

Halifax Exhibition Redevelopment

Archaeological Resource Impact Assessment

Heritage Research Permit A2023NS137
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HALIFAX EXHIBITION REDEVELOPMENT:
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT

Heritage Research Permit A2023NS137
Category C

Davis MacIntyre & Associates Limited
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Cover: The Halifax Exhibition building, facing south.

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EXECUTIVE SUMMARY

In June 2023, Davis MacIntyre & Associates Limited was contracted by Fathom Studio to conduct an archaeological assessment for the Halifax Exhibition Redevelopment in Halifax County. The assessment included a historic background study, predictive modelling and field reconnaissance in order to determine the potential for archaeological resources in the impact area and to provide recommendations for further mitigation, if necessary. The Halifax Exhibition is located at 200 Prospect Road, Goodwood, in the Halifax Regional Municipality and the study area encompassed approximately 44 hectares.

The Mi'kmaq and their ancestors have occupied the K'jipuktuk (Halifax) area since time immemorial with archaeological evidence dating back at least 7,000 years. Mi'kmaq occupation of the region continued into the historic period, even as the Town of Halifax was settled, and continues to this day. While much of the study area has been extensively infilled and impacted, the remaining areas are generally low and wet, or sloped. While some of the wetland appears to have been created by the disturbance and infilling in the center of the property, a review of air photos suggests that some of the wetlands likely pre-date the infilling, and that no significant watercourses were present in most of the study area. However, the northeast corner of the study area does contain a fast-moving, although non-navigable brook that connects Long Lake to the interior. This brook would have been a potential source of fresh water during hunting or resource gathering activities and four elevated potential areas were flagged along higher and drier terraces along the brook.

Very little historic activity is documented within the study area. Maps suggest that there was little historic settlement within the study area itself until the early 20th century. Air photos similarly indicate roads and fields but no clear signs of houses or structures in 1931. Between 1931 and 1947, new activity is visible in the northwest corner of the study area, where several features were identified during the reconnaissance. These two foundations, as well as the midden have been evaluated to have low archaeological significance as they likely date between 1931 and 1947 and appear to have been abandoned by 1973. It is less clear whether the well is contemporaneous with the foundations or whether it relates to earlier historic activity.

An extensive history of 20th and 21st century infilling, disturbance, and development characterizes the majority of the study area, beginning at least as early as the mid-19th century, when a water pipeline was constructed along the east side of the study area in 1867 and 1868. An additional water pipeline was constructed through the center of the study area between 1931 and 1947. Infilling and impact continued within the study area throughout the 20th century and into the 21st century. Fill appears to include construction debris and infilling has been ongoing for decades, completely obscuring the original ground surface. However, given that the desktop study suggests that most of the study area is of low potential for historic and L'nuk archaeological resources, and the impact

that infilling would have had on the original terrain, these disturbed areas have been evaluated to have low potential for intact archaeological resources.

Based on the results of this assessment, the archaeological potential within the study area has been evaluated to be low, in general. Four areas of elevated potential for L'nuk archaeological resources were observed in the northeast end of the study area and several mid-20th century features were recorded in the northwest corner of the study area, as was a well of indeterminate age. Avoidance is the preferred method of mitigation. However, the mid-20th century features have been evaluated to be of low archaeological significance and therefore, there are no further recommendations for these features.

As the age of the well is unclear and it could pre-date the mid-20th century features, it is recommended that monitoring of any ground disturbance is conducted within 30m of the well.

For the four areas of elevated potential, it is recommended that should they be anticipated to be impacted, the areas should first be subjected to shovel testing to determine the presence/absence of archaeological resources and provide recommendations for mitigation, if necessary.

The remainder of the study area has been evaluated to be of low archaeological potential and there are no further recommendations for these areas. Should development plans change, then a qualified archaeologist should be contracted to conduct an additional assessment on any new areas outside the project boundaries identified in this report.

In the unlikely event that any archaeological resources are encountered during ground disturbance and an archaeologist is not already on site, it is required that all activity cease and the Coordinator of Special Places (902-229-3159) be contacted immediately regarding a suitable method of mitigation.

1.0 INTRODUCTION

In June 2023, Davis MacIntyre & Associates Limited was contracted by Fathom Studio to conduct an archaeological assessment for the Halifax Exhibition Redevelopment in Halifax County. The assessment included a historic background study, predictive modelling and field reconnaissance in order to determine the potential for archaeological resources in the impact area and to provide recommendations for further mitigation, if necessary.

The current assessment was conducted under Category C (Archaeological Resource Impact Assessment) Heritage Research Permit A2023NS137 issued by the Department of Communities, Culture, Tourism and Heritage. This report conforms to the standards required by the Culture and Heritage Development Division under the Special Places Protection Act (*R.S., c. 438, s. 1*).

2.0 STUDY AREA

The Halifax Exhibition is located at 200 Prospect Road, Goodwood, in the Halifax Regional Municipality (Figure 2-1). The study area is expected to encompass approximately 44 hectares, including the Exhibition's four-building complex totalling over 100,000 square feet of facilities and it's 2000-car parking lot (Figure 2-2). This ARIA is being conducted as part of the design phase of this project. As such, detailed information is not fully known. It is anticipated that construction impacts may include grubbing, excavation, trenching, infilling, and laydown area construction.

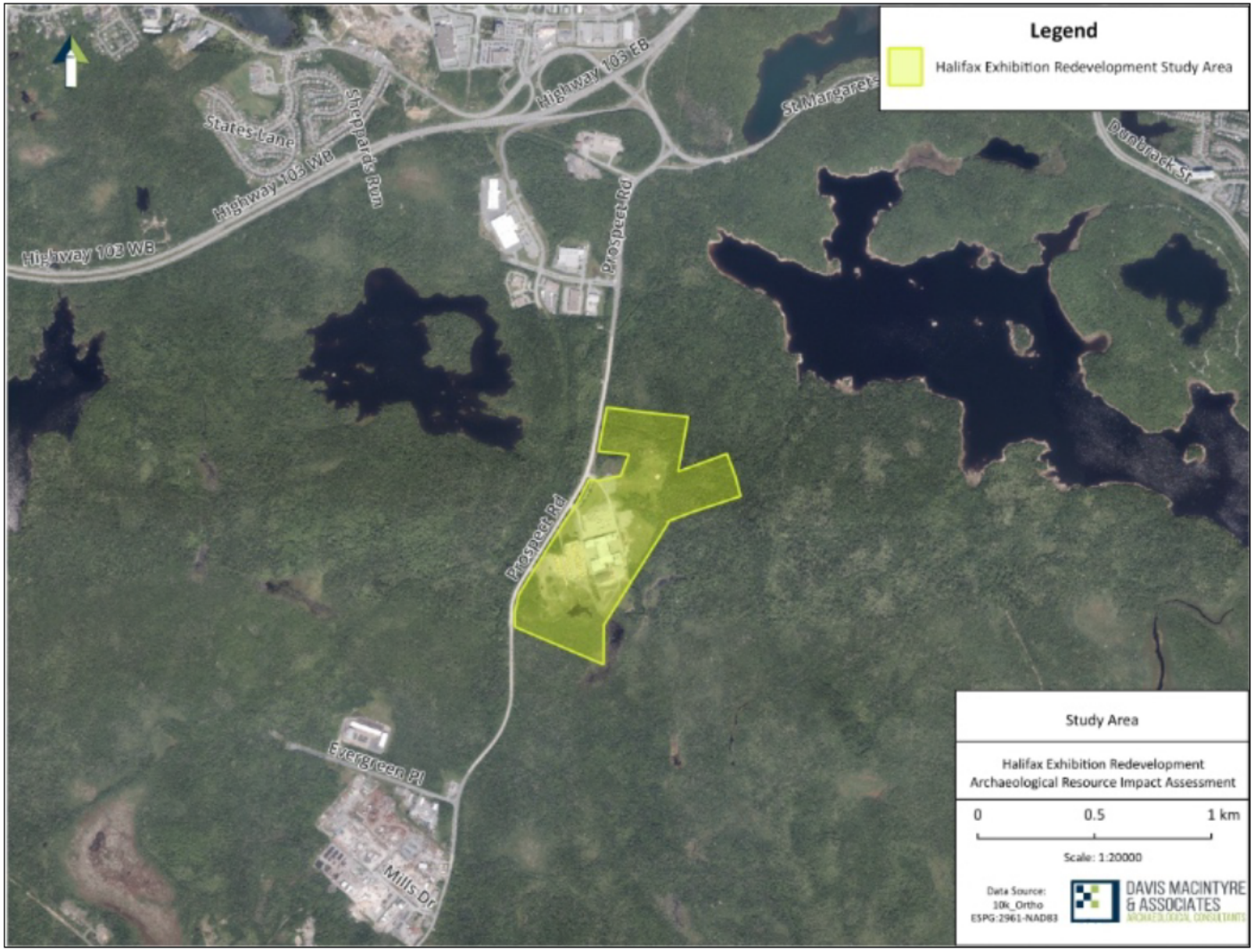


Figure 2-1: Satellite view of the Halifax Exhibition property showing the boundaries of the study area.



Figure 2-2: The Halifax Exhibition Redevelopment study area.

2.1 Palaeoecology

Understanding the changing ecology of the early Holocene is paramount to understanding the archaeological record and the course of human history in our region from its beginnings. Processes associated with glacial advance and retreat have made a lasting impression on our province. During the most recent ice age, Atlantic Canada lay beneath the kilometre thick Laurentide Ice Sheet, which at the last glacial maximum (24 ka BP) extended its reach across the continental shelf to ocean depths of 800m.[1] The modern landscape bears the scars and relics of the Wisconsinan glaciation, in the form of drumlins, moraines, glacial erratics, lakes and drainage systems.

Deglaciation in the northeastern United States and the Atlantic Provinces began in earnest by 20 ka BP. Significant ice streams, draining vast areas of the Laurentide Ice Sheet, delivered large volumes of ice to the ocean and it was along these ice streams that calving occurred. The opening of the Gulf of Saint Lawrence in 14 ka BP accelerated this process, and calving ice margins eventually isolated a Newfoundland ice cap.[2] Glaciers were largely land-bound by 13 ka, and reduction continued through melting and climatic conditions rather than calving. In the wake of retreating glaciers, a mixed spruce woodland consisting of sedge, spruce, birch, and pine migrated northwards into Nova Scotia and created an environment suitable for large herds of migratory caribou. It is believed Sa'qiwe'k L'nu'k bands followed these herds into the region by at least 10,900 BP (12,900 cal BP).[3]

Deglaciation was not a unilinear process, as climate variables caused glaciers to retreat at different rates at different times. The Younger Dryas Cooling event took place between 10,900 and 10,600 BP (or 12,900 – 11,600 cal BP) and had a profound effect on vegetation.[4] Land-bound glaciers reactivated and the advance of forested regions was reversed, with areas of open shrub tundra expanding southwards. A rapid warming period followed the Younger Dryas, and with it, the environment changed again to a more closed, mixed deciduous forest of oak and pine.[5] Unburdened by the Laurentide Ice Sheet, the continental crust rebounded in isostatic uplift, resulting in a drop of relative sea level. At the same time, large volumes of water held in glacial ice was released back to the oceans, resulting in eustatic change. The pace of eustatic change was initially rapid, following a low sea level stand of -65m at 11.3-11.7 ka BP. Sea level rise slowed after 11 ka BP and was outpaced by isostatic change. By about 9.5 ka BP, the pace of land rise diminished and sea levels again began to overtake exposed shores in most areas.[6]

Glacial isostasy and eustasy changed habitable coastlines over the millennia following deglaciation (Figure 2-3). Significant landforms, subaerially exposed through isostatic

[1] Fader 2005, 2; Lothrop et al. 2011, 549.
[2] Shaw et al. 2006, 2069, 2072.
[3] Ellis 2004, 244; Newby et al. 2005, 151.
[4] Fader 2005, 5; Lothrop et al. 2011, 550.
[5] Newby et al. 2005, 151; Deal et al. 2006, 256.
[6] Shaw et al. 2002a, 1867; Fader 2005, 2.

uplift were subsequently submerged by rising seas.[7] Seafloors now at 60m depth in the Bay of Fundy, for instance, would have been above sea level.[8] Local conditions varied, as sedimentation near George's Island indicates that the Halifax Harbour emerged sometime between 8,400 BP to 7,000 BP, functioning as a low-productivity estuarine environment, before submerging again after 7,000 BP.[9] Sea level at this point is thought to be somewhere higher than -25 m below its present level. Intact ancient shorelines are elusive. Most ancient shorelines have been reclaimed by the sea or reshaped by powerful erosional forces. However, some sheltered or interior areas may hold the potential for relatively intact palaeoshores. Evidence of human occupation from submerged sites has been found offshore. Artifacts like ridged ulus have turned up as unexpected catches of scallop draggers in the Bay of Fundy, Gulf of Maine, and off the coast of Prince Edward Island.[10]

In the early Holocene, Halifax and the harbour were much different than what we see today. At about 12,000 years ago when the last glaciers retreated from the region, much of Halifax Harbour was characterized by an ancestral Sackville River system. The former marine shoreline was located about 20 kilometers off Chebucto Head, about 65 to 70 meters below current sea levels (Figure 2-4). The Bedford Basin was occupied by at least three connected lakes - one in Bedford Bay, one in the Basin proper, and one in Fairview Cove. Palaeoshorelines have been identified in these areas by marine geologists. Before about 5,800 years ago, Bedford Basin existed as a lake for about 6,000 years and boulder berms located during surveys of the basin indicate the presence of a number of small islands on the west side and a few on the east side as well. At the same time, a bedrock sill (Wellesley Rock) was exposed between Bedford Bay and the Basin proper. Part of the Sackville River system cascaded over the rock ledge creating a waterfall. This area holds great potential for early Holocene archaeological sites potentially dating back as early as the Palaeo-Indian period (11,500 to 9,000 years BP) as this area would have been favourable for fishing and the rock ledge may have provided a convenient short cut across the Basin. While the Sackville River channel is defined in some areas of the harbour, in other places, it is more approximate.

Throughout the rest of the harbour, including the Northwest Arm, a series of lakes were present, with two long lakes occupying the Arm. The lakes were slowly consumed by the rising sea levels. This inundation caused the freshwater lakes to suddenly change to a marine environment and would have had a major impact not only on animals, fish and vegetation, but also on people living in the area.[11]

[7] Fader 2005, 5.
[8] Fader 2005, 5.
[9] Edgecomb et al. 1999, 814.
[10] Fader 2005, 6; Shaw et al. 2009, 24.
[11] Fader 2005, 140–2.

