Bay of Fundy Mi’kmaq Ecological Knowledge Study Report

Prepared for: Fundy Ocean Research Centre for Energy

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ACRONYMS

CMM	Confederacy of Mainland Mi'kmaq
IK	Indigenous Knowledge
IKS	Indigenous Knowledge System
FORCE	Fundy Ocean Research Centre for Energy
FSC	Food, Social, and Ceremonial
MEK	Mi'kmaq Ecological Knowledge
MEKS	Mi'kmaq Ecological Knowledge Study
NB	New Brunswick
NS	Nova Scotia
SARA	Species at Risk

EXECUTIVE SUMMARY

Mi'kmaq Ecological Knowledge (MEK) represents a comprehensive, place-based system of understanding developed over millennia through Indigenous relationships with lands, waters, and resources in Mi'kma'ki. Indigenous Knowledge is not simply a set of observations; it is a living, dynamic body of knowledge, practice, and belief embedded in culture, language, governance, spirituality, and community institutions. It is sustained through intergenerational transmission and adapts over time in response to environmental and social change, while remaining grounded in core values and teachings.

A defining feature of the Mi'kmaq Knowledge System is the inseparability of people and place. Knowledge is rooted in specific ecosystems and cultural landscapes, and it reflects reciprocal relationships among living beings, environments, and stewardship responsibilities. Ways of knowing within these systems are multifaceted: cultural knowledge maintained through ceremony and community practice; experiential knowledge gained through direct engagement with the land and waters; and acquired knowledge shared through storytelling, instruction, and community learning. Together, these modes of learning generate a holistic understanding of the environment that complements Western scientific approaches by capturing interconnected relationships, long-term patterns, and culturally grounded meanings that may not be evident through reductionist methods alone.

Within Mi'kma'ki, MEK offers an integrated lens for understanding ecological processes, seasonal cycles, species behaviour, habitat change, and culturally significant landscapes, while also clarifying how proposed developments may affect Mi'kmaq relationships to place, an issue with direct relevance to Indigenous Rights and Title. Incorporating Mi'kmaq Ecological Knowledge Studies (MEKS) into assessment and planning processes strengthens decision-making by improving baseline understanding, the importance of the relationship between people and place, and reinforcing Mi'kmaq self-determination through Indigenous-led research and governance.

The MEKS methodology described is structured, evidence-based, and culturally grounded. It combines (1) desktop research to synthesize existing academic, Indigenous, government, archival, and mapped sources; (2) Indigenous Knowledge Holder engagement through ethically approved interviews and workshops supported by clear consent and information management; (3) site visits to ground-truth and document current ecological and cultural conditions; and (4) collaborative roundtable analysis to cross-reference findings and interpret information through Mi'kmaq perspectives. Information is organized using three core lenses, time period, type of use (sustenance versus cultural/spiritual), and significance, to identify valued components, potential interactions, and areas where impacts could result in unrecoverable loss or long-term constraints on access and use.

Overall, the material establishes that Mi'kmaq relationships to lands and waters are continuous, intergenerational, and organized around seasonal movement and ecological rhythms; that sustenance, cultural, and spiritual uses are inseparable in practice; and that effects must be understood not only as biophysical change but also as changes to access, cultural integrity, confidence in traditional foods, and the ability to sustain responsibilities and relationships with the Bay of Fundy and the broader Mi'kma'ki landscape.

1. INTRODUCTION

1.1 Project Overview

This Mi'kmaq Ecological Knowledge Study (MEKS) is being completed in support of the proposed tidal energy development at the Fundy Ocean Research Centre for Energy (FORCE) test site, located in Minas Passage, Bay of Fundy, Nova Scotia. The MEKS is intended to document Mi'kmaq Ecological Knowledge, cultural values, and the relationship between people and place within the study area. Information gathered will support project planning and decision-making, inform potential environmental monitoring and mitigation measures, and contribute to meaningful and ongoing engagement with Mi'kmaq communities. The purpose of the proposed project is to advance tidal energy development in Canada while providing a reliable, low-carbon power source that contributes to provincial and national clean energy targets.

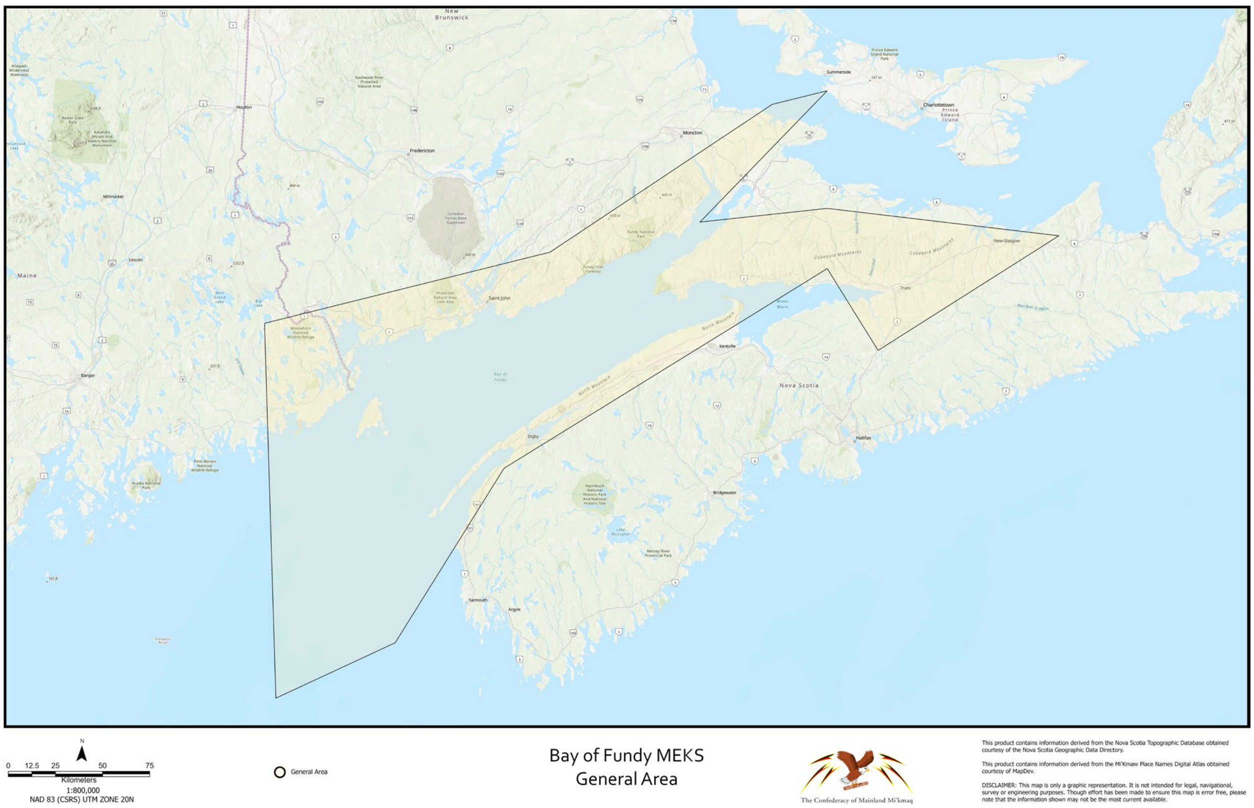

Figure 1-1: MEKS Study Area

The study area is situated in Minas Passage, a narrow 5-kilometre-wide channel with some of the world's highest tides. During each tidal cycle, approximately 14 billion tonnes of seawater flow through Minas Passage into Minas Basin at speeds exceeding five metres per second. The area is considered an ideal location for tidal energy technology due to its strong currents and predictable tidal patterns. The land-based FORCE Visitor Centre, open to the public seasonally, provides offshore and onshore electrical infrastructure to connect turbines to the provincial grid and facilitates ongoing monitoring and research into environmental effects.

This MEKS will identify and document Mi'kmaq Ecological Knowledge, historical and contemporary use of the lands and waters, and cultural connections to the Bay of Fundy and surrounding areas. The results will help ensure the inclusion of the Mi'kmaq perspective to support informed decision-making during project development in a way that respects Mi'kmaq Rights and values.

1.2 Indigenous Knowledge and Indigenous Knowledge Systems

Indigenous Knowledge (IK), including Mi'kmaq Ecological Knowledge (MEK) and Mi'kmaq Ecological Knowledge Studies (MEKS), reflects a deep body of understanding, skills, and practices developed through Indigenous peoples' long-standing relationships with the lands, waters, and resources of their traditional territories. It is rooted in reciprocal relationships among living beings and their environments and is inseparable from the knowledge holders and the ecological contexts from which it emerges.

IK is not static. It is a living, evolving body of knowledge, practices, and beliefs that develops within Indigenous cultural frameworks. These frameworks guide how knowledge is created, validated, and transmitted across generations, remaining adaptive while grounded in Indigenous traditions and teachings (Reid et al., 2021). As place-based knowledge, Indigenous Knowledge Systems (IKS) are closely tied to specific landscapes and seascapes, reflecting the enduring connections Indigenous peoples maintain with their environments. IKS also extend well beyond ecology, encompassing culture, language, worldviews, social organization, spirituality, values, and the practical skills and techniques that support community life. Understanding these frameworks provides insight into how knowledge is generated, safeguarded, and shared through time, responding to environmental and social change while remaining anchored in core values.

Connection to Place

Connection to place is foundational to IKSs, shaping cultural identity and guiding how communities interact with and steward resources. This relationship is more than geographic; it includes a community's social and cultural fabric and a detailed understanding of land and resource use. Place informs traditions, customs, and livelihoods, and knowledge is understood as embedded within the land itself. Even when individuals are away from a particular area, their historical and cultural ties endure, influencing perspectives on land use, stewardship responsibilities, and governance.

The ways of understanding within IKSs include:

- **Cultural knowledge:** Community traditions, ceremonies, and gatherings that reinforce social cohesion and embed respect for the natural world.
- **Experiential knowledge:** Knowledge developed through direct engagement and observation on the land and water, including iterative learning through practice (e.g., recognizing optimal harvesting times through repeated seasonal experience).
- **Acquired knowledge:** Teachings passed between generations through mentorship, oral histories, storytelling, and other community-based modes of learning, supporting continuity and adaptation.

Together, these ways of knowing provide a holistic understanding of the environment, valuing not only what is known, but also how knowledge is learned, shared, and upheld within families, communities, and Nations.

Mi'kmaq Ecological Knowledge

MEK reflects the cumulative wisdom of the Mi'kmaq within Mi'kma'ki, shaped over millennia through sustained relationships with their territory. It offers an integrated understanding of the natural world that differs from reductionist approaches by emphasizing interconnectedness, responsibilities, and relationality. A MEKS documents seasonal resource use, environmental change, and the enduring relationship between the Mi'kmaq and place. Importantly, MEK is not separate from the environment; it is part of it, illustrating how Mi'kmaq culture, governance, and ecological processes are deeply intertwined. As a result, MEK can provide essential insight into how proposed developments may affect local ecosystems and Mi'kmaq communities, with direct relevance to the consideration of Indigenous rights and title.

Integrating MEK into environmental assessment and planning processes strengthens inclusion and improves decision-making by recognizing lived experience, cultural values, and place-based ecological knowledge.

IMPORTANCE OF MI'KMAQ ECOLOGICAL KNOWLEDGE SYSTEMS

Within MEKS processes, the value of MEK and its evolving knowledge systems is commonly reflected in the following areas:

- **Holistic ecosystem understanding:** MEK emphasizes ecological relationships and cumulative effects, complementing scientific methods that may not capture subtle interconnections.
- **Cultural relevance and context:** MEKS are grounded in Mi'kmaq cultural and spiritual frameworks, supporting respectful engagement, trust, and meaningful participation.
- **Long-term environmental baselines:** Generations of observation provide context for historical ecosystem conditions and help interpret change over time.
- **Sustainability and stewardship:** MEK is guided by principles that prioritize responsible use and long-term ecological wellbeing, informing resilient management approaches.
- **Self-determination and sovereignty:** MEKS support Mi'kmaq leadership in knowledge governance, ensuring the Nation's role as rights holders, knowledge holders, and decision-makers in research and environmental management.

2. METHODOLOGY

2.1 Desktop Research

A desktop research phase was undertaken to establish a comprehensive baseline understanding of the project area's ecological conditions and socio-cultural context, and to compile existing information related to Mi'kmaq land and resource use, practices, and knowledge. The CMM MEKS Team reviewed a wide range of sources, including peer-reviewed academic literature, studies and reports prepared by Indigenous organizations, federal and provincial government publications, and relevant grey literature about MEK.

Where available, archival and historical records were also examined to strengthen context and continuity, including historical maps, documented oral histories, traditional land-use documentation, and written accounts describing ecological stewardship and long-term relationships with place. Insights from the desktop phase were used to refine the engagement approach, support the development of interview prompts, and inform how information was interpreted and validated during subsequent roundtable analysis.

2.2 Indigenous Knowledge Holder Interviews

Knowledge Holder interviews are central to an MEKS and provide access to living, culturally grounded knowledge of species, habitats, and ecosystem relationships within and adjacent to the project area. These discussions create space for Knowledge Holders to share observations of seasonal cycles, harvesting and stewardship practices, culturally important areas, and environmental change over time, grounding the study in intergenerational experience and place-based understanding.

To initiate this work, the CMM MEKS Team collaborated with Mi'kmaq communities to identify Knowledge Holders with recognized experience and familiarity in or near the project area. Participants typically included Elders, harvesters, gatherers, and other community members respected for their knowledge and lived experience.

An interview guide was prepared to ensure consistent coverage of priority themes while maintaining flexibility for participant-led dialogue. Questions were intentionally open-ended and exploratory, allowing Knowledge Holders to describe knowledge in their own words and according to their own framing. Topics included, as applicable: species presence and behaviour; habitat conditions and observed changes; traditional harvesting and stewardship practices; knowledge transfer across generations; relationships to specific places; and patterns of land and resource use. The interview guide and supporting project materials were submitted to Mi'kmaq Ethics Watch for review and approval before engagement.

Knowledge Holders were invited to participate through one-on-one interviews and/or community-based workshops, depending on participant preference and logistical considerations. Before each session, participants received clear information about the project's purpose and process, along with consent materials outlining how information would be gathered and used, how Indigenous Knowledge would be stored and shared, and the measures in place to protect personal information and confidentiality.

2.3 Site Visit

Site visits were conducted to document existing ecological conditions and to observe features relevant to Mi'kmaq land and resource use, including culturally important areas, plants, and traditional use locations where appropriate. These visits supported the interpretation of engagement findings by providing direct, on-the-ground context for habitat characteristics, landscape features, access routes, and seasonal conditions.

During site visits, the CMM Team recorded observations using field notes and photography, following applicable access and safety protocols and respecting cultural sensitivities. Where appropriate, observations were used to help corroborate themes emerging from desktop research and Knowledge Holder engagement.

2.4 Roundtable Analysis

A collaborative roundtable analysis approach was used to synthesize and interpret information gathered through desktop research, Knowledge Holder engagement, and site observations. CMM MEKS Team members collectively reviewed the assembled findings to verify internal consistency, add cultural and ecological context, identify recurring themes and patterns, and assess relevance to the MEKS objectives and the project area.

Sessions were structured to support open discussion and shared interpretation, allowing nonlinear contributions when they strengthened understanding or surfaced additional context. The roundtable process also supported quality assurance by enabling the team to cross-check observations, clarify uncertainties, and ensure that conclusions were grounded in the evidence and respectfully aligned with Mi'kmaq knowledge systems and engagement protocols.

Analysis was organized around three overarching themes:

- **Time period:** consideration of current, recent, and historic use of lands and resources in the project area.
- **Type of use:** characterization of use as sustenance (e.g., fishing, hunting, gathering) and/or spiritual and cultural practice.
- **Significance:** assessment of whether specific areas or species may hold particular importance to the Mi'kmaq, including whether potential project-related loss or disruption could be unrecoverable and restrict future use.

3. Mi'kmaq People and Place

The Mi'kmaq are the Indigenous people of Mi'kma'ki, an ancestral homeland that includes much of what is now Atlantic Canada and extends into the Gaspé Peninsula. Within Mi'kma'ki, the Bay of Fundy holds particular cultural and ecological importance. Its powerful tides, extensive salt marshes, estuaries, and river systems form an interconnected land–sea mosaic that has supported Mi'kmaq travel, seasonal settlement, harvesting, and stewardship since time immemorial. In the Inner Bay of Fundy specifically, long-standing relationships with mudflats, wetlands, river mouths, and coastal corridors shaped patterns of movement and resource use, with communities shifting between inland lakes and rivers and coastal estuaries to follow seasonal cycles and access key foods and materials.

The Mi'kmaq language, a member of the broader Algonquian language family of northeastern North America, remains central to the continuity of Mi'kmaq knowledge systems. Through language and oral tradition, ecological observations, place-based teachings, and cultural values, ecological knowledge is carried between generations, sustaining connections to Mi'kma'ki and informing how the Mi'kmaq understand and engage with their environment today.

3.1 Mi'kmaq Society

Mi'kmaq society is based on a lasting connection with Mi'kma'ki that shapes identity and responsibility. A foundational teaching captured in the concept of **weji-sqalia'timk** expresses Mi'kmaw origin and belonging as inseparable from the land itself, conveying that the Mi'kmaq emerged from the landscapes of Mi'kma'ki rather than arriving from elsewhere (Sable & Francis, 2012). This understanding is further reinforced through the "we exclusive" expression **weji-sqalia'tiek**, "we sprouted from", which emphasizes a collective, living connection between people and the natural world (Sable & Francis, 2012).

Together, these teachings frame Mi'kmaq society as one grounded in reciprocity: the land and waters are not simply resources, but relatives and responsibilities. Over generations, Mi'kmaw knowledge systems, cultural narratives, and governance practices have developed in relation to seasonal cycles, ecological conditions, and place-based teachings, reinforcing the Mi'kmaq role as stewards of Mi'kma'ki and shaping social organization, spirituality, and community well-being (Sable & Francis, 2012).

Place Names

Mi'kmaw place names are a form of "living geography" that does much more than label locations: they have encoded practical navigation cues and culturally embedded knowledge about land, water, species, and seasonal patterns. Because many names are descriptive, pointing to distinctive landmarks, resources, movements of water, or activities associated with a place, they helped people orient themselves and travel confidently across Mi'kma'ki long before modern maps, including in coastal settings where naming supports wayfinding and safe access to fisheries and waterways (Davey, 2016; Sable & Francis, 2012). At the same time, toponyms[1] function as repositories of oral history and collective memory, carrying teachings and relationships that affirm Mi'kmaw responsibilities to place. As part of this wider knowledge system, Mi'kma'ki's seven traditional districts (refer to Figure 3-1) and their names reflect enduring relationships between people and territory, reinforcing identity, governance, and cultural continuity (Battiste & Henderson, 2000; Battiste, 2002; Sable & Francis, 2012).

Mi'kmaw presence and governance in the Bay of Fundy region is also reflected in the traditional district structure of Mi'kma'ki, which historically aligned closely with watershed boundaries, an approach that supported transportation, access to aquatic resources, and coordination of land and water responsibilities.

[1] A toponym is a place name, the name given to a geographic feature or location.

The Inner Bay of Fundy area is associated with three districts in particular: **Kespukwitk** (encompassing much of southern Nova Scotia, including the southern shore near the mouth of the Bay of Fundy), **Sipekne'katik** (rounding the Minas Basin), and **Siknikt** (including areas around Chignecto Bay). The Mi'kmaw naming of these places expresses a detailed understanding of the environment; for example, "Chignecto," derived from Siknikt, is commonly interpreted as a "drainage place," linked to the region's expansive marshlands and dynamic tides.

Today, the recovery and revitalization of Mi'kmaw place names is also widely recognized as an act of cultural reclamation that counters colonial erasure and helps restore Mi'kmaw language and worldview "back on the map," strengthening intergenerational knowledge transfer and public recognition of Mi'kmaq presence and rights in Mi'kma'ki (Broadhead, 2020).

Figure 3-1: Map of Mi'kma'ki Districts (Source: https://parks.canada.ca/lhn-nhs/ns/fortanne/culture/autochtone-indigenous/carte-mikmaki-map)

The Mi'kmaw place names presented in the table below illustrate how language encodes geography, history and cultural knowledge, transforming the landscape into a living archive of memory and meaning.

Table 3-1: Mi'kmaq Place Names (Source: Sable and Francis, 2012)

Place Name	Meaning	Location
Amaqapskeket	Rushing over rocks	Gold River, NS
Apji'jkmujue'katik	Place of the ducks	Trenton, NS

Place Name	Meaning	Location
Eskikewa'kik	Skindresser's territory	Portion of Atlantic coastal region from the eastern portion of Nova Scotia, west of Sheet Harbour, to the Canso district
E'sue'katik	The place of clams	St Esprit, Cape Breton
Kaqpese'kaqnk	The smelt fishing place	Lower Barney's River, NS
Kespe'k	End or land	Saint John River Valley and the Appalachian Mountain Range of Northern New Brunswick and the Gaspé area of Quebec district
Kespukwitk	End of flow	Area west of the La Have River to Yarmouth/Cape Sable
Kjipuktuk	The great harbour	Halifax, NS
Kopitue'katik	A place where there are many beavers or where beavers gather	Beaver Harbour, NS
Ktaqmkuk	Across the waves/water	Newfoundland district
Kukwesue'katik	Haunt of the Giants	Middle River, Sheet Harbour, NS
L'sitkuk	Flowing along by high rocks	Bear River First Nation, NS
Matuesuatp	The head of a porcupine	Porcupine Head, NS
Mntuapskuk	Devil's Rock	Jeddore, NS
Nalikitquniekjk	A place where branches are torn off	Antigonish, NS
Napu'saqnuk	Place of stringing beads	St Mary's, NB
Pankweno'pskuk	Lice-picking falls	Gabriel Falls, NS
Penatkuk	Bird nesting place	Shelburne River, NS
Paq'tnkek	By the bay	Paq'tnkek, NS
Plekteaq	Split by a handspike	Cape Split, NS
Pne'katik	Egg-laying place	Benacadie, NS

Place Name	Meaning	Location
Siknikt	Drainage area	Miramichi River and the Acadian Coast and Bay of Fundy Region
Sipekne'katik	Area of wild potato/turnip, where ground nuts are found	Subenacadie District and the Minas Basin coast
Sipuk	At the river	Sydney, Cape Breton, NS
Tlaqatik	At the encampment	Tracadie, NS
Tmaqnapskw	Something that looks like a pipe	Miramichi, NB
Unama'kik	Mi'kmaw territory	Cape Breton Island district
Wagmitkuk	Clean flowing water	Wagmatcook, NS
Wanpa'q	Calm water	Cole Harbour, NS
Wiaqajk	The mixing place	Margaree, NS

Governance

Traditional Governance in Mi'kma'ki (Pre-contact Foundation)

Before sustained European settlement, governance in Mi'kma'ki operated through an integrated structure encompassing family authority, community leadership, district administration, and national coordination. The extended family constituted the primary unit for both social organization and political decision-making. Historically, consensus has shaped Mi'kmaw governance, with decisions often originating from "family-based Mi'kmawey" before being advanced to wider leadership forums (Mi'kmawey Debert Cultural Centre, 2022b).

At the community level, leadership was entrusted to the **Saqmaw** (Chief), whom advisors and elders supported. Responsibilities included conflict resolution, maintaining social harmony, and overseeing daily affairs. A key principle maintained that "no one Saqmaw speaks for or represents any other Saqmaw," thereby requiring the active participation, and, when documented, the signature, of each Saqmaw for agreements impacting multiple communities (Mi'kmawey Debert Cultural Centre, 2022b). This decentralization is intentional, reinforcing community sovereignty within a broader national framework.

District Governance and the Geographic Logic of Leadership

As previously noted, Mi'kma'ki comprises seven districts serving as traditional governance units, each reflecting the region's geographic realities. These districts are aligned with rivers, watersheds, and physiographic features, embedding governance in place-based mobility, land and water stewardship, and seasonal resource management (Mi'kmawey Debert Cultural Centre, 2022b). This interplay between governance and watershed geographies elucidates Mi'kmaw stewardship duties, including the coordination of access, usage, and responsibilities across families and communities.

Each district exercised internal autonomy but participated in overarching national coordination when necessary. District leadership involved **Keptin** (Captains) and other representatives responsible for relaying concerns and facilitating collaboration across the territory. McMillan (1996) notes the pre-contact district organization and underscores the consensus-driven nature of the Grand Council system: "the Grand Council never did anything unless it was by consensus," with district captains (Keptin) convening with the Grand Chief within this governance structure (McMillan, 1996).

The Santé Mawio'mi (Grand Council)

For matters exceeding the scope of a single community or district, including diplomacy, environmental issues, or nationwide interests, the **Santé Mawio'mi** (Grand Council) served as the venue for national deliberation alongside the **Kji-Saqmaw** (Grand Chief) and **Kji-Keptin** (Grand Captain). The **Putu's** fulfilled a designated governance role as the record keeper, maintaining official documentation, particularly during diplomatic events (Mi'kmawey Debert Cultural Centre, 2022). This function highlights the institutional nature of Mi'kmaw governance, encompassing deliberative processes, relational dynamics, and established mechanisms for continuity, accountability, and the preservation of national agreements.

Aligned with the authority of individual community Saqmaq, the Grand Council operated as a coordinating entity rather than supplanting local governance. Even as Saqmaq collaborate at higher levels, ultimate decision-making remains vested with each Saqmaw and their respective communities (Mi'kmawey Debert Cultural Centre, 2022b). Thus, Mi'kmaw governance is best characterized as a multi-tiered system designed to safeguard local authority while facilitating collective action at the national scale as required. Figure 3-2 illustrates the interconnectedness among these governance levels.

Figure 3-2: Visual Representation of the Traditional Mi'kmaq Governance System by District

Treaties, Diplomacy and Governance

Mi'kmaw governance systems demonstrate continuity through established diplomatic protocols, inter-community assemblies, and the renewal of shared understandings. These traditions are rooted in pre-contact contexts in which the Mi'kmaq coexisted peacefully within Mi'kma'ki as part of the Wabanaki Confederacy, alongside the Wolastoqiyik (Maliseet), Passamaquoddy, Penobscot, and Abenaki nations (Whitehead, 1991). The seventeenth century marked a period of significant transformation, as increased European migration and colonial rivalry altered regional political conditions, initiated by the arrival of the French at St. Croix (1604) and Port Royal (1605) (Reid, 2009), and was further intensified by subsequent settlement waves prompted by religious persecution and European conflicts, such as the Thirty Years' War and Queen Anne's War. Expansion of settlements resulted in the encroachment upon Indigenous territories and livelihoods, leading to long-term displacement and marginalization that continue to inform current reconciliation and decolonization efforts (Upton, 1979; Battiste, 2013).

Within this dynamic colonial environment, Britain's expanding economic and military interests led to the negotiation of the Peace and Friendship Treaties (1725–1779) with the Mi'kmaq, Wolastoqiyik, and Passamaquoddy. These treaties, intended as mutual agreements for coexistence, trade, and alliance, specifically did not constitute land surrender (Government of Canada, 2010; Wicken, 2002). The 1726 Treaty established foundational principles through paired commitments, the Articles of Peace and Agreement and Reciprocal Promises, with subsequent treaties (1749, 1752, 1760/61, and 1778–1779) reaffirming and revising these terms over time (Wicken, 2002; Patterson, 1993). Treaty relationships were maintained via collective governance practices, including post-treaty meetings to support shared interpretation, annual public readings of treaty texts at community gatherings, and ceremonial renewals associated with Saint Anne's Day and Chapel Island (Wicken, 1995). Treaty documents and related materials were preserved within Mi'kmaw leadership networks and routinely re-examined through council deliberations. Historical records reveal that treaties were "read and talked of at the council." Those documents might be held by community leaders or parish priests, with diplomatic items such as wampum serving to commemorate treaties among Indigenous societies (Wicken, 1995). From the Mi'kmaw perspective, these treaties affirmed sovereignty and an inherent right to self-government, recognizing the Mi'kmaq as a distinct political entity rather than British subjects (Dorey, 1993a). However, the introduction of colonial legislation and policies, notably the *Indian Act* (1876), substantially restructured Indigenous governance by instituting elected band councils and extending federal oversight of lands, membership, and decision-making processes (Leslie, 2002; Palmater, 2011).

