Backlands Wilderness Balance Sheet

A Report by the Backlands Coalition

January 2023

#KeepTheBacklandsWILD

www.backlandscoalition.ca

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Prepared by The Backlands Coalition

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Introduction

This report was prepared by the Backlands Coalition for the team of planners working on the report for the Regional Plan Review, Phase 4 - Site Specific Requests. They requested that we compile a report that highlights the special nature of the Backlands and substantiates this claim with references.

The title Backlands Wilderness Balance Sheet refers to our recording of assets of these wild lands and risks or losses should the lands be further disturbed by development.

What and where are the Backlands?

Over the years the area has worn various names: the Wildlands, the Barrens, Williams Lake Backlands, Halifax Backlands, Purcells Cove Backlands, McIntosh Run, Beyond the Frog Pond, Chebucto East, and more. Some parts of the area are better known now as the "Shaw Wilderness Park" and the "McIntosh Run Trails." However, the Backlands extend far beyond these two areas.

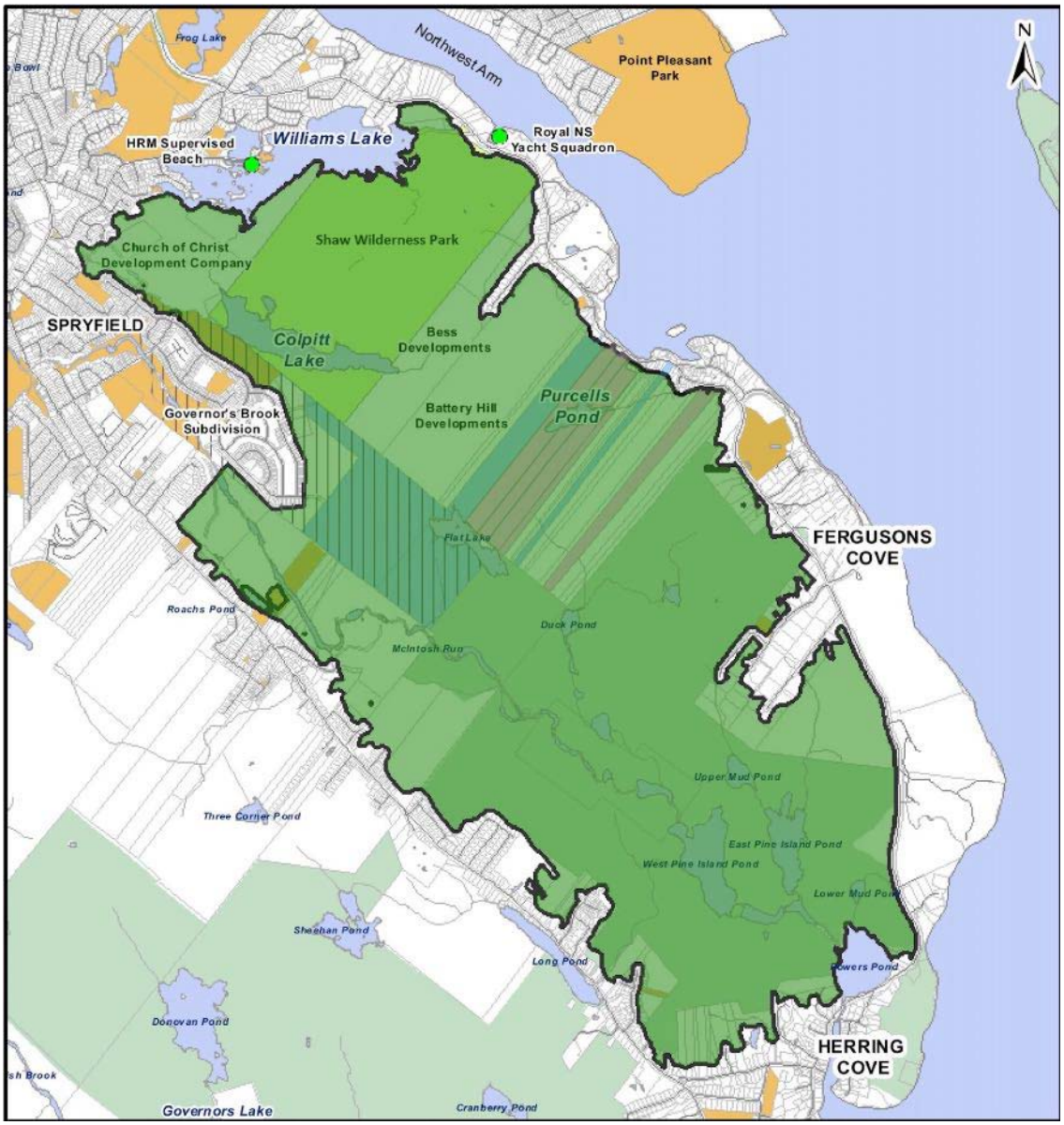
“Rugged, Rich and Rare: an aerial video of the Backlands”, produced by Williams Lake Conservation Company (WLCC) Dam Committee.

MAP 1

The Backlands are part the ancestral and unceded territory of Mi’kma’ki, but our description and understanding of the landscape as expressed in this document does not include the voices and traditional knowledge of the Indigenous Mi'kmaq. We hope to change that over time and build meaningful relationships.

The Backlands are an urban wilderness of approximately 1350 hectares that include nine lakes, hills with spectacular views, and dozens of kilometers of informal hiking and biking trails. Erratic blocks, granite whalebacks,

and boulder fields are prominent features of the glacially scoured landscape. These urban wilderness lands provide multiple ecological functions.



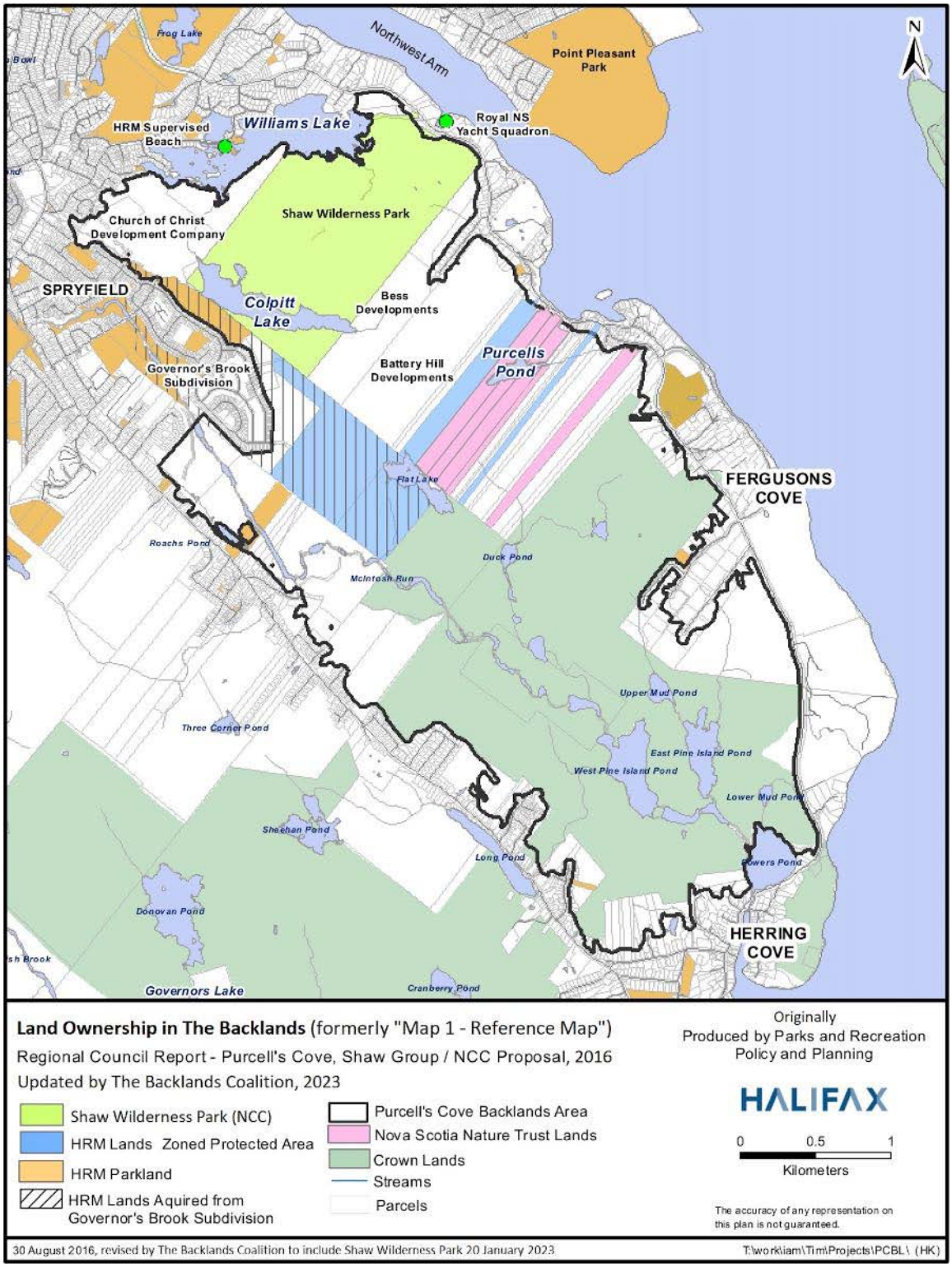
MAP 2

The Backlands are bounded by Williams Lake Road, Herring Cove Road, Powers Pond and Purcells Cove Road.

Who are the landowners in the Backlands?

The ownership of land in the Backlands is currently a patchwork of HRM Parkland, HRM Protected land, land purchased and protected by the Nova Scotia Nature Trust , Provincial Crown lands, Federal Government DND, small private holdings, and large development

holdings. The wilderness doesn't recognize any of these boundaries, however their existence, various different zoning designations and degrees of responsibility for stewardship make it a challenge to keep intact the all-important cohesion of the wildlife corridors and watersheds.