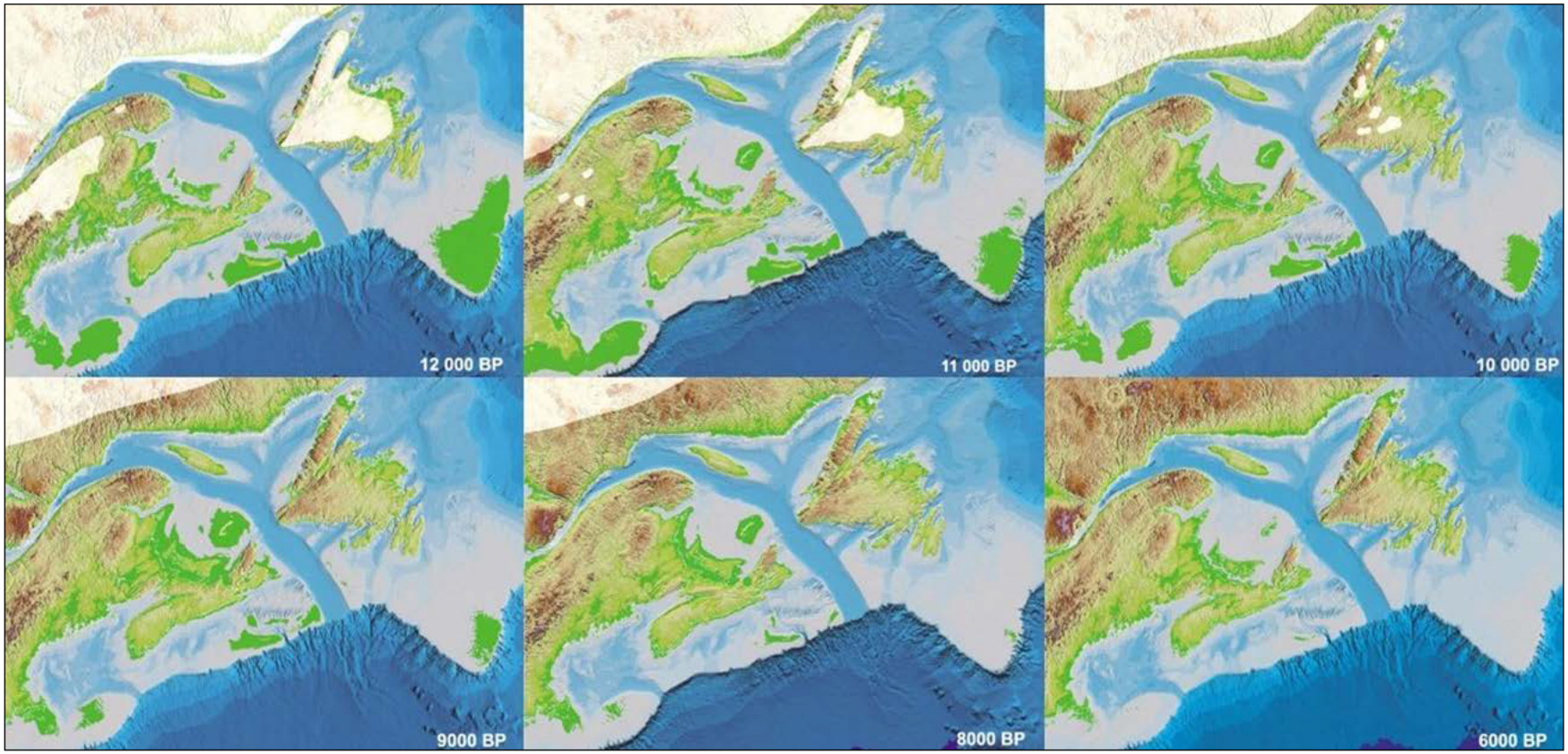


Figure 2-3: Palaeogeography of Maine and the Atlantic Provinces, depicting how emergent landforms on the continental shelf were gradually submerged.[12]

[12] From Shaw et al. 2002a.

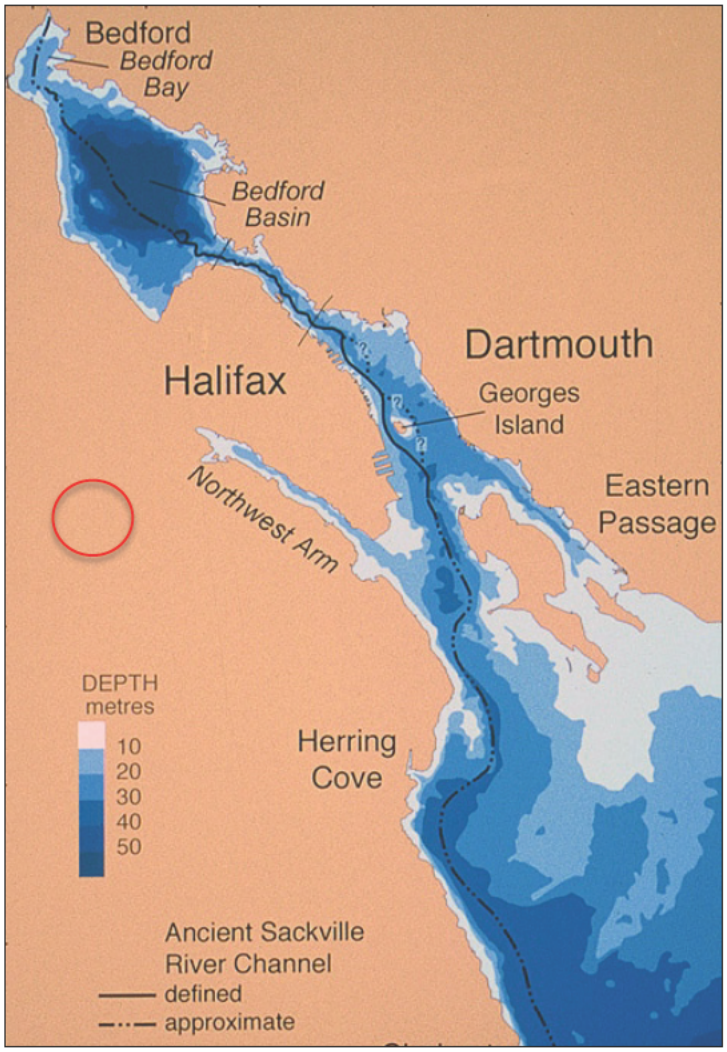


Figure 2-4: Map showing the defined and approximate path of the Ancient Sackville River channel, with approximate study area (red).[13]

More generally, by 6 ka BP, the geographical setting of the Atlantic region nearly matched conditions today. The inundation of the Northumberland Strait finally isolated what is now Prince Edward Island from the mainland as sea levels continued to rise, reaching within 5m of their present depth off the Atlantic coast by 3,000.[14]

The natural environment of the peninsula and surrounding areas have changed greatly since the earliest days of Halifax's settlement. At the end of the 18th century, there were approximately 78 kilometers of streams flowing across the peninsula and into the Northwest Arm or Halifax Harbour. These streams were, in many cases, founded by wetlands (about 83 ha in total) that have since been diverted or infilled.[15]

[13] National Resources Canada 2010.
[14] Shaw et al. 2002a, 1872.
[15] Reid 2012.

2.2 Natural Environment

The study area is located in the St. Margaret's Bay ecodistrict #780 and Granite Uplands, South Mountain subunit #451a.

The ecodistrict is part of the Atlantic uplands, composed of granitic batholith which tilts to the south towards the ocean. The climate is often moister than the rest of the province due to its proximity to the cool ocean water. The moist climate causes increased levels of rain and fog, which in turn, increases soil moisture. Soils are typically well-drained sandy loams overlying granitic till. The soil is often stony, shallow, and granitic, and glacial erratics are common. In northern areas, till can be thin or discontinuous with ridges of exposed bedrock. While the underlying bedrock is typically granitic, there is some Meguma Group rocks, greywacke, quartzite and slate at the southwest of the ecodistrict.[16]

The study area specifically stretches over two granitic bedrocks. The northern extent of the study area contains Middle to Late Devonian leucomonzogranite, while the southern extent is composed of a Middle to Late Devonian muscovite biotite monzogranite.[17] The surficial geologic unit is a ground moraine that is silty and compact with material derived from local and distant sources.

Watersheds throughout the ecodistrict include large lakes, rivers, streams, bogs, and swamps. Gold River, the largest river in the district, is a major drainage of the western side. The abundance of associated rivers and lakes not only provided access to marine resources and drinking water, but a suite of travelling routes throughout the interior of the province. For example, from the study area one could access the Birch Cove lakes and Sackville River, from which one can easily portage into the Shubenacadie River system which flows into the Bay of Fundy to the north. Conversely, the nearby waters of the Prospect and Nine Mile Rivers could be followed south to the outer coast, emptying into Prospect and Shad Bays, respectively.

Red spruce forests are the most common vegetation, covering sloped hillsides. Hemlocks are present in lower elevations or near watercourses. White pine and black spruce tend to appear in areas of shallow soil and bedrock. There are some tolerant hardwood forests, in deeper, well-drained soils on hills. The lakes and streams are acidic and have low productivity and, therefore, poor waterfowl habitat. However, substantial populations of smallmouth bass are present.[18] Historically, the Prospect River and Nine Mile River were known for their abundance of gaspereau and trout. Fred Veith, who reported on the conditions of said rivers in 1884, also noted that Nine Mile River was prolific for salmon.[19]

[16] Neily et al. 2017, 214.
[17] Department of Energy and Mines n.d.
[18] Davis and Browne 1996, 82.
[19] Veith 1886, 17.

3.0 METHODOLOGY

A historic background study was conducted by Davis MacIntyre & Associates Limited in August 2023. Historic maps and manuscripts and published literature were consulted from the Nova Scotia Archives and other online sources. LiDAR and air photos were also examined. The Maritime Archaeological Resource Inventory (MARI), a database of known archaeological resources in the Maritime region, was searched to understand prior archaeological research and known archaeological resources neighbouring the study area.

The Archaeological Research Division at Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO-ARD) was contacted in June 2023 to inquire whether traditional Mi'kmaw land use is known in or near the study area. A response was received on 3 July 2023. While the traditional use information provided is confidential, it has been taken into consideration during this assessment. KMKNO-ARD also provided historical references from their database which has been incorporated into the historical background below.

A field reconnaissance of the study area was conducted in August 2023, with particular attention paid to areas anticipated to be impacted. Detailed notes and photographs were collected, with tracklogs recorded via handheld GPS units. Archaeological features and areas of potential were recorded using handheld GPS/GNSS rover unit.

4.0 RESULTS

4.1 Maritime Archaeological Resource Inventory

The Maritime Archaeological Resource Inventory was accessed in August 2023 in order to determine if known archaeological sites or resources exist within or near the study area. A search radius of 5 kms from the study area was examined. Fives sites are located within a 5-km radius, all of them clustered to the north or northeast of the study area.

The closest four sites, **BdCw-12** to **BdCw-15** represent four stone features, including three residences, that are believed to have been built by War of 1812 Black refugees who formed the community of "Refugee Hill" or "Beech Hill". Full excavation of Residence 1 (**BdCw-12**) provided further associative evidence that the dwelling was occupied in the early 19th century, before it burned between 1832 and 1840. A pentagonal structure and associated stone features, **BdCv-09**, is also located north of the study area. These features are commonly referred to as the "Bayers Lake Mystery Walls".

Just over 5km to the east are a series of historic sites dating to the mid to late 19th century. **BdCw-04** to **BdCw-10** consist of a series of cellars, stone features, and a family cemetery recorded around the existing Otter Lake Landfill facility. These sites were identified during a series of archaeological surveys in the 1990s.

The relative lack of archeological sites that have been identified within a 5-km radius of the study area likely reflects the lack of past archaeological research in the vicinity. This is compounded by poor site preservation and visibility due to historic land development as well as steadily rising sea levels over the last several thousand years.

4.2 Historic Background

4.2.1 L'nuk Settlement During the Precontact and Historic Periods

Spatially and geographically, L'nuk land use throughout Mi'kma'ki is not considered in the same sense that European occupation is recorded in historic times. Colonialism has had a significant impact on Mi'kmaw lifeways but prior to European contact, the Mi'kmaq and their ancestors had a very dynamic relationship with the land which was reflected in their language, legends, songs, dances, and oral tradition. The landscape was viewed as "sentient, ever-changing, and in a continual process of becoming".[20] Therefore, the euro-centric view of the land as discrete and definitive land parcels does not reflect the Mi'kmaw world view and references to site-specific pre-contact land use from the first-hand perspective of the Mi'kmaq (through oral tradition) are difficult to ascertain. However, historic references by Europeans do exist, although they must be carefully considered due to their inherent bias, and Mi'kmaw land use and occupation is reflected in the archaeological record.

Nova Scotia has been home to the Mi'kmaq and their ancestors for at least 13,000 years. A legacy of experience built over millennia shaped cultural beliefs and practices, creating an intimate relationship between populations and the land itself. The complexity of this history, culturally and ecologically, is still being explored.

The earliest period is Saqiwe'k L'nuk (the Ancient People) or the Palaeoindian period (13,000 - 9,000 cal BP).The changing ecology following deglaciation allowed the entrance of large herds of migratory caribou into Nova Scotia, followed by Palaeoindian groups from the south.[21] Currently, the Debert/Belmont Sites provide the only significant evidence of Palaeoindian settlement in the province. Commonly believed to be big-game hunters, research is now aimed at exploring the diverse subsistence patterns that may have supported populations, and what adaptations were made when the environment shifted once again in the early Holocene.[22]

Succeeding the Saqiwe'k L'nuk is the Mu Awsami Kejikawe'k L'nuk (the Not so Recent People) or the Archaic Period (9,000-3,000 cal BP).This time saw a reorientation to a more maritime subsistence, with settlement pivoting more towards coastal areas, lakes, and

[20] Sable and Francis 2012, 18.
[21] Newby et al. 2005, 151.
[22] Lothrop et al. 2011, 562.

bountiful riverine resources.[23] Remnants of these sites along the coast have largely been engulfed by rising seas or battered by wind and wave, though interior sites are increasingly being discovered.[24] Ground stone tools, specialized for woodworking, appear at this time and may have been used to create dug-out canoes. Numerous traditions and distinct technologies have been documented throughout Maine and the Atlantic provinces. A growing catalogue of exotic cultural components demonstrates that groups within Nova Scotia were engaged in spheres of interaction spanning hundreds of kilometers. Unfortunately, a lack of formally excavated sites within Nova Scotia still obscures the degree to which these traditions were present.

By the Kejikawe'k L'nuk (the Recent People) or Woodland/Ceramic period (3,000-550 cal BP), the Mi'kmaq were a maritime people, with known sites concentrating along coastal shorelines and navigable watercourses.[25] Migration of ideas and people introduced new worldviews and technologies from groups originating in places like northern New England and the Great Lakes area, to local populations, including the earliest ceramic forms. Harvesting of marine molluscs and shellfish appears in this period, and substantial shell-middens have gifted archaeologists with well-preserved records of these past lives.[26] Fish weirs populating the province's rivers and streams speak to the importance of migrating fish species to Mi'kmaq life. Terrestrial hunting and foraging were practiced with varying degrees of intensity depending on seasonality and region. A generally stable cultural form is believed to have developed by 2,000 cal BP, forming the way of life first encountered by Europeans arriving on our shores.[27]

Mi'kmaw life was substantially altered in the Kiskukewe'k L'nuk (Today's People) or Contact Period (500 BP- Present). Trade and European settlement introduced change and upheaval to the traditional way of Mi'kmaw life. Mobile hunting and gathering still defined Mi'kmaw life, with identity residing within family households.[28] Trading posts and fishing villages became intersections of European and Mi'kmaq interaction, affecting traditional seasonal rounds and access to land. The hunting of fur-bearing mammals intensified to satisfy the mutual exchange of skins for European goods.[29] It is not accurate, however, to say that Mi'kmaq *adopted* European goods and culture, but rather *adapted* to it. The Mi'kmaq remained an influential social and political force forming a triadic narrative of contention with the English and French in the 18th century. However, disease, conflict, and alienation from the land wreaked a ruinous effect on the Mi'kmaq by the 19th century, pushing people to the margins of colonial society.[30]

[23] Tuck 1975.
[24] Deal et al. 2006.
[25] Davis 1993, 100.
[26] Davis 2005, 18.
[27] Wicken 2004, 26.
[28] Wicken 2004, 30.
[29] Whitehead 1993, 89.
[30] Reid 2009.

