



101 Research Drive, Dartmouth

Archaeological Resource Impact Assessment

Heritage Research Permit A2024NS055

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101 RESEARCH DRIVE, DARTMOUTH
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT

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Category C

Davis MacIntyre & Associates Limited
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Cover: 101 Research Drive, looking southeast.

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EXECUTIVE SUMMARY

In March 2024, Davis MacIntyre & Associates Limited was contracted by Portucana Construction to conduct an archaeological assessment for 101 Research Drive, Dartmouth 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.

Results of the desktop study indicate that the general area of Kjiptuk and, more specifically, Punamu'kwati'jk (Dartmouth) were intensively occupied and part of a broader cultural landscape in which Mi'kmaq travelled, hunted, fished, gathered, and traded since time immemorial. This is reflected in the Mi'kmaw language and culture as well as historic, oral, and archaeological records. Mi'kmaq occupation is known south of the study area near the shore of the harbour at Sandy Cove. Upland areas within greater Kjiptuk, such as those of the study area, are known to have been used by the Mi'kmaq for hunting and resource collection, however this type of activity is less likely to leave a significant archaeological footprint with its visibility being further lowered by the extent of development. The forest at the northeast side of the study area which borders Eisner Cove Wetland may have provided a source of drinking water and attracted animals, making it a possible hunting ground for Mi'kmaq. However, the forested area adjacent to Eisner Cove Wetland within the study area was uneven, rocky, and sloped with poor drainage which would have hindered encampment. Furthermore, the southwest of the study area has been extensively infilled, excavated, and landscaped since at least the mid-nineteenth century. Therefore, the potential for intact archaeological resources related to L'nuk occupation has been evaluated to be low.

In the mid-eighteenth century, immediately following the arrival of Edward Cornwallis' fleet, the Dartmouth shoreline near the present-day downtown core and along Dartmouth Cove was intensively settled and some occupation stretched south from the old town along the shoreline, including as far south as modern-day Woodside where a fort (Fort Clarence) was soon constructed. The study area, due to its position further inland, may not have been settled until the mid-nineteenth century when John and Harriet Esson purchased the land by at least 1863. The Esson family constructed at least six buildings on their property within the study area and likely cultivated the surrounding land. After John and Harriet's deaths, the property was used by the Nova Scotia Hospital as farmland in the early to mid-twentieth century. By 1965, the property was purchased by the Nova Scotia Research Foundation and ground was broken on the first building in the Research Drive complex. By 1992, the complex was composed of its modern footprint, including four buildings, a parking lot and Research Drive was extended to Neptune Crescent. The results of the reconnaissance suggests that while twentieth century buildings currently occupy a portion of the study area, minimal disturbance beyond buried utilities and infilling has likely occurred on the land that contained the structures related to the Esson homestead (called the Balmoral Estate) and the Nova Scotia Hospital farm.

Further, possible evidence of the historic access road to the Esson homestead was located. As such, the study area is of high potential for intact archaeological resources related to nineteenth to early twentieth century activity. Therefore, it is recommended that archaeological monitoring be conducted by a qualified archaeologist of any ground disturbance within a 30m-radius of the locations of former historic buildings identified during the background study, with the exception of existing building footprints. Ground disturbance includes but is not limited to geotechnical testing, site preparation, excavation, and trenching.

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 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 March 2024, Davis MacIntyre & Associates Limited was contracted by Portucana Construction to conduct an archaeological assessment for 101 Research Drive, Dartmouth 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 A2024NS055 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 101 Research Drive Redevelopment is located in Dartmouth, Halifax Regional Municipality (Figure 2-1). The study area on Research Drive (PID 40305328) is located between Fenwick Street, Neptune Crescent, and the Eisner Cove Wetland, measuring approximately 6 hectares and contains multiple structures, a parking lot and a forested section bordering Eisner Cove Wetland (Figure 2-2). It is proposed that the study area is redeveloped for the construction of several multi-unit buildings (Figure 2-3). The redevelopment is currently in the development phase and detailed information is not fully known. However, it is likely that the disturbance will include significant subgrade excavation in order to prepare the site for construction. Subgrade excavation may extend to or below the bedrock surface for suitable building foundations. It is also anticipated that construction impacts may include grubbing, trenching, infilling, and laydown area construction.



Figure 2-1: General location of study area.



Figure 2-2: Detailed view of the 101 Research Drive study area.

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 2-4). 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

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 ka BP.¹⁰

⁷ Fader 2005, 5.

⁸ Fader 2005, 6; Shaw et al. 2009, 24.

⁹ Kyte 2024.

¹⁰ Shaw et al. 2002a, 1872.

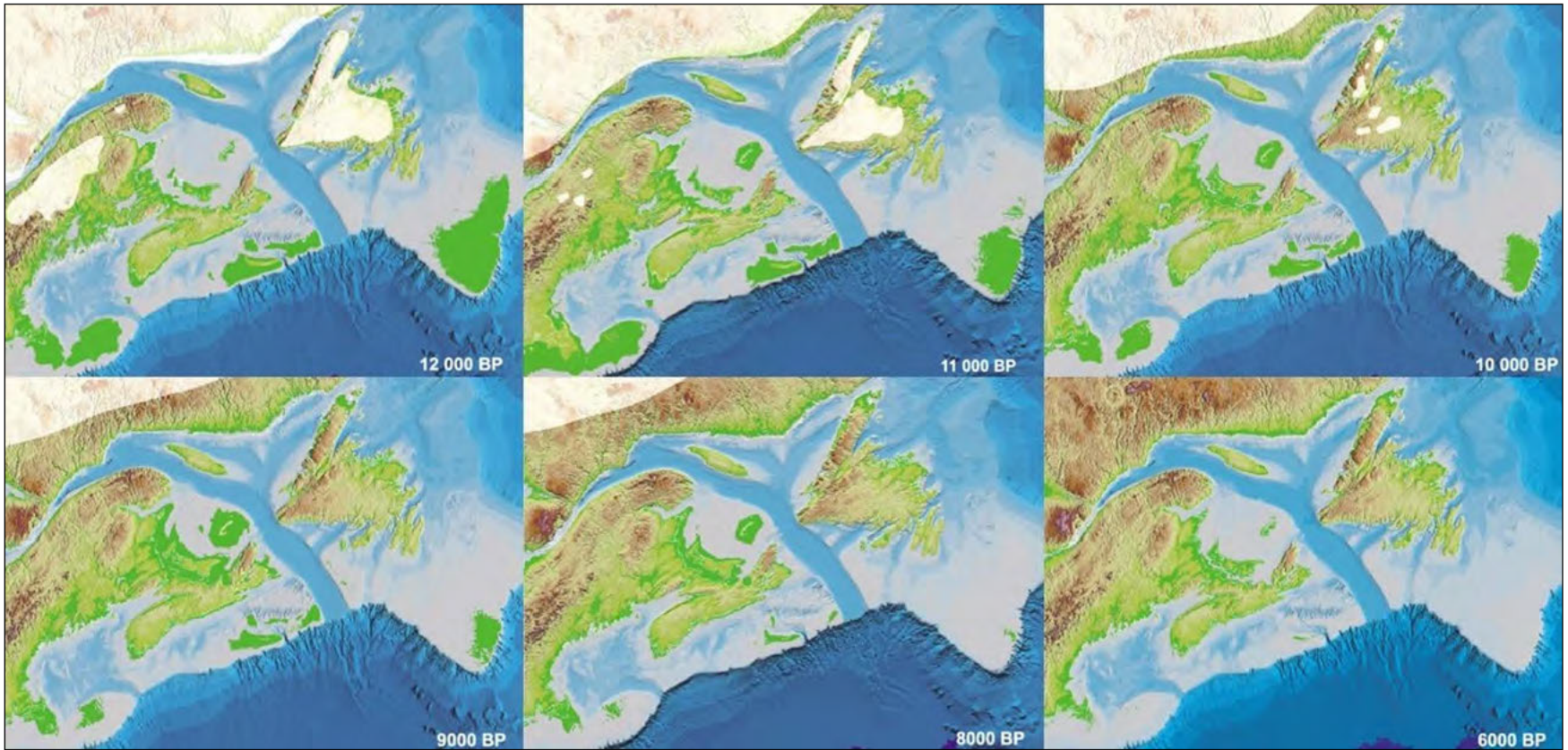


Figure 2-4: Palaeogeography of Maine and the Atlantic Provinces, depicting how emergent landforms on the continental shelf were gradually submerged.¹¹

¹¹ From Shaw et al. 2002a.

2.2 Natural Environment

The study area is located in the Eastern Interior (#440) ecodistrict, the largest ecodistrict in the province, stretching from Halifax County to Chedabucto Bay in Guysborough County. It is characterized by upland topography of rolling till-plain made up of generally gravelly and stony soils. Where glacial till is thin to non-existent, bedrock ridging is highly visible and where the till is deeper, softwood forests can be found.¹²

This ecodistrict has three distinct drumlin concentrations, the nearest to the study area being the one in which Sackville River flows through. The drumlins are oriented north-south to coincide with the route of glaciers heading toward the Atlantic Ocean. They are characterized by finer textured till deposits than other parts of the district, which are primarily made up of quartzite and slate tills. The district is underlain with rock such as quartzite, slate, and greywacke, as well as schist and migmatite that make up the Meguma Group.¹³ Specific to the study area, the surface geology is glacially deposited ground moraine and streamline drift typically with silty, compact matrix from local and distant bedrock sources. The bedrock is composed of Goldenville Formation slate and sandstone which are metamorphosed to schist and gneiss in places.¹⁴

The forest ecology of this region is a combination of black spruce forest, white pine forest, and softwood/mixedwood forest; comprised of red spruce, hemlock, yellow birch, red maple, and sugar maple.¹⁵ The forests on the peninsula have been subjected to disturbances such as fire, hurricanes, insects and natural deterioration. Due to the abundance of natural fuel in the form of pine and spruce litter, fires can have severe negative impacts on these sites – especially those sites characterized by a coverage of stones and boulders, or with shallow soils over bedrock.¹⁶ Centuries of urban development and expansions in Halifax and neighbouring communities has drastically reduced, if not eliminated, many aspects of the natural history of this region.

The study area falls within the Sackville watershed, which drains a 996km² area along numerous waterways including the Sackville River.¹⁷ In a report from 1882, Veith describes a great number of salmon and grilse in the Sackville River, but notes that the fishermen in the Bedford Basin complained of a lack of salmon compared to previous years.¹⁸ White sucker, shiners, sticklebacks, perch, banded killifish, and brook trout are the predominant freshwater fish.¹⁹

¹² Neily et al. 2017, 121.

¹³ Neily et al. 2017, 121–2.

¹⁴ Department of Energy and Mines n.d.

¹⁵ Neily et al. 2017, 123.

¹⁶ Neily et al. 2017, 124.

¹⁷ Davis and Browne 1996a, 152.

¹⁸ Veith 1886, 67.

¹⁹ Davis and Browne 1996b, 199.

Avian populations include black duck and Canada goose who use the area as a stopover during migration, and the former species also breeds along this coast. Overwintering birds include goldeneye and scaup, great blue heron, osprey, piping plover, and bald eagle, which all find various nesting locations in this region.²⁰

Watercourses around the harbour have changed greatly since the earliest days of Halifax's settlement. Analysis of maps from the eighteenth and mid-nineteenth century indicate that there were four major watercourses that flowed across the peninsula, as well as a number of minor watercourses. In many cases, these watercourses were bounded by wetlands (about 83 ha in total).²¹ Today, according to the Provincial Wetland Inventory, there are no wetlands on the Halifax Peninsula, and the waterways have been erased either by infilling, undergrounding, or other means undertaken by early development.²² On the Dartmouth side of the harbour, the development of the Shubenacadie Canal in the nineteenth century has had a significant influence of the Shubenacadie River, its lakes and tributaries. The study area is located adjacent to the Eisner Cove Wetland which is approximately 9.3 hectares on the northeast side of the study area.

