



Quinte
CONSERVATION

QUINTE CONSERVATION LANDS BACKGROUND 2024





Preface

The intent of this document is to fulfill the requirements of *Ontario Regulation 686/21: Mandatory Programs and Services* under the *Conservation Authorities Act*, which requires Ontario's Conservation Authorities to describe the management objectives of their land holdings.

The following report is focused on the 30,000 acres of vacant land holdings owned and managed by Quinte Conservation (the Authority). Further, the attached mapping broadly indicates the categories of land use. This report acts as a guide for Quinte Conservation staff to manage its vast land holdings and provide clarity to the public on its roles and responsibilities.

At a minimum, this report should be reviewed for relevance every five years.

Introduction

In the last 200 years, the ecological condition of the Quinte Conservation's property holdings has been greatly affected by land use.

Deeply rooted in the pioneer settlement era, forested areas were extensively and repeatedly over harvested. This resulted in grazing and fires in the northern portion of the watershed, and the clearing of land for agriculture in the southern portion. These activities greatly reduced the watershed's forest cover and caused massive soil erosion and downstream flooding.

It was from these conditions that Conservation Authorities were established with a broad mandate to implement conservation measures.

The *Conservation Authorities Act* was introduced in 1946, enabling programs and services that furthered watershed-based conservation, restoration, development, and management of natural resources in Ontario. Under the Act, Conservation Authorities were created at the request of local municipalities through shared funding from the province.

The purchase of private, patented land, which was environmentally degraded and often referred to as a 'barren wasteland' by Conservation Authorities, represented a long-term partnership between the province and its municipalities.

Throughout the 1950s to 1970s, the Authority purchased private, patented property from individuals and families with the expressed goal of retiring the poorest agricultural lands and demonstrating the 'wise use' of natural resources. Most of the property purchases were made using grants from the Provincial Government where, typically, 80% of the cost was covered. This acquisition of land removed the potential for commercial exploitation, thus assisted in preventing flooding, erosion, drought, and deforestation.

Over the past 40 years, these properties have naturalized, and now protect lands on a permanent watercourse (creek, river, or lake) and demonstrate the benefits of protecting fragile lands from economic exploitation.

The land holdings operate for a variety of activities including water management (weirs and dams), conservation areas (recreational use), commercial forestry (good forest management practices), and conservation reserves (providing ecosystem services to the watershed). Several of these uses can overlap on a single land holding, therefore representing an integrated approach to management.

While not a comprehensive compilation of information, this report is intended to build upon the formative works of the Moira Valley Report (1955), Napanee Valley Report (1957) and the Prince Edward Region Conservation Report (1968). Additionally, the forest resources found on the properties are excellently summarized in the Managed Forest Plan for both the Moira River and Napanee Region Conservation Authorities (1998) and subsequent inventory update by staff in 2018.

Lastly, this document is intended to build upon the Authority's Conservation Lands Strategy (2023) and the Conservation Area Strategy (2023).

Cultural Heritage

Preface

This section describes how cultural heritage overlaps with the Authority's land holdings.

Introduction

Cultural heritage has been defined as the relationship between a community and its sense of identity from a shared history of beliefs, behaviours, or practices and are unique to the time period in which they were created. It is critical that cultural materials (objects, artifacts, features, and sites) be viewed and valued in context. In the case of the Quinte Watershed, there are two significant occurrences of cultural heritage belonging to the First Nations community followed by the European Pioneer Settlers.

When considering the values of the First Nations community, there is limited physical evidence of their activities was left behind. However, this is not the case with pioneer settlement activities as physical evidence of many structural pieces (including foundations/walls/chimneys, stone piles/fences, and mine shafts/head frames) and/or wrecked vehicles/abandoned machines remain throughout the watershed.

More recent cultural heritage landscapes represent planned human actions and could include travel routes (trails, roads, and rails), town sites, dams, logging camps, or mining sites.

The following two sections on First Nations and Pioneer activities include a brief historical backgrounder.

First Nations

Two indigenous communities were strongly represented within the region. The Mississauga, a group of Anishinaabe people speaking the Algonquin language and inhabiting Lake Ontario's north shore, relied on hunting venison, gathering berries, and cultivating wild rice. The Mohawk,

a group of Haudenosaune people speaking the Iroquoian language, formed part of the Iroquois Confederacy and cultivated what is known as the 'three sisters', corn, beans, and squash, on the south shores of Lake Ontario.

This divide in culture was evidenced by the development of two differing language groups and was utilized by the early European settlers for their own trade alliances. The French established trade connections with the Anishinaabe, while the Dutch & English established trade with the Haudenosaune. The spread of European diseases, which was often introduced through well-established trading routes closer to the ocean, vastly reduced the First Nations population across Ontario and Quebec and by 1791, when important treaties were being signed within the Bay of Quinte, most of the Mississauga's population had been decimated. This allowed the Mohawk and Loyalist pioneers fleeing the American Revolution to settle along the north shores of Lake Ontario. The remaining regions of the watershed were shaped by the pioneers who modified the landscape in their own favour and largely through brute force.

First Nation communities throughout the Quinte Watershed continue to follow in the footsteps of their ancestors and use the area's natural resources for many of the same traditional activities including hunting, trapping, fishing, gathering edible and medicinal plants, maple syrup, gathering forest products for traditional crafts, canoe building, mineral collecting, spring water, camping, as well as cultural gatherings and ceremonies.

Areas of significance which may be found on Authority owned property include:

- Harvesting and fishing areas
- Camping areas
- Recreational swimming/bathing locations
- Wildlife areas, species at risk and their habitats
- Medicinal plant gathering locations
- Edible Plant gathering locations
- Areas of plant materials gathering for traditional uses
- Fuel-wood gathering areas and access to these areas

- Canoe-grade Birch and White Cedar trees or stands
- Culturally modified trees
- Sugar bush stands (historic)
- Constructed stone formations
- Archaeological sites including registered and known sites
- Archaeological potential areas (such as ancient shorelines and human & wildlife travel/migration routes)
- Natural rock formations, mineral occurrences, cliffs, bluffs, and lookouts
- Remnant Old Growth Forest stands
- Lands containing, adjacent to, or in relation to burials sites
- Pictograph/petroglyph sites and adjacent lands
- Constructed Rock formations
- Ceremonial sites for gatherings, sweat lodge, fasting, etc.
- Culturally significant wildlife species occurrences (e.g. eagle nests)
- Lands adjacent rapids
- Traditional, historic, and currently used portage trails

Within these general areas, there are more specific landscape features associated with ancient water bodies and with characteristics that increase potential for encountering ancient archaeological sites/resources. These features include, but are not limited to:

- Southerly exposures
- Relatively flat well drained soils
- Open, semi-open dry forests (red oak, red pine, white pine), oak scrub, and barrens type ecosystems
- Ancient beaches (may occur on steep slopes or have steep slopes beneath)
- Bedrock outcrops/ exposed bedrock
- Glacial erratics
- Proximity and accessibility to tool-stone gathering (especially the presence quartz veins)
- Vantage points and sight lines to other distant points and across ancient water bodies
- Point and peninsula features, bluffs, ridges, escarpments edges, plateaus, and islands
- Convergence areas of ancient water bodies and post glacial drainages
- Proximity to topographical features facilitating

- major wildlife movements such as narrows, and long ridge/plateau features
- Steep slopes (many ancient sites and materials are located on or below shoreline/beach benches along steep slopes)

As portions of many of these features exist on Authority lands, staff continue to foster a relationship with local First Nations groups. Through several senior government sources, books, and personal interviews with First Nation contacts, staff have determined that the First Nations groups directly tied to the Quinte Watershed to be:

- [Alderville First Nation, Roseneath, ON](#)
- [Mohawks on the Bay of Quinte, Tyendinaga Mohawk Territory, ON](#)
- [Algonquins of Ontario](#)

Pioneers

During the American Revolution, supporters of the crown, known as United Empire Loyalists, were stripped of their belongings and properties which led to them settling throughout the Quinte region. This group heavily relied on the government to provide them with everything they needed to start their new life, thus laying the foundation for newcomers to benefit from much later on. Over time, the population of settlers started to build and communities started forming around saw mills, grist mills, and mines, where there would be opportunities for employment. With this, taverns, blacksmith shops, and churches were built forming the nucleus for crossroads villages. Belleville's importance as a port also grew with the invention of steamers as it became much easier to export items over the waterways.

Pioneering activities such as farming, lumbering, and mining left lasting negative impacts on the natural landscape. Evidence of these activities are still present throughout the watershed and are noted in the chart on next page.



Photo 1. Quinte Conservation

Cultural Heritage Sites on Authority Land Holdings

The following list of cultural heritage sites have been observed by staff and through a data sharing agreement with the Ministry of Culture, Tourism, and Sport. The information represents a general overview of known resources located within the Authority's property holdings. It is intended that these sites will remain undisturbed, therefore appropriate protection measures will take place in the event of construction or forest harvest operations in their vicinity.

Photo 1: Left - Granary remains at Little Bluff Conservation Area, top right - wood foundation at Cassidy Block, bottom right: stone building at Beaver Meadow Conservation Area.

Figure 1: depicts the location and cultural heritage item and/or significance that has been identified on the Authority's different properties.

MF.104.O'Donnell Road	Mine trench
MF.105.Malone Rail Line	Building foundations
MF.107.Deloro Dam	Power generation for the Deloro Mine site
MF.108.Ackerman	Town site Ackerman Mine
MF.109.O'Hara Mill	Water powered frame wood sawing mill
MF.110.Rawdon Block	Building foundations
MF.114.Flinton North	Building foundations
MF.119.Bosley Road West	Mine trench
MF.119.Bosley Road East	Abandoned railway
MF.121.Queensboro Road	Abandoned railway
MF.123.Downy Rapids Block	Building foundations, mine shafts, dam & stamp mill for crushing rock
MF.125.Price CA	Mine shaft, dam & stamp mill for crushing rock
MF.128.Bridgewater	Building foundation & cut granite stone fences
MF.135.Sheffield CA	Stone fireplace of abandoned cottage
MF.137.Quin Mo Lac Road	Building foundations
MF.140.Vanderwater CA	Building foundations, experimental tree plantations & First Nations campsite
MF.150.Cassidy Block	Log barn, stone bridge & experimental tree plantations
MF.155.Frink Centre	First Nations campsite
MF.159.Sidney CA	Building foundations & experimental farm works
MF.203.Depot Lake South	Timber crib dam between Second and Third lakes
MF.208.Dead Creek	Family cemetery plot & building foundations
Massassauga Point CA	First Nations campsite; foundation of 1880's hotel/resort
Little Bluff CA	Grain storage bin foundations & Seismic station
Macaulay Mountain CA	Training grounds for armoured vehicles during WWII
Beaver Meadow CA	Early vegetable farming; dam & mill site
Milford Mill Pond	Historic mill building

Figure 1. Quinte Conservation

Flora and Fauna

Natural plant communities are directly influenced by large scale factors, such as climate and geology; however, when refining the scale, a noticeable patch diversity is represented. It is the plant community which drives the presence or absence of animal wildlife, therefore the protection of plant diversity will provide for a rich diversity in animal life.

Habitat ranges for plant species typically change at a slower pace than those of animals, primarily because their seed dispersal mechanisms rely on wind or animal activity. However, the Quinte Watershed is home to a variety of large and long-lived plants (trees) that are at the border of their natural range. This genetic composition may prove to be important factors in providing a source for locally adapted seed in a changing climate. Watershed plant species include those typical to the north Boreal forest (Black Spruce, Jack Pine, Pin Cherry and White Birch), the southern Deciduous forest (White, Swamp White & Chinquapin Oaks, Shagbark & Bitternut Hickories, Cottonwood Poplar, Hackberry, and Black Maple), and the eastern Acadian forest (Red Spruce, Grey Birch, and Pitch Pine).

Ecological Communities within the Quinte Watershed

- Alvar
- Beach & Bar
- Bluff, Cliff & Talus
- Crevice & Cave
- Cultural
- Fen & Bog
- Forest
- Marsh
- Open Water
- Rock Barren
- Sand Barren
- Sand Dune
- Savanna
- Swamp
- Tallgrass Prairie
- Woodland

Wildlife Resources

The Authority's landholdings are occupied by a diverse and interesting set of wildlife. At the juxtaposition of the western grasslands, northern conifer forests, southern deciduous forests, and mixed eastern plains, the area is a significant phenomenon within the continent and contains a mixing pot of species, each living at the edge of their natural ranges.

Opossums, Bobcats, Black Widow Spiders, Ticks, and Sandhill Cranes have expanded their core habitat ranges and can be seen in the Quinte Watershed. There have also been reports of cougars having returned, despite no official records maintained by the Province. Locals have reported more frequent moose sightings in the northern regions of the Watershed, while Black Bears and Fishers are becoming increasingly common in the southern regions as forest cover recovers from past clearing and agricultural ventures. It has also been noted that extirpated species are returning in healthy numbers, including the Bald Eagle and Trumpeter Swan.

With the support of volunteers, the newly established Carbon Sample Plots offer long-term locations for data collection efforts. Despite the plots being selected using a randomization formula, these areas provide an adequate location for the monitoring of birds (continental scale), large mammals (regional scale), and amphibians (local scale). Data collection could be carried out using modern tools such as the iNaturalist app and Google Forms, as well as trail cameras, and automatic recorders.

