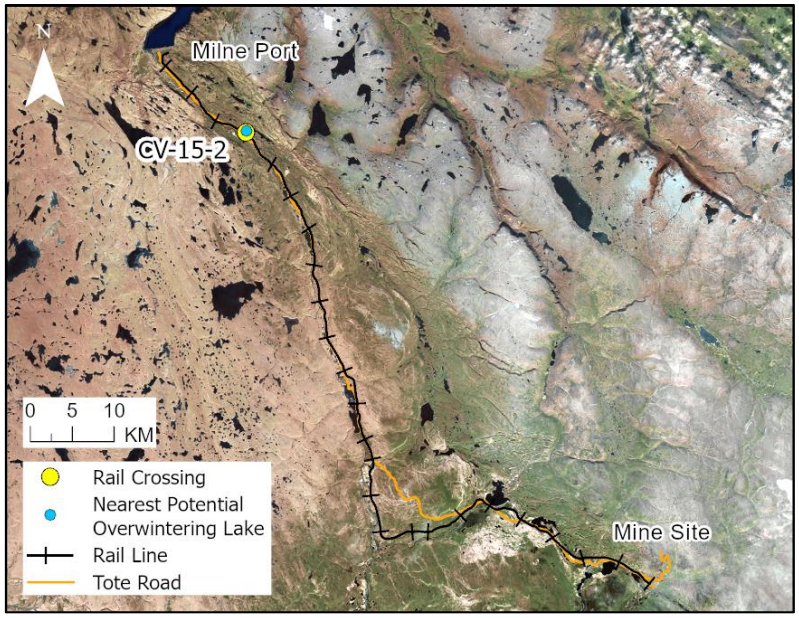
RAIL CV-15-2

LOCATION AND CROSSING DESCRIPTION

Site ID:	CV-15-2	**Dates Surveyed:**	18-Jun-19; 15-Aug-19	**Waterbody Type:**	Pond/Stream
Project Interaction:	Rail Pond Infilling + Culvert	**Centreline UTM Coordinates:**	17W 513774 E 7966181 N	**Culvert Length (m):**	37
Number of Barrels:	1	**Culvert Diameter/Span (mm):**	900	**Slope (%):**	1

GENERAL PHYSICAL CHARACTERISTICS

Surface Area (m^2):	59,030	**Shoreline Length (m):**	1,930	**Drainage Basin Area**	1.06
Maximum Depth (m):	0.5 (estimated)			**Mean Depth (m):**	-



SUMMARY

Shallow pond and outlet stream encroached upon/crossed by rail provides juvenile rearing habitat for land-locked Arctic Char and rearing and probable spawning habitat for Ninespine Stickleback. Infill site is shallow (<0.20 m) and provides rearing habitat for both species and probable spawning for stickleback. Young-of-the-year stickleback were captured in the shallows at the infill site during summer/fall sampling. Pond is of insufficient depth to support overwintering of either species or spawning for Arctic Char. Char were not captured in 2019 but have been captured in previous years.

This pond is shallow (~0.5 m max depth) with primarily fine substrates throughout. To the north, the pond is connected to a small, potential overwintering lake (Lake CV-15-2-USL1). There were no direct connections to the pond to the south (CV-15-3) in 2019 and any connectivity between these two ponds is likely rare. There is direct downstream connectivity to the side bay of a large unnamed river via existing culvert CV-128-2 on the Tote Road. This connection was maintained throughout 2019.

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BARRIERS

Upstream/ Downstream	UTM		Barrier Type			Height (m)	Gradient (°)	Description	Site Label
	Easting	Northing	1	2	3				
Inflowing Stream	NO BARRIERS								
Outflowing Stream	NO BARRIERS								

FISH HABITAT POTENTIAL

Nearest Potential Overwintering Habitat - ARCH: CV-15-2-USL1

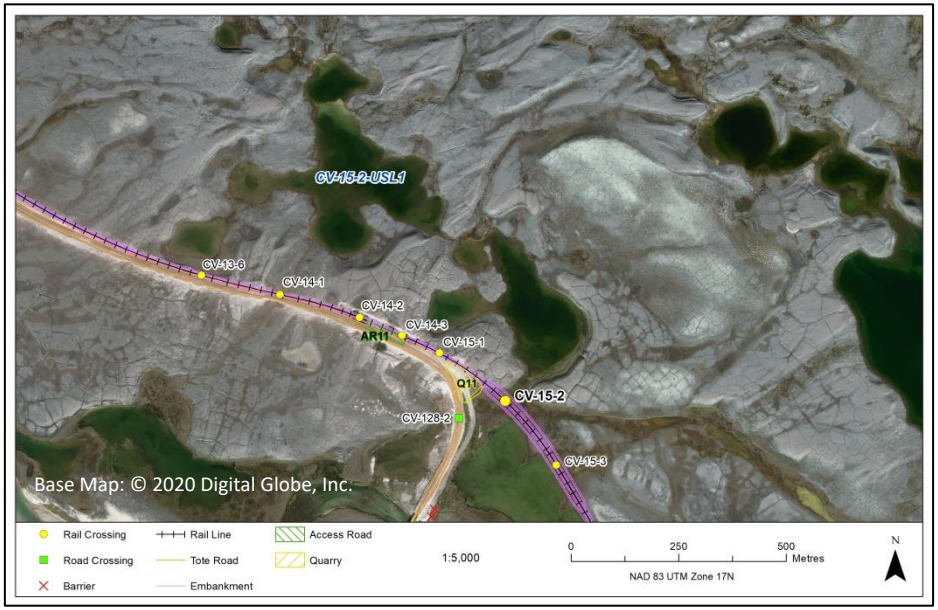
Distance to Nearest Potential Overwintering Habitat - ARCH (km): 0.55

