1146 St. Margarets Bay Road

Archaeological Resource Impact Assessment

Heritage Research Permit A2024NS032
March 27, 2024

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ARCHAEOLOGICAL CONSULTANTS

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1146 ST. MARGARETS BAY ROAD:
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT

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Category C

Davis MacIntyre & Associates Limited
Project No.: 24-006.1

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zzap Architecture + Planning

-and-

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Cover: Backyard and existing house at 1146 St. Margarets Bay Road study area, facing northeast.

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EXECUTIVE SUMMARY

In January 2024, Davis MacIntyre & Associates Limited was contracted by zzap Architecture + Planning to conduct an archaeological assessment for a townhouse development in Beechville, Halifax Regional Municipality. 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 historic background study and archaeological evidence have indicated that the Mi'kmaq and their ancestors lived in Kjipuktuk/Halifax since time immemorial. Numerous L'nuk archaeological sites, spanning the Saqiwe'k L'nuk/Palaeoindian period to today, have been identified along the shores and interior lakes and rivers in the region. Historic Mi'kmaq activity is well-documented, [redacted] There is no record of habitation or activity sites directly within the study area itself. Predictive modelling shows the study area lies mostly outside of the potential buffers; however, it should be noted that the sites within urban HRM that lie well outside potential buffers may be due to the alteration of historic watercourses.

Beechville is well-known as a historic African Nova Scotian community, with roots extending back to the arrival of Black Refugees following the War of 1812. House foundations and historical features associated with the 19th century African Nova Scotian settlement have been identified within 1-km of the study area. The study area, however, falls outside of the plots licensed to the original settlers. Land encompassing the study area was first granted in 1862 to George Yeadon and his wife Jane and was later sold in 1884.

Historic settlement directly within the study area was limited until the late 19th century, with the earliest structure on the property depicted in 1908 mapping. The house on the property may be an early 20th century structure depicted on historic mapping. The wood shingles and front and back extensions are suggestive of earlier construction. However, the concrete foundation indicates it was built more recently or has been renovated.

The 2024 archaeological reconnaissance did not identify any surficial archaeological features or areas of elevated potential for L'nuk and/or historic settler archaeological resources. Terrain within the study area has been extensively landscaped for urban development. Wooded areas are hummocky, poorly drained, and at least 100m distant from any known watercourses or shorelines.

Based on the results of this assessment, the 1146 St. Margarets Bay Road townhouse development study area has been determined to be of low potential for encountering historic settlement and/or historic or precontact L'nuk archaeological resources. As such,

no further archaeological investigation or mitigation is recommended within the study area.

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 January 2024, Davis MacIntyre & Associates Limited was contracted by zzap Architecture + Planning to conduct an archaeological assessment for a townhouse development in Beechville, Halifax Regional Municipality. 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 A2024NS032 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 townhouse development project is located at 1146 St. Margarets Bay Road in Beechville, Halifax Regional Municipality (Figure 2-1). The study area is approximately one acre of land and is proposed for redevelopment into four townhouses with associated infrastructure and parking (Figure 2-2; Figure 2-3; Figure 2-4).

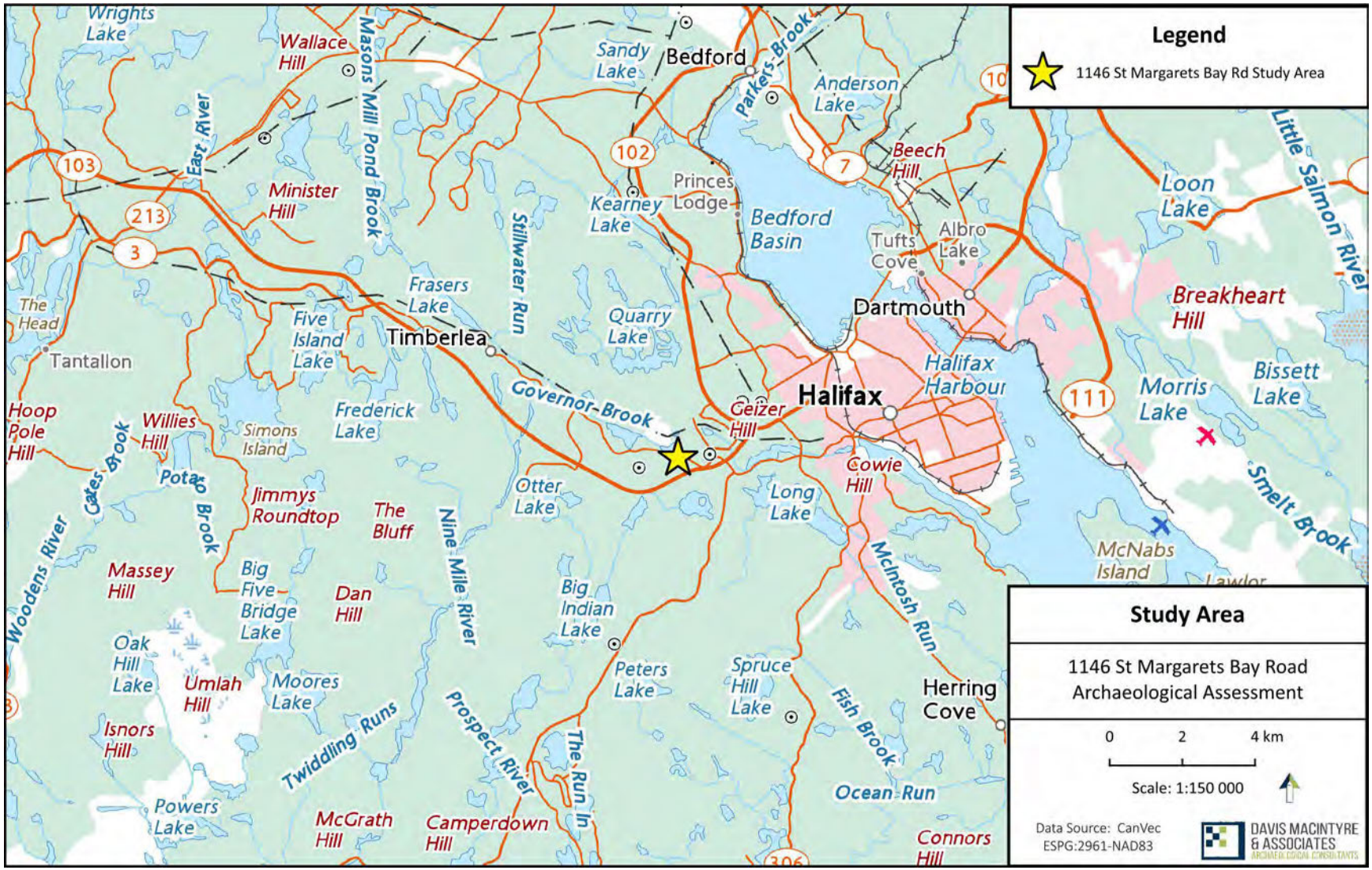

Figure 2-1: The general location of the study area.

Figure 2-2: A satellite view of the study area and its immediate surrounds.

Figure 2-3: A conceptual plan of the proposed development, courtesy zzap Architecture + Planning.

Figure 2-4: A detail view of the study area showing its current conditions (orthophoto imagery dating to 2017).

2.1 Palaeoecology

Processes associated with glacial advance and retreat have made a lasting impression on our province. The landscape we see today bear the scars and relics of the most recent Wisconsin glaciation, in the form of drumlins, moraines, glacial erratics, lakes and drainage systems. Understanding the changing ecology of the Holocene geological epoch (11,700 years ago to today) is paramount to understanding the archaeological record of Mi'kma'ki/Nova Scotia and to identify places in the landscape significant to the L'nuk and their ancestors.

During the Wisconsin Glacial Period, Atlantic Canada lay beneath the kilometre thick Laurentide Ice Sheet. This ice sheet, at last glacial maximum 24 thousand years ago (24 ka BP) extended its reach across the continental shelf to ocean depths of 800m.[1] 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 BP, 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'nuk 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]

[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.

Glacial isostasy and eustasy changed habitable coastlines over the millennia following deglaciation (Figure 2-6). Significant landforms, subaerially exposed through isostatic uplift were subsequently submerged by rising seas.[7] 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 including 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.[8] Underwater archaeological survey of relatively shallow submerged landforms has also identified artifacts and preserved features, such as a Mu Awsami Kejikawe'k L'nuk/Terminal Archaic found near Lower Prospect.[9]

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 2-5). 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 several 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 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.[10]

[7] Fader 2005, 5.
[8] Fader 2005, 6; Shaw et al. 2009, 24.
[9] Personal communication, Kyte 2024.
[10] Fader 2005:140-142.

