

Grand River Conservation Authority

Dumfries Conservation Area

MASTER PLAN

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Section 1: The Context

1.1 PROPERTY CONTEXT

Dumfries Conservation Area is located near the core of the City of Cambridge, southwesterly from the intersection of Dunbar Road and Hespeler Road (Highway 24) (Appendix 1, Map 1.1) (Figure 1.1). Hespeler Road borders the property to the east, Dunbar Road to the north, and a CN Railroad, Coronation Blvd, and the Grand River to the west (Appendix 1, Map 1.2). To the south, the property is bordered by residential and commercial developments. The rest of this area is characterized by a mix of commercial (along Hespeler Road) and residential properties (along Dunbar Road and Coronation). Dumfries Conservation Area is used heavily by local families, and the YMCA that is located adjacent to the property. To the west of the property and across the Grand River is Cruickston Park, which is a large area of natural forest. Therefore, Cruickston Park and Dumfries Conservation Area are essentially one large block of forested area, separated by the Grand River. The City of Cambridge in 2003 has an approximate population of 111,000. The property is approximately 75 hectares.

1.2 PROPERTY HISTORY

The Homesteads

According to historical reports, there were two homesteads located on the property of Lot 1 Concession 1.

The first homestead was owned by George Clemens. This homestead was located in Lot 2 and the north half of Lot 1 in Concession 1, just south of the present day Dunbar Road and west of Groff Mill Creek. When George Clemens later took up residence near Speedsville north of the Speed River, the original homestead became occupied by his second eldest son Stauffer Clemens in 1861. Following his death in 1891, a Ukrainian gentleman named Nicholas Ciccura purchased the Stauffer Clemens holdings.

The second, a hilltop homestead, owned by Abraham Clemens (brother of George Clemens) was located in the west half of Lot 1. Abraham Clemens received the property from its original owner Mr. Abraham Gingerich in 1809. Abraham Clemens's eldest son Nathan inherited the south half of Lot 1 upon Abraham's death in 1821. No further mention of a homestead on the west half of the property occurs until Tremaine's 1861 Map of Waterloo Township that clearly shows a house, owned by Jacob Bergey, on the same site. The building shown on the 1861 map was a limestone house, and according to several local historians, the stone house was built in approximately 1850. The Bergey family left their limestone house in approximately 1870 when most of the family decided to immigrate to Michigan. The farm passed through several owners in rapid succession until the Spottiswood family purchased it in 1897. The property supported a herd of Jersey cattle and horses, as well as some grain crops. In 1916, Percy R. Hilborn bought a half-interest 22.7 hectare parcel of the Spottiswood property. A lifelong friend, Laurie Barrett, bought the other half interest. P.R. Hilborn soon started planting trees at different locations throughout the property. He also maintained a vegetable garden on one corner of the property. Soon after, he had dug two ponds and naturalized them. Then in 1966, between January 31st and May 2nd, he purchased his friend's half interest of the Spottiswood lands, as well as adjoining farm and pasture lands: 24.7 hectares of the Dyck property; 10.9 hectares of the Ciccura property; and 11.3 hectares of the McAllister property. In all, he had a combined parcel of approximately 75 hectares of land.

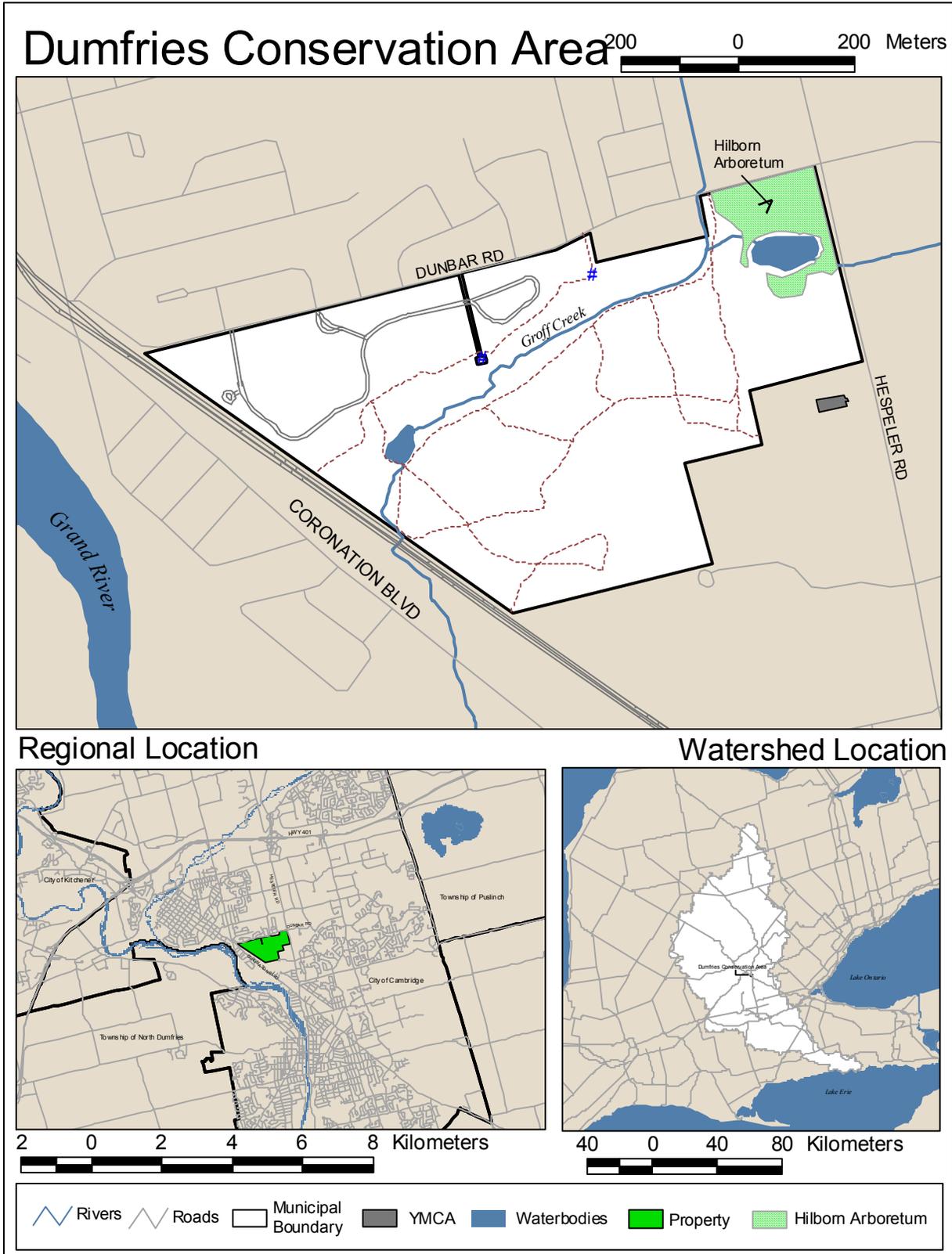


Figure 1.1 Location Map

The Hilborn Legacy

In 1967, P.R. Hilborn donated his land to her Majesty the Queen in right of Ontario. However, soon after the donation, the Ontario government instituted a freeze on the development of provincial parks, and therefore little development and management was conducted. Therefore, after some discussion concerning drainage problems and the lack of funding, on January 8, 1970, Ontario Premier John Robarts advised Mr. Hilborn that they were unable to carry out any development on the property. Premier Robarts asked if Mr. Hilborn would agree to the property being transferred to the GRCA, “with the agreement that development would be started within a year of acceptance.” To sweeten the deal, Premier Robarts said the province would contribute 50% of the costs of the development over the next year, under the Conservation Authorities Act. Due to increasing vandalism and fires across the property, and an increasing need for some sort of development, Mr. Hilborn agreed to the transfer of ownership. In 1970, the Grand River Conservation Authority (GRCA) took ownership of Dumfries Conservation Area.

Grand River Conservation Authority Ownership

According to a report in 1977, the Grand River Conservation Authority’s initial years of ownership were busy.

Table 1.1 GRCA management practices during early years of ownership.

YEAR	ACTIVITY
1972	<ul style="list-style-type: none"> • Development plan prepared • Main roads constructed • Trees planted to screen the area • Started regular grass cutting maintenance
1973	<ul style="list-style-type: none"> • Trees planted
1974	<ul style="list-style-type: none"> • Trees planted • Fences repaired • Area posted • Use of the area for outdoor recreation by Waterloo School Board
1975	<ul style="list-style-type: none"> • Development plan revised and finalized • Picnic shelter constructed • Toilet facilities constructed • Septic system and water service installed • Playground and spray pool constructed
1976	<ul style="list-style-type: none"> • Maintenance shed constructed • Official dedication of playground by Kiwanis Club • Approximately 20 acres of playfield worked and seeded • Trees planted around playfields • Main road extended • Bike path construction started and approximately 1800 metres completed • Tables and barbecues installed • Fulltime maintenance crew for summer season • Landscaping • Signs erected
1977	<ul style="list-style-type: none"> • Walking trails upgraded and cleared • Agreement with Temple Baptist Church to use the parking lot
1978	<ul style="list-style-type: none"> • City of Cambridge relocated a municipal ditch inside the Dumfries boundary • Foot bridge built • Repairs to pond to correct erosion

A second list written in 1980, accounted for work to be done, including a new foot path, playfield improvements, hydro to picnic shelters and washroom, more tree planting, a recirculation system for the spray pool, and dam and culvert repair at the lower pond.