MAP 3

What is the Backlands Coalition?

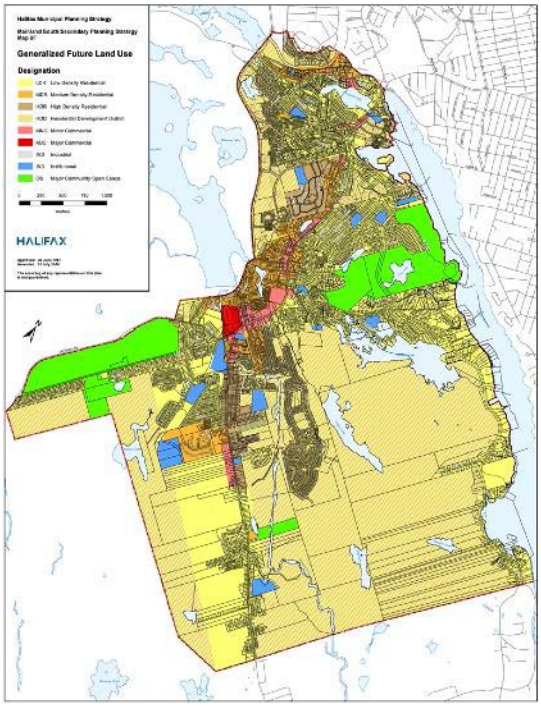
We are a coalition of 10 local and non-governmental groups. Our mission is to ensure no loss of wildlife habitat in the Backlands and to preserve them for natural, historical, cultural, conservation, educational, recreational and common use. The Backlands Coalition is a member of Our HRM Alliance. Our motto is #Keepthebacklandswild.

Groups in the Coalition

- Fergusons Cove Neighbourhood Association
- Halifax Field Naturalists
- McIntosh Run Watershed Association (MRWA)
- Nova Scotia Wild Flora Association
- Oceanview Drive Residents
- Purcells Cove Neighbourhood Committee
- Ravenscraig Neighbours
- Urban Farm Museum Society of Spryfield (UFMSS)
- Williams Lake Conservation Company (WLCC)
- Woodens River Watershed Environmental Organization (WRWEO)

Municipal and community planning for the area

The Mainland South secondary planning Generalized Future Land Use (Map 9f) was approved by Halifax County Council on June 29,1987. It has continued to be in effect since the 1996 amalgamation of Halifax County, City of Halifax, and City of Dartmouth into one unit named HRM.



In December 2009, the people of Spryfield participated in the development of Spryfield's Vision and Action Strategy. The Backlands are an integral part of the physical area, history and culture of Spryfield, an urban growth centre.

A resounding community effort helped lead to the creation of the Shaw Wilderness Park (SWP). When Clayton Developments purchased 379 acres of the Backlands, located between Williams and Colpitt Lakes and formerly owned by the McCurdy family, the WLCC and a small group of local people and naturalists began a very strong (and ultimately successful) advocacy effort to preserve that piece of the Backlands. HRM purchased the lands and capital funds were secured from both the federal and provincial governments and private donations. The

SWP was officially opened on January 20, 2020 and has since become a significant recreational and natural asset to HRM. Kathleen Hall, a significant leader of the advocacy, wrote the story of this community effort. The story is accessed here. A description of Shaw Wilderness Park is here.

HalifACT: Acting on Climate Together (HalifACT) is the municipality's long-term climate action plan to address climate change.
Protection of the Backlands would begin to address Action #20 of HalifACT: Fund and implement the Green Network Plan and Urban Forest Master Plan, which has a target of - "Protect, restore, maintain and expand natural areas and green infrastructure assets" (page 40).

The Halifax Green Network Plan (HGNP) defines an interconnected open space system for the municipality, highlights ecosystem functions and benefits, and outlines strategies to manage open space.

The HGNP lays out a progressive green future for Halifax, recognizing the importance of open spaces in not just the ecological, but also the economical and sociocultural health of our whole region. In Section 2.5 Mapping the Green Network, the HGNP outlines multiple criteria with which to value and define current open spaces in HRM. While the Backlands do feature in parts of Map 1 (Ecological Open Space Values), Map 3 (Socio-Cultural Landscape Values), and Map 4 (Summed Values), given the listed criteria connected to each map, the HGNP maps do not adequately reflect the assets of the Backlands.

Section 2.5.1 Ecological Open Space Values lists the following elements as those used to Map 3 (Ecological Open Space Values):

Jack Pine Barrens	Important Biodiversity Areas
Large Natural Patches (500-1000ha)	Riparian Areas
Large Natural Patches (1000-5000ha)	Wetlands
Large Natural Patches (>5000ha	Endangered Moose Habitat
Mature Forests (>100 years old)	Important Bird and Biodiversity Areas - Observed Species of Concern
Rare Forest Patches	Provincially Significant Habitats
Existing Wells	Connectivity Pinch Points
Shallow Water Tables (<2m to surface)	Essential Connectivity Regions
Surficial Aquifers	

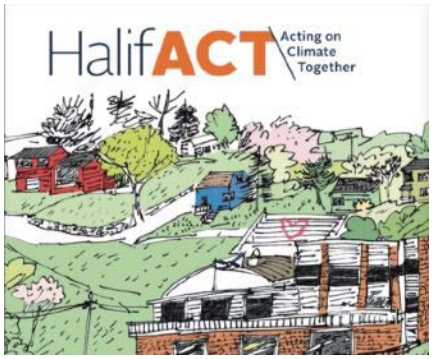
Despite meeting the majority of these elements, large portions of the Backlands have still been mapped as having "Low" Ecological Open Space Value.

Section 2.5.3 Socio-Cultural Landscape Open Space Values lists the following elements as those used to create Map 3 (Socio-Cultural Landscape Values):

Culturally Significant Locations	Culturally Significant Landscapes
Culturally Significant Viewsheds	Culturally Significant Natural Features
Significant Urban Landscapes	Culturally Significant Natural Resources
Edges (with development restrictions)	Essential Urban Green Spaces
Land Trust/Easement	Nature Reserves
Near-Urban Natural Areas	Parks
Boat Facilities/Access	Wilderness Areas
Inland Water Routes	Urban Forest Patches
Lakes	Culturally Significant Corridors
Waterscapes	Trails
Transportation Corridors	Publicly Accessible Shoreline
Public Beaches	Military Use Areas

Understandably, given the 2018 date of the HGNP Report, the Shaw Wilderness Park is not accounted for on this map. However multiple other elements did already apply across the entirety of the Backlands at that time, yet they do not appear to have been accounted for, as the majority of the Backlands was mapped as "Low" on Map 3.

Therefore, we suggest that, after consideration of the depth of information assembled in this report, Map 1, Map 3, and Map 4 of the HGNP should be amended to more clearly reflect the "High" and "Medium" open space values that exist in the Backlands.



Assets of the Backlands

Attributes of the Backlands that are an asset to HRM are identified in this section, using the information gathered over years by members of the Backlands Coalition. The beneficial attributes on this list are not exhaustive and are loosely organized around several of the key open space functions identified in the HGNP: **Ecology, Outdoor Recreation and Cultural Landscapes**. The description of the functions is quoted from the HGNP.

Whaleback landform in the Backlands. Photo by J Escott

1) Ecology

Open spaces contain natural systems that support plant, animal and human life. Protecting open spaces in turn protects important habitats for terrestrial and aquatic species to ensure that the Region retains high biodiversity. Building and maintaining an interconnected network of open spaces ensures the protection of viable populations and ecosystems.

HGNP and HalifACT Ecology objectives

Protecting the Backlands assists HRM in meeting four HGNP Ecology objectives:
4.1.3.1. Maintain wildlife habitats, biodiversity and landscape connectivity.

4.1.3.2. Conserve and manage steep slopes, easily disturbed soils and other land forms that are vulnerable to erosion and degradation.
4.1.3.3. Protect riparian corridors and wetlands from degradation, pollution and other threats.
4.1.3.4. Maintain and enhance the urban forest

Protecting the Backlands is consistent with HGNP section 6.1 Land Use Planning Actions (ecology, from page 72 of HGNP):
#3 Amend Municipal Planning Strategies to clarify and ensure that environmentally sensitive areas are identified and considered during the review of all discretionary planning applications (i.e., rezoning and development agreement applications).
#4 Amend the Regional Plan to emphasize the importance of identifying and protecting environmentally sensitive areas during master neighbourhood planning exercises (secondary planning).
#5 Amend Municipal Planning Strategies and Land Use By-laws to consolidate environmental protection zones, which prohibit most forms of development, and apply these zones to areas with significantly sized vulnerable landforms, such as ravines and bluffs.

Protection of the Backlands is consistent with HalifACT sections 5.2.7 Natural Areas and Green Infrastructure and 5.2.8 Planning, actions 20 through 26. The objectives of these sections are to protect, restore, maintain and expand natural areas and green infrastructure, and to plan and build a low-carbon resilient region.

Basic ecology of the Backlands

A Backlands Coalition workshop on aspects of the ecology of the Backlands was transcribed by David Patriquin, adding many valuable pieces to make this quite a comprehensive coverage of the ecology of this wilderness.

The Backlands Coalition has gathered views of characteristics of the land, recreational and cultural significance, flora and fauna:
The Contact Zone Williams Lake to Colpitt Lake.