Colonial Disruption and the Reconfiguration of Governance Roles

Colonial administrative interventions had a profound impact on Mi'kmaw political authority, seeking to impose external control and restructure governance into state-managed frameworks. Twentieth-century assimilation policies, including residential schools and associated initiatives, disrupted cultural continuity and limited the capacity of traditional governance institutions to safeguard Mi'kmaw interests during those periods (McMillan, 1996).

Nevertheless, Mi'kmaw leadership continued to advance jurisdictional and treaty-based rights using both governance and legal strategies. For instance, in the Sylliboy case, the Grand Council, led by Grand Chief Gabriel Sylliboy, sought judicial recognition of treaty rights to hunting and fishing, emphasizing their status as collective Nation-level rights and obligations (McMillan, 1996).

Contemporary Governance

Today, Mi'kmaw governance operates within a framework where Indian Act-created band structures coexist alongside traditional institutions and responsibilities. Under the *Indian Act*, communities are governed by elected Chiefs and Councils, with some adopting unique electoral models. Simultaneously, the Santé Mawio'mi continues to function together with Saqmaq and other councils (Mi'kmawey Debert Cultural Centre, 2022b). Figure 3-3 provides a visual overview of this governance structure.

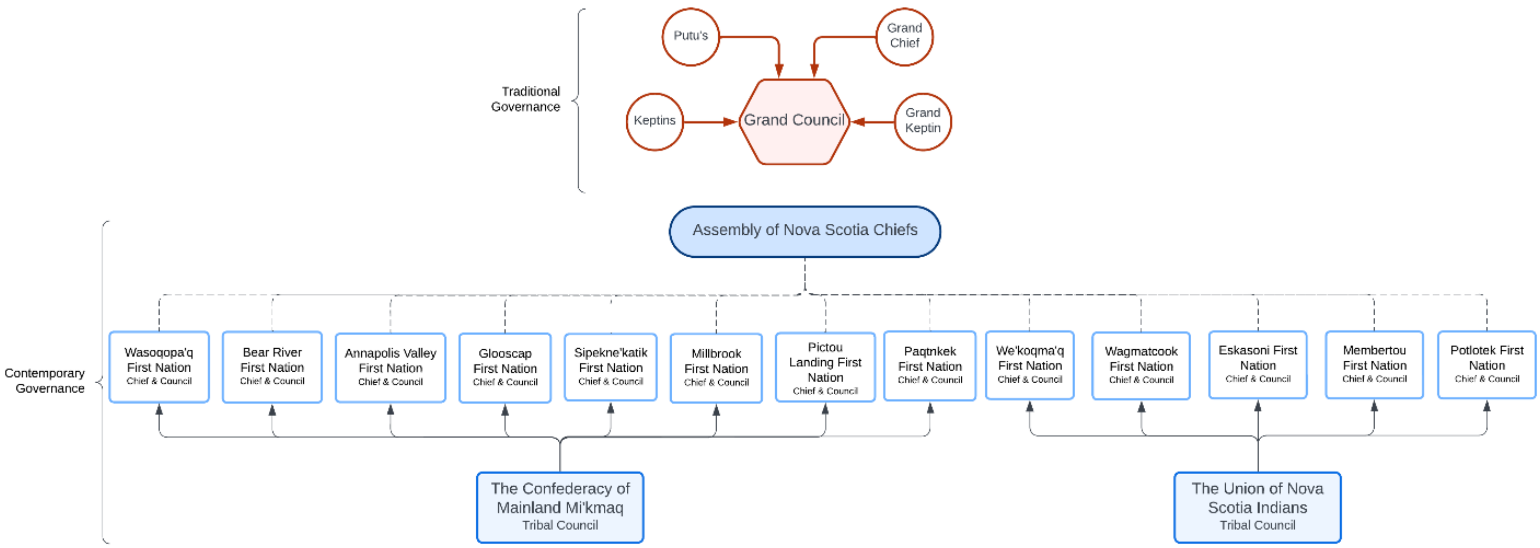

Figure 3-3: Visual Representation of Current Mi'kmaq Governance Structure under the Indian Act

IMPORTANT TERMINOLOGY

Mi'kmaw Ecological Knowledge (MEK) is founded on a worldview in which humans, other beings, and the surrounding landscape are interconnected and mutually dependent. These relationships are seen as dynamic and circular, with people positioned within, not above, ecological systems (Berneshawi, 1997). As such, MEK is deeply linked to Mi'kmaw identity, heritage, and continuity, and it is preserved through the Mi'kmaw language, which expresses meaning through connections, movement, and balance in the natural world (Sable & Francis, 2012).

Kinship in this worldview is expressed through concepts such as Ko'kmanaq ("our relations/relatives/people"), which embodies an ethic of responsibility that extends beyond immediate family to the broader human community and all beings in creation (Sable & Francis, 2012). This ethic is reinforced by family networks that historically shaped social organization throughout Mi'kma'ki, supporting seasonal movements, gathering, and forums for shared livelihoods, governance, and collective decision-making—all grounded in relationship-building and consensus.

An associated concept, Koqqwaia'ltimk (also spelled Koqqwaja'ltimk), embodies "being treated justly" as a lived principle in Mi'kmaw society. This justice concept emphasizes balance, recognizes when wrongs create imbalance, and acknowledges that restoring harmony requires attention to the interconnectedness of the human, natural, and spiritual worlds. Justice here is not separated into institutions; rather, it is part of everyday interactions and responsibilities, traditionally family-based and guided by dialogue ("talk") to resolve issues and restore relationships. When harm occurs, responses focus on restoring balance and harmony through acknowledgment, remorse, restitution, and healing, rather than punishment.

Netukulimk further defines this ethic of responsibility as a sustainability principle: ensuring community needs are met while protecting lands and waters so they remain viable for future generations, blending environmental, social, and spiritual duties (L'nuey, 2021). Additionally, **Etuaptmumk** (Two-Eyed Seeing) provides a modern approach for bridging knowledge systems, combining Indigenous knowledge and

Western science while honouring Mi'kmaw values, governance, and relational accountability (Bartlett, Marshall, & Marshall, 2012).

3.2 Traditional and Current Land Use

For generations, Mi'kmaw families moved across Mi'kma'ki in seasonal patterns shaped by close observation of lands and waters and the rhythms of plants and animals (Sable & Francis, 2012). The territory's interconnected lakes, rivers, estuaries, streams, and coastal routes formed a practical travel network, supporting mobility, exchange, communication, and reliable access to subsistence resources.

Traditional and Current Practices and Use

In the Bay of Fundy context, these patterns are closely tied to one of the world's highest tidal ranges, which shapes coastal access, species availability, and harvesting timing. The region's interconnected rivers, estuaries, tidal flats, and coastal routes functioned as an integrated travel and subsistence network, supporting mobility, communication, and access to a wide range of marine and inland resources. Land use was not static, but adaptive and place-based, reflecting a deep understanding of ecological relationships and the need to maintain balance within them.

During the warmer seasons (spring through early fall), Mi'kmaq communities often established settlements along the Bay of Fundy coastline, estuaries, and river mouths. These locations provided access to abundant and seasonally concentrated resources, including spawning fish (such as salmon, gaspereau, and smelt), shellfish, migratory birds, and nearby terrestrial game. Estuarine environments were especially important, as they enabled the combined use of marine and freshwater ecosystems within a relatively small geographic area. Families frequently positioned themselves along lower river systems near the coast, allowing for efficient harvesting across ecological zones while maintaining social connections and participating in seasonal gatherings. This period can be understood as a coastal "village season," when communities aggregated to take advantage of predictable food surpluses and to reinforce governance, trade, and knowledge-sharing networks (McMillan, 1996).

As autumn progressed, land use patterns shifted inland across watersheds in response to changing environmental conditions and resource availability. Households followed animal migrations, accessed interior fisheries, and selected locations offering both shelter and proximity to remaining food sources. This seasonal redistribution reflects a deliberate strategy of risk management and sustainability, ensuring that harvesting pressure was distributed across landscapes and that no single area was overused. Winter brought further dispersal, with smaller family groups settling in protected inland areas where resources such as moose, beaver, and stored foods could sustain them until spring (Wicken, 1994). Travel during this period relied on winter-adapted technologies, including snowshoes and toboggans, demonstrating continued mobility even under harsh conditions (Nova Scotia Museum, 2017).

A key expression of Mi'kmaw land and water use in the Bay of Fundy is the construction and use of fish weirs, which illustrate sophisticated ecological knowledge and long-term stewardship. These structures—ranging from intertidal wooden stake weirs to stone formations in river channels—were strategically placed to intercept fish movements driven by tidal cycles and seasonal runs. Their design and placement demonstrate an understanding of hydrology, species behaviour, and habitat variability. Weirs enabled selective, efficient harvesting of species such as eel, salmon, and smelt, while also supporting communal use and reinforcing shared governance over key harvesting sites (Lewis, 2006). The repeated use of these locations over generations highlights continuity in land use and a sustained cultural relationship with specific places.

Mi'kmaw place names and oral histories further embed land use within a framework of cultural meaning and responsibility. Names referencing species, harvesting practices, and ecological features encode knowledge about where and when resources can be accessed, as well as how they should be respected. This knowledge system emphasizes taking only what is needed, using the entirety of harvested resources, and maintaining reciprocal relationships with the natural world. Land use, in this sense, is inseparable from stewardship and governance, guided by principles that prioritize long-term sustainability and balance.

In contemporary contexts, Mi'kmaq land use in the Bay of Fundy continues to reflect these foundational relationships, though modern regulatory frameworks, access limitations, and socio-economic pressures shape it. Community members continue to engage in fishing, hunting, plant harvesting, and cultural practices for food, social, and ceremonial purposes, as well as for moderate livelihood fisheries. Seasonal movements may be less spatially extensive than in the past, but they remain rooted in environmental knowledge, including awareness of tides, species cycles, and local habitats. Increasingly, land use also includes cultural revitalization initiatives, education, and stewardship activities that reconnect youth and community members with traditional knowledge and practices on the land and water (Bujold et al., 2023).

Overall, traditional and current land use in the Bay of Fundy reflects continuity in Mi'kmaw relationships with the environment, characterized by mobility, adaptability, and a governance system grounded in respect, reciprocity, and sustainability. While contemporary conditions have altered how and where these practices occur, the underlying principles of Mi'kmaw Ecological Knowledge continue to guide interactions with the landscape and seascape, ensuring that land use remains both culturally meaningful and ecologically responsible.

The following table summarizes Mi'kmaq seasonal terms and the ecological indicators embedded in those words.

Table 3-2: Mi'kmaq Season Terms and Meaning (Source: Mi'kmaq Spirit, 2016)

Mi'kmaq Term	English	Meaning
Siwkw	Spring	When the leaves began to sprout, the wild geese appeared, the fawns of moose reached a specific size within the month, and seals bore their young
Nipk	Summer	When the salmon spawned, and wild geese moulted
Toqa'q	Autumn	When the birds migrated
Kesik	Winter	When the weather became very cold, the snow fell, and the bears began to hibernate

TRADITIONAL AND CURRENT FOOD RESOURCES

Across Mi'kma'ki, Mi'kmaq Ecological Knowledge of lands, waters, and living resources reflects generations of lived experience and an intricate understanding of the Bay of Fundy's dynamic tidal environment, extensive mudflats, estuaries, and river systems. This highly productive ecosystem has long supported a wide range of traditional food resources, including fish, shellfish, marine mammals, land animals, and plants and berries. The harvesting of traditional and current food resources is deeply rooted in knowledge of seasonal cycles, migrations, and habitat variability. For example, coastal zones, tidal rivers, and wetlands serve as key sites for eel fishing, clam harvesting, and the collection of other intertidal species. Mi'kmaq harvesting practices are not only central to sustenance but also culturally significant, reinforcing relationships with place and the principle of Netukulimk: harvesting in ways that ensure sustainability, minimize waste, and maintain respect for all living things (Prosper et al., 2011).

Historically, Mi'kmaq food systems in the Bay of Fundy region were structured seasonally around the tides and the life cycles of key species. Mi'kmaq reliance on rivers and the ocean remained especially prominent during spring and summer months, with fishing for smelt, salmon, trout, cod, bass, and eel, and the gathering of shellfish, fruits, and berries. The American eel holds particular cultural importance and has been harvested for food, medicinal, and ceremonial purposes. Estuarine environments and tidal river systems provided ideal habitats for eel harvesting, where techniques such as weirs or spearing were adapted to local hydrological conditions (Davis et al., 2004; Weiler, 2012). Fishing methods also included the construction of wooden-stake weirs at river mouths to guide fish into nets, as well as nighttime fishing using torches made from white birch (Wicken, 1994). Shellfish harvesting along the Bay's extensive mudflats provided reliable and accessible food sources, particularly during low tides. These resources were commonly preserved through drying, smoking, or salting to sustain communities through winter months, reflecting both resourcefulness and a deep understanding of long-term food security (Wicken, 1994).

Inland from the Bay of Fundy, forests and upland areas historically supported the harvesting of large game such as moose and caribou during the fall hunting season. These species were integral not only as food sources but also as providers of materials for tools, clothing, and shelter, reflecting a holistic use of harvested animals. Mi'kmaq harvesting practices emphasized using the entirety of the animal; for example, cleaned bladders were repurposed for storing liquids such as seal oil, and intestines were used as casings for preserved food mixtures (Whitehead & McGee, 1983). Hunting techniques were highly specialized and responsive to animal behaviour, including the use of birch-bark calls and sound mimicry during the autumn rut (Wicken, 1994). Animals were understood as gifts from the land, and harvesting was guided by teachings that emphasized taking only what was needed, while maintaining respect and reciprocity with all living beings, consistent with the principle of Netukulimk.

The seasonality of Mi'kmaq harvesting closely aligns with ecological cycles: spring and summer activities are concentrated along coasts and rivers, while fall and winter hunting occur inland. Rivers functioned as key transportation corridors, structuring movement across the landscape and connecting harvesting sites. In winter, dogs played an important role in hunting and hauling supplies, highlighting the adaptive and cooperative nature of Mi'kmaq subsistence practices (Wicken, 1994). Seasonal activities were further guided by the 13-month Mi'kmaq calendar, which aligns harvesting and travel with natural events such as migrations, spawning cycles, and plant availability, functioning as both a resource-management guide and a cultural framework for everyday life.

Over time, environmental change, colonial pressures, and the introduction of species such as deer contributed to significant declines in key wildlife populations in Nova Scotia. Mainland caribou became locally extinct by the early 1900s, while mainland moose populations declined significantly and are now considered endangered. Despite these changes, the cultural importance of these species remains embedded within Mi'kmaq Knowledge Systems and harvesting traditions.

Contemporary Mi'kmaq food systems in the Bay of Fundy region reflect both continuity and adaptation. While modern regulatory frameworks and environmental changes have influenced access to traditional resources, many communities maintain active harvesting practices, including fishing, hunting, and gathering for food, social, and ceremonial purposes. Eel fishing, in particular, remains a key practice, often conducted year-round using a combination of traditional knowledge and modern techniques adapted to local conditions. In tidal river systems, eels are located in relation to their habitat and seasonal movements, and harvested as a reliable, high-nutrient food source that can be preserved for later use (Weiler, 2012). Harvesting practices are closely shaped by local hydrology and seasonal movement patterns, with techniques that have included weirs during the fall downstream migration and spearing in suitable conditions. Eels are valued not only for their reliability but also for how they are used: they are commonly preserved by drying or salting (and less often smoking) to last through winter, and are also enjoyed fresh, boiled, baked, or fried, described by some as a delicacy or 'comfort food."

Salmon have also long been a foundational food resource within Mi'kmaq food systems, valued for their reliability, predictability, and widespread presence in rivers throughout Nova Scotia. Historically, salmon represented one of the final major harvests before inland winter movement and were commonly preserved by smoking over open fires, using heated rocks to sustain communities during colder months. Beyond their role as sustenance, salmon hold deep cultural and spiritual significance, understood as gifts from the natural world that require respect, ceremony, and reciprocity. Mi'kmaq salmon harvesting practices are guided by Netukulimk, a principle that emphasizes balance, respect, and the sustainable use of resources. Fishing methods such as spearing, snaring, and angling have allowed for highly selective harvesting, ensuring that only what was needed was taken while minimizing harm. Salmon rivers were often shared and used on a rotational basis among families, reflecting a place-based system of stewardship that regulated harvesting pressure and ensured the continued abundance of salmon. This approach reflects a sophisticated and place-based understanding of resource management, grounded in careful observation of salmon abundance, behaviour, and habitat conditions (Denny & Fanning, 2016).

The relationship between the Mi'kmaq and salmon extends beyond subsistence into interconnected cultural, ecological, and governance systems rooted in Mi'kmaq Ecological Knowledge. All parts of the salmon were used, and any remains were respectfully returned to the land or water, reinforcing cycles of renewal and the continuation of life. Ceremonial practices, such as returning eggs to the water, express gratitude and maintain reciprocal relationships with the Creator and aquatic ecosystems. Mi'kmaq harvesters draw on intergenerational knowledge to determine when, where, and how much to harvest, prioritizing the needs of the species and the long-term health of the ecosystem. This adaptive, relational approach reflects a broader understanding of sustainability as maintaining balance, rather than simply restricting use. Salmon harvesting was historically embedded within systems of ecological districts and seasonal mobility, which distributed harvesting pressure and supported regeneration across the landscape. These practices reflect an in-depth understanding of salmon as both a food resource and a living being within a broader ecosystem. Mi'kmaq Knowledge Systems emphasize stewardship grounded in observation, experience, and responsibility, where harvesting decisions are guided by the condition of the resource, seasonal cycles, and the long-term health of the ecosystem. This approach reinforces a reciprocal relationship with salmon, in which sustainability is achieved through respect, restraint, and a commitment to the continued abundance of the species for future generations. (Denny & Fanning, 2016).

Underlying both historical and contemporary practices is a foundational teaching that food and land are inseparable. Learning to "listen" to the land, follow its cycles, and live in balanced reciprocity shapes Mi'kmaw foodways and identity. This reciprocity is also reflected in Mi'kmaw place names, which often describe relationships and attributes of specific locations, thereby reinforcing the close link among knowledge, land, and food. In the Bay of Fundy context, this relationship is reflected in the way Mi'kmaq Knowledge is deeply connected to the harvesting of food resources, seasonal indicators, and place-based ecological cues. Mi'kmaq Ecological Knowledge is strengthened and transmitted through stories and shared experiences, through harvesting, preparing food, and spending time on the land, because it is in relationship with place that knowledge becomes tangible and memorable. Maintaining these food stories is therefore part of sustaining community and cultural continuity, and it entails an ongoing responsibility to uphold Indigenous knowledge systems, including the restoration and sharing of teachings that were silenced by colonial history (Bujold et al., 2021).

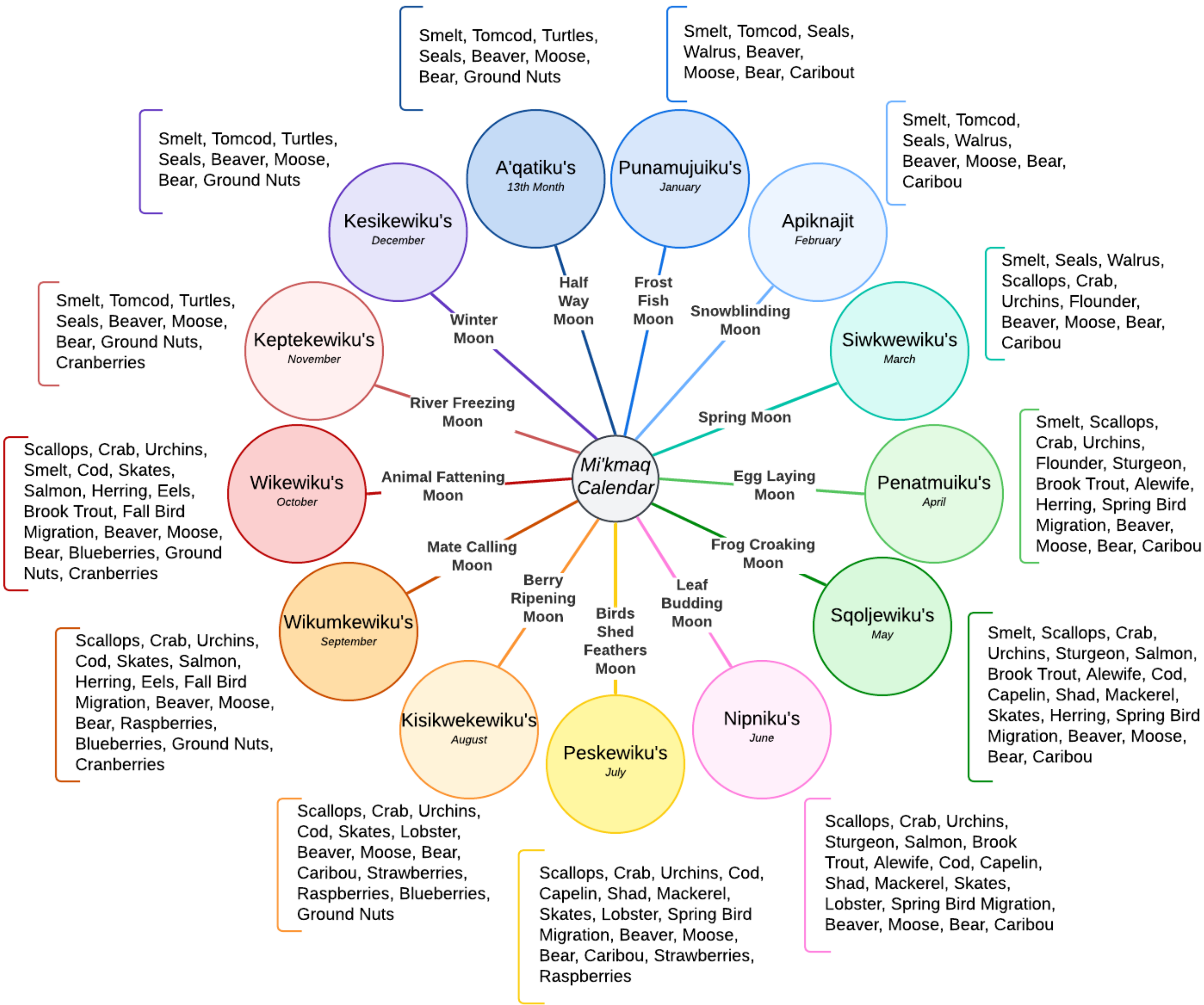

Figure 3-4: Mi'kmaq Calendar and Known Key Resources to be Harvested

Tables 3-3 to 3-6 summarize species documented as traditionally and more recently harvested by Nova Scotia Mi'kmaq, organized by major faunal groups (mammals; fish, crustaceans, and mollusks; and birds).

Drawing on published ethnographic and community-based sources (e.g., Whitehead & McGee, 1983; Hoffman, 1955, 1995; Native Council of Nova Scotia, 1993; Benoît, 2007), the tables present each species' common and Mi'kmaq names, typical habitats, and documented uses (e.g., food, pelts/skins, oil, eggs, commerce, ceremony), and, where available, seasonality. Together, this information provides a concise reference for understanding the breadth of harvested species and the diversity of habitats and practices that support Mi'kmaq foodways and cultural relationships with lands and waters in Nova Scotia.