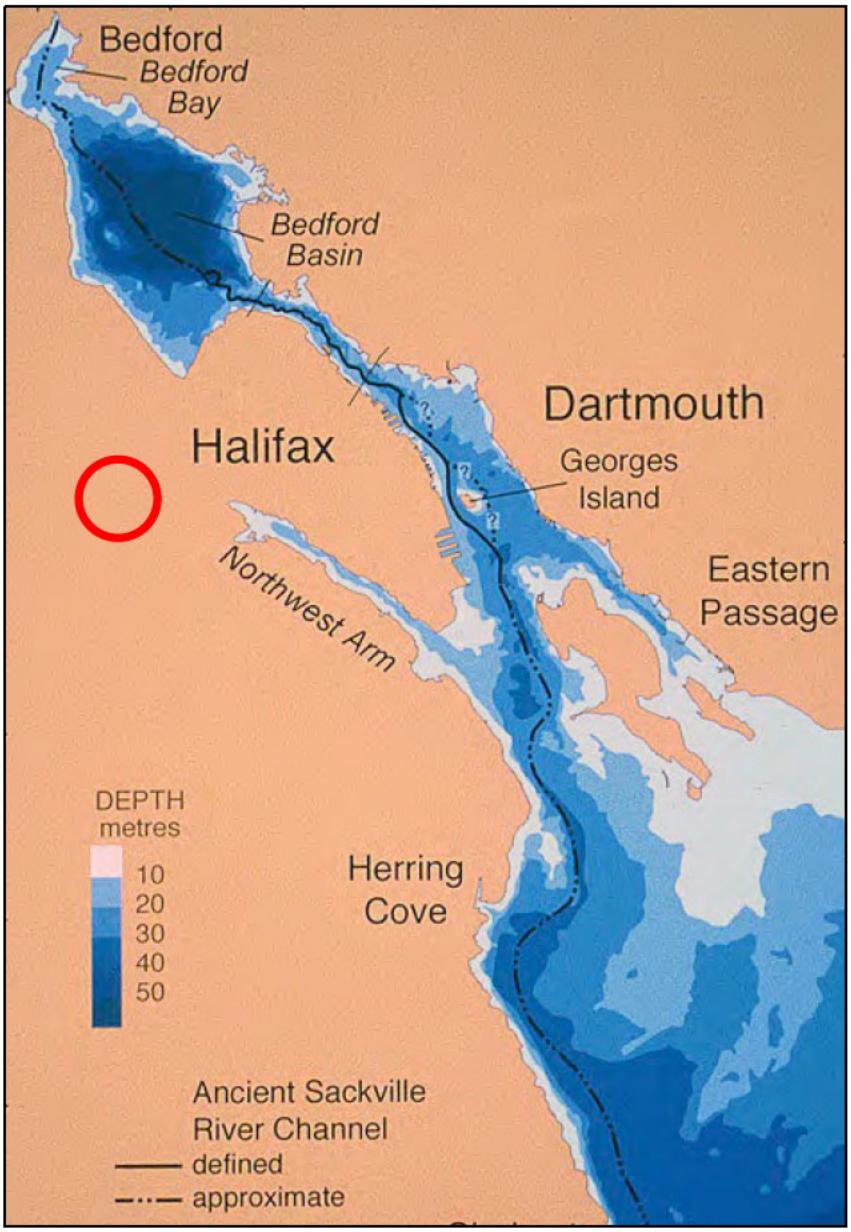

Figure 2-5: Map showing the defined and approximate path of the Ancient Sackville River channel, with the approximate location of the study area marked in red.[11]

By 6 ka BP, the geographical setting of the region nearly matched conditions today.[12] 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.[13] The Far Northeast was a challenging and ever-changing landscape. However, events which play out in geological leaps unfurled slowly

[11] Natural Resources Canada 2010 URL.
[12] Shaw et al. 2002a.:1872
[13] Fader and Miller 2008.:6

over generations for people living at the time. The complications deriving from a dynamic landscape also challenge the archaeologist, who must see the environment for what it was, and not necessarily how it is today.

The study area itself falls on the outer eastern seaboard of Nova Scotia, where sea-levels have risen continuously throughout the post-glacial period. This is a consequence of both the combined effects of global sea-level rise and the collapse of the peripheral forebulge, resulting in subsidence throughout the region.[14] Researchers reconstructing sea-level histories for this region have found no evidence that relative sea-level was ever above present levels during the Holocene.

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]

[14] Vacchi et al. 2018.:139
[15] Reid 2012.

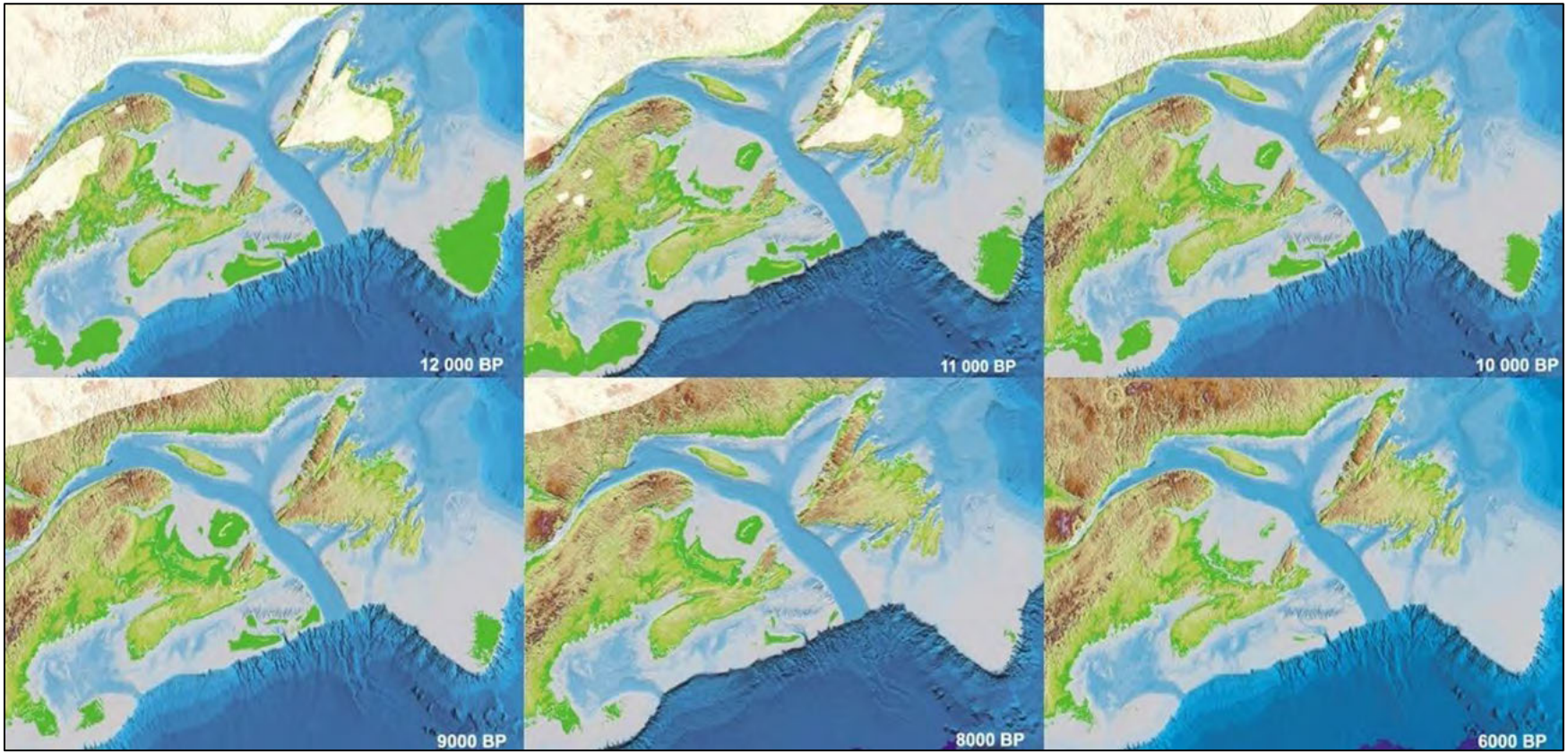

Figure 2-6: Palaeogeography of Maine and the Atlantic Provinces, depicting how emergent landforms on the continental shelf were gradually submerged.[16]

[16] From Shaw et al. 2002a.

2.2 Natural Environment

The study area is in the St. Margaret's Bay ecodistrict (#780).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 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 granitic, there are some Meguma Group rocks, greywacke, quartzite and slate at the southwest of the ecodistrict.[17] Bedrock at the study area is a Late Devonian muscovite-biotite monzogranite. The surficial geologic unit is a ground moraine that is silty and compact with material derived from local and distant sources and drumlins are prominent in the vicinity.[18]

Watersheds throughout the ecodistrict include large lakes, rivers, streams, bogs, and swamps. Rivers in the region follow a typical deranged drainage pattern, meaning surface water flows in a disorganized series of streams, lakes and wetlands that follow impermeable, poorly jointed rock. Biologically productive wetlands and an abundance of glacial lakes are found throughout the greater region. Near Halifax, long faults create linear valleys followed by rivers and filled by lakes, such as at Porters Lake, Lake Charlotte, and Indian Harbour.[19] The abundance of associated rivers and lakes provide access to marine resources and drinking water, as well as a suite of travel 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.[20] 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.[21]

[17] Neily et al. 2017, 214.
[18] Department of Energy and Mines n.d.
[19] Davis and Browne 1996, 56.
[20] Davis and Browne 1996, 82.
[21] Veith 1886, 17.

3.0 METHODOLOGY

A historic background study was conducted by Davis MacIntyre & Associates Limited in February 2024. 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 January 2024 to inquire whether traditional Mi'kmaw land use is known in or near the study area. A response was received on 21 February 2024. 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 March 2024, with particular attention paid to areas anticipated to be impacted. Detailed notes and photographs were collected, with tracklogs recorded via handheld GPS units.

4.0 RESULTS

4.1 Maritime Archaeological Resource Inventory

The Maritime Archaeological Resource Inventory (MARI) was accessed on 22 February 2024 to determine if known archaeological sites or resources exist within or near the study area. A parameter radius of approximately 5 kilometres from the study area was applied, which encompasses the Beechville, Lakeside, Timberlea and Bayer's Lake urban areas. A review of the MARI database determined there are no registered archaeological sites within the study area.

This review did establish that there are 5 registered archaeological sites within a 5-kilometre radius of the study area, with an additional 7 [redacted]. The absence of recorded precontact L'nuk archaeological sites is likely due to a lack to a lack of formal archaeological assessment near the study area. L'nuk archaeological resources may be present, but unrecorded.

The 12 registered sites largely relate to 19th century inland rural settlement. T[redacted] ***BdCw-13***, ***BdCw-14***, and ***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 'Beech Hill' or 'Refugee Hill'.[22] Full excavation of Residence 1 (***BdCw-12***) provided further evidence that the dwelling was occupied in the early 19th century, before it burned sometime between 1832 and 1840.[23] Over 9,000 artifacts recovered during excavations illustrate the life of the former occupants but did not prove conclusively that the home was occupied by Black Refugees. However, a copper alloy belt fastener associated with military service suggests one of the former occupants may have once been a soldier of the Royal Navy. Service in the Royal Navy was a route to freedom for Black Refugees who served during the War of 1812.[24]

Historical features dating to the mid-late 19th century have also been identified [redacted] ***BdCw-04*** to ***BdCw-11*** consist of a complex of cellars, stone features, and a family cemetery recorded during archaeological surveys in 1991 and 1995. Archival research identified these features as the remains of the abandoned community known as the Greenhead Settlement.[25]

A pentagonal structure and associated stone features have also been identified approximately [redacted] (***BdCv-09***), and are commonly referred to as the "Bayers Lake Mystery Walls". Although several archaeological investigations have been undertaken at this site, the age and origin of these features have not been determined.

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".[26] Therefore, the Eurocentric 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

[22] Shears 2015.
[23] Fowler 2014.
[24] Fowler 2014.:37
[25] Jacques Whitford Environmental Limited 1996.
[26] Sable and Francis 2012, 18.