3.0 METHODOLOGY

A historic background study was conducted by Davis MacIntyre & Associates Limited in March 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 March 2024 to inquire whether traditional Mi'kmaw land use is known in or near the study area. A response was received on 11 April 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 April 2024. Detailed notes and photographs were collected, with tracklogs recorded via handheld GPS units. Archaeological features/areas of potential were recorded using handheld GPS units.

²⁰ Davis and Browne 1996b, 199.

²¹ Reid 2012, 34–5.

²² Reid 2012, 37–40.

4.0 RESULTS

4.1 Maritime Archaeological Resource Inventory

The Maritime Archaeological Resource Inventory was accessed on 18 March 2024 in order to determine if known archaeological sites or resources exist within or near the study area. A search radius of 5kms from the study area was examined, within which at least 81 sites have been previously reported. These sites include L'nuk finds dating from the Palaeo period up to early twentieth century Euro-settler occupation.

The nearest precontact period finds were located near Alderney Drive, approximately 1.6 kms to the west of the study area, and were recovered in July 1833, when a cellar excavation yielded two pieces of a blocked-end tubular pipe made from Ohio pipestone, as well as a large projectile point (**BeCv-02**). The finds were noted to be in the possession of Adam Esson within a few days of their recovery, and it is thought that they were recovered from the cellar of one of the two small cottages owned by Mr. Esson on Commercial Street (now the portion of Alderney Drive which runs from the northwest to the southeast). One scholar places the property in what is now the Ferry Terminal Park.²³ Alternately, Esson also owned land across Boggs Street (now beneath part of the southwest-northeast section of Alderney Drive). The MARI form for this site also suggests Admiralty Place (17 Prince Street) as the find location.

Tubular pipes are created by hollowing a cylinder of pipestone and blocking one end with a pebble. They were donated by Mr. Esson to the Mechanic's Institute prior to the creation of the Nova Scotia Museum. In 1868 they were brought to the Provincial Museum, but the projectile point has since been lost. The pipe, now repaired, appears to have been associated with the Middlesex complex, which is a cultural tradition originating in New York State and dating to approximately 2,600 to 2,100 years BP. This complex was in turn, influenced heavily by the Adena cultural tradition of the Ohio River Valley. Artifacts such as this pipestone are usually associated with human burials.²⁴

Other nearby L'nuk archaeological finds include a Late Kejikawe'k L'nuk/Archaic general activity site on the shores of Lake Micmac (**BeCv-07**), an isolated Saqiwe'k L'nuk/Palaeo chalcedony fluted point preform found within fill from a nearby source (**BeCv-14**), and nineteenth century Mi'kmaw petroglyphs near Millers Mountain (**BeCv-17**). At the south outlet of Lake Charles, a grooved axe was reported and is representative of L'nuk use and occupation in the Late Mu Awsami Kejikawe'k L'nuk/Archaic period (**BeCv-08**). In addition to sites with designated Borden numbers, a single quartz flake was found in a disturbed context during archaeological testing at nearby Birch Cove Park in 2021. It has been assigned accession number 2022.1.1.

²³ Martin 1957, 52, 195.

²⁴ Christianson 2005, 5–6.

Historic archaeological resources are common along Dartmouth Cove, reflecting its historical significance. The Starr Manufacturing Company was once located at the corner of Prince Albert Road and Pine Street (now Irishtown Road) (**BeCv-30**). The factory began producing nails in the mid-nineteenth century, gaining fame and more success when it began producing ACME spring skates. Archaeological investigations in 2002 confirmed the remains of an urban industrial site, complete with a turbine chamber powered by water from locks 3 and 4 of the Shubenacadie Canal. Before this chamber was incorporated into the Starr Manufacturing plant, it had been installed to help power the inclined plane of the Canal, created in 1860 to pull vessels up the steep slope. Parts of the inclined plane were also encountered during excavations.

Another known site in Dartmouth Cove is that of an unmarked and historically unrecorded cemetery (**BeCv-01**). Many burials were encountered when workers dug out the foundation of St. James' Presbyterian manse, north of the church, in July 1894. This places the bodies approximately 100 yards or 91 metres east of the Canal waterway flowing into Dartmouth Cove. The remains are thought to have been historic, but no previous record of burials in this location are known.

Structures of ironstone and brick have been recorded near Dartmouth Cove, believed to be related to the Shubenacadie Canal. Two areas of late nineteenth through early twentieth century dumping and infilling activity have also been encountered (**BdCv-18** and **BdCv-27**). The latter is located at the end of Old Ferry Road in the backyard of a private residence, which is the nearest known archaeological site to the study area. The cribwork of a nineteenth century wooden wharf was uncovered at the foot of Maitland Street (**BdCv-17**).

Downtown Dartmouth features a variety of recorded historic archaeological resources, including the remains of the second Dartmouth Railway station, middens dating to the late eighteenth through early twentieth century, and a wooden shipwreck resting in the intertidal zone to the northwest of the Woodside Ferry Terminal (**BdCv-51**).

In the harbour, sites have been recorded on Lawlor's Island, southeast of the study area, where a complex of features related to the 1866-1938 quarantine station have been recorded (**BdCu-10** and **BdCv-63**). A shell midden likely related to the Kejikawe'k L'nuk/Woodland period is known on the north shore of Back Cove (or Wreck Cove) on McNab's Island (**BdCv-04**) and a corner-notched projectile point and end scraper were reported at Hartlen Point (**BdCu-02**) dating to the same period.

Historic foundations are known on McNabs Island at Indian Point (**BdCv-11, 12, 13, and 14**) as well as at Ives Cove (**BdCv-15**) and on the southeast end of the island (**BdCv-48**). The Davis Bottling Plant, a nineteenth century industrial site, is also known on McNabs Island (**BdCv-10**).

The number of known archaeological sites near the study area reflects long-standing use and occupation of this area since time immemorial and continuing to the present day by both L'nuk and Euro-settlers. The density of known archaeological sites related to L'nuk presence indicates an important reliance on the coastal region and on the waterways and water bodies neighbouring the study area by the Mi'kmaq and their ancestors. In the early Holocene, this occupation may have extended to areas now submerged in Halifax Harbour, along the palaeoshores of now submerged lakes as well as along now-submerged ridges in the Bedford Basin.

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".²⁵ 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.²⁶ 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.²⁷

²⁵ Sable and Francis 2012, 18.

²⁶ Newby et al. 2005, 151.

²⁷ Lothrop et al. 2011, 562.

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.²⁸ 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.²⁹ 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.³⁰ 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.³¹ 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.³²

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.³³ 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.³⁴ 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 eighteenth century. However,

²⁸ Tuck 1975.

²⁹ Deal et al. 2006.

³⁰ Davis 1993, 100.

³¹ Davis 2005, 18.

³² Wicken 2004, 26.

³³ Wicken 2004, 30.

³⁴ Whitehead 1993, 89.

disease, conflict, and alienation from the land wreaked a ruinous effect on the Mi'kmaq by the nineteenth century, pushing people to the margins of colonial society.³⁵

Table 4-1: Mi'kmaq/Archaeological Cultural Periods.³⁶

Mi'kmaq Period	Archaeological Period	Years (C ¹⁴ Uncalibrated)	Calendar Years (Calibrated)
Saqiwe'k L'nuk (the Ancient People)	Palaeoindian	11,500 – 9,000 BP	13,000 – 9,000 cal BP
	<i>Early/Middle</i>	<i>11,500 – 10,000 BP</i>	<i>13,000 – 11,600 cal BP</i>
	<i>Late</i>	<i>10,000 – ~9,000 BP</i>	<i>11,600 – 9,000 cal BP</i>
Mu Awsami Kejikawe'k L'nuk (the Not so Recent People)	Archaic	9,000 – 3,000 BP	9,500 – 3000 cal BP
	<i>Early/Middle</i>	<i>9,000 – 5,000 BP</i>	<i>9500 – 5,500 cal BP</i>
	<i>Late/Transitional</i>	<i>5,000 – 2,500 BP</i>	<i>5,500 – 3,000 cal BP</i>
Kejikawe'k L'nuk (the Recent People)	Woodland/Ceramic	3,000 – 500 BP	3,000 – 550 cal BP
	<i>Early</i>	<i>3,000 – 2,400 BP</i>	<i>3,000 – 2200 cal BP</i>
	<i>Middle</i>	<i>2,400 – 1,700 BP</i>	<i>2,200 – 1,300 cal BP</i>
	<i>Late</i>	<i>1,700 – 500 BP</i>	<i>1,300 – 550 cal BP</i>
Kiskukewe'k L'nuk (Today's People)	Protohistoric	500 BP – 350 BP	550 – 350 cal BP
	Historic/Modern	500 BP – present	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'kmaq territory known as Sikipne'katik/Sipekne'katik meaning “wild potato area” or “place of groundnuts.” Sikipne'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 Kjiptuk/Halifax.³⁷ More villages were likely established throughout Sikipne'katik, but either fell outside of the knowledge of European sources or were simply not recorded.

³⁵ Reid 2009.

³⁶ Lewis 2006; Confederacy of Mainland Mi'kmaq 2007, 3; Davis 2011, 22; Betts and Hrynich 2021, 19.

³⁷ Hoffman 1955, 534-35.

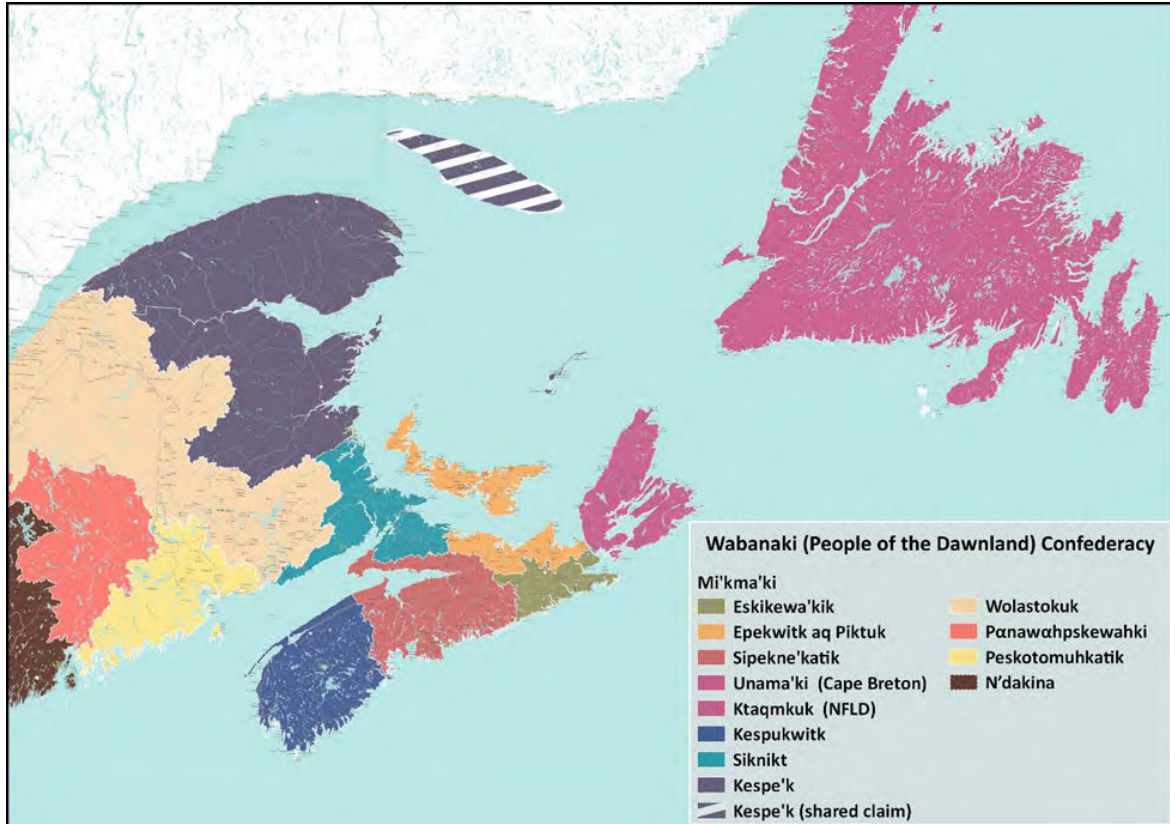


Figure 4-1: The districts of Mi'kma'ki and Wabanaki Traditional Territories.³⁸

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.³⁹ 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, Capucin Pacifique, Dartmouth is known in the Mi'kmaw language as Punamu'kwati'jk, meaning "at the tomcod place".⁴⁰ Lonecloud, speaking in the early twentieth century to former museum curator Harry Piers,

³⁸ 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.

