

McNABS ISLAND TRAIL SYSTEM PLAN

McNabs and Lawlor Islands Provincial Park



Nova Scotia Department of Natural Resources
2014

McNABS ISLAND TRAIL SYSTEM PLAN

McNabs and Lawlor Islands Provincial Park

In 2013, the Nova Scotia Department of Natural Resources engaged RMA Tourism Ltd to prepare a trail system plan for McNabs Island, part of McNabs and Lawlor Islands Provincial Park. The plan was intended to guide the development and maintenance of a sustainable system of trails on the island. As part of the contract, the consultant was tasked with evaluating existing trails to determine if they were sustainable, properly located and constructed, and offered the desired experience. Where issues with existing trails were noted, RMA Tourism was asked to recommend solutions including, where appropriate, required upgrades with best-practice construction techniques, alternative alignments and, if deemed necessary, abandonment.

In November 2013, RMA Tourism submitted their final report to the Department of Natural Resources. This report proposed an enhanced system of trails for McNabs Island that would improve access to key features of the island and enhance opportunities for experiencing the unique island geography and heritage features.

The report was subsequently reviewed by the Department of Natural Resources and the McNabs and Lawlor Islands Provincial Park Advisory Committee. While in agreement with much of the report, both parties felt that some refinements were necessary before being adopted by the Department. This report therefore represents the revised trail system plan for McNabs Island that has been adopted by the Department of Natural Resources. Significant portions of RMA Tourism's original report have been incorporated in this final trail system plan.

The Department will review the McNabs Island Trail System Plan on a regular basis to ensure it continues to provide consistently high standards of trail experience.

For further information on the McNabs Island Trail System Plan, please contact:

Parks and Recreation Division
Nova Scotia Department of Natural Resources
RR 1, Belmont
Colchester County, Nova Scotia
(902) 662-3030
parkinfo@gov.ns.ca

Table of Contents

1.0 INTRODUCTION	1
2.0 OVERVIEW	2
2.1 Functionality of Existing Trail System	3
2.2 Trail Experience.....	3
2.3 Features	4
Indian Point	4
South Island.....	4
East Side of the Island	5
Parks Canada and Private Inholdings	5
3.0 GEOGRAPHIC ASSESSMENT	5
3.1 Topography and Geology	5
3.2 Coastal Erosion.....	6
3.3 Forest Type and Hurricane Affects.....	6
3.4 People and Heritage.....	7
Key Features.....	8
4.0 TRAIL DESIGN CRITERIA.....	8
5.0 TRAIL CONCEPT	9
Central, Multi-use Corridor	9
Footpaths	9
Trail Alignment.....	10
6.0 TRAIL CONSTRUCTION STANDARDS.....	13
6.1 Central Corridor	13
6.2 Coastal Footpaths (Front Country Standard)	13
6.3 Other Trails (includes connecting and linking road/trails and spur trails).....	13
7.0 DETAILED TRAIL SPECIFICATIONS.....	14
7.1. Central Corridor	14
Garrison Road	14
Old Military Road / Ives Point Road / Lynch Road	17
7.2. Coastal Footpaths	18
Indian Point Loop	18
Culliton Farm Trail – Rifle Range Trail - Searchlight Road.....	19
Green Hill Trail	20

Fort McNab - Searchlight Trail and Connections	21
7.3 Other Trails.....	22
Tea House Lane – Detention Barracks – Jenkins Hill and Area	22
Other Spur Trails	23
8.0 CONCLUSION	23
APPENDIX A: ASSESSMENT OF ROADS (2013)	24
APPENDIX B: SOILS MAP	30
APPENDIX C: GEOLOGICAL MAP	31
APPENDIX D: FOREST COVER MAP (before Hurricane Juan)	32
APPENDIX E: FOREST COVER MAP (post-Hurricane Juan)	33
APPENDIX F: KEY ASSETS FOR TRAIL DEVELOPMENT	34

1.0 INTRODUCTION

In August, 2002, McNabs and Lawlor islands were formally designated as McNabs and Lawlor Islands Provincial Park. In August 2005, the management plan for this new park was approved. The management plan identified McNabs Island as the focus of the park's recreational and visitor activities while Lawlor Island was designated as a natural area. This trail planning document is intended to define a system of recreational trails and corridors on McNabs Island to meet the needs of park visitors.



Since its designation as a provincial park, many old roads and trails on McNabs Island have been identified as trail corridors for non-motorized use while others were deemed suitable for use by park maintenance vehicles. However, the existing system of old roads and trails lacks the attributes of a high quality trail system. Furthermore, some roads and trails are in poor condition and require upgrading. Hurricane Juan damage in 2003 further exacerbated the need to repair the old system.

This trail plan is intended to enable park managers to allocate resources for the upgrading of existing trails and the development of new trail corridors if needed. The plan proposes a trail system for McNabs Island that will create new outdoor recreation opportunities and provide access to the island's heritage sites as well as its outstanding coastal environment. While some of the old roads will continue to be the central corridor for the trail system, the plan includes upgrades to other trails and the construction of several new trail alignments to enhance visitor experiences. These improvements will provide increased opportunities for walking, hiking and coastal exploration and will make the island more of a destination, both for Nova Scotia residents and out-of-province visitors.



The criteria for preparation of a trail plan for McNabs Island were derived from the following:

1. Guidelines for destination trails developed by Atlantic Canada Trails Association (ACT).
2. Input from park stakeholders.
3. The park management plan for McNabs and Lawlor Islands Provincial Park
4. Trail standards defined by the Parks Division of the Nova Scotia Department of Natural Resources.
5. General cost capacity and management issues as set out by the Parks Division.

Management objectives for McNabs Island are set out in the park management plan and can be summarized as follows:

The plan will place an over-riding emphasis on the protection of the islands' significant natural and cultural heritage values. The plan also encourages the development of a range of outdoor recreational and nature-based educational opportunities that are compatible with protection objectives. Through partnerships with other government agencies and non-governmental organizations, the plan envisions McNabs Island as a regionally and provincially significant attraction for both local residents and out-of-province visitors.

Preparation of this trail plan involved a public engagement process that included meetings with Parks Division staff, stakeholders groups, and the McNabs and Lawlor Islands Provincial Park Advisory Committee. The engagement process helped to review the assumptions and overall guiding principles of the trail plan.

This document starts with a descriptive overview of McNabs Island, followed by an assessment of the current trail system. An assessment of the island's geological, biological and heritage values is then undertaken. In consideration of these resources a trail plan is then described, followed by a detailed description of each section of the trail including trail development requirements.

2.0 OVERVIEW

McNabs Island is located at the entrance to Halifax Harbour, clearly visible from the Halifax and Dartmouth waterfronts. Indeed, the island is one of the most prominent landmarks of the Halifax Basin, separating and sheltering the inner harbour from the open Atlantic Ocean. McNabs Island is roughly 5 kilometres long and 1.5 kilometres wide and is situated less than 2 kilometres from the south end of the Halifax Peninsula and about 4 kilometres southeast of the urban centre of Halifax. It is largely forested with typical Acadian forest, a mix of hardwood and softwood. It has about 15 kilometres of coastline including a long sand beach (Maugers Beach) on the west side of the Island.