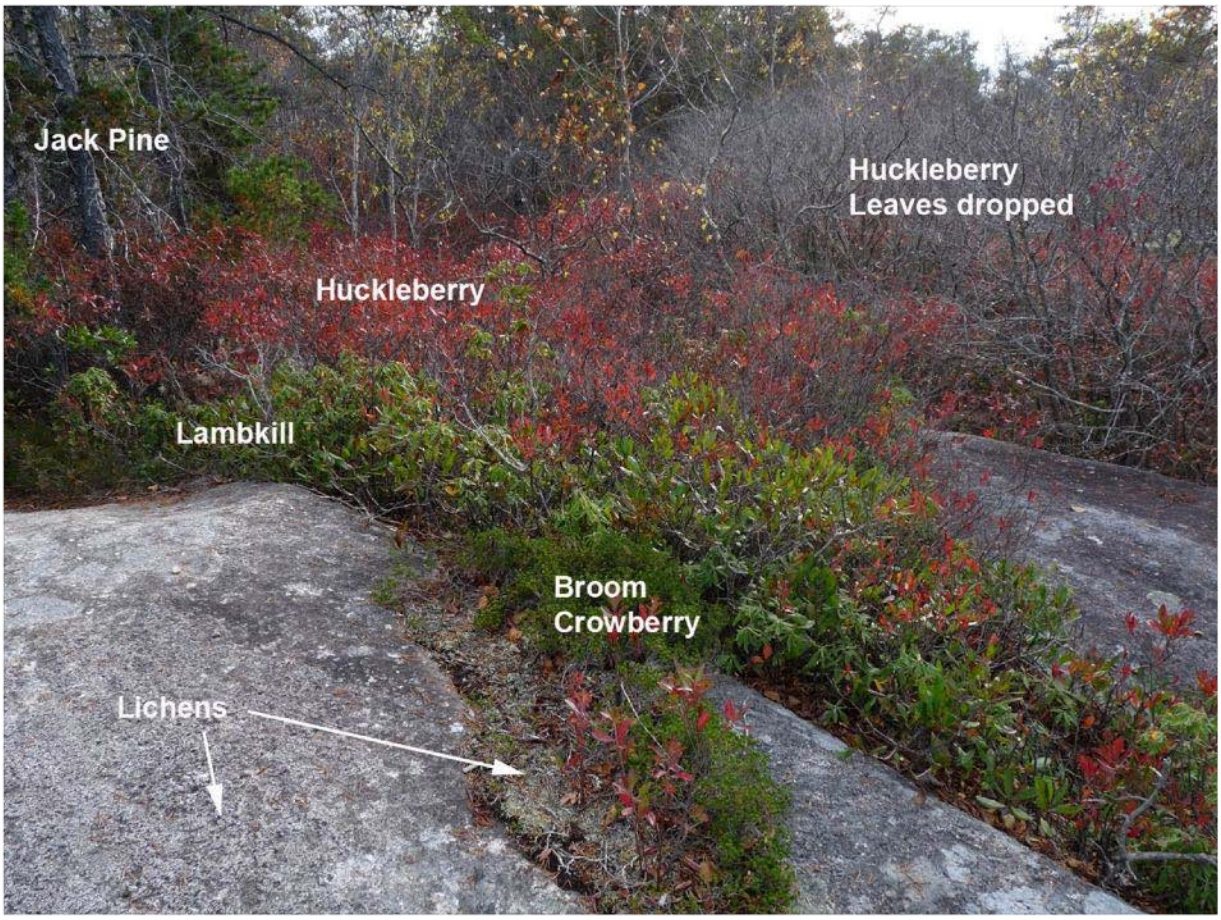
A Biophysical Survey of the Williams Lake-Purcells Cove Backlands

Findings and recommendations, following from studies of biophysical character, cultural significance and recreational use of the Purcells Cove Backlands

Flora

Annual Biological Inventory - Purcell's Cove Conservation Lands.

Ecological Assessment of Plant Communities in Williams Lake Backlands: A Report to The Williams Lake Conservation Company by Nick Hill (Fern Hill Institute of Plant Conservation, Berwick, Nova Scotia) and David Patriquin (Professor of Biology, retired, Dalhousie University, Halifax, Nova Scotia) February 12, 2014



Common plants of the Jack Pine-Crowberry Barrens - Photo by Anastasia Ivanov

“Indeed, the whole of the Purcell's Cove Backlands is one of the most fire-susceptible landscapes in Nova Scotia, the droughty, windswept high barrens acting as matchsticks. One result is the presence of an old process, fire dependent Jack Pine/Broom Crowberry Barrens community that is nationally unique to Nova Scotia, globally rare and of high conservation significance. The Jack Pine/Broom Crowberry Barrens in the Purcell's Cove Backlands are amongst if not the best, representatives of this community in Nova Scotia.”

“What is unique about our pine barrens: the combination of Jack Pine, a boreal forest pine at the southern limit of its distribution, and Broom Crowberry*, a low-growing, heathy Coastal Plain species, close to its northern limit. Both are highly fire-adapted and fire-stimulated species. *Broom Crowberry has NatureServe S4 conservation status (apparently secure) in Nova Scotia but its conservation status is precarious outside of Nova Scotia and populations are declining in NS. Outside of NS, it occurs only in the Magdalene Islands of Quebec and in P.E.I. where it is imperilled (NatureServe S2 status), in Maine (S3/ S4 status in Massachusetts, New Jersey, and New York states (S1-critically imperiled- to S3 -vulnerable- status). Broom Crowberry was either never present or is extirpated in New Brunswick.”

There are patches of old growth forest within several areas of the Backlands. One of the most vulnerable is located on private property in the area known locally as Lovers Lane. The beautiful forest on the property consists of Hemlock and White Pine, which can barely be found elsewhere in the area following the clear cut of the nearby Boscobel lands a few years ago. This forest is home to many animals and countless birds including a family of Barred owls.

Hemlocks and White Pines on PID 41342080 - possibly the last major Hemlock stand in Mainland South

Fauna

Mammals

Mammals in the Backlands recorded on iNaturalist.

Mainland Moose listed as endangered as of October 2003:
In earlier days, sightings of the endangered Mainland Moose in the Backlands were not uncommon; there was a sighting on Williams Lake in 2016. A group of 25-50 Mainland Moose have resided on the Chebucto Peninsula for years, but as in other areas of the province, numbers dropped precipitously between circa 2010 and 2017 and continue to be low.

In this article, the Chebucto Peninsula is listed having an estimated population of five moose in 2017 and 2018.

In a January 10, 2023 lecture presented by Nature Nova Scotia, they discussed the Mainland Moose, on the Chebucto Peninsula.

Bobcat observed in the Backlands (October, 2019)

Mainland Moose - Photo by Ryan Hagerty for Nature Nova Scotia

Amphibians and Reptiles

Snapping Turtle (Chelydra serpentina)
Status is “vulnerable” meaning it is a species of special concern because of characteristics that make it particularly sensitive to human activities or natural events. Populations of snapping turtles in Nova Scotia are under increasing threats. Low recruitment of turtles to breed, high juvenile mortality, nest failures exacerbated by turtles nesting in highly disturbed environments (road edges, quarries), illegal harvest and road mortality all are threats to the province's largest terrestrial/freshwater turtle. Studies from elsewhere in North America suggest that adults can live to be 100 years old. Any activity that causes adult mortality poses an elevated risk to this species. Below is a photo of a Snapping Turtle laying her eggs on the shores of Williams Lake, an important lake in the Backlands.

Fish and eels

The fish in the lakes and streams of the Backlands are plentiful enough to support the presence of fish-eating wildlife such as mink, coyotes, Common Loons (breeding), Osprey (up to three families) and Bald Eagles (one family). In addition to brook trout and eel, Atlantic salmon have recently been caught in McIntosh Run.
The American eel is present in Williams Lake where it comes upstream from the NW Arm via Lawsons Creek. It is a migratory species spending most of its life cycle in fresh water. They are considered vulnerable species in several parts of the Atlantic Provinces.

McIntosh Run was a habitat for Atlantic salmon and salmon have been reported sporadically over the years. The Atlantic salmon is a migratory species with a remarkable life cycle. They have recently experienced a drastic decline in numbers.

Birds

Member organizations have been participating in Bird Surveys in the Backlands for many years.

The Backlands provides healthy habitat for many woodland birds and waterfowl as well as some endangered and threatened bird species. Because of the availability of a varied cross-section of habitat in the Backlands, the possibility still exists for hosting summer breeding for other endangered species such as Rusty Blackbird and Canada Warbler. Some birds of note are listed below.

Red-breasted Nuthatch - Photo by Josh Donham

Nighthawk:
The Nighthawk's numbers have diminished by up to 49% in Canada. The Committee on the Status of Endangered Wildlife in Canada has listed the Nighthawk as a threatened species and Nova Scotia has adopted a 2016 Environment Canada recovery plan. The WLCC Bird Surveys since 2013 have found breeding evidence of the Common Nighthawk. The Nighthawk thrives on the variety of insects that live in the Backlands. As well, our Backlands contain large areas of fire damaged habitat containing gravely, granite outcroppings with plenty of standing dead trees. These are prime areas for Nighthawk nesting and fledging their young.

Chimney Swift and Barn Swallow:
These two species were recorded in our 2021 Bird Survey of the Backlands. Both species are insectivores and are considered endangered in Nova Scotia.