Figure 2: Factors influencing the botanical diversity of the Quinte watershed, leads to a stunning array of ecological communities within the Watershed.

Invasive Species

Invasive species continue to be a significant threat to the Watershed's biodiversity and ecosystem health as they damage important ecology such as wetlands, forests, lakes, rivers, and streams.

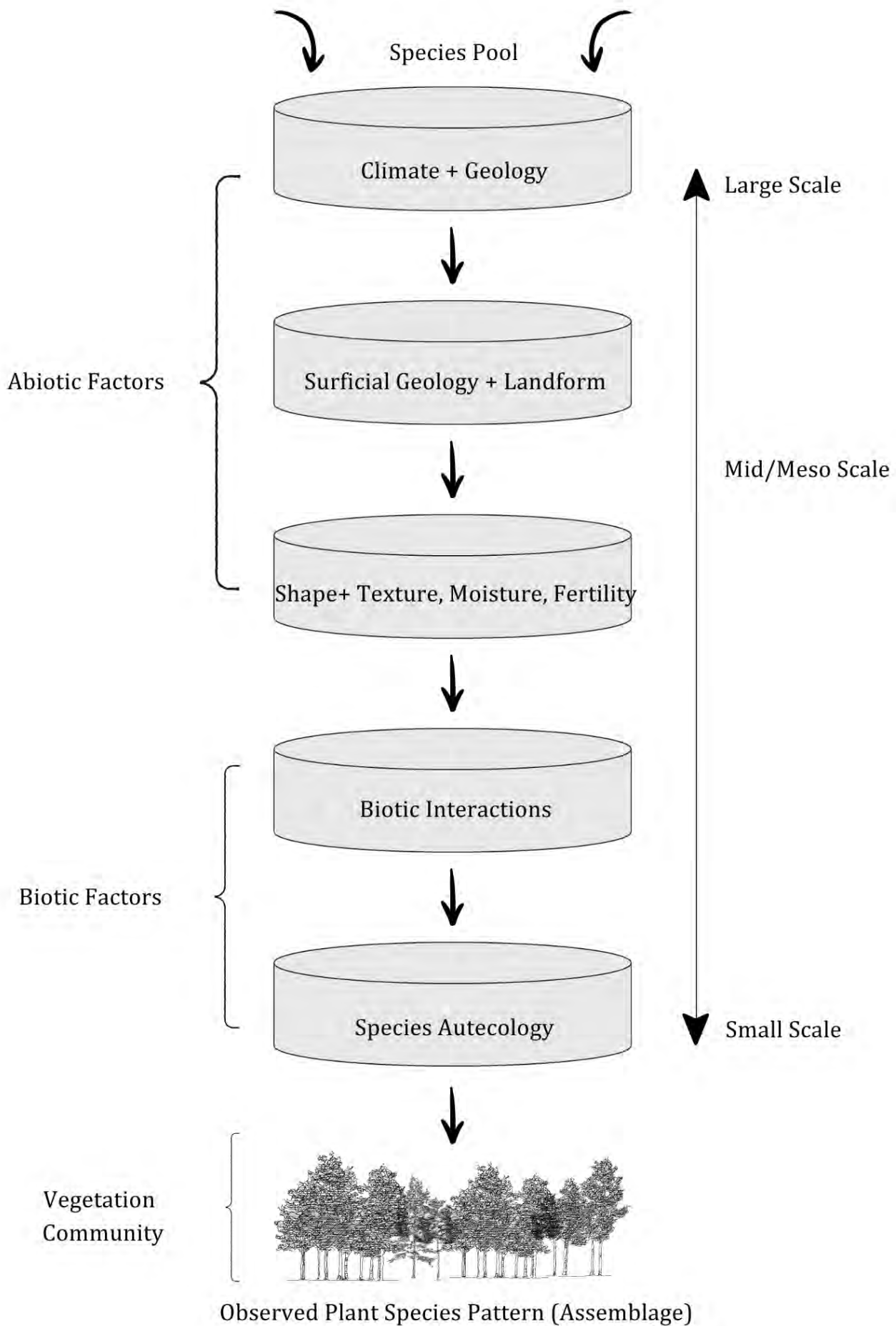


Figure 2. Quinte Conservation



Invasive species also threaten agricultural practices, infrastructure, tourism, fisheries, and water quality & quantity.

Conservation Authorities throughout Ontario target the following species through various initiatives and with the help of local programs and volunteers: Purple Loosestrife, Garlic Mustard, buckthorns, Emerald Ash Borer, Zebra Muscles, Dog Strangling Vine, Reed Canary Grass, and Round Goby. Monitoring the distribution of invasive species is imperative for controlling their spread and identifying areas of concern.

Wildlife Habitat

MF.150. Cassidy Block

The Cassidy block, located in Tweed is a significant 3,000 acre tract of vacant property within the context of Southern Ontario. It is formed within the direct borders of the Canadian Shield and St. Lawrence Lowlands and was heavily impacted by pioneer era agriculture practices. Previous to the property being purchased by Quinte Conservation, much of the original hardwood stands were *high graded*, meaning, the best trees were removed. Large portions of the block were heavily disturbed; however, unique ecotypes can be found within the property, including an old growth temperate forest along the western edge of Myrehall Wetland. The wetland itself has been deemed Provincially Significant and is known to contain Pike. Additionally, the Larkins Alvar, located in the north east section of block, has been recognized as a Provincially Significant Area of Natural Scientific Interest. Although not entirely absent, the pervasiveness of destructive invasive species is very low (indicating a low disturbance rate).

Many groups have explored Cassidy Block over the years, including local naturalist groups, staff/associates of the Province's Natural Heritage Information Centre, as well as staff/associates with the Royal Ontario Museum, Toronto Zoo, and Canadian Museum of Nature. Through the exploration of this land, we have confirmed the significance of local species and ecotype diversity. Species noteworthy of mention include extremely

rare lichens and mosses, as well as southern species like the Cerulean Warbler, Red Shouldered Hawk, Walking Fern, Black Maple, Hackberry, Bitternut Hickory, Butternut, Ginseng, and Chigger insects.

Several interesting cultural heritage features can be found on the property such as a stone bridge, log building, stone & rail fence lines, and experimental Jack Pine plantings on thin soils over limestone. A forest stand on the eastern boundary of the property was harvested using an experimental technique for harvesting shelterwood. The Cassidy Block is prized by locals for its hunting activities as well as ATV experiences, when at onetime, included a route during a Tweed-based poker run.

Due to the size and natural ecotype representation of the Cassidy Block, the following recommendations can be justified:

- No further commercial forest harvest activities should take place within the block. *Although appropriate at times, and in specific locations; the risk of ecosystem disruption (and introduction of invasive plants) should rule this activity as inappropriate.* **Note:** *This block is not currently designated for commercial harvest activities.*
- No road access improvements should take place. *The block is currently accessed by an un-maintained Municipal road allowance, which is barely passable by a four-wheel drive truck. Limiting access to ATVs will contribute to less garbage dumping and other un-favorable activities.*
- Staff should conduct routine/annual ecological monitoring in the block. *Given the tremendous diversity within the area, an early detection of invasives and illicit activities will assist with limiting the potential damage to the ecosystem. Further, a compilation of ecological communities (i.e. botanical and wildlife inventories) will assist with long-term monitoring of the area.*
- The local hunters and recreational users (i.e. field naturalists) should continue to be encouraged to assist with monitoring the block. *However, staff suggest that the outright promotion of the area be kept to a minimum in order to reduce pressures on the ecosystem values.*

- Partnerships with academic institutions should be encouraged *as the large area and intact ecosystem may present opportunities for graduate students given the close locations of Trent (Peterborough, ON) and Queens (Kingston, ON) universities with strong biological science departments.*

Deer Yards

A White-tailed Deer's habitat can encompass up to several thousand square kilometres, however, the winter habitat, also known as a yard, represents only 10 to 15% of that area. Proper management of a Deer's winter habitat can be crucial to the survival of the overall population as Deer are reported to show a strong traditional use of wintering areas and are reluctant to change their migration habits.

Generally, the wintering habitat is divided into two categories: Deer Yard (stratum 1) and Deer Wintering Area (stratum 2). Typically, a stratum 2 is occupied by deer early in the winter, before the snow gets too deep (less than 30 cm). If, and when, snow conditions get too deep (greater than 46 cm) and the deer are restricted in mobility, do they move to a stratum 1.

Ideal conditions for yards include browsing areas with coniferous shelter (also used to intercept snow) such as White Cedar and Hemlock, as well, an abundance of deciduous tree seedlings and shrubs.

The production of forage in each unique yard is strongly influenced by the age and type of the forest; Therefore, maintaining and creating the winter browsing components in the northern parts of the watershed can be a challenge if forest harvest does not occur. It is different in the southern portion of the watershed as snow depth is typically not as deep and the herd may not require a stratum 1.

Forest management activities contribute to the maintenance of these areas and can include the cutting of mature trees (individually and in groups), that are adjacent to travel routes or bedding areas (within 100 m). There is potential to harvest the hardwood forest stands using a group selection methodology to create canopy gaps for forage

production, while improving the overall quality of the stand. Typically, the removal of trees in pockets would be staggered along a centralized trail for ecosystem stability and to allow for the un-cut areas to provide a seed source. This type of pocket harvest could be repeated several times along the main access corridor before returning to the original pocket for re-cutting. No more than 30% of the stand would be harvested during one cycle, and the pocket cuts would average from one to two acres (0.4 to 0.8 ha) in size. A residual basal area would be retained of at least 12 m²/ha after cutting. Over a 10-year cycle, the pockets could be re-cut to maintain an optimal browsing height for the herd.

Of the Authority's vast holdings, only four property blocks have been identified as contributing to deer wintering habitat: Millbridge, MF. 147 Marlbank, MF. 151 Moneymore, and MF. 140 Vanderwater.

Millbridge - Stratum 1

The Millbridge deer yard has Crown land holdings which are being managed by the Mazinaw-Lanark Forest Sustainable Forest Licensee.

One Crown land block is located directly adjacent to the Authority's holdings (Lot 20, Con 8 of Tudor and the north half of Lot 20, Con 7, Tudor). This Crown property was harvested under a shelterwood method (typically 40% removal of the mature tree cover) during the winters of '95/'96 and '96/'97. This produced extensive Poplar regeneration that has now reached the polewood stage, which is out of browsing reach of deer. Interestingly, another Crown land block (Lots 15 & 16, Con 7, Tudor; just east of the Authority's property) received a selection harvest (typically 25% removal of the mature tree cover) in tolerant hardwood very recently (2018).

Not too far distance from the Authority's holding, yet another Crown land block (Lot 30, Con 5, Tudor) was harvested using a clear-cut method (typically 80% removal of the mature tree cover) to regenerate Poplar as a preferred browse species. In addition, Lots 33 and 34, Con 5, Tudor also received shelterwood harvests during the same time period (2018). These local harvest activities have created

a boom in winter browse supply, and thus no immediate harvest activity is necessary.

As the northern portion of MF.101. Cleaveland Road is directly adjacent to the harvest activity conducted on the Crown lands in 1995, staff are recommending that the forest cover on this parcel be retained without harvest activities indefinitely for direct comparison and to use as a demonstration/educational site. Any interested parties can use the former rail line for access as it divides the Crown land from the Authority's land and can directly observe the habitat differentiation associated with stand succession. Conversely, the southern portion of MF.101. Cleveland Road (being Lot 18, Con 6, Tudor) has approximately 15 acres (6 hectares) of upland forest that could be harvested in order to enhance winter deer habitat. Being dominated by mature Poplar, poor quality hardwood, and White Cedar clumps, this portion of the property block is already dissected by an access trail. Although not considered commercially viable at this time, portions of this forest on this property could be enhanced through cutting to create more winter deer browse. Given the extensive harvest activities that have recently occurred on the nearby Crown lands, staff are recommending that any habitat enhancement activities on this parcel be scheduled in consultation with the Mazinaw-Lanark forest management team.

Marlbank - Stratum 1

Covering a large area of private property, the southern portion of the Authority's MF.146.Goose Lake south property lies within the Marlbank deer yard. The hardwood forest stands on this property could be harvested utilizing a group selection methodology to create canopy gaps (producing deer browse) while improving overall stand quality.

Moneymore - Stratum 2

The Authority's MF.151.Moneymore Road holding lies within the Moneymore deer yard. This property has excellent habitat for the traditional use by deer as it is a hardwood forest adjacent to a conifer swamp; within which are bedding ridges. Being a stratum 2, this deer yard is much smaller than the

Millbridge yard and lies entirely within private land holdings (with the exception of the Authority's). As the only public property within this yard, the site presents an opportunity for the Authority to demonstrate wildlife enhancement activities to other private landowners. Staff recommend that a similar pocket harvest method be employed within the hardwood forest stand found on this property.

Vanderwater - Stratum 2

This yard lies entirely within private land holdings (with the exception of the Authority's). The northern portion of the Vanderwater property is coincidental with a large White Cedar stand that could also be treated with the afore mentioned pocket harvest. As the Vanderwater property has been designated as an educational commercial forest property, the opportunity exists to provide winter browse through the regeneration of hardwood forest under the existing plantations and with the demonstration of a pocket harvest management technique within the pure White Cedar stand.