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 (Table 4-1). 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.[27] Currently, the Debert/Belmont Sites provides the most extensive evidence of Palaeoindian settlement in the province, with isolated finds from this period also present throughout 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.[28]

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 bountiful riverine resources.[29] 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.[30] 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.[31] 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.[32] Fish

[27] Newby et al. 2005, 151.
[28] Lothrop et al. 2011, 562.
[29] Tuck 1975.
[30] Deal et al. 2006.
[31] Davis 1993, 100.
[32] Davis 2005, 18.

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.[33]

Table 4-1: Mi'kmaw/Archaeological Cultural Periods.[34]

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**

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.[35] 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.[36] 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,

[33] Wicken 2004, 26.
[34] Lewis 2006; Confederacy of Mainland Mi'kmaq 2007, 3; Davis 2011, 22; Betts and Hrynick 2021, 19.
[35] Wicken 2004, 30.
[36] Whitehead 1993, 89.

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.[37]

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 Kjipuktuk/Halifax.[38] More villages were likely established throughout Sipekne'katik, but either fell outside of the knowledge of European sources or were simply not recorded. Canoe routes and pedestrian footpaths connected Mi'kmaq in Kjipuktuk to groups throughout Sipekne'katik and Mi'kma'ki, and allowed fluid movement between resource rich areas where shelter and resources were seasonally available.[39]

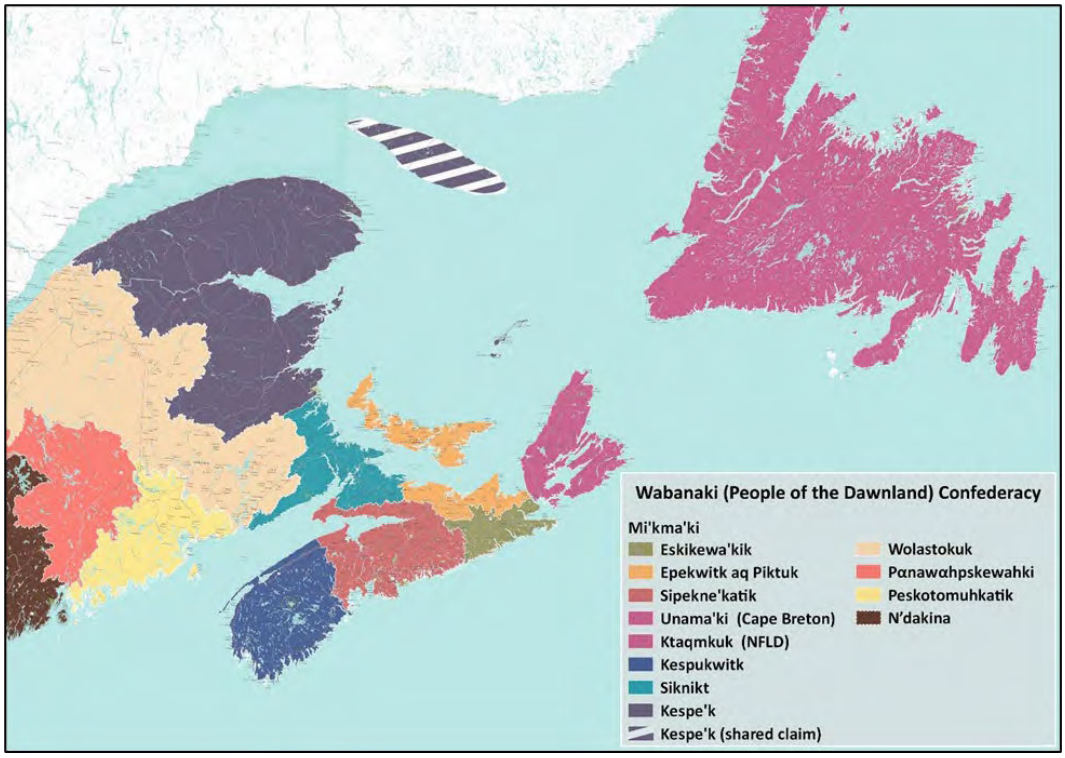

Figure 4-1: The districts of Mi'kma'ki and Wabanaki Traditional Territories.[40]

[37] Reid 2009.

[38] Hoffman 1955, 534-35.

[39] Lewis 2006

[40] 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

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.[41] For archaeologists, the Mi'kmaw language can provide powerful insights into traditional land-use, available resources, and how these places were perceived.

According to the French missionary and orthographer, Father Pacifique, Dartmouth is known in the Mi'kmaw language as Punamu'kwati'jk, meaning 'at the tomcod place'.[42] Halifax Harbour was Kjipuktuk, meaning 'the great harbour', and today is often used to refer to the Halifax landscape. The main entrance to the harbour is recorded as Dwidden or 'the big passage'.[43] The peninsula of Halifax is known as Kuowa'qumikt or Gwowaqmicktook meaning 'the place of white pine, white pine forest'. Sackville was called Alusulue'katik possibly referring to an epidemic of measles. Jerry Lonecloud, a Mi'kmaw legend keeper and resident of Tuft's Cove, gave a similar name for a place in Fairview, Al-e-sool-a-way-ga-deek ('at the place of measles'), in reference to the tragic death of many Mi'kmaq from disease transmitted by the French, perhaps during Duc d'Anville's doomed 1746 expedition.[44] Place names exist for several locations in Bedford Basin or Asoqmapskiajk, meaning 'at the rocky crossing'. Several of these names refer specifically to important resources or aspects of the natural environment. Mnikwaqnik or Birch Cove, translates to the 'place where they get bark'. Tua'kwati'jk or Admiral Rock translates to 'Little seal ledge', while Kitpukusisek or Mill Cove means 'at the eagle's nest'.[45]

Several place names are recorded in the vicinity of the study area, though most of the known recorded names relate to areas around Halifax. Nearby Big Indian Lake is known as Apukji'jue'katik meaning 'Place of mice', while Williams Lake is known as Etu'panuek, 'two streams flowing into an opening.'[46]

Archaeological evidence supports occupation of Kjipuktuk and the surrounding landscape by the Mi'kmaq and their ancestors from the Saqiwe'k L'nuk/Palaeoindian period to the historic period. Historic documents record Mi'kmaq living throughout Kjipuktuk. The indented coves and inlets of the harbour provided ideal camping grounds at places such

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.

[41] Sable and Francis 2012, 26.

[42] Pacifique 1934:278

[43] Christianson 2005:2

[44] Christianson 2005:2

[45] Ta'n Weji-sqalia'tiek.

[46] Ta'n Weji-sqalia'tiek.

as Birch Cove, Fairview Cove, and McNab's Island. Kjipuktuk 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 Governor's Lake, it would also have been possible to travel along the lakes and waterways that empty into the head of the Northwest Arm.

The most significant travel route was the Kjipuktuk/We'kopektik trail along the Shubenacadie River System, which allowed cross-province travel between Halifax Harbour and Cobequid Bay. This trail, which archaeological evidence 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 1 kilometre to First Lake, then a passage through Second and Third lakes, before entering the Shubenacadie River system.[47]

Mi'kmaw settlement in Kjipuktuk/Halifax is reflected in historic documents as early as 1688, when Sieur de Gargas recorded thirty-three Mi'kmaq living in seven 'cabanes' when he visited Halifax Harbour in 1688.[48] 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.[49] The Governor of Acadia, Jacques Monbeton de Brouillan, describes hundreds of Mi'kmaq living around Kjipuktuk in 1701.[50] 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.[51] 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 period due to the lack of French activity in the area.

Contact between the Mi'kmaq of Kjipuktuk 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 Kjipuktuk 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 Kjipuktuk. They were awaiting a

[47] Sanders and Stewart 1999:7
[48] Wicken 2004:171
[49] Hoffman 1955:335
[50] Ingalls & McGrath 1998:10
[51] Ingalls 2010:11-12

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.[52]

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. Those who remained 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.[53] These illnesses killed countless Mi'kmaq in Kjipuktuk. 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.[54]

The historical consequences of the event for the Mi'kmaq of Kjipuktuk were immediate. Due to the depopulation of Kjipuktuk, in 1749 Edward Cornwallis and ships full of British settlers arrived at a Halifax Harbour nearly absent of its Mi'kmaq residents. Though devastated by disease, the Mi'kmaq defended their claim on Kjipuktuk and resisted British settlement in the area for years after the founding of the colony. British settlement in Kjipuktuk, 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.[55] This includes the 1749 attack by the Mi'kmaq on the burgeoning settlement of Dartmouth. In response, a small group of Mi'kmaq living on the Dartmouth side of the Harbour were deported.[56] They were moved to the northeastern portion of McNabs 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 Kjipuktuk through the 18th and 19th centuries. 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.

At nearby St. Margarets Bay, three Mi'kmaw men – Philip Bernard, Solomon Bescoloon, and Thomas Ambroise, who are recorded as belonging to the "Lehave tribe" of Mi'kmaq,

[52] Ibid
[53] Ingalls 2010:14
[54] Ibid:15-17
[55] Paul 2006: 112
[56] Kinsman 1995:2

held a 1782 licence to "Occupy, during pleasure, 550 Acres" on the east side of the bay.[57] A Mi'kmaw "camping ground" was also known at the foot of Big Indian Lake and the head of St. Margarets Bay in the early nineteenth century; Tom Phillips was born there (date not provided) and died in Three Mile Plains around 1874, after which Judge Halliburton placed a stone for him in the Old Parish Burying Ground in Windsor.[58]

Figure 4-2: Depiction of Mi'kmaw encampment in Dartmouth ca. 1791 by H. N. Binney.[59]

A Mi'kmaw burial ground is also known on the east side of the head of St. Margarets Bay, where a Mi'kmaw chief was buried; he had died in the woods near Liverpool and his remains had been suspended and smoked until dry prior to transportation to the burial ground. The burial date was not indicated, but it appears likely to have been in the early to mid nineteenth century, given that when Harry Piers recorded the burial in June of 1913 he indicated that a woman, possibly Mi'kmaq herself, "still lives who saw the body brought here for burial."[60]

There is no specific reference to a Mi'kmaq habitation within the study area in the historical record. Frank G. Speck, in 1914, recorded the area around Governor's Lake, including the study area, as being part of the hunting territory of Mi'kmaw man Frank Cope and his family.[61] It is possible that an old flintlock gun of Cope's is stored at the Nova

[57] Governor's Licence Book 1782, 72–3.
[58] Whitehead 2015, 250.
[59] Binney 1791.
[60] Piers 2003, 58.
[61] Speck 1922, 103.

