

CRCA Planning Policy

2005



CATARAQUI REGION CONSERVATION AUTHORITY

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Terms shown in *italics* throughout this policy have been defined in Section 4.0. Additional definitions are provided in selected appendices. It is intended that the definition of these and other terms shall be consistent with the definitions listed in the Provincial Policy Statement, as amended.

Technical Appendices:

- 'A' Reference Documents
- 'B' Guidelines for Environmental Impact Assessment
- 'C' Shoreline Classification System (Erosion Hazards) - Lake Ontario and the St. Lawrence River
- 'D' Guidelines for Geotechnical Investigation
- 'E' Guidelines for Riparian Buffer Areas
- 'F' Guidelines for Stormwater Management
- 'G' CRCA List of Native Non-cultivar Plant Species

These technical appendices are not part of the adopted Planning Policy. They have been prepared to assist with its ongoing implementation.

Resolution of Adoption

This Planning Policy was adopted by the Full Authority Board of the Cataraqui Region Conservation Authority, through Resolution 122-05, dated August 24, 2005. It updates and replaces the original CRCA Planning Policy, which was adopted on March 29, 1995. This policy shall be subject to a comprehensive review no later than 2010.

1.0 INTRODUCTION

This document identifies policies of the Cataraqui Region Conservation Authority (CRCA), which fall within the mandate defined by the Ontario Conservation Authorities Act, as amended, and which support the vision, goals, and objectives of its Cataraqui to 2020 strategy. It integrates provincial policy, and reflects the accepted technical practice of many professional disciplines, as well as the characteristics of the Cataraqui Region.

Purpose

The primary use of the document will be as an internal guide for the review of planning documents and site-specific applications submitted to the CRCA under the Ontario Planning Act. However, the policies will also provide guidance for assessing other proposals for *development* and *site alteration*, such as applications for permits under the Conservation Authorities Act or the Ontario Water Resources Act, work that is subject to the Canada Fisheries Act, environmental assessments, and work on and adjacent to CRCA properties.

Background

These planning policies identify the Conservation Authority's responsibility for public safety and natural resource *conservation*. Consideration for both the site-specific and *cumulative impacts of development and site alteration* is recognized as being important to achieving our vision. CRCA staff will promote the use of tools outside of the statutory land use planning process (such as *conservation easements, woodland conservation by-laws, public education and stewardship programs*) that will assist natural resource *conservation*.

These policies are organized by topic, but are intended to be considered concurrently. Thus, for example, consideration for the avoidance of natural hazards should also include an assessment of potential impacts on natural features and *ecological functions*, the quality and quantity of *surface water*, and other policy topics. By adopting a holistic, ecological approach, this Conservation Authority will make and encourage decisions that recognize the connectivity of issues relating to the natural environment of the Cataraqui Region.

The attainment of our vision is a responsibility shared by our residents and visitors, all three levels of government, not-for-profit organizations, and the members and staff of this Conservation Authority. Every effort will be made to ensure that there is coordination and cooperation between these stakeholders in the implementation of our planning program.

2.0 POLICY FRAMEWORK

These policies have been developed with consideration for the legislation, policies, and standards of the three levels of government, which should be considered concurrently with this document. The documents listed below provide a framework upon which to consider the CRCA policies.

Canada Fisheries Act

The CRCA has an agreement with Fisheries and Oceans Canada to review applications for *development* and *site alteration* relative to Section 35(1) of the Canada Fisheries Act, as amended. Where a matter is being considered that it is subject to both this document and the Act, the more stringent of the two shall apply.

Ontario Conservation Authorities Act

The role of the CRCA in the *conservation* of natural resources is established by the Ontario Conservation Authorities Act:

“The objects of an 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.”

(R.S.O. 1990, c.C-27, s.20(1), as amended)

The CRCA has a regulation made pursuant to Section 28 of the Conservation Authorities Act, as amended, regarding *development*, interference with *wetlands*, and alteration to shorelines and watercourses. Changes to the Conservation Authorities Act have brought the regulation into alignment with the intent of Provincial Policy Statement (which is discussed below). This Conservation Authority may, from time to time, issue policies to guide its enforcement of the regulation. Where a matter is being considered that it is subject to both this document and policies related to the regulation, the more stringent of the two shall apply.

Cataraqui to 2020

The Cataraqui Region Conservation Authority approved its Cataraqui to 2020 strategic plan in March 2001. The strategy presents the following vision:

“Our vision is that the natural environment of the Cataraqui Region Conservation Authority watersheds will be conserved, that degraded natural resources will be restored, that our regional diversity will be valued by the watershed residents, and that the public will understand the role that everyone needs to play in resource management and resource enjoyment.”

Cataraqui to 2020 also establishes five goals for the activities of the Conservation Authority:

- Goal A: To conserve CRCA's water resources, including the safeguarding, management and restoration of rivers, lakes and streams, and to work cooperatively with our partners to protect the water cycle.
- Goal B: To implement policies that will protect life and property from natural hazards such as *flooding* and *erosion*.
- Goal C: To conserve *woodlands*, *wetlands* and natural habitat.
- Goal D: To facilitate protection of natural resources in order to conserve, restore, develop or manage them.
- Goal E: To provide opportunities for the public to learn from the public open spaces within the jurisdiction, and to respect the local natural environment.

It is the intent of this Conservation Authority that the implementation of the policies listed in this document shall help to realize our vision and goals.

Principles of Conservation

The following general principles, developed for the CRCA Conservation Strategy (1992), shall also guide our planning work:

1. An ecological approach to the use of land and water is fundamental to a healthy *watershed* and should form the foundation for planning within our *watershed*.
2. Sustainable development, including an awareness of cumulative impacts and the importance of maintaining biodiversity, must be our goal at the local level.
3. Informing and educating our *watershed* residents, our member municipalities, and our staff and members about the environment is an ongoing process.
4. Stewardship of land, where individuals and corporations understand and protect the natural resources on the lands under their control, should be encouraged and promoted.
5. The economic, social, and environmental costs and benefits of programs and projects must be examined in the planning stages.
6. Through partnerships with individuals, groups, corporations, and other agencies, we will be able to achieve a level of cooperation that will ensure the success of our mission, and the attainment of our vision.

Ontario Planning Act and the Provincial Policy Statement

The Planning Act is the main enabling legislation dealing with land use planning in the Province of Ontario. The Planning Act and its regulations indicate when an approval authority (such as a Committee of Adjustment) must confer with a Conservation Authority,

as well as which matters must be considered in the review and approval of applications submitted under the Act.

Under Section 3 of the Planning Act, as amended, the Minister of Municipal Affairs and Housing may from time to time issue policy statements on planning matters that in the opinion of the Minister are of provincial interest. The Act requires that planning authorities “shall be consistent with” such statements when providing comments and when making decisions on planning matters. The most recent Provincial Policy Statement (PPS) was introduced in March 2005.

Municipal Policies and By-laws

Conservation Authority staff review and provide comments on municipal Official Plans and Zoning By-laws, which are made pursuant to the Ontario Planning Act. The CRCA shall endeavour to inform our member municipalities of any matter affecting public safety or *conservation* that should be reflected in municipal Official Plans and/or Zoning By-laws. When providing comments on planning applications submitted for our review, staff shall refer to specific municipal policies or provisions that affect the subject planning matter.

Municipalities may introduce other policies and by-laws that support conservation, for example a municipal land acquisition policy, or a *site alteration* by-law passed under the Ontario Municipal Act. The CRCA shall also refer to these during its review of planning matters.

3.0 PLANNING POLICIES

This section outlines the policies of the CRCA with respect to a range of environmental topics of interest. Planning is a dynamic process, and therefore the areas of specific interest and associated policies may be expected to change over time. Future revisions to these policies shall be made to reflect information and knowledge gained from the preparation of *watershed management plans, source water protection plans*, and related studies, from *watershed* monitoring networks, and from the implementation of these policies.

3.1 General

1. This Conservation Authority shall follow a holistic, ecological approach to planning, in order to recognize the connectivity of issues relating to the natural environment of the Cataraqui Region, and shall encourage others to do so. Planning for *watersheds* and subwatersheds shall be supported.
2. The CRCA shall make recommendations consistent with the vision, goals, and objectives of its Cataraqui to 2020 strategy when reviewing proposals for *development* and *site alteration*.
3. This Conservation Authority shall make decisions that are consistent with the legislation, policies, and by-laws of the three levels of government, when they

support the vision, goals, and objectives of the CRCA. Where there is an inconsistency, staff shall advise the approval authority.

4. The CRCA shall provide the three levels of government with sound technical advice on conservation matters, for their use in formulating legislation, policies, and by-laws.
5. The review of site-specific applications for *development* and *site alteration* shall include consideration for the characteristics of the site and its context. A site inspection shall generally be conducted.
6. The CRCA shall make decisions that are consistent with approved studies that have been prepared for areas of the region, provided that the findings of the study remain valid.
7. This Conservation Authority shall consider both the site-specific and *cumulative impacts* of *development* and *site alteration* proposals.
8. Decisions related to a specific policy shall consider the implications of, and not unduly compromise the intent of, other policies within this document.
9. Where an application is circulated for review and comment that also involves the jurisdiction of other Conservation Authorities or government agencies, the CRCA shall work with the other Authorities or agencies to conserve natural resources.
10. When requested to give evidence before the Ontario Municipal Board, or a similar judicial body, staff shall request and obtain a written subpoena, prior to the hearing.