The development plan created in 1975, known as the Master Development Plan, identified three major goals and objectives for Dumfries Conservation Area. (1) Understand site potentials and limitations, which involves the inventory and analysis of natural resources and determine the type and level of use that these features are best suited to accommodate. (2) Recognize community park and open space needs, by reviewing the relationship of this property to other community facilities and proposals. (3) Propose a land use program, which was to recognize the wish of Mr. Hilborn that the property remains essentially a natural area available for general public use. Possible community needs identified in this plan included a bikeway corridor, sports fields, passive nature walks, groups and family picnics, skating and cross-country skiing.

Dorney Report

In 1971, the University of Waterloo carried out a study by Professor R.S. Dorney on the property. The study was commissioned and paid for by Mr. Hilborn. The report made four recommendations. (1) Further develop the property for recreational use, (2) construct a buried storm pipe to deal with drainage problems, (3) carry out an organized tree planting program, (4) plant crops to attract wildlife. Although the park will function primarily as a facility for the urban centres of Preston and Galt, the emphasis is on the preservation of historical and natural features. These are some of the key original requests of P.R. Hilborn.

Groff Mill Creek

Groff Mill Creek, named after Andrew Groff who tapped the spring creek in about 1835, was straightened in 1983. The creek, running through the property from east to west, was proposed to be straightened to enhance drainage from the Parkview Heights subdivision north of Dunbar Road and west of Hespeler Road. Although the Hilborn family did not agree with this decision, as it would be inconsistent with their father's intentions. Backhoes soon moved in, digging out the creek and straightening it. The creek was lined along its bottom and side with geotextile fabric and an interlocking open-work concrete block system.

Hilborn Arboretum

In 1984, the Hilborn Arboretum was developed on 2 hectares at the corner of Dunbar Road and Hespeler Road by the Preston, Hespeler, and Galt Horticultural Societies. The Arboretum was built as a provincial centennial year project. Approximately 964 trees were planted by the Horticultural Societies and their partners, including approximately 75 tree species. Specific tree species are outlined in Section 3.3.1.

Cambridge Area Route Selection Study

In December 1974, a report called "Highway 8 Review: Cambridge to Kitchener" was published by the Regional Municipality of Waterloo. In this report, the Region concludes that there is a need for an extension of Highway 8, and for an east-west arterial road that would run through the Dumfries Conservation Area. At this time, nothing was finalized, and an east-west arterial road was only discussed. However, in May 1977, the Hilborn family, having noticed that plans were being made for construction of

an east-west arterial road, asked the Province to declare that the lands be used only for parkland, as their father had intended. Later, in 1995/96, the Cambridge Area Transportation Study (CATS) report stated that several possible routes through the property should be considered. Then in 2001, the Cambridge Area Route Selection Study (CARSS) of the Regional Municipality of Waterloo and Stantec Inc. identified three possible alternatives for the east-west arterial that would cut through Dumfries Conservation Area. Overall, the east-west arterial road has been an important part of Dumfries Conservation Area between the 1970s and recent years.

1.2.1 AIRPHOTO INTERPRETATION OF THE PROPERTY'S HISTORY

In section 1.2.1 four airphotos are presented (Figure 1.1 – Figure 1.4). These photos show changes to the property over the time period provided. A clear transition over 50 plus years from countryside to urban green oasis is apparent. Both the Hilborn and the Ciccura property are easily distinguishable. As previously mentioned, the property roads were constructed in 1972, prior to this year, no roads are seen in the air photos. The change in size and location of plantations and wetlands are also noticeable. Also, the build up of residential and commercial structures is noticed during the time period. According to the airphotos, there seemed to be much development along the east side of Hespeler Road in the 1970s.



Figure 1.1 1949 Airphoto



Figure 1.2 1963 Airphoto



Figure 1.3 1968 Airphoto



Figure 1.4 1979 Airphoto

1.3 PURPOSE OF THE PLAN

The Dumfries Conservation Area Master Development Plan was written in 1975. Many of the management principles and suggestions outlined in that plan will continue in this Master Plan, including forestry management, encourage passive public recreation, and naturalization. The Master Plan is intended to provide “big picture” context and direction for the future management of the property. It outlines the primary goals and objectives for the property, and recommends new and continued management practices that try to accomplish those goals and objectives.

1.4 GOALS AND OBJECTIVES

Goal:

1. To propose a land use program adapted to site potentials and community needs. This program is to recognize the wish of P.R. Hilborn that the property will remain essentially a natural area available for general public use.

Objectives:

1. Conduct a natural heritage inventory to better understand site potentials, management and sensitivity.
2. To enhance the natural setting of the property.
3. To increase local and regional awareness of the Dumfries Conservation Area, in order to encourage passive use of the property.
4. To increase awareness of the property’s characteristics, such as trails, parking lots, access points, and important environmental features.
5. To decrease vandalism and unwanted activities throughout the property.

1.5 PLAN REPORT STRUCTURE

The Dumfries Master Plan is a *Comprehensive Site-Specific* Master Plan. The Plan identifies the overall objectives for the property, with respect to social, economic, natural heritage and environmental attributes. These objectives are accomplished by covering a number of important issues through eight different sections. The sections include: (1) Introduction and History; (2) GRCA Policies and Master Planning Process; (3) Physical Conditions and Biophysical Resources; (4) Existing Uses; (5) Issues and Stakeholder Input; (6) Management Practices; (7) Recommendations; (8) Plan Implementation.

Section 2: Grand River Conservation Authority and the Master Plan Process

2.1 INTRODUCTION

Two themes are presented in Section 2, an introduction of the Grand River Conservation Authority (GRCA), and an overview of the Master Plan Process. A brief history of the GRCA is given, including the organization's mission, vision, and values, strategic plan and focus. Secondly, the Master Plan Process is outlined, including how a Master Plan is developed through various stages.

2.2 THE GRAND RIVER CONSERVATION AUTHORITY

In the 1800s, the Grand River provided transportation, water supply, and waterpower, attracting settlement to the valley. Deforestation and urban settlement combined to aggravate flood and drought conditions. Water quality in the river deteriorated to the point where it was a public health concern. To deal with these problems a group of eight municipalities banded together to form the Grand River Conservation Commission in 1932. In 1942, the Commission completed the Shand Dam, the first multi-purpose dam in Canada, built for flood control and low flow augmentation to improve water quality during the dry summer months. It also started planting trees around reservoir sites to help restore the watershed.

Resource problems were not unique to the Grand River watershed. Prior to World War II, renewable natural resources were exploited to encourage industrial expansion and economic growth. As a result of public concern about the state of the environment in Ontario, the Province passed the Conservation Authorities Act in 1946. The Act was based on three principles:

- Initiative for the establishment and support of a conservation authority must come from the local people (all watershed municipalities).
- The best unit for dealing with renewable resource conservation is the watershed.
- If initiative and support were shown locally, the Ontario government would provide technical advice and financial assistance in the form of grants.

The GRCA is a corporate body established to enable municipalities to jointly undertake water and natural resource management on a watershed basis - for the benefit of all. The broad goal of all conservation authorities in Ontario is specified in Section 20 of the Conservation Authorities Act: *The objectives of the Authority are to establish and undertake in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals.*" (RSO 1990, c. 27). Under the terms of the Act, the Grand Valley Conservation Authority was formed in 1948. The practicality of two conservation organizations operating in the same watershed was closely scrutinized in the 1960s. To avoid potential conflict over roles and responsibilities and to eliminate duplication of programs the Grand River Conservation Authority was established in 1966 through the amalgamation of the Grand River Conservation Commission and the Grand Valley Conservation Authority.

Since 1966, the GRCA, its member municipalities, and the community, have accomplished much in bringing back environmental health and sustainability to the watershed. Brown Trout populations in the upper Grand River have been revitalized due to better water quality and fish habitat and spawning restoration projects. Streams have been improved by projects focused on stream runoff and bank erosion, tree planting, and water quality. The GRCA has promoted educational and recreational activities that allow people to experience the Grand River and its watershed. The combination of programs undertaken by the GRCA and its partners over the last 60 years has created a story of recovery in the Grand River from years of degradation and industrialization. In 1991, the GRCA established its mission, vision, and values (listed below).