³⁹ Sable and Francis 2012, 26.

⁴⁰ Pacifique 1934, 278.

indicated that where the Shubenacadie River enters the harbour was known as Ponamogoatitjg or “the salmon place”. Several place names are recorded in the vicinity of Dartmouth, including in locations of historic habitation. Several of these names refer specifically to important resources. Mnikwaqnik or Birch Cove, translates to “the place where they get bark”. Tkipowik or Sandy Cove, is another location where Mi’kmaq are recorded to have camped in the historic period. The name means “there is a spring there”.⁴¹ Approximately 400m from the study area, Kuowa’qmiktu’jk or “little pine hill” is the name for the hill where Prince Arthur Park once was, which today is roughly the location of Prince Arthur Avenue.⁴²

Archaeological evidence supports occupation of Kjipuktuk and surrounding area by the Mi’kmaq and their ancestors from the Saqiwe’k L’nuk/Palaeo 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 as Birch Cove, Fairview Cove, McNab’s Island, and Sandy Cove. Kjipuktuk offered Mi’kmaw families numerous advantages including sheltered coves, numerous freshwater sources, and access to marine, coastal, and riverine resources, as well as easy movement throughout the greater landscape along waterways like the Shubenacadie and Sackville Rivers. The Halifax Common, for example, was originally wetland and there is a tradition that Mi’kmaq hunted moose in these swampy areas. They also hunted ducks and fished in the watercourses available on the peninsula,⁴³ most of which have since disappeared through the development of the city of Halifax.⁴⁴ Where Citadel Hill meets the west side of Brunswick Street, historian Thomas Raddall reported that a “small stone adze of blueish slate” was found.⁴⁵

The most significant travel route was the Kjipuktuk/We’kopektik trail along the Shubenacadie River System, which allowed cross-provincial travel between Halifax Harbour and Cobequid Bay. This trail, which archaeological evidence suggests 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.⁴⁶ A review of topographic mapping indicates that one could also follow the river upstream to Tomahawk Lake, portage approximately 1 kilometre to Pockwock Lake, then descend Pockwock and Indian Rivers to reach the head of St. Margaret’s Bay. A precontact pedestrian path may have connected the northeastern cove

⁴¹ Anonymous 2019.

⁴² Piers 2003a, 65.

⁴³ Raddall 2007, 2.

⁴⁴ Reid 2012.

⁴⁵ Raddall undated.

⁴⁶ Sanders and Stewart 1999, 7.

of Lake Micmac to the historic base of Lake Major, with historic mapping showing several early roads sharing the same northeast/southwest alignment.⁴⁷

Mi'kmaw settlement in and around Kjipuktuk/Halifax is reflected in historic documents as early as 1688, when Sieur de Gargas recorded 33 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 on 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'kmaw camps are known in the nineteenth century. It is likely that more habitation sites were in use around the harbour in the seventeenth 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 authorities. 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-eighteenth century. In the summer of 1746, Mi'kmaw warriors from Chebucto and bands throughout Mi'kma'ki gathered in Kjipuktuk. 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.⁵²

The expedition was doomed nearly from the onset. Delayed by weather and poor organization, only 44 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 on the Halifax side of the harbour. 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

⁴⁷ Sanders 2016, 23.

⁴⁸ Wicken 2004, 171.

⁴⁹ Hoffman 1955, 335.

⁵⁰ Ingalls and McGrath 1998, 10.

⁵¹ Ingalls and Ingalls 2010, 11–2.

⁵² Ingalls and Ingalls 2010, 11–2.

⁵³ Ingalls and Ingalls 2010, 14.

Forrest's Tannery", located in the vicinity of Titus Smith Park in Fairview today.⁵⁴ During construction of the railway on the Dartmouth side of the harbour in 1884, Martin reports that several skeletons were unearthed to the east of the town plot, which he suggests was the burying place of many French and Mi'kmaq who succumbed to disease after the arrival of the French.⁵⁵ This is likely in the vicinity of Dartmouth Cove.

The historical consequences of French disease for the Mi'kmaq 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 the deterioration of relations between the two nations and numerous confrontations.⁵⁶ 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. They were moved to the northeastern portion of McNab's Island, now called "Indian Point", and lived there for some time.⁵⁷ The same year, a map of Halifax Harbour was produced showing a wigwam situated in Dartmouth across from McNab's island (Figure 4-2).



Figure 4-2: 1749 map of the Halifax Harbour showing a wigwam (red) located in the Dartmouth area, across from McNab's Island.⁵⁸

⁵⁴ Ingalls and Ingalls 2010, 15–7.

⁵⁵ Martin 1957, 417.

⁵⁶ Paul 2008, 112.

⁵⁷ Kinsman 1995, 2.

⁵⁸ Harris 1749.

Though displaced through disease, war, and colonial policy, the Mi'kmaq continued to live in Kijipuktuk through the eighteenth and nineteenth centuries (Figure 4-3). 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. In 1836, it was reported that canoe races were held in Halifax Harbour and that Lewis Paul and Mary Tony were the winners of the men's and women's races. Martin suggests that they were likely residents of Dartmouth.⁵⁹ There is also reference to a canoe contest for Mi'kmaq women on "First Lake", or Lake Banook, in October 1846.⁶⁰ Nearby Graham's Grove was long used as a camping ground by the Mi'kmaq.⁶¹

By at least the late eighteenth century, local Mi'kmaq established a community at Tuft's Cove called Turtle Grove (Figure 4-4). A school was constructed, and several families lived in the area earning a living as artisans of baskets, hockey sticks, firkins and other goods. In 1870, Mi'kmaq living at Shubenacadie were also known to spend the summer at Dartmouth Lake or Tufts Cove.⁶² In 1880, it was reported that Mi'kmaq "from other counties" came to Bedford, Dartmouth "and other places near the city" in the summer to camp.⁶³ The Mi'kmaq community at Tuft's Cove was a casualty of the Halifax Explosion in 1917 and never re-built.



Figure 4-3: Depiction of a Mi'kmaq encampment in Dartmouth ca. 1791.

⁵⁹ Martin 1957, 219.

⁶⁰ Martin 1957, 299.

⁶¹ Martin 1957, 493.

⁶² Whitehead 1993, 158.

⁶³ Canada House of Commons 1881, 42.



Figure 4-4: Mi'kmaq encampment at Tuft's Cove in 1871.⁶⁴

Martin noted that the Mi'kmaq had summer camps along several of the bays within the harbour, including at Sandy Cove “near McMinn’s (or McMinn’s) brickyard.”⁶⁵ He also noted that there was formerly a river that flowed down into the cove “at the edge of Evergreen in the Maitland Street hollow”⁶⁶ and that Mi'kmaq families would come to the cove via the river in the spring. Here, they would pitch tents in a circle around a campfire. This river is depicted on historic maps up to the early nineteenth century. Museum curator Harry Piers noted that there was a brook and nearby spring near this location, known to the Mi'kmaq who camped at the mouth of the brook, as Kobowee meaning “boiling spring”.⁶⁷

Martin also states that in June 1845, a visit to Mi'kmaq camps at Lake Banook was described in the *Acadian Recorder*. Unfortunately, this account could not be located in the June issues for 1845 and the year or month provided by Martin may have been reported in error. According to Martin, the camps were visible from “The Brae”, where Mr. Crichton’s house was located (this estate was located on the southeast side of Lake Banook and the house was located in the vicinity of Cleveland Crescent). This suggests the camps were in the south end of Lake Banook. Martin quotes the newspaper as follows:

⁶⁴ Rogers 1871.

⁶⁵ Martin 1957, 110.

⁶⁶ Martin 1957, 25.

⁶⁷ Piers 2003a, 63.

*[The camps were] on the facing side of two rising grounds, and the intermediate valley between had its occasional rude domicile. In one wigwam, men were preparing wicker work for their baskets. In another, women were busy plying porcupine quills which, in various and gorgeous dyes, they were fashioning into fanciful and graceful figures [...]*⁶⁸

Red Bridge, on the eastern shore of Lake Micmac, was another significant Mi'kmaw encampment. A number of notable Mi'kmaq called Red Bridge their home. Harry Piers, in 1880, noted that Gorham Paul's wife lived at Red Bridge in Dartmouth, though she was known as Mohawk not Mi'kmaq.⁶⁹ Lewie Newell (Louis Noel) and Peter Joe Cope were both from Red Bridge, Dartmouth.⁷⁰ Jerry Lonecloud also lived at Red Bridge for a year in the late nineteenth century.⁷¹

Joe Cope's father, Peter Cope (c. 1816-1913), remembered seeing Wedge-it-doo, a "great [Mi'kmaq] who died, it is said, at age of 113 years... His camping ground was on the eastern side of First Lake Dartmouth [Lake Banook] about halfway or so up the lake." Cope knew Lake Banook as Wedge-it-doo-ek meaning "Lake belonging to Wedge-it-doo". Wedge-it-doo's name was also recorded as Jeddore or We'jitu.⁷²

The Kjipuktuk/We'kopektik trail along the Shubenacadie River continued to be used into the historic period as well. Between 1831 and 1835, two Mi'kmaw men, Noel Jeddore and Handley Squegun, used this route to travel from Dartmouth to St. John, New Brunswick in a single day, which they had heard that other Mi'kmaq had previously accomplished. They were said to have left Dartmouth in a birchbark canoe and travelled through the Dartmouth Lakes, travelling on to the Shubenacadie River to Milford. Here, the Fundy tides were flowing out, carrying them to Maitland at the mouth of the river and then down the Minas Basin near Blomidon. Here, they crossed to Advocate Harbour and coasted westward to Cape Chignecto. The tide was still going out at this point in their journey, when they crossed Chignecto near the Three Sisters to the New Brunswick shore.⁷³

In 1880, the Indian Agent for Halifax County reported that the largest Mi'kmaw settlements in the district were located in Dartmouth.⁷⁴ Among these settlements were likely the one at Tuft's Cove as well as at Cole Harbour. In that year, 70 acres of land were set aside at Cole Harbour for the establishment of a reserve, located between Bissett Lake and Morris Lake. A school was built on the reserve in 1888 but there was difficulty in

⁶⁸ Martin 1957, 286.

