Field Report

Demonstration Trail
Parson's Pond to Daniel's Harbour

Trailhead Development Company Inc.

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0	Initial Field Report	8 Oct 2025	
1	Minor updates after TDCI review	22 Oct 2025	Colin Jones
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3			
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Field Report – Appendix F

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1 Introduction

Following review of the Great Coastal Trail – Parson's Pond to Daniel's Harbour Demonstration Trail Project (herein referred to as the "Project") Registration Document (available here), the Government of Newfoundland and Labrador (GNL) Department of Environment, Conservation and Climate Change (DECCC) required the preparation of an Environmental Preview Report (EPR). To support the EPR and its assessment, a field study was conducted by LGL Limited on behalf of the Trailhead Development Company Inc. (TDCI), the Proponent for the Project. The field study conducted during June to early August 2025 primarily focused on surveying birds and mammals of conservation concern that could be potentially impacted by trail development.

2 Methods

Prior to the field study, a list of Species of Conservation Concern and Species at Risk (SAR) that are known or could potentially occur along the proposed Demonstration Trail was compiled (see Table 4.2 in LGL 2025). This list formed the focus of the field surveys on 9-14 June 2025 and acoustic surveys from June to early August. Several types of surveys and investigations were conducted:

- Habitat observations including flood and erosion areas, water bodies and wetlands, and vegetation and rare plants;
- Breeding bird surveys;
- Bank Swallow survey;
- Short-eared Owl survey; and
- Autonomous Recording Unit (ARU) surveys for birds and bats.

2.1 Habitat Observations

The proposed Demonstration Trail route was surveyed throughout much of its length to evaluate locations where flooding or erosion may already be occurring and/or where such environmental factors could impact future trail integrity; the width, depth, substrate, and fish-bearing potential of various water bodies and wetlands with which the trail may interact; the potential for the trail to intersect Newfoundland marten habitat; and vegetation communities, including the presence of any rare plants. Habitat observations made during field surveys were used to further guide the placement of the trail and to quantify its potential effects on wildlife and the environment.

2.2 Breeding Bird and Species at Risk Surveys

Between 9-14 June 2025, an LGL ornithologist completed 13 breeding bird surveys, one Bank Swallow survey, and one Short-eared Owl survey in the immediate area of the proposed trail route (Figure 2.1). The same ornithologist also noted all birds detected incidentally in the Study Area during transit (on foot and by vehicle), ARU deployment, dedicated Short-eared Owl and Bank Swallow surveys, etc., over the aforementioned date range.