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.[62] 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.

4.2.2 Settler and Euro-Canadian Settlement

The first settlers in the Beechville area were Black Refugees arriving to Nova Scotia 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 slaves 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.[63] Historian Bridglal Pachai is clear, however, 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".[64]

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 1232 slaves to white Loyalist owners, and 2775 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.[65] 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 communities deserted.[66] 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 2000 escaped slaves who attained their freedom by fighting for the British in the War of 1812. Approximately 1600 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 Loyalists in

[62] Whitehead 2015, 339.
[63] Pachai and Bishop 2006.:8-9
[64] Pachai and Bishop 2006.:8
[65] Pachai 1997.:11-12
[66] Pachai 1997.:19-20

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.[67] 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.[68]

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 eking 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.[69] Early troubles due to the 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.[70]

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.[71] 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.[72]

Regardless, in 1816 the Surveyor General laid lots for Black Refugees at 'Beech Hill' (Beechville).[73] 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. Margarets Bay Road, southwest of the study area (Figure 4-3). In 1818, a second license of occupation plan shows a growing settlement, depicting two divisions of plots (Figure 4-4). Division B is in the same location as the 1816 plan, while Division A shows a new allotment of plots further east.

[67] Pachai 1997.:26
[68] Whitfield 2005.
[69] Pachai 1997.:24
[70] Grant 1990.:77-85
[71] Fergusson 1948.:55
[72] Fowler 2014.:11-12
[73] Commissioner of Public Records 1816.

Comparison of the licensees from each plan shows that except for one individual, all licensees listed in 1816 were still in possession of their lots by 1818.[74]

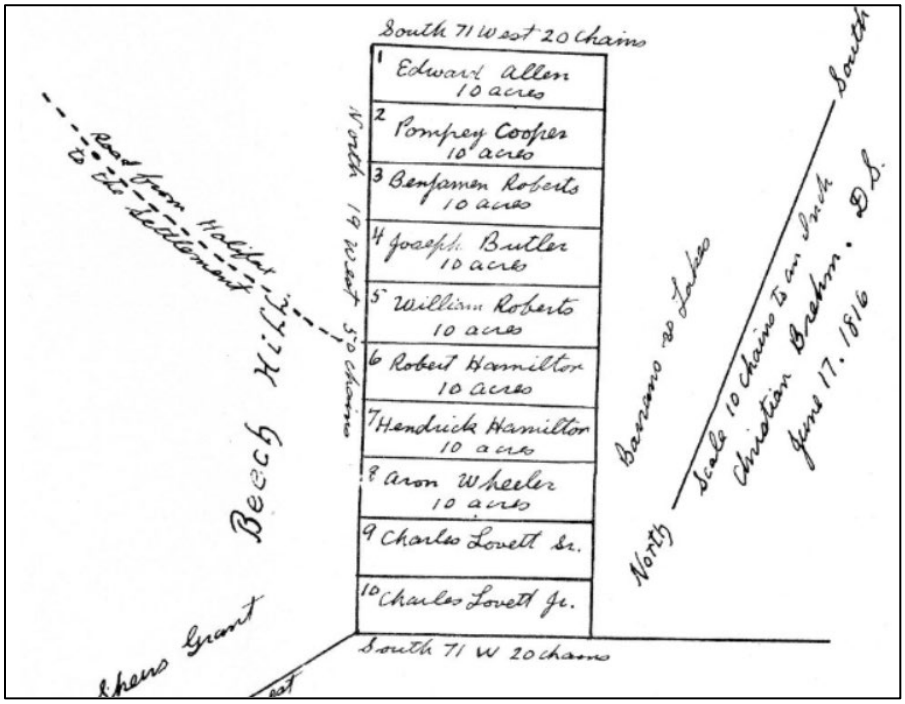

Figure 4-3: 1816 plan of lands laid out for Black Refugees at Beechville.[75]

[74] Shears 2015.

[75] Commissionner of Public Records 1816

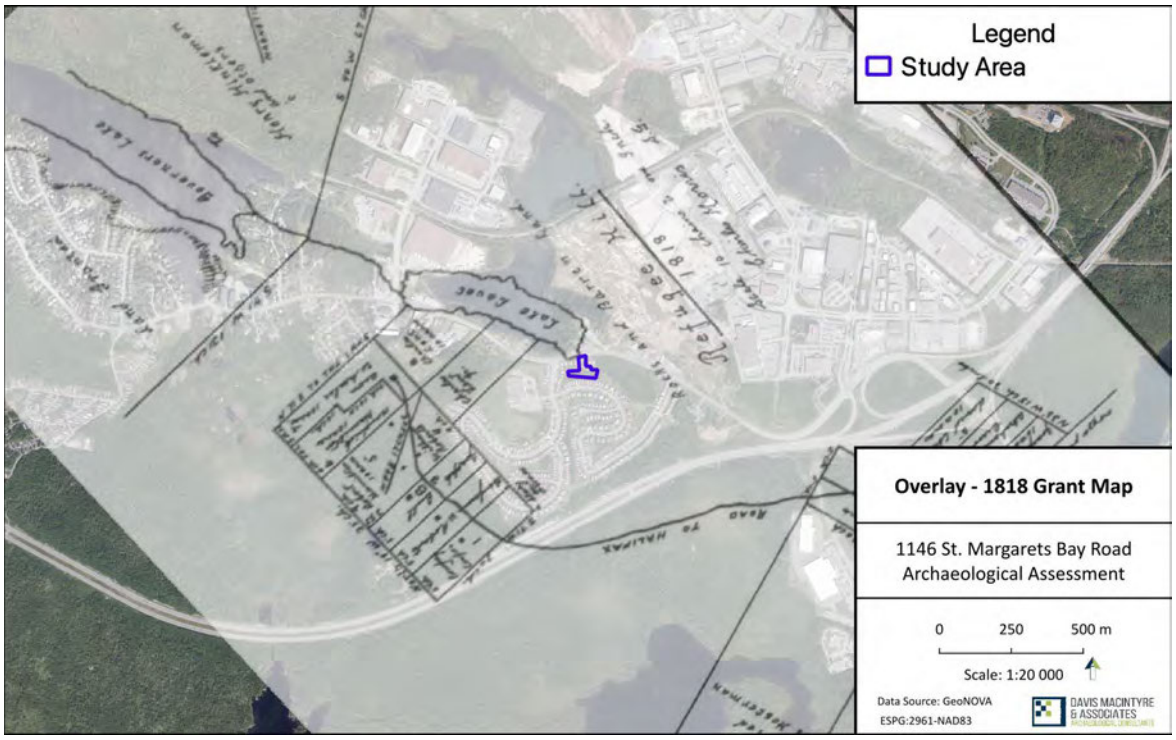

Figure 4-4: 1818 plan of licenses of occupation for Black Refugees at 'Refugee Hill' overlaid on modern satellite imagery. Study area indicated in blue.[76]

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".[77] At the time the grants were awarded, several 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.[78]

Land encompassing the study area was first granted to George Yeadon in 1862 (Figure 4-5).[79] The 75-acre grant extended south from St. Margarets Bay Road to the northern boundary of the 1818 Black refugee land grant. This grant was exclusive of a small clearing and "Mrs. Wright's house", located east of the study area along St. Margarets Bay Road. In 1865 Yeadon and his wife Jane sold a small portion of the land, approximately 0.25-acres, to a Miss Isabella Cogswell of Halifax. Miss Cogswell's plot was located on the

[76] Commissioner of Public Records 1818.
[77] Commissionner of Public Records 1818
[78] Fergusson 1948, 75–80 from Fowler 2014; Grant 1990, 80–1 from Fowler 2014.
[79] NS Registry of Deeds 1862.

western boundary of the property on St. Margarets Bay Road, along the shore of Lovett Lake.[80]

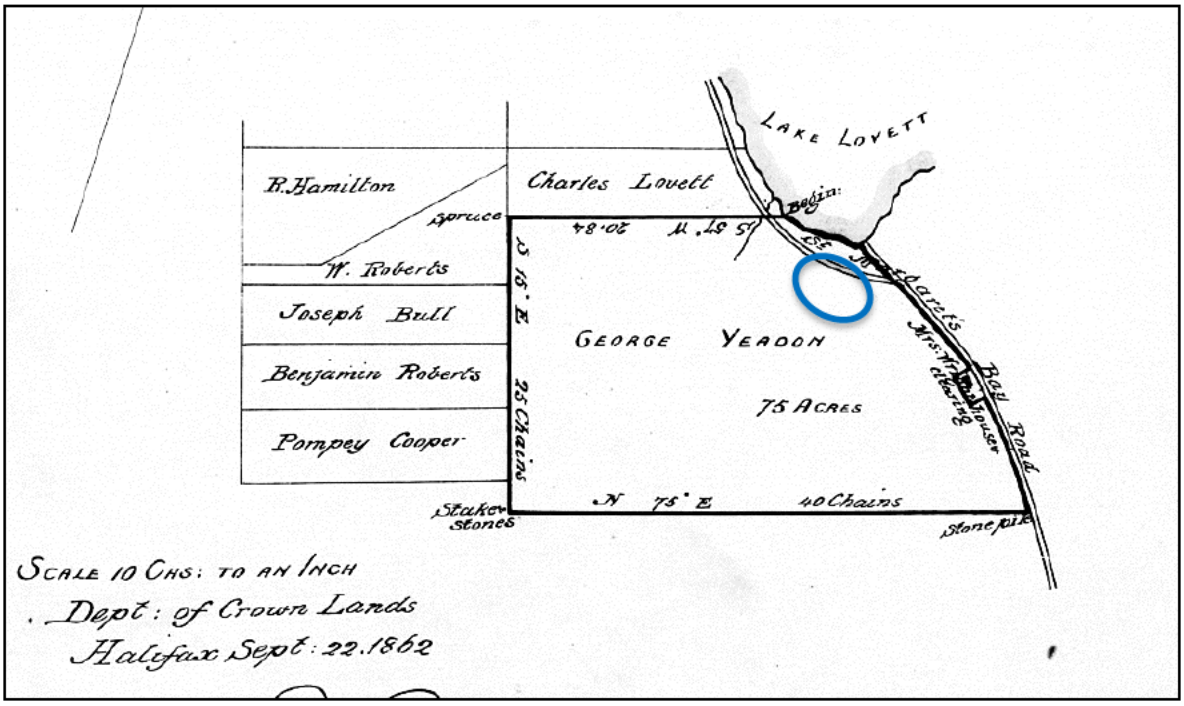

Figure 4-5: Grant map showing 75-acre lot obtained by George Yeadon in 1862 with the approximately location of the study area indicated in blue.[81]

Yeadon obtained a second land grant in Beechville in 1865, totalling 122 acres, which stretched from the southern boundary of the 1818 Black refugee land grant to the shore of Blueberry Lake (Figure 4-6).[82] Yeadon may have been living on one of his plots of land with his family by 1871; a George Yeadon of English descent is reported in the census as living in the Halifax West sub-district of Drysdale with his Scottish wife Jane and their seven children aged 2 to 13.[83] In 1881 Yeadon added a third land grant to his Beechville properties.[84] This grant included 50 acres on the north side of St. Margarets Bay Road, east of Lovett Lake, opposite the 1862 grant. This 50-acre plot is the current location of Lovett Lake Estates.