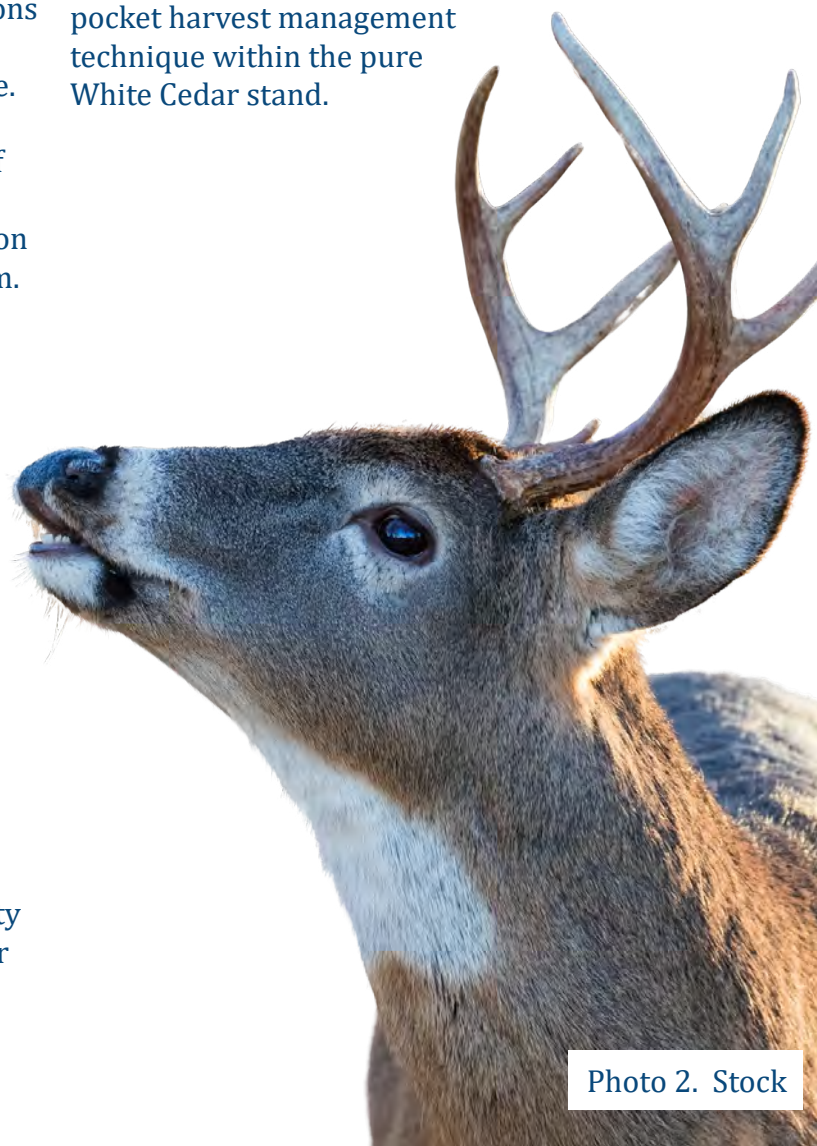


Photo 2. Stock

Elzevir Township Highlands

The highlands of Elzevir Township have been known as an odd landscape feature within the Watershed for many years. First mentioned by the Authority in the Moira Valley Conservation Report in 1950, the area is reported to have had the trees and humus (soil organic matter) destroyed by repeated fires. Over time, the remaining soils washed into the local waterways which produced the granite barrens found there today. The extensive sphagnum bogs on the Laurentian (Canadian) shield and the extirpation of the American Elk (or Wapiti) are also mentioned in this report.

In a later report, it was noted that the area surrounding Deerrock Lake and extending southward was reviewed by specialists from the Ministry of Natural Resources through the *Area of Natural Scientific Interest* program (1989). The report outlines the Provincial significance of the shallow peatland complex (the largest in Southern Ontario) with the surrounding upland granite barrens, which includes records of several rare and geographically restricted plants that typically occur in the Atlantic coastal blanket bogs.

More recently, the area was one of the first for re-introduction for the American Elk (occurring between 1998 and 2001). The current Elk Management Plan for Ontario (2019) references collaboration with other agencies and partners (e.g. local Elk committees, wildlife organizations, academia) to undertake research directed at enhancing natural Elk habitat. They further indicate that research into the effects of climate change should be encouraged. Today, the Ontario elk population is growing and estimated at 600-1000 animals, with the Bancroft/North Hastings population stable enough to support a licensed hunt that began in 2011.

Projects with Ducks Unlimited Canada

Ducks Unlimited Canada (DUC) is a non-profit environmental organization who have been stewards of Canada's wetlands since 1938. The organization originally started in the United States of America in 1937 under the name Ducks Unlimited.

Their core mission being habitat conservation due to the unprecedented decline in waterfowl populations caused by severe drought. The organization has since expanded to include branches in Canada and Mexico.

Quinte Conservation has partnered with DUC on a few projects throughout the Watershed to showcase different habitat restoration efforts. The larger projects are managed under an agreement with DUC for a 20-year span, during which they are responsible for any capital upgrades and maintenance that may be periodically required.

The following is a list of projects:

- **Concrete Marsh Sills** at Beaver Meadow Conservation Area (former experimental vegetable farm), MF.208. Dead Creek (formerly dammed for timber drives), and MF. 207. Arnie's Mountain (acidic Fen).
- **Excavated Pairing Ponds or Wildlife Ponds** at the Longwell Demonstration Farm and the decommissioned Potter's Creek Farm.
- **Level Ditching (channels cut into monotypic cattail matts)** at MF.158. Foxboro Marsh and the Big Island Marsh.
- **Duck Nesting Boxes** have been installed at Little Bluff Conservation Area, Thurlow Wildlife Management Area, and MF.155. H.R. Frink Conservation Area. The duck boxes are utilized largely by common waterfowl like Wood, Hooded Merganser, and Golden Eye ducks, as well as other wildlife like Saw-wet Owls, Squirrels, Bees, and other cavity nesting birds. These boxes are maintained annually by volunteers.

In addition, DUC has sponsored the outright purchase of private properties for the ownership of Quinte Conservation including an addition to the H.R. Frink Outdoor Education Centre and a purchase expanding the protection and public property within the Cameron (Camden) Swamp wetland complex.

Photo 3: Quinte Conservation staff at the Foxboro Marsh.



Photo 3. Quinte Conservation



Photo 4. Quinte Conservation

Longwell Demonstration Farm

The Longwell property (demonstration farm) was donated to the Authority in 1992 and has been a demonstration site for wildlife habitat improvements ever since. The property lies within the sandy loam plain south of the Oak Hills, and primarily the arable land represents a prime agricultural soil. A low land woodlot (Silver Maple dominated) was previously drained by ditching efforts across the southern boundary of the property. On the northern side there is a diverse woodlot containing several very large specimens and assists in buffering the cold-water stream called Palliser Creek.

Over the years, various staff have conducted wildlife pond excavations including one in the north-western corner through the Bay of Quinte Remedial Action Plan's Habitat Enhancement program and one in association with DUC in the north-eastern corner of the property.

Additionally, several areas of former agricultural land have been tree planted, specifically, the northern field directly adjacent to the creek with a White Pine and Poplar mix, and the area between the two woodlots. Using the 'on-farm, wildlife enhancements' model, the property could be toured by local interest groups like Soil and Crop and 4-H clubs. Such enhancements would aim to increase the overall structural & natural area diversity found on site. Such activities could include:

- Diversification of the reed canary dominated floodplain of Palliser Creek by excavating ox-bow shaped wetland cells.
- Addition of river stone shoals to the creek channel and banks (creating riffles) in order to oxygenate the flowing waters.
- Addition of coarse woody material (tree stumps & boles) to the old field which was planted with White Pine & Poplar seedlings (thus enhancing structural diversity).

- Planting native, berry producing shrub thickets (shrubs like Elderberry & Nannyberry) primarily for birds.
- Thickening/adding to the existing treed fence lines in order to demonstrate farm wind breaks.
- Tree planting events with local groups in order to re-connect the property's existing woodlots.
- Expansion of existing tree plantings along the grassed watercourse on the southern boundary of the property (providing shade to cool the water, organic material for the field & benthos, stabilization of the banks, etc.)
- Continuing to plant larger stock trees to create a farm access lane around the eastern boundary of the property (both aesthetically pleasing and important bird/bat habitat next to grasslands).

Over the last several years, the arable land has been converted from a 'no-till: corn, beans & spray' rotation to the more environmentally friendly model of 'grassland bird - delayed hay' production which takes place after July 15 of each year to allow for the important nesting and fledging of grassland birds like the Bobolink, Meadow Lark, Upland Sandpiper, and Grasshopper Sparrow.

The Longwell property continues to be a demonstration site for best stewardship practices, and over time, there is the potential for further restoration activities to take place.

Further on-farm, wildlife enhancement work, as outlined on the next page, is intended to provide learning and engagement opportunities through tours and workdays as well as to increase overall structural & natural area diversity found on site.

Photo 4: Longwell property with potential future enhancement projects.

Watershed Forest History

Introduction

Forest clearing for agricultural purposes has been a long-practiced activity in the Quinte Region due to the inherited skills and knowledge of the European settlers. Prior to their arrival, the Iroquois, however, would have made a minimal impact to the disruption of forests for this purpose despite early evidence suggesting that large, palisaded villages could be found at the isthmus dividing the Bay of Quinte from Lake Ontario near Carrying Place, as well as near the present Town of Napanee (1670s).

Image 1, right: An Iroquois village showing longhouses. The member tribes of the Iroquois Confederacy, which lasted over 300 years, gave up warring with one another. The revered peacemaker-prophet named Diganawidah is reputed to have drawn an analogy between the families of a longhouse living harmoniously under one shared roof and the tribes of the confederacy living in unity and peace under the law. Reproduced with permission of Douglas P. Fry; copyright © Douglas P. Fry, all rights reserved.

Societies within peace systems avoid war and build positive intergroup relationships - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/An-Iroquois-village-showing-longhouses-The-member-tribes-of-the-Iroquois-Confederacy_fig2_348573946 [accessed 28 Oct 2024]

Starting in the mid-1500s, industrialist Europeans, specifically those in England, cut large swaths of

forest cover for economic purposes; including the production of charcoal used in the smelting of iron, baking of brick, production of lime, smelting of lead, production of glass, and the brewing of beer. The woodlands were further harvested in an unsustainable manner for the timber needed to construct fishing, mercantile, and navy vessels. These practices of negligent forestry were continued by the settlers in the 'New World' with more recent activities (United Empire Loyalists,



1784-1816) being the clearing of forests for agriculture and the production of infrastructure (houses, barns roofing, fences, bridges etc.).

Locally, in the Watershed

By 1836, the Moira River was turning approximately 28 mills, and the Napanee River with at least 11. Many of these mills produced locally harvested lumber products including axe handles, paper, pails, chairs, and a planing mill. During this time, massive amounts of lumber was consumed for early industrial ventures; for example, wood was needed for the construction of cribbing and walls for the Murray Canal and the Lower Trent River

Lock System. Mining was also becoming a profitable venture at this time and Hemlock was needed for the cribbing, walls, and floors of early mining shafts. Other activities requiring an extensive use of wood included the smelting of iron ores (Marmor & Madoc), the smelting of copper and gold ores (Eldorado, Bannockburn, Malone, and Deloro), as well as the industrial brickyards at Napanee.

For perspective, the early industry of mass wood production required 150-175 bushels of charcoal to melt one ton of ore, however, it took 25 cords of hardwood to make approximately 1,000 bushels of charcoal.

The area around the Cameron Swamp (Camden Wetland Complex) was known for the concentration of shingle producers, likely due to the high-quality White Cedar which would have been found in such an extensive swamp complex. Fuelwood consumption was a major component of every farm woodlot, with 142,000 cords being consumed in the 1870 agricultural census.

By the 1880s, westward emigration required the mass production of carriages & wagons, corduroy & plank roads, and bridges – all of which were made of wood. To meet this new demand, it is estimated that 150,000 to 175,000 saw logs were driven down the Moira River per year. By this time, the local wood consuming factories included asheries, tanneries, cooperages, and manufacturers of carriages, sash/door/blinds, furniture, and cheeseboxes. There was also a specialized manufacturer of cases for organs/melodeons/pianos. As well, local consumers needed pulpwood, firewood, staves, lath, tanbark, masts, spars, telephone poles, and railway ties.

The mill at Cannifton was known for producing lumber for export to the United States. By the 1870s, the lumber trade was the main contributing factor to Belleville's prosperity. At the same time, any history of the Napanee River and Salmon River watersheds would not be complete without specifically mentioning the Rathbun company's manufacturing facility in Deseronto, which was ahead of its time in the full utilization of wood products. In addition, the pulp & paper mill at Strathcona, the Gibson furniture factory in the Town of Napanee (established in

1835), and the lime kilns in Marlbank are still considered local landmarks.

Like in other parts of the Watershed, Prince Edward County experienced a boom in agriculture, so wood products, like crates for cheese & apples and poles for grapes, were in high demand. The Watershed's growth with railroad construction demanded wood for ties and bridges. As a reminder of the past, a railway loading dock can still be seen standing in the marshes of Weller's Bay at Pine Point.

