



Cobourg Creek Watershed Plan 2008



Township of Hamilton

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The Cobourg Creek Watershed Plan was written to provide guidance and recommendations for the protection, enhancement and sustainable management of the Cobourg Creek watershed and its resources. Recommended management actions are based on scientific data presented in the *Cobourg Creek Background Report: Abiotic, Biotic and Cultural Features*, as well as municipal, stakeholder and public input.

The Cobourg Creek Watershed Plan was written by Pam Lancaster, B.Sc. with support from Brian Morrison, B.Sc., Mark Peacock, P. Eng., Ken Towle, M.E.S. and Magdi Widaatalla P.Geo, M.Sc., staff of the Ganaraska Region Conservation Authority (GRCA). Maps were created by the GRCA GIS Department: Steve Nowak, B.A. and Jeff Moxley. This document was created for the residents, communities, municipalities and stakeholders of the Cobourg Creek watershed. This watershed plan represents the first of its kind for the Cobourg Creek watershed. Review and input into this document by the Technical Review Committee, Community Advisory Committee, stakeholders and residents occurred through the watershed planning process.

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The Cobourg Creek Watershed Plan was written with review and input from members of the Technical Review Committee and Community Advisory Committee.

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The Cobourg Creek Watershed Plan Executive Summary

The Cobourg Creek watershed is recognized for its fisheries, aquatic habitat, terrestrial natural heritage and recreational opportunities. The aim of the Cobourg Creek Watershed Plan is to protect, enhance and manage the watershed and its resources for current and future generations. The purpose of the Cobourg Creek Watershed Plan includes the following.

- Fulfill the watershed planning requirements of the *Oak Ridges Moraine Conservation Plan* (Appendix B).
- Create community awareness and ownership of the Cobourg Creek watershed and its plan.
- Protect the ecological and hydrological integrity of the watershed.
- Ensure that land and resource uses that maintain, improve or restore the ecological and hydrological functions of the watershed are permitted.
- Maintain, improve or restore the elements that contribute to the ecological and hydrological functions of the watershed, including the quality and quantity of water and other resources.

Written for the municipalities, communities, residents and resource users of the watershed, this watershed plan outlines recommended management actions required to protect this valuable resource for current and future generations. Recommended actions have been derived from scientific data outlined in the *Cobourg Creek Background Report: Abiotic, Biotic and Cultural Features* (Ganaraska Region Conservation Authority 2008), local knowledge, municipal and agency input and review, and public consultation. Formal processes were carried out with direct review and input from the Cobourg Creek Technical Review Committee and the Community Advisory Committee.

As a result of a year long initiative, management actions, targets, monitoring and reporting activities have been formulated. The foundation of management actions are based on the goal and objectives of each watershed component/science. Each objective addresses multiple issues or opportunities in the Cobourg Creek watershed. Management actions have been defined in terms of regulation and planning, stewardship, education and awareness, and land acquisition. A summary of goals, objectives and management actions are found below.

Approval, adoption and implementation of the Cobourg Creek Watershed Plan are the most important steps in this initiative. Participation and co-operation by the Ganaraska Region Conservation Authority (GRCA), the Town of Cobourg, the Township of Hamilton and the Township of Alnwick/Haldimand is needed to ensure adoption of the Cobourg Creek Watershed Plan. In addition participation by residents, businesses and stakeholders of the Cobourg Creek watershed is required to see the desired outcomes and successes of the Cobourg Creek Watershed Plan.

Summary of Goals, Objectives and Management Actions

Groundwater Quantity Goal 1.0: protect and enhance groundwater quantity for human use and ecological functions

Objective 1.1: maintain or enhance groundwater recharge and discharge for human use and ecological functions

Regulations and Planning

Recommended policies:

- Map groundwater features
- Identify groundwater features not yet known
- Restrict development within and in proximity to groundwater features
- Implement future policies recommended within the Source Protection Plan created through the *Clean Water Act*

Support for:

- Current plan review mechanisms

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Increase natural cover in and adjacent to groundwater features
- Achieve the natural heritage system as the primary means of protecting groundwater features
- Enhance and protect groundwater features through best management practices
- Encourage the adoption of urban land use practices that increase groundwater recharge

Education and awareness initiatives to provide information pertaining to groundwater quantity.

Land Acquisition

Recommended policy: protect groundwater features through land acquisition

Objective 1.2: manage and avoid actions that negatively affect aquifers (artesian, shallow and deep) and changes in groundwater flow

Regulations and Planning

Recommended policies:

- Minimize groundwater flow alteration
- Minimize and manage artesian and flowing wells

Education and awareness initiatives to provide information pertaining to aquifers and groundwater quantity

Objective 1.3: ensure sustainable rates of groundwater use

Regulations and Planning

Recommended policies:

- Restrict development needing a Permit to Take Water in wellhead protection areas

- Restrict development needing a Permit to Take Water in groundwater features
- Restrict consumptive water takings

Support for:

- Existing review mechanisms and by-laws
- Water conservation plan creation

Stewardship

- Provide technical assistance to the Permit to Take Water process
- Provide implementation assistance for a water conservation plan through the GRCA Clean Water – Healthy Land Stewardship Program

Education and awareness initiatives to provide information regarding water takings.