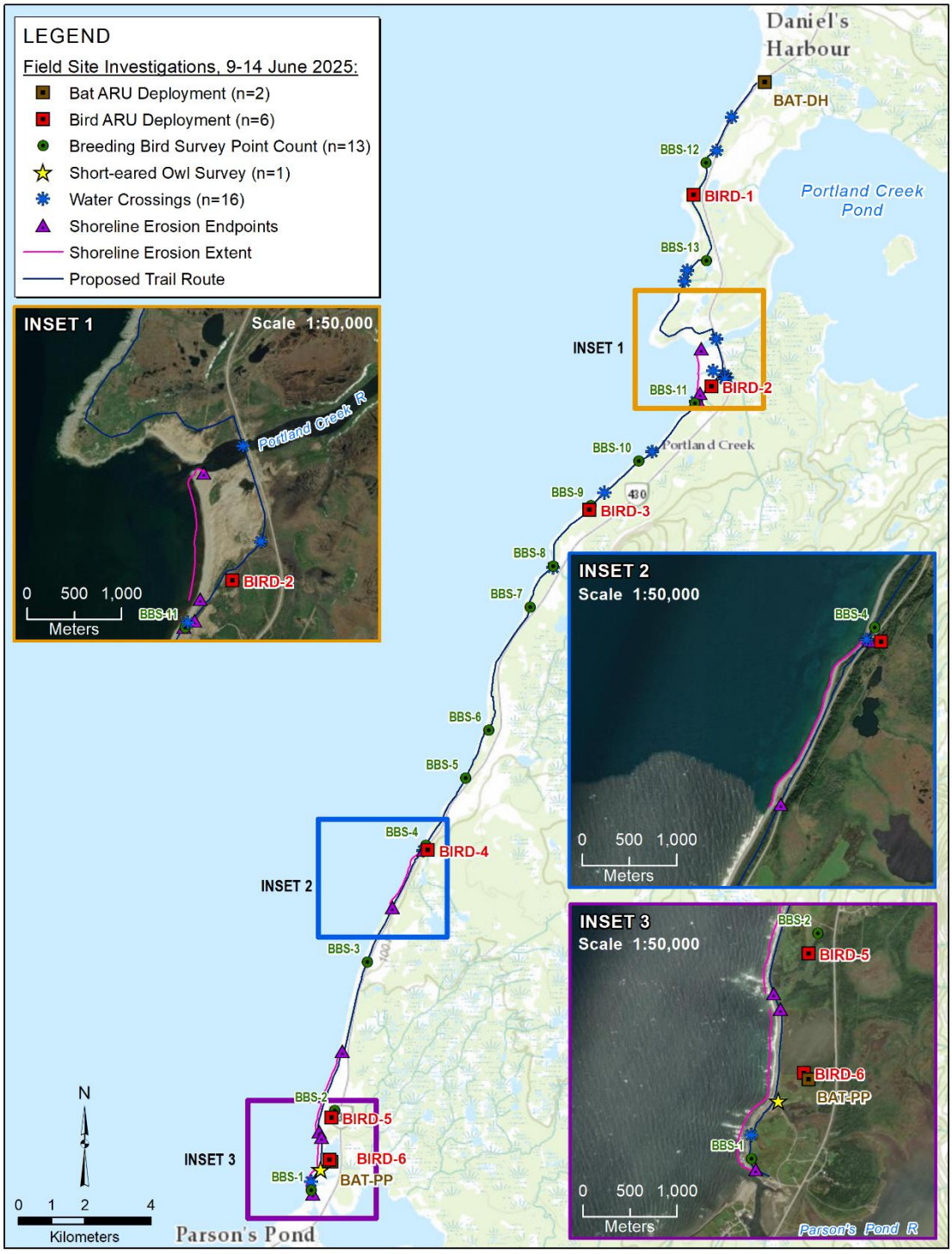

Figure 2.1. Locations of field site investigations and ARU deployments during the field study on 9-14 June 2025. ARUs were deployed in June and retrieved in August 2025.

2.3 Breeding Bird Surveys

For each breeding bird survey, the single observer stood in place and recorded the number of individuals of each bird species observed over the 5-minute survey duration, as well as the survey location coordinates, the location(s) and distance(s) of the birds relative to the observer, and weather variables such as wind speed, cloud cover, and temperature. Survey locations were chosen in an attempt to represent the various habitats found throughout the proposed trail route, including softwood forest, open coastal meadow, bog, and deciduous scrub. In total, 13 surveys totalling 65 minutes were conducted (Figure 2.1).

2.4 Bank Swallow Survey

A dedicated Bank Swallow Survey was carried out on 13 June 2025, in which an LGL ornithologist walked a continuous path of approximately 1 km along the top of the coastal bluffs at the only suspected Bank Swallow colony within the study area (survey duration 32 minutes; Figure 2.2). The survey took place entirely within segment 2 of the proposed trail route, between start location 50.047800°N, 57.708786°W and end location 50.056248°N, 57.703909°W. All observed Bank Swallows and their burrows were recorded. The majority of this survey route (and, in turn, most of the Bank Swallow colony) was located on the margin of active agricultural land. During the survey, the observer noted the start and end locations of each grouping of either Bank Swallow burrows or individual Bank Swallows in flight, as well as the number of burrows / individual birds in each group. The weather was cloudy and 8°C, with northeast winds of approximately 20-28 km/h (Beaufort 4). Note that a second nearby colony, along the southwestern edge of the town of Parson's Pond, is located just outside of the proposed trail route and was not surveyed.