⁶⁹ Piers 2003b, 109.

⁷⁰ Piers 2003b, 26.

⁷¹ Piers 2003b, 113.

⁷² Piers 2003b, 29.

⁷³ Whitehead 2015, 212–3.

⁷⁴ Canada House of Commons 1881, 42.

retaining teachers for the school. The reserve also proved to be difficult to cultivate and ran out of firewood resources within a decade, prompting most of the Mi'kmaq inhabitants to depart.⁷⁵ Today, the Cole Harbour IR30 encompasses nineteen hectares of land administered by Millbrook First Nation.⁷⁶

The 1914 census indicates that 64 Mi'kmaq were residing in Dartmouth.⁷⁷

4.2.2 Settler and Euro-Canadian Settlement

Although the presence of a few Acadians in Dartmouth is known in association with the Mi'kmaq, a more substantial European presence is not recorded until 1746, when Duc d'Anville sailed the remnants of his French fleet into Halifax Harbour. The fleet, consisting originally of 37 war ships and 34 transports, had been sent on a mission of conquest: France planned to retake Acadia from the English. A series of storms and illnesses had rapidly reduced the fleet, “[b]attered by storms and delayed by calms,”⁷⁸ until after months at sea the ships limped into the harbour in small groups. The men were by then also suffering the ill effects of scurvy, typhoid, and dysentery.⁷⁹ Several thousand were dead, and so the surviving members of the fleet put ashore between Fairview and Rockingham along west shore of the Basin. They camped on the shore for a time, buried their dead, and burned and scuttled their extra ships in Fairview Cove, since they no longer had sufficient numbers to sail all the vessels.⁸⁰

Three years later, Governor Edward Cornwallis founded the new English settlement of Halifax on the defensible peninsula in the harbour.⁸¹ The planned town consisted of what is now the grid of downtown streets on the slope facing the harbour. Due to hostilities with the French and the Mi'kmaq, the town was constructed within a palisade wall and closely guarded in its early years.

The earliest known European to settle on the Dartmouth side of Halifax Harbour was Major Ezekiel Gilman, who erected a sawmill “by the large cove on the opposite side of the harbour. At the time three streams emptied into the cove [Dartmouth Cove 800m west of the study area] from a nearby lake. The middle stream was called Sawmill River.”⁸² Dartmouth Cove seems to have been the main focus of initial settlement on the Dartmouth side. A 1750 map of the Halifax Harbour, for example, depicts the sawmill, though the area further down the shore and inland was unoccupied (Figure 4-5). Major

⁷⁵ Department of Indian Affairs 1889.

⁷⁶ Millbrook First Nation.

⁷⁷ Department of Indian Affairs 1915.

⁷⁸ Raddall 2007, 11.

⁷⁹ Raddall 2007, 12.

⁸⁰ Raddall 2007, 13.

⁸¹ Raddall 2007, 1.

⁸² Chapman 2001, 22.

Gilman (shown on the map as Major Gilmot) is shown to have a structure of some kind on the point. Alternately, another 1750 map shows a watering place and a sawmill farther south along the shore with the point at Dartmouth Cove still forested (Figure 4-6). The more accepted location, however, is around Dartmouth Cove as outlined above.

A shelter for the mill's lumberjacks and a few soldiers was also constructed that summer. On 30 September 1749 a band of Mi'kmaq attacked six woodcutters working near the mill, killing four and capturing one while the sixth escaped. Cornwallis subsequently assigned 30 men to guard the place. A small fort was reportedly erected, and Akins notes that a cannon was placed on "the point," presumably Collins Point.⁸³

Until this time, hundreds of Mi'kmaq were camped in Eastern Passage, particularly at a point of land opposite McNab's Island, which had previously been cleared by the Acadians. This point of land is part of the property formerly occupied by the Imperial Refinery.⁸⁴ Following the attack on the mill at Dartmouth, the Mi'kmaq were deported to Indian Point on McNab's Island. Earthworks and guns were subsequently erected on the point of land where the Mi'kmaq had been encamped at Eastern Passage and this fortification was called Fort Clarence. The cove near Fort Clarence was known for a time as Scalping Cove due to a conflict that took place in the eighteenth century.⁸⁵



Figure 4-5: Detail of a 1750 map of Halifax Harbour, showing Dartmouth Cove at right and the shoreline further southeast.⁸⁶ Approximate study area is shown in red. North is to the bottom.

⁸³ Akins, cited in Martin 1957, 38.

⁸⁴ Hewitt 1901 chapter 16.

⁸⁵ Hewitt 1901 chapter 16.

⁸⁶ Harris and MacLaren 1750.



Figure 4-6: Part of the 1750 *Carte du havre de Chibucto avec le plan de la ville de Halifax sur la coste de l'Accadia ou Nova Scotia*⁸⁷, showing a watering place and sawmill along the Dartmouth shore in the vicinity of Woodside (red arrows).

By early September 1750, a fresh group of settlers had arrived on the *Alderney*, which sailed from Plymouth and carried 340 English, Swiss, and German passengers. These new arrivals were to inhabit the planned town lots of Dartmouth, located adjacent to Gilman's sawmill and bounded by present-day North Street, Alderney Drive, Dundas Street, and the Halifax Harbour.⁸⁸ For several years afterwards, the Mi'kmaq, as allies of the French and enemies of the English, continued to attack the settlement, and numbers of casualties continued to rise on both sides. Settlers began to trickle away from Dartmouth, reaching a mere 39 persons by 1766.⁸⁹ There appears to have been very little occupation in the vicinity of the study area or Woodside, although there was a road from the Dartmouth settlement to the eastern battery at Fort Clarence.

Dartmouth businesses and residents continued to cluster around the downtown core for several generations. The Nantucket Whalers, having sailed into the harbour to resettle in Dartmouth in 1786, continued the work of building up the shores of Dartmouth Cove, this time to support the whaling industry. In addition to a wharf, warehouses, and workshops, they constructed a spermaceti candle factory. Houses for some 40 families were built in the area around the former meeting house at the northeast corner of King and Queen Streets, once known as Quakertown.⁹⁰ Though they were relocated to Wales in 1791,

⁸⁷ Rocque 1750.

⁸⁸ Chapman 2001, 27.

⁸⁹ Chapman 2001, 32.

⁹⁰ Martin 1957, 39.

their wharves, warehouses and homes still stood along the cove's shores and were eventually reused by other residents.⁹¹

In a 1786 illustration, numerous structures are depicted along the Dartmouth shoreline set against forested undeveloped hillsides (Figure 4-7). The study area, located further inland on a hillside was originally part of a 42-acre plot of land granted to James Creighton in 1781 (Figure 4-8). James Creighton was one of the wealthiest landowners in early Dartmouth history, often buying abandoned parcels of land or bidding at auctions after settlers died to amass his estate. His home, the Brooklands estate, was located 900m west of the study area, today, approximately at the intersection of Pleasant Street and Old Ferry Road.⁹² Creighton likely did not reside at the study area, due to its forested and isolated location, but could have used it as a farm lot or a rental property.



Figure 4-7: 1786 illustration of Dartmouth showing structures along the shoreline, with a forested hillside.⁹³ Approximate study area shown in red. The hill to the left of the study area is known in Mi'kmaw as Kuowa'qmiktu'jk or "little pine hill" (blue arrow).

⁹¹ Chapman 2001, 56.

⁹² Martin 1957, 21.

⁹³ Duke of Clarence 1786.

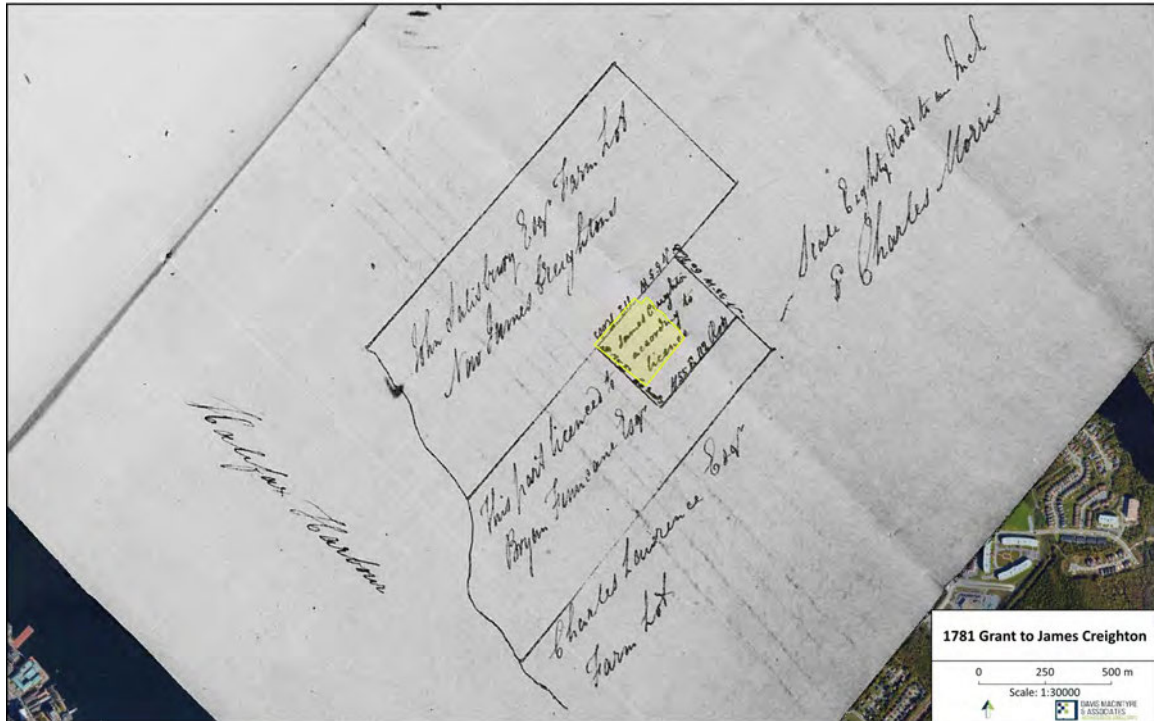


Figure 4-8: Plan by Charles Morris showing James Creighton's 1781 land grant within the study area (yellow).⁹⁴

By 1791, new waves of Loyalist settlers had somewhat bolstered Dartmouth's population and industries including a grist mill and later a rolling mill sprang up.⁹⁵ Still, by 1809 only 19 dwelling houses were recorded in Dartmouth.⁹⁶ An 1808 map shows that some structures had been constructed further back from the Dartmouth shoreline, although within the study area, no roads or structures were depicted. There was, however, a stream crossing the study area (Figure 4-9).

In 1813 James Creighton died, leaving his children to sell off his massive estate. The 42-acre plot of land that encompassed the study area was granted to Creighton's son-in-law, Thomas Maynard in 1828 (Figure 4-10). Maynard, like his father-in-law, had significant land holdings and it is unclear if he occupied or developed the study area. An 1853 hydrographic map of Dartmouth does not show any roads or structures within the study area, which would further suggest that Maynard did not develop this plot of land at this time (Figure 4-11).

⁹⁴ Morris 1781.

⁹⁵ Chapman 2001, 39.

⁹⁶ Fergusson 1967, 155.



Figure 4-9: 1808 map of Dartmouth showing that settlement was concentrated along the waterfront. Note the watercourse crossing through the study area (yellow). North is to the left.⁹⁷



Figure 4-10: Crown land grant map showing that the entirety of the study area (yellow) was granted to Thomas Maynard.⁹⁸

⁹⁷ Toler 1808.