Overwintering Habitat Upstream of Site - ARCH (Y/N): Yes (CV-15-2-USL1)

Species	Spawning	Overwintering	Rearing	Adults Present
ARCH	N	N	Y	N
NNST	P	N	Y	Y

FISHING SITES

UPSTREAM HABITAT



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FISHERIES DATA

Date: 18-Jun-19 **Temperature (°C):** 8.5 **Gear Used:** Backpack Electrofisher/Visual

Distance Fished (m): Entire shoreline **Duration Fished (seconds):** 556

Species	Season	Effort (Seconds)	Fish Captured	Fish Observed	CPUE (No. Fish/60 Seconds)	Length Range (mm)
ARCH	Spring	556	0	0	-	-
NNST	Spring	556	8	0	0.86	40 – 74 (measured)

Date: 15-Aug-19 **Temperature (°C):** 14.5 **Gear Used:** Backpack Electrofisher/Visual

Distance Fished (m): 75 **Duration Fished (seconds):** 238

Species	Season	Effort (Seconds)	Fish Captured	Fish Observed	CPUE (No. Fish/60 Seconds)	Length Range (mm)
ARCH	Summer/Fall	238	0	0	-	-
NNST	Summer/Fall	238	3	13	4.03	20-25 (measured)

INFILL HABITAT

Habitat Use – ARCH: Juvenile rearing **Habitat Use – NNST:** Rearing; Spawning (probable) **Maximum Water Depth (m):** 0.2

Area	Fines (%)	Gravel (%)	Small Cobble (%)	Large Cobble (%)	Boulders (%)
Nearshore	90	0	0	0	10
Offshore	60	0	5	10	25

OTHER NOTES/OBSERVATIONS

Stickleback were evenly distributed throughout the nearshore pond habitat where vegetation cover was thickest and were observed in the marshy outflow stream down to the Tote Road culvert CV-128-2. Juvenile char were not captured or observed in 2019, but were present in the 2018 survey. The nearest potential overwintering lake (CV-15-2-USL1) is 550 m upstream of the pond and is connected by a short inlet channel and a shallower pond/lake. However, Lake CV-15-2-USL1 is small and the volume of available overwintering habitat may be relatively low. This lake was surveyed for bathymetry and substrate in fall 2019. The nearest large potential overwintering lake is the more distant km 26 Lake on Phillips Creek.

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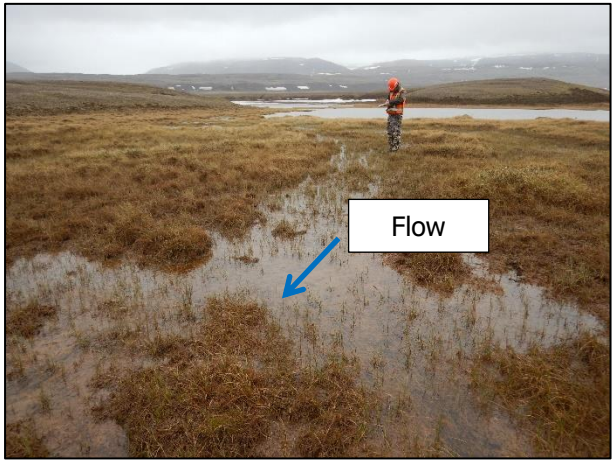
18-JUN-19

A

B

C



D

E

F

Photos 1. Photos of the pond CV-15-2: (A) across the infill location looking southeast; (B) at the pond outflow looking upstream towards the pond; (C) at the pond outflow site looking downstream towards the Tote Road; (D) habitat in the outflow stream; and (E and F) upstream and downstream ends of the Tote Road culvert.

RAIL CV-15-2

15-AUG-19

A

B

C

D

Photos 2. Photos of the pond CV-15-3: (A) at the encroachment location looking north; (B) at the encroachment site looking south; (C) at the encroachment site looking east; and (D) at the encroachment site looking west.

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UPSTREAM LAKE BATHYMETRY