Table 4-1: Mi'kmaw/Archaeological Cultural Periods.[31]

Mi'kmaw Period	Archaeological Period	Years (C^{14} Uncalibrated)	Calendar Years (Calibrated)
Saqiwe'k L'nuk (the Ancient People)	Palaeoindian *Early/Middle* *Late*	**11,500 – 9,000 BP** *11,500 – 10,000 BP* *10,000 – ~9,000 BP*	**13,000 – 9,000 cal BP** *13,000 – 11,600 cal BP* *11,600 – 9,000 cal BP*
Mu Awsami Kejikawe'k L'nuk (the Not so Recent People)	Archaic *Early/Middle* *Late/Transitional*	**9,000 –3,000 BP** *9,000 – 5,000 BP* *5,000 – 2,500 BP*	**9,500 – 3000 cal BP** *9500 – 5,500 cal BP* *5,500 – 3,000 cal BP*
Kejikawe'k L'nuk (the Recent People)	Woodland/Ceramic *Early* *Middle* *Late*	**3,000 –500 BP** *3,000 – 2,400 BP* *2,400 – 1,700 BP* *1,700 – 500 BP*	**3,000 –550 cal BP** *3,000 – 2200 cal BP* *2,200 – 1,300 cal BP* *1,300 – 550 cal BP*
Kiskukewe'k L'nuk (Today's People)	Protohistoric Historic/Modern	**500 BP – 350 BP** **500 BP – present**	**550 – 350 cal BP** **350 cal BP – present**

The Mi'kmaq inhabited the territory known as Mi'kma'ki or Megumaage, which included all of Nova Scotia including Cape Breton, Prince Edward Island, New Brunswick (north of the Saint John River), the Gaspé region of Quebec, part of Aroostook County in northern Maine and southwestern Newfoundland (Figure 4-1). The study area is located within the Mi'kmaw territory known as Sipekne'katik meaning "wild potato area" or "place of groundnuts." Sipekne'katik encompasses parts of what today are Hants, Lunenburg, Kings, Colchester, Halifax and Cumberland Counties. Historic European records suggest there were three summer villages within the territory, located at Shubenacadie, Truro, and Tatamagouche. Several villages are also recorded in and around K'jipuktuk/Halifax.[32] More villages were likely established throughout Sipekne'katik, but either fell outside of the knowledge of European sources or were simply not recorded.

[31] Lewis 2006b; Confederacy of Mainland Mi'kmaq 2007, 3; Davis 2011, 22; Betts and Hyrnick 2021, 19.
[32] Hoffman 1955, 534-35.

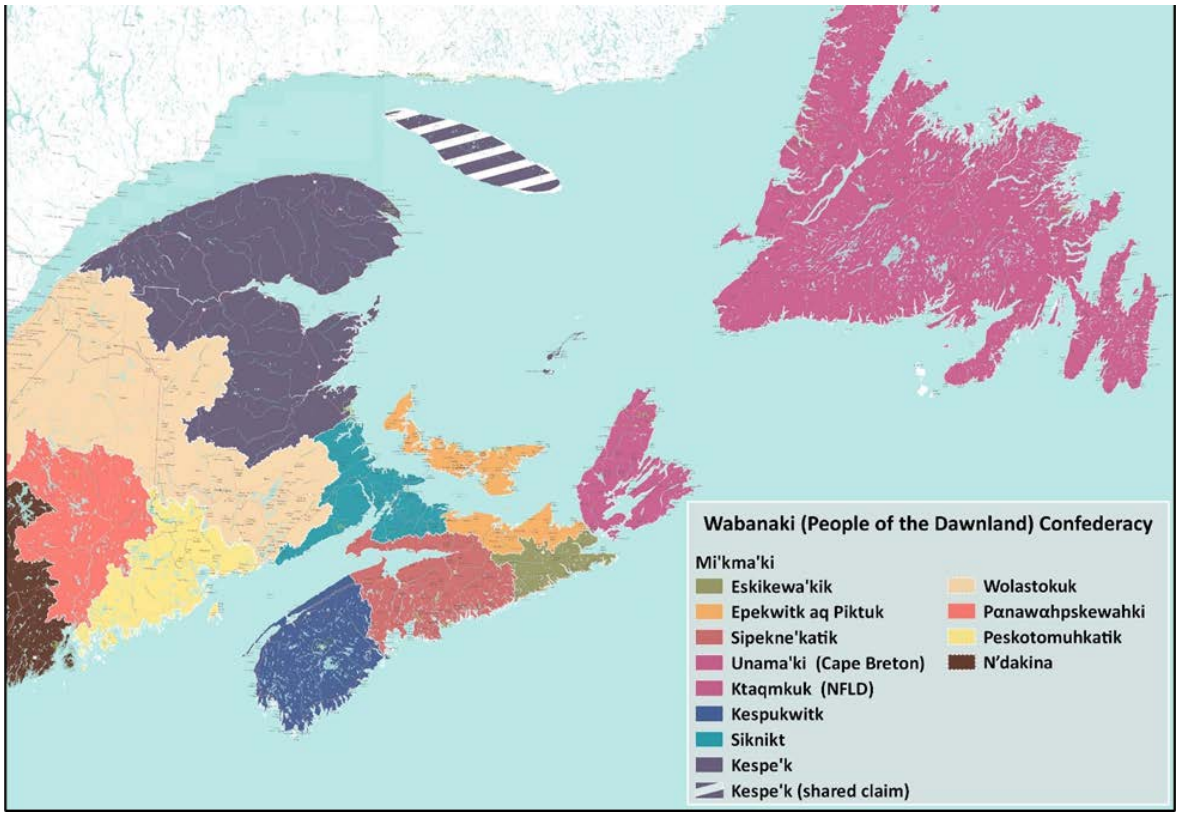


Figure 4-1: The districts of Mi'kma'ki and Wabanaki Traditional Territories.[33]

The cultural significance of the study area to the Mi'kmaq and their ancestors is recorded in the Mi'kmaw language. The Mi'kmaw language, inseparable from Mi'kma'ki, is embedded with knowledge of the land and a unique way of understanding the world, reflected in both oral traditions and place names.[34] For archaeologists, the Mi'kmaw language can provide powerful insights into traditional land-use, available resources, and how these places were perceived. Several place names are recorded in the vicinity of the study area, though most of the known recorded names relate to areas around Halifax, or K'jipuktuk, meaning Great Harbour. Nearby Big Indian Lake is Apukji'jue'katik meaning "place of mice". Williams Lake is known as Etu'panuek, meaning "two streams flowing into an opening". The Northwest Arm is known as We'kwaltijk, or "end of the bay; ending

[33] Adapted from Sable et al. 2012; Maliseet Nation Conservation Council 2009; Johnson 2020; Membertou Geomatics Solutions (MGS) and Unama'ki Institute of Natural Resources (UINR) 2016; EPA 2015; and Abbe Museum. Some traditional territory overlap exists in western New Brunswick, Quebec and Northern New England. This adaptation is based upon modern watershed delineations. Boundaries within modern territories were likely fluid during periods of landscape and climactic changes. Current delineations are more reflective of series of treaties, negotiated between various Wabanaki nations and contemporary indigenous groups, and post contact treaties with the French, English, and federal governments of Canada and USA.

[34] Sable and Francis 2012, 26.

without a river coming in." Herring Cove or Mulipjɨkejk means "a deep chasm, valley or gorge."[35]

Archaeological evidence supports a precontact occupation of Halifax County and the surrounding landscape by the Mi'kmaq and their ancestors for at least 7,000 years and almost certainly much longer. The Mi'kmaq and their ancestors would have harvested marine birds and animals at the coast, gone to interior rivers and lakes for seasonal migrations of fish, eel, and opportunities to hunt larger game animals. Plants were also harvested from different interior and coastal environments. Movement from the coast to the interior may have followed a generalized winter-interior, summer-coastal migration round suggested by ethnohistoric sources.[36] However, mobility across Mi'kma'ki was likely more complex.[37] Use of rivers and long inlets allowed more fluid movement between coastal and interior camps.[38] Movement between the coast and interior may have been dependant on weather and availability of valued resources, as suggested by other sites found throughout Nova Scotia.[39]

Historic documents record Mi'kmaq living throughout K'jipuktuk. The indented coves and inlets of the harbour provided ideal camping grounds at places such as Birch Cove, Fairview Cove, and McNab's Island. K'jipuktuk offered Mi'kmaq families numerous advantages including freshwater sources, access to marine, coastal, and riverine resources, as well as easy movement throughout the greater landscape along waterways like the Shubenacadie and Sackville Rivers. Rivers near the study area, including the Nine Mile and Prospect Rivers, would also have been a source of important resources as well as travel routes to the outer coast at Shad Bay and Prospect Bay. Following Long Lake, it would also have been easy to travel along the lakes and waterways that empty into the head of the Northwest Arm.

The most significant travel route was the K'jipuktuk/We'kopektik trail along the Shubenacadie River System, which allowed cross-province travel between Halifax Harbour and Cobequid Bay. This trail, which archaeological evidence indicates dates to the Precontact period, could be travelled by canoe over several portages or by foot during times of the year when the lakes were impassable. Travel to the Cobequid area could also be achieved by a short trip up the Little Sackville River, a portage of less than one kilometre to First Lake, then a passage through Second and Third lakes, before entering the Shubenacadie River system.[40]

Mi'kmaw settlement in K'jipuktuk is reflected in historic documents as early as 1688, when Sieur de Gargas recorded thirty-three Mi'kmaq living in seven 'cabanes' when he

[35] Ta'n Weji-sqalia'tiek.
[36] Hoffman 1955, 153–4.
[37] Wicken 1994, 63.
[38] Lewis 2006a, 58.
[39] Sheldon 1988, 134.
[40] Sanders and Stewart 1999, 7.

visited Halifax Harbour in 1688.[41] Sieur de Diereville, a French surgeon and author, met three Mi'kmaw chiefs at Halifax Harbour in 1699, leading Diereville to speculate the harbour was an important gathering place for the Mi'kmaq.[42] The Governor of Acadia, Jacques Monbeton de Brouillan, describes hundreds of Mi'kmaq living around K'jipuktuk in 1701.[43] While these population descriptions are helpful, the number of Mi'kmaq living in the harbour likely fluctuated throughout the year. For example, during the spring salmon run, there is evidence that Mi'kmaq gathered in a large encampment on a rise upstream of the outlet of the Sackville River into the Bedford Basin.[44] This may be the same location, near Fort Sackville, where four Mi'kmaq camps are known in the 19th century. It is likely that more habitation sites were in use around the harbour in the 17th century, however fewer records exist during this time period due to the lack of French activity in the area.

Contact between the Mi'kmaq of K'jipuktuk and Europeans became more frequent during the eighteenth century. This period also marked a time of increasing strife between Mi'kmaq and British colonizers. The Mi'kmaq of K'jipuktuk were deeply involved in these conflicts and were central in a historical tragedy which unfolded on the shores of the Bedford Basin in the mid-18th century. In the summer of 1746, Mi'kmaq warriors from Chebucto and bands throughout Mi'kma'ki gathered in K'jipuktuk. They were awaiting a French armada of over 70 ships led by Duc d'Anville, the greatest naval military force ever sent from France to North America. Together, their goal was to avenge the loss of Louisbourg the year prior, destroy the British fort at Annapolis Royal, and retake all of Acadia from the British.[45]

The expedition was doomed nearly from the onset. Delayed by weather and poor organization, only forty-four ships arrived in the harbour. By the time of their arrival, many of the Mi'kmaq had dispersed and gone home. The remaining Mi'kmaq assisted the French soldiers to their camps at Fairview and Birch Coves, which proved to be a tragic decision. The sailors were in poor health and the Mi'kmaq were exposed to highly contagious diseases to which they had no immunity.[46] These illnesses killed countless Mi'kmaq in K'jipuktuk. Surviving Mi'kmaq left, unknowingly carrying these fatal diseases to their home villages, spreading the contagion further. The Mi'kmaq buried their dead "back of the site of Forrest's Tannery", located in the vicinity of Titus Smith Park in Fairview today.[47]

The historical consequences of the event for the Mi'kmaq of K'jipuktuk were immediate. Due to the depopulation of K'jipuktuk, in 1749 Edward Cornwallis and ships full of British

[41] Wicken 2004, 171.
[42] Hoffman 1955, 335.
[43] Ingalls and McGrath 1998, 10.
[44] Ingalls and Ingalls 2010, 11–2.
[45] Ingalls and Ingalls 2010, 11–2.
[46] Ingalls and Ingalls 2010, 14.
[47] Ingalls and Ingalls 2010, 15–7.

settlers arrived at a Halifax Harbour nearly absent of its Mi'kmaq residents. Though devastated by disease, the Mi'kmaq defended their claim on K'jipuktuk and resisted British settlement in the area for years after the founding of the colony. British settlement in K'jipuktuk, seen by the Mi'kmaq as a violation of the 1726 treaty, resulted in a deterioration of relations between the two nations and numerous confrontations.[48] This includes the 1749 attack by the Mi'kmaq on the burgeoning settlement of Dartmouth. In response, a small group of Mi'kmaw living on the Dartmouth side of the Harbour were deported.[49] They were moved to the northeastern portion of McNab's Island, now called "Indian Point", and lived there for some time.

Though displaced through disease, war and colonization, the Mi'kmaq continued to live in K'jipuktuk through the 18th and 19th centuries. A travelling reverend, Joshua Marsden explained in August 1800 that a few Mi'kmaq "…live in the vicinity of Halifax, who chiefly get their living by fishing; but alas! these natives of the wilderness are much diminished in every part of the province…".[50] Three hundred Mi'kmaq were recorded as living in Halifax County in 1842.[51] In 1880, it was reported that Mi'kmaq "from other counties" come to Bedford, Dartmouth "and other places near the city" in the summer to camp.[52]

Dartmouth became a gathering place for local Mi'kmaq, with historic references to habitations on the harbour shores and along the area's plentiful lakes. By at least the late 18th century, local Mi'kmaq established a community at Tuft's Cove called Turtle Grove (Figure 4-2). A school was constructed, and several families lived in the area earning a living as artisans of baskets, hockey sticks, firkins, and other goods. Tragically, this community was destroyed by the Halifax Explosion in 1917 and never rebuilt.

There is no specific reference to a Mi'kmaq habitation within the study area in the historical record. However, there is historical documentation of Mi'kmaq living to the north and south of the study area. To the north, near Governor's Lake, the area was recorded in 1914 as a hunting territory of Mi'kmaw man, Frank Cope and his family.[53] It is possible that an old flintlock gun of Cope's is stored at the Nova Scotia Museum. The gun was obtained in 1933, and purportedly was used by a Mi'kmaw man named Frank Cope who died in 1915 at age 86.[54] It is possible that this is the same Frank Cope whose hunting territory comprised the Governor's Lake territory recorded by Speck in 1914, while Frank Cope would still have been alive. To the south of the study area, near Big Indian Lake, it was reported that in the early 19th century, a Mi'kmaw man named Tom

[48] Paul 2008, 112.
[49] Kinsman 1995, 2.
[50] Marsden 1816, 16.
[51] Wicken 2004.
[52] Canada House of Commons 1881, 42.
[53] Speck 1922, 103.
[54] Whitehead 2015, 339.

Philips was ground at “a camping ground at foot Big Indian Lake, head of St. Margarets Bay.”[55]



Figure 4-2: Hibbert Newton Binney's watercolour of a Mi'kmaq encampment at Tufts Cove in Dartmouth c. 1791.[56]

4.2.2 African-Nova Scotian and Euro-Canadian Settlement

When Halifax was founded by the British in 1749, a grid of the streets and city blocks was laid out, originally stretching north-south from Joseph Street (now Scotia Square) to Salter Street, and east-west from the harbour to just below the Citadel. By the middle of October of that year, shortly after the arrival of Halifax's European settlers, a rough barricade had been erected around the town. This barricade was composed of “felled trees, logs and birchwood”. The following summer, a true palisade was erected, with five forts located at intervals along the fortifications. The forest was cleared 30 feet beyond the palisade to prevent potential attackers from using it for cover.[57] In the early years of the town, settlement outside of the palisade was confined to some country tracks and a few cabins.[58] By the 1770s, most of the peninsula of Halifax had been cleared for farmland.[59]

[55] Whitehead 1991, 250.
[56] Binney 1791.
[57] Piers 1947, 1–3.
[58] Piers 1947, 1–3.
[59] Fingard et al. 1999, 22.