[80] NS Registry of Deeds 1865.
[81] NS Registry of Deeds 1862.
[82] NS Crown Land Grant Registers 1865.
[83] Government of Canada 1871, 7 Halifax West (196) / Drysdale.
[84] NS Crown Land Grant Registers 1881.

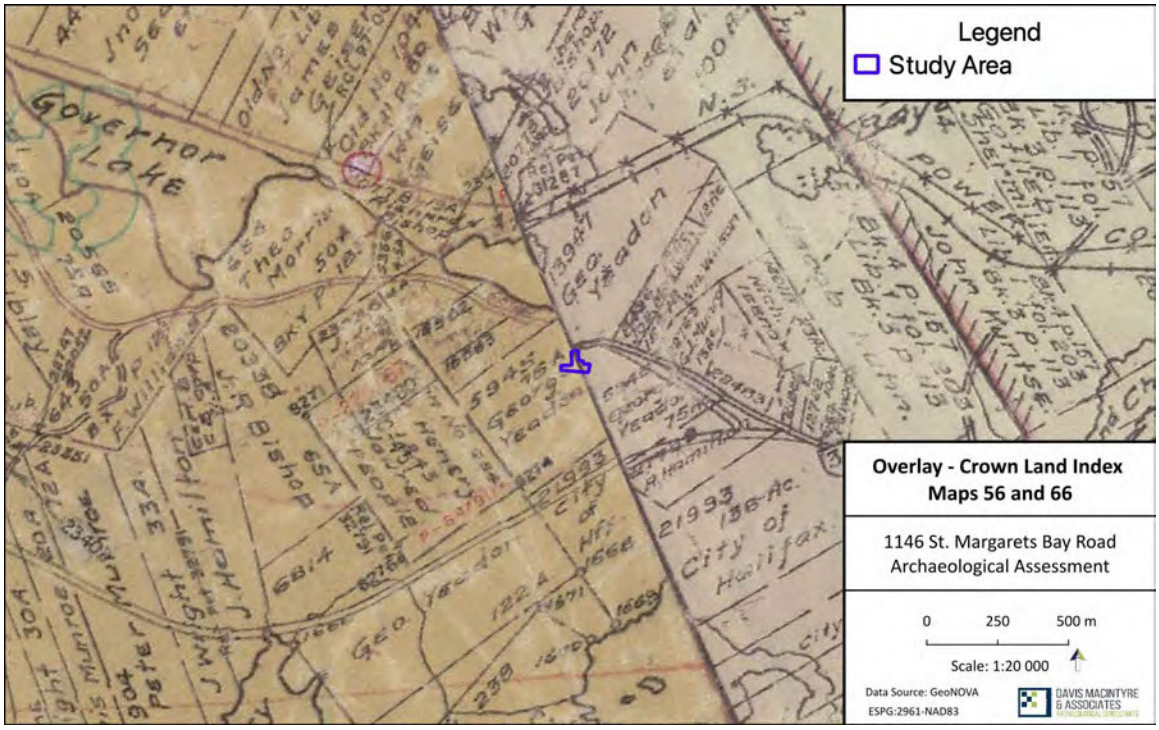

Figure 4-6: The georeferenced Land Grant index maps, with the study area indicated in blue.[85]

The Yeadon family appears again in the 1881 census in the same district. Their oldest child James W. Yeadon is not listed, though he may have started his own household. Two of the other children (Benjamin and Walter S., both aged 5 in 1871) are absent from the 1881 census.[86] Given high child mortality rates in the nineteenth century, they may have passed away.

In 1884 Yeadon sold all three of his Beechville properties, including the 75 acre lot on the south side of St. Margarets Bay Road, to lawyer Thomas Ritchie. In the description of the 50-acre plot, the deed states that the sale excludes a small plot of ground "…which has been set apart by the said George Yeadon as a burial ground."[87] It is not known whether Yeadon was reserving this spot for future use or whether it was recognized as a place of previous burials and thus excepted from the deed transfers. It is unknown if it was ever used as a burial ground. The location of this plot is believed to be on the southwest corner of the Beechville Baptist Church property and was subject to a formal archaeological assessment in 2013.[88]

The 1865 Ambrose F. Church map does not depict any structures within the study area, with settlement located further east in the community of Beechville (Figure 4-6). A single

[85] Nova Scotia Department of Lands and Forestry 1950.
[86] Government of Canada 1881, 5 Halifax (10) / Drysdale's Cove.
[87] NS Registry of Deeds 1884.
[88] Shears and Stewart 2013.

structure does appear to be located within the study area in the 1908 Geological Survey of Canada map, at the intersection between two rough roads (perhaps logging roads) leading to Ragged Lake and Blueberry Lake to the south (Figure 4-7).

Twentieth century aerial photography shows that the study area has been occupied by a building near the St. Margarets Bay Road frontage between 1931 and 1981 (Figure 4-8 to Figure 4-10), with some small outbuildings at the rear of the lot. Given that 1908 mapping (Figure 4-7) and the present lot (as of 2024) both show a structure in the same location, the current building may be a pre-1908 structure, but may not date to the late nineteenth century given its absence on earlier mapping.

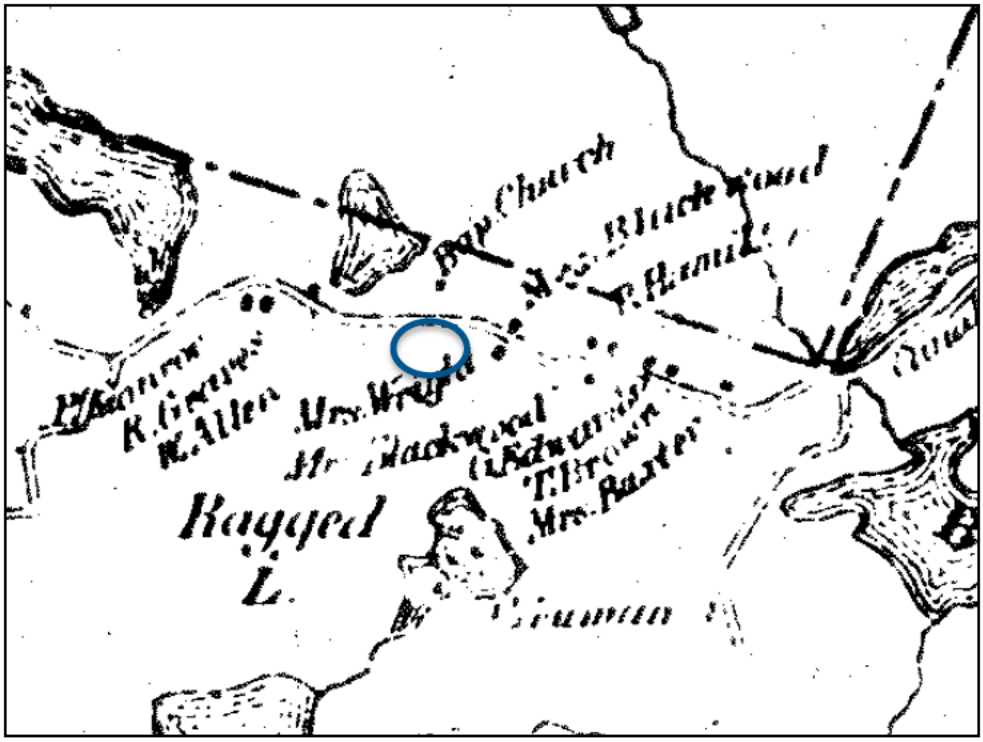

Figure 4-7: 1865 A.F. Church map with study area (blue).[89]

[89] Church 1865.

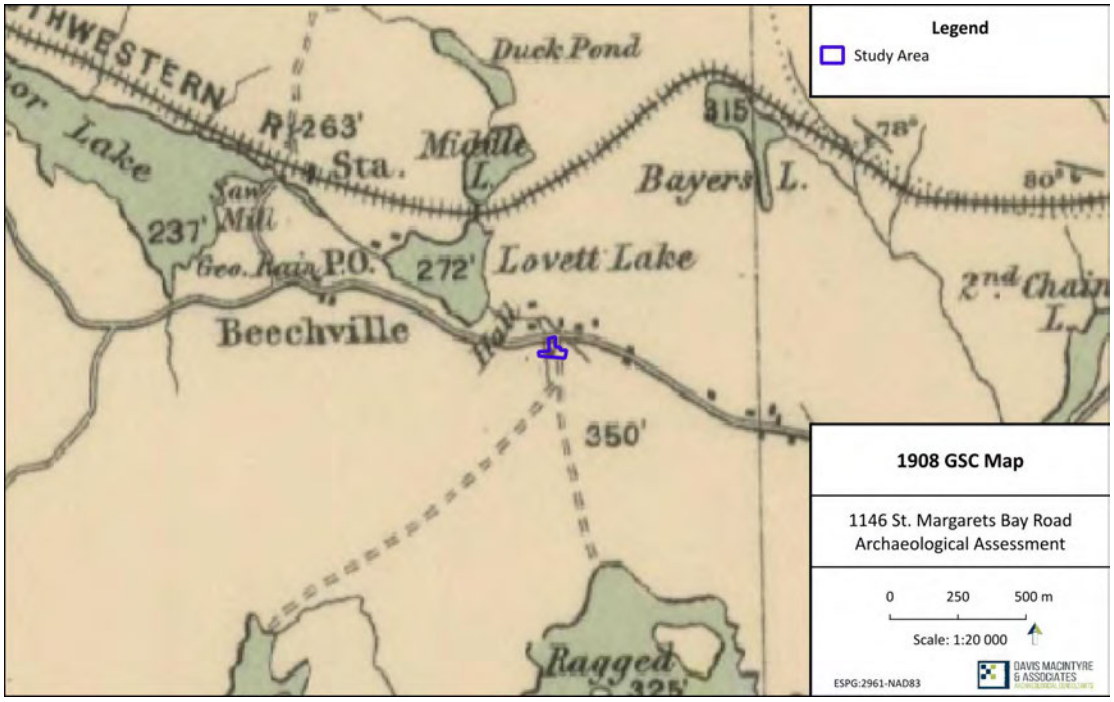

Figure 4-8: 1908 Geological Survey map of Beechville, showing little development near the study area (blue).[90]

Figure 4-9: A georeferenced 1931 aerial photograph showing the study area (yellow) occupied by a relatively large building, with one or more smaller outbuildings to the south.[91]

[90] Faribault 1908.