Despite the local lumber industry thriving within the Watershed, farmers on the poor soils of the Canadian Shield could only produce enough potatoes, oats, hay, and meat to support the local logging camps.

By 1911, the lumber industry had dwindled to one-tenth of its size and with the extinction of the local market, the abandonment of the farms began. Young families moved westward for new opportunities and those that remained were often too poor and/or too old to move and thus, were subjected to a life of poverty. Much of the forest cover that remained on the shield was repeatedly burned (by lightning and sparks from trains) and was severely overgrazed by livestock. This damage led to extreme complications from erosion and an overall decline in the recoument of tree seedlings. At this time, much of southern Ontario was reporting shortages in fuelwood.

The Province of Ontario initiated a large-scale tree production initiative to assist in stabilizing what was considered 'wasteland'. Subsequently, this led to what was referred to as 'County Forests', where the land was taken from landowners for failure to make property tax payments. Eventually, Conservation Authorities started purchasing vacant land through Provincial programs for the purpose of rehabilitating the land through tree planting and other conservation methods. Quinte's natural forests continue to re-balance from massive exploitation, however, with time, these forests heal and thrive.

Each tree species supplied a very specific use for wood products. For example, ship building targeted Oak, Pine, Elm, Tamarack, and Cedar, whereas furniture manufacturers required Ash, Birch, Maple,

Beech, Black Walnut, Butternut, and Hickory. Farm tool production used Hickory, Beech, Ironwood, Rock Elm, and White Ash, while building and cladding preferred White Pine. Lastly, tanneries would strip the bark of only Hemlock to meet their production needs.

Forest Certification

Across the globe, consumers have long recognized the impacts of forest harvest. Often portrayed in a negative light, the industry created a standard for consumers to recognize forests which were harvested in a sustainable manner and with a high regard for local interests. The Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI) are the two major global certification bodies which review the practices of forest managers and provide guidance of how to best achieve modern forest management. They are independent, non-governmental, not-for-profit agencies that can maintain an unbiased review of practices and provide guidance of how to best achieve modern forest management. Organizations under forest certification can label their products with widely recognized symbols for sustainable forestry – something that most consumers will pay a premium for.

Generally, the certification fees paid by European and North American forest managers assist in subsidizing the modernization of forest practices in developing parts of the world, which often contain highly sensitive forest ecosystems. In this program, Canada is a leader in providing certified wood products to international companies. An excellent, local example of this sustainable practice can be seen in the product certification for the Cascades containerboard packaging mill in Trenton.

In Ontario, harvest activities on Crown land are managed by private companies known as Sustainable Forest Licensees (SFL). They plan harvest operations on behalf of the shareholders (typically logging companies and sawmill operators). Due to consumer pressure in North America, SFLs have all become certified through the FSC. The opportunity exists for community forests, which are forests existing on land owned by a municipality or conservation authority,

to participate in a group certification program through the Eastern Ontario Model Forest (EOMF).

The EOMF started as a Federal Government initiative resulting from commitments made at the 1992 United Nations Rio Earth Summit on Environment & Development. The goal of the model forest was to research methods and demonstrate best management practices for private forest holdings in south-eastern Ontario. At present, the EOMF manages the Group Forest Certification Program for community forests and smaller private landowners. This group certification currently involves 14 community forests, plus 115 private forest tracts: covering over 200,000 certified acres.

Group certificates have the advantage of group support, shared administrative costs, and peer coaching. As a voluntary program, the certification process meets its core value by conducting third-party forest planning and operations audits, which are posted for public review. In addition to lower group costs, certification is intended to raise the collective standard; thus, sharing of templates among the group is encouraged. The main principles and criteria of becoming a certified forest are listed below:

1. Compliance with laws
2. Tenure and use rights
3. Indigenous Peoples' rights
4. Community relations and workers' rights
5. Benefits from the forest
6. Environmental impact
7. Management Plan
8. Monitoring and assessment
9. High Conservation Value Forests (protecting biodiversity)
10. Operating procedures
11. Education and Training
12. Forest management planning and operating procedures

Of particular interest is FSC principle #9, which addresses High Conservation Value Forests (HCVF). It states that *Management activities in HCVF* shall maintain or enhance the attributes which define such forests. HCVF can be managed actively if the designated value receives precautionary management. Sources of information for identifying

HCVF include the Ontario Ministry of Natural Resources and Forestry's Forest Resource Inventory and Natural Resources and Values Information System, Natural Heritage Information Centre, natural heritage inventories, Endangered Species Act, and the knowledge of the forest manager and members of the community.

Receiving certification in 2019, Quinte Conservation's property holding represents 30,000 acres or 12,225 hectares of certified forest. The location of these properties is available on the organization's GIS viewer, or online through Google maps. As part of the Community Forest group certificate, the Authority also maintains a geographic information system (GIS) inventory of the forests and natural heritage values for each property. The Authority Forest is managed

according to the principles of the FSC. This certification provides the assurance that the forests are sustainably managed to a world-recognized standard.

By maintaining certification through the annual administration fee, the Authority's Executive Board and the public can be assured that the highest standard of forest management is being met. In addition, the market share for certified forest products continues to increase annually, and certified forests have greater market options than non-certified forests. Most large retailers are moving towards 100% certified wood products. Perhaps of greater economic importance (to the Authority) than the sale of wood products, certification allows for the establishment and monetization of carbon & biodiversity offsets.



Photo 5. From the Belleville Intelligencer article published on June 11, 2020 titled: **Quinte Conservation tree plantations now FSC-certified.** PHOTO CAPTION READS: 'Quinte Conservation's Tim Trustham holds a new certification sign Thursday at Vanderwater Conservation Area near Tweed. He says the recent Forest Stewardship Council of local managed forests ensures responsible harvesting.' **Photo by Luke Hendry**

Forest Carbon Offset Program

Carbon has mostly been associated with climate change as a form of pollution and was recently brought to the forefront of conversation through the 2018 Paris Agreement, a United Nations convention on climate change. This agreement commits all 185 signatory nations, including Canada, to undertake ambitious efforts to combat climate change. In Canada, the commitment to climate change has already led to the introduction of federal legislation that requires a carbon tax. On a national level, Colombia, Mexico, the Netherlands, Senegal, Ukraine, and Vietnam are currently developing carbon taxation policies. Further, Australia, China, Switzerland, and Japan have carbon offset programs under development. Although the United States government withdrew from the agreement, many individual states have existing programs (like California's cap & trade system) with many others considering joining common internal systems like the Western Climate Initiative and the Regional Greenhouse Gas Initiative.

Early in 2017, the EOMF began to investigate opportunities in the carbon offset market for Forest Certification Program members. The objective for developing a Community Forest Carbon Offset Program was to provide forest owners an opportunity to add value to their managed forests through the generation of carbon (and biodiversity) offsets. Since that time, EOMF has formalized a partnership with Bluesource Canada (now Anew Climate LLC), an experienced partner which currently develops carbon offset credits in other North American jurisdictions.

The partnership model that the EOMF believes is the most suitable to community forests includes a project developer who provides all necessary services to bring carbon offsets to the market.

These services include:

- Project development
- Designing offset portfolios
- Carbon stock estimation
- Harvest and growth modelling
- Mapping and remote sensing

- Marketing
- Developing and financing of the green house gas offset
- Transactional financing
- Equality investments

The project developer, Anew Climate LLC, provides the initial funding for the project that would otherwise be cost prohibitive for the community forests to develop on their own. The cost of developing an offset that can be sold include a detailed forest inventory and meeting a verification protocol which is audited by a third party. These costs are only recovered by the project developer if/when the carbon has been successfully taken to market. This approach gives the forest owners confidence that the project will be a success while yielding the highest possible financial return, as the project developer will only invest in those projects they feel will succeed.

Similar to many large forest holding enterprises in North American (including the Crown lands of Ontario), the Authority's forest holdings have now achieved recognition for its sustainable forest practices through globally recognized Forest Sustainability Certification.

With forest certification, Quinte Conservation has the opportunity to participate in the carbon offset program. Carbon offset represents the monetization of carbon absorption and retention of biodiversity through market driven recognition. Many international companies recognize the negative impact that production and manufacturing have on the natural world and in turn, feel that private owners who maintain and implement ethical climate change initiatives should be compensated. This is achieved by passing the added cost on to the consumer, who is looking to purchase from companies who support sustainability as a corporate goal.

Although a regulatory system is currently in development, the voluntary opportunity allows large corporations to 'sponsor' forests, with assurance that its long-term environmental stewardship goals are recognized. The general premise of the sponsorship ensures that the forest will remain within a certification program for at least the next

40 years and that the land will not be cleared and converted to another use. Typically, a private company (in this case, Anew Climate LLC) acts as a marketing firm and broker for such a program. This means that Anew Climate LLC bears the cost of establishing the offset. The establishment process involves the retaining of a third-party verifier (i.e. a natural resource consulting firm) to inventory the forest for a baseline quantification of forest carbon sequestration, water yields, or biodiversity targets protected in the holding. Subsequently, a targeted marketing program engages a willing purchaser to sponsor the retention of such values on the landscape.

As the broker, Anew Climate LLC facilitates the relationship with the sponsor and Quinte Conservation receives a portion of the revenue. One distinct advantage of this partnership is that the Authority does not have to utilize its own capital to develop a marketable product as this investment was previously made by governments and the Executive Board through the direct purchase of property. Anew Climate LLC's role is to utilize its access to capital and expertise to develop a marketable offset product. In turn, they collect a commission on the profits from the sale.

The typical term of a voluntary agreement is 10 years, with the opportunity to renegotiate at the end of the term. Some purchasers are willing to pay a premium if given the first right to purchase the offset under a regulatory system (when implemented Federally). By entering a forest carbon offset agreement, initial estimates suggest that the Authority will receive a passive revenue stream while allowing its forest holdings to continue to mature.

A base principle for collecting inventory is the randomization of the plot locations across forest types. This avoids a bias toward more productive sites. Once a plot centre is established, a forestry consultant team from Williams & Associates Forestry Consulting, visits the plot centre using a GPS derived location.

Once at the location, a metal rod is driven into the ground for future site reference and a very detailed

forest inventory is conducted. The parameters captured measures each tree within the plot and includes: species, diameter, height, and growth characteristics. Further, the trees are numbered with paint to allow for a follow-up inventory in 10 years' time. Additionally, a core sample is taken from one large specimen tree, and the growth rate is calculated by careful measurement under laboratory conditions. The detailed sampling regime is outlined in the document titled Quinte Carbon Plot Methodology (2021) which is available for reference.

The harvesting of timber resources can occur under the certification program only under the assistance of a Registered Professional Forester. Therefore, over the next 10 years, the Authority's forest operations are focused on plantation forests which require routine thinning. The harvest operations are required to follow industry best management practices and are independently audited each year as part of the verification process. As such, the Authority will be committing to a staff position to manage the forest and keep records associated with the certification.

In June 2020, the Authority signed a Sales and Marketing Agreement and upon that, forest carbon sample plots were installed in the fall and early winter of 2021/22. A subset of the forest carbon plots were sub-sampled by a third-party verifier in the fall of 2022. The carbon credits were issued by the American Carbon Registry in 2023.



Photo 6: Quinte Conservation staff reviewing forest blocks.

Special Forest Sites

Due to previous land use, most of the forest cover found on QC's 30, 000 acres of property holding have been significantly altered through forest clearing for agriculture purposes, over harvesting of high-grade wood product, and significant grazing by livestock. Overall, the forest reflects these land use conditions by the absence of older, larger, high-quality trees, and the low diversity of ground vegetation - especially in stands of high commercial value like those dominated by Hard Maple, White Cedar, Hemlock, Silver Maple, Oak, and White Pine. Staff continue to explore the Authority's forest holdings and have found a few hard to reach,

thus hard to exploit, stands, which have been noted for exceptional floristic composition and timber quality. Although not a comprehensive list, these stands have been field inspected and are recommended as reference sites that should receive no silvicultural interventions for the foreseeable future. If possible, these forest compartments should be protected from any intrusion and allowed to follow their natural succession into an old growth status. Staff will continue to identify 'special forest sites' and will retain the records within a GIS database.