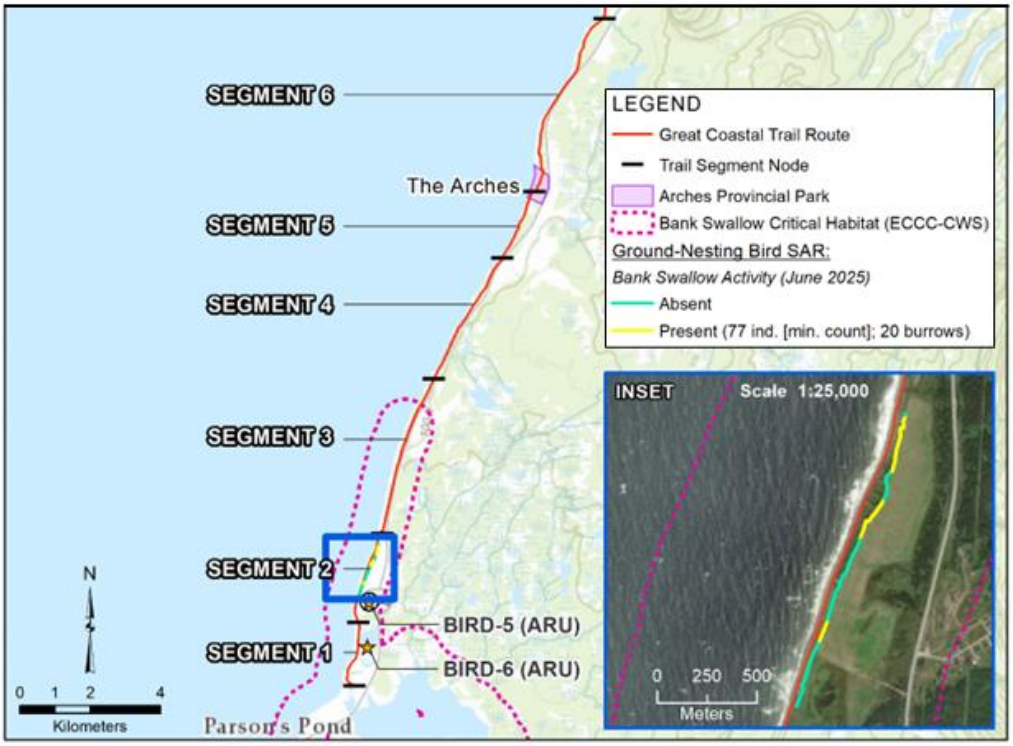

Figure 2.2. Location of the Bank Swallow colony survey within Segment 2 (blue inset), approximately 1.0 km in length along the bluff edge, between 2.2 and 3.2 km north of Parson's Pond. Nearby bird ARUs that detected Bank Swallows are also indicated (orange stars).

2.5 Short-eared Owl Survey

The Short-eared Owl survey took place on 10 June 2025, next to a horse pasture on the northwest edge of the town of Parson's Pond. This survey involved visually scanning the area surrounding the survey location (50.037608°N, 57.709125°W) with 10×42 binoculars and a 20-60× spotting scope, and listening for Short-eared Owl calls, continuously for 90 minutes. The weather at the time of the survey was overcast, with a temperature of 12°C and light air (1-5 km/h or Beaufort 1). The survey began approximately one hour before sunset (21:29 NDT) at 20:27 NDT and ended approximately one half-hour after sunset at 21:57 NDT, in order to capture the period of highest activity of this species, which occurs around dusk (Government of Saskatchewan 2020). The survey location was chosen based on the superior vantage point it offered of the area, as well as being surrounded by suitable habitat for the species in the form of rolling fields and meadows, with some boggy areas (NatureServe 2025). The observer recorded all incidentally detected individuals of all bird species, as well as the time of detection, distance and bearing of the bird(s) from the observer, age of the bird(s), and their behaviour.

2.6 ARU Surveys for Birds and Bats

Eight autonomous recording units (ARUs) were used to assess the presence of avian and mammalian SAR in the study area between early June and early August. Specifically, four Wildlife Acoustics Song Meter SM4 and two Song Meter Micro 2 acoustic units were deployed within the study area for the recording of bird vocalizations, and two ultrasonic Wildlife Acoustics Song Meter SM4-BAT units were deployed to record bat vocalizations (Figure 2.1; Appendix A). Recording began when units were placed in the study area between 10-11 June, and recording was terminated when units were retrieved from the study area between 29 July -3 August, a period which coincides with the peak of bird breeding activity and bat feeding activity (i.e., highest insect abundance) in the area.

Acoustic bird units were placed in a variety of habitat types to sample the variation in bird communities present throughout the study area. Units were mounted approximately 1.5-2.0 m above ground level on trees using cable ties (Appendix A) and were programmed to record for five minutes every half hour each morning, beginning one hour before sunrise and ending 4.5 hours after sunrise (total of 12 recordings each morning of five minutes each). Each evening, units were also programmed to record continuously from one half hour before sunset until 1.5 hours after sunset. We used BirdNet Sound ID software to detect from the recordings any vocalizations of focal avian SAR using set parameters for minimum confidence level, sensitivity, and overlap (Table 2.1), and an ornithologist later verified those detections manually by listening to the recordings and/or visually inspecting the spectrograms.

Table 2.1. Avian SAR that formed the focus of ARU analysis and associated parameters for detection using BirdNet GUI v.1.4.0.