2.1 Functionality of Existing Trail System

The current trail system on McNabs Island consists of a mix of old roads and trails that provide access to much of the island. Some are historical connections originally developed for military purposes or as trails accessing various tenant farms once scattered throughout the island. Others are of more recent



construction and were developed as recreational use. The trail network is largely linear. It involves a central north-south corridor, formerly a military road, a narrow north end loop, a series of spur trails leading to coastal points, former farm sites or decommissioned utility points, and a south spur along an old rifle range. Consistent with its former function, the Rifle Range Trail is a straight line. Some of the trails are former roads that have fallen into disrepair. In a few cases, road surfaces appear to have settled and they are now saturated with water. Appendix A provides a listing of the roads on McNabs Island with a brief description and assessment of their condition and suitability for trails.

The above map shows the network of old roads and trails existing on McNabs Island at the time of this study.

2.2 Trail Experience

The island's natural landscape, coastal orientation, existing and potential views, historical sites (especially pertaining to the defense of the Halifax seaport), and remnant homesteads, all suggest potential as a significant attraction and recreational resource. Notwithstanding the current state of the roads and trails, the island could offer an outstanding trail experience and become a valuable tourism asset as well as a high value coastal park experience. However, limitations with the existing trail design, deteriorating condition of many of the trails, and lack of visitor aids, particularly way-finding and related signage, currently limit the potential to offer a quality trail experience.

Overall, the existing trail network provides access to most parts of the island. The location and functionality of some of the old roads is fairly good and they represent key elements of the future trail system. However, many have linear alignments that travel through interior parts of the island or are out-and-back spurs. There are few continuous loops that would encourage physical exercise such as coastal walking, longer distance hikes or trail runs.

Large parts of McNabs Island damaged by Hurricane Juan in 2003 are still covered by windfall debris. The island's east side, in the wind-shadow of Timmins Hill and to some extent Green Hill, is an exception that was largely undamaged.

2.3 Features

The north part of McNabs Island has several historic structures including Fort Ives, the island's oldest military site. Fort Ives is fairly well maintained, landscaped and accessible and (together with Ives Point) provides optimal views of the city of Halifax. The nearby Hugonin-Perrin site and Davis-Conrad House are both nicely landscaped park locations.

Linking Fort Ives and Fort McNab (in the central part of the Island) is Garrison Road. This is McNabs Island's principle trail, connecting key access/egress points with many of the heritage experiences. It also provides access to the best beach (Maugers Beach) for swimming and sunbathing. The trail is suitable for all levels of skill and ability and could be adapted for cycling and walking.

At the north end of Maugers Beach, in the central part of the island's western shore, is Garrison Pier, the main docking area for the island. The park management plan has designated this vicinity as a major visitor area. A recently constructed orientation kiosk and composting toilet, along with nearby campsites, provide a basic level of service to island visitors. Close to the camping area are the former Hugonin-Perrin estate and its remnant Victorian gardens. The nearby "Tea House", a popular spot with Island visitors in the 1980s and early 1990s, has been closed for a number of years. This area is fairly well maintained and there is a series of pathways that provide access.

Further south, Fort McNab, a key element of Fort McNab National Historic Site, is in reasonably good condition and appears to have had some work done to prevent deterioration. The fort offers excellent views of the western harbour entrance and shipping channels.

Indian Point

Indian Point, the northeast point of the island, has outstanding views of the inner harbour. However, a private property between Fort Ives and Indian Point has caused access issues. Access to Indian Point has been via the Fraser Farm Trail, an inland corridor that connects to the Timmins Cove Trail. This corridor appears to be lightly used by island visitors.

South Island

The south end of the island includes abandoned farmland with areas of hay-scented fern and filtered views of the water. Few park visitors appear to use this part of the island. Some of the roads are in reasonably good condition while others are wet and in poor condition. Several abandoned military structures are located at the south end of the island, some with inherent safety hazards (e.g. the rifle range target sites).



The park management plan includes reference to the possibility of a significant heron colony on the south part of the island. Wildlife officials were consulted during preparation of this trail plan and indications are that if a colony existed at one time, it may no longer be present. Recent observations based on three field visits to the island's south end, as well as interviews with island visitors who frequent that part of the island, appear to confirm the absence of heron nesting. (Note: This may be confirmed by aerial survey).

East Side of the Island

The east/central side of the island can be accessed by the Timmins Cove Trail but otherwise there are no trails in this area. This area of the island, in the lee of Timmins Hill, escaped the more damaging effects of Hurricane Juan. It is one of the few natural or naturalized areas of forest on the island. It is a sloped terrain oriented towards Eastern Passage. Large parts of the forest are intact with open understory. There are signs of abandoned farmsteads (rock piles and forest openings). The ground is generally even with a firm footing.



Parks Canada and Private Inholdings

Fort McNab, an abandoned military site, is owned by the federal government and designated as a National Historic Site. Two nearby features, the Searchlight Emplacement and the Rangefinder Site, are also part of Fort McNab National Historic Site. In addition, while provincial lands on McNabs Island are designated as a provincial park, the few remaining private inholdings are excluded from that designation. This trail plan does not include the use of any private lands. Nor does it recognize any extraordinary privileges on park property. However, the plan does include a proposed trail corridor through Fort McNab National Historic Site that is subject to approval by the federal government. Otherwise, this plan is intended to define a trail system on provincial park land only.

3.0 GEOGRAPHIC ASSESSMENT

The McNabs and Lawlor Islands Provincial Park management plan provides a detailed overview of the natural history of McNabs Island. In the process of developing this trail plan, a review of that overview was done. This is briefly summarized in this report, making note of implications for trail development.



3.1 Topography and Geology

The landscape of McNabs Island is characterized by a series of hills with intervening areas that are typically low and wet. These hills have a maximum elevation of 50 metres (Jenkins Hill in the centre of

the island), with lower hills at the northwest end (maximum elevation of 30 metres) and at the south end (maximum elevation of 20 metres). The hills are characteristic of a drumlin-type terrain. On the east side of the island, from Timmins Cove to Back Cove, the terrain gently slopes towards Eastern Passage. Protected as it is from erosive wave action, it is not subject to the rapid coastal erosion being experienced at the southern and western parts of the Island.

Soils are stony till, classified as Wolfville series (see Appendix B). They appear reasonably well drained although there are several swamp areas in the interior of the island. A site assessment conducted in support of this trail plan indicated variability in the granular content contained in soils at different locations on the island. This information indicates the potential for using local material for trail tread construction. Generally, soils in the south and west have consistency that is more silt/clay while the north end of the island has a greater prevalence of gravelly material. Trail construction in the north end of the island will benefit from the high quality material in this area.