3.2 Floodplain Management

A. Background Information

Conservation Authorities in Ontario have had a long-standing involvement with the avoidance of *flooding*, notably since the Hurricane Hazel event in 1954. The focus has been primarily to ensure public safety and minimize the public cost of flood-related damages. Increasingly, *flooding* is recognized as supportive of the *ecological function* of a healthy *waterbody*, and therefore the preferred approach is to direct a majority of human activity to other areas. This section identifies policies for river and stream systems (which includes the inland lakes of the Cataraqui Region) and for Lake Ontario and the St. Lawrence River.

B. Policy Context

Section 3.1 of the Provincial Policy Statement (PPS) addresses flood risk by directing a majority of *development* and *site alteration* to areas outside of the *regulatory floodplain*. The PPS states that *development* and *site alteration* shall not be permitted in defined portions of the *regulatory (1:100 year) water elevation* along the St. Lawrence River. The PPS provides limited flexibility for *development* and *site alteration* in the remainder of the

regulatory floodplain along the St. Lawrence River, and for other *regulatory floodplain* areas in the Cataraqui Region.

C. Objectives

The objectives of this Conservation Authority relating to *floodplain* management are:

1. to prevent loss of life;
2. to minimize property damage and social disruption; and
3. to encourage a coordinated and holistic approach to the use of *floodplain* areas.

D. Policies

1. New *development* in the *regulatory floodplain* shall be prohibited or restricted to those uses that by their nature must necessarily be located within the *regulatory floodplain*.
2. The following shall not be permitted in the *regulatory floodplain*:
 - (a) *institutional uses*; or
 - (b) *essential emergency services*; or
 - (c) the storage of hazardous substances, and uses which would pose an unacceptable threat to public safety if hazardous substances were to escape their normal containment or use as a result of *flooding* or failure of *floodproofing* measures; or
 - (d) swimming pools; or
 - (e) locations for snow storage.
3. *Development* and *site alteration* shall be not be permitted in areas along the St. Lawrence River that are below the *regulatory (1:100 year) water elevation*, as established by Environment Canada.
4. There shall be a horizontal setback of at least 5 m on all *waterbodies*, and up to 15 m on Lake Ontario and the St. Lawrence River, between new *development* and the *regulatory floodplain*. This setback shall allow for variation in the *regulatory floodplain* elevation within a given *reach* of a *waterbody*, changes over time in the anticipated extent of the *regulatory floodplain*, and situations such as debris jams that may affect flood levels.
5. Any new *development* permitted within or adjacent to the *regulatory floodplain* shall be protected by acceptable *floodproofing* actions or measures. The definition of *development* includes buildings, structures, and private sewage systems.

New *development* within the *regulatory floodplain* shall only be considered where:

- (a) new hazards are not created and existing hazards are not aggravated; and
 - (b)
 - (i) it replaces an existing structure in the *regulatory floodplain* and access and *floodproofing* criteria can be met; or
 - (ii) it is a new use of an existing structure in the *regulatory floodplain* and access and *floodproofing* criteria can be met; or
 - (iii) the property is an existing *lot of record* as of the original (March 1995) date of adoption of this policy, there are no reasonable alternatives for locating the *development* entirely outside of the *regulatory floodplain*, the inland (e.g. road) setback requirements have been minimized, the surface area occupied by the *development* has been consolidated, the placement of fill, if any has been minimized and the *floodplain* storage compensated for, and access and *floodproofing* criteria can be met.
6. The placement of fill within the *regulatory floodplain* shall be avoided. Where filling is approved, subject to regulations made pursuant to the Ontario *Conservation Authorities Act*, as amended, and other legislation, a compensating volume of cut (i.e. created flood storage) shall normally be required on a minimum 1:1 basis, at the same levels as the existing *floodplain* (normally measured at every 0.3 m of elevation change), and on the same portion of the subject *waterbody*.
7. *Floodproofing* actions or measures shall be considered acceptable when:
- (a) *floodproofing* is technically feasible and cost effective;
 - (b) dry, passive *floodproofing* methods are used (other alternatives shall be considered on a site-specific basis); and
 - (c) the methods used shall not have a *negative impact* on *floodplain* management objectives, such as increased risk of *flooding* to upstream and downstream properties, or other objectives covered by this policy.
8. *Floodproofing* for buildings and structures within and adjacent to the *regulatory floodplain* must be provided to the following levels of protection:
- (a) for one minor addition (an additional floor area that is less than 20 percent or 20 square metres, whichever is the lesser, of the total floor area of the original building or structure as of the original (March 1995) adoption of this policy) the first floor elevation of the addition must be no lower than the existing *development*;

- (b) for major additions, major alterations, and new buildings and structures, the first floor elevation of the new portions of the building or structure must be to a level that is at least 0.3 m above the *regulatory floodplain*;
- (c) *floodproofing* for the original building or structure is encouraged, and may be required, when a major addition, major alteration, or new use is proposed.

9. The construction of new basements and crawl spaces shall not be permitted within the *regulatory floodplain*. The basement floor of buildings located adjacent to the *regulatory floodplain* shall be set a minimum of 0.3 m above the *regulatory floodplain* elevation. The width of the applicable adjacent lands shall be determined based on the topographic, hydraulic, and hydrogeologic characteristics of the area.

10. Access for new buildings and structures in the *regulatory floodplain* must be such that vehicular and pedestrian movement is not prevented during times of *flooding*. The identification of safe routes may be required.

Access shall be provided to the following levels of protection:

- (a) vehicular access - where the depth of the *regulatory floodplain* over the finished grade is no greater than 0.25 m;
- (b) pedestrian access - where there is:
 - (i) a maximum product of flood depth and velocity of floodwater of 0.4 m³/s; or
 - (ii) a maximum depth of 0.8 m; or
 - (iii) a maximum velocity of 1.7 m/s.
- (c) new public roads shall be constructed to the *regulatory floodplain* elevation, and shall not impede the conveyance of flood waters, for all events up to and including the regulatory flood.

3.3 Erosion and Dynamic Beach Hazards

A. Background Information

The key concern with *erosion* hazards within the Cataraqui Region has primarily been along Lake Ontario and the St. Lawrence River, due to the high erosive potential associated with these *waterbodies*. *Erosion* hazards are a concern in some inland areas. There are no known areas with unstable soils (e.g. Leda clay) in the Cataraqui Region. Public safety, access, and the public cost of related damages are the main concerns with *erosion* hazards. Also of concern are potential environmental impacts from *development* occurring in hazardous areas or from methods implemented to control the condition. Attention must be given to areas that are situated both above and below slopes.

Dynamic beach hazards have been identified in Loyalist Township on Amherst Island. Such areas are defined to include inherently unstable accumulations of shoreline sediments, and are not considered suitable for *development*.

B. Policy Context

Erosion and dynamic beach hazards are addressed by Section 3.1 of the Provincial Policy Statement. The PPS intends that *development* generally be directed to areas outside of the furthest landward limit of *erosion* hazards. The purpose is to help ensure that buildings and structures that are built today will be located outside of the anticipated extent of erosion over the following 100 years. The PPS intends that *development* shall not be permitted in areas subject to *dynamic beach* hazards.

C. Objectives

The objectives of this Conservation Authority relating to *erosion* and *dynamic beach* hazards are:

1. to prevent loss of life;
2. to minimize property damage, social disruption, and *negative impacts* on the natural environment; and
3. to encourage a coordinated and environmentally sound approach to the use of the land that may be subject to *erosion* or *dynamic beach* hazards.

D. Policies

1. New *development* shall be located outside areas that are susceptible to *erosion* hazards.
2. New *development* shall be not be permitted in areas that are susceptible to *dynamic beach* hazards.
3. For river and stream systems (including local inland lakes), the extent of potential erosion hazards shall be defined as the sum of *toe erosion*, *stable slope*, and *erosion* access allowances, as follows:
 - The *toe erosion allowance* shall be determined based on the characteristics of the site. Consideration shall be given to the potential for a watercourse to meander.
 - The *stable slope* is defined as being no steeper than 1(h):1(v) for *bedrock shorelines*, where there is no evidence of shoreline *erosion*. The *stable slope* is defined as being no steeper than 3(h):1(v) for all other situations.