Until the fall of Louisbourg in 1758, British occupation outside the protection of the blockhouse line beyond the Northwest Arm was a limited and often deadly undertaking for civilians caught in the middle of colonial warfare. Skirmishes between Acadian insurgents, the Mi'kmaq and the British colonialists subsided during the 1760's with the signing of several treaties and subsequent deportation of the majority of the Acadian population. This made British settlement outside the peninsula a safer endeavour.[60]

Just two kilometers northwest of the study area, the community of Beechville (Beech Hill or Refugee Hill) was settled by Black Refugees in the early 19th century. Nova Scotia occupied a prominent position in the African diaspora in Eastern Canada during the 17th through 19th centuries. The first permanent occupation of people of African-descent in Nova Scotia were the enslaved individuals of French and British settlers in the early to mid-18th century. Slavery was relatively short-lived in Nova Scotia due to the absence of plantations and lack of economic necessity. Attempts to legalize slavery in the province were also rebuffed in the Nova Scotia Legislature in 1787 and again in 1808.[61] Historian Bridglal Pachai is clear that while the public may have seen a "softer side" to slavery in Nova Scotia, the "...legacy of slavery affected race relations in Nova Scotia for centuries".[62]

The Black Loyalists were the first sizable population of people of African descent to arrive in the Maritimes. They comprised a part of the larger influx of Loyalist immigrants during the American War of Independence, 1775-1783. Approximately 1,232 enslaved people and 2,775 free Black Loyalists arrived in Nova Scotia during this period. The latter group consisted of free Blacks and former slaves who earned passage to Nova Scotia by fighting for the British during the war and were promised free grants of land.[63] Black Loyalist communities soon formed in Birchtown (Shelburne), Preston (Halifax), Little Tracadie (Guysborough) and Brindley Town (Digby). However, difficulties in securing their promised land allotments from the British government and discrimination from the white settlers led to a mass exodus of Black Loyalists in 1792 to Sierra Leone. Approximately half of the Black population of Nova Scotia departed for the African colony, including many prominent Black leaders, leaving many of the communities deserted.[64] In 1796, 550 Jamaican Maroons landed in Halifax, but faced with similar issues to the Black Loyalists, also left for Sierra Leone in 1800.

Between 1813 and 1816 a fourth group of Black settlers arrived in the Maritimes, the Black Refugees. This group consisted of over 2,000 escaped enslaved people who attained their freedom by fighting for the British in the War of 1812. Approximately 1,600 Black Refugees ended up in Nova Scotia. Like the Black Loyalists before them, they came as free people seeking a new home. Unfortunately, their circumstances resembled the Black

[60] Piers 1947, 1–3.
[61] Pachai and Bishop 2006, 8–9.
[62] Pachai and Bishop 2006, 8–9.
[63] Pachai 1997, 11–2.
[64] Pachai 1997, 19–20.

Loyalists in other ways. Full land grants were withheld by the colonial government of the time, and licences of occupation limited the ability of Black Refugee settlers to make improvements to their property or to leverage the land for funds.[65] Furthermore, lands granted were small and unproductive compared to those given to white settlers. The 10-acre lots were often unable to produce food necessary to survive, and crops routinely failed in the rocky, infertile soil.[66]

These issues were compounded by a series of natural events soon after their arrival which made farming all but impossible, including a plague of mice in 1815, as well as the "Year Without Summer" in 1816 where frost persisted in fields until June. This made eeking out a living in the sometimes-harsh Nova Scotia climate even more difficult than usual. Discrimination and racial prejudice towards the Black population remained an issue as well, and the majority of the white population saw the arrival of the Black Refugees as an inconvenience at best.[67] Early troubles due to the aforementioned crop failures by the Black Refugees gave rise to latent resentments from established settlers, who saw the refugees as dependent on the state and as a threat to working class whites as a source of cheaper labour. Despite these hardships, the Black Refugees persevered, expanded existing Black communities, and began new ones. Most settled near Halifax, including at Preston, Hammonds Plains, and Beechville.[68]

Black Refugees settled near what is today Beechville by at least 1815. Documentary evidence in the form of land licenses and official correspondence record 23 Refugee settlers at 'Refugee Hill' at this time.[69] By the end of 1816 the population climbed to at least 76. The community may have alternatively been known as 'Beech Hill', though there is confusion in the secondary literature over whether this is the same community or two different settlements.[70]

Regardless, in 1816 the Surveyor General laid lots for Black Refugees at 'Beech Hill' Beechville).[71] Lots consisted of 10-acre parcels of land licensed to heads of households. As previously mentioned, these licenses were distinct from land grants and gave the licensee limited control over the property for at least the first 5 years of occupation. Lands surveyed for Beech Hill were located south of St. Margaret's Bay Road and north of modern-day Beechville.

In 1818, a second license of occupation plan shows a growing settlement, depicting two divisions of plots. Division B is located in the same location as the 1816 plan, while Division A shows a new allotment of plots further east. Comparison of the licensees from each

[65] Pachai 1997, 26.
[66] Whitfield 2005.
[67] Pachai 1997, 24.
[68] Grant 1990, 77–85.
[69] Fergusson 1948, 55.
[70] Fowler 2014, 11–2.
[71] Commissioner of Public Records 1816.

plan show that with the exception of one individual, all licensees listed in 1816 were still in possession of their lots by 1818.[72] An overlay of the 1818 plan of licenses of occupation for Black Refugees at 'Refugee Hill' with modern satellite imagery shows the proximity of the residents to the study area (Figure 4-3).

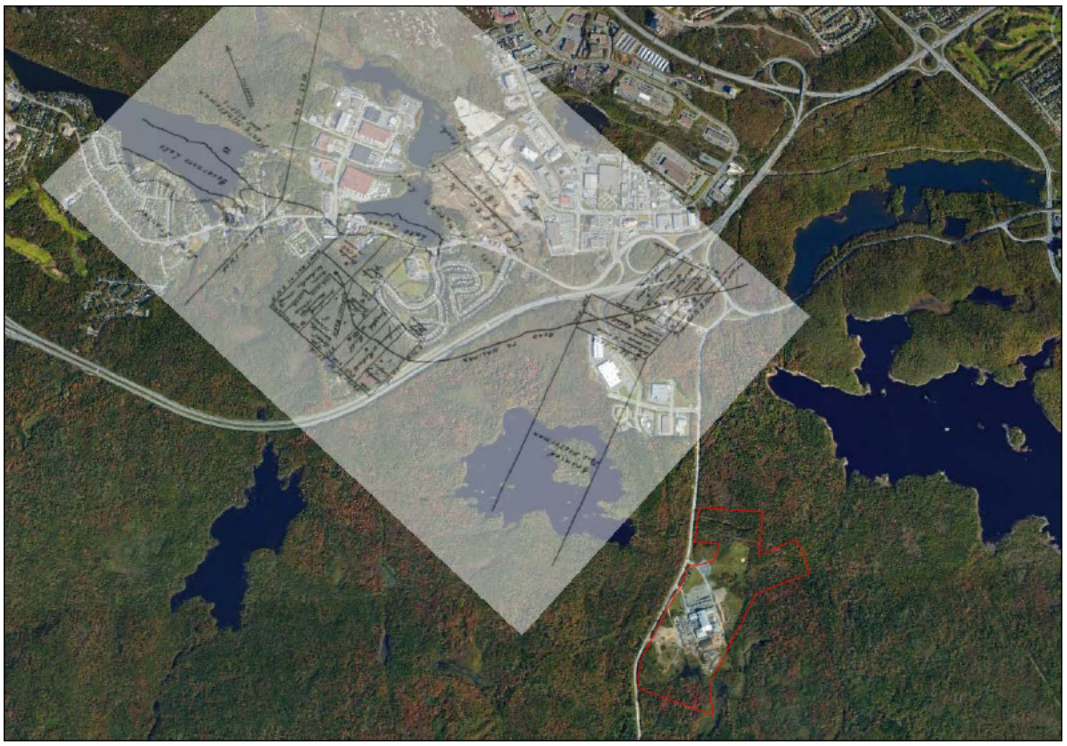


Figure 4-3: 1818 grant of "Refugee Hill" in Beechville overlaid on modern satellite imagery in proximity to the study area (red).[73]

As with many land licenses given to Black settlers during this time, the plots were less than ideal for farming. Lord Dalhousie, who awarded the licenses in 1818, described lots as "rough and rocky for cultivation".[74] At the time the grants were awarded, a number of homes had already been built on the lots and Dalhousie notes that 28 families were settled on detached plots of land as well which could not be represented on the plan. While no examples of Black Refugee homes survived today, nor any photographs, descriptions from primary documents suggest that many were modest log cabins or huts.[75]

There is no indication that the community of Refugee Hill or any Black Refugee settlers were present within the study area, however. John Gosbee and Thomas Wagner received some of the earliest land grants in what would become the community of Goodwood,

[72] Shears 2015.
[73] Grant 1990, 84.
[74] Commissioner of Public Records 1818.
[75] Fergusson 1948, 75–80 from Fowler 2014; Grant 1990, 80–1 from Fowler 2014.

overlapping with the study area (Figure 4-4). John Gosbee, Thomas Wagner, Philip Tollmer, John Bower and Jacob Bower are thought to have received the earliest grants in Goodwood in the 1770s. It is thought the name of the community, Goodwood, is descriptive and was first used in John Gosbee's 1770 grant.[76]

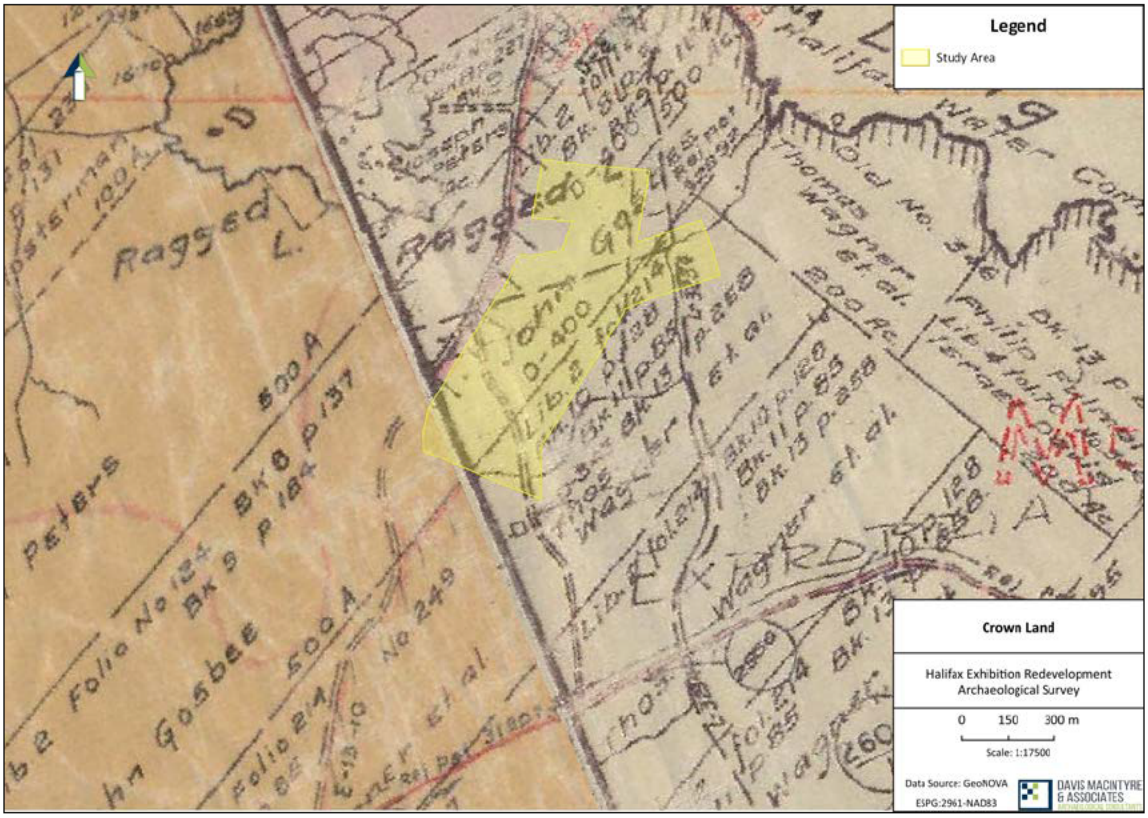


Figure 4-4: Crown Land Grant map showing study area (yellow) intersecting the grants of John Gosbee and Thomas Wagner et al.[77]

Unfortunately, it is unclear whether John Gosbee or Thomas Wagner settled the land surrounding the study area as both men received significant portions of land between Goodwood and Spryfield. However, Thomas Wagner, a German settler, passed on some, if not all, of his land to his daughter Mary Anne Wagner. Mary married William Umlach of Goodwood, and together the couple had 14 children and after her death in 1822, her land was divided amongst all of their children. While many of the Umlach (later spelled Umlah) family stayed in the Goodwood area, there is no evidence to suggest they settled the study area. As shown on an 1865 map by A. F. Church, there are no recorded inhabitants near the study area (Figure 4-5).[78]

[76] Fergusson 1967, 248.
[77] Department of Lands and Forests 1954a; 1954b.
[78] Shea 2003.

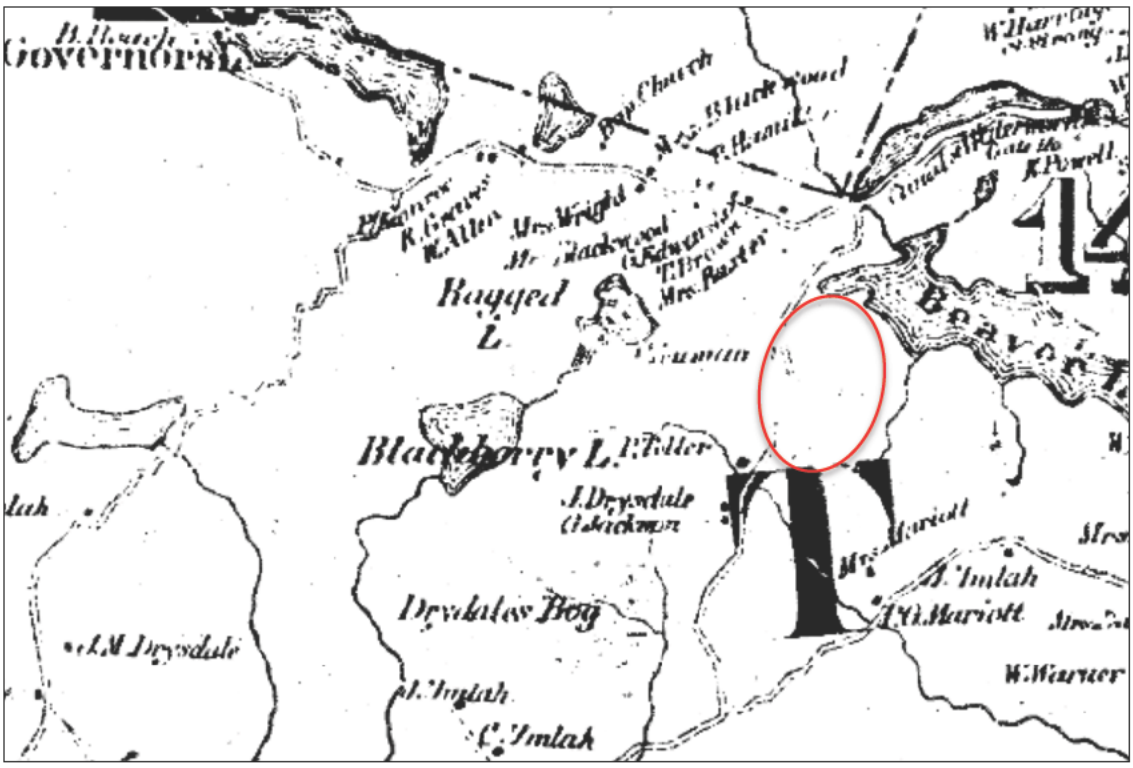


Figure 4-5: 1865 A. F. Church map with study area (red).[79]

By the time of the publishing of the 1908 Geological Survey of Canada map, a road cuts south across the study area from Prospect Road to what is labelled today as "Old St. Margaret's Bay Road" (Figure 4-6). On the 1908 map, one structure appears near the center of the study area, and a pipeline crosses the study area at the eastern extent. The pipeline is related to water infrastructure for the city of Halifax and connects Long Lake and Second Chain Lake with Spruce Hill Lake to the south. A 1906 map of the existing water pipes and infrastructure shows an existing 15-inch pipe running along the northeast edge of the study area (Figure 4-7). This pipeline was constructed in 1867-1868.[80] In 1957, a topographic map shows that the pipeline at the eastern extent was still in place and another pipeline had been constructed crossing through the study area roughly east-west (Figure 4-8). This second pipeline connected Long Lake to Big Indian Lake. Additionally, two structures appear to be located within the study area, along Prospect Road.