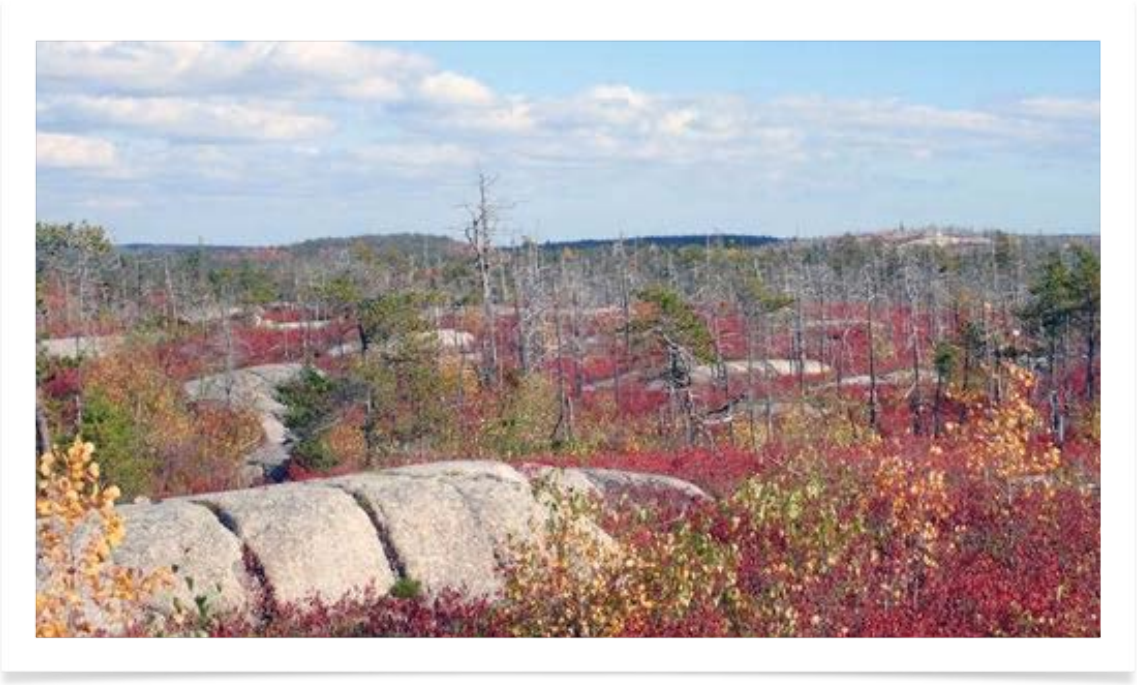
Osprey:
"The Ospreys are a sign of how healthy the water is because of the number of fish that might be in the ponds and lakes there. So as long as the Ospreys are around, we can have some confidence that the ecology is still fairly healthy. The Osprey is our provincial bird and one that we're delighted to have in the Backlands. There are at least two nests, possibly a third, in the Backlands. The most watched nest is the one near Alabaster Way by the barrens." Fulton Lavender (Bird ID expert)

Bald Eagle in the Backlands January 1, 2023 - Photo by Joshua Donham:

Geology

Extensive notes on the geology and formation of the granite barrens are located on the Backlands Coalition website.

The Backlands Coalition website also contains an inventory of geological values for parts of the Backlands.



Unique granite whaleback formations are extensive even for NS

The Backlands are particularly important to the development of Halifax. Without the granite from Queen's Quarry (begun 1793) the Halifax Citadel would not exist. See Cultural Landscape: Work and Industry for details on the quarries.

Biodiversity

Backlands Biodiversity Projects on iNaturalist:
McIntosh Run Biodiversity Project
Halifax NS Backlands observations

These biodiversity projects engage the public to create, through citizen science, a record of the species living within the Backlands including the Williams Lake and McIntosh Run watersheds. The projects record the plants, animals, birds, reptiles, bugs, moss, fungus, and lichen living within the Backlands.

From the Halifax Field Naturalists Biodiversity of the Backlands projects:
Species List for the Purcell's Cove Conservation Land

Colpitt Lake to Williams Lake Field trip (pages 10 & 11)

Protecting biodiversity – sustainable management of connectivity of habitats: Nova Scotia not doing enough to protect biodiversity - CBC News

Threatened Showy Lady's-slipper, Cypripedium reginae. Uncommon because of habitat destruction

This article reviews the findings in a recent report by the Canadian branch of the World Wildlife Fund. The report, titled Wildlife Protection Assessment: A National Habitat Crisis, points to "historical gaps in essential wildlife habitat protection." Nationally, the report finds 84 per cent of habitats with high concentrations of at-risk species are inadequately or completely unprotected. Simply put, not enough has been done to protect biodiversity, according to the report.

Four special plants of our Jack Pine – Crowberry Barrens

Lakes, rivers and wetlands

Recognition of the importance of the ecological services of this blue-green network and protection of these precious assets supports HRM in moving toward fulfilment of HalifACT Action 14: Develop a holistic, integrated, and climate-informed stormwater management plan and program. HRM should consider that protection of the Backlands' blue-green infrastructure is working toward the HalifACT target objective of reducing risk to critical infrastructure that may result from extreme weather events and other impacts of climate change (Pages 39 & 40).

Preservation of the Backlands addresses the HGNP section 4.1.3.5. Coordinate efforts to manage water quality and quantity while expanding the Region's Green Network actions #14 and #15. The ecological services of the Backlands provide a low cost and sustainable approach to both mitigating and adapting to climate change impact.

Blue-green infrastructure refers to the use of blue elements like rivers, canals, ponds, wetlands, floodplains, and water treatment facilities; and green elements such as trees, forests, fields, and parks in urban and land-use planning. With 9 lakes, a 13-kilometre river, brooks large and small, an extensive network of underground water, and a range of types and sizes of ponds and wetlands, the Backlands area performs many ecological services related to water quality and the release of water into the environment. The Backlands' natural blue-green infrastructure services are often difficult to analyze and measure and therefore elude valuation. Homes along Purcells Cove Road do not have municipal water and sewer. Their wells are dependent on a pure, clean water supply filtering through the wetlands of the Backlands.

The Backlands contain an extensive network of blue-green infrastructure that is a powerful agent in storm water management and carbon sequestration when combined with other Backlands assets of biodiversity and forest cover; all those elements of the landscape are important for storm water management and carbon sequestration. For further detail on the work of wetlands including carbon sequestration see 'Discussion' section of workshop Ecology of the Backlands, discussants DP [David Patriquin] and PM [Patricia Manuel].

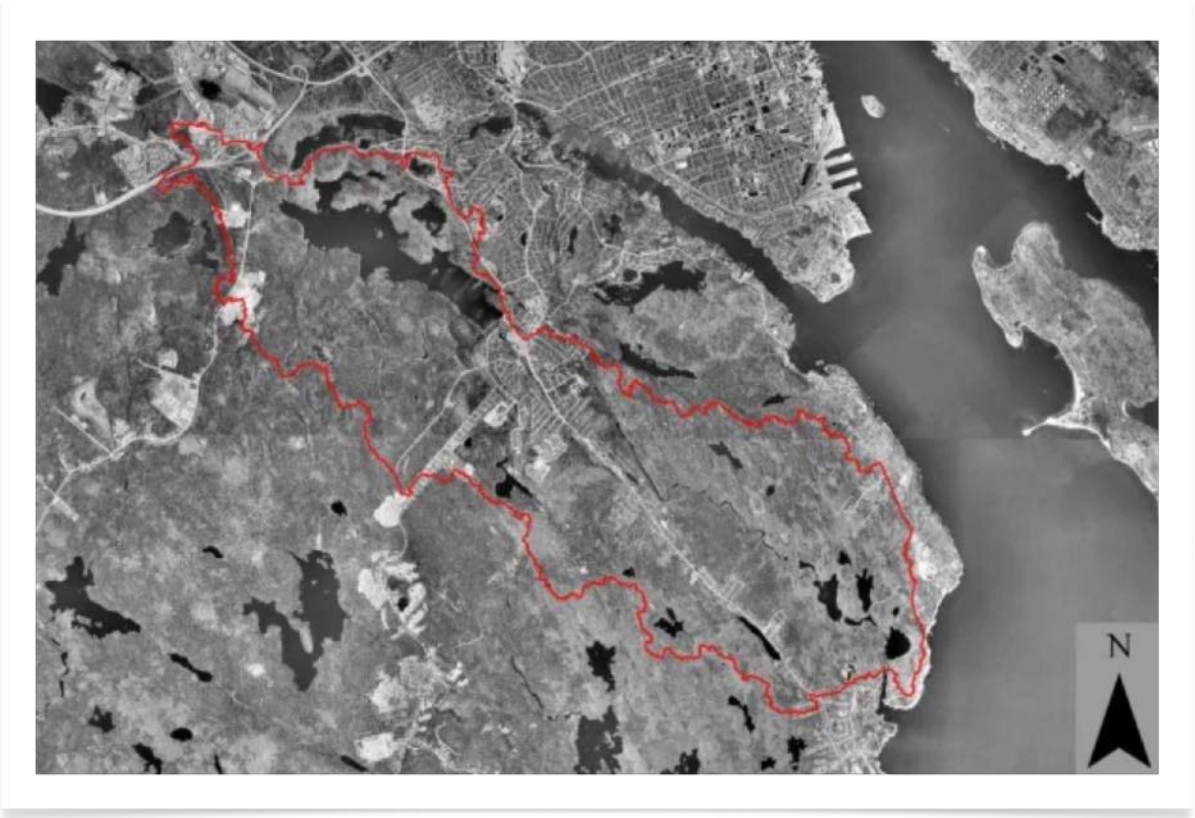
The work of blue-green infrastructure in the Backlands is affected by the storm water quality as well as quantity. Please see the Backlands Coalition post about Mountain Holly Wash (wooded wetland indicator), where water flows underground beneath the wooded wetland.

The Williams Lake Conservation Company (WLCC) and the Backlands Coalition have worked with Ducks Unlimited to assess the working wetlands in our watersheds.

A video about Colpitt Lake by David Patriquin:

In this video David takes us into the wilderness, identifying trees, walking along Governors Brook (a feeder stream from Catamaran Pond in the Williams Lake watershed) and describing his portage walking in with his kayak to paddle on beautiful Colpitt Lake.