- A minimum *erosion* access allowance of 6 m from the top of the *stable slope* or 10 m from the *top of bank*, whichever is greater, shall be required for all new *development*.
4. For Lake Ontario and the St. Lawrence River, *stable slope* and *erosion* access allowances shall normally be defined in accordance with the findings of an engineering study completed for the CRCA (J.D. Paine 1995 Table 2.2), which is found in Appendix 'C'. The recommended allowances vary between *open lake areas* and *connecting channel areas*.
 5. New *development* within areas that may be susceptible to *erosion* hazards shall be considered when the proposed *development* is supported by a geotechnical investigation prepared by a qualified Professional Engineer or Professional Geoscientist, at the expense of the proponent, and where:
 - (a) it replaces an existing structure, access and *environmentally benign protection works* can be provided, and no reasonable alternate location outside of the *erosion* hazard limit exists; or
 - (b) it is a new use of an existing structure, and access and *environmentally benign protection works* can be provided; or
 - (c) the property is an existing *lot of record* as of the original (March 1995) date of adoption of this policy, and access and *environmentally benign protection works* can be provided; and
 - (d) other policy objectives are not compromised.

The study should be prepared in accordance with the CRCA Guidelines for Geotechnical Investigation (see Appendix 'D'). The professional should contact the Conservation Authority staff prior to commencing work on the study.
 6. The following shall not be permitted in areas susceptible to *erosion* hazards:
 - (a) *institutional uses*; or
 - (b) *essential emergency services*; or
 - (c) the storage of hazardous substances and uses which would pose an unacceptable threat to public safety if hazardous substances were to escape their normal containment/use as a result of slope failure or the failure of protection works; or
 - (d) swimming pools.
 7. New *development*, including additions and decks, shall not be permitted to overhang a steep or unstable slope.

8. Access shall be considered acceptable where each of the following would be achievable following *development*:
 - (a) regular maintenance or repair of the building or structure;
 - (b) regular maintenance or repair of protection works; and
 - (c) the ability of emergency personnel to access shoreline areas.

3.4 Surface Water (including Erosion and Sediment Control)

A. Background Information

Water is a fundamental requirement for life, and is one of our most valuable natural resources. There is a need to protect the quality and quantity of this resource, which is threatened by contamination, excessive withdrawals, and climate change. Recent instances of contamination in other jurisdictions, as well as local drought conditions, have highlighted the sensitivity of our water resources, and have contributed to our ongoing interest in protecting them.

The water cycle includes flows on the surface and through the ground. *Surface water* can infiltrate into the ground, thereby recharging *groundwater* supplies. *Groundwater* can discharge into rivers and lakes and also emerge from the ground through springs and seeps. Because of the relationship between surface and *groundwater*, these policies should be read in conjunction with the *groundwater* policies in Section 3.5.

Development and *site alteration* influence the quality of *surface water* by determining the volume of nutrients and sediment (along with associated contaminants) that may flow from the ground surface into *waterbodies*. Stormwater management techniques are used to minimize contamination (see also Section 3.6). One such technique is the maintenance of naturalized, vegetated buffer areas adjacent to *waterbodies*. Buffer areas filter contaminants from runoff, help to prevent overland and wave *erosion*, and provide valuable habitat for *fish* and other wildlife. The required width of the buffer will depend on the characteristics of the site (for more detailed information, see Appendix 'E' - CRCA Guidelines for Riparian Buffer Areas).

Development and *site alteration* also influence the quantity of water, both by introducing water users to a location (for personal or commercial purposes), and by increasing the area of impervious surfaces (resulting in changes to *groundwater* recharge, runoff volume, and the rate of runoff). It is important to ensure that these uses are located where there is an adequate quantity for their needs, the needs of other human users, and also for the needs of *fish* and other wildlife.

Surface water and *groundwater* quality and quantity are presently being studied by the Conservation Authority, local municipalities, and their partners under an active program of source water protection.

A study of coldwater lakes titled Inland Lake Trout Management in Southeastern Ontario was updated by the Ministries of the Environment (MOE) and Natural Resources (MNR) in 1993. The study notes that Lake Trout can be monitored as a biological indicator of a healthy aquatic environment. Thirteen lakes within the CRCA jurisdiction are classified as being either highly or moderately sensitive to changes in *surface water* quality.

B. Policy Context

Section 2.2 of the Provincial Policy Statement states that “planning authorities shall protect, improve or restore the quality and quantity of water”. The PPS recognizes the importance of protecting vulnerable water supplies and sensitive *surface water* and *groundwater* features (e.g. wellhead protection zones).

Surface and *groundwater* withdrawals exceeding 50,000 litres per day are regulated under the Ontario Permit to Take Water program, under the Ontario Water Resources Act, as amended.

The installation of private sewage systems is guided by provincial regulations and policies enacted under the Ontario Building Code Act, as amended.

Erosion and sediment control is addressed by Guidelines on Erosion and Sediment Control for Urban Construction Sites (MOE, as amended).

C. Objectives

The objectives of this Conservation Authority relating to *surface water* are:

1. to protect surface water features that act as a source for drinking, ecological functions, industry, tourism, recreation, and other uses.
2. to promote adequate vegetated buffers adjacent to *waterbodies*;
3. to avoid *development* adjacent to water that may have a *negative impact* on *surface water* quality;
4. to encourage and participate in *lake planning* (including lake capacity studies) to determine the carrying capacity of lakes within the *watershed*; and
5. to ensure that adequate measures for *erosion* and sediment control are employed during *development* and *site alteration*.

D. Policies

1. *Development* and *site alteration* may be restricted within *designated vulnerable areas* or in order to protect, improve, or restore other *sensitive surface water features*, *vulnerable surface water*, and related hydrologic functions that may be identified.

The conservation of waterbodies that provide habitat for Lake Trout shall be coordinated with the efforts of the Ontario Ministry of the Environment, the Ontario Ministry of Natural Resources, and other appropriate agencies. *Development* adjacent to sensitive Lake Trout habitat may be subject to an increased water setback and other considerations.

2. New *development* and *site alteration*, including sewage systems, open or enclosed decks/patios attached to a main dwelling, and swimming pools, shall be set back a minimum distance of 30 m from the *annual high water line* of a *waterbody*. This requirement may be reduced to a minimum distance of 15 m from the *annual high water line* of an *intermittent watercourse*. Additional setbacks, based on site-specific characteristics such as slope, soil type, soil depth, and vegetative cover, may be required to protect *surface water* quality and/or fish habitat, or to account for potential *flooding*, *erosion*, slope instability, or other factors (see other related policies).
3. A minimum water frontage of 90 m per lot is encouraged along a *waterbody*.
4. New *development* within the *water setback area* may be considered where:
 - (a) it replaces an existing building or structure and the new building or structure is set back as far as possible from the water, has the same first floor area, and is no closer to the water; or
 - (b) it is a new use of an existing building or structure and there shall be no anticipated increase in *surface water* quality impacts; or
 - (c) the property is an existing *lot of record* as of the original (March 1995) date of adoption of this policy, and
 - (i) there are no reasonable alternatives for locating the *development* outside of the *water setback area*, the *development* is no closer to the water than existing buildings or structures on the property, and is set back as far as possible from the water in all directions, complies with the maximum lot coverage provisions of the Zoning By-law, and suitable methods to minimize *negative impacts* on water quality are incorporated into the *development*; and
 - (ii) if the property is situated on an island or a peninsula, then the proposed development is set back as far as possible from the water in all directions, and there are variances from the water setback requirement in no more than two directions.

In all cases, that portion of the first floor area of a *development* that is located within the *water setback area* shall not be greater than 93 square metres (1,000 square feet).

5. Existing natural vegetation and soil mantle in the *water setback area* shall be retained. Minor trimming of existing vegetation for water access, and the removal of dead or other vegetation, where it compromises safety, are considered to be reasonable. The naturalization and restoration of shorelines shall be encouraged to assist in *surface water* quality improvements. The use of non-structural means (such as bioengineering) is preferred. Woody trees, shrubs, and vines, with deep, fibrous roots should be planted along the water's edge. The CRCA has compiled a list of appropriate native, non-cultivar plants (see Appendix 'G') for planting along shorelines. For additional details, please see Appendix 'E' - CRCA Guidelines for Riparian Buffer Areas.
6. Minor accessory structures (such as unattached decks/patios and gazebos) may be permitted within the *water setback area* where they are a reasonable size for the intended use, to a maximum area of 20 square metres, and where they do not restrict access to shoreline areas.
7. Swimming pools shall be designed such that used water is not discharged onto or into any on-site sewage system or directly into a *waterbody*.
8. *Shoreline-related structures* within the water or *water setback area* may be permitted where significant environmental features or habitat and *surface water* quality are not subject to *negative impacts*.

Provided that no *negative impacts* on the natural environment shall result, up to 25 percent of the water frontage of any lot may be occupied by *shoreline-related structures*, up to a maximum of 15 m. An Environmental Impact Assessment (EIA) may be required to demonstrate that no *negative impacts* shall result (see Appendix 'B').

The CRCA strongly discourages the storage of hazardous materials in accessory structures located within the *water setback area*.

9. The use of communal docks and structures to provide shared water access and use is encouraged to limit *negative impacts*.
10. *Erosion* and sediment control measures shall be utilized on all sites, as follows:
 - (a) *Erosion* control measures (such as rip-rap stone underlain by geotextile fabric, *erosion* blankets, or hydroseeding) shall be installed on an interim or permanent basis, as appropriate, where there is a potential for *erosion* on a disturbed slope, or in a constructed swale.
 - (b) Sediment control measures (such as sediment fencing or straw bales) shall be installed around all disturbed areas prior to the commencement of *site alteration*, shall be inspected for proper function on a continual basis by the site contractor, and shall remain in place until the area has been stabilized.

