10 Fish and Fish Habitat

Fish and fish habitat have been assessed as a valued component (VC) because they provide ecological, cultural, recreational, and economic value to the public, Indigenous groups, local businesses, and government agencies. Fish are valued by resource users for recreational fishing activities and as a source of country foods; it is therefore important to maintain populations within the region. Project activities associated with construction and operation of the Project, such as open pit development, water and waste management, and stream crossings have the potential to alter habitat conditions, disrupt migration pathways, or affect water quality and flow regimes that support aquatic life. These interactions can influence the availability and suitability of habitat for various species and life stages of fish.

The Fish and Fish Habitat VC include freshwater and diadromous fish and fish habitat as defined under the federal *Fisheries Act* as follows:

- Fish, which include: (i) parts of fish; (ii) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals; and (iii) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans, and marine animals
- Fish habitat, which includes waters frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply, and migration areas

Note that an assessment of potential Project effects on freshwater fisheries is provided in the Land and Resource Use VC (Section 13).

Fish and fish habitat is protected by federal and provincial legislation. The federal *Fisheries Act* protects fish and fish habitat and addresses national interests in marine and fresh waters with the goal of protecting the long-term sustainability of aquatic resources and prohibiting the death of fish (other than fishing). The *Fisheries Act* includes prohibitions against works, undertakings or activities that result in the harmful alteration, disruption or destruction (HADD) of fish habitat and such work requires an authorization with an appropriate offsetting of residual adverse effects after avoidance and mitigation steps have been taken. The *Fisheries Act* also prohibits the deposition of deleterious substances into waters frequented by fish in Canada unless authorized by regulation. The *Metal and Diamond Mine Effluent Regulations* (MDMER) regulate the deposit of effluent into waters frequented by fish. While the primary legislation protecting fish and fish habitat is the federal *Fisheries Act*, provincial legislation such as the Newfoundland and Labrador (NL) *Environmental Protection Act* (NL EPA), the NL *Water Resources Act*, and the NL *Endangered Species Act* (NL ESA) are also considered in the assessment of effects on fish and fish habitat.

The spatial boundaries for the Fish and Fish Habitat VC include the Project Area (area of physical activities) as well as the Local Assessment Area (LAA), which includes the sub-watersheds where the Project is located and the Project's expected effluent mixing zones. The latter is considered to be within 250 metres (m) from where streams draining the Project Area flow into the Gander River. The Regional Assessment Area (RAA) incorporates the Project Area and LAA and extends from the downstream extent of the LAA to an additional 14 kilometres (km) downstream within the Gander River. These boundaries are consistent with those used in the assessment of Surface Water Resources (Section 9). Spatial boundaries are shown in Figure 10.1.

Figure No.

10.1

Title

Queensway Gold Project
Fish and Fish Habitat Spatial Boundaries

Client/Project

New Found Gold Corp.
Queensway Gold Project

121418510_127

Project Location

North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-11-14
Updated by NW on 2026-03-05
TR by JR on 2026-03-03

N

0 0.5 1 2 km

(At original document size of 11x17)
1:65,000

- Project Area
- Local Assessment Area
- Regional Assessment Area

Watersheds

- Protected Surfacewater Boundary (NLDFAL)
- Gander Lake Watershed (NLDECCC-WRMD)

Watershed Delineation (Stantec 2025)

- GLT1 (Gander Lake Tributary 1)
- GRT1 (Gander River Tributary 1)
- GRT2 (Gander River Tributary 2)
- HP (Herman's Pond)

Wetlands and Waterways

- Watercourse
- Waterbody

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- Ramp
- Resource Road / Trail
- NL T'Railway Provincial Park

Other Features

- Contour (10 m)
- Municipal Boundaries

Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Stantec

A significant residual adverse effect on Fish and Fish Habitat for the Project is defined as:

- A Project-related HADD of fish habitat or the death of fish, as defined by the *Fisheries Act*, that cannot be mitigated, authorized, or offset
- A Project-related change to the productivity or sustainability of fish populations within the LAA where recovery to baseline conditions is unlikely

10.1 Existing Conditions

10.1.1 Approach and Methods

To characterize the existing conditions for the Fish and Fish Habitat VC in the Project Area, LAA and the RAA, existing literature and publicly available information was reviewed. In addition, field data were collected over multiple years and seasons in potentially affected aquatic environments.

10.1.1.1 Existing Information Sources

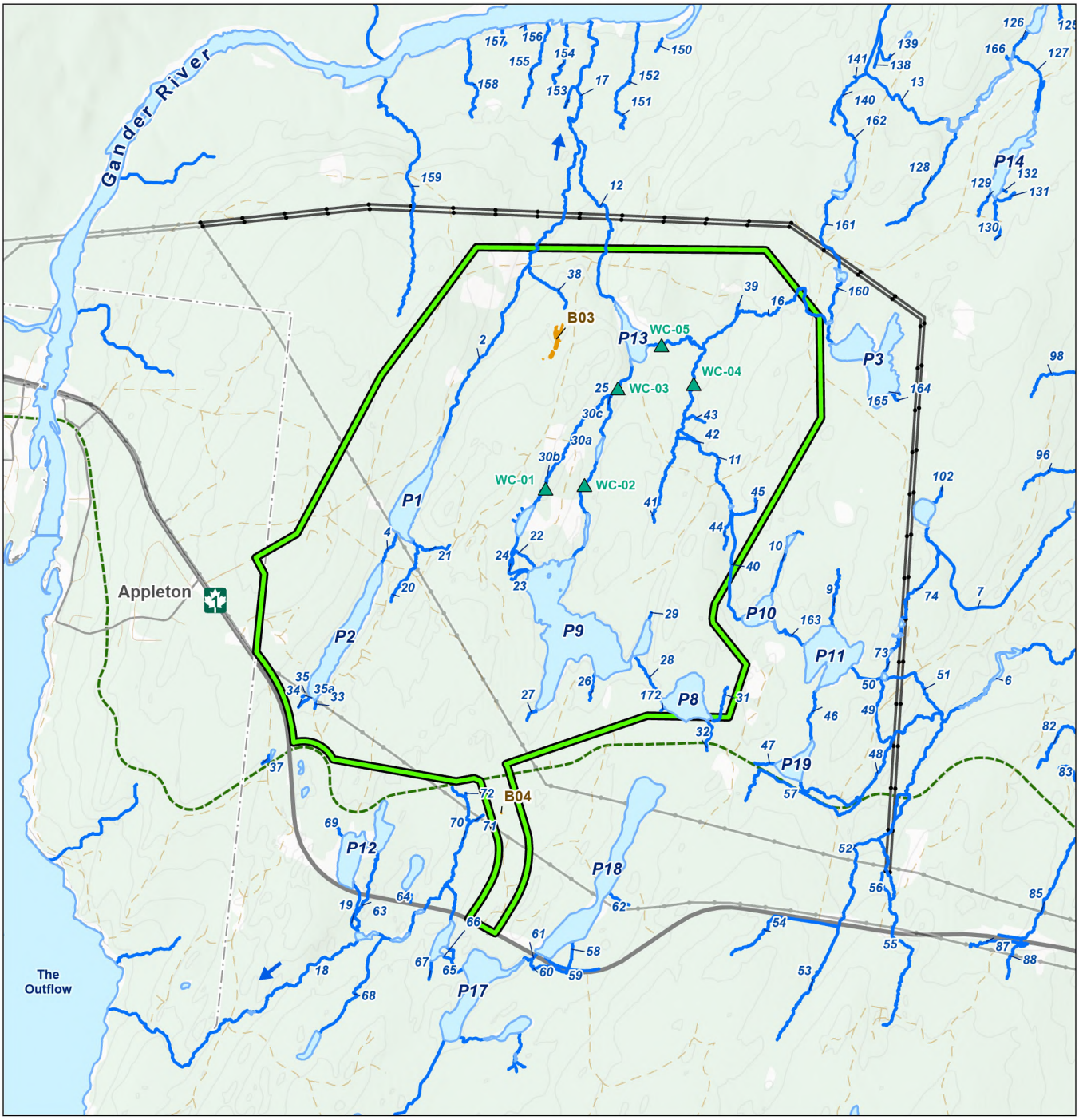
The review of existing literature and information included:

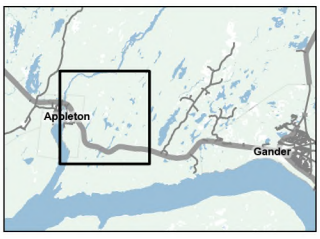
- Publicly available scientific information (Traverse 1972; Porter et al. 1974; COSEWIC 2010, 2012; Veinott et al. 2018)
- Species at Risk Public Registry (AC CDC 2021; DFO 2025a)
- Project-specific Light Detection and Ranging (LiDAR) data which was flown for the Project Area in 2023
- Recreational fisheries data obtained from Fisheries and Oceans Canada (DFO) reports and online databases
- Publicly available satellite imagery

10.1.1.2 Field Studies

Field studies have been on-going since 2021. The field studies incorporated a broader aquatic Study Area to account for potential changes in Project design, so that relevant aquatic receptors could be identified prior to finalizing the Project footprint. Field studies were completed in the Study Area in 2021 and 2022 by GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) (GEMTEC 2023a, 2023b), and in 2023, 2024, and 2025 by Stantec Consulting Limited (Stantec) (Stantec 2024, 2025, 2026, Stantec in preparation) to support the environmental assessment (EA) (Figure 10.2). Baseline reports will be provided to applicable regulators prior to Project construction. The required pertinent information is summarized in this EA and includes the fish habitat characterization (including water quality and sediment quality) that was completed between 2021 and 2025, and the fish community and presence/absence surveys (environmental DNA and capture based) that were completed in ponds and streams between 2022 and 2025. The Study Area shown in Figure 10.2 encompasses the survey areas for the field programs. Twenty-nine ponds and 150 unmapped and mapped watercourses were identified within the Queensway Study Area (Stantec 2024). The ponds and watercourses selected to be surveyed were those considered to be potentially affected by the Project, recognizing that some of the surveys were conducted prior to determining the Project footprint. Therefore, some of the ponds and watercourses surveyed are outside the area of potential effects for the Project.

In addition to the information collected to support the EA, Stantec collected additional information to support the Project including fish tissue, primary productivity (chlorophyll α and periphyton) and secondary productivity (benthic invertebrates) (Stantec 2024).





Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec; GovNL Department of Forestry, Agriculture and Lands; CanVec NRCan; Newfound Gold Corp.
3. Background: Government of Newfoundland and Labrador; NRCan CanVec; Esri, NASA, NGA, USGS

Legend
- Stream Crossing
- Watercourse
- Flow Direction
- Waterbody
- Bog Hole (Stantec 2023) - Channel not present, not fish habitat
- Project Area

Existing Infrastructure
- Proposed Transmission Line (Re-routing)
- Transmission Line
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

Other Features
- Contour (10 m)

0 0.5 1 1.5 km

(At original document size of 8.5x11)
1:40,000

N

Stantec

Project Location
Appleton
Newfoundland and Labrador

Prepared by NW on 2025-02-25
TR by JR on 2025-02-25

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418510_503

Figure No.
10.2

Title
Aquatic Study Area

\\ca0151-PPFSS01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold121418510_NFG_FFH.aprx Revised: 2026-04-28 By: niwhite

10.1.1.2.1 Fish Habitat Characterization

Data were collected to support the description of fish habitat as part of fish habitat characterization, water quality and sediment quality surveys. The methods associated with each survey component are summarized below. Detailed methods and results of these studies are contained in the field study reports (GEMTEC 2023a, 2023b; Stantec 2024, 2025, 2026).

Streams

Fish habitat was characterized in 75 streams between 2022 and 2025 (GEMTEC 2023a; Stantec 2024, 2025, 2026). Quantitative stream habitat classification surveys were conducted according to methods outlined in *Standard Methods Guide for the Classification of Riverine Habitats in Newfoundland and Labrador* (McCarthy et al. 2007). Fish habitat information was collected by habitat type (riffle, run, pool), and included: substrate composition, bank stability, riparian vegetation, overhead and instream cover, wetted width, channel width, depth, and velocity at ¼, ½, and ¾ of the stream width. Potential barriers to fish migration were noted, photographed and georeferenced during the habitat characterization surveys.

The data collected was quantitative in nature, included numerical and measured data (e.g., stream width, lengths of various habitat types), with structured categories to assess composition (e.g., substrate and riparian vegetation) and followed consistent methods across years. Typically, the entire length of a stream was surveyed. The number of streams and extent of habitats characterized is substantial and adequately represents the different types of fish habitat present (e.g., ephemeral, intermittent, or perennial) and fish habitat characteristics of the streams within the Study Area.

For stream crossings habitat characterization data was summarized 100 m upstream and downstream of each stream crossing.

Ponds

Fish habitat in ponds was characterized in 2023 to 2025 (Stantec 2024, 2025, 2026). Habitat classification was conducted at 18 ponds according to methods described in the *Standard Methods Guide for the Classification/ Quantification of Lacustrine Habitat in Newfoundland and Labrador* (Bradbury et al. 2001). Habitat was quantified based on water depth, substrate type, and amount of aquatic vegetation. Pond habitat classification surveys were completed as ground surveys (by foot or by boat) or aerial surveys (helicopter) depending on how readily accessible the ponds were.

Water Quality

In situ water quality data were collected from ten ponds and 42 streams throughout the Study Area between 2021 and 2025 (GEMTEC 2023a; Stantec 2024, 2025, 2026). Data collected included measurements of pH, dissolved oxygen, temperature, and conductivity using a water quality meter and /or handheld pH pen.

Water quality samples were collected at 20 locations within the Study Area in 2021, 2022 (GEMTEC 2023a), and 2023 (Stantec 2024). Detailed results are discussed in the Surface Water Resources VC, Section 9, with a high-level summary provided below in Section 10.1.2. Water quality data was compared to the *Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life* (CWQG-FAL; CCME 2025).

Sediment Quality

Sediment samples were collected from 7 ponds, and from the depositional areas of 12 streams between 2021 and 2023 (GEMTEC 2023b; Stantec 2024). The frequency of sampling events varied, with some locations being sampled one time, and other locations being sampled multiple times (i.e., up to four times per year). In total 6 samples were collected from ponds and 77 samples were collected from streams between 2021 and 2023. In 2021 and 2022, sediment samples were analyzed for metals, and in 2023, the samples collected were analyzed for trace metals as well as additional parameters including total organic carbon, mercury, and particle size. Sediment quality data was compared to the *Canadian Sediment Quality Guidelines Probable Effects Limits* (CSQG PEL; CCME 2025) and *Interim Sediment Quality Guidelines* (CSQG ISQG).

10.1.1.2.2 Fish Community

To inform fish community composition and fish presence/absence, fish sampling was completed using both capture-based fishing (e.g., electrofishing, fyke nets, gillnets and/or minnow traps) and environmental DNA (eDNA). Capture-based fishing activity was conducted in accordance with Experimental Licenses obtained from DFO.

A Smith Root, Inc. LR-24 backpack electrofisher was used to qualitatively or quantitatively to assess stream habitats according to methods described in the *Standard Methods Guide for Freshwater Fish and Fish Habitat Surveys in Newfoundland and Labrador: Rivers and Streams* (Sooley et al. 1998).

Qualitative electrofishing was conducted on 35 streams, some of which were sampled multiple times over the five-year period (GEMTEC 2023a; Stantec 2024, 2025, 2026). Streams surveyed in 2021 were only surveyed for fish presence/absence (i.e., effort not recorded; GEMTEC 2023a), whereas the streams surveyed between 2023 and 2025 had a minimum targeted fishing effort of 500 seconds per station, as stream size permitted. Quantitative electrofishing was conducted in 10 streams (GEMTEC 2023a) using a multi pass removal method. Quantitative sites were isolated using barrier nets, and a minimum of three fishing passes were conducted at each site. Fish population densities were calculated using the Removal Method of Population Estimation (Zippin 1958).

Fish sampling was conducted in 25 ponds and the impounded sections of two streams using minnow traps, gillnets (mesh sizes of 25 and 38 millimetres [mm]) or fyke nets (GEMTEC 2023a; Stantec 2024, 2025, 2026). Fishing was conducted according to methods described in *A Review of Fish Sampling Methods Commonly Used in Canadian Freshwater Habitats* (Porter et al. 2006). Nets and traps were set from shore or by boat depending on the access. Fyke nets and baited minnow traps were set overnight to assess fish community composition or fish presence/absence. Short duration gill net sets (e.g., 1 to 2 hour sets) were used to assess the presence of fish, whereas overnight gill net sets (e.g., more than 24 hours) were used to prove fish absence.

Fish habitat in bog holes was characterized in 2023 and 2024 (Stantec 2024, 2025) within proximity of the Project footprint. Bog holes are isolated, small waterbodies. They have the potential to contain fish habitat, however they are thought to be fishless where analysis of LiDAR imagery shows no connectivity between bog holes and fish bearing waters. Two bog holes, B03 and B04, were assessed for potential fish habitat within the Study Area. To assess the potential for fish, B03 was fished using eight baited minnow traps set for two consecutive overnights to confirm fish absence in 2024, however B04 was a very small shallow pool of wetland drainage, which was not sufficiently deep to be fished.

For capture-based fishing methods, the fishing effort and location were recorded. Captured fish were identified to species, measured (mm), weighed (grams [g]), and released alive.

In addition to capture-based fishing, eDNA was used to inform the presence or absence of fish in 15 ponds within the Study Area in 2022 and 2023 (GEMTEC 2023a; Stantec 2024b). In 2022, 24 one-litre water samples were collected from eight ponds, filtered using a NatureMetrics eDNA disk filter, and submitted for eDNA analysis. In 2023, seven ponds were sampled for eDNA. At each pond, multiple transects were sampled along the shoreline of the pond depending on the pond size, following methods described in Abbott et al. (2021). Each transect corresponded to one water sample, which was a composite of five grabs taken along the transect. The one litre water samples were filtered to collect eDNA using a peristaltic pump and Smith-Root Self-Preserving Filters (1.2 micrometre mesh size). Samples collected in 2022 and 2023 were submitted for DNA metabarcoding analysis at NatureMetrics in St. John's, NL.

10.1.1.2.3 Aquatic Species at Risk

To assess the potential for the occurrence of species at risk (SAR) or species of conservation concern (SOCC), fish community studies were undertaken within the Project Area and LAA and literature was reviewed on the distribution of potential SAR within the LAA and RAA.

SAR include those species designated as Endangered, Threatened, or Special Concern under Schedule 1 of the federal *Species at Risk Act* (SARA) and/or listed as Endangered, Threatened, or Vulnerable under the NL ESA. The protection of SAR and their residences is a legal requirement for those species listed under Schedule 1 of SARA and the NL ESA.

SOCC are defined as those species that do not meet the definition of SAR, but are ranked S1 (Critically Imperiled), S2 (Imperiled), or combinations thereof (e.g., S1S2) on the Island of Newfoundland by the Atlantic Canada Conservation Data Centre (AC CDC) (AC CDC 2025a, 2025b); species recommended for listing by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Endangered, Threatened, Vulnerable, or Special Concern but not yet listed under SARA; or recommended for listing by the Species Status Advisory Committee as Endangered, Threatened, Vulnerable, or Special Concern but not yet listed under the NL ESA.

10.1.2 Description of Existing Conditions

10.1.2.1.1 Fish Habitat Characterization

The Project is in the Gander River Watershed, the third largest watershed on the Island of Newfoundland, with a total area of 5,310 square kilometres (km^2) (EDM 1996). The watershed offers lake, pond, river, and stream habitats for a variety of life stages of fish species. The main tributaries of the Gander River flow into Gander Lake, one of the largest lakes on the Island of Newfoundland (EDM 1996), and then the Gander River flows north into Gander Bay, and the North Atlantic Ocean. Land use activities that may interact with fish and fish habitat in the Project Area and LAA include timber harvesting, forest access road construction, and silviculture practices such as planting and thinning, mineral exploration, and recreational or traditional use (Section 13).

Gander River

Gander River is approximately 100 to 300 m wide and water depths range from 0.25 to over 3 m within the thalweg, during low flow conditions (unpublished field observations). A thalweg is defined as the lowest path along the entire length of a stream bed which defines its deepest channel. Within the LAA and RAA, the mainstem of Gander River consists of faster flowing reaches of run, riffle, and pool habitats which are dominated by rubble and boulders with smaller amounts of gravel and bedrock (Traverse 1972; Stantec unpublished). These reaches flow into slow moving, low gradient reaches, dominated by finer substrates (Stantec unpublished field observations). Fifteen major salmon fish pools are located along the Gander River between the slower moving reaches (McCarthy 2021). These habitats support the various life stages of salmonids.

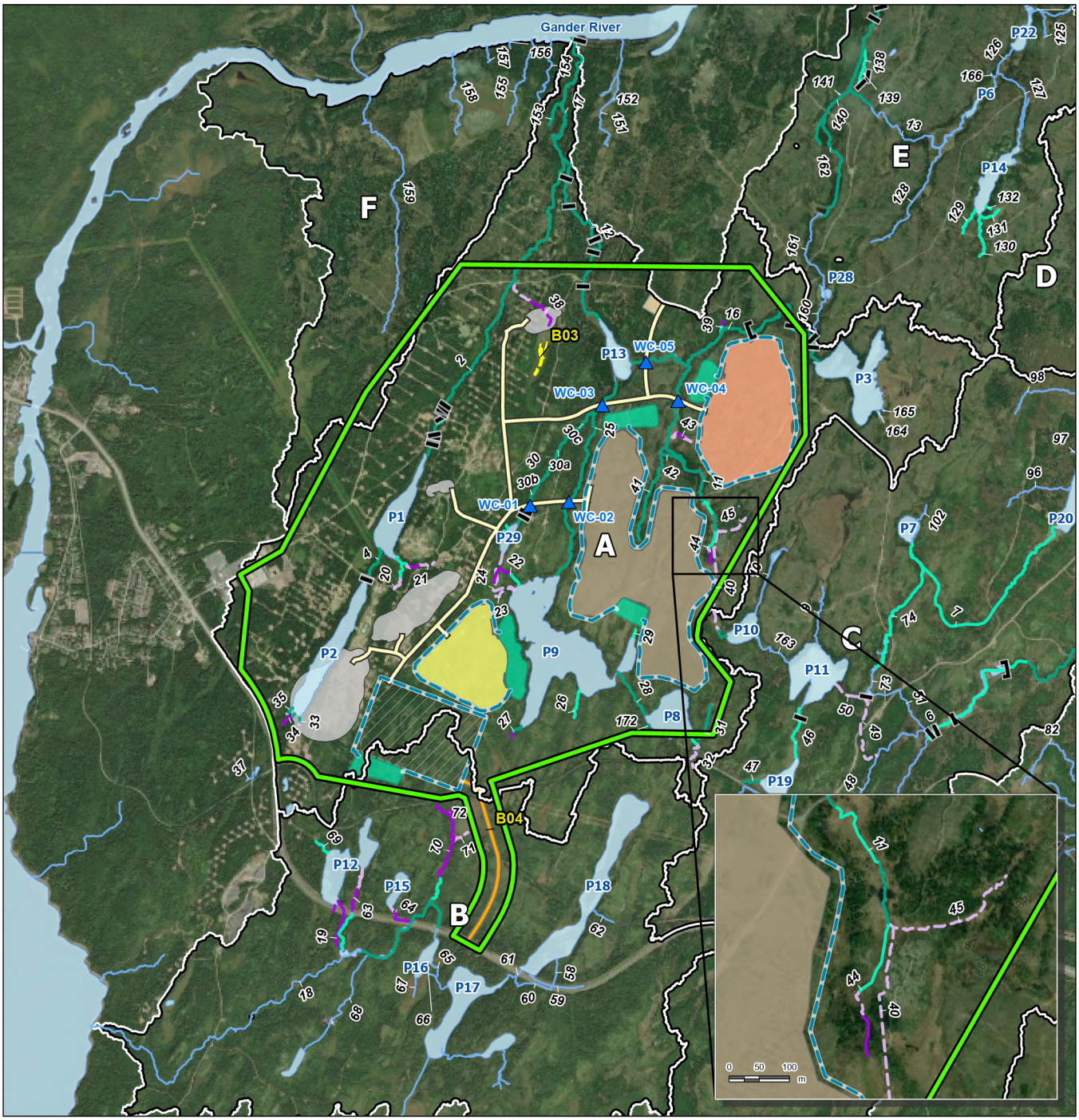
Streams

A summary of habitat characteristics collected as part of baseline studies is provided in Table 10.1 and includes the average wetted and channel stream width, average velocity, depth, slope, overhead and instream cover, dominant habitat type, substrate, and riparian vegetation. The complete habitat classification dataset is available in each respective baseline report (GEMTEC 2023a; Stantec 2024, 2025, 2026) and will be provided to applicable regulators prior to Project construction.

The streams within the Study Area were generally small (<5 m), shallow (<0.5 m), and slow flowing (<0.2 metres per second [m/s]). Small low gradient streams (i.e., first and second order) that flowed through bog or wetland habitats were generally characterized by shallow flats with an undefined thalweg, slow/negligible velocities, and fine grain substrates. Small streams flowing through forests contained mostly riffle or run habitat with substrates dominated by gravel, rubble, or boulders. Moderately sized streams (i.e. third and fourth order) had higher gradients, were faster flowing, and were dominated by more coarse substrates (i.e. boulders). The upper reaches of headwater streams (i.e., Streams 11, 20, 21, 22, 27, 32, 33, 34, 39, 41, 44, 63, 70, and 162) had intermittent flow, particularly during the summer low flow period in August to early September. A total of 75 streams were surveyed during the baseline studies, and fifteen of the watercourses surveyed were not considered fish habitat as they were overland drainage (i.e. Streams 38, 71, 72, 76, 89, 160, 169, and 170) or had no visible channel (i.e., Streams 19, 23, 24, 36, 45, 50, and 64).

Numerous beaver dams were noted throughout the Study Area, particularly on Streams 2, 4, 6, 12, 13, 16, 28, 30, and 162 (Figure 10.3), and may present a barrier to fish passage during periods of low flow. Other potential barriers to fish passage noted during the survey include a waterfall located approximately 900 m downstream of Pond P3. Photos of representative habitat of each stream are included in baseline reports (GEMTEC 2023a; Stantec 2024, 2025, 2026).

A summary of habitat characteristics for stream crossings is provided in Table 10.2. A total of five stream crossings will occur on four streams, with one stream (Stream 25) being crossed twice, and the remaining streams (Streams 11, 16, and 30) being crossed once. All the proposed stream crossings are considered fish habitat. Stream crossings occur at relatively narrow stream sections (less than 2.6 m wetted width) with habitat dominated by riffle/run or glide and substrates comprised of predominantly fines at Stream 30, and coarser substrate at Streams 11, 16, and 25.



Legend

Watercourse Fish Bearing/Habitat Status (Stantec 2025)

- Confirmed Fish Bearing
- Assumed Fish Bearing
- Channel Present - Not Fish Bearing
- Channel Not Present - Not Fish Bearing
- Watercourse (Not Surveyed)
- ## Stream ID

Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: NLDFAL, CanVec NRCan, Newfound Gold Corp., Stantec
3. Background: ESRI

- Project Area

Proposed Project Layout

- Access Road
- Ditch
- Haul Road
- Open Pit
- Ore Stockpile
- Overburden Storage Facility
- Waste Rock Storage Facility
- Industrial Terrace
- Sedimentation Pond

Other Features

- Watercourse Crossing (Stantec)
- Beaver Dam (Stantec)
- Falls (Stantec)
- Bog Hole (Stantec 2023) - Channel not present, not fish habitat
- Waterbody
- Watersheds (Stantec-delineated)

0 500 1000 metres

(At original document size of 8.5x11)
1:40,000

N

Stantec

Project Location
Appleton, NL

Prepared by NW on 2025-08-12
Updated by NW on 2026-03-05
TR by KM on 2026-02-05

Client/Project
121418510_508
New Found Gold Corp.
Queensway North Property

Figure No.
10.3

Title
Fish Habitat in the Queensway Gold Study Area

\\ca0151-PPFSS01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_FFH.aprx Revised: 2026-04-28 By: niwhite

Table 10.1 Summary of Habitat Characteristics for Streams

Major Sub-Watershed	Location	Stream Order	Stream Length (m)	Wetted Stream Width (m)	Channel Stream Width (m)	Mean Depth (m)	Mean Velocity (m/s)	Average Slope (%)	Dominant Habitat Type	Dominant Substrate Type	Dominant Riparian Vegetation	Average Overhead Cover (%)	Average Instream Cover (%)	Comments
D	Stream 1	1	1981	3.3	4.1	0.5	0.1	0.5	Flat/Glide	Silt (24%)	Grass (50%)	18%	22%	Stickleback, brook trout were observed throughout the watercourse. Fish habitat.
A	Stream 2	1	1181	1.8	1.9	0.19	0.24	1.7	Riffle/ Run (87%)	Boulder (42%)	Shrub (50%)	12%	13%	Trout and salmon parr observed in multiple reaches. Series of beaver impoundments upstream, close to P1. Fish habitat.
D	Stream 3	2	285	1.4	1.4	0.0	NMF	ND	Flat/Glide	Muck (71%)	Grass (62%)	23%	3%	Fish habitat.
A	Stream 4	1	250	0.4	0.5	0.4	NMF	ND	Riffle/Run	Boulder (65%)	Grass (55%)	82%	7%	Substantial beaver activity may be barrier to fish passage at low flows. Fish habitat.
C	Stream 5	1	292	1.2	1.6	0.3	0.1	ND	Riffle/Run	Boulder (28%)	Shrub (52%)	76%	14%	Fish habitat.
C	Stream 6	2	1502	1	1.1	0.1	0.1	0.8	Riffle/Run	Gravel/Cobble (25%/25%)	Shrub (55%)	8%	9%	Falls located 870 m upstream may present barrier to fish passage at low flow. Brook trout observed. Fish habitat.
C	Stream 7	1	400	0.7	0.9	0.2	NMF	ND	Flat/Glide	Muck (52%)	Tree (46%)	100%	91%	Fish habitat.
C	Stream 9	1	273	1.1	1.1	0.4	NMF	ND	Riffle/Run	Muck (83%)	Grass (39%)	43%	8%	Fish habitat.
C	Stream 10	1	283	0.6	0.2	0.0	NMF	ND	Pool	Bedrock (50%)	Grass (61%)	88%	0%	Fish habitat.
A	Stream 11	1	1519	1.2	1.3	1.5	NMF	0.5	Riffle/Run	Boulder (45%)	Grass (46%)	27%	27%	Mapped first order stream that is perennial from Stream 16 to 12 m upstream of the forestry access road (0 m to 1,297 m upstream) and is considered fish habitat. There is no visible channel from 1,298 to 1,453 m as it dissipates into a wetland, and this reach is however assumed to be fish habitat as fish may be able to present at high flows. From 1,454 to 1,519 m, there is an impoundment due to beaver activity and is potentially fish habitat as a result of depth.
A	Stream 12	3	1497	3.7	4.9	0.64	0.55	1.4	Riffle/Run	Rubble (24%)	Shrub (51%)	15%	18%	Third order watercourse flowing from P13 into S2. Significant beaver activity along watercourse. Fish observed throughout. Fish habitat.
E	Stream 13	2	2977	2.9	3.6	0.3	0.3	1.7	Riffle/Run	Boulder (22%)	Shrub (50%)	13%	9%	Significant beaver activity along watercourse. Fish observed throughout. Fish habitat.
C	Stream 15	2	1440	2.9	3.2	0.4	0.6	0.2	Riffle/Run	Gravel /Cobble (26%/26%)	Shrub (59%)	19%	26%	Fish observed throughout and is considered fish habitat.
A	Stream 16	2	2119	1.8	2	0.3	0.1	0.7	Riffle/Run	Muck /Gravel (24%/24%)	Shrub (56%)	32%	17%	Substantial beaver activity and braiding along watercourse. Falls located 900 downstream of P3 may present barrier to fish passage during periods of low flow. Fish observed throughout and is fish habitat.
A	Stream 17	3	1236	4.4	4.9	0.4	0.5	1.0	Riffle/Run	Cobble (30%)	Shrub (71%)	13%	5%	Brook trout observed throughout the watercourse. Fish habitat.
B	Stream 18	3	1027	2.1	2.9	0.4	0.1	0.5	Pool	Boulder (40%)	Grass (39%)	45%	41%	Trout and stickleback observed. Large wetlands throughout. Fish habitat.
B	Stream 19	Not fish habitat. No visible channel.												
A	Stream 20	0	135	3.3	4.1	0.89	0.01	0.5	Flat/Glide (100%)	Muck (100%)	Grass (70%)	10%	10%	Lower 93 m reach is considered to be fish habitat. The upper 93 to 135 m are intermittent channels of wetland drainage that are not fish habitat.
A	Stream 21	0	42	1.1	2.5	0.51	ND	0.5	Flat/Glide (100%)	Muck (100%)	Grass (70%)	5%	10%	The lower 42 m reach is considered fish habitat, upstream of which the watercourse dissipates into a wetland and the channel is not visible.
A	Stream 22	0	304	0.5	0.7	0.3	NMF	ND	Glide	Muck (99%)	Shrub (47%)	23%	15%	Unmapped intermittent stream. Becomes subterranean for 2 m approximately 30 m upstream of P9 and then intermittent from 111 to 122 m upstream. Lower reach (0 to 111 m) of watercourse is assumed fish habitat based on connectivity with P9. Upper reach (112 to 304 m) is overland drainage and is not considered fish habitat.
A	Stream 23	Not fish habitat. Intermittent pools of wetland drainage with no connectivity to P9.												
A	Stream 24	Not as mapped. Consists of no visible channel and intermittent pools of overland drainage. Not considered fish habitat. No connectivity with P9 or P29.												
A	Stream 25	2	1497	3.7	4.9	0.6	0.53	ND	Riffle/Run (82%)	Rubble (24%)	Shrub (51%)	15%	20%	Second order watercourse flowing from P9 into P13. Fish observed throughout. Fish habitat.
A	Stream 26	0	185	2.2	5.9	0.7	0.09	ND	Glide	Muck (100%)	Shrub (80%)	10%	46%	Assumed fish habitat from 0 to 185 m based on connectivity. No visible channel (not fish habitat) from 186 to 213 m.
A	Stream 27	0	121	0.5	0.6	0.2	NMF	ND	Glide	Muck (69%)	Shrub (80%)	10%	6%	Lower 78 m reach (0 to 78 m) is considered fish habitat. Upstream of 78 m (79 to 121 m) dissipates into intermittent wetland drainage and is not considered fish habitat.

Table 10.1 Summary of Habitat Characteristics for Streams

Major Sub-Watershed	Location	Stream Order	Stream Length (m)	Wetted Stream Width (m)	Channel Stream Width (m)	Mean Depth (m)	Mean Velocity (m/s)	Average Slope (%)	Dominant Habitat Type	Dominant Substrate Type	Dominant Riparian Vegetation	Average Overhead Cover (%)	Average Instream Cover (%)	Comments
A	Stream 28	1	388	1.1	1.9	0.6	0.14	ND	Riffle/Run (54%)	Muck (74%)	Shrub (77%)	30%	40%	Beaver dam at outlet of P8, at upstream end of Stream 28. Fish habitat.
A	Stream 29	0	54	1.1	1.4	0.2	NMF	ND	Glide	Muck (100%)	Shrub (60%)	10%	80%	Fish habitat.
A	Stream 30	0	1236	2.8	9.1	0.5	NMF	ND	Glide (67%)	Muck (77%)	Shrub (68%)	29%	15%	Five beaver dams observed along the stream. Three unmapped side channels (S30a, S30b and S30c) were identified while in the field and are presumed fish habitat based on connectivity with S30. Fish habitat.
A	Stream 31	0	293	1.0	1.1	0.5	NMF	ND	Glide	Muck (96%)	Shrub (62%)	51%	39%	Fish habitat.
A	Stream 32	0	289	0.1	0.1	0.1	NMF	ND	Pool	Muck (100%)	Shrub (50%)	15%	15%	From P8 from 0 m to 54 m upstream is considered fish habitat while the upper 235 m (55 m to 289 m upstream) has no visible channel and is not considered fish habitat.
A	Stream 33	0	30	1.3	3.3	0.88	0.01	0.5	Flat/Glide (100%)	Muck (100%)	Grass (50%) and Shrub (50%)	10%	20%	The lower 30 m reach is fish habitat as there was connectivity with P2. The upper 30 to 60 m is a flooded all-terrain vehicle trail and is not considered fish habitat.
A	Stream 34	0	28	0.3	1.8	0.56	0.01	0.5	Flat/Glide (100%)	Muck (95%)	Grass (50%) and Shrub (50%)	10%	70%	Manganese precipitate was present in watercourse. The lowest 28 m reach is fish habitat. The upstream surveyed portion (28 to 106 m US) is intermittent pools of wetland drainage and is not considered fish habitat.
A	Stream 35	0	62	1	2.2	0.54	0.01	0.7	Flat/Glide (100%)	Muck (95%)	Shrub (60%)	12%	20%	The lower 24 m was fish habitat. The stream dissipates into a wetland upstream of 24 m and is not considered fish habitat.
A	Stream 36	Not fish habitat. Pools of wetland drainage not connected to P2.												
A	Stream 38	Not fish habitat. Overland drainage.												
A	Stream 39	0	45	0.6	0.7	0.2	ND	0.5	Flat/Glide	Muck (90%)	Shrub (80%)	30%	10%	Upper portion 45 to 90 m of stream is wetland drainage that is not fish habitat. Downstream 45 m of stream is fish habitat.
C	Stream 40	1	744	0.1	0.1	0.1	NMF	ND	Run	Muck (100%)	Shrub (60%)	3%	2%	Fish habitat from P10, 0 m until 84 m upstream. The upper 744 m (from 85 m to 744 m upstream) has no visible channel and is not considered fish habitat.
A	Stream 41	0	707	1.7	4.1	0.6	0.01	ND	Glide	Muck (79%)	Shrub (59%)	49%	22%	The downstream 177 m of S41 as well as from 210 m to 707 is considered fish habitat as there is a well-defined channel. However, from 178 m to 209 m and from 480 m to 490 m the channel becomes intermittent or dissipates into a wetland which may limit fish passage during low flow. Fish observed throughout. Fish habitat.
A	Stream 42	0	180	1.1	1.2	0.3	0.06	ND	Riffle/Run	Muck (36%)	Shrub (47%)	40%	20%	Fish habitat.
A	Stream 43	0	200	0.1	0.2	0.1	0.38	ND	Glide	Muck (85%)	Shrub (60%)	8%	11%	Channel is defined within a middle reach (from 86 to 130 m) but was not considered fish habitat.
A	Stream 44	0	201	1.0	1.1	0.8	NMF	ND	Glide	Muck (100%)	Grass (49%)	28%	15%	Lower 80 m of watercourse (from 0 to 80 m US) is considered fish habitat. The upper 121 m (from 81 to 201 m US) is not considered fish habitat as the channel is not visible.
A	Stream 45	Consists of no visible channel and intermittent pools of overland drainage. Not considered fish habitat. No connectivity with Stream 11.												
C	Stream 46	2	313	2.8	2.9	2.3	0.01	0.6	Flat/Glide	Muck (37%)	Grass (80%)	18%	11%	Fish habitat.
C	Stream 47	0	101	2.9	3.3	1.1	NMF	ND	Glide	Muck (100%)	Shrub (60%)	33%	60%	Fish habitat.
C	Stream 50	Not fish habitat. No visible channel.												
B	Stream 63	0	320	1.1	1.6	0.1	0.02	0.5	Riffle/Run	Gravel (37%)	Shrub (67%)	26%	7%	Upstream portion (above the Trans-Canada Highway) is considered drainage and not fish bearing. Downstream 300 m is considered fish habitat.
B	Stream 64	Not fish habitat. No visible channel.												
B	Stream 69	0	170	1.2	1.3	0.4	NMF	ND	Glide (76%)	Muck (100%)	Shrub (63%)	0%	28%	Fish habitat.
B	Stream 70	0	235	0.1	0.1	0	ND	0.0	Flat/Glide	Muck (100%)	Shrub (39%)	0%	11%	The upper portion (235 m US to 800 m US) is wetland drainage and does not constitute fish habitat. Downstream 235 m is considered fish habitat.
B	Stream 71	Not fish habitat. Overland drainage.												

Table 10.1 Summary of Habitat Characteristics for Streams

Major Sub-Watershed	Location	Stream Order	Stream Length (m)	Wetted Stream Width (m)	Channel Stream Width (m)	Mean Depth (m)	Mean Velocity (m/s)	Average Slope (%)	Dominant Habitat Type	Dominant Substrate Type	Dominant Riparian Vegetation	Average Overhead Cover (%)	Average Instream Cover (%)	Comments
B	Stream 72	Not fish habitat. Overland drainage.												
C	Stream 76	Not fish habitat. Overland drainage.												
D	Stream 89	Not fish habitat. Overland drainage.												
D	Stream 90	0	21	0	0	0	ND	0.0	Flat/Glide	Muck (100%)	Shrub (85%)	80%	15%	Surveyed portion (downstream 21 m) is considered fish habitat based on connectivity with Stream 1. Further characterization is required.
D	Stream 92	0	53	0.5	1	0	ND	0.5	Riffle/Run	Muck (100%)	Shrub (70%)	70%	15%	Fish habitat.
D	Stream 93	0	213	2	3	0.3	ND	0.5	Flat/Glide	Muck (100%)	Shrub (70%)	70%	15%	Downstream 213 m is considered fish habitat. Upstream is a flooded wetland where further characterization will be required.
E	Stream 129	Visible channel draining wetland. Additional habitat characterization is required.												
E	Stream 130	Visible channel draining wetland. Additional habitat characterization is required.												
E	Stream 131	Visible channel draining wetland. Additional habitat characterization is required.												
E	Stream 132	Visible channel draining wetland. Additional habitat characterization is required.												
E	Stream 136	0	195	0.7	0.7	0.4	0.02	0.5	Riffle/Run	Muck (64%)	Shrub (55%)	20%	35%	Fish habitat.
E	Stream 138	0	295	1.1	1.2	0.2	0.01	0.5	Flat/Glide	Cobble (30%)	Shrub (81%)	27%	9%	The portion surveyed (285 m) is considered fish habitat. Further characterization of the upstream portion is required.
E	Stream 139	0	75	0.4	0.7	0.1	ND	1.3	Riffle/Run	Cobble /Boulder (32%/32%)	Shrub (63%)	22%	9%	Surveyed portion (downstream 66 m of stream) is considered fish habitat. Upstream is an impoundment and will require further characterization.
E	Stream 140	0	296	0.9	0.9	0.7	0.02	ND	Riffle/Run	Rubble (30%)	Shrub (47%)	21%	47%	Portion surveyed in 2025 starts at the road (238 m) and ends 534 m upstream. Fish observed throughout. Fish habitat.
A	Stream 160	Not fish habitat. Overland drainage.												
A	Stream 162	0	729	5.0	6.0	1.1	NMF	ND	Pool	Muck (75%)	Shrub (56%)	13%	39%	Does not flow as mapped. The downstream 35 m as well as 166 m to 211 m and 229 m to 729 m is considered fish habitat as there is a well-defined channel. However, from 36 to 165m and from 212 m to 228 m the channel is ephemeral which may limit fish passage during low flow. Fish habitat.
D	Stream 167	1	74	0.5	0.6	0.4	0.01	0.5	Flat/Glide	Muck (100%)	Shrub (70%)	70%	30%	Fish habitat.
D	Stream 168	2	581	4.4	5	0.4	0.5	1.4	Riffle/Run	Gravel (33%)	Shrub (77%)	17%	34%	Fish observed throughout watercourse. Fish habitat.
D	Stream 169	Not fish habitat. Overland drainage.												
D	Stream 170	Not fish habitat. Overland drainage.												
A	Stream 172	0	39	1.1	1.2	1	NMF	ND	Glide	Muck (100%)	Shrub (52%)	13%	8%	Fish habitat.
A	Stream 173	0	31	0.8	1	0.6	NMF	ND	Glide	Muck (100%)	Shrub (57%)	60%	34%	Assumed fish habitat based on connectivity.
A	Stream 174	0	19	0.8	0.6	1	NMF	ND	Glide	Muck (100%)	Shrub (70%)	40%	40%	Assumed fish habitat based on connectivity.
A	Stream 175	0	10	0.8	0.7	0.9	NMF	ND	Glide	Muck (100%)	Shrub (70%)	40%	40%	Assumed fish habitat based on connectivity.
A	Stream 176	0	26	0.8	0.7	0.8	NMF	ND	Glide	Muck (100%)	Shrub (70%)	60%	40%	Assumed fish habitat based on connectivity.

Notes:
NMF: No measurable flow.
ND: No data collected.
US: upstream.

Table 10.2 Summary of Habitat Characteristics for Stream Crossings

Major Sub-Watershed	Stream Crossing	Stream	Stream Order*	Wetted Stream Width (m)	Channel Stream Width (m)	Mean Depth (m)	Mean Velocity (m/s)	Average Slope (%)	Dominant Habitat Type	Dominant Substrate Type	Dominant Riparian Vegetation	Average Overhead Cover	Average Instream Cover
A	WC-01	Stream 30	0	1.7	2.0	0.7	NMF	0.3%	Flat/Glide	Muck (80%)	Shrub (49%)	20%	0%
	WC-02	Stream 25	2	0.7	1.6	0.1	NMF	ND	Riffle/Run	Boulder (50%)	Tree (55%)	0%	5%
	WC-03	Stream 25	2	0.9	2.5	0.1	NMF	ND	Riffle/Run	Boulder (56%)	Shrub (75%)	49%	4%
	WC-04	Stream 11	1	1.4	1.7	0.4	NMF	ND	Riffle/Run	Boulder (60%)	Shrub (70%)	30%	50%
	WC-05	Stream 16	2	2.6	2.8	0.5	0.36	ND	Flat/Glide	Boulder (38%)	Shrub (63%)	19%	0%

Notes:

* Unmapped streams are represented by stream order 0.

NMF: No measurable flow.

ND: No data collected.

Habitat quality in streams was highly variable. Reaches of streams that were dominated by fine substrates (e.g., glides or reaches draining wetlands) were generally poor for spawning, young of year (YOY), and adult life stages of brook trout but provided suitable habitat for the juvenile brook trout life stage and threespine stickleback life stages. Whereas, rocky, faster flowing reaches of streams which contained sand, gravel and cobble, provided suitable spawning and rearing habitat for YOY, juvenile, and adult life stages of brook trout. Small order streams (e.g., 0, 1, or 2) within the LAA generally do not provide habitat for Atlantic salmon. Lower reaches of moderately sized, faster flowing streams (e.g., stream order 3) with gravel and cobble substrates provide spawning habitat and YOY and juvenile Atlantic salmon (*Salmo salar)* rearing habitats, and habitats for adult Atlantic salmon where coarser (boulder) substrates and sufficient water depths existed.

Gander Lake

Gander Lake has a surface area of 113 km^2 and drains into Gander Bay via Gander River. Gander Lake is approximately 52 km long and narrows at the northwest end in the RAA into the outflow, which forms the mainstem of the Gander River. Gander Lake has an average depth of 105 m and a maximum depth of 288 m (O'Connell and Walsh 2007), so most habitat is within the pelagic zone. Substrates in Gander Lake are primarily fines with areas of sandy and gravel substrates interspersed along the shoreline. The lake has little aquatic vegetation. Several islands are located in the southwest corner of the lake.

Ponds

A total of 18 ponds were surveyed within the Study Area. Ponds within the Study Area were generally small to moderately sized, with surface areas ranging from 0.5 to 73.9 hectares (ha). The majority of the ponds have a maximum depth of 2 m, containing littoral (shallow) habitat and a high proportion of fines and in-water cover was provided primarily by aquatic vegetation (Table 10.3). Four ponds were deeper and contained profundal/pelagic habitats. The maximum depth of ponds in the Study Area was 16.2 m. Eight of the ponds had a small amount of medium or coarse substrates in addition to a high proportion of fines. Where aquatic vegetation was present, it was often immediately adjacent to shore or sparsely distributed through the pond as emergent or floating vegetation. Photos of each pond and representative habitats are included in the baseline reports (Stantec 2024, 2026).

Based on the pond characteristics and rating of fish habitat characteristics in Bradbury et al. (2001), habitat quality of the ponds in the Study Area was determined to be generally unsuitable for spawning, YOY, and adult life stages of brook trout (*Salvelinus fontinalis*) and preferable habitat for juvenile life stages of brook trout. Atlantic salmon life stages were not captured in any ponds, suggesting ponds do not provide habitat for this species within the LAA.

Table 10.3 Summary of Pond Habitat Characteristics

Sub-Watershed	Pond	Surface Area (ha)	Dominant Substrate Class[1]	Subdominant Substrate Class[1]	Dominant Aquatic Vegetation
A	P1	6.7	Fines (72%)	Medium (9%)	Emergent
A	P2	9.1	Fines (100%)	-	Emergent
A	P3	12.1	Fines (80%)	Coarse (13%)	Floating
D	P4	73.9	Fines (94%)	Medium (6%)	Emergent
C	P5	8.5	Fines (100%)	-	Submerged
E	P6	0.7	Fines (100%)	-	Floating
C	P7	1.8	Fines (100%)	-	Mixed
A	P8	6.5	Fines (88%)	Medium (12%)	Emergent
A	P9	29.2	Fines (79%)	Medium (18%)	Emergent
C	P10	2.7	Fines (100%)	-	Emergent
C	P11	9.8	Fines (100%)	-	Floating
B	P12	7.4	Fines (96%)	Medium (3%)	Emergent
A	P13	3.3	Fines (100%)	-	Floating
E	P14	4.1	Fines (95%)	Medium (3%)	Emergent
B	P15	1.5	Fines (100%)	-	Floating
C	P20	9.6	Fines (99%)	Medium (1%)	Mixed
A	P28	0.4	Fines (100%)	-	Floating
A	P29	1.1	Fines (100%)	-	Floating

Notes:
[1] Coarse = bedrock and boulder; Medium = rubble, cobble, gravel; Fine = sand, silt, clay, muck

Water Quality

In situ water quality in streams within the LAA is generally within the acceptable ranges for supporting cold water fish communities for most of the year, except for some warmer periods during the summer months (e.g., July to August; Stantec 2024):

- In streams, water temperatures were typically 17 degrees Celsius (°C) to 22°C in the summer months (e.g., July and August) reaching a maximum recorded water temperature of 25.7°C in July 2024.
- Dissolved oxygen concentrations in streams ranged from 0.9 milligrams per litre (mg/L) to 10.56 mg/L; 35 out of 54 measurements were below the CWQG-FAL minimum value of 6.5 mg/L for all life stages of coldwater fish (CCME 2025), 14 of the 54 above the minimum value of 6.5 mg/L but below the recommended minimum value of 9.5 mg/L for all life stages, and five out of 54 measurements were above the minimum value of 9.5 mg/L for early life stages.
- Average conductivity was 120.7 microsiemens per centimetre (µS/cm) (range of 6.6 µs/cm to 1183.0 µS/cm)
- The average pH was 6.8 (range of 5.0 to 8.1) and was below the CWQG-FAL recommended range (6.5 to 9.0) at 17 of 65 sampling locations

In situ water quality in ponds is generally within the acceptable ranges for supporting cold water fish communities, with the exception of elevated water temperatures during the summer months (July to August; Stantec 2024):

- In ponds, water temperature was typically 17°C to 22°C in the summer months, reaching a maximum of 23.2°C in August 2023
- Dissolved oxygen concentrations in ponds ranged from 2.1 mg/L to 9.9 mg/L. Eight out of 11 measurements were below the CWQG-FAL recommended minimum value of 6.5 mg/L for all life stages, two measurements were above the minimum value of 6.5 mg/L and below the recommended minimum value of 9.5 mg/L for early life stages, and one out of 11 measurements were above the recommended minimum value of 9.5 mg/L for early life stages of coldwater fish (CCME 2025).
- Average conductivity was 94.1 µs/cm (range of 20.0 µs/cm to 412.2 µS/cm)
- The average pH was 6.7 (range of 5.2 to 8.1) and was below the CWQG-FAL recommended range (6.5 to 9.0) at seven of 20 sampling locations

The results of the water chemistry analyses in streams and ponds for local water quality monitoring stations are summarized in the Surface Water VC (Section 9.1.2.3). A total of 21 stream stations and three pond stations were monitored within and adjacent to the LAA.

Stream surface waters were slightly acidic with limited acid buffering potential due to low alkalinity values. Concentrations of nutrients (nitrogen, phosphorus) were generally higher in streams than ponds. Parameters of potential concern in streams were identified based on the 75th percentile (and 25th percentile for pH, which has an upper limit and lower limit). Values which were not within applicable CWQG-FAL as a baseline condition were *in situ* pH, total aluminum and total iron (Section 9.1.2.3).

Similarly, pond surface waters were slightly acidic with limited acid buffering potential due to low alkalinity values. Ponds were considered a mesotrophic trophic status based on total phosphorus concentrations. Based on the same criteria as streams, parameters which were not within the CWQG-FAL as a baseline condition were *in situ* pH and total aluminum (Section 9.1.2.3).

A number of metals and metalloids typically had observed concentrations below the laboratory reportable detection limit (greater than 50%) and CWQG-FAL values for streams and ponds, including total arsenic, total boron, total cadmium, total copper, total lead, total mercury, total molybdenum, total nickel, total selenium, total silver, and dissolved zinc.

Sediment Quality

Streams

Grain size distribution from soft sediments in streams was variable (GEMTEC 2023b; Stantec 2024). Clay was the predominant grain size in two streams (Streams 15 and 18), whereas sand was dominant in Streams 1 and 17, and silt was dominant in Stream 13.

There were no exceedances of the CSQG PEL in stream sediments for copper, lead, and mercury; however, there were exceedances of CSQG PEL for the following parameters:

- Arsenic, in 68 of 77 samples (range of 9 to 397 milligrams per kilogram [mg/kg])
- Chromium, in 1 of 77 samples (range of 11 to 113 mg/kg)
- Zinc, in 2 of 77 samples (range of 51 to 467 mg/kg)

In stream sediments, there were no exceedances of the CSQG ISQG identified for lead; however, there were exceedances of the CSQG ISQG for the following parameters:

- Arsenic, in all 77 samples (range of 9 to 397 mg/kg)
- Cadmium, in 6 of 7 samples (range of 0.3 to 1.1 mg/kg)
- Chromium, in 30 of 77 samples (range of 11 to 113 mg/kg)
- Copper, in 7 of 77 samples (range of 11 to 113 mg/kg)
- Mercury, in 7 of 77 samples (range of 0 to 0.5 mg/kg)
- Zinc, in 21 of 77 samples (range of 51 to 467 mg/kg)

Ponds

Sediment grain size was predominantly clay, followed by silt or sand (GEMTEC 2023b; Stantec 2024). There were no exceedances of the CSQG ISQGs in sediments for copper or lead, however there were exceedances of the following parameters:

- Arsenic, in 6 of 6 samples (range of 11 to 180 mg/kg)
- Cadmium, in 5 of 6 samples (range of 0.6 to 0.9 mg/kg)
- Chromium, in 1 of 6 samples (range of 9 to 42 mg/kg)
- Mercury, in 3 of 6 samples (range of 0.1 to 0.5 mg/kg)
- Zinc, in 2 of 6 samples (range of 18 to 160 mg/kg)

There were no exceedances of CSQG PEL identified for cadmium, chromium, copper, lead, mercury, or zinc. Arsenic concentrations were above the CSQG PEL guidelines in 5 of 6 sediment samples collected from ponds, and ranged from 11 mg/kg to 180 mg/kg.

Additional sediment samples collected outside the LAA showed similar trends in sediment quality (GEMTEC 2023b).

On the Island of Newfoundland, naturally high arsenic levels are not uncommon and are influenced by bedrock geology, surficial and chemical processes, and proximity to areas of mineralization (particularly copper and gold) (Serpa et al. 2009). Naturally high levels of other metals (i.e., cadmium, chromium, mercury, and zinc) may occur on the Island of Newfoundland due to underlying geology.

10.1.2.1.2 Fish Community

The Gander River Watershed supports a variety of fish species, including Atlantic salmon, brook trout, threespine and ninespine sticklebacks (*Gasterosteus aculeatus* and *Pungitius pungitius*), American eel (*Anguilla rostrata*), rainbow smelt (*Osmerus mordax*) and Arctic char (*Salvelinus alpinus*) (Wildlife Division 2010), all of which can be found in Gander Lake (O'Connell and Walsh 2007).

Qualitative and quantitative electrofishing surveys in the LAA/RAA captured Atlantic salmon, brook trout, threespine and ninespine sticklebacks, and American eel (Tables 10.4 and 10.5; GETMTEC 2023a; Stantec 2024, 2025, 2026, Stantec in preparation). No rainbow smelt or Arctic char were captured in the LAA/RAA.

Capture based fish sampling within the Project Area confirmed the presence of four fish species: Atlantic salmon, brook trout, and threespine and ninespine sticklebacks (Tables 10.6 and 10.7), whereas eDNA sampling detected Atlantic salmon, brook trout, threespine stickleback, and rainbow smelt. While rainbow smelt was positively detected in one of four samples at P4, it is important to note that this low level of detection either represents a low confidence of species presence in that pond or else their presence at a low abundance. Detections of eDNA generally matched the species captured by conventional fish capture methods.

Brook trout generally occurred throughout small headwater streams, and all of the ponds in the Study Area. Brook trout were also present in moderately sized streams, but Atlantic salmon were the dominant fish species in these streams especially near the confluence with the Gander River. Sticklebacks were found in slow flowing, small streams with fine substrates, beaver impoundments, and in ponds.

Fish sampling occurred at one bog hole, B03, in 2024 using eight minnow traps for a total effort of 319 hours. The bog hole had no inlet or outlet. No fish were captured, and the bog hole is not considered fish bearing. A second bog hole, B04, was assessed visually and was determined not to be fish bearing as it was too shallow (<10 centimetres [cm] deep) and was over 500 m from the nearest fish bearing watercourse. A summary of catch per unit effort (CPUE) by species is provided in Table 10.4 for streams surveyed using qualitative backpack electrofishing in 2022 to 2025. Brook trout CPUE ranged from 0 to 69 fish/1,000 seconds, Atlantic salmon CPUE ranged from 0 to 33 fish/1,000 seconds, and threespine stickleback CPUE ranged from 0 to 32 fish/1,000 seconds (Table 10.4). Of the species captured, the highest overall CPUE was for brook trout. The streams with the highest relative abundance of brook trout in the LAA was Stream 4, whereas the highest relative abundance of Atlantic salmon occurred at Stream 17. Each life stages of brook trout and stickleback were present in the LAA, whereas only the juvenile life stage of Atlantic salmon was observed. The minimum, average, and maximum fork length for brook trout and Atlantic salmon are provided in Table 10.5. Population estimates for brook trout in streams within the LAA ranged from 10.8 and 641.0 per section surveyed (GEMTEC 2023a). Additional quantitative electrofishing was conducted at six locations in the Gander River in 2025 to provide baseline data for future comparisons (Stantec in preparation).