Vision

“To be a leader in ensuring a healthy and sustaining relationship between the natural environment of the Grand River watershed and the demands on this environment by all forms of life.”

Mission

“To work with partners to conserve the natural processes and resources that support a safe and healthy environment for future generations in the Grand River watershed.”

Values

“Openness, clarity, understanding, sensitivity, action, holism, integrity, accountability, trust, flexibility, fairness, preparedness, creativity, innovation.”

2.3 MASTER PLAN PROCESS

A Master Plan describes an overall development concept including present uses and future land development plans for a property. All Master Plans are related to an authority’s watershed plan or conservation and recreation land management plan, while also contributing to subsequent stages of planning by specifying site development and operations planning guidelines for the area of land in question.

Different levels of Master Plan detail will be required for different properties. They can be prepared on a site-specific basis, or alternatively, one plan can be prepared for an entire class of properties. Furthermore, site specific Master Plans can be comprehensive or focused. A *comprehensive* Master Plan is a strategic document that identifies the overall objectives for a property, with respect to social, economic, natural heritage and environmental attributes. A *focused* Master Plan would be less comprehensive. It would not consider a large number of alternative uses, and would not require significant public input.

There are a number of key components included in most Master Plans. They include a general introduction and history of the property, followed by a detailed ABC inventory (Abiotic, Biotic, and Culture), some information about past, present and potential future uses, and then proposed plans that are followed by a suggested implementation process. An approach to developing a Master Plan is outlined below. Depending on the size and nature of the property, this process can often times take a couple of years.

Developing A Master Plan

Steps involved in developing a Master Plan are outlined below.

1. Determine the class of plan applicable to the subject property.
2. Gather existing relevant data, management records, Master plans, relevant sections from thematic and/or subwatershed plans, reports, and policies.
3. Identify information gaps that need to be addressed for the appropriate class of plan.
4. Develop and implement a work plan to address information gaps.
5. Develop and implement a strategy for staff and community involvement in the planning process appropriate to the subject Master Plan.
6. Establish the goals and objectives for the management of the subject property.
7. Describe the property's physical, natural, and cultural heritage attributes and context, its history and past management, and its current use.
8. Identify management opportunities and constraints presented by the subject property's physical, social, environmental and cultural attributes.
9. Identify and reconcile potential or current conflicts related to goals/objectives, constraints/opportunities, current or potential use.
10. Create, and show in map form, zones of land use; develop and apply generic and/or specific land use policies to the various zones.
11. Identify threats to the long-term sustainability and ecological health of the property, and recommend mitigating strategies.
12. Recommend policies, strategies, and actions that protect the sustainability and ecological integrity of the property and optimize benefits to the watershed and its community.
13. Compile all of this information according to the appropriate template into an informative and readable Master Plan.
14. Ensure that the plan is compatible with adopted plans or strategies of the Grand River Conservation Authority; the expectations of staff, the board, and the community; and, relevant municipal, provincial, national, and international strategies.
15. Present the Master Plan to the board of the Grand River Conservation Authority for approval.

Historically, most Master Plans provided a twenty year horizon for management activities and development, as well as to set the context for routine property operations. Generally, a Master Plan's time frame is dependent upon its recommendations. A plan usually will take five, ten or twenty years to implement all recommendations.

Key to developing any Master Plan is the involvement of multiple internal professionals, as well as private and public stakeholders. In general, society has a growing demand for outdoor recreation, and therefore, is visiting and using parks more often than in the past. Also, in general, society has a higher expectation of being involved in community matters. There is much knowledge in the community to be brought to the planning process. Therefore, it is vitally important to have their input into the Master Plan Process. Input from citizens is required, whether municipal representatives, school board councils or representatives, and sometime, private companies. Also, GRCA staff with backgrounds in planning, forestry, parks management, business, and ecology, provide input to the Master Plan Process.

Section 3: Physical Conditions and Biophysical Resources

3.1 INTRODUCTION

Section 3 outlines the physical and biophysical resources of Dumfries Conservation Area. Within these two sections, the following specific topics will be reviewed: climate, topography, geology, hydrology, soils, mammals, fish, amphibian and reptiles, and birds.

3.2 PHYSICAL CONDITIONS

The environmental physical conditions of the Dumfries Conservation Area are briefly outlined using the following five topics: climate, topography, geology, soils, and hydrology.

3.2.1 CLIMATE

Regional climate is characterized by cold winters and warm summers, and a total monthly precipitation range from 50 to 95 mm. For the period 1971-2000, annual average temperature for the city of Cambridge, Ontario was 7.2°C, and total annual precipitation was 912.9 mm.

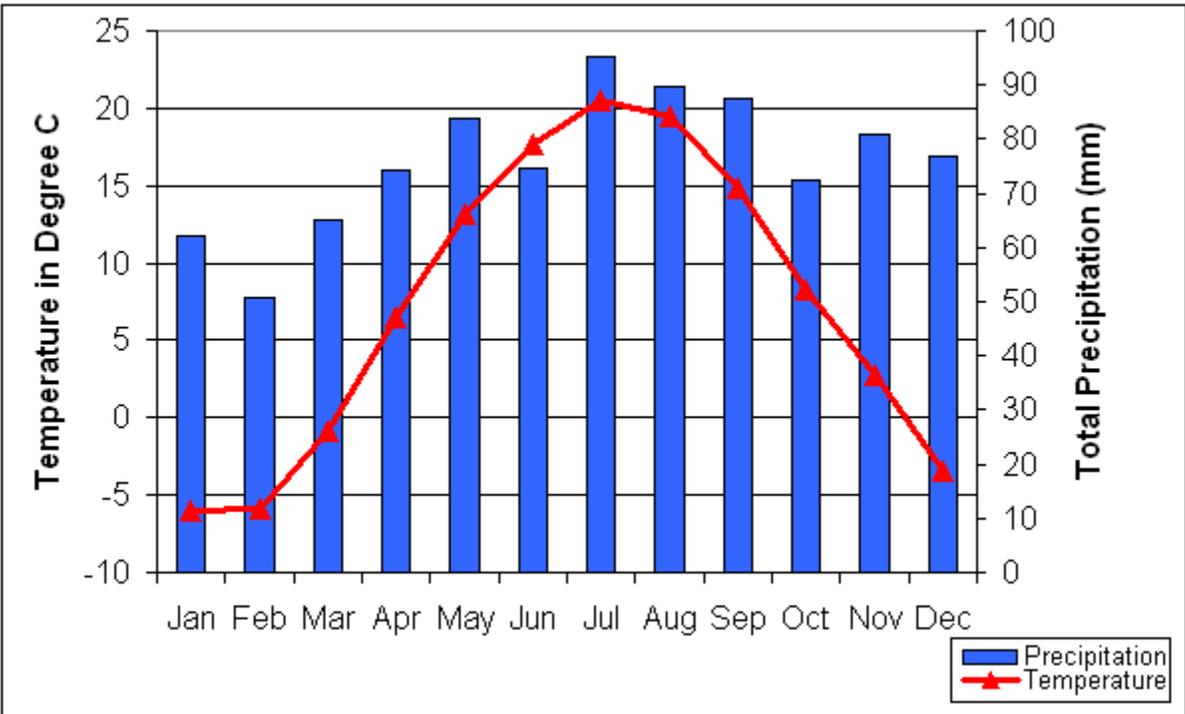


Figure 3.1 General Climate for the city of Cambridge (1971- 2000 Climate Normals, Environment Canada, 2003)

Table 3.1 General Climate Summary for the city of Cambridge (1971-2000 Climate Normals, Environment Canada, 2003)

Temperature:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Daily Mean (°C)	-6.0	-5.9	-0.9	6.5	13.1	17.7	20.5	19.5	14.8	8.3	2.8	-3.4	7.2
Precipitation:													
Precipitation (mm)	62.2	50.6	65.0	74.2	83.9	74.5	95.2	89.7	87.4	72.4	81.0	76.9	912.9

3.2.2 GEOLOGY

Bedrock Geology is composed of the Guelph Paleozoic formation that consists of fine to medium crystalline saccharoidal dolostone and has an approximate thickness ranging from 4 to 100 metres (Appendix 1, Map 3.1). The Guelph formation, which overlies the Eramosa Member, is poorly exposed in the Niagara Peninsula, but more clear to the northwest. Fossils within Guelph formation include corals, stromatoporoids, bivalves, and cephalopods.

Surficial geology across the property is composed of approximately 2/3 glaciolfluvial gravel deposits (Appendix 1, Map 3.2). These deposits, as their name suggests, were laid during the last ice age when the glacier retreated. It is this high percent gravel deposits on the property, that allowed for such a successful aggregate extraction in the past. The other 1/3 is composed of Wentworth till. There is a small portion of the property in the southwest corner that is composed of organic deposits. It is this exact location where the provincially significant wetland is located.