Property Name	MF Property Number	MF Compartments	Working Group
Rawdon Block	MF. 110	1 & 17	Hickory, White Cedar
Storms Road	MF. 111	5	White Cedar
Flinton Road North	MF. 114	1 & 3	Hemlock
Flinton Road North	MF. 115	1	Hemlock
Bosley Road West	MF. 119	3 & 4	Cedar, Hemlock
Bosley Road West	MF. 119	8 & 9	Hard Maple
Queensboro Road	MF. 121	7 A & B	Hard Maple
Back River Lane	MF. 122	4 & 5	Hard Maple
Downey Rapids	MF. 123	10 & 36	White Cedar
Hawkins Bay	MF. 126	10	Hemlock
Labarge Road	MF. 127	1,2,3, & 4	White Pine
Clare River	MF. 136	4,5, & 7	White Oak
Springbrook Road	MF. 138	2	Hard Maple
Rapids Road	MF. 139	5	Hard Maple
Vanderwater CA	MF. 140	2,25,16, &17	White Cedar, Black Maple
Clare River Floodplain	MF. 143	1	Shagbark Hickory
Dennison Road	MF. 144	3 & 11	Hard Maple
Goose Lake South	MF. 146	5	Hickory, Ironwood
Marlbank Road	MF. 147	2	White Cedar
Meeks Road	MF. 148	6	Hard Maple

Property Name	MF Property Number	MF Compartments	Working Group
Cassidy Block	MF. 150	8 & 9 16A 17A & B 16A & B 50 69, 77A & B 86 & 89 88, 89, 90, 92, & 93	Maple, Oak, Hickory Oak & Ironwood Hard Maple Oak & Ironwood Hickory Hard Maple Hard Maple Maple, Oak, Hickory
Moneymore Road	MF. 151	3	White Cedar
Smith Road	MF. 152	1 & 4 3	Hard Maple White Cedar
Lost Wetland	MF. 153	4 5	Silver Maple White Cedar
H.R. Frink CA	MF. 155	1	Silver Maple
Holloway	MF. 156	3 15	Red & White Oak White Pine
Galivan Road	MF. 157	3 5	Black & White Oak Oak & White Pine
Sidney CA	MF. 159	2	Oak, Hard Maple
Depot Lakes CA	MF. 204	17 A & B, 19 A, B, & C	White Pine, Red Oak
First Depot Lake	MF. 201	1	White Pine
Depot Lakes South	MF. 203	39 B	Hard Maple
Depot Lakes North	MF. 204	1 A & B, 2 A & B, 17 A & B, 19 A & B	White Pine
Dog Lake	MF. 205	6	Hard Maple
Arnie's Mountain	MF. 207	42	Silver Maple
Macualay Mountain	Conservation Area	1 2	Oak, Ironwood Hard Maple
Massassauga Point	Conservation Area	2	Oak, Hickory
Thurlow	Wildlife Area	1	Silver Maple



Photo 7: Reforestation efforts circa 1955 - Quinte Conservation Archive



Photo 8: Quinte Conservation

Geological Resources

The Quinte Watershed borders two distinct physiographic regions: the Great Lakes Lowlands and the Canadian Shield. These two regions exhibit contrasting physical conditions with the rocky highlands of the Canadian Shield to the north and the limestone plains of the Great Lakes Lowlands to the south. The Watershed's bedrock geology has a large influence on the physical landscape, surface water, and groundwater flow patterns due to thin soil and sediment cover.

Underlying the entire region is Precambrian bedrock, capped by as much as 300 metres of Paleozoic limestone throughout the southern half of the Watershed and into Prince Edward County. The surface boundary or contact between these two types of rocks extends southeasterly, roughly

following a line extending diagonally from Marmora, through Madoc, Tweed, and Tamworth.

There are two types of rocks that form the core of North America: Precambrian and Metamorphic. Precambrian bedrock is comprised of igneous rocks which means cooled from lava. Metamorphic rock means that it was later heated and reformed while still below the surface. Ranging between 0.9 and 1.6 billion years in age, they are visible at or near the surface throughout the Canadian Shield portion of the Watershed.

Due to the complexity of geology, this region has been mapped in belts, with each belt having different terrains based on the types of rocks found within them. The Quinte Watershed covers the Central Metasedimentary Belt which is comprised of the following main terrains:

- The Elzevir Terrain is exposed over most of central Hastings County, from Bancroft to the northern fringe of the boundary with Paleozoic rocks. This terrain contains a high percentage of felsic plutonic rocks such as granite and tonalite. Two distinctly different groups are the Mazinaw and the Flinton Group, which appear between these felsic rocks. The Mazinaw Group consists of mafic metavolcanic and meta-volcanoclastic rocks that appear in long thin bands. Also less frequently found are metacarbonates (marble, dolostone) and a greater percentage of clastic metasedimentary rocks. The Flinton Group has fewer carbonaceous metasediments present and contains less mature metaconglomerates, metapelites, and metamorphosed quartz arenites (sandstones).
- The Sharbot Lake Terrain is a wedge-shaped region of rocks that is bound to the north by the Elzevir Terrain and to the south by Paleozoic bedrock. This terrain is exposed at the surface in Stone Mills and Central Frontenac Townships. Calcitic and dolomitic marbles dominate this terrain. Other common rocks include gabbro, granodiorite and granite. The southern and northern boundaries of the terrain are marked by southwest to northeast trending faults, which form the basins of the local rivers.

There is only a small portion of the Frontenac Terrain within the watershed. It is exposed along the far eastern extremity in Central and South Frontenac townships. There are several rock types in this terrain including calcitic/dolomitic marbles, quartz arenites, and metamorphosed felsic plutonic rocks. Metavolcanic diorite-gabbros are also found along the boundary with the Sharbot Lake Terrain. Major faults are congruent with the boundaries of both the Sharbot Lake Terrain and the Paleozoic sedimentary rocks to the east.

In most of the southern part of the Quinte Watershed, the Precambrian bedrock is overlain by sedimentary rocks of the Paleozoic era (approximately 500 million years). These rocks were formed after the area was inundated by an ocean and sediments accumulated on the bottom along the continental shores. This sediment was

then compacted and cemented – forming the carbonate rich limestone and other sedimentary rocks that characterize most of this area. The various formations found in the Quinte Watershed are described as follows:

- The **Lindsay Formation** is the youngest sedimentary unit in the Quinte Watershed underlying most of the southern two-thirds of Prince Edward County. The formation is divisible into upper and lower members with both members containing nodular limestone and shale partings. The limestone is typically grey-brown in colour weathering to a blue-grey. The shale interbeds are up to 5 cm thick and are dark grey. The formation has an estimated thickness of 20 to 30 m where exposed; however, natural gas exploration wells in the area suggest the formation may be of greater thickness.
- The **Verulam Formation** makes up a large proportion of the exposed Paleozoic bedrock in the Quinte Watershed. It is found below most of Belleville and the northern portion of Prince Edward County, as well as the southern portion of Tyendinaga Township. The Formation is of Middle Ordovician age and consists of 3 to 15 cm thick grey, finely crystalline limestone beds with interbeds of shale up to 15 cm thick. This formation overlies the Bobcaygeon Formation at variable thickness but can range up to 70 m, as observed near Cherry Valley (Prince Edward County). This formation underlies most of Prince Edward County either directly below soil cover in the northern portion of the County or beneath the Lindsay Formation throughout the south.
- The **Bobcaygeon Formation** is a Middle Ordovician limestone that is divisible into upper and lower members. The lower member consists of pale to dark brown and grey crystalline limestone interbedded with calcarenite; weathering to pale grey, buff or brown. The upper member consists of interbedded crystalline limestone, with increasing shale content toward the surface. This formation lies over the Gull River Formation and appears as the surface bedrock unit over much of Centre Hastings and the central portions of Tyendinaga

Township. Deep boreholes located in Tyendinaga Township and Prince Edward County reveal that this formation increases in thickness towards the south.

- The **Gull River Formation** is complex and as such is divided into upper, lower and middle members. The upper member is comprised of beds of semi-crystalline limestone, the middle member ranges from shaly to massive layers of limestone toward the surface, and the lower is mottled crystalline dolomitic limestone. The formation is exposed at surface in the northeast portion of Tyendinaga Township as well as portions of Hungerford and Stone Mills Township. Natural gas exploration wells indicate a formation thickness in the range of 20 to 30 m.

The Shadow Lake Formation consists of red and green arkosic sandstones, siltstones and shales with clasts of granite, quartz and feldspar. This formation lies unconformably on top of the Precambrian rock. The formation is rarely exposed in the watershed, but does crop out near the northern fringe of the boundary between Paleozoic and Precambrian bedrock. Natural gas wells drilled in Prince Edward County indicate that the formation extends beneath the southern half of the peninsula and attains a thickness of 15 m at Cherry Valley (Prince Edward County) at a depth of 250 m below ground surface. In Tyendinaga Township natural gas is found closer to surface, at a depth of 80 m with a thickness of 20 m.

The surface of the bedrock is variable in the Quinte Watershed but generally slopes in a southerly direction. The Precambrian bedrock exhibits an undulating surface of variable relief but generally sloping to the south. Elevations range from approximately 450 MASL at the northern tip of the watershed to 200 MASL in the vicinity of the contact with Paleozoic bedrock near Madoc and Tweed. The limestone rocks are generally flat lying with gentle dip predominantly in a southerly direction. Exceptions are in the vicinity of Precambrian outcrops near Shannonville and Ameliasburgh, which have resulted in doming of the surrounding limestone strata. There are two major faults in the region; the Salmon River fault follows the course

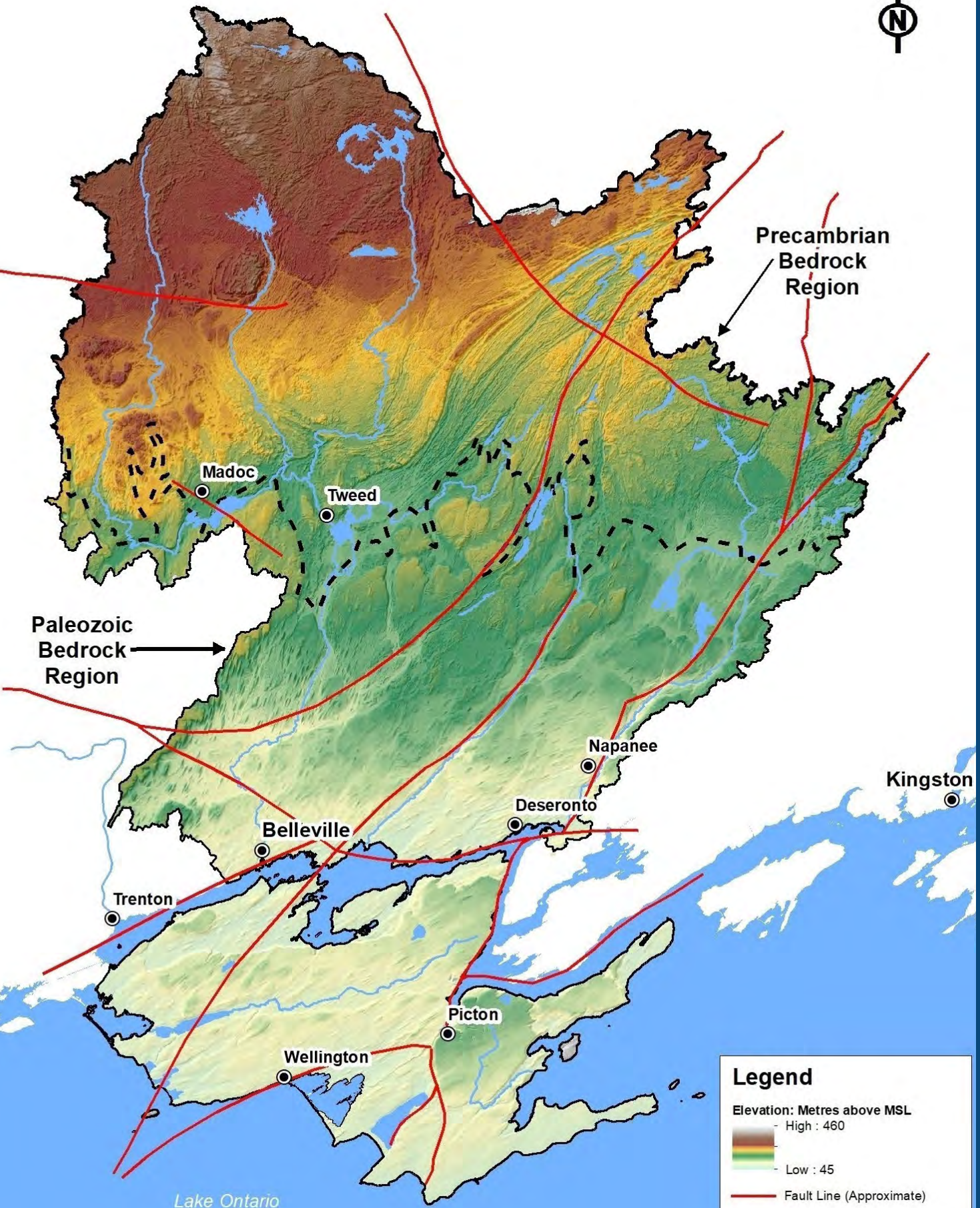
of the southern reaches of the Salmon River and extends from Kaladar to Prince Edward County. This fault is reported to be a normal fault (extensional movement along a slip plane in the rock) for which the northwest side has dropped by approximately 30 m. Another normal fault has been mapped as extending from Deseronto to Picton following the Long Reach on the Bay of Quinte. At Picton this fault separates into 2 to 3 smaller faults extending into Athol Ward towards the Sandbanks. These faults govern local stream patterns and groundwater movement, however several other smaller faults are found throughout the region.

Surficial geology in the Quinte region has been shaped by the most recent glacial period (ending approximately 10,000 years ago). This period has resulted in removal and deposition of sediments throughout the watershed with the majority of the area being scraped and scoured leaving behind a thin cover (less than 1 m) of drift over bedrock. However, there are some areas of the watershed with notable deposits of different soil units. The thicker deposits of till soils and associated glacial landforms are present in isolated areas throughout but most notably in the southern portion of the Moira watershed and isolated areas of the Prince Edward and Napanee Regions. Significant landforms associated with these formations range from kame moraine to till plains and eskers.