- (i) Sediment fencing shall be keyed in to the existing ground and shall be supported by stakes at regular intervals, in a manner that is consistent with the manufacturer's guidelines and/or recognized design standards.
- (ii) Sediment fencing shall not be used to create check dams in swales.
- (iii) Straw bales, whether used as an upland barrier or to form a swale check dam, shall be butted against one another, and shall be fitted to the existing ground, so as to capture sediment, in a manner that is consistent with recognized design standards.
- (iv) There shall be a separation distance of no more than 1 m horizontal between the sediment control measure and the toe of the disturbed area, to allow for construction work.

3.5 Groundwater

A. Background Information

Groundwater is a component of the water cycle and is closely related to *surface water*. Its link to *surface water* is in recharge areas, where *surface water* infiltrates into the ground, and in discharge areas, where *groundwater* joins the surface flow. Because of this interaction, this section should be reviewed in conjunction with Section 3.4 - Surface Water, and also Section 3.6 - Stormwater Management and Master Drainage Planning.

Groundwater has been the subject of two studies covering the Cataraqui Region. These studies have identified that much of the *groundwater* in the area is vulnerable to contamination due to the fractured nature of the bedrock and the shallow depth to the water table.

Surface water and *groundwater* quality and quantity are presently being studied by the Conservation Authority, local municipalities, and their partners under an active program of source water protection.

B. Policy Context

Section 2.2 of the Provincial Policy Statement states that "planning authorities shall protect, improve or restore the quality and quantity of water." The PPS recognizes the importance of protecting vulnerable water supplies and sensitive *surface water* and *groundwater* features (e.g. wellhead protection zones).

C. Objectives

The objectives of this Conservation Authority relating to *groundwater* are:

1. to protect *groundwater* features that act as a source for drinking, ecological functions, industry, and other uses;

2. to encourage municipalities to consider *groundwater* quantity and quality when reviewing planning applications and updating Official Plans and Zoning By-laws;
3. to ensure that *groundwater* quantity and quality are not subject to *negative impacts* due to *development* and/or *site alteration*; and
4. to ensure that the natural environment is not subject to *negative impacts* resulting from alterations to recharge and discharge characteristics.

D. Policies

1. *Groundwater* quantity and quality shall be considered where *watershed plans*, master drainage plans, or stormwater management reports are reviewed.
2. For *development* proposals which in the opinion of the Conservation Authority may affect *groundwater*, documentation (prepared by a qualified hydrogeologist at the expense of the proponent) shall be required. The report must demonstrate that post-*development* recharge/discharge quantity shall not be significantly altered and post-*development* recharge/discharge quality shall not be subject to *negative impacts*.
3. *Development* and *site alteration* may be restricted within *designated vulnerable areas* or in order to protect, improve, or restore other *sensitive ground water features*, *vulnerable groundwater*, and related hydrologic functions that may be identified.
4. *Development* proposals may be required to incorporate features (such as low gross *development* densities or methods to encourage infiltration) to ensure that the *groundwater* resource shall not be subject to *negative impacts*.
5. The CRCA shall encourage the use of xeriscaping. This is a form of landscaping that employs native drought-tolerant species and other elements to minimize watering requirements.
6. Municipalities shall be encouraged to evaluate the cumulative impact of potential *development* on the *groundwater* resource, and to implement measures to ensure its protection.

3.6 Stormwater Management and Master Drainage Planning

A. Background Information

Development in both rural and urban areas changes existing conditions such that the quantity and quality of stormwater runoff are altered. This Conservation Authority is concerned with maintaining the hydrologic cycle, recognizing riparian water rights, and retaining and improving ecosystem health when considering stormwater management. Flood control, maintaining baseflow in watercourses, water temperature, *erosion* and sediment control, limiting nutrient and bacteria loading, maintaining *fish habitat*, and

groundwater recharge and contamination are some of the related aspects that may be of concern for a particular *watershed* or subwatershed. The CRCA has prepared Guidelines for Stormwater Management that should be read in conjunction with the Planning Policy (see Appendix 'F').

There are three main levels at which stormwater management can be considered. Ideally, the impacts from stormwater runoff should be considered at the highest level possible.

- The *watershed plan* provides overall management objectives and targets which could be incorporated into a municipal Official Plan.
- The master drainage plan is prepared on a subwatershed basis and incorporated into secondary (neighbourhood) plans or Official Plan Amendments. It will identify the approach to meet targets, specify methods of stormwater control, and outline the general location and size of stormwater facilities.
- A stormwater management report is normally prepared for each residential subdivision, or in support of a commercial/industrial/institutional site plan. It is the basis for detailed construction plans for control facilities and best management techniques.

There are three categories of methods through which stormwater is managed, in the following order of preference:

- lot level controls such as discharging roof runoff onto grass, using cisterns, and vegetative buffers;
- conveyance controls such as enhanced swales that have a flat bottom width, gentle side and longitudinal slopes, and unmown vegetation; and
- end-of-pipe facilities such as dry/retention ponds, wet/detention ponds.

Lot level controls and conveyance controls are sometimes referred to as best management practices or BMPs.

Stormwater control is a particular concern with residential subdivisions and large (generally 1.0 ha and greater) commercial, institutional or industrial *development*. For small projects such as a single family residence, lot level and conveyance controls should be utilized.

B. Policy Context

Section 2.2 of the Provincial Policy Statement states that "planning authorities shall protect, improve or restore the quality and quantity of water." More specifically, Section 2.2.1 (g) indicates a need to ensure that "stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces."

Stormwater management is addressed in the publications of several agencies, particularly the Ontario Ministry of the Environment and the Ministry of Natural Resources. The main

guidelines for this topic are the Stormwater Management Practices Planning and Design Manual (2003), the Pollution Prevention Guidelines (2002) and the Urban Drainage Design Guidelines.

Within the Cataraqui Region, there are specific objectives and guidelines for the Bay of Quinte Remedial Action Plan Area related to stormwater management.

C. Objectives

The objectives of this Conservation Authority regarding stormwater management are that:

1. *development* proposals, individually or cumulatively, shall not result in any increased flood elevations or velocities upstream or downstream in the receiving *waterbody*;
2. the post-*development* hydrograph of flows into a receiving watercourse shall match the *pre-development* hydrograph as closely as possible;
3. baseflow within watercourses shall be maintained;
4. *development* shall not result in any new or increased *erosion* and sediment problems in receiving *waterbodies* during and after construction;
5. water quantity flow targets and water quality sediment, nutrient, bacterial, chemical, and temperature targets, where identified, must be met;
6. flow and associated sediment loading shall not adversely affect *fish habitat*, *wetlands*, or other environmental features;
7. *groundwater* recharge shall be encouraged in a manner which shall not contaminate the resource;
8. stormwater management measures shall be consistent with the *development* type where the measures are located; and
9. innovative approaches to stormwater management shall be encouraged, where such approaches are supported by research and/or successful applications in settings that are similar to those within the Cataraqui Region.

D. Policies

General

1. Master drainage plans and stormwater management reports shall be prepared by a qualified Professional Engineer, and shall be prepared using SI (metric) units.
2. (a) Major stormwater management reports shall be prepared for plans of subdivision and large scale commercial, industrial, or institutional developments.

- (b) Standard stormwater management reports shall be prepared for small or medium scale residential, commercial, industrial, or institutional developments.
 - (c) Brief stormwater management reports shall be prepared in the form of a letter of opinion regarding the development of a single parcel of land, usually for residential purposes.
3. Reports should be prepared using the following principles:
- (a) maintain the integrity of natural drainage patterns and processes, both on-site and downstream;
 - (b) consider runoff from all forms of precipitation (i.e. rainfall, snowmelt), and from more than one storm distribution;
 - (c) incorporate natural methods whenever possible;
 - (d) incorporate low maintenance methods whenever possible;
 - (e) control stormwater runoff at its source by utilizing, in order of preference, lot level controls, conveyance controls, and end-of-pipe facilities; and
 - (f) incorporate facilities as an amenity in the design of the neighbourhood or site.
4. Stormwater quantity control shall be addressed to ensure that unacceptable flow or water level conditions shall not result in *flooding, erosion*, or environmental degradation. The peak flow of post-*development* runoff (normally measured at the 2 year through 100 year storm events) shall not exceed the peak flow of *pre-development* runoff. The author shall demonstrate that the runoff coefficient (C) and time of concentration (Tc) values used in the calculations are appropriate for the existing site and the proposed *development*.

Stormwater quality control shall be addressed to ensure general ecosystem health or that site-specific environmental features are not subject to *negative impacts*. The Normal level of protection defined by the Ontario Ministry of the Environment will generally be used, except where sensitive aquatic habitat has been identified in a receiving *waterbody*.

The scope of stormwater requirements will vary depending on site-specific conditions. Consultation with Conservation Authority staff at the preliminary design stage is recommended.