Common Name	Scientific Name	Minimum Confidence	Sensitivity	Overlap
Rusty Blackbird	*Euphagus carolinus*	0.3	1.5	2.0
Common Nighthawk	*Chordeiles minor*			
Olive-sided Flycatcher	*Contopus cooperi*			
Short-eared Owl	*Asio flammeus*	0.1	1.0	0.0
Gray-cheeked Thrush	*Catharus minimus ssp. minimus*			
Evening Grosbeak	*Coccothraustes vespertinus*			
Bobolink	*Dolichonyx oryzivorus*			
Bank Swallow	*Riparia riparia*			
Barn Swallow	*Hirundo rustica*	0.5	1.0	0.0
Red Crossbill	*Loxia curvirostra ssp. percna*			

Ultrasonic bat units were deployed in sites selected for their potential to provide foraging habitat or transit corridors: one at the northern end of the proposed Demonstration Trail in Daniel's Harbour, and one at the southern end in Parson's Pond. Units were positioned approximately 1.0 m above ground level, attached using cable ties to an extendible fibreglass pole anchored in the ground with wooden stakes and string guy lines (Appendix A). The attached ultrasonic microphone was positioned facing upwards at a height of approximately 2.5 m above ground level, attached to the same fibreglass pole as the recording unit. Bat units were programmed to automatically begin recording when they were triggered by an ultrasonic signal (minimum frequency 12 kHz) any time from a half hour before sunset to a half hour after sunrise during the deployment period (10/11 June to 3 August; Table 2.2).

Table 2.2. Wildlife Acoustics SM4-BAT detector settings used to detect bats in the study area.

Parameter	Setting
Gain	12 dB
16k High Filter	Off
Sample Rate	256 kHz
Min. Duration	1.5 ms
Max. Duration	None
Min. Trigger Frequency	12 kHz
Trigger Level	12 dB
Trigger Window	3.0 s
Max. Recording Length	15.0 s
Compression	none

Ultrasonic audio recordings (.wav format) were initially processed using the automated classification software Kaleidoscope Pro v. 5.7.0 (Wildlife Acoustics, Inc.). This software uses classifiers developed from libraries of recordings of verified-identity bat species and complex algorithms to identify bat species detected in novel recordings. We used classifiers for the three bat species known to be present on insular Newfoundland (Little Brown Myotis *Myotis lucifugus*, Northern Myotis *Myotis septentrionalis*, and Hoary Bat *Lasiurus cinereus*) and three additional species potentially present there (Eastern Red Bat *Lasiurus borealis*, Silver-haired Bat *Lasionycteris noctivagans*, and Big Brown Bat *Eptesicus fuscus*) to evaluate their presence within the study area.

The neutral sensitivity setting was used in Kaleidoscope Pro to classify bat calls to the species level. Auto-classified calls were then visually inspected by an LGL biologist to review the accuracy of the auto-identifications. Incorrect auto-identifications were reclassified as necessary. Note that calls with characteristic frequencies of ≥35kHz that were not classifiable to species were classified simply as high frequency calls (likely belonging to one of: Little Brown Myotis; Northern Myotis; or Eastern Red Bat). Calls were classified as "no ID" if the file appeared to contain bat calls, but the calls could not be classified to any species or common group. Recordings that contained fewer than three bat pulses, fractionated calls of poor quality that could not be classified as bat calls, calls of other taxonomic groups, or mechanical / environmental sounds were classified as noise.

3 Results and Discussion

3.1 Habitat Observations

3.1.1 Flood and Erosion Areas

Erosion was evident in several locations along the proposed trail route, especially where steep banks co-occurred with relatively fine (i.e., sandy) substrate and low density of woody vegetation. Evidence of erosion (including slumping) was found both using satellite imagery and during site visits at the following locations: coastally, beginning just north of Parson's Pond and running north along and slightly beyond the agricultural fields (approximately 50.044211°N, 57.709609°W to 50.058196°N, 57.703272°W; this bank also hosts breeding Bank Swallows [see *Bank Swallow Survey*, below]; Appendix B); the beach and stream banks next to the Entente Cordiale Inn (approximately 50.170970°N, 57.607706°W to 50.171354°N, 57.606668°W); and along the coastal margin of the sand dunes south of and abutting against the southern shoreline of Portland Creek (approximately 50.172689°N, 57.606145°W to 50.180402°N, 57.605806°W; although the proposed trial route does not run along this entire section of the bank). The coastal bluffs next to the agricultural fields in particular (mentioned above) appear to be subject to sudden and large slumps that cut into the land at depths of up to approximately 5 m at a time, likely due to a combination of factors including: seasonal freeze-thaw cycles; disturbance from the regular use of heavy machinery in close proximity to the bluff edge; a lack of vegetation and associated roots which would otherwise stabilize the bank; and collection and draining of rainwater runoff over the bluffs from lower-lying sections of the agricultural fields, potentially at high volume during storms. Some of these large slumps appear to have occurred within the last year, given that they intersect portions of the field that were visibly tilled and planted relatively recently. Given the above, we note that this section of the coastal bank appears to be particularly sensitive to disturbance.