Table 10.4 Summary of Catch Per Unit Effort for Qualitative Fish Sampling in Streams

Year	Stream	Fishing Time (seconds)	Number of Fish Captured				Catch Per Unit Effort (# per 1000 seconds)			
			Brook Trout	Atlantic Salmon	Threespine Stickleback	All Species	Brook Trout	Atlantic Salmon	Threespine Stickleback	All Species
2021	Stream 2	*	Captured**	0	Captured**	11	ND	-	ND	ND
2024	Stream 4	464	32	0	0	32	69.0	-	-	69.0
2021	Stream 11	*	3	0	0	3	ND	-	-	ND
2025	Stream 11	345	No fish captured.				-	-	-	-
2023	Stream 13	1360	18	0	0	18	13.2	-	-	13.2
2023	Stream 15	1012	13	4	0	17	12.8	4.0	-	16.8
2021	Stream 16	*	No fish captured.				-	-	-	-
2023	Stream 17	1011	11	33	0	44	10.9	32.6	-	43.5
2023	Stream 18	2041	11	0	0	11	5.4	-	-	5.4
2024	Stream 20	607	No fish captured.				-	-	-	-
2024	Stream 21	358	No fish captured.				-	-	-	-
2024	Stream 22	501	No fish captured.				-	-	-	-
2021	Stream 25	*	Captured**	0	Captured**	12	ND	-	ND	ND
2024	Stream 26	204	No fish captured.				-	-	-	-
2024	Stream 28	254	0	0	1	1	-	-	3.9	3.9
2024	Stream 30	632	2	0	0	2	3.2	-	-	3.2
2023	Stream 30	502	No fish captured.				-	-	-	-
2025	Stream 31	673	1	0	0	1	1.5	-	-	1.5
2025	Stream 32	77	No fish captured.				-	-	-	-
2024	Stream 33	492	4	0	0	4	8.1	-	-	8.1
2024	Stream 34	212	0	0	5	5	-	-	23.6	23.6
2024	Stream 35	156	0	0	5	5	-	-	32.1	32.1
2024	Stream 36	35	No fish captured.				-	-	-	-
2025	Stream 40	344	1	0	3	4	2.9	-	8.7	11.6

Table 10.4 Summary of Catch Per Unit Effort for Qualitative Fish Sampling in Streams

Year	Stream	Fishing Time (seconds)	Number of Fish Captured				Catch Per Unit Effort (# per 1000 seconds)			
			Brook Trout	Atlantic Salmon	Threespine Stickleback	All Species	Brook Trout	Atlantic Salmon	Threespine Stickleback	All Species
2025	Stream 41	1912	30	0	4	34	15.7	-	2.1	17.8
2025	Stream 42	*	3	0	0	3	-	-	-	-
2025	Stream 43	254	No fish captured.				-	-	-	-
2025	Stream 44	513	No fish captured.				-	-	-	-
2025	Stream 47	502	1	0	10	11	2.0	-	19.9	21.9
2024	Stream 64	202	No fish captured.				-	-	-	-
2024	Stream 69	461	No fish captured.				-	-	-	-
2024	Stream 70	563	No fish captured.				-	-	-	-
2025	Stream 162	575	No fish captured.				-	-	-	-
2023	Stream 168	1087*	10	13	2	25	9.2	12.0	1.8	23.0
2024	Stream 173	230	No fish captured.				-	-	-	-
2024	Stream 174	63	No fish captured.				-	-	-	-
2024	Stream 175	47	No fish captured.				-	-	-	-
2024	Stream 176	74	No fish captured.				-	-	-	-

Notes:

* electrofishing time at one station was not recorded.

**number of each species not recorded (GEMTEC 2023a).

ND: No data collected.

Table 10.5 Summary of Summary of Catch and Descriptive Statistics for Salmonids Caught by Qualitative Electrofishing in Streams, 2023 to 2025

Year	Location	Atlantic salmon				Brook Trout			
		Count	Minimum Length (mm)	Mean Length (mm)	Maximum Length (mm)	Count	Minimum Length (mm)	Mean Length (mm)	Maximum Length (mm)
2024	Stream 4	0	-	-	-	32	49	61.3	74
2025	Stream 11	No fish captured.							
2023	Stream 13	0	-	-	-	17	51	101.2	124
2023	Stream 15	4	55	83.8	98	13	49	117.7	156
2023	Stream 17	33	65	94	139	11	72	143.3	184
2023	Stream 18	0	-	-	-	11	59	120.4	158
2024	Stream 20	No fish captured.							
2024	Stream 21	No fish captured.							
2024	Stream 22	No fish captured.							
2024	Stream 26	No fish captured.							
2024	Stream 28	0	-	-	-	21	35	51.1	69
2023, 2024	Stream 30	0	-	-	-	2	58	60	62
2025	Stream 31	0	-	-	-	1	-	-	53
2025	Stream 32	No fish captured.							
2024	Stream 33	0	-	-	-	4	49	59	66
2024	Stream 34	No fish captured.							
2024	Stream 35	0	-	-	-	0	-	-	-
2024	Stream 36	No fish captured.							
2025	Stream 40	0	-	-	-	1	-	-	51
2025	Stream 41	0	-	-	-	41**	40	83	137
2025	Stream 42	0	-	-	-	3	43	53	59
2025	Stream 43	No fish captured.							

Table 10.5 Summary of Summary of Catch and Descriptive Statistics for Salmonids Caught by Qualitative Electrofishing in Streams, 2023 to 2025

Year	Location	Atlantic salmon				Brook Trout			
		Count	Minimum Length (mm)	Mean Length (mm)	Maximum Length (mm)	Count	Minimum Length (mm)	Mean Length (mm)	Maximum Length (mm)
2025	Stream 44	No fish captured.							
2025	Stream 47	0	-	-	-	1	53	-	53
2024	Stream 64	No fish captured.							
2024	Stream 69	No fish captured.							
2024	Stream 70	No fish captured.							
2025	Stream 162	No fish captured.							
2023	Stream 168	13	79	99.5	143	10	133	157.5	216
2024	Stream 173	No fish captured.							
2024	Stream 174	No fish captured.							
2024	Stream 175	No fish captured.							
2024	Stream 176	No fish captured.							
Total						**127**	**35**	**104.9**	**216**

Notes:

Length data not available for 2021 electrofishing program (GEMTEC 2023a).

** Twelve fish escaped prior to being measured and are not included in the descriptive statistics.

Table 10.6 Catch Per Unit Effort for Fish Sampling in Ponds and Impoundments

Year	Major Sub-Watershed	Location	Sampling Method	Total Effort (hours)	Brook Trout Average CPUE (Fish per trap hour)	Threespine Stickleback Average CPUE (Fish per trap hour)
2022, 2023	A	P1	Fyke net (8)	94	0.06	-
2023	A	P2	25 and 38 mm Gill net (6)	100	0.01	-
2022, 2023	A	P2	eDNA	11 samples	detected	detected
2022, 2023	A	P2	Fyke net (6)	128	-	4.27
2023	A	P2	Minnow trap (4)	72	-	0.04
2022	A	P3	eDNA	4 samples	detected	-
2022	A	P3	Fyke net (4)	82	0.01	-
2023	D	P4	25 and 38 mm Gill net (4)	4	0.25	-
2022, 2023	D	P4	eDNA*	4 samples	detected	detected
2022	D	P4	Fyke net (8)	171	-	-
2023	D	P4	Minnow trap (4)	5	-	0.96
2022	C	P5	Fyke net (4)	88	0.10	-
2022	E	P6	Fyke net (2)	42	0.67	-
2022	E	P6	Minnow trap (3)	72	-	-
2023	C	P7	25 and 38 mm Gill net (4)	88	-	-
2023	C	P7	eDNA	3 samples	-	detected
2022	C	P7	Fyke net (2)	42	-	-
2023	C	P7	Minnow trap (4)	174	-	-
2022	A	P8	Fyke net (4)	78	0.15	-
2024, 2025	A	P9	25 and 38 mm Gill net (7)	8	0.30	-
2022, 2023	A	P9	eDNA	4 samples	detected	detected
2025	A	P9	Fyke net (3)	61	0.33	12.16
2022	C	P10	eDNA	2 samples	detected	detected
2023	B	P12	25 and 38 mm Gill net (5)	116	0.05	-

Table 10.6 Catch Per Unit Effort for Fish Sampling in Ponds and Impoundments

Year	Major Sub-Watershed	Location	Sampling Method	Total Effort (hours)	Brook Trout Average CPUE (Fish per trap hour)	Threespine Stickleback Average CPUE (Fish per trap hour)
2023	B	P12	eDNA	2 samples	detected	detected
2023	B	P12	Minnow trap (1)	24	-	-
2024, 2025	A	P13	38 mm Gill net (4)	3	1.44	-
2022	A	P13	eDNA	2 samples	detected	detected
2025	A	P13	Fyke net (2)	40	0.96	0.32
2022	E	P14	eDNA	3 samples	detected	detected
2024	B	P15	38 mm Gill net (2)	2	-	-
2023	B	P15	eDNA	2 samples	detected	detected
2022	C	P20	eDNA	4 samples	detected	detected
2023	A	P28	eDNA	1 sample	-	-
2023, 2024	A	P29	25 and 38 mm Gill net (5)	243	0.01	-
2023	A	P29	eDNA	1 sample	-	-
2023, 2024	A	P29	Minnow trap (12)	296	-	-
2022	A	Stream 11	Minnow trap (2)	47	-	-
2022	C	Stream 52	Minnow trap (2)	47.5	0.02	-
2024	A	Bog hole 3	Minnow trap (8)	319	-	-

Note:

* very low amount of rainbow smelt (*Osmerus mordax*) DNA detected; inconclusive evidence of presence in waterbody

Table 10.7 Summary of Catch, Effort, and Descriptive Statistics for Fish Sampling in Ponds

Year	Pond	Method	Fork Length (mm)				Threespine Stickleback	Total Number of Fish Captured
			Brook Trout					
			Count	Min	Mean	Max		
2022, 2023	P1	Fyke Net	12	184	204	254	0	12
2022, 2023	P2	Fyke Net	0	-	-	-	425	425
2023	P2	Gill Net	1	-	-	180	0	1
2023	P2	Minnow Trap	0	-	-	-	3	3
2022	P3	Fyke Net	1	-	-	267	0	1
2022	P4	Fyke Net	No fish captured					
2023	P4	Gill Net	1	-	-	233	0	1
2023	P4	Minnow Trap	0	-	-	-	4	4
2022	P5	Fyke Net	9	122	195	249	0	9
2022	P6	Fyke Net	28	85	210	228	0	28
2022	P6	Minnow Trap	No fish captured					
2023	P7	Gill Net	No fish captured					
2022	P7	Fyke Net	No fish captured					
2023	P7	Minnow Trap	No fish captured					
2022	P8	Fyke Net	11	135	181	230	0	11
2024	P9	Gill Net	1	-	-	290	0	1
2025	P9	Fyke Net	20	51	155	297	742	762
2024	P9	Minnow Trap	No fish captured					
2023	P12	Gill Net	4	165	300	432	0	4
2023	P12	Minnow trap	No fish captured					
2024, 2025	P13	Gill Net	3	130	160	185	0	3

Table 10.7 Summary of Catch, Effort, and Descriptive Statistics for Fish Sampling in Ponds

Year	Pond	Method	Fork Length (mm)				Threespine Stickleback	Total Number of Fish Captured
			Brook Trout					
			Count	Min	Mean	Max		
2025	P13	Fyke Net	39	104	189	282	13	52
2024	P15	Gill Net	No fish captured					
2023, 2024	P29	Gill Net	2	210	215.5	221	0	2
2023, 2024	P29	Minnow Trap	No fish captured					
		Total	**132**	**51**	**192**	**432**	**1187**	**1319**

10.2 Potential Effects and Effect Pathways

A summary of the potential effects and Project effect pathways to be assessed for Fish and Fish Habitat is provided in Table 10.8. Potential environmental effects and effects pathways were selected based on the review of similar projects in NL and other parts of Canada, and professional judgement.

Table 10.8 Potential Effects and Effect Pathways for Fish and Fish Habitat

Potential Effect	Effect Pathway(s)
Change in fish habitat quantity	• Fish habitat may be directly lost as a result of open pit development at the Keats deposit • Placement of infrastructure in streams or ponds may result in a direct loss of available habitat for fish to carry out their life processes • Stream crossings have the potential to result in an obstruction to fish passage if not properly designed, which could limit access to upstream habitats that are required to carry out life processes (Dunham et al. 1997; Khan and Colbo 2008) • Construction of mine features may also result in an indirect loss of fish habitat due to reduced flow resulting from loss of up stream ponds, a reduction in stream flows due to changes in drainage area, water management infrastructure, or water withdrawal (if required), changes in groundwater discharge associated with dewatering the pits, and natural filling of the open pits during closure
Change in fish habitat quality	• The use of industrial equipment in or near water could introduce deleterious substances, result in sedimentation or alter fish habitat, such that habitat quality is reduced (Herbert and Merkens 1961; Sweka and Hartman 2001; Robertson et al. 2006) • Site clearing and preparation could increase the potential for changes in runoff, sedimentation, and the introduction of deleterious substances into fish habitat, thus reducing habitat quality (e.g., siltation of spawning beds) (Wood and Armitage 1997; Curry and MacNeill 2004; Greig et al. 2007) • Removal of riparian vegetation may reduce shade and/or increase nutrient and energy inputs, which could affect water quality, and in turn fish habitat quality through changes in temperature and food availability (i.e., primary and secondary productivity) (Zalewski et al. 2001) • Instream work during high flow or increased rainfall events can increase the potential for runoff and the amount of sediment entering fish habitat. These effects may be compounded if sedimentation occurs during the spawning, incubation or hatching period of a fish species (DFO 2000). • Mining activities could result in suspended sediments being carried by air into adjacent waterbodies or watercourses, thereby effecting fish habitat quality • Runoff or seepage from overburden and waste rock piles could affect water quality and thereby affect fish habitat quality (Jennings et al. 2008) • Discharges into the aquatic environment could affect fish habitat quality if suspended sediments and/or contaminants are released, which could affect the suitability of habitat for fish (Herbert and Merkens 1961; Sweka and Hartman 2001; Robertson et al. 2006) • Changes in stream flow can affect habitat suitability or quality, including changes to stream geomorphology, water velocity, habitat types (e.g., riffles, runs), wetted channel perimeter and water quality • Seasonal turnover of stratified pit lakes could affect fish habitat quality downstream by causing changes to dissolved oxygen, water temperature and concentrations of contaminants • Transfer of aquatic invasive species from equipment could result in a change in fish habitats (e.g., aquatic vegetation, algae, mussels)

Table 10.8 Potential Effects and Effect Pathways for Fish and Fish Habitat

Potential Effect	Effect Pathway(s)
Change in fish health and survival	• Timing of in-water works could affect fish health and survival if early life stages (e.g., eggs or larvae) are present when in-water work occurs • Fish health and survival could be affected directly or indirectly through injury due to industrial equipment working in or near streams and ponds • Introduction of sediments and contaminants into fish habitat could affect fish health and survival. Siltation events could inhibit the ability of fish to forage, cause behavioural or physiological changes in fish, and can smother eggs (Herbert and Merkens 1961; Sweka and Hartman 2001; Robertson et al. 2006) • Introduction of deleterious substances (e.g., grease, fuel) from machinery operating in or near waterbodies could affect fish health and survival • Transfer of aquatic invasive species from equipment could result in a change in fish health and survival, because of changes in fish habitat, competition, or predation from invasive species • Removal of riparian vegetation near watercourses and waterbodies could affect fish health due to changes in shade, protective cover, and/or external nutrient/energy inputs (Zalewski et al. 2001) • The improper design or construction of stream crossings could block fish passage to important habitats and reduce fish health and survival • Pumping could impinge or entrain fish and thereby affect fish health and survival. • The use of explosives in or near water could result in instantaneous changes in pressure, and changes to fish health and survival through injury or instantaneous death • Fish survival could be affected by stranding in streams with reduced flows (i.e., indirect loss; Irvine et al. 2009; DeBoer et al. 2016) • Discharge of effluents into the aquatic environment could affect fish health and survival, if exposed to contaminants • Workers on site during construction and operation may result in an increase in recreational fishing activities that could cause increased pressures on fish populations • Seasonal turnover of stratified pit lakes could affect fish health and survival in downstream watercourses if there are changes in dissolved oxygen, water temperature and concentrations of contaminants

10.3 Mitigation and Management Measures

The Project has been designed to avoid fish habitat through careful planning and placement of infrastructure, shifting locations of activities away from waterbodies to the extent feasible and by planning and designing water management systems that maintain existing stream flows, where feasible. Where avoidance was not feasible, the mitigation measures described below will be employed to reduce the potential for effects.

Environmental management plans will be developed and/or updated by New Found Gold to mitigate the effects of the Project on Fish and Fish Habitat. A list of standard mitigation measures to be applied throughout Project construction, operation, and rehabilitation and closure is provided in Table 4.31. The mitigation measures have been selected in consideration of the environmental effects pathways and include standard mitigation measures, incorporate DFO standards and best management practices (DFO 2025b) and consider regulations and guidelines that govern fish and fish habitat protection. Many of these standard mitigation measures will serve to avoid or reduce potential effects to Fish and Fish Habitat, including the measures identified for the following Project activities:

- Site Clearing, Site Preparation, and Erosion and Sediment Control
- Soil Management
- Works In or Near Fish Habitat
- Blasting
- Vehicles / Equipment / Roads
- Site Water Management
- Materials Handling and Waste Management
- Rehabilitation and Closure

The following additional mitigation measures specific to the Fish and Fish Habitat have been identified for the Project:

- Mine waste will not be disposed of or placed in fish-bearing waters
- New culverts will be sized appropriately, embedded and designed to be passable to fish to provide fish passage
- Equipment will be inspected and cleaned prior to use onsite to prevent the transfer of non-native aquatic invasive species
- In-water work areas will be isolated from receiving fish bearing waters as required by applicable permits
- The amount of water requiring treatment on site will be reduced through perimeter berms which will promote overland flow of clean non-contact runoff away from the mine site
- Flows to fish bearing streams and ponds will be maintained by designing water management within the pre-development catchments to the extent practicable
- Treated mine effluent will discharge via two final discharge points (FDPs) to assist in maintaining stream flows, downstream of P9 (P-Pond) and North Herman's Ponds (P1), where feasible
- Runoff will be directed away from active work areas before construction commences, reducing the volume of sediment-laden water to be managed
- If sediment laden water is observed, work will be stopped and additional mitigation measures will be implemented to prevent dispersal
- Use of explosives in or near water will be avoided, however, if required, DFO blasting guidelines will be followed
- Fish rescues will be conducted in isolated areas of streams or ponds which experience reductions in flow, as required by applicable regulators

10.4 Residual Environmental Effects

Potential environmental effects on Fish and Fish Habitat were identified in Section 10.2. Three potential effects were identified: change in fish habitat quantity, change in fish habitat quality, and change in fish health and survival. Residual effects (i.e., those remaining following implementation of mitigation [Section 10.3]) for each Project phase are evaluated below. The assessment of residual effects considers the following key factors:

- The streams, rivers and ponds within the LAA provide habitats for various life stages of fish species. Ponds varied in size (0.7 to 73.9 ha) and depth (1.7 to 16.2 m). Ponds contained a high proportion of fine substrates and in-water cover was provided by aquatic vegetation. Small streams were generally narrow (<5.0 m wide), shallow (<0.5 m), and slow flowing (~0.2 m/s), with some headwater streams being ephemeral or intermittent. Larger streams (i.e., third order or higher) had higher gradients, were faster flowing and had more coarse substrates.
- Currently water quality in streams and ponds within the Project Area is generally acceptable for supporting cold water fish communities. There are periods during the summer months when water temperatures are elevated above the preferred ranges of brook trout and Atlantic salmon.
- The Gander River Watershed contains both diadromous and resident fish populations. Multiple surveys and sampling methods confirmed the presence of Atlantic salmon, brook trout, sticklebacks, and American eel within the Project Area and LAA.
- American eel are identified as aquatic SAR/SOCC. Recent field studies found American eel in the Gander River (LAA/RAA) but not within streams or ponds in the Project Area.
- The RAA supports recreational fisheries for Atlantic salmon and brook trout. The Gander River is a scheduled salmon river and has a well-known recreational salmon fishery. Ponds and streams in the RAA also support recreational fisheries for brook trout.
- The Project has been designed to avoid loss of fish habitat through careful planning of the placement of infrastructure and shifting locations of activities away from watercourses and waterbodies, as practically feasible. Where avoidance is not feasible, mitigation measures will be employed to reduce the potential for effects.

10.4.1 Change in Fish Habitat Quantity

The residual effects on fish habitat quantity are dependent on the results of the assessment of Project effects on the Surface Water Resources VC (Section 9). For the Surface Water Resources VC, changes to surface water quantity are anticipated to occur during construction and operation, and rehabilitation and closure (active and post-closure), and therefore the residual effects of all Project phases were considered together. As the primary effect for the Fish and Fish Habitat VC is loss of fish habitat, changes in flow for all Project phases have been assessed together to determine the total predicted extent of HADD, irrespective of Project phase.

Pathways that affect fish habitat quantity, as outlined in Section 10.2, are related to pit development, placement of Project infrastructure in fish habitat, changes from water management, and fish passage.

As indicated previously (Section 10.3), the Project has been designed to avoid loss of fish habitat through careful planning of the placement of infrastructure and shifting locations of activities away from waterbodies, as practically feasible. Where avoidance is not feasible, mitigation measures will be implemented to reduce the potential for effects as described below. Residual Project-related effects to fish habitat quantity are reduced through the application of DFO's *Measures to Protect Fish and Fish Habitat*, and standards and codes of practice (DFO 2025b, 2025c).

Direct loss arises from the permanent loss of fish habitat in pond or streams, as the habitat is replaced/overprinted by Project-related infrastructure. The development of the Keats pit, sedimentation pond drainage channel outlets, water intakes (if needed) and water crossings structures associated with roads may result in the direct loss of fish habitat and reduce the available habitat for fish to carry out their life processes. Development of the Keats pit will result in the loss of pond habitat in South Herman's Pond (P2), since the pond will be dewatered to facilitate the development of the open pit. Construction of sedimentation pond drainage channel outlets and water intakes (if required) may also result in the loss of pond habitat within the immediate footprint of infrastructure.

Stream crossings have the potential to result in an obstruction to fish passage if not properly designed or installed. This could limit access to upstream habitats that fish require to carry out life processes (Dunham et al. 1997; Khan and Colbo 2008). However, stream crossing structures will be designed consistent with best practices and DFO guidance, as will be described in the Environmental Protection Plan, allowing fish to access the necessary habitat required for life processes.

As described in Section 9 (Surface Water Resources), changes in stream flow may occur in all Project phases and may result in the indirect loss of fish habitat. Indirect loss is the temporary or permanent loss of fish habitat by means other than being overprinted by Project-related infrastructure; indirect loss can occur from loss of watershed area or waterbodies upstream, reductions in flow, or other mechanism (e.g., water withdrawal). Changes in stream flow are anticipated during construction due to the direct loss of fish habitat upstream (e.g., South Herman's Pond; P2) and associated changes in watershed area. During operation, changes in flow are anticipated due to site water management, and diversion of groundwater and surface water flows to exhausted open pits (i.e., Dome and Jackpot). At the end of operation, these two pits are expected to function as groundwater recharge areas and no surface water discharges from the pit spillways are anticipated (Section 8, Groundwater Resources). During rehabilitation and closure, changes in flow are also anticipated due to filling of the remaining open pits (i.e., Keats and Iceberg) and as some watersheds are restored to pre-development conditions post-closure. The Iceberg pit and Keats pit are predicted to overflow in Mine Year 25+ and 31+, respectively.

It is anticipated that water for dust suppression and non-potable domestic use (e.g., toilets) will be required over the life of the Project and will be obtained from site-contact water. However, if the need for additional water is required, applicable regulators will be consulted and permits obtained for the placement of a freshwater intake and water withdrawal. A source of potable water for showers and hand washing is still under consideration, which could include a groundwater well.

Changes in flow may result in effects to fish habitat quantity through changes in water level and subsequent channel morphology (e.g., wetted channel width) in streams. Adverse effects to fish and fish habitat are anticipated because of reductions in stream flow during construction, operation, or rehabilitation and closure. Streams experiencing indirect loss are anticipated to continue to support fish at a reduced level of productivity for the duration of the Project. These streams will likely become less productive, have changes in primary (e.g., periphyton) and secondary (e.g., benthic invertebrates) producers, and may become narrower, depending on the amount of flow reduction.

Streams with flow reductions greater than 10% of mean annual flow (MAF) were considered to result in adverse effects to fish habitat. The effects to fish habitat were predicted to be greatest during the summer low flow period when stream discharges are typically below 30% of MAF. While some streams are anticipated to have reductions in flow, a few streams may have increased flow because of increased discharge via sedimentation ponds or changes in watershed area. These higher flows will be attenuated through the sedimentation ponds to reduce peaks and extend baseflows. The magnitude of changes in MAF through the various Project phases in comparison to pre-development conditions for each watershed are described in more detail in Section 9.

A summary of the anticipated loss of fish habitat due to the Project is provided in Table 10.9, and areas of predicted habitat loss, direct and indirect, are shown on Figure 10.4.

Table 10.9 Summary of Anticipated Loss of Fish Habitat Quantity in the LAA as a Result of the Project

Loss[1]	Feature	Location	Fish Habitat Area (m^2)
Direct	Pond	P2	91,348
Direct	Streams	Two final discharge points, pit development, Streams 33, 34, 35, stream crossings	1,322
Indirect	Streams	Stream S2, S4, S11, S16, S20, S21, S28, S41, S42, S43, S44, S45, S70	5,160
		Total	**97,830**

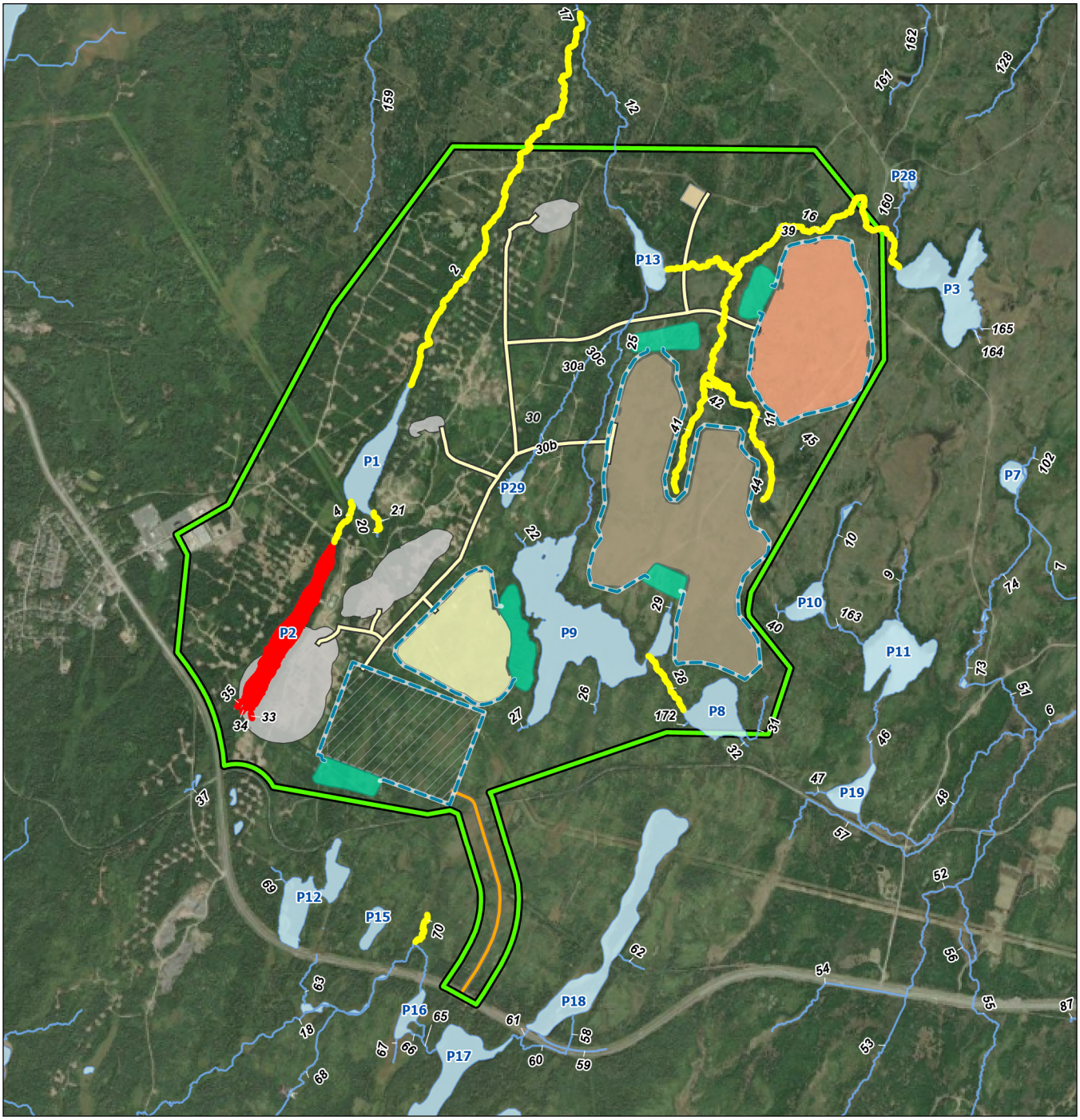
Note:

[1]Direct loss arises from the placement of Project-related infrastructure in fish habitat.

Indirect loss arises from the temporary or permanent loss of fish habitat by a means other than being replaced/overprinted by Project-related infrastructure (e.g., loss in flow)

m^2: square metre(s)

Where there is residual loss of fish habitats, these will be counterbalanced through habitat offsetting, as required by the *Fisheries Act*, through Ministerial authorization. A cautionary approach to offsetting will be taken in developing a Fish Habitat Offsetting Plan to account for uncertainty in predicting the loss of fish habitat; it will aim for a net gain of fish habitat. The Offsetting Plan will consider input from consultation and engagement and will be developed and implemented in consultation with DFO and in consideration of the *Policy for Applying Measures to Offset Harmful Impacts to Fish and Fish Habitat* (DFO 2025d).



Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec; Newfound Gold Corp.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands; CanVec; Vantor

Legend

Proposed Project Layout
- Project Area
- Access Road
- Ditch
- Haul Road
- Open Pit
- Ore Stockpile
- Overburden Storage Facility
- Waste Rock Storage Facility
- Industrial Terrace
- Sedimentation Pond

Fish Habitat Loss
- Direct
- Indirect

Other Features
- Watercourse
- Waterbody

0 250 500 metres
(At original document size of 8.5x11)
1:32,000

N

Stantec

Project Location
Appleton, NL

Prepared by NW on 2026-01-30
Revised by SC on 2026-04-24
TR by JR on 2026-04-24

Client/Project
121418510_501
New Found Gold Corp.
Queensway Gold Project

Figure No.
10.4

Title
Predicted Loss of Fish Habitat

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The Offsetting Plan will address the direct loss of fish habitat associated with the following Project components and activities:

- Dewatering and excavation of the Keats open pit
- Placement of sedimentation pond drainage channel outlets at the confluence of receiving watercourses or waterbodies of FDPs
- Water intakes and withdrawal (if required)
- Placement or extension of culverts or other water crossing structures during access and site road development or upgrading

The Offsetting Plan will also address the indirect loss of fish habitat associated with the following:

- Loss in flow resulting from the direct loss of fish habitat upstream or during natural pit filling
- Changes in flow due to water management (e.g., diversion of site contact water to sedimentation ponds for treatment)
- Changes in flow due to water withdrawals from a water intake (if required)

With standard mitigation, and based on the existing Project design, the Project is anticipated to result in the direct and indirect loss of 97,830 m^2 of fish habitat within the LAA. Most of the HADD of fish habitat will occur during the construction phase of the Project, during the development of Keats pit, which provides habitat for a very small population of brook trout and stickleback. The amount of fish habitat offset will be based on the quantity and quality of fish habitat lost within the Project Area, in consultation with DFO. Should the location of Project components shift, the loss of the habitat associated with the Project may be revised, as required, and the offset adjusted accordingly.

Based on the information presented above, and the implementation of avoidance, mitigation and management measures, Project-related residual effects are predicted to be:

- **Magnitude:** Residual effects are anticipated to be moderate in magnitude given that flow reductions will be greater than natural variability.
- **Geographic Extent:** Project effects on fish habitat quantity are expected to occur within the LAA.
- **Duration:** Residual effects to fish habitat quantity will occur over a long-term duration and be realized post-closure until the last of the pits overflow.
- **Frequency:** Residual effects will occur at multiple irregular events during the mine life.
- **Reversibility:** The loss of fish habitat is permanent and irreversible in some areas (e.g., the loss associated with South Herman's Pond); however, some areas of indirect loss may be reversible post-closure. Residual effects to fish habitat quantity will be counterbalanced through an Offsetting Plan, pursuant to the *Fisheries Act*.

10.4.2 Change in Fish Habitat Quality

The residual effects on fish habitat quality are dependent on the results of the assessment of Project effects on Surface Water Resources (Section 9) as changes in surface water quality influence fish habitat quality. Pathways that affect fish habitat quality as outlined in Section 10.2 are related to work in or near water, surface runoff or dust from areas of disturbance, removal of vegetation, changes in stream flow due to water management, discharge of treated effluent, groundwater seepage, and turnover in filled pits.

The Project has been designed to avoid these pathways to the extent practicable through shifting the placement of infrastructure and locations of activities away from watercourses. Where avoidance is not feasible, mitigation (Section 10.3) will be used to reduce the potential for effects as outlined below. Interactions for fish and fish habitat are well known and documented, and DFO standards and codes of practice will be followed when working near water. Consequently, with the application of best practices and DFO's *Measures to Protect Fish and Fish Habitat* (DFO 2025b), residual Project related effects relating to work in or near water, surface water runoff, removal of vegetation and transfer of aquatic invasive species are anticipated to be low in magnitude for fish habitat quality.

Mine dust could result in suspended sediments being carried by air into adjacent ponds or streams. Mitigation measures described in Section 4.9.3 and Section 7.3 will be used to mitigate airborne dust and reduce the potential for dust to affect fish habitat quality.

As described in Section 9 and Section 10.4.1, changes to habitat quantity can result in changes to stream flow which can also affect habitat quality. For Streams S2, S4, S11, S16, S20, S21, S28, S41, S42, S43, S44, S45, and S70 (Figure 10.4), changes in habitat quantity can result in indirect effects to habitat quality including changes in substrate, velocity, and primary and secondary productivity. The magnitude of the predicted changes is not anticipated to affect the ability of fish to use streams to carry out their life processes or affect the sustainability of fish populations in the LAA.

The assessment of residual Project-related effects to fish habitat quality from seepage or discharges released into the aquatic environment are reliant on the results of the Assimilative Capacity Assessment completed in support of the Surface Water Resources VC (Section 9).

During operation, residual Project-related effects on the quality of fish habitat are anticipated to occur due to changes in water quality from discharge of effluent containing parameters of potential concern (PoPC) above the CWQG-FAL or baseline conditions, into ponds and streams. Effluent discharges will be managed and treated to meet authorized MDMER limits prior to discharge, however for the conservative regulatory scenario (i.e., models effluent quality with the maximum average monthly MDMER limits for PoPCs and low flow conditions in the receiving environment), the Assimilative Capacity Assessment suggests that aluminum, arsenic, copper, lead, zinc, and unionized ammonia will exceed the CWQG-FAL or background conditions downstream of the effluent discharge points within pond and stream receiving environments (Section 9.4.2). These parameters are predicted to meet CWQG-FAL or background conditions within 50 m of mixing within the Gander River. Again, these predictions are considered conservative as it is anticipated that the PoPCs in effluent will be below MDMER limits. Water quality monitoring will be conducted during operation to verify these assumptions and adaptive management, including additional monitoring or mitigation, may be implemented as required. An environmental effects monitoring (EEM) program will also be implemented in accordance with MDMER.

Residual effects on the quality of fish habitat from Project effluents and discharges are anticipated to be moderate, as these will be authorized and in compliance with applicable regulatory requirements. Biological monitoring programs (i.e., EEM) will be established to assess potential effects to fish, benthic invertebrates and fish habitat, including water quality and sediment quality. The Water Management Plan (Appendix 4.A) will be followed and modified if required using an adaptive management process.

Given their depth, the four pits are expected to be stratified following closure, with the deepest stratified layer (i.e., hypolimnion) expected to be anoxic and containing elevated levels of dissolved metals. The surface water layer (i.e., epilimnion) is expected to be well oxygenated and is anticipated to comprise most of water discharging from the filled pits to streams during operation, and rehabilitation and closure. As described previously, surface water is not anticipated to flow from Dome and Jackpot pits following closure due to these pits functioning as groundwater recharge areas. Surface water will be released from the Keats and Iceberg filled pits once the water quality discharge limits are met. Outflowing water from the filled pits is predicted to meet MDMER for PoPCs during closure. Water quality for PoPC are anticipated to meet the CWQG-FAL or baseline in pond and stream receiving environments, with the exception of arsenic which is expected to meet the CWQG-FAL following mixing in Gander River (Section 9).

Based on the groundwater flow model (Section 8), groundwater seepage surrounding the overburden storage facility, ore stockpile and waste rock storage facility will need to be intercepted and treated prior to discharge, as described in Section 9.4.2.2, so that MDMER limits for arsenic can be met in streams surrounding this infrastructure (i.e., Streams 11, 16, 25, 29, 41, 42, 43, and 44).

Based on the information presented above, and the implementation of avoidance, mitigation and management measures, Project-related residual effects are predicted to be:

- **Magnitude:** Residual effects from the Project on change in fish habitat quality are anticipated to be moderate in magnitude. Although concentrations of specific parameters may exceed CWQG-FAL at some locations, effects to fish habitat are not expected to affect the sustainability of fish populations within the LAA, as MDMER limits will be met.
- **Geographic Extent:** Project effects on fish habitat quality are expected to occur within the LAA. Concentrations of PoPCs from treated effluent at discharge points and seepage are expected to decrease within the mixing zones, such that effects to fish habitat will decrease with increasing distance from the source. PoPCs will be below CWQG-FAL or baseline within 50 m of mixing within the Gander River.
- **Duration:** Residual effects to fish habitat quality will occur over a long-term duration and extend past the life of the Project. Filled pits and the rehabilitated waste rock storage facility will be permanent features which will continue to influence water quality in streams and ponds through seepage and surface water runoff. Groundwater seepage and surface water runoff will comply with MDMER limits in closure, as applicable.
- **Frequency:** Residual effects will be continuous throughout the mine life.
- **Reversibility:** The residual effects are considered reversible for streams or waterbodies with FDPs as conditions are anticipated to return to baseline once Project discharges cease, however there may be irreversible effects to some streams or ponds as a result of seepage from mine infrastructure which exceeds CWQG-FAL following rehabilitation and closure.

10.4.3 Change in Fish Health and Survival

Several Project-related activities could affect fish health and survival. In general, effects to fish habitat quantity and quality can also affect fish health and survival through different pathways. As described in Section 10.4.2, where avoidance is not feasible, standard mitigation (Section 10.3) including but not limited to erosion and sediment control measures, conducting fish rescues and following timing windows in areas of in-water works, fish screens and following blasting guidelines, will be used to reduce the potential for effects listed below on fish health and survival. The pathways that effect fish health and survival are well known and documented, and DFO standards and codes of practice will be followed when working in or near water. These effect pathways include:

- Conducting in-water work between October 1 and May 31, may affect spawning activities or result in the mortality of early life stages of fish
- Industrial equipment working in streams or ponds could result in injury or mortality to fish
- Introduction of sediments from surface runoff could smother eggs or inhibit foraging of fish
- Introduction of aquatic invasive species could result in competition with native species for food and habitats, or result in predation of native fish species
- Removal of riparian vegetation could result in reduced shade, cover or energy inputs into streams
- Improper culvert design on access roads could result in fish not being able to access upstream habitats
- Pumping associated with de-watering in-water work areas could result in fish entrainment and mortality
- Exposure to deleterious substances from heavy equipment or refueling could result in fish mortality or sublethal effects to fish
- Blasting in or near water could result in injury or instantaneous death to fish or eggs

Following standard mitigation, residual effects as a result of these pathways are anticipated to be low in magnitude for fish health and survival. However, residual effects to fish health and survival also have the potential to occur as a result of reduced flows (Section 10.4.1), discharge of effluents or groundwater seepage (Section 10.4.2), discharge of surface waters from filled pits (Section 10.4.2) and increased harvest of fish from increased fishing pressure. These are discussed in more detail below.

Loss of South Herman's Pond (P2), site water management and changes in groundwater levels associated with open pit mining or recharge, could affect fish health and survival by altering surface water flows (Section 10.4.1) and causing fish to become stranded (Irvine et al. 2009; DeBoer et al. 2016). Reductions in stream flows will occur during construction and operation from changes in watershed area due to water management infrastructure and open pit dewatering, and during operation and closure, when exhausted (mined out) pits fill naturally with groundwater and surface water runoff. Due to the progression of mining, pit-filling will be staggered, with some pits filling earlier in the mine life than others and some never filling completely. Filling the Keats and Iceberg pits in stages will better distribute the water demand and reduce impacts on stream flow, decreasing the potential for stranding of fish in downstream watercourses. Mitigation for fish stranding includes fish rescues in isolated areas of streams or ponds, as required by applicable regulators.

During operation, residual Project-related effects to fish health and survival, have the potential to occur due to changes in water quality from discharge of effluent containing contaminants above the CWQG-FAL or baseline concentrations. Effluent discharges will be managed and treated to meet authorized MDMER limits prior to discharge; and therefore, are not expected to result in direct mortality of fish. As some PoPCs (e.g., aluminum, arsenic, copper, lead, zinc, and unionized ammonia) are predicted to exceed the CWQG-FAL or background conditions downstream of these discharges (Section 9.4.2), there is the potential for sublethal effects to fish in pond and stream receiving environments. An EEM program will be implemented in accordance with MDMER to assess potential effects on fish health and survival.

Access to ponds and streams within the Project Area is generally good, because of previously constructed roads for forestry and exploration activities. New road construction or upgrades associated with the Project will be limited to the Project Area and will not provide new access to previously inaccessible areas. Therefore, changes in fish health and survival in streams and ponds within the Project Area are not anticipated due to increased access by anglers to recreational fishing areas. In addition, employees and contractors associated with the Project will be prohibited from fishing within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to enable the exercise of Indigenous rights. This mitigation will reduce the potential effects of increased angling pressure on fish health and survival to negligible throughout the life of the Project.

Following pit filling during operation and closure, the four pits are expected to be stratified because of their depth, with the deepest stratified layer (i.e., hypolimnion) expected to be anoxic and potentially contain elevated levels of dissolved trace metals. The surface water layer (i.e., epilimnion) is expected to be well oxygenated and is anticipated to form the majority of water discharging from the filled pits to streams during operation, and rehabilitation and closure. As discussed in Section 10.4.2, outflowing water is predicted to meet MDMER limits for PoPC during closure and is predicted to meet the CWQG-FAL or baseline in pond and stream receiving environments, with the exception of arsenic which is expected to meet the CWQG-FAL following mixing in Gander River (Section 9). As arsenic concentrations are predicted to exceed the CWQG-FAL or background conditions downstream, there is the potential for sublethal effects to fish in pond and stream receiving environments. Based on results of the water quality monitoring, adaptive management including additional monitoring or mitigation, may be implemented as required. An EEM Plan will also be implemented in accordance with MDMER, during the closure phase.

Based on the information presented above, and the implementation of mitigation and management measures, Project-related residual effects are predicted to be:

- **Magnitude:** Residual effects from the Project on change in fish health and survival are anticipated to be moderate in magnitude given that there will be localized exceedances of the CWQG-FAL and/or baseline that may affect fish health and survival. Although, concentrations of specific parameters may be above CWQG-FAL or baseline conditions at some locations, concentrations of PoPCs are not expected to be acutely lethal to fish or effect the sustainability of fish populations in the LAA.
- **Geographic Extent:** Project effects on fish health and survival have the potential occur within the LAA as concentrations of PoPCs may be above CWQG-FAL or baseline within mixing zones. PoPCs will be below CWQG-FAL or baseline within 50 m of mixing within the Gander River.

- **Duration:** Residual effects to fish health and survival will occur over a long-term duration and extend past the life of the Project. PoPCs will continue to influence water quality in streams and ponds through seepage and surface water runoff, during closure.
- **Frequency:** Residual effects will be continuous throughout the mine life.

  Reversibility: The residual effects are considered reversible to fish residing in streams or waterbodies with FDPs, as conditions are anticipated to return to baseline once Project discharges cease, however there may be irreversible effects as a result of localized exceedances of CWQG-FAL or baseline that continue following rehabilitation and closure.

10.4.4 Summary

For the purposes of this environmental assessment, a significant residual adverse effect on fish and fish habitat is defined as a Project-related HADD of fish habitat or the death of fish, as defined by the *Fisheries Act*, that cannot be mitigated, authorized or offset and/or a Project-related change to the sustainability of fish populations or fisheries within the LAA where recovery to baseline conditions is unlikely.

With environmental protection measures, mitigation and offsetting in place, the residual adverse environmental effects on fish and fish habitat are predicted to not be significant as Project-related HADD of fish habitat will be authorized and counterbalanced through an Offsetting Plan, and fish will be relocated from in-water work areas or areas of reduced flow, as required. The Offsetting Plan will include follow-up monitoring to confirm that the required offset is achieved, and contingency measures in the event that the offsetting is not successful. During each phase of the Project, discharges are anticipated to meet MDMER. Thus, Project-related changes to the sustainability of fish populations within the LAA is not anticipated. Based on implementation of the mitigation measures identified in Section 10.3 and New Found Gold's commitment to comply with regulatory standards, residual environmental effects on Fish and Fish Habitat are likely to be, not significant.

The overall determination of significance is made with a high level of confidence for the direct loss of fish habitat quantity and a moderate level of confidence for indirect loss of fish habitat quantity. A high level of confidence is applied to the direct loss of fish habitat, since the direct loss of habitat is equal to the surface area of the Project features responsible for the habitat loss. A moderate level of confidence is applied to the indirect loss of fish habitat, since the flow reductions used to calculate indirect habitat loss are predicted from modelling. There is a high level of confidence that there will be an overall gain in fish habitat from implementation of the Offsetting Plan, which will counterbalance the residual HADD of fish habitat resulting from the Project. Following closure, several streams will return to their pre-development flows, with fish populations anticipated to return to the baseline condition.

For change in fish habitat quality, the overall significance determination is made with a high level of confidence, given that best management practices and standard mitigation will be in place when working in and around water, and both effects and mitigations are well known and well documented. A moderate level of confidence is associated with the assessment of potential effects to water quality, where results of predictive models are relied upon.

For change in fish health and survival, the overall significance determination is made with a high level of confidence, given that best management practices and standard mitigation will be in place when working in and around water, and both effects and mitigation are well known and well documented. A moderate level of confidence is associated with the assessment of change in fish health and survival as it relates to water quantity and quality, since the anticipated effects are based on modelling results. The modelling results are considered conservative and the PoPC in the aquatic environment and their potential effects to salmonids are well understood. Overall, the potentially affected fish species are well studied, and their habitat preferences are well known to allow for prediction of effects.

10.5 Follow-up and Monitoring Programs

Follow-up and monitoring are intended to verify the accuracy of predictions made during the EA, to assess the implementation and effectiveness of mitigation and the nature of the residual effects, and to manage adaptively, if required. Compliance monitoring will be conducted to confirm that mitigation measures are properly implemented. Should an unexpected deterioration of the environment be observed as part of monitoring, intervention mechanisms will include an adaptive management process. This may include an investigation of the cause of the deterioration and identification of existing and/or new mitigation measures to be implemented to address it. Follow-up and monitoring plans pertaining to fish habitat include:

- Surface water quality monitoring (including filled pit water quality), as described in the Surface Water Monitoring Plan and Water Management Plan (Appendix 4.A).
- Plans related to monitoring sources of parameters of potential concern that can affect water quality, such as the ML/ARD (Metal Leaching / Acid Rock Drainage) Management Plan and Water Management Plan (Appendix 4.A).
- Compliance and performance monitoring of the Offsetting Plan, as per conditions of the *Fisheries Act* Authorization; should the monitoring program indicate that the offsetting objectives are not met, contingency measures described in the Offsetting Plan would be considered following consultation with DFO.
- An EEM program as required under MDMER if the effluent flow rate of 50 cubic metres per day is exceeded, based on the effluent deposited from all the final discharge points of the mine.

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11 Terrestrial Environment

The Terrestrial Environment was selected as a valued component (VC) because it provides ecological, cultural, recreational, aesthetic, and economic value and benefits to numerous groups in Newfoundland and Labrador (NL), including the public, Indigenous groups, local businesses, and government agencies. Activities associated with Project construction and operation have the potential to interact with the Terrestrial Environment, potentially affecting vegetation, wetlands, avifauna, and other wildlife:

- **Vegetation**, including species at risk (SAR) and species of conservation concern (SOCC), with a focus on plant species and community diversity
- **Wetlands**, defined as lands permanently or periodically submerged or saturated for sufficient time to maintain aquatic processes and support a vegetation community dominated by hydrophytic plants (Government of Canada 1991; NLMAE 2001); Wetlands include bogs, fens, marshes, swamps, and shallow waters
- **Avifauna and Other Wildlife**, comprising avifauna, bats, large mammals, furbearers, and small mammals, with emphasis on SAR and SOCC in the Project Area, as well as insect SAR

SAR include those species designated as Endangered, Threatened, or Special Concern under Schedule 1 of the federal *Species at Risk Act* (SARA) and/or listed as Endangered, Threatened, or Vulnerable under the NL *Endangered Species Act* (NL ESA). The protection of SAR and their residences is a legal requirement for those species listed under Schedule 1 of SARA and the NL ESA.

SOCC are defined as those species that do not meet the definition of SAR, but are ranked S1 (Critically Imperiled), S2 (Imperiled), or combinations thereof (e.g., S1S2) on the Island of Newfoundland by the Atlantic Canada Conservation Data Centre (AC CDC) (AC CDC 2025a, 2025b); species recommended for listing by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Endangered, Threatened, Vulnerable, or Special Concern but not yet listed under SARA; or recommended for listing by the Species Status Advisory Committee as Endangered, Threatened, Vulnerable, or Special Concern but not yet listed under the NL ESA. While SOCC are not protected under federal or provincial legislation, they are considered rare or to have uncertain long-term sustainability in NL.

This registration also considers a few species that do not meet the above-listed definitions for SAR and SOCC but are of particular interest to the NL Department of Forestry, Agriculture and Lands (NLDFAL)–Wildlife Division (hereafter Wildlife Division). For avifauna and other wildlife this includes muskrat (*Ondatra zibethicus*) and for vegetation this includes species ranked S2S3 by the AC CDC.

Avifauna are also regulated through the *Migratory Birds Convention Act, 1994*, which protects most avifauna species, including their nests and eggs, except some non-migratory groups such as raptors, crows, ravens, jays, kingfishers, starlings, and upland game birds. Avifauna species not protected under the *Migratory Birds Convention Act*, along with other wildlife species in NL, are protected under the NL *Wild Life Act* which prohibits the hunting, taking, or killing of wildlife (including avifauna), except under license or permit.

The spatial boundaries for the Terrestrial Environment include the Project Area, the Local Assessment Area (LAA), which is defined as a 500 metre (m) buffer surrounding the Project Area, and the Regional Assessment Area (RAA), which includes Southwest Gander River and Northwest Gander Lake Subwatersheds (Figure 11.1).

A significant residual adverse effect on the Terrestrial Environment (including SAR) for the Project is defined as any of the following:

- Threatens the long-term persistence or viability of a species within the RAA for the Terrestrial Environment. This includes effects that are contrary to or inconsistent with the goals, objectives, or activities of provincial or federal recovery strategies, action plans, and management plans (i.e., change from a non-listed species to a SAR or SOCC)
- Results in a non-conformance with section 5.1 of the NL Policy for Development in Wetlands or a loss of more than 10% of wetland area within the RAA

Figure No.
11.1

Title
Terrestrial Environment Spatial Boundaries

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418510_401

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-11-13
TR by KR on 2025-12-12

N

0 0.5 1 2 3 km
(At original document size of 11x17)
1:100,000

- Project Area
- Local Assessment Area
- Regional Assessment Area
- Watershed Boundary (HydroSHEDS)
- Municipal Boundary

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street
- Local / Unknown
- Ramp
- Resource Road / Trail

Wetlands and Waterways
- Waterbody
- Watercourse

Land Cover
- Wetland (NL DNR 2022)
- Forested Area

Land Use
- Proposed Ecological Reserve
- NL T'Railway Provincial Park

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; HydroSHEDS (www.hydrosheds.org)
3. Background: Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Land Use - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada; Additional topographic basemapping from Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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11.1 Existing Conditions

11.1.1 Approach and Methods

Existing information on the Terrestrial Environment, including vegetation and wetlands, avifauna and other wildlife, and ecologically significant areas, was gathered from a combination of baseline field surveys completed in support of the Project and publicly accessible sources and databases.

11.1.1.1 Literature Review

Existing information from federal and provincial governments, peer-reviewed scientific literature, other publications and data sources, and correspondence with the Wildlife Division was interpreted to collect information on the Terrestrial Environment, including SAR and SOCC. The following key public resources were consulted:

- NLDFAL forest and non-forest spatial data
- AC CDC observation data on SAR / SOCC within 5 kilometres (km) of the Project
- COSEWIC Assessment and Status Update Reports
- Provincial Status and Recovery Plans for SAR / SOCC
- Provincial Land Use Atlas
- SARA Recovery and Management Plans
- Canadian Wildlife Health Cooperative Guidance Documents
- Provincial Hunting and Trapping Guide
- Citizen science records – North American Breeding Bird Survey (BBS) observation data (BBS route 57020); Newfoundland Breeding Bird Atlas (NBBA) data (Atlas squares proximate to the Project – i.e., 21UXQ52; 21UXQ62; and 21UXQ63).

11.1.1.2 Baseline Surveys

Terrestrial baseline field studies were conducted in 2021, 2022, and 2023 to support ongoing planning at the Queensway North Property, including an Ecological Land Classification, wetland investigations, vegetation inventories, breeding bird and other wildlife surveys (including SAR and SOCC), and an independent muskrat study (GEMTEC 2023, 2024a, 2024b). As the area of interest for the Project changed over time, each of these baseline studies was conducted within a unique study area (Table 11.1). Note that the Queensway North Property is broader than the Project Area and fully encompasses the Project Area. In addition to these studies, consultation with the Wildlife Division noted that additional targeted surveys for several SAR would be required prior to Project construction. Table 11.1 summarizes completed and planned studies for the Project, with an overview of methods below. Information on methods and results from the baseline studies has been summarized and included within this VC chapter; baseline studies will be provided to applicable regulators upon request prior to construction.

Table 11.1 Terrestrial Baseline Studies for the Project

Study	Dates	Survey Details
Terrestrial Vegetation Studies (including SAR/SOCC)[1]	June 26–July 1 and August 13–18, 2021 June 14–21 and July 12–15, 2022	Ecological Land Classification, wetland investigations, and vegetation inventories within the approximate 1,978 ha study area used in 2021 and 2022
	May 31–June 9, June 26–30, and August 4–11, 2023	Ecological Land Classification, wetland investigations, and vegetation inventories within the approximate 4,416 ha study area used in 2023
Avifauna Studies (including SAR/SOCC)[1]	June 27–July 1, 2021 June 14–18, 2022	88 breeding bird point count surveys and incidental observations within the approximate 1,978 ha study area used in 2021 and 2022
	May 31–June 2, June 5–9, and June 26–30, 2023	105 breeding bird point count surveys and incidental observations within the approximate 4,416 ha study area used in 2023
Bat Acoustic Detection Studies[1]	July 7–October 6, 2022	Stationary acoustic detection study within the approximate 1,978 ha study area used in 2022 (data was manual reviewed in 2025)
	June 1–early September, 2023	Stationary acoustic detection study within the approximate 4,416 ha study area used in 2023
Muskrat Study	October 17–18, 2023	Muskrat distribution and habitat characterization within an approximate 189 ha survey area near South and North Herman's Ponds
Red Pine (*Pinus resinosa*)	Planned for spring 2026	Field surveys to be conducted using previously applied protocols, as recommended through consultation with the Wildlife Division
Newfoundland Marten (*Martes americana atrata*)	March 2026	Hair snag surveys following provincial protocols outlined in Herdman (2012)

Notes:
ha = hectare(s); SAR = Species at Risk; SOCC = Species of Conservation Concern
1. Due to Project planning adjustments, the survey area increased from approximately 1,978 ha in 2021–2022 to 4,416 ha in 2023

Sources: GEMTEC (2023, 2024a, 2024b); Stantec (2025); Leonard (pers. comm.); Randell (pers. comm.)

Regulated wetlands and wetland features were identified through a combination of desktop assessments and field verification (GEMTEC 2023, 2024a). Regulated wetlands included those identified using 1:50,000 scale National Topographic System Maps (Natural Resources Canada, Canada), as these are considered regulated by the NL Department of Environment, Conservation and Climate Change, Water Resources Management Division. Wetland features were identified using Forestry Resource Inventory data provided by the NLDFAL GIS & Mapping Division. Field verification of identified regulated wetlands and wetland features was completed in 2021 (June 26–July 1 and August 13–18), 2022 (June 14–18), and 2023 (May 31–June 3, June 5–9, June 26–30, and August 4–11), assessing the presence of wetland parameters, such as hydrology, soil, and vegetation indicators.

Vegetation inventories were completed with the objective of identifying vascular vegetation, and rare vascular and non-vascular vegetation encountered within the Terrestrial Ecology Baseline study areas (GEMTEC 2023, 2024a). Preliminary desktop reviews were conducted to identify historical records of SAR and SOCC species within a 5-km radius of each study area. Ecological Land Classification findings were also used to determine habitat suitability for rare flora species. Vegetation surveys were conducted in 2021 (June 26–July 1 and August 13–18), 2022 (June 14–21 and July 12–15), and in 2023 (May 31–June 9, June 26–30, and August 4–11). Surveys were completed on-foot, targeting areas with increased potential to support SAR and SOCC, particularly those identified in historical records.

Additional habitat analyses were conducted in 2023 to further support the assessment of the Queensway North Property. These analyses focused on identifying vegetation communities, wetlands, and habitat types in the Queensway North Property, helping to identify potentially sensitive habitats, and areas that may support SAR or SOCC. Field surveys were conducted in 2023 (September 18–22). Newfoundland Forest Inventory mapping was used to inform field surveys, with field teams surveying a variety of ecosystem classes to provide insight into the habitats of the region.

Avifauna surveys were conducted in 2021, 2022, and 2023, and consisted of point count surveys in representative habitats during the breeding bird season (2021: June 27-July 1; 2022: June 14-18; 2023: May 31-June 30). As indicated in GEMTEC (2023, 2024a), breeding bird surveys followed a modified version of the Habitat-Based Point-Count Protocol for Terrestrial Birds (Huff et al. 2000). Point counts were spaced approximately 200 m to 250 m apart, with 10-minute counts at each location. Data collected included the species observed and number of individuals, breeding behavior / breeding status, sex of individuals, and habitat descriptions. Incidental observations of avifauna (i.e., beyond the 10-minute monitoring period) were also recorded. A total of 88 point count locations were sampled during the 2021 and 2022 field studies, and 105 point count locations in 2023.

Bat monitoring surveys were completed in 2022 and 2023 using autonomous recording units (ARUs; Wildlife Acoustics Song Meter SM4BAT FS) to passively record the echolocation calls of passing bats during periods coinciding with bat maternity roosting and migration (four ARUs in 2022, from July 7–October 6; six ARUs in 2023, from June 1–early September). ARUs were deployed in suitable bat habitat and in areas with an open canopy. ARUs with microphones (Wildlife Acoustics SMM-U2) were attached to a telescopic pole in an elevated position, approximately 2.4 m above the ground. ARUs were set to record data from 45 minutes before dusk to 45 minutes post dawn. Recorded audio files were initially processed using the spectrogram software Kaleidoscope Pro (Wildlife Acoustics) via batch processing using the Auto-ID function. Data collected in 2022 was manually reviewed in 2024 (Stantec 2025) following the criteria outlined by McBurney and Segers (2021). Data from 2023 underwent manual review by GEMTEC (2024a), where each species identified by Auto-ID was cross-checked and confirmed manually.

A targeted muskrat study was completed in 2023 to assess muskrat activity and verify habitat suitability. Survey methods followed the Newfoundland Muskrat Distribution and Population Survey Protocol – Draft (Wildlife Division 2019). The approach included an initial desktop habitat assessment followed by targeted field transect surveys conducted from October 17–18, 2023 (GEMTEC 2024b). Transects were established along shoreline and aquatic habitats and walked to record evidence of muskrat, and a randomized vegetation plot along each transect documented plant species and their relative abundance using the Braun-Blanquet scale of cover and abundance rating (GEMTEC 2024b). An index of relative muskrat abundance was then calculated based on the number of observed signs per 100 m of surveyed shoreline.