3.2.3 SOILS

The majority of the property consists of well-drained loam soils over deep gravel deposits. Still, there is a good mix of loam soils, such as gravelly loam, sandy loam, and cobbly loam (Appendix 1, Map 3.3). In low lying parts of the property, there are also organic and hydric wetland soils.

3.2.4 TOPOGRAPHY

Generally, the property is gently rolling. However, there are also flat open field areas, and occasional steep slopes in the southern half of the property. The property is entirely within a glacial spillway.

3.2.5 HYDROLOGY

Running through the centre of the property is Groff Mill Creek (Appendix 1, Map 3.4). The creek is nearly four kilometres in length from start to finish (upstream north of Dumfries Conservation Area and downstream to the Grand River); averages five to thirty centimetres deep, and 1.2 metres wide. Groff Mill Creek, which begins just north of Sheldon Drive, passes through the property, and eventually empties into the Grand River, has one tributary. The tributary, flows from the east across Highway 24 into the property, and into the eastern pond. The tributary meets the main creek just within the property near the corner of the Ciccura property.

There are two small ponds on the property. Both ponds were created by Mr. Hilborn sometime in the late 1950s. One of the ponds, mentioned above, is located on the eastern section of the property, adjacent

Hespeler Road. The other pond, which is essential are wider section of Groff Mill Creek, is located in the western half of the property.

Most of the property is within a well head protection area. This specific well head protection area has sensitivity values between two and four. Well head protection areas can range between one and four, one being the most sensitive, and four the least sensitive. Located on the property are two municipal wells that have accessed the aquifer beneath the property. These are open hole wells of 86 and 85 metres in depth, which tap both upper and lower level aquifers.

3.3 BIOPHYSICAL RESOURCES

Section 3.3 is divided into two subsections, Flora and Fauna. In each section, a general inventory of species based on observations and some inventory results by GRCA staff is presented.

3.3.1 FLORA

Due to the diversity of vegetation communities, the area has a variety of vascular plant species. Vegetation communities consist of plantation, wetland, open field, low land forest, and meadow (Appendix 1, Map 3.5).

A complete list of vascular plants species identified on the property is found in Appendix 2, Inventory A.

Plantations

There are four main plantations found on the property. The dominant species within the plantations are eastern white pine, red pine, and Norway spruce.

Wetlands

Due to the presence of locally significant wetlands, there are a variety of wetland plant species found across the property, and especially on either side of Groff Mill Creek (Appendix 1, Map 3.6). This variety of wetland plant species corresponds with the types of wetlands found on the property. There are essentially two types of wetlands, fen wetlands and cedar marsh wetlands.

Arboretum Plants

When the arboretum was planted in 1984, approximately 964 trees and 75 tree species were planted throughout the northeastern portion of the property. There was a mix of native and non-native species, thus providing a large variety of tree species. Examples of such species include: red oak, black walnut, American basswood, serviceberry, honey locust, black ash, and butternut. For a complete list of the trees planted in 1984, refer to Appendix 2, Inventory B.

Invasive Plants

Many invasive plant species are found throughout the different vegetation communities, including forest, meadow, and wetland. Glossy and common buckthorn can be found in a number of open areas on the south side of the forested area. Invasive plant species found on the property are listed in Appendix 2, Inventory A.

3.3.2 FAUNA

Mammals

A variety of common urban park mammals are present throughout the property. Examples of observed wildlife are listed in Table 3.2. Although uncommon to urban park properties, white-tailed deer have been seen on the property, even witnessed in the open area of the Hilborn Arboretum. It is felt that white-tailed deer work their way up from the Grand River and cross Coronation Boulevard into the park forests. Also, a variety of mammal burrows and dens have been found on the property, indicating that wildlife at Dumfries Conservation Area is not just passing through, but calling it home.

Table 3.2 Mammal Species Observed at Dumfries Conservation Area

Specific Name	Common Name
<i>Odocoileus virginianus</i>	White-tailed Deer (tracks)
<i>Procyon loter</i>	Raccoon
<i>Tamias striatus</i>	Eastern Chipmunk
<i>Tamias sciurus hudsonicus</i>	Red Squirrel
<i>Sciurus carolinensis</i>	Grey Squirrel
<i>Marmota monax</i>	Groundhog (Woodchuck)
<i>Ondatra zibethicus</i>	Muskrat
<i>Sylvilagus floridanus</i>	Eastern Cottontail

Herptofaunal

Groff Mill Creek, wetlands and low lying moist areas provide habitat for spring peepers, leopard frogs. Other amphibians heard or observed include wood frog. Also, gartersnakes are common across the property.

Fish

Although it is said that Groff Mill Creek once supported trout species, due to the transition from a natural spring creek to a warm water creek, Groff Mill Creek no longer supports cold water fish species. Known fish species currently present in Groff Mill Creek comprise minnow, dace, and creek chub species (Table 3.3). The size and speed of the creek is too small to support any large fish species.

Table 3.3 Fish Species Present in Groff Mill Creek

Specific Name	Common Name
<i>Luxilus cornutus</i>	common shiner
<i>Pimephales notatus</i>	bluntnose minnow
<i>Pimephales promelas</i>	fathead minnow
<i>Rhinichthys atratulus</i>	blacknose dace
<i>Semotilus atromaculatus</i>	creek chub
<i>Semotilus margarita</i>	pearl dace

Birds

A variety of bird species have been noticed on the property throughout the year. Species have been witnessed in wetland, forest, and open field locations. The property is used heavily by breeding birds. Hawks have been known to breed within the forested and plantation areas of the conservation, often seen flying over nearby neighbourhoods and the Grand River. Also, according to one person, an eagle was seen perched on a tree in the spring of 2003. A complete list of the bird species observed or heard on the property is found in Appendix 2, Inventory C.

Section 4: Existing Uses

4.1 INTRODUCTION

Section 4 reviews how the property is used by public individuals and groups, and secondly by the GRCA.

4.2 PUBLIC USE

There is a great deal of public interest in the Dumfries Conservation Area. Both the GRCA and the Hilborn family want to encourage passive recreational use of the property. With greater use of the property there will be greater awareness of the property throughout the city, and with greater awareness of the property, there is the chance for more funding and volunteer support for the property.

The most common form of public use is hiking and walking along trails (Figure 4.1). This includes dog walking, nature appreciation, and bird watching. Many people jog through the property as part of their YMCA exercise. The YMCA is located adjacent to the property, on Hespeler Road. A well maintained trail begins at the rear parking lot of the YMCA, and runs through the property for approximately (700 metres) (Figure 4.2).

Apart from hiking and walking, there are a number of common forms of public use throughout the property. Biking is popular along the trails and in open areas. A small playground near the lower pond attracts young families from nearby neighbourhoods (Figure 4.3). As well, in the same location, a picnic shelter is provided for public use. The open fields along Dunbar Road are used frequently by neighbourhood families to play soccer, Frisbee, and other games. During the winter months, recreation activities include tobogganing, cross country skiing, hiking, and possibly snowshoeing.

Dumfries Conservation Area is heavily used by groups. The most western portion of the property is used as a cricket pitch by the Cambridge Cricket Club. This group has a contract with the GRCA, and pays \$500.00 per year for use of the property. They cut the grass that they play on, and they installed the cricket pitch themselves. As well, a local Rocket Club meets at the

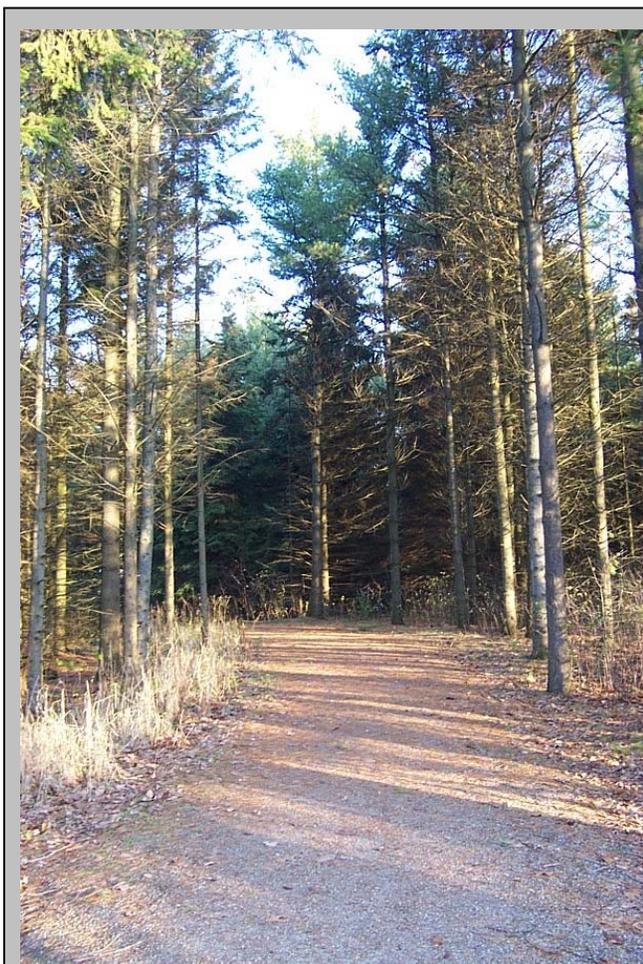


Figure 4.1 Trail for hiking and biking

property weekly, during summer months, to launch miniature rockets. These rockets are not noisy, and do not pose a threat to people or wildlife. Rockets are seldom lost during re-entry, but occasionally the trajectory is off and a rocket may land somewhere off in the forest or creek. Another group, the Friends of Dumfries organizes Kite Fest in early June each year. This event attracts several hundred people, and as a result has become a very popular and well known annual event.