The geological map (Appendix C) indicates alluvial deposits between and in the vicinity of Timmins Cove and Finley Cove. This was not verified during field work as any sampling done was limited to the top 0.2-0.3 m of soil and to profiles observable on shoreline embankments.

3.2 Coastal Erosion

In developing a trail system plan for McNabs Island, coastal erosion and resulting loss of shoreline was an issue that had to be considered. The publication "*Discover McNabs Island*" provides an overview of the process and rate of coastal erosion. The author suggests that some coastal areas of McNabs Island are eroding at a rate of 2.5 metres per year (250 metres per century). The author also suggests that the rate of erosion is influenced largely by weather events and changes in sea level. Verification of this information is somewhat difficult as aerial photography has only become widespread in the past 50 years, and therefore longer-term comparative assessments must rely on the questionable accuracy of historic maps.

Map images shown in *Discover McNabs Island* indicate that coastal change is dependent on location, with some areas in fact expanding through deposition. The most obvious coastal shoreline loss has occurred on Big Thrumcap at the south end of the island. The east and west sides and the north end of the island are not subject to the same rate of coastal erosion. Sea level change may have a future impact on the island's coastline; however this is beyond the planning horizon of this study.

3.3 Forest Type and Hurricane Affects

The island's forest ecosystem is characterized by a softwood-dominated mixed forest. Prior to Hurricane Juan the island was largely forested. This can be seen in Appendix D as a mosaic of softwood, mixed wood and hardwood stands. There are some



openings and non-forested areas, remnants of a long history of human disturbance. However, impacts of past military use and early farming activity have progressively diminished as the forest and associated vegetation has reclaimed much of the island.

The impacts of Hurricane Juan on island vegetation were extensive and are shown in Appendix E. On more than one third of the island, 70% or more of the trees were blown down. As Appendix E shows, storm damage actually affected a majority of the island's forest. Only a few areas escaped the severe effects of the storm. In particular, the northeast side of Timmins Hill and more generally the eastern edge from Timmins Cove to Doyles Point were not too seriously impacted. This area provides a fairly good representation of the species composition of the island (although a somewhat greater component of hardwood). The north edge also escaped the most damaging effects of the storm.



3.4 People and Heritage

The island's human heritage features include a mix of transient and permanent settlement going back to the pre-European period. In the 18th and 19th centuries as much as half the island may have been cleared for agriculture. Remains of some old farm sites still exist in parts of the island. More than civilian use, the military use of the island is a primary influence on the present configuration of built infrastructure on the island. Principle military sites include Fort Ives, Fort McNab, Strawberry Battery, Fort Hugonin, Searchlight emplacement, Rifle Range pillboxes, Rifle Range target areas, and Detention Barracks.

The following table provides a brief assessment of these sites based on their value as attractions for visitors. This approach considers three criteria: aesthetic quality (including viewsapes, etc.); whether there are inherent safety hazards; and, the interpretive potential of each site.

Site	Aesthetic quality	Safety hazards	Interpretive potential
Fort Ives	High	Minor	High
Fort McNab	Moderate	Minor	High
Strawberry Battery	Moderate	Yes	Medium
Fort Hugonin	Low	No	Med-low
Search Light Emplacement	Moderate	No	Med-low
Rifle Range pillboxes	Med-low	No	Low
Detention Barracks	Low	No	Medium
Rifle Range target areas	Low	Yes	Low

Fort Ives and Fort McNab are the major attractions and therefore key nodes in the trail system. Strawberry Battery has value as an attraction but only if safety hazards can be resolved. The Detention

Barracks appears to have some interpretive potential, although the physical condition of the site requires further assessment. Other fortifications serve as points of interest. The exception is the rifle range target area, which has inherent hazards and the expense of mitigating these hazards has questionable value as the interpretive potential is somewhat limited.

Key Features

Based on this review, a map of general features was created representing assets for trail design. This map (Appendix F) shows the location of major historic and heritage structures, look-off locations offering key views, areas of contiguous coastal forest and finally, cultivated landscapes with aesthetic and recreational qualities. This was produced as a benchmark planning document that helped to define trail requirements and opportunities.

4.0 TRAIL DESIGN CRITERIA

The guiding principle in trail design is to create a positive experience for trail users. Trail design must also ensure environmental and economic sustainability. In short, they must have the least possible impact on inherent natural values and they must not require significant, ongoing and repetitive maintenance expenditures.

The Atlantic Canada Trail (ACT) partnership developed a destination trail assessment model that can be used to assess the potential of a trail system for tourism. The ACT model includes numerous indicators of trail quality.

Factors that relate to trail design include the following:

1. trail system should be continuous.
2. offers diverse visual perspectives.
3. frequently intersects with and provides varied perspectives of natural elements such as water, extraordinary landforms, etc.
4. frequent access to viewpoints and points of interest.
5. trail alignment should be varied with frequent changes in direction.
6. innovative methods are used to overcome barriers.
7. conflicts between users are minimal.
8. entry points are well marked.

The above offers useful benchmark criteria in the assessment of McNabs Island's existing trails and in proposing new trail alignments. This plan proposes a trail system that more effectively meets these benchmark criteria. The purpose of this trail plan is to enhance the visitor experience and recreational potential of McNabs Island while respecting the conservation ethics of the park.

5.0 TRAIL CONCEPT

The new McNabs Island trail system will consist of 17.5 kilometres of trails including multi-use roads and footpaths. The system will include:

1. **Central multi-use corridor** - consisting of multi-use/service roads that will include a loop at the north end. Cycling will be an option.
2. **Footpaths** with coastal orientation based on a front country standard designed for foot traffic only.
3. **Other trails**, linking roads and spurs.

Central, Multi-use Corridor

This trail plan calls for a consolidation of the existing network of roads and trails into a core system of multi-use connecting trails. This core system will provide accessible links to key historic sites, connect to major access/egress points, beaches, and central park facilities. Roads will be maintained at a standard suitable for walking, hiking and cycling and will also accommodate limited use by park maintenance vehicles. The roads will be designed for one-way vehicle traffic.

Footpaths

The second tier of the trail system will be a network of footpaths, either newly established or along existing corridors, to access natural coastal and forested areas of the island and harbour and ocean views. These footpaths will provide a nature-based experience for outdoor enthusiasts, recreationists and healthy living activities.

These coastal footpaths will be developed as a stacked loop system (in combination with road-trails) allowing visitors to plan an excursion suitable for their level of fitness and time availability. This will provide a way to promote the identity of the island trail experience, especially in the tourism marketplace. The system will require smooth transitions where road-trails and footpaths overlap and intersect.

