

CANADIAN INSTITUTE FOR ENVIRONMENTAL LAW & POLICY

Emerging Trends in Protecting the Great Lakes Basin Ecosystem

**A 2001 survey of local initiatives by Conservation Authorities and
Municipalities in Ontario**

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Prepared by:

Corey Diamond, Project Officer
Kristen McCoy, Intern

CIELAP Shelf:

Diamond, Corey; McCoy, Kristen; Canadian Institute
for Environmental Law and Policy
Emerging Trends in Protecting the Great Lakes Basin
Ecosystem : A 2001 survey of local initiatives by

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1.0 Introduction

This is the 3rd annual report written by the Canadian Institute for Environmental Law and Policy (CIELAP) outlining environmental initiatives undertaken by Ontario's municipalities and Conservation Authorities (CAs) in the Great Lakes region.¹

As with the previous two inventories commissioned by Environment Canada, this report will identify environmental initiatives in the following areas:

For Conservation Authorities:

- urban and agricultural runoff
- fish or wildlife habitat protection

For municipalities:

- sewer use — Residential and Industrial/Commercial/Institutional (ICI)
- urban and agricultural runoff
- fish or wildlife habitat protection

The 2000 inventory identified a greater number of initiatives than the 1999/2000 inventory, due in part to an increased number of submissions and the greater depth of detail in the submissions. The 2000 inventory also identified the important role the federal government plays in partnering with Conservation Authorities, as well as the unique partnerships amongst Conservation Authorities and municipalities.

The report was undertaken in order to begin identifying trends in the role of municipalities and Conservation Authorities to protect the Great Lakes Basin. However, due to limited data and time period, trends cannot easily be identified. The observations made in this report may be indicative of future trends. In summary, they are:

- There seems to be a general shift from remediation-type projects, to monitoring-type projects, especially in the area of water quality
- There seems to be an increasing propensity for Conservation Authorities to enter into partnerships with non-traditional funders, such as local businesses or corporate foundations
- There is an increasing frustration amongst Conservation Authorities that funding application processes are cumbersome and require extensive planning and time to coordinate

¹ In April 2000, CIELAP produced Protecting the Great Lakes Basin Ecosystem: A survey of local initiatives by conservation authorities and municipalities in Ontario. In April 2001, CIELAP produced Protecting the Great Lakes Basin Ecosystem: 2000 Inventory of Local Initiatives by Conservation Authorities and Municipalities in Ontario.

1.1 Purpose of Report

The purpose of this report is to update an inventory of recent environmental initiatives undertaken by Ontario's Conservation Authorities and municipalities in the Great Lakes Basin for the period of January 2001 to December 2001. Initiatives include new and ongoing (amended) by-laws, programs and partnerships in the aforementioned areas.

Additionally, the purpose of this report is to begin identifying emerging trends from our studies over the past 3 years. For this reason, the majority of the report will focus on those conservation authorities and municipalities that have responded to the survey in at least two of the last three years.

1.2 Objectives of Report

The objectives of this report are as follows:

- outline new environmental initiatives by Ontario's CAs and municipalities in the Great Lakes region between January 2001 and December 2001 (referred to as the 2001 time period);
- evaluate their impact on the protection and restoration of the Great Lakes and its watersheds;
- begin to establish trends in the areas of environmental protection and restoration by CAs and municipalities in the Great Lakes region;
- present an analysis on the effects of funding sources and staff levels on the ability of CAs and municipalities to protect the Great Lakes region; and
- present a description of partnerships undertaken by CAs and municipalities to help restore and protect the Great Lakes region

1.3 Methodology

The following methodology was used in the preparation of this report:

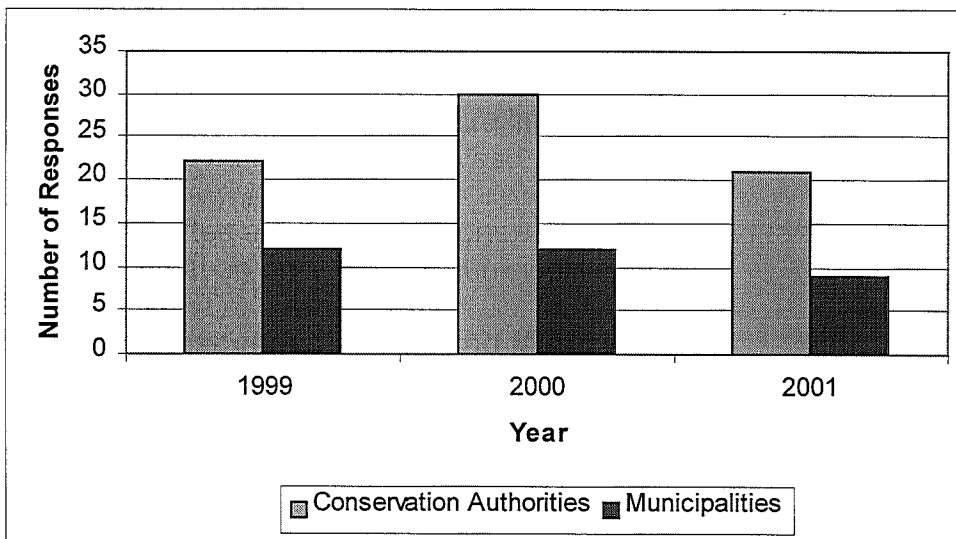
- 1) On January 24 and January 31, 2002, a letter of request was mailed to 60 Ontario municipalities and Conservation Authorities (24 municipalities and 36 Conservation Authorities) in the Great Lakes Basin. A sample of these letters is included in Appendix A. A full list of those to whom the letter was addressed is found in Appendix B.
- 2) Several follow-up calls and emails were made to each CA and municipality in late February and early March.

- 3) Additional follow-up calls and emails were made to specific CAs and municipalities to obtain more information and further clarification about their environmental initiatives.
- 4) Web sites and annual reports were researched to find additional information on CAs and municipalities.

1.4 Responses of CAs and Municipalities

This year, a total of 29 submissions were received as of March 22, 2002. Nine responses were received by municipalities (41% response rate) and 21 from Conservation Authorities (58% response rate). This was considerably lower than last year's response rate of 55% for municipalities and 83% for Conservation Authorities. However, the response rates are almost on par with the 1999/2000 survey, suggesting last year's response rate was quite high. Table 1 shows the number of responses to the survey over the past three years.

Table 1: Comparison of Responses over past three surveys



Several non-respondents mentioned that they would not be responding this year due to the high volume of requests for information from other groups, and that the request was made right in the middle of budget planning time. With tight timelines, a full project load, and busy staff some felt that they could not spare the time this year to fill out the survey.

Upon further reflection of anecdotal evidence, it seems that without having seen the outcome of this report, most municipalities and CAs seem reluctant to give out information that may require a lot of time to collate. Even though the charts from last year were included in the original letter, there seems to be a reluctance towards the survey because staff from the municipalities and CAs do not see the final product of the report. We recommend that sending the completed report

each year to participating municipalities and Conservation Authorities would encourage them to respond in full, as well as lend more legitimacy to the project.

1.5 Why this Report is Different

For the past 2 years, this report has focused on all the responses submitted by municipalities and Conservation Authorities. While the next part will follow this model, Section 3.0 of this report will attempt to identify trends. To do this, we have chosen to concentrate on the 5 municipalities and 17 CAs that have responded to the survey in at least two of the last three years. The municipalities and CAs upon which we have focused in Section 3.0 are outlined in Table 2.

Table 2: Municipalities and CAs that responded to at least 2 surveys

Municipality	Conservation Authority
County of Essex	Catfish Creek CA
City of Hamilton	Credit Valley CA
City of Peterborough	Essex Region CA
City of Toronto	Grey Sauble CA
City of Windsor	Conservation Halton
	Hamilton CA
	Kettle Creek CA
	Lakehead Region CA
	Lake Simcoe CA
	Maitland Valley CA
	Mississippi Region CA
	Nickel District CA
	North Bay-Mattawa CA
	Otonabee CA
	Raisin Region CA
	St. Clair Region CA
	Upper Thames CA

Due to the difficult nature in getting responses this year, Section 3.0 will also feature our trends analysis of the impact of federal, provincial, municipal and private funding on CAs and municipalities; as well as any trends apparent in staff levels at CAs.

Another new feature in this report will be case studies found throughout. These will show some specific examples of the type of environmental initiatives being undertaken by municipalities and CAs. These will be highlighted in grey boxes, and will showcase successful partnerships between municipalities, CAs, and various levels of governments.

1.6 A Word of Caution

When identifying trends, some caution should be noted. Firstly, the initiatives identified by municipalities and CAs may not represent the full scope of environmental initiatives being developed or implemented. The number of initiatives depends on the thoroughness of the submission prepared by the staff at the municipalities and CAs. Secondly, in the "Type of Initiatives" chart (Section 2.0), some environmental initiatives have been counted more than once, as some initiatives may fall under more than one category.

2.0 Results of the 2001 Survey

As stated in the Introduction, initiatives were categorized under the following headings: sewer use (Residential and Industrial/Commercial/Institutional)/ urban and agricultural runoff, air quality and fish or wildlife habitat protection. Some of these initiatives were established in 2001, and some were continued or expanded from previous years. Others are in planning stages, while still others were by-laws passed that help protect the Great Lakes Basin.

As in previous years, there were a few respondents who claimed that no new environmental initiatives were undertaken in the 2001 calendar year. They include: City of Cornwall, City of Waterloo, County of Peterborough, Grand River CA and Grey Sauble CA. Additionally, the South Nation Conservation Authority claimed they were not in the Great Lakes Basin, notwithstanding that it had responded the past 2 years.

2.1 Conservation Authorities

Appendix C outlines environmental initiatives of Conservation Authorities in the 2001 calendar year. Table 3, beginning on page 8, gives a summary of the types of initiatives undertaken, providing a general overview of what these CAs are doing to protect the Great Lakes Basin.

Urban and agricultural runoff

In 2001, there was a higher propensity to implement monitoring programs, which is partly due to increased participation in province-wide initiatives, such as MOE's Groundwater Monitoring Network.² More than half of the CAs surveyed (12 out of 21) identified monitoring initiatives. Furthermore, 8 CAs undertook remediation/stewardship programs to halt rural non-point source pollution. Eight CAs instituted studies, plans or strategies to minimize watershed impact.

² Announced in October 2000, a groundwater monitoring network was undertaken as part of the Provincial Water Protection Fund. The initiative includes well monitoring, the creation of a province-wide database, hydrogeologic mapping and chemical analyses.

Fish and wildlife habitat

In 2001, the programs initiated to address fish or wildlife habitat were quite diverse. A total of 10 CAs identified an agreement between CAs and the Federal Department of Fisheries and Oceans (DFO) to assess runoff impacts on fish and wildlife habitat in the Great Lakes. Eight CAs have undertaken environmental Watershed/Subwatershed Impact Assessment and Monitoring studies. There have been 9 aquatic restoration projects, and 8 terrestrial restoration projects. Additionally, only 2 CAs identified they had undertaken policy and municipal plan reviews to address the protection of the Great Lakes Basin.

Table 3: Conservation Authority Environmental Initiatives in 2001³

Area of Investigation	Type of Initiative	Number of Conservation Authorities (out of 20)
Urban and Agricultural Runoff	Rural Non-point Source Pollution Water Quality/Remediation/Stewardship Programs <ul style="list-style-type: none"> • Remediation projects - agricultural runoff • Focus on landowner stewardship • Examples include reducing nutrient loadings (agricultural runoff) from farms, creating buffers (e.g. wetland species planted to protect water quality from runoff) 	8
	Water Quality/ Runoff Monitoring Programs/Studies <ul style="list-style-type: none"> • Focus on monitoring of groundwater and surface water quality • CA jurisdiction wide programs • Examples include participation in the MOE Groundwater Monitoring Network (established 1999) 	12
	Watershed Plans/Water Quality/Remedial Strategies/Studies <ul style="list-style-type: none"> • Monitoring and remediation projects • Focus on a specific watershed or area • Studies/plans/strategies examine and include actions to reduce land use impacts, limit contaminant and sediment loadings to watersheds 	8
	Sewage/Stormwater/Septic Tanks Remediation Programs <ul style="list-style-type: none"> • Monitoring and remediation projects – urban point source discharges • Examines and seeks to reduce sewage/stormwater/drainage discharges on watersheds 	4
	Municipal Development Reviews <ul style="list-style-type: none"> • Reviews of municipal development applications to reduce non-point source loadings into watercourses 	4
	Erosion Control Programs <ul style="list-style-type: none"> • Limits contaminant loadings to watercourses from construction activities 	2

³ The number of initiatives identified are based on submissions from the Conservation Authorities, as well as through follow-up conversations and emails. Nonetheless, it is surprising to see such low numbers in certain areas where CAs are usually active. For example, most CAs are involved in commenting on municipal plan reviews, yet only 2 mentioned it in their submission.