⁹⁸ Nova Scotia Department of Lands and Forestry 1950.



Figure 4-11: 1853 hydrographic chart depicting no roads or structures within the study area (yellow).⁹⁹

By at least 1863, the 42-acre plot of land was purchased by John and Harriet (née Leonard) Esson (Figure 4-12). John was born in 1804 in Aberdeen, Scotland and emigrated to Halifax in 1823. He started a domestic wholesale grocery firm where he amassed considerable wealth and became a well-known figure in Halifax. He was president of the North British Society, acted as fire warden, was president of the Halifax Agricultural Association, was appointed governor of the Poor Asylum and commissioner of the cemetery, and was elected as a Member of the House of Assembly.¹⁰⁰ While Esson had significant land holdings across all of Nova Scotia, and even some in New Brunswick, he mostly resided at two properties, his house “Elmwood” on South Street in Halifax and his estate “Balmoral” in Dartmouth.¹⁰¹ An 1878 map of Dartmouth shows that the Esson family’s Balmoral estate, which included most of the study area, had at least six buildings (Figure 4-13). This map also suggests that the road leading to Balmoral aligns with the modern road, Esson Road, indicating the road’s namesake came from the Esson family.

John Esson died in 1863, but it appears his family stayed at Balmoral as an inventory of John’s estate at the time of his death reads that his “Property at Dartmouth Currently used now of his Family”.¹⁰² Harriet appears to have inherited most of the estate, which

⁹⁹ Bayfield 1853.

¹⁰⁰ Buggey 1976.

¹⁰¹ Buggey 1973.

¹⁰² Buggey 1973.

contained over 30 properties, 25 bank investments/stocks, and over 100 mortgage securities, with the entire estate totalling over \$360,000.



Figure 4-12: A. F. Church's 1865 of Halifax showing a "J. Esson" within the approximate study area (red).¹⁰³



Figure 4-13: 1878 map of Dartmouth showing John Esson's estate with six buildings on the property with the study area (yellow).¹⁰⁴

¹⁰³ Church 1865.

¹⁰⁴ Hopkins 1878.

After Harriet died in 1895, it is difficult to discern what happened to the property due to the number of deeds related to the Esson family. However, by the 1960s, the property was owned by the Nova Scotia Hospital as part of their farm.¹⁰⁵ Although it cannot be said with certainty, John’s time working with the Poor Asylum in Halifax may have encouraged the family to deed their Balmoral property to the nearby Mount Hope Asylum (later renamed the Nova Scotia Hospital) to be used as a farm for hospital inmates. In the Mount Hope Medical Superintendent’s 1900 report, he explained that “the building on the farm known as the ‘Esson’ house, [should] be made into suitable quarters for the patients who assist in the work on the farm.”¹⁰⁶ This “Esson House” is possibly one of the buildings on the Balmoral Estate. In 1908, a geological map of Dartmouth describes the Balmoral property as a farm, instead of an estate, suggesting it was being used as a farm for the Nova Scotia Hospital soon after Harriet’s death (Figure 4-14). A ca. 1915 map showing the Nova Scotia Hospital Farm shows the study area was composed of “Cultivated Land” in the southern extent, and in the northern extent there was a “Pasture Land Covered with Small Trees” bordering on a “Large Swamp Covered with Small Trees” containing a small stream which could be “Easily Drained & Made To Produce 25 Tons Hay” (Figure 4-15).

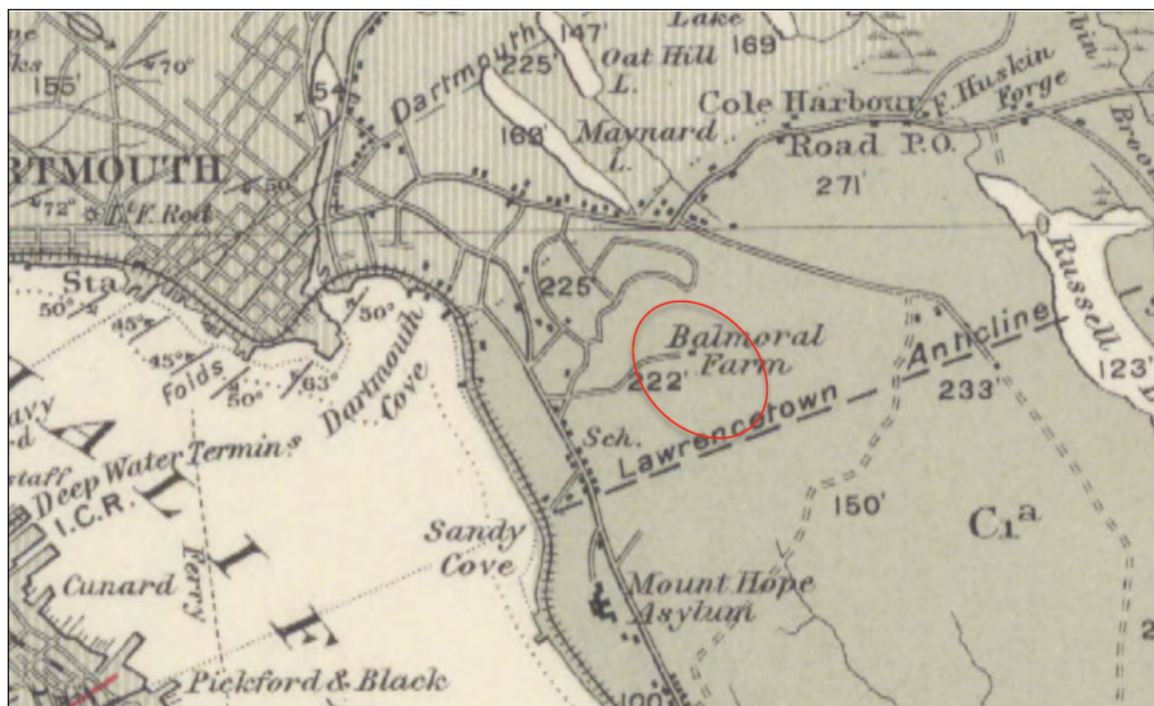


Figure 4-14: 1908 geological map of Dartmouth showing that the study area was described as “Balmoral Farm”.¹⁰⁷

¹⁰⁵ Conrod 1965.

¹⁰⁶ Lee Des Roches 2008, 174–5.

¹⁰⁷ Faribault 1908.

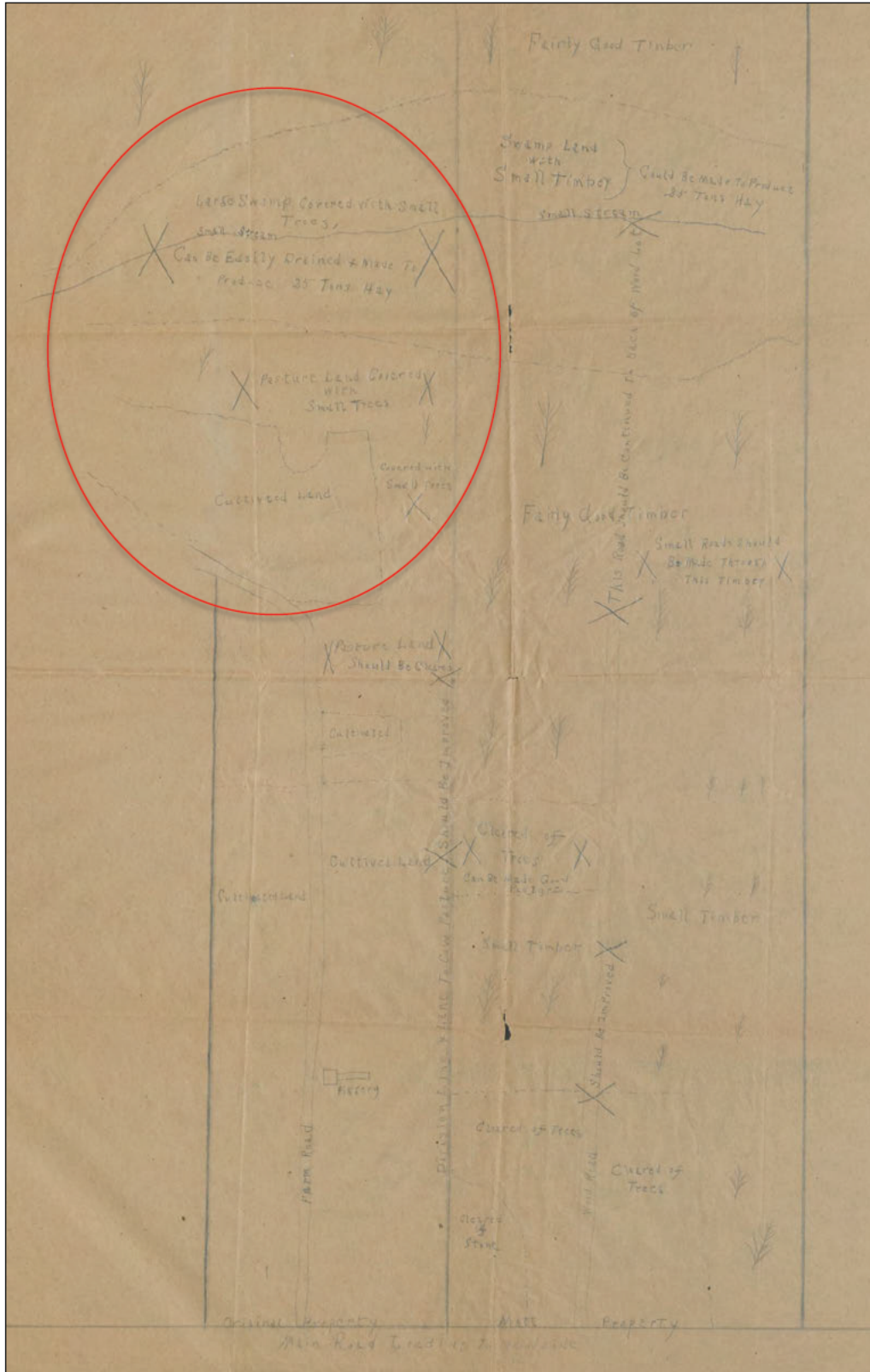


Figure 4-15: Map ca. 1915 of the Nova Scotia Hospital Farm property. ¹⁰⁸

¹⁰⁸ Anon 1915.

In 1965, major changes were announced for Balmoral, with the construction of the Nova Scotia Research Foundation (Figure 4-16). A newspaper in August 1965 reported that:

A red stake in the centre of a 30-acre site on the former Nova Scotia Hospital farm property in South Dartmouth marks the centre of a modern \$1,750,000 research complex to be completed in the fast growing city within the next two years by the Nova Scotia Research Foundation...the Atlantic Development Board is scheduled to turn the sod for the main lab building in a ceremony scheduled August 25 [1965].¹⁰⁹

An undated oblique air photo taken prior to the construction of the Foundation shows the plot of land was clear of vegetation and no structures were extant. A dirt road crossed through the study area roughly running north-south, towards Fenwick Street and there may have been several power poles (Figure 4-17). Another oblique air photo ca. 1969 after the construction of the Foundation shows that part of Research Drive had been paved, connecting to Fenwick Street. Another stretch of pavement was installed on the east of the Foundation, suggesting plans for future structures. North of the Foundation, there was a large parking lot, and to the east, several power poles. The dirt road was still present to the south, but ended where the landscaped grass of the Foundation was maintained (Figure 4-18).



