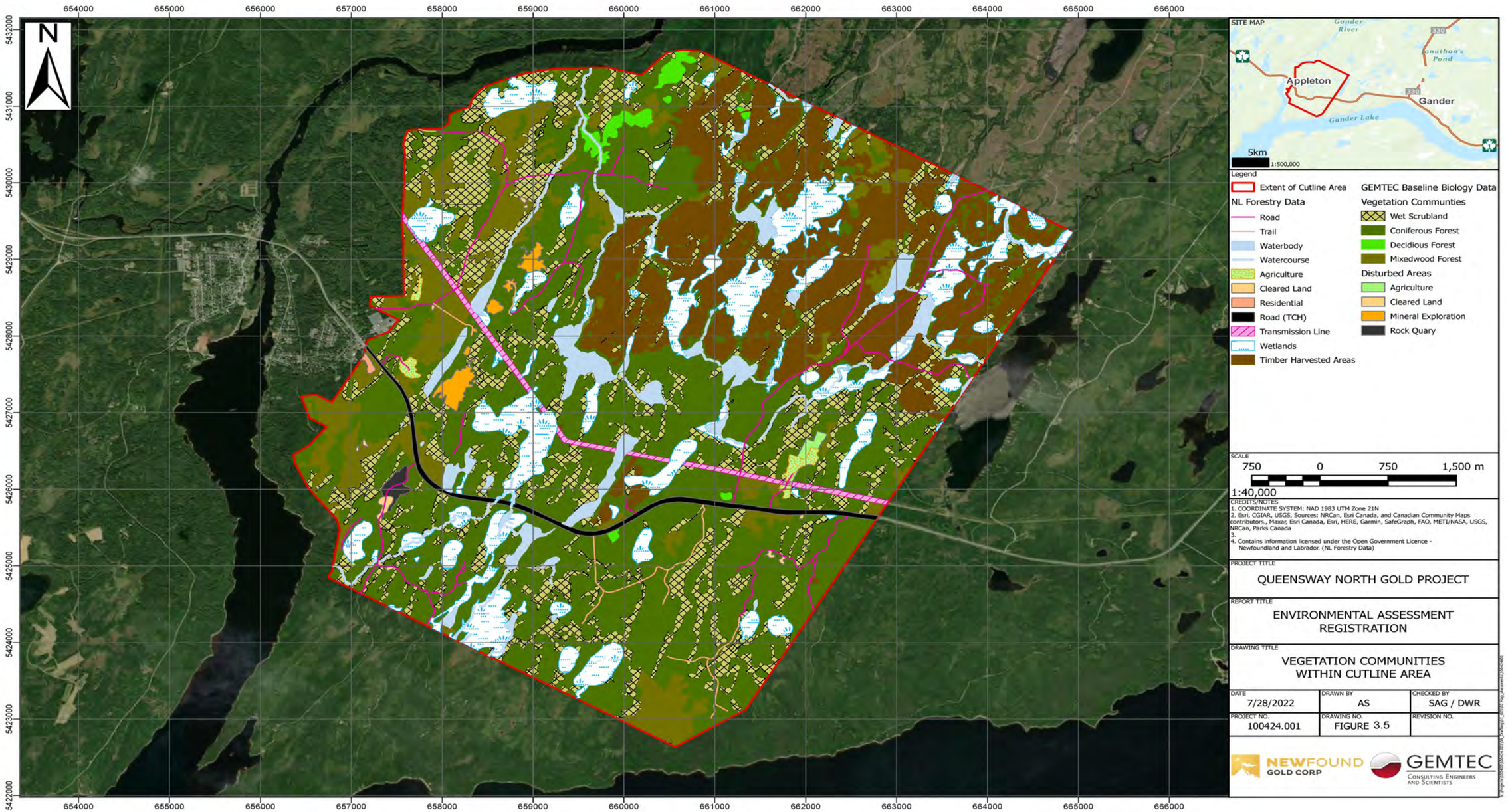
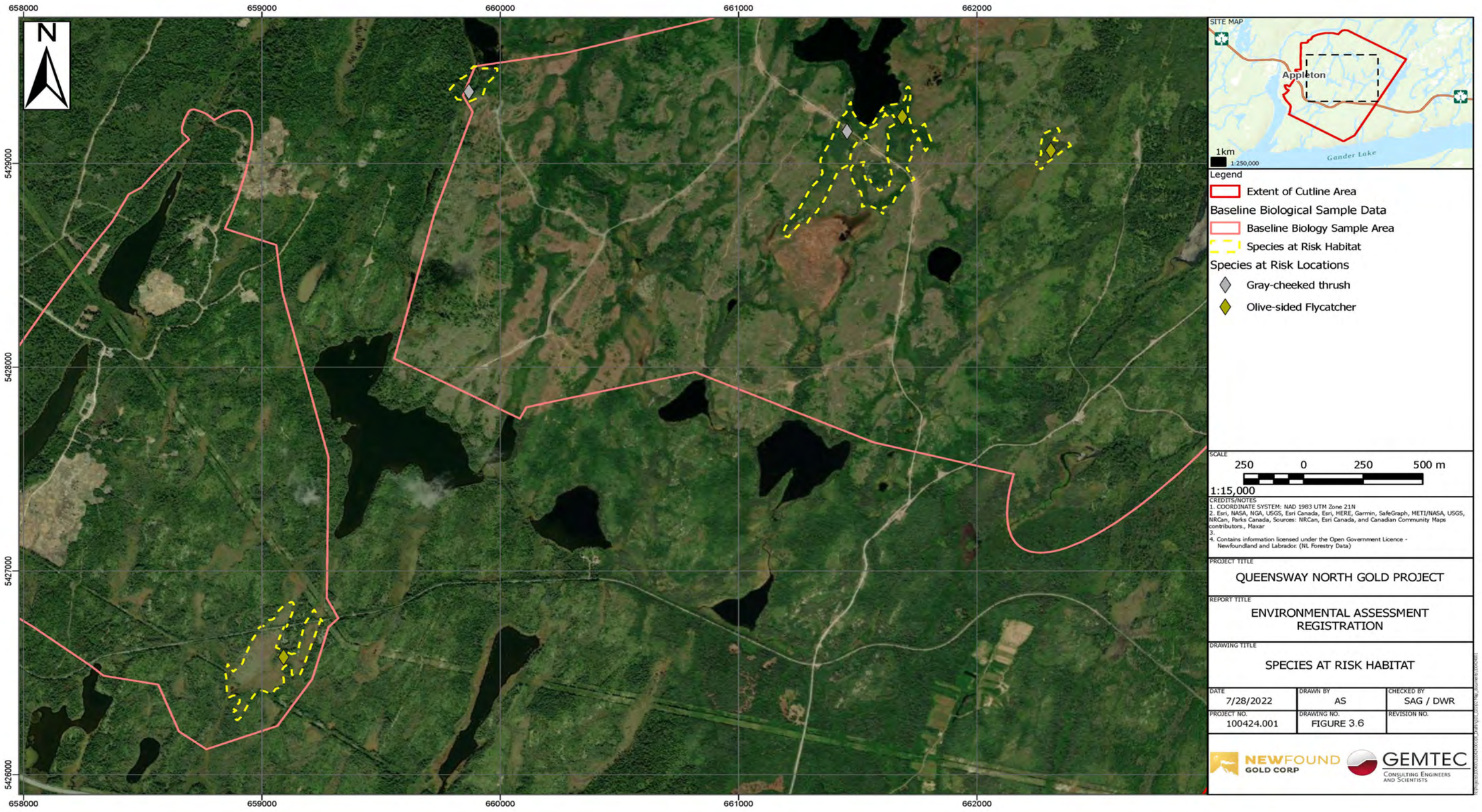


Figure 3.6: Species at Risk Locations and Habitat (Sample Area)



3.2.2 Terrestrial Environment

3.2.2.1 Vegetation, Wetlands and Soils

General

Data was obtained to delineate vegetation communities in the Study and Sample Areas. The Government of Newfoundland's Forestry data was used to delineate habitat units in the Study Area. Data collected in the Sample Area was used to characterize habitats and assume similar conditions through the remainder of the Study Area. A variety of ecotypes were identified based on the species composition data provided, including coniferous, deciduous, and mixed wood forests, scrubland, wetlands, open aquatic, and disturbed areas. A description of these features is provided below.