Fish and Wildlife Habitat Protection	Department of Fisheries and Oceans Screening of Proposals <ul style="list-style-type: none"> Review of proposals to assess the impact on fish habitat and populations 	10
	Tree Planting/Forestry Programs <ul style="list-style-type: none"> Terrestrial habitat restoration/reforestation projects 	9
	Environmental/Watershed/Subwatershed Impact Assessment and Monitoring Studies <ul style="list-style-type: none"> Assesses, monitors and minimizes the impact of (potential) human activities (i.e. development) in watersheds/subwatersheds Identifies habitat enhancement actions in degraded watersheds/streams/areas May involve remediation/rehabilitation projects 	8
	Aquatic (Fish) Habitat Restoration/Enhancement Projects <ul style="list-style-type: none"> Includes wetland creation, riparian plantings, shoreline naturalization in a specific area 	9
	Terrestrial/Wildlife Habitat Restoration Projects <ul style="list-style-type: none"> watershed/area specific projects tree planting, reforestation, native shrubs and flowers planting 	8
	Municipal Drain Classification Program <ul style="list-style-type: none"> Minimizes the impact of municipal drain activities on fish habitat and species 	8
	Stewardship/Landowner Strategies <ul style="list-style-type: none"> restoration/renaturalization by landowners 	4
	Natural Areas Management Plans <ul style="list-style-type: none"> Focuses on the management of resources in a specific area Includes the documentation of environmental values and habitat enhancement opportunities 	6
	Fisheries Management Plans/Feasibility Studies <ul style="list-style-type: none"> plans/studies to manage fish habitat and populations 	4
	Greenlands Protection/Acquisition Strategies/Programs <ul style="list-style-type: none"> Strategies to acquire, protect and conserve terrestrial and aquatic habitat (newly protected areas) 	4
	Sustainable Management Framework Projects/Ontario Water Response 2000 <ul style="list-style-type: none"> Focuses on water quantity concerns and protection of watersheds with low water quantity 	4
	Biodiversity Conservation Strategies <ul style="list-style-type: none"> focus on wildlife species and populations conservation and protection projects (includes habitat protection) 	2
	Oak Ridges Moraine Coalition <ul style="list-style-type: none"> coalition of conservation authorities policies to protect terrestrial and aquatic habitat on the Oak Ridges Moraine 	1
	Municipal Plan Reviews <ul style="list-style-type: none"> review of municipal plans and zoning by-laws to ensure protection of habitat 	2
	Ecological Land Classification Projects <ul style="list-style-type: none"> assessment of terrestrial habitat to identify potential impacts of development 	3

2.2 Municipalities

Appendix D outlines environmental initiatives of municipalities in the 2001 calendar year. In total, there were 9 municipalities that responded to the survey this year. Table 4, below, gives a summary of the types of initiatives undertaken and provides an overall picture of the activities of these municipalities.

Urban and agricultural runoff

In this area, one-third of the municipalities surveyed identified undertaking wastewater collection or stormwater management projects. One-third also identified official plans, policies and by-laws which aimed to reduce point source and non-point source agricultural runoff.

Air quality

Municipalities also identified undertaking environmental initiatives related to air quality. One-third of those surveyed undertaking comprehensive plans to improve urban air quality, as well as one-third collecting air quality emissions data. There were also transportation initiatives and energy programs undertaken.

Fish and wildlife habitat protection

Almost half (4 out of 9) of the municipalities identified undertaking a fisheries or stream habitat assessment (i.e. monitoring) program. One-third mentioned undertaking tree planting programs.

With the low response rate (41%), it is hard to make broad generalizations about what Ontario's municipalities in the Great Lakes Basin are doing. Trends are difficult to discern and best left to Section 3.0 that looks at specific municipalities and their responses over the past 3 years.

Table 4: Municipalities' Environmental Initiatives in 2001

Area of Investigation	Type of Initiative	Number of Municipalities (Out of 9)
Residential and ICI Sewer Use/Urban and Agricultural Runoff	Wastewater Collection/Stormwater Management Projects <ul style="list-style-type: none"> • projects to improve the sewer system, storm water management facilities, and wastewater treatment plants to reduce loadings into watercourses 	3
	Official Plans/Policies/By-Laws <ul style="list-style-type: none"> • policies/by-laws to reduce urban point source and urban and agricultural non-point source loadings 	3
	Industrial and Commercial Discharge Inspection Programs <ul style="list-style-type: none"> • inspections of discharges (point source) by commercial and industrial sources 	1
	Urban Pesticide Use Restrictions <ul style="list-style-type: none"> • policies to ban or limit the use of pesticides on City property 	2

	<p>Water Quality/Quantity Strategic Plans</p> <ul style="list-style-type: none"> comprehensive plans to reduce pollutant loadings into watercourses; involves environmental effects monitoring and remediation initiatives (e.g. upgrading wastewater treatment plants and combined-sewer overflow facilities) 	2
	<p>Household Hazardous Waste Programs</p> <ul style="list-style-type: none"> education to the public about HHW programs to discourage dumping into the sewer system 	2
	<p>Water Resource/Vulnerability Management Studies and Assessments/Plans</p> <ul style="list-style-type: none"> studies and plans to monitor and develop actions for protecting specific areas from urban and agricultural runoff 	1
	<p>Wetland Construction Projects</p> <ul style="list-style-type: none"> aquatic habitat - storm water management remediation 	1
Air Quality	<p>City Air Quality Initiatives/Plans</p> <ul style="list-style-type: none"> comprehensive plans that involve various policies and projects to improve air quality 	3
	<p>Emissions/Air Quality Studies</p> <ul style="list-style-type: none"> collection of air quality, emissions data (including Greenhouse gases) by City operations 	3
	<p>Transportation initiatives</p> <ul style="list-style-type: none"> purchasing of environmentally friendly vehicles for City departments anti-idling by-laws 	2
	<p>Energy Programs/Policies</p> <ul style="list-style-type: none"> implementation of energy sources that do not contribute to poor air quality; partnerships to encourage energy efficiency in the City 	1
Fish and Wildlife Habitat Protection	<p>Ecological Land Classification/Natural Areas Inventories</p> <ul style="list-style-type: none"> studies to identify new environmentally significant areas for protection 	2
	<p>Official Plan Policies/ Municipal Habitat Protection By-Laws</p> <ul style="list-style-type: none"> by-laws include requirements for sustainable forestry practices, requirements for environmental impact assessments, preparation for developments, restrictions on development in ESAs (environmentally sensitive areas), establishment of protective zoning districts, etc. 	2
	<p>Tree planting Programs</p> <ul style="list-style-type: none"> wildlife habitat restoration and reforestation projects in degraded urban areas and conservation areas 	3
	<p>Fisheries/Stream Habitat Assessment Programs</p> <ul style="list-style-type: none"> assessment (monitoring) of aquatic habitats and fish populations 	4
	<p>Environmental Management Plans</p> <ul style="list-style-type: none"> involves assessments and protection/restoration strategies for specific areas 	2

3.0 TRENDS IDENTIFICATION

3.1 General Conservation Authority Trends

Some general trends can be found over the past three studies regarding environmental initiatives undertaken by Ontario's CAs in the Great Lakes Basin. This year, 12 CAs (57%) reported they were undertaking a groundwater or surface water monitoring program. This compares to 36% of CAs in the 2000 survey, and 24% in the 1999/2000 survey. This suggests that the number of CAs undertaking local efforts to monitor surface and groundwater in local watersheds is increasing steadily. The reasons behind this may be varied, but the tragedy in Walkerton, Ontario, may explain the reasons why more CAs are taking on water monitoring programs.

A second trend identified was in the area of fish and wildlife habitat protection. This year, 40% of CAs that responded undertook a municipal drain classification program. The 2000 survey revealed only 27% undertook this type of initiative, and in 1999/2000, only 14% undertook this initiative. Through agreements with the Department of Fisheries and Oceans (DFO), many CAs have undertaken drain classification in an effort to contribute to sustainable fisheries. In order to streamline the process, the DFO implemented *A Class Authorization System for Agricultural Municipal Drains in the Southern Ontario Region* in 1999.

Class Authorizations can only be applied to drains that have been classified according to established procedures developed jointly by DFO and various partners. Once drains have been classified, CAs become distributors of the Class Authorizations.

Undertaking drain classification this way results in a much more streamlined and simplified approval process that can avoid lengthy and costly delays. This streamlined and, *more importantly*, funded route is increasingly becoming a focus for Conservation Authorities.

The Sydenham River

The Sydenham River drains a large watershed (2,900 km²) in Middlesex, Lambton, and Kent Counties in southwestern Ontario. At least 82 species of fish and 34 species of mussels have been found in the river. Many of these species are rare in Canada, and several have been listed as vulnerable, threatened, or endangered species at the provincial and national levels.

The remediation of the Sydenham River has proven successful due to the unique web of partnerships that came together in 1999. The Recovery Team is comprised of partners from Environment Canada, the Department of Fisheries and Oceans, the Ontario Ministry of Natural Resources, the St. Clair Region Conservation Authority, the University of Guelph, the Royal Ontario Museum, and the three Stewardship Councils in the watershed. In Canada, few Recovery Plans have been initiated for aquatic species, even though many aquatic species are threatened or endangered.

In 2001, the Recovery Team produced four background reports on the Sydenham River, and distributed information throughout the communities surrounding the river. An initial draft of the Recovery Strategy was prepared in September and after review by the Recovery Team, it was released in November 2001 for public consultation.

This unique group of partners from all levels of government have worked together remediate a fragile and ecologically important area. It has also provided a good template for how partners can work together to achieve environmental sustainability.

For more information, please visit <http://sydenhamriver.on.ca> or <http://www.scrca.on.ca>.

Friends of Watersheds

Friends of Watersheds is a new program area of the Essex Region Conservation Authority. The purpose is to get more community people involved with the protection and restoration of a local watershed. It is supported by:

- member municipalities (including the Towns of Amherstburg, Kingsville, Lakeshore, Lasalle, Leamington, Tecumseh, Pelee Island and Windsor)
- Human Resources Development Canada
- TD Friends of the Environment Foundation
- Point Pelee National Park
- Environment Canada's Ecoaction Program
- Essex County Stewardship Network

People from the surrounding community gain a better understanding of the watershed in which they live, through activities such as watercourse cleanup, tree planting, wildlife monitoring and exotic species removal. Taking the task of environmental remediation and stewardship into the community remains a strong pillar of the Essex Region CA's work.

3.2 Trends over the Past Three Surveys — Conservation Authorities

In this year's survey, we received submissions from 21 CAs. For this trend analysis, we have focused on the 17 CAs that have submitted a response in any two of the last three years. They are:

- Catfish Creek CA
- Credit Valley CA
- Essex Region CA
- Grey Sauble CA
- Hamilton CA
- Halton Region CA
- Kettle Creek CA
- Lakehead Region CA
- Lake Simcoe CA
- Maitland Valley CA
- Mississippi Region CA
- Nickel District CA
- North Bay-Mattawa CA
- Otonabee Region CA
- Raisin Region CA
- St. Clair Region CA
- Upper Thames CA

Appendix E shows an annual comparison of these 17 CAs in their efforts to address urban and agricultural runoff and fish or wildlife habitat protection. This provides both a quantitative and qualitative peak at the level of activity over the years.

In addition to detailing these programs, through several phone conversations and emails, we were able to obtain a considerable amount of anecdotal evidence. The following CAs showed interesting trends:

Maitland Valley CA: This Conservation Authority, located in Huron County in Southwestern Ontario, has experienced a rise in water quality initiatives over the past three years. In addition to expanding its *Healthy Futures for Ontario Agriculture* project and the *Rural Water Quality Project*, the Maitland Valley CA has undertaken a new *Groundwater Mapping Project*, as well as a *Surface and Groundwater Contaminant Risk Analysis*.

Perhaps the largest project the Maitland Valley CA undertook in 2001, was the implementation of the *Maitland Watershed Partnerships*, which aims to reduce nutrient/bacterial loading in rivers/streams through a watershed-wide consortium of 17 public and private groups. The Maitland Valley CA coordinated the development of strategic plans for dealing with issues related to water and natural areas, by consulting with "service teams" which recommended action. The Maitland Valley CA seems to be representing the expanding role some CAs are taking with respect to water quality monitoring in the Great Lakes Basin.

Otonabee Region CA: This Conservation Authority also demonstrated increased attention towards water monitoring initiatives. On-going programs from 2000 included subwatershed studies, the *Watershed Health Monitoring Program*, and participation in the provincial *Groundwater Monitoring Network*. In addition, 2 new expansive initiatives were undertaken. The first was the Canadian Community Monitoring Network.⁴ The second was participation in the provincial *Healthy Futures* initiative to assist landowners to undertake best management practices (see case study in Section 2.1).

It is interesting to note that the number of initiatives undertaken by the Otonabee Region CA did not change. Two initiatives from 2000 had wrapped up — the *Kawartha Heights Pond Restoration* and the *Community Action for Healthier Shores Project*. Both of these projects were *restoration-based*, whereas the two new projects undertaken in 2001 were *monitoring-based* projects. This shows a shift from remediation-type projects to water quality monitoring projects. After the tragedy in Walkerton, Ontario, the reasons behind this shift are self-evident.

St. Clair Region CA: The St. Clair Region CA has identified new private partners to help initiate environmental activities in 2001. The restoration of the new Dow and Wawanosh Wetlands received funding from Dow Chemical and Suncor Energy respectively. The St. Clair Region still relies heavily on municipal, provincial and federal funding to undertake environmental initiatives, but has branched out to find further funding for bigger projects. Other CAs have struck similar deals with private partners including the Catfish Creek CA (various foundations) Hamilton CA (Hydro One), and Nickel District CA (various corporations). See section 4.2 for further funding trends.

Conservation Ontario's Response to Walkerton

Through several conversations with Conservation Authorities, many officials referenced the response by Conservation Ontario to the Walkerton Inquiry. Conservation Ontario — the umbrella group of the 38 Conservation authorities in Ontario — had standing for Part II of the Walkerton Inquiry. Its position on the future of drinking water protection in Ontario is to focus on source protection. They call for the recognition of the watershed "...as the viable unit for managing water and implementing source water protection" (see web address below for reference).

Human activities, excessive demand and point and non-point source pollution are compromising the integrity of the watershed. The solution is a **watershed management approach** which includes data collection and analysis, financial resources, ongoing monitoring and a process for updating the plan.

In order to do this, current practices of watershed planning in Ontario (undertaken by Conservation Authorities) must be made consistent with drinking water supply planning (led by municipalities). Therefore, an integrated approach to water quality from *all* governmental authorities must be established.

For more information, please visit www.conservation-ontario.on.ca/projects/walkerton/walkerton.htm

⁴ A joint project between the Canadian Nature Federation and Environment Canada.

3.3 Trends over the Past Three Surveys — Municipalities

Due to the relatively low response rate over the years from municipalities, finding trends is a difficult task. Appendix F shows an annual Comparison of five municipalities that responded to the survey in at least two of the last three years. The five municipalities are:

- County of Essex
- City of Hamilton
- City of Peterborough
- City of Toronto.
- City of Windsor

The following represent some trends evident in the efforts of these municipalities to undertake environmental initiatives:

City of Toronto: In the 2001 calendar year, the City of Toronto implemented four new Air Quality initiatives. The *Sustainable Energy Business Plan*, the *Toronto Bike Plan*, *Forest Research at Humber Arboretum* and the *Move Towards Cleaner Air* were all initiated last year. This compares to six new air quality initiatives set out in the 2000 calendar year. With all 6 of the year 2000 programs still in effect, as well as several 1998 and 1999 initiatives, the City of Toronto has clearly set its focus for implementing environmental initiatives on air quality. With over 5 million people living in the Greater Toronto Area, and the number of smog days increasing every summer, air quality is a high priority concern for the City.