5. Specific areas for winter snow storage shall be identified for all parking facilities and private (internal) roads. Snow storage areas shall be located as far as possible from the intended stormwater outlet and/or an adjacent *waterbody* and/or an

identified *groundwater* recharge or discharge area, and shall be designed so as not to impair the function of stormwater management facilities.

6. Where it is intended that a watercourse will be used to convey stormwater runoff, it shall normally remain open (i.e. rather than be enclosed and piped). The proponent shall demonstrate that the conveyance has sufficient capacity in the post-*development* condition, and that it shall not be subject to increased *erosion*. The municipality and proponent shall be encouraged to consider the conveyance as an amenity, and to incorporate it into the public *open space* network.
7. Enhanced catchbasins may be utilized for spill control and as the primary method of quality treatment on small urban sites (i.e. generally less than 1.0 ha) such as refuelling stations, especially as part of infill *development* or the redevelopment of a site. On other sites, enhanced catchbasins shall only be utilized as part of a treatment train with other measures such as enhanced swales, and generally, only where space is a limiting factor.
8. The use of new stormwater management facilities that are situated in the channel of a watercourse (i.e. on-line) shall not be permitted.
9. All facilities shall be located outside of the *regulatory floodplain* of adjacent watercourses, and shall be designed so as to exclude floodwater during *flooding* events.
10. Wherever possible, end-of-pipe facilities shall be incorporated into the public *open space* network. The use of *persuasive planting* (e.g. rose bushes) shall be preferred over perimeter fencing, especially where the facility has been designed with safety features (i.e. a shallow permanent pool, benching, gentle sideslopes, etc.). In areas that may be subject to frequent inundation, only water-tolerant vegetation shall be planted.
11. *Development* in the catchment area of end-of-pipe facilities, other than local roads, shall be deferred until the facilities are fully constructed and ready to accept water (i.e. the facility will perform its intended control and treatment functions, and there is suitable vegetation and/or *erosion* protection measures in place).
12. To ensure that facilities remain in good working order, municipalities shall be encouraged to conduct regular maintenance of their own facilities, and to require that private landowners do the same. Facilities shall be designed to allow maintenance access. Long-term monitoring of post-*development* stormwater quantity and quality, normally at the expense of the proponent, may be required to assess the function of as-built facilities.
13. For urban infill *development* and property redevelopment projects, the CRCA shall require the preparation of a stormwater management report to address the quality and quantity impacts of additional lot coverage or new uses of the site. The proponent shall be encouraged to consider methods by which to improve the management of stormwater runoff from the existing *development* area.

Master Drainage Plans

A master drainage plan shall be required when large urbanizing tracts of land are designated for *development*. Master drainage planning is also appropriate for existing urban areas that are undergoing significant redevelopment activity, and/or where there is a need to add or retrofit stormwater controls.

14. Master drainage plans shall be structured so as to account for a variety of scenarios, in terms of: the order and timing of *development*, the type and form of *development*, and land tenure.
15. End-of-pipe facilities shall be designed and associated so that they do not need to function in series.
16. Municipalities shall be encouraged to design and construct larger conveyances and neighbourhood end-of-pipe facilities early in the *development* process, to ensure that they are functional in advance of increases in runoff (e.g. the outlet structure of a stormwater pond could be modified to reflect the growing extent of a *development*), and to facilitate cost-sharing between landowners in the catchment.
17. Master drainage plans and plan updates may be subject to the approval of the CRCA Full Authority Board, if there are direct implications for *flooding* or flood control works.
18. Municipalities shall be encouraged to review master drainage plans relative to changes in legislation and technical practice. Each plan should be reviewed at least once every five years.
19. Site-specific stormwater reports (and brief reports) prepared for a *development* that is wholly or partially within the area covered by a master drainage plan shall conform to the recommendations of that plan, provided that it is recognized as valid by the municipality and CRCA.

3.7 Wetlands

A. Background Information

This Conservation Authority has had a long-standing interest in the management and protection of *wetland* resources for their inherent natural characteristics and features.

Numerous *wetlands* in our jurisdiction have been evaluated using the provincial *Wetland* Evaluation System for Southern Ontario (MNR, 1993). There are also many *wetlands* that have not yet been evaluated; most of which are on the Canadian Shield. *Wetlands* along the Rideau Canal have also been evaluated by Parks Canada using a federal evaluation program.

The Kingston Wetlands Working Group (KWWG) is a multi-agency task group that encourages the *conservation* of *wetlands* in and around the City of Kingston. The CRCA will continue to work with the KWWG, both MNR District offices (Kingston and Kemptville), other agencies, and the public to manage and protect *wetlands*.

B. Policy Context

Wetlands on the Rideau Canal are under federal jurisdiction, and are not subject to provincial legislation. There is an understanding between the federal and provincial governments to work together to protect *wetlands* along the Canal.

Wetlands evaluated by the Ontario Ministry of Natural Resources (MNR) are considered to be either provincially significant or regionally/locally important. *Wetlands* that have been evaluated as Class 1, 2, or 3, or which have been assigned a total score of 600 points, or which have a Biological or Special Features component score of greater than 200 points are considered to be provincially significant (noted in the PPS as “significant”). The distinction between regionally and locally important *wetlands* is intended to be made by a local planning approval authority.

Section 2.1 of the Provincial Policy Statement intends that *development* and *site alteration* shall not be permitted in provincially significant *wetlands* in Ecoregions 5E, 6E, and 7E, or within significant *coastal wetlands*. The entirety of the Cataraqui Region is located within Ecoregions 5E, 6E, and 7E.

The PPS indicates that *development* and *site alteration* shall not be permitted within the 120 m *adjacent lands* around a provincially significant *wetland*, or a significant *coastal wetland*, unless the ecological function of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no negative impact on the natural features or on their *ecological functions*. This demonstration is normally made through the agency review of an Environmental Impact Assessment (EIA)(see Appendix ‘B’).

C. Objectives

The objectives of this Conservation Authority regarding *wetlands* are:

1. to encourage the protection of all *wetlands*;
2. to ensure that the features and ecological function of provincially *significant* (including *significant coastal wetlands*) and regionally important *wetlands* are not subject to *negative impacts*, and to ensure that there is no loss of area in such *wetlands*;
3. to encourage the *conservation* of locally important *wetlands*; and
4. to protect or enhance all *wetlands* where associated with important *groundwater* recharge or discharge areas.

D. Policies

General

1. The location of the boundary of an evaluated *wetland* shall only be determined by a trained *wetland* evaluator, and shall be subject to the approval of staff of the Ontario Ministry of Natural Resources.
2. In accordance with provincial policy, *wetlands* on the Canadian Shield shall be considered in the same manner as those that are south and east of the Shield.
3. The Conservation Authority may require an Environmental Impact Assessment (EIA) be prepared by a qualified environmental consultant, retained by the proponent, to demonstrate that new *development* and *site alteration* within the 120 m *adjacent lands* around a *wetland* shall not have a *negative impact* on the *wetland* (see Appendix 'B'). The EIA must ensure that *development* and *site alteration* does not result in:
 - (a) loss of *wetland* function or area;
 - (b) subsequent demand for future *development* or *site alteration* that will have a *negative impact* on *wetland* function; and
 - (c) conflict with existing *wetland* management practices.
4. Existing agricultural uses shall not be subject to the requirements related to *wetlands*. The Conservation Authority shall encourage and assist agricultural landowners to minimize the impact of their operations on *wetlands*.
5. New utilities or roads may be permitted in a *wetland* if no alternative exists. Where a new utility or road is permitted in a *wetland*, measures or methods to minimize or compensate for any *negative impacts* must be employed, provided that they are consistent with CRCA and MNR policies.
6. Existing natural *wetlands* shall not be used to provide stormwater management (i.e. stormwater outletting directly into a *wetland* shall not be permitted).
7. All new parcels of land with frontage on a *waterbody* shall have at least one location that provides reasonable water access (for motorized pleasure craft) without the need for dredging or removal of emergent or submergent vegetation.
8. Setbacks between *development* and *site alteration* and *wetlands* may be surpassed by those required to avoid *flooding* and *erosion* hazards.
9. Authorization from the federal Minister of Fisheries and Oceans is required for the harmful alteration, disruption or destruction of *fish habitat* (where defined by the Canada Fisheries Act, as amended), along with associated plans for compensation of such habitat. The CRCA may also require compensation (i.e. the construction of

new *wetlands*, or the improvement of an existing one) for the degradation or loss of *wetlands* that are not considered to provide *fish habitat*.

Provincially Significant Wetlands

10. New *development* and *site alteration*, including additions and land division, shall not be permitted in a provincially *significant wetland* (including a *significant coastal wetland*). The CRCA shall encourage its member municipalities to place all provincially *significant wetlands* (including *significant coastal wetlands*) in a designation and zone that permits only *conservation* or flood control uses.
11. *Development* and *site alteration* may be permitted within the 120 m *adjacent lands* around a provincially *significant wetland* (including a *significant coastal wetland*), if it has been demonstrated that there shall be no negative impact on the natural features or their *ecological functions*. The CRCA may recommend that an Environmental Impact Assessment (EIA) be prepared by a qualified environmental professional at the expense of the proponent (see Appendix 'B').
12. New *development* and *site alteration* shall be set back a minimum of 30 m from a provincially *significant wetland* (including a *significant coastal wetland*), unless demonstrated by an EIA that it must be greater.
13. New *development* and *site alteration* that by its nature is required to be within 30 m of a provincially *significant wetland* may be permitted where demonstrated that no loss of *wetland* area and function shall result, and that no conflict with *wetland* management practices shall result.