Rare Vegetation Data Assessment

An historical assessment of rare vegetation within 5 km of the Study Area was completed by ACCDC. Results of the ACCDC data search noted that within 5 km of the Queensway North Study Area, there were eight rare plant records, none of which are on the NL *Endangered Species Act* (ESA) or federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) lists (i.e., SAR) (Appendix E). None of these rare plants were observed in the Sample Area. Targeted surveys in the remaining Study Area have not been completed to date.

The ACCDC also provided Expert Opinion Maps that are the result of work with species-specific experts to gather suggestions about locations where SAR may be found. While there are no records or observations in the ACCDC database for these SAR within 5 km of the Queensway North Project, the Expert Opinion Maps provide an indication of the potential for them to occur within 5 km of the Study Area (Table 5)

Table 5: Potentially Occurring Vegetation SAR in proximity to Queensway North Project

Common Name	Scientific Name	Potential to occur
Boreal felt lichen	*Erioderma pedicellatum*	Possible but unlikely

ACCDC 2021 Data Request

NFG acquired aerial imagery for the Study Area in 2021 and GEMTEC biologists reviewed this data in addition to 2018 imagery to better understand and classify the land cover / habitat types in the Study Area. Fieldwork was completed within the Sample Area to confirm vegetation type and composition of the communities. This information was used to make assumptions on the habitat units throughout the remainder of the Study Area. The results of the classification illustrating the vegetation communities are provided on Figure 3.5 with the Exploration Areas land use percentages provided in Table 6.

Table 6: Land Cover Classes within the Study Area

Land Cover Class	Study Area	
	Area (km^2)	Percent (%)
Coniferous Forest	18.6	38.8
Hardwood Forest	0.44	0.92
Mixed Wood Forest	4.11	8.6
Wet Scrubland	7.05	14.7
Harvested Area	8.83	18.4
Disturbed Area	2.22	4.6
Wetlands	5.09	10.6
Open Water	1.61	3.3
Total	47.9	100.0

Note: Land cover classes are based on Forestry Data provided by the Government of Newfoundland's Wildlife and Forestry Division as well as the CanVec 1:50,000 scale topographic mapping and are consistent with 2021 and 2018 aerial imagery.

Forest Communities

Forest communities are presented based on the Government of Newfoundland's Forestry data and associated habitat units. Coniferous, Hardwood, and Mixed wood Forests are all identified in the Forestry Data. Communities were characterized based on the species composition data. The data indicates that the Study Area is dominated by Coniferous Forest representing 38.8% of the total Study Area.

The coniferous forests in the Sample Area were described based on dominant tree species. The coniferous forests in the Sample Area are dominated by black spruce and balsam fir. Vegetation is usually limited in the sub canopy and ground layer. These communities range from dry to wet and have a variety of associate species including Trembling Aspen, Red maple, Labrador Tea, Bunch berry, and moss species. Trees in these forests are not considered mature are generally part of regeneration growth from wood harvesting. Mature coniferous forests are found in the Study Area but are less frequent.

Mixed wood forests contain a mix of coniferous and hardwood species in varying degrees of composition. Approximately 4.1 km^2 of mixed wood forests are found throughout the Study Area. Typical species found in these units are black spruce, trembling aspen, balsam fir, tamarack, white birch, and red maple. They can be indicators of historical harvesting where deciduous trees dominate the canopy with a younger, regenerative coniferous layer below. However, these forests are also naturally occurring and offer quality habitat for fauna as they mature. The understory can contain a mix of dense shrubs, ferns, and herbaceous ground vegetation.

Hardwood forests are limited and represent approximately 0.44 km^2 in the Study Area. White birch, trembling aspen and other poplar species are found throughout well-drained slopes and can occur in stands or as part of mixed forest. These are quick colonizers of disturbed areas, particularly recently burned areas. Red pine is the rarest conifer on the Island which once had a much larger distribution Island wide. It occurs only in the Central Newfoundland Forest as it

requires fire for seed dispersal and is well adapted to the ecoregion. Red pine grows well in coarse and nutrient-poor soils that were formed by glacial outwash or as lake sediment. Trembling aspen occurs in stands in this ecoregion and is a quick colonizer of new areas, particularly recently burned areas (NL DECC 2008).

Wet Scrubland

Wet scrublands are identified as having a “wet” soil moisture regime from the Government of Newfoundland’s Forestry data. These areas are expected to have wetland hydrology indicators (e.g., surface water or saturated soils) although data has not been collected to classify these features as wetlands. Vegetation is dominated by woody shrub species with limited canopy cover. Shrubs in the wet scrubland win the Sample Area are dominated by speckled alder (*Alnus incana*) red osier dogwood (*Cornus sericea*). These areas often contain very dense shrub vegetation with limited ground layer vegetation. Stunted coniferous trees such as black spruce and tamarack, in addition to typical ericaceous shrubs, are also found throughout these habitat units and can be the dominant vegetation type in certain pockets. Wet Scrublands occur in 7.05 km^2 of the Study Area.

Wetlands

Various wetland types are present in the Study and Sample Areas. Since a comprehensive delineation and characterization has not been completed throughout the exploration area, wetlands are presented based on the topographic CanVec data. Delineations of the wetlands within the Sample Area have been updated based on data collected by a qualified biologist in addition to a review of aerial interpretation of 2021 imagery.

Bogs, fens, swamps, and marshes are expected to be found throughout the Study Area. Fens and bogs are common throughout the landscape which is consistent with the observations in the Sample Area. Wetlands identified in the field that were not present on the CanVec 1:50 000 topographic maps were not included in the wetland delineations on Figure 3.5 as advised by the Government of Newfoundland’s Water Resources Department. Wetlands account for approximately 5.09 km^2 (10.6%) of the total Study Area.

Disturbed Areas

Forestry operations and high forest fire frequency exert major influences on vegetation in the north-central subregion. Most of the soils in this subregion are "humo ferric podzols" (i.e., brown soils containing mostly inorganic material) that occur in relatively dry sites and can be found in coniferous and mixed (both deciduous and coniferous) forests.

In disturbed areas, (e.g., harvested and burnt areas), a dwarf-shrub heath usually dominated by sheep laurel and immature Black Spruce is common. Recent fire stands of black spruce, white spruce and trembling aspen occur in these areas.

Significant historical logging and tree cutting for exploration has occurred in the Study Area since 2004. As a result, a large portion of the Study Area is either in early succession (low shrub and young conifer dominant) or does not have vegetation present. These disturbed areas will not require cutting or will require limited vegetation removal to accommodate the proposed activities. These areas represent 18.2% of the Study Area and are identified on Figure 3.5 as "Harvested Areas". They represent areas harvested after 2004 according to the Government of Newfoundland's Forestry Data. Other Project areas contain varying degrees of second-generation forest growth such as that along the Appleton Fault Zone.

Areas where development or disturbance has occurred (not including forestry operations) are identified on Figure 3.5 as "Disturbed Areas". These areas include agriculture, roadways, residential development, mineral exploration, etc. and represent 2.22 km^2 in the Study Area.

3.2.2.2 Wildlife and Avifauna

General

Typical boreal forest animal species adapted to long, cold winters and short, warm summers inhabit the North-central subregion. Moose (*Alces alces*), snowshoe hare (*Lepus americanus*), muskrat (*Ondatra zibethicus*), otter (*Lutrinae sp.*), mink (*Neovison vison*), black bear (*Ursus americanus*), beaver (Castor sp.*)*, and Canada lynx (*Lynx canadensis*) occur throughout this subregion, and likely throughout the Study Area.

Some threatened species also inhabit the north-central subregion, including woodland caribou and Newfoundland marten. The ACCDC search did not identify any known populations of these threatened species.

No known populations of the threatened Newfoundland marten occur in the Study Area. There is a small population of marten in Terra Nova Park located further to the east that are a remnant of what was once a much larger and more widespread population.