County of Essex and City of Peterborough: Contrary to the trend identified with the City of Toronto, neither the County of Essex nor the City of Peterborough initiated any new initiatives in the past 2 years to address air quality issues, instead focusing on urban and agricultural runoff and water quality issues. An effort to follow up with city officials did not yield an explanation. From this trend, it would seem that smaller municipalities are not viewing air quality as a high priority. More research is needed to further clarify this trend.

Identifying further trends in environmental initiatives undertaken by municipalities will require further research and time.

Healthy Futures

In 1999, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) announced a \$90 million program to boost the Agri-Food industry. According to OMAFRA, one pillar of this program is "to improve rural water quality and make efficient use of rural water resources". This year, five CAs initiated programs under the Healthy Futures initiative (Ausable-Bayfield, Cataraqui Region, Lower Thames Valley, Maitland Valley, Otonabee). For Conservation Authorities, participation in this program involves providing grants to private landowners to implement Best Management Practice.

For more information, please visit <http://www.gov.on.ca/OMAFRA/english/hfoa/background.html>.

4.0 TRENDS IN FUNDING AND STAFF LEVELS for CONSERVATION AUTHORITIES

This section outlines changes in funding and staff levels based on the CAs identified in Section 3.0. A description of the type of funding from various levels of government is also included.

4.1 Funding Initiatives

Table 5, below, describes the type of funding initiatives identified by the 13 CAs.

Table 5 - Types of Federal, Provincial and Other Funding

Level of Government	Source of Funding/Partnership	Type of Initiative
Federal	<i>Federal Department of Fisheries and Oceans (DFO)</i> — Section 35 of the Fisheries Act Agreements	<ul style="list-style-type: none"> • partnerships with Conservation Authorities to review project proposals under section 5 of the Fisheries Act, in order to assess the impact of the proposal on fish habitat and populations and for possible referral to the DFO; • funding from the DFO is used to conduct an inventory of all municipal drains in order to better plan drainage projects and to protect sensitive fish habitat and populations • other DFO funded studies involved fish habitat review • CA agreements with the DFO in the following 3 areas: level 1 agreement (screening of proposals), level 2 agreement (Screening and input on mitigation for proposals), and level 3 agreement (Screening, and input on mitigation and compensation plans for proposals)
	<i>Environment Canada – EcoAction 2000, Unspecified Programs</i>	<ul style="list-style-type: none"> • EcoAction encourages projects that protect, rehabilitate or enhance the natural environment, and builds the capacity of communities to sustain these activities into the future • projects including watershed

		<ul style="list-style-type: none"> • management and habitat restoration
	<i>Environment Canada – Great Lakes Sustainability Fund (Great Lakes 2000 Cleanup Fund)</i>	<ul style="list-style-type: none"> • In rural areas, the GLSF funded CA initiatives such as Rural Water Quality Programs that aimed to reduce agricultural runoff and address rural non-point source pollution; • the GLSF also funded water quality monitoring programs
		<ul style="list-style-type: none"> • involving Conservation Authorities gathering baseline data to assess the success of future remediation projects in degraded watercourses; and • Habitat restoration projects across Ontario received funding from the GLSF to restore fish and wildlife habitat in degraded areas and to create new habitats (i.e. wetland restoration, tree planting), to increase fish and wildlife populations.
	<i>Environment Canada — Habitat Stewardship Fund</i>	<ul style="list-style-type: none"> • a federal program that works in conjunction with the intent of the proposed federal Species at Risk Act • the Stewardship program provides funds to implement conservation actions with non-government organizations and private landowners, conservation groups and local governments, in a broad-based effort to maintain and restore habitat critical to species at risk throughout Canada.
	<i>Environment Canada and Canadian Nature Foundation — Canadian Community Monitoring Network (CCMN)</i>	<ul style="list-style-type: none"> • national network of community-based environmental monitoring programs aimed at addressing local level policy and decision-making processes • supported and coordinated by the Ecological Monitoring and Assessment Network
Provincial	<i>Ministry of Environment — Groundwater Monitoring</i>	<ul style="list-style-type: none"> • attempting to provide a central database of all groundwater

	<i>Network</i>	<p>monitoring programs in nine watersheds in Ontario</p> <ul style="list-style-type: none"> • Conservation Authorities have participated in the streamlining process
	<i>Ministry of Environment — Great Lakes Renewal Foundation</i>	<ul style="list-style-type: none"> • founded in 1998, operates at arms length from the provincial government • The Foundation tackles large remediation projects such as sediment contamination, shoreline rehabilitation, contamination reduction and pollution prevention programs
	<i>Ministry of Environment — program not specified</i>	<ul style="list-style-type: none"> • other initiatives include water quality monitoring and water budget development
	<i>Ministry of Natural Resources — program not specified</i>	<ul style="list-style-type: none"> • programs funded include Conservation Area upgrades, subwatershed studies, floodline mapping, Benthic Macro Invertebrate Sampling and low water response programs
	<i>Ministry of Agriculture, Food and Rural Affairs — Healthy Futures</i>	<ul style="list-style-type: none"> • programs to provide grants to landowners to adopt Best Management practice, including identifying and planning water quality improvement projects on private land found within the watershed
Other Funding	Local Private Businesses	<ul style="list-style-type: none"> • several CAs struck partnerships with private funders (local businesses and provincial and national foundations) to undertake wetlands restoration, aquatic habitat restoration and tree planting
	Fundraising, user fees and municipalities	<ul style="list-style-type: none"> • CAs continued to raise money through fundraising, user fees and municipal levies (the largest source of funding for some rural CAs) to maintain organizational capacity

4.2 Funding Trends

Below are some funding trends that represent findings from surveys submitted by the CA, as well as anecdotal evidence obtained through phone conversations and email correspondence.

Catfish Creek CA: With only 5 full time staff, the Catfish Creek Conservation Authority is one of Ontario's smallest CAs in the Great Lakes Basin. It still runs many environmental programs including subwatershed studies, drain classification, stream stabilization and tree planting. In its submission, the Catfish Creek Conservation Authority blamed the administrative process required by federal or provincial governments for reduced funding options. This sentiment is representative of the frustration other CAs are feeling towards funding initiatives from different levels of government. Because applications take time out of an already strained staff, and the funding is not always stable, more and more Conservation Authorities aren't taking advantage of any remaining funding initiatives.

St. Clair Region CA: As mentioned in section 3.2, the St. Clair Region Conservation Authority partnered with private partners to fund several initiatives, including public/private Sydenham SAR initiative and the rehabilitation of wetlands. Due to the trend of government funding *projects* rather than *programs*, Conservation Authorities are feeling frustrated. This results in a "consulting" mentality, where additional funding for programs must be sought elsewhere.

Nickel District CA: Partnerships represent a new way for some Conservation Authorities to obtain increased funding for projects. The Nickel District CA has entered into partnerships with post-secondary institutions, local industry, citizen's groups, municipalities and all levels of government. Projects to remediate the Junction Creek, flood control and land use agreements have all been undertaken by these partnerships.

As pressures to enhance environmental initiatives increase, and funding options become less stable, entering into private partnerships may be the future for some CAs. However, shifting to a funding structure that relies heavily on private partnerships carries significant risks for Conservation Authorities' ability to fully protect the Great Lakes Basin. A strong regulatory framework, with a less cumbersome and more stable government funding application process must be restored.

4.3 Staff Levels

Table 6, below, outlines the changing staff levels between 2000 and 2001. Sixty-six per cent (10 out of 15) of the CAs experienced stable staffing levels this year.

A further 38% (5 out of 8) experienced an increase in staffing levels. No CA mentioned a decrease in staff levels in the 2001 year.

Table 6: Changing Staff Levels of CAs between 2000 and 2001⁵

Changes in Staff Levels	Number of CAs	Percentage of CAs
Staff Levels Increased	5	33%
Staff Levels Decreased	0	0%
Staff Levels Stable	10	66%
Total	15	100%

Table 7, below, compares the staff level changes from 2000 and 2001.⁶ Over the past 2 years, staff levels have changed slightly, but not enough to prove a serious shift. New staff in 2001 were hired to undertake certain projects or meet program demands, such as Healthy Futures or the Provincial Water Quality Monitoring Network. Further research and in subsequent studies will show further trends in this area.

Table 7: Comparison of Staff Level Changes in 2000 and 2001

Conservation Authority	2000	2001
Essex County	stable	stable
Grey Sauble	stable	stable
Conservation Halton	+1	stable
Hamilton	stable	+1
Lakehead Region	stable	stable
Maitland Valley	stable	+1
Nickel District	stable	stable
North Bay-Mattawa	stable	stable
Raisin Region	stable	stable
St. Clair Region	stable	stable
Catfish Creek	+1	stable
Credit Valley	stable	+1
Mississippi Region	stable	+1
Otonabee Region	stable	+3
Upper Thames	+1	stable

⁵ Kettle Creek and Lake Simcoe CAs were not included in this comparison, as they did not send in submissions to the 2001 survey

⁶ Specific staff level changes from the 1999/2000 survey could not be found. General observations were made in that year (such as those made in Table 6), but data is missing on the staff level changes from each specific Conservation Authority.

5.0 CONCLUSION and RECOMMENDATIONS

From January to December 2001, Conservation Authorities and municipalities initiated and continued environmental activities in order to protect and restore the Great Lakes Basin. This report outlined a detailed summary of programs, policies and projects aimed to reduce urban and agricultural runoff, protect air quality and fish and wildlife habitat.

This year was the third report CIELAP produced outlining environmental initiatives undertaken by CAs and municipalities in the Great Lakes Basin. Due to limited data and time period, trends cannot easily be identified. However, the observations made in this paper may be indicative of future trends. In summary, they are:

- There seems to be a general shift from remediation-type projects, to monitoring-type projects, especially in the area of water quality
- There seems to be an increasing propensity for Conservation Authorities to enter into partnerships with non-traditional funders, such as local businesses or corporate foundations
- There is an increasing frustration amongst Conservation Authorities that funding application processes are cumbersome and require extensive planning and time to coordinate

This inventory has presented a number of questions that need to be addressed in the coming months in order to ensure that Ontario's Conservation Authorities and municipalities have the resources and wherewithal to effectively address environmental concerns in the Great Lakes Basin. These include:

- In an era of decreased funding from the Ontario government, what is the role of the federal government in adequately funding Conservation Authorities' and municipalities to undertake environmental initiatives?
- If the trend is to increase water monitoring programs, are new remediation projects being left on the bottom shelf?
- Should there be a province-wide monitoring checklist to ensure that all Conservation Authorities are testing for the same indicators?
- What are the risks involved with the trend towards Conservation Authorities seeking funding from private partners? Is anyone monitoring these risks? What are the trade implications?
- Is there a similar shift towards private funding for authorities in the United States?

It is important to note the limitation of these trends, as they are derived from only three years of study. Furthermore, each year the response to the survey has fluctuated. The following are some key recommendations regarding the more effective use of this survey as a tool to identify further trends:

- Make the report available in full form to Ontario's Conservation Authorities and municipalities in the Great Lakes Basin, in order to ensure more responses in subsequent years, and to guarantee a more complete survey
- Undertake a further study on the impacts of the relationship between Conservation Authorities and private partners
- Undertake a further study on the ability of Ontario's Conservation Authorities and municipalities in the Great Lakes Basin to adequately monitor water quality in the absence of provincial funding
- Use this report to help government authorities further streamline application processes for funding to ensure that every CA has easy accessibility to government funding

January 24, 2002

Mr. Sample
Any Conservation Authority
99 Anywhere Dr.
Anywhere, ON Z1Z 1Z1

Dear Mr. Sample,

The Canadian Institute for Environmental Law and Policy (CIELAP) is undertaking a **study of local initiatives to protect and restore the Great Lakes Basin ecosystem**, once again. As a component of this study, CIELAP is updating the inventory of environmental initiatives by conservation authorities in Ontario. The purpose of this inventory is two-fold: 1) to identify recent environmental initiatives that have been or are in the process of being implemented; and 2) to assess the impact of recent federal or provincial initiatives on these activities.

We kindly request your assistance in providing us with the following information for the Any Conservation Authority:

1) Please provide a description of major environmental initiatives from **January to December 2001, specifically new or ongoing programs, projects or partnerships in the following areas:**

- urban or agricultural runoff
- fish or wildlife habitat protection

For each program, project or partnership please state whether the initiative was newly implemented between January and December 2001 or whether the initiative is ongoing (i.e. begun before January 2001). We also request information on the source of funding for the specific initiative (i.e. federal, provincial or municipal funding, e.g. received funding from the Ontario Clean Water Fund.)

2) Please comment on the impact of any recent federal or provincial initiatives (i.e. policies, programs, etc.) on the aforementioned activities.

3) Please comment on the staff levels at your conservation authority between January 2001 to December 2001. Have staff levels increased, decreased, or remained stable and by how much?

In responding to this request, please feel free to provide any relevant documents that would provide background or greater detail of the Ausable-Bayfield Conservation Authority's environmental initiatives, e.g. annual reports, fact sheets on specific projects/programs, etc. As well, please let us know if you would be interested in receiving a copy of the completed report.

For your reference, we have provided a summary of the information you provided for the period April 2000 to December 2000. We kindly request your response by **February 22nd, 2002**.

Please mail, fax, or email your response to:

Anne Mitchell
Canadian Institute for Environmental Law & Policy
517 College Street, Suite 400
Toronto, Ontario, M6G 4A2
Fax: 416-923-5949
Email: anne@cielap.org

If you have any questions concerning this request, please contact me at 416-923-3529, ext.24 or at anne@cielap.org. We thank you for your time and effort in responding to this request and look forward to your response.

Yours sincerely,

Anne Mitchell
Executive Director

January 31, 2002

Mr. Sample
Any Municipality
123 Any St.
Anywhere, ON Z1Z 1Z1

Dear Mr. Sample,

The Canadian Institute for Environmental Law and Policy (CIELAP) is undertaking a **study of local initiatives to protect and restore the Great Lakes Basin ecosystem**, once again. As a component of this study, CIELAP is updating an inventory of environmental initiatives by municipalities and conservation authorities in Ontario. The purpose of this inventory is two-fold: 1) to identify recent environmental initiatives that have been or are in the process of being implemented; and 2) to assess the impact of recent federal or provincial initiatives on these activities.