In addition to these studies, two targeted SAR investigations are ongoing or planned in 2026:

- Red pine (Island of Newfoundland Population; *Pinus resinosa*)
- American Marten (Island of Newfoundland Population; *Martes americana atrata*) – hereafter "Newfoundland marten", or "marten"

The red pine study will assess the presence and distribution of red pine in the Project Area using methods that have been submitted to Wildlife Division for review.

The Newfoundland marten survey was completed in March 2026 and was designed to assess marten occurrence (detections/non-detections) in and near the Project Area, using DNA analysis of collected hair samples, and to identify unique individuals "captured" by hair snag traps. Field methods followed the NL Marten Hair Snag Construction and Deployment Guidelines (Herdman 2012) and were consisted with those previously applied for similar marten studies on the Island of Newfoundland. Hair samples have been submitted for genetic analysis, and results are currently pending (expected mid-August 2026). A Scientific Research and Export Permit was obtained prior to the survey initiation.

11.1.1.3 Desktop Habitat Assessment

To increase spatial coverage to the extent of the RAA to allow for assessment of residual environmental effects, a land use dataset was compiled using NLDFAL forest and non-forest data, supplemented with cleared and residential areas identified through Project-specific habitat analysis. These updates are primarily on the western side of the Project Area and LAA, where land use changes have occurred more recently.

11.1.1.4 Data Limitations

Previous baseline terrestrial surveys assessed study areas that differ from the current Project Area (Table 11.1). Species occurrences reported in these surveys were used to support this Environmental Registration, with data limited to the spatial boundaries for this assessment.

Baseline terrestrial plant data are limited to species found during field surveys or previously identified through historical records (AC CDC 2021; GEMTEC 2023, 2024a). Targeted vegetation surveys were conducted with a focus on habitats with increased potential to support rare species (GEMTEC 2023, 2024a). Additional plant observations occurred in support of habitat analyses but were collected in the fall (after most flora species have flowered). Targeted non-vascular field surveys were not conducted in support of the Project; observations of non-vascular species are limited to incidental observations from other surveys. The assessment of lichen presence, for this Environmental Registration, is based on distributions in COSEWIC assessments, and historical records (AC CDC 2021). Complete coverage of the Project Area was not possible; therefore, there may be additional instances of rare vascular and nonvascular flora within the Project Area that were not recorded during field surveys. Observations of red pine from prior baseline surveys include planted individuals and stands that are outside of the current Project Area and LAA, but within the RAA; targeted red pine surveys are planned to occur in 2026.

Baseline terrestrial wildlife data included targeted surveys for avifauna, bats, and muskrat. Additional surveys for wildlife SAR (Newfoundland marten) were conducted in March 2026 and results are pending. As such, for the purpose of this Environmental Registration, the presence of Newfoundland marten in the Project Area is inferred from known regional distributions and habitat associations (e.g., status reports, AC CDC records), rather than confirmed through site-specific investigations.

New Found Gold understands that the Wildlife Division completed aerial surveys in the region of the Project as part of its regular big-game monitoring program, during which caribou observations were recorded, while additional information describing caribou presence during spring, calving, and summer periods has not yet been collected. New Found Gold will collaborate with the Wildlife Division to review additional caribou data as it becomes available and determine applicability to ongoing Project planning.

11.1.2 Description of Existing Conditions

An overview of the environmental setting for the Terrestrial Environment is provided in Section 4.1.2.4. A more detailed description of the existing conditions for vegetation, wetlands, avifauna and other wildlife, based on literature reviews and summaries of baseline studies completed in support of the Project, is provided below.

11.1.2.1 Vegetation and Wetlands

The Project is located near the Towns of Gander and Appleton, in the Northcentral Subregion of the Central Newfoundland Forest Ecoregion (Meades 1990), which extends from Clarenville in the east to Deer Lake in the west. The Project Area, and much of the LAA, is within Corner Brook Pulp and Paper Timber Limits, within Planning Zone 3, Forest Management District 5 (NLDFAL n.d.; CBPPL 2021). Much of the Project Area and LAA show evidence of past and ongoing forest management and other forms of disturbance, including mineral exploration activities. The provincial land use atlas indicates that 2.15 square kilometres (km^2) of Jonathan's Pond Provincial Park and 0.28 km^2 of a Wetland Habitat Stewardship Area extend into the Terrestrial RAA (NLDFAL n.d.). No Key Biodiversity Areas have been identified in the vicinity of the Project (KBA 2025).

Data from the relevant baseline surveys that have been conducted in support of the Project (Section 11.1.1.2) have been compiled below to describe the existing conditions for vegetation and wetlands within the spatial boundaries for this assessment.

11.1.2.1.1 Wetlands and Upland Vegetation Communities

Habitat surveys were completed in 2021, 2022 and 2023 (GEMTEC 2023, 2024a). Habitat surveys were completed in 2021, 2022, and 2023 (GEMTEC 2023, 2024a). In the initial Terrestrial Ecology Baseline Report (GEMTEC 2023), 13 habitats were classified, with regenerative forest (46.2%) and coniferous forest (18.3%) representing the majority of the 1,978 hectares (ha) study area, followed by wet coniferous scrub (11.9%) and bog (6.3%). In a follow-up Terrestrial Ecology Baseline Report (GEMTEC 2024a), which investigated a larger study area (4,416 ha), 15 habitats were classified; coniferous forest (40.6%), regenerative forest (14.0%), and wet coniferous scrub (10.5%) remained common, but mixedwood forest represented 13.6% of the study area for this work. In a revised study area (Queensway North Property), Stantec completed additional habitat analyses which identified 31 natural ecosystems. Conifer-dominated upland forest communities constituted nearly half of the investigated area, with stands dominated by

black spruce (*Picea mariana*) or balsam fir (*Abies balsamea*). Wetlands occupied 34.7% of the area, with bogs, fens, marshes, and swamps present. Peatlands, i.e., fens and bogs, were the most common wetlands identified, covering 18%, and 13.6%, respectively.

Though the detailed habitat data is informative, these studies were completed prior to the finalization of the current Project Area, and the data do not extend to the spatial areas assessed within this VC. To allow for an assessment of land use across spatial scales, NLDFAL land cover information, including forest and non-forest data, was edited to reflect additional cleared areas and residential or developed areas associated with mining exploration activities and the expansion of the Town of Appleton. These data are summarized for the Project Area, LAA, and RAA in Table 11.2. Based on the results of the baseline studies, and a review of satellite imagery, wetlands appear to be under-represented in the provincial data. This has been observed previously for other areas of NL, but they are assumed to be similarly under-represented at all spatial scales.

Table 11.2 Land Cover Types within the Project Area, Local Assessment Area and Regional Assessment Area: Area and Percent of Area

Land Cover Types[1]	Area in Project Area		Area in LAA[2]		Area in RAA[3]	
	ha	% of Area	ha	% of Area	ha	% of Area
Barrens / Sparsely Vegetated						
Barren - Rock	-	-	-	-	1.1	0.004
Barren - Soil	-	-	-	-	94.8	0.3
Sand	-	-	-	-	0.1	0.0004
Total Barrens / Sparsely Vegetated	-	-	-	-	96.0	0.3
Wooded						
Coniferous	545.5	55.4	980.2	55.1	12,531.2	44.1
Deciduous	21.4	2.2	46.4	2.6	2,318.7	8.2
Coniferous Scrub	159.9	16.2	295.8	16.6	3,386.4	11.9
Deciduous Scrub	33.3	3.4	60.5	3.4	1,370.3	4.8
Unknown Forest	0.3	0.01	0.4	0.02	2,500.9	8.8
Small Island	-	-	-	-	5.1	0.02
Total Wooded	760.3	77.2	1,383.4	77.8	22,112.6	77.8
Wetlands						
Bog	24.5	2.5	49.5	2.8	1,419.1	5.0
Treed Bog	-	-	-	-	89.8	0.3
Wet Bog	5.4	0.6	17.3	1.0	137.1	0.5
Total Wetlands	29.9	3.0	66.8	3.8	1,646.0	5.8
Waterbodies						
Lake / Pond	61.8	6.3	101.6	5.7	1,853.4	6.5
River	-	-	-	-	257.3	0.9
Total Waterbodies	61.8	6.3	101.6	5.7	2,110.7	7.4

Table 11.2 Land Cover Types within the Project Area, Local Assessment Area and Regional Assessment Area: Area and Percent of Area

Land Cover Types[1]	Area in Project Area		Area in LAA[2]		Area in RAA[3]	
	ha	% of Area	ha	% of Area	ha	% of Area
Anthropogenic / Other						
Agriculture	-	-	-	-	-	-
Cleared Land	110.5	11.2	121.94	6.9	427.9	1.5
Disturbance – Harvest Pre-2012	1.2	0.1	34.88	2.0	1,457.1	5.1
Disturbance – Wind Pre-2004	0.04	0.004	1.8	0.1	36.4	0.1
Gravel Pit	-	-	-	-	14.7	0.1
Residential	5.4	0.6	28.7	1.6	260.7	0.9
Right-of-Way (Road)	1.2	0.1	16.9	1.0	92.0	0.3
Right-of-Way (Transmission Line)	13.8	1.4	21.5	1.2	125.2	0.4
Total Anthropogenic / Other	132.2	13.4	227.2	12.8	2,439.8	8.5
Grand Total	984.3	100	1,779.0	100	28,405.0	100

Notes:

ha = hectares; LAA = Local Assessment Area; RAA = Regional Assessment Area

1. Based on NLDFAL forest and non-forest data, supplemented with cleared and residential areas identified through habitat analyses supported by satellite imagery
2. Includes all habitat within the LAA (i.e., includes the Project Area)
3. Includes all habitat within the RAA (i.e., includes the Project Area and LAA)

Upland forests within the Project Area are almost exclusively dominated by coniferous trees, specifically black spruce. Other tree species present in lesser amounts include white birch (*Betula papyrifera*), tamarack (*Larix laricina*), and balsam fir. Both historical and more recent forest harvesting activity is common throughout much of the current Project Area. Though not typically reflected in the NLDFAL land cover information, 22.2% of the Project Area and 21.2% of the LAA is considered to have been recently harvested, based on a review of high-resolution 50-cm 4-band satellite imagery of the surrounding area from 2023.

Wetlands are common within the Project Area and LAA but represent only 2.9% of the Project Area and 3.6% of the LAA based on the augmented NLDFAL data (Table 11.2). The observed wetland classes, forms, and types that were encountered during additional habitat analyses are presented in Table 11.3.

Table 11.3 Wetland Classes, Forms, and Types Described during Additional Habitat Analyses

Wetland Class	Wetland Form	Wetland Type
Fen	Basin	Tall Shrub
		Sedge
		Low Shrub
	Riparian	Low Shrub
	String	Sedge
	Shore	Sedge
	Channel	Sedge
Bog	Basin	Tall Shrub
		Coniferous Treed
		Sedge
		Low Shrub
	Blanket	Low Shrub
Swamp	Basin	Low Shrub
		Coniferous Treed
		Tall Shrub
	Flat	Tall Shrub
		Coniferous Treed
	Discharge	Tall Shrub
	Slope	Coniferous Treed
Marsh	Riparian	Mixed Shrub
		Sedge
	Lacustrine	Floating Aquatic

Most of the Project Area (except for the area surrounding the new access road) falls within the Herman's Pond watershed, which flows north into the Gander River (Figure 9.5).

Several wetlands considered regulated by the Water Resources Management Division of the Newfoundland and Labrador Department of Environment & Climate Change, i.e., those shown on Natural Resources Canada 1:50,000 scale National Topographic System mapping, exist within the Project Area and Terrestrial LAA. Approximately 58.8 ha of 1:50,000 scale wetlands are within the Project Area, and 110.3 ha of wetland are within the LAA, though some of the wetlands within the LAA are more than 15 m from the Project Area, and will not require Section 48 permits.

11.1.2.1.2 Vascular and Non-vascular Plants

Throughout the vascular plant surveys that have been conducted in support of the Project, a total of 289 vascular plant species has been recorded within the Project vicinity (Appendix 11.A).

As described in the Terrestrial Ecology Baseline Report (GEMTEC 2023), in 2021 and 2022 there were no observations or records of vascular plant SAR identified in the survey area made during field surveys (i.e., areas searches) or through AC CDC records within a 5 km radius. One vascular plant SOCC, creeping buttercup (*Ranunculus hyperboreus*) was recorded during field surveys, but as it was not an SOCC at the time of the survey, its location was not reported (GEMTEC 2023). Historical records for two plant SOCC were identified in the Project vicinity, based on the AC CDC report: American mannagrass (*Glyceria grandis*) and western dock (*Rumex occidentalis*). Both species are ranked as S2S3 by the AC CDC, indicating a range of uncertainty (between 'Imperiled' and 'Vulnerable') about the status of the species. Neither of these species were observed during field surveys or previously recorded within the Project Area.

Field surveys in 2023 identified one potential plant SAR and two plant SOCC (GEMTEC 2024a). Red pine (*Pinus resinosa*) trees were observed during 2023 field surveys, in a suspected 30-year-old forestry plantation located south of the Project Area and LAA (GEMTEC 2024a). Natural populations of red pine are listed as threatened under the NL ESA and the species has an AC CDC rank of S2, indicating that the population is 'Imperiled' on the Island of Newfoundland. No natural populations of red pine were observed within the Project Area or LAA during the field surveys conducted in support of the Project. There were also observations of two plant SOCC, cyperus-like sedge (*Carex pseudocyperus*) and black chokeberry (*Aronia melanocarpa*), with respective AC CDC rankings of S2 and S2S4. Black chokeberry was also incidentally observed during field surveys (Figure 11.2).

Table 11.4 Vascular Plant Species of Conservation Concern Observations

Scientific Name	Common Name	AC CDC S Rank[1]	Spatial Location	Notes	Source
Aronia melanocarpa	Black Chokeberry	S2S4	Project Area, LAA & RAA[2]		GEMTEC 2024a
Carex pseudocyperus	Cyperus-like Sedge	S2	RAA		GEMTEC 2024a
Glyceria grandis	American Mannagrass	S2S3	RAA or outside RAA[2]		AC CDC 2021
Pinus resinosa	Red Pine	S2	RAA	Appear to be planted[3]	GEMTEC 2024a
Ranunculus hyperboreus	Creeping Buttercup	S2S3	N/A	Location not reported	GEMTEC 2023
Rumex occidentalis	Western Dock	S2S3	RAA or outside RAA[2]		AC CDC 2021

Notes:
AC CDC = Atlantic Canada Conservation Data Centre; LAA = Local Assessment Area; RAA = Regional Assessment Area
1. AC CDC ranks: S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S#S# = Range Rank, denotes uncertainty
2. Location assumed based on AC CDC data. Exact locations are not provided
3. Though natural populations of red pine are listed as Threatened under the NL ESA, observed red pine in the RAA appear planted and thus are not considered SAR

Sources: AC CDC (2021); GEMTEC (2023, 2024a); Stantec (unpublished)

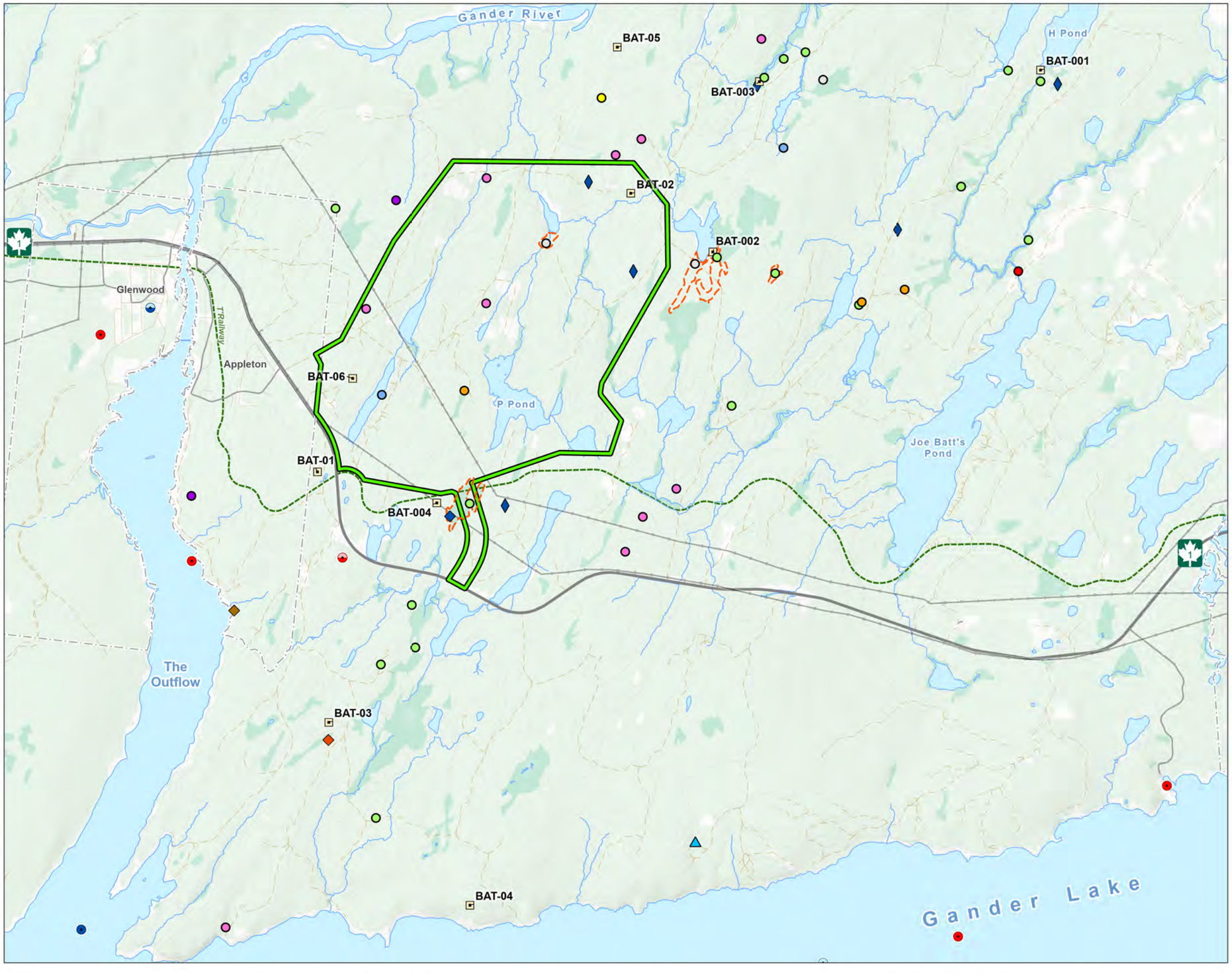

Figure No.

11.2

Title

Species at Risk and Species of Conservation Concern Documented During Baseline Surveys

Client/Project

121418296_404

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-10-20
Revised by MB on 2025-12-15
TR by MC on 2025-12-12

N

0 500 1,000 2,000 m

(At original document size of 11x17)
1:42,000

- Project Area

Species at Risk or Species of Conservation Concern (GEMTEC 2024)
- Evening Grosbeak
- Grey-cheeked Thrush
- Least Flycatcher
- Nashville Warbler
- Olive-sided Flycatcher
- Red Crossbill
- Rusty Blackbird
- Yellow-bellied Sapsucker
- Caribou
- Black Chokeberry, *Aronia melanocarpa*
- Cyperus-Like Sedge, *Carex pseudocyperus*
- Red Pine, *Pinus resinosa* (planted)
- Bat Autonomous Recording Unit (ARU) Location (GEMTEC 2022,2023)

Species of Conservation Concern (Stantec 2024)
- Black Chokeberry, *Aronia melanocarpa*
- Species at Risk Habitat (GEMTEC 2022)

AC CDC Rare Species (Accuracy in metres) [2]
- Rare Fauna (1000)
- Rare Fauna (10000)
- Rare Flora (100)
- Rare Flora (10000)
- Rare Flora (100000)

Existing Infrastructure
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- Transmission Line
- NL T'Railway Provincial Park

Wetlands and Waterways
- Watercourse
- Waterbody
- Wetland (NLDEM 2022)

Other Features
- Contour (10 m)
- Forested Area
- Municipal Boundary

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. AC CDC (Atlantic Canada Conservation Data Centre) occurrence records are qualified with varying degrees of spatial and temporal precision. Interpretations of this map should be conducted in relation with the report.
3. Data Sources: New Found Gold Corp.; Stantec; GEMTEC; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada.
4. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping.

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Though targeted non-vascular species surveys were not conducted, six bryophyte and 12 lichen species were incidentally recorded during vegetation surveys. There are four lichen SAR known to occur on the Island of Newfoundland: vole ears lichen (*Erioderma mollissimum*), wrinkled shingle lichen (*Pannaria lurida*), blue felt lichen (*Degelia plumbea*), and boreal felt lichen (*Erioderma pedicellatum*). AC CDC Expert Opinion Maps indicated that the presence of boreal felt lichen was possible, but unlikely within the 5 km radius surrounding the study area (GEMTEC 2024a). Previous observations of vole ears lichen, wrinkled shingle lichen, and boreal felt lichen have not been reported in the vicinity of the Project Area (COSEWIC 2010, 2016a, 2021), with the nearest known observation of boreal felt lichen located within Terra Nova National Park, approximately 75 km southeast of the Project Area (COSEWIC 2014a).

Previously, the distribution of blue felt lichen was limited to the Avalon Peninsula and the Bay D'Espoir area on the Island of Newfoundland (COSEWIC 2010), with more recent findings in Terra Nova National Park and on the western coast (ECCC 2022a). Recent survey work has identified high lichen diversity in an area south of Gander Lake known as Charlie's Place, including the SAR blue felt lichen and nineteen lichen species recorded for the first time within NL (Gillingham et al. 2024). This area is located less than 10 km southwest of the Terrestrial RAA and is relatively inaccessible. Stand ages are estimated to range from approximately 20 years to over 140 years (Gillingham et al. 2024). In contrast, much of the Project Area has been subject to disturbance through forest harvesting, mineral exploration, or other clearing or development.

Though there is no official list of invasive species for the Island of Newfoundland, government documents have been developed discussing the issue of exotic and invasive alien species (Gov NL 2008), which include a list of invasive plant species known to occur on the Island of Newfoundland; all of these species have potential to occur within the Project Area (Table 11.5). One of these species, St. John's wort (*Hypericum perforatum*), was observed within the LAA, adjacent to the eastern boundary of the Project Area (GEMTEC 2024a). Another potentially invasive species, colt's-foot (*Tussilago farfara*) was recorded during surveys, but no spatial location was provided (GEMTEC 2023, 2024a). Both of these species, and other potentially invasive species, have potential to occur within the Project Area.

Table 11.5 Invasive Vascular Plant Species Occurring in Newfoundland and Labrador with Potential to Occur in the Project Area

Scientific name	Common Name
Aegopodium podagraria	Goutweed
Anthriscus sylverstris	Wild chervil
Centaurea nigra	Black knapweed
Cirsium arvense	Canada thistle
Hippophae rhamoides	Sea buckthorn
Hypericum perforatum	St. John's wort
Iris pseudacorus	Yellow iris
Lythrum salicaria	Purple loosestrife
Reynoutria japonica	Japanese knotweed
Tussilago farfara	Colts foot

11.1.2.2 Avifauna and Other Wildlife

11.1.2.2.1 Avifauna

For this Environmental Registration, the term avifauna includes raptors, migratory birds (e.g., passerines, waterfowl/waterbirds) and other species of avifauna (e.g., upland game birds), including SAR and SOCC.

A total of 71 avifauna species were confirmed in the vicinity of the Project during field investigations in 2021, 2022, and 2023 (GEMTEC 2023, 2024a). Observations included species of woodpeckers, raptors, waterfowl and other waterbirds, passerines, and upland game birds, as well as one swallow (Tree Swallow [*Tachycineta bicolor]*). The most common species were (in descending order):

- White-throated sparrow (*Zonotrichia albicollis*)
- Ruby-crowned Kinglet (*Corthylio calendula*)
- Black-and-white warbler (*Mniotilta varia*)
- Magnolia warbler (*Setophaga magnolia*)
- Fox sparrow (*Passerella iliaca*)

Woodpecker species encountered included northern flicker (*Colaptes auratus*), downy woodpecker (*Dryobates pubescens*), hairy woodpecker (*Dryobates villosus*), and yellow-bellied Sapsucker (*Sphyrapicus varius*). Waterfowl and other waterbirds documented included common loon (*Gavia immer*), Canada goose (*Branta canadensis*), common merganser (*Mergus merganser*), greater yellowlegs (*Tringa melanoleuca*), and Wilson's snipe (*Gallinago delicata*). One raptor species, northern goshawk (*Accipiter gentilis*), was documented during baseline investigations. Upland game birds recorded included ruffed grouse (*Bonasa umbellus*) and spruce grouse (*Canachites canadensis*).

Passerines comprised most avifauna observations, representing a wide variety of families including warblers, sparrows, thrushes, flycatchers, vireos, finches, corvids, chickadees, and nuthatches. Commonly recorded species, in addition to those listed above, included yellow warbler (*Setophaga petechia*), yellow-rumped warbler (*Setophaga coronata*), American redstart (*Setophaga ruticilla*), hermit thrush (*Catharus guttatus*), yellow-bellied flycatcher (*Empidonax flaviventris*), black-capped chickadee (*Poecile atricapillus*), dark-eyed junco (*Junco hyemalis*), northern waterthrush *(Parkesia noveboracensis*), black-throated green warbler (*Setophaga virens*), and American robin (*Turdus migratorius*).

In addition to those species identified during baseline avifauna studies, 32 observations of eight avifauna species were identified incidentally during other Project-related baseline field programs, including two species not previously documented: bald eagle (*Haliaeetus leucocephalus*) and spotted sandpiper (*Actitis macularius*).

In total, five avifauna SAR were confirmed during baseline investigations: olive-sided flycatcher (*Contopus cooperi)*, rusty blackbird (*Euphagus carolinus*), red crossbill (*Loxia curvirostra percn*a), grey-cheeked thrush (*Catharus minimus)*, and evening grosbeak (*Coccothraustes vespertina)* (GEMTEC 2023, 2024a). In addition to these SAR, three SOCC were identified during baseline studies: least flycatcher (*Empidonax minimus*), yellow-bellied sapsucker *(Sphyrapicus varius*), and Nashville warbler (*Leiothlypis ruficapilla*). Additionally, AC CDC records of SAR/SOCC within 5 km of the Project identified one other SAR, bank swallow (*Riparia riparia*) (GEMTEC 2023, 2024a). Avifauna SAR and SOCC confirmed during baseline studies or through AC CDC records are summarized in Table 11.6. Locations of SAR and SOCC are shown on Figure 11.2.

Table 11.6 Avifauna Species at Risk and Species of Conservation Concern Documented During Baseline Surveys and Occurrence in the Project Area

Species	Status[1]	Observation Details[2]	Occurrence in the Project Area[3]	Habitat/Notes[4]
Yellow-bellied sapsucker (*Sphyrapicus varius*)	**SOCC**: Ranked by AC CDC as S1S2B, SUM	Detected during baseline surveys in 2023	• 1 record from a single point count location (mixedwood forest)	• Breeding habitat: young softwood and mixedwood forests, adjacent to wetlands • Potential suitable habitat present in the Project Area (e.g., coniferous forest and bog)
Olive-sided flycatcher (*Contopus cooperi*)	**SAR**: Threatened under SARA and NL ESA	Detected during baseline surveys in 2022 and 2023	• 21 records from 10 point count locations • 3 incidental observations • Historical records (NBBA)	• Breeding habitat: edge of coniferous or mixedwood forests with tall trees or snags for perching, near open areas (e.g., wetlands, disturbed) • Potential suitable habitat present in the Project Area (e.g., edges of coniferous forest, bog, disturbed)
Least flycatcher (*Empidonax minimus*)	**SOCC**: Ranked by AC CDC as S2S3B, SUM	Detected during baseline surveys in 2021	• 2 records from 2 point count locations (mixedwood and coniferous forests)	• Breeding habitat: mixedwood or deciduous forests in very dense thickets • Potential suitable habitat relatively uncommon (e.g., deciduous forest/scrub) or absent (mixedwood) in the Project Area
Bank swallow (*Riparia riparia*)	**SAR**: Threatened under SARA and NL ESA	Not detected during baseline studies	• AC CDC records within 5 km of the Queensway North Property	• Breeding habitat: nests in riparian banks, sand, and gravel quarries; have high nest site fidelity rates • Habitat is marginal in the Project Area
Gray-cheeked thrush (*Catharus minimus*)	**SAR**: Threatened under NL ESA	Detected during baseline studies in 2022	• 2 records from 2 point count locations	• Breeding habitat: conifer scrub, regenerating harvested forest, mixedwood, and old-growth fir forest; generally found at elevations >350 m • Potential suitable habitat present in the Project Area (e.g., conifer scrub, pre-2012 harvest), although likely limited by elevation

Table 11.6 Avifauna Species at Risk and Species of Conservation Concern Documented During Baseline Surveys and Occurrence in the Project Area

Species	Status[1]	Observation Details[2]	Occurrence in the Project Area[3]	Habitat/Notes[4]
Evening Grosbeak (*Coccothraustes Vespertinus*)	**SAR**: Vulnerable under NL ESA	Detected during baseline studies in 2023	• 2 records from 2 point count locations • Historical records (NBBA)	• Non-migratory/resident • Breeding habitat: conifer and mixedwood forests with high composition of fir, spruce, larch, pine, and aspen • Non-breeding habitat: nomadic; lives in large flocks • Potential suitable habitat present in the Project Area (e.g., coniferous forest)
Red Crossbill (*Loxia curvirostra percna*)	**SAR**: Threatened under SARA and NL ESA	Incidental observations during 2022 and 2023 baseline studies	• Visual observation I 2022 of "several" birds in mature balsam fir trees along a watercourse • Visual and auditory observation in 2023 of 2 birds in coniferous forest • AC CDC records within 5 km of the Queensway North Property • Historical records (NBBA)	• Non-migratory/resident; will breed year-round if sufficient cone crops are present • Breeding habitat: cone-productive forests (e.g., pine, spruce, fir) with a preference for red pine • Non-breeding habitat: nomadic; wander in loose flocks searching for conifer stands with abundant cones • Potential suitable habitat present in the Project Area (e.g., coniferous forest)
Rusty blackbird (*Euphagus carolinus*)	**SAR**: Special Concern under SARA; Vulnerable under NL ESA	Detected during baseline studies in 2022	• 4 records from 2 point count locations • AC CDC records within 5 km of the Queensway North Property • Historical records (NBBA)	• Breeding habitat: coniferous forests with open canopy near wetlands and waterbodies (riparian habitats) • Potential suitable habitat present in the Project Area (e.g., edges of coniferous forest/scrub, bog, and ponds)

Table 11.6 Avifauna Species at Risk and Species of Conservation Concern Documented During Baseline Surveys and Occurrence in the Project Area

Species	Status[1]	Observation Details[2]	Occurrence in the Project Area[3]	Habitat/Notes[4]
Nashville warbler (*Leiothlypis ruficapilla*)	**SOCC**: Ranked by AC CDC as S2B, SUM	Detected during baseline studies in 2023	• 11 records from 10 point count locations	• Breeding habitat: second-growth, open deciduous, or mixed-species forests with high light penetration; often nest in coniferous trees • Potential suitable habitat present in the Project Area (e.g., coniferous, deciduous, regrown disturbed areas)

Notes:

AC CDC = Atlantic Canada Conservation Data Centre; km = kilometre(s); NBBA = Newfoundland Breeding Bird Atlas; NL ESA = Newfoundland and Labrador *Endangered Species Act;* SAR = Species at Risk; SARA = *Species at Risk Act*; SOCC = Species of Conservation Concern

1. AC CDC ranks: SU = unrankable; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; B = breeding; M = migrant
2. Locations of SAR / SOCC observations are shown on Figure 11.2
3. Based on baseline field surveys in the Terrestrial Ecology Baseline Study Area, AC CDC records within 5 km of the Queensway North Property, and historical records from NBBA squares (21UXQ52; 21UXQ62; and 21UXQ63). Note that the Queensway North Property is broader than the Project Area and fully encompasses the Project Area
4. Habitat availability in the Project Area is based on NLDFAL forest and non-forest data, supplemented with cleared and residential areas identified through habitat analyses supported by satellite imagery

Sources: AC CDC (2021, 2025a, 2025b); Baltz and Latta (2020); COSEWIC (2004, 2017, 2018, 2023a); ECCC (2022b, 2022c); Fitzgerald et al. (2017); Garrison and Turner (2020); GEMTEC (2023, 2024a); Lowthur and Williams (2020); Robineau-Charette et al. (2023); Smallwood and Bird (2020); Tarof and Briskie (2020); Venier et al. (2020); Walters et al. (2020); Warkentin and Newton (2009); Whitaker et al. (2020; cited in Robineau-Charette et al. 2023)

Other SOCC may potentially occur within or near the Project Area, based on historical records (i.e., NBBA) near the Project and the presence of suitable habitat; however, they were not observed during baseline studies (GEMTEC 2023, 2024a). These include American kestrel (*Falco sparverius*), American woodcock (*Scolopax minor*), chipping sparrow (*Spizella passerina*), bay-breasted warbler (*Setophaga castanea*), red-winged blackbird (*Agelaius phoeniceus*), and Cape May warbler (*Setophaga tigrina*).

Baseline studies also identified several avifauna SAR and SOCC with historical records near the Project; however, due to the lack of suitable habitat in the Project Area and vicinity, these species are considered unlikely to occur. These included sora (*Porzana carolina*), semipalmated plover (*Charadrius semipalmatus*), piping plover (*Charadruis melodus*), northern fulmar (*Fulmarus glacialis*), northern gannet (*Morus bassanus*), rough-legged hawk (*Buteo lagopus*), and barn swallow (*Hirundo rustica*). In addition, AC CDC Expert Opinion Maps suggest that short-eared owls (*Asio flammeus*) are “possible but unlikely” within the search area (GEMTEC 2024a).

No Important Bird Areas were identified in the vicinity of the Project; the nearest Important Bird Area is Terra Nova National Park (Bird Studies Canada and Nature Canada 2015), approximately 75 km southeast of the Project Area.

11.1.2.2.2 Other Wildlife

For this Environmental Registration, other wildlife includes large and small mammals (including bats), herpetofauna, and insects, including SAR and SOCC.

Other wildlife species confirmed during baseline studies through visual observation, acoustic detection or wildlife sign (e.g., tracks, scat, lodges/dams) include green frog (*Rana clamitans*), American toad *(Bufo americanus*), American beaver (*Castor canadensis*), American black bear (*Ursus americanus*), Canada lynx (*Lynx canadensis*), eastern coyote (*Canis latrans*), moose *(Alces alces*), muskrat (*Ondatra zibethicus*), red squirrel *(Tamiasciurus hudsonicus*), and snowshoe hare (*Lepus americanus*) (GEMTEC 2023, 2024a, 2024b). Other species that have the potential to occur (but were not confirmed during baseline studies) include red fox (*Vulpes vulpes*), river otter (*Lontra canadensis*), ermine (*Mustela erminea*), mink (*Neovison vison*), and southern red-backed vole (*Myodes gapperi)* (Meades 1990). Most of these species are managed by the Wildlife Division (large game, small game, and furbearers) through annual hunting and trapping guidelines and regulations, and harvest quotas (Section 11.1.2.3).

In addition to the wildlife species listed above, three mammal SAR are known to occur regionally: little brown myotis (*Myotis lucifigus*), northern myotis (*Myotis septentrionalis*), and caribou (*Rangifer tarandus*) (GEMTEC 2023, 2024a). Based on AC CDC records, none of these species were identified as occurring within 5 km of the Queensway North Property[1]. However, the three species were documented during baseline investigations. The two myotis bats were confirmed at ARUs in the study area in 2022 and 2023, based on manual verification of acoustic records, and one caribou was incidentally observed approximately 3.6 km south of the Project Area on May 13, 2023 (GEMTEC 2024a). These wildlife SAR are summarized in Table 11.7. Additional details on caribou are provided in Section 11.1.2.2.3.

Table 11.7 Other Wildlife Species at Risk Documented During Baseline Surveys and Occurrence in the Project Area

Species	Legal Status	Observation Details[1]	Occurrence in the Project Area[3]	Habitat/Notes[4]
Northern myotis (*Myotis septentrionalis*)	Endangered under SARA and NL ESA	Detected during baseline studies in 2022 and 2023[2]	• No AC CDC records within 5 km of the Queensway North Property • Confirmed at ARUs in the Terrestrial Baseline Study Area, which includes the current Project Area	• Roosting and foraging habitat includes forests, roadways, and small ponds • Potential suitable habitat (e.g., wooded, rights-of-ways) exists in the Project Area

[1] The Queensway North Property is broader than the Project Area and fully encompasses the Project Area

Table 11.7 Other Wildlife Species at Risk Documented During Baseline Surveys and Occurrence in the Project Area

Species	Legal Status	Observation Details[1]	Occurrence in the Project Area[3]	Habitat/Notes[4]
Little brown myotis (*Myotis lucifugus*)	Endangered under SARA and NL ESA	Detected during baseline studies in 2022 and 2023[2]	• No AC CDC records within 5 km of the Queensway North Property • Confirmed at ARUs in the Terrestrial Baseline Study Area, which includes the current Project Area	• Roosting and foraging habitat includes forests, open water, and anthropogenic structures • Suitable habitat (e.g., wooded, waterbodies, anthropogenic) exists in the Project Area
Caribou[5] (*Rangifer tarandus*)	Special Concern under SARA	Incidental observation of a single female on May 13, 2023, south of the RAA	• No AC CDC records within 5 km of the Queensway North Property • Unlikely to occur in the Project Area; incidental observations my occur in the RAA	• Caribou Core Areas do not overlap with the Project (Table 3-5 in GEMTEC 2023) • Potential suitable habitat (e.g., coniferous forests, wetlands) exists in the Project Area

Notes:

AC CDC = Atlantic Canada Conservation Data Centre; ARU = Autonomous Recording Unit; km = kilometre(s); NL ESA = Newfoundland and Labrador *Endangered Species Act*; SARA = *Species at Risk Act*; RAA = Regional Assessment Area

1. SAR observations are shown on Figure 11.2
2. Based on manual review of acoustic records
3. The Queensway North Property is broader than the Project Area and fully encompasses the Project Area
4. Habitat availability in the Project Area is based on NLDFAL forest and non-forest data, supplemented with cleared and residential areas identified through habitat analyses supported by satellite imagery
5. Additional details on caribou are provided in Section 11.1.2.2.3

Sources: AC CDC (2021); GEMTEC (2023, 2024a); Canadian Bat Maternity Roost Protection Working Group (2024); McBurney and Segers (2021); Stantec (2025)

In addition to wildlife SAR documented during baseline studies, other SAR may potentially occur within or near the Project Area. However, their presence remains uncertain either because results of targeted surveys have not yet been analyzed (e.g., Newfoundland marten) or due to temporal and spatial unpredictability (e.g., migratory bats). These SAR are summarized in Table 11.8.

Table 11.8 Other Wildlife Species at Risk with Unconfirmed Status in the Project Area

Species	Legal Status	Occurrence in the Project Area[1]	Habitat/Notes[3]
Hoary Bat (*Lasiurus cinereus*)	Endangered under NL ESA	• Not detected during 2022 and 2023 baseline studies[2] • No AC CDC records within 5 km of the Queensway North Property but has potential to occur in or near the Project Area	• May occur during spring and fall migration and summer roosting/foraging • Potential suitable habitat (e.g., wooded, waterbodies, cleared land) exists in the Project Area

Table 11.8 Other Wildlife Species at Risk with Unconfirmed Status in the Project Area

Species	Legal Status	Occurrence in the Project Area[1]	Habitat/Notes[3]
Eastern Red Bat (*Lasiurus borealis*)	Endangered under NL ESA	• Not detected during 2022 and 2023 baseline studies[2] • No AC CDC records within 5 km of the Queensway North Property but has potential to occur in or near the Project Area	• May occur during spring and fall migration and summer roosting/forging, although relatively few records in NL • Potential suitable habitat (e.g., deciduous forest) is limited in the Project Area (approximately 3.6%)
Silver-haired bat (*Lasionycteris noctivagans*)	Endangered under NL ESA	• Not detected during 2022 and 2023 baseline studies[2] • No AC CDC records within 5 km of the Queensway North Property but has potential to occur in or near the Project Area	• May occur during spring and fall migration and summer roosting/foraging, but less often observed during summer • Potential suitable habitat (e.g., wooded, waterbodies) exists in the Project Area, but prefers old growth forests
Newfoundland Marten (*Martes americana atrata*)	Threatened under SARA and Vulnerable under NL ESA	• Not detected during 2022 and 2023 baseline studies • No AC CDC records within 5 km of the Queensway North Property, and Expert Opinion Mapping suggests it is "possible but unlikely" to occur within the search area	• 'Extent of Occurrence' overlaps the Project Area[4,] • Potential suitable habitat (e.g., wooded) exists in the Project Area • Field survey conducted in March 2026 to assess status in the Project Area
Yellow-banded Bumble Bee (*Bombus terricola*)	Special Concern under SARA and Vulnerable under NL ESA	• No AC CDC records within 5 km of the Queensway North Property • Considered likely to occur in or near the Project Area, based on recent field investigations in other areas of NL (unpublished data)	• Habitat generalists – found in a variety of habitats, including disturbed areas
Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	Endangered under SARA and NL ESA	• No AC CDC records within 5 km of the Queensway North Property	• Social parasite – targets nests of bumble bee species within the subgenus *Bombus* (including yellow-banded bumble bee)
Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*)	Threatened under NL ESA	• No AC CDC records within 5 km of the Queensway North Property	• Social parasite – yellow-banded bumble bee is presumed host in NL

Table 11.8 Other Wildlife Species at Risk with Unconfirmed Status in the Project Area

Species	Legal Status	Occurrence in the Project Area[1]	Habitat/Notes[3]
Transverse Lady Beetle (*Coccinella transversoguttata*)	Special Concern under SARA and Vulnerable under NL ESA	• No AC CDC records within 5 km of the Queensway North Property	• Habitat generalists – primarily feeds on aphids and occurs across a range of habitats • Most recent 'Extent of Occurrence' does not include the Island of Newfoundland[5]; However, field surveys in more recent years, by Entomologist David Langor, found this species in "only a couple of spots" (vacant lot and back yard) in developed areas (towns) in NL

Notes:

AC CDC = Atlantic Canada Conservation Data Centre; NL = Newfoundland and Labrador; NL ESA = Newfoundland and Labrador *Endangered Species Act*; SARA = *Species at Risk Act*

1. Based on manual review of acoustic records
2. The Queensway North Property is broader than the Project Area and fully encompasses the Project Area
3. Habitat availability in the Project Area is based on NLDFAL forest and non-forest data, supplemented with cleared and residential areas identified through habitat analyses supported by satellite imagery
4. Based on geographic distribution of all known records from 1970-2018 (Figure 1 in COSEWIC 2022)
5. Based on the geographic distribution of all known records from 1996-2005 and 2006-2015 (Figure 4 in COSEWIC 2016b)

Sources: AC CDC (2021); COSEWIC (2014b, 2015, 2016b, 2019, 2022, 2023b); ECCC (2023a, 2025a); GEMTEC (2023, 2024a); Langor (pers. comm.); McBurney and Segers (2021); Stantec (2025)

11.1.2.2.3 Caribou

Caribou are not expected to regularly occur in the Project vicinity (GEMTEC 2023, 2024a) and no AC CDC records of caribou exist within a 5 km radius of the Queensway North Property. However, occasional vagrants may occur. As noted in Table 11.7, a single female caribou was observed during baseline investigations on May 13, 2023, approximately 3.6 km south of the Project Area and 1.3 km south of the RAA (Figure 11.3); this represents the closest recorded observation relative to the Project Area.

Consultation with Wildlife Division confirms caribou presence in the broader region (Leonard, pers. comm.), including records of caribou around O'Brien Lake, Ten Mile Pond, and Third Pond on the Gander River, outside of the expected ranges delineated by Caribou Management Areas 64 (Middle Ridge) and 68 (Mount Peyton), as well as some caribou south of Gander Lake (Figure 11.3). Third Pond is approximately 11 km northeast of the Project Area with its southern portion located within the RAA.

New Found Gold will continue to work with the Wildlife Division to review new caribou data as it becomes available and determine applicability to ongoing Project planning.

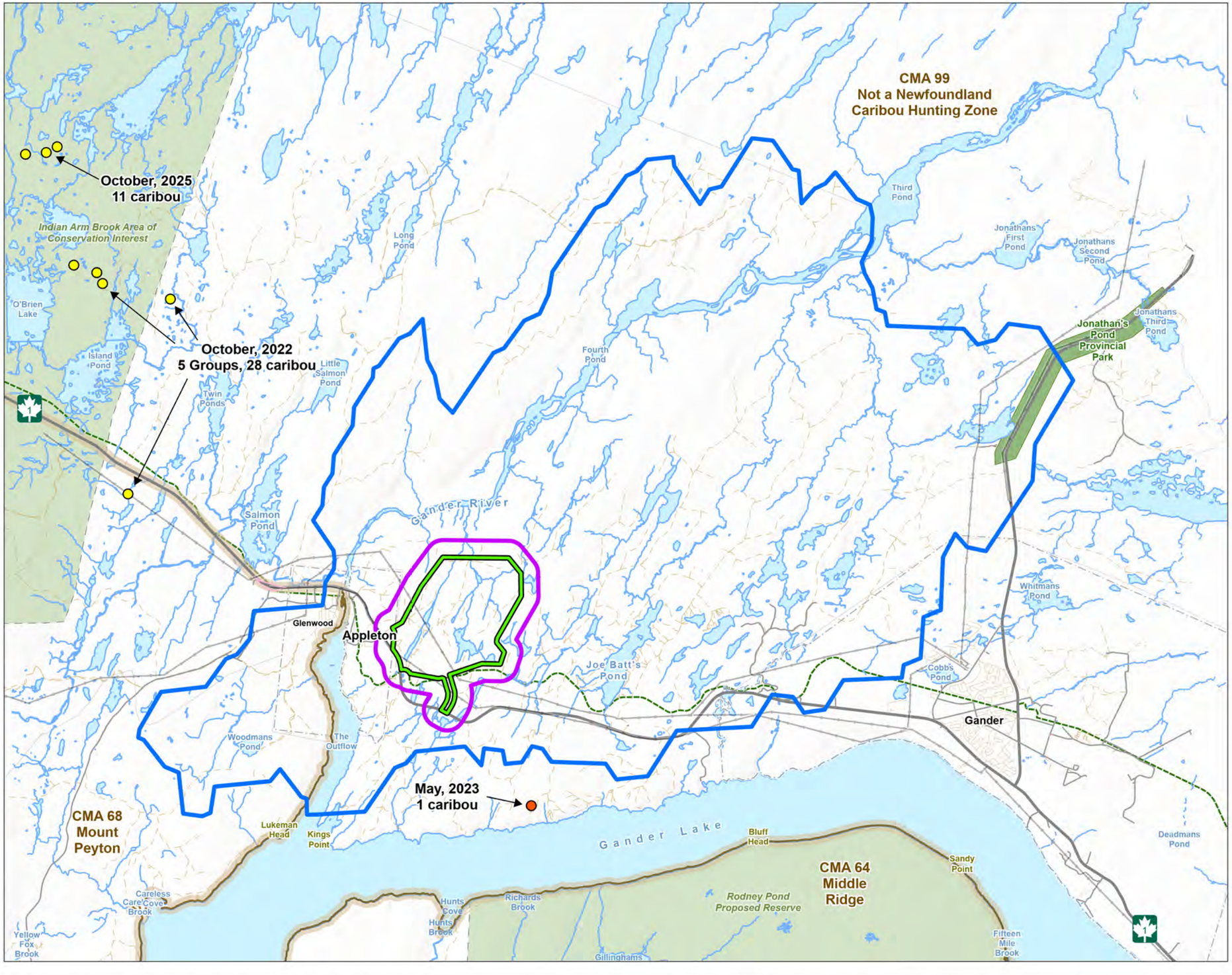

Figure No.
11.3

Title
Caribou Observations Near the Project RAA

Client/Project
New Found Gold Corp.
Queensway Gold Project
121418510_405

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by AC on 2026-01-14
QR by NW on 2026-04-17
TR by KR on 2026-04-20

N

0 0.5 1 2 3 km
(At original document size of 11x17)
1:115,000

- Project Area
- Local Assessment Area
- Regional Assessment Area
- Caribou Observations, Approximate (NLDFAL Nov. 2025)
- Caribou Observation (GEMTEC May 2023)
- Caribou Management Area

Land Use
- NL T'Railway Provincial Park
- Provincial Park
- Proposed Ecological Reserve / Area of Conservation Interest

Existing Infrastructure
- Transmission Line
- Resource Road / Trail
- Highway
- Collector
- Local / Street
- Local / Unknown
- Ramp

Topographic Features
- Watercourse
- Waterbody

Other Features
- Municipal Boundary

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador Department of Forestry, Agriculture and Lands - Land Cover Mapping Service.
3. Background: Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada; Additional topographic basemapping from Esri, NASA, NGA, USGS

Stantec

11.1.2.3 Regulatory Boundaries

11.1.2.3.1 Wildlife Management Areas

Provincial wildlife management areas overlapping the Project Area, LAA, and RAA include Moose Management Areas 23 and 101, Black Bear Management Area 203, Fur Zone 6 (furbearer trapping zone), and the small-game zones designated as either the “Island of Newfoundland” or the “Remainder of Island” (generally referring to those areas outside the Avalon Peninsula) (Gov NL 2025). Wildlife management areas are discussed further in the Land and Resource Use chapter (Section 13.1.2.1.5).

11.1.2.3.2 Critical Habitat

Under subsection 2(1) of SARA, critical habitat is defined as “the habitat necessary for the survival or recovery of a listed wildlife species and identified as such in the species’ recovery strategy or action plan.” For the SAR with potential to occur in the Project Area, critical habitat has been designated for bank swallow (ECCC 2022c), little brown myotis and northern myotis (ECCC 2018), and for marten (Environment Canada 2013); however, none of these critical habitats overlap with the Project Area, LAA, or RAA.

11.2 Potential Effects and Effect Pathways

A summary of the potential effects and Project effect pathways to be assessed for the Terrestrial Environment is provided in Table 11.9. Potential environmental effects and effect pathways were selected based on the review of similar projects in NL and other parts of Canada, and professional judgement. For Terrestrial Environment, three potential effects were identified: change in wetland function, change in species diversity, vegetation community diversity, and/or habitat, and change in mortality risk of avifauna and other wildlife.

Table 11.9 Potential Effects and Effect Pathways for the Terrestrial Environment (including Species at Risk)

Potential Effect	Effect Pathway(s)
Change in wetland function	• Loss of or disturbance to wetlands and change in wetland functions could occur via direct disturbance from Project construction activities, primarily through mine site preparation • Changes to wetland function can occur through edge effects, alteration of wetland hydrology, and conversion of wetland class and type resulting from vegetation removal and disturbance

Table 11.9 Potential Effects and Effect Pathways for the Terrestrial Environment (including Species at Risk)

Potential Effect	Effect Pathway(s)
Change in species diversity, vegetation community diversity, and/or habitat	**Vegetation** • Construction, specifically but not limited to site preparation activities, will result in the direct loss of vascular plant species, which could include SAR or SOCC, and plant communities within the Project Area. • Site preparation activities, such as clearing of vegetation, can result in indirect interactions on adjacent areas through edge effects. These can include changes in abiotic microclimate factors, vegetation composition and/or density, plant dispersal, and access for herbivores. • Excavation and other earthworks will remove vegetation that may remain after clearing and will likely remove most of the associated seedbank. Remaining soil layers will be compacted, changing habitat quality for plants that may later regenerate within the area. • Transportation can result in the creation of dust, which may then be deposited onto vegetation, covering leaves and blocking stomata, resulting in a reduction in photosynthesis and other physiological effects (Farmer 1993). Alterations to soil chemistry can also occur. • Transportation has potential to introduce or aid in the spread of invasive or non-native species, resulting in changes to species diversity. **Avifauna and Other Wildlife Habitat** • Site preparation could result in the direct loss of suitable habitat and important habitat features such as nests, denning sites, or maternity roosts • Vegetation clearing can result in habitat fragmentation, which can have adverse effects on species with large ranges, and those that require large patches of interior forest or other types of homogenous habitat • Vegetation clearing can indirectly affect adjacent habitats through edge effects, including changes in microclimate and vegetation structure, that in turn may influence wildlife presence and/or abundance • Construction and operational activities can result in indirect effects on habitat through sensory disturbance (e.g., noise, light pollution, dust, vibrations, odors, and human presence). These disturbances may lead to avoidance behaviours or changes in movement patterns of animals. Sensory disturbance from odors can also attract or repel wildlife.
Change in mortality risk of avifauna and other wildlife	• Direct change in mortality risk due to vegetation clearing and site preparation activities, vehicular collisions, and human-wildlife conflicts • Indirect change in mortality risk due to changes in wildlife health and survival, including increased stress and/or reduced body condition (e.g., increased physiological stress in wildlife may increase their susceptibility to disease [e.g., Hing et al. 2016]) • Indirect change in mortality risk due to increased predation, hunting, and/or poaching because of improved access or other habitat changes • Wildlife mortality risk could increase from the accidental release of toxic substances or wastes

11.3 Mitigation and Management Measures

Environmental management plans will be updated by New Found Gold to mitigate the effects of the Project on the Terrestrial Environment. A list of standard mitigation measures to be applied throughout Project construction, operation, and rehabilitation and closure is provided in Table 4.31. Many of these standard mitigation measures will serve to avoid or reduce potential effects on Terrestrial Environment, including the measures identified for the following Project activities:

- Site Clearing, Site Preparation, and Erosion and Sediment Control
- Soil Management
- Blasting
- Vehicles / Equipment / Roads
- Light Emissions
- Site Water Management
- Materials Handling and Waste Management (including Metal Leaching / Acid Rock Drainage)
- Rehabilitation and Closure

The following mitigation measures specific to the Terrestrial Environment have been identified for the Project:

- Equipment will arrive at the construction site clean and free of soil and vegetative debris, to reduce the risk of introducing or spreading non-native and/or invasive vascular plant species. Equipment will be inspected and either approved for use or cleaned, re-inspected, and approved for use.
- If potentially invasive vascular plant species are noted within or near the Project Area during construction or operation, the extent of the species will be assessed and a plan for removal and/or control will be developed.
- A Section 48 permit will be obtained for work to be completed within 15 m of a body of water, which includes wetlands, shown on Natural Resources Canada 1:50,000 scale National Topographic System mapping, as defined by the Water Resources Management Division of the Newfoundland and Labrador Department of Environment & Climate Change.
- Vehicles will yield to wildlife encountered on site.
- Vegetation clearing will be scheduled to avoid the migratory bird nesting period (approximately mid-April to mid-August; ECCC 2025b), where feasible. Avoiding this window also helps protect species with overlapping sensitive periods, including SAR such as little brown and northern myotis (maternity roosting), Newfoundland marten (denning), and insect SAR during the active bee and beetle seasons (e.g., May to August for yellow-banded bumble bee; ECCC 2023a).
- Nests, eggs, and shelters of migratory birds or other wildlife will not be disturbed or destroyed. If an active nest is found, the surrounding area will remain undisturbed until fledging has occurred, or the nest is abandoned. If a raptor nest is encountered, work in the vicinity will stop until the Wildlife Division provides direction.

- Non-intrusive nesting surveys will be completed prior to vegetation clearing for raptors throughout the year as well as breeding birds within the breeding bird window (approximately mid-April to mid-August; ECCC 2025b). Active or suspected active nests (forested birds such as passerines, upland game birds) should receive a minimum 30 m setback distance and for SAR (e.g., rusty blackbird) a minimum 75 m setback is required. Raptors nests require a year-round minimum setback of 200 m, and an 800 m setback is required for Bald Eagle and Osprey during the nesting season (March 15 to July 31). The location of any raptor nest site will be reported to the Wildlife Division at endanqeredspecies@gov.nl.ca.
- If possible, large diameter trees will be maintained, especially those that are dead or dying. These types of trees typically have peeling bark, crevices and cavities that provide important roosting habitats for bats. Additional mitigation may involve offering alternate habitat (e.g., artificial structures such as bat boxes) to off set the loss of roosting habitat.
- Caves, sinkholes, fissures, or other underground cavities that are identified as a result of Project activities will be inspected for evidence of overwintering bats and reported to the Wildlife Division if evidence is present.
- Before demolition or removal of existing structures during the breeding bird or active bat season, wildlife surveys will be conducted to identify potential nesting and roosting sites. Additional mitigation may involve offering alternate habitat (e.g., artificial structures such as bat boxes) to off-set habitat loss.
- The discovery of bat roosts or hibernacula, or active dens (e.g., marten dens), will be reported immediately to the Site Manager (or designate) and work will cease. A plan for protection, avoidance, and/or mitigation will be established by New Found Gold, guided by engagement with a qualified biologist and/or federal or provincial regulators.
- Observations of bat colonies, potential hibernacula sites, or sick or dead bats will be reported to the provincial Wildlife Division at 709-637-2025 or through the toll-free bat hotline: 1-877-434-2287 (BATS).
- Where revegetation or rehabilitation is planned, native flowering plant species known to support bumble bees (e.g., goldenrod, clover, fireweed, yarrow) will be used where possible.
- Site orientation will include information on SAR identification and protocols (e.g., buffers, bee sting protocols); sitings of potential SAR species will be reported to the Site Manager (or designate).
- Waste storage areas will include measures to reduce the attraction of wildlife (e.g., secure containers, regular removal).
- Employees and contractors associated with the Project will be prohibited from fishing, hunting, trapping, gathering plants, or using off-road vehicles for recreational purposes within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to enable the exercise of Indigenous rights.
- Hunting / fishing / harvesting of wildlife will be strictly prohibited on the mine site.
- New Found Gold will continue to engage with local resource users regarding the overlap of the Project with land use areas in the Project Area. This will include the communication of Project information, updates on ongoing and planned activities, a discussion of issues and concerns, and a potential means of addressing them.

- Chasing, catching, diverting, following, or otherwise harassing wildlife will be prohibited.
- Nuisance animals (e.g., bears, coyotes) will be managed by the Site Manager (or designate) in consultation with Wildlife Division.
- Observations of caribou in the Project Area will be reported immediately to the Site Manager (or designate) and work will cease. The Site Manager (or designate) will determine if Project activities will be reduced or delayed, as applicable. New Found Gold will consult with the Wildlife Division on this issue.
- Project lighting will be controlled, while meeting regulatory, operational, health, and safety requirements, to mitigate attraction and disorientation of migratory birds, taking into account the Convention on Migratory Species' *International Light Pollution Guidelines for Migratory Species*.
- On-site wildlife observations, including caribou, will be documented year-round (e.g., location, date) on a wildlife observation form.

11.4 Residual Environmental Effects

Three potential environmental effects on the Terrestrial Environment were identified in Section 11.2: change in wetland function, change in species diversity, vegetation community diversity, and/or habitat, and change in mortality risk of avifauna and other wildlife. Residual effects (i.e., those remaining following implementation of mitigation [Section 11.3]) for each Project phase are evaluated below. The assessment of residual effects considers the following key factors:

- The Project Area is a largely disturbed landscape, with extensive mineral exploration on the western side and areas of recent forest harvesting on the eastern side. Ongoing exploration activities at the Project site, combined with historical forest harvesting, existing rights-of-way (e.g., roads, transmission lines), and nearby residential development, have likely resulted in avoidance of the area and/or habituation/accommodation to the activities by some wildlife.
- The Project Area partly overlaps and is immediately adjacent to the municipal boundary of the Town of Appleton, and is also 1.5 km east of the Town of Glenwood's municipal boundary (Table 13.1, Land and Resource Use). Sensory-disturbance mitigation measures required to protect these nearby communities (e.g., for noise, vibration, light, and dust) will also function to reduce sensory-related effects on the Terrestrial Environment.
- The Project Area covers approximately 984.3 ha (9.8 km²) of disturbed and undisturbed areas that will be lost or altered during Project construction (Table 11.10). For the purposes of assessment, it is conservatively assumed that 100% of the Project Area will be directly lost or disturbed, whereas in practice, not all portions of the Project Area will be directly disturbed.
- The LAA includes the Project Area and a 500 m buffer equaling approximately 1,839.2 ha (18.4 km^2). Indirect habitat changes are assumed to extend up to this maximum distance (i.e., 500 m), which equals 814.6 ha (8.1 km^2) outside of the Project Area (Table 11.10); however, actual effects will vary depending on site-specific activities and conditions and may not extend to the full LAA.