Figure 4.2 Trail entrance at rear of YMCA parking lot



Figure 4.3 Playground facility

Regrettably, there are some undesired public activities that have resulted in many problems on the property. For a number of years now, Dumfries Conservation Area has been disturbed by people misusing the property. Buildings have been vandalized and some burned. According to Elinor Hueton, “young people have bottle and pot parties in the woods, make fires and spin their cars on the grass.” Misuse of the property is discussed further in section 5.2.2.

4.3 GRCA USE

Dumfries Conservation Area is used by the GRCA to accomplish two things. First, to conserve and protect the natural state of the property as requested by P.R. Hilborn, and second, to provide passive recreation and nature appreciation to the public. Therefore, the GRCA manages the property to achieve those two objectives. Since 1970 when the GRCA received the property, development has focused on enhancing the property’s ecology and providing the opportunity for passive recreation by the public. The property is managed to provide trails, open field areas, and recreational structures for public use.

Historically, the GRCA has received some revenue from community groups wishing to use to the property. Local church groups, Kiwanis clubs, schools, and a radio club, have all approached the GRCA at some time to use the property. These groups and others negotiate on the terms of the agreement that require the property to experience no negative impact from the group’s use. Currently, the GRCA has an agreement with the Cambridge Cricket Club that meets during the Cricket season.

Much of the property has been reforested over the years by P.R. Hilborn, the GRCA and partner groups. In the 1970s, tree planting exercises were popular on the property. Many of these tree planting projects were a result of the 1975 Master Development Plan.

Section 5: Issues and Stakeholder Input

5.1 INTRODUCTION

The management of Dumfries Conservation Area needs to evolve in step with the evolving circumstances affecting the area. Management strategies need to be pro-active in order to prepare for the future. Therefore, in order to be pro-active, the issues and stakeholder concerns facing Dumfries Conservation Area must be clear. This section reviews a number of key issues facing Dumfries Conservation Area, as well as important stakeholder input.

5.2 ISSUES

The Dumfries Conservation Area is an urban conservation area located in the core of the City of Cambridge. This means that the property receives, or has the potential to receive a high level of public use. Adjacent to the property is a mixture of residential and commercial properties that play a major role in the function and state of the property. This proximity to neighbourhoods is part of the value of Dumfries Conservation Area. However, misuse and vandalism have resulted in increased costs for security, maintenance and repair. As reviewed in section 1.2, the Cambridge Area Route Selection Study is a major issue for Dumfries Conservation Area. Section 5.2 reviews these and other issues in depth, discussing how they have influenced or are influencing the property.

5.2.1 CAMBRIDGE AREA ROUTE SELECTION STUDY

Due to increasing population (approximately 111,000 in 2004) and traffic congestion in the City of Cambridge, according to the Region of Waterloo, there has been the need for an east-west arterial roadway. According to the Cambridge Area Route Selection Study (CARSS), as briefly reviewed in Section 1.2, there was pressure to widen Dunbar Road (EW-2), and develop a new road along the southern border of Dumfries Conservation Area (EW-1) (Figure 5.1). Also, as part of base road network improvements there is reference to the widening of Hespeler Road between Dunbar

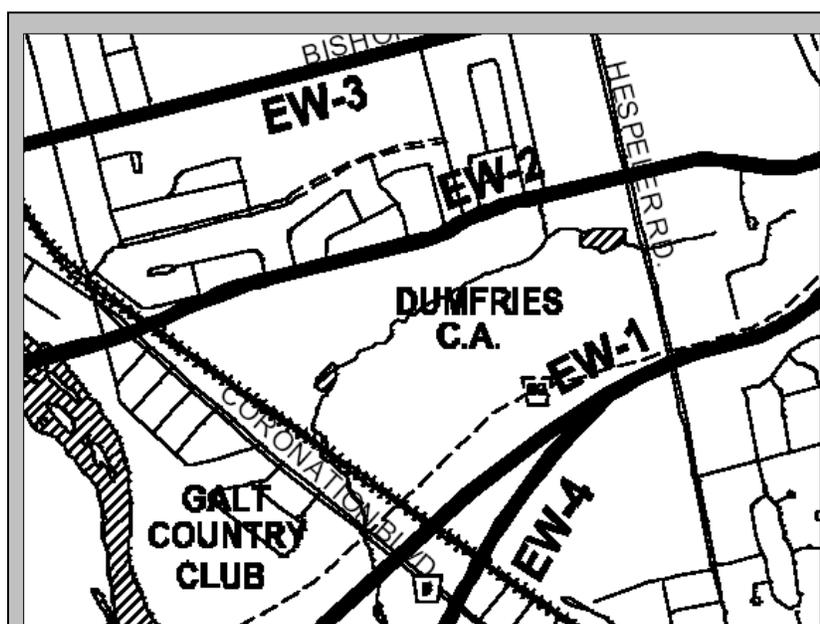


Figure 5.1 East-West Alternative Alignments from CARSS
(Draft Interim Report No. 11, CARSS, November 2000)

Road and Munch Avenue from four to six lanes. This section of Hespeler Road runs adjacent to the eastern border of the property. All of these transportation network issues are a significant issue for the natural function of Dumfries Conservation Area. These projects have the potential of disturbing portions of the property's natural function, and further isolating the area from nearby neighbourhoods. Currently, the Cambridge Area Route Selection Study is on hold, awaiting further information from the Ministry of Natural Resources, regarding route alignments.

5.2.2 MISUSE AND VANDALISM

Historically, even before the Grand River Conservation Authority owned the land, according to the Hilborn family, many park visitors acted in ways that are not desirable. Since the property is an urban park, litter is a problem throughout the property (Figure 5.2). Garbage is thrown along trails, throughout open fields, and along Dunbar Road and Hespeler Road. Thankfully, routine hikers do pick up garbage regularly. Also, stoop and scoop procedures are often not followed. When dog walkers scoop their pet's excrement they sometimes leave the plastic bag behind, either hanging it on a tree or just throwing it aside. The City of Cambridge Animal Control Bylaw states that on any municipal property, dogs cannot run at large, and dog owner's must clean up excrement immediately and personally remove them from the property.



Figure 5.2 Litter found along a main trail near Dunbar Road and the Hilborn Arboretum (Picture taken November 20, 2003)

No motorized vehicles are allowed on any trail across the property, however this has not stopped some people from riding motorized vehicles on the trails. Off-road, motorized vehicles are inappropriate at Dumfries Conservation Area. They are in conflict with other more passive uses and wildlife. However, preventing access is a challenge.

Vandalism is an ongoing concern. On numerous occasions structures and trees have been set on fire. At one point in the property's history a forest fire nearly destroyed an entire plantation. Shelters, a washroom house, garbage bins, and various other structures have been destroyed or vandalized to a point that the structure is required to be removed. Such behavior has influenced the management of the property so severely that proposals to develop the property are strongly shaped by vandalism considerations.

5.2.3 FLOODPLAIN

A portion of the property is floodplain (Figure 5.3). Consequently, this portion of the property is regulated by the Grand River Conservation Authority under Ontario Regulation 149 as amended by 69/93, 669/94, and 142/98 (Fill, Construction and Alteration to Waterways), which says that any future structures will be required to be placed outside the floodplain. Still, a significant portion of this flood prone area is within a riparian zone consisting of natural vegetation. This area does not receive any active use other than nature appreciation through trail use. Essentially, flood prone areas need to be recognized, in the event of development, even though the majority of the area is natural and will be protected and used for trails.