We kindly request your assistance in providing us with the following information for the Any Municipality.

1) Please provide a description of major environmental initiatives from **January to December 2001, specifically new or ongoing programs, projects, partnerships or by-laws in the following areas:**

- industrial, commercial, institutional or residential sewer use, particularly the disposal of industrial or hazardous waste;
- air quality
- urban or agricultural runoff
- fish or wildlife habitat protection

For each program, project, partnership or by-law please state whether the initiative was newly implemented between January and December 2001 or whether the initiative is ongoing (i.e. begun before January 2001). We also request information on the source of funding for the specific initiative (i.e. federal, provincial or municipal funding, e.g. received funding from the Ontario Clean Water Fund.)

2) Please comment on the impact of any recent federal or provincial initiatives (i.e. policies, programs, etc.) on the aforementioned activities.

In responding to this request, please feel free to provide any relevant documents that would provide background or greater detail of the city's environmental initiatives, e.g.) annual reports, fact sheets on specific projects/programs, etc. As

well, please let us know if you would be interested in receiving a copy of the completed report.

For your reference, we have provided a summary of the information you provided for the period April 2000 to December 2000. We kindly request your response by **February 22, 2002.**

Please mail, fax, or email your response to:

Anne Mitchell
Canadian Institute for Environmental Law & Policy
517 College Street, Suite 400
Toronto, Ontario, M6G 4A2
Fax: 416-923-5949
Email: anne@cielap.org

If you have any questions concerning this request, please contact me at 416-923-3529, ext.24 or at anne@cielap.org. We thank you for your time and effort in responding to this request and look forward to your response.

Yours sincerely,

Anne Mitchell
Executive Director

Conservation Authorities

Ausable-Bayfield CA
Catarauqui Region CA
Catfish Creek CA
Conservation Halton
Central Lake CA
Credit Valley CA
Crowe Valley CA
Essex Region CA
Ganaraska CA
Grand River CA
Grey Sauble CA
Hamilton Region CA
Kawartha Region CA
Kettle Creek CA
Lake Simcoe CA
Lakehead Region CA
Long Point CA
Lower Thames CA
Lower Trent CA
Maitland Valley CA
Mattagami CA
Mississippi Valley CA
Niagara Peninsula CA
Nickel District CA
North Bay CA
Nottawasaga Valley CA
Otonabee Region CA
Quinte CA
Raisin Region CA
Rideau Valley CA
Saugeen Valley CA
Sault Ste. Marie CA
South Nation CA
St. Clair Region CA
Toronto and Region CA
Upper Thames CA

Municipalities

City of Belleville
City of Cornwall
City of Kingston
City of Kitchener
City of Ottawa
City of Peterborough
City of Toronto
City of Waterloo
Collingwood
Country of Lambton
County of Peterborough
County of Simcoe
Essex County
London
Region & City of Hamilton
Sarnia
Sudbury Region
Thunder Bay District
Town of Midland
Windsor

Conservation Authorities Environmental Initiatives (January 2001 to December 2001)

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Ausable-Bayfield CA	<ul style="list-style-type: none"> • Healthy Futures – the program provides incentive grants to private landowners to implement Best Management Practices. This is a partnership with other Conservation Authorities, Counties, and the Ministry of Agriculture, Food and Rural Affairs. • Storm Water Management – a new initiative that is undertaken during the formation of new development. • Hobbs-McKenzie Drain Pilot Project – a partnership of ABCA, local municipalities, and the Canadian Adaptation Council; provides incentive grants to private landowners to undertake Best Management Practices 	<ul style="list-style-type: none"> • Municipal Drain Classification Project – a partnership between ABCA, the Federal Department of Fisheries and Oceans, and local municipalities which classifies municipal drains in regards to fish habitat. The project will help reduce future impacts on the fisheries habitat. • Fish Habitat Management Plan – joint project of the Federal Department of Fisheries and Oceans, local municipalities, and the ABCA. • Tree Planting Program – ongoing program with local schools, municipalities, landowners, and Ontario Power Generation (its 5 millionth tree will be planted in the spring of 2002) • Lake Smith Restoration Project – ABCA, MNR, DU and the local Lake Smith Conservation Club is reviewing the merits of restoring Lake Smith, a former Lakeshore Wetland.
Cataraqui Region CA	<ul style="list-style-type: none"> • Healthy Futures – a partnership with other Conservation Authorities, Counties, and the Ministry of Agriculture, Food and Rural Affairs, this program provides incentive grants to private landowners to implement Best Management Practices. 	<ul style="list-style-type: none"> • DFO Drain Classification Program –in partnership with the Department of Fisheries and Oceans Canada (DFO) and Human Resources and Development Canada (HRDC); this program is designed to improve response time for maintenance on Municipal Drains throughout the Catfish Creek Watershed

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Conservation Halton	<ul style="list-style-type: none"> • Hamilton-Halton Watershed Stewardship Project – on going program promotes landowner stewardship in the Hamilton Harbour watershed through projects to reduce runoff and restore degraded habitat; funding through EC's Great Lakes Sustainability Fund. • Bronte Creek Watershed Stewardship Project – ongoing program promotes landowner stewardship in the Hamilton Harbour watershed through restoration projects; funded by EC's Eco Action program. • Provincial Groundwater Monitoring Network – a long-term project that studies the groundwater levels and quality as part of the province-wide program. Initial funding from the MOE, and operational costs by Conservation Halton. • Provincial Water Quality Monitoring Network – the network involves monitoring surface water quality; technical support through MOE. 	<ul style="list-style-type: none"> • Environmental Monitoring Program – a new program that focuses on addressing data deficiencies (aquatic habitat) identified in the draft "Long Term Environmental Monitoring Program (LTEMP); funding by Conservation Halton. • Marsh Monitoring – a new initiative as part of the Environmental Monitoring Program; at each site, monitoring is undertaken on five evening during the months of April, May, and June to identify amphibian and breeding bird activity; funding by Conservation Halton. • Bronte Creek Watershed Study – ongoing study to examine the ecological and cultural heritage, natural features, and aquatic habitat; report should be finalised in early 2002; funding by MNR, municipalities, HRDC through DFO. • Grindstone Creek Benthic Water Quality Monitoring – an ongoing program to provide baseline data to assess the success of future remediation projects; funding through EC's Great lakes Sustainability Fund. • Sixteen Mile Creek – new fish community and benthic studies were conducted on the three tributaries to address data gaps within the watershed; new populations of redbside dace and brook trout were identified through the work; funding by Conservation Halton.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Conservation Halton (continued)		<ul style="list-style-type: none"> • North Shore Watershed Study – this ongoing study examines ecological, natural features, and aquatic habitat of the Indian, Falcon, and Hagar-Rambo diversion watersheds in Burlington; funding by municipalities and EC's Great Lakes Sustainability Fund • Urban Streams Studies – new fish, benthic and in stream temperature studies were carried out to address data gaps in a number of urban streams through Burlington, and Oakville; information will be used in the North Shore Watershed Study; funding by Conservation Halton. • Ontario Water Response 2000 - this ongoing program is a partnership with province, municipalities, and stakeholders to coordinate low water/drought initiatives to protect watersheds; minimal funding by MNR • Spawning Surveys – Spawning surveys were undertaken on the Sixteen Mile Creek at Rotary Park and Kelso, Bronte Creek, and Grindstone Creek; funding by Conservation Halton. • Dissolved Oxygen Monitoring – conducted new dissolved oxygen monitoring programs to assess potential for winterkill conditions; funded by Conservation Halton.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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<p>Conservation Halton (continued)</p>		<ul style="list-style-type: none"> • ROM Fish Community Sampling – assisted Royal Ontario Museum staff with fish community sampling that focused on the distribution of reddsides in Fourteen Mile Creek; funded by Conservation Halton • Redside Dace Recovery Plan – a new initiative to develop a recovery plan for reddsides; the watershed supports this species that is vulnerable/threatened in Canada/Ontario; funding by Conservation Halton. • Fisheries Database – a new initiative to develop a fisheries database that is integrated with the GIS system; it will facilitate analysis of fisheries data and production of fisheries mapping; prototype integrated database for Bronte Creek, Grindstone Creek, and our urban creeks have been developed; Sixteen Mile Creek is near completion. • Grindstone Creek – Hidden Valley Park Restoration – the restoration began in 2001 and will continue through 2002; involves erosion control, elimination of existing barriers to fish migration, fish habitat enhancement, riparian enhancement and park planning; funding by EC's Great Lakes Sustainability Fund, MNR, City of Burlington, and Conservation Halton.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Conservation Halton (continued)		<ul style="list-style-type: none"> • Sixteen-Mile Creek – Halton Region - undertook fish/benthic community sampling, data assessment and reporting in support of the Regions WWTP operations in Milton; assessment of data and reporting will be complete in January 2002; funding by the Region of Halton. • Courtcliff Park - this ongoing project focuses on two degraded branches of Bronte Creek; recommendations were made to rehabilitate the watercourses, improve fish habitat, and riparian cover; funding from MNR through Stewardship councils, SLF (Highway 407), Eco Action 2001, MNR Junior Ranger Program for staffing. • Ecological land Classification – a new initiative is aimed at updating the GIS database; funding by Conservation Halton.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Credit Valley CA	<ul style="list-style-type: none"> • Water Quality Strategy (1999 to 2004) – currently in its third year, this five year project will develop a framework by which the watershed will be assessed with respect to the water quality conditions of the Credit River; funding provided by levy from all municipalities. • Settlement and Servicing Master Plans (Inglewood, Alton-Cheltenham) – as a partner in the plans, the CA identified sensitive environmental issues and examined the impact of different sewage methods on the Credit River; funding by municipalities. 	<ul style="list-style-type: none"> • Watershed Monitoring Program – an ongoing program that will continue to develop a framework for water quality and quantity. It will also begin to assess a framework for terrestrial and aquatics. Implementation issues such as cost/benefit will be assessed and clear guidelines for implementation will be developed. This project is funded by Region of Peel. • Flood Line Mapping – an ongoing project that is addressing the floodline maps identified under the Flood Damage Reduction Program review on a priority basis. This project is funded by the MNR and the Region of Peel. • Greenlands Protection Strategy – initiated in 2000, this strategy will identify and prioritize lands that are important to the health of the watershed and thus require protection (i.e. purchase); funding by Region of Peel. • Regulation Line Mapping – an ongoing project that will prepare the watercourse and valley land mapping for new regulations; funding by MNR and Region of Peel. • Credit Watershed Climate Change Study – new project that will undertake a preliminary assessment of the implications of the climate change to the water resources and the natural heritage of the Credit River watershed; funding by municipality. • Water Budget – ongoing project to develop a water budget for each of the two watersheds and document the process for application to other watersheds in Ontario; funding through MNR, MOE and municipalities.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Credit Valley CA (continued)		<ul style="list-style-type: none"> • Subwatershed Studies – subwatershed studies were either initiated or underway for subwatersheds in the Credit River watershed; the studies involve three phases: Phase 1 – subwatershed characterization in which the area, resources, issues and management goals are identified; Phase 2 – prediction and impact analysis in which stressors and their impact are identified; and Phase 3 – implementation in which solutions and management options are identified; funding provided by municipal levies. • Fletcher’s Creek Monitoring Project – a new project that will allow the 3-year monitoring study on this creek that was completed to be extended for an additional field season; project funded by municipalities. • Upper Credit Rehabilitation – a new component of an ongoing project to carry out aquatic and terrestrial rehabilitation to the Credit River in order to reduce water temperature, re-establish riffle sections and restore native brook trout spawning; funded by donations and federal/provincial grants. • Belfountain Head Pond Study – this project is ongoing and will allow a study of the site to be done in consultation with the DFO, local interest groups, fishing clubs and the CVC to determine what actions, if any should be taken; funding by the municipality.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Essex Region CA	<ul style="list-style-type: none"> • Rural Non-Point Source Pollution Remediation Program – ongoing project in 2001 included tree planting, construction of sediment controls structures and a monitoring program to track improvements over time in the Detroit River and Muddy Creek watersheds; funding through federal and other sources. • Township of Pelee Private Sewage Disposal – in this ongoing program, assistance was provided to the Township of Pelee to ensure environmentally sound practices in the permitting and upgrading of the private sewage disposal system; funding through user fees. • Water Quality Monitoring Program – in 2001. The ERCA, continued a region wide water quality monitoring program, chemical and biological parameters are measured at 36 sites throughout Essex Region; federal funding for the Detroit River and Wheatley Harbour Areas of concern (RAPS) have been used to fund this program. 	<ul style="list-style-type: none"> • Drain Classification for Fish Habitat Management Project – this project was developed in 1999 and was expanded in 2000 and 2001 with funding from the DFO and HRDC; the system will minimize the impact of drain maintenance activities on fish and fish habitat. • Detroit River Management Strategy – in 2000, the strategy was submitted to the Canadian Heritage Rivers Systems Board and was evaluated in February 2001; the result in the creation of the Detroit River as a Canadian Heritage River in July 2001; funded by the federal, and provincial government, as well as other sources. • Natural Areas Management Plans – in this ongoing partnership with the MNR and other partners, the ERCA is involved in a collaborative planning process for Pelee Island Management Plans; the plans document the environmental value and habitat enhancement opportunities; funding through provincial government. • Biodiversity Conservation Strategy – this strategy was begun in 1999 and restoration projects are being implemented throughout 2000/2001; funding by municipalities and other sources.