Table 3-3: Mammal Species traditionally and recently harvested by Nova Scotia Mi'kmaq (Source: Whitehead & McGee, 1983; Hoffman, 1995)

Common Name	Mi'kmaq Name	Habitat	Use
Beaver	Kobet, gopit	Water bodies and wetlands adjacent to forested areas	Food and pelts
Black Bear	Mooin, Muin	Forested areas	Food, pelts, spiritual
Bobcat	Pqajue'wj	Forested areas	Pelts
Caribou	Qalipu	Boreal forest	Food and pelts
Deer	Lŭntook, lentug, lentuk	Edges of forested areas, thickets	Food
Groundhog/ Woodchuck	Mulumgwej, Mnumkwej	Fields, open areas adjacent to forests	Food and pelts
Hare	Able'gŭmocch, Apli'kmuj	Forested areas	Food
Lynx	Apuksikn	Forested areas	Pelts
Mink	Jiagewj, Tiake'wj	Coasts	Pelts
Moose	Team', tia'm	Forested areas, wetlands	Food and pelts
Muskrat	Ki'kwesu	Freshwater ponds, wetlands	Pelts
Otter	Giwnig, Kiwnik	Rivers and lakes, coasts	Food and pelts
Porcupine	Năbegŏk, matues	Forested areas	Food, quillwork
Racoon	Amaljikwej	Forested areas	Food and pelt
Red Fox	Wowkwis	Forested areas, meadows, and open areas adjacent to the forest	Pelt
Seals	Waspu	Marine coast	Food, oil and skins

Common Name	Mi'kmaq Name	Habitat	Use
Squirrel	Atu'tuej	Forested areas	Food
Walrus		Marine coast	Food, ivory

Table 3-4: Fish, Crustacean and Mollusk Species documented as traditionally and recently harvested by Nova Scotia Mi'kmaq (Source: Native Council of Nova Scotia, 1993, Whitehead & McGee, 1983, Hoffman, 1955)

Common Name	Mi'kmaq Name	Habitat	Uses
Brook Trout	Adagwaasoo, atoqwa'su	Freshwater streams, marine	Food
Clams	E's	Marine, coastal	Food
Cod	Peju	Marine	Food
Crabs	Nmjinikej	Marine	Food
Eel, Elvers	Kat, katel, Katew	Marine, freshwater	Food
Gaspereau	Segoonŭnĕkw', Kaspalew	Marine fish that migrate up streams to breed in freshwater	Food and bait
Haddock	Putomaqanej	Marine	Food
Lobster	Jakej	Marine, coastal	Food
Mackerel	Amalamek	Marine, coastal	Food
Mussels	Nkata'laq	Marine, coastal	Food
Oyster	Mntmu'k	Marine, coastal	Food
Periwinkles	Jik'jij	Marine, coastal	Food
Pollock	Pestam	Marine	Food
Salmon	Pălămoo, Pulamoo, plamu	Marine fish go up streams to breed in freshwater	Food, commerce, and ceremony
Scallop	Saqskale's	Marine, coastal	Food
Shad	Msamu	Marine fish go up streams to breed in freshwater	Food

Common Name	Mi'kmaq Name	Habitat	Uses
Smelt	Kákpāsow, kakpasow, gaqpesaw	Marine fish go up streams to breed in freshwater	Food
Squid	Sata'su	Marine	Food
Striped Bass	Chegaoo, Ji'kaw	Marine fish go up streams to breed in freshwater	Food and commerce
Sturgeon	Komkudamoo	Marine fish go up streams to breed in freshwater	Food
Whelks		Marine	Food
White Perch	Atoqu'luej	Marine fish go up streams to breed in freshwater	Food

Table 3-5: Bird Species documented as traditionally and recently harvested by Nova Scotia Mi'kmaq (Source: Benoît, 2007, Whitehead & McGee, 1983, Hoffman, 1955)

Common Name	Mi'kmaq Name	Habitat	Uses	Season
American Black Duck	Apji'jkmuj	Marine coast, freshwater lakes	Food and eggs	Year round
American Woodcock	Oonochpediesegoo	Wooded swamps, forests, fields	Food	Spring migrant, summer
Barrow's Goldeneye	Jikwej	Breed in wooded lakes and ponds in Quebec. Winter in protected coastal waters or open inland waters.	Food	Winter
Black Scoter ("American Scoter")		Marine coast	Food	Winter resident
Blue-winged Teal	Tma'qni	Inland marshes, lakes, ponds, pools and shallow streams	Food	Summer

Common Name	Mi’kmaq Name	Habitat	Uses	Season
Canada Goose	Senŭmkw’, sinumkw	Freshwater ponds and lakes	Food and eggs	Year-round, spring and fall migrant
Common Eider	Wa’bietcitckanutc	Breeds in the Arctic, winters farther south in temperate coastal zones	Food	Year-round (mainland NS)
Common Goldeneye	Apchechk	Shallow coastal bays and inlets	Food	Fall migrant, winter
Common Merganser	Wobasikw	Rivers and lakes	Food	Summer
Greater Scaup		Breeds in the Arctic, winters south along marine coasts	Food	Winter
Green-winged Teal		Freshwater lakes	Food	Fall Migrant
Hooded Merganser		Breeding in swamps and wooded ponds, winter in ice-free ponds, lakes and rivers	Food	Summer
King Eider		Winter along marine coasts, breed in the Arctic tundra	Food	Winter
Lesser Scaup		Marine coast	Food	Fall migrant, winter
Long-Tailed Duck	Gahgahweegetch	Breed in tundra pools and marshes, and winter along marine coasts	Food	Winter
Mallard	Apchechk	Freshwater lakes	Food	Year-round, fall migrant
Northern Pintail	Aptcitckamutc	Breeds in open, unwooded wetlands. Winters in sheltered estuaries, brackish marshes and coastal lagoons	Food	Summer

Common Name	Mi'kmaq Name	Habitat	Uses	Season
Passenger Pigeon	Ples	Forested habitats	Food	Fall migrant
Red-Breasted Merganser		Marine coast, freshwater lakes	Food	Resident, summer
Ruffed Grouse	Nabaoo, Pla'wetc	Forests	Food	Resident
Spruce Grouse	Nabaoo, Wijik	Forests	Food	Resident
Surf Scoter	Mo'i	Marine coast	Food	Winter
White-wined Scoter		Marine coast	Food	Spring migrant, winter
Wilson's Snipe	Wunaqpite'siku	Fields, freshwater wetlands	Food	Spring migrant, summer

Table 3-6: Other Bird Species that Nova Scotia Mi'kmaq may have harvested (Source: Hoffman, 1955)

Common Name	Mi'kmaq Name	Habitat	Season
American Bittern	Wiaqojmej	Freshwater wetlands	Spring migrant
American Golden Plover		Marine coastal flats	Fall migrant
American Wigeon (Baldpate)		Marine coast, freshwater lakes	Fall migrant
Atlantic Puffin	Keskisqunajit	Marine coast	Resident
Barred Owl	Ku'ku'wes	Forests	Resident
Black Guillemot	Wa'bilksuni	Marine coast	Winter resident
Black-bellied Plover		Marine coastal flats, shores	Fall migrant
Black-Crowned Night Heron		Coastal marches	Fall migrant
Brant	Mogulaweech	Freshwater ponds and lakes	Spring migrant
Bufflehead		Marine coast, freshwater lakes	Fall migrant

Common Name	Mi'kmaq Name	Habitat	Season
Common Loon	Pkwimu	Marine coast in winter, freshwater lakes in summer	Spring migrant
Common Murre	Kloopskeak	Marine coast	Resident
Eskimo Curlew	Amkoomink-ak'	Marine coastal flats, wetlands	Fall migrant
Great Black-backed Gull	'Mkudopskoon-k	Marine coast	Resident
Great Blue Heron	Tm'kwaliknej	Edges of shallow water bodies, generally nest in trees	Spring migrant
Great Horned Owl	Ti'tikili	Forests	Resident
Herring Gull	Kloqontiej	Marine coast	Resident
Hudsonian Whimbrel/ Hudsonian Curlew		Marine coastal flats, wetlands	Fall migrant
Lesser Yellowlegs	Chijooegadech-k	Marine coastal flats, wetlands, and shores	Fall migrant
Long-billed Dowitcher		Marine coast, wetlands	Fall migrant
Mourning Doves	Pules	Fields, forests	Fall migrant
Northern Gannet	Ukwatadagoo-k	Marine coast	Spring and fall migrant
Osprey	Ni'kmawe'su	Forested areas close to water bodies	Spring migrant
Pied-billed Grebe	Magwis'	Shallow freshwater ponds	Fall migrant
Razorbill ("Razor Billed Auk")	Abaqtuqwech	Marine coast	Spring migrant
Red Knot		Marine coastal flats, shores	Fall migrant
Semipalmated Plover		Marine coastal flats, shores	Fall migrant
Willet	Jijuikatej	Marine coast, wetlands, and shores	Fall migrant
Yellow Rail	Amchaboqch	Freshwater wetlands	Fall migrant

TRADITIONAL AND CURRENT MEDICINES

Mi’kmaw plant-based healing practices emerged from an intimate, long-term relationship with the lands and waters of Mi’kma’ki and were refined through careful observation, shared experience, and spiritually grounded teachings. Within this tradition, medicinal plants are not viewed simply as remedies. However, as relatives and gifts that must be approached with respect and responsibility, an ethic closely aligned with **Netukulimk**, which emphasizes using resources in ways that maintain balance and ensure continued abundance (Prosper et al., 2011). This perspective reflects a holistic understanding of health that includes physical, emotional, mental, and spiritual dimensions, and recognizes that human well-being is inseparable from the well-being of the natural world (Battiste, 2005; Sable & Francis, 2012).

Mi’kmaw Knowledge Holders and Healers have historically maintained extensive ethnobotanical expertise, transmitted primarily through oral teaching and hands-on practice. Plant identification, harvesting, and preparation were carried out with care and precision, guided by seasonal cycles and other environmental indicators (Upton, 2010). Different species were understood to have distinct functions—supporting recovery from illness, treating injuries, aiding digestion, or contributing to purification and spiritual balance, demonstrating a nuanced and adaptive use of diverse ecosystems as “living pharmacies,” from coastal environments to inland forests (Lacey, 2014; Whitehead, 1991). Harvesting was commonly undertaken through reciprocal offerings, prayers, or expressions of gratitude, reflecting an ongoing relationship among people, plants, and place (Mi’kmaw Conservation Group, 2020). Today, many Mi’kmaw communities continue to carry this knowledge forward, often alongside contemporary healthcare approaches, keeping medicinal plant teachings as an active and evolving part of Mi’kmaw identity and wellness (Weber, 2021).

The following table provides an overview of medicinal plants traditionally and currently used by the Mi’kmaq of Nova Scotia, illustrating the depth and continuity of Mi’kmaw ethnobotanical knowledge.

Table 3-7: Medicinal Plants traditionally and currently used by Nova Scotia Mi'kmaq (Source: Mi'kmaq Cultural Foundation, 2025, Weber, 2021)

Common Name	Mi’kmaq Name	Use
Alder	Tupsi	Treat anemia, internal bleeding, urinary problems, sprains, and itches, and induce vomiting.
Balsam Fir	Stoqn	Traditionally used to prevent colds and influenza, the sap possesses healing and antiseptic properties, which are utilized to treat cuts and sores.
Blueberries	Pkumanaqsi	Leaves and/or roots were boiled, and the resulting liquid was applied to painful areas; tea made from the leaves was consumed for its anti-inflammatory properties.
Bunchberry	Suliman	Roots can be made into a mild tea used to treat infant colic. The leaves can also be chewed and softened to apply as a treatment for external wounds.
Coltsfoot	Jikoqsuk	Leaves can be dried and used as an herbal remedy against coughs and colds

Common Name	Mi’kmaq Name	Use
Cedar	Qaskusi	Used and burned during prayers, cedar boughs are used to purify homes
Cranberries	Nutke’jmanaqsi	Steeped in water to make a general tonic drink useful for bladder or urinary tract infections
Fireweed	Nisqunamu’kmanaqsi	Made into tea to treat diarrhea, mouth sores, hemorrhoids, skin lesions and sores
Labrador Tea	Apoistekiejit	Used to make tea that was known as a tonic and used to treat various kidney ailments
Partridgeberry	Plawejumanl	Used during the last stage of pregnancy to help ease the strain of childbirth
Sage	Kjilmu’loqsi	Used for purification of mind, body and spirit. Used during ceremonies, smudging, meditation and cleansing of the spirit
Strawberries	Atuomkminaqsi	Leaves (chewed or in tea) to treat stomach cramps
Sweetgrass	Welimaqewe’l, welima’qmsiku’l	Used for prayers, smudging and purifying ceremonies. Usually braided, dried and burned.
Tobacco	Tmawey	Used as an offering, burned to carry thoughts and prayers to the spiritual world.
Yarrow	Atu’tuejualu	It is a tea that induces perspiration to treat fevers and colds. Stalks were also made into a pulp to treat bruises, sprains and swellings.

3.3 Bay of Fundy Region

The following overview presents cultural, environmental, and historical context related to Mi’kmaq relationships with the lands and waters of the Bay of Fundy region. Drawing on Mi’kmaq Ecological Knowledge, oral traditions, historical sources, and existing research, it situates the study area within the broader cultural landscape of Mi’kma’ki. Together, these perspectives demonstrate the longstanding relationships between Mi’kmaq communities and the region's ecosystems and provide important background for understanding the knowledge shared by Mi’kmaq Knowledge Holders through the MEKS process. Included are an overview of the Sipekne’katik District, the environmental context of the Bay of Fundy region, and the social, cultural, and historical factors that inform Mi’kmaw relationships with the study area.

SIPEKNE'KATIK DISTRICT

The Mi'kmaq (L'nu'k, meaning "the people") are the original inhabitants of the traditional territory of Mi'kma'ki, located in the Atlantic region of what is now eastern Canada. Mi'kma'ki, the ancestral and unceded territory, includes present-day Nova Scotia, Prince Edward Island, New Brunswick, as well as parts of Quebec and Newfoundland. Mi'kma'ki is divided into seven districts that function as governance, land-use, and stewardship regions.

The Bay of Fundy region falls primarily within the district of Sipekne'katik, which encompasses much of central mainland Nova Scotia and extends toward the Bay of Fundy coastline. Mi'kmaq communities within this district have long maintained relationships with both coastal and inland environments through travel, harvesting, and cultural practices. The name Sipekne'katik is commonly translated as "the place where wild potatoes grow," referring to the presence of groundnut plants historically harvested in the region (Whitehead, 1991; Sable & Francis, 2012). Mi'kmaw place names reflect the Mi'kmaq Ecological Knowledge embedded within the language and convey information about the landscape and the resources found there. The district contains a diversity of ecosystems including forests, rivers, wetlands, and coastal environments that have supported Mi'kmaw harvesting, travel, and cultural practices since time immemorial.

Mi'kmaq presence throughout Sipekne'katik reflects the long-standing patterns of seasonal movement and land use. Communities historically travelled between inland forests, river systems, and coastal environments to harvest fish, wildlife, and plant resources as they became seasonally available. Rivers and coastal waters functioned as important travel routes connecting different areas within the district and facilitating relationships between Mi'kmaq communities throughout Mi'kma'ki. Mi'kmaq oral traditions and archaeological evidence demonstrate a long-standing presence in Mi'kma'ki for more than 10,500 years (Mi'kmawey Debert Cultural Centre 2022). These knowledge systems affirm the deep and continuous relationship between the Mi'kmaq and the region's lands, waters, and coastal environments.

ENVIRONMENTAL CONTEXT

The Bay of Fundy lies within Mi'kma'ki and forms an important ecological and cultural landscape within Mi'kmaq territory. Much of the Bay and its surrounding landscapes fall within the district of Sipekne'katik. At the same time, the districts of Kespukwitk and Siknikt are also closely connected to the Bay and its surrounding watersheds. Together, these districts encompass large portions of mainland Nova Scotia and coastal environments associated with the Fundy system, including the Minas Basin, Cobequid Bay, and the broader Fundy coastline. These areas include interconnected watersheds, coastal environments, and inland travel routes that have historically supported Mi'kmaq seasonal movement and harvesting practices.

The rivers, tidal systems, and coastal environments associated with the Bay of Fundy have long provided access to both marine and inland resources, forming an integrated cultural landscape that continues to support Mi'kmaq relationships with the land and water. The region's ecological richness, including tidal flats, estuaries, wetlands, and river systems, supports a diversity of species important to Mi'kmaq harvesting and cultural practices. Mi'kmaq Ecological Knowledge reflects detailed understandings of animal migrations, plant cycles, tidal rhythms, and seasonal weather patterns. This knowledge has historically guided harvesting activities, including fishing, hunting, and the gathering of medicinal and edible plants, while also maintaining cultural relationships with specific places throughout the landscape.

The waters of the Bay of Fundy hold particular significance within Mi'kmaq Knowledge systems. The Bay's powerful tides and dynamic coastal ecosystems support a wide diversity of marine species that have long formed an important component of Mi'kmaq subsistence, livelihood, and cultural practices.

Coastal and tidal ecosystems within the Bay of Fundy region have historically supported a variety of Mi'kmaq harvesting activities. Fishing has long been central to Mi'kmaw subsistence in the region, with species such as smelt, salmon, gaspereau, eel, bass, tomcod, and trout harvested within rivers, estuaries, and coastal waters. Harvesting locations were often selected based on detailed Mi'kmaw knowledge of tidal cycles, spawning areas, and seasonal fish migrations (Prosper & Paulette, 2002). Tidal wetlands and coastal marshes are particularly significant ecological areas in the Bay of Fundy region. Knowledge Holders describe these landscapes as important habitats that support fish populations, migratory birds, and culturally important plant species. Wetlands also support plants such as Sweetgrass, cattails, reeds, and other vegetation that have traditionally been gathered for cultural, medicinal, and practical purposes (Wells et al., 2025).

Intertidal areas, mudflats, and estuaries have also historically supported the harvesting of shellfish and other marine resources, including clams and mussels. The Bay's extensive tidal range creates highly productive coastal ecosystems that support both marine life and bird populations important to Mi'kmaq harvesting practices. Inland areas connected to the Bay of Fundy watershed have also supported hunting and plant-gathering activities. Forested environments surrounding rivers and upland areas provide habitat for species such as moose, deer, and small game. At the same time, wetlands and forest edges support a variety of medicinal and edible plants.

An extensive network of waterways and portage routes facilitated travel between inland and coastal environments. Canoe travel along rivers flowing into the Bay of Fundy allowed Mi'kmaq to move between inland territories and coastal harvesting areas. These routes functioned not only as transportation corridors but also as cultural landscapes where knowledge, teachings, and relationships to place were passed down from generation to generation. For the Mi'kmaq, travel was structured around riverine canoe routes that connected communities across the landscape, functioning much like present-day highways. These waterways shaped mobility, guided seasonal movement, and facilitated social and cultural connections between districts. Travel along these routes was not random; it was part of a carefully developed transportation network shaped by water conditions, geography, and Mi'kmaq Ecological Knowledge. In this way, rivers and waterways operated as organized, intentional corridors, central to the movement, harvesting practices, and culture.

SOCIAL, CULTURAL, AND ECONOMIC CONTEXT

Mi'kmaq relationships with the land and water in Mi'kma'ki reflect a long history of seasonal movement and resource use that continues to inform contemporary cultural practices. Within Sipekne'katik District, Mi'kmaq communities historically travelled between inland forests, river systems, and coastal environments of the Bay of Fundy in order to access a diversity of seasonal harvesting opportunities. Rivers and coastal waters served as important travel routes, linking communities and facilitating access to fishing locations, plant gathering areas, hunting territories, and cultural sites.

Activities were often coordinated with seasonal cycles, with harvesting locations selected based on knowledge of species migration patterns, tidal movements, and habitat conditions. Knowledge related to harvesting locations, species behaviour, and environmental conditions has traditionally been shared through intergenerational learning, with Elders and Knowledge Holders passing information to younger generations through participation in land-based activities. These practices contribute to the ongoing transmission of MEK and reinforce cultural relationships with the landscapes and waters.

Mi'kmaq communities continue to maintain strong cultural and harvesting relationships with the lands and waters surrounding the Bay of Fundy. Contemporary harvesting activities, cultural practices, and knowledge sharing continue throughout the region, reflecting both historical patterns of land use and evolving relationships with the environment. This continuity is also reflected in the ongoing practices and knowledge shared by Mi'kmaq harvesters and community members. Monitoring of fish populations, wildlife movements, plant availability, and broader environmental changes remains an important part of Mi'kmaq Knowledge. These observations contribute to intergenerational knowledge transmission and continue to inform Mi'kmaq perspectives on environmental stewardship, sustainable harvesting, and land and water use.

Mi'kmaq harvesting rights are grounded in longstanding relationships with the waters and marine ecosystems of Mi'kma'ki, as well as in legally recognized treaty rights affirmed through historic agreements and court decisions. These Rights are protected under the Peace and Friendship Treaties signed between the Mi'kmaq and the British Crown in the 1700s. These treaties did not involve the surrender of Mi'kmaq lands but instead affirmed ongoing relationships and the right of Mi'kmaq communities to continue harvesting and trading resources necessary to sustain their communities.

Mi'kmaq communities have relied on fisheries for sustenance, trade, and cultural continuity for thousands of years. Today, Mi'kmaq participation in fisheries is generally understood through three broad categories: Food, Social and Ceremonial (FSC) fisheries, moderate livelihood fisheries, and commercial fisheries. Each reflects different legal frameworks, cultural practices, and governance structures while remaining connected to Mi'kmaw rights and responsibilities toward the marine environment.

Food, Social, and Ceremonial (FSC) fisheries represent the most direct continuation of Mi'kmaq traditional harvesting practices. FSC fisheries are conducted to provide food for community members, support cultural gatherings, and supply resources used in ceremonies and community events. These fisheries are not intended for commercial sale, and harvested resources are typically shared among families and community members in accordance with Mi'kmaw values of reciprocity and collective responsibility.

The right to harvest fish and other marine resources for sustenance and cultural purposes is rooted in Mi'kmaq inherent rights and was recognized in the Peace and Friendship Treaties. These treaties affirmed that Mi'kmaq people would retain the freedom to hunt and fish as they had traditionally done, reflecting the importance of these activities to Mi'kmaw ways of life and survival.

Today, FSC fisheries are commonly managed through agreements between Mi'kmaq communities and federal agencies such as Fisheries and Oceans Canada, although the practice itself is understood by many Mi'kmaq as an inherent right that predates colonial regulation. FSC fisheries remain a central component of community well-being, supporting food security, cultural continuity, and the transmission of ecological knowledge between generations. Mi'kmaq communities continue to harvest resources for food, social, and ceremonial purposes. These practices reflect longstanding cultural relationships with the lands and waters of Mi'kma'ki and remain closely connected to Mi'kmaw knowledge systems and stewardship responsibilities (Wicken, 2002).

The concept of a moderate livelihood fishery emerged through the landmark Supreme Court of Canada decision R. v. Marshall (1999), which affirmed that Mi'kmaq and other treaty signatories have a treaty right to harvest and sell fish in order to earn a "moderate livelihood." This right is derived from the Peace and Friendship Treaties of 1760–1761, which guaranteed Mi'kmaq people the ability to trade the products of hunting, fishing, and gathering for goods necessary to sustain their communities. This ruling confirmed that Mi'kmaq peoples have treaty-protected rights to hunt, fish, and gather in pursuit of a moderate livelihood.

The Court interpreted the treaty language referring to "necessaries" as equivalent in modern terms to a moderate livelihood. This was understood to include basic needs such as food, clothing, and housing, supplemented by some amenities, but not the accumulation of unlimited wealth. The Marshall decision also clarified that this treaty right can be subject to regulation by governments when justified for purposes such as conservation or other compelling public objectives. However, any regulation must respect the underlying treaty right and should not unnecessarily infringe upon it.

Since the decision, Mi'kmaq communities across Atlantic Canada have asserted their treaty right to pursue moderate livelihood fisheries, sometimes developing their own community-based management plans. Despite the legal recognition of this right, the precise definition and implementation of a moderate livelihood fishery have remained a subject of negotiation and debate between Mi'kmaq nations and federal regulatory authorities.

In addition to FSC and moderate livelihood fisheries, many Mi'kmaq individuals and communities participate in the broader commercial fishing industry in Atlantic Canada. Participation in the commercial fishery has increased significantly since the Marshall decision, as the federal government implemented programs to expand Indigenous access to licences, vessels, and quotas within the regulated commercial fishing sector.

Commercial fisheries operate within the same regulatory frameworks that govern non-Indigenous fisheries, including licensing requirements, seasons, and catch limits. Many Mi'kmaq communities have acquired commercial licences through government programs or through direct purchase within the industry. This participation has provided economic opportunities for communities while also enabling Mi'kmaq fishers to maintain connections to traditional marine harvesting practices.

While commercial fisheries are integrated into the broader regulatory system, they remain closely connected to Mi'kmaq Rights and community governance. For many Mi'kmaq fishers, participation in the commercial sector represents both an economic activity and a continuation of longstanding relationships with the waters and coastal ecosystems of Mi'kma'ki.

Together, FSC, moderate livelihood, and commercial fisheries illustrate the diverse ways that Mi'kmaq communities continue to engage with marine resources today. These fisheries reflect both traditional ecological relationships and evolving legal frameworks shaped by treaty rights and court decisions. The recognition of Mi'kmaq fishing rights has played a significant role in ongoing discussions about Indigenous governance, marine resource management, and reconciliation within Atlantic Canada.

At the same time, Mi'kmaq communities continue to assert their rights and responsibilities as stewards of the marine environments within Mi'kma'ki. Within the Bay of Fundy region, Mi'kmaq harvesting activities continue across coastal and inland environments that have historically supported fishing, hunting, and plant gathering. Rivers, estuaries, tidal flats, and surrounding forests continue to provide habitat for species harvested by Mi'kmaq communities. Mi'kmaq Knowledge often emphasizes that harvesting activities represent more than sustenance alone. These practices reflect cultural continuity, stewardship responsibilities, and relationships with the land and waters that have been maintained across generations.

Mi'kmaq Knowledge systems also emphasize the concept of M'sɨt No'kmaq ("all my relations"), which recognizes the interconnectedness of all living beings. Within this worldview, animals, plants, waters, and landscapes are understood as relatives rather than simply resources, reinforcing Mi'kmaw responsibilities to care for and protect ecological systems throughout Mi'kma'ki (Wells et al., 2025). The principle of M'sɨt No'kmaq reflects a core Mi'kmaw worldview that understands the environment as a network of living relationships rather than a collection of separate resources. This concept emphasizes the interconnectedness of all elements of the natural world, including land, water, plants, animals, and people, all of which originate from and are sustained by Mother Earth. Within this framework, the environment is not viewed as something to be used in isolation, but as a system of reciprocal relationships that require respect, balance, and ongoing stewardship (Root, 2020). These relationships form the basis of Mi'kmaq Ecological Knowledge and guide how lands and waters are understood, used, and cared for over time.

In this context, Mi'kmaq interactions with the environment, such as harvesting, travel, and cultural practices, are grounded in responsibilities to maintain the health and continuity of these relationships. The teachings of M'sɨt No'kmaq reinforce that environmental well-being is directly tied to cultural well-being, with knowledge passed through land-based practices and shared across families and communities (Root, 2020). For MEK, this perspective highlights that land and water have layered significance, including ecological, cultural, and spiritual values. Understanding the environment through M'sɨt No'kmaq therefore supports a more holistic assessment of potential project effects, recognizing that impacts to the land may also affect broader relationships, practices, and responsibilities within Mi'kmaq communities.

These Mi'kmaq harvesting practices are also guided by the principle of Netukulimk, which emphasizes harvesting in ways that ensure long-term sustainability while maintaining the well-being of communities and ecosystems. Netukulimk reflects an approach to environmental management that prioritizes balance, respect, and responsibility toward the land and waters that sustain life. This principle continues to guide Mi'kmaq perspectives on environmental protection, resource management, and stewardship throughout Mi'kma'ki. Mi'kmaq communities also continue to play active roles in environmental stewardship throughout the Bay of Fundy region through monitoring, restoration initiatives, and participation in environmental management processes. These actions reflect broader Mi'kmaq values associated with stewardship, environmental protection, and the maintenance of healthy ecosystems for future generations.

PLACE NAMES

Mi'kmaw place names throughout the Bay of Fundy region reflect long-standing relationships with the landscape and often describe ecological characteristics, resources, or events associated with specific locations. These names carry cultural knowledge and provide insight into how Mi'kmaq historically understood and navigated the environment. For example, the place name Sipekne'katik is commonly translated as "the place where the wild potatoes grow," referencing groundnut plants historically harvested in the region. Many Mi'kmaw place names describe tidal conditions, river features, or ecological characteristics important for navigation and harvesting. These names reflect a knowledge system rooted in careful observation, lived experience, and cultural teachings. In many cases, place names provide practical information about how landscapes were used, including locations suitable for harvesting, travel routes, or culturally significant sites.

Mi'kmaq oral traditions also connect landscapes of the Bay of Fundy to teachings associated with Kluskap (Glooscap), an important figure in Mi'kmaq legends and oral traditions. Legends involving Kluskap often describe the origins of the Bay's powerful tides and other natural features, reinforcing cultural relationships with the land and emphasizing Mi'kmaw responsibilities to respect and care for the natural world.

Mi'kmaw place names, stories, and oral traditions act as a repository of environmental knowledge and cultural history tied to the landscape of the Bay of Fundy region. Within Mi'kmaq Knowledge Systems, language and story function as a "stone house" of valuable information, preserving understandings of the environment as it existed prior to and during the early contact period. Identity and relationships with the land were closely connected, with place names reflecting both physical landscape features and the cultural teachings associated with those places. Through storytelling and naming practices, Mi'kmaq Knowledge has passed on information about ecological conditions, travel routes, important resources, and historical events (MDCC, 2005).

Many Mi'kmaq legends and creation stories describe the transformation of animals, people, and spirits into elements of the landscape such as stones, trees, mountains, and islands. These stories are embedded in the naming of places and serve as identifiers that guide memory and movement across the territory. In addition to explaining landscape formations, the stories encode Mi'kmaq Knowledge about appropriate ways of living with the land and waters. Certain geological features within the territory are also associated with ancestral or spiritual presence, such as stones identified as "Grandmother" or "Grandfather" rocks, reflecting long-standing cultural relationships with distinctive features in the landscape (MDCC, 2005).

Within the Bay of Fundy region, a number of well-known places are connected to stories of the Kluskap. Cape Blomidon is recognized in Mi'kmaq oral tradition as an important place tied to the story of the creation of Kluskap and the Mi'kmaq. Across the Bay of Fundy from Cape Blomidon lies Partridge Island, a site associated with numerous Kluskap legends that describe the natural world as it was experienced by Mi'kmaw ancestors. One story tells of Kluskap transforming a partridge into the island itself, leaving it as a landmark with its feathers becoming the trees that grow there. These stories link several locations throughout the Bay of Fundy, including Cape Blomidon, Spencer's Island, Isle Haute, and Cape d'Or, explaining the origins of islands, rocks, and other coastal formations along the Fundy shoreline (MDCC, 2005; MDCC, 2026).

In addition to their cultural and spiritual significance, these stories often reference places where important resources could be found, reflecting a deeply place-based and relational understanding of the landscape. Partridge Island, known in the Mi'kmaq language as Plawej Mniku, with plawej meaning partridge and mniku meaning island, illustrates how naming itself carries knowledge. As direct translations from Mi'kmaq to English often remain limited due to the verb-based, descriptive nature of Mi'kmaw language. Partridge Island has also been understood as Wa'so'q, meaning "heaven," a designation that speaks to its abundance and life-sustaining resources. This abundance encompasses a wide variety of resources, including semi-precious stones and other glass-like materials historically used for tool-making, and a richness of plants, animals, and medicines. These references demonstrate how stories functioned not only as teachings, but also as a sophisticated way of mapping the landscape and identifying areas where certain materials could be obtained.