- No plant SAR were observed within the Project Area during vegetation surveys. Red pine was observed in several locations within the RAA, but these appear to be planted and are therefore not considered SAR. One plant SOCC (black chokeberry, S2S4) was observed within the Project Area and within the LAA and RAA. A second plant SOCC (creeping buttercup, S2S3) was observed in the study area and may occur within the Project Area.
- Five avifauna SAR were recorded during baseline surveys: olive-sided flycatcher, rusty blackbird, red crossbill, grey-cheeked thrush, and evening grosbeak. One other SAR was identified in AC CDC records within 5 km of the Project: bank swallow. Three avifauna SOCC were documented during baseline surveys: least flycatcher, yellow-bellied sapsucker, and Nashville warbler.
- There are two bat SAR that occur in or near the Project Area: little brown myotis and northern myotis. There are also three species of migratory bat SAR (hoary bat, eastern red bat, and silver-haired bat) that may occur in the area.
- Caribou Core Areas do not overlap with the Project, and caribou are not expected to occur within the Project Area; however, occasional vagrants may occur within the RAA. The nearest recorded observation is approximately 3.6 km south of the Project Area (one caribou during baseline studies). In comparison, the nearest residence in Appleton is approximately 235 m from the Project. As Project-related sensory emissions will be managed to acceptable levels for these much closer receptors, caribou (or other SAR) occurring at equal or greater distances would experience similar or lower exposure and therefore an equivalent or greater level of protection.
- New Found Gold will continue to work with Wildlife Division to review new caribou data as it becomes available and determine applicability to ongoing Project planning.
- The status of insect SAR in the Project Area is unknown. For this assessment, it is assumed that the yellow-banded bumble bee is present, which implies potential occurrence of the two cuckoo bee SAR species that use yellow-banded bumblebee as a host. Similarly, the status of Newfoundland marten (also a SAR) in the Project Area is unknown; field surveys have been completed, but the analysis of results is ongoing. For this assessment, it is conservatively assumed that marten is present in the LAA, in suitable habitat.

Table 11.10 Land Cover Types within the Project Area and Local Assessment Area: Area and Percent of Area in the Regional Assessment Area

Land Cover Types[1]	Project Area (Potential Direct Loss)		LAA[2] (Potential Indirect Alteration / Loss)		% of Total Potential Habitat Alteration / Loss in RAA (Direct and Indirect Combined)
	ha	% of Area in RAA	ha	% of Area in RAA	
Wooded					
Coniferous	545.5	4.4	434.7	3.5	7.8
Deciduous	21.4	0.9	25.0	1.1	2.0
Coniferous Scrub	159.9	4.7	136.0	4.0	8.7
Deciduous Scrub	33.3	2.4	27.2	2.0	4.4
Unknown Forest	0.25	0.01	0.2	0.01	0.02
Total Wooded	760.3	3.4	623.1	2.8	6.3

Table 11.10 Land Cover Types within the Project Area and Local Assessment Area: Area and Percent of Area in the Regional Assessment Area

Land Cover Types[1]	Project Area (Potential Direct Loss)		LAA[2] (Potential Indirect Alteration / Loss)		% of Total Potential Habitat Alteration / Loss in RAA (Direct and Indirect Combined)
	ha	% of Area in RAA	ha	% of Area in RAA	
Wetlands					
Bog	24.5	1.7	25.0	1.8	3.5
Wet Bog	5.42	4.0	11.9	8.7	12.6
Total Wetlands	29.9	1.9	36.9	2.4	4.3
Waterbodies					
Lake / Pond	61.8	3.3	39.8	2.1	5.5
Anthropogenic / Other					
Agriculture	-	-	1.5	5.9	6.0
Cleared Land	110.5	25.8	11.4	2.7	28.5
Disturbance – Harvest (Pre 2012)	1.2	0.1	33.7	2.3	2.4
Disturbance – Wind (Pre 2004)	0.04	0.1	1.7	4.7	4.8
Residential	5.4	2.1	23.3	8.9	11.0
Right-of-Way (Road)	1.2	1.3	15.7	17.1	18.4
Right-of-Way (Transmission Line)	13.8	11.0	7.6	6.1	17.1
Total Anthropogenic / Other	132.2	5.7	95.0	4.1	9.9
TOTAL	984.3	3.5	794.8	2.9	6.4

Notes:

ha = hectare(s); LAA = Local Assessment Area; RAA = Regional Assessment Area

1. Habitat availability in the Project Area is based on NLDFAL forest and non-forest data, supplemented with cleared and residential areas identified through habitat analyses supported by satellite imagery
2. Area within LAA excludes the area within the Project Area and represents the area within the 500 m buffer of the Project Area only

11.4.1 Change in Wetland Function

For the purposes of this assessment, it is conservatively assumed that all wetlands within the Project Area will be lost, and that wetlands within the LAA may experience loss of area or function because of indirect Project-related effects. In reality, the entire Project Area is not slated for development, Project features have been sited to avoid wetlands and watercourses where possible, and direct effects will not occur throughout the Project Area. Site preparation and earthwork activities that will occur during early works and Project construction are expected to result in a change in wetland function primarily through direct disturbance within the Project Area, as loss of area typically equates to loss of function, or through edge effects or changes in hydrology within the Project Area and LAA. Site preparation includes activities such as clearing and grubbing of vegetation and topsoil, and earthwork activities involve both excavation and placement of fill, as well as grading.

Vegetation clearing will remove trees and shrubs, and damage understory vegetation, potentially resulting in a change to wetland types and area. Machinery used during clearing can also cause rutting, compaction, and damage to soil layers (Hakansson and Reeder 1994), changing water pathways (overland drainage) within and surrounding wetlands, and affecting potential regeneration of wetland vegetation in areas that will not be further disturbed. Both excavation and infilling can result in a loss of wetland area and fragmentation of wetland habitat, removing or changing hydrological connections between and within wetlands (Hanson et al. 2008). Grading can redirect overland flow which could alter hydrological inputs to wetlands that are adjacent to graded areas. Alteration of hydrology can result in changes to wetland classes, forms, or types through various mechanisms including changing hydrology inputs and hydrological regimes, or by raising or lowering water levels beyond the range of tolerance of the species currently present (Liu et al. 2025). These alterations, particularly raising or lowering water levels, can also change wetland area. Indirect hydrological changes to wetlands are likely to extend further into the LAA in downstream environments than in upstream environments. Vegetation clearing will be limited to what is required for site construction and operation, to the extent feasible. When site plans allow, grading will be directed away from wetlands to lessen the resulting hydrological changes to remaining wetland areas.

Construction-related loss of or change in wetland function can result in a decrease in available habitat within the LAA for wetland-inhabiting plants, including SOCC, and wildlife that use wetland habitats, including waterfowl and other avian species, amphibians, and some mammals. Carbon sequestration function within the Project Area will be lost; this is an important function of sphagnum-dominated peatlands (i.e., bogs) (Glenn et al. 2006), which exist within the Project Area, and could indirectly contribute to Project-related impacts to climate change. Hydrologic functions, including water quality functions, will be lost from wetlands within the footprint of Project components and likely reduced in other wetlands within the Project Area and LAA. These include stream flow support, water cooling, and water chemistry functions (Hanson et al. 2008).

Direct and indirect Project-related disturbance which results in conversion of wetland habitat from one wetland type to another will result in a change in the extent to which wetland functions are performed in remaining wetlands, as the degree to which wetland functions are performed depends at least partially on wetland class, form, and type.

Early works and Project construction will result in edge effects (discussed in greater detail in Section 11.4.2.1) in areas adjacent to clearing and other site preparation activities and can facilitate the spread of invasive species, which may also occur through construction and operation-related traffic. Several potentially invasive plant species have been recorded during surveys conducted in support of the Project and likely occur in and around the Project Area. Clearing and site preparation as well as construction and operation-related traffic can facilitate the introduction and spread of potentially invasive plant species into wetland habitats adjacent to Project footprint activities. Wetlands are typically more susceptible to colonization of invasive species than other vegetation communities (Lázaro-Lobo and Ervin 2021). Invasive species can have negative effects on both native species and vegetation communities by outcompeting native species (ECCC 2024). Rare species, which may have narrow ranges of tolerance for various habitat characteristics, may be particularly vulnerable to competition from invasive species. Planned mitigation measures have been developed to reduce the potential spread of invasive species, including eradication or control measures if potentially invasive species are noted within or near the Project Area.

Dewatering of South Herman's Pond is expected to lead to the loss of or change to contiguous and hydrologically connected wetlands due to a change in hydrology. Some of these wetlands will then be completely lost to construction of the Keats pit. Remaining wetlands that do not experience direct disturbance may experience change in size or wetland class and type, depending on other potential hydrological inputs, or be converted to upland habitat. This dewatering, as well as water management and erosion control structures such as sedimentation ponds and ditching that will be installed, is expected to affect downstream wetlands within the LAA through a change in hydrological inputs (e.g., water volume or timing of hydrological inputs). This could result in both changes to wetland area and function.

During closure and post-closure rehabilitation phases, plants will recolonize rehabilitated portions of the Project Area, which could include wetlands. The extent to which wetlands form, reform, or are rehabilitated within the Project Area will depend on the nature and extent of activities such as grading and revegetation. The approved Rehabilitation and Closure Plan will consider how these activities will influence potential changes to existing wetlands and development of new wetlands in the Project Area and LAA.

The modified NLDFAL land use data, indicate that wetlands occupy approximately 29.9 ha within the Project Area, accounting for approximately 3% of the Project Area, and approximately 66.8 ha within the LAA, which is approximately 3.8% of the LAA (Table 11.2). The updated habitat analysis, using 2023 satellite imagery data, indicates that wetlands likely represent more of the landscape than is indicated in the NLDFAL data, in the order of 30-35%. However, this discrepancy likely extends to the RAA, and thus the relative amount of wetland within the RAA that may be directly affected by the Project (1.9%) or that may be indirectly affected by the Project (2.4%) is likely fairly accurate. In total, approximately 4.3% of wetlands within the RAA may be directly or indirectly affected by the Project (Table 11.10). Though the NLDFAL data indicate that approximately 12.6% of the wet bog land cover type within the RAA could be affected by the Project, this land cover type includes several different wetland classes and types, including graminoid fens and low shrub swamps. No single wetland class and type will experience greater than 10% loss or change in function within the LAA.

Project-related residual effects on wetland function are expected to be both direct and indirect. Direct effects will occur primarily during early works and Project construction, indirect effects will occur throughout the life of the Project, and loss of function will persist beyond the life of the Project.

Based on the information presented above, and the implementation of mitigation and management measures, Project-related residual effects on a change in wetland function are predicted to be:

- **Magnitude:** Moderate magnitude given that a measurable change affecting the sustainability and function of wetlands is expected to extend to the LAA.
- **Geographic Extent:** Direct effects are limited to the Project Area and indirect effects will extend into the LAA.
- **Duration:** Residual effects occur beyond the life of the Project. Though effects on wetland function will initially occur during Project construction, indirect effects will continue throughout operation, and loss of function will persist beyond the life of the Project.
- **Frequency:** Residual effects will occur continuously.
- **Reversibility:** Because some wetlands develop over millennia, residual effects are considered irreversible.

11.4.2 Change in Species Diversity, Vegetation Community Diversity, and/or Habitat

11.4.2.1 Vegetation

Changes to vegetation species and communities, including SOCC, are expected to result primarily from the direct removal of vegetation that will occur during site preparation and earthwork activities as part of early works and Project construction, as well as indirectly through edge effects in areas adjacent to cleared areas within the Project footprint.

Direct removal of vegetation will remove individual plants, including vascular plant SOCC, and vegetation communities within the Project Area. During clearing, trees and shrubs are removed and understory vegetation is either removed or damaged. Remaining vegetation will be removed in areas where earthwork activities, which include excavation, grading, and infilling, will occur. Clearing and earthwork activities will be conducted with large machinery that can compact soils. These activities may also remove the current seedbank, which will affect potentially regenerating plant communities (Zylberberg et al. 2023). The Project is expected to result in direct loss of or change to approximately 3.4% of wooded vegetation communities and 1.9% of wetlands within the RAA (Table 11.10).

The Project will result in some changes to species diversity. Most of the species recorded during field surveys are not considered either SAR or SOCC. Of those vascular plant SAR and SOCC that were observed, only one species, black chokeberry, was found within the Project Area, though there is no known location for creeping buttercup, which could have been observed within the Project Area. This species was also found within the LAA and RAA and is expected to persist within the RAA if the Project proceeds.

Clearing within the Project Area will cause changes in abiotic conditions for plants, known as edge effects; these may include differences in light availability, soil moisture and humidity, and soil and air temperatures (Fischer and Lindenmayer 2007). Each plant species has a different range of tolerance for various environmental conditions, which can be wide for some species and narrow for others. Thus, edge effects can have varying impacts on different plant species (Murcia 1995; Jin et al. 2023). The distance to which edge effects are detectable can vary depending on several factors, including edge type (anthropogenic or natural) and forest type, and is typically less than 200 m in temperate ecosystems and 115 m in boreal ecosystems (Franklin et al. 2021). Most measured edge effects decline beyond approximately 20 m from an edge in forested systems (Harper et al. 2005; Harper et al. 2015). Edges facilitate the spread of invasive species, discussed further in Section 11.4.1. Edge effects are expected to affect plant species and vegetation communities in the Project Area and LAA in areas adjacent to clearing activity. Indirect changes to vegetation communities may affect approximately 2.8% of wooded vegetation communities and 2.4% of wetlands within the RAA (Table 11.10).

Construction and operation-related traffic, as well as operation activities such as open pit mining and ore crushing and sorting, are expected to produce dust, which can then be deposited onto plants and vegetation communities. Deposition of dust, which can include metals and other contaminants, can physically block sunlight and stomata, reducing photosynthesis and raising leaf temperature (Farmer 1993; Zia-Khan et al. 2015). Dust can enter the soil, alter soil chemistry, and ultimately be absorbed by plants (Brown 2009). Various effects can follow, including decreased plant productivity, particularly for more sensitive species, and entrance into the food chain (Padgett et al. 2007; Conesa et al. 2008). In

some ecological systems, the magnitude of these effects and distance to which they are no longer detectible may be relatively low (Matsuki et al. 2016). Topography, wind, and canopy density are factors in dust deposition patterns (Padgett et al. 2007).

The Project is expected to result in changes to both species and community diversity. One plant SOCC has been documented within the Project Area, and those individuals are expected to be lost as a result of the Project; however, this species was also documented in the LAA and RAA and will continue to persist in the region. A second plant SOCC may occur within the Project Area, but may occur elsewhere in the RAA, or outside of the RAA. Vegetation communities within the Project Area will be lost as the Project is developed. Invasive species may affect vegetation communities, particularly in areas adjacent to disturbance, though the potential spread of invasive species will be reduced with planned mitigation measures as identified in Section 11.3. Some vegetation communities will regenerate during and following the closure and post-closure rehabilitation phases and considering the current level of disturbance within the Project Area, a return to near pre-Project conditions may be possible for portions of the Project Area. Other areas, such as relatively undisturbed wetland communities, may not recover to pre-Project conditions, despite rehabilitation efforts. However, the vegetation communities within the Project Area are well-represented within the RAA, and vegetation community diversity as well as the species that these communities support, are expected to persist within the RAA.

11.4.2.2 Avifauna and Other Wildlife

Direct Habitat Loss / Alteration

Vegetation clearing will be the main source of direct effects on habitat for avifauna and other wildlife. Important habitat features such as nests, dens, burrows, and maternity roosts, may be altered or lost if present in the Project Area. This may include habitat for avifauna and other wildlife SAR, which use trees for roosting, nesting, and denning during sensitive life stages.

The Project Area covers approximately 984.3 ha of disturbed (e.g., cleared land, transmission line right-of-way) and undisturbed (e.g., wooded, wetlands) areas that will be directly lost or altered during Project construction. An additional 794.8 ha may be indirectly affected due to sensory disturbance (Table 11.10). In total, this represents a combined habitat loss or alteration of 6.4% of the RAA.

Undisturbed habitat in the Project Area is comprised of wooded areas (77.2%) and wetlands / waterbodies (9.2%). Approximately 13.4% (132.2 ha) of the Project Area is already disturbed (Table 11.2), and this is expected to increase to 100%, based on the assumption of complete habitat loss within the Project footprint. While this change will reduce natural habitat, it may create opportunities for certain species, such as insect SAR that use flowering plants, if these plants are encouraged to establish in disturbed areas.

Most of the undisturbed habitat within the Project Area consists of coniferous forest (545.5 ha; 55.4%) and coniferous scrub (159.9 ha; 16.2%). These habitats support a variety of avifauna and other wildlife including olive-sided flycatcher, gray-cheeked thrush, bats, and marten. Direct loss of these habitats within the Project Area represents approximately 4.4% and 4.7% of their total availability within the RAA, respectively (Table 11.10). However, indirect effects on habitat are expected to extend into the LAA, potentially affecting up to 7.8% and 8.7% of these land cover types in the RAA, respectively.

Deciduous habitat accounts for a relatively small proportion of the undisturbed habitat in the Project Area, comprising only 5.6% (combined deciduous forest [21.4 ha; 2.2%] and deciduous scrub [33.3 ha; 3.4%]. Avifauna and other wildlife SAR and SOCC that may preferentially use this habitat include least flycatcher, Nashville warbler, and some bats. Deciduous habitat within the Project Area represents approximately 3.3% of the total deciduous habitat in the RAA (Table 11.10). When combined with potential indirect effects (Project Area + LAA), this could increase to 6.4% of the RAA.

Wetlands (bogs) and waterbodies (lakes / ponds) also comprise a relatively small amount of the Project Area, approximately 29.9 ha (3.0 %) and 61.8 ha (6.3%) of the Project Area, respectively. These habitats may provide important features for some SAR / SOCC in the area, including yellow-bellied sapsucker, olive-sided flycatcher, rusty blackbird, and little brown myotis, and other species of interest such as muskrat. Wetlands in the Project Area represent 1.9% of the total availability in the RAA (Table 11.10). The combined direct and indirect effects on habitat could potentially affect up to 4.3% of the wetlands in the RAA.

Waterbodies in the Project Area represent 3.3% of the total availability in the RAA, while waterbodies in the Project Area and LAA make up to 5.5% of waterbodies in the RAA (Table 11.10). Although the Project has been designed to avoid impacts to fish and fish habitat, South Herman's Pond will be dewatered to facilitate mining activities. This will result in the loss of aquatic and shoreline habitat that may support avifauna such as common loon and swamp sparrow (observed at "Herman's Pond" in 2023 [GEMTEC 2024a]).

Water management during Project operations may also cause fluctuations in water levels in on-site waterbodies and wetlands, although a priority of the site water management plan is to maintain flows to support fish and fish habitat. These changes could affect habitat for species such as muskrat, which inhabit a variety of wetlands, watercourses, and open waterbodies, and avifauna that nest near open water, along lake margins, or in riparian areas (e.g., rusty blackbird, waterfowl and other waterbirds).

Vegetation removal can also result in habitat fragmentation and the creation of edge habitats. Roads create an abrupt linear edge that can increase the proportion of edge habitat in an area, with potential effects on microclimate, light, and vegetation structure (i.e., habitat of avifauna and other wildlife). Species such as moose, marten, snowshoe hare, and squirrels have been shown to avoid small forest open areas edges (Baril-Chauvette et al. 2024), although documented edge effects have been shown to vary among species and size of openings/edges. Those with large home ranges, such as moose, may be disproportionately affected because they require a minimum patch size for the habitat to be considered adequate; even when suitable habitat patches exist, they may be unattractive if they are too small (Dussault et al. 2006). Other species, such as bats, require connectivity between roosting and foraging areas, and fragmentation or loss of these habitats could increase travel distances and energetic costs (ECCC 2018). Alternatively, foraging little brown myotis are often associated with open habitats and edges, such as roads (ECCC 2018). For other species, such as the yellow-banded bumble bee, the long-term creation of edge habitat can result in beneficial increases in flower availability (COSEWIC 2015; ECCC 2022c).

Mitigation measures will be implemented to reduce potential direct effects on habitat including restricting clearing and grubbing to areas necessary for Project construction and limiting new disturbance, to the extent practicable. Buffer zones of undisturbed vegetation will also be maintained around identified sensitive areas (e.g., wetlands, rare plant occurrences, roosts, dens), where feasible. Additional species-specific mitigation will include (to the extent practicable) avoiding vegetation clearing during sensitive

periods (e.g., migratory breeding bird season, approximately mid-April to mid-August [ECCC 2025b]) and retaining important habitat features, such as large diameter trees that may serve as summer roost sites for bats. Where practicable, coarse woody debris and soil patches remain undisturbed to support breeding habitat for insect SAR and provide shelter, breeding and foraging opportunities for small mammals, amphibians, and ground-nesting birds. If key habitat features, such as hibernacula, maternity roosts, raptor nests, marten dens, or muskrat burrows, are encountered at any stage of the Project, work will immediately cease. The Site Manager will be notified promptly, and the Wildlife Division will be informed if required. Follow-up actions will be determined in consultation with regulators and a qualified biologist.

Sensory Disturbance (Indirect Effects)

Project activities may also indirectly affect habitat through sensory disturbance, with the magnitude of these effects associated with the intensity of nearby Project activities. Activities such as heavy equipment use, increased traffic, and blasting, result in increased human presence, noise, vibrations, light, fugitive dust, and other emissions (e.g., exhaust), which can have indirect adverse effects on avifauna and other wildlife habitat quality. These sensory disturbance effects are expected to attenuate with distance from Project activities and because Project-related sensory emissions will be managed to acceptable levels for nearby communities, avifauna and other wildlife occurring at or beyond the nearest human receptors (approximately 235 m) are also afforded the same level of protection.

Light associated with vehicle traffic, heavy equipment, and on-site lighting can indirectly affect habitat quality, which may in turn lead to altered behaviour and activity patterns of some avifauna and other wildlife. For example, artificial light has the potential to attract or disorient nocturnally migrating birds (Poot et al. 2008) and species may avoid lit areas because of increased risks of predation (Willems et al. 2022). Bright artificial lighting has also been shown to delay or extend the duration of bat emergence (Boldogh et al. 2007), which can have implications on foraging success. Alternatively, the presence of site lighting has the potential to benefit species that forage on flying insects, such as little brown myotis, that may opportunistically feed on insects that become concentrated around light sources.

Traffic and maintenance activities may indirectly affect avifauna and other wildlife habitat through dust deposition in adjacent areas, with peak activity levels expected during construction. For this Project, it is estimated that 80 passenger vehicles will travel to and from the site within a 24-hour period during construction, and 40 passenger vehicles during operations. Approximately 10 haul trucks are also expected to complete two roundtrips per day to the processing facility at Pine Cove during operations. Dust may also be generated during ore handling and crushing activities (e.g., loading, unloading, transfer, hauling, and crushing) as well as from wind-blown fugitive dust originating from exposed ore stockpiles and waste-rock pile surfaces. Dispersion modelling shows that particulate emissions are driven mainly by fugitive dust from unpaved roads (approximately 55 to 80%, on a 24-hour averaging period), and that under peak operating conditions, infrequent and short-term exceedances may occur over limited geographic areas. However, adaptive dust control measures would be implemented to maintain compliance with ambient air quality standards as further discussed in Section 7.3. This may include reductions or temporary suspension of some Project activities, such as hauling and crushing as needed to maintain compliance, with ambient air quality standards. Depending on activity levels, forage availability for some species may be reduced if plants become covered in dust, and avifauna and other wildlife that forage within or adjacent to the Project Area may therefore interact with vegetation subject to localized dust deposition. Chen et al. (2017) documented potential effects on caribou forage along the

Misery Haul Road at the Ekati Diamond Mine, where increased dust on leaves and reduced lichen cover was observed within 1 km of the road. For this Project, the nearest confirmed caribou observation was approximately 3.6 km from the Project Area, which is beyond the distances at which dust-related vegetation effects were documented by Chen et al. (2017).

Noise and visual disturbance may affect habitat quality by causing some wildlife to avoid affected areas or to modify their behaviour, which can cause stress or other physiological effects (e.g., Barber at al. 2010; Naguib 2013). Noise can also interfere with wildlife communication (e.g., Dooling and Popper 2007), potentially affecting mate selection. These effects are generally more pronounced during sensitive life stages, such as courtship or breeding. Noise levels exceeding 10 decibels (dB) above ambient levels, or that are greater than 50 dB, have the potential to disrupt avifauna (ECCC 2023b), and Maier et al. (1998) found that barren-ground caribou in Alaska exhibited mild reactions to noise levels of 46 dB to 127 dB associated with low-level jet aircraft overflights that included modifications of activity cycles and daily movements. There is also evidence that some wildlife species (e.g., mink) readily habituate to noise disturbances (AMEC Americas Limited 2005). Noise modelling conducted for the Project indicates that sound pressure levels at the eight nearest sensitive receptors will range from 43 to 50 dBA and will comply with the Health Canada Guidelines (Section 7.4.2). Sound pressure levels are predicted to be below background noise levels within approximately 2 km of the Project Area.

Noise and vibrations associated with blasting activities also have the potential to reduce the quality of avifauna and other wildlife habitat. For example, noise and vibrations near bat maternity colonies can disturb bats and may lead to roost abandonment, potentially reducing reproductive success (ECCC 2018). Relative to blasting for other types of mining (e.g., iron ore), blasting during gold mining typically involves fewer explosives and is more localized, resulting in comparatively lower blast-related noise and vibration. For this Project, blasting will be limited to one blast per day during daytime hours (365 blasts per year) and conducted under a Blast Management Plan with controls designed to meet sound and vibration criteria. Blasting volumes will vary over the life of the Project and are expected to consume approximately 1,319 kg (1.3 tonnes) to 8,912 kg (8.9 tonnes) of explosives per blast (Table 4.18). By comparison, this is roughly one quarter of the explosive quantities used at the Valentine Gold Mine (VGM), where average blast sizes were estimated at approximately 38 tonnes of explosives, based on one blast per day and 350 total blasts per year (Marathon 2020).

The intensity of ground vibrations (measured as Peak Particle Velocity [PPV]) modeled for the VGM[2] provides a useful comparator in the absence of site-specific data for this Project. For the VGM, PPV at the Victoria Dam, located approximately 4 km from the mine site, were estimated to be approximately 0.16 millimetres per second (mm/s) (Golder Associates Ltd. 2020). Closer to the blast source, maximum estimated PPV values were 1.3 mm/s at a separation distance of 1,000 m and 0.69 mm/s at 1,500 m. For context, steady-state vibrations generally become perceptible to humans at approximately 0.03 inches per second, or 0.76 mm/s (Johnson and Hannen 2015). Given the lower explosive quantities and more localized blasting proposed for the New Found Gold Project relative to the VGM, vibration levels at off-site receptors are likely to be lower than those predicted for the VGM.

[2] The attenuation model for the VGM is applicable when blasting is conducted in an open pit toward a free face under average conditions, in the absence of site-specific data.

Evidence from other mining studies suggest that wildlife behavioural responses may be more strongly influenced by overall site activity than with blasting events specifically. Eftestøl et al. (2019) reported no difference in reindeer avoidance behavior between workdays with and without blasting, suggesting that sensory disturbance associated with elevated levels of mine-site activity may have a greater influence on ungulates than blasting alone. Documented zones of influence for caribou at mine sites have ranged from 6.1 to 18.7 km (standardized average of 7.2 km) over a 15-year period (Boulanger et al. 2021). On the Island of Newfoundland, caribou showed avoidance of the Hope Brook Gold Mine at distances of up to 6 km during construction, and that most caribou avoided the mine site within 4 km during the construction and operation phases (Weir et al. 2007). The nearest documented caribou observation for the Project (approximately 3.6 km from the Project Area) therefore falls within the zone of influence observed at Hope Brook Gold Mine. However, available data indicate that caribou occurrence in the Project vicinity is unlikely, with occurrences expected to be infrequent and incidental. Overall, Project-related sensory disturbances will be actively managed and mitigated to acceptable levels for nearby communities. These same mitigation measures will also function to reduce indirect effects on avifauna and other wildlife habitat. These include measures to limit sensory impacts throughout the life of the Project. Blasting activities will be designed and managed to meet stringent sound and vibration criteria required due to the proximity of the Town of Appleton and the Trans-Canada Highway. Blasting will follow established industry and regulatory standards, including the Blasters' Handbook (ISEE 2016) and the Environmental Code of Practice for Metal Mines (Environment Canada 2009), which prescribe thresholds and controls for airblast overpressure, ground vibration, and blast scheduling to reduce off-site effects. The Project design also includes 10 m-high berm near southwest portion of Project Area to further mitigate noise levels. Lighting will follow established guidelines, including those from the Commission Internationale de L'Éclairage, the International Dark Sky Association, and the Illuminating Engineering Society. Directional lighting and best practices will be applied to reduce light trespass, glare, and contributions to sky glow to acceptable levels.

Dust control measures will be outlined in the Air Quality Management Plan (to be developed prior to Project construction) and will include speed restrictions, proper truck loading, regular road and vehicle maintenance, revegetation of distributed areas as practical, and the application of water or approved chemical dust suppressant on site roads. An adaptive management approach for dust management is proposed which includes reductions or temporary suspension of Project activities, such as hauling and crushing, as needed based on real-time ambient monitoring results, to maintain compliance with ambient air quality standards during dry and/or windy periods. Measures to mitigate the effects of light, dust, noise, and other emissions are further discussed in Section 7 (Atmospheric Environment).

11.4.2.3 Summary

Based on the information presented above, and the implementation of mitigation and management measures, Project-related residual effects on a change in species diversity, vegetation community diversity, and/or habitat are predicted to be:

- **Magnitude**: Low in magnitude given that a measurable change is expected to extend into the LAA but the sustainability of vegetation SAR or SOCC, vegetation communities, and associated habitat for avifauna and other wildlife is not expected to be affected within the LAA.
- **Geographic Extent**: Direct effects are limited to the Project Area and indirect effects will extend into the LAA.

- **Durations**: Residual effects occur beyond the life of the Project. Though effects on avifauna and other wildlife will initially occur during Project construction, indirect effects will continue throughout operation, and a change in habitat (loss / alteration) may persist beyond the life of the Project.
- **Frequency**: Residual effects will occur continuously.
- **Reversibility**: Habitat loss / alteration or a change in vegetation communities will be reversible in some areas, as the site is expected to gradually transition from open habitats to forested habitat following rehabilitation and closure, reversing some habitat loss or change to vegetation communities. However, in other areas habitat loss / alteration may be irreversible because some vegetation communities are unlikely to return to their original state.

11.4.3 Change in Mortality Risk

Direct mortality risk to avifauna and other wildlife is primarily associated with clearing and site preparation during sensitive periods (e.g., nesting, denning, roosting). Collisions with Project vehicles or other Project equipment (e.g., site lighting) may also directly affect the mortality risk of avifauna and other wildlife.

Vegetation removal, including grubbing, during the regional nesting period for migratory birds (approximately mid-April to mid-August; ECCC 2025b) poses a heightened risk of egg and nestling mortality. There is also an elevated mortality risk to other species with overlapping sensitive periods, including bats (maternity roosting) and insect SAR, as well as marten during denning, if present[3]. If an active nest is found, the surrounding area will remain undisturbed until fledging has occurred, or the nest is abandoned. If active roost sites (bats), raptor nests, or dens (e.g., marten) are discovered, work in the vicinity will immediately cease until appropriate follow-up is determined.

Seasonal factors similarly influence wildlife-vehicle collision risk, with a potential increased mortality risk during periods such as the fall rut for moose (e.g., Vanlaar et al. 2019) and the active season for yellow-banded bumble bee (May to August; ECCC 2023a). Other factors that can affect the risk of wildlife-vehicle collisions include site lighting, time of day, driver fatigue, traffic volumes, vehicle speeds, wildlife mobility, and the presence of preferred habitat (particularly where this habitat occurs on both sides of a roadway) (e.g., Su et al. 2023, Thakur et al. 2025). Wildlife that are difficult to detect, including small-bodied animals (such as small mammals, insects, and some birds) and nocturnal species (such as bats and marten), may be more susceptible to collisions with vehicles and other Project equipment. If locations with frequent wildlife interactions are identified, adaptive management measures will be implemented to reduce mortality risk to avifauna and other wildlife.

Drilling and blasting and associated vibrations also have the potential for increased mortality risk to wildlife such as bats, as these activities have the potential to result in the collapse of entrances to hibernacula or to arouse bats from torpor, the latter which can have substantial effects on their limited energy reserves during hibernation (ECCC 2018). While there are no known hibernacula in the RAA, it is possible that they may exist. If active hibernacula are encountered during blasting or other Project-related activities, work in the vicinity will immediately cease until appropriate follow-up is determined.

[3] Marten presence has not yet been confirmed as field surveys are pending; however, there are no historical records (AC CDC 2021) within 5 km of the Project Area.

The risk of direct mortality to avifauna and other wildlife will be reduced through the implementation of timing restrictions on activities that involve the removal of vegetation. Clearing will be scheduled outside of critical periods for bird nesting and bat roosting period whenever feasible, and nests, eggs, and shelters of migratory birds or other wildlife will not be disturbed or destroyed. Where clearing is required during sensitive periods for birds or bats, targeted pre-clearing surveys will be completed for active bird nests and bat maternal colonies/roost sites. In addition, standard mitigation measures include the development and implementation of a Traffic Management Plan that includes measures such as promoting carpooling, requiring drivers to observe speed limits on both public and site roads, follow safety protocols, and yield to animals on site. Motorized vehicles will also not be permitted to enter sensitive areas without prior approval from the Site Manager (or designate) and/or environment department.

Mortality risk to avifauna and other wildlife may also increase indirectly, through changes in access (e.g., increased access to hunting areas) and human-wildlife conflicts. Altered or improved access could lead to increased hunting, harvesting, poaching, outfitting, and outdoor recreation. Human-wildlife conflicts may also arise from improper waste disposal or if pets (e.g., dogs) are brought on site, which can attract potential predators (e.g., American black bear) and result in unintended injury or mortality.

Mitigation measures will be implemented to reduce indirect mortality risk to avifauna and other wildlife. These include storing food waste and garbage in secure containers to avoid attracting wildlife, prohibiting chasing, catching, diverting, following, or otherwise harassing wildlife, and documenting wildlife sightings. Nuisance animals (e.g., bears, coyotes) will be managed by the Site Manager (or designate) in consultation with Wildlife Division.

In addition, hunting and harvesting will be strictly prohibited on the mine site. Given that most employees are anticipated to be local residents, it is assumed that they would continue to follow their existing resource use patterns. New Found Gold will continue engaging with local resource users regarding potential overlap between the Project and land use areas within the Project Area.

Based on the information presented above, and the implementation of mitigation and management measures, Project-related residual effects on the mortality risk of avifauna and other wildlife are predicted to be:

- **Magnitude**: Residual effects are expected to be low in magnitude given that the number of direct mortalities from the Project is expected to be small relative to existing sources of mortality within the RAA.
- **Geographic Extent**: Residual effects are limited to Project Area.
- **Duration**: Residual effects (mortality events) are expected to occur irregularly.
- **Frequency**: Residual effects will occur throughout the life of the Project.
- **Reversibility**: The change in mortality risk will be reversible once the Project ceases.

11.4.4 Summary

Project residual effects for a change in wetland function are expected to be adverse and moderate in magnitude given that a measurable change is expected within the LAA that could affect wetland function. Change in wetland function due to direct effects, including loss, could occur within an estimated 29.9 ha of wetland area in the Project Area, representing 1.9% of the wetlands within the RAA. Change in wetland

function due to indirect effects could conservatively occur within an additional 36.9 ha of wetland within the LAA (but outside of the Project Area), representing 2.4% of wetlands within the RAA. Though the wet bog land cover type within the Project Area and LAA represents 12.6% of that available in the RAA, this land cover type includes several different wetland classes and types, including graminoid fens and low shrub swamps, thus no single wetland class and type will experience greater than 10% loss or change in function within the RAA. Most residual effects on wetland function will occur during construction but are expected to be long-term in duration, persisting throughout and beyond the life of the Project. Though some loss of wetland function may be reversible, many functions associated with peatlands are considered irreversible.

Project residual effects for a change in species diversity, vegetation community diversity, and/or habitat are expected to be adverse and moderate in magnitude given that a measurable change is expected within the LAA that could affect the sustainability of vegetation SAR or SOCC, vegetation communities, and associated habitat for avifauna and other wildlife in the LAA. The assumed extent of these residual effects is considered conservative as most are not expected to occur throughout the Project Area and LAA. Land use types (representing vegetation communities, including wetlands, and habitats) in the Project Area and LAA that will be lost or altered due to the Project comprise between 0.02% (unknown forest) to 12.6% (wet bog) of their availability in the RAA; however, the Project is unlikely to affect sustainability of these components within the RAA. Most residual effects will commence during construction but will occur continuously and are expected to be long-term in duration, with some residual effects extending beyond the life of the Project. The loss or alteration of some vegetation communities/habitats may be reversible in some areas, as much of the Project Area is disturbed and the site is expected to gradually transition to forested habitat in the years following rehabilitation and closure. However, some vegetation communities/habitats, such as some wetlands (particularly peatlands), are unlikely to return to their pre-Project state.

Project residual effects for a change in mortality risk are expected to be low in magnitude, as the number of direct mortalities from the Project is expected to be small relative to existing sources of mortality within the RAA. Effects are anticipated to be limited to the geographic extent of the Project Area, and mortality events are expected to occur irregularly throughout the life of the Project. The change in mortality risk will be reversible once the Project ceases.

Overall, with the application of mitigation and management measures, residual effects on the Terrestrial Environment are not anticipated to result in a threat to the long-term persistence or viability of a species within the RAA, including those that are contrary to or inconsistent with the goals, objectives, or activities of provincial or federal recovery strategies, action plans, and management plans. A non-conformance with section 5.1 of the NL Policy for Development in Wetlands or a loss of more than 10% of wetland area within the RAA is not predicted as it is only estimated that up to 4.3% of the wetland area within the RAA could be lost or changed as a result of the Project. Based on application of the mitigation measures identified in Section 11.3 and New Found Gold's commitment to comply with regulatory standards, residual environmental effects on Terrestrial Environment are anticipated to be not significant. This determination is made with moderate to high confidence based on the following:

- an understanding of the existing conditions for vegetation, wetlands, avifauna, and other wildlife, including SAR/SOCC, is supported by literature and baseline field data
- the specific locations of some plant species recorded during baseline surveys are not known

- baseline studies were conducted using standardized methods
- GIS data analysis was used to quantify habitat effects
- a conservative approach was used to identify suitable habitat and predict habitat loss / alteration and loss or alteration of vegetation communities
- target avifauna and other wildlife species were generally detectable; however, confidence is lower for cryptic or nocturnal species
- a conservative approach was taken by assuming the presence of wildlife SAR where baseline data was limited (e.g., marten, insect SAR)
- potential environmental effects and mechanisms are common to mining and large construction projects and are well understood
- mitigation measures align with standard management practices and have proven effectiveness in similar projects
- the assessment team is experienced and familiar with local ecosystems
- ecological processes are complex, adding some uncertainty to predictions

11.5 Follow-up and Monitoring Programs

Additional baseline field programs will be conducted for SAR and will include Newfoundland marten hair snag surveys (conducted in March 2026), and red pine surveys (planned for spring 2026). An Environmental Effects Monitoring Plan will be developed in consultation with the Wildlife Division prior to Project commencement which will discuss potential impacts and preventative measures, mitigation, and long-term monitoring for SAR and other sensitive features. New Found Gold will continue to work with Wildlife Division to review new caribou data as it becomes available and determine applicability to ongoing Project planning. Additional monitoring programs, if required, will be developed in consultation with the Wildlife Division.

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11.6.2 Personal Communications

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Leonard, Tina. Manager, Forest Research and Habitat, Wildlife Division. Email and virtual meeting. July 4, 2025, January 8, 2026, and April 17, 2026.

Randell, Heather. Manager, Agricultural Services, Wildlife Division. Email. July 16, 2025.

12 Communities

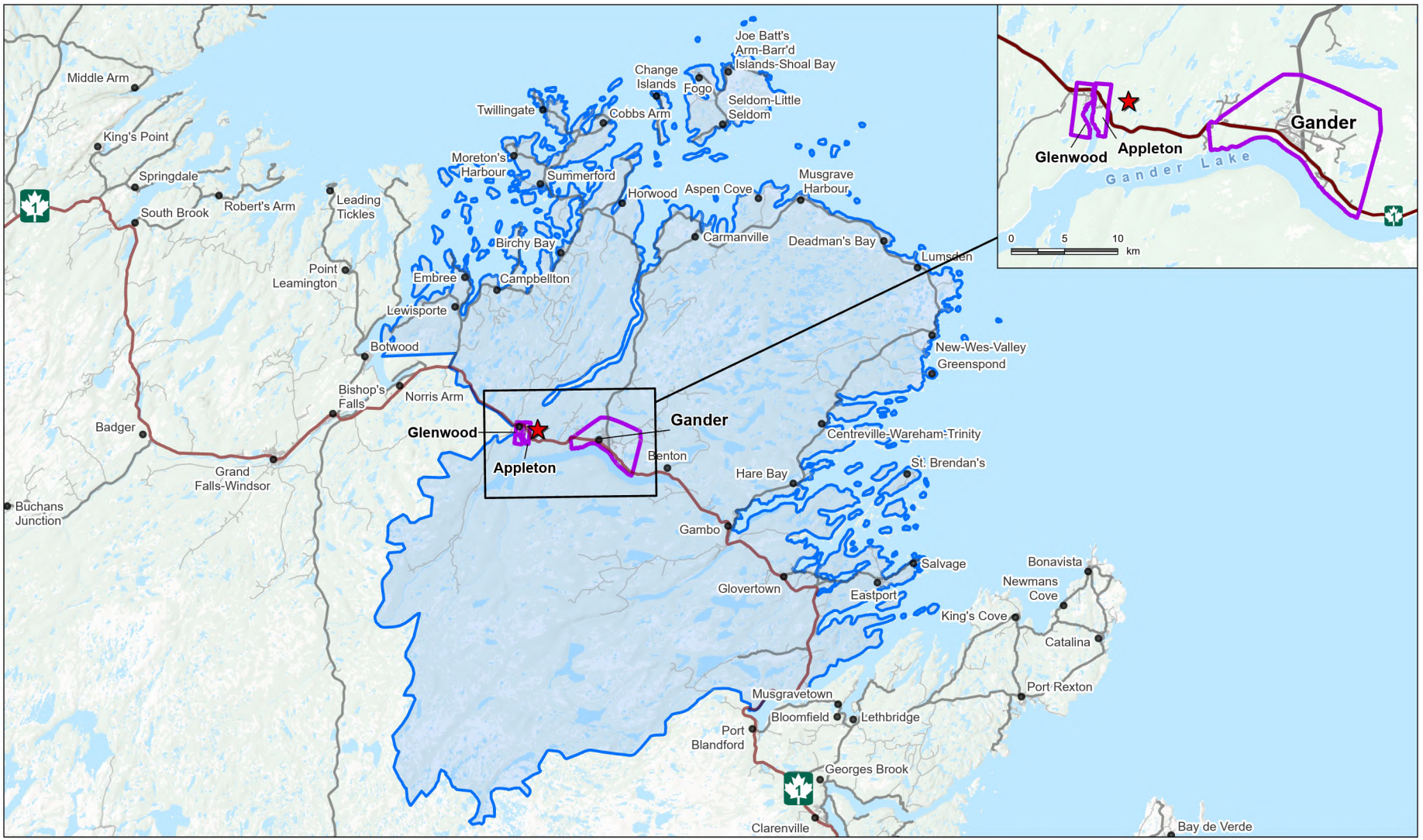
Communities has been selected as a valued component (VC) because Project employment and business may support the economic livelihoods of residents and provide associated social benefits stemming from earned income. The Project can also have other economic effects (e.g., labour, labour income, contributions to Gross Domestic Product [GDP], and government revenues) for the region and the province of Newfoundland and Labrador (NL). Project activities and Project-related population growth could increase demand for community infrastructure and services and affect (beneficially or adversely) community well-being. For the purposes of this assessment, this VC addresses the following:

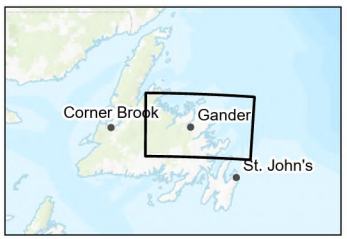
- Employment and economy: labour, labour income, and contributions to GDP and government revenues
- Infrastructure and services: housing and temporary accommodations, transportation, and local services and infrastructure (water, sewer, power, solid waste, education, recreation, safety, and health care)
- Community well-being: residents' access to health services and infrastructure, ability to conduct daily activities, health effects of Project emissions, and participation in employment and business opportunities

The Project is subject to provincial environmental assessment requirements under the NL *Environmental Protection Act* and associated *Environmental Assessment Regulations*. Provincial legislation, regulations policy, and guidance that are applicable to Communities include the NL *Urban and Rural Planning Act*. As the Project overlaps with the Town of Appleton's Land Use Planning Area, municipal permits are anticipated. Development of land carried out within the Planning Area must have a permit issued by Town of Appleton Council in accordance with these Regulations.

As shown on Figure 12.1, the spatial boundaries for the assessment of change in employment and economy include the Project Area (area of physical activities), the Local Assessment Area (LAA; the Towns of Appleton, Gander, and Glenwood), and the Regional Assessment Area (RAA; Economic Zone 14, which encompasses an approximate 100 kilometre (km) radius from the Town of Gander, including the communities listed in the LAA). The LAA and RAA for the assessments of change in infrastructure and services and change in community well-being include the Towns of Appleton, Gander, and Glenwood. Information on housing availability has been included for the Town of Grand Falls-Windsor because it is a potential place of residence for non-local Project workers.

Since effects on Land and Resource Use (LRU) contribute to the characterization of effects on community well-being, the assessment of Communities also considers the LRU spatial boundaries, which are described in Section 13.





Legend

- Project Location

Infrastructure and Services / Community Well Being

- Local & Regional Assessment Area

Employment and Economy

- Local Assessment Area
- Regional Assessment Area (Economic Zone 14)
- Community
- Trans-Canada Highway
- Highway
- Arterial / Collector
- Local Road
- Waterbody
- Forested Area

N

0 10 20 30 40 km

(At original document size of 8.5x11)
1:1,350,000

Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 21N
2. Data Sources: Statistics Canada; Eddy, B.G., Muggridge, M., LeBlanc, R., Osmond, J., Kean, C., and Boyd, E. 2023. The CanEcumene 3.0 GIS Database. Federal Geospatial Platform (FGP), Natural Resources Canada. https://open.canada.ca
3. Background: NRCan CanVec

Stantec

Project Location
Gander,
Newfoundland and Labrador

Prepared by AC on 2025-11-21
Revised by NW on 2026-01-20
TR by JB on 2025-11-21

Client/Project
Newfound Gold Corporation
Queensway Gold Project

121418510_102

Figure No.
12.1

Title
Communities Spatial Boundaries

The residual effects assessment for Communities considers both positive and adverse effects after mitigation and other management measures are implemented. Significance determination is made for adverse effects only. The definition of a significant effect on Communities includes the following:

- A significant adverse residual effect on infrastructure and services is one that results in demands on services or infrastructure above and beyond current capacity, such that standards of service are routinely and persistently reduced below current levels for an extended period such that they are unlikely to recover to existing conditions.
- A significant adverse residual effect on community well-being is one that results in deterioration of health and well-being over an extended period that cannot be managed or mitigated through adjustments to programs, policies, plans, or other mitigation.
- A significant adverse residual effect on economy and employment is defined as an effect that is highly distinguishable from current conditions and trends, which cannot be mitigated or managed with current or anticipated programs, policies, plans, or other mitigation measures.

12.1 Existing Conditions

A characterization of the existing conditions within the spatial boundaries defined above is provided in the following sections. This includes a discussion of the influences of past and present physical activities on communities, leading to the current conditions.

12.1.1 Approach and Methods

Secondary sources of information were used to describe existing conditions in the LAA and RAA. Secondary information included government sources (e.g., Statistics Canada, Government of NL), publicly available data, and literature.

Much of this section relies on government databases, including census data from Statistics Canada. Available data that were used include population, education, occupational and industry information, wages, and labour. Statistics Canada regularly suppresses (i.e., selectively does not disclose) survey information to protect the identity of individuals and to address data quality issues. The 2021 Census of the Population (Census), which is used in this section is subject, in part, to data suppression by Statistics Canada. Results of engagement with stakeholders and Indigenous groups have also been integrated into the description of existing conditions, where applicable.

The existing data collection focused on information that facilitated the assessment of the beneficial and adverse effects of the Project, and which made a meaningful contribution to the assessment. For example, information on existing conditions was collected not just on relevant services and infrastructure, but also on their capacity and ability to absorb additional Project-related demand.

Services and infrastructure, their capacities, and the ease with which additional capacity can be provided were identified through secondary research. Aside from the 2021 Census of the Population, the main sources of information on existing conditions are:

- NL Statistics Agency/Community Accounts
- Provincial agencies, boards, and commissions
- School and health boards
- Police and other emergency response organizations
- Housing agencies

12.1.2 Description of Existing Conditions

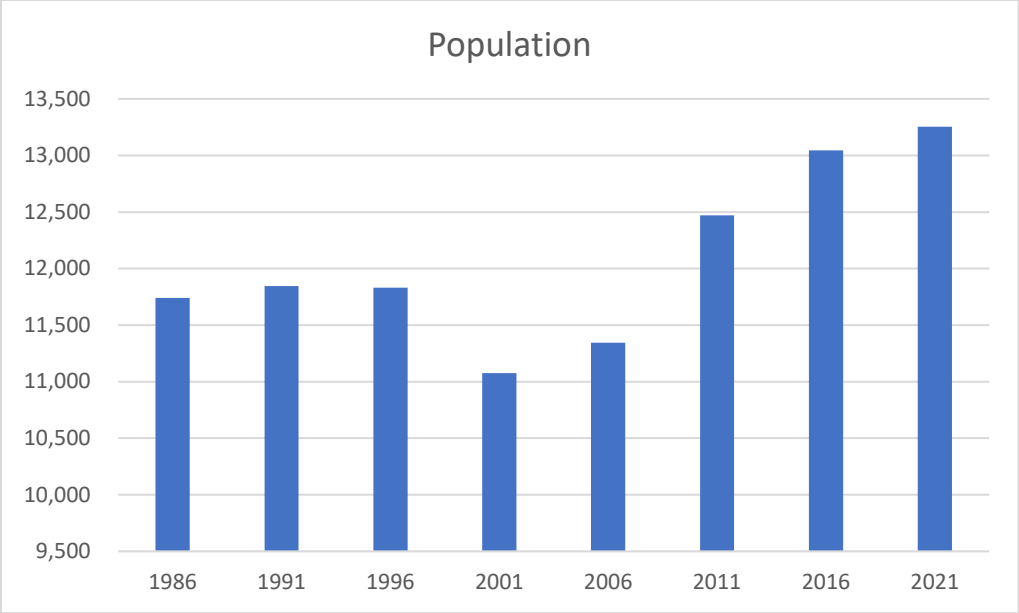
12.1.2.1 Economy of the Region

Central Newfoundland has been historically driven by land-based natural resources, such as forestry, pulp and paper, and mining. The Town of Appleton was formerly a forestry and logging community, and less focused on the mining sector (Community Accounts 2022). However, over the past decade, central Newfoundland has seen an increase in gold exploration activities, from various companies, in addition to the construction and now operation activities of the Valentine Gold Project, which coincides with the increase value of gold (Resource World 2023). This increase in mining activity can support the development of qualified labour for mining operations across the region, as some mines may start and stop production. For example, New Found Gold may benefit from the former workforce from the Beaver Brook Antimony Mine, located approximately 45 km southwest of Glenwood, which ceased production in 2023 (Roberts 2023).

The local economy of the nearby the Town of Gander is also a bit more diversified. As outlined further in Section 12.1.2.4, the area is a service centre for smaller, rural communities, with health care specifically representing a key economic driver. The town also provides services respecting retail, education, and other government services. Gander is also home to one of the most active aviation industries within the province, and while this was more pronounced post World War II, the Gander International Airport and the 9 Wing Gander Canadian Forces Base continues to be central to the economy, supporting aerospace, cargo projects (including seafood storage facilities), supply chain opportunities, training, and other supports to the aviation industry (Transport Canada 2023).

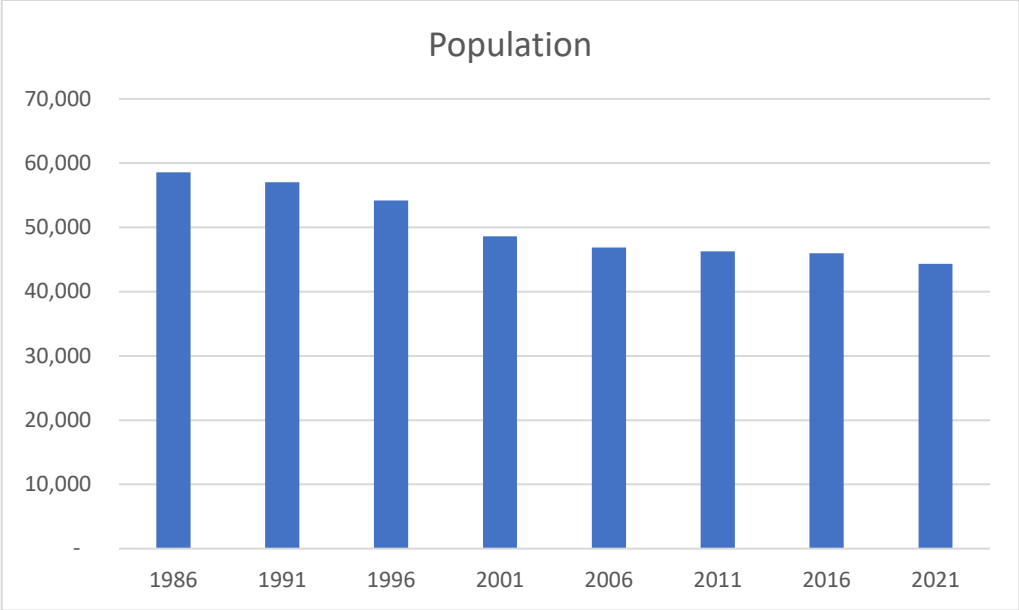
12.1.2.2 Population

The 2021 Census population for the LAA was 13,255. This represents an increase of 1.6% since 2016 (up from 13,045). Over the same period, the province experienced an overall population decrease of 1.8% (510,550 in 2021, down from 519,715 in 2016). The 2021 Census population for the RAA was 44,325. This represents a decline of 3.6% since 2016 (down from 45,985). The median age in the LAA was 48 in 2021, with the median age in the RAA being 53 in the same year. The 2021 median age in NL was 48. Figures 12.2 and 12.3 show the population trends of the LAA and RAA since 1986 (Community Accounts 2022).



Source: Community Accounts 2022

Figure 12.2 Population of the Local Assessment Area, 1986 – 2021



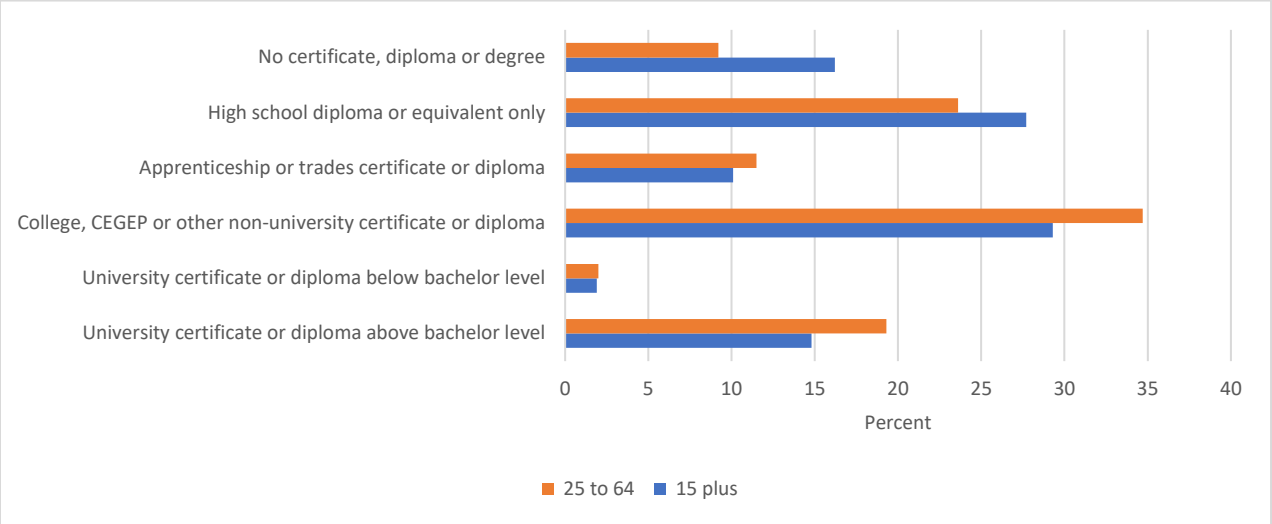
Source: Community Accounts 2022

Figure 12.3 Population of the Regional Assessment Area, 1986 – 2021

12.1.2.3 Educational Attainment

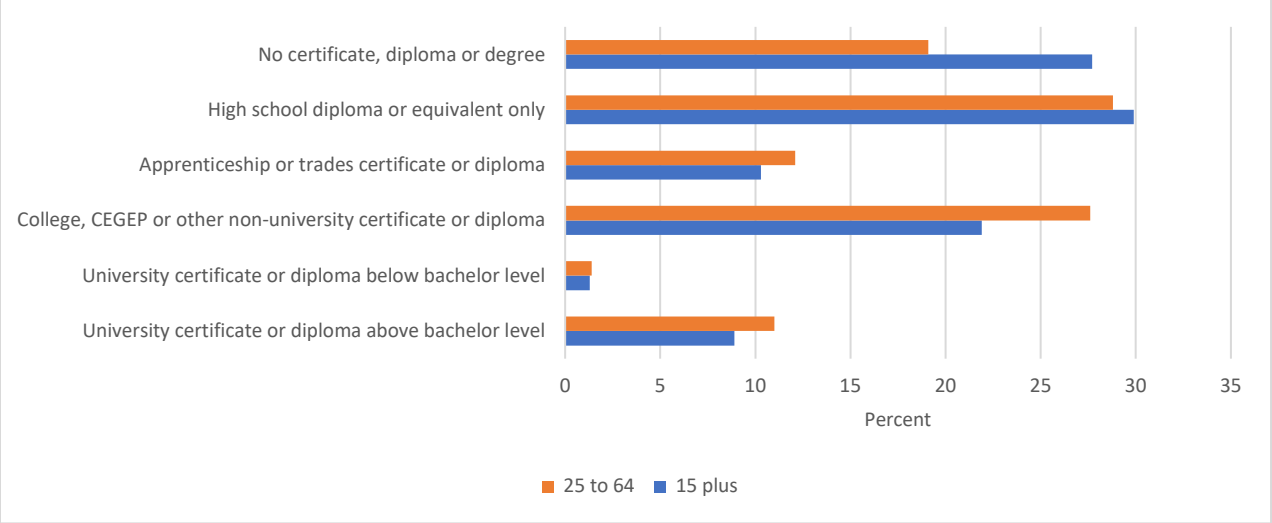
As of 2021, 16.2% of people 15 years and over in the LAA and 27.7% of people 15 years of age and older in the RAA do not have a high school diploma, compared to 20.4% of people in the province. Approximately 14.8% of people in the LAA and 8.9% of people in the RAA aged 15 and over had a bachelor's degree or higher in 2021, compared to 16.6% in the province (Community Accounts 2022).