Till soil is comprised of a mix of silt, sand, gravel and boulders. This is the soil resulting from the action of the glacier on underlying bedrock and soils. Till was deposited by the glaciers and found throughout the Watershed, deposited as either a sheet of soil, or in ground moraines and drumlins.

Glaciofluvial Ice Contact Deposits of Sand and Gravel

This soil is comprised of coarse sand and gravel and some till which was deposited by glacial melt water and/or the Champlain Sea resulting from the melting of glaciers. Landforms associated with this soil type are areas of undulating topography and ridges formed as raised beaches, eskers, as well as in plains of till and sand.



Precambrian
Bedrock
Region

Paleozoic
Bedrock
Region

Madoc

Tweed

Napanee

Deseronto

Kingston

Belleville

Trenton

Picton

Wellington

Lake Ontario

Legend

Elevation: Metres above MSL

- High : 460
- Low : 45

— Fault Line (Approximate)

0 5 10 15
Kilometres

This map is for illustrative purposes only. Quinte Conservation Authority makes no warranties and assumes no liability regarding its accuracy. © Quinte Conservation Authority & King's Printer for Ontario, 2024. Base Map - Ontario Ministry of Natural Resources.

Glaciofluvial outwash and deltaic sand soil includes gravel and coarse material with some sand and till. Deposition is from glacial melt water and/or post glacial rivers. Landforms associated with this soil type are ridges (beaches, kames and deltas) and shallow ridges in areas of undulating topography. These soils are typically found in bedrock depressions and valleys. Glaciolacustrine soil is comprised of clay, silt, sands and gravels deposited from pro-glacial lakes. The landforms associated with these deposits are plains of near shore sediments and beaches. Alluvium soil is silty or sandy organic rich material that has been deposited by rivers and creeks. As such these soils are often found in riverbeds and terraces. Organic deposits are made up of muck and other organic rich soils such as peat. These soils have accumulated as a result of decomposition of vegetation and have been deposited in lowlands, wetlands and areas of poor

drainage. Eolian sands are soils that were deposited by the wind and are found in dune formations particularly along the various sand bar and beach formations on the Lake Ontario shoreline of Prince Edward County.

Geological Features on Quinte Conservation Properties

In consultation with the District Geologist for Southeastern Ontario at the Ministry of Northern Development and Mines office in Tweed, the following list of geological features on Authority lands was compiled. These sites include pits, trenches, shafts, drill holes and aggregate pits:

Property Name	MF Property Number	Feature
O'Donnell Road	MF.104	Gold (mine trench)
Malone Rail Line	MF.105	Gold (mine trench)
Malone Quarry	MF.106	Marble, Iron & Gold (abandoned quarry)
Deloro Dam	MF.107	Gold
Ackerman	MF.108	Gold (shafts decommissioned)
Skootamatta River North	MF.116	Oxbow in floodplain
Heron Road	MF.118	Talc
Bosely Road West	MF.119	Gold
Whytock Conservation Area	MF.120	Marble
Queensboro Road	MF.121	Gold
Downey Rapids	MF.123	Talc (shafts decommissioned)
Price Conservation Area	MF.125	Gold (shafts decommissioned)
Hawkins Bay	MF.126	Silver & Copper
Bridgewater	MF.128	Uranium
Hwy 7. South	MF.129	Actinolite & Marble
Hungerford Station	MF.133	Granite
Sheffield	MF. 135	Granite, Dolomite, & Antimony
Quin Mo Lac Road	MF.137	Flomite
Vanderwater Conservation Area	MF.140	Dummer Moraine
Goose Lake North	MF.145	Kettle Pond (Dummer Moraine)
Daley Road	MF.149	Gravel (Escher)
Foxboro Road	MF.158	Silica Sand

Property Name	MF Property Number	Feature
Thurlow Wildlife Area		Organic Deposit
First Depot Lake	MF.201	Feldspar
Carman Creek	MF. 202	Magnesium
Depot Lakes North	MF.204	Corrundum & Mica
Dog Lake	MF.205	Molybdenum & Pyrite
Fifth Depot Lake	MF. 206	Zinc
Dead Creek	MF.208	Uranium (drill holes)
Bordonwood	MF.209	Mica
Macaulay Mountain Conservation Area		Geological Fault-escarpment
Little Bluff Conservation Area		Seismic Station (managed by the University of Waterloo)

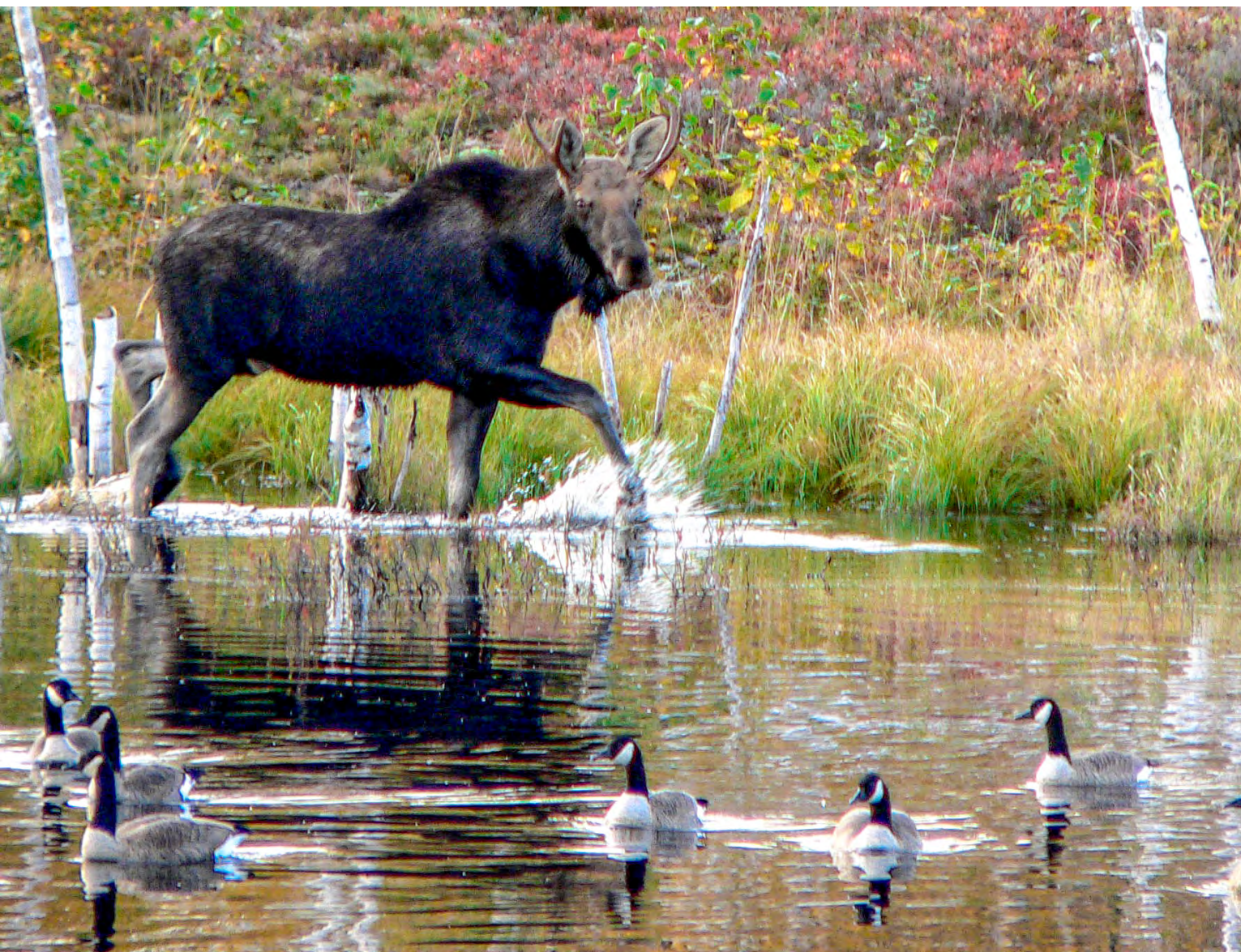


Photo 9: Conservation Ontario Photo Contest

Resources

Cultural Resources:

- Aboriginal and Treaty Rights Information System. Government of Canada. http://sidait-atris.aadnc-aandc.gc.ca/atris_online/home-accueil.aspx. Accessed Nov 03, 2019.
- Johnston, Jesse. Liaison Officer, Alderville First Nation. Personal communication, Jan 30, 2019.
- High Conservation Values in the Bancroft-Minden Forest. Bancroft Minden Forest Company, Aug, 2012.
- Munson, M. and S. Jamieson. 2013. Before Ontario: The Archaeology of a Province. McGill-Queens University Press.
- Ontario Ministry of Natural Resources. 2007. Forest Management Guideline for Cultural Heritage Values, Queen's Printer for Ontario, Toronto, ON.
- Ontario Ministry of Heritage, Sport, Tourism and Culture. <http://www.mtc.gov.on.ca/en/archaeology/archaeology.shtml>. Accessed Nov 03, 2019.
- Ontario Ministry of Indigenous Affairs Ontario. www.chiefs-of-Ontario.org/interactive-map/. Accessed Nov 03, 2019.
- Riley, John. The Once and Future Great Lakes Country. McGill-Queens University Press, 2014.
- Siversten, B. 2006. Turtles, Wolves, and Bears: A Mohawk Family History. Heritage Books Inc.
- Storms, Nicole. Environmental Officer, Mohawks of the Bay of Quinte. Personal communication, November 07, 2018.
- Price, J. 1979. Indians of Canada – Cultural Dynamics. Prentice-Hall of Canada Ltd.
- Tanner, H. Atlas of Great Lakes Indian History. 1987. University of Oklahoma Press, Norman, OK.
- Williams, D. 2018. Michi Saagiig Nishnaabeg: This is our territory. ARP Books, Winnipeg, MB.
- Moira Valley Conservation Report-1950.

Wildlife Resources:

- Habitat Canada. <http://www.hww.ca/>
- Canada – Species at Risk. <https://www.registrelep-sararegistry.gc.ca/>
- Agriculture Canada. <http://www.agr.gc.ca/eng/science-and-innovation/>
- Biodiversity Canada. <http://biodivcanada.ca/>
- Ontario Ministry of Agriculture, Food, and Rural Affairs. <http://www.omafra.gov.on.ca/english/landuse/gis/maps/Census2011/>
- The Land Between. <http://www.thelandbetween.ca/geography/>
- Statistic Canada. <http://www.statcan.gc.ca/>
- Google Earth. www.google.ca
- Nasa: World View. <https://worldview.earthdata.nasa.gov/>
- Great Lakes Commission. <http://glc.org/>
- Geography of Ontario. <https://upload.wikimedia.org/>
- United States Geological Survey. <https://www.usgs.gov/>
- The Land Between. <http://www.thelandbetween.ca/natural-habitats/>
- Website of Dr. Paul Keddy. http://www.drpaulkeddy.com/conserv_ontarioacpflora.html
- Nova Scotia's Atlantic Coastal Plain Flora Recovery and Stewardship. <http://www.speciesatrisk.ca/coastalplainflora>
- Natural Heritage Information Centre. <https://www.ontario.ca/>
- Algonquin to Adirondacks. <http://www.a2acollaborative.org/>
- Frontenac Biosphere Reserve. <http://www.frontenacarchbiosphere.ca/>
- Bird Studies Canada-Important Bird Areas. <http://www.ibacanada.ca/>

- Nature Conservancy Canada. <http://www.natureconservancy.ca/>
- Coastal Review Online. <http://www.coastalreview.org/>
- University of Georgia-Geology Department. <http://www.gly.uga.edu/>
- Tall Grass Ontario. <http://www.tallgrassontario.org/>
- Nature Conservancy Canada. <http://www.natureconservancy.ca/>
- Geological Survey of Canada. <http://www.nrcan.gc.ca/earth-sciences/science/geology/>
- Government of Canada Mapping. <http://geogratis.gc.ca/>
- U.S. Geological Survey Mapping. <https://ngmdb.usgs.gov/>
- Soil Surveys for Southern Ontario. <http://sis.agr.gc.ca/cansis/publications/surveys/on/index.html>
- Mapping of the Greenbelt. <http://www.neptis.org/>
- Ontario Mapping. www.ontario.ca
- Long Point Waterfowl. <http://longpointbiosphere.com/>
- Michigan Sea Grant. <http://www.miseagrant.umich.edu/>
- Ducks Unlimited Canada. <http://www.ducks.ca/places/ontario/>
- Cornell Lab of Ornithology. <https://www.allaboutbirds.org>
- Marmora Historical Foundation. <http://www.marmorahistory.ca/>
- Ontario Geological Survey. <http://www.geologyontario.mndmf.gov.on.ca/>
- Ontario Ministry of Natural Resources: The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions. <http://www.mnr.gov.on.ca/>
- U.S. Department of Agriculture-Natural Resources Conservation Service. <https://plants.usda.gov/>
- Nova Scotia's Atlantic Coastal Plan Flora - Recovery and Stewardship. <http://www.speciesatrisk.ca/coastalplainflora/>
- National Oceanic and Atmospheric Administration - National Weather Service. <http://www.srh.noaa.gov/>

Forest Resources:

- Forest Management Plan for the Bancroft Minden Forest. 2011. Bancroft-Minden Forest Management Company Inc.
- Hastings County Official Plan. 2018. Schedule B – Environmental Features.
- Mazinaw-Lanark Forest Management Plan. 2011. Mazinaw-Lanark Forest Inc.
- Ontario Ministry of Natural Resources. 2017. White-tailed Deer: Management Policy for Ontario.
- Perret, N. G. 1970. The Canada Land Inventory, Report No. 7: Land Capability Classification for Wildlife. Department of Regional Economic Expansion, Queen's Printer for Canada.
- Ranta, B. 1997. Selected Wildlife and Habitat Features: Inventory Manual for use in Forest Management Planning. Ontario Ministry of Natural Resources.
- Voigt, D.; J. Broadfoot, and J. Baker. 1997. Forest Management Guidelines for the Provision of White-tailed Deer Habitat. Ontario Ministry of Natural Resources, Queen's Printer for Ontario.
- Keddy, C. 1994. Forest History of Eastern Ontario. Eastern Ontario Model Forest, Kemptville, ON.
- Moira River Valley Conservation Report, Ontario Department of Planning and Development, Toronto, 1950).
- Napanee Valley Conservation Report, Ontario Department of Planning and Development, Toronto, 1957.
- Perlin, John. 2005. A forest journey: The story of wood and civilization. The Countryman Press, Woodstock, Vermont.
- Trent Watershed Survey, C.D. Howe and J. H. White, Commission on Conservation for Canada, Toronto, 1913.
- Moira Valley Conservation Report. 1955. Department of Planning and Development, Queen's Printer for Ontario.
- Napanee Valley Conservation Report. 1957. Department of Planning and Development, Queen's Printer

for Ontario.