McIntosh Run Watershed Association (MRWA)
A description of the watershed from the McIntosh Run Watershed Association (MRWA) website:
“The McIntosh Run River flows within the Halifax Regional Municipality on the Atlantic coast of Nova Scotia. About 13 kilometers in length, the Run’s headwaters are tributaries to Long Lake. The McIntosh Run flows through the community of Spryfield and into the area known as the ‘Backlands’ where it connects East Pine Island Pond, West Pine Island Pond, Long Pond, and Powers Pond along with other smaller pools and wetlands. The McIntosh Run then drains into the Atlantic Ocean through Herring Cove. Human-built diversions and pipes that connect Long



The natural boundaries of the McIntosh Run watershed (in red), as defined by topography. There is passive artificial drainage from a larger area, extending to the north of Long Lake, owing to daming of Spruce Hill Lake and a regulated pipe that runs to Long Lake. Source: McIntosh Run Watershed Association

Lake to Spruce Lake and other lakes in the Chain of Lakes System, have effectively increased the area of the McIntosh Run watershed from its natural topographic boundaries. The watershed area, about 37 square kilometers, is a mix of natural vegetation (mostly spruce-pine-fir forest, granite barrens, wetlands and lakes) and residential and retail development. About half of the lands are private and half are provincial Crown lands, the latter most notably Long Lake Provincial Park and large parcels in the Backlands."

In 2011 the MRWA reported that the McIntosh Run is habitat for rainbow trout, salmon, ducks, and endangered plants. They also reported that some of the environmental challenges for the McIntosh Run are: direct runoff from parking lots at South Centre Mall and Bayers Lake Industrial Park; stream bank modifications such as wetland infilling, de-vegetated areas; developments both residential and commercial; and pump house overflow (pumphouse overflow was also reported by a Princeton Ave resident to Backlands Coalition members, Sept 2022). The manuscript is a 2012 study that considered impacts of land-use change on aquatic systems using water samples from McIntosh Run.

Williams Lake Watershed
Aerial video of Williams Lake and the lands nearby that are now known as Shaw Wilderness Park.

Williams Lake Conservation Company (WLCC) has ongoing concerns with the quality and quantity of water in this urban lake. Twice last season blue-green algae blooms limited swimming in Williams Lake. These algae blooms are becoming more common because of warmer temperatures and more intense storms caused by climate change.

Bloom of blue-green algae - Photo by Department of Environment and Climate Change

Stormwater runoff and road salt flowing into Governor's Brook and Williams Lake has increased the salinity of the lake water.

The issue of repairing or replacing the dam that lies between Williams Lake and Lawsons Creek has also become crucial to the survival of the lake. WLCC fears that the low water levels hamper the ability of the lake to respond to climate change. Another community organization concerned with water levels in Williams Lake, the Williams Lake Dam Association has a very active Facebook page. This page details many of the consequences of the low water levels on the health of the lake for recreation and wildlife.

One of the many streams running through the Backlands

2) Outdoor Recreation

Open spaces are places for enjoyment, introspection, recreation, education and active transportation. They provide landscapes and facilities for sports, fitness activities and leisure pursuits, both active and passive. Residents can access open spaces for rejuvenation, well-being, active living and connecting to nature.

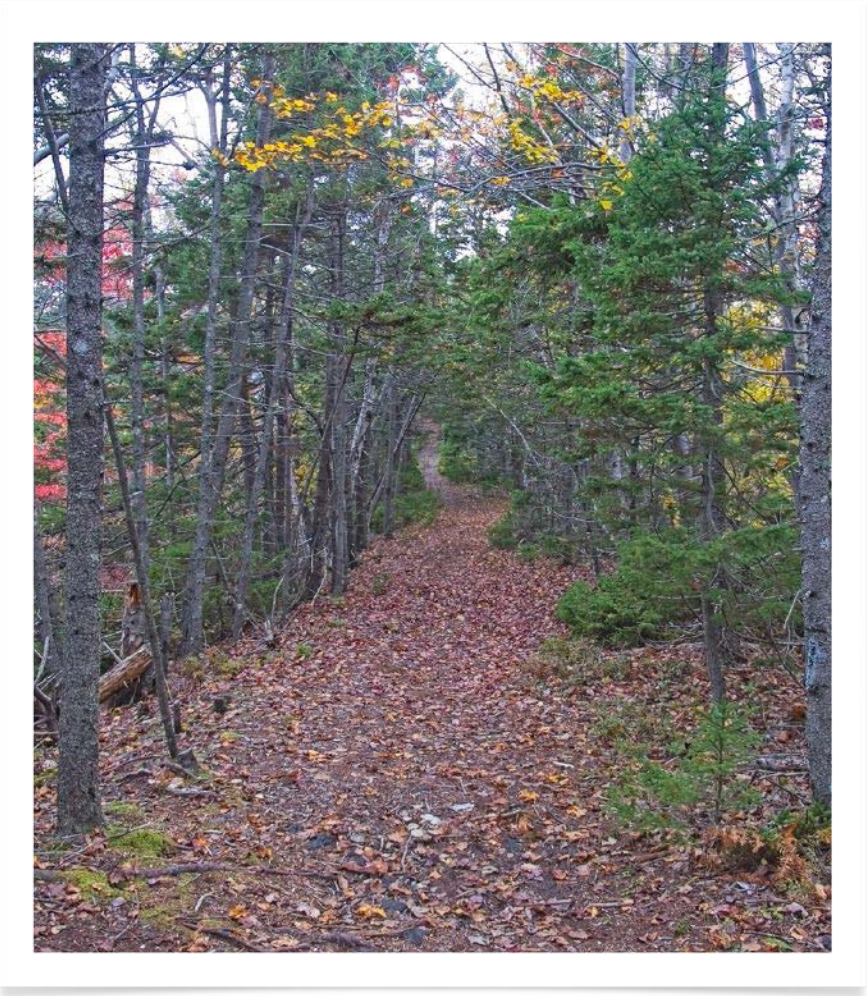
HGNP and HalifACT Outdoor Recreation objectives

Protecting the Backlands assists HRM in meeting 3 HGNP Outdoor Recreation objectives:
4.4.3.1. Recognize the importance of parks for community health and well-being.
4.4.3.2. Adopt a multi-jurisdictional parks network planning approach that supports both recreation service delivery and natural systems protection.
4.4.3.3. Develop new park network service delivery standards based on the settlement patterns and natural influences identified within the Regional Plan

The maintenance of the Backlands network of active transportation trails contributes to the HRM goal in HalifACT, Action 8: Plan and build active transportation infrastructure (page 38).

Active Transportation

The McIntosh Run Watershed Association (MRWA) maintains an extensive trail system throughout the Backlands. These trails combined with traditional paths make it possible to walk, run or bike to many parts of our district where fewer roads are present.



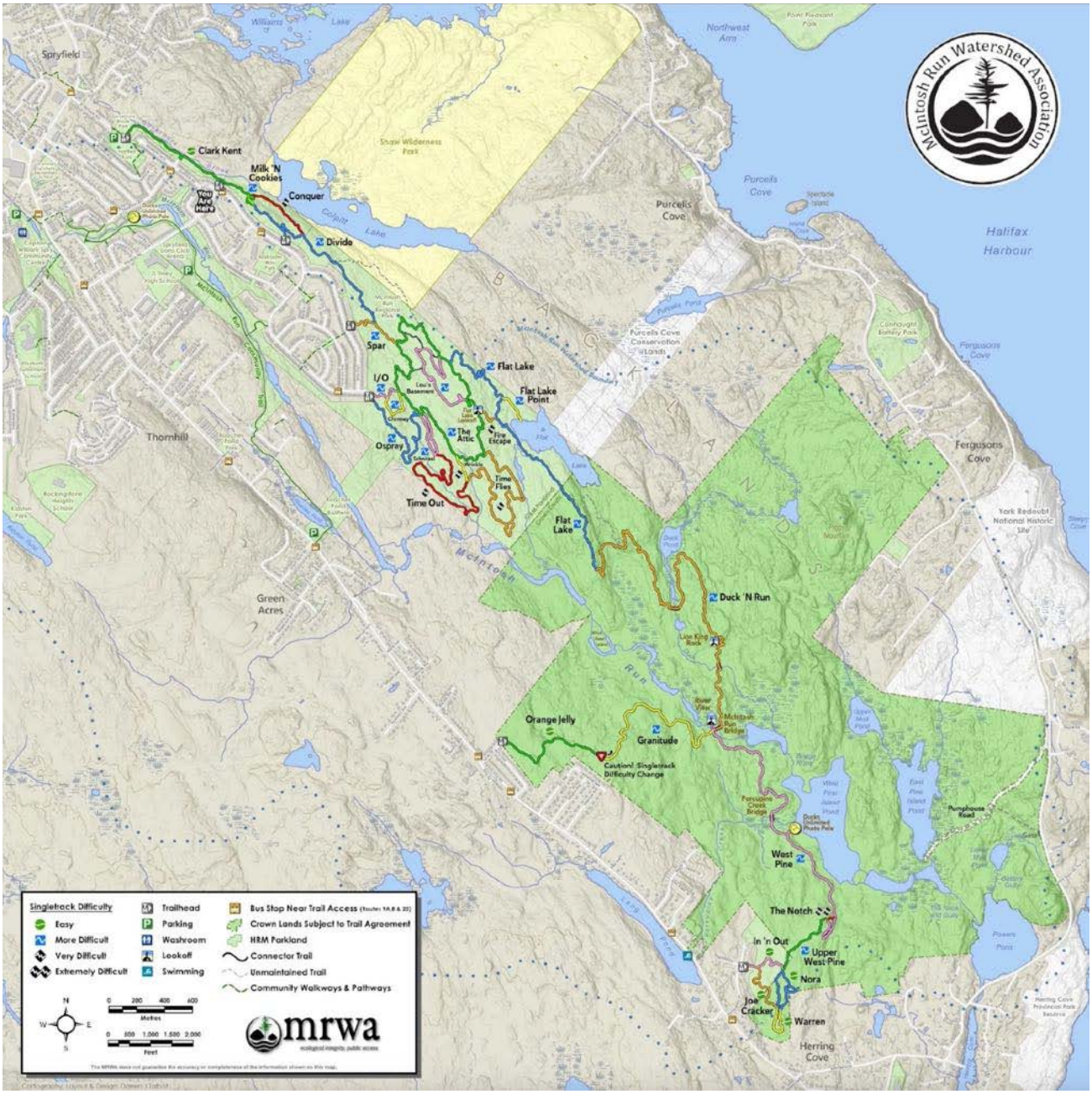
Trail through pine forest in the Backlands Photo by J Escott

Results of the 2021 Trail Survey indicate that people use the Backlands trails of the MRWA for biking, hiking, running, and dog walking. Over 10% of the respondents were from outside of HRM, some from outside the Maritimes.