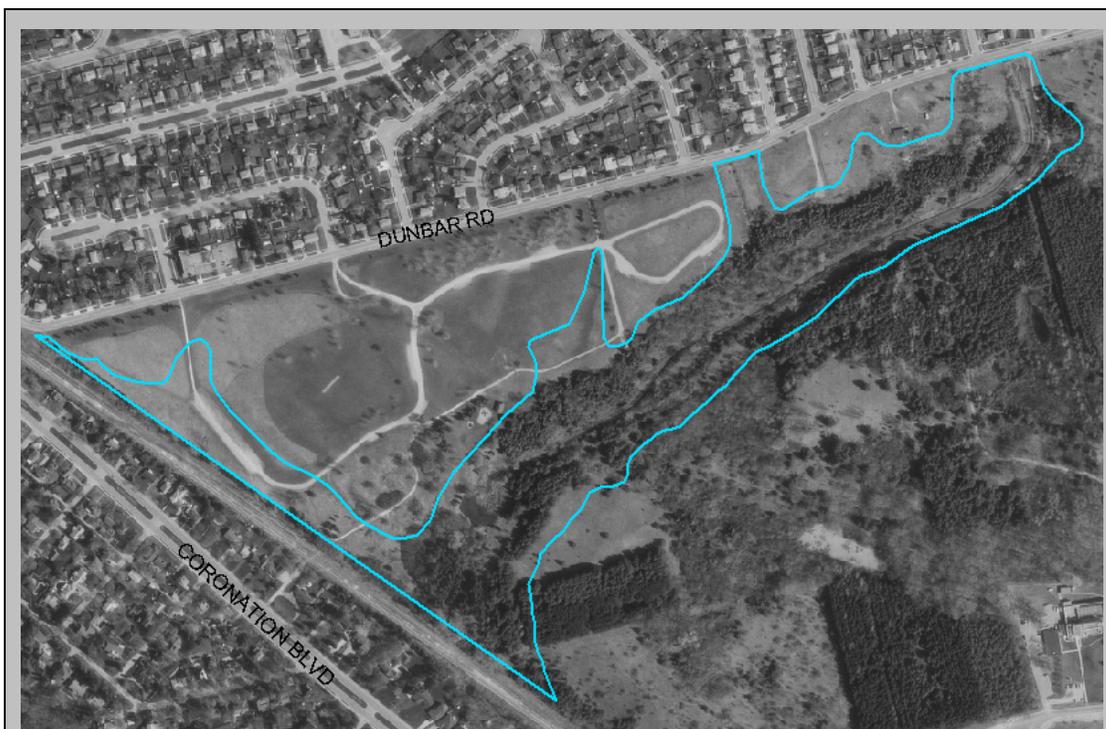


Figure 5.3 Groff Mill Creek Floodplain areas (within blue boundary)

Please note that this is not the entire floodplain area for Groff Mill Creek, but only flood prone areas within the property.

5.2.4 DEVELOPMENT PROPOSALS

Partially due to its location, Dumfries Conservation Area has frequently been suggested for some form of development. Two examples of development on the property are a YMCA facility, and a set of soccer fields. In 1992, representatives from the YMCA approached the GRCA to develop a facility on two hectares of land, in the northwest corner. Later, in 2003, the Hilborn family and the GRCA approached the City of Cambridge to discuss the possibility of developing soccer fields in the open area adjacent to Dunbar Road. However, an agreement on these proposals was not reached. Still, generally speaking, Dumfries Conservation Area, due to its urban location and natural value, is attractive to a variety of recreation development proposals. However, sometimes these proposals are not consistent with the terms of the bequest.

Dumfries Conservation Area natural attributes, features, and location make it a magnet for a diversity of proposals. Nonetheless, these proposals require understanding of the background of high vandalism risk and the terms of the P.R. Hilborn bequest.

5.3 STAKEHOLDER INPUT

Stakeholders are individuals or groups with an interest in the Dumfries Conservation Area. Examples of important stakeholders in regard to Dumfries Conservation Area are the Hilborn family, the City of Cambridge, the Chaplin YMCA, nearby neighbourhoods, the Friends of Dumfries group, and Cambridge Rotary clubs. This section explores the perspectives of these stakeholders.

5.3.1 HILBORN FAMILY

The Hilborn family donated the property to the Ontario government who then passed it to the Grand River Conservation Authority. Members of the family continue to have a strong role and influence in the management and function of the property. Currently, Elinor Hilborn Hueton and her husband John Hueton represent the family in discussions with the GRCA, and in recent years Elinor and John Hueton have approached the GRCA with a number of recommendations that they feel would benefit the property. Increased signage and knowledge of the property is important, as well as a method of keeping the property more clean. Elinor and John Hueton organize an annual clean up day where they invite adjacent neighbourhood residents and other stakeholders to come out and pick up garbage throughout the property. Through Elinor and John Hueton, the Hilborn family continues to be a very important stakeholder of the property that was donated by their father.

5.3.2 CITY OF CAMBRIDGE

The City of Cambridge views Dumfries Conservation Area as a great resource and one with immense potential. As previously mentioned, in 2003, the City of Cambridge approached the GRCA and Hilborn family with a proposal to develop soccer fields for the city soccer program. The city offered to lease a portion of the property from the GRCA, and to fund all development. Along with the soccer fields, the city offered to provide a washroom facility with municipal services. An agreement was not reached on the terms of this proposal, primarily based on concerns expressed by the Hilborn family relating to the potential impact of the development on the natural feel of the area. The city still views the property with high regard and continues to work with the GRCA to benefit the citizens of Cambridge.

5.3.3 CHAPLIN YMCA

The neighbouring YMCA integrates the main trails through parts of the property into certain exercise programs provided at the YMCA. The YMCA see Dumfries Conservation Area as an asset to their program, as it offers the basis for the outdoor component of their programs. One item that members of the YMCA have expressed interest in is exercise stations. At specified locations along trails exercise platforms or stations can be placed, and at this locations participants can switch from jogging to some other form of exercise like push-ups.

5.3.4 ADJACENT NEIGHBOURHOODS

There are three important neighbourhoods adjacent to Dumfries Conservation Area. They include: Blue Heron neighbourhood to the west, Highland Park neighbourhood to the west, and the Dunbar Road neighbourhood to the north. Many members of each of these neighbourhoods have a strong interest in the property. Residents along Dunbar Road whose property faces Dumfries Conservation Area appreciate the view, and therefore have aesthetic considerations regarding a proposed barrier along Dunbar Road.

5.3.5 FRIENDS OF DUMFRIES

Friends of Dumfries is an informal group of citizens that works to protect and keep the property user friendly. Many of the members include residents from adjacent neighbourhoods, while others are interested stakeholders. Members pick up garbage when they visit the property, organize fund raising activities, and some act as “neighbourhood watch” volunteers. The Friends of Dumfries are particularly focused on litter, security, and vandalism issues.

5.3.6 CAMBRIDGE ROTARY CLUBS

There are four rotary clubs located within the City of Cambridge. They include: Preston Hespeler Rotary, Cambridge North Rotary, Cambridge Galt Rotary, and Cambridge Sunrise Rotary. P.R. Hilborn was the Charter President of the Preston Hespeler Rotary club. In 2003 the Preston Hespeler Rotary club was approached by Elinor Hueton to see if their club would be interested in developing any projects for their centennial year in 2005. The Rotary clubs agreed that the property requires work in certain areas. Recommendations include signage, a new information station that houses trail maps and brochures, promotional material, a washroom facility, an access barrier along Dunbar Road, and parking for when the gate is closed. These recommendations were adopted as projects for 2005 by Cambridge Rotary Clubs.

Section 6: Management Practices

6.1 INTRODUCTION

Section 6 reviews the GRCA's management practices for Dumfries Conservation Area. Management practices include such things as trail maintenance, cleaning, grass cutting, and security. These and other practices are discussed in section 6.2.

6.2 MANAGEMENT PRACTICES

Through the first ten years of ownership, the GRCA's management of the property consisted of a number of improvements, including shelters, playgrounds, roads and parking, and tree planting. With this early work complete, routine maintenance and security became priorities. In recent years, some forest management and trail maintenance has occurred. GRCA staff clear fallen tree trunks from trails as needed. The GRCA also undertakes grass cutting throughout the year, maintaining any roads, and general park cleaning.

6.2.1 STAFF

The Shades Mills Conservation Area Superintendent supervises Dumfries Conservation Area. During the winter months this person weekly monitors the property for management related concerns, such as fallen trees, and for security. During the summer months, a security guard is hired to monitor the property daily.

6.2.2 ROADS AND PARKING

Stone dust roads are located in the northwest corner. Parking is available at this location in a few spots. Park visitors are able to drive onto the property from Dunbar Road at two locations (Figure 6.1). However, a gate blocks access during the winter months. Therefore, no winter snow removal is required. The gate typically opens each year in late April. The gate is closed each evening to stop nighttime traffic.