More gradual erosion is also likely actively occurring along the coastline at margins where (usually vegetated) soil abuts the beach, which may eventually impact the proposed trail in areas where it closely approaches said margin (e.g., between 50.033386ºN, 57.711289ºW and 50.043251ºN, 57.708955ºW; between 50.083234ºN, 57.689647ºW and 50.093270ºN, 57.681197ºW; etc.).

Low-lying areas of the trail adjacent to the ocean may be subject to flooding and/or coastal boulder and rock deposits (rocks pushed ashore sometimes quite large distances by wave action) during storm surge and/or high spring tides. The imposed 30-m buffer between the trail and any wetlands it encounters should largely protect the trail from fluctuating freshwater levels. However, after heavy rainfall events, temporary flooding and erosion events could still affect the trail, especially at stream crossings (see *Water bodies and Wetlands*, below).

3.1.2 Water Bodies and Wetlands

Note that the stream crossing identities (e.g., SC#) described below have since been "shuffled" in number and renamed as water crossings (e.g., WC#) in the EPR document (LGL 2025). Nonetheless, we have presented the water bodies and wetlands below as they were originally named and surveyed during the field visit between 9-14 June 2025.

The Demonstration Trail was initially proposed to begin immediately south of Parson's Pond River and, as such, this river initially formed the first stream crossing. Now that the start location of the Demonstration Trail has been relocated north of the Parson's Pond River, there are no longer concerns around disturbance to this scheduled salmon river by construction of a pedestrian bridge. Instead, the first proposed stream crossing (SC1) occurs slightly northwest of the trail's starting point (see Table 3.1, below). There was a total

of seven potential stream crossings identified along the Demonstration Trail from 1:50,000 topographic maps, but assessment in the field during 9-14 June 2025 determined that three of these (SCs 1, 5, and 7) were not actual and/or permanent watercourses (Table 3.1). During the same field assessment, nine additional stream crossings (SCs 8-16) were incidentally identified at locations with at least ephemeral, if not permanent, watercourses (Table 3.1). It should be noted, however, that LGL field surveyors did not walk the entire length of the proposed Demonstration Trail and, as such, some minor water crossing sites may not be accounted for in this assessment.

Table 3.1. "Stream crossing" sites investigated during field surveys between 9-14 June 2025 along the length of the Demonstration Trail between Parson's Pond and Daniel's Harbour, including site coordinates, notes on water flow, substrate and habitat, and whether the watercourse contains suitable habitat for fish.

Site	Coordinates	Notes	Presence of Fish Habitat
SC1	50.035500º, 57.711750ºW	No formal channel and appears dry. Wet pond area visible in background	Pond could contain tolerant species (i.e., stickleback).
SC2a	50.093140ºN, 57.681320ºW	Permanent flow, connection to ocean, culvert appears passable for fish	Likely yes- habitat appears suitable for Brook Trout. Likely lacking discharge for Atlantic Salmon to use for spawning.
SC2b	50.093090ºN, 57.680220ºW	Permanent flow, cobble substrate, good riparian cover	Likely yes- habitat appears suitable for Brook Trout. Likely lacking discharge for Atlantic Salmon to use for spawning.
SC3a	50.142140ºN, 57.644060ºW	Permanent flow, cobble substrate, culverts could become seasonal barriers under lower discharge	Likely yes- habitat appears suitable for Brook Trout, possibly Atlantic Salmon. Could be a barrier to upstream fish movement.
SC3b	50.142360ºN, 57.646100ºW	Permanent flow, connection to ocean, bedrock substrate	Likely yes- habitat appears suitable for Brook Trout, possibly Atlantic Salmon.
SC4a	50.171350ºN, 57.606700ºW	Permanent flow, cobble/gravel substrate, lack of riparian cover	Likely yes- habitat appears suitable for Brook Trout. Likely lacking discharge for Atlantic Salmon to use for spawning.
SC4b	50.171240ºN, 57.607310ºW	Permanent flow, cobble/gravel substrate, connection to ocean, lack of riparian cover	Likely yes- habitat appears suitable for Brook Trout. Likely lacking discharge for Atlantic Salmon to use for spawning.
SC5	50.176530ºN, 57.602610ºW	No watercourse or fish habitat apparent	No.
SC6	50.182090ºN, 57.601750ºW	Permanent flow, large river, boulder/cobble/gravel substrate, connection to ocean	Yes- habitat appears suitable for Atlantic Salmon and Brook Trout. Scheduled salmon river.
SC7	50.192100ºN, 57.610350ºW	No channel observed, appears dry. Listed as water course on NTS 1:50k maps.	No
SC8	50.220604ºN, 57.597576ºW	Perched watercourse, connection to ocean, cobble/gravel substrate, herbaceous riparia cover	Likely yes, downstream of the perched culvert. Small stream with very small flows has access to ocean a short distance downstream.
SC9	50.214771ºN, 57.601674ºW	Channel with organic substrate, bog buckbean and water horsetail, riparian vegetation is grasses and sedges	Likely no but could support small forage fish tolerant of low DO, low pH and shallow conditions (i.e., stickleback).
SC10	50.193968ºN, 57.609643ºW	Channel with intermittent flow, cobble/gravel substrate, limited riparian vegetation of grasses.	Likely yes. Could support small forage fish tolerant of shallow conditions (i.e., stickleback).