[79] Church 1865.
[80] Johnston 1906, 83.

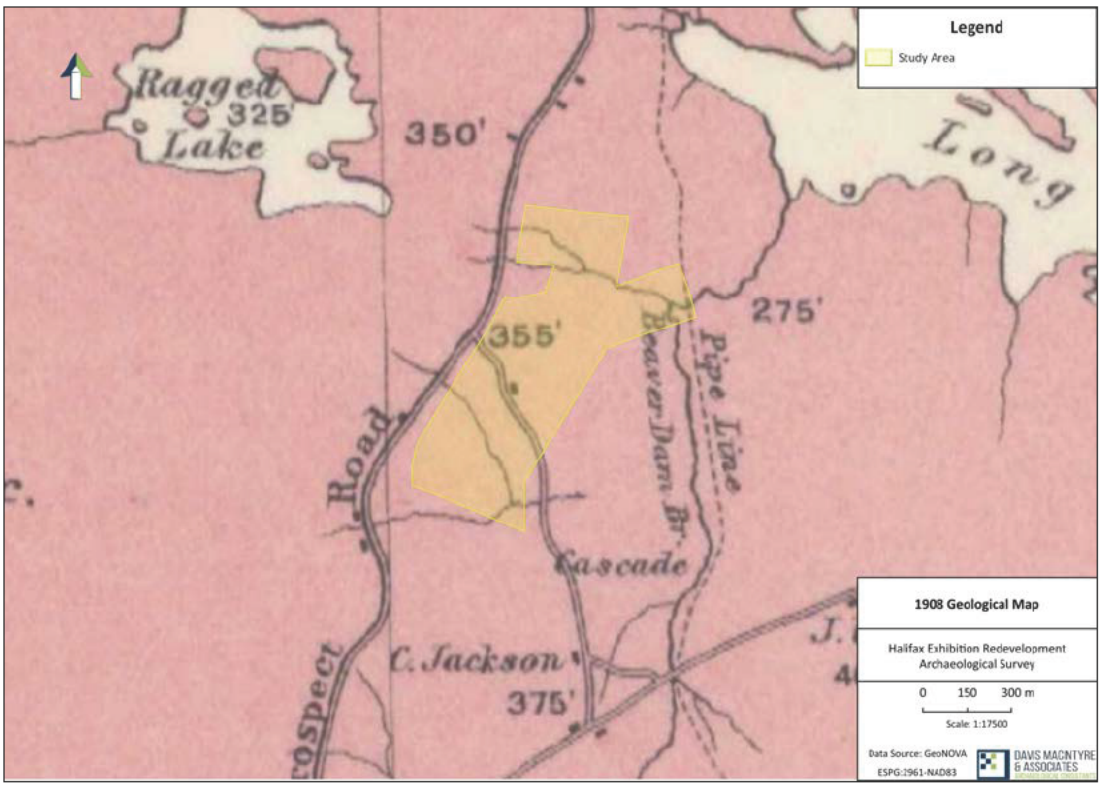


Figure 4-6: 1908 geological map showing study area (yellow).[81]

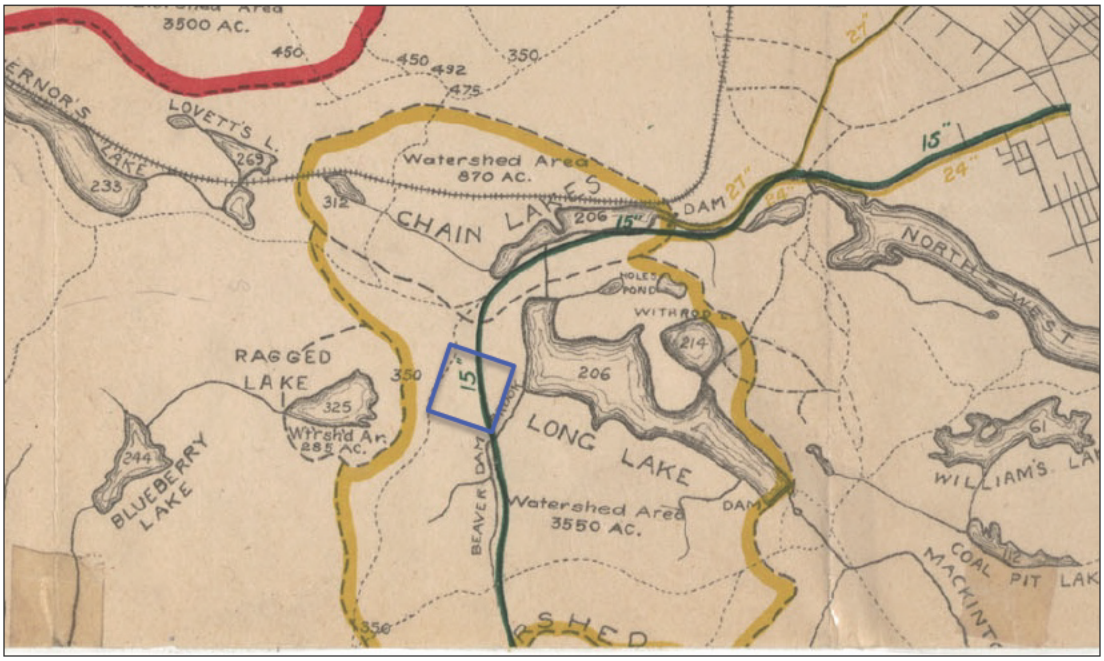


Figure 4-7: A 1906 map of the existing water infrastructure in near Halifax, showing a 15-inch pipe (green) running through the approximate study area (blue).[82]

[81] Faribault 1908.
[82] Doane et al. 1906.

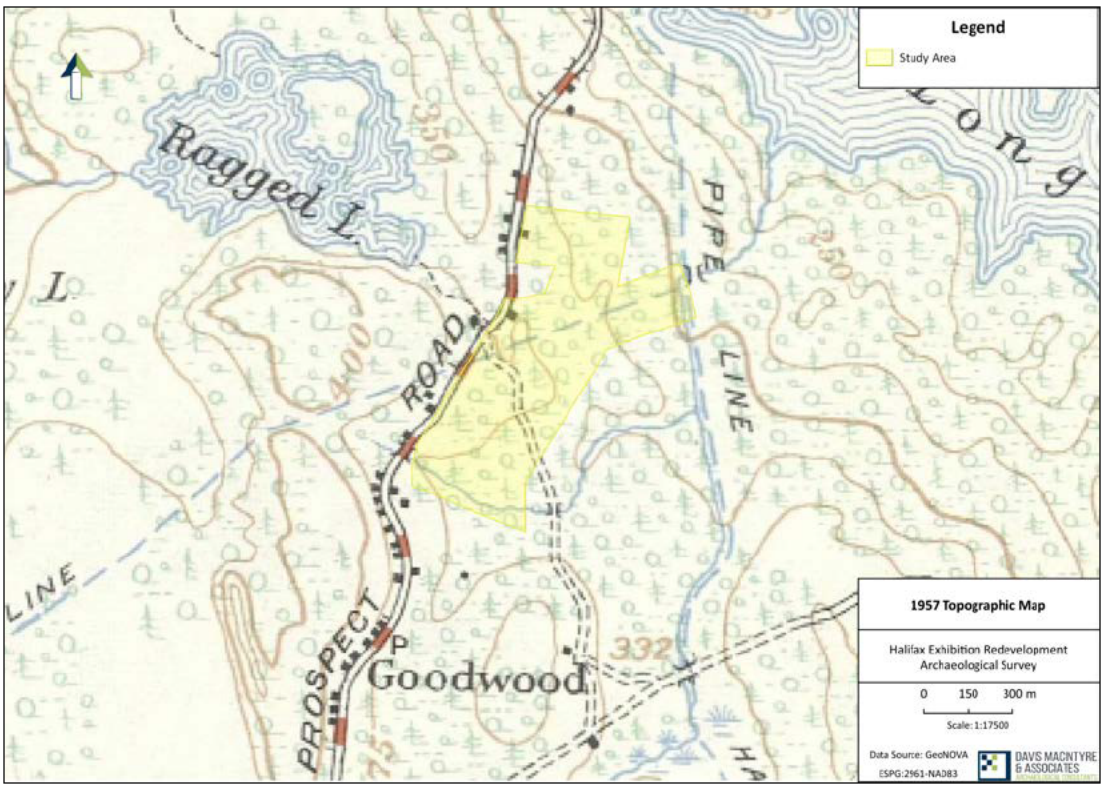


Figure 4-8: 1957 topographic map showing the study area (yellow). Note the blue dashed lines indicating the presence of water pipelines through the study area.[83]

The late twentieth century witnessed major changes to the study area with the construction of the Halifax Exhibition Centre. The history of the Halifax Exhibition begins with the Atlantic Winter Fair (AWF). The AWF was an annual fair beginning in 1963 that moved around the province taking place at different Exhibition grounds, most frequently, in Windsor. During the 1980's newspapers reported that the AWF was looking for a permanent home in the Halifax area. Several locations were suggested including Dartmouth, Bedford and Sackville before the decision was made to start construction at Prospect Road.[84]

Before the AWF Exhibition Park, or "the Exhibition" for brevity, was constructed, the Halifax City Council requested an assessment of its environmental impact. The Exhibition was in the watershed for Long Lake, which had been the municipal water supply until 1977, at which time it became a backup water reserve for the city. Long Lake subsequently became part of Long Lake Provincial Park due to this re-evaluation of its water status.[85] An assessment by the Lakes and Waterways Advisory Committee of the City of Halifax recommended the Exhibition could be built as long as they provided for:

[83] National Topographical Survey 1957.
[84] Anon 1982.
[85] Waller et al. 1983, 3.

1) adequate buffer strips adjacent to stream channels,
2) preparation and implementation of an erosion and sediment control plan for the construction phase,
3) Disposal of liquid and solid waste outside of the Long Lake watershed, and
4) Treatment and disposal of storm runoff from parking and loading areas that are likely to contribute pollutants to the lake.[86]

After receiving environmental clearance, construction commenced, and the Atlantic Winter Fair had its first fair at the Exhibition in fall 1984 (Figure 4-9). During the 1980s and 1990s, the fair ran yearly, and it was kept busy by visitors, seeing over 85,000 people in 1992.[87] The Halifax City Council Minutes from this time show that the Atlantic Winter Fair Committee were managing increased traffic along Prospect Road and entertained the construction of a horse-racing track in collaboration with the Horse Harness Owners Association in 1988. It was eventually decided that the track be built closer to the Halifax International Airport.[88]



Figure 4-9: A pamphlet from the first Atlantic Winter Fair at Prospect Road.[89]

[86] Murtagh 1983.
[87] Atlantic Winter Fair 1984.
[88] Harness Horse Owners Associaton 1988.
[89] Atlantic Winter Fair 1984.

Aerial photography from 1931 shows that the study area was mostly forested, with clear-cut patches throughout (Figure 4-10). There was also a narrow road that ran south from Prospect Road to Old St. Margaret's Bay Road. It does not appear there were any structures in the study area at this time, however, this may be due to tree cover or the quality of the photo. A small, cleared area existed along Prospect Road in the north end of the study area but structures are not clearly visible in the 1931 air photo. In the 1947 air photo, however, at least one structure appears to be present here. This structure may have been short lived as it is no longer visible on the 1973 photo.

By 1947, a linear clear-cut across the study area is visible, showing the location of the water pipeline connecting Big Indian Lake to the pipeline that connects to Long Lake, as shown in Figure 4-8. The 1954 aerial photo also shows that the forest was regenerating, and the highway had been straightened sometime between 1947 and 1954 (Figure 4-11). The road that ran south from Prospect Road was still extant, and there was a rectangular clear-cut section at the southwestern extent. There may have been a structure in the rectangular clear-cut section, however it is difficult to say definitively due to the photo quality.

The 1981 aerial photo shows further indication of forest regeneration and the road running south from Prospect Road was grown over to the point it is difficult to discern on the photo (Figure 4-12). The rectangular clear-cut section from the 1954 also appears to be grown over. The presumed pipeline road still cuts across the study area, and there was a new road clear-cut at the northern extent of the study area.

Finally, 1992 aerial photography denotes the largest changes to the study area with the construction of the Halifax Exhibition Centre (Figure 4-13). The Exhibition had a large parking lot, multiple roads and a large structure. The surrounding landscape exhibits exposed soil, likely related to the recent construction. The presumed pipeline still runs across the study area, and the road at the northern extent of the study area was still extant. LiDAR indicates that infilling continued after 1992, particularly in the north end of the study area.