Figure 4-16: Photo of the Nova Scotia Research Foundation ca. 1970, looking east.¹¹⁰

¹⁰⁹ Conrod 1965.

¹¹⁰ Dartmouth Planning Department 1970.



Figure 4-17: Oblique air photo prior to 1965 showing the study area (red) before the construction of the Nova Scotia Research Foundation.¹¹¹

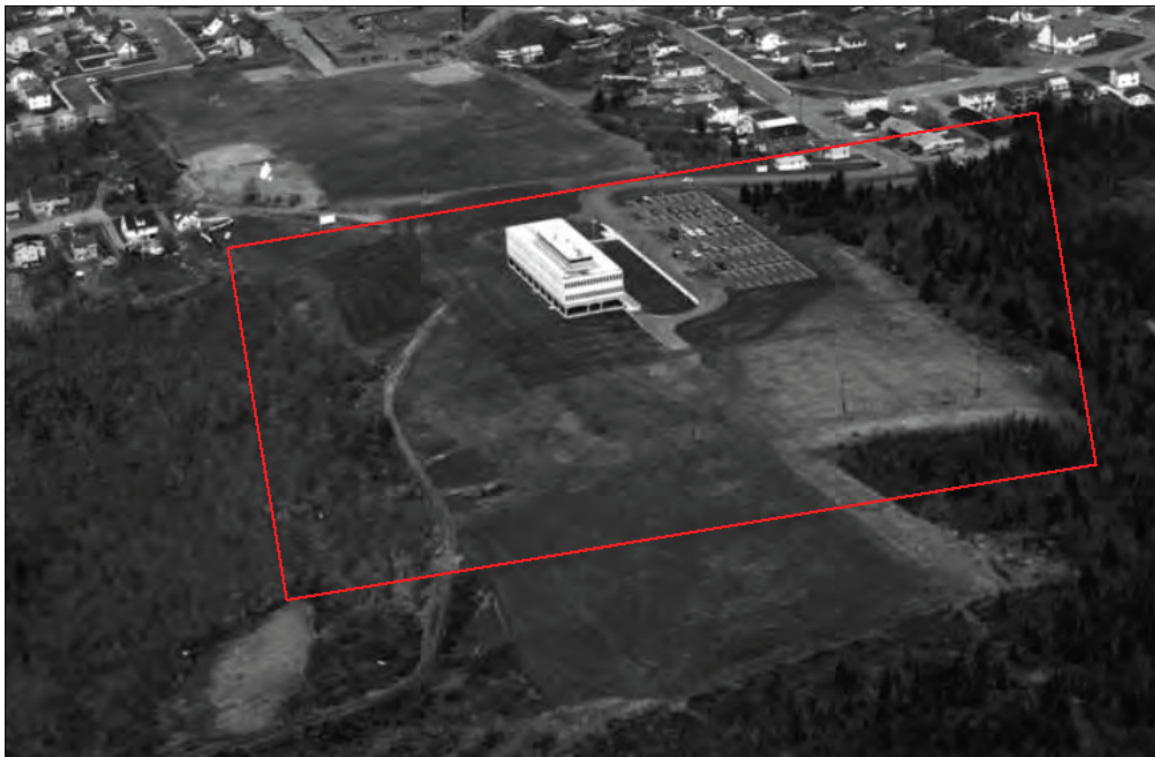


Figure 4-18: Oblique air photo ca. 1969 showing the Nova Scotia Research Foundation after its construction.¹¹²

¹¹¹ Anonymous 1976.

¹¹² Anon 1969.

Vertical air photos across the twentieth century show the study area's transition from Balmoral to the Foundation. In 1931, there are still some structures in the same location the Esson family had 5 outbuildings. Leading west down Esson Road, ornamental trees lined the road. Leading roughly south, a dirt road is shown to access the Nova Scotia Hospital. The surrounding land is mostly clear of vegetation and appears cultivated, except for forested areas at the northeast and southwest of the study area (Figure 4-19).

By 1947, it appears any structures remaining had been torn down, and the ornamental trees lining Esson Road were removed. The dirt road is still shown running south. Most of the study area is clear of vegetation and appears cultivated, still with the exception of forest on the northeast and southwest (Figure 4-20).

By 1974 the Nova Scotia Research Foundation had been constructed and another building had been constructed to the east. Research Drive is shown as paved and running southwest from Fenwick Street. Additionally, both Esson Road and the dirt road running south began to fade from the landscape. Surrounding the Foundation, the land was still relatively clear of vegetation, with forest on the northeast and southwest (Figure 4-21).

In 1982, the study area appears relatively the same, with the expectation of a third structure constructed between the Foundation and the structure that had appeared by 1974.¹¹³

Finally, by 1992, a fourth structure was added to the Research Foundation complex and Research Drive was extended running southeast across the southern extent of the study area. Most of the study area surrounding the Foundation was clear and landscaped, and some ornamental trees had been planted along the extension of Research Drive. The neighbourhood southwest of the study area was also constructed by this time (Figure 4-22).

¹¹³ Department of Lands and Forests 1982.



Figure 4-19: Georeferenced 1931 air photo of the study area (yellow).¹¹⁴



Figure 4-20: Georeferenced 1947 air photo of the study area (yellow).¹¹⁵

¹¹⁴ Department of Lands and Forests 1931.

¹¹⁵ Department of Lands and Forests 1947.



Figure 4-21: Georeferenced 1974 air photo of the study area (yellow).¹¹⁶



Figure 4-22: Georeferenced 1992 air photo of the study area (yellow).¹¹⁷

¹¹⁶ Department of Lands and Forests 1974.

¹¹⁷ Department of Lands and Forests 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.¹¹⁸ 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.¹¹⁹ 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 muddled 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 ¹⁴C 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.¹²⁰ 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).¹²¹ The Minas Basin Glacier reactivated and blocked the outlet to the Shubenacadie drainage system with an ice and clay dam. At around 10.6 ¹⁴Cka, 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.¹²² The Dartmouth outlet flowed into the remnants of the Ancient Sackville River north of George's Island towards the sea, which at the time, was located at approximately 65m

¹¹⁸ Suttie et al. 2007.

¹¹⁹ Lacroix 2015, 31.

¹²⁰ Stea and R.J. Mott 1989, 172.

¹²¹ Stea 2011.

¹²² 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.¹²³ Coastal lowstands offered early peoples open corridors for moving freely about the region unimpeded by modern ocean extents.¹²⁴ 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.¹²⁵ 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.¹²⁶ The lowstand 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 (Figure 4-23).¹²⁷

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.¹²⁸ 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. Inland archaeological sites from this period may be 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.¹²⁹ 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.¹³⁰ Submerged palaeoshores and ancient channels that have been mapped at Lake

¹²³ Shaw et al. 2002a, 1867.

¹²⁴ Shaw et al. 1993, 223.

¹²⁵ Davis and Christianson 1988; Bonnicksen et al. 1991, 14; Erskine 1998, 14; Laybolt 1999, 22; Betts et al. 2018.

¹²⁶ Fader and Miller 2008.

¹²⁷ National Resources Canada 2010.

¹²⁸ Murphy 1998, 93.

¹²⁹ Murphy 1998, 93.

¹³⁰ Baechler 2017, 394.

Banook indicate significant water fluctuations in the Dartmouth Lakes throughout the postglacial period.¹³¹ 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.¹³² 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.¹³³ 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.¹³⁴ By 3,000 BP, the Halifax Harbour had resembled current conditions with the shoreline residing less than 5m from modern levels.¹³⁵

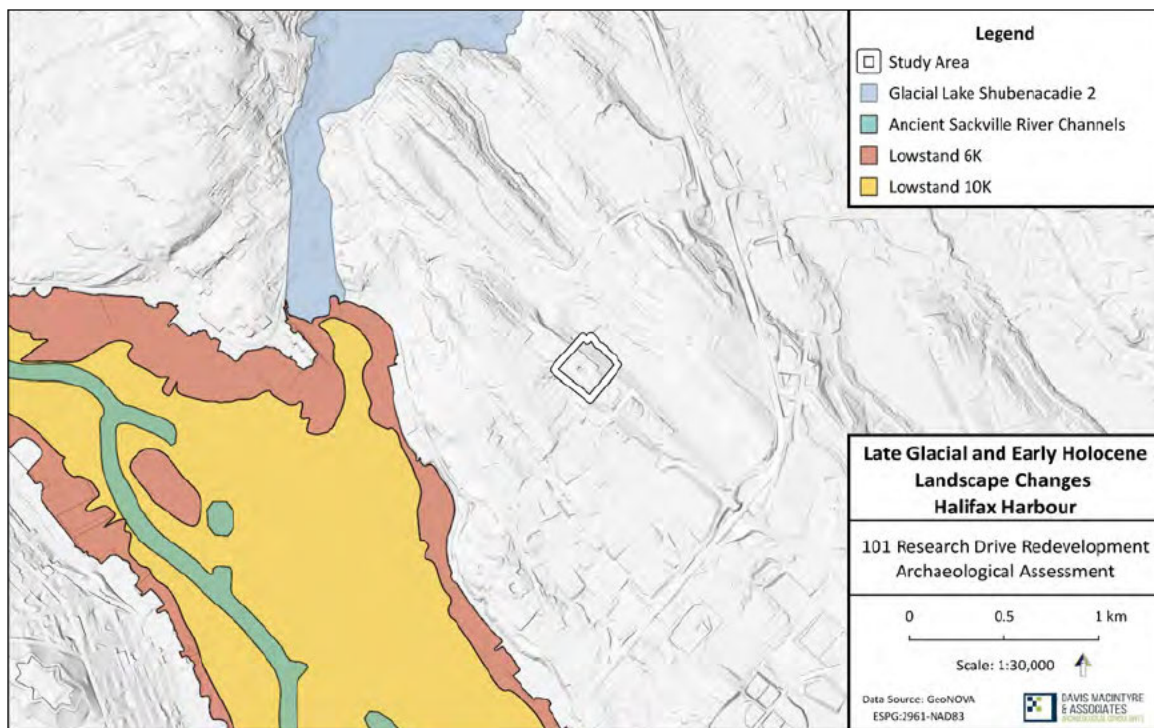


Figure 4-23: A map depicting the late glacial and early Holocene landscape changes of Halifax Harbour near the study area.¹³⁶

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

¹³¹ Webster et al. 2015.

¹³² National Resources Canada 2010.

¹³³ Fader and Miller 2008.

¹³⁴ Shaw et al. 2002b, 143.

¹³⁵ Fader and Miller 2008.

¹³⁶ Stea and Mott 1998; Fader and Miller 2008; McKillop 2019.

increasing pace of mid-twentieth 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.¹³⁷ This process has submerged known L'nuk cultural resources first recorded in the early twentieth 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. Throughout the mid- to late nineteenth century, many watercourses that were once recorded on the Halifax Peninsula and in Dartmouth were diverted underground and major wetlands, such as the wetland that once stretched all the way down to Eisner Cove on the Halifax Harbour, were infilled.¹³⁸ This was largely an effort to constrict or divert their flow for sanitary purposes and to develop the landscape. The watercourses that were once recorded near the study area were no longer depicted flowing near the study area after 1878. After this time, they would have likely been diverted underground and/or infilled, burying the natural 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 Kijipuktuk.

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'kmaq, waterways, and bodies of water.¹³⁹ 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),¹⁴⁰ 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 4-24).

Of the 36 sites attributed to L'nuk activity recorded within 25 kilometres of the study area, 33 could be reliably mapped for modelling. A cross examination of these 33 sites reveals that 28 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

¹³⁷ Forbes et al. 2009.