More broadly, Mi'kmaw place-based narratives along the Bay of Fundy shore describe locations where stone suitable for tools and blades was historically gathered during across time. In this way, legends and place names carried layered meanings, linking landscape features, resource locations, travel routes, and cultural teachings. The continued recognition of these places and stories reflects the deep and enduring relationship between Mi'kmaq communities and the lands and waters of Mi'kma'ki.

Within Mi'kmaq Knowledge Systems, place names therefore function as expressions of ecological understanding, cultural relationships, and historical presence throughout Mi'kma'ki. Within MEKS, recognizing Mi'kmaw place names helps illustrate how landscapes are culturally understood and how Mi'kmaw relationships with land and water continue to shape stewardship and knowledge sharing.

Historical Changes to the Bay of Fundy Landscape

Coastal environments of the Bay of Fundy have undergone significant transformation since the arrival of European settlers in the seventeenth century. Prior to large-scale colonial land modification, the Bay of Fundy coastline supported extensive tidal wetlands and salt marsh ecosystems that functioned as highly productive ecological environments.

These landscapes provided habitat for fish, migratory birds, and wildlife while also supporting plant species used by Mi'kmaq communities for food, medicine, and cultural practices. Tidal wetlands were closely connected to river systems and coastal waters, allowing fish to access inland spawning habitats and creating productive environments for both aquatic and terrestrial species.

Beginning in the 1600s, Acadian settlers constructed dykes and aboiteaux systems to convert tidal wetlands into agricultural land. These structures restricted tidal flooding and allowed farming to occur on former marshlands. While these developments supported agricultural expansion, they also significantly altered coastal ecosystems by restricting natural tidal flows and changing habitat conditions for fish and wildlife. Over time, additional dyking and drainage projects further transformed wetlands throughout the Bay of Fundy region, resulting in the loss or modification of many tidal marsh environments. These environmental changes affected ecological relationships that had historically supported Mi'kmaq harvesting activities. The restriction of tidal flow and modification of wetland habitats reduced fish access to certain river systems and altered habitat conditions for species dependent on tidal marsh environments. Changes to coastal ecosystems also affected plant communities traditionally used by Mi'kmaq communities for gathering culturally important species such as Sweetgrass (Wells et al., 2025).

Within the context of a MEK, recognizing historical environmental change provides important context for understanding the Mi'kmaq relationships within the study area. Mi'kmaq Knowledge often reflects both historical memory and contemporary observations of landscape change while also identifying areas where cultural practices and harvesting activities continue today. This broader historical and environmental context helps inform the interpretation of how Mi'kmaq Knowledge is shared and contributes to understanding how the study area fits within the larger cultural landscape of the Bay of Fundy region. This also includes non-environmental factors, which has significantly shaped the Mi'kmaq relationship with the Bay of Fundy landscape, particularly government-led centralization policies. These policies gained momentum in the early 1900s and culminated in the Centralization Period in Nova Scotia from 1942 to 1949. The relocation scheme aimed to reduce administrative costs of providing government services to Aboriginal people, but it forced many Mi'kmaq from smaller communities to move to Eskasoni or Sipekne'katik First Nations. Relocation was often enforced under the threat of enfranchisement and the loss of financial support, disrupting families, undermining economic self-sufficiency, and contributing to decreased living standards and increased health problems. Overcrowded conditions without adequate resources further weakened social and economic stability (Tobin, 1999). As noted by the Royal Commission on Aboriginal Peoples, "relocation succeeded only in removing many Mi'kmaq from their land, eroding whatever economic self-sufficiency they had" (RCAP Report, 1996) Historically, Mi'kmaw communities lived along waterways, but these centralization policies, coupled with settler encroachment on economically valuable lands, further displaced communities and reshaped social, economic, and political structures; effects that continue to be felt today.

4. FINDINGS

4.1 Site Visits

A BRAIDED PEOPLE-AND-PLACE LENS

Findings are presented as a braided people-and-place account that brings together field observations, Knowledge Holder teachings, and lived experience on the land, rather than separating ecological, cultural, and use-based information into discrete categories. This approach reflects how the landscape is understood in practice: as a connected system in which land, water, species, and people are inseparable.

Rather than cataloguing individual features or reducing the landscape to isolated components, the discussion focuses on how places function through relationship. It considers how different parts of the landscape interact, how use is shaped by timing and conditions, and how knowledge is developed through repeated return over time. The emphasis remains on understanding place as lived, remembered, and observed, rather than as a static snapshot.

Two complementary layers are woven throughout. The first is a narrative, field-based voice that describes how the land reads when walked, including shifts in ground underfoot, changes in exposure and shelter, the movement of water and sediment, and the ways vegetation responds to aspect, elevation, and disturbance. This narrative approach mirrors how Knowledge Holders describe learning from the land through observation, movement, and experience.

The second layer is explicit and descriptive, clearly identifying what was observed during site visits, including landscape structure, habitat types, visible species associations, and indicators of use and change. This maintains technical defensibility and transparency while allowing space for meaning and interpretation. Together, these two layers provide a fuller understanding of the landscape that is rigorous enough to support assessment while remaining grounded in how place is known and used.

The discussion follows a guided movement across Partridge Island, consistent with the sequence described by Knowledge Holders and used during the site visit. It begins at the coastal edge, where the influence of the Minas Basin is most immediate, then moves through intertidal and salt-influenced areas into the sheltered interior forest, and finally upward to elevated lookouts over the Basin. This sequence reflects how the land is read in practice, beginning with the daily record left by the tide and ending with the broader perspective provided by elevation and visibility.

Knowledge Holder teachings are carried throughout rather than confined to a single part of the discussion. They provide a lens through which observations are interpreted, offering context on use, timing, movement, and change that cannot be captured through a single visit alone. In this way, Knowledge Holder input serves not as background information, but as an active guide in understanding the landscape.

This account also builds directly on the foundation established in Site Visit 1, which documented the broader upland-to-coast system surrounding the FORCE site and identified key habitat transitions and the role of water movement in organizing the landscape. Here, that understanding is applied at a more focused scale. Partridge Island serves as a concentrated example of those broader patterns, allowing the relationships identified in Site Visit 1 to be examined within a single, interconnected place.

Overall, the findings are intended to be read as a place-based account rather than a checklist. The discussion conveys how Partridge Island functions as part of a living system shaped by long-standing relationships among people, species, and environment. The pages that follow build from observation to understanding, and from individual habitats to the larger patterns that connect them over time.

BASELINE THREAD: SITE VISIT 1 IN PRINCIPLE

Site Visit 1 provides the ecological and landscape foundation upon which this Findings section is built. While the full Site Visit 1 Field Report is included in the appendix, its core purpose and conclusions are carried forward here in principle, forming a baseline thread that informs how Partridge Island is understood in Site Visit 2. The following is a delineation map of Site Visit 1:

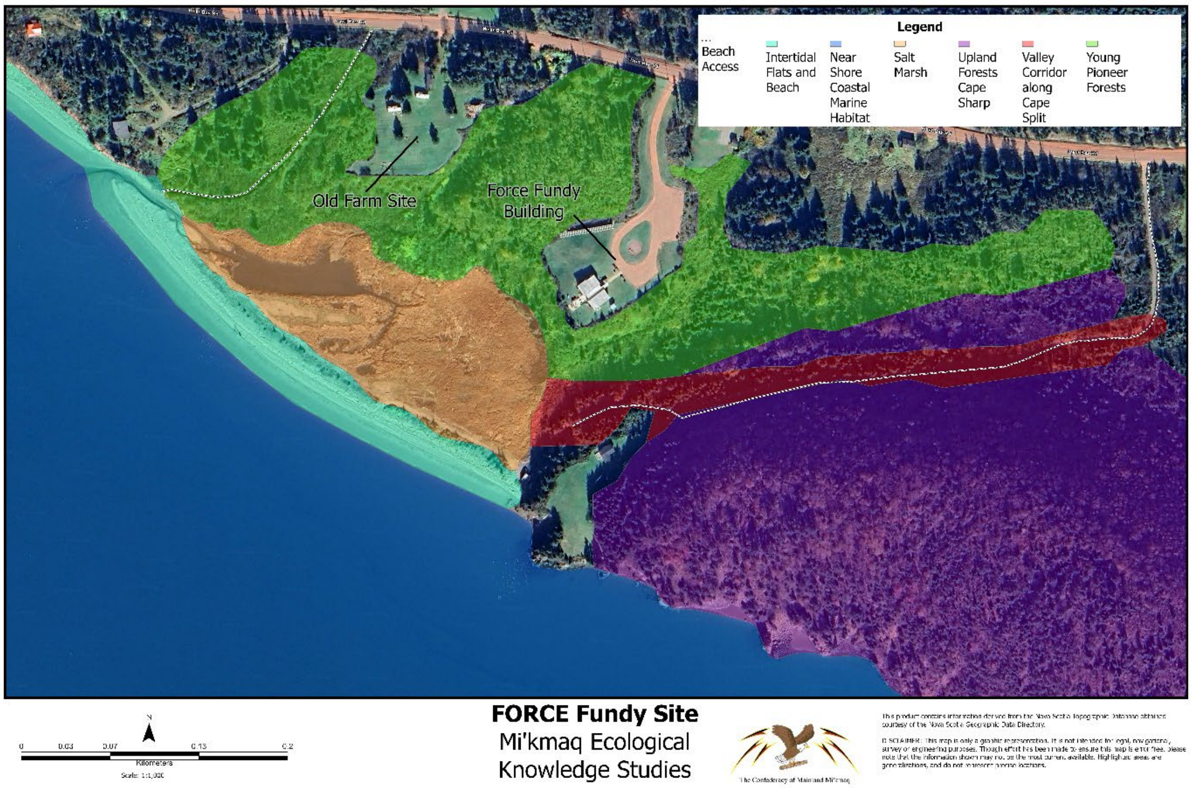

Figure 4-1: Site Visit 1 Delineation Map

The intent of Site Visit 1 was to develop a grounded understanding of how the FORCE project area functions as a connected system before focusing on specific places identified through Knowledge Holder interviews. That visit approached the landscape as a whole, moving deliberately from upland forest on the slopes of Cape Sharp, down through a valley drainage corridor, across a salt marsh, and out onto the intertidal shoreline of the Minas Basin. This top-to-bottom sequence was critical. It allowed the field team to observe how water, sediment, vegetation, wildlife, and human infrastructure interact across the gradient, rather than treating each habitat as a separate unit.

One of the key findings of Site Visit 1 was that the landscape surrounding the FORCE site operates as a single, integrated system. Upland forests act as source areas, moderating runoff, stabilizing soils, and supplying organic material. The valley corridor functions as a collector and filter, gathering water from multiple pathways, slowing its movement, and maintaining connectivity for wildlife moving between inland and coastal areas. The salt marsh sits at the hinge point between freshwater and tidal influence, buffering the uplands from coastal energy while producing and exporting organic material into the Basin. Beyond the marsh, the intertidal zone translates the energy of the Minas Basin tides into daily cycles of exposure and flooding, supporting high biological productivity and seasonal use.

Equally important was the recognition that distance between these habitats is short. Transitions occur over tens to hundreds of metres rather than kilometres. Because of this compression, changes in one part of the system are quickly felt elsewhere. Alterations in upland drainage influence marsh flooding. Shifts in marsh edge stability affect intertidal feeding areas. This closeness reinforces the importance of understanding the landscape through connectivity rather than isolated features.

Site Visit 1 also established that the landscape is defined by movement and timing. Water moves downslope and back inland with the tide. Habitats expand and contract daily, seasonally, and during storm events. Species presence and use follow these rhythms rather than fixed locations. This understanding is central to how Knowledge Holders describe use of the area, and it provides the ecological logic needed to interpret those teachings in later sections.

Importantly, Site Visit 1 was not guided by specific interview-identified locations. It treated the land itself as the starting point, documenting patterns, transitions, and processes that could later be braided with Knowledge Holder knowledge. In this way, it functions as a reference condition rather than a confirmation exercise. It establishes how the system behaves under present conditions and provides a baseline against which focused, place-based observations can be understood.

Within this Findings section, Site Visit 1 is not repeated in detail. Instead, its conclusions are carried forward as an underlying framework. Partridge Island, the focus of Site Visit 2, is read through this same lens. The island becomes a concentrated example of the broader upland-to-coast system documented earlier, where shoreline, marsh, forest, and elevated vantage occur in close sequence and remain functionally linked.

By keeping Site Visit 1 present as a baseline thread, this study ensures that observations made at Partridge Island are not interpreted in isolation. They are situated within a larger landscape logic that emphasizes connectivity, timing, and relationship. This approach allows the focused observations and Knowledge Holder teachings associated with Site Visit 2 to be understood as expressions of broader, well-established patterns rather than as singular features.

SITE VISIT 2 - PARTRIDGE ISLAND: SITE CONTEXT AND CONDITIONS

Site Visit 2 was conducted at Partridge Island on March 11, 2026, between approximately 10:00 a.m. and 2:30 p.m. The visit took place at low tide under clear weather conditions, with temperatures around minus three degrees Celsius and moderate winds from the northwest. Visibility across the Minas Basin was good throughout the visit, allowing for observation of both nearshore conditions and broader landscape relationships extending toward Blomidon, Cape Sharp, and the North Mountain.

This visit differed intentionally from Site Visit 1 in both purpose and scale. Whereas Site Visit 1 was designed to establish a landscape-scale baseline across the FORCE project area, Site Visit 2 focused on a single location repeatedly identified by Knowledge Holders as significant. The intent was not to inventory the island or to document every species present, but to spend time in one place long enough to understand how land, water, species, and use come together there. The following is a delineation map of Site Visit 2:

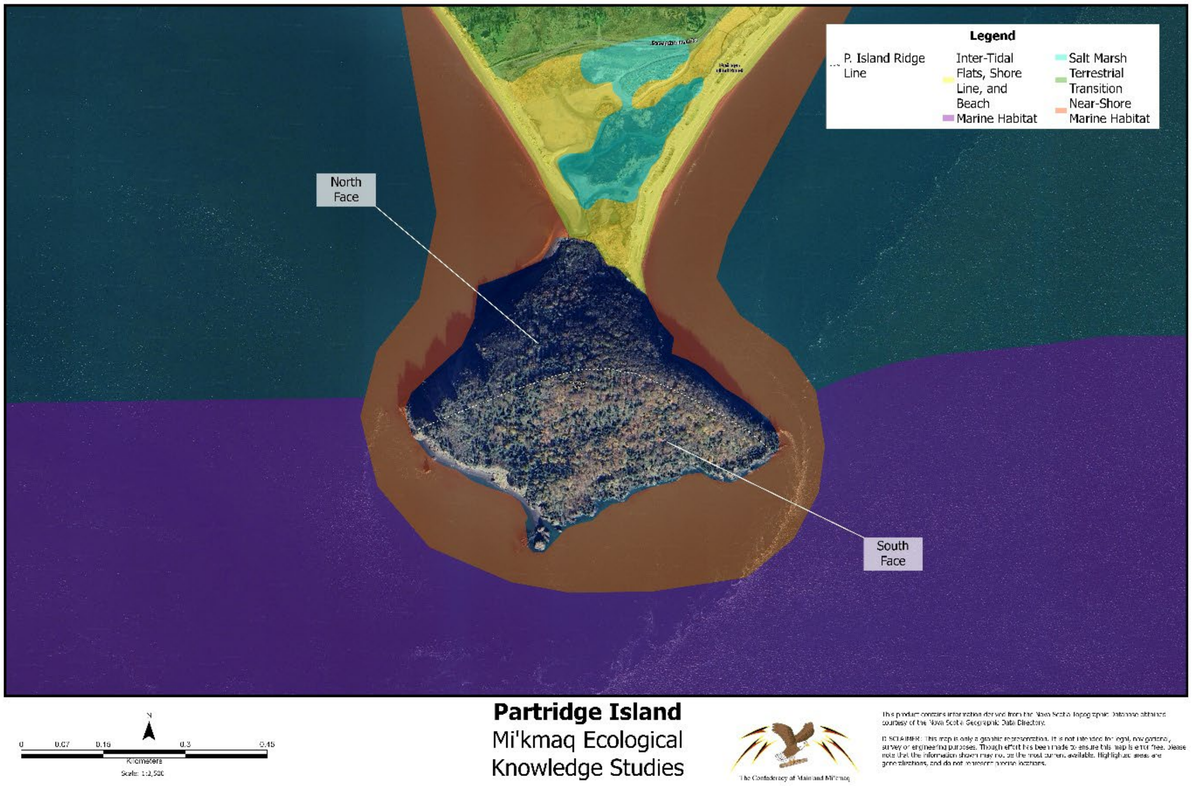

Figure 4- 2: Site Visit 1 Delineation Map

Partridge Island was selected because it concentrates multiple environments within a short distance. Rocky shoreline, intertidal ground, salt-influenced pockets, forested slopes, interior hardwoods, and elevated lookouts occur in sequence rather than isolation. Knowledge Holders described the island as part of a water-organized system, where observation, movement, harvesting, and teaching are all guided by conditions rather than fixed boundaries. The visit was structured to read that system as it presents today.

The site visit began at the coastal edge, where Partridge Island meets the Minas Basin. At the time of arrival, the tide had receded enough to expose large areas of the intertidal zone between the island and the mainland. Mud, sand, and mixed sediment extended outward from the shoreline, revealing the scale of tidal influence that defines this part of the Basin. Wrack lines along the upper edge of tidal reach marked recent high water and contained kelp, driftwood, and other organic material deposited by the tide.

Conditions at the shoreline made it clear that this is not a static edge. Ground firmness varied over short distances, shifting from compacted sediment to softer, more saturated areas shaped by recent tidal movement. Angular stone and fractured basalt were present along the beach, reflecting ongoing erosion and material movement from the island's coastal face. These conditions limited access in some areas and reinforced the importance of familiarity and timing when moving through this landscape.

From the shoreline, connections to inland systems were immediately apparent. Low-lying vegetated areas extended landward from the coast, forming salt-influenced marsh and transition zones linked to the Parrsboro River system. Although surface water movement was not always visible, the shape of the land and distribution of vegetation clearly indicated pathways where freshwater and tidal influence meet. These connections are central to how the system functions and to how species move between inland and marine environments.

The geological structure of Partridge Island was visible throughout the visit. Dark basalt dominated the coastal edge and cliff faces, appearing as fractured ledges, vertical faces, and fallen blocks at the base of slopes. In several locations, large pieces of rock had separated from the upland and come to rest along the shoreline, some still holding soil and vegetation. These features indicate active and ongoing erosion processes that continue to shape both the island and adjacent coastal habitats.

Looking outward from the island, similar basalt formations were visible across the Basin at Cape Sharp and along the North Mountain. This visual continuity placed Partridge Island clearly within a broader geological corridor rather than as an isolated feature. The relatively narrow distance across the Basin at this location reinforced Knowledge Holder descriptions of the area as a travel corridor, where water functions as a connective space rather than a barrier.

As the visit moved inland, conditions shifted quickly. Wind exposure dropped, temperatures felt milder, and the forest began to hold warmth and stillness. These rapid transitions highlighted how Partridge Island functions as a compressed sequence of environments, each responding differently to the same day's conditions. Small changes in elevation and aspect produced noticeable differences in exposure, moisture, and vegetation.

Elevated areas on the island provided clear vantage points across the Minas Basin. From these locations, it was possible to observe broader landscape patterns, including shoreline alignment, forest bands across the North Mountain, and the relationship between Partridge Island and surrounding landforms. These sightlines reinforced the island's role as a point of orientation and observation within a larger movement system.

Throughout the visit, it was evident that what could be observed directly represented only a portion of how the area functions. Many species and uses described by Knowledge Holders are seasonal or dependent on different tidal states and would not be visible under the conditions present that day. As such, the observations recorded here should be understood as a snapshot within a continuously changing system.

This context sets the foundation for the habitat-based sections that follow. Each subsequent section focuses on a specific part of the island, integrating field observations with Knowledge Holder perspectives on use, meaning, and change. Together, they build a place-based understanding of Partridge Island as a connected and lived landscape rather than a collection of isolated features.

HABITAT 1: ROCKY SHORELINE AND BASALT (GRANDFATHER STONES) COASTAL EDGE

The outer shoreline of Partridge Island presents itself immediately as a place shaped by exposure and movement. This is where the island meets the full force of the Minas Basin, and where the daily record of tide, wind, and weather is written most clearly. Standing at the coastal edge, the land does not feel fixed. The boundary between land and water shifts continually, and the ground underfoot reflects that constant adjustment.

The shoreline is dominated by dark, fractured stone. Basalt appears as broken ledges, angular blocks, and crushed material distributed unevenly along the beach and at the base of the island's coastal face. In several locations, large pieces of rock have separated from above and come to rest below, some still carrying soil and vegetation from the upland. These features suggest recent movement rather than ancient collapse and indicate that erosion here is ongoing and active.

This coastal edge reads as a place of release. Material from the island's interior is steadily transferred downslope, feeding the shoreline with stone and fine sediment. Freeze–thaw cycles, storm events, and tidal energy all contribute to this process. The result is a shoreline that is unstable in places, with footing that shifts between firm, compacted surfaces and looser material that moves under pressure. Navigating this edge requires attention and familiarity, reinforcing that access here is guided by conditions rather than convenience.

Despite its exposure, the shoreline does not read as barren. Wrack lines formed by recent high tides mark the upper reach of the water and contain kelp, seaweed, driftwood, and other organic material. These deposits gather along bends and breaks in the shoreline, showing how even slight changes in form influence where material pauses before being redistributed again. This accumulation signals regular exchange between deeper water and the coastal edge.

From a geological perspective, the dominance of basalt is a defining feature of Partridge Island. The rock appears in layered and fractured forms, reflecting the broader geological structure shared with Cape Sharp and the North Mountain across the Basin. This continuity places the island within a larger system of basalt headlands rather than as an isolated feature. The similarity in form and material across these locations reinforces the sense of connection across the water.

Knowledge Holders spoke about this stone not only as a physical feature, but as a material with cultural meaning. Basalt from this area is recognized as "grandfather stone," valued for its ability to hold and release heat and traditionally used in ceremony. The abundance of this stone at Partridge Island was identified as one of the reasons the area holds significance. This understanding shifts how the shoreline is read. What appears as exposed and unstable through a purely physical lens is also a place of provision and relationship.

The shoreline is also considered a primary area for food harvesting. The structure of the basalt ledges influences water movement along the edge, shaping nearshore conditions that support marine life. As tides ebb and flow, these formations help concentrate organic material and create productive zones along the shoreline. Although harvesting activity was not directly observed during the visit, Knowledge Holders consistently described shorelines of this type as important places for gathering and fishing, with use guided by tide, season, and species presence rather than by fixed locations.

There is a close and immediate relationship between this exposed edge and the interior of the island. The coastal face rises sharply from the shoreline, and within a short distance the land transitions from fractured rock into more stable ground and forested slopes. This proximity matters. It allows movement between exposure and shelter in a matter of minutes and supports the use of the island as a place of observation, decision-making, and return.

From the shoreline, the interior forest is visible above, and from the forest edge, the Basin remains in view. This vertical relationship reinforces the idea that the shoreline is not an isolated zone, but part of a tightly linked sequence of environments. Material moves downslope from the forest to the shore, while information about weather, tide, and movement moves upslope through visibility and sound.

Taken together, the rocky shoreline and basalt coastal edge of Partridge Island function as a zone of active change, cultural material significance, and ecological productivity. It is a place where land is continually reshaped, where resources are gathered through knowledge and timing, and where the broader system announces itself most clearly. The importance of this edge lies not in any single feature, but in how it supports and connects the surrounding habitats and the relationships tied to them.

HABITAT 2: INTERTIDAL FLATS AND NEARSHORE TRANSITION ZONES

Moving outward from the rocky shoreline, the landscape opens into a broad intertidal zone that extends between Partridge Island and the mainland. This area is defined entirely by the rhythm of the Minas Basin tides. At low tide, it presents as exposed ground. At high tide, it becomes part of the nearshore marine environment. The shift between these states is not gradual but decisive, reinforcing that this ground belongs to both land and water, and is fully claimed by neither.

During the site visit, much of the intertidal area was exposed. Mud, sand, and mixed sediment extended far beyond the immediate shoreline, revealing the scale of tidal movement that shapes this system. The surface varied noticeably over short distances. Some areas were firm and compacted, holding clear impressions and edges left by the receding water. Other areas were softer and more saturated, with subtle depressions, shallow channels, and uneven textures that reflected recent drainage.

These variations made clear that the intertidal flats are organized by movement rather than permanence. Water does not retreat evenly across this surface. Instead, it follows preferred pathways, leaving behind faint channels and low points that guide the next tidal return. Even when dry, the ground retains the memory of how water moves across it.

Along the upper edge of the intertidal zone, organic material had accumulated in irregular lines. Kelp, seaweed, and fragments of coastal vegetation were deposited where the tide had last reached. These wrack lines were uneven, gathering where shoreline shape and elevation briefly slowed the water. Their distribution offered a visual record of recent tidal height and energy and marked the shifting boundary between marine and coastal environments.

Although few species were directly visible during the visit, the structure of the intertidal flats clearly supports a wide range of life. Knowledge Holders described these areas as active feeding and movement zones, particularly for species that rely on shallow, productive waters. Soft sediment provides habitat for invertebrates such as marine worms and shellfish, which form the base of the food web. Subtle surface disturbances, slight textural differences, and small openings in the sediment suggest the presence of life below the surface, even when organisms themselves are not visible.

The intertidal and nearshore transition zone is also understood as a corridor for fish movement. Species such as eel, smelt, and gaspereau travel through these shallow waters as they move between inland rivers, estuaries, and the broader Basin. Their presence is highly seasonal and closely tied to tide, temperature, and water conditions, making them difficult to observe during a single visit but central to how the area functions over time.

Shorebirds are another key component of this habitat. While not abundant during the visit, the exposed flats showed the conditions that support their use. At low tide, invertebrates become accessible, turning these areas into important feeding grounds when timing and season align. Knowledge Holders emphasized that bird presence follows predictable windows, appearing when exposure, weather, and migration cycles come together.

The intertidal flats do not function independently of inland systems. From the shoreline, it was possible to see how low-lying marsh areas extend landward toward freshwater inputs. These connections create transition zones where freshwater and saltwater mix, supporting species that depend on both environments. This relationship reinforces the understanding that the intertidal zone is not a boundary, but part of a larger network of water movement linking inland and marine habitats.

Use of these areas is defined by timing rather than fixed location. Knowledge Holders described intertidal harvesting as responsive and conditional. Access depends on tide and footing. Harvesting depends on season and species presence. These are not places of permanent occupation, but places people move through, observe, and return to when conditions are right.

There is also an awareness that these flats are sensitive to change. Their productivity relies on a balance between sediment input, water movement, and access. Small shifts in any of these factors can alter how the ground drains, floods, or supports life. Because much of what happens here occurs below the surface or within narrow time windows, changes may not be immediately visible without long-term familiarity.

Taken together, the intertidal flats and nearshore transition zones around Partridge Island function as a dynamic corridor where land and water exchange energy, material, and life. They extend the influence of the island outward into the Basin and connect inland systems to the marine environment. Their importance lies not in permanence, but in their role as a repeatedly activated space, revealed and concealed by the tide and understood through timing, experience, and return.