Typical forest habitat birds occur in this Subregion including gray jay (*Perisoreus canadensis*), ruffed grouse (*Bonasa umbellus*), spruce grouse (*Falcipennis canadensis*), osprey (*Pandion haliaetus*), great horned owl (*Bubo virginianus*), northern flicker (*Colaptes auratus*), sharp-shinned hawk (*Accipiter striatus*), pine siskin (*Spinus pinus*), chickadees (boreal and black-capped) (*Paridae sp.*), fox sparrow (*Passerella iliaca*), and white-winged crossbill (*Poxia leucoptera*). Common waterfowl include green-winged teal (*Anas carolinensis*), ring-necked duck (*Aythya collaris*), American black duck (*Anas rubripes*), and Canada goose (*Branta canadensis*). A number of warbler species also occur throughout the region and include Wilson's (*Cardellina*

pusilla), black-throated green (*Setophaga virens*), black-and-white (*Mniotilta varia*), and yellow-rumped (*Setophaga coronate*). Swainson's thrush (*Catharus ustulatus*) and hermit thrush (*Catharus* guttatus) also occur in dense forests of this region as well as species usually associated with human environments such as the common crow, American robin, and herring gull (NL DECC 2008). Various raptors may occur in this Subregion and recommended mitigations provided by the NL DFFA - WD will be followed during the breeding season relative to these and other avifauna.

The green frog, an introduced species can be found in quiet ponds and marshes of the region but is not widespread. No reptiles occur in NL (NL DECC 2008).

Wildlife and Avifauna Sample Area Results

Incidental wildlife surveys were completed in the Sample Area in June 2021 at the same time as vegetation and avifauna surveys. Wildlife observed directly, or inferred from sign, are listed in Table 7.

Table 7: Wildlife and/or Wildlife Sign Encountered Within the Sample Area

Common Name	Scientific Name	S-Rank*	Evidence
Black bear	*Ursus americanus*	S4	Visual/Prints/Scat
Moose	*Alces alces*	SNA (Exotic)	Visual/Prints/Scat
Eastern coyote	*Canis latrans*	S5 (Exotic)	Prints/Scat
Canada lynx	*Lynx canadensis*	S3S4	Scat
Red squirrel	*Tamiasciurus hudsonicus*	SNA (Exotic)	Visual/Stripped cones
American beaver	*Castor canadensis*	S5	Freshly chewed
Snowshoe hare	*Lepus americanus*	SNA (Exotic)	Visual/Scat
American toad	*Bufo americanus*	S5	Visual/Audio
Green frog	*Rana clamitans*	SNA	Visual/Audio

*S-Ranks are provided for each species to provide a sense of rarity at the Sub-national (provincial) level.

Two SAR were identified in the Sample Area, the olive-sided fly catcher (threatened), and gray-cheeked thrush (threatened). Their locations and expected habitat are identified on Figure 3.6.

A total of 44 bird species were documented during the point count surveys and incidental bird surveys (Table 8). Most of these species are considered common throughout Newfoundland (i.e., S-Rank 3 or greater) and are not provided a SAR Designation. The most numerous species recorded overall, in descending order, are:

- White-throated sparrow (*Zonotrichia albicollis*);
- Black and white warbler (*Mniotilta varia*);

- Hermit thrush (*Catharus guttatus*);
- Dark-eyed junco *(Junco hyemalis); and*
- Yellow warbler (*Dendroica petechial).*

Although 42 of these species are considered common, two SAR were identified in the Sample Area, the olive sided fly catcher (Threatened), and gray-cheeked thrush (Threatened). Both species were confirmed by sight as well as by the breeding calls. Approximately 12 individual male and female olive-sided fly catchers were identified within the Sample Area. Of the 12 total observances, five were considered breeding pairs. The five breeding pairs were all identified in a black spruce bog. This specific bog is shown on Figure 3.6 and, similar to other identified wetlands, will not be subject to vegetation clearing as part of the proposed project. The remaining two individual occurrences were observed separately. Their locations and associated habitat are provided on Figure 3.6. Two grey-cheeked thrush were also confirmed in the Sample Area during the breeding bird surveys as well as an incidental observation.

An incidental observation of a suspected northern harrier (*Circus cyaneus*) was recorded during the field investigations. The northern harrier has been assigned a ranking of S3B. This individual was identified based on the similarities of plumage and size. However, this record is not considered a confirmed occurrence since the observers were not able to confirm the species. Biologists were not able to locate any raptor nests in the area.

Table 8: Breeding Bird Survey Results

Common Name	Scientific Name	Habitat Type	S-Rank	Highest breeding status†	No. Recorded
Alder flycatcher	*Empidonax alnorum*	Wetland	S4B,SUM	S	2
American crow	Corvus brachyrhynchos	Coniferous Forest	S5	S	1
American redstart	*Setophaga ruticilla*	Coniferous Forest	S5B,S5M	S	1
American robin	*Turdus migratorius*	Wet Scrubland, Coniferous Forest, Harvested, Wetland, Mixed Forest	S5B,S5M	S, X	14
Black and white warbler	*Mniotilta varia*	Wet Scrubland, Coniferous Forest, Mixed Forest, Harvested, Wetland	S5B,S5M	S, X	26
Black-capped chickadee	*Poecilea tricapilla*	Wet Scrubland, Coniferous Forest, Mixed Forest, Harvested, Wetland	S5	S, X	6
Black-throated green warbler	*Dendroica virens*	Wet Scrubland, Coniferous Forest, Harvested	S5B,S5M	S	4
Canada goose	*Branta canadensis*	Open Aquatic	S4	S	1
Common loon	*Gavia immer*	Wetland, Wet Scrubland, Coniferous Forest	S5B, S4N	P	5
Common raven	*Corvus corax*	Coniferous Forest, Wet Scrubland, Mixed Forest	S5	S	3
Common yellowthroat	*Geothlypis trichas*	Coniferous Forest, Mixed Forest, Wetland	S5B,S5M	S	8
Connecticut warbler	Oporornis agilis	Harvested, Wet Scrubland	SNA	S	2
Dark-eyed junco	*Junco hyemalis*	Coniferous Forest, Harvested, Wetland, Mixed Forest, Wet Scrubland	S5	S	22
Downy woodpecker	*Picoides pubescens*	Mixed Forest	S4	S	1
Fox sparrow	*Passerella iliaca*	Coniferous Forest, Wet Scrubland, Mixed Forest, Harvested	S5B,S5M	S, X	11

Common Name	Scientific Name	Habitat Type	S-Rank	Highest breeding status†	No. Recorded
Gray jay	*Perisoreus canadensis*	Coniferous Forest, Wetland	S5	X	3
Gray-cheeked thrush	*Catharus minimus*	Harvested	S2B,SUM	S	2
Greater yellowlegs	*Tringa melanoleuca*	Coniferous Forest, Wetland, Harvested, Mixed Forest	S3B, S4M	S, X	10
Hairy woodpecker	*Picoides villosus*	Wetland, Mixed Forest	S4	S	2
Hermit thrush	*Catharus guttatus*	Mixed Forest, Wetland, Harvested, Coniferous Forest, Wet Scrubland	S5B,S5M	S	22
Least flycatcher	*Empidonax minimus*	Coniferous Forest, Mixed Forest	S2S3?B,SUM	S	2
Magnolia warbler	*Dendroica magnolia*	Coniferous Forest, Harvested	S5B,S5M	S	3
Mourning warbler	*Oporornis philadelphia*	Mixed Forest	S4B,SUM	S	3
Northern flicker	*Colaptes auratus*	Coniferous Forest	S4	S	1
Olive-sided flycatcher	*Contopus cooperi*	Wetland	S3B,SUM	S	12
Ovenbird	*Seiurus aurocapilla*	Wet Scrubland, Harvested	S3B,SUM	S, X	2
Palm warbler	*Dendroica palmarum*	Coniferous Forest, Wet Scrubland	S5B,S5M	S	2
Pine warbler	*Setophaga pinus*	Coniferous Forest	SNA	S	3
Red-breasted nuthatch	*Sitta canadensis*	Coniferous Forest, Wetland, Mixed Forest, Wet Scrubland, Harvested	S5	S	10
Ruby-crowned kinglet	*Regulus calendula*	Coniferous Forest, Harvested, Wetland, Wet Scrubland	S5B,S5M	S	7
Song sparrow	*Melospiza melodia*	Wetland	S4B,SUM	S	2
Warbling Vireo	*Vireo gilvus*	Coniferous Forest	SNA	S	1
White-throated sparrow	*Zonotrichia albicollis*	Coniferous Forest, Mixed Forest, Wet Scrubland, Wetland Harvested	S5B,S5M	S, P, X	44
Wilson's warbler	*Wilsonia pusilla*	Coniferous Forest, Harvested, Wetland	S5B,S5M	S, H, X	5
Yellow warbler	*Dendroica petechia*	Coniferous Forest, Mixed Forest, Harvested, Wet Scrubland	S5B,S5M	S	19