Regionally and Locally Important Wetlands

14. Regionally important *wetlands* shall be defined as those which have been evaluated by the Ontario Ministry of Natural Resources (but which have not been classified as provincially *significant*) or which for hydrological, biological, or other reasons are considered important within a given *watershed*, or within the Cataraqui Region.

New *development* and *site alteration* in a regionally important *wetland* shall not be permitted. New *development* and *site alteration* on *adjacent lands* shall be set back a minimum of 30 m from a regionally important *wetland*, unless it is demonstrated by an EIA that it must be greater.

15. Locally important *wetlands* shall be defined as those which for hydrological, biological, or other reasons are considered important within a *watershed*, or within one municipality. All unevaluated *wetlands* shall be considered as locally important.

New *development* and *site alteration* in a locally important *wetland* shall only be considered where all other alternatives for *development* and *site alteration* have been explored, and where hydrologic functions, *floodplains*, and riparian / aquatic habitat will not be subject to *negative impacts*. An EIA by a qualified environmental professional (prepared at the expense of the proponent) may be required to

demonstrate that *negative impacts* will not result. Compensation for the degradation or loss of wetland function or area may be required.

16. The CRCA shall encourage its member municipalities to place all regionally and locally important *wetlands* into a designation and zone that permits only *conservation* or flood control uses.

3.8 Woodlands

A. Background Information

Prior to settlement by Europeans, woodlands covered most of the Cataraqui Region. As the land was cleared for agriculture, for timber, and later for settlement, the *woodland* cover was reduced, and was fragmented into distinct woodlots. In recent history, changing land use and natural succession has led to an increase in forest cover in some areas. Research on flora and fauna has identified a general need to achieve and/or maintain our *woodland* cover to at least 30 percent of each *watershed* in the Cataraqui Region. There is also a need to connect woodlots by allowing succession and by planting. There are ecological relationships between woodlands and other natural areas such as wetlands, prairies, and alvars.

Woodlands in some areas of the Cataraqui Region have been evaluated by the Bay of Quinte Remedial Action Plan, the Eastern Ontario Natural Heritage Working Group, and by the CRCA through the preparation of natural heritage studies. The CRCA will consult with and reflect the recommendations of these studies when reviewing applications for development and site alteration, provided that such recommendations are consistent with the other sections of this Policy.

Selected woodlands in the geographic Township of Pittsburgh (now part of the City of Kingston) have been identified as environmentally significant areas (ESAs). The policies regarding ESAs in Section 3.9 of this document also apply to those woodlands.

B. Policy Context

Section 2.1.4 of the Provincial Policy Statement intends that *development* and *site alteration* may be permitted in significant woodlands south and east of the Canadian Shield, if it has been demonstrated that there will be no negative impacts on the natural features or their *ecological functions*.

Section 135(1) of the Ontario Municipal Act, as amended, allows a municipality to pass a by-law prohibiting the destruction of trees. To date, the municipalities in the Cataraqui Region have not yet made use of this provision.

C. Objectives

The objectives of this Conservation Authority regarding woodlands are:

1. to encourage the *conservation* of all *woodlands*, through the use of good forestry practices;
2. to avoid *negative impacts* to the natural features and ecological functions of significant *woodlands* on and off the Canadian Shield;
3. to protect or enhance all *woodlands* where associated with important *groundwater* recharge or discharge areas; and
4. to achieve and/or maintain an overall *woodland* cover of at least 30 percent in each *watershed*.

D. Policies

1. Woodlands in areas that are proposed for intensive urban *development* shall be maintained until all of the necessary permits and approvals related to the layout and site preparation aspects of the *development* have been obtained by the proponent. This aspect may be regulated by the municipality.
2. In reviewing applications for *development* and *site alteration*, the CRCA shall encourage the *conservation* of all *woodlands*, normally by directing the work away from vegetated areas. Interior *wildlife habitat* (which is normally found at least 100 m into *woodlands*) shall be protected. As part of its review, the Conservation Authority may recommend that an Environmental Impact Assessment (EIA) and/or tree preservation plan be prepared by a qualified environmental consultant, retained by the proponent (see Appendix 'B').
3. The area within 50 m of a significant *woodland* shall be considered as the *adjacent lands* for the purposes of preparing and reviewing an EIA.
4. Tree preservation plans shall be required for all plans of subdivision and site plans, where there is an existing *woodland*, and shall be approved prior to the approval of the layout (e.g. approval of a draft plan of subdivision).
5. Where *development* and *site alteration* are proposed in a *significant woodland*, which will necessarily result in the destruction of trees, the replanting of trees (on a minimum 1:1 basis) may be required as compensation. This shall not apply to the cutting of trees for personal use (i.e. for home heating, maple syrup production, or similar purposes).
6. Where *development* and *site alteration* are to occur in areas adjacent to a tree or a *woodland*, a protection measure such as temporary fencing shall be installed at least 1.5 m from the *dripline* of the affected vegetation.
7. The planting of native, non-cultivar tree species of Eastern Ontario (see Appendix 'G') stock shall be encouraged. The use of non-invasive species shall be required where the planting is adjacent to a natural area.

8. Mature *specimen trees* shall be maintained and protected whenever possible.
9. Technical advice and support shall be provided to member municipalities that introduce a tree cutting or woodland conservation by-law under Section 135(1) of the Ontario Municipal Act, as amended.

3.9 Other Environmental Resources

A. Background Information

This set of policies considers other significant natural features that may have been identified by the Ontario Ministry of Natural Resources, by a member municipality, by this Conservation Authority, or by others.

B. Policy Context

The habitat of *endangered* and *threatened species* is protected under the Canada Endangered Species Act, as amended, which is administered by the Ontario Ministry of Natural Resources.

Fish habitat is a protected resource under the Canada Fisheries Act, as amended. Under this legislation there must be no harmful alteration, disruption or destruction of *fish habitat*, including breeding, nesting, and feeding areas. Section 35(1) of the Fisheries Act is administered by the CRCA on behalf of Fisheries and Oceans Canada.

Section 2.1.3 of the Provincial Policy Statement intends that *development* and *site alteration* not be permitted in significant habitat of *endangered* and *threatened species*. Section 2.1.4 states that *development* and *site alteration* shall not be permitted in significant *valleylands* (south and east of the Canadian Shield), significant *wildlife habitat*, and significant *areas of natural and scientific interest*, unless it has been demonstrated that there shall be no negative impacts on the natural features or their *ecological functions*.

C. Objectives

The objectives of this Conservation Authority regarding other environmental resources are:

1. to protect the habitat of *endangered* and *threatened species*;
2. to encourage the construction of *shoreline-related structures* that do not harmfully alter, disrupt, or destroy *fish habitat*;
3. to encourage the *conservation* of alvars and other *wildlife habitat*, *valleylands*, and *areas of natural and scientific interest*; and
4. to encourage the *conservation* of natural features and *ecological functions* of environmentally significant areas (ESAs) identified by this Conservation Authority or others.

D. Policies

1. The conservation by the CRCA of environmental resources, notably *areas of natural and scientific interest* and the habitat of *endangered and threatened species*, shall be coordinated with the efforts of the Ontario Ministry of Natural Resources and other appropriate agencies.
2. Georeferenced data regarding the habitat of *endangered and threatened species* shall be utilized and communicated in a manner that ensures the *conservation* of the habitat.
3. *Development* and *site alteration* shall not be permitted in *significant* portions of the habitat of *endangered and threatened species*. *Development* and *site alteration* may also be restricted on other portions of the identified habitat, and on the minimum 50 m *adjacent lands* around the *significant* portions of the habitat.
4. An authorization from the federal Minister of Fisheries and Oceans shall be required prior to any harmful alteration, disruption or destruction of *fish habitat* (where defined by the Canada Fisheries Act, as amended). The minimum extent of *adjacent lands* around *fish habitat* shall be 30 m.
5. This Conservation Authority shall encourage the *conservation* of identified alvars and other *wildlife habitat, valleylands, and areas of natural and scientific interest*, whether or not such features are classified as provincially *significant*, and whether or not they are located on the Canadian Shield. *Development* and *site alteration* may also be restricted on *adjacent lands*, which shall be defined as a minimum of 50 m around the area.
6. (a) New *development* and *site alteration* inside the boundary of an environmentally significant area (ESA), including the severance of land, shall be discouraged.

(b) *Development* or *site alteration* may be considered for areas within an ESA or within the minimum 50 m *adjacent lands* around an ESA, where it has been demonstrated that no alternative exists, and where the natural features or *ecological functions* of the area are not subject to *negative impacts*. An Environmental Impact Assessment (EIA) by a qualified environmental professional may be required to demonstrate that *negative impacts* shall not result (see Appendix 'B'). Measures or methods to minimize or compensate for any *negative impacts* must be employed.
7. When reviewing landscape or planting plans, this Conservation Authority shall encourage the use of native, non-cultivar plant species of Eastern Ontario stock. The use of plant species that are known to spread onto *adjacent lands* shall be avoided where the planting is within 120 m of a natural area.