It is proposed that footpaths be constructed to a standard that is more carefully integrated into the landscape, associated topography and forest ecosystem than the proposed road/trail system. Trail construction standards should be less invasive and largely built on-grade (i.e. over top of sub-soil). This will mitigate the need for archaeological assessment. The corridor will be developed to a front country standard. It is proposed that commercial grade gravel not be used. The use of local aggregate material (to build up the trail tread as needed) will be sufficient. This will eliminate use of costly imported fill and aggregate. The trails should be reassessed after five years. If needed, a top dressing of fine gravel could be added after the trail has been compacted from several years of use. There are a number of cases where existing road corridors offer links to, or can be incorporated into, coastal footpaths.

Trail Alignment

The new trail system alignment is shown in the following figure.



Trail sections included in the McNabs Island trail system plan are outlined in the following table:

	Name	Development Requirements	Users
Central Corridor	Garrison Road: former Range Pier to Fort Ives	Use existing road. Repair, realign and rebuild sections as per specifications below.	Walking, cycling, light maintenance vehicles.
	Old Military Road: Fort Ives to Garrison Road	Use existing military road from Fort Ives to Garrison Road. Use Ives Point Road as is.	Walking, cycling, light maintenance vehicles.
	Lynch Road	Upgrade Lynch Road.	Walking, cycling, light maintenance vehicles.
Footpaths	Indian Point	Build according to front country standards. Use sections of Fraser Farm Trail, Indian Point Trail and Timmins Cove Trail as indicated. Construct Ives Cove By-pass	Walking, hiking.
	Culliton Farm Trail	Build according to front country standards. Upgrade trail to former Range Pier.	Walking, hiking.
	Green Hill Trail	Build according to front country standards. Due to safety issues and expected high maintenance, Green Hill Trail will not connect with Searchlight Trail	Walking, hiking
	Searchlight Trail	Upgrade	Walking, hiking

Other Trails	Timmins Cove Trail (linking trail)	Re-route section as indicated, otherwise upgrade to front country standard	Walking, light maintenance vehicles.
	Colin Stewart and Brow Hill trails	Maintain as they are	Walking
	Fort McNab Trail	Requires federal government approval	Walking
	Jenkins Hill and Detention Barracks	Maintain Detention Barracks Road as is and construct connection to Timmins Cove Trail	Walking.
	Hugonin Estate	Maintain as is with enhancements to improve flow. Discontinue use of 1 section of trail	Walking, cycling.
	Maugers Beach	Maintain trail as is to outflow of McNabs Pond	Walking, cycling.
	Hugonin Point	Clear ROW	Walking, cycling
	Ives Point	Maintain trail as is	Walking, cycling

6.0 TRAIL CONSTRUCTION STANDARDS

Trail development standards are as follows:

6.1 Central Corridor

Right of Way (ROW): 10 metres wide

Roadbed: 4 metres wide

Specifications:

- Where traffic may include heavy vehicles, road should be ditched with a gravel base.

6.2 Coastal Footpaths (Front Country Standard)

ROW: 3 m (except 5 m in areas of young regeneration)

Trail surface: 1 m

Specifications:

- Use local fill as required.
- On slope traverses, build out-sloping side cuts.
- Build frequent grade dips/reversals.
- Use waterbars on ascending or descending slopes.
- Construct rock tread in low areas except puncheon in bogs and swampy areas and where water is at or close to the surface.
- If required, build short bridges (constructed with pressure-treated wood) across narrow stream gullies.

6.3 Other Trails (includes connecting and linking road/trails and spur trails).

ROW: 5 m (except 10 m in areas of young regeneration)

Trail surface: 2 m

Specifications:

- Use local fill.
- Top dress with gravel (sourced locally if possible).
- Trails should be out-sloped and grassed over.
- Build periodic grade reversals.
- Built up tread to prevent water accumulating.
- Limited ditching and culverts may be required in some areas where the trail must cross watercourses.

7.0 DETAILED TRAIL SPECIFICATIONS

7.1. Central Corridor

Garrison Road

Distance: 3,850 metres

Type/standard: Multi-use and Service Corridor

Single lane roadway; gravel base.

ROW: 10 m

Surface width: 4 m

Garrison Road will continue to be the principle trail corridor on the island, acting both as a service corridor and linking pathway. The road links all the main infrastructure locations (as well as key historic and cultural features). It runs much of the island's length, from Back Cove to Fort Ives, passing Fort McNab, McNabs Pond, McNabs Cove, Mangers Beach, Garrison Pier, Fort Hugonin, and Fort Ives.

A large portion of the road was recently rebuilt by the Friends of McNabs Island Society and is in good condition. Some sections are surfaced with gravel suitable for maintenance vehicles and cyclists, and acceptable for walking. Garrison Road will require realignment in two locations due to ongoing coastal erosion and additional work on a third section. These are described in detail below.



Construction Specifications

Maintain the existing corridor as is except repair and realign sections noted below. On existing, maintain ROW at 6 m and remove and conceal debris.

A. 300 m south of Garrison Pier

At this location, the roadbed has settled and there is standing water for approximately 20 m.

- Infill where roadbed has settled below grade with fill from adjacent berm, add culvert if needed.
- Restore and landscape edges of the corridor.
- Add gravel surface.

B. 200 m south to 100 m north of Garrison Pier

The existing roadbed runs along the beach and is subject to storm damage. It is seasonally littered with beach debris and coarse gravel. The new roadbed alignment is generally located just east of the existing road, between the composting toilet and the orientation kiosk. Determination of the final alignment will require additional on-site work.



C. Intersection of Old Military Road, Lynch Road and Garrison Road

As a result of significant ongoing coastal erosion along a 500 metre section of Garrison Road, the intersection of Old Military Road, Lynch Road and Garrison Road will require further evaluation to determine what changes, if any, should be undertaken to address coastal erosion issues. Current use will continue until additional design work is completed.



Old Military Road / Ives Point Road / Lynch Road

Distance: 1,040 metres

Type/standard:

Multi-use and Service Corridor

Single lane roadway

ROW: 4-6 m.

Surface width: 4 m. (see standards for central corridor)

The Old Military Road runs from Fort Ives to Garrison Road (just south of the Farrant Road). It will continue to be part of a multi-use northern loop.

The Old Military Road is in fairly good condition with a hardened base. At the south end, the roadbed is compacted below grade and therefore is a catchment for water. Because of the hard base, however, it has not been damaged by erosion, but this may change over time.

The Lynch Road will continue to link Old Military Road and Garrison. The Lynch Road has a meander and has good aesthetic properties. It also has not compacted below grade the way the Old Military Road has; however, it does not have a hard base and any vehicle use will have to be restricted and monitored.

As previously noted, further design work is required in the vicinity of the intersection of Garrison Road, Old Military Road, and Lynch Road.

Construction Specifications

Old Military Road - Clear ROW to 6 m.

Lynch Road -

- Clear ROW to 4 m.
- Use local fill to top fill and make the existing road level, taking care to maintain sod surface.
- Ensure there are periodic grade dips.