Site	Coordinates	Notes	Presence of Fish Habitat
SC11	50.175354ºN, 57.598856ºW	Channel with organic substrate, riparian vegetation consists of bog buckbean and shrubs.	Likely yes- habitat downstream of the culvert (in pool) appears suitable for Brook Trout.
SC12	50.162478ºN, 57.619174ºW	Coastal wetland. No flow. May be inundated (recharged) during storm surge events.	Close access to ocean. There is a possibility for small marine forage fish to periodically access these ponded areas. Freshwater fish unlikely.
SC13	50.155380ºN, 57.632144ºW	Permanent flow, sand, cobble/gravel substrate. Riparia vegetation is spruce, mountain maple and bracken fern.	Likely yes- habitat appears suitable for Brook Trout, possibly Atlantic Salmon
SC14	50.175875ºN, 57.599560ºW	Intermittent channel, with organic substrate, bog buckbean and water horsetail, riparian vegetation is grasses and sedges	Likely no. Insufficient depth to support fish.
SC15	50.175342ºN, 57.599375ºW	Permanent channel with organic substrate, riparian vegetation consists of grasses, sedges and hydrophytic vegetation.	Likely yes- habitat appears suitable for Brook Trout.
SC16	50.175153ºN, 57.599364ºW	Channel with organic substrate, bog buckbean and water horsetail, riparian vegetation is grasses and sedges	Likely no but could support small forage fish tolerant of low DO, low pH and shallow conditions (i.e. stickleback).

Photos of each of the potential stream crossings (Table 3.1) found during field assessment by LGL biologists (9-14 June) are provided in Appendix H of LGL (2025).

It is important to bear in mind that a non-insignificant portion (especially in the northern half) of the study area is covered by some form of wetland (at the local level), primarily bog. During field assessments, LGL biologists noted a number of instances where it would be difficult to maintain a 30-m buffer between the proposed trail and the surrounding wetland. For example, much of the area surrounding the pond approximately located at 50.194687ºN, 57.603885ºW is either open or treed bog, including the section of proposed trail that runs approximately between 50.193845ºN, 57.609114ºW and 50.197315ºN, 57.603059ºW. A similar issue may affect the section of proposed trail between approximately 50.212648ºN, 57.604638ºW and 50.214906ºN, 57.602186ºW (across the road from the dairy farm just south of Daniel's Harbour), which we noted during field surveys to be predominantly treed bog, and which included a water crossing at or near SC9 (depending on the finalized trail route; Table 3.1). The section of trail immediately south of Portland Creek was originally routed to traverse the sand dunes and circumnavigate a small patch of bog approximately centred on 50.179675ºN, 57.601574ºW adjacent to the Portland Creek Interpretive Pull-off and parking lot using an existing unofficial ATV trail. However, more recent iterations of the proposed trail route either traverse directly through this bog section, or through an even wetter area to the south which would entail up to three consecutive water crossings (SCs 14, 15, and 16; or, immediately adjacent to the road, SC11; Table 3.1) and boggy terrain.

Portland Creek (SC6) is a scheduled salmon river, ranging in width within the study area from approximately 36 m at its outlet to the Atlantic Ocean, to 63 m where it is crossed by NL Route 430 via a concrete bridge, and up to 171 m at its widest point approximately halfway between the outlet and the bridge. The bridge has no shoulder or dedicated pedestrian walkway and is located approximately 430 m from the river mouth.

3.1.3 Potential Newfoundland Marten Habitat

During field investigations, LGL biologists noted there was little evidence of forest structure that would support the life history requirements for marten (i.e., contiguous mature stands of conifer forest with abundant coarse woody debris). Recent habitat modelling on occupancy of Newfoundland marten suggests that the core area (>60% probability of female occurrence) for this species in the vicinity of the trail route is confined to the east side of Route 430, away from the Demonstration Trail location.