Surface Water Quantity Goal 2.0: maintain and improve the hydrologic function of the watershed

Objective 2.1: maintain and enhance the water balance and baseflow of the Cobourg Creek watershed

Regulations and Planning

Recommended policies:

- Map features contributing to natural flows of Cobourg Creek
- Identify features contributing to natural flows of Cobourg Creek not yet known
- Restrict development within and in proximity to features contributing to natural stream flows
- Limit cumulative hard surfaces within the Cobourg Creek watershed
- Development setbacks from Cobourg Creek
- Restrict development needing a Permit to Take Water in contributing features to natural flows within Cobourg Creek
- Restrict consumptive water takings
- Require urban stormwater best management practices
- Limit online ponds and impoundment structures
- Limit site alterations

Support for:

- Existing legislation
- Review mechanisms
- Existing program implementation

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Increase natural vegetation using the natural heritage system throughout the watershed, in groundwater recharge areas and to compensate for changes in imperviousness of the watershed
- Increase riparian buffers to reduce variability of overland runoff
- Increase water infiltration, storage and use on individual lots
- Restore, enhance and protect wetlands
- Carry out an urban stewardship program to address altered flows caused from stormwater management

- Increase channel stability using bioengineering in urbanized areas to mitigate erosion caused from altered flows

Education and awareness initiatives to provide information regarding surface water quantity and the protection and enhancement of the form and function of streams

Objective 2.2: maintain and improve the level of protection of residents, existing and proposed development from flooding hazards

Regulations and Planning

Recommended policies:

- Limit cumulative hard surfaces within the Cobourg Creek watershed
- Limit online ponds and impoundment structures
- Stormwater quantity control

Support for existing policies and programs

Recommended for a flood recovery program

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Manage or decommission online ponds to ensure they do not pose a flood hazard risk
- Implement re-vegetation to attenuate flood flows (e.g., riparian plantings, grass swales and waterways)

Education and awareness initiatives to provide information regarding flood forecasting and warning and emergency response

Land Acquisition

Recommended policy: protect floodplains through land acquisition

Groundwater Quality Goal 3.0: protect groundwater quality to ensure safe drinking water supplies and to protect ecological functions

Objective 3.1: protect and enhance the quality of groundwater by addressing existing pathways and contaminant sources

Regulations and Planning

Policy investigation and creation:

- Ensure wells or boreholes are properly abandoned or maintained
- Require private sewage system upgrades during redevelopment

Recommended program: Septic re-inspection program

Recommended policy: implement future policies recommended within the Source Protection Plan created through the *Clean Water Act*

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Upgrade or decommission wells and boreholes
- Repair septic systems and provide for septic inspections

- Upgrade or newly construct fuel and chemical storage facilities
- Support septic re-inspection program when/if developed

Education and awareness initiatives to provide information regarding groundwater quality and drinking water protection

Objective 3.2: manage the quality of groundwater through the implementation of best management practices throughout the watershed

Regulations and Planning

Recommended policies:

- Map highly vulnerable aquifers and wellhead protection areas
- Identify vulnerable areas to groundwater contamination not yet known
- Restrict development in highly vulnerable aquifers
- Implement future policies recommended within the Source Protection Plan created through the *Clean Water Act*

Support for existing legislation

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs encourage and provide incentives for best management practices within the wellhead protection areas, highly vulnerable aquifers and significant groundwater recharge areas

Education and awareness initiatives to provide information regarding groundwater quality and best land use practices

Land Acquisition

Recommended policy: protect vulnerable groundwater features through land acquisition

Surface Water Quality Goal 4.0: protect and improve surface water quality of Cobourg Creek

Objective 4.1: manage and enhance rural water quality

Regulations and Planning

Recommended policies:

- Set development back from Cobourg Creek
- “Enhanced” level stormwater quality controls
- Implement future policies recommended within the Source Protection Plan created through the *Clean Water Act, 2006*

Support for:

- Existing legislation
- Existing and new programs

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Decrease and mitigate non-point pollution sources (e.g., overland runoff)
- Enhance, restore and properly manage riparian areas to buffer overland runoff
- Promote and encourage best management practices to protect water quality

- Increase natural cover as recommended by the natural heritage system

Education and awareness initiatives to provide information regarding rural surface water quality

Objective 4.2: manage and enhance urban water quality

Regulations and Planning

Recommended policies:

- Set development back from Cobourg Creek
- “Enhanced” level stormwater quality controls
- Implement future policies recommended within the Source Protection Plan created through the *Clean Water Act, 2006*