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Essex Region CA (cont'd)		<ul style="list-style-type: none"> • Forestry Program – continuation of the tree planting program; in 2001, 85 000, seedlings and 4,000 large stock trees were planted at numerous planting events across the region; funding by user fees, and municipalities. • Wildlife Habitat Restoration Projects – the ERCA completed numerous tree-planting projects; ERCA'S "Friend of Watersheds Programs" completed over 30 restoration and cleanup projects attracting over 1500 volunteers; funding through federal and municipal governments. • Level 3 Agreement with the Federal Department of Fisheries (DFO), under Section 35 of the Fisheries Act – signed in 1998 and renewed in 2000, under this agreement, the ERCA screens development proposals to assess the potential harmful impact on fish habitat, and provides input on mitigation and compensation plans, which are sent to the Federal Department of Fisheries for ministerial approval.
Grand River CA	<ul style="list-style-type: none"> • No initiatives specified for 2001 	<ul style="list-style-type: none"> • No initiatives specified for 2001
Grey Sauble CA	<ul style="list-style-type: none"> • No initiatives specified for 2001 	<ul style="list-style-type: none"> • No initiatives specified for 2001

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Hamilton CA	<ul style="list-style-type: none"> • Land Stewardship Program - this is an ongoing program; projects include working with landowners to reduce nutrient flows into local creeks, wetland creation and the reconstruction of barns to redirect eaves trough water away from manure piles • Watershed Groundwater Monitoring Program - this ongoing project, implemented in partnership with the MOE provides baseline data about ambient groundwater conditions in the area; the program is part of the Province's Groundwater Monitoring Network and the Province provides funding for start-up capital costs • Conservation Authority Regulations - the CA has an ongoing regulatory program throughout the watershed to prevent development from taking place within a watercourse or within a flood plain; the regulations serve to reduce non-point source pollutant loading • Spencer Creek Biological Monitoring - in 2001, 18 sites were sampled to measure the health of the Spencer Creek system sites were sampled using the BioMap benthic invertebrate index to obtain a measure of stream health • worked in partnership with Conservation Halton and City of Hamilton, Burlington Planners and Engineers to implement watershed plans and projects identified through Hamilton Harbour RAP 	<ul style="list-style-type: none"> • Land Stewardship Project - this ongoing project initiated in 1994 is delivered in partnership with Conservation Halton and the Bay Area Restoration Council, with some funding from the Great Lakes Sustainability Fund in 2001; this outreach project shares information with urban and rural landowners about the protection and enhancement of locally significant wetlands, uplands and riparian areas of the watershed • Fisheries Habitat Enhancement Project - GL Sust Fund; implementation of 2000 plans • Land Acquisition Program - the HRCA continued with its program to acquire lands (e.g. wetlands and environmentally significant sensitive lands) for protection • Dundas Valley Reforestation Plan - 9 gaps in the Dundas Valley CA forest planted to increase forest by 15 hectares • Level 2 Agreement with the DFO under Section 35 of the Fisheries Act – under this agreement, ongoing through 2001, the HRCA screens projects and provides input on mitigation measures for projects within its jurisdiction; projects deemed to have an environmental impact are referred to the DFO

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Lakehead Region CA	<ul style="list-style-type: none"> • Erosion Control Programs – the LRCA provides in-field technical advice, design and supervision of construction works; in 2001, the CA was involved in a major undertaking along the Kam River, and remedial works at the Neebing and McIntyre Rivers to reduce sediment and contaminant loadings into the watercourses 	<ul style="list-style-type: none"> • Tree Planting/Forest Management Program – ongoing program since 1958 (over 400,000 trees planted since 1958). • Watershed Development Studies – in 2001, studies included Mosquito Creek, Corbett Creek, Pennock Creel, Cedar Creek and six creeks in Shuniah Township; the studies involve water quality testing and benthic sampling and information on land use and zoning to detect future changes in watershed characteristics; funding received from general transfer payments from the Province and student employment through HRDC's Summer Career Placement and the Province's Summer Experience program • Level 1 agreement with the DFO, under section 35 of the Fisheries Act - LRCA screens proposed projects to determine the potential impact on the fish habitat; projects that are deemed to have an environmental impact are referred to the DFO
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Long Point Region CA	<ul style="list-style-type: none"> • Water Quality Monitoring – a new initiative to obtain baseline quality data in the vicinity of a new intensive hog barn and land being used for STP sludge application; funding by the LPRCA, and the MOE • Groundwater Resource Study – a study to assess the groundwater resources and the vulnerability/contaminant sources for several watersheds; funding through MOE, and municipalities. 	<ul style="list-style-type: none"> • Prairie Grass Buffer Demonstration Project – a new project in partnership with Agriculture Canada, to establish prairie grass buffer along ravines and adjacent to farm fields; funding provided by Agriculture Canada, LPRCA, and private donors. • Staley Property Purchase – In 2001, 48 acres of floodplain land were purchased which have been under cultivation or is forested. The property will be restored through selective planting and natural regeneration; external donors covered total cost of purchase. • Ontario Power Generation and Long Point World Biosphere Planting Project – ongoing program in which 31600 trees were planted in 2001; the LPRCA renewed its Forest Corridor Project partnership with the Long Point World Biosphere Reserve Foundation to plant trees to address forest fragmentation and improve linkages between natural areas, improve wildlife habitat and increase biodiversity
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Lower Thames Valley CA	<ul style="list-style-type: none"> • Review of Drainage Projects - the LTVCA provides input on mitigation of runoff to drainage under this ongoing program to review works proposed under the Drainage Act and under Section 28 regulations • Extension of Wheatley Harbour RAP to LTVCA jurisdiction – ongoing project in the Two Creeks watershed to control soil erosion, upgrade faulty septic systems and improve wildlife habitat • Provincial Groundwater Program – a partnership with the MOE, CO, to construct an ambient ground water monitoring network, the network will be phased in over 2 or 3 years with most implementation taking place in 2003. • Healthy Futures – a partnership with other Conservation Authorities, municipalities, and the Ministry of Agriculture, Food and Rural Affairs, the program provides incentive grants to private landowners to implement Best Management Practices. 	<ul style="list-style-type: none"> • Extension of Wheatley Harbour RAP to LTVCA jurisdiction – ongoing project in the Two Creeks watershed to control soil erosion, upgrade faulty septic systems and improve wildlife habitat • Level 1 agreement with the DFO, under section 35 of the Fisheries Act - LTVCA screens proposed projects to determine the potential impact on the fish habitat; projects that are deemed to have an environmental impact are referred to the DFO • Drain Classification Project - initiated in 1999 in conjunction with the DFO and HRDC, this project involves an inventory of all municipal drains in the LTVCA's jurisdiction; the project is continuing with stream assessments, fish finding and map compilation; mapping will be provided to municipal drainage superintendents in order for them to better plan drainage projects

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Lower Trent River CA	<ul style="list-style-type: none"> • Local Municipalities Development Reviews – this program is ongoing and is funded by municipal levies and fees for review of applications. LTRCA reviews development proposals on behalf of local municipalities to ensure adequate stormwater runoff controls for quantity and quality are included in the new development • Groundwater Monitoring – this program was established in to monitor the quantity and quality of groundwater in the large aquifers of the watershed; funding by the MOE and LTRCA. 	<ul style="list-style-type: none"> • Habitat enhancement Program Bay of Quinte Remedial Action Plan – this program provides grant incentives to landowners in priority areas identified through a natural heritage system study to protect and enhance natural heritage features; funding through the Great Lakes Sustainability Fund, and participating landowners • Oak Lake Regeneration Plan – a regeneration plan was developed for a small kettle lake to assist landowners and the local municipality address deteriorating water quality and habitat concerns; funding through the local municipality • Watershed Planning/Mapping Projects - in 2001, the LTRCA continued studies and mapping to identify environmentally sensitive areas for the development of Official Plans in local municipalities; funding by municipalities. • Level 2 Agreement with the DFO under Section 35 of the Fisheries Act – under this agreement, the LTRCA screens projects and provides input on mitigation measures for projects within its jurisdiction; projects deemed to have an environmental impact are referred to the DFO • Land Acquisition – LTRCA secured 115 acres of environmentally significant land on the Oak Ridges Moraine through a land donation facilitated by the Nature Conservancy of Canada; funding for the procurement came from the Nature Conservancy of Canada
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Lower Trent River CA (continued)		<ul style="list-style-type: none"> • Reforestation and Regeneration Program - in 2001, over 25,000 tree seedlings were planted in the region; funding by participating and owners; LTRCA restored a limestone savannah restoration project at Glen Miller Conservation Area; funded by Eco-Action, Quinte Wildlife Conservation Dinner Committee, and Lower Trent Conservation; shoreline restoration in Quinte West was continued; funding through Eco-Action, municipal funds, Lower Trent Conservation, and local business • Conservation Authorities Moraine Coalition (Oak Ridges Moraine Project) in 2001 the coalition continued its collective effort and was a significant player in the development of the oak Ridges Moraine protection Act and Conservation Plan. The Coalition retained a planner and a hydrogeologist in 2001; funded by the participating Conservation Authorities

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Maitland Valley CA	<ul style="list-style-type: none"> • Healthy Futures for Ontario Agriculture: Rural Water Quality Incentive Programs (Huron and Perth Counties) – the CA has implemented this project that involves the subsidization of landowners to implement best management practices that will improve water quality • Rural Water Quality Monitoring Network – a partnership with the MOE to monitor water quality at 10 locations in the Maitland watershed. • Groundwater Mapping Projects – the MVCA will assist the counties with the groundwater mapping projects that are being undertaken; groundwater levels and water quality will be monitored for 6 years; funding from the MOE. • Surface and Groundwater Contaminant Risk Mapping – MVCA will refine the contamination risk mapping for surface and groundwater. • Rural Water Quality Program – ongoing program that provides technical and financial assistance to landowners to undertake best management practices that improve water quality; projects to control nutrient runoff include manure storage, clean water diversion, livestock access restrictions, etc. 	<ul style="list-style-type: none"> • Maitland Watershed Partnerships (MWP) - funded in part by HRDC, the Maitland Watershed Partnerships involves 17 organizations working together in the development of strategic plans for dealing with issues related to water and natural areas; service teams, Terrestrial and Water, completed their strategic plans in December. • Watershed Planning and Restoration Projects – the Maitland CA provides ongoing support to municipalities and landowners in developing plans and projects to improve soil and watercourse health; projects in 2000/01 included: 1) Middle Maitland Restoration Project – this project is focused on rating the current conditions of water quality and stream flow in the watershed and identifying the potential for improvement, 2) Lower Blyth Brook Watershed – encourages landowners to adopt best management practices to improve water quality, and 3) Releaf the Maitland – demonstration projects to be implemented in 2001 related to forest management and reforestation • Reforestation Services – in 2001, 40,000 trees and shrubs were provided to private landowners; provided 3,900 large stock trees to municipalities, landowners and community groups on a cost recovery basis.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Mississippi Region CA	<ul style="list-style-type: none"> • Watershed Watch Program - initiated in 1998 and ongoing through 2001, this program monitors nutrient loading to 60 sensitive watershed lakes in cooperation with local cottage associations; municipal funding received, as well as fund raising contributions. • Planning Advisory Program - ongoing program that addresses runoff from rural and urban development; development applications reviewed by CA and advice provided to municipality on potential impact and mitigation measures; municipal funding received, as well as application fees. • Rural Clean Water Program - this on-going project provides incentive grants to rural landowners to improve water quality; municipal funding received for the program 	<ul style="list-style-type: none"> • Rural Reforestation Program – initiated in 2000, the program is on-going through 2001 to encourage reforestation; funded by municipalities • Level 2 Agreement with the DFO under Section 35 of the Fisheries Act – under this agreement, signed in 1998 and ongoing through 2001, the Mississippi Valley CA screens projects and provides input on mitigation measures for projects within its jurisdiction; projects deemed to have an environmental impact are referred to the DFO • Municipal Drain Classification Project - this study identifies drains with fish habitat sensitive to drain clean-out; the study is funded in partnership with the Department of Fisheries and Oceans and HRDC

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Nickel District CA	<ul style="list-style-type: none"> No initiatives specified for 2000 	<ul style="list-style-type: none"> Junction Creek Stewardship Project – the NDCA is one of the lead community partners in this ongoing project to restore Junction Creek; restoration activities in 2001 included the release of 2000 brook trout, creek cleaning days, tree plantings, school education programs and public information sessions. Level 1 agreement with the DFO under section 35 of the Fisheries Act – this agreement was renewed in May 2001 for another year; the NDCA is local referral agency for projects that may require authorizations under the Federal Fisheries Act; the NDCA screens out projects that do not need an authorization and assists in referring information about projects that do; CA staff determine whether proposals may result in a “harmful alteration, disruption or destruction “ (HADD) of fish habitat and refer this information to the DFO
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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North Bay – Mattawa CA	<ul style="list-style-type: none"> • No initiatives specified for 2001 	<ul style="list-style-type: none"> • Municipal Plan Reviews – the North Bay-Mattawa CA continued with an agreement with local municipalities to undertake municipal plan reviews; the CA comments on development applications and their impact on wetlands, fisheries, flood plains, septic systems, etc. • Ground water Monitoring Program – a new partnership with Conservation Ontario and the Ministry of Environment. • Low Water Response – a new partnership with the Ministry of Natural Resources to assist in the development of a response plan that will deal with low water conditions; the plan will ensure provincial preparedness to assist in co-ordination and support of local response in the event of drought.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Otonabee Region CA	<ul style="list-style-type: none"> • Watershed Health Monitoring Program - initiated in 2000, this ongoing program samples surface water at 43 sites for chemical and bacteria parameters; funding through municipalities. • Provincial Water Quality Monitoring Program - the ORCA collects surface water samples at 16 sites throughout the watershed and the MOE does the analysis; funding provided by provincial grants. • Subwatershed studies - involve water quality sampling to detect runoff entering watercourses; data provides evidence upon which planning and development decisions are made; funding sources include municipal and provincial grants • Watershed Health Monitoring Programs – programs in 2001 included stream assessments and temperature monitoring • Provincial Groundwater Monitoring Network – an on-going agreement with the Ontario Ministry of the Environment to establish a network of monitoring wells across the watershed to gather and retrieve data on water quality and quantity • Healthy Futures – a partnership with other Conservation Authorities, municipalities, and the Ministry of Agriculture, Food and Rural Affairs, the program provides incentive grants to private landowners to implement Best Management Practices. 	<ul style="list-style-type: none"> • Community Based Conservation Programs - programs in 2001 included the following: <ul style="list-style-type: none"> • Norwood Mill Pond Naturalization Project • City of Peterborough Waterfront Trial Aquatic Habitat Improvement - project involves major shoreline restoration along the east bank of the Otonabee River to improve wildlife habitat • Watershed Health Monitoring Programs - programs in 2001 included stream assessments and temperature monitoring; includes studies of stream chemistry benthics and fisheries. • Tree Planting Program - in 2001, 20,500 trees and wildlife shrubs were planted in the ORCA region; involved 1,400 volunteers. • Agreement with the DFO under Section 35 of the Fisheries Act – under this agreement, renewed in 2000, the ORCA screens projects and provides input on mitigation measures for projects within its jurisdiction; projects deemed to have an environmental impact are referred to the DFO • Watersheds 2000 – an ongoing project that provides program directions being considered by the ORCA Board of Directors in 2001; the report addresses water quality, land stewardship services and communications