'Explore' magazine named a rustic, unmarked trail in the Backlands one of the 10 Best Hiking Trails near Halifax (#5).

The Halifax Trails website gives detailed information on trails in the Backlands.

The MRWA has developed many trails near the Run. These trails are part of an active transportation network for walking, hiking or biking and are well known throughout HRM and beyond.



MRWA trail map

Canoe and Kayak: During December 2022 interviews with Herring Cove resident, Peter LaPierre, he described a 2¼ hour canoe route from Powers Pond through the waterways in and around East Pine Island Pond. Other canoe and kayak routes are also possible within the Backlands.

Accessibility

There are several entrances to the Backlands marked on the trail map for the McIntosh Run Watershed Association as Trail Heads.

Two lesser known entrances are at the end of Norawarren Drive in Herring Cove and, the Halifax Water Building parking lot at the end of Princeton Ave in Spryfield.

One entrance to the Backlands is located in the Governor's Brook area of Spryfield. "Trips by Transit" suggests the #25 bus to Alabaster Way.

An accessible entrance is from Purcells Cove Road at the Shaw Wilderness Park. This HRM Park is a 30-minute bicycle or #25 or #415 bus ride or an hour long walk from Mumford Terminal, providing Halifax residents or visitors quick and easy access to a wilderness area.

Many people walk the traditional path (Lovers Lane) through a Hemlock grove off Purcells Cove Road. This path (on private property) has been used for hundreds of years. Lovers Lane is used to access Williams Lake for swimming and skating.

Mental and physical well-being

Backlands provide open wilderness where there is less noise, fewer people, and less sensory stimulation. Participation in outdoor activities is known to enhance mental health and physical well-being.

Activities in the Backlands

The photographs and stories that follow have been submitted by people in support of protecting the Backlands. Each person gave permission for us to share their photos or stories with you.

Bird watching

Joshua Barss Donham's video of birds at East Pine Island Pond

Photos by Joshua Dunham

Fishing

Walking the dogs

Photography ,Swimming, Wild flower identification

Butterfly and moth identification

Foraging

Foraging for wild food serves many purposes. The Backlands are full of berries, nuts, herbs, ferns and mushrooms prized by foragers. Foraging is a cultural tradition among indigenous peoples and is growing in popularity as a hobby, a recreational activity, a way to supplement diet, or a unique profession.

Picking Berries at Williams Lake: A personal story by Iris (Umlah) Shea, September 2022
Picking cranberries and foxberries in the Fall of each year was an event my mother and aunts had been doing for many years, dating back to when they were children. The cranberry bogs were not far from the dam at the end of Williams Lake. In the 1940s and 1950s we could still use the old “rocky road” off the Purcell’s Cove Road, the original road used for over 150 years by the mill workers in order to access the dam. That road has since been absorbed by the nearby property. Cranberries were picked in late September and early October, and foxberries were picked about two or three weeks later. More than one visit was usually required to make sure we picked all of the ripened berries. Lunch on those days consisted of egg sandwiches, home-made cookies and a thermos of tea. We also picked cranberries around Martin’s Pond, off the Williams Lake Road, where Cunard Junior High is located today. We usually had wet feet going home.

Artistic expression

A personal story by Geoffrey Grantham, September 2022:
As an urban wilderness, the Backlands is an important area, both ecologically and recreationally. As an artist who paints landscapes out of doors, this area has been very important to me and for the progression of my work. I have been creating art in the Backlands for 18 years and have built a career in doing so. I consider the large body of work that I’ve created in this area to be my greatest accomplishment. It is my hope that in preserving the Backlands, future generations will be afforded opportunities such as the one that has enriched my life far beyond a monetary value. The Backlands is a special place.

Autumn’s Heart by Geoffrey Grantham

Appreciation of natural beauty

3) Cultural Landscapes

Open spaces connect people to local history and offer opportunities to celebrate the many cultures within the Region. Open spaces contain historic sites, archaeological sites and cultural landscapes that serve as educational tools and reminders of the past. An understanding of this historic and cultural evolution creates a sense of identity and allows communities to share their heritage with others.

HGNP and HalifACT Cultural Landscape objectives

Through our review of the cultural research for the Backlands, we obtained information on the Settlers' cultural history and identified a significant gap in knowledge of the indigenous history. We suggest that much work needs to be done to begin to address HGNP Cultural Landscape objective 4.5.1 Goal: Identify, preserve and celebrate cultural landscapes and their value in connecting people to the land and telling their stories, as advised in Action 71: Use the Cultural Landscape Framework Study. As well, there is a need to address 4.5.3.2. Identify, preserve and celebrate valued cultural landscapes in the design and management of open spaces and developments and 4.5.3.3. Ensure that all perspectives and voices are heard when identifying cultural landscapes and carrying out initiatives that may impact valued cultural features, Actions 73 through 79, especially with regard to Indigenous Culture.

Educational tools, scientific study, city planning

Over the years, many teachers and university professors have used the Backlands as a classroom. A large number of the scientific papers have resulted from studies of nature, wildlife, city planning, watersheds, and cultural history of the Backlands. Here are links to a few;

- Establishing realistic management objectives for urban lakes using paleolimnological techniques
- Steeghs MAPS
- Natural History in the Backlands
- Vernal Pool Mapping in the Williams Lake Watershed by Huan Liu
- Investigating Equitable and Sustainable Access to Halifax's Urban Wildlands by Elizabeth Carr, Plan6000 Independent Project
- Analysis of Urban Wildland Boundaries in Shaw Wilderness Park – A Path Forward to Shaping Urban Planning Perspectives by Scott D. Inman
- Land-Use Change and Aquatic Macroinvertebrate Community Structure in the McIntosh Run by Michelle Simone

Many citizen scientists gather data here and share with others around the world. Local naturalist organizations have created special projects in the international apps iNaturalist and eBird:

- Projects on iNaturalist within the Backlands
- Bird sightings in the Roach's Pond area of the Backlands on ebird.
- Bird sightings in the Shaw Wilderness Park area of the Backlands on ebird.
- A Community Study of the Wildlands Area. Nova Scotia College of Art and Design Environmental Planning Studio II. 1995, "Environmental Planning Studio II" set out to prepare background studies to support detailed area planning for the Wildlands [the Backlands]. Objectives included: 1. to analyze current and historic land uses, including recreational and resource uses of the Wildlands; 2. to determine the attitudes, values and perceptions that community members hold about the Wildlands area."

History

Beyond the NW Arm: A History of Williams Lake

Military Road: A History of the “Military Road” through the Backlands

Anti-aircraft Battery. Information from Terry Deveau, local historian

Childhood Memories of Williams Lake and the Backlands by Iris (Umlah) Shea October, 2022 (A personal story by a local historian, not published elsewhere)

Roy Leitch, The Hermit of Colpitt Lake

Work and Industry

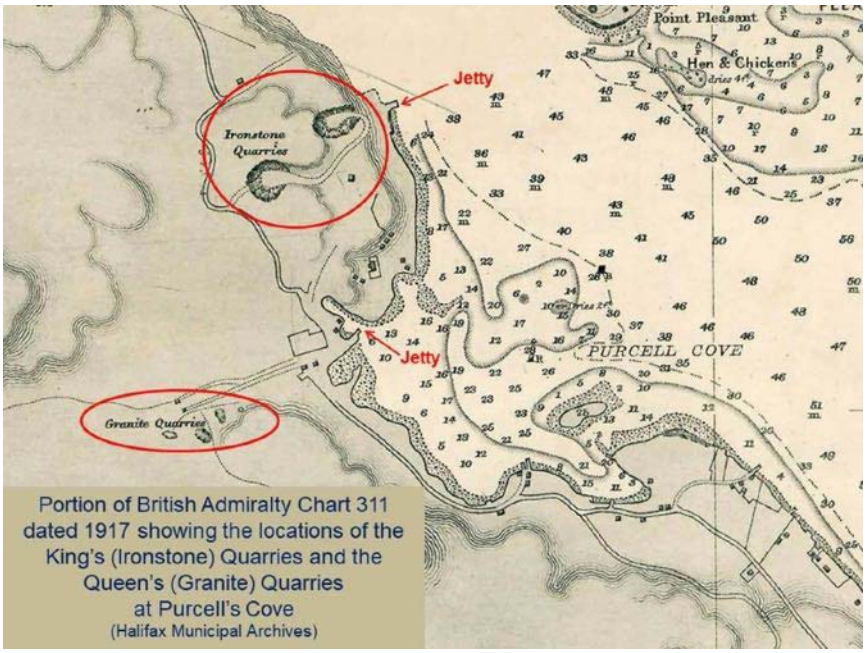
Quarrying in Purcells Cove
From Historical Importance of the Purcells Cove Quarries (Marcos Zentilli, 2016):
The Purcells’ Cove Quarries deserve attention and preservation, because they represent important industrial centres related to the construction of Halifax and military defences on Citadel Hill and Halifax Harbour.