7.2. Coastal Footpaths

Indian Point Loop

Type/standard: Coastal Footpath

Front Country

ROW: 3 m wide, 3 m high

Surface width: 1 m

The Indian Point Loop will include sections of existing roads and pathways, particularly the Fraser Farm Trail, Timmins Cove Trail and the existing Indian Point Trail. This trail plan also includes a significant extension of the latter so that it connects with the Timmins Cove Trail, forming an extensive coastal loop trail offering views of Halifax Harbour and Dartmouth industrial port facilities. The Indian Point Loop also includes construction of a new trail connection to the Old Military Road. This alignment is located 500 m inland of Ives Cove to avoid private property there. It also crosses 200 m of low, slightly swampy, terrain that will require some rock tread and built structures. Some realignment of the eastern section of Timmins Cove Trail is recommended to ensure the trail tread is sustainable. The trail plan also decommissions the former Hermit Trail.

Current conditions consist of fairly even terrain, mixed and regenerating forest with extensive areas of post-hurricane debris. Soils and geology appear suitable for construction. While there may be minimal tread construction, there is gravel till underlay that will provide excellent tread surface material.



Culliton Farm Trail – Rifle Range Trail - Searchlight Road

Type/standard: Coastal Pathway

Front Country

ROW: 3m wide, 3m high

Surface width: 1 m

The Culliton Farm Trail is in fairly good condition, has good visual site-lines and reaches more than half way to the south end of the island. The section of Rifle Range Trail south from the Culliton Road Trail to the intersection of Searchlight Road will remain as part of the trail network as will Searchlight Road. This provides access to the coastal Searchlight Emplacement and enables a trail loop from Garrison Road to Fort McNab and back. Approval of the federal government is required for any sections of these trails located within Fort McNab National Historic Site. This plan also includes provisions to upgrade an existing trail that connects the former site of Range Pier with the Culliton Farm Trail.



Green Hill Trail

Type/standard: Coastal Pathway

Front Country

ROW: 3m wide, 3m high

Surface width: 1 m

Green Hill Trail is a new trail corridor that connects with the Culliton Farm Trail and continues on to Thrumcap Cove, providing visitors with the opportunity to reach the extreme south-end of McNabs Island. The alignment avoids the former rifle range target areas and their associated safety issues, as well as wet ground in that area. Due to ongoing coastal erosion and anticipated high ongoing maintenance cost, a return loop to the Searchlight Emplacement is not supported.



Fort McNab - Searchlight Trail and Connections

Type/standard:

Front Country

ROW: 3m wide, 3m high

Surface width: 1 m

The Searchlight Trail runs from the Searchlight Emplacement northward to Fort McNab National Historic Site where it continues until connecting with the eastern end of the Brow Hill Trail. Conditions at the south end of the Searchlight Trail are wet for 1-200 m. Otherwise, the path is in good condition. The Cliff Trail on the Parks Canada property connects the Searchlight and Colin Stewart trails. It has been maintained in good condition, except at the west corner where an outflow stream has resulted in a low/wet area for approximately 10 m. The Colin Stewart and Brow Hill trails are existing short, multi-use trails that were recently upgraded by the Friends of McNabs. Approval of Parks Canada is required for any trail sections included within Fort McNab NHS.



7.3 Other Trails

Tea House Lane – Detention Barracks – Jenkins Hill and Area

Type/standard

Front Country

ROW 5 m wide, 3 m high

Surface width: 2 m

The area referred to as the Tea House is the site of the former Hugonin-Perrin Estate. Vegetation includes a collection of introduced species, remnants of the old estate gardens. It area includes several short, connecting trails. The designated camping area for McNabs Island visitors is also located here.

The pathways in the vicinity of the Tea House are in good condition. There is some redundancy and the trails system can be simplified. The current path immediately behind the Tea House that leads to Jenkins Hill will be replaced by a new alignment off Timmins Cove Trail that avoids the steep grades. Farrant Road and the Detention Barrack trail section from Jenkins Hill trail to Timmins Cove will be abandoned.



Other Spur Trails

Ives Point Road- **distance:** 275 metres

Hugonin Point Trail - **distance:** 400 metres

Wambolt Trail – **distance:** 200 metres

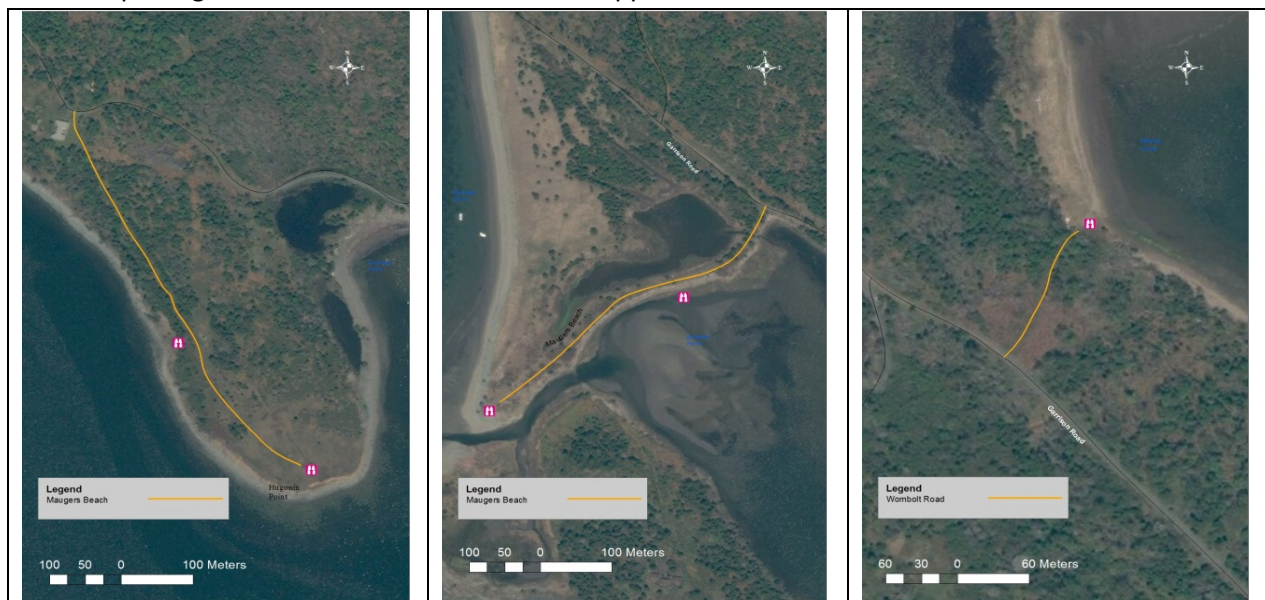
Maugers Beach Trail - **distance:** 360 metres

Type/standard: Front Country

ROW 5 m wide, 3 m high

Surface width: 2 m

These are short trails that provide coastal access off Garrison Road. The Maugers Beach Trail creates a short loop using the beach as a return. The same applies to the Wambolt Trail.