HABITAT 3: SALT MARSH AND COASTAL VEGETATION ZONES

Moving inland from the intertidal flats, the ground begins to hold water and form. The surface rises only slightly, but the feel underfoot changes from open, exposed sediment to saturated, vegetated ground that slows and steadies the movement of water. This is the zone where the influence of the Basin remains present, yet moderated by soil, roots, and plant structure. It is a soft boundary rather than a hard line, shaped by repeated flooding, retreat, and the quiet accumulation of organic material.

During the visit, these salt-influenced areas appeared as low-lying pockets and gently sloping benches where vegetation had taken hold across dark, wet soils. The transition from bare intertidal ground into vegetated marsh was gradual, marked less by a sharp edge and more by wrack deposits, changes in plant height, and a subtle firming of the surface. The land here read as receptive. Each tide adds something and removes something, and the plants hold enough of what is delivered to build recognizable texture and depth over time.

Plant communities reflected fine differences in elevation, salinity, and exposure. Closer to tidal channels and lower flats, grasses adapted to regular flooding formed dense cover that moved with the wind and the passing of water. Slightly higher ground supported shorter, salt-tolerant species that require intervals of exposure. Along the upper reach of tidal influence, coastal herbs and shrubs appeared where freshwater influence increased and flooding became more episodic. The distribution of these plants provided a clear map of how water lingers, how it retreats, and where it returns most reliably.

Knowledge Holders identify these coastal transition areas as important gathering spaces, particularly for plants with cultural and practical value. Sweetgrass is closely associated with the right balance of soil moisture, salinity, and gentle freshwater influence. While distinct stands were not confirmed during the visit, the habitat conditions observed align with places where sweetgrass is known to grow. The approach taken here is to recognize and document suitable conditions rather than to pinpoint locations. This respects both the sensitivity of these plants and the way harvesting is guided by timing, observation, and familiarity rather than by fixed coordinates.

Ecologically, the marsh functions as a hinge between marine and terrestrial systems. Water moving inland with the tide spreads thinly through creeks and across the surface, then withdraws, leaving fine sediments and organic films that are gradually incorporated into soils. Freshwater moving downslope from inland areas slows further within this vegetation, releasing suspended material and blending with saline conditions already present in the ground. The result is a mixing zone where salinity, nutrient availability, and exposure shift predictably with the tide, the season, and recent weather.

This vegetated threshold contributes to stability. Plant stems baffle incoming water, reduce energy, and trap sediments, supporting the slow vertical growth that helps marsh surfaces keep pace with change along the coast. At the same time, the marsh exports organic material back to the Basin during ebb tides, seeding nearshore food webs that extend beyond the visible reach of the shoreline. In this way, the marsh is both a recipient and a source. It receives from the land and returns to the sea.

Use of these areas follows the same logic of timing that governs the intertidal flats. Access depends on footing, season, and respect for ground that does not tolerate frequent trampling. Knowledge Holders describe moving carefully through the marsh when conditions allow and returning when they do not. This is not a place for constant traffic but for attentive engagement, where the health of plants and the stability of soil structure guide how and when people enter.

The sensitivity of the marsh is most evident where small changes in water movement or sediment supply alter plant composition and surface condition. Even slight shifts in drainage, channel alignment, or freshwater delivery can move the lines that separate low marsh, mid-marsh, and upper marsh conditions. Because these lines also cue where certain plants thrive and where access is feasible, change in the marsh is both ecological and practical. It affects habitat function and the lived experience of return.

From Partridge Island, the marsh also reads as a connector to inland systems. Salt-influenced vegetation extends toward the Parrsboro River system through low ground that remains damp between tides. These inland pathways matter to species that move between freshwater and marine environments and to people who have long read the land by how water pools, drains, and mixes. The presence of these corridors reinforces that this is not a shoreline with a single, static edge, but a braided surface where multiple lines of water and use converge.

Overall, the salt marsh and coastal vegetation zones around Partridge Island operate as a stabilizing threshold. They hold the shape of the coast against energy from the Basin, filter and transform what arrives from inland, and provide habitat and materials valued in practice and teaching. Their strength lies in balance and restraint, in absorbing movement without hardening into a barrier, and in supporting use without losing the qualities that make return possible.

Habitat 4: Interior Hardwood Forest

As the land rises away from the coastal edge and marsh, Partridge Island changes character quickly. Wind drops, sound softens, and the ground begins to feel settled rather than shifting. Within a short walk the sense of exposure gives way to shelter. Light filters through a continuous canopy, and the forest floor carries a deep layer of leaf litter that holds moisture and muffles step and sound. This interior reads immediately as the island’s place of continuity and return.

The dominant impression is of a mature hardwood system. Sugar maple and yellow birch form most of the canopy, with crowns that are high and well formed and with spacing that suggests a stand allowed to develop without broad recent disturbance. In several areas individual trees show open grown forms and wide lateral spread, indicating long periods with available light and space. The ground layer is rich and dark, with organic material building in place. Moss collects at the bases of larger trees and across downed wood, and the smell of the forest is earthy and cool even on a bright day.

Aspect and shelter divide the interior into distinct rooms. On the north facing side, conditions are cooler and more shaded. Snow persisted here during the visit where it had already disappeared elsewhere, and the ground held moisture visibly longer. Moss cover is stronger and more continuous, and ferns persist in pockets that read as reliably damp. In contrast, the south facing side feels warmer and more open. There is less moss on the surface, more visible leaf litter, and the forest admits a little more light to the understory. In these warmer pockets some shrubs show stress from recent seasons. Dogwood in particular presented with discolouration and canker at higher and drier elevations. As the slope eased and moisture increased lower on the hill, the same shrubs appeared healthier, with the change occurring over surprisingly short distances.

Softwood appears in small, cooler or wetter pockets but does not dominate. Spruce and fir collect where shade and moisture concentrate, adding texture and cover to an otherwise hardwood led system. These conifer patches hold their own microclimate and create small transitions in footing and sound. Coarse woody debris is present throughout, at different stages of decay, helping to retain moisture, build soil, and provide structure for fungi and invertebrates. The forest floor reads as continuous rather than recently disturbed, with litter and logs breaking down in place and with roots holding the slope where it steepens.

Species with cultural and ecological importance are evident within this interior. Yellow birch is present as a mature component of the canopy and as a host for chaga, which was observed in the stand. The presence of chaga signals both the age of individual trees and the forest’s continuity over time. Together with sugar maple, these trees anchor the feel of an old, stable system that has been allowed to carry its own processes forward. Along narrow edges and openings where more light reaches the ground, berry producing species appear in bands. Blueberry and raspberry are most evident in these thin corridors, often where a trail or view line allows a little more sun to reach the floor without opening the canopy broadly.

Wildlife use is visible even when animals themselves are not always present. A porcupine was observed actively feeding in a spruce, with clear signs of feeding on adjacent trees. Bird life is constant across the interior. Crow and raven move through the canopy, woodpeckers announce themselves by sound and by fresh sign on standing timber, and hawk activity and a bald eagle sighting reinforce that the forested interior and its edges are part of a wider feeding and movement system connected to the shoreline and the Basin beyond. These observations align with the forest's structure. This habitat offers cover, thermal refuge, consistent perching and nesting opportunities, and clear travel lines along contours.

The link between forest character and the island’s name is plain when standing within this interior. Knowledge Holders describe Partridge Island as a place where partridge feed within hardwood stands, especially on buds available in mixed and hardwood dominant forests. The visible structure aligns with that understanding. Hardwood abundance, shelter from wind, and accessible ground under a high canopy create conditions that would draw and hold partridge and other wildlife in season. The name reads not as an abstract label, but as a memory anchored in habitat that persists.

Subtle indicators suggest long duration human use without heavy imprint. Open grown crowns on some hardwoods signal that space has been kept workable over time without the broad clearing that would reset the stand. Narrow sightlines to water remain available from select points while the surrounding canopy stays intact. Trails follow sound ground along benches and gentle lines rather than cutting across steep or unstable faces. Berry plants concentrate along these edges where light is slightly higher, implying repeated passage and return rather than one time opening. The forest floor remains continuous and layered. There is no signal of recent, large-scale disturbance. Instead, the pattern is one of restraint and familiarity, where movement and gathering work with what the forest offers.

Health signals are mixed and instructive rather than alarming. The dogwood stress on warmer, higher ground speaks to recent dry conditions and exposure. At the same time, the immediate improvement in lower, moister positions confirms how tightly plant condition is tied to microhabitat on the island. Mature sugar maple and yellow birch appear stable and well formed. Coarse woody debris occurs in enough quantity and variety to maintain soil building processes and to support fungi and invertebrate communities that help carry nutrients forward. In the cooler north facing rooms, persistent snow and deeper moss layers suggest longer moisture retention and a buffered microclimate that may become increasingly important in dry years.

From a use perspective, the interior hardwood forest functions as the island’s anchor. It provides shelter when conditions at the shoreline are severe, offers orientation points and selective outward views when decisions about movement are needed, and supplies materials and species of cultural value. Because the distance from exposed edge to sheltered interior is so short, a person can move from reading the tide to standing in stable cover within minutes. That proximity is part of why the island works as a place of return. It allows observation, movement, and pause to occur in sequence without forcing heavy imprint on any single part of the landscape.

Overall, the interior hardwood forest on Partridge Island presents as a stable, mature, and culturally significant habitat. It holds memory in species that live long and in ground that has not been reset. It supports wildlife and people through shelter, materials, and reliable structure. It is sensitive in familiar ways where aspect and moisture tip the balance for individual plants, yet resilient as a system because canopy continuity, soil building, and small-scale diversity remain intact. In the context of the island as a whole, this interior balances the exposure and movement of the coastal edge, completing the sequence that allows Partridge Island to function as a connected and lived landscape.

HABITAT 5: ELEVATED AREAS, LOOKOUTS, AND TRAVEL CORRIDORS

As the trail rises toward the higher ground of Partridge Island, the forest begins to open in small and deliberate ways. The canopy lifts just enough to allow outward vision, and the slope eases into positions where the island offers perspective without fully exposing itself. These elevated areas do not announce themselves as single destinations. Instead, they occur as a sequence of vantage points, each providing partial views and information before the land closes in again.

From these positions, the relationship between Partridge Island and the wider Minas Basin becomes clear. The water, surrounding headlands, and distances between landforms can be read together rather than separately. What is experienced at the shoreline as sound, wind, and movement becomes visible here as pattern and alignment. The elevated ground allows the landscape to be understood at a broader scale without losing connection to the sheltered interior below.

Visibility from these areas extends across the Basin toward Blomidon, Cape Sharp, and the North Mountain. The alignment between these features is striking. The distance across the water at this point feels narrow rather than expansive, reinforcing the understanding shared by Knowledge Holders that this location functions as a natural crossing and travel corridor. Water here reads as connective space rather than separation, linking places through familiarity and line of sight.

These vantage points support orientation. From above, wind patterns can be inferred from the texture of the water, wave direction, and the movement of birds. Light on the Basin shifts quickly, and changes in weather are easier to read at this scale. This information matters. Decisions about movement, return, or waiting are informed by what can be seen from these positions as much as by what is felt at the shoreline.

Knowledge Holders described Partridge Island as part of a long-standing water-based travel system. Movement across the Basin has always been shaped by tide, wind, and experience rather than by fixed routes. Islands and headlands serve as reference points, allowing travelers to orient themselves, confirm direction, and adjust plans as conditions change. The elevated areas on Partridge Island support this function directly. They provide a place to pause, look outward, and read the broader state of the water before committing to travel.

More recent layers of this movement are also present. Historic ferry routes connecting Parrsboro to communities across the Basin follow the same logic of alignment and crossing. Although technology and frequency of travel have changed, the geographic reasoning has not. The same narrow points, sightlines, and sheltered approaches that supported earlier movement continue to structure later use.

These elevated areas also function as places of teaching and learning. Knowledge Holders spoke about learning to read water by watching how wind, current, bird activity, and light interact across a wide area. Elevated ground allows these lessons to be shared clearly, linking immediate conditions at the shoreline to patterns unfolding farther out in the Basin. From these points, it becomes easier to understand how the island fits within a larger system of movement rather than standing alone.

Importantly, these lookout areas do not show signs of heavy alteration. Openings are narrow and purposeful. Sightlines are maintained without broad clearing, and the surrounding forest remains intact.

This restraint suggests intentional maintenance rather than incidental disturbance. Visibility has been preserved where it matters for orientation and decision-making, while the overall structure of the forest continues to provide shelter and continuity.

The relationship between these elevated areas and the habitats below them is immediate. A person can move from the shoreline to the interior forest to a vantage point within minutes. Information is gathered in layers. Conditions at the water's edge are read first, followed by confirmation from elevation, and then interpreted again within the shelter of the forest. This vertical integration is one of the island's defining strengths. It allows observation at multiple scales without forcing long travel or extensive clearing.

Taken together, the elevated areas and lookouts of Partridge Island serve as points of orientation within a connected land-and-water system. They support safe movement across the Basin, guide decisions through visibility and alignment, and serve as places where knowledge is shared and reinforced. Their value lies not in permanence or occupation, but in perspective. They complete the island's sequence, linking the exposed shore, the sheltered interior, and the outward-facing view into a single, readable landscape.

Harvesting Use Pattern: Fishing, Gathering, Hunting, and Movement

Use of Partridge Island and the surrounding waters is best understood as part of a larger, interconnected pattern rather than as a set of discrete activities tied to fixed locations. Knowledge Holders consistently described this area as a working landscape shaped by timing, conditions, and familiarity, where movement between land and water is as important as any single act of harvesting or gathering. The observations made during Site Visit 2 align closely with this understanding.

Fishing is a central and ongoing use of the waters around Partridge Island. The Minas Basin is understood as an active fishing environment that supports both Indigenous and commercial fisheries, not as separate or opposing systems but as overlapping expressions of long-standing relationships with the water. Present-day fishing activity remains visible along the shoreline and in the nearshore environment, reinforcing that this is not a historic or dormant use, but one that continues to shape how the area is lived and understood.

Lobster fishing stands out as the most visible contemporary expression of this use. Evidence observed along the shoreline, including lobster bands mixed within wrack lines, indicates active fishing activity in the immediate area. These materials appear and disappear with the tides and weather, mirroring the practice's mobile and responsive nature. Their presence reinforces that Partridge Island sits within an active working seascape rather than apart from it.

Beyond lobster, Knowledge Holders described a broader range of species that have historically moved through and continue to use this system. American eel, smelt, gaspereau, and salmon were identified as species that rely on connectivity among inland rivers, estuaries, intertidal zones, and coastal waters. Use of these species is governed by season and movement rather than by permanent sites. The intertidal flats, marsh channels, and nearshore waters function as corridors and staging areas rather than destinations.

Fishing in this area is guided by environmental knowledge. Timing of tides, understanding of currents, awareness of weather shifts, and familiarity with species behaviour all influence when and where fishing occurs. Knowledge Holders emphasized that presence on the water is conditional. People move when conditions allow and wait when they do not. This approach reflects a relationship based on observation and restraint rather than constant access.

Historical references to fish weirs around Partridge Island further illustrate this relationship. These structures required detailed knowledge of tidal flow and fish movement and were designed to work with the Basin's rhythms rather than against them. While weirs were not observed during the site visit, their presence in Knowledge Holder accounts adds depth to understanding how fishing has long been integrated into the place's physical logic.

Use of Partridge Island is not limited to fishing. Plant gathering and hunting are closely tied to adjacent habitats and occur within the same timing-based framework. The salt marsh and coastal vegetation zones support plants gathered when conditions are right, including species of cultural significance. The interior hardwood forest is associated with partridge hunting, reflected directly in the island's name. These uses are seasonal and situational, guided by observation of plant readiness, animal presence, and ground conditions rather than by fixed schedules.

Movement is a form of use in itself. Knowledge Holders described Partridge Island as part of a water-based travel network that connects communities, harvesting areas, and seasonal use locations across the Basin. The island functions as a reference point within this network, offering shelter, orientation, and a place to read conditions. Elevated lookouts sheltered interior spaces, and accessible shoreline all contribute to this role.

Importantly, these uses are not isolated from one another. Fishing, gathering, hunting, and travel are interwoven across the same set of habitats. A trip across the water may include observation of shoreline conditions, checking plant readiness in marsh areas, and reading the forest for signs of animal presence. The value of Partridge Island lies in its ability to support this layering of activities within a compact space.

Knowledge Holders also spoke to changes in how often and how easily places like Partridge Island are accessed. Shifts in settlement patterns, transportation, and daily life have altered the frequency of return, particularly by water. Despite this, the knowledge of routes, timing, and use remains. The island continues to function as a known place within the system, even when visits are less frequent or occur under different circumstances.

Overall, the use of Partridge Island reflects a lived relationship with a connected land and water system. Activities are guided by timing, environmental conditions, and familiarity developed through repeated experience. The observations from Site Visit 2 support this understanding, showing a landscape structured to accommodate movement, observation, and return without requiring heavy imprint. In this way, use is ongoing, adaptive, and grounded in long-standing knowledge that continues to shape how the place is understood today.

Subtle Evidence of Long-Duration Use

Across Partridge Island, signs of long-term human relationships are present, but they do not announce themselves through large clearings, structures, or obvious land modification. Instead, they appear quietly, through patterns that make sense only when read over time. These indicators reflect use that has been repeated, adjusted, and maintained through familiarity rather than imposed through transformation.

Movement across the island follows sound ground. Trails and travel lines curve gently with contour, avoiding unstable slopes, fractured basalt faces, and saturated marsh edges. Routes tighten where footing narrows and open again where the land allows, suggesting choices made repeatedly because they work. These paths do not feel newly cut. They feel reinforced through long use, guided by safety, efficiency, and respect for the ground's limits.

Light enters the forest along narrow corridors rather than through broad openings. Along these edges, berry-producing plants such as blueberry and raspberry appear in modest bands, especially where trails or sightlines pass through. Their distribution suggests repeated passage along the same lines rather than clearing for expansion. The forest canopy remains largely intact, allowing useful plants to thrive without resetting the stand's structure.

Several hardwood trees within the interior forest stand out for their form. Wide crowns and irregular branching patterns indicate long periods where space was available around them. These trees did not grow solely upward in tight competition but also outward, suggesting selective maintenance of workable space rather than wholesale clearing. What is notable is that these open-grown forms occur within an otherwise mature and continuous forest, suggesting restraint rather than extraction.

Yellow birch, in particular, stands as a marker of continuity. Mature individuals with healthy crowns and chaga present both age and stability. These trees signal places that have remained intact long enough to support slow ecological processes and long-term cultural relationships. They are not isolated remnants but part of a forest that has been allowed to carry memory forward.

Sightlines to water and distant landmarks are maintained at specific points on the island. These are not scenic clearings but functional view corridors. They are just wide enough to read wind, water texture, and bird movement across the Basin, while leaving the surrounding forest structure intact. This restraint suggests intention. Visibility has been preserved where it supports orientation and decision-making, and nowhere else.

The forest floor throughout the interior shows continuity. Deep leaf litter, well-developed organic soils, and coarse woody debris in multiple stages of decay indicate that the ground has not been heavily disturbed in recent generations. Standing deadwood occurs in modest amounts, contributing to the habitat without overwhelming the structure. Soil remains held, erosion is limited, and regeneration processes are ongoing. These conditions are consistent with careful, repeated use rather than interruption.

Wildlife presence further supports this reading. Porcupine feeding is localized and does not indicate widespread stress on vegetation. Bird activity is distributed across interior and edge habitats, suggesting that wildlife continues to use the same spaces people move through. The absence of broad disturbance allows these relationships to coexist without conflict.

Along the shoreline, present-day use appears in the same understated way. Lobster bands mixed into wrack lines signal active fishing without defining permanent shore-based sites. These materials arrive and leave with the tide and weather, mirroring the mobile nature of the practice itself. Like the interior indicators, shoreline evidence is transient rather than accumulative.

Taken together, these elements form a consistent pattern. Movement follows sound ground. Edges are kept narrow. Visibility is maintained only where needed. Legacy trees mark workable space. Forest and soil structure remain intact. Use does not overwrite the land but aligns with it. This is the signature of a long-duration relationship.

The absence of a heavy imprint should not be read as the absence of use. It is evidence of a different kind of use, one based on attention, familiarity, and restraint. Partridge Island shows how repeated return can leave a landscape readable, functional, and intact. These subtle indicators confirm that the island has supported movement, harvesting, teaching, and observation over time without losing the qualities that make those practices possible.

Change Over Time

Partridge Island and the surrounding waters are understood as places that have always been moving. Change here is not experienced as a single event but as an ongoing condition expressed through tide, weather, and the slow work of stone and soil. The site visit added detail to that understanding, showing where change is most visible and where it is more subtle but still instructive.

Along the coastal edge, change is written plainly in the basalt face. Fractures, fresh breaks, and fallen blocks resting at the base of slopes indicate active erosion rather than only historic release. Pieces that carry soil and vegetation from above signal recent movement, and the mix of angular stone and crushed material along the shore shows that the breakdown proceeds at multiple scales. Storm energy and freeze–thaw cycles continue to loosen the face, while the tide redistributes what falls, adding to beaches and feeding the intertidal ground with fresh material.

These adjustments at the edge do not stop at the shoreline. When blocks drop and fines accumulate, the shape and firmness of adjacent intertidal surfaces shift. Small channels sharpen or soften, wrack lines reorganize, and the ground alternates between compacted and soft over short distances. The intertidal flats record these changes as texture. They are not fragile in the sense of breaking easily, but they are sensitive to the balance between sediment supply, current, and exposure that keeps them productive.

The salt marsh expresses change more quietly. Its strength lies in moderation, yet even small shifts in water movement or sediment delivery can shift the lines separating low, mid, and upper marsh conditions. Where freshwater pathways are altered, or channel edges adjust, plant communities respond. Taller, flood-tolerant grasses advance or retreat by a few metres. Patches of coastal herbs thin or thicken. The marsh accommodates change by flexing, but its ability to do so depends on continued input of fine material from the inland and coastal areas, and on vegetation remaining dense enough to slow and hold water.

Within the forest, change presents as localized stress rather than a broad reset. On warmer, more exposed positions, dogwood displayed discolouration and canker, particularly at higher elevations where moisture is limited. A short walk downslope brought visible improvement in condition, confirming how tightly plant health is tied to aspect, shelter, and soil moisture on the island. Elsewhere, the signals are of continuity. Mature sugar maple and yellow birch remain well-formed, coarse woody debris is present in multiple stages of decay, and soil building processes continue without interruption.

Patterns of access and movement have also changed over time. Knowledge Holders described a shift away from routine water travel across the Basin as settlement and transportation patterns evolved. The frequency of return may be different, yet the logic of movement endures. The same narrow crossings, the same reference points, and the same reliance on timing and observation still structure how people read and use the place when they are present. The island continues to function as a waypoint and teaching ground, even when the cadence of visits changes.

Species presence reflects similar adjustments in timing rather than wholesale absence. Fish that move between inland waters and the Basin follow seasonal windows that can vary year to year with temperature and flow. Shorebird use aligns with exposure and migration cycles that do not always fall at the same moment each season. Plant readiness in marsh and edge habitats follows moisture and weather patterns that can shift within a year. These variations are recognized as part of a living system and are met with flexibility grounded in experience.

Across these expressions, the through line is continuity beneath change. The island’s sequence from exposed edge to sheltered interior to outward-facing vantage remains intact. Habitat connections hold. The land remains readable. Where erosion changes the shape of the shore, the forest and marsh absorb and redistribute those effects. Where timing shifts for species and weather, familiar vantage points and travel lines still allow safe decisions. The place adapts without losing the relationships that give it structure.

In practical terms, this understanding of change points to what should be watched and respected. Fresh breaks and slumps along the basalt face ask for caution and for ongoing awareness of where material is moving downslope. Intertidal firmness, channel shape, and wrack line position should be read repeatedly, since they organize use and signal shifts in sediment dynamics. In the marsh, plant community edges, small drainage lines, and the condition of upper-marsh benches are reliable early indicators of adjustment. In the forest, aspect-driven stress on shrubs and the continued health of mature hardwoods tell us how microclimate is tilting the balance for individual species.

Taken together, the evidence shows a landscape that continues to carry change without losing its coherence. Partridge Island remains a place that holds exposure and shelter in proximity, that translates tidal movement into usable information, and that supports use based on observation, restraint, and return. The lesson is not to resist change, but to keep the connections strong enough that change can be accommodated while the system stays whole.

Key Findings and Implications

Taken together, the observations from Site Visit 2 and the teachings shared by the Knowledge Holders show that Partridge Island is best understood as a connected, lived system rather than a collection of individual habitats or features. Its significance lies not in any single resource or location. However, in the way multiple environments are arranged in close sequence and remain functionally linked through water movement, species movement, and long-standing human relationships.

One of the strongest findings is the clarity of connectivity across a very small geographic area. Rocky shoreline, intertidal flats, salt-influenced vegetation, interior hardwood forest, and elevated vantage points occur within minutes of one another and operate as parts of a single system. Material moves downslope from the forest to the shore. Water moves inland and outward with the tide. Information about weather, conditions, and timing moves upslope through visibility and sound. This compression allows observation, decision-making, and return to occur without forcing a heavy imprint on any one part of the landscape.

Knowledge Holder teachings align closely with what can be read on the ground today. The shoreline structure supports the harvesting and material use described in the interviews. Intertidal and nearshore areas function as timing-based corridors for species and people. Marsh and coastal vegetation zones reflect the balance required for culturally important plants and for buffering inland areas from tidal energy. The interior forest supports the species, provides shelter, and maintains continuity, as reflected in the island's name. Elevated areas provide the orientation and perspective needed for water-based movement across the Basin. These relationships are not abstract. They are physically present and legible.

A consistent theme across all habitats is that use is governed by timing rather than permanence. Access changes with the tide, season, and weather. Harvesting occurs when conditions align. Movement pauses and resumes based on observation rather than schedule. This timing-based approach is evident in both historical accounts and present-day activity. It allows us to continue without causing disturbance or transforming the land to suit fixed patterns.

Another key finding is the presence of long-duration use without heavy imprint. Evidence of a relationship appears through reinforced travel lines, narrow light corridors, legacy hardwood trees, restrained sightlines, intact forest soils, and transient shoreline indicators. The absence of large clearings or permanent structures should not be interpreted as a lack of use. Instead, it reflects a way of living with the land that prioritizes return, safety, and continuity. The landscape remains readable precisely because it has not been overwritten.

Change is present throughout the system, but it does not undermine its coherence. Coastal erosion continues to reshape the basalt edge. Intertidal and marsh surfaces adjust with sediment movement and water flow. Vegetation health shifts with aspect and moisture. Access patterns evolve as transportation and settlement change. However, beneath these adjustments, the core relationships remain intact. The island still offers exposure and shelter in proximity. It still supports orientation across the Basin. It still connects the inland and marine systems through visible, predictable pathways.

This balance between change and continuity has practical implications. Stewardship here depends less on preserving fixed conditions and more on maintaining connectivity and restraint. Keeping multiple water pathways open, allowing marsh surfaces to flex, retaining forest canopy and soil structure, and respecting timing-based access all support the resilience observed on the island. Where change is inevitable, it can be accommodated without loss if the underlying structure remains whole.

Within the broader Mi'kmaw Ecological Knowledge Study, Partridge Island serves as a focused example of patterns described across the region. It shows how cultural use, ecological function, and landscape structure intersect on the ground. The methods applied here, walking habitat sequences, reading transitions, and braiding observation with Knowledge Holder perspectives, can be extended to other coastal nodes within the study area.

Ultimately, the findings from Partridge Island reinforce that understanding place requires attention rather than extraction. The island continues to function because relationships have been maintained through observation, familiarity, and restraint. Its value lies in its ability to support movement, learning, harvesting, and return within a small, connected space.