3.1.4 Vegetation and Rare Plant Surveys

Community-level assessments of main land cover (i.e., habitat) types and select vegetation surveys within land cover types focused on rare plants, were conducted during the site visit. No federal-, or provincial-listed protected plants or lichen species were observed. No vegetation Species at Risk or Species of Conservation Concern (e.g., denoted as regionally rare [i.e., S-Rank ≤ 2]) were encountered during the trail route assessment surveys. As noted above, the proposed trail route and select alternate sections were not walked in their entirety as that level of vegetation survey effort was not warranted. Distinct land cover types that intersected the trail route configuration were best described as homogenous communities, comprised of a common species assemblage (e.g., ericaceous shrubs on coastal barrens). Potential for rare species was low for all riparian areas adjacent to known and newly discovered stream crossings, both for proposed and alternate trail route options.

3.2 Breeding Bird and Species at Risk Surveys

Including breeding bird surveys and all incidental observations, the ornithologist noted 57 bird species in total throughout the study area, where Bank Swallow was the only species at risk (SAR). Some additional incidental observations of note included: two separate Bald Eagles *Haliaeetus leucocephalus* (the only raptor species observed); a large owl pellet, possibly of Great Horned Owl *Bubo virginianus*; and evidence of breeding by Mourning Warbler *Geothlypis philadelphia* (probable: pair in suitable habitat), Blackpoll Warbler *Setophaga striata* (confirmed: nest-building), White-throated Sparrow (confirmed: intact nest of four eggs), American Crow *Corvus brachyrhynchos* (confirmed: recently fledged young), and Northern Pintail *Anas acuta* (confirmed: eight young ducklings accompanied by a female).

3.2.1 Breeding Bird Surveys

Considering only the 13 Breeding Bird Surveys conducted (65 minutes of observation in total), 134 individuals of 31 species were observed, of which only Bank Swallow is a Species at Risk (Table 3.2).

Table 3.2. Number of individuals of each bird species observed during the 13 Breeding Bird Surveys combined, listed in taxonomic order.

Common Name	Scientific Name	Number of Individuals Observed
Canada Goose	*Branta canadensis*	16
Red-breasted Merganser	*Mergus serrator*	2
American Herring Gull	*Larus argentatus*	2
Great Black-backed Gull	*Larus marinus*	1
Red-throated Loon	*Gavia stellata*	2
Yellow-bellied Flycatcher	*Empidonax flaviventris*	8
Alder Flycatcher	*Empidonax alnorum*	2
American Crow	*Corvus brachyrhynchos*	1
Common Raven	*Corvus corax*	2

Common Name	Scientific Name	Number of Individuals Observed
Bank Swallow	*Riparia riparia*	8
Golden-crowned Kinglet	*Regulus satrapa*	1
Winter Wren	*Troglodytes hiemalis*	1
European Starling	*Sturnus vulgaris*	5
Swainson's Thrush	*Catharus ustulatus*	1
American Robin	*Turdus migratorius*	11
Fox Sparrow	*Passerella iliaca*	3
White-throated Sparrow	*Zonotrichia albicollis*	14
Savannah Sparrow	*Passerculus sandwichensis*	4
Song Sparrow	*Melospiza melodia*	5
Lincoln's Sparrow	*Melospiza lincolnii*	2
Swamp Sparrow	*Melospiza georgiana*	1
Northern Waterthrush	*Parkesia noveboracensis*	6
Black-and-white Warbler	*Mniotilta varia*	2
Mourning Warbler	*Geothlypis philadelphia*	5
American Redstart	*Setophaga ruticilla*	3
Magnolia Warbler	*Setophaga magnolia*	7
Yellow Warbler	*Setophaga petechia*	2
Blackpoll Warbler	*Setophaga striata*	7
Yellow-rumed Warbler	*Setophaga coronata*	3
Black-throated Green Warbler	*Setophaga virens*	6
Wilson's Warbler	*Cardellina pusilla*	1