¹³⁸ Anonymous 2022.

¹³⁹ Thwaites 1896; Cook 2007, xxiii.

¹⁴⁰ Archaeological Services 2012.

within the MARI database as a single coordinate; therefore, recorded site locations are reflective of overall mobility trends rather than site extents.

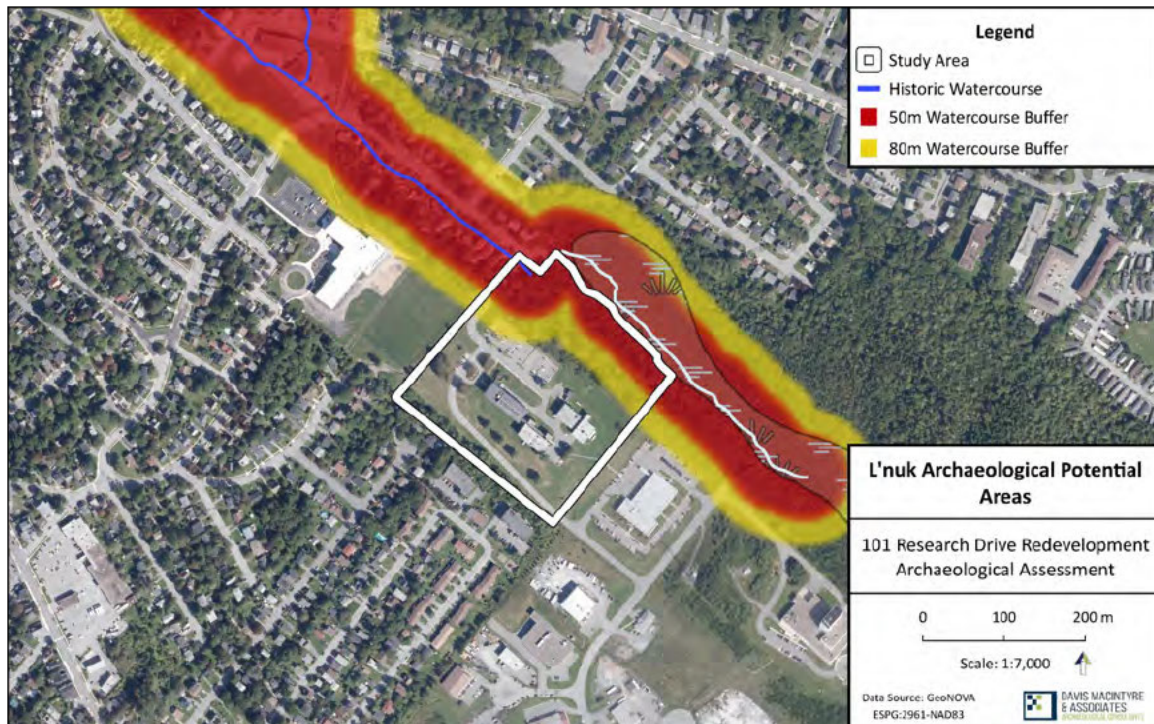


Figure 4-24: The study area with watercourses and L'nuk archaeological potential buffers.

4.4 Field Reconnaissance

A field reconnaissance was conducted on 15 April 2024 by Johanna Cole and Courtney Glen under cloudy conditions. The reconnaissance was assisted with handheld GPS units and detailed notes and photographs were taken (Figure 4-25). The reconnaissance of the 6-hectare study area focused on a forested area bordering the Eisner Cove Wetland on the northeast and the Research Drive complex on the southwest of the study area.

The northeast extent of the study area is a young to semimature mixedwood forest, just southwest of the wetland's watercourse. The landscape slopes from the Research Drive complex northeast toward the watercourse of Eisner Cove Wetland. The gradual slope of the northeast extent of the study area has an uneven terrain dominated by boulders and cobbles (Plate 1). Water collects in low-lying areas and appears to wash down the slope toward the wetland (Plate 2). The lack of distinct drainage channels suggests water moves mostly through groundwater or through ephemeral drainage channels after rain events.

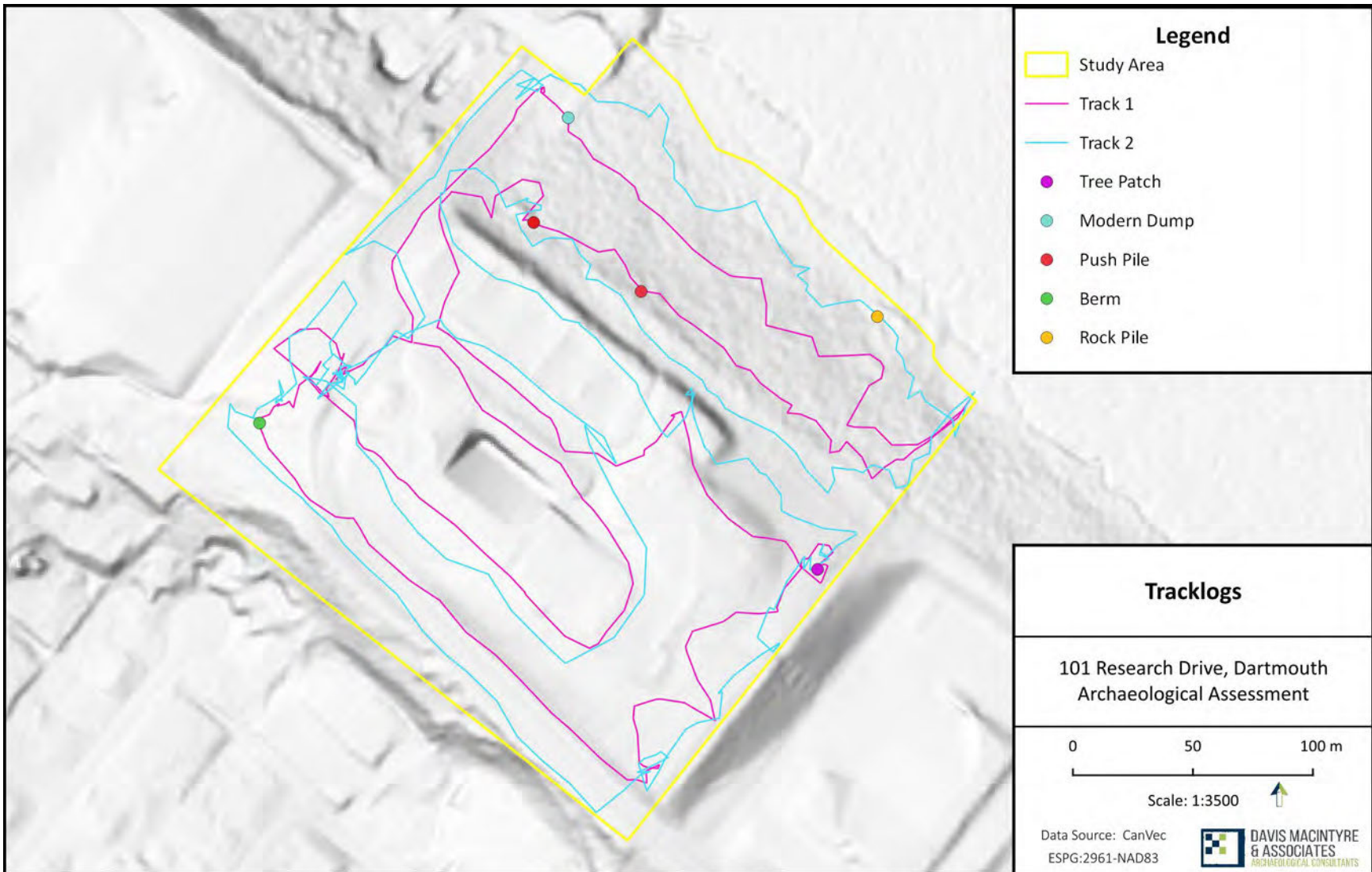


Figure 4-25: GPS tracklogs collected during the 2024 reconnaissance of the study area.



Plate 1: Young to semimature mixed wood forest on the northeast extent of the study area showing land covered in rocks and sloping toward the northeast, looking southeast.



Plate 2: Water collecting in low-lying areas in forested northeast extent of the study area.

The saturated nature of the landscape, as well as the extent of rocks and glacial erratics has caused extensive windthrow and therefore, hinders mature tree development (Plate 3). Throughout the study area, the roots of blown down trees and any exposed soils were examined for soil composition and cultural material. Soils across the study area were typically a medium brown sandy silt, and no artifacts were noted.

Across the forested northeast of the study area, there are signs of modern dumping and human activity. At the northern extent of the forested area, near Research Drive and Fenwick Street, there are notable signs of dumping, including a modern concrete dump close to the road (Plate 4). There are several footpaths that appear recently used, including one well-established footpath near Research Drive and Fenwick Street (Plate 5). Approximately 100 meters southeast into the forested area from Research Drive and Fenwick Street, some modern refuse included an armchair, office chair and birthday candles along a footpath which contained very little forest litter, suggesting recent placement (Plate 6).

At the eastern extent of the forested area, there is a pile of boulders and cobbles measuring approximately 20m by 5m (Plate 7). This pile of rocks can be seen consistently on air photos throughout the twentieth century and as early as 1931. This pile does not appear to be a result of human activity, instead is likely a moraine, or a pile of rocks deposited as a result of glacial melting or movement.



Plate 3: Glacial erratic surrounded by blown down trees at the northeast of the study area, looking southeast.



Plate 4: Concrete dump near northern extent of study area.



Plate 5: Well-established footpath leading from Research Drive and Fenwick Street into forested area, looking southeast.



Plate 6: Chairs placed along a footpath, approximately 100m into the forest from Research Drive.



Plate 7: Pile of rocks in forest, at eastern extent of forested area, looking east.

The southwestern extent of the forested area meets the slope of the fill from the Research Drive complex and a fence. At the eastern extent of the fence, there is a 15-meter-wide grassed section that meets a patch of thorns before the transitioning into the forest in the northeast (Plate 8). While on the western extent of the fence, the fence immediately meets the forest (Plate 9). Following the fence are game trails covered in deer tracks (Plate 10). Additionally, running parallel to the fence are two push piles, likely associated with the construction of the Research Drive complex. The two push piles, adjacent to one another, are composed of rock, organic material, and construction material (Plate 11). A desktop review of LiDAR indicates the west push pile measures approximately 15 meters, while the east push pile measures approximately 70 meters.



Plate 8: 15-meter-wide grass section meeting thorns before the forest at east extent of study area, looking northwest.



Plate 9: Fence at southwest extent of forested area, looking southeast.



Plate 10: Game trail along the fence on south side of forested area, looking northwest.



Plate 11: West push pile composed of rock, organic material, and construction material in forested area, looking southwest.

The Research Drive complex is predominately composed of four buildings, asphalt roads and parking lots. The buildings include sidewalks, stairs, garden beds, benches, picnic tables, loading docks, oil tanks, transformers, power poles and other supporting utilities. At the northwest of the complex, there are five parking lots all roughly the same size, 28m by 19m. Each parking lot contains a storm drain and shows linear cracking in the asphalt, suggestive of the path of the sewer line underground. Across the Research Drive complex underground utilities are indicated by the presence of light posts, electrical conduit poles, sewers, water/wastewater drains and fire hydrants (Plate 12, Plate 13). Additional ground-impacting infrastructure include auxiliary buildings or equipment outside of the footprint of the Research Drive complex buildings. This includes the second building from the east which has two corresponding sheds, two underground tanks and a hose in the grass (Plate 14), and the first building from the west has an underground receiving dock (Plate 15).