In 2021, 9.2% of people 25 to 64 years of age in the LAA and 19.1% of people 25 to 64 years of age in the RAA do not have a high school diploma, compared to 12.6% in the province. Approximately 19.3% of people in the LAA and 11.0% of people in the RAA aged 25 to 64 had a bachelor's degree or higher in 2021, compared to 20.8% in the province (Community Accounts 2022). Further details regarding educational attainment are provided in Figures 12.4 and 12.5.



Source: Community Accounts 2022

Figure 12.4 Educational Attainment of the Local Assessment Area, 2021



Source: Community Accounts 2022

Figure 12.5 Educational Attainment of the Regional Assessment Area, 2021

12.1.2.4 Labour Force

In the LAA, the employment rate for those aged 15 years and older is 51.2%, slightly higher than the RAA rate of 38.1% and the provincial rate of 47.5%. The unemployment rate for the LAA is 15.2% compared to 21.6% of the RAA and 15.2% provincially. There are 6,590 individuals in the LAA, 18,535 individuals in the RAA and 243,330 for NL participating in the labour force (Community Accounts 2022).

Tables 12.1 and 12.2 provide a summary of LAA and RAA employment (by gender) by occupations. Generally, women make up a slightly larger proportion of workers within both the LAA (2,685 men compared to 2,890 women) and the RAA (7,135 men compared to 7,400 women). Sales and service occupations are among the top occupations in both the LAA (1,660) and RAA (3,550), while trades, transport and equipment operators and related occupations were also prominent (1,075 in the LAA vs. 3,165 in the RAA).

Table 12.1 Local Assessment Area Employment by Occupation, 2021

Employment by Occupation	Male	Female	Total
Management occupations	50	10	60
Business, finance and administration occupations	185	520	705
Natural and applied sciences and related occupations	275	35	310
Health occupations	155	585	740
Occupations in education, law and social, community and government services	280	555	835
Occupations in art, culture, recreation and sport	20	50	70
Sales and service occupations	660	1,000	1,660
Trades, transport and equipment operators and related occupations	960	115	1,075
Natural resources, agriculture and related production occupations	45	x	45
Occupations in manufacturing and utilities	55	20	75

Note:
x – data are suppressed to protect anonymity given small sample sizes
Source: Community Accounts 2022

Table 12.2 Regional Assessment Area Employment by Occupation, 2021

Employment by Occupation	Male	Female	Total
Management occupations	70	35	105
Business, finance and administration occupations	325	1,135	1,460
Natural and applied sciences and related occupations	470	65	535
Health occupations	220	1,265	1,485
Occupations in education, law and social, community and government services	545	1,710	2,255
Occupations in art, culture, recreation and sport	25	105	130
Sales and service occupations	1,305	2,245	3,550
Trades, transport and equipment operators and related occupations	2,895	270	3,165
Natural resources, agriculture and related production occupations	730	135	865
Occupations in manufacturing and utilities	550	435	985

Source: Community Accounts 2022

12.1.2.5 Individual and Family Income

Half of the males in the LAA received more than $48,850 in income during 2022, while half of females received more than $32,800. Half of the males in the RAA received more than $41,400 in income during 2022, while half of females received more than $27,800. Half of the males in NL received more than $44,800 in income during 2022, while half of females received more than $33,000. The national values were $49,700 for males and $37,700 for females (Community Accounts 2022).

Half of the couple families in the LAA had incomes of more than $103,350 in 2022, while the average couple family income in the LAA was $123,050. Half of the couple families in the RAA had incomes of more than $84,400 in 2022, and the average couple family income in the RAA was $103,800. Half of the couple families in the province had incomes of more than $102,700 and the national value was $110,900. The average couple family income in the province was $125,000; the national value was $138,300 (Community Accounts 2022).

Half of the single parent families in the LAA had incomes of more than $46,700 in 2022. Half of the single parent families in the RAA had incomes of more than $46,000 2022. Half of the single parent families in the province had incomes of more than $51,600; the national value was $58,900 (Community Accounts 2022).

12.1.2.6 Permanent and Temporary Accommodations

The 2021 census data (Statistics Canada 2023a) show that single-detached houses are the most prevalent type of dwelling in the communities, with other types making up only a small fraction (Table 12.3). Semi-detached houses, row houses, and apartments in duplexes are not as abundant, appearing in lower numbers or not at all in most areas. Apartments in buildings with fewer than five storeys are more common in larger communities, such as Gander (595 units) and Grand Falls-Windsor (500 units), while buildings with five or more storeys are rare, with only a small presence in Gander (15 units). Movable dwellings, which include mobile homes and other transportable residences, are notably present in Glenwood (45 units), but nearly absent elsewhere. Overall, the housing landscape in these communities is dominated by single-detached homes, with greater diversity in dwelling types only appearing in larger communities (Statistics Canada 2023a).

Table 12.3 Household and Dwelling Characteristics in 2021

Community	Total - Occupied private dwellings by structural type of dwelling - 100% data	Single-detached house	Semi-detached house	Row house	Apartment or flat in a duplex	Apartment in a building that has fewer than five storeys	Apartment in a building that has five or more storeys	Other single-attached house	Moveable dwelling*
Appleton	265	250	10	0	5	0	0	0	0
Bishop's Falls	1,425	1,130	120	50	60	30	0	0	35
Botwood	1,250	1,040	80	60	20	40	0	5	0
Gambo	810	745	25	0	15	20	0	0	0
Gander	5,065	3,350	350	285	475	595	15	0	5
Glenwood	325	275	0	5	0	0	0	0	45
Glovertown	820	770	15	15	0	15	0	0	5
Grand Falls-Windsor	6,120	3,945	370	535	750	500	0	20	0
Lewisporte	1,430	1,120	125	105	50	30	0	5	0

Note:

* The category 'Movable dwelling' includes mobile homes and other movable dwellings such as houseboats, recreational vehicles, and railroad cars.

Source: Statistics Canada 2023a

12.1.2.7 Market Housing

As of May 2025, detached houses were the most common residential property type for sale within a one-hour commute of the Project. At that time, there were 49 listings for single-detached homes in Gander and 38 listings in Grand Falls-Windsor. Glenwood and Appleton had five and three listings for detached homes, respectively (Realtor 2025).

In 2025, the Government of NL announced that they are providing $44 million in funding from the Affordable Housing Fund to help build over 280 new homes in NL, in addition to the 965 new homes previously announced since 2021 (Government of NL 2025). The Affordable Housing Fund offers low-interest or forgivable loans and contributions to partner organizations for creating, renovating, and repairing affordable housing. These housing projects are aimed at renting to lower income households at or below rates established by the Newfoundland and Labrador Housing Corporation, based on annual market reports published by Canadian Mortgage and Housing Corporation (CMHC) (Government of NL 2025).

Several residential developments are underway or planned in key municipalities, contributing to ongoing housing expansion in central Newfoundland. Grand Falls-Windsor has active and proposed subdivisions, including Spruce Woods Estates east of Grenfell Heights, alongside planned developments for Northcliffe Drive, Main Street West, Lind Avenue, the Curling Club Land Area, Subdivision Development – CBC Property, Toulett Drive, Corduroy Development Future Expansion, and Reid/Cater Place (Town of Grand Falls-Windsor 2024).

Glenwood also offers multiple lots for development in Glenwood Heights and on Lakewood Place (Mullett 2025, pers. comm.). Gander has land available for development on Dickens Street and Ward Street (Town of Gander 2025a). Appleton is developing residential plots on Temple Avenue, Little's Lane, and Davis Place, with potential for future expansion depending on demand (Barnes 2025, pers. comm.).

12.1.2.8 Rental Market

The Rental Market Survey data from CMHC focus on Gander and Grand Falls-Windsor from 2021 to 2024. Data for other municipalities in the LAA were not available. Table 12.4 presents the number of units by the number of bedrooms in Gander and Grand Falls-Windsor for each year. In total, there was an estimated 584 rental units in Gander and 519 in Grand Falls-Windsor in 2024. Of these, the majority are 2-bedroom rental units. The number of units increased slightly between 2021-2024 in Gander and remained consistent in Grand Falls-Windsor (CMHC 2025).

Average vacancy rates were lowest in Gander in 2024 at 0.7% compared to previous years. In Grand Falls-Windsor, average vacancy rates fluctuated between 0.8 to 4.0%, with the lowest vacancy rate occurring in 2023 (CMHC 2025). Between 2021 and 2023, the average rental costs in Gander show an upward trend from 2021 to 2023, increasing from $674 to $931, followed by a slight decrease to $865 in 2024. In Grand Falls-Windsor, average rental costs remained relatively stable, with minor fluctuations from $740 in 2021 to $761 in 2022, $760 in 2023, and $733 in 2024 (CMHC 2025).

Table 12.4 Number of Private Apartment Units, Gander and Grand Falls-Windsor

	2021-Oct	2022-Oct	2023-Oct	2024-Oct
Gander				
1 Bedroom	118	117	118	122
2 Bedroom	420	421	433	440
3 Bedroom+	26	34	21	22
Total	564	572	572	584
Grand Falls-Windsor				
Bachelor	6	6	6	6
1 Bedroom	88	88	100	100
2 Bedroom	397	398	398	398
3 Bedroom+	12	12	15	15
Total	503	504	519	519

Source: CMHC 2025

Table 12.5 presents the findings from local buy and sell websites for long-term rental listings. The search was performed on May 2, 2025, and results are reflective of current listings at that time. There were four listings for apartments, two listings for houses, and seven listings for room rentals, for a total of 13 listings. Average monthly rental costs were around $620 for room rentals, $1,440 for houses, and $1,260 for apartments. Gander had the highest number of rental listings.

Table 12.5 Online Rental Listings within a One-hour Commute of the Project (May 2025)

Community	Type	Bedrooms	Average Rent ($)	Listings
Bishop's Falls	Apartment	2	1,075	2
Embree	Room	1	600	1
Gander	House	4	1,775	1
	Room	1	650	5
Grand Falls-Windsor	Apartment	1	1,100	1
	Apartment	3	1,800	1
	Room	1	500	1
Lewisporte	House	4	1,100	1

Note:
Data is based on listings publicly available on May 2, 2025 (date of collection)
Source: Kijiji 2025; NL Classifieds 2025

As of May 2025, there were 205 registered short-term accommodations (hotels, motels, inns, bed and breakfasts, lodges, cabins, cottages, villas, and Airbnbs) within a one-hour commute of the Project, totaling 1,092 rooms across 28 communities. Grand Falls-Windsor and Gander had the highest number of rooms, with 249 units and 517 units, respectively (Kijiji 2025; NL Classifieds 2025). In 2024, the Central region recorded 213,870 short-term accommodation room nights sold, a 1% increase from 2023. Occupancy rates were highest in summer, declined in winter, and remained below the provincial average at 44% (NL Tourism Operator Portal 2025).

12.1.2.9 Waste

Central Newfoundland Waste Management provides waste management services to Newfoundland's central region, including the communities in the LAA. It oversees the operation of the regional waste management site and seven waste management facilities, or transfer stations, one of which is in Gander Bay (Central Regional Service Board [CRSB] 2019). The regional waste management site and the main landfill for the LAA is the Norris Arm Waste Management Facility, a lined landfill with leachate collection for final disposal. When it opened in 2012, the landfill had a 50-year life expectancy, however, in 2016, a second lined cell was constructed, doubling the lifespan. As a result of the additional capacity, the facility has been collecting waste from the Western Regional Service Board, in addition to Central Region communities (Hickey 2010; NL Department of Municipal Affairs 2012; CRSB 2019).

12.1.2.10 Water and Sewer

The Towns of Appleton and Glenwood share water and sewer services. Both towns receive their water from Gander Lake (NL Department of Environment and Conservation, n.d.). In 2006, a wetland sewage system was installed to eliminate the disposal of raw sewage into the Gander River. The Town of Glenwood supplies the sewer service to the Town of Appleton for a fee. The sewer system currently has 1,600 users and was designed to accommodate 2,500 (Town of Appleton 2020).

The Town of Gander's Water Services Division operates and maintains two pump houses, a water treatment plant and the water distribution system. The water supply for the Town of Gander is Gander Lake, which is a protected public water supply treated by gas chlorination (NL Department of Environment and Conservation, n.d.). Water is pumped from the lake through a water treatment plant, which was constructed in 2007, to a reservoir and then pumped into the distribution system. Wastewater treatment, including a wastewater treatment Plant, 13 Sewage Lift Stations and approximately 86 km of gravity sewers and force mains is the responsibility of the Town of Gander's Wastewater Services Division. The Town's wastewater treatment plant, which opened in 2022, was designed to accommodate Gander's growing population and consists of an operation and chlorination building and four outdoor gravity lagoons, each measuring approximately 65,532 metres (m) (Town of Gander 2025b).

12.1.2.11 Health Services

The LAA communities fall within NL Health Services' Central Health Zone, which until a reorganization of the provincial health care system in April 2023, was referred to as Central Health. The Central Health Zone extends from Charlottetown in the east, Fogo Island in the north, Harbour Breton in the south, to Baie Verte in the west. It provides health and community services to a population of 88,610 (NL Health Services 2024). Health and community services are provided through 45 facilities, with approximately 915 total beds throughout the region. In 2023, the zone had two regional referral centres, nine health centres, 23 community health facilities, and 11 long-term care facilities (Central Health 2023).

The two primary regional health centres are the James Paton Memorial Regional Health Centre in Gander and the Central Newfoundland Regional Health Centre in Grand Falls-Windsor (NL Health Services 2024). Bell Place Community Health Centre in Gander also provides public health services (NL Health Services 2025).

There are approximately 136 physicians practicing within the Central Health Region. Central Health has been challenged with recruitment and retention of family physicians and specialists and the region's physician vacancy rate steadily increased from 2020 to 2023. Central Health is currently the largest teaching site outside of St. John's. Six family medicine residents per year are matched to Memorial University's Central Stream, where residents come to work at local sites for two years. Central Health continues to work with the Department of Health and Community Services and the other Regional Health Authorities to explore successful recruitment and retention strategies (Central Health 2023).

Since 2021, Central Health has implemented virtual care to help address the impact of human resource shortages on emergency services. Two Health Hubs were opened to provide a virtual care option for patients who require non-emergency services and do not have a primary health care provider. These initiatives, along with several other initiatives such as the e-mental health services, have continued to support patient flow and access to care (Central Health 2023).

Between 2019 and 2023, the number of family medicine physicians in the Central Health Region decreased 12.0% from 108 to 95. The number of specialists increased 12.7% from 71 to 80 during the same period (Canadian Institute for Health Information 2024).

12.1.2.12 Health Characteristics

In 2023/2024, the Central Health Region showed higher rates of arthritis, diabetes and high blood pressure than the province (Statistics Canada 2023b) (Table 12.6). Females in the Central Health Region had higher rates of chronic disease than males in most instances. In 2023/2024, 58.5% of Central Health Region residents perceived their mental health to be very good or excellent (Statistics Canada 2025). This is lower than what was reported for the region in 2018 (72.2%) and higher than that of the province (53.5%) in 2023/2024. Perceived life stress was lower in the Central Health Region (10.8%) than the province (17.2%) in 2023/2024 and the Region's sense of community belonging was higher (79.6%) than that of the province (72.7%) (Statistics Canada 2025).

Rates of smoking were slightly higher in the Central Health Region (15.3%) than the province (15.0%) in 2023/2024. However, fewer respondents in the Central Health Region (21.9%) reported to be heavy drinkers than in the province (22.9%) (Statistics Canada 2025).

Table 12.6 Health Characteristics, Newfoundland and Labrador and Central Health Region, 2023/2024

Health Characteristic	NL			Central Health Region		
	Total	Male	Female	Total	Male	Female
General Health Indicator (%)						
Perceived health (very good or excellent)	50.0	53.4	46.7	50.6	52.6	48.6
Mental Health Status (%)						
Perceived mental health (very good or excellent)	53.5	55.8	51.3	58.5	62.1	55.3
Sense of community belonging (very strong or somewhat strong)	72.7	74.0	71.6	79.6	78.5	80.6
Perceived life stress (population aged 12 and over who reported perceiving that most days in their life were quite a bit or extremely stressful)	17.2	15.7	18.7	10.8	9.4	12.2
Life satisfaction (satisfied or very satisfied)	85.7	86.6	84.9	89.5	90.2	88.9
Rates of Chronic Disease (%)						
Arthritis (18 years and over)	31.4	25.9	36.7	37.8	33.2	42.2
Diabetes	11.6	11.3	12.0	13.0	8.7	17.1
High blood pressure	28.3	27.9	28.7	32.5	31.0	33.9
Rates of Substance Abuse and Healthy Living Indicators (%)						
Current smoker, daily or occasional	15.0	15.4	14.6	15.3	15.0	15.7
Heavy drinking	22.9	29.7	16.5	21.9	30.7	13.5

Source: Statistics Canada 2025

12.1.2.13 Education Infrastructure

The five schools in the LAA are within the Central District of NL Schools and they had a total enrolment of 2,026 during the 2025-2026 school year (NLSchools 2026) (Table 12.7). There are 77 schools in the Central District of NL Schools and between the 2023-2024 and 2025-2026 school years, enrolment fell from 13,464 to 13,118 (NL Department of Education and Early Childhood Development 2025).

Table 12.7 Schools in the LAA, 2025-2026

School	Community	Grades	Enrolment
Lakewood Academy	Glenwood	K-L4	208
Gander Academy	Gander	K-3	513
Gander Collegiate	Gander	L1-L4	508
Gander Elementary	Gander	4-6	405
St. Paul's Intermediate	Gander	7-9	392

Source: NLSchools 2026

At the time of writing, information on the capacity of schools was unavailable. However, as per NL Schools policy, requests for a student to attend a new school zone due to parent or guardian change of residence are automatically granted for the English stream programs, upon verification of residence (NLSchools 2016).

The College of the North Atlantic has a campus in Gander (College of the North Atlantic 2026).

12.1.2.14 Emergency Services

The Royal Canadian Mounted Police (RCMP) operates a detachment in Gander with 12 regular members on staff. The Gander Detachment is responsible for general law enforcement duties in the Gander area. The detachment's jurisdiction includes the Town of Gander and the region west to the Glenwood overpass and east to the Gambo overpass. The Town of Gander Municipal Enforcement Department has three police officers who enforce municipal regulations within the Town's boundaries and perform duties that include traffic enforcement, school safety monitoring and protection of homes and businesses, as well as animal control services (Town of Gander 2020).

The Canadian Forces Base 9 Wing Gander Military Police Detachment provides police services at 9 Wing Gander and various high-security off-base facilities, as well as for military housing and property located in the Town of Gander. Military Police officers are also called upon to conduct investigations throughout the province on an as-required basis (Town of Gander 2020).

The Gander-Lewisporte RCMP District (includes Gander and Lewisporte RCMP detachments) saw the crime severity index (CSI) increase from 52.1 in 2020 to 64.2 in 2023. This is compared to the CSI of the province, which increased from 69.6% in 2020 to 86.3% in 2023 (NL Statistics Agency 2024). The CSI measures changes in the level of crime severity in Canada from year to year and includes Criminal Code violations including traffic and drug violations and Federal Statutes (Statistics Canada 2020).

The Glenwood Fire Department serves both Glenwood and Appleton. Gander Fire Rescue has five full-time and two part-time firefighters as well as 43 volunteer members (Town of Gander 2020). NL Health Services operates a single integrated public ambulance service that includes 150 ambulances distributed over 83 operating bases throughout the province (NL Department of Health and Community Services n.d.).

12.1.2.15 Transportation

The Towns of Appleton and Gander are along the Trans-Canada Highway (TCH) (Route 1). Appleton and Glenwood are approximately a 15-minute and 19-minute drive, respectively, from Gander on Route 1. It is 575 km east of the Marine Atlantic Ferry Terminal in Port aux Basques and 335 km west of St. John's. The local road network, which consists of 166.3 km of paved road lanes, 4.7 km of gravel roads and 51.4 km of sidewalk, are maintained by the Town's Public Works Division (Town of Gander 2025b).

In April 2023, a $5.3 million contract was awarded to replace culverts and pave sections of the TCH between Gander and Appleton (NL Department of Transportation and Infrastructure 2023).

Gander International Airport, in service since 1938, provides scheduled and charter services for passengers and cargo to major airports, connecting with transcontinental and international routes. It also provides regional/local charter services and services for private aircraft transiting Gander. In 2024, the Gander International Airport recorded 115,000 passengers, an increase of 6.0% over the previous year (VOCM 2025).

12.2 Potential Effects and Effect Pathways

A summary of the potential effects and Project effect pathways to be assessed for Communities is provided in Table 12.8. Potential environmental effects and effects pathways were selected based on the review of similar projects in NL and other parts of Canada, and professional judgement. For the Communities VC, three potential effects were identified: change in employment and economy, change in infrastructure and services, and change in community well-being.

Table 12.8 Potential Effects and Effect Pathways for Communities

Potential Effect	Effect Pathway(s)
Change in employment and economy	• The Project's demand for qualified labour could affect the regional labour supply and existing wage levels, as will the loss of Project employment following completion of decommissioning, rehabilitation and closure of the Project • The Project could affect regional businesses as it may provide future business development opportunities • The Project could affect regional businesses as it may contribute to increased competition for the local / regional labour supply and wage inflation • Completion of decommissioning, rehabilitation and closure of the Project may also affect regional businesses, due to the loss of Project spending • Project employment and spending could affect the local and provincial economy in a positive manner during the construction and operation phases and loss of Project employment and spending once decommissioning is complete
Change in infrastructure and services	• Availability and cost of accommodations (vacancy rates, inventory levels) could affect demand on local housing and temporary accommodations due to potential Project-related population growth • Demand on local services and infrastructure (hospital beds, physicians, police force, teachers, road volume, air transportation infrastructure) may be affected by Project activities and Project-related population growth (i.e., construction and operation labour force)
Change in community well-being	• Community well-being, crime severity, and capacity of health services (i.e., number of hospital beds, doctor / patient ratio) may be affected by the number of local and non-local (influx) workers and their associated incomes • Emissions and discharges from the Project resulting in air, sound, and water quality changes, may result in direct exposure (e.g., inhalation of air) and indirect exposure (e.g., ingestion of contaminated food) to contaminants • The value and perceived quality of country food could be reduced and hunting, trapping or plant harvesting activities could change due to a change in access if Project activities cause a change in access to and availability of country foods to harvest

12.3 Mitigation and Management Measures

Environmental management plans will be updated by New Found Gold to mitigate the effects of the Project on Communities. A list of standard mitigation measures to be applied throughout Project construction, operation, and reclamation and closure is provided in Table 4.31. Many of these standard mitigation measures will serve to avoid or reduce potential effects on Communities, including the measures identified for the following Project activities:

- Site Clearing, Site Preparation, and Erosion and Sediment Control
- Works In or Near Fish Habitat
- Site Water Management
- Blasting
- Vehicles/Equipment/Roads
- Light Emissions
- Rehabilitation and Closure

New Found Gold also has or will develop several management plans and policies which will reduce adverse effects to Communities. This includes:

- Gender, Equity, and Diversity Plan: New Found Gold currently has a Women's Employment Plan and understands that an Inclusion and Collaboration Plan (GEDP) will be required that meets the approval of the Minister of Natural Resources and Minister Responsible for the Status of Women. A business access strategy for members of under-represented populations will be included in the plan. The GEDP will set hiring targets across various roles, promote inclusive recruitment and training practices, and encourage contractors to support these goals. Through communication, monitoring, and annual reviews, New Found Gold will work to create a more equitable and respectful workplace.
- New Found Gold has developed an Ethics, Transparency and Governance Policy which is implemented alongside the company's Code of Business Conduct and Ethics, Anti-bribery and Anti-corruption Policy, and Whistleblower Policy. The aim of these policies is to promote moral fairness, enhance work/life balance, and provide a working environment that is safe, respectful, inclusive, and free from harassment and discrimination. More information on this policy can be found in Appendix 4.D.
- Waste Management Plan (WMP): This plan will provide direction on waste handling, storage, transport, treatment, and disposal of the various wastes produced from the Project.
- Emergency Response Plan: Defines the responsibilities and duties of employees, contractors, visitors and third-party/external responders in the event of an emergency at the Project site.

- Health, Safety and Environmental Policy: prioritizes the health, safety, and welfare of employees and the public, aiming to provide a safe work environment and prevent accidents, injuries, and illnesses. More information on this policy can be found in Appendix 4.D.
- Indigenous and Community Engagement Policy: recognizes that mineral exploration and development can only proceed responsibly where there is mutual respect, trust, and ongoing dialogue with Indigenous Peoples and local communities. It includes a commitment to community investment through local hiring and training, Indigenous and local business procurement, sponsorships and donations, education and skills development, and support for cultural and community initiatives. More information on this policy can be found in Appendix 4.D.

The following mitigation measures specific to the Communities VC have also been identified for the Project:

- New Found Gold will continue to work with municipalities and economic development organizations to identify opportunities to reduce negative impacts of the population growth and enhance positive socio-economic benefits to LAA communities.
- New Found Gold will implement a grievance redress mechanism to investigate and resolve incidents and complaints from Project employees and community members in a fair and timely way.
- New Found Gold will continue to engage with local resource users (hunters, trappers, anglers, outfitters), including the communication of Project information, updates on ongoing and planned activities and a discussion of issues and concerns and potential means of addressing them.
- New Found Gold is committed to hiring locally and will communicate employment information to local communities in a timely manner so that local residents have an opportunity to acquire the necessary skills to qualify for potential Project-related employment.
- Procurement packages will be developed and posted in a timely manner with consideration for capacity and capabilities of local and regional businesses.
- New Found Gold will promote equitable hiring and promotion processes throughout the Project lifecycle.
- New Found Gold commits to consider bids from qualified locally owned businesses first, including those submitted from companies owned by diverse groups.
- Prior to decommissioning, New Found Gold will implement strategies to help transition the workforce.
- New Found Gold will continue to provide diversity and cultural sensitivity training for Project employees.
- New Found Gold will prohibit the use and possession of drugs and alcohol during work hours or at the Project site.
- New Found Gold will not tolerate harassment, bullying, discrimination, and violence, including sexual harassment, and will provide access to assault counselling, as well as confidential and culturally sensitive care.
- New Found Gold will continue to provide Project employees with health services (physical, mental and social health), including Employee Assistance Programs (EAP) and on-site emergency service infrastructure, including security and fire-fighting equipment.

- New Found Gold will continue to coordinate its Emergency Response Plan with the local emergency services departments.
- New Found Gold will implement a Traffic Management Plan, which may include the establishment of carpooling and shuttle stations at key locations, to bus workers and to encourage carpooling.
- When practicable, shift changes and truck movements will be scheduled to avoid peak traffic hours and school bus pick-up and drop-off times.
- Signage will be installed around the Project Area to alert the public and land users of the presence of the Project and its facilities.
- Employees and contractors associated with the Project will be prohibited from fishing, hunting, trapping, gathering plants, or using off-road vehicles for recreational purposes within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to enable the exercise of Indigenous rights.

New Found Gold has engaged with local outfitters and the NL Outfitters Association (NLOA) and, to date, no specific concerns have been identified. Mitigation and monitoring programs planned for atmospheric environment, surface water, fish and fish habitat, and the terrestrial environment components are expected to effectively manage potential effects. Therefore, the need for industry-specific mitigation and monitoring has not been identified. New cFound Gold will continue to engage with local outfitters and the NLOA throughout the Project and, if concerns are identified, further mitigation and monitoring will be developed as needed in consultation with NL Department of Tourism, Culture, Arts and Recreation (NLDTCAR).

12.4 Residual Environmental Effects

Potential environmental effects on the Communities were identified in Section 12.2. For the Communities VC, three effects were identified: change in employment and economy, change in infrastructure and services and change in community well-being. Residual effects (i.e., those remaining following implementation of mitigation (Section 12.3) for each Project phase are evaluated below. The assessment of residual effects considers the following key factors:

- The construction phase will require a workforce of approximately 207 full-time equivalents (FTEs). Operation will employ between 117 to 239 FTEs annually. Based on past operation, it is estimated that 88% of New Found Gold's employees will be from NL, and that approximately 61% of the workforce will be from central Newfoundland.
- New Found Gold has completed a review of available housing and accommodations within a one-hour commute of the Project site. Based on the results and given the anticipated percentage of employees that will be from central Newfoundland, New Found Gold anticipates that there is sufficient capacity to accommodate employees that may not currently reside locally and therefore, an accommodations camp is not planned for construction or operation.

- New Found Gold is dedicated to supporting local communities by collaborating with municipalities and organizations, prioritizing local hiring, and offering apprenticeships, training programs, and timely communication of employment and procurement opportunities, with an emphasis on inclusivity and supporting diverse groups. New Found Gold will provide ongoing employee support through diversity and cultural sensitivity training, health services including EAP, and emergency infrastructure, and will implement workforce transition strategies prior to decommissioning.
- The Project is located immediately adjacent to the Town of Appleton, with the nearest residence in the town located 235 m from the Project Area and approximately 700 m from Project infrastructure, however, site infrastructure has been strategically placed east of the open pits to reduce noise, dust, and light effects on the Town of Appleton. Natural buffers and smart design safeguard residents and enable responsible resource development.
- The Project includes the development of a new site access road from the TCH for the primary access for employee transportation, supply deliveries, and highway truck haulage of ore to processing facility. This access point to the TCH is to reduce additional truck traffic associated with the Project on roads within the Town of Appleton. The site access road has been strategically located to reduce interaction between light vehicles and mine haulage trucks, consistent with best practices for safe mine operation. The road will intersect the T'Railway Provincial Park, and safety features will be incorporated in consultation with relevant authorities.
- Site water management will discharge downstream of Gander Lake, with measures in place to safeguard the public water supply and protect the quality and safety of water resources for the community.
- New Found Gold currently has a Women's Employment Plan but understands that an GEDP will be required that meets the approval of the Minister of Natural Resources and Minister Responsible for the Status of Women. A business access strategy for members of under-represented populations will be included in the plan. The GEDP will set hiring targets across various roles, promote inclusive recruitment and training practices, and encourage contractors to support these goals. Through communication, monitoring, and annual reviews, New Found Gold will work to create an equitable and respectful workplace.

12.4.1 Change in Employment and Economy

12.4.1.1 Employment

During construction, the Project will create modest temporary employment opportunities in a variety of occupations. Over its anticipated four- to six-month construction phase, the Project will require an estimated 207 FTEs. Once operational, the Project will employ between 117 and 239 FTEs. Table 4.27 presents the various occupations required for Project construction and operation, along with their National Occupational Classification codes. Year 1 employment numbers shown in Table 4.27 represents six months of construction and six months of operation with the same general workforce for both.

Project demand for labour can have both beneficial and adverse effects on employment. Beneficial effects stem from increased local employment during construction and operation phases, while adverse effects stem from losses in local employment due to decreased labour demand as the Project transitions from the operation phase through the decommissioning, rehabilitation and closure phase. During consultation and engagement for the Project, New Found Gold heard that many skilled mine workers were displaced from recent mine closures in the province. Several of these workers attended the public sessions and expressed an interest in employment opportunities near their home and their families. Work is ongoing to determine the labour requirements for decommissioning, rehabilitation, and closure; however, it will be less than required for the construction phase. It is anticipated that as the Project transitions into the final phase there will be a decrease in workforce that ultimately results in the loss of employment. This loss will be known and anticipated by Project workers as the operational life of the Project proceeds and will be communicated at early stages and updated throughout the life of the Project. Benefits to workers will include gained labour income, skills and experience while employed with the Project. In the case of gained skills and experience, these improved qualifications will aid with securing employment on other and future projects within the RAA, or elsewhere.

New Found Gold is committed to hiring locally and will communicate employment information to local communities in a timely manner so that local residents have an opportunity to acquire the necessary skills to qualify for Project-related employment. The current composition of New Found Gold employees represents more than 80% of current employees from NL, and the preference remains to recruit locally. New Found Gold is prepared to explore available opportunities to promote gender and cultural diversity in the workplace with the goal of increasing awareness and integration of this diversity into normally non-traditional roles. Fourteen percent of the New Found Gold workforce is female, which aligns with the continued efforts to implement their industry best practice workforce diversity plan. New Found Gold is committed to a workplace that provides equal opportunities with competitive benefits and compensation. New Found Gold will continue to work with contractors hired on the Project to promote the GEDP and its initiatives.

12.4.1.2 Economy

Project expenditures on services, materials and equipment can result in both positive and adverse effects on regional business. Positive effects include increased business revenue, which can support capital investment and hiring (indirect employment), thereby increasing capabilities and capacity among local businesses. Spending of income by direct and indirect workers further contributes to beneficial effects on local businesses, primarily within the service sector, resulting in induced employment effects. Adverse effects relate to Project contributions to labour drawdown (i.e., workers leave current employers to secure employment with the Project due to wage differentials or a desire to work on the Project) and wage inflation (i.e., to attract and retain workers, local employers may have to increase compensation paid to workers). Project spending will result in overall increased economic activity in the LAA and RAA, as well as contribute to municipal, provincial, and federal government revenues through royalty payments and taxation on production, labour, goods, and services. Completion of decommissioning, rehabilitation and closure of the positive impacts of the Project on local and regional businesses and the economy will cease.

The capital expenditures for the Project are projected at $155 million. This estimate includes costs such as mine development, processing, infrastructure, information systems, and other miscellaneous expenditures. The operational expenditures for the Project are projected to be $868.6 million. This estimate includes mining costs, processing costs, ore sorter costs, transportation, and rehandling. A breakdown of operational Project costs, which were calculated by New Found Gold, are provided in Table 4.28.

Costs associated with decommissioning, rehabilitation and closure continue to be finalized. Once decommissioning of the Project is complete, the economic benefits for the LAA and the RAA will cease except for a small number of staff required to complete post-closure monitoring. Upon closure, the Project will no longer contribute towards GDP growth; however, it is possible that the Project will contribute to the specialization of mining activity in the LAA and RAA given the training program and experience provided by New Found Gold to its workers, which may provide labour market benefits. such as qualified workers once the decommissioning of the Project is complete.

The degree to which LAA and RAA businesses benefit from Project contracting and supply opportunities, and therefore result in indirect employment, depends on several factors, including their size, capability and capacity to accommodate Project requirements. Specifically, indirect employment resulting from Project spending on goods and services would only be expected to result in ‘net new’ (i.e., creation of) indirect employment if businesses become established or expand (by increasing workforces) to meet Project demands. In consideration of the LAA’s and RAA’s industrial composition, existing labour force (Section 12.1.2.4) conditions, and using employment as a measure of capacity, businesses within the LAA are positioned to compete for small- to medium-sized service and supply contracts, particularly those related to construction, transportation, and warehousing.

It is anticipated that both RAA businesses and those across NL will participate and provide services and product requirements for the Project, including bidders submitted from companies owned by diverse groups (e.g., Indigenous, women, 2SLGBTQQIA+, persons with disabilities, visible minorities). Areas identified will range from earthwork contracting companies, transportation and freight, goods and services, and hospitality services. Procurement packages will be developed with consideration for capacity and capabilities of local and regional Indigenous and non-Indigenous businesses, and requirements will be posted in a timely manner, so such businesses are provided the necessary time to prepare and compete to supply goods and services required across Project phases.

Given the length of construction, operation, and decommissioning, rehabilitation and closure, it is possible that local businesses could expand (workforce size), or new businesses could be established (especially those seeking to fulfill operational service and supply contracts), to meet Project demands. It is possible that new and expanded businesses may be established in the LAA and RAA, particularly as the Project has the potential to stimulate an enhanced mining industry for the region and the province, which would stimulate further indirect impacts and induced spending[1].

As the Project transitions from operation through to completion of decommissioning, rehabilitation and closure, a loss of Project expenditures within the LAA could result (depending on economic conditions at the time) in adverse effects (i.e., a reduction) on indirect employment. Many businesses provide services for transportation, forestry, and aggregate and others, becoming more resilient to changes in economy.

As outlined in Section 13.1.2.1.5, there are outfitters located near the Project Area, including the Bear Cliff Lodge which is approximately 1.7 km north of the Project. As identified in Section 13 – Land and Resource Use, it is projected that with the application of mitigation measures, Project-related effect on resource use is anticipated to be limited. It is therefore expected that the residual effects on outfitter operators near the Project Area will also be limited. New Found Gold will continue to consult with the local outfitters, NLOA, and NLDTCAR throughout the life of the Project.

Wages paid to the Project's direct workforce are predicted to be substantially higher than the average wage rates currently paid within the LAA and RAA. While Project wages are likely to fall within the existing range of compensation paid to workers currently in the provincial mining industry, due to differentials between existing LAA and RAA conditions (i.e., relatively lower wages), the Project can contribute to upward pressure on wages through increased competition for labour among local employers. Combined with the potential for Project-related employment to be perceived as being more desirable than other forms of employment within the LAA and RAA, the Project could result in increased difficulty for local businesses to recruit or retain qualified workers. To manage the Project's contribution to upward pressure on wages, New Found Gold will pay its direct workforce wages that are consistent with NL's mining industry.

[1] Economic impacts are described on a direct, indirect, and induced basis. Direct impact measures the value-added to the economy attributed directly from the wages earned, and the revenues generated from the workforce spending in Newfoundland and Labrador and Canada. Indirect impact measures the value-added generated within the economy through firm and organizational demand for intermediate inputs or other support services (e.g. the supply chain). Induced impacts are derived when workers spend their earnings. These purchases lead to more employment, higher wages, and increased income and tax revenues, and can be felt across a wide range of industries (Statistics Canada 2023a).

12.4.1.3 Summary of Residual Effects on Employment and Economy

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** Given that the life of the Project is expected to last approximately 7 years, and with the provision of the mitigation measures noted above, it is expected the Project will be moderate in magnitude for its positive contributions to economy and employment.
- **Geographic Extent:** The greatest effects on employment and economy will occur within the LAA and RAA. Some effects may extend beyond the RAA through taxes and payments to the provincial government.
- **Duration:** Residual effects will occur throughout the life of the Project and are expected to peak during construction. The positive effects on employment and economy will cease once rehabilitation and closure is completed.
- **Frequency:** Residual effects will occur continuously throughout construction, operation and rehabilitation and closure.
- **Reversibility:** Once mining activities have ceased and the site enters the closure and reclamation phase, economic and employment conditions are expected to return to existing levels.

12.4.2 Change in Infrastructure and Services

12.4.2.1 Housing and Temporary Accommodations

Project construction, which is expected to take 6 to 12 months, will require an estimated 207 FTEs, while the 7-year operation labour force will employ between 117 and 239 FTEs. Work is ongoing to determine the labour requirements for decommissioning, rehabilitation, and closure, but it is anticipated that as the Project transitions into the final phase there will be a decrease in the size of the workforce. Based on New Found Gold's ongoing exploration activities, it is estimated that approximately 88% of New Found Gold's employees will be residents of the province and 61% will be from central.

Non-local Project workers will be expected to find accommodations in the LAA/RAA communities during construction and operation. It is assumed that workers already residing in LAA/RAA communities will commute to the Project from their homes and will not create additional demands on the existing supply of permanent and temporary accommodations.

There are approximately 1,100 long-term rental units in Gander and Grand Falls-Windsor and 205 registered short-term accommodations (hotels, motels, inns, B&Bs, lodges, cabins, cottages, villas, and Airbnbs) with a total of 1,092 rooms within a one-hour commute of the Project (CMHC 2025). As of May 2025, there were 220 real estate listings in the communities within a one-hour commute of the Project (Kijiji 2025; NL Classifieds 2025).

Considering the size of the peak labour force (239 FTEs during operation) and the expectation that 61% of these positions will be filled by LAA/RAA residents, it is likely that no more than 79 non-local Project employees will need temporary or permanent accommodations during peak employment. As described in Section 12.1.2.6, the supply of existing temporary and permanent housing within a one-hour commute of the Project is sufficient to accommodate non-local Project workers.

12.4.2.2 Utilities

With respect to water and sewer, Project activities and the Project labour force are not likely to increase demands on local systems. Non-potable water will come from the settling pond system(s) to be designed for the site. A pumping station will be installed near the settling pond(s) and housed in an insulated container. Water will be pumped from there to water storage tanks on site and then to the office and dry facility, the garage and warehouse. An additional supply of water will be available for firefighting. Bottled potable water will be supplied to the Project site by local vendors for consumption. A source of potable water for showers and hand washing is still under consideration but will likely be a drilled well. A septic system to service the office and dry trailers will be installed. The system will be installed and operated by a contractor in accordance with applicable permits and regulations.

Gander Lake provides a potable water supply for the Towns of Glenwood, Appleton, and Gander, as well as supporting recreational activities, natural resource extraction, and urban development (Environmental Design and Management Ltd. 1996). A Watershed Management Plan was developed in 1996 for Gander Lake and its catchment areas with the goal to protect the potable water supply for the nearby towns while providing long-term sustainable multiple use by private and public entities. No development is permitted within the 300 m buffer for Gander Lake and a permit is required for development within the Gander Lake Protected Public Water Supply Areas (PPWSAs). The southern part of the Project Area overlaps with the administrative boundary for the PPWSAs; however, only a small portion of the industrial terrace overlaps with the subwatershed that flows towards Gander Lake and drainage in this portion of the terrace will be collected and managed with other site water, which will be discharged into the watershed flowing north towards the Gander River. New Found Gold has been engaging with Water Resource Management Division with respect to siting of Project activities and components in an acceptable manner to avoid Project-related effects on the public water supply.

A Project WMP will be developed and implemented to manage Project-related waste. Provincial regulations that may apply to waste management or disposal at the Project site include the *Waste Diversion Regulations* and the *Waste Management Regulations*. The WMP will outline appropriate handling, storage and disposal methods for hazardous wastes. Waste types will be identified and a description of waste management practices from generation to treatment and/or disposal will be provided. The WMP will consider basic waste management principles of reducing, reusing, recycling and recovering, and appropriate disposal options for Project waste generated. Solid waste generated during construction and operation will be properly collected and stored until such time that it can be transported to the regional landfill. Where possible, waste materials will be recycled and/or reused. Waste storage will include measures to reduce the attraction of wildlife.

12.4.2.1 Health Infrastructure and Services

The Project may increase demands on local health infrastructure as a result of Project-related accidents or malfunctions and if non-local Project employees require doctor or hospital services. The primary health centre in the LAA is the Central Newfoundland Regional Health Centre and Bell Place Community Health Centre in Gander which provides public health services to residents of the LAA (NL Health Services 2024, 2025).

While NL Health's Central Health Zone has been challenged with recruitment and retention of family physicians and specialists in recent years Central Health, efforts have been developed to increase recruitment and the implementation of virtual health services and e-mental health services are helping to improve patient access to care, particularly those who require non-emergency services and do not have a primary health care provider (Central Health 2023).

To reduce adverse effects of the Project on health infrastructure and services, New Found Gold will develop and implement an Environmental Protection Plan and Emergency Response Plan to reduce and address the potential for on-site accidents. First aid stations will be available on-site, and medical services will be delivered by a designated provider. Under the medical services contract, New Found Gold employees will have access to a physician and other medical professionals, while an EAP will help lessen demand on local health care facilities. It is expected that for conditions that require long-term care, non-local workers will continue to use the services of family physicians or specialists located in their home communities.

12.4.2.2 Education Infrastructure and Services

It is unlikely that non-local construction workers will bring families with them for short term (six- to 12-months) Project work. Therefore, it is not expected that schools in the LAA/RAA will see increased demand during the Project construction phase. Non-local Project workers may choose to relocate families to the LAA/RAA for the 7-year operation phase. The non-local workforce during operation is not likely to exceed 79 persons.

Between the 2023-2024 and 2024-2025 school years, the number of schools in the Central District of NL Schools decreased from 77 to 76 and enrolment fell from 13,464 to 13,261, suggesting there may be capacity for schools in the region to accept more students (NL Department of Education and Early Childhood Development 2025). There are five schools in the LAA communities. While the capacity of each school in the LAA/RAA is unavailable, as per NL Schools policy, requests for a student to attend a new school zone due to parent or guardian change of residence are automatically granted for the English stream programs, upon verification of residence (NLSchools 2016). New Found Gold will continue engagement with NLSchools as Project details are confirmed.

12.4.2.3 Emergency Services

Emergency services may be required by Project workers, and/or because of Project-related accidents or malfunctions, increasing the demand on first responders.

The LAA is policed primarily by the Gander RCMP, but there is also a Municipal Enforcement Department and the Canadian Forces Base 9 Wing Gander Military Police Detachment, which provides police services at 9 Wing Gander and military property located in the Town of Gander. Statistics indicate that the CSI for this region increased between 2020 and 2023 suggesting that crime severity is on the rise. There are two fire departments (the Glenwood Fire Department and Gander Fire Rescue) in the LAA and ambulance services are provided by NL Health.

Project-related demands on other local emergency services will be managed through Project planning and management strategies, including incorporating design mitigation measures and preparing safety and environmental management plans in accordance with applicable requirements and industry best practices.

New Found Gold will have security on-site and access to the site will be controlled, which will reduce demands on local police services. New Found Gold will also liaise with local emergency providers so that roles and responsibilities are understood, and that the necessary resources required to respond are in place. As described in Section 12.4.2.1, the Environmental Protection Plan and Emergency Response Plan will outline measures to reduce and address the potential for on-site accidents to limit demands on fire and ambulance services in the LAA.

12.4.2.4 Transportation Infrastructure

Construction and operation will require the movement of personnel, equipment, and materials to and from the site. The primary access route will be via existing provincial highways, including the TCH, and then along the designated site access road. The Project includes the development of new road infrastructure to support safe and efficient access and internal connectivity across the mine site. A new site access road from the TCH will be constructed to be the primary access light vehicles, including employee transportation, supply deliveries, and highway truck haulage of ore to processing facility. The site access road has been strategically located to reduce interaction between light vehicles and mine haulage trucks, consistent with best practices for safe mine operation. The construction of Project roads will reduce the traffic on existing roads in the LAA communities.

During construction and operation, traffic volumes will vary. Most of the traffic will be workers traveling to and from the site at the start and end of their shifts, with some general freight and equipment transport vehicles accessing the site throughout the day. It is expected that traffic volumes will increase when rotations change or during day and night shift changes. It is estimated that 80 passenger vehicles will be coming to site for dayshift throughout the week and roughly 30 passenger vehicles for night shift.

New Found Gold will develop and implement a Traffic Management Plan, which will be regularly updated and communicated to employees and contractors to facilitate safe vehicle movement throughout the site. Carpooling and shuttle stations may be established at key locations, to bus workers and to encourage carpooling. Transport requirements will be reviewed throughout the site preparation and construction phase to identify opportunities to reduce traffic volumes. The shift changes will likely occur during early morning or late evening, outside the regular work or school day, so increases in traffic in local communities may not be apparent to the residents.

Given the relatively small size of the labour force during construction and operation and the high proportion of local and regional employees, the local air transport infrastructure is not likely to see a material increase in traffic related to Project labour force or activities.

12.4.2.5 Summary of Residual Effects on Infrastructure and Services

Based on the information presented above, and the implementation of mitigation and management measures, including the development and implementation of plans and policies to reduce Project demands on local housing, utilities, health, education, emergency, and transportation infrastructure and services, Project related effects are predicted to be:

- **Magnitude:** Given that the Project labour force will be relatively small in number and a large portion will be from the LAA communities and the province, residual effects from the Project on infrastructure and services are anticipated to result in a small measurable change.

- **Geographic Extent:** Effects may extend to communities within a one-hour commuting distance of the Project, but will occur mainly in Gander, Glenwood, and Appleton.
- **Duration:** Residual effects occur during construction and operation when Project activities and the labour force are at their peak. Lesser effects would be anticipated during the rehabilitation and closure phase.
- **Frequency:** Residual effects will occur throughout the life of the Project, likely continuously and/or intermittently.
- **Reversibility:** Residual effects will be reversible. Once mining activities have ceased and the site enters the rehabilitation and closure phase, demands on infrastructure and services are expected to return to existing levels.

The Project may also result in positive effects due to the Project-related production of taxes and revenue, which may increase the capacity for investment in local infrastructure and services.

12.4.3 Change in Community Well-being

Community well-being may be affected by the Project if the presence of a non-local workforce results in a change in crime severity and/or the capacity of local health services. Well-being may also be affected by emissions and discharges from the Project resulting in air, sound, and water quality changes, which could result in direct exposure (e.g., inhalation of air) and indirect exposure (e.g., ingestion of contaminated food) to contaminants. The well-being of LAA residents may also be affected if Project activities cause a change in access to land use, their ability to harvest country foods, and recreational opportunities.

Most Central Health Region residents perceived their mental health to be very good or excellent and perceived life stress was lower in the Central Health Region than the province in 2021/2022. Residents of the Central Health Region also feel a greater sense of community belonging than residents of the of the province (Statistics Canada 2023b). New Found Gold will implement several policies with the aim of reducing Project effects on community well-being, including a Respectful Workplace Policy, Violence Prevention Policy, Harassment Protection Policy, and a Substance Use Policy. New Found Gold will also continue to work with municipalities to identify opportunities to reduce negative impacts of the rapid population growth and enhance positive socio-economic benefits in LAA communities.

New Found Gold will manage potential demands on the local police service by continuing to provide on-site security, and the current plan to control access to the site will be reviewed and revised as needed to accommodate the needs of the Project. Effects will also be managed through the policies described above. These policies will help create a working environment that is free from harassment and discrimination and reduce opportunities for altercations among Project employees.

Increased disposable income from Project employment can have positive and adverse effects. Project employment and increased income can improve well-being by allowing some individuals more opportunities for exercise and family activities, as well as more access to healthy market foods. Adverse effects on well-being may result if increased disposable income decreases financial barriers to negative coping mechanisms, such as overeating, smoking, heavy drinking, and illicit drug use. New Found Gold has an EAP in place and will retain a doctor and other medical professionals through a medical service provider to support Project employees and will maintain these services for the Project.

Project employment may also lead to a decrease in the amount of time that workers have available to engage in traditional and recreational activities, such as hunting, fishing, forestry, outfitting, and outdoor recreation, and increase time away from family, which could result in increased stress and strained family dynamics. The extent of overlap between the Project Area and wildlife management zones is limited, constituting less than 0.1% of each respective management area. While the Project Area will be restricted for hunting, fishing, outfitting, and gathering activities, alternative locations within the LRU LAA (1-km buffer on the Project Area) and RAA (5-km buffer on the Project Area) remain available for resource users to engage in these harvesting activities (Section 13.4.2). The policies described above which will be implemented by New Found Gold will reduce negative effects and enhance benefits of increased income as a result of Project employment.

Project emissions and discharges may cause changes in air and water quality, potentially resulting in direct exposure to contaminants by humans through inhalation of air and ingestion and dermal contact with water. Indirect exposure to contaminants could also occur through ingestion of country foods, such as ingestion of vegetation or fish. Details on emissions and discharges from the Project and potential effects on air, and water quality are available in Sections 7, 8, and 9.

Project activities may cause changes in sound quality. These changes and the potential human health effects associated with them are assessed in Section 7. Because there are no regulations in place for sound quality or noise in NL, changes in sound quality were assessed using Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise* (Health Canada 2023a). As noted in Section 7, the increase in noise levels is predicted to comply with Health Canada guidelines and therefore would not be expected to affect human health. Additional details are provided in Section 7.

Appendix 12.A provides a discussion of potential health effects associated with contaminant emissions focuses on air quality, water quality, and country foods. Overall, Project-related effects on human health associated with changes in air quality are predicted to be of low magnitude, localized extent, and infrequent occurrence. Short-term exceedances of health-based exposure levels for NO_2 and PM (PM_{10} and $PM_{2.5}$) are predicted primarily near the Project Area boundary and at a small number of nearby receptors. Annual concentrations generally meet long-term health-based guidelines, and adaptive management measures are in place to mitigate particulate emissions during adverse conditions. These effects are short-term, reversible, and unlikely to result in sustained exposure, resulting in a low likelihood of adverse health effects.

Potential human health effects related to changes in surface water quality are predicted to be of negligible magnitude and localized geographic extent, limited to areas immediately downstream of discharge points under conservative conditions. Model results indicate rapid attenuation through dilution and mixing, with surface water quality remaining protective of both aquatic life and human health. Effects on human health through direct contact or ingestion pathways are therefore unlikely, short-term, and reversible, with a low probability of occurrence.

Potential indirect human health effects through country foods are also predicted to be of low magnitude and localized in extent. Dust-related effects on vegetation are expected to be minor, localized near active areas, and reversible with mitigation. For fish consumption, mercury (particularly methylmercury) was identified as the key parameter of concern; however, Project-related changes in surface water quality are not predicted to increase mercury availability, methylation, or bioaccumulation in fish.

New Found Gold will continue to engage with local resource users, including outfitters, regarding the overlap of the Project with land use areas in the Project Area and LAA. This will include the communication of Project information, updates on ongoing and planned activities, a discussion of issues and concerns, and a potential means of addressing them.

12.4.3.1 Summary of Residual Effects

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** residual adverse effects on access to health and emergency infrastructure and services are expected to result in a small measurable change given that the Project labour force will be relatively small in number and a large portion will be from the LAA and RAA communities and NL. In addition, noise levels will be below the regulatory threshold. Considering this, and that recreational activities are expected to continue at or near current levels, changes to community well-being are expected to be small in magnitude.
- **Geographic Extent:** Effects on access to health and emergency infrastructure and services are limited to LAA and RAA. Project effects on resource use are expected to occur within the Project Area (from the direct loss of area) and LAA (from indirect sensory disturbances).
- **Duration:** Residual adverse effects on community well-being will occur throughout the life of the Project.
- **Frequency:** Residual adverse effects on access to health and emergency infrastructure and services will occur continuously throughout the life of the Project. Residual adverse effects on LRU that may contribute to well-being will occur at an irregular frequency, with sensory effects such as noise, vibrations, or other disturbances associated with Project activities occurring intermittently throughout the day.
- **Reversibility:** Adverse residual effects will be reversible for effects on access to health and emergency infrastructure and services. Residual effects on LRU that contribute to community well-being will be reversible upon Project rehabilitation and closure. Once mining activities have ceased and the site enters the rehabilitation and closure phase, mitigation measures will be implemented to restore the area as close to its original condition as possible, apart from the visual disturbance associated with the remaining waste rock and overburden storage facilities, which will be irreversible but can be rehabilitated in a manner that blends with the rolling landscape of the RAA.

New Found Gold will aim to enhance positive effects on well-being resulting from Project-related income by hiring a local labour force and reduce adverse effects by continuing to develop and implement policies with an aim to promoting moral fairness, enhancing work/life balance, providing a working environment that is free from harassment and discrimination, and discouraging negative coping mechanisms. Potential adverse effects that may result from a change in access to health care and in demands on policing services will be managed through a number of measures, including the Environmental Protection Plan and Emergency Response Plan and through the provision of an EAP, Project physician, a paramedic, and security at the Project site.

12.4.4 Summary

The residual effects assessment for Communities considers both positive and adverse effects after mitigation and other management measures are implemented. However, significance determination is made for adverse effects only. With the application of mitigation and management measures:

- Effects on economy and employment will be mostly positive but not be highly distinguishable from current conditions and trends, and can be managed with current or anticipated programs, policies, plans, or other mitigation measures.
- Demands on services or infrastructure will not exceed current capacity, such that standards of service are routinely and persistently reduced below current levels for an extended period such that they are unlikely to recover to existing conditions.
- There will not be a deterioration of community well-being over an extended period that cannot be managed or mitigated through adjustments to programs, policies, plans, or other mitigation.

Based on the application of the mitigation measures identified in Table 4.31 and in Section 12.3, and New Found Gold's commitment to comply with regulatory standards, residual adverse effects on Communities are likely to be not significant. This determination has been made with a moderate level of confidence based on an understanding of current existing conditions, the expectation that the labour force be mainly composed on local and regional residents, and the experience of the assessment team. Many of the mitigation measures identified in Section 12.3 are standard practice and have been successfully implemented in previous mining projects, further increasing confidence.

12.5 Follow-up and Monitoring Programs

A dedicated follow-up and monitoring program is not proposed for Communities.

12.6 References

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12.6.2 Personal Communications

Barnes, P. Town Clerk Manager for town of Appleton. May 13, 2025, phone call

Mullett, C. Town Clerk for town of Glenwood. May 12, 2025, phone call

13 Land and Resource Use

Land and Resource Use (LRU) was selected as a valued component (VC) because of the potential interactions between the Project and the use of the land and resources in and nearby the Project Area and their socio-economic value to the region. Project development may interact with existing land and resource uses, including recreational, traditional, and commercial activities. Changes in access, landscape, and sensory disturbances could influence how land is used for hunting, fishing, forestry, outfitting, and outdoor recreation. These interactions may alter the availability or quality of land and resources for local users, depending on the location and extent of Project activities.

This VC includes both the activities and infrastructure related to the use of land and resources, including designated land use (e.g., protected areas, communities), resource use (e.g., hunting, trapping, outfitters, fishing, forestry), and recreational use (e.g., hiking, fishing, snowmobiling). Project-related effects on land and resource use are assessed, which can include activities by both Indigenous and non-Indigenous residents.

Provincial legislation, regulations policy, and guidance that are applicable to LRU include the Newfoundland and Labrador (NL) *Forestry Act*, NL *Fisheries Act* and *Fishery Regulations*, NL *Urban and Rural Planning Ac*t, and NL *Wild Life Act*. New Found Gold will also operate under the established legislation and regulations of the *Lands Act*. Applicable federal legislation related to LRU includes the *Canadian Navigable Waters Act* and the *Fisheries Act*.

As shown on Figure 13.1, spatial boundaries for the assessment of LRU include the Project Area (area of physical activities), the Local Assessment Area (LAA, 1-kilometre [km] buffer around the Project Area), and the Regional Assessment Area (RAA, 5-km buffer around the Project Area).

A significant residual adverse effect on LRU for the Project is defined as any of the following:

- The Project does not comply with established federal, provincial, or municipal land use designations, policies, or by-laws
- The Project will create a change or disruption that restricts or degrades present land and resource use capacity within the RAA to a point where activities cannot continue at or near current levels over the long term and where compensation is not possible

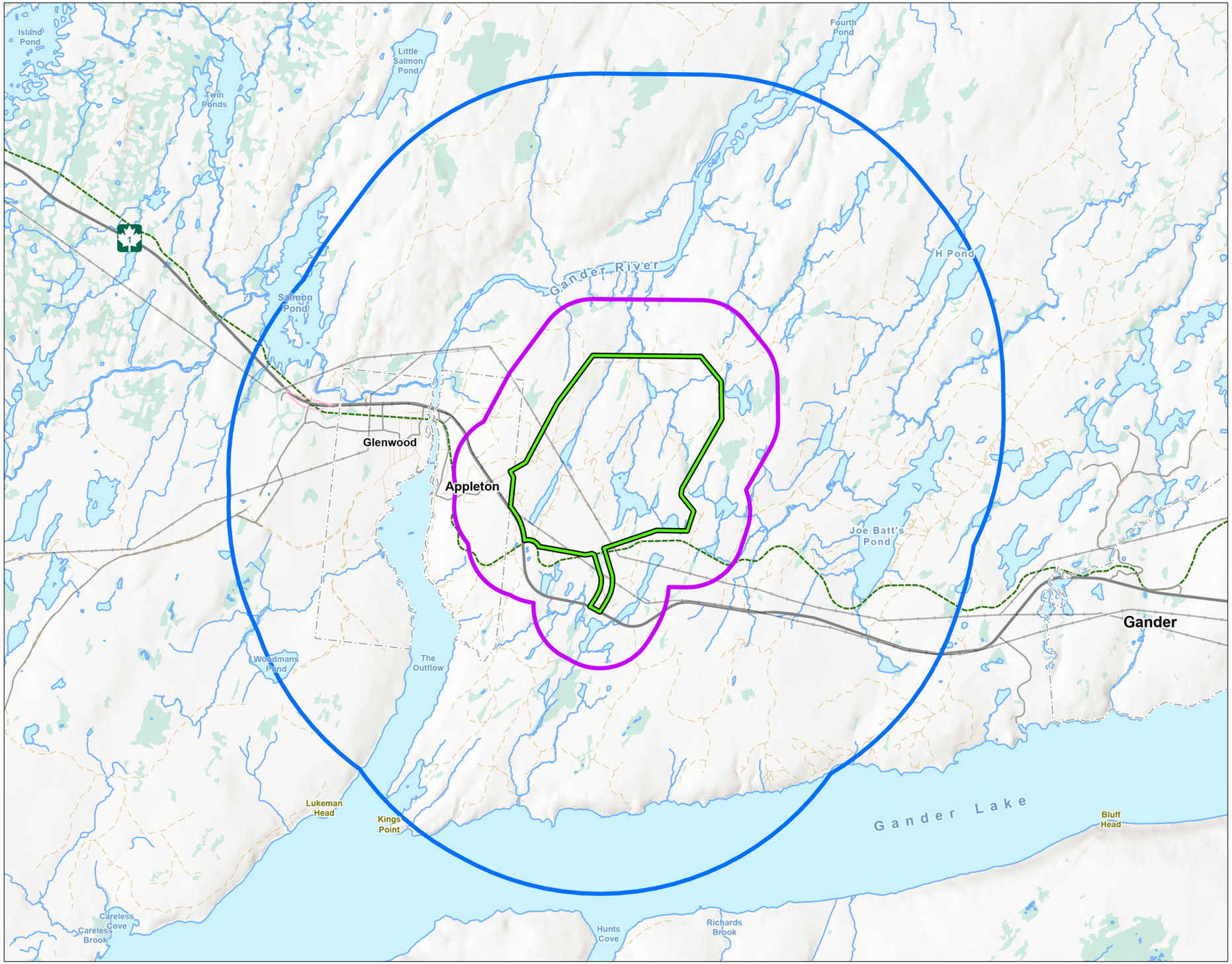

Figure No.
13.1

Title
Land and Resource Use Spatial Boundaries

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418510_304

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-10-23
Revised by NW on 2026-01-15
TR by CW on 2026-01-11

N

0 0.5 1 2 km
(At original document size of 11x17)
1:70,000

- Project Area
- Local Assessment Area
- Regional Assessment Area

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street
- Ramp
- Resource Road / Trail
- NL T'Railway Provincial Park

Wetlands and Waterways
- Watercourse
- Waterbody
- Wetland
- Municipal Boundary

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping. Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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13.1 Existing Conditions

13.1.1 Approach and Methods

Data regarding current land and resource use by Indigenous and non-Indigenous peoples was collected using both primary and secondary research methods. Primary data were collected through a land and resource use survey (LRU survey; Appendix 13.A) and a Traditional Use Study (TUS) as well as government, stakeholder, and community engagement activities undertaken for the Project (refer to Section 5 for engagement activities). A preliminary summary of the TUS has been provided at the time of writing (Appendix 13.B).