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Otonabee Region CA (continued)		<ul style="list-style-type: none"> • Canadian Community Monitoring Network – an application to the Canadian Nature Federation to implement subwatershed studies for municipal planning on constraints and development; funding through provincial and municipal grants.
Raisin Region CA	<ul style="list-style-type: none"> • Septic System Inspection – in partnership with the South Nation CA, the RRCA continued its responsibility for the inspection of septic systems; the RRCA provides this service on a user fee basis • Lake St. Francis/St. Lawrence River Tributary Restoration Project – targeted to the agriculture community, this new program consists of a project selection committee was formed to review applications for financial assistance; the program has achieved 40 km of shoreline protections, secured 3300 acres of cropland, 42 manure storage facilities, and 134.125 trees and wild shrubs planted. 	<ul style="list-style-type: none"> • Municipal Drain Classification Program – this new program involves the classification of municipal drains as to their maintenance sensitivity; the program expedites planning for drainage superintendents; funding from the Federal DFO • Level 2 agreement with the DFO, under section 35 of the Fisheries Act – under this agreement, the CA is responsible for reviewing projects related to fisheries habitat, and if necessary suggesting mitigation measures to reduce the risk of a harmful alteration, disruption or destruction (HADD) of fish habitat; projects deemed to be a HADD are referred to the DFO • Wildlife Monitoring and Cleanup Fund Coordinator – Cornwall Area of Concern (AOC) – a new initiative for rehabilitation including rock shoals, creation of protected backwater areas, constructions of coves, and the creation of spawning beds.
South Nation CA	<ul style="list-style-type: none"> • not in GL Basin 	<ul style="list-style-type: none"> • not in GL Basin

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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St.Clair Region CA	<ul style="list-style-type: none"> • Sydenham Species at Risk - habitat stewardship initiatives • Benthic Macro Invertebrate Sampling Program - this annual seasonal program involves river bottom soil sampling to determine invertebrate species number and health; sites increased to 56 with the majority sampled twice during the year; the results determine the health of a watercourse which is strongly influenced by urban and agricultural runoff. • Ground Water Monitoring Network - an on-going agreement with the Ontario Ministry of the Environment to establish a network of monitoring wells across the watershed to gather and retrieve data on water quality and quantity 	<ul style="list-style-type: none"> • Municipal Drain Classification Project - implemented in 1999 and continuing through 2001, this project provides municipal drainage superintendents with assessments and rankings of fish habitat in each watercourse; the project also provides an outline of what maintenance works are permitted within each watercourse of varying degrees of fish habitat; funding by the federal DFO and HRDC for staffing • Fish Habitat Review - in this ongoing program, the St.Clair Region CA screens watercourse issues regarding maintenance and development proposals • Clark Wright Conservation Area – the new initiative to construct a rock riffle fishway for fish passage over a 30-year old weir. • Dow Wetlands – the project with create a wetland, plantation, and prairie on 64 ha of land, which is currently mowed twice a year; funding provided by Great Lakes Renewal Foundation, and Dow Chemical. • Suncor energy Foundation Nature Way – a project to create linkages of sites to the Wawanosh Wetlands CA; the project will include the planting native trees, wetlands, prairies along a storm water management pond; donation provided by Suncor.
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Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
Upper Thames River CA	<ul style="list-style-type: none"> • Clean Water Project – funding approved in September 2001 with funding from OMAFRA, municipalities, for technical and financial assistance to improve and protect water quality on rural lands. Also includes demonstration/research projects to develop and understand progressive approaches for safeguarding water quality. • Upper Thames River Watershed Report Cards 2001- funded and written by the UTRCA, the report cards grade surface water and forest conditions in 28 subwatersheds to provide useful environmental information to policy makers and the public. • Perth Country Groundwater Recharge Study – this ongoing study involves the creation of a model to identify groundwater recharge areas, assess groundwater quality and develop a protection strategy; funding is received from the Ontario MOE's Water Protection Fund 	<ul style="list-style-type: none"> • Community Forestry Program – in 2001, 8,600 native trees and shrubs were planted and five native wildflower/grass projects completed; this program provides hands-on planting experience in urban areas for approx. 2500 school children annually • Middlesex Natural Heritage Study – began in earnest in January 2001; the goal is to identify and designate significant natural heritage features with scientific rationale for the upcoming Official Plan review; funded by the county, conservation authorities and other outside funding sources. • Aquatic Species At Risk Habitat Strategy – initiated in December 2001, this project is just beginning to look for funding and is currently drafting a Terms of Reference. A steering committee of government and non-governmental organizations are involved. • Reptile Research Project – proposals are currently being written; goal is to assess population and life history of the E. Spiny Softshell Turtle, Spotted Turtle, Queen Snake and Hognose snake in the Thames basin. • Stoney Creek Riparian Habitat Project – projects for 2001 included native tree and wildflower planting, stream enhancement, debris clean-up, and benthic monitoring; funding from Environment Canada

Conservation Authority	Urban and Agricultural Runoff	Fish and Wildlife Habitat Protection
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Upper Thames River CA (continued)		<ul style="list-style-type: none"> • Fish Migration Barriers Assessment – this ongoing project is developing an inventory of all fish barriers in the watershed and a range of options for the removal of barrier to fish migration; the project also involves education and outreach components; funding is provided by the federal DFO and HRDC for staffing • Municipal Drain Classification Program – in this ongoing program, the UTRCA classifies municipal drains for fisheries habitat potential; funding is supplied by the federal Department of Fisheries and Oceans, HRDC and in kind-contributions from the Ontario MNR • Benthic Monitoring Program – the CA monitored over 100 sites across the watershed to determine stream health through the analysis of benthic invertebrates • Fish Migration Barriers Assessment – this ongoing project has updated an inventory of fish barriers in the watershed and is developing options for bypassing or removing these barriers; the project involves education and outreach components; funding is provided by DFO and HRDC • Livestock Pollution Prevention – this ongoing project raises awareness of action at reducing manure spills and associated fish kills; in-kind funding from Environment Canada, Agriculture Canada, DFO, and OMNR.
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Municipal Environmental Initiatives (January 2001 to December 2001)

Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
Town of Collingwood	<ul style="list-style-type: none"> • Implemented interim Integrated Pest Mgmt. Policy to reduce use on non-essential pesticides 	<ul style="list-style-type: none"> • in the process of creating a GHG Emissions Reduction Action Plan 	<ul style="list-style-type: none"> • ongoing trail development (10km) • ongoing Green Space initiative to increase native plantings in community • coordinated permit applications, EA's and repaired 160 metres of stream bank using bioengineering on the Pretty River (in conjunction with Georgian Triangle Anglers)
Town of Cornwall	<ul style="list-style-type: none"> • no new initiatives in 2001 	<ul style="list-style-type: none"> • no new initiatives in 2001 	<ul style="list-style-type: none"> • no new initiatives in 2001
County of Essex	<ul style="list-style-type: none"> • No initiatives specified for 2001 	<ul style="list-style-type: none"> • No initiatives specified for 2001 	<ul style="list-style-type: none"> • Planting Projects – in partnership with the Essex County Field Naturalists and Ontario Power Generation, Essex-Windsor Solid Waste Authority planted 8,000 trees during 2001, to create a contiguous woodlot, as well as linkages and corridors between existing remnants of woodlots; • Tree Planting Program – in 2001, 1,500 trees were planted which completed the partnership with the Essex county Field Naturalist

Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
City of Hamilton	<ul style="list-style-type: none"> no new initiatives 	<ul style="list-style-type: none"> annual progress report presented 10 indicators of air quality 2-year action plan started on implementing indicators program 500 new trees planted on City grounds implemented homeowner tree subsidy program, which subsidizes 1/2 the cost of native trees to homeowners on-going anti-idling campaign for City staff organized bi-annual conference called "Upwind Downwind: A Practical Conference on Improving Air Quality" 	<ul style="list-style-type: none"> no new initiatives continuing initiatives include: <ul style="list-style-type: none"> -gathering biological data of 67 Env. Signif. Areas (ESAs); report to be released in 2003 enforcement and promotion of sustainable forestry by-law
City of Peterborough	<ul style="list-style-type: none"> installed an ultra-violet light system to disinfect final plant effluent to the Otonabee River (replaces the use of harmful chlorine) 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> retrofitted Kawartha Heights Storm Water Management pond to control water quality and quantity discharged from upstream subdivisions implemented a storm water mgmt. policy for all new developments anywhere in the City
County of Peterborough	<ul style="list-style-type: none"> No initiatives in 2001 	<ul style="list-style-type: none"> No initiatives in 2001 	<ul style="list-style-type: none"> No initiatives in 2001

Appendix D - 2001 Environmental Initiatives Undertaken by Municipalities

Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
City of Toronto	<ul style="list-style-type: none"> • Water Efficiency Plan – Toronto is currently developing the plan in response to the increased water demands and projected population; the goal is to reduce water demand by 15% by the year 2015; the plan is currently undergoing draft revisions and should be implemented by early spring, if passed by City Council; funding by the City of Toronto • Sewer-Use Bylaw –the by-law provides rules and restrictions aimed at protecting water quality and improving the quality of “biosolids” produced from the processing of sewage, the by-law incorporates the toughest standards for sewer discharge and strict financial penalties for non-compliance; funding by the City of Toronto • Curb-side Collection of Household Hazardous Waste – designed to discourage residents from depositing toxic substances into the sewer system and on land by providing opportunities for such substances to be collected (via the “toxic taxi”) and taken to designated waste transfer stations for proper disposal by the City; funding through the City of Toronto • Salt Management Plan, the plan will address the growing concerns about the effect road salt is having on our natural environment; aspects include a salt management policy, winter maintenance policies, and operational practices and strategies; funded by the City of Toronto 	<ul style="list-style-type: none"> • City of Toronto Environmental Plan – This plan incorporates goals, actions, targets and measures that have been outlined in Toronto’s Strategic Plan, Environmental Plan and already existing energy and environmental goals and targets; the plan outlines the present state of energy in Toronto, the preferred state of energy in Toronto, and discusses the role of the EEO in moving from the present to the preferred state; funding by the City of Toronto • Bike Plan -The plan has established integrated principles, objectives and recommendations regarding safety, education and promotional programs as well as cycling related infrastructure (a comprehensive bikeway network). The vision is to create a safe, comfortable and bicycle friendly environment in Toronto, which encourages people of all ages to use bicycles for everyday transportation and enjoyment; funded by the City of Toronto 	<ul style="list-style-type: none"> • Humber Arboretum Expansion -the Humber Arboretum and the City of Toronto have received \$100,000 from the Federation of Canadian Municipalities (FCM) through the Green Municipal Funds (GMF), which are allocated to municipalities to improve environmental performance., funding through the FCM-Green Municipal Funds • Oak Ridges Moraine Protection - Council has taken steps to assist groups that are advocating for the preservation of the Oak Ridges Moraine. In addition, the City of Toronto is promoting, through education and awareness, the environmental and social importance of the Oak Ridges Moraine; funded by the City of Toronto. • The Tree Advocacy Program- an aggressive tree-planting program utilized to maintain and enhance the overall health and well being of Toronto’s urban ecosystem. As of January 2001, over 37,000 trees and shrubs had been planted during the spring and fall planting seasons. Trees planted in this program are in addition to existing forestry and parks planting initiatives; funding by the City of Toronto

Appendix D - 2001 Environmental Initiatives Undertaken by Municipalities

Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
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City of Toronto (continued)	<ul style="list-style-type: none"> • Snow Disposal Feasibility Study-This feasibility study will identify and secure suitable snow disposal sites across the City of Toronto. The key requirements addressed in they study include the following: identifying a comprehensive, environmentally sound strategy for accommodating 150,000 loads of snow in a two week period, and assessing the feasibility of relocating current snow disposal sites that are located near rivers; funding by the City of Toronto • Phase Out Pesticide Plan - A pesticide sub-committee created a City of Toronto corporate policy to phase out pesticide use on public green spaces; the subgroup is currently exploring the feasibility of a pesticide ban on private property. • The Dunkers Flow Balancing System - an innovative stormwater treatment facility that cleans polluted stormwater through a series of cells (pools of water) and contaminants are removed from the water via a settling process. A wetland area naturally cleans the water before it flows back into Lake Ontario; Funded by the City of Toronto 	<ul style="list-style-type: none"> • Forest Research at Humber Arboretum -The Association for Canadian Educational Resources (known as ACER) received \$157,500 to launch a community forest research project at the Humber Arboretum that will mobilize the community to learn more about how climate change is affecting our forests.; funding provided by the Ontario Trillium Foundation • Move Towards Cleaner Air - This document is a progress report that updates findings and provides preliminary information on how the City can move forward to address air emissions. The focus of this report is on smog issues, yet the final strategy will deal with all outdoor air quality issues; funding by the City of Toronto • Toronto Environmental Database Project -This study is in the process of comparing transportation, energy, soil and water quality, waste, and air quality indicators with global cities that have similar socio-economic and climatic conditions to the City of Toronto; funded by the City of Toronto • Employee Energy Efficiency (E³) Program - E³ is a three-year corporate-wide initiative that gives City employees expert advice about how to make their homes more energy efficient; funding by City of Toronto 	<ul style="list-style-type: none"> • Natural Heritage Strategy – The purpose of this study is to act as a background document to the new Official Plan by providing an inventory of ecological information and to develop natural heritage policies; the Study provides a tool to identify a natural heritage system that is designed to address biodiversity and ecosystem needs, within an urban context. A final report is expected to be completed shortly; funding through the City of Toronto • The Western Beaches Storage Tunnel-will prevent combined sewer overflows from going directly into Lake Ontario by diverting existing outfalls into a common storage tunnel; the solids are settled out of the effluent and the clarified water pumped out to the lake through an Ultra Violet disinfection facility; the solids are pumped to the City's treatment plant.; a similar facility is located in the Eastern Beaches; the Western Beaches Tunnel will be operational in 2002; funding provided through the City of Toronto
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Appendix D - 2001 Environmental Initiatives Undertaken by Municipalities

Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
City of Toronto (continued)	<ul style="list-style-type: none"> • Biosolids Beneficial Use Program - The City of Toronto's biosolids are produced at the Ashbridge's Bay Treatment Plant where municipal sludge is separated from wastewater during primary and secondary treatment. Anaerobic digestion stabilizes the sludge, destroys many disease-causing organisms, and reduces volume and odour. Currently, the use of biosolids as a soil fertilizer is being tested on a project basis • Workshop for Managing Stormwater- The City of Toronto hosted a workshop as part of its commitment to finding ways to reduce the amount of stormwater runoff flowing into the sewers and to improve the quality of the runoff that enters the sewer system. This workshop sought the public's input regarding stormwater management options, which will be addressed in the Wet Weather Flow Management Master Plan; funding provided by the City of Toronto • The Wet Weather Flow Management Master Plan- establishes a wet weather flow management policy that will integrate strategies for the prevention, control and reduction of wet weather flow impacts across the City. The Plan is currently undergoing Phase 3, in which preferred Wet Weather Flow Management Strategies are being developed; funding by the City of Toronto 	<ul style="list-style-type: none"> • Air Quality Policy & Legal Study- This report provides a review of the current legislative structure and the air policy framework while identifying opportunities for the City to implement policies and practices that both directly and indirectly reduce air emissions. This is effectively implementing Recommendations 22 (c) and (d) of the Environmental Plan; funding provided by the City of Toronto via the Toronto Atmospheric Fund • Anaerobic Digestion - a jointly sponsored study for the feasibility of siting an anaerobic digestion facility located on City-owned property within the Portlands area. This proposed AD facility would process 100,000 to 200,000 tonnes per year of source separated organic (SSO) municipal waste to generate renewable energy (biogas) for the district energy needs of the downtown core. The treatment of organic waste using anaerobic digestion technology to generate energy will help the City meet several important environmental goals adopted by City Council • Smog Summit - The Summit brings together the City of Toronto, senior levels of Government and citizens, business and community leaders to discuss smog; funding by Toronto Atmospheric Fund 	

Appendix D - 2001 Environmental Initiatives Undertaken by Municipalities

Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
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City of Toronto (continued)		<ul style="list-style-type: none"> • City Employee Trip Reduction Program -This program focuses on the design and implementation of incentives that will encourage City employees to use public transit and/or to carpool on their way to work; funding by the City of Toronto • Corporate Green Fleets Strategy – Better Transportation Partnership (BTP)-This strategy is aimed at reducing emissions from City vehicles and equipment by purchasing lower polluting vehicles. Participation in the BTP provides an opportunity to significantly contribute to the target of converting light duty vehicles to 100% ULEV by 2005; funding through the City of Toronto • Emissions Trading -The City of Toronto is developing a corporate emissions trading strategy for SO_x and NO_x. It is also a participant in Clean Air Canada Inc. (CACI), formerly known as the Pilot Emissions Reduction Trading (PERT) process; funded by the City of Toronto • CO₂ Emission Reduction Target - Council reaffirmed the City of Toronto to a CO₂ emission reduction goal of 20% relative to 1990 CO₂ levels by the year 2005; funded by the City of Toronto 	
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Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
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City of Toronto (continued)		<ul style="list-style-type: none"> • Better Building Partnership -The program was developed to focus on curbing CO₂ emissions, and has taken a lead role in the City of Toronto's overall CO₂ reduction commitment. The program involves comprehensive energy efficiency retrofits and building renewal initiatives for all buildings in the City of Toronto in both the public and private sectors. Currently, 467 participating BBP buildings located in the City of Toronto have created approximately 3,800 jobs, reduced building operating costs by over \$19 million, and reduced 132,000 tonnes of CO₂ emissions per year; funding by the City of Toronto • Corporate Smog Alert Response Plan -The Plan's objectives include: <ul style="list-style-type: none"> a) implementation of Divisional Smog Alert Response Plans that will see short-term reduction/ suspension of activities that contribute to poor air quality on Smog Alert Days; b) provide information to staff serving at-risk groups (children and seniors); and c) provide education materials for distribution by Divisional staff serving at-risk populations; funding by the City of Toronto 	
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Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
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City of Toronto (continued)		<ul style="list-style-type: none"> • The Air Quality Database - an agreement to exchange data with the Ontario Ministry of the Environment (for 5 Toronto Air Quality stations) and various other sources in order to create a readily accessible, manageable, and interpretable data source regarding air quality sources from beyond Toronto. Added to this will be modelled estimates, based on traffic flow data of vehicle emissions as a function of line source flow patterns; funding by the City of Toronto • The Deep Lake Water Cooling (DLWC) Project- the project will use Lake Ontario's naturally cold water as a starting point in providing a cooling mechanism for Toronto's office towers, sports & entertainment complexes and proposed waterfront developments. It involves drawing cold water (4 degrees Celsius) from deep within Lake Ontario through a water intake pipe. Energy use is reduced by up to 75% compared with conventional chillers, resulting in a significant reduction of fossil fuel use and harmful emissions; funding through a partnership with the City of Toronto and the Toronto District Heating Corporation/Enwave 	
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Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
City of Waterloo	<ul style="list-style-type: none"> no new initiatives in 2001 	<ul style="list-style-type: none"> no new initiatives in 2001 	<ul style="list-style-type: none"> no new initiatives in 2001
City of Windsor	<ul style="list-style-type: none"> Combined Sewer Overflow Study – a CSO settling characterization study was carried out in 2001; presently in the environmental study report stage, and to be built along Windsor’s riverfront; partial funding from Environment Canada Industrial, Commercial, and Institutional Monitoring – a by-law enforcement and monitoring program that has been ongoing since 1970; a “Permit to Discharge Over strength Waste” is in effect to recover the costs incurred by the City to treat over strength waste Commercial Inspections –Service station, restaurants and laundries are inspected every two years for oil and grease disposal methods Household Hazardous Waste – a household hazardous facility is operating in the City 	<ul style="list-style-type: none"> no new initiatives in 2001 Source Control Task Force – the city participates in a benchmarking exercise along with other municipalities across Canada Airborne Contaminant Discharge and Reporting – the City is in the process of reporting airborne contaminant discharge to the Ontario MOE as per O. Reg. 127/01. 	<ul style="list-style-type: none"> no new initiatives in 2001

Appendix D - 2001 Environmental Initiatives Undertaken by Municipalities

Municipality	Residential and ICI Sewer Use/ Urban and Agricultural Runoff	Air Quality	Fish and Wildlife Habitat Protection
City of Windsor (continued)	<ul style="list-style-type: none"> • Source Control Task Force – the city participates in a benchmarking exercise along with other municipalities across Canada • Municipal Enforcement Sewer Group (MESUG) –representatives from municipalities with common interest in sewer use by-laws and meet on a quarterly basis • UV Disinfection Upgrade – the city is currently evaluating UV disinfection systems available to upgrade the Little River Pollution Control Plant; a UV Disinfection Guidance Manual will be prepared to assist other treatment plants in Canada considering UV disinfection; the project is in partnership with Environment Canada • ISO 14001 – the Little River Pollution Control Plant is preparing to receive ISO 14001 certification • National Pollutant Release Inventory – on a yearly basis the City reports all required discharges to the NPRI; reports are available for public perusal 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Detroit River Water Quality Monitoring Program – this ongoing program involves the strategic placing of fresh-water clams in the Detroit River; the clams are analyzed for chemical and thus provide contaminate levels in the Detroit River and its tributaries • Watershed Contaminates Source Investigations – a program to monitor inputs into three watersheds; samples are taken from Turkey Creek and Little River to identify sources of elevated contaminates • Detroit River Canadian Cleanup Committee – the City is participating with the Detroit River Canadian Cleanup Committee in an environmental hotspot delisting exercise; program is in conjunction with municipal, MOE, Environment Canada, local citizen groups, USEPA, University of Windsor, IJC, and other parties. • Windsor-Essex county chamber of Commerce Environmental Subcommittee-along with the local conservation authority and interested members from the business community, matters of environmental interest to the business community are discussed.

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Catfish Creek CA	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • no initiatives in 2000 	<ul style="list-style-type: none"> • Mill creek Sub Watershed Study • Tree Planting program • DFO Drain Classification program 	<ul style="list-style-type: none"> • Health Futures • Walkerton Inquiry 	<ul style="list-style-type: none"> • Mill Creek Sub-Watershed Study • Tree Planting • DFO Drain Classification • Stream Stabilization

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Conservation Halton	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Hamilton-Halton Watershed Stewardship Project Bronte Creek Watershed Stewardship Project Provincial Groundwater Monitoring Network Provincial Water Quality Monitoring Network 	<ul style="list-style-type: none"> Grindstone Creek Stream Restoration EA Courtcliffe Park Stream Study Bronte Creek Study Ontario Water Response 2000 Grindstone Creek Benthic Water Quality Monitoring Land Stewardship Project Fisheries Habitat Enhancement Project Land Acquisition Program Dundas Valley Reforest Plan Level 2 with DFO 	<ul style="list-style-type: none"> Hamilton-Halton Watershed Stewardship Project Bronte Creek Watershed Stewardship Project Provincial Groundwater Monitoring Network Provincial Water Quality Monitoring Network 	<ul style="list-style-type: none"> Environmental Monitoring Program Marsh Monitoring Bronte Creek Watershed Study Grindstone Creek Benthic Water Quality Monitoring Sixteen Mile Creek North Shore Watershed Study Urban Streams Studies Ontario Water Response 2000 Spawning Surveys Dissolved Oxygen Monitoring ROM Fish Community Sampling Redside Dace Recovery Plan Fisheries Database Grindstone Creek Restoration

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Credit Valley CA	•	•	<ul style="list-style-type: none"> • Water Quality Strategy (1999-2004) • Settlement and Servicing Master Plans 	<ul style="list-style-type: none"> • Watershed Monitoring Program • Fisheries Mgmt. Plan • Ecological Land Classification • Greenlands Protection strategy • Stewardship Strategy • Sust. Mgmt. Framework Dev. Project • Sb-watershed Studies • Fletcher's Creek Monitoring Project • West Credit Sub-watershed Impact Assessment • Caledon Creek and Credit River Impact Assessment 	<ul style="list-style-type: none"> • Water Quality Strategy (1999 to 2004) • Settlement and Servicing Master Plans (Inglewood, Alton-Cheltenham) 	<ul style="list-style-type: none"> • Watershed Monitoring Program • Flood Line Mapping • Greenlands Protection Strategy • Regulation Line Mapping Peel • Credit Watershed Climate Change • Water Budget • Subwatershed Studies. • Fletcher's Creek Monitoring Project • Upper Credit Rehabilitation • Belfountain Head Pond Study

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Essex Region CA	<ul style="list-style-type: none"> • Rural Non-point source pollution remediation program • Township of Pelee private sewage disposal 	<ul style="list-style-type: none"> • Land Natural Areas Management Plans • Biodiversity Conservation Forestry Program • Detroit River habitat enhancement program • Wildlife habitat restoration 	<ul style="list-style-type: none"> • Rural Non-point source pollution remediation program • Township of Pelee private sewage disposal • Water Quality Monitoring Program 	<ul style="list-style-type: none"> • Protection of Greenlands • Natural Areas Mgmt. Plan • Biodiversity Conservation Strategy • Forestry Program • Detroit River Habitat Enhancement Program • Wildlife Restoration Project • Level 3 Agreement with the Federal Department of Fisheries (DFO) • Drain Classification for Fish Habitat Mgmt. Project • Detroit River Mgmt. Program 	<ul style="list-style-type: none"> • Rural Non-Point Source Pollution Remediation Program • Township of Pelee Private Sewage Disposal • Water Quality Monitoring Program 	<ul style="list-style-type: none"> • Wildlife Habitat Restoration Projects • Level 3 Agreement with the Federal Department of Fisheries (DFO)

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Grey Sauble CA	<ul style="list-style-type: none"> No new initiatives in 1999/2000 	<ul style="list-style-type: none"> Level 2 agreement with the Federal Department of Fisheries (DFO) 	<ul style="list-style-type: none"> No new initiatives in 2000 	<ul style="list-style-type: none"> Level 2 Agreement with the Federal Department of Fisheries (DFO) Municipal Drain Fish Habitat Class. Study 	<ul style="list-style-type: none"> No initiatives specified for 2001 	<ul style="list-style-type: none"> No initiatives specified for 2001
Hamilton CA	<ul style="list-style-type: none"> Erosion control Project Land Stewardship Project Watershed Groundwater Monitoring program 	<ul style="list-style-type: none"> Land Stewardship Program Managed Forest Plans Fisheries Habitat Enhancement program Level 2 Agreement with the Federal Department of Fisheries (DFO) 	<ul style="list-style-type: none"> Land Stewardship Program Watershed Groundwater Monitoring Program Conservation Authority Regulations Spencer Creek Biological Monitoring Hamilton RAP 	<ul style="list-style-type: none"> Land Stewardship Program Land Acquisition Program Dundas Valley Reforestation Plan Level 2 Agreement with the Federal Department of Fisheries (DFO) 	<ul style="list-style-type: none"> Land Stewardship Program Watershed Groundwater Monitoring Program Conservation Authority Regulations Spencer Creek Biological Monitoring Hamilton RAP 	<ul style="list-style-type: none"> Land Stewardship Program Land Acquisition Program Dundas Valley Reforestation Plan Level 2 Agreement with the Federal Department of Fisheries (DFO)

APPENDIX E - Annual Comparison of CAs

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Lakehead Region CA	<ul style="list-style-type: none"> • No new initiatives in 1999/2000 	<ul style="list-style-type: none"> • Watershed planning • Level 1 agreement with the DFO under section 35 of the Fisheries Act 	<ul style="list-style-type: none"> • Erosion Control Program 	<ul style="list-style-type: none"> • Tree Planting • Watershed Development Study • Level 1 agreement with the DFO, under section 35 of the Fisheries Act 	<ul style="list-style-type: none"> • Erosion Control Programs 	<ul style="list-style-type: none"> • Tree Planting/Forest Management Program • Watershed Development Studies • Level 1 agreement with the DFO, under section 35 of the Fisheries Act