4.2 Knowledge Holder Interviews

The MEKS Team's collaborative review of Knowledge Holder interviews for the Bay of Fundy confirms strong alignment with the historical and ecological research summarized in the background chapters, particularly the understanding that Mi'kmaq relationships to place are grounded in Mi'kma'ki as a living, interconnected homeland shaped by tidal systems, coastal shorelines, river networks, and upland forests. Knowledge Holders consistently described the Bay of Fundy not as a singular marine environment but as a dynamic land–water system defined by extreme tidal movement, in which meaning, use, and identity extend across intertidal zones, estuaries, inland waterways, and coastal uplands. This perspective reflects teachings such as weji-sqalia'timk ("we sprouted from"), reinforcing that relationships to these places are rooted in origin, responsibility, and continuity and are not confined to project-specific boundaries.

This relational understanding is further reflected in Mi'kmaw place names, which encode ecological knowledge and guide use of the landscape. Knowledge Holders emphasized that Mi'kmaq is a verb-based language, and that place names describe relationships, actions, and seasonal practices rather than fixed locations. These names act as guides, indicating where to go, when to harvest specific resources, and when certain activities should take place. This includes indicators for when to harvest particular species and ensures sustainable access to food resources throughout the seasons. In this way, place names encode Mi'kmaq Ecological Knowledge and reinforce a sense of responsibility to the land and water. For example, the area known as the Boar's Back is called Wo'qn in Mi'kmaq, meaning "spine," reflecting how the river system runs between Partridge Island and Cumberland Bay. Similarly, Parrsboro is Wktaqamiku'jk, translated as "little causeway." Knowledge Holders also highlighted that other Mi'kmaw place names have cultural significance, referencing oral histories, legends, and geographical conditions. Collectively, the variety of meanings and ecological indicators embedded in these place names demonstrates the depth of Mi'kmaq Ecological Knowledge and the enduring connection to land and water.

Knowledge Holder interviews consistently described the study area as a network of relationships rather than a collection of discrete sites. Rivers, shorelines, intertidal flats, inland lakes, travel corridors, and harvesting locations function together as interconnected pathways that support seasonal movement, teaching, and resource use. Knowledge Holders emphasized that meaning emerges through movement between places rather than from isolated locations themselves, reflecting a Mi'kmaw understanding of landscape as relational and process-based rather than site-based.

Across interviews, Knowledge Holder input corroborates long-standing patterns of seasonal mobility and land use structured by ecological rhythms and water-based travel routes. Rivers, estuaries, shorelines, and uplands were repeatedly identified as interconnected pathways for travel, harvesting, and teaching. Spring and summer activities focused primarily on coastal and riverine environments, while fall and winter movements extended inland for hunting, trapping, and winter harvesting. These accounts align with historical documentation while emphasizing continuity through lived experience. Knowledge Holders spoke of returning to the same river stretches, shorelines, and access points over generations, illustrating Mi'kmaw presence as adaptive, ongoing, and place-rooted rather than episodic.

Waterways within the Bay of Fundy and surrounding river systems were consistently identified as primary transportation corridors connecting districts and communities. Travel was often timed with tides and seasonal conditions, with branching river systems providing direct connections between inland territories and coastal harvesting locations. These routes reinforce Mi'kmaw understandings of rivers as lifeways rather than boundaries, supporting movement, teaching, trade, and access across Mi'kma'ki.

Water was consistently described as the organizing structure shaping movement, harvesting timing, settlement patterns, and teaching locations. Rivers, estuaries, lakes, and tidal shorelines function together as an integrated system supporting access between districts and linking inland and coastal environments. Knowledge Holders emphasized that travel was often planned in relation to tidal timing, lunar cycles, and seasonal water conditions, reinforcing the role of water as a guiding framework for land use rather than simply a travel medium.

Knowledge Holders also emphasized that, within Mi'kmaq Knowledge Systems, water is understood not only as a pathway or a harvesting environment, but also as a living and sacred presence that sustains life and supports relationships between people, species, and place. Water was described as carrying teachings and responsibility, requiring respect through careful use and ceremony. This understanding reinforces that interactions with rivers, estuaries, and coastal waters are guided not only by Mi'kmaq Knowledge of tides and species movement but also by cultural responsibilities grounded in respect, reciprocity, and long-term stewardship. These perspectives reflect a Mi'kmaw worldview in which water functions simultaneously as lifeway, teacher, provider, and relation within the broader living system of the Bay of Fundy landscape.

Knowledge Holders described cyclical seasonal harvesting patterns anchored to river systems and their estuaries. These included fall salmon harvesting, winter eel harvesting, spring harvesting of smelt, gaspereau, and trout, and continued eel and trout harvesting through the summer months. Harvesting techniques were attuned to species behaviour and life cycles, and reflected detailed Mi'kmaq Knowledge collected over generations through observation and practice. Examples included salmon snaring using alder poles, long-spear winter eel harvesting guided by knowledge of mud behaviour and ice conditions, and coordinated communal harvesting supported by spotters positioned along riverbanks or in trees. Knowledge Holders described salmon harvesting as closely tied to environmental timing, noting that harvesting opportunities often occur after water levels settle following major rainfall events. Snaring was described as a preferred harvesting method because it allows fishers to selectively release female salmon carrying eggs while harvesting males, reflecting conservation-minded harvesting approaches grounded in long-term stewardship responsibilities. The salmon populations were remembered as once being more plentiful within the region, and concerns were expressed regarding the condition of future stocks for younger generations.

Knowledge Holders consistently described harvesting decisions as guided by detailed environmental observation, including lunar cycles, storm activity, tidal strength, species behaviour, and seasonal indicators. These observations reflect long-term monitoring practices embedded within Mi'kmaq Ecological Knowledge systems and support adaptive harvesting strategies responsive to environmental change. Safety and environmental reading were also described as foundational teachings, including respect for water conditions, weather change, and fire use within harvesting environments.

Intergenerational learning emerged as a consistent theme across interviews. Knowledge Holders emphasized that "the best way to learn is to do," describing how harvesting skills were learned from parents, Elders, and the broader community beginning in childhood through participation in seasonal activities tied to particular rivers, trails, and harvesting locations. Knowledge Holders also reflected on learning to gather berries and medicines alongside parents and grandparents. They emphasized the importance of maintaining these opportunities so that future generations can continue to develop cultural relationships with the land through direct experience. Knowledge Holders also noted that many medicines are encountered while travelling along rivers and during fishing activities, reinforcing that knowledge is developed through Mi'kmaq use across the landscape rather than through visits to isolated locations alone. Continued access to these places was described as essential to sustaining Mi'kmaq Ecological Knowledge as a living system carried forward through practice rather than instruction alone. These teachings remain central to the transmission of Mi'kmaq Knowledge, reinforcing the importance of access to land and water as living classrooms.

In terms of sustenance use, Knowledge Holder interviews reinforce the diversity and continuity of Mi'kmaq food systems within the Bay of Fundy region. Fishing and harvesting occurred across interconnected freshwater, estuarine, and marine environments and included species such as eel, salmon, smelt, gaspereau, trout, lobster, scallop, clams, and other shellfish. Knowledge Holders emphasized the particular importance of eel within Mi'kmaw food systems, noting that eel harvesting historically supported families through harsh winter months and played a key role in sustaining communities during periods when other food sources were limited.

Knowledge Holders also provided detailed observations on lobster harvesting throughout the Bay of Fundy, describing lobster as an important coastal species that continues to support harvesting across multiple locations in the region. Lobster was described as highly responsive to environmental conditions, particularly wind direction, tidal movement, and changes in water depth, with Knowledge Holders noting that successful harvesting often depends on careful observation of shifting conditions and familiarity with specific seabed features. Shelf-edge transitions and underlying geological structure were identified as influencing lobster habitat distribution, reinforcing the importance of place-based knowledge accumulated through repeated use over time.

Knowledge Holders emphasized that lobster-harvesting locations are often identified through experience and long-term observation rather than through fixed mapping alone. Harvesting success was described as developing through trial and error throughout the seasons, while returning to known areas and adapting to changing conditions. At the same time, Knowledge Holders observed changes in lobster size relative to previous decades, particularly noting that larger lobsters were once more common and are now encountered less frequently within a typical season.

Harvesting activity within the Bay of Fundy was also described within the broader context of balance and sustainability. Knowledge Holders expressed concern about the risks of concentrating harvesting pressure on a single species over time, noting that such focus can contribute to long-term declines if not guided by careful stewardship practices. These observations reflect the continued importance of Netukulimk as a guiding principle, supporting harvesting decisions that sustain both community well-being and ecosystem health.

Knowledge Holders also shared observations regarding species interactions associated with lobster harvesting. Occasional bycatch in lobster traps was reported, including cod, with fewer haddock observations in recent years. Other species observed within harvesting areas included hake, sculpin, wolffish, and increasing numbers of sea urchins in some locations. Marine mammal and seabird sightings were also noted within the Bay of Fundy, including small porpoises, occasional whale sightings, and puffins observed around offshore island areas within the Bay of Fundy. Together, these observations reflect ongoing monitoring of marine conditions through lived experience and reinforce the role of lobster harvesting areas as important locations for broader observations within Mi'kmaq Knowledge Systems.

Knowledge Holders frequently described certain locations within the study area as supporting multiple overlapping functions, including harvesting, freshwater access, transportation, plant gathering, tool stone procurement, and teaching activities. These multi-resource nodes were identified as particularly significant because they supported several aspects of Mi'kmaw life simultaneously. Locations such as Partridge Island and inland lake systems were described as examples of places where ecological diversity and accessibility combined to support sustained intergenerational use.

Land-based harvesting followed seasonal cycles and historically included moose hunting alongside continued deer hunting, bird hunting, and small-game hunting. Berry harvesting and the gathering of culturally important plant materials were also widely described. These practices were consistently characterized as family-based and intergenerational and grounded in observation, experience, and oral teaching. Knowledge Holders emphasized that harvesting continues to support food security and community wellbeing, with fish and game shared among families, Elders, and neighbours and with some harvesting undertaken specifically to prepare for winter use.

Spiritual protocols remain integrated with sustenance harvesting. Knowledge Holders described practices such as tobacco offerings, first-kill rites, and ceremonial uses of species, including eel, as comfort food. These practices reflect a shared respect and responsibility that continues to guide harvesting decisions and reinforce relationships between people and place. These perspectives reflect Netukulimk as a guiding ethic supporting communal sustenance while maintaining ecological sustainability to ensure future access to resources, cultural continuity, and intergenerational relationships.

Knowledge Holder input also emphasized the cultural and spiritual dimensions of the Bay of Fundy landscape. Places within the study area, particularly Partridge Island, were described as areas of multiple use and significance. This includes features such as basalt formations ("grandfather stones"), coastal edges, elevated lookouts, and resource harvesting. Partridge Island is then understood not only ecologically but culturally and spiritually. Knowledge Holders described Partridge Island as a location associated with stories and ceremonial materials, including references to "sweat rocks," and as an area connected to family-based activities occurring around the island over multiple generations. An older stone weir location was also remembered in association with the island, reflecting long-standing harvesting infrastructure within the area.

Knowledge Holders also described volcanic geological features within the Study Area, including basalt formations associated with Partridge Island, Five Islands, Cape Split, and North Mountain, as part of a broader material landscape supporting tool production, fire-resistant stone use, navigation reference points, and survival infrastructure supporting mobility and harvesting across generations. These formations were described not as passive landscape features but as active components of Mi'kmaw technological and cultural practice.

Knowledge Holders explained that spiritually important places are known not only by their location but also by how they feel and the teachings they hold. Meaning is conveyed through stories, experiences, and Mi'kmaw place names that encode history, responsibility, and ecological knowledge, reinforcing the concept of land and language as a form of living cartography. Knowledge Holders emphasized that stories associated with these places function not only as teachings but also as geographic reference systems guiding movement, harvesting, and stewardship responsibilities across districts.

References to culturally significant locations and their continuous land and water use reinforce Mi'kmaq governance responsibilities and obligations for culturally appropriate stewardship. Knowledge Holders emphasized that certain places and practices are irreplaceable, particularly sacred locations, long-used harvesting areas, and travel corridors supporting seasonal movement and teaching. Knowledge Holders also described certain areas surrounding the Bay of Fundy as places of peace, and feeling an increased connection to ancestors, reinforcing the continuity of culture, knowledge, identity, and the presence of those who have come before us within the landscape.

Plant harvesting, as described in interviews, further reflects the integrated nature of Mi'kmaq Ecological Knowledge systems. Sweetgrass was identified as one of the four sacred medicines and remains central to ceremonial, medicinal, and basket-related practices. Knowledge Holders described their traditional growth in estuarine upper salt marsh environments influenced by freshwater inputs. They noted that it is typically the earliest-flowering grass in salt marsh ecosystems, generally flowering in May, and that harvesting traditionally occurs through late July in the district of Sipekne'katik. The MEKS Field Team confirmed the presence of sweetgrass during Site Visit 1; however, Knowledge Holders explained that, while sweetgrass is not as abundant as it has been historically, its presence can often be detected through its scent carried on coastal breezes near marsh environments, reflecting knowledge developed through long familiarity with harvesting areas. While sweetgrass continues to support smudging, braiding, and basketry practices, its continued availability remains closely tied to access to healthy salt marsh environments. Knowledge Holders expressed concern regarding reduced abundance and reduced access associated with habitat loss and climate-related changes affecting marsh systems. Despite these pressures, continued harvesting and use of sweetgrass remain important within Mi'kmaq communities and reflect ongoing cultural responsibilities connected to the protection and respectful use of this sacred medicine.

Knowledge Holders also described the continued use of medicinal plants, including golden thread, hazelnut, willow, peat, and yellow birch. These medicines support treatments for respiratory conditions, infections, pain management, digestive health, and general wellness, and reflect detailed knowledge of habitat conditions, harvesting timing, and preparation methods passed down through generations. These plant-based medicines reflect detailed knowledge of habitat conditions, harvesting timing, and preparation methods passed through generations. Knowledge Holders emphasized that knowing how to identify and harvest medicines properly remains an important responsibility. They expressed concern regarding the condition of some medicine stocks and the potential effects of over-harvesting, where access pressures increase.

White birch was identified as another species of high cultural and practical importance supporting canoe construction, containers, coverings, and craft production. Knowledge Holders described how harvesting timing influences bark properties, with summer-harvested bark serving different purposes than winter-harvested bark. Two primary canoe forms were described: ocean-going canoes designed with raised midsections for strength and stability in coastal waters, and lake-going canoes adapted for inland travel. Canoe construction relied on multiple interconnected resources, including black spruce roots used to sew bark panels together. Animal-derived materials such as bear fat were used to seal seams, demonstrating the integrated relationship between terrestrial and aquatic environments within Mi'kmaq Ecological Knowledge. Canoes were traditionally stored beneath winter ice to prevent the bark from drying and cracking, illustrating the detailed environmental understanding embedded in Mi'kmaq Knowledge Systems.

Basketry and the harvesting of plant-based materials were also described as supporting both cultural continuity and economic livelihood. Black ash was identified as particularly important for basketry production, with white ash sometimes used where black ash has declined. Knowledge Holders shared memories of travelling to surrounding communities to sell baskets, berries, mayflowers, and fir wreaths. These activities demonstrate that harvesting and craft production supported both household subsistence and regional economic participation, reinforcing the Bay of Fundy landscape's role as a working cultural economy rather than solely a subsistence environment.

Knowledge Holder interviews also document environmental change across the study area. Declines in salmon abundance relative to previous decades were widely observed, alongside changes in waterfowl communities and shifts in river form and flow associated with forestry practices. Knowledge Holders also described shoreline erosion, altered sediment movement, and changing ice conditions, all of which are affecting winter harvesting and travel safety.

Concerns related to past tidal power infrastructure were described as particularly significant. Knowledge Holders noted that earlier installations were perceived as harmful to fish populations. These experiences contributed to concerns about fish population health and created uncertainty around the continued safety, reliability, and sustainability of harvesting in affected areas. Even where physical access remains possible, perceived impacts to fish and aquatic ecosystems can influence harvesting decisions and weaken confidence in long-term resource availability. This highlights the importance of understanding impacts not only in biophysical terms, but also in relation to Mi'kmaw harvesting systems and long-term cultural continuity.

Knowledge Holders also emphasized that centralization affected access to harvesting and culturally significant areas throughout the Bay of Fundy landscape. Locations that had been easily used across generations were disrupted through settler expansion and displacement, further compounded by federal centralization policies that attempted to relocate Mi'kmaw families to central reserves. These policies caused lasting disruptions to patterns of movement and land use. Despite these impacts, connections to these places remain active through continued return, teaching, and seasonal use.

Across interviews, Knowledge Holders consistently emphasized the importance of ensuring that future generations retain the opportunity to harvest berries, medicines, fish, and other resources within the Study Area, so that cultural knowledge continues through practice. Concerns regarding declining fish populations, reduced availability of some medicines, and changing environmental conditions were described not only in relation to current harvesting but also to the long-term ability of younger community members to maintain relationships with these places.

Overall, the Bay of Fundy is understood by Knowledge Holders as a living, dynamic system where land, water, species, and people remain inseparable and where knowledge of how to move, harvest, teach, and relate to place continues to guide present and future use.

KNOWLEDGE HOLDER MAP

The following map shows areas and resources of significance identified by Knowledge Holders:

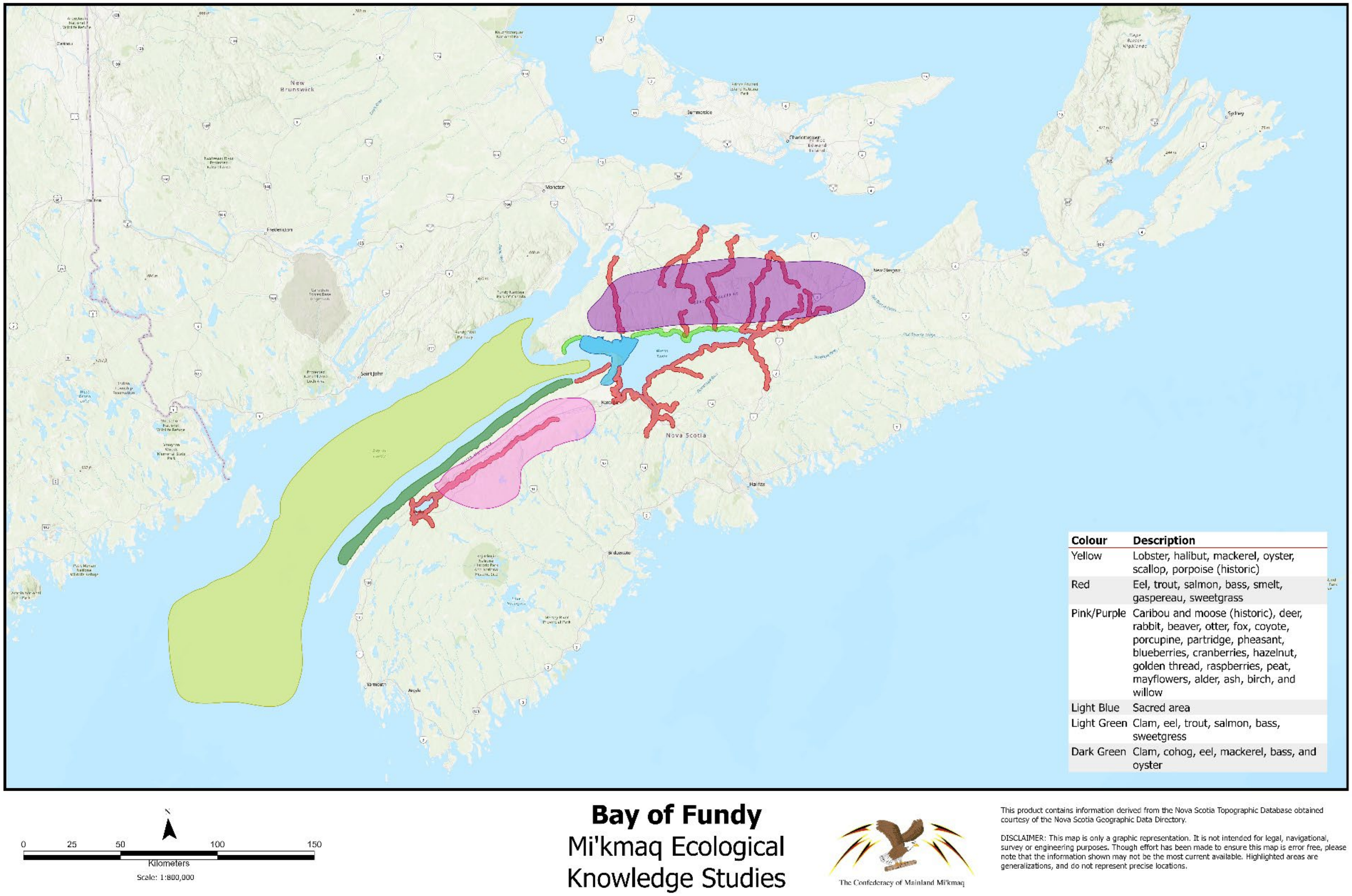

Figure 4-3: Map of Knowledge Holders identified Areas and Resources of Significance

The Knowledge Holder Map was developed using information shared during interviews with Mi'kmaq Knowledge Holders, who identified places of significance and areas fundamental to travel, harvesting, and seasonal movement within the Bay of Fundy region. These locations are not simply access corridors or resource areas, but places imbued with identity, memory, and teaching. The mapped features reflect Mi'kmaq understandings of land and water as living, interconnected systems and together illustrate a cultural landscape shaped by long-standing Mi'kmaq presence and use.

Mapped areas align with the seasonality of well-established activities, with spring and summer focused along rivers, estuaries, and coastal environments, and fall and winter movements extending inland. Knowledge Holders consistently emphasized that the lands and waters surrounding the Bay of Fundy are central harvesting and gathering areas, historically significant and continuing to hold meaning today. Mi'kmaq Knowledge of these places is transmitted intergenerationally through lived experience, observation, and oral teachings, reinforcing a deep understanding of seasonal cycles, abundance, and respectful stewardship.

The pink and purple zones denote communal and Rights-based harvesting of Caribou and moose (historic), deer, rabbit, beaver, otter, fox, coyote, porcupine, partridge, and pheasant, as well as blueberries, cranberries, hazelnut, golden thread, raspberries, peat, mayflowers, alder, ash, birch, and willow. The land-based areas were similarly described as multi-purpose and seasonal. The harvesting practices are integrated across the landscape, reinforcing that Mi'kmaq foodways are informed by detailed knowledge of habitat conditions, access routes, and ecological cycles.

The following mapped sustenance areas include freshwater, estuarine, and marine harvesting locations associated with fishing, shellfish collection, hunting, and plant gathering. The red zone denotes eel, trout, salmon, bass, smelt, gaspereau, sweetgrass. The light green zone reflects harvesting of clam, eel, trout, salmon, bass, and sweetgrass; the dark green zone denotes clams, quahog, eel, mackerel, bass, and oyster. While the yellow zone indicates porpoise (historic), lobster, halibut, mackerel, oyster, and scallop. These harvesting practices are central to sustainability, food security, and the Aboriginal Right to harvest for food, social, and ceremonial purposes.

The light blue zone denotes sacred areas. Areas of cultural and spiritual significance are also delineated within the map. Knowledge Holders emphasized that significance is conveyed through legends, stories, and teachings. Areas associated with ancestral presence, burial, cultural, and ceremonial practice were identified with the understanding that such places carry responsibilities regarding respect, access, and protection.

Taken together, the Knowledge Holder interviews and background research support three central conclusions: Mi'kmaq use of the study area is continuous, intergenerational, and organized through seasonal movement across connected land-and-water systems; Sustenance, cultural, and spiritual practices are inseparable and are carried through language, place-based teachings, and lived experience; and significance is best understood through the potential for impacts to limit access, disrupt culturally important places and practices, or contribute to cumulative change that constrains future Mi'kmaw use within the Bay of Fundy region and the broader Mi'kma'ki landscape.

Consistent throughout the Knowledge Holder interviews, that Mi'kmaq Ecological Knowledge of land and water in the Study Area remains strong and continues to guide harvesting, cultural practice, and connection to place.

5. SUMMARY CONCLUSION

This study indicates that MEK remains strong and ongoing within the Bay of Fundy Study Area, as described by community Knowledge Holders and supported through research and field observations. Relationships to place reflect longstanding patterns of seasonal movement, observation-based use, and intergenerational teaching that continue to guide harvesting, travel, and stewardship today. Traditions related to harvesting, fishing, and using medicinal plants remain grounded in Mi'kmaq Knowledge Systems, emphasizing sustainability, respect, and responsibilities to future generations. Rather than being understood as isolated habitat features, coastal, nearshore, and inland environments function together as part of an interconnected cultural landscape that supports the continuity of Mi'kmaq Knowledge, practices and presence throughout the Bay of Fundy region.

Historical patterns of movement and resource usage demonstrate that waterways of the Bay of Fundy were vital connections among Mi'kmaw communities. The land and marine-based harvestings practices continue to support cultural traditions, economic life, and the transfer of knowledge between generations. Knowledge Holders also noted that environmental change within coastal and marine environments, together with past government centralization policies that restricted seasonal movement and access to traditional areas, may continue to influence patterns of use across interconnected harvesting areas and travel routes. This section consistently stresses the importance of considering cumulative effects across the broader land-and-water system when assessing potential impacts within the study area. Overall, the Bay of Fundy remains part of a living and interconnected cultural landscape where land, waters, species, and people are understood as inseparable, supporting the continuity of Mi'kmaq relationships with place and the ongoing strength of MEK for future generations.

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APPENDICES A: SITE VISIT 1 FIELD REPORT

FORCE Tidal Energy Test Facility – Parrsboro, Nova Scotia
October 3, 2025

Observed by: Matt Chiasson

PURPOSE OF SITE VISIT 1

Site Visit 1 took place on October 3, 2025, as the first field visit for the Mi'kmaw Ecological Knowledge Study at the FORCE tidal energy test facility near Parrsboro. The purpose of this visit was to build a clear, grounded understanding of the site as it exists today. This meant focusing on what the land and water are doing, how the area is structured, and how different parts of the landscape connect.

This visit stands on its own. It was not meant to confirm interview locations or document species in a detailed inventory. Instead, it was a way of reading the landscape through direct observation, paying attention to patterns, transitions, and the types of habitats that support life across the site.

Unlike Site Visit 2, which followed the guidance of the Knowledge Holders, this visit began with the land itself. The field team moved through the site from the upland areas near Cape Sharp, down through the valley corridor, across the salt marsh, and out onto the intertidal shoreline. Moving in this way made it possible to see how each part connects to the next, and how the system works as a whole.

The focus was on how the site functions. This included identifying the main habitat types, understanding where they meet, and observing how water moves across the land. Water was a key part of this, from how it moves down from the uplands, to how it spreads through the valley, and how it meets the tide along the coast. These movements shape the soil, vegetation, and conditions that support wildlife.

Rather than recording species in detail, the team looked at the conditions that support them. Vegetation, soil moisture, drainage patterns, and shoreline features all provided insight into how plants and animals use the site over time. Areas where infrastructure meets the natural landscape were also noted to understand how they interact with existing patterns.

This was a qualitative visit. No formal sampling or counts were completed. The goal was to observe and document the landscape's structure and behaviour, recognizing that the site is continually changing due to weather, tides, and past land use.

Signs of past use were visible across the site. Apple trees, open areas, and patches of early growth suggest that parts of the land were cleared and used at one time, likely for agriculture. These areas now show signs of regrowth, giving parts of the site a different feel than the more established forest nearby.

Following the land from the upland to the coast helped show how everything is connected. Forested areas slow and hold water. The valley carries it downslope. The salt marsh receives both freshwater and tidal flow. The shoreline shifts with the tide, exposing and covering the intertidal zone. Each part plays a role, and none of them functions on its own.