Common Name	Scientific Name	Habitat Type	S-Rank	Highest breeding status†	No. Recorded
Yellow-bellied flycatcher	*Empidonax flaviventris*	Wet Scrubland	S5B,S5M	S	2
Yellow-rumped warbler	*Dendroica coronata*	Coniferous Forest, Mixed Forest, Harvested	S5B,S5M	S	3
Total					**267**

† Breeding Status Codes: H = Species observed in breeding season in suitable nesting Habitat, P = Pair observed in suitable nesting habitat in breeding season, S = Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat, X = Species Observed in its breeding season (no breeding evidence)

The highest species richness was recorded in Coniferous Forest (n=26), Wetland(n=19), Harvested / Disturbed (n=18), Mixedwood Forest (n=17), Wet Scrubland (n=16) and Open Aquatic (n=1) (Figure 3.5). Breeding behaviors were observed during the surveys; however, no nests were identified.

The observed abundance of these species would be expected given the development stage and species composition of the habitats in the Study area as these species are characteristic of the forest and wetland habitats found there.

The ACCDC data request returned records of rare avifauna observations in the Study Area for nine species listed as Special Concern, Threatened, Endangered, or Vulnerable by COSEWIC or the NL ESA. (Table 9).

Table 9: ACCDC Observations of SAR within 5 km of Queensway North Study Area

Common Name	Scientific Name	COSEWIC	NL ESA
Rusty blackbird	*Euphagus carolinus*	Special Concern	Vulnerable
Bank swallow	*Riparia riparia*	Threatened	-
Red crossbill	*Loxia curvirostra*	Endangered	Endangered
Harlequin duck	*Histrionicus histrionicus*	Special Concern	Vulnerable
Peregrine Falcon	*Falco peregrinus anatum*	Special Concern	Vulnerable
Olive-sided Flycatcher	*Contopus cooperi*	Special Concern	Threatened
Newfoundland Gray Cheeked Thrush	*Catharus minimus minimus*	-	Threatened
Bank Swallow	*Riparia riparia*	Threatened	-

ACCDC 2021 Data Request

The ACCDC data search also noted the potential for two SAR within five km of the Study Area, Newfoundland marten and short-eared owl (Table 10).

Table 10: ACCDC Potentially Occurring SAR within 5 km of Queensway North Project

Common Name	Scientific Name	Potential to occur
Newfoundland marten	*Martes americana atrata*	Possible but unlikely
Short-eared owl	*Asio flammeus*	Possible but unlikely

ACCDC 2021 Data Request

3.2.3 Freshwater Environment

3.2.3.1 Fish and Fish Habitat Baseline

The lakes and rivers of the region support a variety of fish, including Atlantic salmon and brook trout. The Gander River and associated tributaries is considered a well-known Atlantic salmon fishery and offer habitat at various life stages for Atlantic salmon and other species. Other fish include Arctic char, three-spine and nine-spine sticklebacks, rainbow smelt and American eel (NL DECC 2008). The ACCDC search (Figure 3.7) indicated that while no definitive records of the banded killifish exist for the Study Area, there is a potential for it to occur within five km of the Study Area (Table 11). No banded killifish were observed during the aquatic investigations.

An electrofishing program was completed in the Sample Area in 2021 to identify the presence or absence of fish species. Select water quality parameters were collected using a YSI meter in addition to general fish habitat characteristics to identify suitable fish habitat. Results of the 2021 electrofishing program in the Sample Area are presented in Appendix F.

Data from the field investigations indicate that fish populations are confirmed to be utilizing the Sample Area watercourses and can be expected in the larger Study Area. A total of four species were identified in 12 of the total 22 sample locations including brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), three spined stickleback (*Gasterosteus aculeatus*), and Atlantic salmon (*Salmo salar*). All of these species are considered common throughout the province with S Ranks of 4 or greater. Atlantic salmon is listed as Threatened by COSEWIC and is protected under the SARA.

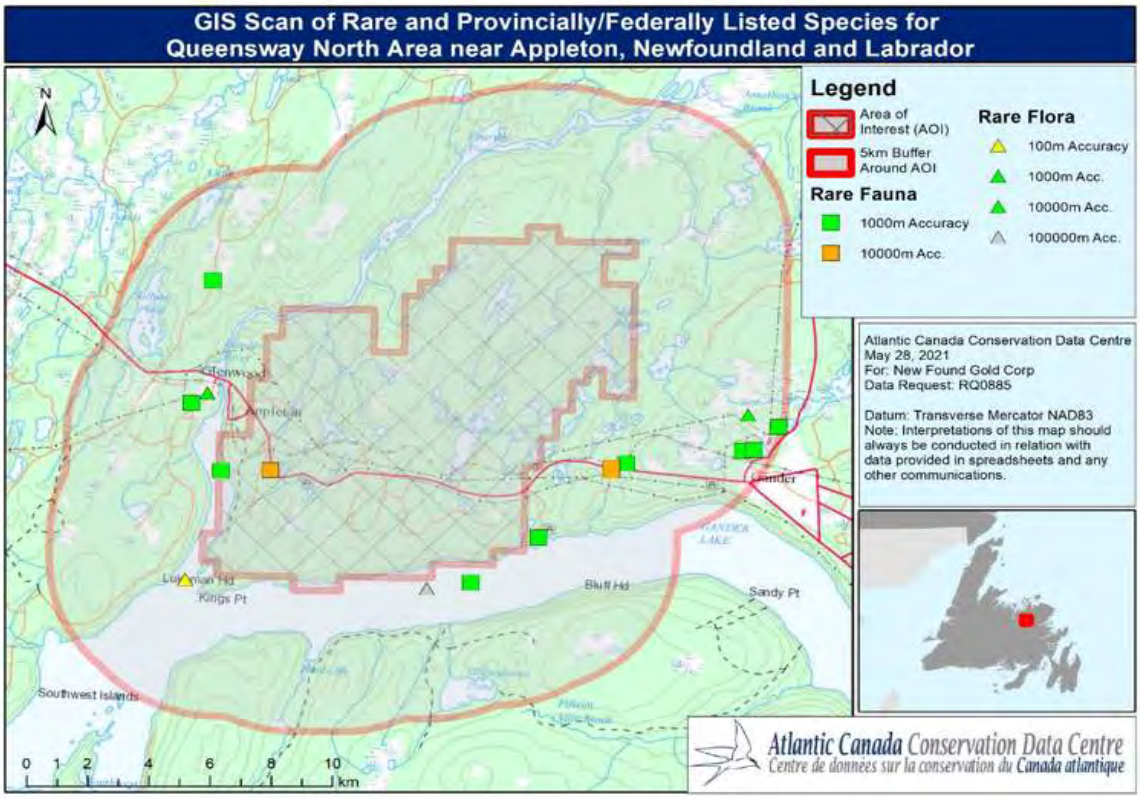
Waterbodies occurring in the planned Project activities will have all recommended buffers around them preserved. After discussions with officials from the Gander Lake Watershed Management Committee, NFG has committed to maintain a 300 m buffer around Gander Lake and a 100 m buffer along the Gander River and its tributaries. A 30 m natural buffer will be maintained around all other waterbodies in the Study Area to protect sensitive riparian and aquatic species, and their habitat. No work will be completed within these buffers.