The online LRU survey was open to the public from September 3 to October 15, 2025, and was composed of 56 questions, which included multiple choice, single choice, yes/no, and open-ended question formats. The LRU survey was completed by 186 people (Stantec 2025, Appendix 13.A). The study areas for the LRU survey are shown in Figure 13.2 and included three areas: the Area of Interest, a 1 km buffer (local buffer), and 5 km buffer (regional buffer) around the Area of Interest (Appendix 13.A; Stantec 2025). Due to adjustments in the Project Area between the filing of this Environmental Registration and the LRU survey, these areas differ somewhat from the spatial boundaries for the assessment of the LRU VC. However, the difference is slight and does not affect the applicability of the information collected.

The Qalipu First Nation (Qalipu) has completed a TUS through its long-standing Traditional Knowledge program. The collected information is securely stored in Trailmark, a database that contains spatial and interview-based Indigenous Knowledge gathered over many years (Qalipu 2025; Appendix 13.B). Using data from Trailmark, a spatial analysis was conducted to determine whether traditional land use activities occur within or near the Queensway North Area of Interest. These activities include hunting, small-game harvesting, fishing, and general land use. Trailmark data collection adheres to rigorous cultural-data protection protocols, with information such as spatial location and land-use categories included, and additional notes and transcripts for in-person interviews. However, due to confidentiality and data sovereignty agreements, sensitive details are removed before external sharing, and data gaps do not necessarily indicate a lack of Qalipu member use in those areas. Use of this information was provided under a special agreement with Qalipu, and the analysis is currently in progress with a provisional summary provided herein.

Secondary research consisted of a review of existing and publicly accessible research and studies, research findings, other environmental assessments, and traditional knowledge, when available.

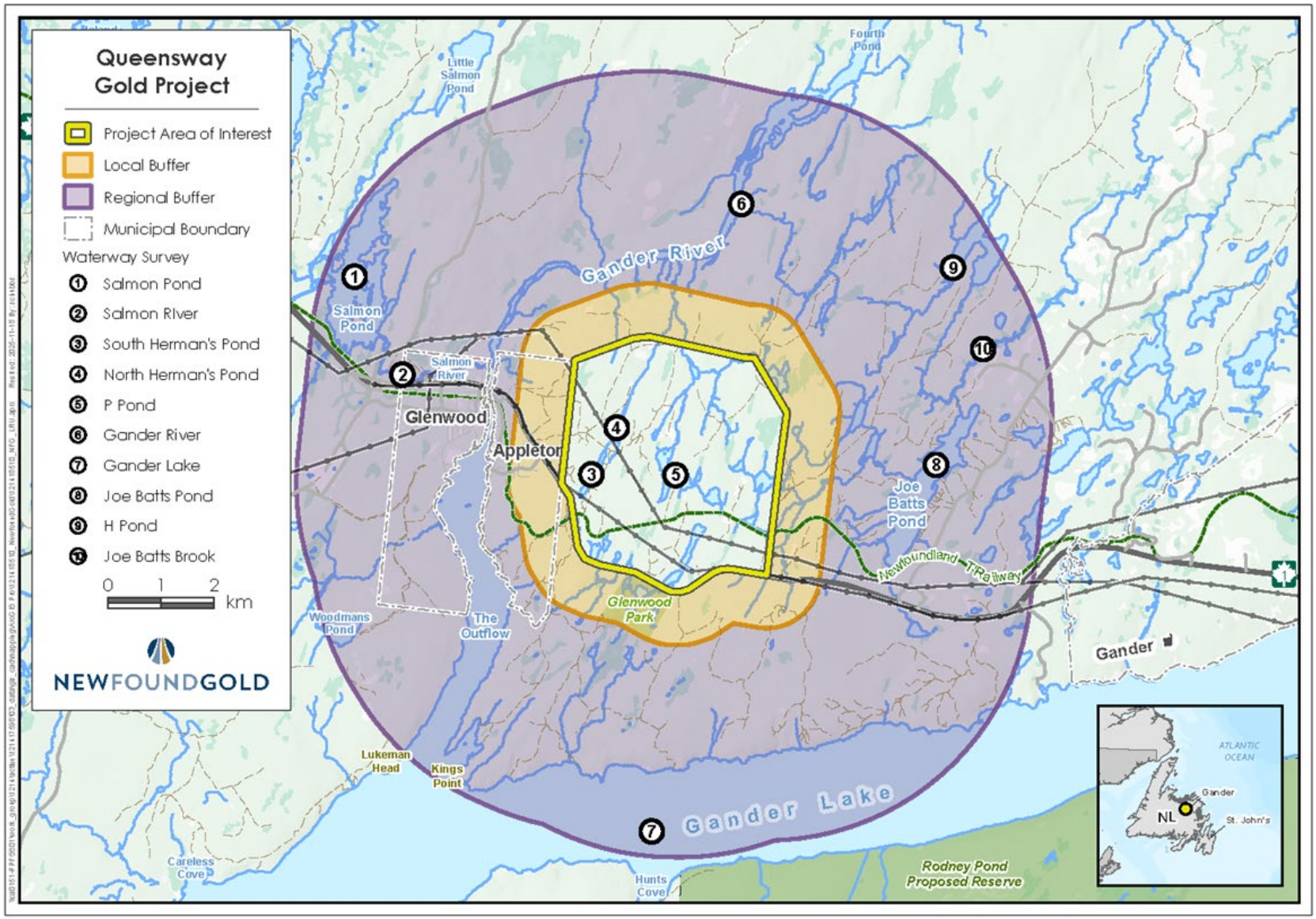

Figure 13.2 LRU Survey Study Area

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LRU metrics generated through spatial analysis have also been used to describe the existing environment. Geospatial data were plotted using Geographic Information Systems (GIS) software to determine the spatial distribution and nature of overlapping land uses within the Project assessment spatial boundaries, as shown in Figure 13.1. By using GIS overlay mapping, the following information on land uses occurring in the vicinity of the Project was quantified:

- The number of land use permit and lease sites (e.g., cabins, recreation lots) and municipal planning areas in the LAA and RAA
- Municipal planning areas and land use zoning
- Nearest residence to the Project Area
- The number and area of provincial forests, wildlife management units (bear / moose), provincial Crown lands, conservation lands, ecological reserves, and protected area lands in the LAA and RAA
- The number and distance to recreational use areas (e.g., campgrounds, lodges, recreational sites, canoe routes, hiking trails, all-terrain vehicle (ATV) trails, snowmobile trails) in the LAA and RAA
- The number and area of Forest Management Districts (FMDs), research and monitoring sites and private land forest values in the LAA and RAA
- The number and/or area of mineral dispositions (e.g., mining claims, mineral leases, quarry leases, quarry permits, mining areas, aggregate resources) in the LAA and RAA
- The extent of potential Project interaction with registered traplines, game hunting areas and outfitter allocation areas and game bird hunting zones in the LAA and RAA
- The extent of potential Project interaction with commercially fished and recreationally fished waterbodies (trout / salmon) in the LAA and RAA
- Hydro and power infrastructure within the LAA and RAA

13.1.2 Description of Existing Conditions

This section outlines land and resource uses, including designated land use, resource use, and recreational use. Designated land use refers to areas with specified purposes established by provincial and municipal regulations and may involve property rights or interests. These areas include municipal planning zones, town boundaries, protected water supplies, designated roads, provincial crown lands, conservation sites, and wildlife management regions. Resource use involves locations used for extracting natural resources, including hunting and outfitting, trapping, fishing, mining and quarrying, forestry, and other infrastructure such as hydroelectric or transmission projects. Recreational use encompasses activities conducted on land and water, such as hiking, fishing, and snowmobiling.

13.1.2.1 Designated Land Use

13.1.2.1.1 Municipal Land Use and Communities

In NL, municipal land use is governed by the *Urban and Rural Planning Act, 2000*, administered by the Department of Municipal and Community Affairs. The Act establishes the province's land use planning system and details the requirements for preparing, approving, and implementing planning documents. The Project is adjacent to, and slightly overlapping (4,980 m²), the municipal boundary of the Town of Appleton and overlaps the Town of Appleton's Land Use Planning Area (Figure 13.3). As the Project overlaps with the Town of Appleton's municipal boundary and Land Use Planning Area, specifically the Industrial Park Zone and Resource Zone outlined in the 2017-2027 Municipal Plan and associated Development Regulations, municipal permits are anticipated. Development of land carried out within the Planning Area must have a permit issued by Town of Appleton Council in accordance with these Regulations.

The Project is also 1.5 km east of the Town of Glenwood's municipal boundary (Figure 13.3). Distances from the Project Area boundary and the proposed mining operations to the towns of Appleton, and Glenwood are provided in Table 13.1.

Table 13.1 Distances to Communities within the Regional Assessment Area

Location	Distance to Appleton (km)	Distance to Glenwood (km)
Straight Line Distance from Centre of Municipality to Proposed Mining Operation	0.80	2.14
Straight Line Distance from Centre of Municipality to Nearest Project Area Boundary	0.45	1.79
Driving Distance from Centre of Municipality to Proposed Site Access Road	3.87	6.07
Distance from Municipal Boundary to Nearest Project Area Boundary	0	1.49

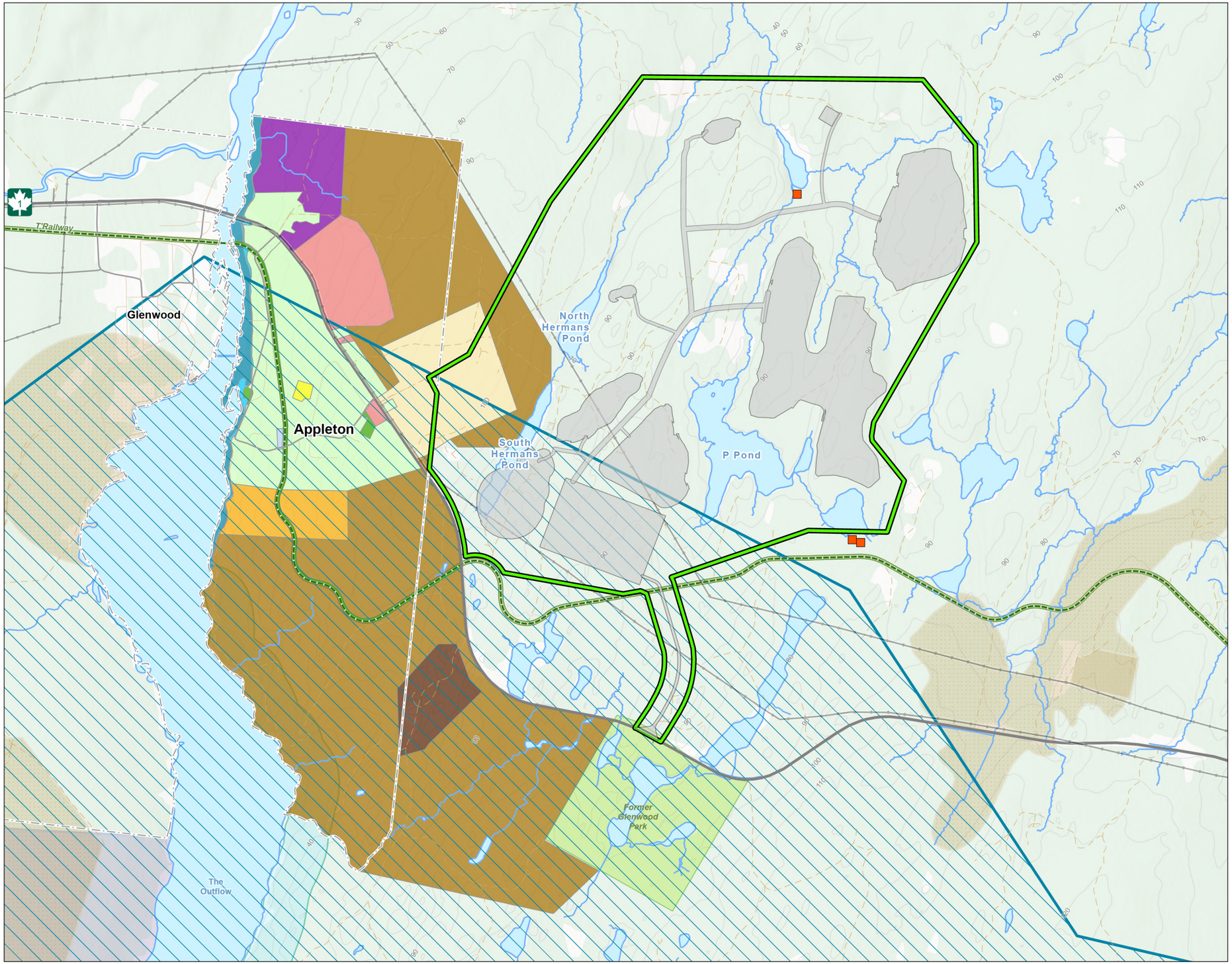

Figure No.

13.3

Title

Land Use and Zoning Near the Project

Client/Project

121418510_122

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-10-21
Revised by NW on 2026-01-15
TR by CW on 2026-01-11

N

0 250 500 1,000 m

(At original document size of 11x17)
1:27,000

- Project Area
- Proposed Site Features

Existing Infrastructure

- Seasonal Residences
- Transmission Line
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

Zoning (Town of Appleton)

- 1:100 Flood Zone
- 1:20 Flood Zone
- Commercial/Industrial
- Industrial Park
- Mineral Working
- Mixed Use
- Open Space, Park & Trails
- Public/Institutional
- Residential Development Scheme Area 2
- Residential High Density
- Residential Traditional Community
- Resource

Wetlands and Waterways

- Watercourse
- Waterbody

Land Use

- Agriculture
- Cottage Planning Area
- Crown Park (Decommissioned)
- Crown Reserve (Gander Lake)
- Provincial Park
- Gander River Management Area
- Municipal Planning Area
- Protected Surfacewater Boundary

Other Features

- Contour (10 m)
- Municipal Boundary

Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp.; Stantec; Government of Newfoundland and Labrador, Department of Environment, Conservation and Climate Change, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping Service, Department of Municipal and Community Affairs; National Road Network, Statistics Canada; NRCan CanVec.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas Mapping.

Stantec

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13.1.2.1.2 Provincial Crown Land

Most of the Project Area is provincial Crown land, which is administered under the *Lands Act*. The Lands Branch of the NL Department of Forestry, Agriculture and Lands (NLDFAL) is responsible for managing and allocating provincial Crown land. Within the Project Area, LAA, and RAA, there are several issued Crown land grants and Crown land leases. A Crown land grant (issued under section 4 of the *Lands Act*) transfers rights and ownership of the land to the owner, whereas with a Crown land lease (issued under section 3 of the *Lands Act*) ownership remains with the Crown (Government of NL 2024). Crown land grants within the Project Area are owned by the Town of Appleton, located within the Industrial Park Zone. Crown land leases within the Project Area have been issued to New Found Gold, Newfoundland Power Inc., NL Hydro, and several private occupants (i.e., cabin owners). There is a cabin located within the Project Area without an associated grant or lease in the land use atlas, and two cabins with associated land grants located immediately adjacent to the Project Area. The closest of these two seasonal dwellings is located approximately 55 m from the Project Area and approximately 370 m from the closest Project component (Figure 13.3). Given the proximity to the Town of Appleton, many Crown land grants and leases are within the LAA and the RAA. The closest residence in the Town of Appleton is located approximately 240 m from the Project Area and approximately 610 m from the closest Project component.

13.1.2.1.3 Protected Water Supplies

The Water Resources Management Division (WRMD) of the NL Department of Environment, Conservation and Climate Change (NLDECCC) oversees water resources under the *Environmental Protection Act* and *Water Resources Act*. The Division's programs aim to protect, manage, and use NL's water resources effectively (NLDECC 2023).

Under the *Water Resources Act*, WRMD manages public drinking water sources, including protections that restrict activities which could impair water quality or quantity. This is often done through the establishment of Protected Public Water Supply Areas (PPWSAs). A PPWSA is an area of land around a source of public drinking water, typically defined by a watershed, that is been protected under section 39 of the *Water Resources Act*. This designation prohibits activities such as depositing harmful materials, swimming, boating, or using water in ways that could reduce its availability or impair its quality within protected public drinking water sources. However, exceptions can be made if the minister determines an area is large enough to permit certain activities without harming the water supply, and such uses must be defined by regulation. Resource development or other activities that could affect water quality require prior authorization from the Minister. Work adjacent to or within a designated PPWSA is required to comply with the provincial Policy for Land and Water Related Developments in a PPWSA (Water Resources Management 1999).

There is one PPWSA that overlaps with the Project Area, Gander Lake. Gander Lake provides a potable water supply for the Towns of Glenwood, Appleton, and Gander, as well as supporting recreational activities, natural resource extraction, and urban development (Environmental Design and Management Ltd. 1996). A Watershed Management Plan was developed in 1996 for Gander Lake and its catchment areas with the goal to protect the potable water supply for the nearby towns while providing long-term sustainable multiple use by private and public entities. No development is permitted within the 300 m buffer around Gander Lake. Development within the Gander Lake PPWSA, but outside this buffer, requires a permit under section 39 of the *Water Resources Act*. Dog Bay Pond Brook is another PPWSA

within the RAA. PPWSAs in the RAA, designated under section 39 of the *Water Resources Act*, are noted in Table 13.2 and shown on Figure 13.3. Note that the administrative boundary does not align with the natural watershed boundary. The southern part of the Project Area overlaps with the administrative boundary for the PPWSA; however, only a small portion of the industrial terrace overlaps with the subwatershed that flows towards Gander Lake and drainage in this portion of the terrace will be collected and managed with other site water, which will be discharged into the watershed flowing north towards the Gander River. New Found Gold understands that the administrative boundary may be adjusted in the future to align with the watershed boundaries.

Table 13.2 Protected Water Supply Areas within the Regional Assessment Area

Community	Water Supply Location	Area (km²)	Distance from the Project Area (km)
Stoneville	Dog Bay Pond Brook	317	46.9
Gander	Gander Lake	1,680	0 (1.9 km² within the Project Area)

Note:
km² = square kilometres

13.1.2.1.4 Protected Areas

NL is home to 60 protected areas including wilderness and ecological reserves, provincial and wildlife parks, a special management area, four national parks, two national historic sites, four World Heritage Sites, and a GeoPark (ParksNL n.d.). Within the RAA there is one protected area, the NL T'Railway Provincial Park (T'Railway). Near the Project, the T'Railway runs roughly parallel to and north of the Trans-Canada Highway (TCH). It crosses under the TCH just east of Appleton and continues westward on the south side of the TCH. The T'Railway crosses through the Project Area along the new access road. Approximately 6 km of the T'Railway intersects the LAA and approximately 17 km intersects the RAA. The former Newfoundland Railway corridor, extending approximately 900 km from Port Aux Basques to St. John's, has been repurposed as the T'Railway, a multi-use linear recreational trail (ParksNL n.d.). It also functions as part of The Great Trail of Canada, providing a continuous route for activities such as walking, cycling, snowmobiling, and other forms of non-motorized and motorized recreation. The corridor crosses over 30 municipalities and passes through a variety of natural environments, supporting connectivity between urban centres, rural communities, and wilderness areas (ParksNL n.d.). Ongoing management and maintenance of the T'Railway are conducted by the Newfoundland T'Railway Council and the NL Snowmobile Federation. Based on the LRU survey, 47.9% of respondents indicate that they use the T'Railway regularly (daily or weekly use). The Glenwood Park is also located within the RAA; however, this park was decommissioned in the 1990s.

In NL, parks are regulated under the *Provincial Parks Act* and the *Provincial Parks Regulations.* With respect to the T'Railway, the Act does allow the Minister to use the park for the purpose of transportation associated with logging, mining, mineral exploration or hydro-electric development. Under the Act, the minister may also increase or decrease the area of the NL T'Railway Provincial Park. A 15 m referral buffer on either side of the T'Railway is required. Permits and approvals will be required where crossings are required within the buffer for crossings.

The Project will require use of the TCH and will have a new access point to the highway for access for light vehicles, including employee transportation, supply deliveries, and highway truck haulage of ore to the Pine Cove processing facility. The TCH is considered a Class I Protected Roads under the Protected Road Zoning Regulations under the *Urban and Rural Planning Act.* The regulations establish building control lines for protected roads, which is 400 metres distant, measured perpendicular, from the centre line of the roadway. The building control line within a municipality is 100 m and 150 m within a municipal planning area.

13.1.2.1.5 Wildlife Management Areas

The NLDFAL's Wildlife Division oversees hunting and trapping in NL through the *Wild Life Act* and related regulations, aiming to manage and conserve the province's biodiversity and wildlife resources. The NLDFAL-Wildlife Division's Research Section studies big game species, including moose, bear, and caribou (including tracking and collaring efforts), small game, furbearers, and fish. The Game and Fur Management Section tracks wildlife populations by analyzing population data, biological indicators, and hunter activity trends for each species, producing estimates of their numbers or relative abundance, where possible (NLDFAL n.d.). These findings help determine license quotas set within designated management areas. In NL, management areas include Moose Management Areas (MMAs), regional Black Bear Management Areas (BBMAs), small game management zones, and furbearing trap zones (Fur Zones). Moose Reduction Zones (MRZs) have also been established in areas of the province to reduce moose-vehicle collisions through targeted hunting.

Table 13.3 provides a description of the overlap between the wildlife management areas and the RAA, LAA, and Project Area (Figure 13.4). The Project Area falls within the Bonavista North (MMA 23), MRZ 101, and North East Coast (BBMA 203) management areas, as well as Trapline 89 and 222 in Fur Zone 6. The RAA includes the Lewisporte (MMA 22), Northwest Gander (MMA 24), and Gambo (MMA 42) management areas, as well as Trapline 1 in Fur Zone 6. Caribou Core Areas do not overlap with the Project and caribou are not expected to occur in the Project Area (Section 11.1.2). The RAA fully overlaps with small game management areas for willow and rock ptarmigan, ruffed and spruce grouse, snowshoe hare, red squirrel, and migratory game birds, and management areas for lynx, coyote, and wolf (not included in Table 13.3).

There is one outfitter located near the Project Area. Bear Cliff Lodge is located at a Gander River fishing pool, approximately 1.7 km north of the Project Area. It offers angling for brook trout and Atlantic salmon (NL Outfitters Association [NLOA] n.d.).

Table 13.3 Wildlife Management Areas with Overlap in the Regional Assessment Area, Local Assessment Area, and Project Area

Management Area	Total Area (km²)	% Overlap		
		RAA	LAA	Project Area
Big Game				
MMA 22 – Lewisporte	2,068	1.6%	-	-
MMA 23 – Bonavista North	4,295	2.5%	0.7%	0.2%
MMA 24 – Northwest Gander	871	1.8%	-	-
MMA 42 – Gambo	1,555	0.09%	-	-
MRZ – 101[1]	550	15.6%	3.8%	1.5%
BBMA 203 – North East Coast	15,686	1.0%	0.2%	0.07%
Furbearing Trap Zones				
Fur Zone 6, Trapline 1	139	12.4%	-	-
Fur Zone 6, Trapline 89	91	74%	25.8%	11.1%
Fur Zone 6, Trapline 222	138	38.6%	3.1%	0.04%

Note:

[1] The MRZ 101 represents a 3 km buffer on each side of the Trans-Canada Highway between Gander and Grand Falls-Windsor. While NLDFAL provides MRZ data for public use, the dataset was not available online. For this assessment, this zone was delineated by Stantec using the provincial roads dataset, and data presented should be considered approximate.

"-" means no overlap

Figure No.
13.4

Title
Wildlife Management Areas within the Regional Assessment Area

Client/Project
New Found Gold Corp.
Queensway Gold Project

121418510_306

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by AC on 2025-10-29
Revised by NW on 2026-01-15
TR by CW on 2026-01-11

N

0 0.5 1 2 km
(At original document size of 11x17)
1:70,000

- Project Area
- Local Assessment Area
- Regional Assessment Area

Wildlife Management
- Outfitter Lodge
- Wildlife Management Areas (Moose/Bear)
- Moose Reduction Zone (101)
- Traplines

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street
- Ramp
- Resource Road / Trail
- NL T'Railway Provincial Park

Wetlands and Waterways
- Watercourse
- Waterbody
- Wetland
- Municipal Boundary

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec; Government of Newfoundland and Labrador Department Environment, Conservation and Climate Change; Department of Forestry, Agriculture and Lands; Land Use Atlas Mapping Service.
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands; Land Use Atlas Mapping Service. Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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13.1.2.2 Resource Use

13.1.2.2.1 Hunting and Trapping

Hunting in NL offers recreational opportunities for both residents and non-residents and supports the province's wildlife management and economy through local expenditures and outfitting services. The NLDFAL regulates hunting, and a valid licence is required to hunt, take, or kill wildlife within the province (NLDFFA 2025). Non-residents seeking to hunt big game must apply through a registered outfitter and hold a valid non-resident hunting licence. Hunting activities are managed within designated Wildlife Management Areas as described in Section 13.1.2.1.5 and are allowed only during open seasons. Target species are grouped into three categories: big game (e.g., moose, black bear), small game (e.g., grouse, snowshoe hare), and furbearers (e.g., lynx, fox, beaver).

Big Game

Big game hunting in the province is a regulated activity that focuses on the sustainable harvest of moose, woodland caribou, and black bear. It plays an important role in the province's culture, food security, and wildlife management. Each year, quotas and seasons are established to maintain healthy populations and prevent overharvesting, with licences issued through an online draw system for residents and through licensed outfitters for non-residents (NLDFFA 2025). Hunters must meet eligibility requirements, including completing firearms safety and hunter education courses, and follow regulations outlined in the *2025-2026 Hunting and Trapping Guide* (NLDFFA 2025). As outlined in Section 13.1.2.1.5, the Project Area overlaps with designated moose and black bear Wildlife Management Areas. Hunting seasons and licence quotas for these big game species are summarized below.

The Project is located within MMA 23 (Figure 13.4). The 2025-26 hunting season dates were from September 13 to December 31, 2025. The hunting quota for this management area is 700 animals, consisting of 388 licences for either sex, 288 for males only, and 24 allocated to non-residents. This compares to a provincial quota of 27,615 animals (NLDFFA 2025). In 2023, the success rate in MMA 23 was approximately 80%, notably higher than the provincial average of about 61% (NLDFFA 2025). The Project also overlaps with the Central Newfoundland MRZ 101 (Figure 13.4), which was established in 2015 (NLDFFA 2025). MRZ 101 offers 400 licences through the big game draw for resident hunters, with the season running from September 13 to December 31, 2025. Because MRZ 101 overlaps with existing MMAs such as MMA 23, hunters with valid MMA licences may also hunt within the MRZ portion of their area. The black bear open seasons for BBMA 203 were from May 1 to July 15 and September 13 to November 30, 2025. Hunters may harvest up to two black bears per licence and can choose to apply for two bears in the spring season, two in the fall, or one in each season (NLDFFA 2025).

According to the LRU survey, more than half of participants reported that they or a family member hunt big game species (e.g., moose, bear) within the LRU survey study area (Figure 13.2). Approximately 58% the big game hunting occurs within the three areas of the LRU survey study area (i.e., the Area of Interest, a 1 km buffer, and 5 km buffer around the Area of Interest). Approximately 5.6 % of participants indicated they, or a family member, hunt for big game within the Area of Interest, 4.9% of participants hunt big game in the 1 km buffer area, and 18.2% hung big game in the 5 km buffer area. The most common purpose for big game hunting identified by survey participants was for food (94.2%), followed by recreation/sport (49.5%), and traditional and/or cultural purposes (35.9%). Survey respondents who indicated they hunt for big game in the LRU survey study area reported that they mostly hunt moose

(99%) and bear (37.9%). The frequency of big game hunting varied among study participants, with just over one-third reporting they or a family member hunt big game once or twice a week during the open season (36.9%), while approximately a quarter reported hunting big game daily (24.3%) and once a year (22.3%). Over half of survey participants indicated that they or a member of their family consumed big game once or twice a week (54.4%) (Stantec 2025, Appendix 13.A).

Small Game and Furbearers

On the Island of Newfoundland, several small game species are managed for hunting including willow and rock ptarmigan, ruffed and spruce grouse, snowshoe hare, and red squirrel (NLDFFA 2025). Depending on the species, hunters may use firearms or snares in the designated hunting zones during open seasons, subject to bag and possession limits. Migratory bird hunting requires a federal Migratory Game Bird Hunting Permit and a Canadian Wildlife Habitat Conservation Stamp for species such as ducks, geese, and snipe. These activities are federally regulated by the Environment and Climate Change Canada (ECCC) - Canadian Wildlife Service, which sets hunting zones, open seasons, and daily bag and possession limits (ECCC 2025). Hunters may also obtain a trapping licence for furbearers such as lynx, fox, and beaver (NLDFFA 2025). Trapping seasons vary by species but generally occur during the fall and winter months. Designated traplines that overlap with the Project are provided in Figure 13.4 and Table 13.3.

As part of the LRU survey approximately 53.6% of participants identified that they or a family member engages in small game hunting and/or trapping within the LRU survey study area. In addition, 13.6% of participants identified that they engage in small game hunting and/or trapping within the 5 km buffer around the Area of Interest, 4.3% within the 1 km buffer, and 2.9% within the Area of Interest. Food was identified as the most common purpose for hunting and/or trapping small game (89%), followed by recreation and/or sport (51.7%), and traditional and/or cultural purposes (38.5%). Survey respondents who indicated they hunt/trap for small game in the LRU survey study area reported that they mostly hunt/trap rabbits/hare (96.7%), ptarmigan/grouse (80.2%), and ducks (48.4%). The frequency of small game hunting/trapping varied among study participants; about half reported they or a family member hunt/trap small game once or twice a week during the open season (50.6%), while approximately 16.5% reported hunting/trapping small game once every few months and 13.2% once a month. Approximately 39.6% of survey respondents reported that they or a family member consumes small game once or twice a week, 28.6% indicated monthly consumption, and 19.8% said they eat it once every few months (Stantec 2025, Appendix 13.A).

13.1.2.2.2 Fishing/Angling

Angling in NL provides recreational opportunities for both residents and non-residents and contributes to the province's economy through licence sales, tourism, and outfitting services. The Gander River is recognized as one of Canada's top salmon rivers for recreational angling (Fishing Booker 2024). Fisheries and Oceans Canada (DFO) are responsible for managing inland fisheries which are regulated under the *Newfoundland and Labrador Fishery Regulations* pursuant to the *Fishery (General) Regulations* and the *Fisheries Act*.

Recreational licences are needed for fishing salmon by both residents and non-residents, while non-residents also require licences to fish for trout and other sport species (DFO 2025). Within the Gander River Watershed recreational fisheries include sea-run salmon, trout and other species (e.g., smelt, Arctic char).

The Project is located within Salmon Fishing Area 4, where the summer salmon angling season runs from June 1 to September 7, and the fall season runs from September 8 to October 7 on the Gander River. There are at least 15 salmon pools within the RAA and over 45 located on the mainstem of the Gander River further downstream of the RAA (McCarthy 2021). The Project is located within Trout Angling Zone 1, where the trout fishing in non-scheduled waters runs from February 1 to April 15 and from May 15 to September 7 (DFO 2025). The Gander River is also managed under an individual watershed management plan to improve angling opportunities and assist in meeting conservation objectives for individual stocks (DFO 2025).

Numerous outfitters operate on the Gander River, offering guided, salmon and brook trout fishing, in addition to hunting other wildlife. Bear Cliff Lodge is located on one of the fishing pools within the RAA and provides angling for Atlantic salmon and brook trout (NLOA n.d.; Figure 13.4). There are other salmon clubs and camps that are not reflected in publicly available outfitting datasets, as they are likely privately owned. Outfitters outside of the RAA also travel to fish salmon pools within the RAA using river boats from access points up and downstream.

Approximately 42.9% of participants of the LRU survey identified that they, or a family member, engage in freshwater fishing within the LRU survey study area. Fishing activity is relatively limited within the Area of Interest and its immediate 1 km buffer, with 7.5% and 5.3% of participants reporting freshwater fishing in these areas, respectively. In contrast, a higher proportion (36.1%) indicated fishing within the broader 5 km buffer around the Area of Interest. Participants identified they spent the most time freshwater fishing within the 5 km buffer (45.4%) around the Area of Interest and less often in the Area of Interest (3.1%) and within the 1 km buffer (3.1%).

Gander River was identified as the most common area for freshwater fishing by approximately 70.2% of respondents of the LRU survey, while Gander Lake was identified as the second most common area by 66.4% of respondents. Other common areas included Salmon Pond (61.1%), Salmon River (47.3%), H Pond (38.9%), and Joe Batts Pond (36.6%). Food was identified as the most common purpose for the harvest of freshwater fish (92.9%), followed by recreation and/or sport (64.7%), and traditional and/or cultural purposes (32.3%). Survey respondents who indicated they catch freshwater fish in the LRU survey study area reported that they caught mostly brook/speckled trout (93.9%) and sea-run Atlantic salmon (79.8%). Summer was identified as the most popular season to catch freshwater fish (87.9%), followed by spring (72.7%), winter (69.7%), and fall (33.3%).

The frequency of catching freshwater fish varied among LRU survey participants, about half reporting they or a family member catch freshwater fish once or twice a week (52.5%), while approximately 22.2% of respondents reported catching freshwater fish once every few months, and 13.1% of respondents once a month. On average respondents spent two to four hours fishing each time they went fishing within the LRU survey study area. About one-third of survey respondents reported that they or a family member consumes freshwater fish caught in the LRU survey study area once every few months (36.5%), approximately 30.2% indicated monthly consumption, and 24% said they eat fish caught from the LRU once or twice a week. The most consumed freshwater fish species captured from within the LRU survey study area were brook/speckled trout (93.8%) and sea-run Atlantic salmon (79.2%) (Stantec 2025, Appendix 13.A).

No commercial fisheries were identified within the RAA, which is further supported by an absence of LRU survey respondents indicating they catch fish for commercial purposes.

13.1.2.2.3 Wild Berry and Plant Harvesting

According to the LRU survey, approximately 60% of participants indicated that they, or a member of their family, pick wild berries (e.g., strawberries, blueberries, partridgeberries, blackberries) and/or harvest other wild plants (e.g., mushrooms, lily pad root, cherry bark, Labrador tea), in the three areas within the LRU survey study area. Approximately 25.8% of participants identified that they engage in berry picking and/or plant harvesting within the 5 km buffer around the Area of Interest, 12.5% within the 1 km buffer, and 7.5% within the Area of Interest. Most of the survey participants reported that they or a member of their family pick wild berries and/or harvest wild plants for food (98.1%). Recreational use was identified as the second most common purpose for harvesting wild berries and/or plants (35%), followed by traditional and/or cultural purposes (31.1%), medicinal purpose (10.7%), and commercial purpose (1%). The three most reported wild berries/plants harvested by survey participants included blueberries (99%), partridge berries (69.9%), and raspberries (60.2%). The frequency of berry picking/plant harvesting within the LRU survey study area varied among study participants. About one-third reported they or a family member engage in harvesting wild berries/plants once or twice a week (31.1%), while approximately 29.1% reported harvesting wild berries/plants once a year, 19.4% once every few months, and 13.6% once a month. Approximately one-third of survey respondents reported that they or a family member consume wild berries and or plants caught in the LRU survey study area once or twice a week (34%), approximately 26.2% indicated daily consumption, and 21.4% indicated monthly consumption (Stantec 2025, Appendix 13.A).

13.1.2.2.4 Water Use

The LRU survey asked participants whether they or a family member sourced drinking water, or water used for bathing, cooking, cleaning, or other household tasks from within the LRU survey study area. Approximately 62.4% of participants indicated they sourced water within the LRU survey study area, while 37.6% indicated they did not. Of those respondents who said yes, approximately 17.8% of participants identified that they or a family member sourced drinking water within the LRU survey study area. In addition, 72.6% of participants identified that they sourced drinking water within the 5 km buffer around the Area of Interest, 6.9% within the 1 km buffer, and 11% within the Area of Interest. Municipal supply from Appleton or Glenwood was identified as the most common source for drinking water (77.5%), followed by natural spring (26.8%), private well (18.3%), other municipal supply (16.9%), unfiltered surface water intake (e.g., from lakes or rivers) (11.3%), and filtered surface water intake (e.g., from lakes or rivers) (11.3%) (Stantec 2025, Appendix 13.A).

The LRU survey also asked participants whether they or a family member source household water for bathing, cooking, cleaning or other household tasks from a municipal supply, private well or natural spring located within the LRU survey study area. Approximately 19.4% of participants identified that they or a family member sourced household water within the LRU survey study area. In addition, 69.4% of participants identified that they sourced household water within the 5 km buffer around the Area of Interest, 2.8% within the 1 km buffer, and 8.3% within the Area of Interest. Municipal supply from Appleton or Glenwood was identified as the most common source for household water (78.3%), followed by other municipal supply (17.4%), private well (17.4%), natural spring (17.4%), unfiltered surface water intake (e.g., from lakes, rivers) (13%), and filtered surface water intake (e.g., from lakes, rivers) (8.7%) (Stantec 2025, Appendix 13.A). Section 9 (Surface Water Resources) provides additional detail on water quality within the Project Area.

13.1.2.2.5 Mining and Quarrying

Mining is a major industry in NL, contributing considerably to the provincial economy, particularly in rural areas. Over 15 mineral commodities have been produced or mined in the province, including iron ore, nickel, copper, cobalt, gold, pyrophyllite, limestone, and dolomite (NL Department of Energy and Mines [NLDEM] n.d.[a]). Mining in NL is regulated mainly under the *Mineral Act* and *Mining Act*, which set regulations for mineral rights, development, operation, and closure of mines (NLDEM n.d.[b]). Oversight is handled by the NLDEM through its Mines Branch.

As shown in Table 13.4 and Figure 13.5, there are 47 map staked claims within the RAA, 42 of which are owned by New Found Gold. Aside from the map staked claims held by New Found Gold, there are five map staked claims that intersect with the RAA, held by Darrin Hicks (1 in total), Gossan Resources Ltd. (1 in total), Stephen Stockley Agriculture and Fabrication Inc. (2 in total), and Suraj Amarnani (1 in total).

Table 13.4 Map Staked Claims in the Regional Assessment Area

Company / Owner	Total Claims	% Overlap[1]		
		RAA	LAA	Project Area
New Found Gold	42	95.7%	98.9%	100%
Stephen Stockley Agriculture and Fabrication Inc.	2	1.1%	1.1%	-
Darrin Hicks	1	0.9%	-	-
Gossan Resources Ltd.	1	0.0004%	-	-
Suraj Amarnani	1	2.3%	-	-

Note:
[1] Values are approximate

Within the RAA, there are also five quarry permits, and one quarry new application not owned by New Found Gold (Table 13.5; Figure 13.5). Two quarry permits and one new application overlap the LAA, owned by Littles Construction Ltd., Lewis Little, and Shea's Excavation Limited, respectively.

Table 13.5 Quarry Permits / New Applications in the Regional Assessment Area

Company / Owner	Type	Size (ha)	Issue Date	Expiry Date	Overlaps the LAA?
Littles Construction Ltd.	Permit	2	9/18/2025	9/23/2026	Yes
Lewis Little	Permit	1	9/23/2025	9/23/2026	Yes
Shea's Excavation Limited	New Application	2.1	Null	Null	Yes
Johnson's Sandblasting & Painting	Permit	1	10/24/2025	10/21/2026	No
Springdale Forest Resources Inc	Permit	2	6/11/2025	5/9/2026	No
J-1 Contracting Ltd.	Permit	5	4/3/2025	4/8/2026	No

Note:
ha = hectares
Source: NLDEM n.d.(c)

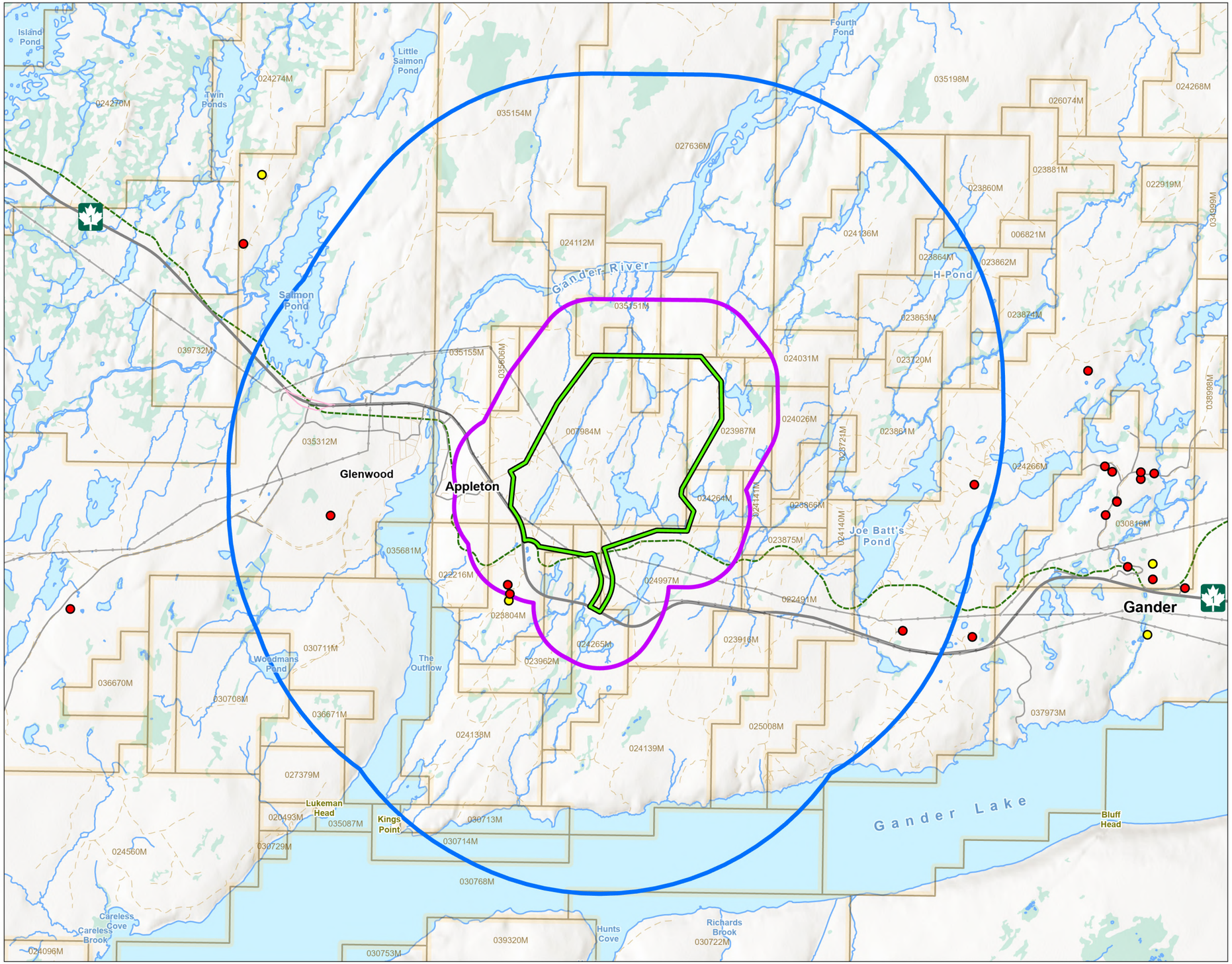

Figure No.
13.5

Title
Mining and Quarry Activity within the Regional Assessment Area

Client/Project
121418510_309
New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by AC on 2025-10-29
Revised by NW on 2026-01-15
TR by CW on 2026-01-11

N

0 0.5 1 2 km
(At original document size of 11x17)
1:70,000

- Quarry (permit)
- Quarry (new applications)
- Map Staked Claims
- Project Area
- Local Assessment Area
- Regional Assessment Area

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- Ramp
- Resource Road / Trail
- NL T'Railway Provincial Park

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec; Government of Newfoundland and Labrador Geological Survey GeoAtlas
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands; Land Use Atlas Mapping Service. Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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13.1.2.2.6 Forestry

Under the provincial *Forestry Act*, the Forestry Services Branch is responsible for managing forest resources in NL. The province is divided into 24 Forest Management Districts: 18 in Newfoundland and 6 in Labrador. Forestry management activities include timber harvesting, forest access road construction, and silviculture practices such as planting, thinning, and site preparation. Each FMD has an allocated annual allowable cut (AAC). The Project overlaps with FMDs 8, 6, and 5, with FMD 5 intersecting the Project Area and LAA (Figure 13.6). The Project Area represents approximately 0.18% of the total FMD 5 area. The AAC for FMDs 5,6, and 8 are provided in Table 13.6. As shown in Table 13.7 and Figure 13.6, there is one domestic (i.e., for personal use) harvesting area within the RAA. There are no domestic harvesting areas within the Project Area and LAA.

Table 13.6 Allocated Annual Cut for Forest Management Districts and Overlap with Assessment Boundaries

FMD	Annual Allowable Cut Volume (m^3)[1]			% Overlap		
	Core Softwood	Operational Softwood	Domestic Softwood	Project Area	LAA	RAA
FMD 5	35,155	21,251	41,001	0.2%	0.5%	1.7%
FMD 6	61,699	4,740	-	-	-	0.7%
FMD 8	75,840	22,640	-	-	-	0.9%

Notes:
m^3 = cubic metres
1. AAC volumes reported reflect data from 2016–2020.
Source: NLDFFA 2021

Table 13.7 Domestic Harvesting Areas within the Regional Assessment Area

Domestic Harvest Area	Harvest Area (km^2)	Percent Project Area Intersect	Percent LAA Intersect	Percent RAA Intersect
CC06541-Glenwood	2.65	-	-	94%

Approximately 34.8% of LRU survey participants identified that they or a family member engage in domestic wood cutting within the LRU survey study area. In addition, 17% of participants identified that they engage in domestic wood cutting within the 5 km buffer around the Area of Interest, 0.9% within the 1 km buffer, and 2.5% within the Area of Interest. Nearly half of the participants reported that that they or a member of their family engaged in domestic wood cutting activities (under a provincial Domestic Wood Cutting Permit) within the LRU survey study area once or twice a week (43.8%), while approximately 23.4% engaged in domestic wood cutting activities once every few months, 12.5% once a month, and 9.4% on a daily basis. Most participants reported that the purpose for their wood cutting was for heating their home, cabin, shed, garage or other buildings (98.4%), and less often for other purposes, including for Christmas tree cutting (28.1%), firewood collection (26.6%), cooking food (17.2%), and domestic/home construction (17.2%) (Stantec 2025, Appendix 13.A).

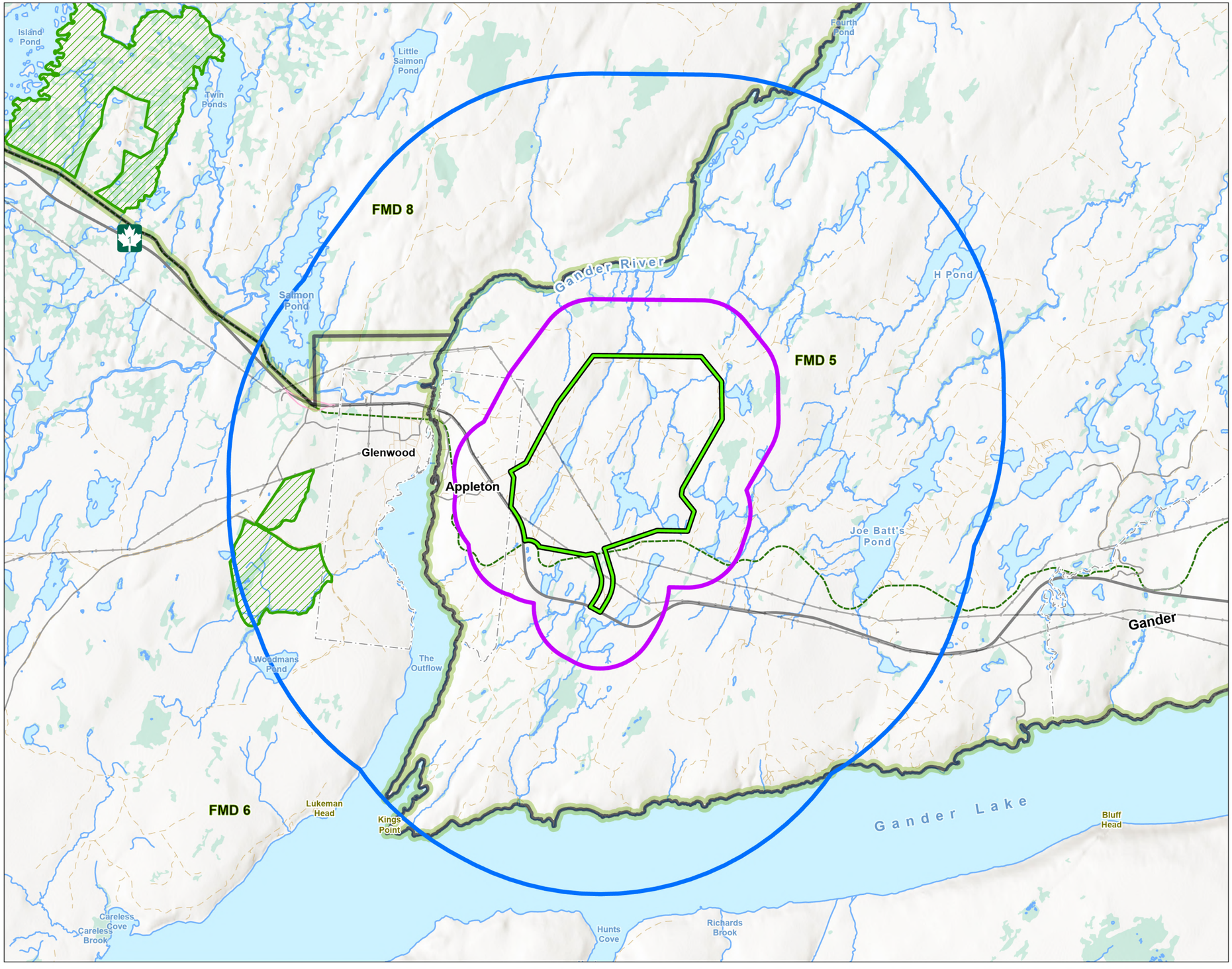

Figure No.

13.6

Title

Forestry Management Districts and Domestic Wood Harvesting Areas within the Regional Assessment Area

Client/Project 121418510_307

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by AC on 2025-10-29
Revised by NW on 2026-01-15
TR by CW on 2026-01-11

N

0 0.5 1 2 km

(At original document size of 11x17)
1:70,000

- Project Area
- Local Assessment Area
- Regional Assessment Area

Forestry Management

- Forest Management Districts
- Domestic Wood Harvest Area

Existing Infrastructure

- Transmission Line
- Highway
- Collector
- Local / Street
- Ramp
- Resource Road / Trail
- NL T'Railway Provincial Park

Wetlands and Waterways

- Watercourse
- Waterbody
- Wetland
- Municipal Boundary

Notes

1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands; Land Use Atlas Mapping Service. Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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13.1.2.3 Recreational Use

The natural areas throughout the Project region support a wide range of recreational activities, many of which are closely connected to designated land uses and resource-based practices, previously discussed. These areas are popular for outdoor pursuits, with hunting, trapping, and fishing among the most common.

Based on the feedback provided from the LRU survey, there are many recreational activities that people take part in within the RAA including hiking, snowshoeing, snowmobiling, swimming, canoeing, bird watching, camping, cycling, and ATV / utility task vehicle (UTV) use. Approximately 74.4% of LRU survey participants indicated they engage in recreational activities within the LRU survey study area. In addition, 25.6% indicated they engage in recreational activities in the 5 km buffer around the Area of Interest, 12.8% indicated they engage in recreational activities in the 1 km buffer, 12.8% indicated they engage in recreational activities in the Area of Interest. The most popular recreational activities included ATV or other touring (e.g., UTV, side-by-side) (91%), snowmobiling (75%), and hiking/walking (61.1%), boating (e.g., motor) (49.3%), and canoeing and/or kayaking (45.1%) (Stantec 2025, Appendix 13.A).

13.1.2.4 Traditional Use Study Results

At the time of writing, preliminary results regarding traditional use were provided from Qalipu (Appendix 13.B). The TUS did not identify recorded data points directly within the Project Area. However, multiple land-use features were documented within 5 km of the Project Area. These include activities such as hunting, small-game harvesting, fishing, and general land use. While these records fall outside the Project Area, they demonstrate that the broader surrounding landscape has been historically used by Qalipu members. The TUS indicates salmon fishing outside the Project Area, along the Gander River (Qalipu 2025, Appendix 13.B).

13.2 Potential Effects and Effect Pathways

A summary of the potential effects and Project effect pathways to be assessed for LRU is provided in Table 13.8. Potential environmental effects and effects pathways were selected based on the review of similar projects in NL and other parts of Canada, and professional judgement. For LRU, three potential effects were identified: change in designated land use, change in resource use, and change in recreational use.

Table 13.8 Potential Effects and Effect Pathways for Land and Resource Use

Potential Effect	Effect Pathway(s)
Change in designated land use	• Mine site preparation and earthworks within the Project Area can change the use of lands through the loss of area and the restriction of access to designated lands • Project activities may affect residential receptors due to sensory disturbances associated with noise emissions from the use of heavy equipment, transport of materials and increased traffic • The development and presence of stockpiles may affect nearby land use through visual disturbance

Table 13.8 Potential Effects and Effect Pathways for Land and Resource Use

Potential Effect	Effect Pathway(s)
Change in resource use	• The AAC in an area of commercial forest may be reduced • Direct loss of local resource use areas through mine site preparation and earthworks and construction / installation of infrastructure and equipment (i.e., the physical presence of the Project) • Sensory disturbance (e.g., noise, visual) to resource users and harvesting activities (hunting, trapping, outfitting, and fishing), affecting the quality of outdoor experience • Behavioral changes and/or mortality of harvested wildlife species due to the presence of sensory disturbances and Project activities which may cause a reduction in wildlife hunting success, as well as greater pressure on game resources • Presence of Project workers could increase the competition for species harvested by local hunters, trappers, outfitters, and anglers • Changes in water quality associated with emissions, discharges, and wastes to the aquatic environment have the potential to affect fish health, growth, or survival which could, therefore, result in greater pressure on fishery resources
Change in recreational use	• Access to recreational areas may result in the loss of area available for recreational use from Project presence • Project activities may reduce access to or quality of recreational use (i.e., noise, dust, visual) • Population increase associated with the Project may increase competition for resources, which may likewise affect the quality of the outdoor recreation experience being pursued by recreational users

13.3 Mitigation and Management Measures

Environmental management plans will be updated by New Found Gold to mitigate the effects of the Project on LRU. A list of standard mitigation measures to be applied throughout Project construction, operation, and reclamation and closure is provided in Table 4.31. Many of these standard mitigation measures will serve to avoid or reduce potential effects on LRU, including the measures identified for the following Project activities:

- Site Clearing, Site Preparation, and Erosion and Sediment Control
- Works In or Near Fish Habitat
- Site Water Management
- Blasting
- Vehicles/Equipment/Roads
- Light Emissions
- Rehabilitation and Closure

The following mitigation measures specific to the LRU have been identified for the Project:

- Signage will be installed around the mine site to alert the public and land users of the presence of the Project and its facilities.

- Where practicable in accessible areas (e.g., along cleared rights-of-ways), trees and other vegetation will be left in place or encouraged to grow to obstruct the view of Project facilities, reducing the change in viewshed and muffling nuisance noise.
- Employees and contractors associated with the Project will be prohibited from fishing, hunting, trapping, gathering plants, or using off-road vehicles for recreational purposes within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to enable the exercise of Indigenous rights.
- Chasing, catching, diverting, following, or otherwise harassing wildlife will be prohibited.
- New Found Gold will continue to engage with local resource users regarding the overlap of the Project with land use areas in the Project Area. This will include the communication of Project information, updates on ongoing and planned activities, a discussion of issues and concerns, and a potential means of addressing them.
- If complaints are received from land users regarding Project-related effects, New Found Gold will work with the affected land users to address their concerns through a grievance redress mechanism and the potential implementation of additional mitigation measures as needed.
- Project activities, locations, and timing will be communicated to communities, affected land and resource users, environmental non-government organizations, the provincial government, and local authorities throughout the life of the Project. New Found Gold will communicate in advance with respect to Project activities that may limit / affect use of the access road. This information will be communicated through local town councils, local radio stations, and/or social media.
- New Found Gold will consult with the relevant authorities to support a public education program around the new mine access crossing on the T'Railway.

New Found Gold has, and will continue to, consult cabin owners in the Project Area about their occupancy, future use of the cabins, and possible mitigation steps. New Found Gold has engaged with local outfitters and the NLOA and, to date, no specific concerns have been identified. Mitigation and monitoring programs planned for atmospheric environment, surface water, fish and fish habitat, and the terrestrial environment components are expected to effectively manage potential effects. Therefore, the need for industry-specific mitigation and monitoring has not been identified. New Found Gold will continue to engage with local outfitters and the NLOA throughout the Project and, if concerns are identified, further mitigation and monitoring will be developed as needed in consultation with NL Department of Tourism, Culture, Arts and Recreation (NLDTCAR).

13.4 Residual Environmental Effects

Potential environmental effects on LRU were identified in Section 13.2. For LRU, three effects were identified: change in designated land use, change in resource use, and change in recreational use. Residual effects (i.e., those remaining following implementation of mitigation [Section 13.3]) for each Project phase are evaluated below. This section assesses residual effects on LRU, which can include both Indigenous and non-Indigenous use. The assessment of residual effects considers the following key factors:

- The Project Area is a partly disturbed landscape, with mineral exploration on the western side and areas of recent forest harvesting on the eastern side.