- Prince Edward Region Conservation Report.1968. Department of Energy and Resources Management, Conservation Authorities Branch, Queen’s Printer for Ontario.
- Smigielski, J. 1998. Managed Forest Plan for the Moira River Conservation Authority and the Napanee Region Conservation Authority. Quinte Conservation.
- Smallwood, D. 2018. Managed Forest Plan – inventory update. Quinte Conservation.

Geological Resources:

- Quinte Conservation. 2008. Watershed Characterization, v 1.1. Belleville, ON
- P. Lebaron, Tweed District Geologist, Ministry of Northern Development and Mines. Personal communication, June, 2021

Appendix

Appendix - 1 Land Inventory 2024





Quinte CONSERVATION

2061 Old Highway 2, RR#2,
Belleville, ON K8N 4Z2

quinteconservation.ca
(613) 968-3434 or (613) 354-3312
info@quinteconservation.ca



Watershed Municipalities

City of Belleville
City of Quinte West
County of Prince Edward
Loyalist Township
Madoc Township
Municipality of Centre Hastings
Municipality of Marmora and Lake
Municipality of Tweed
Town of Deseronto
Town of Greater Napanee
Township of Addington Highlands
Township of Central Frontenac
Township of North Frontenac
Township of South Frontenac
Township of Stirling-Rawdon
Township of Stone Mills
Township of Tudor and Cashel
Township of Tyendinaga

The intent of this document is to fulfill the requirements of Ontario Reg. 686/21 made under the Conservation Authorities Act – particularly Section 11. Land Inventory

The inventory is required to include the location of the parcel, any information (like surveys), when the parcel was acquired, whether a Provincial grant was applied to the purchase and the landuse category.

The landuse categories (and subsequent landuse policies) have been approved by the QC Executive and were compiled within the: September, 2023: Quinte Conservation Lands Strategy

The managed forest number relates to the foundational work prepared by J. Smigielski, R.P.F. (June, 1998) for the inclusion of the Quinte properties within the managed forest tax incentive program (in order to reduce the property tax burden which was previously subsidized by the Province).

The common name of the properties was developed by staff in order to provide a thread of continuity between the managed forest identifiers and the names of parcel blocks for use in other programs (like the hunting leases).

The water features are taken from internal GIS mapping and represent a common thread of the Authority – being the management of a ‘watershed’.

The other natural heritages features are of interest to conservation minded folks and has been compiled from other mapping & reports (often prepared by the Province).

The adjacent lands are of interest as it appears that the purchase of some property holdings were intended to enlarge the area of publicly owned property.

The property notes compile the knowledge of staff and other Provincial agencies.

Access is very important for staff that may need to see the property in person.

Lastly, the acquisition details are taken from historical records and may be important for future endeavours.

It is intended that a second table will be required to list any legal descriptions and legal surveys in the possession of the Authority.

Land Use Category	Managed Forest	Common Name	Water Features	Other Natural Heritage Features	Adjacent Lands	Property Notes	Access	Acquisition Details
Conservation Reserve	MF.101	Cleveland Road	Frontage on the headwaters of the Moira River	Portion of Millbridge Deer Yard	Crown lands adjacent		Year-round access from Cleveland Road	Provincial grant
Conservation Reserve AND Water Control Structure	MF.102	Lingham Lake	Frontage on Lingham Lake	Private land within the larger Crown Land - Lingham Lake Conservation Reserve	Crown lands surround the majority of the lake	Site of the Lingham Lake dam which controls lake levels	Seasonal access from Lingham Lake Road	Provincial grant AND Expropriation
Conservation Reserve	MF.103	Deerock Lake west	Frontage on Deerock Lake	Private land within the larger Crown Land – Elzevir Peatlands Conservation Reserve	Crown lands surround the majority of the lake	Purchased to maintain the remote nature of the lake (avoiding cottage development)	Boat access only	Purchased by Authority in 1988
Conservation Area AND Water Control Structure	MF.104	Deerock CA	Frontage on Deerock Lake and Partridge Creek	Private land within the larger Crown Land – Elzevir Peatlands Conservation Reserve	Crown lands surround the majority of the lake	Site of the Deerock Lake dam which controls lake levels	Seasonal access from Deer Rock Lake Road	ARDA (Provincial and Federal grant)
Commercial Forest	MF.104	O'Donnell Road	Frontage on Partridge Creek and Skootamatta River	Floodplain at the intersection of watercourses	Adjacent Crown lands	Includes the Deerock dam and former campground site	Seasonal access from O'Donnell Road	Provincial grant
Commercial Forest	MF.105	Malone Rail Line			Nature Conservancy Canada lands surround the parcel		Seasonal access from Hastings Heritage – Rail Trail	Provincial grant
Conservation Reserve	MF.106	Malone Quarry	Frontage on the Moira River				Seasonal access from Malone Quarry Road	Provincial grant
Conservation Reserve AND Water Control Structure	MF.107	Deloro Dam	Frontage on the Moira River		Ministry of Environment controlled site to the south	Site of the Deloro dam	Seasonal access from Deloro Road	Provincial grant

Conservation Reserve	MF.108	Ackerman	Frontage on the Moira River	Long rapids on the Moira River	Ministry of Environment controlled site to the north	Former mining village site (for gold) was remediated by the MOE; road was abandoned & naturalized to discourage overuse circa 2014	Year-round access from Provincial Highway 7	Donation and purchased by Authority in 1971 & 1972
Conservation Area AND Water Control Structure	MF.109	O'Hara Mill	Frontage on Deer Creek			Pioneer village maintained by volunteer group; site of O'Hara Mill dam	Year-round access from Mill Road and Johnston Road	Provincial grant AND Purchase by Authority in 2015
Conservation Reserve	MF.110	Rawdon Block		Large upland forest	Adjacent to AECOM-Marmora Mine property		Seasonal access from Stirling – Marmora Road	Provincial grant AND Purchase by Authority in 2020
Conservation Reserve	MF.111	Storms Road	Frontage on Moira River	Large upland forest			Year-round access from Storms Road	Provincial grant
Conservation Reserve	MF.112	Moore's Marsh	Frontage on Elzevir Creek	Very large marsh & granite barrens	Adjacent Crown lands	Elk wintering area; Elzevir Peatlands and Barrens ANSI	Seasonal access from Rockies Road	Provincial grant AND Land swap for other Authority property in 1997

Commercial Forest	MF.113	Elzevir		Natural White	Adjacent Crown Lands		Year-round access from Elzevir Road	Provincial grant
Commercial Forest	MF.114	Flinton North	Frontage on Skootamatta River	Floodplain marsh/swamp complex	Adjacent Crown land and Lennox & Addington County Forest		Year-round access from Flinton Road	Provincial grant
Commercial Forest	MF.115	Flinton South	Frontage on Skootamatta River	Floodplain marsh/swamp/fen complex	Adjacent Crown land and Lennox & Addington County Forest		Year-round access from Flinton Road	Provincial grant
Conservation Reserve	MF.116	Skoot River North	Frontage on Skootamatta River	Swamp floodplain	Adjacent to Crown land and Lennox & Addington County Forest		Year-round access from Flinton Road	Provincial grant
Conservation Reserve	MF.117	Skoot River Centre			Adjacent to Crown land		Year-round access from Flinton Road	Provincial grant
Commercial Forest	MF.117	Skoot River South			Adjacent to Crown land		Year-round access from Flinton Road	Provincial grant
Conservation Reserve	MF.118	Heron Road					Seasonal access from Heron Road	Provincial grant
Conservation Reserve	MF.119	Bosley Road West	Frontage on Black River				Year-round access from Ramsay Road	Provincial grant
Conservation Reserve	MF.119	Bosley Road East					Year-round access from Ramsay Road	Provincial grant
Commercial Forest	MF.120	Whytock	Frontage on Deer Creek			Portion used as a park for the Town of Madoc	Year-round access from Russell Street	Provincial grant
Commercial Forest	MF.121	Queensboro Road	Frontage on Black River				Year-round access from Queensboro Road	Provincial grant
Commercial Forest	MF.122	Black River Lane					Seasonal access from Black River Lane	Provincial grant

Commercial Forest AND Water Control Structure	MF.123	Downey Rapids	Frontage on Moira River	Large upland forest	Adjacent to Madoc landfill	Site of Downey's Weir which controls Moira Lake levels	Year-round access from Rapids Road	Provincial grant
Conservation Reserve	MF.124	Downey Rapids South	Frontage on the Moira River	Swamp floodplain			Seasonal access from Rapids Road	Provincial grant
Conservation Area	MF.125	Price	Frontage on Skootamatta River	Struck by a tornado in 2022		Former stamp mill site (for crushing mined gold bearing bedrock) and former campground area	Year-round access from Provincial Highway 7	Provincial grant
Commercial Forest	MF.126	Hawkins Bay	Frontage on Skootamatta River	Swamp floodplain			Year-round access from Hawkins Bay road	Provincial grant
Commercial Forest AND Conservation Reserve	MF.127	Labarge Road		North half has mature Red Oak, White Oak & White Pine forest type of fire origin (dated to 1920s)		Only the south half of the block is Commercial Forest	Year-round access from Labarge Road	Provincial grant
Commercial Forest	MF.128	Bridgewater		Block contains a portion of the Sulphide Wetland (marsh and fen); experimental planting of Red Spruce			Year-round access from Ekblad, Bridgewater and Labarge Roads	Provincial grant
Conservation Reserve	MF.129	Robinson Road North					Year-round access from Robinson Road North	Provincial grant

Conservation Reserve	MF.129	Hwy 7 South		Lowland forest			Year-round access from Provincial Highway 7	Provincial grant
Commercial Forest	MF.130	Potter's Settlement		Historic blow sands planted to re-claim 'wastelands'		Struck by a tornado in 2022	Year-round access from Potter Settlement Road	Provincial grant
Conservation Reserve	MF.131	Hungerford Station West		Granite barrens	Adjacent to Crown land		Access on foot only	Provincial grant
Conservation Reserve	MF.132	Hungerford Station Centre		Granite barrens	Adjacent to Crown land		Access on foot only	Provincial grant
Conservation Reserve	MF.133	Hungerford Station North-east		Granite barrens	Adjacent to Crown land		Access on foot only	Provincial grant
Conservation Reserve	MF.133	Hungerford Station South-west		Granite barrens	Adjacent to Crown land		Seasonal access from Hasting Heritage – Rail Trail (i.e. abandoned rail line)	Provincial grant
Conservation Reserve	MF.134	Turcotte Road		Mellon Lake ANSI			Year-round access from Turcotte Road	Provincial grant
Conservation Area	MF.135	Sheffield	Ownership of entire lake frontage for Little Mellon and Haley lakes	Mellon Lake ANSI	Adjacent to Crown land AND Lennox & Addington County – Dark Sky viewing area	Noted Provincially rare plant and animal species	Year-round access from Highway 41	Purchase by Authority in 1975
Conservation Reserve	MF.136	Clare River West					Year-round access from Kinlin Road	Provincial grant
Conservation Reserve	MF.136	Clare River Centre	Frontage on the Clare River	Mellon Lake ANSI		Limestone and granite bedrock contact	Year-round access from Kinlin Road	Provincial grant
Conservation Reserve	MF.136	Clare River East	Frontage on the Clare River	Mellon Lake ANSI	Adjacent to Crown land		Year-round access from Kinlin Road	Provincial grant