Table 11: Potentially Occurring Aquatic SAR within 5 km of Queensway North Project

Common Name	Scientific Name	Potential to occur
Banded killifish	*Fundulus diaphanus*	Possible

ACCDC 2021 Data Request

Figure 3.7: Results of ACCDC Search for Rare and Provincially and Federally Listed Species



3.2.3.2 2021-2022 Water Quality and Sediment Sampling

NFG has completed preliminary water and sediment quality sampling at a total of 24 locations since March 2021 covering all significant drainage catchment areas of Gander Lake and Gander River in the Study Area. The geographic coordinates of the water quality sampling stations are provided in Table 1, in Appendix G with locations shown in Figure 3.8. Sample sites SW/SED-19 and SW/SED-20 are background sample locations, while the remainder of the locations are in the area of or downstream of NFG's exploration activities. To date a total of six quarterly sampling events have been completed including in March 2021, May 2021, August 2021, December 2021, March 2022, and June 2022, which provide sufficient information for the purposes of this Project.

At the time of sample collection for each event, in situ water quality measurements of temperature, pH, dissolved oxygen (DO), electrical conductivity, and oxidation-reduction potential (ORP) were taken with a YSI Model 556 MPS multi-parameter meter at each sample location with results provided in Table 2, Appendix G. The surface water and sediment samples were collected according to approved methods for grab sampling and were submitted to AGAT Laboratories in St. John's, NL for laboratory analysis following appropriate Quality Assurance/Quality Control (QA/QC) protocols. Surface water samples were analysed for general chemistry, total suspended solids, total metals and petroleum hydrocarbons; while sediment samples were analysed for

available metals and petroleum hydrocarbons. Analytical data tables 2 – 7 presenting the results of the 2021 and 2022 investigations are presented in Appendix G.

Analytical results for surface water and sediment samples were compared to the Atlantic RBCA (Risk-Based Corrective Action) Environmental Quality Standards (Atlantic Partnership in RBCA Implementation (PIRI), 2022).

Results of Surface Water and Sediment Sampling Program

Data were inspected to identify trends between sampling events, spurious or suspect data, and the overall quality of surface water and sediment at the site. No statistical data analysis was done.

Exceedances above guidelines were grouped into two categories:

- Strong: exceedance 10 times or more greater than guideline, or pH 0.5 units or more outside of acceptable range.
- Mild: exceedance less than above.

These two categories were used to identify parameters with the strongest exceedance, and in assessing their distribution in the spatial analysis. Please note for analysis of beryllium, cadmium, cobalt, lead, mercury, and selenium in surface water in some samples for some sampling events, the reportable detection limit was higher than the referenced guideline, preventing environmental evaluation of these metals.

Surface Water Quality

Field Parameters

Table 2 presents field parameters temperature (ºC), pH (unitless), dissolved oxygen (DO; % saturated), electrical conductivity (EC; uS/cm), and Oxidation-Reduction Potential (ORP; mV). Key observations are presented below:

- Temperature: ranged from -0.1 to 26.8ºC for the six events. A -0.1ºC value would be freezing conditions (ice), so this is attributed to imprecision of the field instrument.
- pH: ranged from 5.05 to 8.06 range (slightly basic to moderately acidic), and in general agreement (typically within ½ pH unit) of lab-based measurements.
- DO: ranged typically from 75 to near 100% saturation, indicating healthy oxygenated surface water. Systematic lower readings for the May 2021 event (24-46%) are anomalous and attributed to calibration error (disregarded).

- EC: ranged typically from 20 – 100 uS/cm, indicating dilute water. EC values were typically higher in summer, attributed to higher-EC groundwater discharging as baseflow to streams during summer recession conditions.
- ORP: ranged mostly from +100 to +200 mV, indicating an oxidizing healthy water environment and consistent with the near-saturation DO values. The one negative ORP reading (Site 7, Aug 2021, -55.7 mV) is anomalous and attributed to calibration error (disregarded).

General Surface Water Characterization

By inspection, surface water in the study area can be characterized as follows:

- Sodium-calcium-bicarbonate type water.
- Slightly basic to moderately acidic (pH generally from 5 to 8).
- Dilute and soft water (low EC and low hardness, typically <15 mg/L).
- Undersaturated with respect to $CaCO_3$ (Langlier Index -3 to -4), so slightly corrosive water.

Guideline Exceedances in Surface Water Quality

Strong exceedances were detected in water samples for the following parameters and locations for at least one of the sampling events (please note asterisk (*) denotes background sample locations - Sites 19 and 20):

- Aluminum (Al) – all stations.
- Mercury (Hg) (only for May 2021 event) – Sites 1-11, 14-17, 19*, 20*, and 21
- pH – Sites 7, 11, 12, 16 and 19*.
- Iron (Fe) only once – Site 5 (Aug 2021).

Mild exceedances were detected in water samples for the following parameters and locations for at least one of the sampling events:

- pH – Sites 1, 2, 3, 4, 5, 9, 10, 12, 15 and 17.
- Cobalt (Co) only once – Site 1 (Dec 2021).
- Selenium (Se) – Sites 3, 5, 7, 9, 10, 11, 16, 17, 19* and 20*.
- Silver (Ag) only once – Site 1 (Dec 2021).
- Iron (Fe) – Sites 2, 4, 5, 6, 7, 9, 10, 14, 15, 16, 17, 18, 19*, 20*, and 21.
- Copper (Cu) – Sites 4, 9, 11 and 14.
- Nitrite (NO_2) – Sites 5 and 9.
- Manganese (Mn) – Sites 5, 7, 9, 12, 19*.
- Nickel (Ni) – Sites 11 and 15.
- Cadmium (Cd) only once – Site 19 (May 2021.)

- Zinc (Zn) – Sites 5 and 12.
- Modified Total Petroleum Hydrocarbons (TPH) – Sites 2, 4, 5, 6, 9, 10, 11, 15, 16, 17 (all weathered fuel oil or lube range fraction; all only during Mar 2021 event).

The total number of metals exceeding guidelines in surface waters was 11; total inorganic parameters was two (pH, NO_2); and TPH parameters was one (modified TPH).

The principal metals exceeding guidelines in surface waters in the study area are Al, Hg, Se and Fe. The fact that Hg exceeded guidelines only for the May 2021 event suggests that this is not a persistent and valid result. These results may be due to inadvertent contamination during sampling or handling, or during laboratory testing. Similarly, the detection of modified TPH during the March 2021 event might suggest that these results are due to inadvertent contamination during sampling, handling or lab analysis. However, as presented below, TPH was detected in multiple sediment sampling events, which argues against a contamination source for one single event. The source of TPH in the March 2021 surface water samples is not known; however, despite a reported weathered fuel oil or lube oil resemblance, it is possible that the hydrocarbon content is biogenic in nature and not derived from a petroleum hydrocarbons; similar to that identified in the sediment samples.

Background sites 19 and 20 also showed a wide variety of exceedances for the surface water analyses, as follows:

- Site 19: Strong exceedances for pH, Al and Hg; mild exceedances for Al, TPH, Cd, Fe, Mn and Se.
- Site 20: Strong exceedances for Al and Hg; mild exceedances for Al, TPH, Fe and Se.

Spatial Analysis of Exceedances in Surface Water

Individual plots (not shown here) were made to explore possible spatial clustering of exceedances in surface water analyses for pH, Cu, Se and Modified TPH. Widely detected parameters (Al, Hg and Fe) were not plotted since they appeared in nearly all stations throughout the sampled area.

Inspection showed that most parameters had a widespread and dispersed distribution with no marked clusters in any particular area, and no distinct differences in water quality between site sample locations and background sample locations.

Sediment Quality

Guideline Exceedances in Sediment Quality

Strong exceedances were detected in sediment samples for the following parameters and locations for at least one of the sampling events:

- Arsenic (As) – Sites 4 and 5.
- Mn – Sites 8, 11, 12, 13, 15 and 17.

Mild exceedances were detected in sediment samples for the following parameters and locations for at least one of the sampling events:

- As – all sites (except 13 and 22); including 19* and 20*.
- Mn – all sites (except 6, 18 and 22); including 19* and 20*.
- Fe – Sites 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 16, 17, 19*, 20* and 21.
- Ni – Sites 3,5,8,9,10, 11, 12, 14, 15, 16, 20* and 21.
- Chromium (Cr) – Sites 5, 14 and 20*.
- Zn only once – Site 5 (Mar 2021).
- Modified TPH.
    - Aug 2021 – Sites 5, 6, 7 and 20*.
    - Dec 2021 – Site 5.
    - March 2022 – Site 15.
    - June 2022 – Site 19*.