Figure 6.1 Roads and Parking at Dumfries Conservation Area

6.2.3 TRAILS

Trails are maintained by the Shades Mill Superintendent and other GRCA staff. They are trimmed to support the variety of users common to the property, including cyclists, hikers, dog walkers, and families with strollers. The property provides a variety of trails, from steep forest trails to open field flat trails. The Y trail behind the YMCA is a more wide trail that passes through an eastern white pine plantation, and runs along Groff Mill Creek. The trail is approximately 750 metres long, and is the most heavily used trail on the property.

Access to the trails can be achieved from numerous locations. There are three main access points to the trail system (Figure 6.2). First, two access points are found along Dunbar Road on both sides of the Ciccura property. A second access point is located behind the YMCA, and the third access point is found at Coronation Boulevard. This access point at Coronation Boulevard is an informal, unsigned access via a privately owned laneway that crosses the rail tracks, and enters the Conservation Area from Coronation Boulevard. The landowner has indicated a desire to work with the Conservation Authority to establish a formal access over his property if a safe rail crossing can be established.

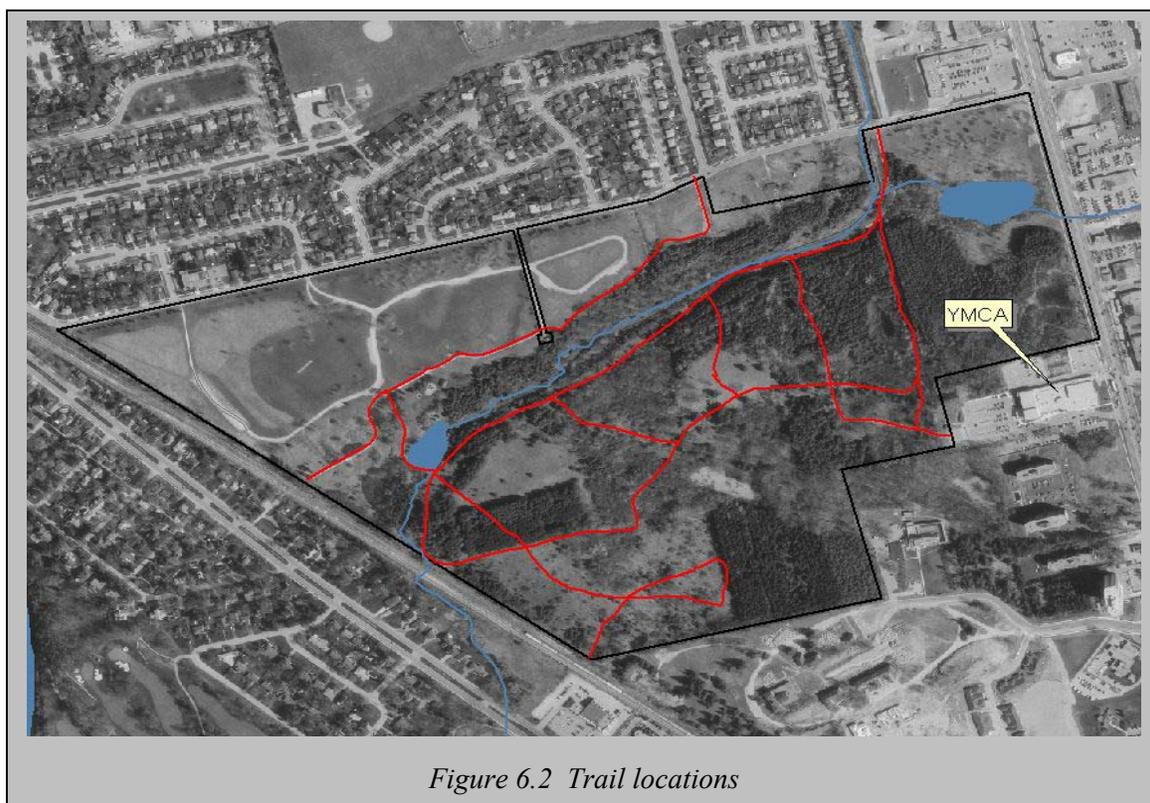


Figure 6.2 Trail locations

6.2.4 HILBORN ARBORETUM

In the late 1990s the Hespeler Preston Rotary club assisted the Galt Horticultural Society, who at that time administered the arboretum, in planting shrubs and trees at the Hilborn Arboretum. Essentially, the GRCA currently assumes the general management duties of the arboretum, such as grass cutting, and garbage clean up. Refer to Figure 6.3 for the location of the Hilborn Arboretum.

Figure 6.3 Hilborn Arboretum sign and location (within green boundaries)



6.2.5 FOREST MANAGEMENT

Spruce and pine plantations are now well established in portions of the property. These conifer plantations provide ecological services, such as cleaner air and water, recreational amenities, and some habitat. Recommended management would aim to improve these services.

Although conifer plantations are a cost-effective method to create a forest, the resultant forest lacks diversity. Plantations required planned, periodic thinning for best performance. These thinnings focus on growth of the healthiest individuals, and allow for natural establishments of an understory of indigenous hardwoods: sugar maple, white ash, and black cherry. Where sufficient light penetrates to the forest floor, this process is advanced. Decades from now, the forest should have a minority component of spruce and pine above the dense hardwood canopy now being established. Further thinning is required to facilitate this desired outcome. This thinning also would “open up” the forest from a trail user’s perceived security perspective. Most of the plantations have been thinned, and some portions of pine plantation have had their lower (<3 m) limbs pruned; both activities were undertaken in 1985. These plantations are now overdue for a second thinning.

The natural forests of upland hardwood and lowland cedar are managed to the extent that trail maintenance and related hazard tree work affects them. Otherwise, these areas are allowed to further develop their old growth characteristics and habitat value through the natural course of aging.

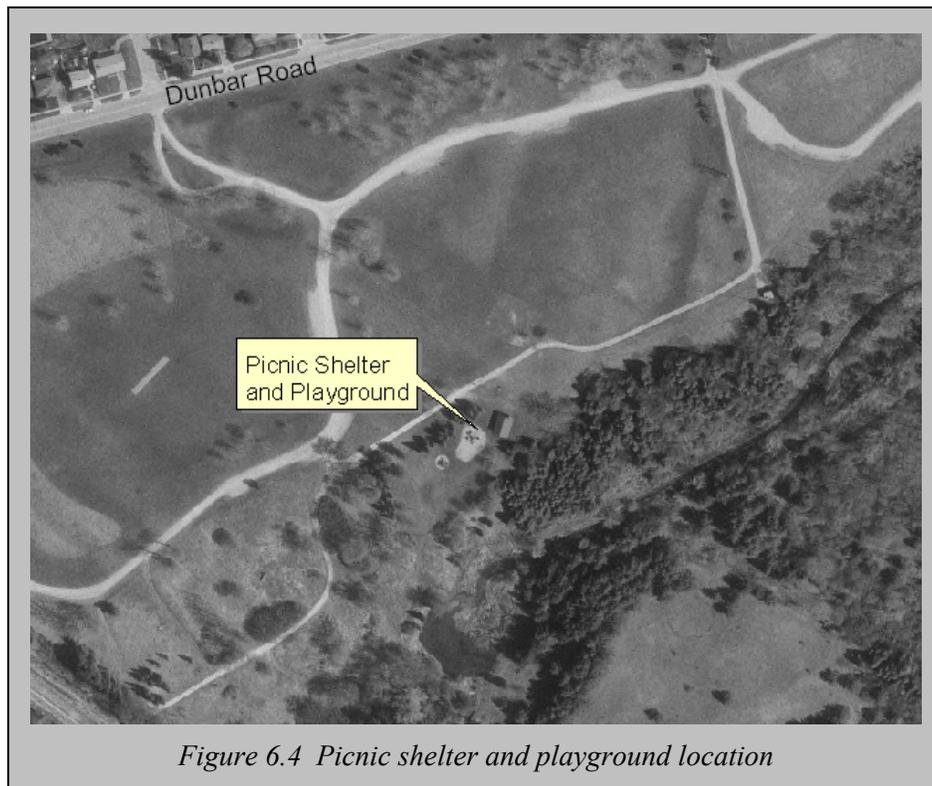
Unfortunately, the presence of several species of invasive exotics detracts from the ecological integrity of these areas. To date, there have been little or no attempted control of these invasive species, such as glossy buckthorn, common buckthorn, Tartarian honeysuckle, and Manitoba maple. The removal of invasive exotics will become a part of the management regime for both natural and planted forests.

6.2.6 GRASS CUTTING

GRCA staff from the Shades Mill Conservation Area are in charge of cutting the grass at Dumfries Conservation Area. The Cambridge Cricket club cuts the cricket pitch area.