[91] Department of Lands and Forestry 1931.

Figure 4-10: A georeferenced 1954 aerial photograph suggests some additional construction activity on either side of the study area near the main road.[92]

Figure 4-11: A georeferenced 1981 aerial photograph shows a building in the same location as the 1931 photo and present-day conditions, again with a few small outbuildings at the rear or south of the property.[93]

[92] Department of Lands and Forestry 1954.
[93] Department of Lands and Forestry 1981.

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 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 (12,900 to 11,500 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 30m in elevation. This massive lake, coined Glacial Lake Shubenacadie II, was the largest of two great 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 -65m

[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.

below modern levels. Sea level rose rapidly during this period, and then steadied their rise sometime after 11 ka.[99] Coastal low stands offered early peoples open corridors for moving freely about the region unimpeded by modern ocean extents.[100] Archaeological evidence for Early to Middle Palaeo peoples traveling south deep into Nova Scotia's interior comes from isolated finds recorded in Yarmouth, Dartmouth, Sable River, Blomidon, a quarry site at Davidson Cove, and the Melanson site on Gaspereau River as well as at Medford.[101] These finds are suggestive of considerable mobility throughout the emergent landscape.

As the climate again warmed at the end of the stadial, ice dammed lakes breached as glaciers retreated. Significant isostatic adjustments occurred. 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 40m below modern levels by 10,000 BP.[102] The low stand within the Halifax Harbour slowly inundated with water, progressively eroding the Ancient Sackville River and its tributaries, resulting in the creation of ten postglacial lakes.[103]

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.[104] 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.[105] The natural effects of chronological shingling may also add to the representation bias of these early isolated 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.[106] Submerged palaeoshores and ancient channels that have been mapped at Lake

[99] Shaw et al. 2002a, 1867.
[100] Shaw et al. 1993, 223.
[101] Davis and Christianson 1988; Bonnichsen et al. 1991, 14; Erskine 1998, 14; Laybolt 1999, 22; Betts et al. 2018.
[102] Fader and Miller 2008.
[103] National Resources Canada 2010.
[104] Murphy 1998, 93.
[105] Murphy 1998, 93.
[106] Baechler 2017, 394.

Banook indicate significant water fluctuations in the Dartmouth Lakes throughout the postglacial period.[107] Similar water level fluctuations potentially occurred in other comparable inland waterbodies within the immediate region. Within the inner reaches of Halifax Harbour, the stable sea level rise resulted in the formation of a well-defined palaeoshoreline at approximately -23m.[108] As the waters raised over the shallow sill at The Narrows, the last remaining lake in the Harbour, Lake Bedford, transitioned from freshwater to marine around 5,700 BP.[109] 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.[110] By 3,000 BP, the Halifax Harbour had resembled current conditions with the shoreline residing less than 5m from modern levels.[111]

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.[112] 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. Modern development has also effectively masked and altered the former cultural landscape. Although original context may be lost due to landscape alteration (in a western archaeological sense), these resources continue to hold a significant cultural value to the Mi'kmaq and enrich the evolutionary story of the cultural landscape of greater Kjipuktuk.

Understanding the geomorphological changes of shorelines and individual river systems is paramount in the prediction L'nuk cultural resource potential due to the strong connections between Mi'kmaw, waterways, and bodies of water.[113] 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 archeological 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

[107] Webster et al. 2015.
[108] National Resources Canada 2010.
[109] Fader and Miller 2008.
[110] Shaw et al. 2002b, 143.
[111] Fader and Miller 2008.
[112] Forbes et al. 2009.
[113] Thwaites 1896; Cook 2007, xxiii.

New Brunswick Archaeological Services (developed from the Sevogle River Test Plot),[114] a 50-meter high and an 80-meter moderate L'nuk archaeological potential buffer was created for the watercourses and shorelines recorded near the study area (Figure 4-11).

Of the 90 sites attributed to L'nuk activity recorded within 25 kilometres of the study area, 87 were mapped and reliable for modelling. A cross examination of these 87 sites reveals that 82 sites lie within these predictive watercourse activity buffers (or within a 10 meters grace given for pre-GPS coordinate recording errors). 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 overall mobility trends rather than site extents.

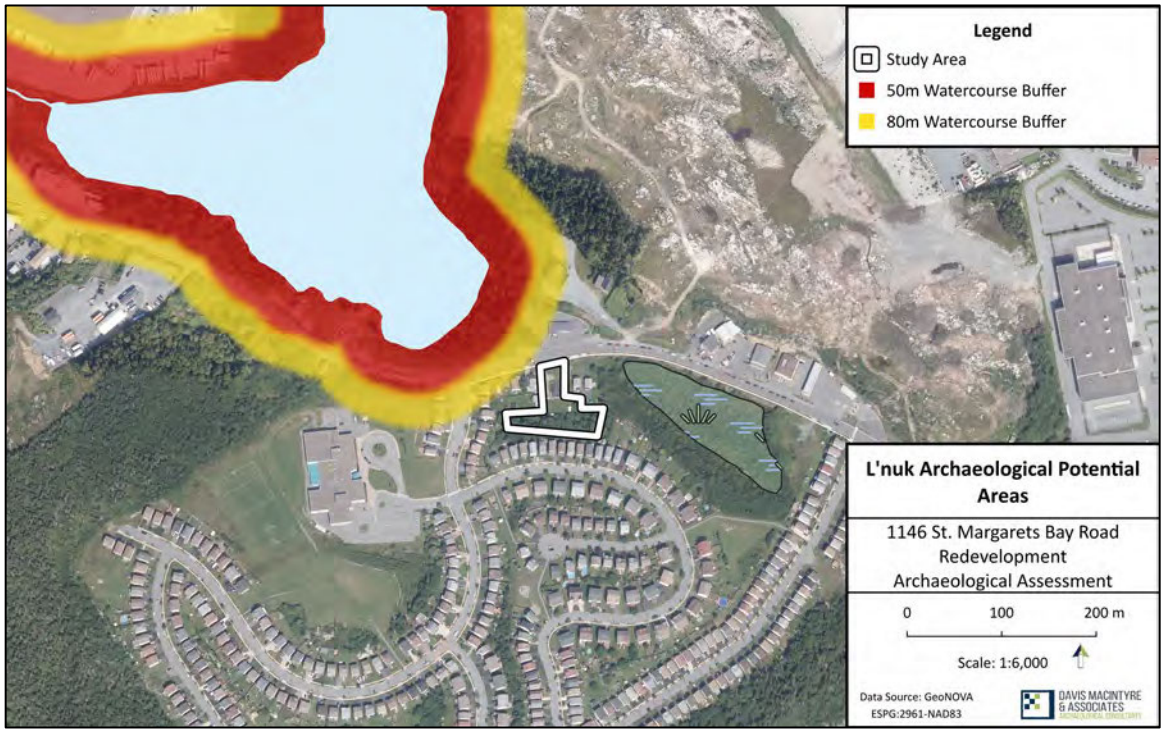

Figure 4-12: The study area with watercourses and L'nuk archaeological potential buffers.

4.4 Field Reconnaissance

A field reconnaissance for the 1146 St. Margarets Bay Road townhouse development was conducted by Travis Crowell and Johanna Cole on March 18, 2024 under cool and sunny conditions. Fieldwork was assisted with handheld GPS units, and detailed notes and photographs were taken (Figure 4-12). The reconnaissance was conducted within the 1-acre parcel of land expected to be developed.

[114] Archaeological Services 2012.

The study area encompasses a developed and landscaped house plot fronting St. Margarets Bay Road as well as a thin strip of wooded terrain which runs east-west behind several other houses (Plate 1). The reconnaissance began in the northern half of the study area. This portion of the study area consists of a manicured lawn, gravel driveway, and an existing standing home which is currently vacant (Plate 2). This home is expected to be demolished for the townhouse development. The house is set on a concrete foundation, with exterior basement access on the east and west sides of the house. Lean-to structures appear to have been added to the north and south sides of the home, suggesting the original footprint of the house may have been smaller (Plate 3). The lawn has been landscaped to gently slope down north, towards the road.

The footprint of several older outbuildings is present in the background. Two footprints of outbuildings were noted by impressions left in the lawn (Plate 4). The timber foundation and remains of a third outbuilding is present at the treeline in the southeast corner of the property (Plate 5). A small shed on a concrete pad is still standing in place.

A wooded strip runs east-west along the southern boundary of the study area property. The wooded area backs onto a steep hill, along the southern edge of the study area, which has been developed for residential homes (Plate 6). Tree cover in the wooded area consists of maple, spruce and alder growth, with a sparse understory of ferns and moss (Plate 7). Several large apple trees are also present. An abundance of modern refuse is found throughout this area, including several modern middens where household goods, glass, plastics, tires, and large animal bone have been discarded (Plate 8). Granite cobbles and boulders are present on the surface.

The terrain within the wooded area varies across its length but is generally poorly drained. Terrain immediately behind the standing house is relatively level and more open, with several mature apple trees and few surface stones compared to other areas to the east and west (Plate 9). This level area may represent an old field or an extension of the landscaped lawn which has since grown over. These areas are depicted as clear of tree cover in 20th century aerial imagery. In the southeast extent of the study area the terrain becomes more hummocky, sloping moderately down to the east with an increase in surface stone (Plate 10).