The total number of metals exceeding guidelines in sediments was six; total petroleum hydrocarbon parameters was one (modified TPH).

The principal metals exceeding guidelines in sediments in the study area are As, Mn, Fe, and Ni. Modified TPH was detected in a total of 12 sediment samples and was generally reported as resembling a non-petrogenic unidentified compound possibly derived from a biogenic (organic matter) source.

Background Sites 19 and 20 also showed a wide variety of exceedances for the sediment analyses, as follows:

- Site 19: no strong exceedances; mild exceedances for Fe, Mn, As and TPH.
- Site 20: no strong exceedances; mild exceedances for Mn, Ni, As, Cr, Fe and TPH.

Spatial Analysis of Exceedances in Sediment

Individual plots (not shown here) were made for exploring possible spatial clustering of exceedances in sediment analyses for As, Mn, Ni, Cr and Modified TPH.

Inspection showed that most parameters (as with surface water) had widespread distribution with no marked clusters in any particular area, and no distinct differences in sediment quality between site sample locations and background sample locations.

Figure 3.8: Water and Sediment Sampling Locations

3.3 Socioeconomic Environment

3.3.1 Heritage and Historic Resources

The Project is not expected to result in adverse environmental effects to historic and/or heritage resources. NFG officials engaged with the Provincial Archaeology Office (PAO) and have committed to incorporating measures in their EPP in the event of an historic or heritage discovery. If there are discoveries of historic resources such as archaeological sites, objects or significant fossils found in the area, activity will cease and NFG will contact the PAO. The maintenance of a 100 m undisturbed buffer along the shorelines of Gander River and outflow, and a 300 m undisturbed buffer along the shoreline of Gander Lake are mitigations proposed by the PAO and will be respected by NFG.

3.3.2 Land and Resource Use

The Project will occur in a rural area and no land use conflicts are anticipated. NFG is in regular communication with the Town of Gander, the Town of Appleton, Gander and Area Watershed Committee, the Gander and Area Regional Chamber of Commerce, and the Glenwood Qualipu. Although no mineral licenses overlap the Town of Glenwood, NFG has also been in communication with officials from Glenwood.

NFG is aware that a section of the Project partially overlaps an Agriculture Area of Interest (Figure 3.9). NFG does not anticipate that Project activities will interfere with the agricultural properties and any future production in this area. A decommissioned provincial day use park (Glenwood Park) occurs in the proposed Project on the south side of the TCH approximately 3.3 km east of Appleton. The approximate area of the former park is 92 hectares and although a request for proposals (RFP) was issued in 2018 to see development in this former park, NFG is not aware of any development to date. Buffers associated with the decommissioned park will require further consultation. Any necessary permits or approval will be obtained prior to project commencement.

A number of quarry permits have been issued within the Project footprint and these are indicated on Figure 3.9. Although issued, not all quarries are currently active and Project activities are not anticipated to interfere with ongoing or future quarry activity.

Crown reserves are land set aside on behalf of the community for a wide range of public purposes including environmental and heritage protection, agricultural area of interest, recreation and sport, open space, community halls, special events and government services. There are two crown reserves located within the Study Area including an agricultural and land use reserve. These areas are highlighted on Figure 3.9. Any necessary permits or approvals for work completed within the crown reserves will be acquired prior to project commencement.

Although not anticipated, if any private property boundaries are encountered during Project activities, NFG will obtain consent from property owners prior to completing work.

The NL T'Railway Provincial Park crosses the Study Area (Figure 3.9). NFG will maintain an undisturbed buffer of 15 m on either side of the T'Railway. This buffer has been negotiated with the Government of Newfoundland from 50 m to 15 m. Where crossings are required in the buffer for access, all necessary permits or approvals will be obtained prior to any exploration.

NFG will engage with outfitters operating in the Study Area as required to engage in consultation, clearly communicate Project details and to mitigate the potential for conflict.

Recreational activities such as berry picking, firewood cutting, hunting, fishing and hiking take place in the Study Area given the abundance of old access trails and roads.

Commercial forestry operations including timber harvesting and silviculture activities occur in the area, with a portion of the Study Area occurring on land managed by Corner Brook Pulp and Paper (CBPP). NFG continues to engage with CBPP to arrange appropriate compensation for Project activities occurring on land it manages.

No Project activity will occur in either the Indian Arm Brook or Rodney Arm areas as these areas are located well south of the Study Area near other mineral license held by NFG that are not the subject of this Registration document.

The Gander River Management Area, a 1 km wide buffer along the Gander River, lies within the Study Area. This feature is identified through the Land Use Atlas provided by Municipal Affairs Department. Line cutting is currently proposed in this area and permits required will be obtained prior to commencement of any exploration.

3.3.3 Human Health and Wellbeing

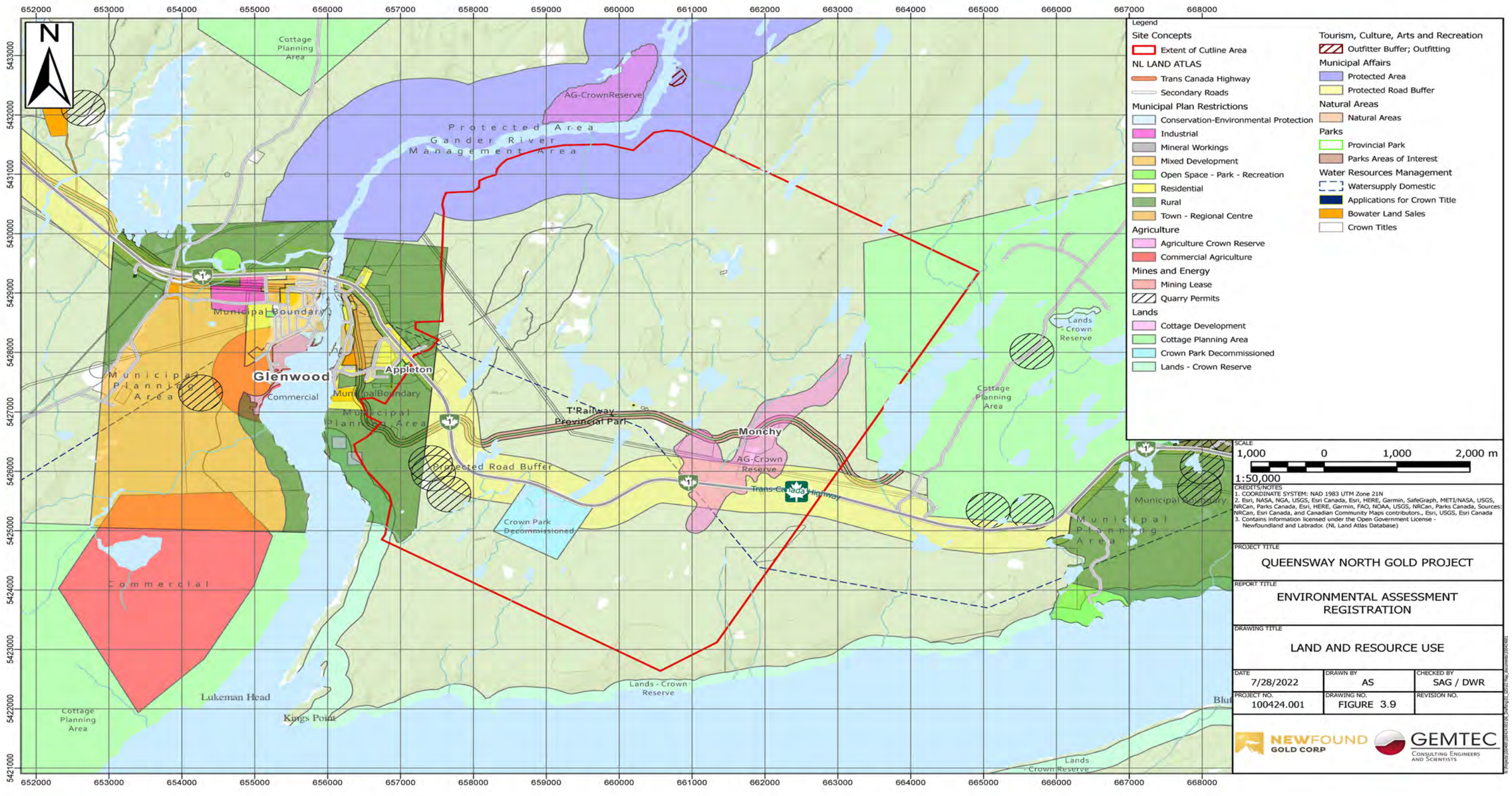
NFG does not anticipate that the Project will have adverse impacts on human health or wellbeing. Exploration will be guided by established practices and applicable sections of the Occupational Health and Safety Regulations (OHS). A range of community health services are available in the nearby communities of Appleton and Gander. NFG will support requirements relative to ensuring the health of company personnel and contractors working on the Project are maintained.