6.2.7 PICNIC SHELTER AND PLAYGROUND

A picnic shelter and playground are located near the open field and Groff Mill Creek on the western portion of the property (Figure 6.4). The facilities are maintained by the Shades Mill Conservation area staff.



Section 7: Recommendations

7.1 INTRODUCTION

In recent years, the Hilborn family presented the GRCA with a list of suggestions for Dumfries Conservation Area. Recommendations to which the GRCA has agreed in principle include:

- a new master plan;
- signage;
- trail maintenance and mapping;
- encourage a closer relationship with the YMCA;
- washrooms near Dunbar road.

7.2 RECOMMENDATIONS

The recommendations included in this Master Plan are the result of discussions with individuals and groups. The majority of suggestions have come from the Hilborn family and the GRCA, but recent support from four City of Cambridge Rotary clubs has helped elaborate and advance certain recommendations. Section 7.2 reviews the recommendations discussed by these groups.

7.2.1 SIGNAGE

Install appropriate signage, including access and parking locations, warnings, and interpretive signs. Many users are unaware of parking and designated entrance locations, and therefore, fewer users visit the conservation area. A large sign near the corner of Dunbar Road and Hespeler Road (HWY 24) will be installed to attract people from Hespeler Road and the Cambridge Centre. A smaller sign should be installed at the most westerly part of the property along Dunbar Road, to inform passer-bys that the property is a conservation area. Also, signs that inform park users of appropriate/inappropriate activities should be installed. For example, signs indicating no motorized vehicles on the trails should be installed, as well as “stoop and scoop” and no littering signs. Thirdly, visitors to Dumfries Conservation Area may benefit from a variety of interpretive trail signs at different locations throughout the property.

7.2.2 TRAILS

Manage potential tree hazards according to GRCA protocol. Trails will be cut and trimmed for hazards by Authority staff from the Shades Mill Conservation Area, on an annual basis. More involved tree hazard maintenance will be conducted by Authority operations and forestry staff, but will occur based on the property’s priority across the Grand River watershed, as well as an approved GRCA annual budget.

Produce a new trail map. An official trail map should be created and posted at all key entrance locations. A trail map would integrate interpretive signs placed throughout the park, as well as parking locations.

7.2.3 FOREST MANAGEMENT

Manage plantations to encourage indigenous understory development. Thinning will be important for the evolution toward a more natural forest, and to provide a bright and open plantation to help reduce security concerns.

7.2.4 ACCESS

Develop formal access from the Hilborn property off Coronation Boulevard (conditional upon the establishment of a safe means of crossing the rail tracks). The informal entry point that currently exists off of Coronation Boulevard allows convenient access to the trails for residents from the west side of the Conservation Area. This entry point is also a recognized link in the City of Cambridge trail system. Formal access will be dependent upon a safe means of crossing the rail tracks (footbridge or other means of crossing), and a suitable long-term agreement arranged with the owner of the laneway.

7.2.5 DUNBAR ROAD BARRIER

Construct a barrier along Dunbar Road to restrict vehicle access. Historically, and to some degree recently, vehicles have by-passed the locked gates to access the property after hours. Motorized vehicles drive over the curb and drive across grass fields. The construction of a suitable barrier along Dunbar Road would lead to the reduction of such activities.

7.2.6 INTERIOR ROAD NETWORK AND PARKING LOT

Construct a new parking lot adjacent to Dunbar Road. In order to discourage vehicle traffic further into the property, a new parking lot close to Dunbar Road will be constructed. The parking lot will provide parking for approximately eighty vehicles, and will cover an area of approximately 2100 square metres, or 60 metres by 35 metres.

Cover over the majority of the current interior road. Certain portions of the current interior road is not used. However, a number of vehicle tracks have been cut through fields and low lying bush areas. Therefore, if the majority of the current interior road is covered over with top soil and seeded, and vehicles are discouraged from traveling further into the property, it will remain more safe, clean, and natural.

7.2.7 INFORMATION STATION

Establish an information station near the main entrance from Dunbar Road. As a small wooden structure, the informal panel will display a variety of information pertaining to the property, including trail maps, parking and entrance locations, and other points of interest. The information station will conform to current GRCA structure styles.

7.2.8 WASHROOM

Establish a small public washroom facility. The washroom facility must be placed in a location as to minimize vandalism. Therefore, the location will be clearly visible to nearby residents. Depending on

the type of washroom facility that would best meet the demand of the park, the initial capital cost would range from approximately \$5,000 for a privy style building on a concrete vault with no lighting or running water, to a small flush washroom facility on a tile bed or local sanitary system which would be closer to \$140,000 to construct.

7.2.9 GROFF MILL CREEK REHABILITATION

Investigate the potential of rehabilitating Groff Mill Creek. Due in part to the installation of the brick lining through Groff Mill Creek within Dumfries Conservation Area, restoration and naturalization of Groff Mill Creek is important. However, the specific approach and scale of the restoration is unsure. It will require much public and stakeholder consultation as well as a professional evaluation. Potential upstream and downstream impacts need to be assessed, as well as a specific rehabilitation plan. As part of the investigations, recommendations for the lower pond will be required, as that area has become filled in with silt over the years. Either the removal of the pond area completely, or the creation of an off line pond may be considered. Old aerial photos as seen in Section 1.2.1 could help guide future renovation of the creek, and suggest possible natural patterns. Exact costs are unsure, as such restoration will depend on a number of factors that will be determined as part of the review and design process.

7.2.10 WETLAND PROTECTION

Protect all wetland areas. Wetland areas at Dumfries Conservation Area provide habitat for a variety of waterfowl, reptiles and amphibians, and mammal species, and they are sensitive to development and use. Therefore, no recreational development will be considered within the wetland. Instead, these areas will be monitored by GRCA staff as sites for faunal breeding habitat.

7.2.11 INVASIVE SPECIES

Control invasive exotic plant species. Many invasive species are found throughout Dumfries Conservation Area. Common and glossy buckthorn, as well as Tartarian honeysuckle are found along many park trails, and Manitoba maple and Scots pine are common in open areas.

7.2.12 YMCA RELATIONSHIP

Foster a good working relationship with the YMCA and continue to encourage a closer cooperation. Projects promoting both the park and the YMCA simultaneously should be encouraged. For example, one suggestion is for exercise stations positioned along main trails through the park. Such facilities would promote healthy exercise as well as nature appreciation.

7.2.13 LAND ACQUISITION

Upon the establishment of a suitable sales price, the GRCA will consider the purchase of the Ciccara and municipal easement parcels. These two parcels, currently not owned by the GRCA, are seen as potential acquisition areas, because they would complete the large block of land that the GRCA does own.

Section 8: Plan Implementation

8.1 INTRODUCTION

Plan implementation presents the Master Plan's priorities and how the plan should be phased.

8.2 IMPLEMENTATION PRIORITIES

To begin, there is a desire for greater awareness and knowledge of the property. Signage and informative brochures should be created within the next couple years. An information station and a trail map will also be considered over the next few years. The information station requires external funding and separate design plans, and this will influence when one is constructed. Once funding becomes available, a security vehicle barrier will be laid along Dunbar Road. Forest management and the removal of invasive exotics will be implemented over a slightly longer period of time. Rehabilitation of Groff Mill Creek will be examined at a later point, and will require stakeholder input. Wetland protection and a good working relationship with the YMCA is in effect already, and intended to continue.

8.3 PHASING

Implementation of the recommendations will be phased in as shown in the chart below. The phasing plan will organize the future management and potential policies of the Dumfries Conservation Area over the next ten years. Potential time frames are established for each item. Time frames are either long (7-10 years), medium (4-6 years), and short (1-3 years) term. Dumfries Conservation Area is a non-revenue producing property, therefore, the recommendations' costs listed below are dependent upon external funding sources.

Recommendation		Cost	Funding Source	Time Frame
Major Item	Minor Item			
1. Signage				
	Large Sign	\$20,000	Rotary (100%)	Short
	Medium Sign	\$8,000	Babcock & Wilcox	Short
	Interpretive Signage	\$5,000	Rotary (100%)	Short
2. Information Station				
	Structure	\$10,000	Rotary (100%)	Short
	Brochures & Trail Map	\$5,000	Rotary (100%)	Short
3. Interior Road Network				
	Cover Over Old Road	\$25,000		Short
	New Parking Lot	\$40,000		Medium
	Tree Planting Around Parking Lot	\$3,000		Medium
4. Dunbar Road Barrier				
		\$40,000	Potential Trillium Grant (100%)	Medium
5. Forest Management				
	Plantation Thinning	Cost Recovery		Medium
6. Small Public Washroom				
		\$140,000		Medium-Long
7. Groff Mill Creek Rehab.				
	Brick Removal	unknown		Long
	Rehabilitation Plan	unknown		Long
8. Access from Coronation Blvd.				
		unknown		Long