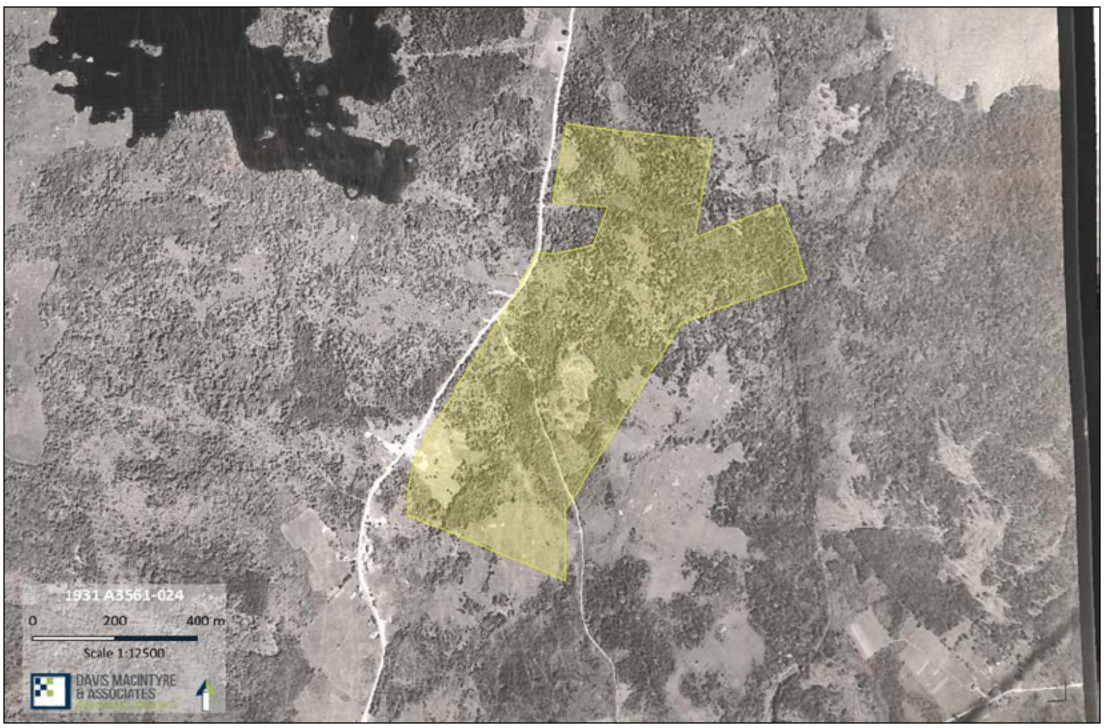


Figure 4-10: 1931 air photo with study area (yellow).[90]

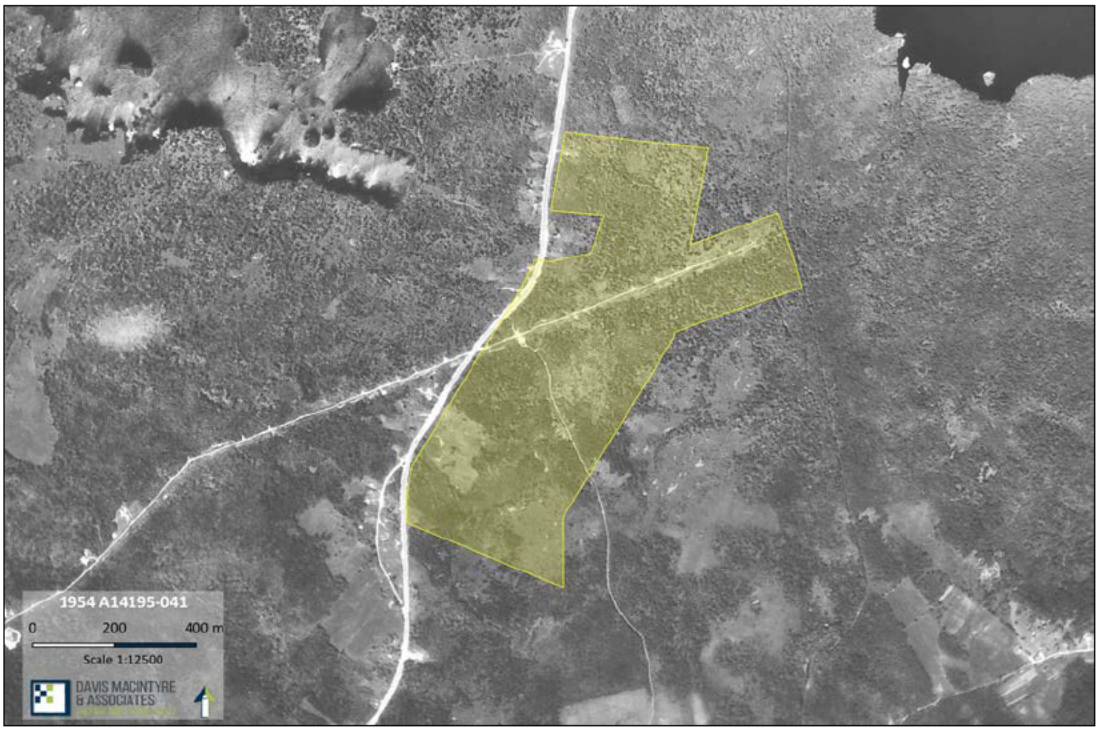


Figure 4-11: 1954 air photo with study area (yellow).[91]

[90] Nova Scotia Department of Lands and Forestry 1931.
[91] Nova Scotia Department of Lands and Forestry 1954.



Figure 4-12: 1981 air photo with study area (yellow).[92]



Figure 4-13: 1992 air photo with study area (yellow).[93]

[92] Nova Scotia Department of Lands and Forestry 1981.
[93] Nova Scotia Department of Lands and Forestry 1992.

4.3 Predictive Modelling

Predicting the occurrence of L'nuk heritage resources during the Late Pleistocene to the Holocene is a complicated task. Understanding localized geomorphological factors that influenced this rapidly evolving landscape and how the landscape may have been utilized by the ancestors is paramount for the prediction of potential site locations. Often, face value modern visual interpretations of these landscapes are not sufficient. This may lead to unintentionally overlooked resources for this expansive time period.[94] However, human movement is seldom tied solely to resource collection and to the ease of passage between resource collection areas. Exchange networks, familial histories, traditions, and ceremonial practices are also important factors to consider when seeking the relationships of past peoples and a given landscape.[95] Nevertheless, the prediction of past resource collection areas and travel corridors, such as the evolution of individual watercourses, can help narrow down potential activity areas. Difficulty in predicting landscape use for a specific study area is also compounded by the lack of localized geomorphological, climactic, and archaeological research. Historic anthropogenic landscape alterations further complicate desktop models. This is additionally muddied by innumerable unknown factors. However, broader regional trends and statistical modeling may offer insight into how the landscape may have been utilized as it evolved, thus, predicting the occurrence of previously unknown resources with greater accuracy and efficiency.

The earliest known occupation of the Maritime Peninsula occurred just before, and roughly overlapping with, the Younger Dryas cooling event that occurred from ~11,000 ^{14}C to 10,000 BP (13,000 to 11,600 cal BP). The open spruce landscape typical of the region reverted to a dry, cold, treeless shrub tundra with the onset of colder temperatures.[96] During this time glaciers residing in the Highlands of Nova Scotia were reinvigorated, blocking several river systems near these areas with sediments and ice. New glacial lakes and outflows were formed throughout the province (See Section 2.1).[97] The Minas Basin Glacier reactivated and blocked the outlet to the Shubenacadie drainage system with an ice and clay dam. At around 10.6 ^{14}Cka, the Shubenacadie River and its tributaries overflowed their banks flooding low-lying areas of the Shubenacadie, Musquodoboit and Stewiacke River valleys that were located below 30 m in elevation. This massive lake, coined Glacial Lake Shubenacadie II, was the largest of two massive glacial lakes that flooded central Nova Scotia during this event. These lakes essentially bisected the province for the duration of their short existence. New outflows were created through the Dartmouth lakes into Dartmouth Cove and near Gibraltar Rock in Musquodoboit Harbour.[98] The Dartmouth outlet flowed into the remnants of the Ancient Sackville River north of Georges Island towards the sea, which at the time, was located at approximately

[94] Suttie et al. 2007.
[95] Lacroix 2015, 31.
[96] Stea and R.J. Mott 1989, 172.
[97] Stea 2011.
[98] Stea and R.J. Mott 1989.

-65m below modern levels. Sea level rose rapidly during this period, and then steadily increased after 11 ka.[99] Coastal lowstands offered early peoples open corridors for moving freely about the region unimpeded by modern ocean extents.[100]

As the climate again warmed at the end of the stadial, ice dammed lakes breached as glaciers retreated. Once flooded regions emerged as bogs and fens leaving large sand and clay deposits in their stead. These glacial lake strandlines may have continued to be important activity areas and travel corridors for both animals and L'nuk during the early post glacial period as the terrain recovered. The landscape eventually rebounded, and vegetational expanse continued into the Late Palaeo Period. Relative sea level reached approximately -40 m below modern levels by 10,000 BP.[101] The lowstand within the Halifax Harbour and Northwest Arm slowly inundated with water progressively eroding the Ancient Sackville River and its tributaries resulting in the creation ten postglacial lakes. Two of these were located within the Northwest Arm.[102]

Predictive modeling for the early Holocene Archaic Period presents a unique set of challenges for archaeologists. Over this approximately 3,000-year period post deglaciation, riverine systems and coastlines of the Maritime Peninsula experienced a series of dramatic changes influenced by numerous factors including localized isostatic rebound, lake formation and collapse, changes in relative sea levels, and rapid sediment depositions.[103] Recent studies, following examples from Northern Maine suggest that during the period between 9,000 BP and 7,000 BP, river systems in the region were largely unstable, with near continual gradation and reworking due to accelerated sea level rise. Often, inland archaeological sites from this period are masked by deep aggraded deposits of alluvium. The small fraction of isolated finds representing this period are likely "dislodged" by a multitude of natural and unnatural disturbances.[104] The natural effects of chronological shingling may also add to the representation bias of finds recovered from shorelines and streambeds. By 6,000 BP, sea level rise had steadied inundating drainage systems and presently continues to rise approximately 0.36m/100 years.[105]

Submerged palaeoshores and ancient channels have been mapped at Lake Banook which indicate significant water fluctuations in the Dartmouth Lakes throughout the postglacial period.[106] This stable rise resulted in the formation of a well-defined palaeoshoreline at approximately -23 m within the inner reaches of Halifax Harbour.[107] The last remaining lake in the Harbour, Lake Bedford, transitioned from freshwater to marine as the waters

[99] Shaw et al. 2002a, 1867.
[100] Shaw et al. 1993, 223.
[101] Fader and Miller 2008.
[102] National Resources Canada 2010.
[103] Murphy 1998, 93.
[104] Murphy 1998, 93.
[105] Baechler 2017, 394.
[106] Webster et al. 2015.
[107] National Resources Canada 2010.

raised over the shallow sill at The Narrows around 5,700 BP.[108] Consequently by 5,000 to 4,000 BP, the lake and river systems in Nova Scotia largely stabilized in their current configurations coinciding with the latter half of the Late Archaic Period.[109] By 3,000 BP, the Halifax Harbour had resembled current conditions with the shoreline residing less than 5m from modern levels.[110]

The general location of Woodland to Historic period occupation sites along the river systems and coastlines of Nova Scotia are largely predictable owing, in part, to river stabilization and the characteristic slow predictable sea level rise of this period. Yet, the increasing pace of mid-20th century sea level rise has left near coastal sites from this period vulnerable to rapid erosion and loss. Sea level rise combined with increasing storm severity will undoubtedly affect upstream watercourse alignments and sediment depositions, especially in low lying areas, in the years to come. The upper limits of SLR projections are estimated at 1.3m over the next 100 years.[111] This process has submerged known L'nuk cultural resources first recorded in the early 20th century and has undoubtedly caused the erosion of numerous unknown sites along coastlines and river systems within recent memory.

Understanding the geomorphological changes of shorelines and individual river systems is paramount in the prediction of L'nuk cultural resource potential due to the strong connections between Mi'kmaw, waterways, and bodies of water.[112] Yet, modeling landscape change and its subsequent landscape usage is a challenge that is often limited to the amount of prior localized geological and archaeological research. Historic alterations can further complicate these interpretations. However, the use of ground-truthed archaeological potential buffers can be used to statistically highlight areas to inform interpretations in the field for archaeological potential when previous research is unavailable. Following the model required to be used for archaeological consulting by New Brunswick Archaeological Services (developed from the Sevogle River Test Plot),[113] a 50-metre high and an 80-metre moderate L'nuk archaeological potential buffer was created for the watercourses and shorelines recorded near the study area (Figure 4-14).

A cross examination of the 15 sites attributed to L'nuk occupation recorded within 15 kilometres of the study area reveals that 13 sites lie within these predictive watercourse activity buffers (or within a 10 meters grace given for pre-GPS coordinate recording errors) for an accuracy of 87%. It is important to note that many of these sites were recorded before the implementation of handheld GPS and their locations rely on human transcription, and therefore may not be exact. Site locations are recorded within the MARI database as a single coordinate; therefore, recorded site locations are reflective of

[108] Fader and Miller 2008.
[109] Shaw et al. 2002b, 143.
[110] Fader and Miller 2008.
[111] Forbes et al. 2009.
[112] Thwaites 1896; Cook 2007, xxiii.
[113] Archaeological Services 2012.

overall mobility trends rather than site extents. It should also be noted that sites recorded within urban HRM that lie well outside potential buffers may be related to the alteration of ancient watercourses as well as non-watercourse related movement.

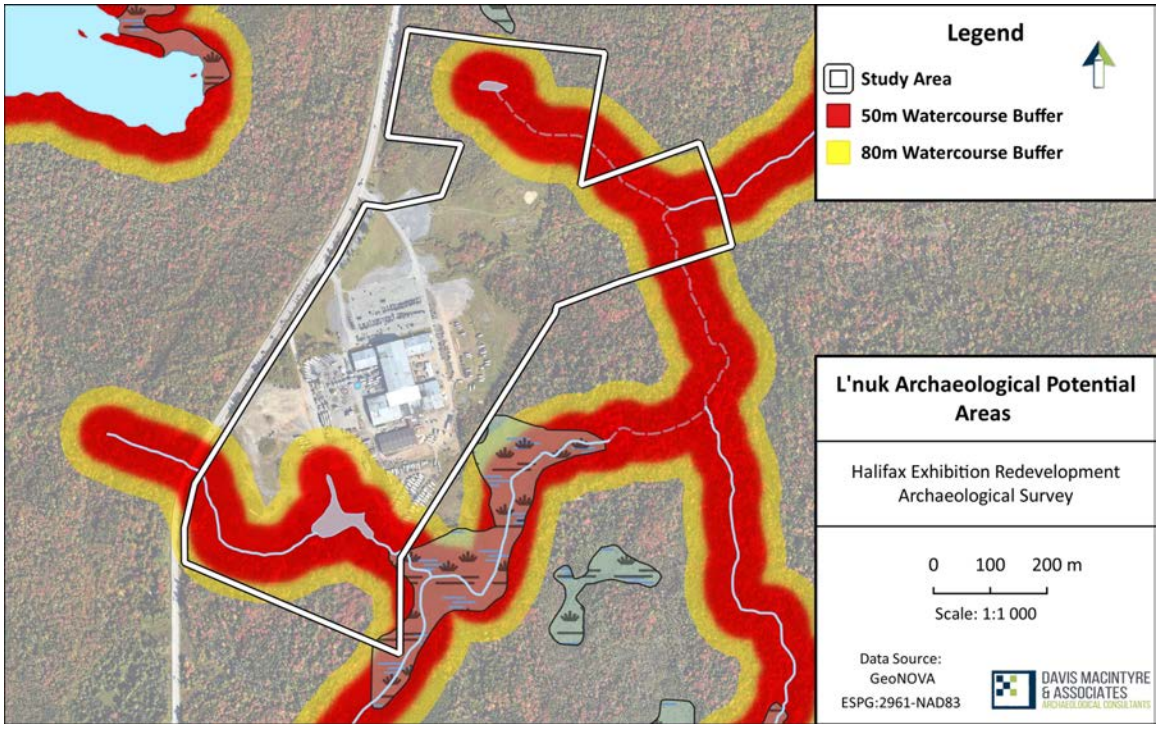


Figure 4-14: The study area with watercourses and L'nuk archaeological potential buffers.

4.4 Field Reconnaissance

A reconnaissance was conducted on 28 August 2023 under warm and sunny conditions (Figure 4-15, Figure 4-16). The majority of the study area is currently developed or has been previously extensively impacted, with the exception of a few areas on the north and south edges of the study area. Prior to the reconnaissance potential LiDAR anomalies were flagged for examination in the field. However, none of the potential anomalies were archaeological in origin and instead, were related to natural activity (tree falls, large boulders) or modern cultural activity (skidder trails, borrow pits, etc).