3.10 Open Space

A. Background Information

Open space is composed of a system of floodplains, wetlands, woodlands, and other naturalized and manicured lands, and may include pathways and other visitor facilities. Networks are created when these various elements are combined across contiguous or neighbouring parcels of land. *Open space* may be publicly or privately owned.

Connected systems of open space are a necessity for maintaining and restoring the biodiversity of flora and fauna. Open space also provides opportunities for outdoor recreation and nature appreciation, and contributes to healthy and aesthetically welcoming communities. Key sectors of the economy of the Cataraqui Region (tourism, cottaging, retirement communities) are highly dependent on *open space*.

Public *open space* is provided by our member municipalities through their policies for private lands, and through public parks, the CRCA (see Section 3.11), as well as both the federal and provincial governments (national parks, national historic sites, provincial parks, etc.). The CRCA supports the maintenance and enhancement of a regional network of public open spaces, including recreational pathways. On a local scale we encourage the incorporation of natural corridor systems and locally significant features into the *open space* network.

B. Policy Context

Section 1.5 of the Provincial Policy Statement provides guidance on planning healthy, active communities, including the need for public open space, trails, and facilities for water access.

Section 2.1.2 of the PPS states that the diversity and connectivity of natural features in an area, and the long term *ecological function* and biodiversity of *natural heritage systems*, should be maintained restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas.

C. Objectives

The objectives of this Conservation Authority related to *open space* are:

1. to support our member municipalities in the *development* of an *open space* network, including recreational pathways; and
2. to encourage the retention and creation of natural corridors to provide linkages for human use and to maintain *ecological functions*.

D. Policies

1. Municipalities shall be encouraged to negotiate for title to *open space* lands, over and above the provisions of the Ontario Planning Act, as amended. Municipalities

shall also be encouraged to establish a reserve fund for the acquisition and ongoing maintenance of *open space* lands.

2. The CRCA may accept title to *open space* lands, through a planning process under the Ontario Planning Act, as amended, or otherwise, for inclusion into a public *open space* network. Any acceptance of title shall be decided by the CRCA Full Authority Board, based on the land acquisition and disposal policies of the Conservation Authority.
2. Where *development* and *site alteration* are proposed along a *waterbody*, the CRCA shall encourage the provision of a publicly owned *open space* corridor along the shoreline.
3. Recreational pathways through *open space* shall be routed away from the *regulatory floodplain*, areas prone to *erosion*, and sensitive features such as nesting habitat.
4. Where stormwater management facilities are proposed for an *open space* area, the design of the facilities should complement the *ecological functions*, appearance, and recreational potential of the *open space*.

3.11 Conservation Authority Property

A. Background Information

The Cataraqui Region Conservation Authority owns more than 4,000 hectares of land across its jurisdictional area. The lands have been acquired for a variety of uses, including flood control, forestry, the *conservation* of significant natural areas and species, as well as to provide opportunities for outdoor recreation and nature appreciation. Each property has a unique purpose, or in some cases, a set of purposes. The network of CRCA lands provides benefits on a regional scale, thereby complementing the *open space* lands owned by municipalities and the senior levels of government.

B. Policy Context

Section 1.5 of the Provincial Policy Statement provides guidance on planning for healthy, active communities, including the need for public open space, trails, and facilities for water access. The PPS also speaks to the need for planning authorities to consider the impact of their decisions on conservation lands. *Development* and *site alteration* within and adjacent to the natural features on CRCA lands is guided by other parts of the PPS. Municipal policies and by-laws govern the permitted uses on each property.

The Conservation Authority prepares management plans for properties with a low intensity of human use, and master plans for more active properties such as conservation areas.

C. Objectives

The objectives of this Conservation Authority regarding its own properties are:

1. to ensure that the use, enjoyment, and *ecological functions* of our properties are not subject to *negative impacts* from adjacent *development* or *site alteration*; and
2. to develop and manage our properties in a manner that demonstrates leadership to the community, is consistent with current best practice, and shall not adversely affect the natural features or *ecological functions* of the property.

D. Policies

1. New *development* and *site alteration* adjacent to Conservation Authority property should:
 - (a) be compatible with the management and programming of the property;
 - (b) have no *negative impacts* on the natural features or *ecological functions* of the property.
2. New *development* and *site alteration* adjacent to Conservation Authority property should not be permitted where it affects active Conservation Authority land acquisition programs.
3. New easements, rights-of-way, and leases across our properties shall not be granted except for public utilities. New public utilities on a property should maintain the intent of all of these policies.
4. Municipalities will be encouraged to place CRCA properties into Official Plan designation(s) and Zoning By-law zone(s) that reflect the use of the property that is intended by the CRCA over the long term.
5. New facilities on CRCA properties shall be designed and maintained in a manner that is consistent with the advice given to municipalities and private landowners, best practices, and the role of the Conservation Authority as a community leader in *conservation*.
6. From time to time, the CRCA may prepare or revise management or master plans for its properties. Such plans will consider an appropriate balance between environmental protection and human use on a given property, with priority given to environmental protection. Projects or policies within such plans must not adversely affect the natural features or *ecological functions* that have been identified on or adjacent to a property.
7. Management or master plans for Conservation Authority properties shall be prepared or revised in consultation with the relevant municipalities, friends groups, and the general public. A planning horizon of at least 20 years shall normally be used.

4.0 DEFINITIONS

It is intended that the definition of these and other terms be consistent with the definitions listed in the Provincial Policy Statement, as amended.

Adjacent lands: means those lands contiguous to a specific natural area where it is likely that *development* or *site alteration* may have a *negative impact*, and where the CRCA is most likely to require or recommend that an Environmental Impact Assessment be completed. The width of the *adjacent lands* is specified in the policy section that deals with the specific natural area.

Annual high water line: means the highest water level that has been maintained for a sufficient duration (on an annual basis) as to leave physical evidence upon the landscape marking the boundary between that water level and upland areas.

The boundary may be identified by:

- (a) an examination of the bed and bank of the *waterbody*, to determine where the presence and action of water has been so common and usual and long continued in all ordinary years to mark upon the bed or bank a character distinct from that of the abutting upland; and/or
- (b) a distinction between either open water or dominant aquatic/wetland vegetation, and dominant upland vegetation.

The term "highwater mark" is sometimes used to refer to this line.

Areas of natural or scientific interest (ANSI): means areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study, or education.

Bedrock shorelines: means those shorelines where parent bedrock material is either at, or within 1.0 m of the surface, and where it is anticipated that adjacent structures will be founded directly on the bedrock.

Coastal wetland: means

- (a) any *wetland* that is located on Lake Ontario or St. Lawrence River; or
- (b) any other *wetland* that is on a tributary to any of the above-specified *waterbodies* and lies, either wholly or in part, downstream of a line located 2 km upstream of the *regulatory floodplain* of the large *waterbody* to which the tributary is connected.

Connecting channel areas: means Lake Ontario or St. Lawrence River shoreline *reaches* 1 through 29 inclusive, *reaches* 32 through 41 inclusive, and *reaches* 54 through 84 inclusive, as defined in Methodology for Defining the Regulatory Erosion Standard on Great Lakes Shorelines (J.D. Paine 1995).

Conservation: means wise use. This phrase is not intended to be restricted narrowly to preservation or to management, but may include either or both. *Conservation* is intended to foster sustainable *development*, in which the needs of the present are met without compromising the ability of future generations to meet their own needs.

Cumulative impacts: means long-term impacts that increase by successive additions, although such additions might be minor individually.

Designated vulnerable area: means areas defined as vulnerable, in accordance with provincial standards, by virtue of their importance as a drinking water source that may be impacted by activities or events.

Development: means the creation of a new lot, a change in land use, or the construction of buildings and structures (including but not limited to open and enclosed decks, gazebos, swimming pools and sewage systems).

Dripline: means the outermost extent of the canopy of a tree. This normally corresponds to the area in which there is the greatest concentration of tree roots.

Dynamic beach: means areas of inherently unstable accumulations of shoreline sediments along the Great Lakes - St. Lawrence River System. The *dynamic beach* hazard limit includes the flood hazard limit plus an allowance of 30 m.

Dynamic beaches exist where:

- (a) beach or dune deposits exist landward of the water line (i.e.: land/water interface); and
- (b) beach or dune deposits overlying bedrock or cohesive material are equal or greater than 0.3 m in thickness, 10 m in width and 100 m in length along the shoreline; and
- (c) the maximum fetch distance measured over an arc extending 60 degrees on either side of a line perpendicular to the shoreline is greater than 5 km. This normally does not occur where beach or dune deposits are located in embayments, along connecting channels and in other areas of restricted wave action where wave related processes are too slight to alter the beach profile landward of the waterline.

Ecological function: means the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.