3.2.2 Bank Swallow Survey

Burrows were difficult to count due to the observer necessarily being stationed above the burrows on the bluff edge, where it would have been dangerous to approach the edge too closely, so reported burrow counts should be treated as minimums. There were three loose groupings of Bank Swallows and burrows found during the survey. The first grouping included a total count of 14 individual Bank Swallows and 8 burrows (quantity of specifically active burrows unknown), located between 50.049695°N, 57.707752°W and 50.050309°N, 57.707384°W (approximate distance 73 m). The second grouping was a congregation of 55 Bank Swallows in flight over the bank and agricultural field, with no burrows observed. At this second grouping, between 50.052702°N, 57.705897°W and 50.053787°N, 57.704851°W (approximate distance 142 m), the habitat was not ideal for burrow excavation, so Bank Swallows may have been using it for foraging only. Lastly, the third grouping located loosely between 50.054590°N, 57.704472°W and 50.056222°N, 57.703895°W (approximate distance 186 m) consisted of, at minimum, 8 individual Bank Swallows and 12 burrows. In total, across the three groupings, we therefore counted 77 individual Bank Swallows and 20 burrows (the latter necessarily representing a minimum count). The substrate immediately below the bluff edge, where burrows were located, was angled approximately 90º and made up of a sandy loam with incorporated rocks of typically 1-10 cm in diameter (see Appendix B). Observed burrows (and the aforementioned habitat) were almost exclusively located in the hollows left behind by fresh land slumps, presumably because these banks were the steepest in angle and therefore most preferable for nest excavation.

3.2.3 Short-eared Owl Survey

No Short-eared Owls were detected during the species-specific survey on 10 June 2025, but the observer noted 63 individual birds of 20 different species (already included in the total avian species count of 57 for the entire study area, mentioned previously). Most notable of these was a vagrant male Eurasian Wigeon (*Mareca penelope*).

3.2.4 ARU Surveys for Birds and Bats

From ARU recordings we verified the presence of the following five avian SAR: Bank Swallow, Common Nighthawk, Evening Grosbeak, Olive-sided Flycatcher, and Red Crossbill. We verified detections of Bank Swallow at three ARU locations, Common Nighthawk at two different ARU locations, Evening Grosbeak at two ARU locations, Olive-sided Flycatcher at one ARU location, and Red Crossbill at one ARU location (see Figure 4.4 in LGL 2025).

Ultrasonic ARUs placed within the study area detected three bat SAR: Little Brown Myotis, Northern Myotis, and Silver-haired Bat. All three bat species were detected at the Parson's Pond ARU location, while only Little Brown Myotis was detected in Daniel's Harbour (Table 3.3). During the deployment period of 10 June to 3 August (total 55 days), the ultrasonic ARU in Daniel's Harbour was triggered 201 times; between 11 June and 3 August (total 54 days), the ultrasonic ARU in Parson's Pond was triggered 540 times. As such, there were 741 ultrasonic recordings made in total by the two units combined. Of these, auto-ID and manual verification were used to classify 13 recordings as Little Brown Myotis, 11 recordings as Northern Myotis, and one recording as Silver-haired Bat (Table 3.3). Twelve recordings were classified as high frequency (unidentified species) and six recordings as "no ID". The remaining 698 recordings were classified as noise.

Table 3.3. Locations of the two ultrasonic SM4-BAT ARUs within the study area, as well as their associated dates of deployment and retrieval and bat species detected.

ARU Location	Coordinates	Deployment Start	Deployment End	Species Detected	Recordings Per Species
Daniel's Harbour	50.226660°N, 57.588566°W	2025-06-10	2025-08-03	Little Brown Myotis	12
Parson's Pond	50.038930°N, 57.706253°	2025-06-11	2025-08-03	Little Brown Myotis	1
				Northern Myotis	11
				Silver-haired Bat	1

4 Literature Cited

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Appendix A: ARU Deployment Photos

Figure A.1. Example of a deployed ultrasonic bat ARU (Wildlife Acoustics SM4-Bat) attached to a fibreglass pole with supporting guy lines, and its associated microphone mounted at the top.

Figure A.2. Example of a deployed acoustic bird ARU (Wildlife Acoustics, model SM4) attached to a tree with cable ties. The two small, black, foam windscreens covering the stereo microphones (one on each side of the unit) are just barely visible.

Appendix B: Bank Swallow Colony Field Photos

Figure B.1. Bluff and shoreline habitat located within the Bank Swallow colony 2.2-3.2 km north of Parson's Pond, NL, as observed 13 June 2025. Note that there are no Bank Swallows or their burrows visible in this photo.

Figure B.2. Bank Swallow burrows (circled in red) in a position typical for the species, excavated within a vertical surface just below the bluff edge in relatively fine substrate, as observed during the Bank Swallow survey north of Parson's Pond on 13 June 2025.

Figure B.3. A closer view of Bank Swallow burrows (circled in red) observed during the species-specific Bank Swallow survey north of Parson's Pond on 13 June 2025.

Figure B.4. A small number of Bank Swallow burrows (here, one burrow circled in red) were observed near the northern terminus of the Bank Swallow survey route north of Parson's Pond on 13 June 2025.