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Maitland Valley CA	<ul style="list-style-type: none"> • Rural Water Quality Program • Maitland Watershed Partnerships (MWP) Demonstration Project 	<ul style="list-style-type: none"> • Maitland Watershed Partnerships (MWP) • Watershed Planning projects River Stewardship Initiative • Reforestation Services 	<ul style="list-style-type: none"> • Organic Agriculture Project • Rural Water Quality Program • Healthy Futures for Ontario Agriculture: Rural Water Quality Incentive Programs (Huron and Perth Counties) 	<ul style="list-style-type: none"> • Level 2 Agreement with DFO • Fish Habitat Classification Project • Conservation Watercourse Mgmt. Service • Maitland Watershed Partnerships • Watershed Planning and Restoration Projects • Reforestation Services • Lower Maitland River Stewardship Initiative 	<ul style="list-style-type: none"> • Healthy Futures for Ontario Agriculture: Rural Water Quality Incentive Programs (Huron and Perth Counties) • Rural Water Quality Monitoring Network. • Groundwater Mapping Projects • Surface and Groundwater Contaminant Risk Mapping • Rural Water Quality Program 	<ul style="list-style-type: none"> • Maitland Watershed Partnerships (MWP) • Watershed Planning and Restoration Projects • Reforestation Services

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Mississippi Region CA	•	•	<ul style="list-style-type: none"> • Watershed Watch Program • Planning Advisory Program • Rural Clean Water Program 	<ul style="list-style-type: none"> • Rural Reforestation Program • Level 2 Agreement with the DFO under Section 35 of the Fisheries Act • Municipal Drain Classification Project 	<ul style="list-style-type: none"> • Watershed Watch Program • Planning Advisory Program • Rural Clean Water Program 	<ul style="list-style-type: none"> • Rural Reforestation Program • Level 2 Agreement with the DFO under Section 35 of the Fisheries Act • Municipal Drain Classification Project
Nickel District CA	<ul style="list-style-type: none"> • No new initiatives in 1999/2000 	<ul style="list-style-type: none"> • No new initiatives in 1999/2000 	<ul style="list-style-type: none"> • No new initiatives in 2000 	<ul style="list-style-type: none"> • Junction Creek Stewardship Project • Level 1 agreement with the DFO under section 35 of the Fisheries Act 	<ul style="list-style-type: none"> • No initiatives specified for 2001 	<ul style="list-style-type: none"> • Junction Creek Stewardship Project • Level 1 agreement with the DFO under section 35 of the Fisheries Act

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
North Bay – Mattawa CA	<ul style="list-style-type: none"> • No new initiatives in 1999/2000 	<ul style="list-style-type: none"> • Municipal Plan Reviews • LaVase Portages Mattawa River System Management Strategy • Level 2 agreement with the DFO, under section 35 of the Fisheries Act 	<ul style="list-style-type: none"> • No new initiatives in 2000 	<ul style="list-style-type: none"> • Municipal Plan Reviews • LaVase Portages Mattawa River System Mgmt. Strategy • Level 2 Agreement with DFO 	<ul style="list-style-type: none"> • No initiatives specified for 2001 	<ul style="list-style-type: none"> • Municipal Plan Reviews • Level 2 DFO • Groundwater Monitoring Program • Low Water Response

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Otonabee Region CA			<ul style="list-style-type: none"> • Subwatershed studies • Watershed Health Monitoring Programs • Provincial Groundwater Monitoring Network • Kawartha Heights Pond Restoration 	<ul style="list-style-type: none"> • Community Based Conservation Programs - Norwood Mill Pond Naturalization Project; City of Peterborough Waterfront Trail Aquatic Habitat Improvement • Watershed Health Monitoring Programs • Tree Planting • Agreement with the DFO under Section 35 of the Fisheries Act • Watersheds 2000 Canadian Community Monitoring Network • Community Action for Healthier Shores Project 	<ul style="list-style-type: none"> • Subwatershed studies • Watershed Health Monitoring Programs • Provincial Groundwater Monitoring Network • Health Futures • Provincial Water Quality Monitoring Program • Watershed Health Monitoring Program 	<ul style="list-style-type: none"> • Community Based Conservation Programs - Norwood Mill Pond Naturalization Project; City of Peterborough Waterfront Trail Aquatic Habitat Improvement • Watershed Health Monitoring Programs • Agreement with the DFO under Section 35 of the Fisheries Act • Watersheds 2000 Canadian Community Monitoring Network

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Raisin Region CA	<ul style="list-style-type: none"> • Septic system inspection • Nutrient runoff control program 	<ul style="list-style-type: none"> • Level 2 agreement with the DFO, under section 35 of the Fisheries Act • Tributaries restoration initiative 	<ul style="list-style-type: none"> • Septic System Inspection • Nutrient Runoff Control Program 	<ul style="list-style-type: none"> • Municipal Drain Classification Program • Level 2 agreement with the DFO, under section 35 of the Fisheries Act • Tributaries Restoration Initiative • St. Lawrence River Littoral Zone Habitat Restoration 	<ul style="list-style-type: none"> • Septic System Inspection • Lake St. Francis/St. Lawrence River Tributary Restoration Project 	<ul style="list-style-type: none"> • Municipal Drain Classification Program • Level 2 agreement with the DFO, under section 35 of the Fisheries Act • Wildlife Monitoring and Cleanup Fund Coordinator

Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
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St.Clair Region CA	<ul style="list-style-type: none"> • Buffer strip planting project 	<ul style="list-style-type: none"> • Level 2 agreement with the DFO, under section 35 of the Fisheries Act • Municipal drain classification project • Remedial Action Plan for the St.Clair River 	<ul style="list-style-type: none"> • Benthic Macro Invertebrate Sampling Program • Local Stewardship Initiatives (Kent, Middlesex, Lambton) 	<ul style="list-style-type: none"> • Municipal Drain Classification Project • Fish Habitat Review • Alexandria Park Creek Dam Removal • Crothers CA Fish Habitat Enhancement • Class EAs • Level 2 Agreement with DFO 	<ul style="list-style-type: none"> • Sydenham SAR • Healthy Futures • Benthic Macro Invertebrate Sampling Program • Ground Water Monitoring Network 	<ul style="list-style-type: none"> • Municipal Drain Classification Project • Fish Habitat Review • Clark Wright Conservation Area • Dow Wetlands • Suncor energy Foundation Nature Way Wawanosh Wetlands CA; the project will include the planting native trees, wetlands, prairies along a storm water management pond; donation provided by Suncor.
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Conservation Authority	Urban and Agricultural Runoff 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Fish and Wildlife Habitat Protection 2001
Upper Thames CA	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Livestock Pollution Prevention Project • Healthy Futures Project • Landowner Conservation Services • Nutrient Utilization Research • Municipal Land Use Plan • Perth Country Groundwater Recharge Study • Provincial Water Quality Monitoring Network • Provincial Groundwater Monitoring Network • Court Drain Subwatershed Study 	<ul style="list-style-type: none"> • Community Forestry Program • Tree Planting Program • Conservation Strategy • Stoney Creek Riparian Habitat Project • Cedar Creek Watershed Management Strategy Project • Hodges Pond Project • Fish Migration Barriers Assessment • Municipal Land Use Plan Reviews • Municipal Drain Classification Program • Benthic Monitoring Program • Dingman Creek Restoration Project • Walleye Hatchery 	<ul style="list-style-type: none"> • Clean Water Project • Upper Thames River Watershed Report Cards 2001 • Perth Country GroundH20 Recharge Study 	<ul style="list-style-type: none"> • Community Forestry Program • Middlesex Natural Heritage Study • Aquatic Species At Risk Habitat Strategy • Reptile Research Project • Stoney Creek Riparian Habitat Project • Municipal Drain Classification Program • Benthic Monitoring Program • Fish Migration Barriers Assessment • Livestock Pollution Prevention

APPENDIX E - Annual Comparison of CAs

Municip.	Urban and Agricultural Runoff 1999	Air Quality 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Air Quality 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Air Quality 2001	Fish and Wildlife Habitat Protection 2000
County of Essex	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> Smog Action Plan County of Essex Solid Waste Authority Smog Action Plan SWA Landfill Methane Gas Collection System 	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> Wetland Construction Project 	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> Wetland Planting Projects Tree planting Project 	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> Tree Planting
City of Hamilton	<ul style="list-style-type: none"> Industrial and Commercial Malls inspection Policies for handling hauled wastewater Wastewater collection system initiative Hamilton Harbour Water Quality Strategic Plan 	<ul style="list-style-type: none"> Hamilton-Wentworth Air Quality Initiative 	<ul style="list-style-type: none"> Regional tree-cutting by-law Env. Sensitive Areas review Report on protecting ESAs 	<ul style="list-style-type: none"> Industrial and Comm.l Malls Inspection Program Hauled Waste Water Policy Hamilton Harbour Water Quality Strategic Plan Wastewater Collection System Initiative 	<ul style="list-style-type: none"> S. Ont. Clean Airshed Network Initiative Ground Level Ozone and Fine Particulate Emissions Reduction Plan NU-vehicle Partnership Anti-Idling Signs Cdn. Commuter Challenge Emissions Inventory Truck Emissions Study 	<ul style="list-style-type: none"> Tree Planting Natural Areas Inventory 2000 "Nature Counts!" Inventory Regional Woodland Conservation By-Law 	<ul style="list-style-type: none"> no initiatives 	<ul style="list-style-type: none"> Annual Progress Report 2-year Indicators Action Plan Tree Planting Program Homeowner Tree subsidy Program Anti-Idling Campaign bi-annual Air Quality Conference 	<ul style="list-style-type: none"> Cont. Work on 67 ESAs Cont. Sust Forestry By-law
City of Peterboro	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> By-law to Regulate 	<ul style="list-style-type: none"> No new initiatives 	<ul style="list-style-type: none"> Protective Zoning 	<ul style="list-style-type: none"> Ultra-Violet 	<ul style="list-style-type: none"> no initiatives 	<ul style="list-style-type: none"> Retrofit pond to

Appendix F - Annual Comparison of Municipalities

Municip.	Urban and Agricultural Runoff 1999	Air Quality 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Air Quality 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Air Quality 2001	Fish and Wildlife Habitat Protection 2000
City of Peterborough (cont.)				Alteration of Grades		Districts (new Official Plan) • Fish Habitat Identification (new Official Plan)	system to Disinfect Plant Effluent		Control Discharge • Storm Water Mgmt. Policy
City of Toronto	<ul style="list-style-type: none"> New sewer use by-law City of Toronto Env. Plan 	<ul style="list-style-type: none"> City of Toronto env. plan 	<ul style="list-style-type: none"> City of Toronto Env. Plan 	<ul style="list-style-type: none"> Env. Plan Assessment of Sewer Infrastr. Sewer-Use By-law Curbside Collection of Hazardous Waste Emergency spills Response Plan Wet Weather Flow Mgmt Master Plan Phase Out Pesticide Plan Downspout and Rain Barrel Program 	<ul style="list-style-type: none"> Env. Plan 20/20: Aclear View to Clean Air Anti-Idling By-law Blueprint for Action Strategy City Employee Trip Reduction Program Green Fleets Smog Alert Response Plan Lakeview Power Plant Waste Oil Burning By-law Policy and Legal Study Legal Action Toronto's Air. Let's 	<ul style="list-style-type: none"> Env. Plan Bring Back the Don Nat. Heritage Strategy Oak Ridges Moraine Protection Park Acquisition Strategy 	<ul style="list-style-type: none"> Water Eff. Plan Sewer-Use Bylaw Curb-side Collect of HH Haz Waste Salt Mgmt Plan Snow Disposal Feas. Study Phase Out Pesticide Plan The Dunkers Flow Balancing System Biosolids Program Workshop for Managing Storm 	<ul style="list-style-type: none"> Env. Plan Car Free Day Bike Plan Forest Research at Humber Arbororetum Move Towards Cleaner Air Toronto Env. Database E3 Program Air Quality Policy & Legal Study Anaerobic Digestion Smog Summit City Employee Trip Reduction Program Green Fleets Emissions Trading 	<ul style="list-style-type: none"> Humber Arboretum Expansion Oak Ridges Moraine Protect The Tree Advoc. Prog. Natural Heritage Strategy The Western Beaches Storage Tunnel

Appendix F - Annual Comparison of Municipalities

Municip.	Urban and Agricultural Runoff 1999	Air Quality 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Air Quality 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Air Quality 2001	Fish and Wildlife Habitat Protection 2000
City of Toronto (cont.)					<ul style="list-style-type: none"> Air: Let's Make it Healthy Smog Summit C02 Emission Reduction Target GHG Emissions Inventory Project 		<ul style="list-style-type: none"> Storm H2O The Wet Weather Flow Management Master Plan 	<ul style="list-style-type: none"> CO₂ Emission Reduction Target Better Building Partnership Corporate Smog Alert Response Plan The Air Quality Database The Deep Lake Water Cooling (DLWC) Project 	
City of Windsor	<ul style="list-style-type: none"> Detroit River Water Quality Monitoring Program Aquatic Biomonitoring Facility at the Little River Pollution Control Plant Pollution Prevention Seminar 	<ul style="list-style-type: none"> Windsor Essex Air Quality Committee Voluntary measures 	<ul style="list-style-type: none"> no new initiatives 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Combined Sewer Overflow Study Industrial, Commercial, and Institution Monitoring Commerc Inspection Household Hazard Waste Source Control Task Force Municipal Enforcem 	<ul style="list-style-type: none"> Airborne Contam Discharge and Reporting 	<ul style="list-style-type: none"> no new initiative

Appendix F - Annual Comparison of Municipalities

Municip.	Urban and Agricultural Runoff 1999	Air Quality 1999	Fish and Wildlife Habitat Protection 1999	Urban and Agricultural Runoff 2000	Air Quality 2000	Fish and Wildlife Habitat Protection 2000	Urban and Agricultural Runoff 2001	Air Quality 2001	Fish and Wildlife Habitat Protection 2000
City of Windsor (cont.)							Enforcem ent Sewer Group (MESUG) <ul style="list-style-type: none"> • UV Disinfect iUpgrade • ISO 14001 • National Pollutant Release Inventory 		