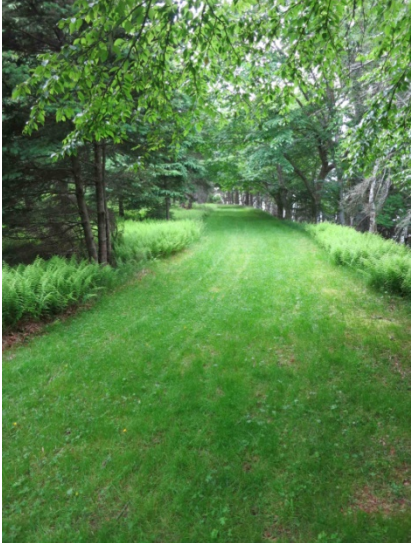


All three trails are in good condition but will require maintenance in the future. The Maugers Beach Trail appears to have significant traffic, whereas there was little evidence of use on the Hugonin Trail. Hugonin requires clearing to ensure the ROW is properly defined. Wambolt and Maugers Beach trails are in fairly good condition and require routine maintenance only. Ives Point Road is in good condition and should be maintained as is.




8.0 CONCLUSION




This plan outlines a system of trails for McNabs Island that will provide improved access to the key features of the island and enhanced opportunities for experiencing the unique island geography and heritage features. The trail system will consist of approximately 17.5 kilometers of trails.



APPENDIX A: ASSESSMENT OF ROADS (2013)


The following is a listing of select roads on McNabs Island at the time of the study with a brief description and assessment of their condition or state of repair.




Name	Location	Assessment	
Ives Point Road	North end of the Island from Fort Ives to Ives Point.	Good, grass covered	
Garrison Road	Fort Ives to Lynch Road	Coastal erosion is threatening to undermine the roadbed in the vicinity of Finlays Cove, otherwise the road is in good condition with a stable gravel base and good site lines and aesthetic properties.	
	Lynch Road to Detention Barracks Road	In this section, the existing road runs along the beach and is subject to storm damage. Coastal erosion is affecting the roadbed and it is seasonally covered with beach debris and coarse gravel. South of Mangers Beach, a 50 m section of road has settled at the level (or below) of the adjacent marsh and is flooded.	

	Detention Barracks Road to Fort McNab	Good	
	Fort McNab to Range Pier	This section of road is fairly good. It is constructed on a slope and ditched on the upside. There are occasional culverts, however they are not effectively diverting water from the ditch and as a result the road is causing erosion at the beach level. Improvements to the culverts will mitigate this problem	
Old Military Road	Fort Ives to Farrant Road	Gravel base (compacted below grade at south end)	

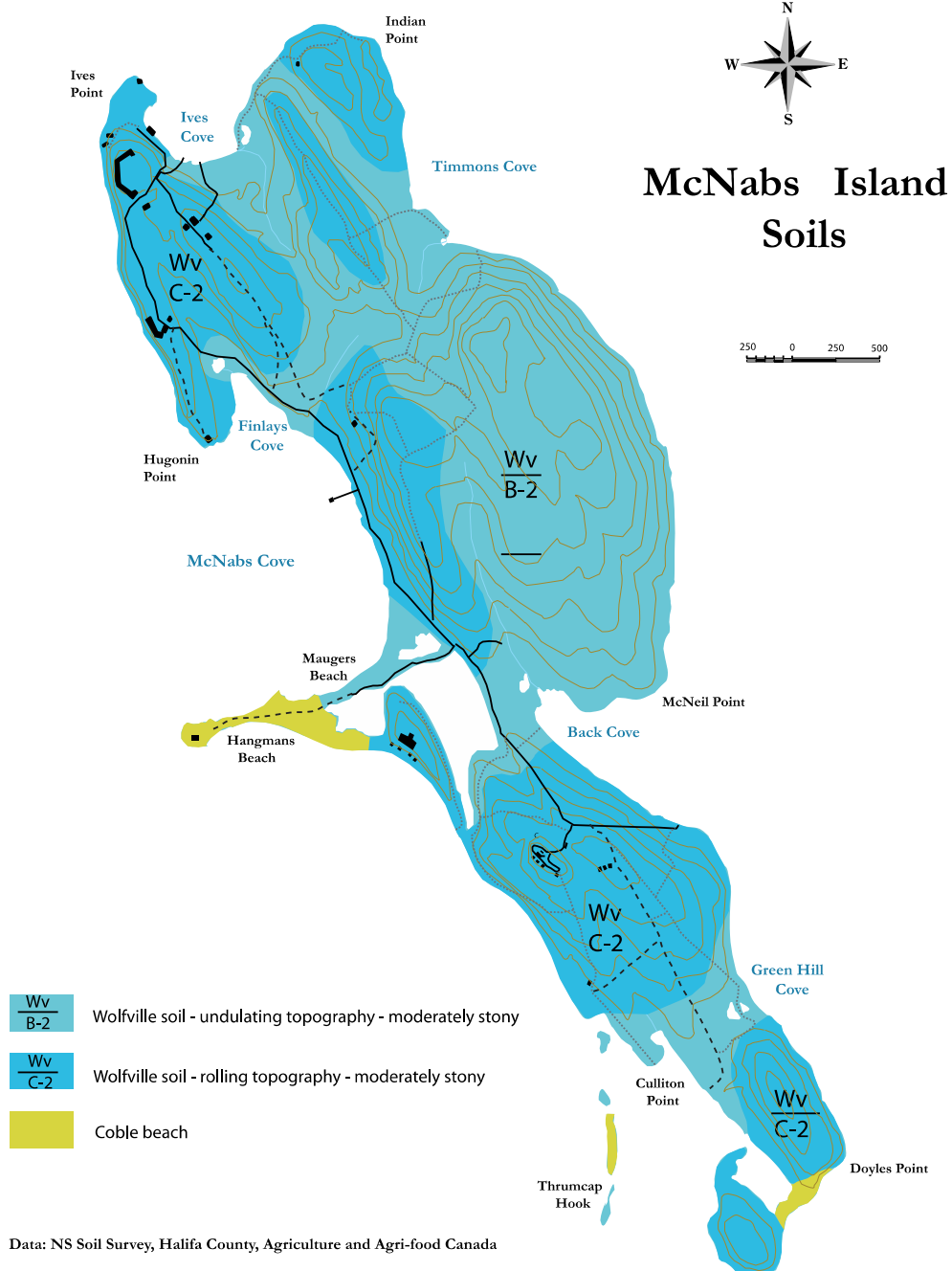
Lynch Road	From Old Military Road to Garrison Road near Finley Cove	Good - natural base (not suitable for heavy vehicles). Slightly rutted in one or two places.	
Farrant Road	Old Military Road to Timmins Cove Road	Good- intermittent gravel base, slightly wet, stoney in places	
Timmins Cove Road	Running east-west (across the island from the Teahouse to Timmins Cove)	Fair to poor – The road has settled and is a catchment for water especially on the sloped section ascending Timmins Hill towards Timmins Cove (east of centre).	