A moderately sloped hillside comprises much of the southwestern portion of the study area (Plate 11). The hillslope sees an increase in young spruce growth and surface stone. The base of the hill is a low wet swale (Plate 12). Skidder tracks are visible along the southwest treeline, as well as several small cultural depressions (Plate 13). Given their small size, absence of stone, and location near the skidder tracks, these small depressions are likely borrow pits or uprooted trees related to urban development.

No areas of elevated potential or significant archaeological resources were identified during the reconnaissance.

Figure 4-13: Reconnaissance results showing tracklogs and cultural features within study area.

5.0 DISCUSSION

The historic background study and archaeological evidence have indicated that the Mi'kmaq and their ancestors lived in Kjipuktuk/Halifax since time immemorial. Numerous L'nuk archaeological sites, spanning the Saqiwe'k L'nuk/Palaeoindian period to today, have been identified along the shores and interior lakes and rivers in the region. Historic Mi'kmaq activity is well-documented, [redacted] There is no record of habitation or activity sites directly within the study area itself. Predictive modelling shows the study area lies mostly outside of the potential buffers; however, it should be noted that the sites within urban HRM that lie well outside potential buffers may be due to the alteration of historic watercourses.

Beechville is well-known as a historic African Nova Scotian community, with roots extending back to the arrival of Black Refugees following the War of 1812. House foundations and historical features associated with the 19th century African Nova Scotian settlement have been identified within 1km of the study area. The study area, however, falls outside of the plots licensed to the original settlers. Land encompassing the study

area was first granted in 1862 to George Yeadon and his wife Jane and was later sold in 1884.

Historic settlement directly within the study area was limited until the late 19th century, with the earliest structure on the property depicted in 1908 mapping. The house on the property may be an early 20th century structure depicted on historic mapping. The wood shingles and front and back extensions are suggestive of earlier construction. However, the concrete foundation indicates it was built more recently or has been renovated.

The 2024 archaeological reconnaissance did not identify any surficial archaeological features or areas of elevated potential for L'nuk and/or historic settler archaeological resources. Terrain within the study area has extensively landscaped for urban development. Wooded areas are hummocky, poorly drained, and at least 100m distant from any known watercourses or shorelines.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this assessment, the 1146 St. Margarets Bay Road townhouse development study area has been determined to be of low potential for encountering historic settlement and/or historic or precontact L'nuk archaeological resources. As such, no further archaeological investigation or mitigation is recommended within the study area.

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.

7.0 REFERENCES CITED

Abbe Museum. s.d. “People of the First Light Maps Interactive.” *Places of the Dawnland*. https://peopleofthefirstlight.org/maps/.

Archaeological Services. 2012. *Guidelines and Procedures for Conducting Professional Archaeological Assessments in New Brunswick*. Fredericton, NB: Archaeological Services, Heritage Branch, Department of Culture, Tourism and Healthy Living.

Baechler, F. 2017. “The Geology and Hydrogeology of Buried Bedrock Valley Aquifers on Cape Breton Island, Nova Scotia: An Overview.” *Atlantic Geology* (53):301–24.

Betts, M., M.G. Hrynick, and A. Pelletier-Michaud. 2018. “The Pierce-Embree Site: A Palaeoindian Findspot from Southwestern Nova Scotia.” *Canadian Journal of Archaeology* 42 (2).

Betts, M.W., and G. Hrynick. 2021. *The Archaeology of the Atlantic Northeast*. Toronto, ON: University of Toronto Press.

Binney, H.N. 1791. *A Family of Micmac Indians with Their Chief in Nova Scotia*Watercolour Painting. P113/ 79.146.1/ N-9410, N-8420. Nova Scotia Archives.

Bonnichsen, R.D., D. Keenlyside, and K. Turnmire. 1991. “Paleoindian Patterns in Maine and the Maritimes: An Overview.” In *Prehistory of the Maritime Provinces: Past and Present Research*, edited by Michael Deal and Sue Blair, 1–37. Council of Maritime Premiers. Fredericton, N.B.

Church, A.F. 1865. “Topographical Township Map of Halifax County, Nova Scotia.” Bedford: A. F. Church & Co.

Commissioner of Public Records. 1816. “Surveyor General’s Plan of Lands Laid out for the Black Refugees at Beech Hill (Beechville), by Order of Sir John Coape Sherbrooke, Lieutenant Governor. Certified by Surveyor General.” Black Refugee Series, RG 1 volume 419 number 28. Nova Scotia Archives.

———. 1818. “Licence of Occupation from Lieutenant Governor Dalhousie for Lots at Refugee Hill, Township of Halifax, to Pompey Cooper and Others, with Plan Attached. Given under Hand and Seal at Arms at Halifax.” Black Refugee Series, RG 1 volume 419 number 36. Nova Scotia Archives.

Confederacy of Mainland Mi’kmaq. 2007. *Kekina’muek: Learning about the Mi’kmaq of Nova Scotia*. Truro: Eastern Woodland Print Communication.

Cook, D.S. 2007. *Above the Gravel Bar: The Native Canoe Routes of Maine*. 3rd ed. Solon, Maine: Polar Bear & Company.

Davis, D., and S. Browne. 1996. *Natural History of Nova Scotia, Volume II: Theme Regions*. Halifax: Nova Scotia Museum.

Davis, S. 1993. “The Ceramic Period of Nova Scotia.” In *The Maritime Provinces: Past & Present Research*, edited by Michael Deal and Susan Blair, 85–100. Reports in Archaeology 8. Fredericton: New Brunswick Archaeology Services.

———. 2005. “Early Sequences of Change.” In *The Atlantic Region to Confederation: A History*, edited by P. Buckner and John G. Reid, 3–22. Halifax: Acadiensis Press.

Davis, S., and D. Christianson. 1988. “Three Paleo-Indian Specimens from Nova Scotia.” *Canadian Journal of Archaeology* 12:190–6.

Davis, S.A. 2011. “Mi’kmakik Teloltipnik L’nuk-Saqiwe’k L’nuk: How Ancient People Lived in Mi’kma’ki.” In *Ta’n Wetapeksi’k: Understanding from Where We Come. Proceedings of the 2005 Debert Research Workshop, Debert, Nova Scotia, Canada.*, edited by Tim Bernard, Leah Morine Rosenmeier, and Sharon L. Farrell, 11–2. Truro, Nova Scotia: Eastern Woodland Print Communications for the Confederacy of Mainland Mi’kmaq.

Deal, M., Douglas Rutherford, Brent Murphy, and Scott Buchanan. 2006. “Rethinking the Archaic Sequence for the Maritime Provinces.” In *The Archaic of the Far Northeast*, 253–83. Orono: University of Maine Press.

Department of Energy and Mines. n.d. “Nova Scotia’s Geoscience Atlas.” https://fletcher.novascotia.ca/DNRViewer/?viewer=Geoscience.

Department of Lands and Forestry. 1931. *Air Photo - Beechville*. A3561-0022.

———. 1954. *Air Photo - Beechville*. A14195-0018.

———. 1981. *Air Photo - Beechville*. 81327-079.

Ellis, C. 2004. “Understanding ‘Clovis’ Fluted Point Variability in the Northeast: A Perspective from the Debert Site, Nova Scotia.” *Canadian Journal of Archaeology* (28):205–53.

EPA. 2015. *The Penobscot River and Environmental Contaminants: Assessment of Tribal Exposure Through Sustenance Lifeways* Regional Applied Research Effort (RARE) Project. EPA.

Erskine, J. 1998. *Memoirs on the Prehistory of Nova Scotia, 1957-1967* Ed. Michael Deal. Halifax: Nova Scotia Museum.

Fader, G.B. 2005. *Marine Archaeology Offshore Digby Neck, Bay of Fundy*. Atlantic Marine Geological Consulting Ltd.

Fader, G.B., and R.O. Miller. 2008. *Surficial Geology, Halifax Harbour, Nova Scotia* Bulletin. Geological Survey of Canada.

Faribault, E.R. 1908. “Province of Nova Scotia, Halifax County (City of Halifax Sheet No. 68).” Geological Survey of Canada, “A” Series Map. Canada Department of Mines, Geological Survey Branch Publication No 1019.

Fergusson, C.B. 1948. *A Documentary Study of the Establishment of the Negroes in Nova Scotia Between the War of 1812 and the Winning of Responsible Government*. Halifax, N.S: The Public Archives of Nova Scotia.

Forbes, M., G.K. Manson, J. Charles, K.R. Thomas, and R.B. Taylor. 2009. *Halifax Harbour Extreme Water Levels in the Context of Climate Change: Scenario for a 100-Year Planning Horizon*. Ottawa: Geological Survey of Canada.

Fowler, J. 2014. *Beechville Residence 1 Excavations: Final Report*. Halifax, N.S: Northeast Archaeological Research.

Government of Canada. 1871. “Census of Canada.” Library and Archives Canada.

———. 1881. “Census of Canada.” Library and Archives Canada.

Governor’s Licence Book. 1782. “‘Licence of Usual Tenor...’ to Philip Bernard, Solomon Bescaloon, and Thomas Ambroise for 550 Acres at Saint Margarets Bay.” RG20 Series C, Vol. 95. Nova Scotia Archives.

Grant, J.N. 1990. *The Immigration and Settlement of the Black Refugees of the War of 1812 in Nova Scotia and New Brunswick*. Hantsport, NS: Lancelot Press.

Hoffman, B.G. 1955. “The Historical Ethnology of the Micmac of the Sixteenth and Seventeenth Centuries.” Ph.D. Thesis, University of California.

Jacques Whitford Environmental Limited. 1996. *Goodwood Landfill Site, Halifax County* Arcaheological Assessment. Dartmouth, NS.

Johnson, T. 2020. *The Geography Of Stories: When the Link between Culture, Territory and Language Is Lost*. the Canadian Commission for UNESCO’s Idealab. Ottawa: Eskasoni First Nation.

Kyte, J. 2024. “Personal Communication, Jonathan Kyte, Seahorse CRM Services.”

Lacroix, D. 2015. “Mobility, Ceremonialism and Group Identity in Archaic Newfoundland.” Ph.D. Thesis, Memorial University.

Laybolt, A.D. 1999. “Prehistoric Settlement and Subsistence Patterns at Gaspereau Lake, Kings County, Nova Scotia.” MA Thesis, Memorial University.