Given the anticipated increase in prosperity in the region, due to increased full time employment, NFG predicts an increase in positive effects on human health and wellbeing as a result of Project operations.

3.3.4 Communities and Economy

The Project will generate economic opportunities in local communities through direct employment and other procurement opportunities. The Project is not of a magnitude that will adversely affect services and infrastructure of nearby communities.

Figure 3.9: Land and Resource Use in the Study Area



4.0 CONSULTATION

Consultation is a legislated component of the NL EA process whereby this Registration document will be available for public and regulatory review. NFG and their representatives have been engaged in consultation with the Glenwood Qualipu, the Town of Appleton as well as other regulatory agencies regarding the proposed project. NFG will be available throughout the EA review period to address questions and engage in any specific consultation practices that may arise.

5.0 ENVIRONMENTAL EFFECTS AND ANALYSIS

5.1 Natural Environment

The anticipated impacts on the natural features discussed herein resulting from the proposed activities and associated recommended mitigation measures are presented in Table 12. The table presents impacts and mitigation measures based on the Direct and Indirect effects.

Table 12: Natural Environment Impact and Mitigation

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
Direct Effects			
Nests of Migratory Birds	Vegetation clearing is proposed to occur throughout the winter. However, if clearing of trees, shrubs and ground vegetation is required beyond the proposed timeframe, it has the potential to disturb or destroy nests of migratory birds.	• Any vegetation clearing will take place outside of the breeding bird timing window; generally, from April 1st to August 31st. • If clearing must occur within this window a qualified Biologist will first search the affected area. Any active nests will be flagged and all clearing within the associated habitat will be avoided until the Biologist confirms that the birds have fledged, and the nest is no longer active. • Work within 120m of bird habitats exhibiting active nesting behavior will not occur in the early morning hours (between dawn and 1.5 hours after dawn) during the breeding season (May 15 to July 30). • Emergency work may occur in the vicinity of bird habitats if conditions are not suitable for bird breeding (i.e., if temperatures are below 10°C, if there is rain or fog or if winds are greater than 3 on the Beaufort Scale). The Environmental Inspector will track weather conditions and determine if suitable bird breeding conditions are or are not present. • If a nesting migratory bird (or SAR protected under ESA, 2004) is identified within or adjacent to the Study Area, all activities will stop and the Contractor (with assistance from a qualified Biologist) shall discuss mitigation measures with the proponent. In addition, the proponent will contact the Department of Fisheries, Forestry and Agriculture to discuss applicable mitigation options. The Contractor will proceed based on the mitigation measures established through discussions with the DFFA. • If the nest of a raptor, or other birds are encountered during exploration activities, work in the area will be halted until the Field Supervisor has contacted the DFFA - WD and appropriate mitigation is applied. • NFG will not conduct clearing within 800 m of an identified bald eagle or osprey nest during the nesting season (March 15 to July 31) and within 200 m during the remainder of the year. If tree removal has to be done during breeding season a clearance survey will be conducted by a certified biologist. Clearance surveys are done to identify and avoid nest locations in areas that may be impacted by Project activities. If occupied nests are located, they will be buffered and avoided until the end of the breeding season. NFG understands the 200 m buffer applies to other raptor nests as well, e.g., northern goshawk, sharp-shinned hawk, merlin, American kestrel, great-horned owl, boreal owl, northern saw-whet owl). If raptor nests are identified, they will be reported to the NL DFFA WD.	If required during the breeding bird window, a qualified biologist will conduct regular monitoring, to be defined prior to pre-construction land clearing, to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Vegetation	No additional habitat loss is required for 11.5 km² of already harvested / disturbed areas. However, removal of vegetation in other habitat types is proposed to accommodate exploration. Areas of clearing are provided below: 162 km of Line cutting to occur within Forested Habitat 47 km of Line cutting to occur within Wet Scrubland 0 km of Line cutting to occur within Wetland identified on 1:50,000 Topographic CANVEC mapping	• Follow EPP. • No vegetation clearing is proposed within wetlands. The remainder of vegetation is proposed to occur throughout the winter, soil disturbance is not proposed, and regeneration of vegetation is expected to begin in the spring. • All work zones (i.e., 1.5 – 3 m proposed cutline width) should be clearly marked at the work site to indicate that no work should occur outside the work zone. • A 30 m vegetation protection zone will be mapped and flagged by a qualified wetland delineator around all regulated wetlands and watercourses prior to any clearing activities to ensure no disturbance within these areas. • A qualified wetland delineator or biologist is required to be present during the vegetation removal portion of the exploration process to ensure that protection measures are implemented, maintained, and enforced. • No vegetation clearing, stockpiles, storage or disturbance to grade will occur within the vegetation protection zones to minimize soil compaction and root damage. • Vegetation surveys suggest that there are limited mature forests and woodlands within the Sample Area as a result of the historical site use. Regeneration of these areas are expected to occur naturally. Undisturbed habitats, including forests and woodlands, are expected to regenerate faster than typical forestry operations due to the existing seedbank as well as the proposed low-impact mulcher which will reduce exposed soils and provide a microhabitat for natural seed establishment. • Vegetation removal as part of the cutline construction will be completed using a low-impact motorized mulcher and/or chainsaw. The mulch will remain at the location of disturbance to promote vegetation regrowth and reduce soil compaction. • The motorized mulcher will meander through forested areas avoiding large timber as needed to preserve large, seed producing trees which will improve the time needed for natural regeneration.	An Environmental Inspector will conduct regular monitoring, to be defined prior to construction land clearing, to confirm that activities do not disturb the vegetation protection zones.