- There is a cabin located within the Project Area without an associated grant or lease in the land use atlas, and two cabins with associated land grants located immediately adjacent to the Project Area. The closest of these two seasonal dwellings is located approximately 50 m from the Project Area and approximately 430 m from the closest Project component. New Found Gold has, and will continue to, consult these cabin owners about their occupancy, future use of the cabins, and possible mitigation steps. In addition, as detailed Project design progresses, New Found Gold will maintain appropriate distances between Project activities and residences and seasonal dwellings to maintain compliance with applicable air quality and noise guidelines and regulations.
- The Project is adjacent to, and slightly overlapping (4,980 m²), the municipal boundary of the Town of Appleton, with the nearest residence in the town located 240 m from the Project Area and approximately 610 m from Project infrastructure. However, site infrastructure has been strategically placed east of the open pits to reduce noise, dust, and light effects on the Town of Appleton. Natural buffers and smart design safeguard residents and enable responsible resource development.
- Recreational and harvesting activities, such as berry picking, firewood cutting, hunting, fishing, and hiking are known to occur in the vicinity of the Project Area given the abundance of access trails and roads, including the T'Railway. Based on the results from the LRU survey (Appendix 13.A), the area is known to support recreational use including ATV / UTV use (91% of participants), snowmobiling (75%), hiking (61%), boating (49%), camping (44%), canoeing/kayaking (45%), swimming (37%) and bird watching (16%). The presence of the cottage planning area and numerous cabins / cottages located in proximity to Joe Batt's Pond indicates that use of the surrounding land for subsistence and recreational purposes is likely high in the area.
- The TUS did not identify recorded data points directly within the Project Area; however, multiple land-use features were documented within 5 km of the Project Area.
- Stockpiles have been located at a distance away from the Trans-Canada Highway and the T'Railway to reduce visual affects from Project components to nearby land users.
- Site water management will discharge downstream of Gander Lake, with measures in place to address potential effects on recreational users in the area and to safeguard the public water supply. These practices are designed to protect the quality and safety of water resources for community use while supporting continued recreational opportunities near the Project Area.
- New Found Gold will engage with local resource users (hunters, trappers, outfitters, anglers), including the communication of Project information, updates on ongoing and planned activities and a discussion of issues and concerns and potential means of addressing them.
- New Found Gold will work towards returning the site to as close to pre-Project conditions as practical, with due consideration to the aesthetics that existed prior to mining.

13.4.1 Change in Designated Land Use

The assessment of change to designated land use considers Project activities that could conflict with existing land use plans, policies, regulations, or zoning within both the Project Area and LAA. The Project is situated on a mineral claim owned by New Found Gold, which is immediately adjacent to the municipal boundary of the Town of Appleton and overlaps the Town of Appleton's Land Use Planning Area, specifically the Industrial Park Zone and Resource Zone. Project operation will comply with relevant permitting standards, such as mineral leasing rules and municipal planning requirements outlined in the town's Development Regulations.

The Project Area is located within the Gander Lake PPWSA. Work adjacent to or within this designated PPWSA will comply with the provincial Policy for Land and Water Related Developments in a PPWSA. New Found Gold will consult with WRMD on activities occurring within the PPWSA and obtain the necessary permits under the Water Resources Act. New Found Gold has been engaging with WRMD with respect to siting of Project activities and components in an acceptable manner to avoid Project-related effects on the public water supply. Given Gander Lake is not hydraulically downstream of Project discharges, it does not represent a human exposure pathway. Additionally, as discussed in Section 9 (Surface Water Resources), the assessment indicates that predicted changes in surface water quality are limited to short distances near discharge locations and are not expected to result in sustained exposure at locations accessible for recreational use.

As the Project is located mainly on Crown lands, New Found Gold will operate in accordance with the legislation and regulations outlined in the Lands Act. Crown lands required for the undertaking will be identified and New Found Gold will consult with NLDFAL - Lands Branch. Since the Project Area overlaps with existing Crown land titles, Project activities within the claim area will maintain appropriate buffers around current developments. New Found Gold will advise title holders of planned activities and the associated timelines. New Found Gold has and will continue to consult respective landowners about their occupancy, future use of the cabin, and possible mitigation steps.

The Project is adjacent to, and slightly overlapping (4,980 m²), the municipal boundary of the Town of Appleton and therefore, as detailed in Section 13.1.2.1.1, there are residential and urban development in the LAA. The closest residence in the Town of Appleton is located approximately 240 m from the Project Area and approximately 610 m from the closest Project component. Residents may experience sensory effects from Project activities, like noise generated by heavy equipment, material transport, increased traffic, and blasting activities. Blasting can create air overpressure and additional sound through energy released into the atmosphere. However, blasting is planned for daytime hours and, during operation and will follow best management practices from resources like the Blasters Handbook (International Society of Explosives Engineers 2016) and the Environmental Code of Practice for Metal Mines (Environment Canada 2009). Site infrastructure, such as the crusher and stockpiles, has been located east of the open pits to reduce noise and other effects on the Town of Appleton. As discussed in Section 7 (Atmospheric Environment), the air dispersion modelling demonstrated that through the use of real time monitoring and adaptive management, including temporary suspension of activities such as hauling and crushing during particularly dry periods, the Project can operate in compliance with the provincial ambient air quality standards. Annual concentrations generally meet long-term health-based guidelines, and adaptive management measures are in place to mitigate particulate emissions during adverse conditions. These effects are short-term, reversible, and unlikely to result in sustained exposure, resulting in a low likelihood of adverse health effects. Should complaints arise regarding Project effects, New Found Gold will collaborate with affected users to resolve concerns through a grievance mechanism, implementing further mitigation, if necessary.

Additionally, there is a cabin located within the Project Area without an associated grant or lease in the land use atlas, and two cabins with associated land grants located immediately adjacent to the Project Area. The closest of these two seasonal dwellings is located approximately 55 m from the Project Area and approximately 370 m from the closest Project component. New Found Gold will consult these cabin owners about their occupancy, future use of the cabins, and possible mitigation steps. In addition, as detailed Project design progresses, New Found Gold will maintain appropriate distances between Project activities and residences and seasonal dwellings to maintain compliance with applicable air quality and noise guidelines and regulations.

Physical elements of the Project, such as overburden, waste rock, or ore storage facilities, may change the visual landscape within the LAA and disrupt views for residents and highway travelers. The Rehabilitation and Closure Plan will aim to restore the site as close to its natural state as possible, reduce long-term effects on plants and animals, create a landscape that is visually acceptable and compatible with surrounding terrain and land use, control pollution and fire risks, and keep the site safe for future public use.

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** Through the application of mitigation measures (including mitigation measures detailed in Section 7 [Atmospheric Environment] and Section 9 [Surface Water Resources]), residual effects from the Project are anticipated to result in a small, measurable change to designated lands, however activities can take place at or near current levels.
- **Geographic Extent:** Project effects on designated lands are expected to occur within the Project Area (from the direct loss of area) and LAA (from indirect sensory disturbances).
- **Duration:** Residual effects are anticipated to begin during the construction phase and persist throughout the entire life of the Project. These effects will initially arise as site preparation and construction activities commence and are expected to continue through the operational period, remaining present until the Project concludes and rehabilitation and closure is complete.
- **Frequency:** Residual effects will occur at an irregular frequency, with sensory effects such as noise, vibrations, or other disturbances associated with Project activities occurring intermittently throughout the day. These intermittent events may include sounds from heavy equipment operation, material transport, and increased traffic, which will not follow a fixed pattern but instead arise sporadically as work progresses.
- **Reversibility:** Residual effects will be reversible upon Project rehabilitation. Once mining activities have ceased and the site enters the rehabilitation and closure phase, mitigation measures will be implemented to restore the area as close to its original condition as possible, apart from the visual disturbance associated with the remaining waste rock and overburden storage facilities, which will be irreversible but can be rehabilitated in a manner that blends with the rolling landscape of the RAA.

13.4.2 Change in Resource Use

Land clearing within the Project Area will remove commercially harvestable timber in FMD 5. As the Project Area accounts for less than 0.18% of the total area of FMD 5, the AAC may still be achieved by relocating harvesting activities. Productive forest land will stay deforested during the Project, and clearing will follow permit requirements. Cleared vegetation will be mulched, and merchantable timber will be donated to local communities for firewood.

Construction activities, such as mine site preparation and earthwork, will lead to a loss of area for resource use in the Project Area. Signage will be installed around the Project Area to alert land users of the presence of the Project and its facilities. Restricted access zones around Project activities will be enforced during construction and throughout the life of the Project. Resource areas within the Project Area will therefore not be available for harvesting during this time. As noted in Section 13.1.2.4, the TUS did not identify recorded data points directly within the Project Area; however, multiple land-use features were documented within 5 km of the Project Area. The following resource use has been identified in the Project Area based on the LRU survey:

- Big Game Hunting: The Project Area overlaps 0.2% of the Bonavista North (MMA 23), 1.5% of the MRZ 101, and 0.07% of the North East Coast (BBMA 203) management areas. Approximately 58% of LRU survey participants indicated that they, or a member of their family, hunt for big game within the study area. Most of the big game hunting occurs within the 5 km buffer around the Area of Interest (18.2%), compared to the 1 km buffer (4.9%) and the Area of Interest (5.6%).
- Small Game Hunting and Trapping: The Project Area overlaps small game management areas for several bird and terrestrial mammal species and 11.1% of Trapline 89 and 0.04% of Trapline 222 in Fur Zone 6. According to the LRU survey results, approximately 53.6% of study participants indicated that they or a family member engage in small game hunting or trapping within the study area. Most of the small game hunting and trapping occurs within the 5 km buffer around the Area of Interest (13.6%), compared to the 1 km buffer (4.3%) and the Area of Interest (2.9%).
- Fishing / Angling: Less than half of LRU survey participants indicated that they or a family member catch freshwater fish within the study area. Most of the freshwater fishing takes place within the 5 km buffer around the Area of Interest (36.1%), compared to the 1 km buffer (5.3%) and the Area of Interest (7.5%).
- Outfitters: One outfitter is located near the Project Area. Bear Cliff Lodge (a brook trout and salmon fishing outfitter) is located within the RAA, approximately 1.7 km north of the Project Area.
- Wild Berry and Plant Harvesting: Approximately 60% of LRU survey participants indicated that they or a family member pick wild berries and/or harvest other wild plants within the study area. Most of this harvesting takes place within the 5 km buffer around the Area of Interest (25.8%), compared to the 1 km buffer (12.5%) and the Area of Interest (7.5%).
- Drinking and Household Water Use: Approximately 62.4% of participants indicated they sourced water within the LRU survey study area, while 37.6% indicated they did not. Of those respondents who said yes, approximately 17.8% of participants identified that they or a family member sourced drinking water within the LRU survey study area. In addition, 72.6% of participants identified that they sourced drinking water within the 5 km buffer around the Area of Interest, 6.9% within the 1 km buffer, and 11% within the Area of Interest.

- Domestic Wood Cutting: Less than half of survey participants indicated that they or a family member cut wood under a Domestic Wood Cutting Permit within the study area. Most of this wood cutting takes place within the 5 km buffer around the Area of Interest (17%), compared to the 1 km buffer (0.9%) and the Area of Interest (2.5%).

The extent of overlap between the Project Area and wildlife management zones is minimal, constituting less than 0.1% of each respective management area. There will also be a loss in angling opportunities for ponds and streams at the mine site. Alternative locations within the LAA and RAA remain available for resource users to engage in these harvesting activities. New Found Gold will engage with local resource users (hunters, trappers, outfitters, anglers), including the communication of Project information, updates on ongoing and planned activities and a discussion of issues and concerns and potential means of addressing them.

In addition to the loss of area available, Project activities may result in sensory disturbance effects (e.g., noise, dust, visual) to resource users and harvesting activities (hunting, trapping, outfitting, and fishing) which could affect the quality of outdoor experience. Sensory disturbances related to the Project have the potential to influence where users choose to pursue resource use activities. For example, Project activities could result in a decrease in interest in resource activities near the Project Area, particularly if undisturbed or undeveloped areas are available elsewhere. As noted in the LRU survey, resource and harvesting activities are known to occur in the LAA, and to a lesser extent in the Project Area. However, the Project is located within a partially disturbed landscape, with mineral exploration on the western side and areas of recent forest harvesting on the eastern side. Noise modelling conducted for the Project indicates that sound pressure levels at the eight nearest sensitive receptors will range from 43 to 50 A-weighted decibels and will comply with the Health Canada Guidelines (Section 7.4.2). Sound pressure levels are predicted to be below background noise levels within approximately 2 km of the Project Area. Specifically, a 10 m high earth berm is proposed, as described in Section 4.7.2, to reduce potential effects of sound emissions on nearby receptors in Appleton. New Found Gold will continue to engage with local resource users regarding the overlap of the Project with land use areas in the Project Area and LAA. This will include the communication of Project information, updates on ongoing and planned activities, a discussion of issues and concerns, and a potential means of addressing them.

Sensory disturbances may displace targeted species and reduce harvesting success rates within the LAA for local harvesters, as well as greater pressure on game resources. An assessment of wildlife disturbance and mortality risk is provided in Section 11.4.3. Ongoing exploration activities at the Project site, combined with historical forest harvesting, existing rights-of-way (e.g., roads, transmission lines), and nearby residential development, have likely resulted in avoidance of the area and/or habituation/accommodation to the activities by some wildlife. Assuming the successful implementation of mitigation measures (including timing of Project construction activities to avoid the breeding season, the implementation of speed limits, limiting the amount of on-site lighting, and prohibiting the hunting or harassment of avifauna and other wildlife by on-site Project personnel), it is therefore anticipated that associated effects on harvesting success rate will result in a small measurable change and will allow land and resource use activities to take place at or near current levels within the RAA.

Fishing/angling opportunities in the LAA could also be affected by noise disturbances. Within the Gander River Watershed, recreational fisheries include sea-run salmon, trout, and other species (e.g., smelt, Arctic char). The Gander River is renowned for its recreational Atlantic salmon fishery, with local outfitters like Bear Cliff Lodge providing guided fishing opportunities in the area. New Found Gold will continue to consult with the local outfitters, NLOA, and NLDTCAR throughout the life of the Project. A creel survey will also be completed, in consultation with NL Department of Fisheries and Aquaculture, prior to construction.

An increase in the workforce associated with the Project may result in greater competition for species traditionally harvested by local hunters, trappers, outfitters, and anglers. Although the presence of Project personnel has the potential to heighten demand for wildlife and fish resources, strict prohibitions on hunting or harvesting wildlife will be enforced at the mine site. Employees will not be permitted to hunt, harvest, or fish while working on site. Given that most employees are anticipated to be local residents, it is assumed that they would continue to follow their existing resource use patterns.

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** Through the application of mitigation measures, residual effects from the Project on change in resource use are anticipated to result in a small measurable change, meaning the related change in the affected land base represents a small area and given there are numerous opportunities to hunt, trap, and fish outside of the Project Area, it is predicted that hunting, trapping, outfitting, and fishing activities will be able to continue at or near current levels.
- **Geographic Extent:** Project effects on resource use are expected to occur within the Project Area (from the direct loss of area) and LAA (from indirect sensory disturbances).
- **Duration:** Residual effects are anticipated to begin during the construction phase and persist throughout the entire life of the Project. These effects will initially arise as site preparation and construction activities commence and are expected to continue through the operational period, remaining present until the Project concludes and rehabilitation is complete.
- **Frequency:** Residual effects will occur at an irregular frequency, with sensory effects such as noise, vibrations, or other disturbances associated with Project activities occurring intermittently throughout the day. These intermittent events may include sounds from heavy equipment operation, material transport, and increased traffic, which will not follow a fixed pattern but instead arise sporadically as work progresses.
- **Reversibility:** Residual effects will be reversible upon Project rehabilitation. Once mining activities have ceased and the site enters the rehabilitation and closure phase, mitigation measures will be implemented to restore the area as close to its original condition as possible, apart from the visual disturbance associated with the remaining waste rock and overburden storage facilities, which will be irreversible but can be rehabilitated in a manner that blends with the rolling landscape of the RAA.

13.4.3 Change in Recreational Use

The Project may result in loss of or restricted access to recreational areas and could reduce recreational experiences due to sensory disturbances such as increased noise or altered visual aesthetics. Although decommissioning and closure activities may temporarily affect recreational use, access will be restored once these activities are complete. Residual effects related to recreational hunting, trapping, and fishing activities are assessed in Section 13.4.2.

There are a variety of recreational land use and water-based (i.e., hiking, snowshoeing, snowmobiling, swimming, canoeing, bird watching, camping, cycling, ATV / UTV use or dirt biking) activities that take place in the RAA, the LAA and the Project Area. The T'Railway intersects the Project Area at the new site access road. Based on the LRU survey, 47.9% of respondents indicate that they use the T'Railway regularly (daily or weekly use). Where the site access road intersects the T'Railway, safety features will be incorporated in consultation with relevant authorities. New Found Gold will also consult with the relevant authorities to support a public education program around the crossing.

Approximately 74.4% of LRU survey participants indicated they engage in recreational activities within the LRU survey study area. In addition, 25.6% indicated they engage in recreational activities in the 5 km buffer around the Area of Interest, 12.8% indicated they engage in recreational activities in the 1 km buffer, 12.8% indicated they engage in recreational activities in the Area of Interest. Due to restricted access at the mine site, recreational users may need to relocate their activities to other areas within the LAA or beyond. For safety and security, informal recreational activities will be limited near construction zones. Signage will be placed around the mine site to inform land users about the Project and its associated facilities, and gates will be implemented to restrict access to the mine site. Given the availability of recreational areas within in the LAA and RAA, residual effects on the loss of area available for recreational use is anticipated to result only in a small measurable change, within the range of historical variability and allows recreational activities to take place at or near current levels within the RAA. Current recreational activities generally include the use of the T'Railway, which will not be restricted by the Project.

Project activities could result in sensory disturbance (i.e., noise, visual changes) to outdoor recreational users in the LAA potentially affecting the quality of the outdoor recreation experience. Noise associated with Project activities will be mitigated to be below the regulatory threshold. As mentioned, based on noise modelling sound pressure levels are predicted to be below background noise levels within approximately 2 km of the Project Area. Sensory and visual disturbances will be reduced through the implementation of mitigation to reduce noise and light emissions, where feasible. Additionally, the crusher and stockpiles have been sited at a distance from the T'Railway. Because alternative areas within the LAA and the RAA are available for recreational use, the residual effects to the quality of recreational use is anticipated to result in a small measurable change within the range of historical variability and allows recreational activities to take place at or near current levels within the RAA.

Hunting / harvesting of wildlife will be strictly prohibited on the mine site. Given that most employees are anticipated to be local residents, it is assumed that they would continue to follow their existing resource use patterns. Therefore, increased pressure on recreational use from the presence of Project workers is anticipated to result in a small measurable change, and to allow recreational use activities to take place at or near current levels within the RAA.

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** Through the application of mitigation measures, residual effects from the Project on change in recreational use are anticipated to result in a small measurable change. The related change in the affected land base represents a small area and given there are numerous opportunities for recreational activities outside of the Project Area, it is predicted that these activities will be able to continue at or near current levels.
- **Geographic Extent:** Project effects on recreational use are expected to occur within the Project Area (from the direct loss of area) and LAA (from indirect sensory disturbances).
- **Duration:** Residual effects are anticipated to begin during the construction phase and persist throughout the entire life of the Project. These effects will initially arise as site preparation and construction activities commence and are expected to continue through the operational period, remaining present until the Project concludes and rehabilitation is complete.
- **Frequency:** Residual effects will occur at an irregular frequency, with sensory effects such as noise, vibrations, or other disturbances associated with Project activities occurring intermittently throughout the day. These intermittent events may include sounds from heavy equipment operation, material transport, and increased traffic, which will not follow a fixed pattern but instead arise sporadically as work progresses.
- **Reversibility:** Residual effects will be reversible upon Project rehabilitation. Once mining activities have ceased and the site enters the rehabilitation and closure phase, mitigation measures will be implemented to restore the area as close to its original condition as possible, apart from the visual disturbance associated with the remaining waste rock and overburden storage facilities, which will be irreversible but can be rehabilitated in a manner that blends with the rolling landscape of the RAA.

13.4.4 Summary

Overall, with the application of mitigation and management measures, residual effects on LRU are not anticipated to exceed or contravene established federal, provincial, or municipal land use designations, policies, or by-laws and/or create a change or disruption that restricts or degrades present land and resource use capacity within the RAA to a point where activities cannot continue at or near current levels over the long term. The Project Area is a partly disturbed landscape, with mineral exploration on the western side and areas of recent forest harvesting on the eastern side. Project design has included considerations for siting Project infrastructure away from residential and recreational (i.e., T'Railway) areas to the extent possible. Based on application of the mitigation measures identified in Section 13.3 and New Found Gold's commitment to comply with regulatory standards, residual environmental effects on LRU are likely to be not significant.

The level of confidence in the predictions for Project-related residual effects on LRU is moderate to high. This is based on information collected as part of desktop data compilation and understanding of current existing conditions, GIS data analyses, understanding of Project activities, locations and described interactions, the known effectiveness of mitigation measures, and experience of the assessment team. Moderate confidence was assigned due to limitations with desktop data, though environmental effects mechanisms are well understood. Many of the mitigation measures identified in Section 13.3 are standard practice and have been successfully implemented in previous mining projects, further increasing confidence.

13.5 Follow-up and Monitoring Programs

A creel survey will be completed prior to construction to collect baseline fisheries data to be developed in consultation with NL Department of Fisheries and Aquaculture.

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14 Historic Resources

Historic Resources have been selected as a valued component (VC) because they serve as the physical source of information on the past of Newfoundland and Labrador (NL). These resources contribute to our collective knowledge of Indigenous lifestyles prior to the arrival of Europeans in North America (the pre-contact period), the arrival of European and other settlers, our understanding the historic period, land-use, the fossil record, and the architectural history of the region. Additionally, they offer information regarding interactions between various cultural groups and their relationships with the surrounding environment. Historic resources include sites, materials and, in certain instances, landscapes and/or places of historical, archaeological, cultural / spiritual, palaeontological, and architectural importance. They can date to the pre-contact, historic, or contemporary periods. The assessment of the potential for historic resources to be affected by the Project includes the identification of known sites of historical, archaeological, cultural and spiritual, palaeontological, and architectural importance, along with the identification of locations with potential to contain such sites.

In NL, historic resources are protected under the provincial *Historic Resources Act* (1985) (HRA). The Provincial Archaeology Office (PAO), under the NL Department of Tourism, Culture, Arts and Recreation, is responsible for archaeological, palaeontological, and cultural sites, while the Heritage Foundation of NL manages architectural resources. Sites of archaeological or historic significance are defined for this assessment as sites that have elevated interest due to their cultural or spiritual importance to Indigenous groups or their importance to the historical record as defined by the HRA.

Activities associated with the construction and operation of the Project have the potential to disturb known and/or previously unidentified historic resources. Ground disturbance from excavation, blasting, road and site development and construction, and other ground disturbing activities may directly impact areas of archaeological or cultural significance, where these resources are located within the Project Area.

As shown on Figure 14.1, Project spatial boundaries for Historic Resources include the Project Area (area of physical activities) and Local Assessment Area (LAA; note for Historic Resources the Project Area and LAA are the same). At the time of the Historic Resources Overview Assessment (HROA), the potential footprint of the Project had not been determined and therefore a broader Local Study Area was considered (Sections 14.1.1 and 14.1.2.2.1), which is now reduced to the “Project Area”, as shown on Figures 14.1 and in Sections 14.1.1 and 14.1.2.3.

For the Historic Resources VC, and in consideration of the HRA, the threshold beyond which a residual environmental effect is considered significant is the unauthorized disturbance of a historic resource that is determined by the PAO or the Heritage Foundation of NL to be a significant historic resource.

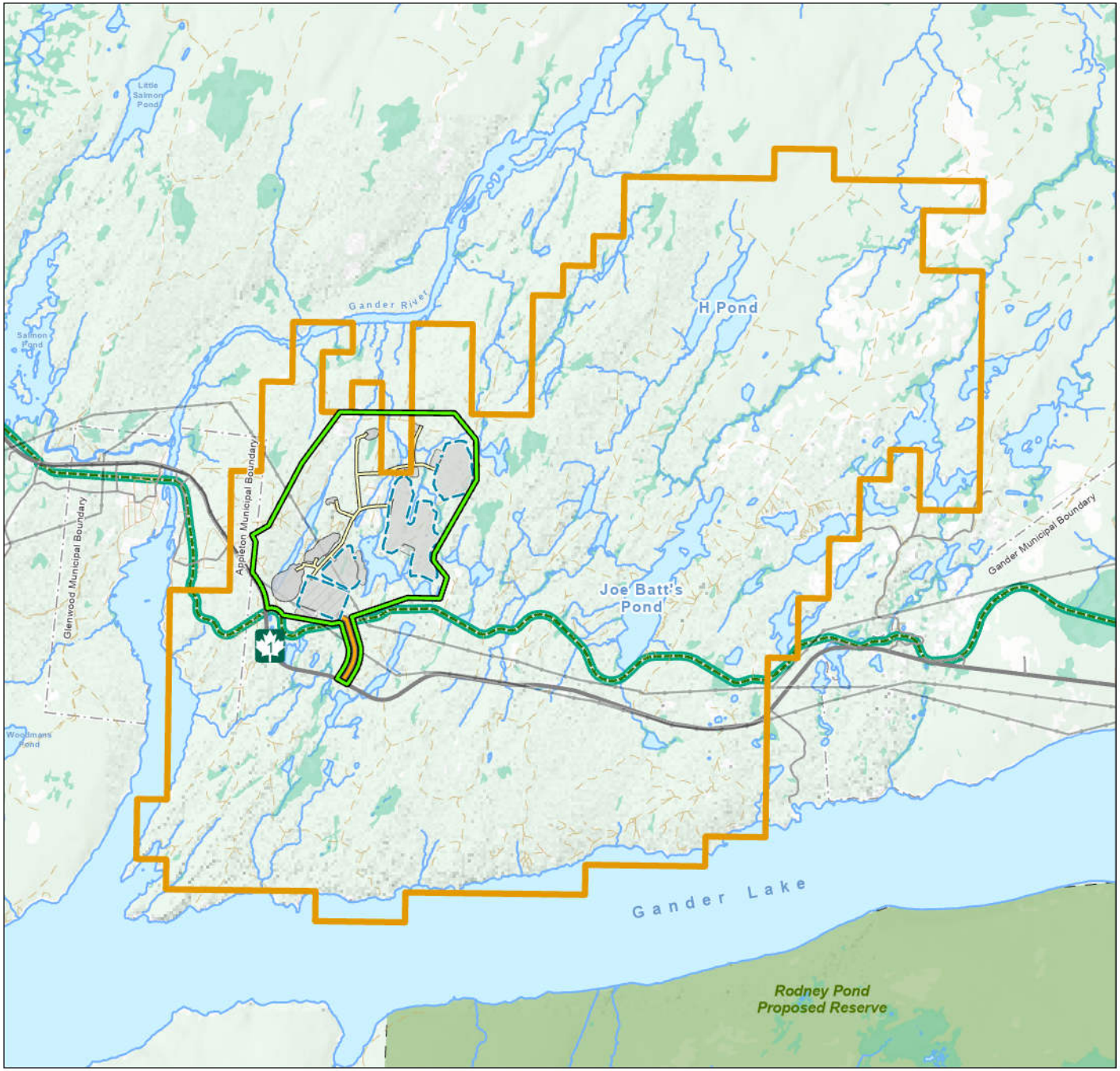

Figure No.
14.1

Title
Historic Resources Spatial Boundaries

Client/Project 121418510_131

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-07-07
Revised by NW on 2026-04-27
TR by CW on 2026-01-07

N

0 1 2 km
(At original document size of 8.5x11)
1:100,000

- Project Area / Local Assessment Area
- Local Study Area

Proposed Project Layout
- Access Road
- Haul Road
- Ditch
- Industrial Terrace
- Other Mine Features

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park
- Former Newfoundland Railway

Wetlands and Waterways
- Watercourse
- Waterbody
- Wetland
- Proposed Ecological Reserve
- Municipal Boundaries

Project Location:

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec; New Found Gold Corp.; Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands - Land Use Atlas
3. Background: Government of Newfoundland and Labrador, Department of Forestry, Agriculture and Lands; Department of Environment, Conservation and Climate Change; Department of Mines and Energy; NRCan CanVec

Stantec

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14.1 Existing Conditions

14.1.1 Approach and Methods

Characterization of existing conditions related to historic resources was completed through a combination of desktop research, consultation with the PAO, and a field investigation. The desktop research completed for the Project followed provincial guidelines for HROA and was designed to inform the need for, and scope of, a subsequent Historic Resources Impact Assessment (HRIA). A Local Study Area and a Regional Study Area were identified for the preparation of the HROA and HRIA and include the north-central NL area that is bounded to the north by the inner Bay of Exploits and inner Gander Bay, to the east as far as Wing Pond, to the south by Gambo Pond, and to the west by the community of Jumpers Brook on the Exploits River (Figure 14.2). The description of the existing environment is based on these study areas. The Project Area shown in Figure 14.1 is located within the Local Study Area.

The HROA was a desktop exercise. A detailed literature review was undertaken to identify known heritage and archaeological resources, assess the archaeological potential of the study areas, and understand the cultural and environmental context of the Project Area. The HROA incorporated both published and unpublished information from a range of digital and archival sources, including:

- General archaeological, historic, and ethnohistoric literature relating to Pre-Contact and Historic Period settlement on the island of NL with emphasis on the Northcentral sub-region of the Central Newfoundland Forest Ecoregion
- Environmental and topographic information relevant to archaeological potential, including data on hydrology, terrain, and resource availability
- Provincial heritage databases, including the Site Record Forms and associated reports on file with PAO
- Historic imagery and mapping, including Department of Natural Resources aerial photographs, Google Earth imagery, and 1:50,000 topographic maps to identify potential landforms and areas of elevated archaeological potential
- Geospatial analysis using hillshade rasters generated from high-resolution Light Detection and Ranging (LiDAR) within a Geographic Information System (GIS) to identify topographic features conducive to past human settlement or activity
- Historic registers and archival resources, including the Canadian Register of Historic Places and the NL Register of Historic Places

The HROA identified several areas with elevated potential to contain archaeological resources and therefore an HRIA was required (“elevated potential” defined as anything above “low potential”). The HRIA involved the field reconnaissance (walkover) of the land areas within the portion of the Local Study Area where ground disturbing activities are anticipated to interact with areas identified in the HROA as having elevated potential to contain archaeological resources. The HRIA was conducted under an HRIA Permit issued to the Project Archaeologist by the PAO.

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: NL Agriculture and Lands, NL Forestry, NL Land Use Atlas, Stantec
3. Background: NRCan CanVec; Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Legend
- Project Area
- Local Study Area
- Regional Study Area

0 5 10 15 km
(At original document size of 11x17)
1:450,000

N

Stantec

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-05-21
Revised by SC on 2025-11-17
TR by CW on 2026-01-07

Client/Project
121418510_128

New Found Gold Corp.
Queensway Gold Project

Figure No.
14.2

Title
Historic Resources Overview Assessment Study Areas

\\ca0151-PPFSS01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Historic_Resources.aprx Revised: 2026-04-27 By: niwhite

In addition to the results of the HROA, the HRIA field assessment of the Local Study Area was conducted in compliance with provincial regulations (PAO 2009) and using the professional judgement and knowledge of the Stantec field team in order to identify, visually inspect, and document archaeological resources encountered during the walkover and to evaluate areas of elevated archaeological potential identified in the HROA. It should be noted that the walkover, while targeting high potential zones within 50 metres (m) of the edge of water bodies where most archaeological sites tend to be located, was not necessarily limited to the 50 m high potential zones. If areas of elevated archaeological potential were identified in view beyond these zones, these areas were also subject to assessment during the walkover.

The walkover focused on areas where Project activities could disturb land with elevated archaeological potential. Field teams traversed these zones in coordinated transects, documenting observations and archaeological features using mobile GIS technology. Confirmed high-potential areas were delineated as polygons to either be avoided by the Project or be subject to further investigation in the form of archaeological shovel testing. Field data were digitally recorded using Field Maps for ArcGIS, with the resulting digital dataset being submitted to the PAO along with the HRIA Permit report.

Shovel testing was conducted at locations identified in the HROA and/or during the walkover as having high archaeological potential. The shovel testing was carried out concurrently with the walkover to increase efficiency. Test pits were placed where ground conditions, typically near water bodies, exhibited suitable topographic conditions for use and/or habitation such as level, well-drained ground. Shovel test pits were implemented in areas deems to have elevated archaeological potential and were excavated until culturally sterile soils were reached. Excavated soils were screened using 6 millimetre mesh, and each test pit was documented in field notebooks and/or digitally mapped using Field Maps, labelled with the archaeologist's initials and test pit number.

14.1.2 Description of Existing Conditions

14.1.2.1 Newfoundland and Labrador Culture-Historical Overview

The following subsections are from the HRIA and HROA reports completed for the Project and provide an overview of cultural history in NL during the Pre-contact and Historic Periods, with focus on the Island of NL.

14.1.2.1.1 Pre-Contact Period

The Pre-Contact Period is defined as the period of human occupation of the lands NL for the timeframe from the first arrival of humans, ranging from approximately 5,500 to 9,000 years Before Present (BP) (depending on the location in NL), up to the time of contact between these Indigenous populations and the European explorers when they first encountered North America, generally interpreted to be ranging from approximately 1,000 years BP to 500 years BP, again depending on the location in NL. Archaeological investigations in NL, particularly over the last 40 years, have provided a relatively clear understanding of the Island's long-term culture-history. The initial human occupation of the Island appears to have occurred late in the Maritime Archaic Period, circa (ca.) 5,400 to 3,200 years BP, although one site in the Deer Lake area may potentially be older (Reader 1999). Nearby southern Labrador shows clear evidence for occupation much earlier in the Maritime Archaic Period, by 8,800 to 7,500 years BP (McGhee and Tuck 1975; Schwarz 2010a), and insular NL was theoretically habitable by this time as well (Macpherson 1981). The scarcity of evidence for an early Archaic occupation of the Island, and the

apparent delay in the expansion of Archaic Period groups from Labrador to the Island of NL, has never been satisfactorily explained. The Maritime Archaic occupation (5,400 BP to 3,200 years BP) is followed, after a hiatus of several centuries, by an Early Pre-Inuit (Groswater) occupation, dating to 2,800 to 1,800 years BP. This in turn is followed by a distinct Late Pre-Inuit (Middle Dorset) occupation beginning ca. 1,900 years BP.

Dorset sites in NL are both larger and more numerous than those of other periods, and although absolute population estimates are not possible, the Dorset occupation appears to have been the most extensive. Its population levels may be the highest in the Island's Pre-Contact Period. Perhaps because of the large size and number of sites, it has proved possible to recognize regional variation in NL Dorset artifact styles. It has been suggested that the Dorset population of NL may be divided into at least three distinct regional groups: 1) West Coast, 2) Northeast Coast, and 3) South Coast (Robbins 1985, 1989). While it may have seen the most extensive occupation, the Dorset period was also the briefest, apparently ending by ca. 1,100 BP.

The Recent Period (1,500 years BP to European contact) includes the most recent pre-contact Indigenous groups on the Island. Traditionally, the Recent Period on the Island was believed to be made up of three cultural complexes referred to as Cow Head (1,900 to 1,000 years BP), Beaches (1,500 to 800 years BP), and Little Passage (800 years BP – European). The Cow Head occupation, contemporary with the Dorset, indicates shared occupation of the Island by both Amerindian and Pre-Inuit peoples (Holly 2002; Hartery 2007). However, research (Hartery 2001) suggests the Cow Head complex does not form part of a NL cultural continuum that includes the Beaches and Little Passage complexes, with the latter group becoming referred to as the Beothuk culture during the Historic Period. Beothuk sites of the early Contact Period (1500 to 1700) have been identified in Notre Dame Bay, Bonavista Bay, the Avalon Peninsula, and along the south coast. Later historic Beothuk sites (1700 to 1829) are predominantly limited to the Exploits Valley, including Beothuk Lake (formerly Red Indian Lake). This area, along with Badger Bay and Gander Bay, were among the final locations of the Beothuk prior to their cultural extinction in 1829 (Devereux 1965a, 1970; LeBlanc 1973).

It is important to note that most archaeological work on the Island has been concentrated on the coast (Bell and Renouf 2003). Archaeologists have tended to regard NL's marine resources as rich and stable, in contrast to an interior resource base, which is limited, impoverished, and prone to periodic fluctuations in abundance (cf. Tuck and Pastore 1985). As a result, archaeologists have tended to concentrate their efforts on investigating coastal sites, assuming that the archaeological potential of the interior is generally low. It has long been recognized that the archaeological potential of one interior region, the Exploits River, has been high, although this has been viewed as unique. The historic resources of the Exploits Valley are dominated by the remains of the Beothuk, a people forced into a deep interior caribou hunting adaptation by the spread of European and Mi'kmaq settlement along the coast. Pre-Beothuk remains are relatively scarce along the Exploits River. This Beothuk interior adaptation ended ultimately in cultural extinction, and the Beothuk have thus been regarded as the exception that proves the rule: successful hunter-gatherer adaptation to the deep interior was not possible over the long term and would not have been attempted without competition from expanding European and Mi'kmaq settlement (Robbins 1989).

Archaeological work since the 1980s, however, has somewhat modified this pessimistic view of the NL interior resource base. Examinations of the interior by several archaeologists (for an overview, see Schwarz 1994a) have confirmed the archaeological potential of the NL interior for pre-contact sites, particularly on near coastal interior lakes, and along the major southwest-northeast-oriented river systems

(most notably the Exploits River), which offer travel routes into the deep interior and strategic locations from which to intercept migrating caribou. Most of the interior sites identified to date pertain to the Recent Period, but Maritime Archaic sites have also been identified. Increasingly, evidence for Early Pre-Inuit occupations has been discovered, even at deep-interior locations, such as Birchy Lake and the Exploits River (Erwin and Holly 2006). Late Pre-Inuit (Dorset) sites in the interior remain relatively rare. In terms of micro-locational attributes, pre-contact interior sites appear to be particularly associated with points of land and constrictions in waterways, as well as at stream mouths and above or below falls and rapids (Schwarz 1992a, 1994a).

14.1.2.1.2 Historic Period

The Historic Period is defined as the period from the arrival of mostly European-derived peoples to NL, ranging from 1,000 to 500 years BP (depending on the location within NL), until the modern era. NL has a long history of European settlement. Historical archaeology in NL has tended to focus on the province's unusually early European contact and on the archaeology of the historic Beothuk.

The earliest known historic European site on the Island is the Norse site at L'Anse aux Meadows, dated ca. 1,000 BP (Ingstad 1969), a period that archaeologists still generally regard as "pre-contact" in NL and elsewhere in Atlantic Canada. Intensive European fisheries are well documented by sites like the Basque remains at Red Bay (Tuck and Grenier 1989). These fisheries included migratory and whale fisheries which developed and expanded through the sixteenth century. The seventeenth century has recently become a focus of investigation; outside of the Avalon, this century is still sparsely documented archaeologically, though there are likely many sites of this period along the coast, pertaining to the English, French, and Basque migratory fisheries. The eighteenth century, a period which saw substantial growth in the resident population of NL, is well represented at archaeological sites across the Island. The French Treaty Shore (1713 to 1783) came into existence with the ratification of the Treaty of Utrecht (1713) and provided France with fishing privileges along the NL coast between Point Riche and Cape Bonavista; these areas had been previously frequented by fishermen from Brittany since the early sixteenth century (Brière 1990). Precarious relations between the French and English, underscored by the Seven Years' War (1756 to 1763), and the ensuing encroachment of English fishermen in French waters eventually led to a second "French Shore" (1783 to 1904), via the Treaty of Versailles, which was re-mapped along the island's western coast and gave France exclusive fishing rights (Brière 1990).

As with pre-contact archaeology, and for many of the same reasons, research in historic archaeology has been strongly focused on the coast. Historic European activities in the interior such as trapping (Pastore 1987) have not been investigated archaeologically although archaeological research into European near-coastal interior "winterhousing" (Smith 1987) has recently begun (Venovcevs 2016).

NL's population grew substantially throughout the nineteenth century. When the earlier "French Shore" (1713 to 1783) became known as the North Shore in the early part of the nineteenth century, it was regularly fished by residents from Conception Bay and elsewhere which resulted in an increase in settlers to the area (Cardigan and Hutchings 2001). Most of the early immigrants were from southwest England and southeast Ireland as regular fishery-related trade routes were maintained with these regions. Throughout this century, however, NL experienced high rates of immigration (in the first half of the century) and high rates of emigration (in the latter of the century) and this was largely in response to shifting economic conditions and employment opportunities (Alexander 1980). The saltfish trade, for example, drew large numbers of immigrants until the fishery fell into decline during the 1880s (Cardigan

and Hutchings 2001). Internal migration was a common form of mobility across the island in the nineteenth century both on a seasonal or permanent basis. These mobility patterns helped shape the province's resident population. When the cod fishery declined in the 1880s, seasonal migration was an adaptive strategy for people moving inland from the coast to cut wood, hunt caribou, or work mines (Herrick 1971).

Land-based industries developed with the construction of the NL Railway (which reached the Exploits River in 1892) and branch lines constructed during the late nineteenth and turn of the twentieth century allowing better access to the Island's interior (Alexander 1980). The forestry industry attracted migrants to several areas of the province to work at mills and wood-cutting operations. By the start of the Second World War, new mines and lumber mills dotted the province and gave rise to a variety of new settlements including the communities of Glenwood and Appleton, both lumbering settlements, just west of the Project Area. Agriculture also expanded in the first half of the twentieth century but did not reach the same level of economic success as forestry or mining (Alexander 1980). In 1936, hundreds of workers arrived by train at Milepost 213, east of the Local Study Area, near an undeveloped patch of wetlands and boreal forest and, through their efforts, the Gander Airport was established (Town of Gander 2023). By 1940, Gander Airport was the largest airport in the world. Its location was of strategic importance militarily during the Second World War as a refueling point for Allied aircraft traveling to and from Europe and for surveillance flights patrolling the western Atlantic. As many as 12,000 British, Canadian, and American servicemen lived in barracks beside and between runways before the airport reverted to civilian control after the war (Town of Gander 2023). It continued to remain a global hub of civil aviation in subsequent decades. In the 1950s, construction began on the present site for the Town of Gander, and, by 1958, the municipality was incorporated, and the airport settlement was abandoned (Town of Gander 2023). Archaeologically, the wartime legacy of the Gander Airport is demonstrated by many aircraft wrecks from the Second World War throughout the Regional Study Area.

For the Beothuk, the only Indigenous group in Canada to become extinct, the centuries from the late fifteenth century to the death of Shanawdathit, the last known Beothuk, in 1829, were years when English, Portuguese, Basque, and French fishermen encroached upon not only the coast and its rich resources, but also upon salmon-fishing rivers. For reviews of this period, see Howley (1915) and Marshall (1996). Mi'kmaq settlement from the mainland also deprived the Beothuk of hunting and fishing locations, although documentary evidence suggests the Beothuk use of the St. George's River estuary and even a period of "shared occupation" of inner St. George's Bay between Beothuk and Mi'kmaq in the early 1700s (Marshall 1996: 47-49). The Beothuk rarely traded with Europeans and their need for metal led to raiding of seasonal fishing stations during the winters, followed by retaliation from Europeans. This hostility, coupled with Europeans excluding the Beothuk from the coastline and from favoured salmon fishing spots, contributed to the decline of the Beothuk. By the nineteenth century the remaining Beothuk were largely confined to the Exploits River and Beothuk Lake, along with the lakes in the interior hinterland of western Notre Dame Bay.

The earliest known historical reference to the Mi'kmaq in NL is from James Cook who, in 1767, encountered Mi'kmaq families near St. George Harbour in St. George's Bay (Cook 1767). Through the eighteenth century, the Mi'kmaq's favoured destinations on the Island included St. George's Bay, Cape Ray, Bay d'Espoir, and Placentia (Speck 1922). Initially, Mi'kmaq in NL regularly returned to Cape Breton, but by the end of the eighteenth century or early nineteenth century, Mi'kmaq families were settling permanently in southern and southwestern NL, hunting caribou, trapping, and later, serving as guides for European explorers and sportsmen (Pastore 1978a).

In the eighteenth and early nineteenth centuries, there was little territorial overlap between the Mi'kmaq and the Beothuk: Mi'kmaq settlement and harvesting being focused on the southern and southwestern interior from St. George's Bay to Placentia Bay, while the Beothuk ranged to the north, principally along the Exploits and Beothuk Lake (Pastore 1978a) but also Gander Bay (Howley 1915: 55, 59, 63, 159). In 1822, William Epps Cormack and his Mi'kmaq guide, Joseph Sylvester, walked across the NL interior from Trinity Bay to St. George's Bay via Flat Bay Brook near the Project, including the country between Meelpaeg, Granite Lake and George IV Lake. For a complete transcript of Cormack's journal, see Howley (1915). The Mi'kmaq families they encountered along their route informed them that the southern border of Beothuk territory lay 15 to 25 kilometres (km) north of the Mi'kmaq camp on King George IV Lake (Marshall 1996: 156). King George IV Lake marked the approximate eastern limit of Mi'kmaq canoe travel inland from St. George's Bay (Penney 1987).

Through the nineteenth century, the Mi'kmaq extended their range to encompass most of the central and western NL interior, as far north as the Bay of Exploits and Gander Bay. Although there was some competition with European trappers in the hinterlands of the northeast coast, through the second half of the nineteenth century and the beginning of the twentieth century, the Mi'kmaq had the interior of the Island largely to themselves (Pastore 1978b: 170). In 1914, the anthropologist Frank Speck mapped the hunting and trapping territories of individual Mi'kmaq families across the NL interior. For example, the large territory extending from Sandy Lake down through Beothuk Lake, Victoria River and Lake, and Lloyd's River, as far east and Meelpaeg, and as far south as the northern end of King George IV Lake was at that time the territory of Frank Joe, a hunter and trapper of mixed Mi'kmaq and Innu descent (Speck 1922). A memoir from Saunders (1986) provides confirmation of the use of the Gander River by Mi'kmaq since at least the first half of the twentieth century for hunting and trapping and states that it was common knowledge that they used the river as a travel route between Glenwood and locations on the northeast coast.

Archaeologically, the historic Mi'kmaq occupation of the NL interior is demonstrated by several recorded twentieth century "home tilts". Two historic Mi'kmaq sites, both situated on Middle Ridge east of the Bay d'Espoir Highway, have been excavated (Penney and Nicol 1984). Burnt Knaps 1 (DbAv-01) yielded the remains of a rectangular wigwam dating to the first quarter of the twentieth century, and Burnt Knaps 2 (DbAv-02), appeared to be slightly older, dating to the last half of the nineteenth century.

14.1.2.2 Historic Resources of the Study Areas and Northcentral Sub-region

To assess the potential for historic resources to be present within the Project Area, a broader regional review of known historic resource sites that have been identified from previous archaeological work was completed (Figure 14.2). This information was gathered and presented in the HROA for the Project. The HROA provided a general understanding of the surrounding site types, locations, cultural affiliations and cultural patterning (e.g., subsistence-settlement models), and provided the necessary context for evaluating the potential for historic resources to be located within the Project Area. As the assessment of historic resource potential within the Project Area depends on a larger regional review, this section focuses specifically on a broader Regional Study Area (Figure 14.2) of north-central NL that is bounded to the north by the inner Bay of Exploits and inner Gander Bay, to the east as far as Wing Pond, to the south by Gambo Pond, and to the west by the community of Jumpers Brook on the Exploits River. As can be surmised from a study area of this size, numerous professional archaeological investigations have been undertaken within it including some in proximity to the Project Area.

14.1.2.2.1 Historic Resources of the Regional Study Area

One of the first professional archaeological surveys conducted in the study areas and various other parts of NL but specifically and most intensely along the island's north coast near the Bay of Exploits, was led by Helen Devereux in the 1960s. She referred to her work as "the Beothuk Project" since the goal of her investigations was to establish an archaeological identity for the Beothuk of NL (Devereux 1965a, 1965b, 1965c, 1965d, 1965e, 1965f). Devereux's work between 1964 and 1969 led to the identification of 23 archaeological sites, 3 of which are within the Regional Study Area (i.e., DhAs-02, DiAr-07, and DhAo-01). Some of the sites examined by Devereux became very well-known and important like Cape Ray, North Angle, and Indian Point. She was also the first woman to lead professional excavations in NL and the first archaeologist to excavate the multi-component Beaches Site from which the "Beaches Cultural Complex", an early precursor to the Beothuk, was initially derived. The work of Don Locke is also important for the history of archaeological work in north-central NL (Locke 1974). Locke was an avocational archaeologist keenly interested in the Beothuk. As an avid woodsman he was able to locate many sites throughout the interior via the Exploits Valley in the 1960s. He also acquired a substantial collection of artifacts that is now curated by the Newfoundland Museum.

A second "Beothuk Project", led by Ralph Pastore and Jane Sproull-Thomson, was initiated in the early 1980s through provincial government funding with the goal of compiling an inventory of Beothuk sites (cf. Marshall 1980) and involved archaeological surveys near Pilley's Island, Badger Bay, Fogo Island, Beothuk Lake, and eastern Notre Dame Bay (Thomson 1980). More than 20 new archaeological sites were identified including sites with components from the Maritime Archaic, Groswater and Dorset Pre-Inuit, Recent Period, Beothuk, and European groups (Pastore 1981). Three of these sites are within the Regional Study Area (i.e., DhAr-01, DgAt-01, and DiAr-05), including an important multi-component site at Rattling Brook (Thomson 1980; Schwarz 1993). Other notable archaeological surveys conducted within the Regional Study Area include a survey of Gander River and Bay by Pastore and Evans in the summer of 1979, which led to the identification of two pre-contact sites (i.e.,DgAq-01 and DfAr-01) on the Gander River, approximately 6 km and 2 km of the Project Area (Pastore and Evans 1979), as well as extensive surveys conducted by Schwarz of the Exploits Valley and Gambo Pond (Schwarz 1987, 1989, 1992a, 1992b, 1993, 1994b). In 1997, Penney (1997, 1999), conducted a large-scale archaeological assessment of the District 8 Forestry Management Zone ahead of harvesting activities which involved a total of seven study areas including portions of Gander Bay and River. This resulted in the identification of a pre-contact site (i.e., DgAq-02) on the Gander River just over 12 km north of the Project Area (Penney 1999: 18).

Development-led archaeological work known as cultural resource management emerged over the last three decades with the ratification of the *Historic Resources Act* (1990). Along with several cultural resource management-related archaeological assessments previously conducted within the Regional Study Area, a few have been conducted by the PAO as well as by academic researchers (Tibbo n.d.; Pastore 1978a, 1978b, 1987; Reynolds 1996, 2003, 2005; Penney 1997, 1999, 2005, 2006; Holly 2002, 2019; Temple 2006; Deal and Hillier 2007; Deal and Mathias 2008; Wills 2009; Rast 2010; Schwarz 2010b, 2010c; Daly 2011, 2014, 2015;Claesson and Wills 2012; Deal et al. 2012; Reynolds and Hull 2016; McLean 2017, 2023; Deal 2018a, 2018b; Skanes 2019; Keeping 2021; Roberts 2021; Burgess 2023a, 2023b). Where relevant, information provided by these assessments and studies is presented in the sections below.

As a result of previous archaeological work, assessment of the Project's archaeological potential is therefore initially based on a review of an historic resource site inventory for the Regional Study Area provided by the PAO that includes 95 archaeological sites and 2 ethnographic sites (i.e., 50 years old or less) for a total of 97 provincially registered sites. Of these, 30 sites are associated with the Pre-contact Period, 52 are associated with the Historic Period, 14 include components from both the Pre-contact and Historic Periods, and 1 is undetermined. Figure 14.3 shows the distribution of registered historic resource sites within the Regional Study Area. Aside from aircraft wrecks, most of the sites are concentrated in and around the Bay of Exploits and the Exploits River with two smaller clusters of sites associated with Gander Bay / River and Gambo Pond. Included among the pre-contact sites within the Regional Study Area (including multi-component sites) are 11 sites affiliated with a Maritime Archaic occupation, 13 are affiliated with Pre-Inuit occupations (Early and Late), 8 are affiliated with Recent Period occupations, and 18 are pre-contact sites with unspecified or undetermined cultural affiliations. Most of the pre-contact sites represent site types that reflect undetermined activity areas while at least 6, possibly up to 10, of the sites reflect habitation sites. At least four of the sites reflect spot finds, and 1 Maritime Archaic site (i.e., DhAt-03) may represent a burial cache.

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: New Found Gold Corp., NL Agriculture and Lands , NL Forestry, NL Land Use Atlas, Stantec
3. Background: NRCan CanVec; Esri, CGIAR, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Legend
- Known Historical Resource Site
- Local Study Area
- Regional Study Area

0 5 10 15 km
(At original document size of 11x17)
1:450,000

N

Stantec

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by NW on 2025-05-21
Revised by SC on 2025-11-19
TR by CW on 2026-01-07

Client/Project
121418510_129

New Found Gold Corp.
Queensway Gold Project

Figure No.
14.3

Title
Known Historic Resource Sites

\\ca0151-PPFSS01\work_group\1214\active\121417598\03_data\gis_cad\mapping\ArcGIS Pro\121418510_NewfoundGold\121418510_NFG_Historic_Resources.aprx Revised: 2026-04-27 By: niwhite

With respect to the Regional Study Area's Historic Period sites, 32 are considered European, 34 are considered Euro-American, 2 are believed to be affiliated with historic Mi'kmaq, and 2 are possibly affiliated with the historic Beothuk. Historic site types within the Regional Study Area are dominated by aircraft wrecks, which total 25 crash sites. This is not unexpected given the location and wartime legacy of the Gander Airport. The 25 crash sites are attributed to the Second World War period (1939 to 1945). Extensive research has been conducted over the last couple of decades to inventory and interpret known crash sites and identify new ones (Deal and Hillier 2007; Deal and Mathias 2008; Daly 2011, 2014, 2015; Claesson and Wills 2012; Deal et al. 2012; Deal 2018a, 2018b; Burgess 2023b), and this has led to a growing sub-field in the province known as aviation archaeology, which not only includes aircraft wrecks but all forms of aviation-related resources. For example, the Royal Canadian Air Force's Globe Theatre, built to entertain servicemen and civilian workers living at the Old Town of Gander site adjacent to the runways, was recently archaeologically excavated thus providing insight into day-to-day life at the base (Daly 2015). Most of the crash sites are found east of the Local Study Area with some found to the south and north of it. Other Historic Period site types in the Regional Study Area include several habitation sites, 2 shipwrecks including a nineteenth century English warship and an early twentieth century schooner, 1 military gun battery from the Second World War, 4 sites relating to salmon fishing including 2 potentially significant European fishing stations, 3 cemeteries, 1 burial site, 2 sawmills, 1 logging camp, 1 hunting-related site, and 13 undetermined activity areas.

14.1.2.2.2 Historic Resources and Potential of the Local Study Area

There are no registered historic resource sites within the Local Study Area (Figure 14.3). The absence of known sites within the Local Study Area may be attributable to a combination of factors including biases in archaeological research which has disproportionally favoured the coast, as discussed above combined with challenges to accessing the many interconnected waterways and pond systems within Local Study Area for researchers wanting to examine these areas for archaeological sites.

It would appear, based on reports and information provided by the PAO, that no previous professional archaeological assessments have taken place within the Local Study Area. Exceptions to this would be those portions of the shorelines of Gander River and Gander Lake that are overlapped by the Local Study Area as these shorelines have undergone some level of archaeological reconnaissance in the past (Pastore and Evans 1979). These shorelines are considered to hold high archaeological potential by the PAO, who have established a default regulatory no-disturbance buffer or set back of 100 m from these shorelines. Thus, when development is proposed within these buffers, a professional archaeological assessment is required to determine if unknown historic resource sites are located within the development's footprint.

Aside from these specific shorelines, the remainder of the Local Study Area, examined through review of aerial imagery, reveals a relatively small amount of development over the last century and a half. Aside from the community of Appleton, which is partially overlapped by the Local Study Area, the former NL Railway line (now developed into the T'Railway Provincial Park [T'Railway]), the Trans-Canada Highway, and an electric transmission line terminating in Gander appear to be the only major developments within the Local Study Area. Moreover, none of the watercourses or waterbodies within the Local Study Area have been impounded (NL Water Resources Management Division 2023).

These factors considered together provided justification to conduct a field-based HRIA of the Project Area where Project activities may interact with areas of elevated archaeological potential (Section 14.1.2.3).

14.1.2.3 Assessment of Archaeological Potential within the Project Area

As discussed in the previous section, no known archaeological resource sites have been inventoried within the Local Study Area, which includes the Project Area. However, review of archaeological data indicates that the Project Area has potential for archaeological resources, particularly those pertaining to the Pre-contact Period and Historic Period logging and aviation industries. There is also potential for resources pertaining to historic Beothuk and Mi'kmaq occupations.

Project-related activities are located outside of the 100 m regulatory buffer zones of the Gander River and Gander Lake shorelines, which are classified by default by the PAO as high archaeological potential areas. The assessment of archaeological potential therefore focused on the streams and pond systems throughout the interior of the Project Area, particularly those that are interconnected and navigable by canoe. As detailed in aquatics baseline studies for the Project (GEMTEC 2023; Stantec 2023), most streams and ponds inside the Project Area are fish-bearing. Brook trout and/or threespine stickleback inhabit most streams or ponds, while a smaller number of streams close to the Gander River also include juvenile Atlantic salmon. The mainstem of the Gander River supports anadromous Atlantic salmon populations, as well as American eel and ninespine stickleback. Trout, salmon, and eel are aquatic resources that could have been exploited by past peoples and special attention has been given to areas within 50 m of waterways that exhibit these aquatic resource characteristics. Smaller, isolated bog holes were excluded from consideration as these locations are not fish bearing (Stantec 2023).

Review of map overlays that combined aerial imagery, topographic hillshades generated from high resolution LiDAR data, provincial environmental base data, field-derived aquatics data, and known historic resource baseline data established a preliminary assessment. This resulted in a generalized high potential zone within 50 m of most watercourse and waterbody shorelines within the Project Area. It is within these 50 m zones, specifically for those waterways that could have been exploited by past human groups, where archaeological resources, if present, would be found. The rationale for a generalized assessment of high archaeological potential for these waterways, rather than a targeted approach, was derived from review of LiDAR data and recent aerial imagery which together reveal undifferentiated terrain comprising level and dry ground conditions suitable for use or habitation along most, if not all, shoreline areas. Provincially mapped wetlands, while common within the Project Area, do not appear to overly encroach on these shorelines. Ground conditions and archaeological potential was re-evaluated and verified or refuted in the field. Archaeological potential was anticipated to be highest near sheltered sandy coves or points of land, prominent constrictions in waterways, oxbows, proximity to stream mouths and confluences, and proximity to falls and rapids, based on known provincial archaeological data. Focus was recommended for areas exhibiting these characteristics during the walkover assessment while moderately high potential remained for other shoreline areas. Figure 14.4 shows the areas of high archaeological potential within the Project Area.