Lewis, R. 2006. “Mi’kmaq Rights and Title Claim: A Review of the Pre-Contact Archaeological Factor.” *Mi’Kmaq Maliseet Nations News*, June.

Lothrop, J.C., Paige Newby, Arthur Spiess, and James Bradley. 2011. “Paleoindians and the Younger Dryas in the New England-Maritimes Region.” *Quaternary International* (242):546–69.

Maliseet Nation Conservation Council. 2009. *Maliseet Nation (Wolastoqwik) Traditional Knowledge Protocol (MTK Protocol)* Traditional Knowledge Working Group.

Membertou Geomatics Solutions (MGS) and Unama’ki Institute of Natural Resources (UINR). 2016. *Traditional Use Study Mi’kmaq and Wolastoqiyik Fisheries Scotian Basin Exploration Drilling Project*.

Murphy, B.M. 1998. “Researching the Early Holocene of the Maritime Provinces.” MA Thesis, Memorial University.

National Resources Canada. 2010. “The Origin of Halifax Harbour.” *National Resources Canada*. http://www.bedfordbasin.ca/halifaxharbour/origin_halifax_harbour-eng.php.

Neily, P., S. Basquill, E. Quigley, and K. Keys. 2017. *Ecological Land Classification for Nova Scotia*. Nova Scotia Department of Natural Resources, Renewable Resources Branch.

Newby, P., James Bradley, Arthur Spiess, Bryan Shuman, and Philip Leduc. 2005. “A Paleoindian Response to Younger Dryas Climate Change.” *Quaternary Science Reviews* 24:141–54.

Nova Scotia Department of Lands and Forestry. 1950. “Crown Land Grant Index Sheet No. 66 Halifax County.”

NS Crown Land Grant Registers. 1865. “Crown Land Grant to George Yeadon, August 30, 1865.” Nova Scotia. Nova Scotia Land Grant Registry Book 33, Page 27, #6814. Nova Scotia Archives.

———. 1881. “Crown Land Grant to George Yeadon, December 31, 1881.” Nova Scotia. Nova Scotia Land Grant Registry Book 4, Page 371, #13947. Nova Scotia Archives.

NS Registry of Deeds. 1862. “Crown Land Grant to George Yeadon, September 10, 1862.” Halifax County. Halifax County Registry of Deeds Book 2, Page 5, #59456. Nova Scotia Archives.

———. 1865. “George Yeadon to Isabella Cogswell, November 29, 1865.” Halifax County. Halifax County Registry of Deeds Book 151, Page 225-227, #1277. Nova Scotia Archives.

———. 1884. “George Yeadon to Thomas Ritchie, 11 September 1884.” Halifax County. Halifax County Registry of Deeds Book 250, Page 136. Nova Scotia Archives.

Pachai, B. 1997. *Blacks*. Peoples of the Maritimes. Halifax, N.S: Nimbus Publishing Ltd.

Pachai, B., and H. Bishop. 2006. *Historic Black Nova Scotia*. Halifax, N.S: Nimbus Publishing Ltd.

Piers, H. 2003. *The Harry Piers Ethnology Papers* Ed. Ruth Holmes Whitehead. Vol. 2. 3 vols. Halifax: Nova Scotia Museum.

Reid, J.G. 2009. “Empire, the Maritime Colonies, and the Supplanting of Mi’kma’ki/Wulstukwik, 1780-1820.” *Acadiensis* XXXVIII (2):78–97.

Reid, M. 2012. “Better Planning from Better Understanding: Incorporating Historically Derived Data into Modern Coastal Management Planning on the Halifax Peninsula.” Master of Marine Management, Dalhousie University.

Sable, T., and B. Francis. 2012. *The Language of This Land: Mi’kma’ki*. Sydney: Cape Breton University Press.

Sable, T., B. Francis, and R.J. Lewis. 2012. *The Language of This Land, Mi’kma’ki*. Cape Breton University Press.

Shaw, J., G.B. Fader, and R.B. Taylor. 2009. “Submerged Early Holocene Coastal and Terrestrial Landforms on the Inner Shelves of Atlantic Canada.” *Quaternary International* (206):24–34.

Shaw, J., P. Gareau, and R.C. Courtney. 2002a. “Palaeogeography of Atlantic Canada 13-0kyr.” *Quaternary Science Review* (21):1861–78.

Shaw, J., D. Piper J.W., and R.B. Taylor. 2002b. “The Geology of the Bras d’Or Lakes, Nova Scotia.” *Geological Survey of Atlantic Canada* 42 (Part 1):127–47.

Shaw, J., D.J.W. Piper, G.B. Fader, E.L. King, B.J. Todd, T. Bell, M.J. Batterson, and D.G.E. Liverman. 2006. “A Conceptual Model of Deglaciation of Atlantic Canada.” *Quaternary Science Reviews* (25):2059–81.

Shaw, J., R.B. Taylor, and D.L. Forbes. 1993. “Impact of the Holocene Transgression on the Atlantic Coastline of Nova Scotia.” *Geographic Physique et Quaternaire* 47 (2):221–38.

Shears, R.J. 2015. *2014 Beechville Archaeological Reconnaissance*. Halifax, N.S: Cultural Resource Management Group.

Shears, R.J., and B.W. Stewart. 2013. *Lovett Lake Estates Archaeological Screening and Reconnaissance 2013*. Halifax, N.S: Cultural Resource Management Group.

Speck, F.G. 1922. *Beothuk and Micmac*. Museum of the American Indian, Heye Foundation. doi:10.5479/sil.954994.39088015622459.

Stea, R.R. 2011. “Geology and Palaeoenvironmental Reconstruction of the Debert-Belmont Site.” In *Ta’n Wetapeksi’k: Understanding from Where We Come: Proceedings of the 2005 Debert Research Workshop, Debert, Nova Scotia, Canada*, edited by Tim Bernard, Leah Rosenmeier, Sharon L. Farrell, and Confederacy of Mainland Micmacs, 55–75. Truro, N.S: Eastern Woodland Print Communications for the Confederacy of Mainland Mi’kmaq.

Stea, R.R. and R.J. Mott. 1989. “Deglaciation Environments and Evidence for Glaciers of Younger Dryas Age in Nova Scotia, Canada.” *Boreas* 18:169–87.

Suttie, B.D., Vincent Bourgeois, and Michael Nicholas. 2007. *Developing Localized Predictive Models for New Brunswick, Canada: The Sevogle River Test Plot*. Fredericton: Archaeology Services Unit, Heritage Branch, Department of Wellness, Culture and Sport.

Ta’n Weji-sqalia’tiek. “Mi’kmaw Place Names Digital Atlas.” *Ta’n Weji-Sqalia’tiek – Mi’kmaw Place Names*. https://placenames.mapdev.ca/.

Thwaites, R.G. 1896. *The Jesuit Relations and Allied Documents: Travels and Explorations of the Jesuit Missionaries in New France, 1610-1791*. Vol. *Volume 1*. Cleveland: The Burrows Brothers Company.

Tuck, J.A. 1975. “The Northeastern Maritime Continuum: 8000 Years of Cultural Development in the Far Northeast.” *Arctic Anthropology* 12 (2):139–47.

Vacchi, M., S.E. Engelhart, D. Nikitina, E.L. Ashe, W.R. Peltier, K. Roy, R.E. Kopp, and B.P. Horton. 2018. “Postglacial Relative Sea-Level Histories along the Eastern Canadian Coastline.” *Quaternary Science Reviews* 201 (December 1):124–46. doi:10.1016/j.quascirev.2018.09.043.

Veith, F.H.D. 1886. *Report on the Condition of the Rivers in Nova Scotia in Connection with the Fisheries in That Province*. Ottawa: MacLean, Roger and Co.

Webster, T., K. McCguigan, K. Collins, N. Crowell, and C. MacDonald. 2015. *Evaluating a Topo-Bathymetric Lidar Sensor to Map Submerged Aquatic Vegetation in Lake Banook* Technical Report. NSCC Middleton, NS: Applied Geomatics Research Group.

Whitehead, R.H. 1993. *Nova Scotia: The Protohistoric Period 1500-1630*. Curatorial Report 75. Halifax: Nova Scotia Museum.

———. 2015. *The Old Man Told Us: Excerpts from Mi’kmaw History, 1500-1900*. Halifax: Nimbus Publishing Limited.

Whitfield, H. 2005. “The Development of Black Refugee Identity in Nova Scotia, 1813-1850.” *Left History: An Interdisciplinary Journal of Historical Inquiry and Debate* 10 (September 1). doi:10.25071/1913-9632.5679.

Wicken, W.C. 2004. *Mi’kmaq Treaties on Trial: History, Land, and Donald Marshall Jr*. Toronto: University of Toronto Press.

PLATES

Plate 1: Study area for 1146 St. Margarets Bay Road townhouse development, facing southeast.

Plate 2: Manicured lawn in the north end of the study area, facing south.

Plate 3: Front of existing home within the study area showing north extension, facing southeast.

Plate 4: Backyard of 1146 St. Margarets Bay Road showing outbuilding impression, facing west.

Plate 5: Outbuilding remains inside the treeline at the southeast corner of the lawn, facing southeast.

Plate 6: Slope running east-west along the southern extent of the study area, facing southeast.

Plate 7: Vegetation growth in the wooded area along the southern extent of the study area, facing south.

Plate 8: Modern midden under apple tree in wooded area, facing west.

Plate 9: Relatively level terrain in south of the study area which appears to be old field, facing southwest.

Plate 10: Hummocky terrain in the southeastern extent of the study area, facing south.

Plate 11: Forested hillslope in the southwestern extent of the study area, facing west.

Plate 12: Low-lying wet swale in the southwestern corner of the study area, facing west.

Plate 13: Skidder tracks along the treeline leading west to the property edge, facing west.

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:
A2024NS032

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

Surname: Crowell | First Name: Travis

Project Name: 1146 St. Margarets Bay Road Redevelopment

Name of Organization: Davis MacIntyre & Associates Limited

Representing (if applicable)

Permit Start Date: 20 February 2024 | Permit End Date: 31 December 2024

General Location: 1146 St. Margarets Bay Road, HRM

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 446004.82 m E 4942746.33 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: Travis Crowell | Date: 6 February 2024

Approved by Director: Beth Lewis Digitally signed by Beth Lewis Date: 2024.02.12 15:50:25 -04'00'