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
Wetlands	Removal of vegetation adjacent to Regulated Wetlands. Increased influx of surface water and sediment runoff resulting from vegetation clearing. No grading or importation of substrate are expected. Removal of 0 ha of Wetlands identified on CANVEC topographic Mapping	• Follow EPP. • There are 0 ha of vegetation clearing within wetlands identified through review of the 1:50 000 scale CANVEC topographic mapping. Exploration activities are proposed to occur throughout the winter, soil disturbance is not proposed, and regeneration of vegetation is expected in the spring, further reducing any impacts to wetlands. • All work zones (i.e., 1.5 – 3 m proposed cutline width) should be clearly marked at the work site to indicate that no work should occur outside the work zone. • A 30 m vegetation protection zone will be mapped and flagged by a qualified wetland assessor around all regulated wetlands and watercourses to ensure no disturbance within these areas are proposed. • A qualified wetland delineator is required during the vegetation removal portion of the exploration process to ensure that protection measures are implemented, maintained and enforced. • No vegetation clearing, stockpiles, storage or disturbance to grade will occur within the vegetation protection zones to minimize soil compaction and root damage. • Vegetation surveys within the Sample Area suggest that there are limited mature forests and woodlands as a result of the historical site use. As such, majority of the cutting is proposed within regeneration areas where trees and ericaceous shrubs dominate. Regeneration of these areas are expected to occur naturally. • No motorized vehicles will be operated within 30 m of any Regulated Wetlands. • If any work (i.e., Vegetation clearing, machine operation, etc.) are required within any Regulated Wetlands or the associated 30 m vegetation protection zone, permits will be obtained prior to the commencement of work.	Erosion and sediment control measures will be regularly inspected to ensure they are functioning and are maintained as required. If erosion and sediment control measures are not functioning properly, alternative measures will be implemented and prioritized above other demolition activities.
Wildlife	Construction activities resulting in impacts to wildlife including; • inadvertent injury and mortality to wildlife, • nest disturbance, • disruption during important life stages such as breeding or mating.	• Follow EPP. • There will be a no hunting, trapping or fishing policy for personnel at Project sites. • Site and working areas will be kept clean of food scraps and garbage. • Waste will be collected for disposal in appropriate containers and routinely transferred to an approved location or facility. • No personnel will chase, catch, divert, follow or otherwise harass wildlife by vehicle or on foot at the exploration sites. • Equipment and vehicles will yield the right-of-way to wildlife. • All personnel will be made aware of the potential for encounters with wildlife. • Speed limit signage will be posted along construction travel routes to ensure that construction vehicles respect appropriate speeds. • If wildlife inadvertently moves into a construction area, attempts by the Environmental Inspector will be made to move the species outside of the work area. A qualified biologist should be contacted for recommended procedures. • If any species at risk are encountered that are not identified on relevant permits, all work will cease within the immediate work area and the DFFA-WD will be contacted.	
Species at Risk	Construction activities resulting in impacts to Species at Risk including • Vegetation clearing adjacent to protected bog habitat for grey cheeked thrush and olive-sided fly catcher • Nest disturbance, disruption during important life stages such as breeding or mating • Noise disturbance associated with exploration activities during the breeding season.	• No vegetation removal will be completed within or adjacent to the olive sided fly catcher or grey cheeked thrush identified habitat. The individuals identified were found to inhabit coniferous bog habitat with adjacent coniferous woodland habitat or densely vegetated regeneration areas. There is significant habitat present throughout the Study Area. • No vegetation clearing is proposed within any wetland habitats or their respective vegetated buffers which these species are known to use as their primary habitat. • All vegetation removal should be completed prior to the breeding bird season (April 1st to September 31st). • If any SAR are identified during the proposed program, the NL DFFA-WD should be contacted for further direction.	

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
All Adjacent Natural Features	Sediment and erosion impacts associated with soil disturbance and clearing.	• Follow EPP. • All work zones should be clearly marked on detailed design drawings and at the work site to indicate that no work should occur outside the work zone. • Implementation of the erosion and sediment control measures will conform to industry best management practices and recognized standard specifications. • Sediment and erosion control measures will be implemented prior to construction and maintained during the construction phase in accordance with the erosion and sediment control plan developed during detailed design. • All sediment and erosion control measures will be inspected prior to construction and maintained during the construction phase to prevent entry of sediment into natural features. • If the sediment and erosion control measures are not functioning properly, no further work in the affected areas will occur until the sediment and/or erosion problem is addressed. • All disturbed areas of the construction site will be stabilized and re-vegetated as soon as conditions allow. • Sediment and erosion control measures will be left in place until all areas of the construction site have been stabilized and will then be removed by the Contractor. • Wet weather restrictions shall be applied during site preparation and excavation. Work will be avoided near watercourses during periods of excessive precipitation and/or excessive snow melt.	Erosion and sediment control measures will be regularly inspected to ensure they are functioning and are maintained as required. If erosion and sediment control measures are not functioning properly, alternative measures will be implemented and prioritized above other construction activities.
Watercourse/ Wetland/ Seepage Area	Effects on hydrology due to changes to site vegetative cover and decreased permeability	• Follow EPP. • Vegetation clearing will result in decreased water retention, sediment and surface water runoff in Study Area. However, remaining vegetation between the linear cutlines will act as vegetated barriers to slow the movement of water and sediment across the site. • Erosion and Sediment Control measures will be used as needed in areas where work is proposed adjacent to wetland and watercourses.	An Environmental Inspector is required to inspect and confirm Erosion and Sediment Control measures are functioning properly and are properly maintained throughout the construction phase. Workers will report any instances of spills to their supervisors.
Groundwater/ Surface Water/ Natural Areas	There is potential for spills of fuels or other hazardous materials to occur during fueling of construction equipment or other construction activities.	• All materials and equipment used for the purpose of site preparation and project construction shall be operated and stored in a manner that prevents any deleterious substances (petroleum products, silt, etc.) from entering natural features. • Any stockpiled materials will be stored away from natural features. • Refueling and maintenance of construction equipment should occur a minimum of 30 m from a natural feature. • Hazardous material transportation and application will occur in designated areas according to operational procedures. Proper spill containment equipment will be used and maintained on site. • The Contractor will develop spill prevention and contingency plans and have them in place prior to construction. Personnel will be trained in how to apply the plans and the plans will be reviewed on a regular basis to strengthen their effectiveness and facilitate continuous improvement. Spills or depositions into watercourses or natural features will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A hydrocarbon spill response kit will be on site at all times during the work.	An Environmental Inspector is required to inspect and confirm ESC measures are functioning properly and are properly maintained throughout the construction phase. Workers will report any instances of spills to their supervisors.

Feature	Description of Potential Effects	Mitigation Measures	Monitoring Activities
Fish Habitat	If culverts and watercourse crossings are required, impacts to fish habitat may result, including impacts to fish migration, hydraulic connectivity, increase in water temperature of pooling water, sedimentation, etc. Potential impacts down stream of completed works (water quality / quantity, temperature, sedimentation, etc.)	• Follow EPP. • All in-water work, if needed, will be conducted in accordance with the timing windows (i.e., no work to be carried out in-water from October 1 to May in tributaries and headwaters of scheduled salmon rivers to avoid impacts to the spawning, incubating and hatching periods). • The footprint of disturbed areas will be minimized to the extent possible. Vegetated buffers will be left in place adjacent to watercourses/waterbodies to the maximum extent possible (i.e., 30 m). • Work will be avoided near watercourses during periods of excessive precipitation and/or excessive snow melt. • All culverts, bridges and in-water structures will be designed to avoid hydrologic affects. • All requirements under the Fisheries Act will be met including any Self-Assessments or permitting. • Flow should be maintained upstream and downstream of the work areas at all times. • Crossings, if required, should be designed and constructed to allow for maximum light penetration.	An Environmental Inspector will perform regular inspection to ensure that mitigation is implemented.
Lighting	Outdoor lighting can affect the patterns of nocturnal wildlife	• All outdoor lighting, including lighting on buildings and around parking areas will be directed downward and away from natural areas.	No monitoring required.
Noise	Typical construction activities leading up to this project's exploration activities, e.g., equipment operation, charge detonation etc. will generate localized noise and vibration.	• Follow EPP. • Compliance with regulations and permits. • Accident event prevention and response. • Limited public use of the area surrounding the Project. • Substantial distance (>5km) from residential areas. • Onsite workers will follow OHS requirements re personal protective equipment. • No high levels of noise predicted. • Local topography and vegetation will attenuate effects of noise and vibration.	No monitoring required.
Air	Construction and operations activities may generate fugitive dust and other particulate matter.	• Follow EPP. • Compliance with regulations and permits. • Accident event prevention and response. • No substantially high levels of emissions are predicted. • All Project related vehicles and equipment will be in good and safe operating condition.	No monitoring required.

5.1.1 Air Emissions and Noise

The main potential interactions between the Project and the Atmospheric Environment relate to the use of equipment, and the noise, dust and engine emissions associated with their use. The atmospheric emissions from Project equipment will occur in a localized area over a relatively short period. Project-related vehicles and equipment will be maintained in good repair and inspected regularly, and associated air emissions from equipment and vehicles will conform to applicable regulations and guidelines.

Air pollution will be controlled by having equipment on site fitted with the appropriate emission-control equipment. Noise levels associated with the work are not expected to reach harmful levels as they will be in areas removed from local infrastructure.

6.0 SUMMARY AND CONCLUSION

NFG will complete Project work in accordance with regulatory permits, approvals and/or authorizations, and in line with procedures outlined in their exploration EPP and other management plans. Project activities align with activities described in a previously released Project (Registration 2106), and NFG will abide by conditions of release associated with this Project and those associated with Registration 2106. NFG does not anticipate significant residual effects on the biophysical or socioeconomic environments resulting from Project activities. NFG will notify the EA Division and the Mineral Lands Division of any significant changes to their planned exploration work.

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