This visit provides a picture of current conditions. It helps identify where water moves, where habitats meet, and where changes are happening. It also establishes a baseline for understanding future observations and supporting the knowledge shared in later stages of the study.

REGIONAL ECOLOGICAL SETTING – PARRSBORO

The FORCE tidal energy test facility is located along the northern shore of the Minas Basin near Parrsboro, within a landscape shaped by coastal uplands, forested ridges, narrow valleys, and wide tidal flats. This setting influences how water, sediment, and species move through the area. Steep slopes lead down to a lower coastal plain, creating a landscape in which different habitats are closely connected over a relatively short distance.

The coastline reflects a long history of geological change. Upland areas near Cape Sharp are defined by more resistant bedrock, which holds its structure and directs water into established drainage paths. As the land drops toward the Basin, soils become more mixed, including glacial deposits and finer sediments shaped over time by water, wind, and ice. This creates a varied surface, with changes in slope, wetter pockets, and areas where water collects or moves more slowly. These conditions influence how vegetation grows and how wildlife moves through the area.

The Minas Basin plays a major role in shaping the landscape. The tides ebb and flow twice daily, reshaping the shoreline each time. This constant movement shifts sediment, exposes and covers the intertidal zone, and mixes freshwater with saltwater along the coast. As a result, the shoreline is not fixed. It is always changing, with mud, sand, and organic material moving and settling in different ways depending on the tide and weather.

From the upland slopes down to the water, the landscape follows a clear pattern. Forested areas sit on higher ground, where trees slow water and help hold soil in place. Water then moves downslope into a valley corridor, where smaller flows converge and flow toward the coast. At the base of the valley, the land opens into a salt marsh, where freshwater meets tidal water. Beyond that, the intertidal zone stretches out toward the Basin, shifting with each tide.

What stands out in this area is how close these features are to one another. The distance from the upland forest to the shoreline is relatively short, which means changes in one part of the system can quickly affect another. Water, sediment, and species move through this system with few barriers, linking each habitat together.

The local climate also shapes the site. Coastal winds, salt spray, and regular moisture influence which plants grow along the shoreline and how far those conditions extend inland. Fog and sea air help moderate temperature, while storms and seasonal changes continue to reshape the coastal edge.

Water movement ties the entire system together. Rainfall and snowmelt move through the upland forest, into the valley, and toward the coast. Along the way, water carries organic material and sediment, feeding into the marsh and intertidal areas. At the same time, tidal waters move inland, creating a meeting point where freshwater and saltwater mix. This interaction creates visible changes in soil and vegetation over short distances.

Human infrastructure is present within this landscape, including the research facility and access road. These features follow the natural shape of the land, particularly through the valley corridor. In some places, they influence how water moves, but overall, the larger patterns of drainage and vegetation remain in place.

This regional setting helps explain why the site functions the way it does. The uplands provide water and organic material. The valley's movement carries that water toward the coast. The marsh holds and filters it. The intertidal zone responds to the tide and connects the site to the larger Basin. Together, these parts form a connected system that shapes the conditions observed during the site visit.

UPLAND MIXED FOREST/HARDWOOD FORESTS AND REGENERATING AREAS

The upland areas within and around the project site show clear signs of past use and ongoing regeneration. Much of the site carries the feel of an old field, once cleared and now left to grow back. This is reflected in the vegetation, which is largely composed of early-successional species and has a more open structure than that of the surrounding forest.

Apple trees are scattered around the site and along adjacent properties. Their presence stands out and points to former agricultural use. These trees are not part of a continuous orchard, but appear in patches, often near openings or along edges, suggesting a landscape that was once worked and has since transitioned. In these areas, the vegetation is younger and more uniform, reinforcing the sense that this part of the site has undergone clearing and regrowth.

The forest structure within the project area differs from that observed beyond it. On site, the canopy is less developed, with fewer large trees and less variation in height and species. In contrast, moving toward the valley corridor and up along the slopes toward Cape Split, the forest becomes more established. There is a noticeable shift to mixed wood and hardwood stands, with greater diversity and a more layered canopy. This contrast helps define the site as a more recently disturbed or altered space within a broader, more mature landscape.

Along the outer edges of the site, particularly toward adjacent properties, the land begins to break down into more defined drainage features. Small creeks and channels cut through the terrain, some of them deeply incised, showing where water has been moving for a long time. In these areas, signs of past clearing remain visible, including apple trees and openings near the edges of these channels. This suggests that even the lower parts of the site were once used, before being reshaped by water movement and erosion.

Vegetation along these edges reflects a mix of conditions. Pioneer species dominate in open areas, while slightly more established growth appears where moisture is more consistent. These edge zones feel active, both in terms of plant growth and water movement, and act as a transition between the more open upland areas and the wetter valley systems below.

Overall, the upland portion of the site reads as a landscape in transition. It holds clear evidence of past human use, while also showing natural processes of regrowth and change. When viewed alongside the more mature forests nearby, the differences in structure, species, and age become more noticeable, helping to place the project site within the larger landscape.

VALLEY CORRIDOR AND DRAINAGE FEATURES

The valley corridor is one of the most active parts of the site. It collects water from the upland areas and moves it downslope toward the coast. This movement is visible on the ground through a network of small streams, drainage lines, and low areas that carry water during rain and seasonal flow.

As the land drops, these drainage features become more defined. In several locations along the outer edges of the site, the ground is cut by deeply incised creeks and channels, indicating where water has moved over long periods of time. These cuts create sharp breaks in the land and form clear pathways that link the upland areas to the coastal edge.

The soils in the valley are wetter and softer than those in the uplands. Water collects and slows here, allowing finer sediments and organic material to settle. Vegetation reflects these conditions, with more moisture-tolerant species present along stream edges and in low areas. These areas feel more sheltered and stable, with less exposure than the open upland portions of the site.

There are also signs that parts of this corridor were used in the past. A roadway descends and follows the valley corridor. This suggests that the valley was not separate from the rest of the site in terms of use, but part of a larger working landscape that has since shifted. Over time, water movement has continued to shape these areas, deepening channels and redefining the ground.

The valley corridor acts as a connection point. Water, sediment, and organic material move through this space, linking the upland areas to the salt marsh and shoreline. This movement is not constant everywhere, but follows the shape of the land, concentrating in certain areas and spreading out in others.

As water moves downslope, it begins to slow and spread before reaching the marsh. The defined channels become less sharp, and the land opens into flatter, wetter ground. This marks the transition into the coastal zone, where freshwater coming through the valley meets the influence of the tide.

Overall, the valley corridor functions as a pathway through the site, shaped by both past and current land use and ongoing natural processes. It carries the effects of the upland areas downslope and plays a key role in connecting all parts of the landscape.

Salt Marsh and Coastal Transition

At the base of the valley, the landscape opens into a salt marsh that forms the transition between inland and coastal environments. This area receives water from the drainage corridor and is influenced by the tides of the Minas Basin. The result is a low, wet landscape where freshwater and saltwater meet and move together.

The marsh surface is uneven, with soft ground, shallow channels, and small pools that shift with changing water levels. These features reflect both steady input from the valley and regular tidal flooding. Water does not stay in one place for long, and the ground shows signs of constant movement and settling.

During the site visit, the marsh supported healthy stands of sweetgrass, indicating stable growing conditions and a functioning system. These areas were most noticeable where the land begins to flatten out from the valley, suggesting that the combination of moisture, sediment, and tidal influence is well balanced there.

The connection between the valley and the marsh is clear. Water moving downslope spreads out as it reaches the flatter ground, slowing and depositing material. This creates the conditions that support marsh vegetation and helps build the surface over time. At the same time, tidal water moves back into the marsh, reshaping channels and influencing where plants can grow.

This transition zone feels active but stable. It holds water, filters it, and supports plant growth that is adapted to these changing conditions. It also marks a shift in the landscape, where the influence of the upland areas begins to give way to the stronger presence of the coastal system.

The marsh is not isolated from the rest of the site. It is directly connected to both the valley and the shoreline, acting as a link between them. Changes in water flow, sediment, or vegetation in one part of the system would be felt here, as the marsh responds to both inland and tidal forces.

Overall, the salt marsh represents a key transition area within the site. It reflects the combined influence of freshwater and tidal movement and supports vegetation that depends on that balance. Its condition during the visit suggests that it is functioning well within the larger landscape.

Intertidal Shoreline and Coastal Edge

The intertidal shoreline marks the outer edge of the site, where land meets the Minas Basin. This area is shaped by constant tidal movement, with water levels rising and falling throughout the day. As a result, the shoreline is not fixed. It shifts with sediment movement, water flow, and changing conditions over time.

The coastal edge is defined by exposed basalt cliffs associated with the Cape Split formation. These cliffs extend along the shoreline and gradually break down, contributing rock and finer material to the beach below. Evidence of this process can be seen in the mix of stone and sediment along the shoreline, where material from the cliffs continues to move and settle.

The beach itself is uneven, composed of a mix of rock, mud, and organic material. This surface changes with the tide, with some areas exposed at low water and covered again as the tide rises. During the site visit, there were clear signs of movement and change, including shifting sediment and areas where material had recently been deposited or removed.

Rockweed was observed along the shoreline, indicating active marine conditions and a functioning intertidal habitat. This type of vegetation attaches to stable surfaces and reflects regular tidal influence, supporting a range of species that rely on nearshore environments.

The intertidal zone connects directly to the salt marsh and valley systems behind it. Water moving from inland flows through the marsh and out across the shoreline, while tidal water pushes back in, influencing the lower edges of the marsh and surrounding ground. This back-and-forth movement links the entire site, from upland to coast.

There are also visible connections between the shoreline and the research site, including infrastructure that runs from the coastal area toward the substation to the north. These features are present along the beach but remain secondary to the larger patterns of natural movement and change.

Overall, the intertidal shoreline is one of the most dynamic parts of the site. It reflects the ongoing interaction between land and sea, where erosion, deposition, and tidal flow continue to shape the landscape. The conditions observed during the visit show an active system, closely connected to both the inland habitats and the broader Minas Basin.

Site Connectivity and System Function

The FORCE site functions as a connected system in which the movement of water, sediment, and organic material links upland, valley, marsh, and shoreline. Each part of the landscape plays a role, but none operates on its own.

Water is the main driver of this connection. It moves from the upland area’s downslope through the valley corridor, carrying sediment and organic matter with it. As it reaches lower ground, it slows and spreads into the salt marsh, where it mixes with tidal water before continuing out into the intertidal zone. This flow connects all parts of the site and helps shape the conditions observed across each habitat.

The land's structure supports this movement. Slopes guide water into drainage channels, the valley concentrates that flow, and the marsh allows it to spread and settle. At the shoreline, tidal action takes over, redistributing material and linking the site to the larger Basin. These processes are continuous and work together over time.

Vegetation across the site reflects these connections. Upland areas support early growth and open conditions, shaped by past clearing. The valley holds more moisture and supports different plant communities. The marsh contains species adapted to both freshwater and saltwater influence, while the intertidal zone supports marine vegetation such as rockweed. Each area responds to its position within the system.

The site also shows how past land use and natural processes overlap. Former agricultural areas in the uplands and along parts of the valley have shifted into regrowth, while water continues to shape the land regardless of past use. These layers are visible on the ground and help explain the variation seen across the site.

Even with infrastructure in place, the overall system remains intact. Water continues to move through the valley, the marsh continues to receive and filter that flow, and the shoreline continues to shift with the tide. These connections are still functioning and can be followed across the landscape.

Overall, the site is best understood as a continuous system rather than separate habitat areas. The movement of water links the parts together, and the land's structure supports that movement. The conditions observed during the site visit reflect this connection and show how the landscape functions as a whole.

Summary of Observations and Baseline Conditions

Site Visit 1 provides a clear picture of the FORCE site as it exists today. The landscape reflects a combination of past land use and ongoing natural processes, with each part of the site contributing to the system's overall functioning.

The upland areas show signs of former clearing, with apple trees and early growth indicating past agricultural use. These areas remain in a state of regeneration and differ from the more developed forest observed in the surrounding landscape. Moving downslope, the valley corridor collects and carries water through the site, forming defined channels and shaping the ground over time.

At the base of the valley, the land opens into a salt marsh where freshwater and tidal influence meet. This area supports healthy vegetation, including sweetgrass, and shows clear signs of active function. Beyond the marsh, the intertidal shoreline is shaped by daily tidal movement, with exposed basalt cliffs, shifting sediment, and marine vegetation such as rockweed indicating a dynamic coastal environment.

Across the site, water movement connects each of these areas. From upland to coast, the flow of water and material links the landscape together and influences soil, vegetation, and habitat conditions. These connections remain in place despite the presence of infrastructure and past land use.

The observations from this visit establish a baseline understanding of the site's structure and behaviour. They show where transitions occur, how habitats are connected, and where movement and change are most visible. This provides a reference point for future observations and supports the interpretation of information gathered through Knowledge Holder engagement.

Overall, the site reflects a functioning, connected system shaped by both natural processes and human history. The conditions observed during this visit form the foundation for understanding how the area operates within the larger landscape.

Master Habitat and Species List

Upland Forests and Regenerating Areas (Old Field / Early Succession)

Vegetation

- Apple tree
- Mixed turf grasses
- White birch
- Yellow birch
- Red maple
- Sugar maple
- Balsam fir
- Red spruce
- White spruce
- Trembling aspen
- Pin cherry
- Chokecherry
- Mountain ash
- Beaked hazelnut

- Wild raisin
- Lowbush blueberry
- Raspberry
- Blackberry
- Sweet fern
- Goldenrod
- Asters
- Fireweed
- Bracken fern
- Striped maple
- Hobblebush
- Serviceberry

Wildlife

- White-tailed deer
- Snowshoe hare
- Red fox
- Coyote
- Raccoon
- Striped skunk
- Red squirrel
- Chipmunk
- Meadow vole
- Deer mouse
- Porcupine

Birds

- American robin
- Song sparrow
- White-throated sparrow
- Dark-eyed junco
- Blue jay
- American crow
- Common raven
- Northern flicker
- Downy woodpecker
- Hairy woodpecker
- Red-tailed hawk
- Sharp-shinned hawk

Valley Corridor and Drainage Features (Moist / Riparian Areas)

Vegetation

- Drainage channels
- Wet ground vegetation

- Red maple
- Black spruce
- Balsam fir
- Speckled alder
- Willow species
- Mountain holly
- Red-osier dogwood
- Sensitive fern
- Cinnamon fern
- Royal fern
- Marsh marigold
- Skunk cabbage
- Mosses
- Liverworts
- Highbush cranberry
- Jewelweed

Wildlife

- Northern leopard frog
- Green frog
- Wood frog
- Eastern newt
- Garter snake

Birds

- Swamp sparrow
- Red-winged blackbird
- Common yellowthroat
- Alder flycatcher
- Northern waterthrush

Mammals

- Beaver
- Muskrat
- Mink

Salt Marsh and Coastal Transition

Vegetation

- Sweetgrass
- Salt marsh grass
- Smooth cordgrass
- Salt meadow grass

- Glasswort
- Sea lavender
- Seaside plantain
- Sedges
- Rushes
- Sea arrowgrass
- Marsh elder

Wildlife

- Canada goose
- American black duck
- Mallard
- Great blue heron
- Semipalmated sandpiper
- Greater yellowlegs
- Lesser yellowlegs

Invertebrates

- Marine worms
- Mud snails
- Amphipods

Intertidal Shoreline and Coastal Edge

Marine Vegetation

- Rockweed
- Basalt formations
- Knotted wrack
- Bladderwrack
- Irish moss
- Sea lettuce

Invertebrates

- Periwinkle snails
- Blue mussel
- Barnacles
- Green crab
- Rock crab
- Amphipods

Birds

- Herring gull
- Great black-backed gull
- Ring-billed gull
- Double-crested cormorant

Marine Mammals

- Harbour seal
- Grey seal

Aquatic and Fish Species (Connected System)

- American eel
- Gaspereau (alewife)
- Blueback herring
- Rainbow smelt
- Stickleback
- American lobster
- Jonah crab
- Atlantic salmon
- Atlantic tomcod
- Winter flounder

Cross-Habitat and Wide-Ranging Species

Birds

- Bald eagle
- Osprey
- Great horned owl
- Barred owl

Mammals

- Black bear
- Bobcat

Habitat Summary

- Upland regenerating field and forest
- Mixed wood/Hardwood forest (adjacent slopes)
- Valley corridor and riparian zones
-
- Salt marsh
- Intertidal shoreline
- Coastal marine interface

FINAL NOTE

This list reflects species observed during Site Visit 1, as well as those strongly supported by habitat conditions and the regional ecology of the Parrsboro and Minas Basin areas. Species are categorized to distinguish between landscape function and connectivity.

The following photographs provide visual documentation from Site Visit 1 and support the field observations described in this section:

Movement and flow shape the intertidal and beach habitats, where basalt dominates the sediment composition.

Cable access points along the beach connect the offshore tidal generator to the terrestrial system.

Deep incisions formed by concentrated water flow channel downslope toward the shore.

The ridge opens to expansive views of the Minas Basin. Surrounding the FORCE site, cleared areas are transitioning through pioneer species regrowth.

Cape Sharp's upland hardwood forest gently slopes into a valley corridor, linking upland and lowland habitats.

The FORCE Visitor Centre occupies a cleared landscape within a broader transition between upland ridges and valley corridor habitats.

A striped bass head discovered in the salt marsh, evidence of predation and nutrient transfer.

Muskrat tracks visible across the salt marsh.

A central salt marsh pond, bordered by cordgrass and sweetgrass, illustrates the gradual transition from marine and coastal systems to upland terrain. Surrounding marsh connects to a valley corridor and two upland ridges, with Cape Sharp's mature hardwood forest contrasting a nearby disturbed ridge dominated by pioneer species.

Appendices B: Site Visit 2 Field Report

Site Visit 2 Report
Mi'kmaw Ecological Knowledge Study (MEKS)
FORCE Tidal Energy Project Area – Partridge Island / Minas Basin Region
Date & Time: March 11, 2026 10:00 AM – 2:30 PM
Weather Conditions: -3°C, winds moderate from the northwest, sunny with partial clouds
Observers: Matt Chiasson and Mark Prosper

Introduction & Purpose

Site Visit 2 to Partridge Island was guided by Knowledge Holder interviews, which consistently identified this area as important within the Parrsboro region. Unlike Site Visit 1, which focused on establishing a broad understanding of habitat types and ecological transitions across the landscape, this visit was intentionally focused on a single location to understand better how knowledge, use, and the physical environment come together in a specific place.

Partridge Island was selected not only for its location within the Minas Basin, but for the range of connections it holds to coastal and marine environments, to inland systems, and to long-standing patterns of use and movement. Knowledge Holders described this area as part of a larger network of places, where resources, travel routes, ceremonial and seasonal activities are all linked. This includes connections between upland forests, rivers and streams, salt marshes, intertidal zones, and the broader marine environment.

The purpose of this visit was to ground those perspectives in the landscape itself. Rather than conducting a detailed inventory, the approach taken was to observe how the land, shoreline, and surrounding waters reflect the relationships described in interviews. This includes identifying key habitat areas, noting species of significance where possible, and understanding how these spaces function together.

A key part of this visit was recognizing that not all aspects of the system are visible at one time. The Minas Basin is characterized by extreme tidal movements, and many of the habitats and species associated with this area are present or accessible only under certain conditions. As a result, the observations made during this visit represent a moment within a much larger, continuously changing system. Knowledge Holder input is essential in filling these gaps, providing insight into seasonal use, species presence, and changes over time that cannot be captured through a single visit.

This site is also understood through its cultural and historical context. Knowledge Holders spoke to Partridge Island as a place connected to harvesting, travel, and material use. The name itself reflects this relationship, linked to the presence of partridge feeding in the island's hardwood forests, highlighting the connection between species, habitat, and place-based naming. Other elements, such as the presence of basalt ("grandfather stone"), further reinforce the area's cultural significance, connecting the physical landscape to ceremony and tradition.

Importantly, this visit builds on the foundation established in Site Visit 1. The broader understanding of habitat transitions moving from inland forests through freshwater systems and into coastal and marine environments is carried into this site. Partridge Island serves as a focused example of that connectivity, where these transitions are compressed into a smaller area yet remain fully linked.

The structure of this report reflects this approach. Rather than separating ecological, cultural, and use-based information, the sections that follow are organized by habitat areas, with each section integrating:

- field observations

- species of significance
- Knowledge Holder perspectives
- cultural and practical use of the area

This ensures that the site is understood not just as a landscape, but as a place shaped by ongoing relationships between people, species, and environment over time.

SITE CONTEXT & CONDITIONS DURING VISIT

Site Visit 2 to Partridge Island began along the shoreline, approaching the island through a landscape immediately shaped by the tide, exposure, and movement. From the outset, it was clear that this was not a static environment, but one defined by constant change, where what is visible at any given time reflects only a portion of how the system functions.

At the time of the visit, the tide had receded enough to expose large sections of the intertidal zone, revealing mud, sand, and rock extending outward from the island. The scale of this exposure provided a clear view of how the land transitions into the Basin, while also highlighting the limitations of observation, as many of the marine and nearshore habitats identified through interviews would only be active or visible at different tidal stages or while on the water.

Movement along the shoreline required navigating a mix of rocky edges, soft sediment, and areas of accumulated organic material, including seaweed, driftwood, and beach debris. These materials were distributed unevenly, often collecting along natural lines formed by tide and wind. The presence of kelp and other marine vegetation along the upper edges of the tide line suggests regular deposition and movement of material from deeper water into the coastal zone.

The beach area leading toward Partridge Island showed a mix of dark, fine material and coarser rock, much of it influenced by the breakdown of basalt from the island itself. In several locations, the ground appeared compacted and layered, while in others it was soft and shifting underfoot. This variation reflects the ongoing interaction between sediment input, tidal movement, and shoreline erosion.

Looking toward the island, the contrast between the coastal edge and the interior landscape was immediately visible. The outer shoreline appeared exposed and broken, while the upland areas showed a more continuous forest cover. From a distance, the island presented as heavily hardwood-dominated, which aligns with Knowledge Holder descriptions of the area and its connection to partridge habitat.

Along the shoreline and in adjacent areas, there were also visible connections to inland systems. A salt marsh area could be seen extending inland from the coast, linking to the Parrsboro River system. This reinforces the understanding that the island is not isolated, but part of a larger network of water movement, where rivers, streams, and coastal inlets all contribute to the conditions observed at the shoreline. These connections are important not only for sediment and nutrient flow, but for the movement of species such as eel, salmon, gaspereux and smelt, which rely on access between freshwater and marine environments.

Across the water, the presence of Cape Sharp and the North Mountain formation provided additional context. These areas share similar geological characteristics, including basalt formations, and form part of the same broader landscape system. The narrow distance across the Basin at this location highlights its role as a natural travel corridor, a role reinforced by both observations and Knowledge Holder accounts of movement across these waters.

Weather conditions during the visit provided clear visibility, allowing observation of large-scale relationships across the landscape, including shoreline structure, habitat transitions, and connections between landforms. Wind exposure was noticeable, particularly along the coast, shaping vegetation and the overall feel of the environment.

Throughout the visit, it was clear that what could be observed directly was only part of the full picture. Many of the species and uses described in interviews, particularly those related to fishing and marine activity, were not directly visible at that moment but are understood to be active within this system. The conditions present during the visit provided a snapshot of structure and function, which, when combined with Knowledge Holder insight, contribute to a more complete understanding of the area.

This context sets the foundation for the sections that follow, where specific habitat areas are described in more detail, integrating observation with knowledge of use, species presence, and cultural significance.

FIELD OBSERVATIONS – LANDSCAPE & HABITAT STRUCTURE

Habitat 1: Rocky Shoreline, Basalt, and Coastal Edge

The outer shoreline of Partridge Island is defined by exposed rock, fractured ledges, and steep coastal edges, forming a strong visual and physical boundary between land and the Minas Basin. During the site visit, this area stood out immediately not only for its exposure to wind and tide, but for the dominant presence of dark, broken stone along the shoreline and cliff faces.

These formations are consistent with the basalt geology known throughout the Parrsboro region, including nearby Cape Sharp and across to Blomidon. Along the shoreline, the basalt appears in layers and fractured sections, with clear signs of erosion, slumping, and long-term weathering. In several locations, large pieces have broken away from the cliffs and now sit along the beach below, some still holding vegetation from above, showing how recently parts of the land have shifted.

From a field perspective, this creates a shoreline that is unstable in places and constantly changing, shaped by tidal force, seasonal freeze-thaw, and storm activity. The rock transitions from solid ledges into broken material and finer sediment as it moves downslope toward the intertidal zone. This movement of material is part of what feeds and shapes the adjacent coastal habitats.

However, the basalt in this area is not understood only as a physical feature.

Knowledge Holders often spoke of this stone, often called the “grandfather stone,” as carrying cultural and spiritual significance. These stones are used in ceremonies, particularly in sweat lodges, and are recognized for their ability to retain and release heat. The presence of this material in such abundance at Partridge Island was identified as one of the reasons this area has long been important.

This connection shifts the understanding of the shoreline. What may appear as exposed and harsh from a purely physical perspective is also a place of resources and meaning, where the land provides materials used in cultural practice. The basalt here is not isolated; it is part of a larger network of known locations where these stones can be gathered, though Knowledge Holders noted that this area holds a particularly strong presence of them.

At the same time, this shoreline serves as a primary food-harvesting area, providing critical resources. The exposed basalt formations shape the shoreline, influencing water movement, sediment redistribution, and the formation of adjacent habitats, while supporting the growth of key species relied upon for food. The breakdown of basalt adds material to nearby beaches and flats, connecting this area to other productive zones such as mudflats and coastal inlets. Traditionally, this shoreline has been an important harvesting place, with knowledge of when and where to gather resources passed down through generations.

There is also a spatial relationship between this shoreline and the island's interior. While the outer edge is exposed and broken, it transitions quickly upslope into more stable ground, eventually supporting a hardwood-dominated forest. This contrast is important, particularly when considering the name "Partridge Island," which Knowledge Holders linked to the presence of partridge feeding on buds within these hardwood areas. While that relationship is more directly observed inland, it begins with the island's structure, where exposed coastal edges give way to sheltered, productive interior habitats.

From both observation and Knowledge Holder input, this coastal edge is best understood as:

- a place of material importance (basalt/grandfather stone)
- a primary food harvesting area providing critical resources.
- a zone of active change and erosion
- a structural boundary shaping surrounding habitats
- a reference point within the landscape for movement and orientation

A single use does not define it, but by how it contributes to the larger system of relationships that connect land, water, species, and people across the area.

Habitat 2: Intertidal Flats, Tidal Shorelines, and Nearshore Transition Zones

Moving away from the rocky coastal edge, the landscape transitions to intertidal flats and tidal shorelines. These areas extended between the island and the mainland, forming a broad zone of mud, sand, and mixed sediment shaped entirely by the rise and fall of the Minas Basin tides.

At the time of the visit, much of this area was exposed, allowing for direct observation of the surface conditions and material composition. The ground varied from firm, compacted sediment to softer, more saturated mud, with scattered patches of sand and small stone. In some areas, the surface appeared smooth and undisturbed, while in others, subtle signs of movement, such as small depressions, uneven textures, and channels where water had recently receded, were evident.

Along the upper edges of the tidal zone, there was a noticeable accumulation of organic material, including seaweed (kelp), driftwood, and what appeared to be beach hay or salt marsh vegetation. These deposits mark the reach of previous tides and reflect the constant exchange between marine and coastal environments.

Although direct harvesting activity was not observed during the visit, this area aligns closely with what Knowledge Holders described as important for nearshore and intertidal use, particularly for species that depend on these environments. These flats are considered feeding and movement areas, supporting species that are not always visible at the surface but are present in the sediment and tidal waters.