Conservation Reserve	MF.137	Quin Mo Lac Road					Year-round access from Quin Mo Lac Road	Provincial grant
Conservation Reserve	MF.138	Springbrook Road		Bend Bay Valley ANSI		Growth and yield plot established	Year-round access from Springbrook Road	Provincial grant
Commercial Forest	MF.139	Rapids Road				Growth and yield plot established in hardwood; Acid rain plot established in White Pine	Year-round access from Rapids Road and Fuller Road	Provincial grant
Commercial Forest	MF.140	Vanderwater	Frontage on the Moira River			Property purchased with intent to demonstrate good forestry practices; wide variety of plantation species mixes; former campground	Year-round access from Vanderwater Road	Provincial grant
Conservation Reserve	MF.143	Clare River floodplain	Frontage on the Clare River	Large marsh/swamp complex		Shagbark Hickory on granite outcrops	Access by canoe only	Provincial grant
Conservation Reserve	MF.144	Dennison Road					Seasonal access from Dennison Road	Provincial grant
Commercial Forest	MF.145	Goose Lake North					Year-round access from Deshane Road, Clareview Road and Sheffield Boundary Road	Provincial grant
Commercial Forest	MF.146	Goose Lake East					Year-round access from Deshane Road and Sheffield Boundary Road	Provincial grant

Commercial Forest	MF.146	Goose Lake West	Frontage on Sampson Lake	Calcareous fen			Seasonal access from Flynn Road	Provincial grant
Conservation Reserve	MF.146	Goose Lake South		Alvar and karst topography			Seasonal access from Flynn Road	Provincial grant
Conservation Reserve	MF.147	Marlbank Road	Frontage on Goose Creek			Limestone and granite bedrock contact	Year-round access from Marlbank Road	Provincial grant
Conservation Reserve	MF.148	Meeks Road					Seasonal access from Meeks Road	Provincial grant
Conservation Reserve	MF.149	Daley Road	Frontage on Parks Creek			Close to Menzel Nature Reserve Park; Parks Creek protects a Brook Trout habitat	Year-round access from Daley Road	Provincial grant
Conservation Reserve	MF.150	Cassidy Block	Frontage on Deroche Lake	Alvar pavement and alvar woodland, old growth hardwood forest, deer wintering yard		Property block contains many rare natural features & species	Year-round access from Colonization Road; seasonal access from Vanderwater Road and Deroche Lane	Provincial grant
Conservation Reserve	MF.151	Moneymore Road		Deer wintering yard		Experimental plantation mixes	Year-round access from Moneymore Road	Provincial grant
Conservation Reserve	MF.152	Smith Road North		Large upland forest			Seasonal access from Smith Road	Provincial grant
Conservation Reserve	MF.152	Smith Road South		Large upland forest			Seasonal access from Naphan Road	Provincial grant

Commercial Forest	MF.153	Lost Wetland					Year-round access from Maple Sugar Road and Philips Road	Provincial grant
Commercial Forest	MF.154	Parks Creek	Frontage on Parks Creek	Parks Creek Wetland			Year-round access from Shannon Road	Provincial grant
Conservation Area	MF.155	Frink Centre	Frontage on Parks Creek and Moira River	Swamp floodplain		Educational site for local school boards; property contains many eco-types within a small area	Year-round access from Thrasher Road	Provincial grant in 1958/59 AND Donation to Authority in 1973 & 1993 AND Purchase by Authority in 2008 AND Vacant land swap in 2007
Commercial Forest	MF.156	Halloway East					Year-round access from Pine Hill Crescent	Provincial grant
Commercial Forest	MF.156	Halloway West		Black Oak woodland and prairie remanent			Seasonal access from Dutch Lane	Provincial grant
Conservation Reserve	MF.157	Gallivan Road		Black Oak woodland	Adjacent to Quinte West Hollinger Park	Snow survey site	Year-round access from Bird Road	Provincial grant
Conservation Reserve	MF.158	Foxboro Marsh	Frontage on Chrysal Creek			Ducks Unlimited wetland impoundment (dyke) and excavation (level dredging) project	Year-round access from Smith Road and Baptist Church Road	Provincial grant

Conservation Area	MF.159	Sidney	Frontage on Chrysal Creek	Black Oak Woodland and Sand Barren; Sagar Sand Barrens and Forest Complex ANSI		Site of a Federal experimental farm	Year-round access from Airport Road	Donated to Authority in 1972 by Federal Government
Conservation Area		Riverside Park	Frontage on the Moira River			Leased as parkland to the City of Belleville	Year-round access from Moira Street East and Cannifton Road	Provincial grant
Conservation Reserve		Scuttleholes	Frontage on the Moira River	Karst topography		Portion of the Scuttleholes ANSI	Year-round access from Scuttlehole Road	Donation to Authority in 2016
Conservation Reserve		Thurlow Wildlife Management Area	Frontage on the Moira River, Number 10 Creek and Chrysal Creek	Swamp floodplain	Adjacent to City of Belleville waste disposal site		Year-round access from Mudcat Road	Provincial grant
Conservation Area		Potter's Creek	Frontage on Potters Creek and Bay of Quinte			Adjacent to Loyalist College property	Year-round access from Moira Street West, Wallbridge-Loyalist Road and Old Highway 2	Provincial grant
Conservation Area		Riverside Park	Frontage on Moira River			Leased to the City of Belleville as park land; location of several ice control dams	Year-round access from Cannifton Road and Moira Steet East	Provincial grant

Conservation Reserve		Longwell Demonstration Farm	Frontage on Palliser Creek		Adjacent to Quinte West vacant lands		Year-round access from Wilson Road	Donation to the Authority in 1992
Water Control Structure		Chapman's Weir	Frontage on Moira River			Site of the Chapman's Weir which controls Stoco Lake levels (west channel)	Year-round access from Carss Road	Provincial grant
Water Control Structure		Caton's Weir	Frontage on Moira River			Site of the Chapman's Weir which controls Stoco Lake levels (east channel)	Year-round access from Carss Road	Provincial grant
Conservation Area AND Water Control Structure		Flinton	Frontage on Skootamatta River			Site of the Flinton Dam	Year-round access from Deerock Lake Road	Provincial grant
Conservation Reserve		Hwy 37	Frontage on Moira River				Year-round access from Highway 37	Donation to Authority in 1991
Conservation Reserve	MF.201	First Depot Lake	Frontage on Depot Creek		Adjacent to KFLA Land Trust property		Year-round access from Arena Boundary Road	ARDA funding (Provincial and Federal grant)
Conservation Reserve	MF.202	Carman Creek	Frontage on Carman Creek		Adjacent to Crown land		Access by foot only	Provincial grant
Conservation Area AND Water Control Structure	MF.203	Depot Lakes CA South	Frontage on 2 nd Depot Lake		Adjacent to Queen's University lands	Very large block of protected lake frontage; significant recreational development and usage; granite cliff and talus	Year-round access from 2 nd Lake Road and Echo Lake Road	Provincial grant

Conservation Reserve AND Water Control Structure	MF.204	Depot Lakes CA North	Frontage on 3 rd and 4 th Depot Lakes		Adjacent Crown lands	Very large block of lake frontage protected from further development; acidic bog	Year-round access from Echo Lake Road and 4 th Lake Road	Expropriation
Conservation Reserve	MF.205	Dog Lake	Frontage on Bitch Lake, Dog Lake and 5 th Depot Lake	Extensive Oak barrens on granite; frontage on Bitch Lake, Dog Lake, and Fifth Depot Lake	Adjacent Crown lands	Property block is directly adjacent to the Puzzle Lake Nature Reserve Park known for many rare plants; Nature Conservancy Canada owns property adjacent	Seasonal access from Welly-Smith Road	Provincial grant
Conservation Reserve	MF.206	Fifth Depot Lake		Formerly pastured woodlands and marshes	Adjacent Crown lands		Year-round access from 5 th Lake Road	Provincial grant
Conservation Reserve	MF.207	Arnie Mountain	Frontage on Bitch Lake	Extensive Oak barrens on granite	Adjacent Crown lands	Arnie Mountain is a local high point of land which provides views of the surrounding landscape; portion of property is flooded by Ducks Unlimited dam (McLean project); acidic fen wetland	Seasonal access from Welly-Smith Road	ARDA funding (Provincial and Federal grant)

Conservation Reserve	MF.208	Dead Creek	Frontage on Dead Creek	Hungry Lake Barrens ANSI	Adjacent Crown lands	Extensive White Oak barrens on granite; frontage on Dead Creek; portion of property is flooded by Ducks Unlimited dam (Dead Creek project); homestead foundations & family grave sites	Year-round access from Hungry Bay Road	Provincial grant
Conservation Reserve	MF.209	Bordenwood Road	Frontage on Dead Creek	Harlowe Bog ANSI	Adjacent Crown lands	Property contains extensive frontage of Dead Creek; old logging shanty remains	Year-round access from Bordenwood Road	Provincial grant
Conservation Reserve	MF.210	Portland	Frontage on Hambly Lake		Adjacent to South Frontenac waste disposal site	Property provides a stopping point for travellers	Year-round access from Highway 38	Provincial grant
Conservation Reserve		Cameron Swamp West	Frontage on Napanee River	Cameron Swamp ANSI	Adjacent to Camden Lake Provincial Wildlife Management Area and Ducks Unlimited properties		Access by canoe only	Donation to Authority in 2016
Conservation Reserve		Cameron Swamp South	Frontage on Varty Creek	Cameron Swamp ANSI			Year-round access from McQuay Road	Donation to Authority in 2009

Conservation Reserve		Cameron Swamp East	Frontage on Napanee Lake	Cameron Swamp ANSI			Seasonal access from Kerr Road	Donation to Authority in 2015
Water Control Structure		Varty Lake	Frontage on Varty Lake		Adjacent to Crown land		Year-round access from Park Road	Provincial grant
Conservation Reserve		Napanee River	Frontage on Napanee River			Property protects the floodplain of the Napanee River	Access on foot only	Donation by Ministry of Transportation
Conservation Reserve		Kingsford	Frontage on Salmon River			Parkette with protection of floodplain	Year-round access from Blessington Road	Provincial grant
Water Control Structure		Newburg			Adjacent to hamlet park land		Year-round access from Factory Street	Provincial grant
Water Control Structure		Camden East	Frontage on Napanee River			Site of water level gauge	Year-round access from County Road 1 East	Provincial grant

Water Control Structure		Colebrook			Adjacent to hamlet park land	Site of Colebrook Dam	Year-round access from County Road 6	Provincial grant
Water Control Structure		Arden Dams				Site of the Upper Arden Dam which control Big Clear Lake levels	Year-round access from Arden Road	Provincial grant and Expropriation
Water Control Structure		Laraby Rapids	Frontage on the Salmon River		Adjacent to Queen's University lands	Site of the Laraby Rapids Dam which controls Big Clear Lake levels	Seasonal access from County Road 15	Provincial grant
Water Control Structure		Roblin				Site of the Woods Dam	Year-round access from Roblin Road	Provincial grant
Water Control Structure		Forest Mills	Frontage on the Salmon River			Site of the Breeze Dam	Year-round access from County Road 12	Provincial grant

Water Control Structure		Lonsdale				Site of James Lazier Dam	Year-round access from Marysville Road	Provincial grant
Water Control Structure		Springside Park			Adjacent to Town of Napanee park	Site of Springside Park Dam	Year-round access from County Road 2	Provincial grant
Conservation Area		Massassauga Point CA	Frontage on Bay of Quinte; Sawguin Creek wetland complex			Alvar pavement and woodland – being restored through the application of prescribed burning; ruins of historic hotel; historic First Nations camping on Big Island (in close proximity)	Year-round access from Massassauga Road	Provincial grant

Conservation Reserve		Harry Smith				Property contains the dam and associated mill pond	Seasonal access from Purdy Street	Provincial grant
Conservation Reserve		Allisonville	Frontage on Consecon Creek			Former parkette; naturalized frontage on Concecon Creek	Year-round access from Dutch Road	Donation to Authority in 1978
Conservation Reserve		Bloomfield Mill Pond			Adjacent to PEC parklands	Former parkette; dam maintains former mill pond	Year-round access from Mill Street	Provincial grant
Conservation Reserve		Milford Mill Pond	Frontage on Black River			Former parkette; dam maintains former mill pond	Year-round access from County Road 17	Provincial grant
Conservation Reserve		Sunset Lookout				Former parkette; allows for a vista over the Big Island Coastal Wetland	Year-round access from County Road 14	Owned by Prince Edward County – no records or details of a lease agreement with PEC.
Conservation Reserve		Demorestville				Property contains the dam and associated mill pond	Year-round access from County Road 14 and Black Road	Provincial grant
Conservation Area		Macaulay Mountain CA	Frontage on Macaulay Creek	Macaulay Mountain	Old growth upland Hardwood; Alvar Woodland	Alvar woodland at the top of the escarpment and	Year-round access from County Road 8, Clarke Road and Kingsley Road	Provincial grant

				Escarpment Forest ANSI		south of Kingsley Road contain very rare plants		
Conservation Area		Beaver Meadow CA		Very rich upland Hardwood; Beaver Meadow Wetland complex		Portion of property is flooded by Ducks Unlimited dam	Seasonal access from County Road 11	Provincial grant
Conservation Area		Little Bluff CA	Frontage on Lake Ontario	Limestone Bluff; Cobble Barrier Beach; Coastal Wetland; Escarpment Forest		Significant recreational use	Year-round access from County Road 13	Provincial grant