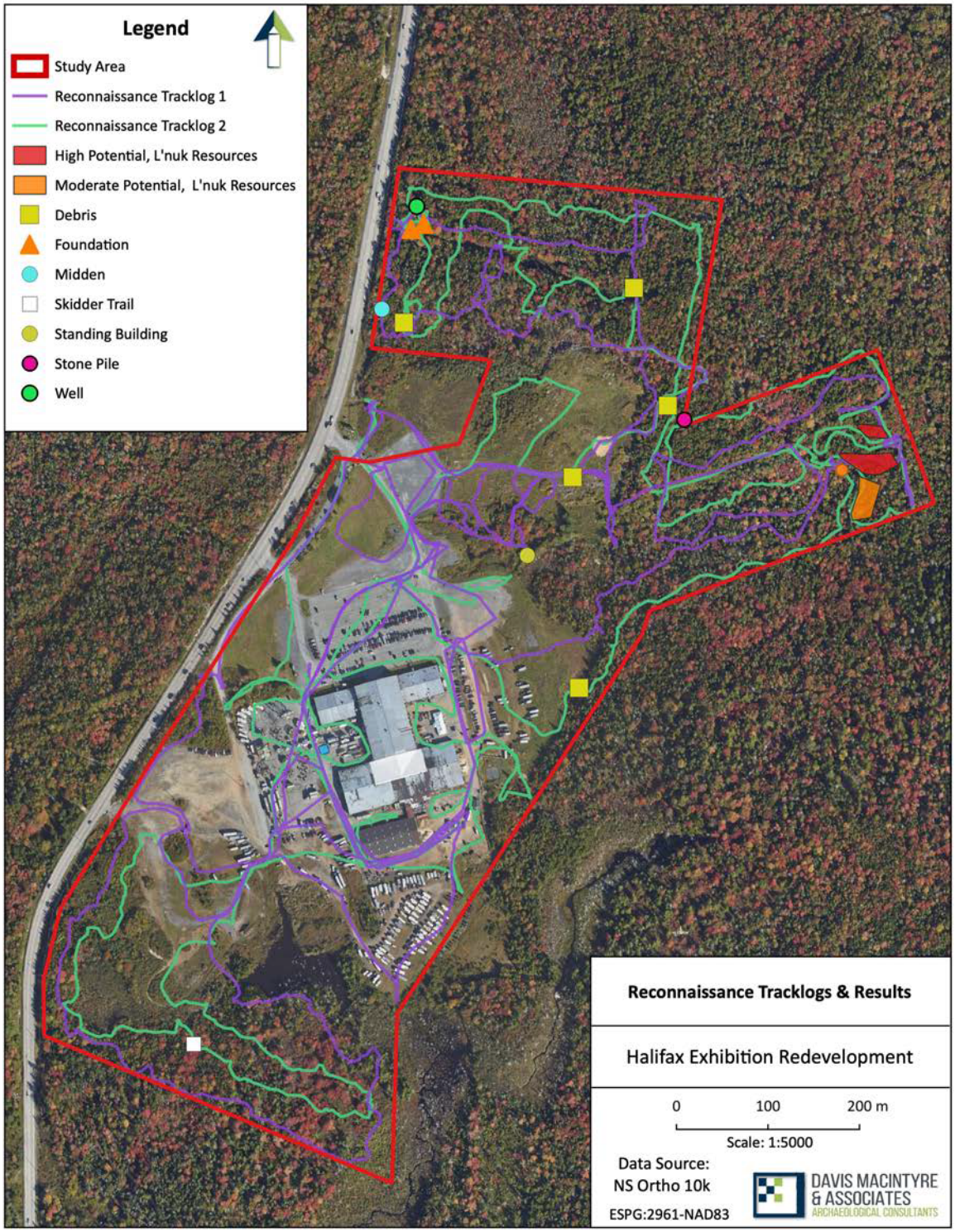


Figure 4-15: Tracklogs, points of interest, and areas of elevated potential identified during the 2023 reconnaissance, on 2017 satellite footage.

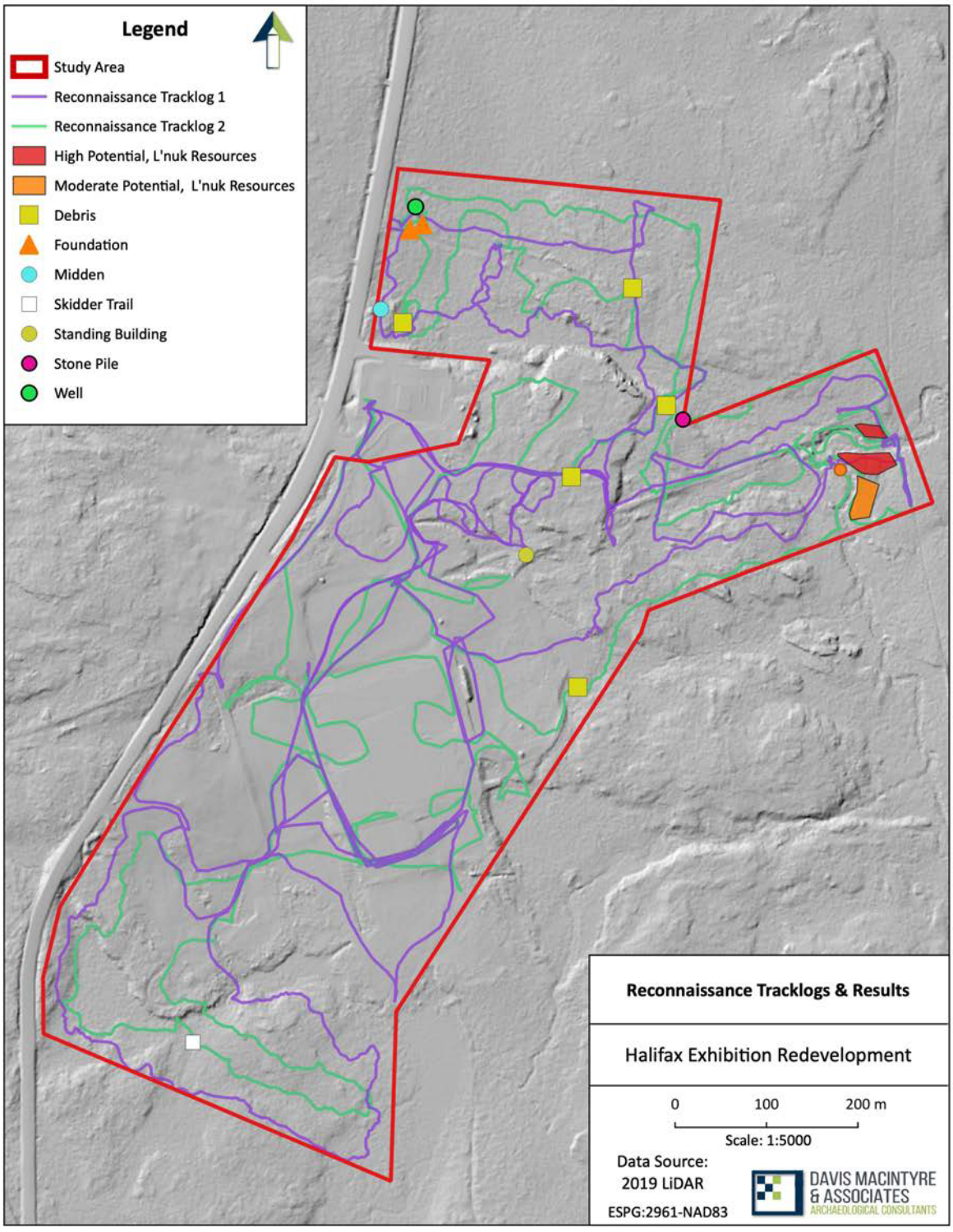


Figure 4-16: Tracklogs, points of interest, and areas of elevated potential identified during the 2023 reconnaissance, on 2019 LiDAR data.

In the north end of the study area, the terrain is forested but shows signs of disturbance in the 20th century. Debris and modern garbage were noted in several areas, along a road and pond that appear to have been constructed between 1973 and 1981, according to air photos. The pond contains unidentified metal items, possibly related to a water pipeline (Plate 1). The surrounding terrain is undulating, rocky, and wet, with patches of dense shrubs like rhodora and Labrador tea (Plate 2), as well as areas with moss or fern understory (Plate 3). The trees are semi-mature to mature mixed wood and show signs of past logging. Large blowdown is also present along the edges of more open wetland areas (Plate 4).

Along Prospect Road, numerous signs of past landscape use and disturbance were noted. These include significant infilling, as well as dense young clearcut regrowth, and mid-20th century historic features. A stone-lined well was noted, as was a concrete foundation, a stone foundation, a road, and a midden (Plate 5). Dense young regrowth is present along the edge of Prospect Road, making for poor visibility.



Plate 1: The pond with unidentified metal objects, constructed between 1973 and 1981, looking east.



Plate 2: Dense shrub understory in the north end of the study area, facing west.



Plate 3: More open and mature forest, with fern and moss understory in the north end of the study area, facing west.



Plate 4: Blow down around an area of more open wetland, looking west.



Plate 5: The concrete foundation (Foundation_01), looking north.

South of these features, the study area abuts a large area of ongoing and significant infilling. This infilling has created a large wetland, with standing water that was not walkable (Plate 6). Vegetation outside of the infilling consists of a mixture of young to semi-mature to mature trees, mainly spruce with some hardwood (Plate 7). The understory is mossy or dense shrub cover. In the infilled area, ongoing infilling has not yet had a chance to revegetate. In older infilled areas, vegetation varies between tall grass fields and dense pockets of Japanese knotweed (Plate 8). Some infilled areas are forested, suggesting a long pattern of infilling on the property (Plate 9).



Plate 6: The large area of wetland along the edge of the extensive and ongoing infilling, looking east.



Plate 7: Large concrete blocks along the edge of the re-vegetating infilled slope, looking south.



Plate 8: Tall grass, goldenrod, and clumps of Japanese knotweed growing on top of an extensive area of fill.



Plate 9: A mature tree growing on top of a pile of fill, including concrete blocks, looking west.

The northeast corner of the study area consists of a less impacted and more forested landscape. Extensive disturbance is present along the edge of this forested area, and the landscape is bisected by a built-up gravel trail, the remains of the water pipeline built between 1931 and 1947, that connects the Halifax Exhibition parking lot to the Long Lake Pipeline Trail (Plate 10). Near the edge of extensive past infilling, the terrain is low and wet, characterized by spruce, moss, ferns and standing water and wetland (Plate 11). A culvert and stone-lined ditch drain into the Beaver Dam Brook along the side of the connector trail (Plate 12). Signs of recent erosion and wash out of soils were noted surrounding the connector trail, which is generally built up by 1 to 2m from the surrounding terrain. North of the connector trail, the landscape is forested with higher sloped terrain surrounding low wetland. Signs of logging were noted closer to the Halifax Exhibition Centre, as were signs of modern garbage.



Plate 10: Gravel trail/20th century water pipeline that connects to the Long Lake Pipeline Trail, looking northeast.



Plate 11: Area of wetland, with standing water, in the northeast branch of the study area.



Plate 12: A stone-lined ditch leading from a culvert to the brook, along the gravel trail (right), facing southwest.

Towards the northeast, the terrain becomes higher and drier near where Beaver Dam Brook crosses the study area. This watercourse is non-navigable but was fast flowing at the time of the reconnaissance (Plate 13). The watercourse connects to Long Lake in approximately 500 meters. While not navigable, this watercourse would provide ample freshwater and several high and dry terraces along the banks of the brook were evaluated to be of elevated potential for L'nuk archaeological resources (HP_01, HP_02, MP_01, MP_02; see Section 5.0). In other areas, particularly lower areas, signs of scouring were observed, suggesting these lower areas are prone to flooding (Plate 14). Numerous boulders and glacial erratics dot the landscape. The vegetation in these areas is semi-mature to mature mixed wood forest. Dry channels from past alignments of the brook were also noted.

The Pipeline Trail crosses the Beaver Dam Brook near the edge of the study area and is located along the historic water pipeline constructed in 1867/68. A bridge or other structure may have been present at one time but appears to have since washed out. Several pieces of unidentified metal were observed within the brook itself, likely part of the pipeline infrastructure, while cut granite blocks are also observable in the streambed (Plate 15). A possible stone abutment was also noted in the bank on the south side (Plate 16). Erosional faces along the watercourse revealed a sandy gravel, likely roadbed or pipeline construction materials.



Plate 13: Beaver Dam Brook, a fast-flowing, non-navigable watercourse, looking north.



Plate 14: Scouring and sand deposited along the lower banks of the brook, looking north.



Plate 15: Cut granite blocks (blue) and unidentified metal (yellow) in the brook at the Pipeline Trail crossing, looking north.



Plate 16: A possible stone abutment or stone lining the brook on the south bank, looking south.

The center portion of the study area is the largest, characterized by extensive past disturbance, including infilling, standing buildings, and parking lots, along with associated utilities. Fire hydrants, manholes, propane tanks, and power poles are located around the existing buildings of the Halifax Exhibition Centre (Plate 17, Plate 18, Plate 19). Numerous areas show signs of recent and significant erosion, particularly around manholes. Surrounding the center is a large parking lot to the north and west. Between the parking lot and Prospect Road is a tall grass field and paved road, which all appear to have been extensively disturbed and infilled. Two show homes are present in this area, one located on a grass covered area with a sidewalk, curb, and paved roadway, the other located in a gravel parking lot (Plate 20, Plate 21). To the west of the Halifax Exhibition Centre is a fenced in racetrack and large parking lots (Plate 22, Plate 23).

East of the Halifax Exhibition Centre is a large gravel parking lot and grass covered infilled area (Plate 24). Surrounding this area is a steep slope of infilling down to wetter forested terrain (Plate 25), and a small standing building on a concrete foundation, which appears to be abandoned (Plate 26).



Plate 17: An existing stormwater drain and line in the parking lot in front of the Halifax Exhibition Centre, looking northeast.



Plate 18: A fire hydrant, power poles, and eroding manholes/storm drains, looking south.



Plate 19: Propane tanks (enclosed in fencing to the right) and propane shut off switches on the building (yellow on left side), looking northwest.



Plate 20: The driveway into the property from Prospect Road, with a show home in place on a grass covered infilled area.



Plate 21: The large gravel-covered infilled parking lot to the north of the Halifax Exhibition Centre, with a show home or trailer present, looking east.



Plate 22: The racetrack located to the west of the Halifax Exhibition Centre, looking east.



Plate 23: A large parking lot between the racetrack (left) and the Halifax Exhibition Centre (right), looking north.



Plate 24: An area of rock fill and vegetation-covered construction debris fill, including bricks and large blocks of ironstone, looking east.



Plate 25: The edge of rock fill, onto a low wet spruce forest, looking south.



Plate 26: A small, potentially abandoned building with a concrete foundation in the woods to the east of the Halifax Exhibition Centre.

South of the Halifax Exhibition Centre complex is a gravel driveway and a large grass-covered infilled area (Plate 27). In general, infill appears to consist of construction debris, including rock, brick, and wood, as well as large rock fill. Most of the infilled areas are covered in tall grass, goldenrod, and bushes, which makes visibility of the uneven and rocky surface difficult and walk through the area challenging (Plate 28). Large blocks of concrete and large boulder fill are present, particularly in the south end (Plate 29).

The very south end of the study area consists of a small strip of forested terrain and wetland that abuts the significant area of infilling and disturbance. The forested terrain consists of a steep slope near Prospect Road which runs down to a large wetland. The wetland may have been at least partially created by the extensive infilling to the north (Plate 30, Plate 31). A large pond is present along the edge of the filling, which appears to be man-made, as it is not present on any 20th century air photos (Plate 32). A recent skidder trail is also present through this area. In general, the tree cover is young to semi-mature trees, with cut stumps indicating past logging activity in the area (Plate 33). In the southeast corner, a large bog is present, surrounded by low, wet terrain with dense shrub cover (Plate 34).



Plate 27: A gravel road leading from the gravel driveway at the south end (back) of the Halifax Exhibition complex. Note the large rock and concrete fill visible under the eroding gravel, looking north.