Species of significance associated with this habitat include:

- Soft-shell clams and other shellfish are typically found within mud and sand substrates
- Marine worms and invertebrates, which play a key role in the food web and are often indicated by subtle surface disturbance
- Rainbow smelt and gaspereau, which move through nearshore and estuarine environments seasonally.
- American eel, which travels between freshwater and marine systems, using intertidal and nearshore zones as transition areas

- Shorebirds, which rely on these flats for feeding, particularly during low tide when invertebrates are accessible

These species are not always directly visible during a single visit. However, the habitat conditions strongly reflect their presence, and Knowledge Holders consistently identified these areas as active and important within the system.

There were also indications of possible eelgrass presence in nearshore areas, though not fully confirmed during the visit. Fragments of marine vegetation mixed within shoreline deposits suggest that submerged aquatic vegetation exists within the broader coastal system, supporting fish habitat and stabilizing sediment in areas below the low tide line.

This habitat is also directly connected to inland water systems, including the Parrsboro River and associated streams and marshes. The visible salt marsh area extending inland reinforces this connection, acting as a transition between freshwater and marine environments. These linkages are critical for species that rely on movement between systems and were emphasized in Knowledge Holder discussions as key to understanding how the area functions as a whole.

From a use perspective, Knowledge Holders described these intertidal zones as part of a larger harvesting landscape, not always defined by fixed locations but by conditions, tides, seasons, and species presence. These are places where people would move through, observe, and gather when conditions were right, rather than static or permanent harvesting sites.

There is also an understanding that these areas are sensitive to change. Because they rely on a balance of sediment, water movement, and access, even small shifts in conditions, whether from natural processes or external pressures, can influence how they function and how they are used.

Overall, the intertidal flats and nearshore transition zones represent a key functional area within the Partridge Island system, where land and water meet, supporting species movement, feeding, and harvesting. Observations from the site visit, combined with Knowledge Holder insight, reinforce the importance of these areas as both ecological and cultural spaces, shaped by tide, time, and continued use.

Habitat 3: Salt Marsh and Coastal Vegetation Zones

Moving inland from the intertidal flats, the landscape transitions into areas of salt marsh and coastal vegetation, forming a clear boundary between regularly flooded tidal zones and more stable ground. During the site visit, these areas were visible as low-lying, vegetated sections extending back from the shoreline, particularly in areas connected to inland flow toward the Parrsboro River system.

These marsh areas appeared as flat, saturated ground, with vegetation adapted to both saltwater influence and periodic flooding. The transition from exposed mudflat to marsh was gradual, with zones of deposited organic material, such as seaweed and beach debris, marking the upper extent of the tidal reach. This layering reflects the constant interaction between water movement and plant growth, where each tide contributes to the shaping of the habitat.

Although not extensively walked due to ground conditions, the vegetation and soil structure indicated a functioning salt marsh system, supporting species that rely on these environments for stability, nutrient cycling, and seasonal use. Knowledge Holders identified these areas as important not only ecologically, but also as part of a larger network of harvesting and gathering spaces.

Of particular importance is the presence of sweetgrass, which has strong cultural significance and is traditionally gathered in coastal and marsh environments. While sweetgrass was not clearly defined in dense patches during the visit, there were indications of last season's debris and suitable habitat conditions, with moist soils and potential freshwater influence, which align with where sweetgrass is known to grow.

Other plant species observed within this habitat include:

- Salt marsh grasses and sedges form the dominant ground cover
- Beach hay and coastal grasses, often found along upper marsh edges
- Rosa rugosa (wild rose), observed along coastal margins transitioning into higher ground
- Beach wormwood, noted in proximity to shoreline areas

These plant communities reflect gradients of salt tolerance, elevation, and moisture, with species distributions shifting as conditions become less influenced by direct tidal flooding.

Knowledge Holders described these marsh areas as part of a seasonal-use landscape, where plant gathering, observation, and movement through the area occurred depending on timing and conditions. Like the intertidal flats, these are not fixed-use zones, but places understood through timing, access, and familiarity with the land.

The marsh also plays a critical role in linking inland and coastal systems. Water moving from upland areas through streams, drainage channels, and the Parrsboro River passes through these marshes before entering the Basin. This creates a zone where freshwater and saltwater mix, supporting species movement and contributing to the overall productivity of the coastal environment.

From an observational standpoint, the marsh areas appeared relatively intact, though, like all low-lying coastal environments, they are subject to change due to tidal influence, sediment movement, and external pressures. Knowledge Holders emphasized that these areas are sensitive and that changes in water flow, sediment, or access can affect both plant growth and species use over time.

Overall, the salt marsh and coastal vegetation zones represent a key transitional habitat, supporting both ecological function and cultural use. They act as a bridge between land and water, between inland and coastal systems, and between past and present practices, reinforcing their importance within the broader Partridge Island landscape.

Habitat 4: Interior Forest (Hardwood Dominance, Partridge, and Cultural Use)

As the landscape rises from the coastal edge and marsh, Partridge Island transitions into an interior forest dominated by hardwood species, creating a strong contrast with the exposed shoreline below. During the site visit, this shift was immediate and noticeable, both in terms of structure and overall feeling of the land. The forest provided shelter from wind, increased warmth, and a sense of stability compared to the outer coastal zones.

From a distance and throughout the approach, the island presented as heavily hardwood-dominated, which aligns directly with Knowledge Holder descriptions and the origin of the island's name. Partridge Island is understood as a place where partridge would gather to feed, particularly on the buds of hardwood trees and shrubs. This connection between species, habitat, and naming reflects a deeper understanding of how the land was read and used over time.

Within the forest, the dominant species observed included sugar maple, yellow birch and small pockets of spruce and fir forming a canopy that in most areas appeared mature and well established. The spacing of trees in certain sections suggested older growth characteristics, with large individuals and relatively open understory conditions. In other areas, particularly closer to trail edges or openings, there were signs of younger growth and pioneer species, indicating past disturbance or clearing.

The forest floor varied depending on slope, aspect, and moisture. On the north-facing side, conditions were cooler, wind-exposed, and more shaded, with moss-covered ground and patches of snow still present during the visit. These areas supported a quieter, more stable understory environment. Species such as Christmas fern were observed, along with remnants of other fern species that persist in these cooler, moisture-retaining conditions.

In contrast, the south-facing side of the island showed a noticeable shift in conditions. With increased sun exposure and protection from prevailing winds, this area felt warmer and more inviting, creating a distinct microclimate. Here, vegetation responded accordingly, with less moss cover and more visible leaf litter and ground layer growth. This side of the island also showed clearer signs of past human influence, including small openings and areas where trees had grown outward rather than vertically, suggesting long-term clearing or use.

Within these areas, dogwood was observed, some of which showed signs of stress, including discoloration and canker. This was particularly evident in higher-elevation areas where moisture may be more limited, suggesting recent environmental stress, likely linked to seasonal conditions such as drought. As elevation decreased and moisture increased, the health of these plants appeared to improve, indicating how closely plant condition is tied to microhabitat.

Additional species observed within the forest included black cherry in younger growth areas, as well as spruce and fir in smaller, scattered patches, particularly in lower or wetter sections. These softwood pockets were not dominant but contributed to the overall diversity of the forest structure.

Wildlife presence was also noted during the visit. A porcupine was observed actively feeding in a spruce tree, with additional feeding signs visible on surrounding trees. Bird activity was observed throughout, including crows, ravens, hawks, and woodpeckers, along with a bald eagle observed in the area. These observations reflect a forest that is actively used by wildlife, even within a relatively small and isolated landform.

Of particular importance within this habitat is the presence of yellow birch, which holds known medicinal value and is considered an important species within Mi'kmaq knowledge systems. The age and condition of some of these trees suggest a level of continuity and minimal disturbance in certain areas of the island, reinforcing the idea that parts of this forest have remained relatively intact over time.

There were also clear indicators of past human presence and use within the forest. Large, open-grown trees with wide canopies suggest areas that were once cleared, allowing individual trees to expand outward. These features stand out within an otherwise forested landscape and point to historical activity, even if not immediately visible in other forms.

Berry-producing species such as raspberry and blueberry were noted along trail edges and openings, indicating areas where light reaches the forest floor and supports these plants. These species are often associated with disturbance and regrowth and also represent additional layers of seasonal use and gathering.

Overall, the interior forest of Partridge Island represents a sheltered, productive, and culturally significant habitat, where species, structure, and use are closely linked. It is within this space that the connection between name, species, and place becomes most visible, reinforcing the island's role not just as a physical landscape but as a location understood through long-standing relationships between people and the land.

Habitat 5: Elevated Areas, Lookouts, and Travel Corridors

As the trail rises toward the upper elevations of Partridge Island, the landscape opens into lookout areas and elevated ground that provide clear views across the Minas Basin and surrounding landforms. During the site visit, these locations offered direct line-of-sight to Blomidon, Cape Sharp, and the North Mountain, placing the island within a much larger, clearly connected landscape.

From these vantage points, the distance across the Basin appears narrow, reinforcing what Knowledge Holders described as a well-used travel corridor. The alignment between Partridge Island and Blomidon creates a natural crossing point, one that has been used historically for waterborne travel. This includes travel by canoe, as well as later use through ferry routes connecting communities across the Basin.

Observations from these elevated areas made it clear that this is not an isolated site. Instead, Partridge Island sits within a network of movement, where landforms, water routes, and visibility all work together. The ability to see across to the opposite shore provides orientation, allowing people to read the landscape and navigate through it. This kind of visibility would have been critical for travel, particularly in an environment where tides, weather, and timing all influence when and how movement is possible.

Knowledge Holders spoke to this area as part of a larger travel system, where routes were determined not just by distance, but by conditions and familiarity with the land and water. The positioning of Partridge Island within this system suggests that it functioned as both a reference point and a stopping place, depending on the direction and purpose of travel.

There are also more recent layers of this movement reflected in the landscape. Signage observed during the visit referenced historic ferry routes connecting Parrsboro to communities across the Basin, reinforcing the continued importance of this crossing in more recent history. Even before road development, this area served as a primary route of access, underscoring the region's long-standing reliance on water-based travel.

From an observational standpoint, these elevated areas also revealed patterns in the surrounding landscape, including bands of forest across the North Mountain and the continuation of similar geological formations, particularly basalt, linking Partridge Island to adjacent landforms. This visual continuity supports the understanding that the island is part of a shared geological and ecological system, rather than a separate feature.

In addition to travel and orientation, these lookout areas provide a way to understand the scale of the interconnected habitats described throughout the site visit. From this perspective, it becomes easier to see how upland forests, marshes, intertidal zones, and marine waters all connect and function together across the broader area.

A single use does not define these elevated points, but by their role in understanding and moving through the landscape. They offer perspective, orientation, and connection, linking Partridge Island to surrounding places and reinforcing its role within a larger system of travel, use, and knowledge.

KNOWLEDGE HOLDER USE OF AREA

Knowledge Holders consistently described Partridge Island and the surrounding coastal and marine environments as part of a larger, interconnected use area, where land, water, and species are understood together rather than as separate components. Use of this area is shaped by experience on land and water and defined by a combination of harvesting, movement, observation, and cultural practice, all guided by season, timing, and access.

Fishing remains one of the most prominent and continuous uses of this area. Knowledge Holders described the Minas Basin as an active fishing environment that supports both Indigenous and commercial fisheries, which are not separate in practice but exist along a continuum of use, knowledge, and livelihood. These fisheries reflect both long-standing relationships with the water and present-day activity.

Lobster fishing was identified as a strong and visible component of current use. Evidence of this was observed during the site visit, including lobster bands and related materials along the shoreline, indicating the continued presence and activity of fisheries operating in and around Partridge Island. This aligns with Knowledge Holder accounts of the area as part of an ongoing working landscape.

Beyond lobster, Knowledge Holders spoke to a range of species that have historically and continue to move through and be harvested within this system, including eel, salmon, smelt, and gaspereau. These species depend on connections between inland rivers, estuaries, and coastal waters, underscoring that fishing in this area is not limited to one location but is tied to the movement of species across the entire landscape.

Fishing here is understood through timing and environmental knowledge. Knowledge Holders emphasized that presence on the water is guided by factors such as tides, seasons, and species behaviour. This includes knowing when fish move through certain areas, when tides allow access, and how different parts of the system support different species at different times of the year.

There were also references to fish weirs, including those historically located around Partridge Island. These structures reflect a detailed understanding of tidal flow and fish movement and represent a harvesting approach that works with the natural rhythms of the environment. While not directly observed during the visit, their presence in Knowledge Holder accounts reinforces the depth of knowledge tied to this area.

The coastal and marine environment is not used in isolation, but as part of a broader system that includes intertidal flats, salt marshes, inland rivers, and forested areas. Fishing activity is closely linked to these habitats, particularly where species move between freshwater and marine environments. This highlights the importance of maintaining connectivity across all parts of the system, as changes in one area can directly affect another.

Movement across the water is also a key part of this experience. Knowledge Holders described this area as part of a water-based travel network, where routes across the Basin connect communities, harvesting areas, and seasonal use locations. Partridge Island serves as a point of reference and passage within this system, supporting navigation and orientation rather than functioning as a single destination.

While fishing is a central component of use, it exists alongside other activities, including plant gathering and hunting, which take place within adjacent habitats. The island's hardwood forest, for example, was described as an area associated with partridge hunting, reflecting the broader pattern of multi-resource use across the landscape. The habitats observed during the site visit, coastal edge, intertidal flats, salt marsh, interior forest, and elevated lookouts, each contribute to how the area is used. Knowledge Holders emphasized that these spaces are not used in isolation, but as part of a system where people move between environments depending on what is available and when.

Knowledge Holders also spoke to changes over time, including shifts in access, species presence, and patterns of use. Despite these changes, the knowledge of the water, the species, and the landscape remains strong, continuing to guide how the area is understood and used.

Overall, use of the Partridge Island area reflects a lived relationship with a connected system, where fishing plays a central role but is inseparable from the surrounding land, water, and habitats. The observations from the site visit support this understanding, reinforcing that this is an area defined not just by its resources, but by the knowledge and experience required to use it.

CHANGE OVER TIME

Knowledge Holders understand Partridge Island and the surrounding area as places that have always been changing, though the pace and type of change have shifted over time. Observations from the site visit support this understanding, showing a landscape shaped by both long-term natural processes and more recent disturbance, environmental and access-related changes.

One of the most visible forms of change occurs along the coast and shoreline, where erosion is actively reshaping the land. During the site visit, sections of basalt cliff and shoreline showed clear signs of breakdown and movement, with fallen material present along the beach below. In some areas, large landmasses appear to have separated and shifted downslope, in some cases still holding vegetation from above, reflective of an ongoing process in which the layering of basalt over softer mudstone contributes to instability and gradual collapse over time.

These changes are not new, but Knowledge Holders noted that coastal areas are increasingly sensitive, with shifts in shoreline structure, sediment movement, and exposure becoming more noticeable. This directly affects nearby habitats, particularly intertidal flats and marshes, which rely on a balance between sediment and water movement to function properly.

Changes were also observed within the forest environment, though in more subtle ways. On the south-facing side of the island, dogwood showed signs of stress, including discoloration and cankers, most noticeable in higher-elevation areas, where moisture is likely more limited. These observations suggest that recent environmental conditions, including periods of drought, may be affecting plant health in more exposed areas.

In contrast, lower-elevation, more sheltered areas showed healthier vegetation, reinforcing the idea that small changes in moisture and exposure can influence plant condition. These differences over short distances highlight the landscape's sensitivity to microclimate variation, a sensitivity that Knowledge Holders have long understood through experience on the land.

There were also signs of past human activity within the forest, including open-grown trees and small cleared areas. While not recent, these features indicate that parts of the island were used differently in the past, and have since transitioned back into forest. Knowledge Holders spoke to changing patterns of use, where some areas that were once more actively used are now less frequently accessed.

Access itself was identified as a key factor in change. Knowledge Holders noted that community centralization and shifts in transportation have influenced how often and in what ways areas like Partridge Island are visited. Where travel by water was once common, changes in infrastructure and lifestyle have altered those patterns, even though the knowledge of routes and locations remains.

Changes in species presence and abundance were also discussed. While many species continue to use the area, it is understood that populations and timing may differ from the past, including both terrestrial and aquatic species, particularly those that rely on connected systems between inland waters and the coast.

Despite these changes, Knowledge Holders emphasized that the overall system remains intact. The connections between habitats, forest, marsh, intertidal zone, and marine environment are still functioning, even as individual elements shift over time. The knowledge of how these systems work, when to access them, and how to move through them continues to be carried forward.

From both the observation and Knowledge Holder perspectives, change in this area is not seen as a single event but as an ongoing process influenced by natural forces, environmental conditions, and human activity. Understanding these changes requires looking at the landscape not just as it appears today, but as part of a continuum of use, adaptation, and relationship over time.

Taken together, the habitat areas described above illustrate how Partridge Island functions as a connected landscape rather than a series of discrete environments. Observations made along the shoreline, intertidal flats, marsh, interior forest, and elevated areas are best understood in relation to one another, as water movement, species use, and human activity link these spaces across short distances. While each habitat has distinct characteristics, their proximity and interaction shape how the area is read, used, and returned to over time. The following summary draws these observations together and considers how Knowledge Holder perspectives and field evidence align to describe the overall function, use, and significance of Partridge Island within the broader system.

SUMMARY AND KEY FINDINGS

Site Visit 2 to Partridge Island documented a sequence of closely connected habitats, including an exposed basalt shoreline, intertidal flats, salt marsh transition zones, interior hardwood forest, and elevated vantage points. Observations across these environments, when considered alongside Knowledge Holder perspectives, support an understanding of Partridge Island as a single, integrated system rather than a set of separate ecological features. The visit confirmed that the significance of this area lies not in any one habitat type, but in how these environments occur in close sequence and function together through water movement, species movement, and long-standing patterns of use.

Field observations along the coastal edge showed an actively changing shoreline shaped by fractured basalt, erosion, and tidal force. Fallen blocks at the base of the cliffs, crushed stone along the beach, and layered sediment all point to ongoing geological movement. This process contributes material directly to adjacent beaches and intertidal areas, linking upland and coastal processes. Wrack lines containing kelp and marine vegetation marked recent high tide levels and provided clear indicators of water movement and nearshore productivity. Knowledge Holder perspectives add important context to these observations by identifying the basalt present here as culturally significant material used in ceremony. This reinforces that the shoreline is not only a zone of exposure and erosion, but also a place of provision, observation, and meaning.

Beyond the rocky edge, the intertidal flats opened into a broad zone of mud, sand, and mixed sediment exposed during low tide. The surface conditions varied from firm, compacted ground to softer, saturated areas shaped by receding water. Shallow channels and subtle textural differences reflected repeated tidal drainage and deposition. Although few species were directly visible during the visit, the structure and condition of the intertidal zone align with Knowledge Holder descriptions of these areas as important corridors for species movement and seasonal harvesting. Species such as eel, smelt, gaspereau, shellfish, and shorebirds depend on these environments at specific times, reinforcing that use of this zone is governed by timing and condition rather than permanent occupation.

Salt marsh and coastal vegetation zones formed a gradual transition between the intertidal flats and more stable upland ground. These areas showed saturated soils, low-lying vegetation, and layered organic deposits that reflect repeated tidal influence. Field observations suggest a functioning marsh system that slows water movement, traps sediment, and supports nutrient cycling. Knowledge Holders described these environments as culturally important gathering spaces, particularly for plants that require a balance of saltwater and freshwater influence. While specific plant locations were not confirmed during the visit, habitat conditions observed align with areas known to support culturally significant species when timing and conditions are appropriate. These zones also function as critical connectors between inland water systems and the Basin, supporting species movement and ecological productivity.

Moving upslope from the marsh, the landscape shifted quickly into a sheltered interior forest dominated by hardwood species. Sugar maple and yellow birch formed a mature canopy with relatively open spacing in many areas, suggesting long-term stability and limited large-scale disturbance. Differences in aspect created distinct microclimates across short distances, with cooler, moister conditions on north-facing slopes and warmer, drier conditions on south-facing ground. Signs of localized vegetation stress were observed in more exposed areas, while lower and more sheltered sections appeared healthier. The presence of yellow birch, chaga, berry-producing plants along narrow openings, and consistent wildlife activity indicates a forest that continues to support both ecological function and cultural use.

Knowledge Holder accounts link the name Partridge Island to the presence of partridge feeding within hardwood habitats. Field observations of forest structure and composition align with this understanding, reinforcing the connection between species, habitat, and place-based naming. Subtle indicators of long-term human relationships were present throughout the forest, including open-grown hardwoods, narrow travel lines following sound ground, and maintained sightlines rather than broad clearings. These features suggest repeated, careful use over time that has worked with existing forest structure rather than altering it extensively.

Elevated areas and lookouts provided clear views across the Minas Basin toward Blomidon, Cape Sharp, and the North Mountain. These vantage points place Partridge Island within a broader network of landforms and reinforce Knowledge Holder descriptions of the area as part of a longstanding water-based travel system. From these positions, it is possible to read weather, wind, and water conditions at a larger scale while remaining close to shelter and stable ground. The restraint shown in maintaining these view lines supports the understanding that visibility has been preserved where needed for orientation and decision making without fragmenting the surrounding forest.

Across all habitat areas, use of Partridge Island is best understood as seasonal, responsive, and adaptive. Fishing remains a central activity within the surrounding waters; with present day signs of lobster fishing observed along the shoreline. Knowledge Holders described fishing, plant gathering, hunting, travel, and teaching as interconnected practices guided by tide, season, and environmental conditions. The island functions within this system as a place to observe, confirm conditions, and return, rather than as a permanently occupied site.

Change over time was evident throughout the visit. Coastal erosion continues to reshape the shoreline, contributing material to beaches and intertidal areas. Marsh and intertidal zones remain sensitive to shifts in water flow and sediment balance. Interior forest vegetation showed localized stress likely linked to recent environmental conditions, while overall forest structure remains stable. Knowledge Holders also described changes in access and frequency of use tied to broader social and transportation shifts. Despite these changes, the core relationships between habitats remain intact, and the island continues to function as a readable and workable landscape.

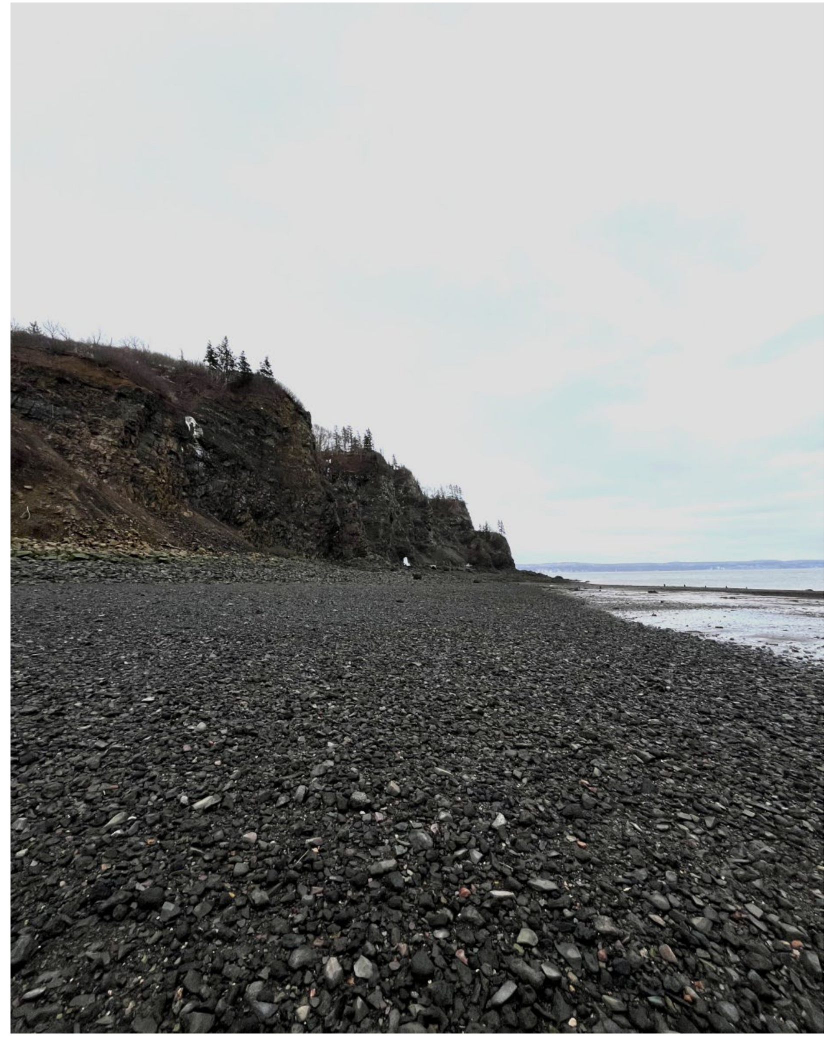
A key finding from Site Visit 2 is that much of what makes Partridge Island important is not immediately visible during a single visit. Seasonal harvesting, species movement, travel routes, and cultural practices depend on timing, repetition, and familiarity with the land and water. Knowledge Holder perspectives are essential for understanding these dimensions and for interpreting field observations within their full context.

Overall, Partridge Island can be understood as a compact, connected system where land and water meet in a way that supports observation, movement, and return. The proximity of shoreline, intertidal flats, marsh, forest, and elevated vantage areas allows people to respond quickly to changing conditions while minimizing disturbance. Evidence of long-term use appears through restraint rather than transformation, reinforcing that the value of this place lies in its connectivity, its readability, and the relationships that continue to link people, species, and environment over time.

Within the broader Mi kmaq Ecological Knowledge Study, Site Visit 2 provides a focused example of how habitat connectivity and cultural use are expressed on the ground. Partridge Island reflects larger regional patterns in a compressed and accessible form, demonstrating how careful observation and Knowledge Holder teachings together provide a more complete understanding of coastal landscapes within the study area.

The following photographs provide visual documentation from Site Visit 2 and support the field observations described in this section:

From the beach and intertidal zone, the view extends toward Partridge Island.



Partridge Island's basalt cliffs rise above a beach composed of variably sized basalt deposits.

Rockfall has deposited larger basalt material at the base of the cliff.

A coastal view showing the intertidal zone, salt marsh, and beach trending inland toward Parrsboro.

Kelp, driftwood and salt marsh grasses accumulate along the wrack line, mixed with lobster bands.

An elevated lookout from the north face of Partridge Island offers views back toward Parrsboro.

From the south face of Partridge Island, an elevated view reveals Cape Blomidon and the North Mountain stretching toward Cape Split.

A westward view toward Cape Sharp shows a collapsed section of cliff with upland vegetation deposited on the beach.

The base of Partridge Island shows signs of clearing and trail disturbance, while old-growth hardwoods occupy higher elevations along the north face.

Evidence of ruffed grouse presence marked by a feather on the trail.

A sharp elevation drop highlights the rapid transition from old-growth upland forest to intertidal shoreline habitats.

An exposed North Face upland forest of yellow birch and sugar maple where wind and shade allow snow to linger.

An exposed North Face upland forest of yellow birch and sugar maple where wind and shade allow snow to linger.

On the warmer south face of the island, a porcupine takes advantage of favorable microclimate conditions.

Signs of an active porcupine include widespread tree debarking along the island's south slope.

On the south-facing side of Partridge Island, old-growth yellow birch dominates the canopy. The forest floor supports well-developed leaf litter, noticeably less moss than the north-facing side, and soils that smell rich and healthy, reflecting a strong buildup of organic material.

Legacy yellow birch display wide lateral branch extension, a clear expression of age and long-term crown expansion in response to open space over time.

The trail descending the north face of the island holds more snow and shows clear indications of long-term use. Limited clearing along the trail edges has introduced subtle edge effects, though overall disturbance is minimal. The trail follows a natural path of least resistance, allowing for safe and efficient traversal of the north face.