Plate 12: Wastewater drain in parking lot at the north of the Research Drive complex with linear cracks, looking west. In background note power poles and streetlights without overhead powerlines.



Plate 13: Electrical conduit on the east of the Research Drive buildings, looking west.



Plate 14: Second building from the east of the Research Drive complex in background with two corresponding sheds, underground tanks and a hose in grass, looking south.



Plate 15: Underground receiving dock for the west-most building of the Research Drive complex, looking northwest.

The landscape of the Research Drive complex is built on a hill. Landscaping fill has been used to level out the lawn of the Research Drive complex and for the roadways (Plate 16). Landscaping also appears to be used to direct water away from the complex. At the north extent of the complex, a landscaped depression slopes toward the forested area, likely to encourage waterflow (Plate 17). At the southeast extent of the complex a linear depression, measuring approximately 80m in length, runs southwest toward a storm sewer on Research Drive (Plate 18). Other landscaping efforts include a wood-lined and gravel-filled walkway east of the Research Drive buildings (Plate 19), and a sign for the complex at the south extent of the study area (Plate 20). The sign appears recently replaced due to the presence of exposed soils which were examined. Another landscaping effort at the northeast extent of the Research Drive complex is a patch of young to semimature softwood trees, measuring approximately 9m by 12.5m (Plate 21). This patch is anomalous to the rest of the landscaping across the complex which is either grassed lawn, single mature hardwoods, or garden beds. The patch was examined for cultural material and contained asphalt shingles and degrading cut wood. A review of air photos reveals that the treed patch is not present on any photos across the twentieth century, suggesting it is a recent landscaping addition and is therefore, not archaeologically significant.



Plate 16: Landscaped hill of the south extent of the Research Drive complex, looking southeast.



Plate 17: Landscape depression possibly for water channeling toward the forested slope at the northern extent of the Research Drive complex, looking northeast.



Plate 18: Linear depression on the southeast of the study area, looking southwest.



Plate 19: Wood-lined walkway at southeast of Research Drive complex, looking west.



Plate 20: Recently replaced sign with exposed soils at south of study area, looking west.



Plate 21: Patch of young to semimature softwood trees at the northeast of the Research Drive complex, looking southwest.

On the southwest extent of the study area, the gently sloping landscape of the Research Drive complex abruptly descends into a neighbourhood to the southwest. A review of LiDAR imagery suggests that the abrupt descent appears artificial, indicating that the hill may have been excavated during the adjacent neighbourhood's construction to create a level surface (Figure 4-26). Part of the fence adjacent to the neighbourhood has been cut away, presumably to allow for pedestrian access to the nearby Dartmouth South Academy (Plate 22). Several signs were noted across the study area regarding dog practices (i.e. keep on leash or pickup their waste), suggesting the landscaped property is used as both pedestrian access and as field for dog activity.

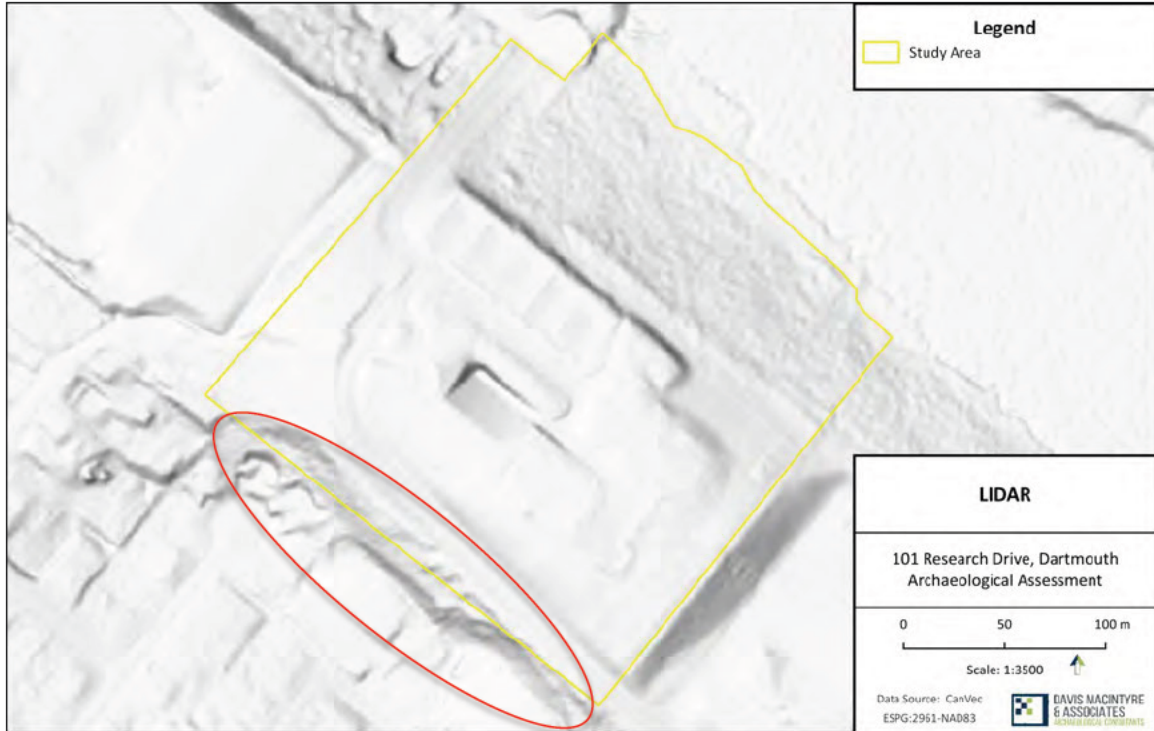


Figure 4-26: LIDAR imagery showing excavation into the hill at southwest side of the study area (red circle).



Plate 22: Fence along southwest boundary of the study area showing abrupt descent into neighbourhood and cut-away fence for pedestrian access.

Finally, at the west extent of the study area, there is a faint earthen berm with rock inclusions, measuring approximately 35m, running west toward Esson Road. Based on the historical background and an analysis of air photos, this berm is possibly the historic road to Balmoral Estate owned by John Esson, as discussed above (Section 4.2.2, Plate 23). The area surrounding the berm was carefully examined for any depressions or linear features related to the historic farm, however, no historic features could be identified. Another linear berm was located; however, it appears to be underground infrastructure running from an electrical conduit to concrete lamp post bases (Plate 24). Any historical features that were extant in the twentieth century were likely impacted by the construction of the Research Drive complex, or landscaping through levelling or tree planting, however, traces may still remain as the former location of historic buildings does not appear to be within the footprint of modern buildings (Plate 25). Therefore, this area has been evaluated as having high potential for historic archaeological resources.



Plate 23: Faint berm running toward Esson Road at west extent of study area, looking west.



Plate 24: Faint berm attributed to electrical conduit (red arrow), possibly connecting to former lamp post bases, shown in the foreground, at west extent of study area, looking west.



Plate 25: Levelled lawn and mature hardwood trees in the approximate location of the historic Balmoral Estate at the west of the study area, looking north.

5.0 DISCUSSION

Results of the desktop study indicate that the general area of Kijipuktuk and, more specifically, Punamu'kwati'jk (Dartmouth) were intensively occupied and part of a broader cultural landscape in which Mi'kmaq travelled, hunted, fished, gathered, and traded since time immemorial. This is reflected in the Mi'kmaw language and culture as well as historic, oral, and archaeological records. Mi'kmaq occupation is known south of the study area at Sandy Cove. Upland areas within greater Kijipuktuk, such as those of the study area, are known to have been used by the Mi'kmaq for hunting and resource collection, however this type of activity is less likely to leave a significant archaeological footprint with its visibility being further lowered by the extent of development. The forest at the northeast of the study area which borders Eisner Cove Wetland may have provided a source of drinking water and attracted animals, making it a possible hunting ground for Mi'kmaq. However, the field reconnaissance indicated that the tract of land that borders the Eisner Cove Wetland at the northeast of the study area was uneven, rocky, sloped and contained poor drainage which would have hindered. Furthermore, the southwest of the study area has been extensively infilled, excavated, and landscaped since at least the mid-nineteenth century. Therefore, the potential for intact archaeological resources related to L'nuk occupation has been evaluated to be low.

In the mid-eighteenth century, immediately following the arrival of Edward Cornwallis' fleet, the Dartmouth shoreline near the present-day downtown core and along Dartmouth Cove was intensively settled and some occupation stretched south from the old town along the shoreline, including as far south as modern-day Woodside where a fort (Fort Clarence) was soon constructed. The study area, due to its position further inland, may not have been settled until the mid-nineteenth century when John and Harriet Esson purchased the land by at least 1863. The Esson family constructed at least six buildings on their land within the study area and likely cultivated the surrounding property. After John and Harriet's deaths, the property was used by the Nova Scotia Hospital as farmland in the early to mid-twentieth century. By 1965, the property was purchased by the Nova Scotia Research Foundation and ground was broken on the first building in the Research Drive complex. By 1992, the complex was composed of its modern footprint, including four buildings, a parking lot and Research Drive was extended to Neptune Crescent.

Desktop research indicates there is potential for archaeological resources related to the historic period, including the Esson homestead (called the Balmoral Estate) and the Nova Scotia Hospital farm buildings. Additionally, there is high potential for a number of activities and features that are typically not represented on maps but may leave a small archaeological imprint. These include features like privies (outdoor toilets), middens (refuse piles), wells, and small outbuildings. The results of the reconnaissance suggests that while twentieth century buildings currently occupy a portion of the study area, minimal disturbance beyond buried utilities and infilling has likely occurred on the land

that contained the structures related to the Esson homestead and the Nova Scotia Hospital farm. As such, the study area is of high potential for intact archaeological resources related to nineteenth century to early twentieth century activity (Figure 6-1).

6.0 CONCLUSIONS AND RECOMMENDATIONS

The results of this assessment indicate that the study area is of high potential for intact archaeological resources related to late nineteenth to early twentieth century activity relating to the Esson family homestead and Nova Scotia Hospital farm. Therefore, it is recommended that archaeological monitoring be conducted by a qualified archaeologist of any ground disturbance within a 30m-radius of the locations of former historic buildings identified during the background study, with the exception of existing building footprints (as shown in Figure 6-1). Ground disturbance includes but is not limited to geotechnical testing, site works, excavation, and trenching.

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 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.



Figure 6-1: Areas of archaeological potential with 30m monitoring buffers within the study area.

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Appendix A: Heritage Research Permit




Heritage Research Permit (Archaeology)

Office Use Only
Permit Number:
A2024NS055

Special Places Protection Act 1989

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

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

Surname Cole	First Name Johanna
Project Name 101 Research Drive, Dartmouth	
Name of Organization Davis MacIntyre & Associates Limited	
Representing (if applicable)	
Permit Start Date 27 March 2024	Permit End Date 31 December 2024
General Location: 101 Research Drive, Dartmouth	
Specific Location: <i>(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)</i> 20T 456901.00 m E 4945570.00 m N	
Permit Category Please choose one <ul style="list-style-type: none"> <input type="checkbox"/> Category A – Archaeological Reconnaissance <input type="checkbox"/> Category B – Archaeological Research <input checked="" type="checkbox"/> Category C – Archaeological Resource Impact Assessment <input checked="" type="checkbox"/> I certify that I am familiar with the provisions of the <i>Special Places Protection Act</i> 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 	Date 13 March 2024
Approved by Director	Beth Lewis <small>Digitally signed by Beth Lewis Date: 2024.03.20 14:09:55 -03'00'</small>