Support for:

- Existing legislation
- Existing and new programs

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Ensure public space management practices do not negatively impact surface water quality
- Ensure all public spaces management practices have a set back distance from the stream edge (e.g., a natural riparian area)
- Create and implement an urban stream restoration and stewardship program that will benefit surface water quality

Education and awareness initiatives to provide information regarding urban surface water quality

Land Acquisition

Recommended policy: protect surface water quality through land acquisition

Objective 4.3: create a spills action plan

Regulations and Planning

Plan creation: spills action plan

Aquatic Habitat and Species Goal 5.0: protect aquatic habitat and species

Objective 5.1: protect and restore existing and native aquatic species and communities

Regulations and Planning

- Recommended policy: adopt the Cobourg Creek Fisheries Management Plan
- Support for existing review mechanisms and programs

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Removal of instream barriers
- Removal of online ponds

Education and awareness initiatives to provide information regarding aquatic species

Objective 5.2: protect and enhance the form and function of instream habitat and riparian areas

Regulations and Planning

Recommended policies:

- Map aquatic habitats within the Cobourg Creek watershed
- Identify aquatic habitats within the Cobourg Creek watershed not yet known
- Restrict development within and in proximity to aquatic habitats
- Adopt the Cobourg Creek Fisheries Management Plan

Support for:

- New programs
- Existing review mechanisms and policies

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Instream habitat creation
- Erosion control projects
- Increase natural vegetation in riparian areas

Education and awareness initiatives to provide information regarding aquatic habitat

Terrestrial Natural Heritage Goal 6.0: maintain the native biodiversity and ecological function of the landscape within the watershed

Objective 6.1: reduce habitat fragmentation and promote connectivity

Regulations and Planning

Recommended policies:

- Map terrestrial features within the Cobourg Creek watershed
- Identify terrestrial features within the Cobourg Creek watershed not yet known
- Reduce the impact of development on the natural heritage system and significant features
- Net gains within the natural heritage system

Recommended planning strategy:

- Create a regional Terrestrial Natural Heritage System and Strategy
- Support for existing plan review mechanisms

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Increase a diversity of natural cover within the Cobourg Creek watershed using the natural heritage system
- Increase natural cover throughout the watershed
- Increase and encourage sustainable land uses
- Increase tallgrass prairie habitats

Education and awareness initiatives to provide information regarding terrestrial natural heritage

Land Acquisition

Recommended policy: protect natural heritage features through land acquisition

Objective 6.2: maintain, enhance and restore the natural diversity of vegetation communities within the watershed

Regulations and Planning

Recommended policies:

- Adopt the County Forest Management Plan
- Net gains within the natural heritage system

Support for existing by-laws

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Increase a diversity of natural cover within the Cobourg Creek watershed using the natural heritage system
- Increase natural cover throughout the watershed
- Increase and encourage sustainable land uses
- Increase tallgrass prairie habitats

Education and awareness initiatives to provide information regarding vegetation communities

Land Acquisition

Recommended policy: protect vegetation communities through land acquisition

Objective 6.3: maintain, enhance and restore the diversity of native species in the watershed

Regulations and Planning

Recommended policy: net gains within the natural heritage system

Support for existing legislation

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following:

- Increase the diversity of natural cover within the natural heritage system
- Increase natural cover throughout the watershed with a focus on interior habitat
- Enhance and increase specific habitat types such as wetlands, vernal pools and tallgrass prairie

Education and awareness initiatives to provide information regarding native species and threats to these species

Land Acquisition

Recommended policy: protect species habitats through land acquisition

Objective 6.4: mitigate and reduce negative impacts of urban and rural land use

Regulations and Planning

Recommended policy: net gains within the natural heritage system

Plan creation: urban natural heritage system

Education and awareness initiatives to provide information regarding native species and threats to these species

Public Health and Wellbeing Goal 7.0: promote healthy communities in relation to the environment

Objective 7.1: manage and improve the environmental quantity, quality and social benefits of existing and future public spaces

Regulations and Planning

Recommended policies:

- Increasing public spaces associated with new development
- Adopt the County Forest Management Plan

Support existing initiatives

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs accomplish the following in public spaces

- Increase natural, native vegetation
- Increase healthy lifestyle infrastructure
- Increase educational aspects of the public space

Education and awareness initiatives to provide information regarding public spaces

Objective 7.2: encourage sustainable living and development, and local businesses

Regulations and Planning

Recommended policy: increase in public transportation

Support existing initiatives

Stewardship

Through the GRCA Clean Water – Healthy Land Stewardship and partner programs increase actions around sustainable living

Education and awareness initiatives to provide information regarding sustainable living and development, and local businesses

Community Heritage Goal 8.0: preserve and interpret our community heritage

Objective 8.1: increase awareness and appreciation of our community heritage

Education and awareness initiatives to provide information regarding cultural heritage with partner programs

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