Endangered species: means a species that is listed or categorized as an Endangered Species on the Ontario Ministry of Natural Resources' official species at risk list, as amended from time to time.

Environmentally benign protection works: means works which shall not adversely impact shore processes within the *reach*, or significant natural species, features, or *ecological functions* on or adjacent to the site.

Erosion: means the loss of land, due to human or natural processes.

Essential emergency services: means fire, police, and ambulance stations, electrical substations and similar uses.

Fish: means fish, shellfish, crustaceans, and marine animals, at all stages of their life cycles.

Fish habitat: means the spawning grounds and nursery, rearing, food supply, and migration areas on which *fish* depend directly or indirectly in order to carry out their life processes.

Flooding: means inundation by water. See also *regulatory floodplain*.

Floodplain: means the area, usually low lands, adjoining a watercourse, and which has been or may be subject to *flooding* hazards. See also *regulatory floodplain*.

Floodproofing: means a combination of structural changes and/or adjustments incorporated into the basic design and/or construction or alteration of individual buildings, structures, or properties subject to *flooding* so as to reduce or eliminate flood damages.

Groundwater: means the water contained within the ground that supplies wells and springs, and that helps to sustain *surface water*.

Groundwater feature: means water-related features in the earth's subsurface, including recharge / discharge areas, water tables, aquifers, and unsaturated zones that can be defined by surface and subsurface hydrogeological investigations.

Institutional use: means a hospital, nursing home, nursery, day care, preschool, school, or similar use. There may be a threat to the safe evacuation of the sick, elderly, persons with disabilities, or the young from such facilities in times of flooding or erosion.

Intermittent watercourse: means a *waterbody* that may carry water on an irregular basis, for example, only at certain times of the year, or only in certain years.

Lake planning: means a land use and resource planning exercise by municipalities and/or others, to inventory and monitor the natural and human characteristics of a lake and its *watershed*, consult with the interested public and stakeholders, and recommend preferred approaches for the future management of the area.

Lot of record: means any parcel of land that existed as a distinct property prior to March 29, 1995, including those on islands.

Natural heritage system: means a system made up of *natural heritage features and areas*, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations and indigenous species and ecosystems. These systems can include lands that have been restored and areas with the potential to be restored to a natural state.

Natural heritage features and areas: means features and areas, including *significant wetlands, significant coastal wetlands, fish habitat, significant woodlands* south and east of the Canadian Shield, *significant valleylands* south and east of the Canadian Shield, *significant* habitat of *endangered species and threatened species, significant* wildlife habitat, and *significant areas of natural and scientific interest*, which are important for their environmental and social values as a legacy of the natural landscapes of an area.

Negative impact: means degradation that threatens the quality or quantity of water, and/or the health and integrity of natural features and/or *ecological functions* due to single, multiple, or successive *development* or *site alteration* activities.

Open lake areas: means Lake Ontario or St. Lawrence River shoreline *reaches* 30 and 31, and *reaches* 42 through 53 inclusive, as defined in Methodology for Defining the Regulatory Erosion Standard on Great Lakes Shorelines (J.D. Paine 1995).

Open space: means lands that are retained in an open, green state. These lands may or may not be maintained as natural areas, but could include Conservation Areas, municipal parks, or green belts along stream or river corridors.

Persuasive plantings: means groups of shrubs or similar vegetation that due to their density or physical characteristics tend to encourage pedestrians to move to other areas.

Pre-development: means the state of land prior to intensive urban *development*. For stormwater management reports that are prepared in support of the redevelopment of a site, runoff should be assessed for the state of the land prior to any intensive urban *development*, and also for the state of the land with existing *development*.

Reach: means a length of the shoreline along a *waterbody*, which usually has characteristics that are similar along the length.

Regulatory (1:100 year) water elevation: means:

- (a) for river and stream systems (including local inland lakes), the water elevation, based on an analysis of precipitation, snow melt, or a combination thereof that has a 1 percent chance of occurring or being exceeded in any given year; or
- (b) for Lake Ontario, the peak instantaneous stillwater level, resulting from combinations of mean monthly lake levels and wind setups, which has a 1 percent chance of being equalled or exceeded in any given year; or
- (b) for the St. Lawrence River, the peak instantaneous stillwater level which has a 1 percent chance of being equalled or exceeded in any given year.

Regulatory floodplain: means:

- (a) for river and stream systems (including local inland lakes, except for some *waterbodies* that are associated with the Rideau Canal, as noted below), the area affected by the anticipated *regulatory (1:100 year) water elevation*, plus an allowance for water-related hazards (for example, ice jams);
- (b) for those *waterbodies* that form a part of the Rideau Canal and for which a *regulatory (1:100 year) water elevation* has not yet been calculated, the maximum recorded water level, as determined by the Parks Canada - Rideau Canal Office; and
- (c) for Lake Ontario and the St. Lawrence River, the area affected by the *regulatory (1:100 year) water elevation* plus an allowance for *wave uprush* and other water-related hazards.

Sensitive groundwater features: means areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

Sensitive surface water features: means areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

Shoreline-related structures: means boathouses, docks, marine railways, pumphouses, shorewells and similar forms of *development* that, due to their intended function, require a location near the water.

Significant: [please see the associated feature].

Site alteration: means activities, such as fill, grading and excavation, that would change the landform and natural vegetative characteristics of a site.

Specimen trees: means select healthy trees which demonstrate, or have the potential to demonstrate, the full and ideally representative growth of their species.

Stable slope: means that slope, expressed as a ratio of run/horizontal:rise/vertical, which is considered to be the natural angle of repose for a given material.

Surface water: means water that is on the earth's surface.

Surface water feature: means water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, *wetlands*, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation, or topographic characteristics.

Toe erosion allowance: means the potential extent of inland recession of the toe (bottom) of a slope, due to erosive forces, over a period of 100 years.

Top of bank: means the first significant break in slope along a *waterbody*, usually leading to a plateau of relatively level ground.

Threatened species: means any native species that is at risk of becoming endangered through all or a portion of its Ontario range if the limiting factors are not reversed.

Valleylands: means a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year. No *significant valleylands* have yet been formally identified in the Cataraqui Region.

Vulnerable groundwater: means *groundwater* that can be easily changed or impacted by activities or events, either by virtue of their vicinity to such activities or events or by permissive pathways between such activities and the *groundwater*.

Vulnerable surface water: means *surface water* that can be easily changed or impacted by activities or events, either by virtue of their vicinity to such activities or events or by permissive pathways between such activities and the *surface water*.

Water setback area: means the area of land between the *annual high water line* and the recommended minimum horizontal distance, at a given location, between the *annual high water line* and the primary *development* on a property (e.g. a residential dwelling).

Waterbody: means any lake, pond, *wetland*, surface stream or river where there is an identifiable depression in the ground in which a flow or ponding of water is regular and continuous and includes a channel for an *intermittent watercourse*, the Great Lakes - St. Lawrence River system, and also a municipal drain, as defined under the Ontario Drainage Act, as amended.

Watershed: means an area that is drained by a river and its tributaries.

Watershed plan: means a management plan for one basin or *watershed*.

Wave uprush: means the rush of water up onto a shoreline or structure following the breaking of a wave; the limit of *wave uprush* is the point of furthest land ward rush of water onto the shoreline. Information on *wave uprush* in the Cataraqui Region along Lake Ontario and the St. Lawrence River is compiled in studies by Anthony (1993) and TSH (2002).

Wetland: means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants.

The four major types of *wetlands* are swamps, marshes, bogs and fens. Periodically soaked or wet lands being used for agricultural purposes which no longer exhibit *wetland* characteristics are not considered to be a *wetland* for the purposes of this definition.

Significant wetlands are those identified by the Ontario Ministry of Natural Resources as having a total evaluation score that is greater than 600 points, or a biological or special features component score that is greater than 200 points.

Wildlife habitat: means areas where plants, animals, and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species.

Woodland: means an area that is vegetated with trees and woody shrubs. Significant *woodlands* may be identified by the CRCA and/or its member municipalities through the adoption of natural heritage studies, strategies, and similar research. Significant *woodlands* are normally assigned a higher degree of *conservation*, due to their ecological or hydrologic functions, or other benefits.



CATARAQUI REGION
CONSERVATION AUTHORITY

Appendix 'A' : General Reference Documents

General Reference Documents

Anthony, T. 1993, Regulatory Shore Lands Limit: A Study of the CRCA Shoreline

Environment Canada 1992, Canadian Environmental Assessment Act

Fisheries and Oceans Canada 1985, Fisheries Act

CRCA 2002, List of Adopted Fill line and Floodplain Mapping in the CRCA Jurisdiction

Ontario Ministry of Natural Resources 1990 (cL3), Lakes and Rivers Improvement Act

Ontario Ministry of the Environment 1990, Ontario Water Resources Act

Ontario Ministry of the Environment 2003, Stormwater Management Practices Design Guidelines

Ontario Municipal Affairs and Housing 2005, Provincial Policy Statement

Paine, J.D. 1995 Erosion Standard for Great Lakes Shorelines

Province of Ontario 1990, Conservation Authorities Act

Province of Ontario 1990, Ministry of Natural Resources Act