Plate 28: A large grass- and goldenrod-covered infilled field, looking south.



Plate 29: Large concrete block fill, with dense vegetation and goldenrod covering the fill, looking southeast.



Plate 30: The steep and rocky edge of the infilling in the south end, with a wetland and drainage watercourse running along the base of the fill, looking north.



Plate 31: Part of the large wetland area in the south end of the study area, looking east.



Plate 32: A large pond of standing water in the south end of the study area.



Plate 33: A recent skidder trail, with standing water visible in the tracks, looking east.



Plate 34: The edge of a large bog in the southeast corner of the study area, looking southeast.

5.0 RESOURCE INVENTORY

Four historic features were identified during the reconnaissance. Foundation_01, a concrete, L-shaped foundation, measures approximately 6m by 5m. The walls of the foundation are approximately 1m tall, although most sections have collapsed (Plate 35). A road or driveway is present to the south of the foundation and leading southeast into the study area. Nearby, approximately 10m away is a shallow depression (less than 50cm), approximately 7m by 10m, that appears to be lined in sporadic dry stone (Plate 36). Foundation_02 has less clear feature definition and is a possible foundation. A large metal drum and large metal tank, possibly for water or septic, have been dumped into the shallow depression (Plate 37). Two small concrete filled metal bases (possibly for signs or fence posts) were noted to the north of Foundation_01 (Plate 38). To the north of Foundation_01 is a stone lined, uncovered well (Plate 39). Approximately 100m south of Foundation_01 is a midden in the toe of slope of Prospect Road (Plate 40). This midden consists of metal cans, as well as 20th century ceramics.

Air photos suggest that most of these features are related to mid-20th century activity. None of the features are visible in 1931, although this area is generally open and may be a field. Between 1931 and 1947, buildings have been constructed in this area, likely Foundation_01 and possible Foundation_02. The midden likely also dates to the mid-20th century. By 1973, the features appear to be abandoned and by 1981, a new road has been constructed through the area and in towards a newly constructed pond approximately 115m from Foundation_01. The date and age of the well is less clear from air photos. Given that the area appears to be old field in 1931, the well may be related to earlier historic activity or may be related to Foundation_01 and Foundation_02.

HP-01 was assigned to a section of the east bank of the brook, encompassing a hilltop located above the brook and a higher terrace. The area is forested in mature trees, with a mossy understory. It is approximately 50m by 20m (Plate 41). HP-02 was assigned to a higher terrace on the north/west side of the brook. This area contains mature trees and while there are signs of some recent scouring, this seems to be due to recent extreme flooding and footpaths through the area. It is approximately 30m by 10m (Plate 42). Two areas of moderate potential were also noted. MP-01 was assigned to a small 5m by 10m area that was slightly higher than the surrounding scoured bank (Plate 43). MP-02 was assigned to a large area south of HP-01, which was lower and wetter but with fewer signs of scouring. At least one old brook channel was noted in this area as well. It is approximately 45m by 20m (Plate 44).

Table 5-1: A list of cultural features and areas of archaeological potential identified during the 2023 reconnaissance. Greyed-out items have been evaluated to be of low archaeological significance and have no further recommendations.

Feature Name	Description	Date Range	Archaeological Significance or Potential	Recommendation
Foundation_01	L-shaped, partially concrete foundation	Constructed between 1931 and 1947 (according to air photos). Abandoned by 1973	Low Significance	No further recommendations
Foundation_02	A possible dry-stone lined depression/ foundation	Constructed between 1931 and 1947 (according to air photos). Abandoned by 1973	Low Significance	No further recommendations
Well	**Stone lined, abandoned.**	**Indeterminate**	**Indeterminate**	**Monitoring of ground disturbance with 30m of the feature**
Midden	20th century material, including cans.	Indeterminate	Indeterminate	No further recommendations
HP_01	**50m by 20m**	**N/A**	**High Potential, L'nuk Resources**	**Shovel testing at 5m intervals if it will be impacted**
HP_02	**30m by 10m**	**N/A**	**High Potential, L'nuk Resources**	**Shovel testing at 5m intervals if it will be impacted**
MP_01	**5m by 10m**	**N/A**	**Moderate Potential, L'nuk Resources**	**Shovel testing at 5m intervals (due to size) if it will be impacted**
MP_02	**45m by 20m**	**N/a**	**Moderate Potential, L'nuk Resources**	**Shovel testing at 10m intervals if it will be impacted**



Plate 35: The remaining standing walls of the concrete foundation of Foundation_01, looking east.



Plate 36: A shallow, rectangular depression lined by moss covered rocks, potentially a foundation (Foundation_02), looking east.



Plate 37: A large metal drum and square metal tank, within Foundation_02.



Plate 38: Two metal and concrete bases (yellow), possible for fencing or signs, looking east.



Plate 39: The stone-lined well to the north of Foundation_01, north at top.



Plate 40: The 20th century midden located south of Foundation_01.



Plate 41: HP_01, looking northeast, with Beaver Dam Brook visible in the far left.



Plate 42: HP_02, on the far side of Beaver Dam Brook, looking northwest.



Plate 43: MP_01, a small area of slightly higher terrain, looking north.



Plate 44: The lower terrace, assigned as MP_02, located south of HP_01, facing north.

6.0 DISCUSSION

The Mi'kmaq and their ancestors have occupied the K'jipuktuk (Halifax) area since time immemorial with archaeological evidence dating back at least 7,000 years. Mi'kmaq occupation of the region continued into the historic period, even as the Town of Halifax was settled, and continues to this day. While much of the study area has been extensively infilled and impacted, the remaining areas are generally low and wet, or sloped. While some of the wetland appears to have been created by the disturbance and infilling in the center of the property, a review of air photos suggests that some of the wetlands likely pre-date the infilling, and that no significant watercourses were present in most of the study area. However, the northeast corner of the study area does contain a fast-moving, although non-navigable brook that connects Long Lake to the interior. This brook would have been a potential source of freshwater during hunting or resource gathering activities and four elevated potential areas were flagged along higher and drier terraces along the brook (Figure 6-1). Historic impact from the construction of a water pipeline in the late 1860s along this northeast edge is highly likely.

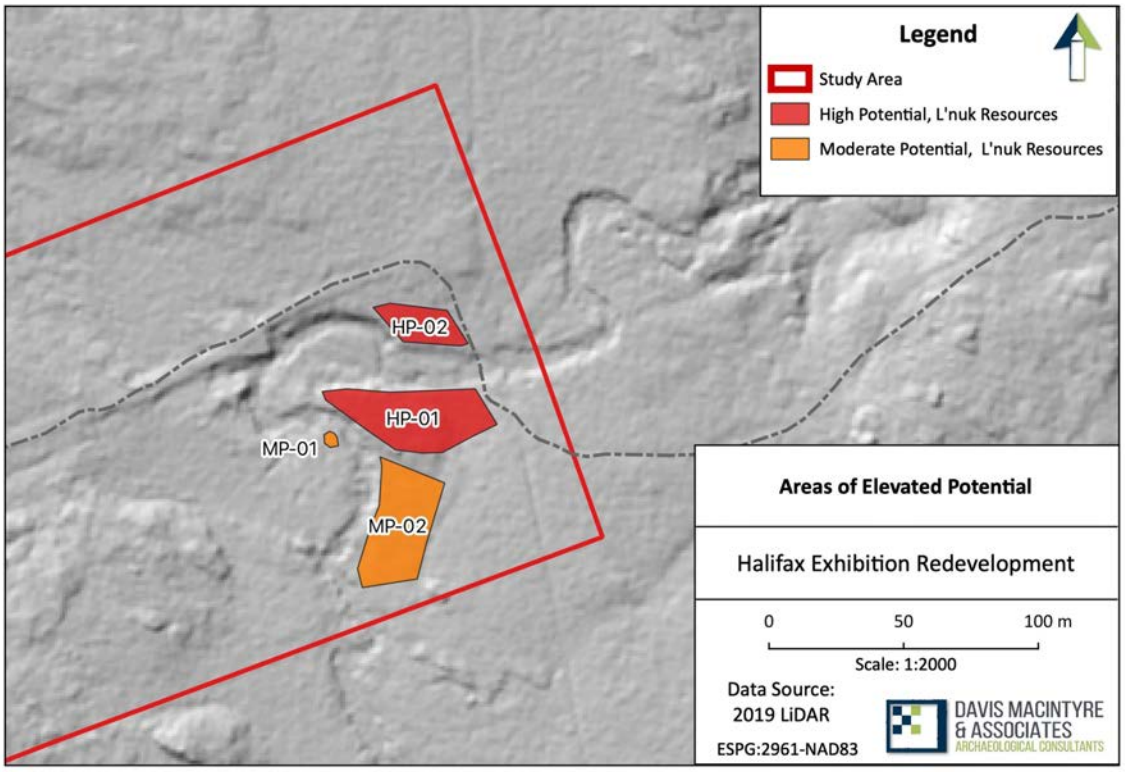


Figure 6-1: Areas of elevated potential in the northeast end of the study area identified during the 2023 reconnaissance.

Very little historic activity is documented within the study area. Maps suggest that there was little historic settlement within the study area itself until the early 20th century. Air photos similarly indicate roads and fields but no clear signs of houses or structures in 1931.

Between 1931 and 1947, new activity is visible in the northwest corner of the study area, where several features were identified during the reconnaissance (Figure 6-2). These two foundations, as well as the midden have been evaluated to have low archaeological significance as they likely date between 1931 and 1947 and appear to have been abandoned by 1973. It is less clear whether the well is contemporaneous with the foundations or whether it relates to earlier historic activity.

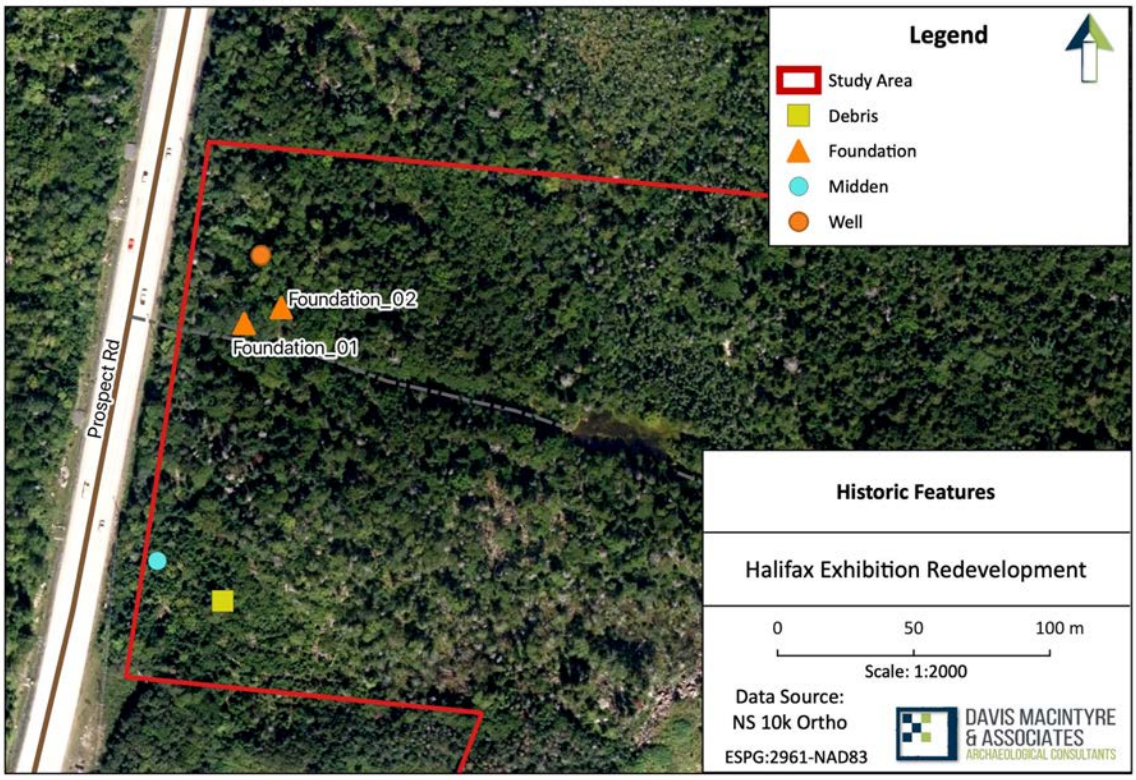


Figure 6-2: Historic and 20th century features identified during the 2023 reconnaissance in the northwest corner of the study area.

An extensive history of 20th and 21st century infilling, disturbance, and development characterizes the majority of the study area, beginning at least as early as the mid-19th century, when a water pipeline was constructed along the east side of the study area in 1867 and 1868. An additional water pipeline was constructed through the center of the study area between 1931 and 1947. Infilling and impact continued within the study area throughout the 20th century and into the 21st century. Fill appears to include construction debris and infilling has been ongoing for decades, completely obscuring the original ground surface. However, given that the desktop study suggests that most of the study area is of low potential for historic and L'nuk archaeological resources, and the impact that infilling would have had on the original terrain, these disturbed areas have been evaluated to have low potential for intact archaeological resources.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this assessment, the archaeological potential within the study area has been evaluated to be low, in general. Four areas of elevated potential for L'nuk archaeological resources were observed in the northeast end of the study area and several mid-20th century features were recorded in the northwest corner of the study area, as was a well of indeterminate age. Avoidance is the preferred method of mitigation. However, the mid-20th century features have been evaluated to be of low archaeological significance and therefore, there are no further recommendations for these features.

As the age of the well is unclear and it could pre-date the mid-20th century features, it is recommended that monitoring of any ground disturbance is conducted within 30m of the well.

For the four areas of elevated potential, it is recommended that should they be anticipated to be impacted, the areas should first be subjected to shovel testing to determine the presence/absence of archaeological resources and provide recommendations for mitigation, if necessary.

The remainder of the study area has been evaluated to be of low archaeological potential and there are no further recommendations for these areas. Should development plans change, then a qualified archaeologist should be contracted to conduct an additional assessment on any new areas outside the project boundaries identified in this report.

In the unlikely event that any archaeological resources are encountered during ground disturbance and an archaeologist is not already on site, it is required that all activity cease and the Coordinator of Special Places (902-229-3159) be contacted immediately regarding a suitable method of mitigation.

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Appendix A: Heritage Research Permit

NOVA SCOTIA

Heritage Research Permit (Archaeology)

Special Places Protection Act 1989

(Original becomes Permit when approved by Communities, Culture and Heritage)

Office Use Only
Permit Number:
A2023NS137

Greyed out fields will be made publically available. Please choose your project name accordingly

Surname Crowell	First Name Travis
Project Name Halifax Exhibition Redevelopment	
Name of Organization Davis MacIntyre & Associates Limited	
Representing (if applicable)	
Permit Start Date 11 July 2023	Permit End Date 31 December 2023
General Location: Halifax Exhibition, 200 Prospect Rd, Halifax Regional Municipality	

Specific Location: *(cite Borden numbers and UTM designations where appropriate and as described separately in accordance with the attached Project Description. Please refer to the appropriate Archaeological Heritage Research Permit Guidelines for the appropriate Project Description format)*

20T 447178.58 m E 4940573.64 m N

Permit Category:
Please choose one

- ☐ Category A – Archaeological Reconnaissance
- ☐ Category B – Archaeological Research
- ☑ Category C – Archaeological Resource Impact Assessment
- ☑ I certify that I am familiar with the provisions of the *Special Places Protection Act* of Nova Scotia and that I have read, understand and will abide by the terms and conditions listed in the Heritage Research Permit Guidelines for the above noted category.

Signature of applicant Original Signed	Date 27 June 2023
Approved by Executive Director Original Signed	Date 7/6/23