Fraser Farm Trail	Running north-south from the centre of the Timmins Cove Road to Indian Point	Good... slightly overgrown. The old roadbed appears to be out of alignment with the existing trail in some places, however, it is well-drained with generally a stable walking surface.	No photo
Indian Point Trail	Generally running east west across Indian Point	The trail is developed to a fairly low level and is at times difficult to follow, overgrown in places, otherwise, in fairly good condition	No photo
Teahouse roads and trails	Linking Garrison Road to the Teahouse and The Timmins Cover Road	Good	
Detention Barrack Trail	McNabs Pond to the top of Jenkins Hill and continuing towards Timmins Cove	Good condition from Garrison Road to Jenkins Hill, but becomes poor as it turns east towards Timmins Cove.	
Pumphouse	Running east from Garrison Road in the vicinity of McNabs Pond	Good... slightly overgrown	No photo

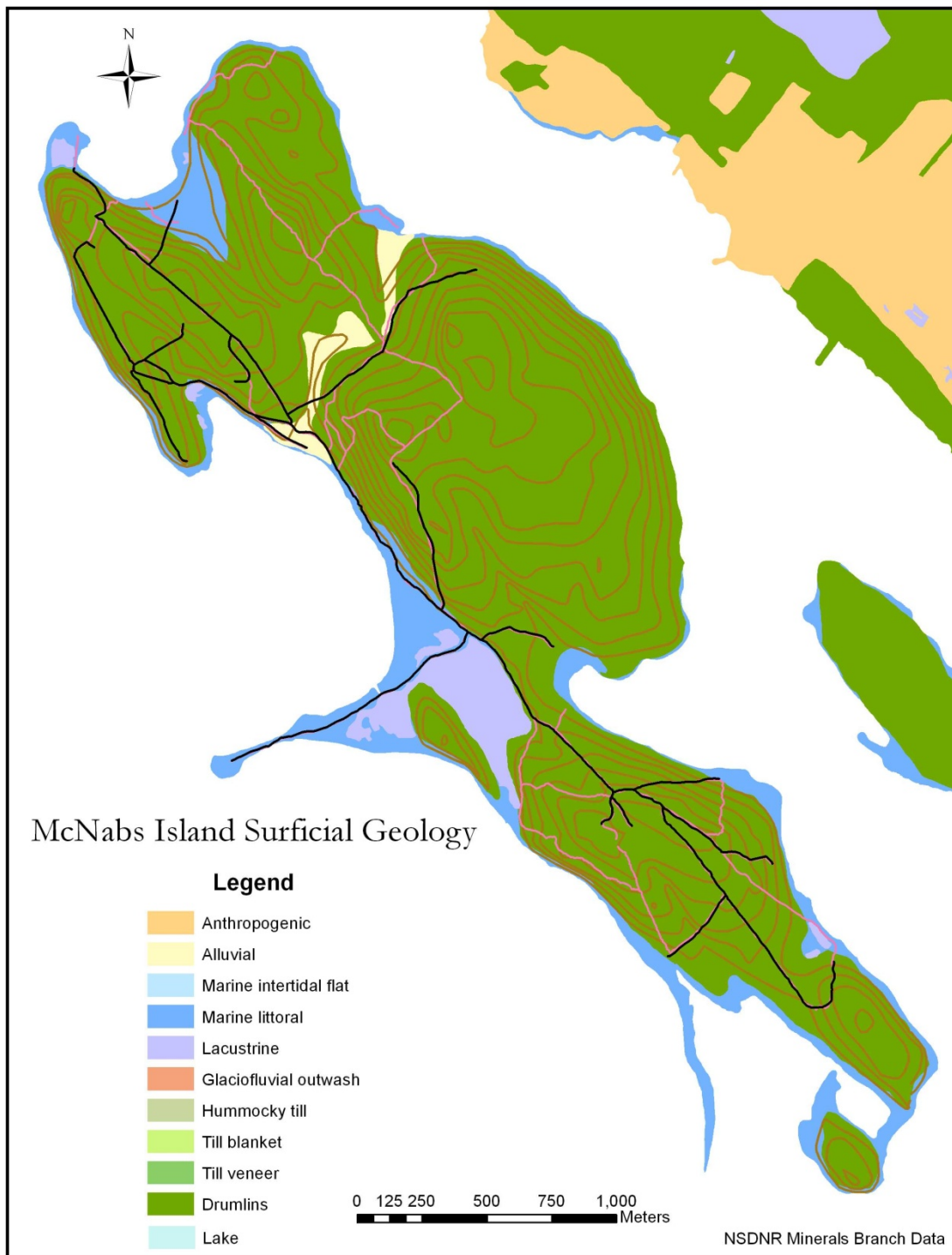
Colin Stewart/ Brow Hill	Runs south from Garrison Road along McNabs Pond, then east along the north perimeter of Fort McNab	Good, gravel	No photo
Wambolt Road	Runs east from Garrison Road to Back Cove	Good	No photo
Maugers Beach Road	Runs west from Garrison Road between McNabs Cove and McNabs Pond.	Good	No photo
Culliton Farm Trail	From Garrison Road to Green Hill Cove	Good- linear grass covered pathway. Somewhat poorly drained in the north part (the ditches may need to be cleared)	
Green Hill Cove Road	Runs east-west from Green Hill Cove to the south end of Rifle Range Road	Good - may require minor improvements. The east end of the road crosses built up earthworks that should be bypassed or excavated.	No photo

Rifle Range Road	From the rifle range firing area to the target area	Fair to Poor – fairly good condition at the north end but wet and almost impassable at south end	
Searchlight Road	Runs west from the centre of Rifle Range Road to the Searchlight Emplacement	Fair- despite tread build-up, eroding	
Searchlight Trail	Runs north from the Searchlight Emplacement to Fort McNab	Fair to good (compacted and wet at south end)	