It is understood that the steam railway in Purcell’s Cove started operating in 1834, making it the “**oldest industrial railway** in Atlantic Canada” - Zentilli. Photo from NS Archives

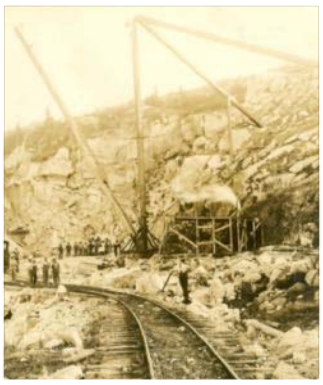
From Interpretation Planning for Purcell's Cove Quarries (Rachael Groat, 2016)
Historically there were six quarries located at Purcell's Cove: three granite quarries and three bluestone quarries. The rock quarried here was used to build many historic fortresses and buildings around Halifax. The remains of these quarries and their operations can still be seen today.

From Interpretation Planning for Purcell's Cove Quarries (Cole Grabinsky, 2016):
There are three distinct granite quarries at Purcell's Cove: Queens Quarry, Purcell's Cove Quarry, and Couglan Quarry. The licence to Queens Quarry was granted to Gustavus Nicolls, Commander of the Royal Engineers at Halifax, in 1826. The railroad tracks connecting Queens Quarry to the wharf below were constructed in 1834.

Purcell's Cove: The little place that helped build Halifax City by Elsie (Purcell) Millington. 2000. Self-published. ISBN 1-895332-25-7.



Portion of British Admiralty Chart 311 dated 1917 showing the locations of the King's (Ironstone) Quarries and the Queen's (Granite) Quarries at Purcell's Cove
(Halifax Municipal Archives)



Photos of the quarries from NS Archives

Sketches and traditions of the Northwest Arm by John W. Ragan.1908.
Chapter on page 80: Queens quarries, Herring Cove and Purcell's Cove.

Other Industries: Fishing, Ice, Tannery, Grist Mill, Nail Factory, Brewery, Sugar Mill
From *Exploring Halifax's Industrial Heritage:* The Williams Lake Historic Corridor by Rachel Nicholls, 2015: An industrial corridor used to follow Lawsons Creek, which flows from Williams Lake to the Northwest Arm, in Halifax, Nova Scotia. This site was actively used for a variety of manufacturing enterprises in the 18th and 19th centuries. Although the scale of these industries was small, they were representative of the activities that occurred in the province at that time.

The Atlantic Sugar Refinery, ca. 1900. Source: Mainland South Heritage Society

Personal Stories about the Backlands

People in Halifax who use the Backlands were asked to contribute photographs or stories about what makes the Backlands a special place. They each gave permission for the use of their materials for city planning or education.

Risks associated with further development

In this section, we have summarized the risks or liabilities associated with the disruption or destruction of this wilderness gem. Links that substantiate the claim of risk are also provided. There is no appropriate model for development of the Backlands and we believe the HRM planning staff and Councillors should be aware of the great risks associated with disturbance of these lands. Protection of the Backlands from disruption or destruction is protection of a valuable ecological, recreational and cultural asset.

HGNP and HalifACT objectives

On balance, development of the Backlands leads HRM towards a net loss in terms of ecology, recreation, cultural roots and expense. Please refer to HGNP 5.2.7 Objective (page 40) Protect, restore, maintain and expand natural areas and green infrastructure assets.

“In 2019, Regional Council unanimously declared a climate emergency to convey our collective concern around climate change, as a call to action to reduce our emissions and prepare our communities” (HalifACT Mayor’s forward). The wisdom of using conservation in mitigating the effects of climate change is stated plainly in HalifACT on page 43 in this inset box.

“Conservation and Climate Action – A Perfect Pairing:
We will not succeed in addressing climate change if we do not protect and enhance the natural environment we depend on for survival. Natural areas like forests and wetlands produce oxygen, filter the air we breathe, clean our drinking water, hold flood waters, regulate climate and absorb carbon dioxide, a greenhouse gas. Valuing these important functions economically is critical to their consideration in decision-making. Natural capital allows for this analysis, defined as “the stock of natural resources (finite or renewable) and ecosystems that provide direct or indirect benefits to the economy, our society, and the world around us.”

Preservation of the Backlands checks the boxes on many of the objectives and actions passed in HalifACT, not the least of which is Objective 5.3.1 Emergency Management: “Better prepare for increased climate-related emergencies” (page 45).

Intensification of climate change effects

The ecological services currently performed by the forests, rivers, lakes and wetlands of the Backlands would be disrupted or destroyed by construction and change of the landscape. The activities of cutting down forests and breaking up stone create carbon release. The loss of the ecological services formerly performed by natural blue-green infrastructure would need to be replaced through costly engineered infrastructure. The increase in density from adding built structures, concrete paving, the utilities and cars creates an increase in heat generation while replacing the cooling effects from formerly green lands. Quote from page 43 footnote 21. . . “By assigning value to things like flood control and climate regulation, these natural assets can be considered more meaningfully in cost benefit analyses and decision-making.”
TD Economics. 2014. Valuing the world around us: an introduction to natural capital. Special Report. November 20, 2014.

The Themes and Directions report for the current Regional Plan Review (May 2021) covers some of the issues around climate change intensification. Please see page 88 of this report

which emphasizes the use of natural infrastructure in mitigating some effects of climate change.

Fire

Regular fires within the Backlands predate European settlement. The ecology is fire-stimulating as well as fire-dependent and fire-adapted, such as the Jack Pine/Broom Crowberry Barrens that are nationally unique to Nova Scotia and globally rare.

The 2009 "Spryfield Fire" covered 800 ha and destroyed eight houses on a street recently developed in an area of Jack Pines. A strategy of Fire Smart protection of current residences on the fringes and no further development within the Backlands are appropriate ways forward. No further development within the Backlands may help to reduce fire threats to habitations, conserve the rare Jack Pine/Crowberry barrens and provide several other significant social and ecological benefits.

Exploring the Wildland-Urban Interface in Halifax, NS - Mapping forest fire risk in the Eastern Chebucto Peninsula Backlands
Recent fire and fire management in the New Jersey Pine Barrens: a model for the Backlands?
Mapping forest fire risk in the Eastern Chebucto Peninsula Backlands.
A Rare, Fire-Dependent Pine Barrens at the Wildland-Urban Interface of Halifax, Nova Scotia.
Fire Ecology pages on the Backlands Coalition website
Residents flee homes as crews battle wildfire in Halifax area -CBC News article following fire in the Backlands

Radon

Radon is a naturally occurring radioactive gas created by the breakdown of uranium in soil, rock, and water. Radon is a known human “Class A” carcinogen. Exposure to the gas is the leading cause of lung cancer in non-smokers in Canada. When radon is released into the outdoor environment it mixes with air and remains at a low risk level. However, when it seeps into homes and other buildings, it can reach dangerous levels. Because of its geology, some areas of HRM are at high risk for radon. This includes all of the Backlands.

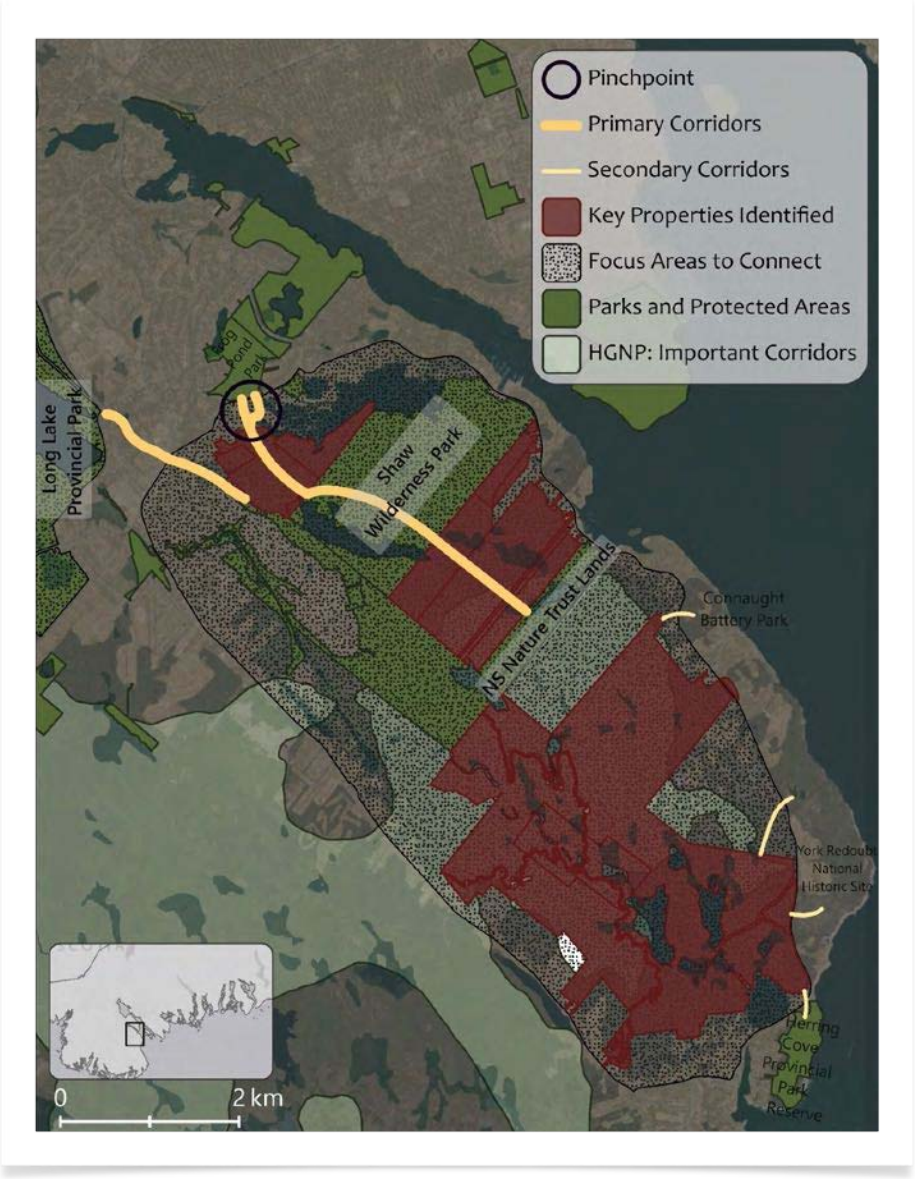
Nova Scotia buying 100 more radon detectors so people can test their homes - CBC News.