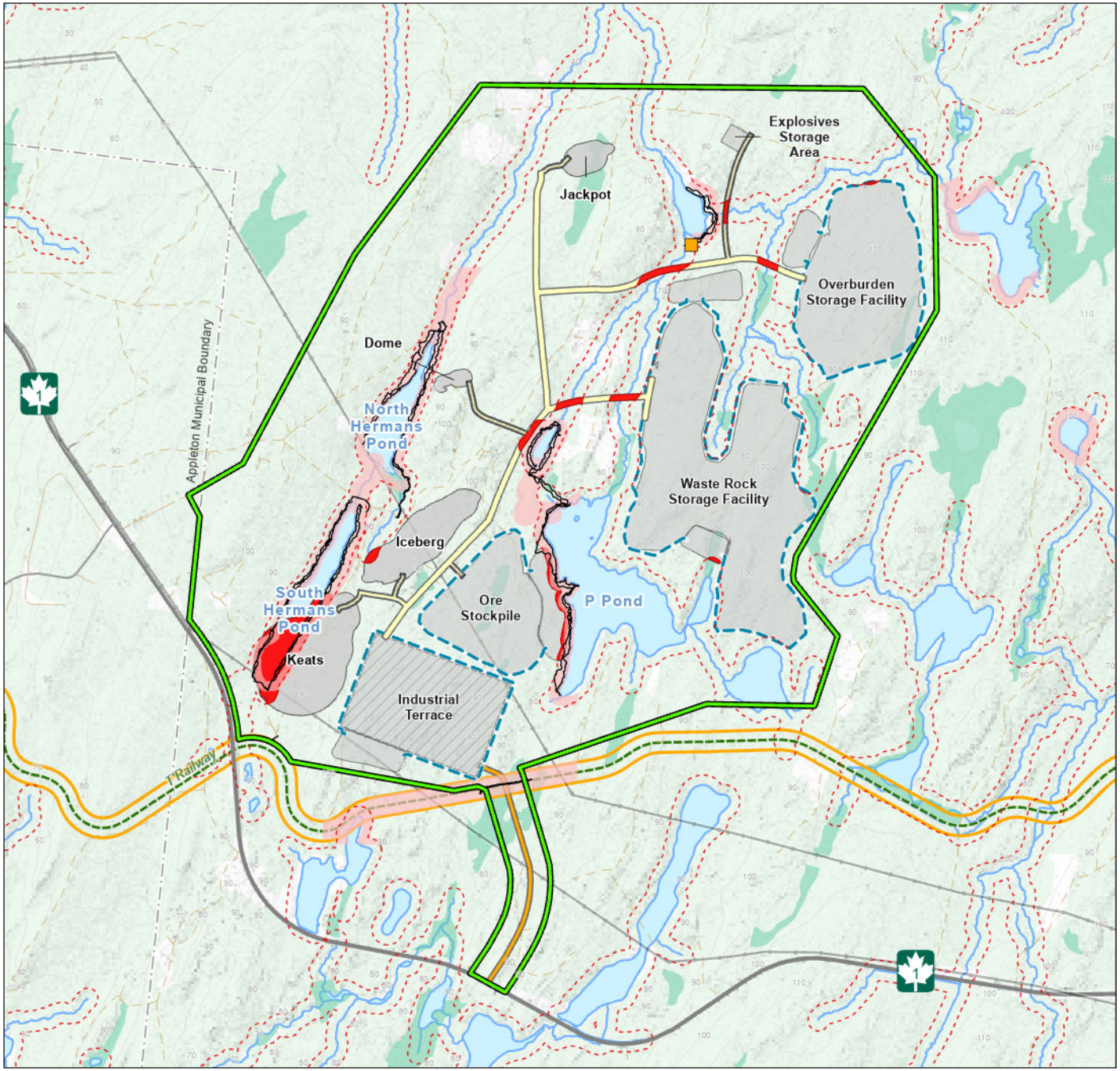

Figure No.
14.4
Title
High Potential Archaeological Areas

Client/Project 121418510_130

New Found Gold Corp.
Queensway Gold Project

Project Location
North Gander Lake
Newfoundland and Labrador

Prepared by SC on 2025-11-19
Revised by NW on 2026-04-27
TR by CW on 2025-12-04

N

0 250 500 750 m
(At original document size of 8.5x11)
1:30,000

- Project Area / Local Assessment Area
- Potential Receptor

Archaeological Features
- Archaeological Survey Tracklog (HPA 2023)
- High Archaeological Potential Buffer (50m)
- Areas of High Archaeological Potential and Project Interactions 2023
- Areas of High Archaeological Potential and Project Interactions 2025
- Former Newfoundland Railway

Proposed Project Layout
- Access Road
- Haul Road
- Ditch
- Industrial Terrace
- Other Mine Features

Existing Infrastructure
- Transmission Line
- Highway
- Collector
- Local / Street
- Resource Road / Trail
- NL T'Railway Provincial Park

Wetlands and Waterways
- Watercourse
- Waterbody
- Wetland

Land Use
- Municipal Boundaries

Project Location:

Notes
1. Coordinate System: NAD 1983 CSRS MTM 2
2. Data Sources: Stantec; New Found Gold Corp; Gov. NL Department of Forestry, Agriculture and Lands - Land Use Atlas.
3. Background: NRCan CanVec, NL Environment, Conservation and Climate Change; Department of Energy and Mines.

Stantec

The potential for archaeological resources within the Project Area is not necessarily limited to proximity to watercourses or waterbodies and includes those relating to the historic logging industry, the aviation industry, and potentially in relation to the construction of the NL Railway line (e.g., temporary work camps). The review of the Project Area using hillshade map layers generated from LiDAR did not reveal anomalies that might suggest extant former camp sites, work areas, or aircraft wrecks, but this did not rule out the possibility of such resources being present. Aircraft wrecks can sometimes spread debris over very long distances meaning some crash sites are not as readily apparent or associated with one specific area. Section 14.3 provides measures for mitigating the potential for these or other historic resource types that may be present within the Project Area.

A field program involving archaeological walkover and shovel testing was completed for the Project Area. The field program was based on a preliminary site plan and the locations where the Project was going to interact with areas of high archaeological potential (Figure 14.4, “Areas of High Archaeological Potential and Project Interaction 2023). Five ponds and associated streams were surveyed for archaeological potential. The text below summarizes the results of the archaeological walkover assessments.

South Herman’s Pond is a 1 km-long pond, surrounded by wetland and forested slopes with evidence of past logging. Archaeological field testing was conducted within a 50 m buffer around the pond. Test pits were excavated in the most favourable terrain and revealed only natural soil profiles typical of poorly drained wetlands, with no cultural materials or features found. Observations included minor modern disturbances such as Styrofoam debris, a small campsite, and signs of past timber harvesting. Overall, the area exhibits low archaeological potential, and no further investigation is recommended.

North Herman’s Pond is a 700 m-long, 150 m-wide pond-oriented northeast–southwest and connected to South Herman’s Pond by a disturbed stream and swale showing heavy rutting, exposed gravel, and borrow pits. Surveying within the 50 m buffer around the pond revealed predominantly saturated, low-lying terrain and forested slopes with poor drainage. One test pit on a small, well-drained area on the eastern side exposed natural soils but no artifacts or features. Other observations included a rusted animal snare near the northern outlet and a scatter of moose bones near the southeast corner, with the latter being interpreted as non-cultural in origin. The remainder of the shoreline featured steep slopes, wetlands, and dense vegetation unsuitable for habitation or testing. Overall, no significant archaeological materials or features were identified, and North Herman’s Pond is assessed as having low archaeological potential with no further work recommended.

P Pond is a large, irregularly shaped pond nearly 1 km long, located about 250 m north of the unnamed waterbody and connected to it by a mapped stream. Only the western shoreline was surveyed. The area between unnamed waterbody and P Pond consisted of saturated bogland with multiple drainages and poor drainage overall, leading to the conclusion that the mapped stream lacked archaeological potential. A small semicircle of stone found on a nearby slate outcrop. The area was subject to shovel testing with no cultural material encountered and the stone formation was determined to be natural. Along P Pond’s western shore, the terrain was uneven, moss-covered, and moderately saturated, with dense spruce growth and signs of seepage from nearby outcrops. One test pit at the north end revealed natural soil layers and no cultural material. Midway along the shore, a point of land contained scattered modern debris (e.g., beer bottles, glass fragments, teacup pieces) interpreted as refuse from historic or modern forestry or recreational activity. Further south, evidence of both manual and mechanical logging was recorded, but no archaeological features were found. Overall, P Pond’s western shoreline exhibits low archaeological potential, and no further investigation is recommended.

An unnamed waterbody north of P Pond is a small, elongated pond measuring 220 m by 60 m, oriented northeast–southwest. The shoreline survey, conducted within a 50 m buffer, encountered dense immature spruce growth, hummocky moss- and lichen-covered ground, and extensive wet conditions. Evidence of past timber harvesting was noted along the eastern and western shores, including cut stumps, scattered logs, and a notched log structure interpreted as a drying stand for junked logs. Saturated terrain and alder swales dominated much of the area, leaving no suitable locations for test pits. No cultural materials or archaeological features were identified, and the unnamed waterbody is assessed as having low archaeological potential with no further investigation recommended.

An unnamed waterbody north of the Project Area is a small, teardrop-shaped pond measuring 440 m long by 120 m wide, located in rugged terrain. Only the southeastern shoreline was surveyed. Near the top of the slope above the pond, a modern, blue-tarped pole structure was recorded, likely a recent hunting blind or drying rack, but not of heritage significance. Further downslope, an unoccupied modern log cabin and shed were found beside a small stream with well-drained, level ground, conditions typically favourable for past habitation. One test pit was excavated 15 m east of the cabin, revealing natural soil layers with no artifacts or cultural features. Continuing east, the terrain became hummocky, wet, and densely vegetated, with silted and alder-dominated stream areas providing no suitable testing locations. Overall, aside from the modern cabin setting (which holds limited but unconfirmed potential), the southeastern shoreline of the unnamed waterbody exhibits low archaeological potential, and no further investigation is recommended.

A 1.5 km section of the NL T'Railway was surveyed and archaeological potential was found to be low in the assessed area. Along the T'Railway, terrain ranged from steep rocky slopes to low-lying marshes, with modern litter and minor railway remnants (ties and spikes) observed, which were not considered historically significant, and no features or evidence of former railway work camps was identified.

14.1.2.4 Assessment of Built Historic Resources within the Project Area

Following a review of the provincial database, there are no built historic resources within the Project Area, and therefore, built (architectural) historic resources will not be considered further in this assessment (Heritage NL n.d.).

14.1.2.5 Assessment of Palaeontological Resources within the Project Area

While a specific survey for fossil-bearing rock was not conducted for the Project, it is acknowledged that some of the bedrock formations within the Project Area consist of various shales that have the potential to contain fossils and could be exposed during ground-breaking activities from the Project.

14.2 Potential Effects and Effect Pathways

A summary of the potential effects and Project effect pathways to be assessed for Historic Resources is provided in Table 14.1. Potential environmental effects and effects pathways were selected based on the review of similar projects in NL and other parts of Canada, and professional judgement.

Table 14.1 Potential Effects and Effect Pathways for Historic Resources

Potential Effect	Effect Pathway(s)
Loss of information about or unreported alteration to historic resource(s) and their context	• Ground disturbance may disturb objects of historical value and, equally importantly, may disturb the context (the horizontal and vertical depositional relationships between historical objects), from which they derive much of their value

14.3 Mitigation and Management Measures

A Discovery of Historic Resources Contingency Plan will be included as part of the updated Environmental Protection Plan to mitigate the potential of adverse effects on historic resources (i.e., archaeological and palaeontological resources) resulting from an accidental discoveries during Project activities. The Plan will include mitigation measures to protect and manage chance finds of previously unidentified structures, sites, or things of historical, archaeological, paleontological, or architectural significance discovered within the Project Area. If a suspected discovery occurs, work in the immediate area will be stopped until authorized personnel from New Found Gold, following consultation with the PAO, authorize resumption of work.

Mitigation measures will include the following procedures:

- Immediately stop work in the vicinity of the discovery and delineate the area as a no-work zone.
- Report the find immediately to New Found Gold's representative, the Health, Safety and Environmental Superintendent or designate.
- Mark the site's visible boundaries. Personnel will not move or remove artefacts or associated material unless the integrity of the material is threatened.
- The New Found Gold representative will report the find with the following information to the PAO and will comply with the instruction provided:
  - Nature of the find
  - Precise descriptive and map location and the time of the find
  - Nature of the activity resulting in the find
  - Identity of the worker(s) making the find
  - Present location of the material, if moved, and protective measures initiated for the material and the site

- For the other watercourse or waterbody shorelines within the New Found Gold mineral claim that were not assessed in 2023 under Archaeological Investigations Permit 23.35 (Figure 14.4, “Areas of High Archaeological Potential and Project Interaction 2025“), the following measures will be implemented where practical:
  - The generalized 50 m-wide high archaeological potential buffer zone identified during the desktop HROA remains in place and continued avoidance of those areas by Project-related ground disturbing activities is recommended.
  - If avoidance of these areas is not possible, New Found Gold and its archaeologists will consult with the PAO regarding which of these new interaction locations warrant a walkover survey based on the results of the HROA and the observations from the field program completed in 2023. If new areas are identified for walkover survey are confirmed, this will be complete in 2026, prior to groundbreaking activities in these locations.

14.4 Residual Environmental Effects

Potential environmental effects on Historic Resources were identified in Section 14.2. One potential effect was identified: loss or disturbance of historic resources. Residual effects (i.e., those remaining following implementation of mitigation [Section 14.3]) for each Project phase are evaluated below. The assessment of residual effects considers the following key factors:

- Stantec archaeologists' 2023 field assessment found no surface or sub-surface archaeological resources of significance within the surveyed high-potential buffer zones and the NL T’Railway section.
- Challenging terrain and a lack of features suitable for past human settlement limited archaeological testing to a few sporadic exploratory pits within the assessed areas.
- In the unlikely event that archaeological or palaeontological resources are discovered during Project-related construction activities, a Discovery of Historic Resources Contingency Plan will be developed to mitigate the potential of adverse effects on historic resources resulting from an accidental discovery.

14.4.1 Loss or Disturbance of Historic Resources

Given historic resources are static and situated on or beneath the ground surface, initial ground disturbance during construction activities has the greatest potential to adversely affect historic resources if present. There are no known registered sites within the Project Area. The 2023 HRIA of the Project Area, which included reconnaissance and shovel testing in elevated-potential zones near waterbodies and the NL T’Railway, found no Indigenous archaeological features or artifacts and no significant Euro-Canadian archaeological features or artifacts, with “significant” defined as a resource (feature or artifact) that requires reporting to PAO and is likely to result in its registration as an archaeological or heritage site. The surveyed areas, largely characterized by challenging terrain and wetlands, were determined to have low archaeological potential. Test pits yielded no subsurface archaeological finds. Four recent, non-significant land use features were found (likely related to trapping, tree harvesting, hunting, or camping). The only exception was a modern log cabin identified near the unnamed waterbody north of the Project Area (Figure 14.4). Due to its location (i.e., within 50 m of a waterbody), the cabin area has elevated archaeological potential. Because of this, shovel testing will be completed prior to construction, if surface

disturbance is planned in this area. For unassessed shorelines, a 50 m buffer zone should be maintained, or reconnaissance and further investigation conducted if activities are planned there. If unexpected archaeological resources are discovered during construction, the PAO should be contacted for guidance.

Mitigation measures, such as conducting field assessments before construction if Project activities or infrastructure are planned for high-potential or known sites, reduce the likelihood of unintentionally disturbing or losing currently unidentified sites. Additional measures will be used to identify and address an unexpected discovery of historic resources.

Based on the information presented above, and the implementation of mitigation and management measures, Project related effects are predicted to be:

- **Magnitude:** Residual effects are anticipated to be low (i.e., there is prior recovery of the resource and associated information with necessary regulatory approvals) or negligible (i.e., no loss or disturbance anticipated) magnitude due to the low archaeological potential.
- **Geographic Extent:** Effects are limited to the Project Area.
- **Duration:** Residual effects occur during ground disturbance activities.
- **Frequency:** Although considered unlikely, disturbance or loss of historic resources may potentially occur as a single event(s) should a previously unknown archaeological resource be disturbed during construction activities.
- **Reversibility:** Because historic resources are static and finite, environmental effects which did occur would be permanent and irreversible.

14.4.2 Summary

Project residual effects (the loss or disturbance of historic resources) would be limited spatially and temporally; however, the effects would be adverse and irreversible. While these adverse effects would be associated only with ground disturbance during construction activities, some construction activities will occur during the operation phase, with the same residual effects predicted. This is a conservative assessment, in the event that previously unknown archaeological resources are identified during construction activities. As noted above, the threshold beyond which a residual environmental effect is considered significant is the unauthorized disturbance or destruction of a historic resource that is determined by the provincial regulator (PAO) to be a significant historic resource and that cannot be mitigated. Field data and the resulting digital dataset have been submitted to the PAO along with the HRIA Permit report. Based on application of the mitigation measures identified in Section 14.3 and New Found Gold's commitment to comply with regulatory standards, residual environmental effects on Historic Resources are anticipated to be not significant.

14.5 Follow-up and Monitoring Programs

The Environmental Protection Plan will include a Discovery of Historic Resources Contingency Plan (Section 14.3) which will consist of procedures to mitigate the potential for adverse effects on historic resources resulting from accidental discovery.

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15 Effects of the Environment and Accidental Events

15.1 Effects of the Environment on the Project

This section considers the potential effects of environmental factors on the Project throughout its design, construction, operation, and rehabilitation and closure phases. It includes a discussion of how natural hazards and other environmental influences may adversely affect the Project. A key concern is that severe weather events or natural hazards (e.g., seismic activity, extreme precipitation events) could affect or damage Project infrastructure, resulting in failures, malfunctions, or accidental events, which in turn could result in adverse effects to the environment. If effects of the environment on the Project are not managed effectively, adverse changes may occur to Project components and infrastructure, construction schedule (including site preparation, physical construction and equipment installation, and commissioning), and operational performance. Effects of the environment on the Project to be considered in this assessment are those resulting in:

- a substantial change of the Project schedule
- a long-term interruption in Project operations
- damage to Project infrastructure or equipment that results in a release of hazardous materials into the environment
- damage to Project infrastructure resulting in a substantial increase in risks to the health and/or safety of Project personnel and/or the public

Good engineering and environmental design, industry standards, and environmental monitoring can mitigate the potential adverse effects created by environmental forces (i.e., severe weather and climate change). The Project has been planned and designed, and will be implemented, with consideration of the local environmental conditions in and around the Project site. Engineering design will comply with relevant codes and standards at the provincial, national, and international levels. These guidelines outline proper engineering practices for typical and extreme site-specific environmental conditions, offering criteria that regulatory authorities deem adequate for enduring potential physical environments. Codes consider factors such as temperature, wind, snow and ice accumulation, drainage, and climate change. The placement and design of the Project and its associated components have been influenced by topographic features, waterbodies, existing infrastructure, and other environmental factors. The timing of some construction activities could also be influenced by weather conditions and wildlife-sensitive seasons (e.g., migration or breeding timing).

New Found Gold's Environmental Management System (EMS), including an Environmental Protection Plan (EPP), Environmental Contingency Plan (ECP), and Emergency Response Plan (ERP), will be implemented prior to the start of Project activities. Management plans will include a site-specific Water Management Plan (WaMP), Waste Management Plan (WMP), Environmental Spill Response Plan, and Metal Leaching/Acid Rock Drainage Management Plan.

The Government of Newfoundland and Labrador (NL) lists blizzards, avalanche, extreme cold/heat, flooding, hurricane/tropical storms, earthquakes, wildfires, landslides, storm surges, tornados and tsunamis amongst NL's regional environmental hazards (GNL n.d.). The assessment of the effects of the environment on the Project, therefore, considers climate (including extreme weather events and storms) and climate change, geological hazards (including erosion, landslides/avalanches, and earthquakes), and wildfires. This assessment is closely linked to accidental events as severe weather events or natural hazards can result in failures, malfunctions, or accidental events. As assessment of accidental events is provided in Section 15.2.

15.1.1 Climate Change

Climate refers to the statistical averages, including both the mean and variability, of weather conditions observed over significant timeframes, typically 30 years (Catto 2006). Environment and Climate Change Canada (ECCC) has compiled 30-year statistical summaries (1991–2020) from a network of weather stations across the country, resulting in climate normal data.

Publicly available historical climate data near the Project were reviewed. ECCC operates and maintains a meteorological station at the Gander Airport, located approximately 15 kilometres (km) east of the mine site and considered representative of the climate at the Project site. Climate normals for the 1991 to 2020 30-year period (ECCC 2025) and hourly wind data for the 2019 to 2024 period were obtained from the Gander meteorological station, and are shown in Section 7.1.3.1, Table 7.8. Daily average temperatures at Gander range between -6.8 to 16.7 degrees Celsius (°C), with the lowest average temperatures occurring in February and the highest occurring in August. Extreme daily maximum and minimum temperatures range between -23.1°C (February) to 31.7°C (August). Total annual average precipitation at Gander is 1,247 millimetres (mm), where approximately 443 centimetres (cm) of precipitation falls as snow, while 882 mm falls as rain. Monthly average precipitation ranges between 88.8 to 121.3 mm, with the least occurring in June and the most occurring in December.

In addition to increases in mean precipitation and temperatures, climate change is expected to lead to changes in the intensity and frequency of severe weather events that include extreme heat and cold, heavy precipitation, and winds, including severe conditions associated with convective storms, hurricanes, and extratropical storms (Bush and Lemmen 2019). Future changes in climate are typically characterized using climate scenarios, which represent future global greenhouse gas emissions. The Intergovernmental Panel on Climate Change most recently developed a set of climate scenarios called Shared Socioeconomic Pathways (SSPs) (Climatedata.ca 2025). The five SSP scenarios range from very low emissions (SSP1-1.9) to intermediate emission (SSP2-4.5) to very high emissions (SSP5-8.5). Global climate models then use these SSPs to simulate future global climate.

A summary of the projected change in average temperature near the Project is provided in Table 15.1. Temperatures are projected to increase by approximately 2°C during the 2030s, with more substantial increases to minimum temperatures than to maximum temperatures. This is supported by summaries of projected changes in extreme cold and extreme heat found in Table 15.2. The number of very cold days is projected to decrease by half in the 2030s, while the number of very hot days is projected to double during the same time period.

Table 15.1 Projected Change in Average Temperature by the 2030s Based on SSP2-4.5

Climate Variable	Historical Climate [1]		Projected Climate [2]
	1971 to 2000	1991 to 2020	2021 to 2050 (2030s)
Annual Average Temperature (°C)	3.8	4.5	6.6
Annual Average Daily Minimum Temperature (°C)	-0.6	0.2	2.4
Annual Average Daily Maximum Temperature (°C)	8.2	8.7	10.9

[1] Source: ECCC 2026

[2] Source: Climatedata.ca 2025

Table 15.2 Projected Change in the Frequency of Extreme Temperature Events by the 2030s Based on SSP2-4.5

Climate Variable	Historical Climate [1]		Projected Climate [2]
	1971 to 2000	1991 to 2020	2021 to 2050
Days With Minimum Temperature < -15 °C	21	14	7
Days with Maximum Temperature > 30 °C	1	2	4

[1] Source: ECCC 2026

[2] Source: Climatedata.ca 2025

Climate projections of extreme precipitation were considered as part of the assessment of surface water and those projections are reproduced in Table 15.3. Climate change is projected to increase the precipitation amounts that occur during periods of extreme rainfall by approximately 10% to 15% by the 2030s. Increasing temperatures in the future means that more precipitation is likely to fall as rain rather than freezing rain or snow, however, there is still projected to be cases of extreme freezing rain and snow events in the 2030s (Cannon et al. 2020).

Table 15.3 Projected Intensity-Duration-Frequency Curve at Gander International Airport Climate Station - SSP2-4.5, Projection Period 2021-2050 - Converted to Total Rainfall Depths

Duration	Total Precipitation (mm)					
	2-year	5-year	10-year	25-year	50-year	100-year
5 minutes	2.3	2.9	3.5	4.2	4.6	5.1
10 minutes	3.7	4.7	5.4	6.3	7	7.7
15 minutes	5.8	7.2	8.2	9.5	10	11
30 minutes	10	14	16	18	20	22
1 hour	15	21	24	29	32	36
2 hours	23	34	41	50	56	63
6 hours	35	51	61	74	83	93
12 hours	44	63	76	91	103	114
24 hours	62	88	106	128	144	161

Source: Climatedata.ca (2025)

Extreme weather events near the Project Area may include severe storms, hurricanes, tornadoes, and drought. NL experiences year-round storms that can threaten safety, disrupt transport, and damage property and utilities. Winter storms bring high winds, snow, ice, and freezing rain, while summer and fall see hurricanes and tropical storms with strong winds and heavy rain (GNL 2020).

Climate change is projected to result in more hurricanes in the Atlantic Ocean, although it is unclear whether that will lead to more frequent hurricanes making landfall in NL (Emmanuel 2021). However, there are no established trends in changes to the frequency or intensity of convective storms responsible for lightning, hail, and tornadoes (Jafarpur and Smith 2024).

A summary of potential effects from climate variables to the Project include:

- Reduced visibility, delays in material deliveries and worker access from heavy rain, snow, or freezing rain events.
- Flooding, erosion, and washouts, leading to restricted site access, operational interruptions, or impacts to fish habitat due to heavy precipitation and/or snowmelt events.
- Power outages, operational interruptions, or additional maintenance due to severe snowfall and ice events.
- Increased maintenance activities to properly manage water during extreme cold events.
- Operational disruptions or damage from windborne debris during extreme wind events.
- Reduced operations due to low visibility during fog events.

The following measures will be implemented to reduce risk of climate-related risks to the Project:

- The Project will be designed and constructed to meet applicable engineering codes, standards, and best management practices. The codes and standards account for weather variables, including extreme conditions, that could affect the structural integrity of buildings and infrastructure.
- As severe precipitation event conditions could also increase the potential for spills of various materials and magnitudes, New Found Gold's EMS will include emergency response plans to avoid spills (as well as response procedures for spills).The potential effects of severe precipitation events will be considered in Project planning, design and operation and maintenance strategies, including the selection of materials and equipment, and design of components.
- Regular inspection and monitoring of Project infrastructure and equipment, and maintenance, repair and upgrade of infrastructure / equipment will be conducted as needed.
- Where possible, equipment will be selected that is suitable for the current and future projected climate.
- The EPP will be updated and implemented to include contingency measures for unexpected events, including extreme weather conditions.
- Water management infrastructure, such as ponds and ditches, will be constructed to store and convey, respectively, up to the 24-hour, 1:100 Annual Exceedance Probability and transfer that design event to a central treatment pond over a 12-day period.

- The central treatment pond will overflow via a spillway and discharge to an open pit for storms greater than the design storage event. Spillways for other sedimentation ponds will be designed to convey the SSP2-4.5 climate change adjusted 24-hour, 1:100 Annual Exceedance Probability event.
- The central treatment pond treated effluent will be pumped slowly back to the environment to provide flood attenuation and reduce downstream scour and erosion.
- Monitoring and adaptive management will be implemented to respond to climate variability and severe weather events.
- Weather forecasts will be considered when planning construction and operation activities.

Proactive planning, robust design, and adaptive scheduling have been and will continue to be implemented to address such risks. With a mine life of 7 years, the Project is expected to conclude as mid-century climate change projections become relevant. Environmental effects from infrastructure malfunctions are addressed in further detail in Section 15.2.

15.1.2 Natural Hazards

The Island of Newfoundland, including the Project Area, is categorized as having a low seismic hazard by the Geological Survey of Canada (Natural Resources Canada n.d.). The Island of Newfoundland typically only experiences small (< magnitude 3) earthquakes a few times a year. The most recent one, in 2025, was a magnitude 2.8 earthquake approximately 20 km from Twillingate (Natural Resources Canada 2025[a]).

Landslides in the province are widespread and primarily triggered by excess water from rainfall or snowmelt, which reduces a slope's stability and can result in rapid debris flows. Factors such as slope angle, sediment texture, and drainage also influence landslide behaviour, with upper slopes sometimes failing by slow rotational slumping when lower slopes give way (NLDEM n.d.[a]). The combination of site topography with the overburden and bedrock characteristics limits the potential for landslides and rockfalls in the Project Area. Based on available provincial hazard inventories, there are no documented landslide events within the mapped Project boundaries. Similarly, there are no known documented avalanches within the immediate Project footprint based on available records (NLDEM n.d.[b]).

The risk of geological hazards, such as seismic activity, landslides, rockfalls, erosion, and subsidence affecting Project infrastructure and equipment is considered low in the Project Area, based on local geological conditions and the absence of substantial historical events. Project infrastructure will be designed to national standards (National Building Code of Canada and geotechnical practice), which will mitigate hazards. While erosion and subsidence could impact infrastructure, the specific soil types, topography, and adopted mitigation measures further reduce these risks, resulting in a low likelihood of environmental harm or Project disruption.

Although wildfires occasionally occur in the vicinity of the Project, their frequency is low, largely attributable to the region's extended winters and substantial precipitation. NL experience an average of over 160 wildfires annually (GNL n.d.). In recent years, the number of wildfires has been higher than average, such as in 2025 when the provincial total reached over 229 wildfires (Natural Resources Canada 2025[b]). The fire season in NL typically runs from late spring through early fall (National Forestry Database n.d.). Wildfires resulting from lightning are uncommon in NL due to the region's low incidence of lightning; consequently, most wildfires in this area are attributed to human activity (National Forestry Database n.d.).

Wildfires could adversely affect the Project by reducing visibility from smoke, posing health and safety risks to personnel, and causing delays in schedules and loss of production. Additional effects include potential damage to infrastructure or equipment, restricted site accessibility, and hazards such as explosions at fuel or explosives storage facilities. Power loss may also result from fire-related incidents, further disrupting operations. The following measures will be implemented to reduce risk of wildfire-related risks to the Project:

- Project design and operational procedures will address wildfire prevention, including equipment maintenance and vegetation management near infrastructure.
- Wildfire response measures will be coordinated with local emergency services where applicable.
- Measures in the event of a wildfire will be outlined in the ERP. The ECP will detail procedures to mitigate potential adverse environmental effects of a wildfire, such as containment of emissions and runoff.
- The EMS will describe emergency response measures in the event of a wildfire at or near the mine site or along the access road. The EPP will be updated and implemented to include a contingency plan for wildfires.
- Fire prevention measures will comply with provincial regulations, including operating during wildfire season.
- Wildfires that could affect the mine site and/or access road will be actively monitored. New Found Gold will coordinate with provincial authorities with respect to response, including the need for potential shutdown and evacuation of employees.
- On-site fire prevention and response equipment will be provided and maintained, and employees / teams will be trained in safe response to wildfire scenarios on the mine site. NL Department of Forestry, Agriculture and Lands would be responsible for response to a wildfire in the area not related to the Project.
- Coordination with provincial forestry authorities will occur during high-risk periods. Project-related activities will be adjusted in case of a severe wildfire (or forest fire index) and as needed to comply with directives from provincial authorities and protect the health and safety of employees.

15.2 Accidental Events and Response Planning

Human health and safety and environmental protection are paramount considerations for New Found Gold, including in the planning and detailed design of the Project. Established safety procedures specific to human health and environmental protection will be strictly adhered to during Project construction, operation, and rehabilitation and closure, with the goal of preventing accidental events and malfunctions from occurring.

New Found Gold's EMS, including individual management plans, such as the EPP, WaMP, ERP, and WMP, will outline how Project activities should be safely undertaken to reduce the potential for accidental events and malfunctions. In addition, engineering design will comply with relevant codes and standards at the provincial, national, and international levels, and the Project has been planned and designed (and will be implemented) with consideration of the local environmental conditions.

While the above measures will reduce the risk of accidental events or malfunctions occurring, the following potential events are assessed in this section:

- A spill of chemicals, fuels, or other deleterious substances into the terrestrial, aquatic, and/or atmospheric environments
- Slope failure of an overburden, ore, or waste rock pile
- Unplanned release of contact water into the receiving environment
- Vehicle accident
- Fire and/or explosion

These are further described in Table 15.4, along with key management measures.

General mitigation to reduce risk associated with these potential malfunctions and accidental events includes:

- Implementation of proper training, awareness, education
- Regular equipment inspection and maintenance
- Incorporation of inherently safe designs into the Project
- Update and implementation of current site environmental management plans, including effective and efficient emergency response plans
- Periodic assessment of accident and malfunction risks during the Project life cycles, including detailed design, construction, operation and closure

Should an accidental event occur, the ERP and ECP will outline procedures to be taken to reduce the severity of the event and to limit subsequent risk to human health and safety and to the environment. Refer to Section 4.9 for further information on planned environmental management plans.

Table 15.4 Potential Accidental Event Scenarios

Accident / Malfunction	Description of Scenario	Description of Potential Effects	Key Management Measures
Fuel or Hazardous Materials Spill	A fuel or hazardous material spill could occur as a result of equipment leakage / failure, storage tank leak or rupture, spill from vehicles on site, and/or spill from vehicles off site (i.e., along the access road).	A large spill may contaminate soil, groundwater, or surface water, potentially affecting fish and fish habitat, vegetated areas, and wildlife, and limiting access to these resources by land and resource users.	Measures to prevent spills (e.g., primary and secondary containment design, good housekeeping, routine inspections and maintenance) will be detailed in the EPP. The ECP will detail response measures to be taken in the event of a spill, such as deployment of spill response kits, containment or absorbent barriers, and immediate reporting and isolation of the affected area.
Overburden, Ore, and Waste Rock Storage Facility Slope Failure	Failure or slumping of materials in stockpiles / waste rock piles would result in the release of waste rock, ore or soils outside the storage areas, and increase the footprint of the stockpile.	There is the potential for the release of contaminants or contact water into surface water resources and fish habitat.	Project design, including engineered slope angles, benching, and diversion of surface water away from pile faces, is key to preventing slope failures. Displacement monitoring and surveys will be conducted to identify potential instability and early movements. A third-party Engineer of Record will also oversee, and be responsible for, the design, technical integrity, and performance of the mine, including slope stability. Measures in the event of a slope failure (e.g., isolation of the affected area, stabilization of displaced material, and containment to prevent off-site transport) will be outlined in the ECP.
Unplanned Release of Contact Water	Malfunction of the catchment sumps, ditches and channels, and sedimentation ponds could lead to the release of insufficiently treated contact water into the receiving environment.	Given that the water collection system is located throughout the Project Area, including near waterbodies, an unplanned release of contact water to the environment has the potential to adversely affect groundwater, surface water quality, fish and fish habitat, vegetation, and wetlands.	A network of catchment sumps, ditches, channels, and sedimentation ponds (detailed in the WaMP) will manage contact water and reduce the risk of unplanned releases. Routine inspections and maintenance will be conducted to confirm system functionality and identify potential issues early. Measures in the event of a release (e.g., isolation of the discharge point, containment of affected water, and water quality monitoring) will be outlined in the ECP.

Table 15.4 Potential Accidental Event Scenarios

Accident / Malfunction	Description of Scenario	Description of Potential Effects	Key Management Measures
Vehicle Accident	Vehicle accidents, including single vehicle accidents, could result in the release of hazardous materials to the environment, and accidental collisions from the operation of Project vehicles or heavy equipment could also result in human mortality or injury.	A vehicle collision could adversely affect wildlife and/or members of the public using the access road.	Vehicle and equipment operation procedures will address safe use of vehicles and heavy equipment to reduce the risk of accidents, including those involving hazardous materials. Traffic management measures and signage will be implemented along the access road to reduce risks to wildlife and the public. Measures in the event of a vehicle accident (e.g., containment of hazardous materials, emergency response coordination, and incident reporting) will be outlined in the ERP.
Fire / Explosion	Accidental events associated with Project activities, such as equipment malfunction or uncontrolled explosions could result in a fire related directly to Project infrastructure and facilities, or within the Project Area as a wildfire.	A fire could result in release of emissions to the atmosphere, affect surface water quality and fish habitat, affect forests and wildlife habitat adjacent to the Project Area, and restrict the ability of land in the surrounding area to support Indigenous and non-Indigenous resource users.	Project design and operational procedures will address fire prevention, including equipment maintenance, fuel handling protocols, and vegetation management near infrastructure. Fire response measures will be coordinated with local emergency services where applicable. Measures in the event of a fire or explosion (e.g., sounding the alarm, notifying emergency personnel, and safe evacuation) will be outlined in the ERP. The ECP will detail procedures to mitigate potential adverse environmental effects of a fire or explosion, such as containment of emissions and runoff.

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16 Summary of Environmental Effects

The residual environmental effects for construction, operation, and rehabilitation and closure for each valued component (VC) are presented in Sections 7 to 14. Table 16.1 provides a summary of the potential environmental effects and associated mitigation and management measures to reduce residual adverse effects. Mitigation measures provided below are VC-specific mitigation, and are supplemental to the mitigation and management measures described in Section 4.9.3. A summary of significance of residual effects for each VC is also provided. As shown in Table 16.1, the residual environmental effects of Project activities are assessed to be not significant.

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
Atmospheric Environment	• Change in air quality • Change in sound quality • Change in light levels	• Idling of equipment will be reduced, where practicable to reduce noise and air contaminant emissions. • Speed limits will be implemented on Project roads to limit fugitive dust from vehicle travel on unpaved roads. • Grid electricity, which is primarily generated from hydroelectric power in Newfoundland and Labrador (NL), will be used as the primary source of energy for the facility, reducing air contaminant emissions at the Project site. • Tier 4 engines are considered Best Available Control Technology for air contaminant emissions from diesel engines and will be used for mobile equipment. • Regular inspections, servicing, and maintenance of engines and exhaust systems will be conducted on mobile equipment and vehicles. • Disturbed areas will be revegetated as soon as practicable to limit dust emissions, and already disturbed areas will be used for Project infrastructure where feasible to limit the extent of disturbance. • Implementation of an adaptive management plan for dust, which will involve ongoing assessment of the effectiveness of the dust mitigation measures and determine when and where to enhance levels of dust control to further reduce project impacts on surrounding air quality if needed. The adaptative management plan will include: - Real time air quality monitoring, as described in Section 7.5.1 - Water or an approved chemical dust suppressant will be used to stabilize the surface of Project unpaved roads that may generate fugitive dust. The application of dust suppressants other than water to roads as an alternative option to watering will be considered in consultation with NL Department of Environment, Conservation and Climate Change (NLDECCC). Dust suppression would be applied on an as-needed basis during dry and high wind conditions or if measured ambient particulate matter concentrations are approaching the NL Air Quality Standards. The chosen dust suppressant will be approved by the NLDECCC prior to application. These suppressants, if required, will be applied, as per the manufacturer's recommendations. - In the event that real time monitoring indicates that standard dust suppression measures are insufficient to maintain compliance during dry and windy periods, additional mitigation will be implemented. This may include reductions or temporary suspension of Project activities such as hauling and crushing as needed to maintain compliance with NL Air Quality Standards. Further information on the Project Air Quality Management Plan is provided in Section 7.5.1. - Where practicable in accessible areas (e.g., along cleared rights-of-way), trees and other vegetation will be left in place or encouraged to grow to obstruct the view of Project facilities and act as a wind break to reduce the transportation of fugitive dust, reducing the change in viewshed and muffling nuisance noise.	Not Significant

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
		- Enclosures, berms, or other barriers may be considered for activities involving excessive noise emissions. Specifically, a 10 metres (m) high earth berm is proposed, as described in Section 4.7.2, to reduce potential effects of sound emissions on nearby receptors in Appleton. - Blasting activities will be scheduled to occur during daytime hours, once per day. - Project lighting will be limited to that which is necessary for safe and efficient Project activities. Lighting design guidelines will be followed, such as from the Commission Internationale de L'Éclairage (Commission on Illumination), International Dark Sky Association, Illuminating Engineering Society. - Light fixtures will be located so that they are not directed toward oncoming traffic on nearby roads on or off site. - Lighting will be designed to avoid excessive use of mobile flood lighting units and will be turned off when they are not needed. - To the extent practicable, mobile and permanent lighting will be located such that unavoidable light spill off from the working area is not directed toward receptors outside of the Project Area. - Full cut-off luminaires (i.e., lighting with shades angling light downward) will be used where practicable to reduce glare, light trespass, and sky glow from the Project, while maintaining a safe work environment for staff.	
Groundwater Resources	• Change in groundwater quantity • Change in groundwater quality	• Groundwater quantity and quality will be monitored and adaptively managed, as required, using a network of groundwater monitoring wells to document Project effects on groundwater flow and quality. Monitoring locations will be maintained until the water levels and water quality have stabilized post-closure. Twenty-one monitoring wells were installed and sampled between 2023 and 2025. The results of the monitoring events are discussed in Section 8.1.2.2. The monitoring wells have been strategically placed outside of the direct footprint and downgradient of key infrastructure so they can be incorporated into the long-term groundwater monitoring program during mine operations, at closure, and post-closure monitoring. • Interception wells or deep sumps within the perimeter drainage ditches around the WRSF, ore stockpile, and overburden storage facility will be installed to intercept groundwater seepage that exceeds MDMER Schedule 4 Table 1 limits prior to discharging to local surface water receivers (as required). Water will be transferred to the site-wide contact water management system for treatment prior to discharge to the environment. Accepted industry best practice geochemistry methods will be used to predict mine contact runoff and seepage quality. • Seepage from the WRSF to local surface water receivers during closure is predicted to potentially require treatment during the post-closure phase. Passive treatment systems will be potentially installed (as required) in seepage collection ditches and sedimentation ponds (e.g., permeable reactive barriers, engineered wetlands) to reduce metal/metalloid concentrations to baseline concentrations.	Not Significant

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
Surface Water Resources	• Change in surface water quantity • Change in surface water quality	• Water management infrastructure, such as ponds and catch basins, will be constructed to manage via water transfer (i.e., pumping the design storm volume [1:100 year design storm]). • Development of a site-specific water management plan for the Project (Section 4, Appendix 4.A). • Water inventory will be reduced through perimeter berms and promotion of overland flow of non-contact runoff. • Flow to fish bearing streams and wetlands will be maintained by maintaining pre-development catchments and/or flows to the extent practicable. • Water management pumping and energy requirements during operation will be reduced through grading and gravitational drainage. • Mine water management infrastructure will be developed to control mine contact water. • Runoff will be directed away from active work areas before construction commences, reducing the volume of sediment-laden water to be managed. • Site contact water will be directed through grading of ditches and construction of diversion channels to a central collection pond (IT-TP-01) so it can be managed and discharged through two final discharge points (FDPs) for the Project: P-9 Pond and North Herman's Pond. • Interception wells or deep sumps within the perimeter drainage ditches around the WRSF, ore stockpile, and overburden storage facility will be installed as needed to intercept groundwater seepage that exceeds MDMER Schedule 4 Table 1 limits prior to discharging to local surface water receivers (as required). Water will be transferred to the site-wide contact water management system for treatment prior to discharge to the environment. Accepted industry best practice geochemistry methods will be used to predict mine contact runoff and seepage quality. • The amount and timing of exposed soil left open at any one time will be limited to reduce the potential for erosion. • Mine contact water will be treated via a sedimentation pond (IT-TP-01) and mine water treatment plant (as required) to provide effluent compliance with regulatory effluent limits. • Mine effluent will discharge via two FDPs to assist in maintaining stream flows downstream of P-Pond and North Herman's Pond, where feasible. • Mean monthly and daily effluent water quality at FDPs will be managed to be below MDMER Schedule 4 Table 1 limits. • Dewatering will be carried out gradually to prevent sediment resuspension and bank destabilization. • Only rock materials characterized as not acid-generating, non-potentially acid-generating and non-metal-leaching will be used for Project works.	Not Significant

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
		• Seepage from the WRSF to local surface water receivers during closure (Section 9.4.2.1) is predicted to potentially require treatment during the post-closure phase. Passive treatment systems will be potentially installed (as required) in seepage collection ditches and sedimentation ponds (e.g., permeable reactive barriers, engineered wetlands) to reduce metal/metalloid concentrations to baseline concentrations. • Pit overflows can have in-pit treatment (if required) applied to precipitate out metals/metalloids or discharge into a passive treatment system (e.g., engineered wetland) prior to discharge to local surface water receivers.	
Fish and Fish Habitat	• Change in fish habitat quantity • Change in fish habitat quality • Change in fish health and survival	• Mine waste will not be disposed of or placed in fish-bearing waters. • New culverts will be sized appropriately, embedded and designed to be passable to fish to provide fish passage. • Equipment will be inspected and cleaned prior to use onsite to prevent the transfer of non-native aquatic invasive species. • In-water work areas will be isolated from receiving fish bearing waters as required by applicable permits. • The amount of water requiring treatment on site will be reduced through perimeter berms which will promote overland flow of clean non-contact runoff away from the mine site. • Flows to fish bearing streams and ponds will be maintained by designing water management within the pre-development catchments to the extent practicable. • Treated mine effluent will discharge via two FDPs to assist in maintaining stream flows, downstream of P9 (P-Pond) and North Herman's Ponds (P1), where feasible. • Runoff will be directed away from active work areas before construction commences, reducing the volume of sediment-laden water to be managed. • If sediment laden water is observed, work will be stopped and additional mitigation measures will be implemented to prevent dispersal. • Use of explosives in or near water will be avoided, however, if required, Fisheries and Oceans Canada blasting guidelines will be followed. • Fish rescues will be conducted in isolated areas of streams or ponds which experience reductions in flow, as required by applicable regulators.	Not Significant

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
Terrestrial Environment (including species at risk [SAR])	• Change in wetland function • Change in species diversity, vegetation community diversity, and/or habitat • Change in mortality risk	• Equipment will arrive at the construction site clean and free of soil and vegetative debris, to reduce the risk of introducing or spreading non-native and/or invasive vascular plant species. Equipment will be inspected and either approved for use or cleaned, re-inspected, and approved for use. • If potentially invasive vascular plant species are noted within or near the Project Area during construction or operation, the extent of the species will be assessed and a plan for removal and/or control will be developed. • A Section 48 permit will be obtained for work to be completed within 15 m of a body of water, which includes wetlands, shown on Natural Resources Canada 1:50,000 scale National Topographic System mapping, as defined by the Water Resources Management Division of NLDECCC. • Vehicles will yield to wildlife encountered on site. • Vegetation clearing will be scheduled to avoid the migratory bird nesting period (approximately mid-April to mid-August; ECCC 2025), where feasible. Avoiding this window also helps protect species with overlapping sensitive periods, including SAR such as little brown and northern myotis (maternity roosting), Newfoundland marten (denning), and insect SAR during the active bee and beetle seasons (e.g., May to August for yellow-banded bumble bee; ECCC 2023). • Nests, eggs, and shelters of migratory birds or other wildlife will not be disturbed or destroyed. If an active nest is found, the surrounding area will remain undisturbed until fledging has occurred, or the nest is abandoned. If a raptor nest is encountered, work in the vicinity will stop until the Wildlife Division provides direction. • Non-intrusive nesting surveys will be completed prior to vegetation clearing for raptors throughout the year as well as breeding birds within the breeding bird window (approximately mid-April to mid-August; ECCC 2025). Active or suspected active nests (forested birds such as passerines, upland game birds) should receive a minimum 30 m setback distance and for SAR (e.g., rusty blackbird) a minimum 75 m setback is required. Raptors nests require a year-round minimum setback of 200 m, and an 800 m setback is required for Bald Eagle and Osprey during the nesting season (March 15 to July 31). The location of any raptor nest site will be reported to the Wildlife Division at endanqeredspecies@gov.nl.ca. • If possible, large diameter trees will be maintained, especially those that are dead or dying. These types of trees typically have peeling bark, crevices and cavities that provide important roosting habitats for bats. Additional mitigation may involve offering alternate habitat (e.g., artificial structures such as bat boxes) to off set the loss of roosting habitat. • Caves, sinkholes, fissures, or other underground cavities that are identified as a result of Project activities will be inspected for evidence of overwintering bats and reported to the Wildlife Division if evidence is present.	Not Significant

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
		• Before demolition or removal of existing structures during the breeding bird or active bat season, wildlife surveys will be conducted to identify potential nesting and roosting sites. Additional mitigation may involve offering alternate habitat (e.g., artificial structures such as bat boxes) to off-set habitat loss. • The discovery of bat roosts or hibernacula, or active dens (e.g., marten dens), will be reported immediately to the Site Manager (or designate) and work will cease. A plan for protection, avoidance, and/or mitigation will be established by New Found Gold, guided by engagement with a qualified biologist and/or federal or provincial regulators. • Observations of bat colonies, potential hibernacula sites, or sick or dead bats will be reported to the provincial Wildlife Division at 709-637-2025 or through the toll-free bat hotline: 1-877-434-2287 (BATS). • Where revegetation or rehabilitation is planned, native flowering plant species known to support bumble bees (e.g., goldenrod, clover, fireweed, yarrow) will be used where possible. • Site orientation will include information on SAR identification and protocols (e.g., buffers, bee sting protocols); sitings of potential SAR species will be reported to the Site Manager (or designate). • Waste storage areas will include measures to reduce the attraction of wildlife (e.g., secure containers, regular removal). • Employees and contractors associated with the Project will be prohibited from fishing, hunting, trapping, gathering plants, or using off-road vehicles for recreational purposes within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to enable the exercise of Indigenous rights. • Hunting / fishing / harvesting of wildlife will be strictly prohibited on the mine site. • New Found Gold will continue to engage with local resource users regarding the overlap of the Project with land use areas in the Project Area. This will include the communication of Project information, updates on ongoing and planned activities, a discussion of issues and concerns, and a potential means of addressing them. • Chasing, catching, diverting, following, or otherwise harassing wildlife will be prohibited. • Nuisance animals (e.g., bears, coyotes) will be managed by the Site Manager (or designate) in consultation with Wildlife Division. • Observations of caribou in the Project Area will be reported immediately to the Site Manager (or designate) and work will cease. The Site Manager (or designate) will determine if Project activities will be reduced or delayed, as applicable. New Found Gold will consult with the Wildlife Division on this issue. • Project lighting will be controlled, while meeting regulatory, operational, health, and safety requirements, to mitigate attraction and disorientation of migratory birds, taking into account the Convention on Migratory Species' *International Light Pollution Guidelines for Migratory Species*.	

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
		• On-site wildlife observations, including caribou, will be documented year-round (e.g., location, date) on a wildlife observation form.	
Communities	• Change in employment and economy • Change in infrastructure and services • Change in community well-being	• New Found Gold will continue to work with municipalities and economic development organizations to identify opportunities to reduce negative impacts of the population growth and enhance positive socio-economic benefits to Local Assessment Area communities. • New Found Gold will implement a grievance redress mechanism to investigate and resolve incidents and complaints from Project employees and community members in a fair and timely way. • New Found Gold will continue to engage with local resource users (hunters, trappers, anglers, outfitters), including the communication of Project information, updates on ongoing and planned activities and a discussion of issues and concerns and potential means of addressing them. • New Found Gold is committed to hiring locally and will communicate employment information to local communities in a timely manner so that local residents have an opportunity to acquire the necessary skills to qualify for potential Project-related employment. • Procurement packages will be developed and posted in a timely manner with consideration for capacity and capabilities of local and regional businesses. • New Found Gold will promote equitable hiring and promotion processes throughout the Project lifecycle. • New Found Gold commits to consider bids from qualified locally owned businesses first, including those submitted from companies owned by diverse groups. • Prior to decommissioning, New Found Gold will implement strategies to help transition the workforce. • New Found Gold will continue to provide diversity and cultural sensitivity training for Project employees. • New Found Gold will prohibit the use and possession of drugs and alcohol during work hours or at the Project site. • New Found Gold will not tolerate harassment, bullying, discrimination, and violence, including sexual harassment, and will provide access to assault counselling, as well as confidential and culturally sensitive care. • New Found Gold will continue to provide Project employees with health services (physical, mental and social health), including Employee Assistance Programs and on-site emergency service infrastructure, including security and fire-fighting equipment. • New Found Gold will continue to coordinate its Emergency Response Plan with the local emergency services departments. • New Found Gold will implement a Traffic Management Plan, which may include the establishment of carpooling and shuttle stations at key locations, to bus workers and to encourage carpooling.	Not Significant

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
		• When practicable, shift changes and truck movements will be scheduled to avoid peak traffic hours and school bus pick-up and drop-off times. • Signage will be installed around the Project Area to alert the public and land users of the presence of the Project and its facilities. • Employees and contractors associated with the Project will be prohibited from fishing, hunting, trapping, gathering plants, or using off-road vehicles for recreational purposes within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to enable the exercise of Indigenous rights.	
Land and Resource Use	• Change in designated land use • Change in resource use • Change in recreational use	• Signage will be installed around the mine site to alert the public and land users of the presence of the Project and its facilities. • Where practicable in accessible areas (e.g., along cleared rights-of-ways), trees and other vegetation will be left in place or encouraged to grow to obstruct the view of Project facilities, reducing the change in viewshed and muffling nuisance noise. • Employees and contractors associated with the Project will be prohibited from fishing, hunting, trapping, gathering plants, or using off-road vehicles for recreational purposes within the Project Area, or from using the Project Area to access surrounding areas for these purposes, unless such access is specifically granted to enable the exercise of Indigenous rights. • Chasing, catching, diverting, following, or otherwise harassing wildlife will be prohibited. • New Found Gold will continue to engage with local resource users regarding the overlap of the Project with land use areas in the Project Area. This will include the communication of Project information, updates on ongoing and planned activities, a discussion of issues and concerns, and a potential means of addressing them. • If complaints are received from land users regarding Project-related effects, New Found Gold will work with the affected land users to address their concerns through a grievance redress mechanism and the potential implementation of additional mitigation measures as needed. • Project activities, locations, and timing will be communicated to communities, affected land and resource users, environmental non-government organizations, the provincial government, and local authorities throughout the life of the Project. New Found Gold will communicate in advance with respect to Project activities that may limit / affect use of the access road. This information will be communicated through local town councils, local radio stations, and/or social media. • New Found Gold will consult with the relevant authorities to support a public education program around the new mine access crossing on the T'Railway Provincial Park. • New Found Gold has, and will continue to, consult cabin owners in the Project Area about their occupancy, future use of the cabins, and possible mitigation steps.	Not Significant

Table 16.1 Summary of Environmental Effects

VC	Potential Effects	Mitigation	Significance of Residual Effects[1]
Historic Resources	• Loss or disturbance of historic resources	• A Discovery of Historic Resources Contingency Plan will be included as part of the updated Environmental Protection Plan to mitigate the potential of adverse effects on historic resources (i.e., archaeological and palaeontological resources) resulting from an accidental discoveries during Project activities. The Plan will include mitigation measures to protect and manage chance finds of previously unidentified structures, sites, or things of historical, archaeological, paleontological, or architectural significance discovered within the Project Area. If a suspected discovery occurs, work in the immediate area will be stopped until authorized personnel from New Found Gold, following consultation with the Provincial Archaeology Office (PAO), authorize resumption of work. • Mitigation measures will include the following procedures: • Immediately stop work in the vicinity of the discovery and delineate the area as a no-work zone. • Report the find immediately to New Found Gold's representative, the Health, Safety and Environmental Superintendent or designate. • Mark the site's visible boundaries. Personnel will not move or remove artefacts or associated material unless the integrity of the material is threatened. • The New Found Gold representative will report the find with the following information to the PAO and will comply with the instruction provided: - Nature of the find - Precise descriptive and map location and the time of the find - Nature of the activity resulting in the find - Identity of the worker(s) making the find - Present location of the material, if moved, and protective measures initiated for the material and the site • For the other watercourse or waterbody shorelines within the New Found Gold mineral claim that were not assessed in 2023 under Archaeological Investigations Permit 23.35 (Figure 14.4, "Areas of High Archaeological Potential and Project Interaction 2025"), the following measures will be implemented where practical: - The generalized 50 m-wide high archaeological potential buffer zone identified during the desktop Historic Resources Overview Assessment (HROA) remains in place and continued avoidance of those areas by Project-related ground disturbing activities is recommended. - If avoidance of these areas is not possible, New Found Gold and its archaeologists will consult with the PAO regarding which of these new interaction locations warrant a walkover survey based on the results of the HROA and the observations from the field program completed in 2023. If new areas are identified for walkover survey are confirmed, this will be complete in 2026, prior to groundbreaking activities in these locations.	Not Significant

Note: [1] Definitions of significance is VC-specific and described in the respective VC sections.

16.1 References

ECCC (Environment and Climate Change Canada). 2023. Management Plan for the Yellow-banded Bumble Bee (*Bombus terricola*) in Canada. Species at Risk Act Management Plan Series. Environment and Climate Change Canada, Ottawa. iv + 48 pp. Available at: https://ecprccsarstacct.z9.web.core.windows.net/files/SARAFiles/legacy/plans/mp_yellow_banded_bumble_bee_e_final.pdf. Accessed November 2025.

ECCC. 2025. General nesting periods for migratory birds. Available at: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#ZoneD. Modified on January 20, 2025. Accessed November 2025.

17 Project Related Documents

This section identifies supporting documentation relevant to the proposed Project, including baseline studies and technical reports. These materials offer additional context in support of this Environmental Registration and demonstrate compliance with applicable regulatory requirements and best practices.

17.1 List of Appendices

New Found Gold has completed a number of studies and compiled relevant information to support the environmental assessment of the Project. These are attached as appendices to this Environmental Registration as outlined in Table 17.1.

Table 17.1 Studies and Supporting Information Appended to the Environmental Registration

Appendix #	Title
4.A	Surface Water Management Plan
4.B	GHG Emissions Inventory
4.C	BACT Study
4.D	New Found Gold Policies
5.A	Engagement Materials
5.B	Letters of Support
7.A	Air Quality Emissions Inventory
7.B	Air Dispersion Modelling Report
8.A	Groundwater Modelling Report
9.A	Water Balance/Water Quality Model Report
9.B	CORMIX Modelling Approach
11.A	Plant Species List
12.A	Evaluation of Human Health Effects
13.A	Land and Resource Use Survey Report
13.B	Qalipu Traditional Land and Resource Use Report

17.2 Baseline Studies

A number of baseline studies have been completed in support of Project planning and assessment from 2021 to present. As the Project has evolved, the spatial areas considered in these baseline programs has also varied, but have generally included the Project Area. A summary of the relevant baseline information, including methods used to collect this information, has been provided in the relevant valued component chapters.

The baseline reports for work completed from 2021 to 2025 will be provided to applicable regulators prior to construction. Table 17.2 outlines the disciplines and associated years when baseline data was collected.

Table 17.2 Baseline Programs Completed or in Progress for the Project

Discipline	Years
Air Quality	2023
Noise	2023
Light	2023
Hydrogeology	2021, 2023, 2024, 2025, continuing in 2026
Hydrology	2021-2025, continuing in 2026
Geochemistry	2023-2025, continuing in 2026
Fish and Fish Habitat	2021-2025, continuing in 2026
Fisheries (Creel survey)	Ongoing in 2026
Terrestrial (wetland investigations, vegetation inventory and rare flora studies, breeding bird studies, and other wildlife studies)	2021-2023
Muskrat	2023
Marten	Ongoing in 2026
Historic Resources	2023 (reported already submitted to the Provincial Archaeology Office)

17.3 Other Studies

17.3.1 Technical Studies

In addition to baseline studies, New Found Gold has also completed National Instrument 43-101-compliant technical studies to support the Project:

- Preliminary Economic Assessment (New Found Gold 2025a)
- Initial Mineral Resource Estimate (New Found Gold 2025b)
- National Instrument 43-101: Technical Report on the Queensway Gold Project, Newfoundland (New Found Gold 2025c)

17.3.2 Other EA Documents

Past and current exploration activities at the Queensway Property have been subject to provincial EA since 2020:

- Registration #2106 – Appleton Mineral Exploration – released in 2020
- Registration #2214 - Appleton Mineral Exploration – Seismic Survey and Trenching – released in 2022
- Registration #2273 - Appleton Mineral Exploration Project Expansion – released in 2023
- Registration #2307 - Appleton Mineral Exploration Trenching – released in 2024
- Registration #2343 – Gander Area Queensway North Mineral Exploration – released in 2025

As indicated in Section 4.6, the Pine Cove mill was also previously subject to the provincial EA process and released with conditions:

- Registration # 1182 – Pine Cove (Open Pit) Gold Mine – released in 2005

The above noted EA documents are publicly available at https://www.gov.nl.ca/eccc/env-assessment/projects-list/

17.4 References

New Found Gold (New Found Gold Corporation). 2025a. New Found Gold Announces Preliminary Economic Assessment for the Queensway Gold Project. Available online: https://newfoundgold.ca/new-found-gold-announces-preliminary-economic-asse-10642/

New Found Gold. 2025b. New Found Gold Corp. Announces Initial Mineral Resource Estimate. Available online: https://newfoundgold.ca/new-found-gold-corp-announces-initial-mineral-res-10633/

New Found Gold. 2025c. New Found Files Queensway Gold Project NI 43-101 Technical Report. Available online: https://newfoundgold.ca/new-found-files-queensway-gold-project-ni-43-101-technical-report-2/

18 Funding

The capital expenditure for the Project is estimated to be CAD $155 million, as discussed in Section 4.8.2. This preliminary estimate will be refined and optimized through ongoing detailed studies. The Project costs will be privately funded by New Found Gold.

19 Signature

Date: April 30, 2026

Signed by:
EC0F9A9AF6184ED...

Keith Boyle
Chief Executive Officer

New Found Gold Corporation