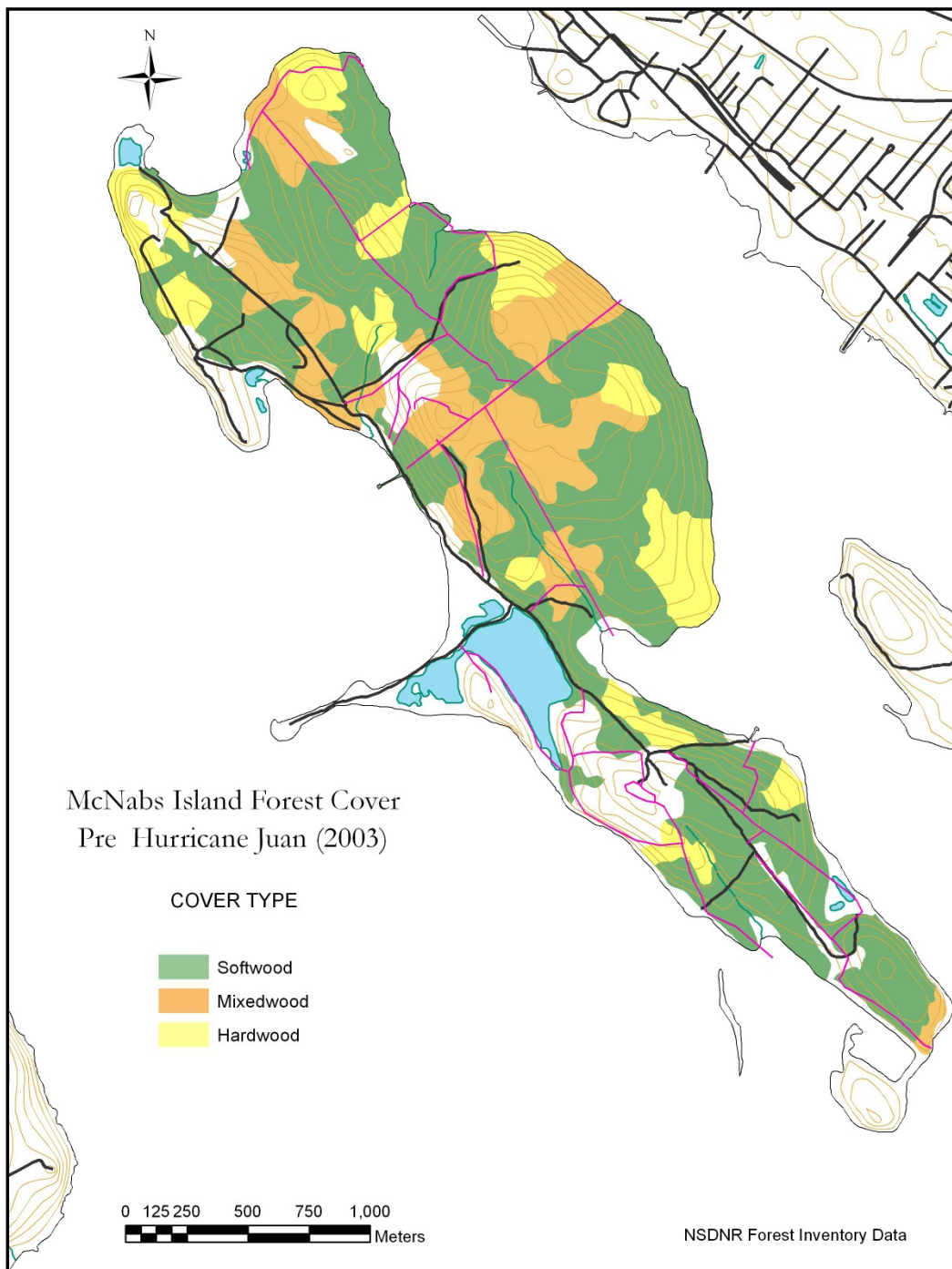
APPENDIX B: SOILS MAP



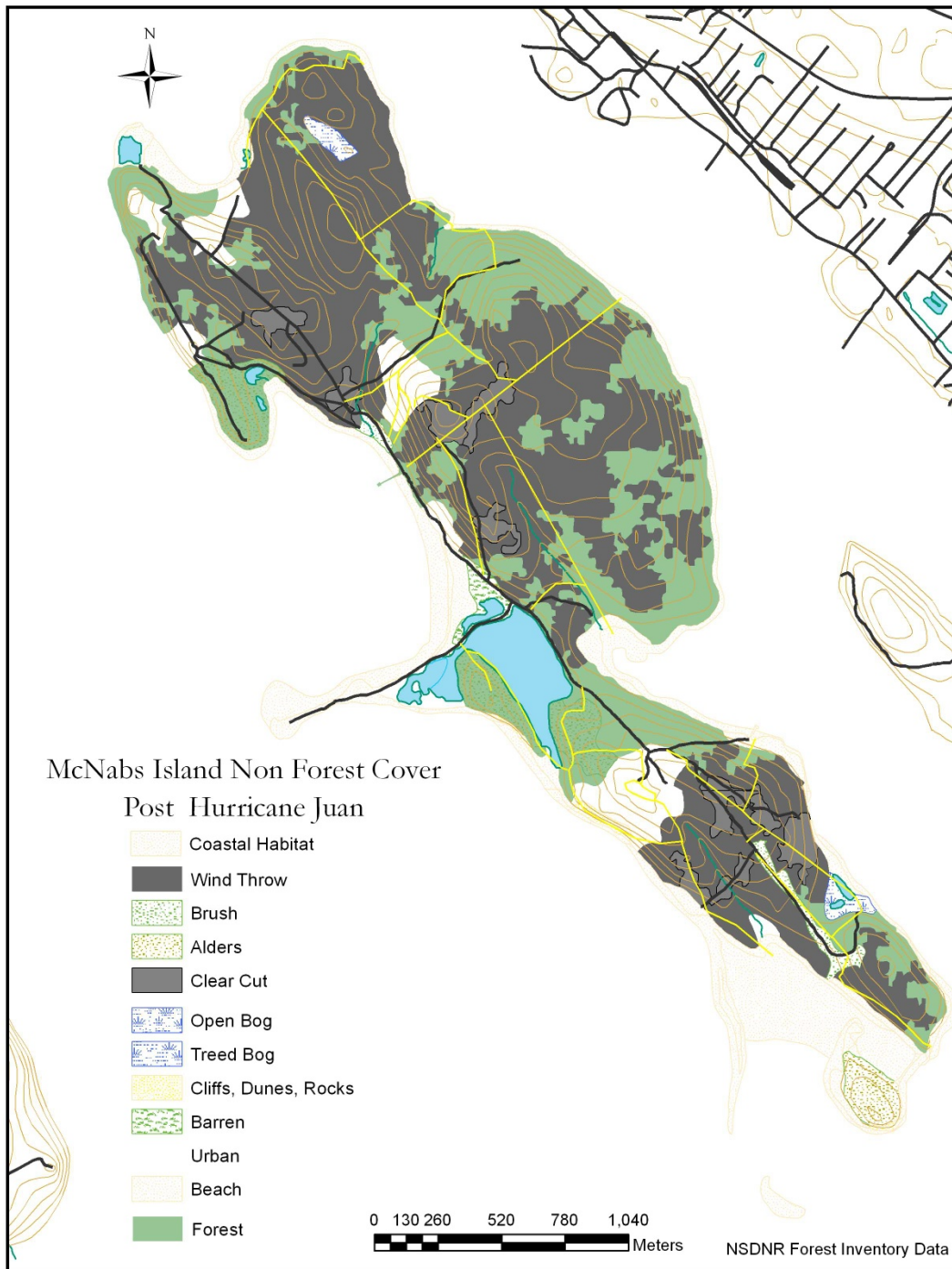
APPENDIX C: GEOLOGICAL MAP



APPENDIX D: FOREST COVER MAP (before Hurricane Juan)



APPENDIX E: FOREST COVER MAP (post-Hurricane Juan)



APPENDIX F: KEY ASSETS FOR TRAIL DEVELOPMENT