Fragmentation of habitat

Habitat fragmentation is a process by which large and contiguous habitats get divided into smaller, isolated patches of habitats. "Fragmentation ... not only causes loss of the amount of habitat but by creating small, isolated patches it also changes the properties of the remaining habitat" (van den Berg et al. 2001). Additionally, the effects of habitat fragmentation damage the ability for species, such as native plants, to be able to effectively adapt to their changing environments. Ultimately, this prevents gene flow from one generation of population to the next, especially for species living in smaller population sizes. Overall, habitat fragmentation results in a decrease in biodiversity.

Environmental Connectivity: The maintenance of the ecological integrity of the Backlands depends on how we manage land within the Backlands, but also on wildlife connectivity to the

larger Chebucto Peninsula and to the Nova Scotia mainland and on what happens in upper portions of the Williams Lake and McIntosh Run watersheds that lie outside of the Backlands. Nova Scotia Crown Share Land Legacy Trust studied this issue in 2021 - Wildlife Corridor Landscape Design Charrette

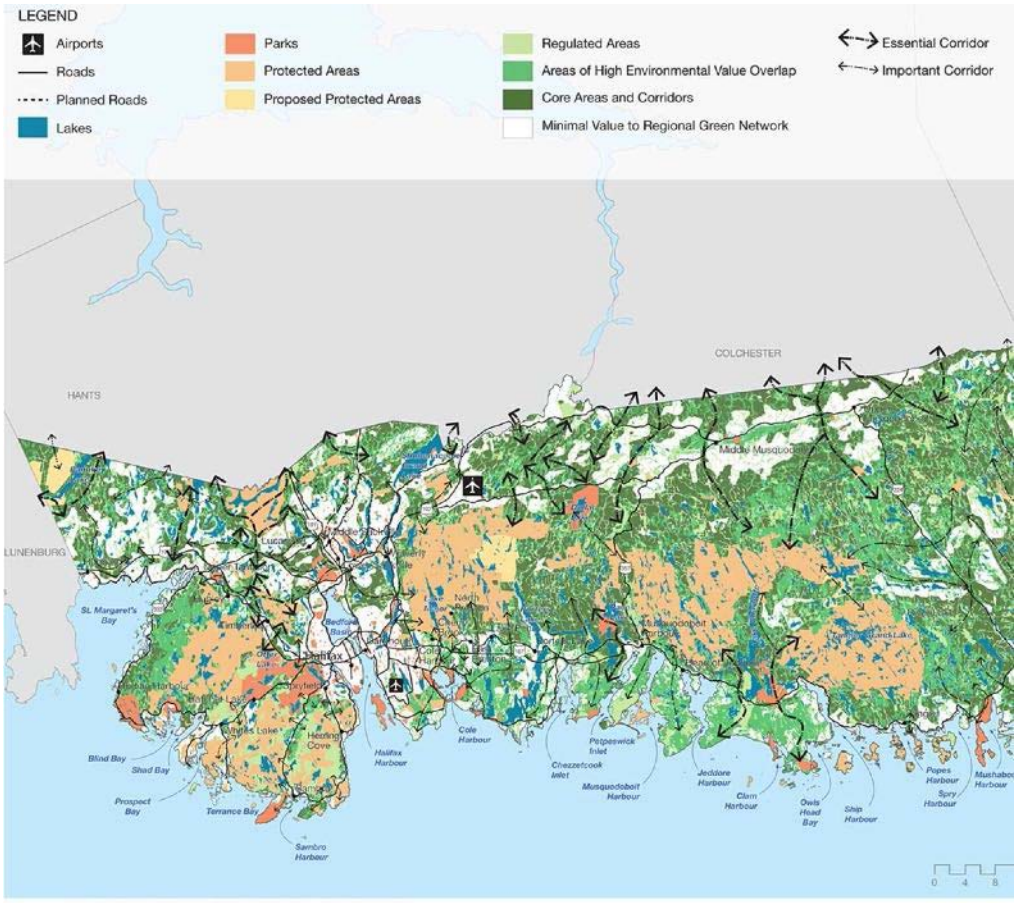


Connectivity within the Backlands from Wildlife Corridor Landscape Design Charrette

The HGNP defines an interconnected open space system for the municipality. Map 5 (Green Network Ecology Map) specifically identifies:

- maintain ecologically and culturally important land and aquatic systems;
- promote the sustainable use of natural resources and economically important open spaces;
- identify, define and plan land suited for parks and corridors.

Map 5 of HGNP identifies the need for the maintenance of two important wildlife corridors linking the Backlands to the rest of the Chebucto Peninsula.



Map 5: **GREEN NETWORK ECOLOGY MAP**

Stormwater Management

Stormwater is water from groundwater discharge, surface water, rain, or melting snow that flows across the landscape. In the natural environment it evaporates, runs off into streams or is absorbed into the soil. In urban areas, stormwater management is especially important due to decreases in natural land cover and the expansion of impervious surfaces like rooftops, sidewalks, and roadways. These surfaces prevent rainwater from being absorbed by soil and wetlands, where it can be filtered and slowly released. It has been estimated that the volume of stormwater from one acre of impervious land is equal to the domestic waste flow from 3,000 people.

Excess volume of stormwater is one issue. Stormwater pollution is another. This results when runoff picks up, carries and transports various pollutants (oil, grease, chemicals, dirt, salt, sediment, nutrients, and pathogens). These pollutants can have a significant impact on downstream watersheds. All watersheds are interconnected; every action that affects the land also has indirect effects on lakes, rivers, and the ocean waters into which they drain.

Runoff containing road salt in the upper part of Governors Brook is the major source of salt entering Colpitt Lake and in turn, Williams Lake. Charles Bull has conducted observations of EC (Electrical Conductivity, a measure of the salt concentration in water) and temperature at

several sites on Governors Brook and Colpitt Lake. The data collected shows some serious concerns about the amount of salt entering the watershed.

Swimming at the popular Williams Lake Beach, Cunard Pond was prohibited twice last summer because of blue green algae blooms.

Municipalities own 60 per cent of public infrastructure in Canada, therefore they have a significant role to play – and significant costs to pay - especially in stormwater management – because of future climate impacts. Coastal communities in Atlantic Canada are expected to have the highest adaptation costs in the country, and Halifax is a municipality with over 2,000 kilometres of coastline.

HRM declared a climate emergency in January 2019. Water issues are critical to the success of any plan to amplify HRM's resiliency to extreme climate events.

Climate change is making it harder and harder to predict rainfall events based on historical records. The experience within Halifax has been that a variety of recent, and historical, storm events have caused damage and inconvenience to both public and private property. These storm events have caused problems that generally fall into the following categories:
• Private property flooding;
• Street flooding and icing in the street;
• Sewer backups;
• Excessive stormwater in the wastewater system; and,
• Degradation in receiving water quality.

Stormwater is managed using natural topography, watercourses and stormwater systems as well as best management practices, which include blue-green infrastructure and low impact appropriate land development practices. The open spaces, watersheds, wetlands, rivers and lakes in the Backlands provide critical blue-green infrastructure services to HRM in its efforts to manage stormwater volumes and pollution in the face of climate change. These ecoservices **cannot be replicated if damages occur to the natural assets of this topography**.

Traffic

It has been common knowledge for quite some time that traffic from the Mainland South to Halifax Peninsula is problematic and is not viable. There are two exits from Mainland South by vehicle. There has been an increase in both the exit via Dunbrack Street (provides access to parts of HRM other than Halifax Peninsula) and the Armdale Roundabout (provides access to Halifax Peninsula and other parts of HRM). The capacity of the Roundabout cannot handle the existing traffic loads let alone those projected into the future.

Traffic capacity was examined in the case titled Williams Lake Conservation Company v. Kimberly Lloyd Developments Ltd., 2004 NSCA 44 (CanLII). In this 2004 case a witness, Alan David Taylor, who worked in the HRM Traffic Division stated that the then Rotary was not capable of handling any additional traffic. Mr. Taylor's testimony can be found on pages 14 and 15, with his statement concerning the Rotary capacity at paragraph 46. Since 2004, new developments in Spryfield have included large developments such as Governors Brook and McIntosh Estates.

More recent traffic studies for residential developments in Spryfield skirt the issue of exit from Mainland South by ignoring the traffic tie ups at the Roundabout or at Dunbrack Street and by focusing their data collection on the driveways and streets nearest to the proposed development. An example is the traffic study from Green Acres Residential Development.

In the past 20 years, although the Rotary was changed to a Roundabout and the Chebucto Road entrance and exit was expanded, it is common knowledge that the wait time to exit Mainland South during rush hours often causes delays of over an hour in length.

Over 10,000 new residents are expected to live in the Spryfield area over the next few years in newly constructed housing that has already been approved. Many will travel by car, some by transit. However, some services have been cut back significantly in the past few years, leaving many on Purcells Cove Road with no other option but driving a car. Pedestrian safety is a major concern of residents.

All commuters to the Halifax Peninsula will continue to experience the frustrating delays of snarled traffic that also pollutes our air. Recently, pedestrian safety has been compromised by more traffic, speeding cars, and frustrated and distracted drivers. The costs to HRM will be high for infrastructure service development to accommodate the already planned population increase. The Halifax Examiner (March 20, 2021) provides a summary of proposed changes to Herring Cove Road and a critique of the same.