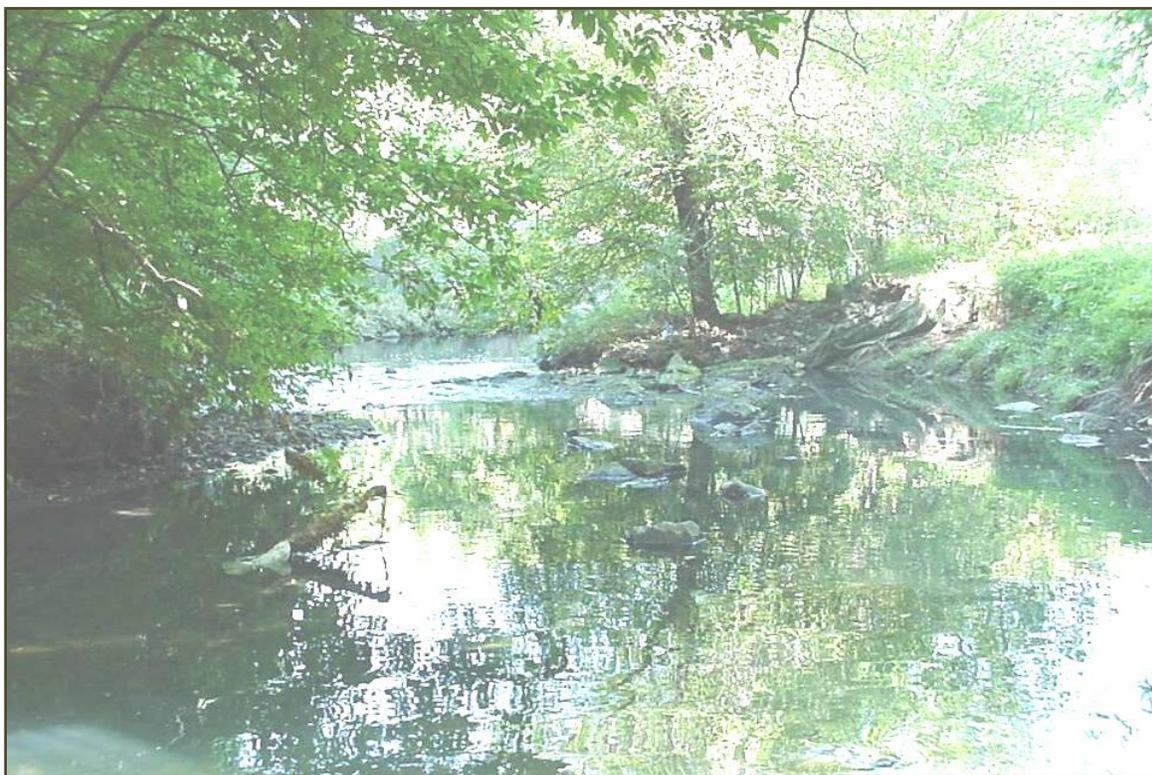


Water Environment Strategy Phase 1

Protecting the Health of Ottawa's Watersheds



March 2014



Water Environment Strategy Phase 1: Protecting the Health of Ottawa’s Watersheds

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Introduction

The City of Ottawa is home to an extensive network of rivers and streams, including portions of four major rivers (the Rideau, South Nation, Mississippi and Ottawa Rivers), four major tributaries (the Carp, Jock and Castor Rivers and the Bear Brook), and hundreds of smaller creeks and streams. These watercourses, which total more than 4,500 kilometres, are rich cultural and natural treasures enjoyed by residents and visitors alike. They are also lifelines for the City, providing clean drinking water, supporting agriculture, enabling recreation and tourism; and sustaining local fish and wildlife.

The purpose of a Water Environment Strategy (WES) is to protect these significant assets and ensure that Ottawa's watersheds are ecologically robust and healthy for the future. Safeguarding the water environment means protecting the health of the streams, lakes and rivers, as well as groundwater, wetlands and natural areas. Securing watershed health therefore requires balancing protection and restoration of these areas, while supporting economic and urban development.

Background

The Water Environment Strategy is one of 17 projects that make up the Ottawa River Action Plan (ORAP.) Approved by City Council in 2010, ORAP takes a watershed-based approach to protect and improve the quality of the Ottawa River. ORAP projects aim to address municipal impacts on the River using a cost-effective approach.

The objectives of ORAP are to:

- Achieve and sustain compliance with provincial requirements, with a focus on combined sewer overflow control;
- Optimize recreational use and economic development of the river, with a focus on reducing beach closures;
- Maintain a healthy aquatic ecosystem, with a focus on addressing challenges presented by existing infrastructure; and,
- Develop a long-term Water Environment Strategy.

This report represents the first phase in developing a long-term Water Environment Strategy.

In including the Water Environment Strategy as part of ORAP, Council recognized the need for greater attention on the health of all the City's watersheds, and directed staff to work on a long-term strategy that would address water environment issues in a coordinated and integrated manner in cooperation with other agencies within the

watershed. To inform a long-term strategy, staff was to summarize the current state of knowledge regarding water environment issues in Ottawa, confirm the scope of matters within the control or influence of the City of Ottawa, document programs and projects in place today that contribute to the water environment, and identify potential opportunities, service gaps, and barriers to success.

Approach

The Water Environment Strategy will be brought forward in two phases. Phase 1, as outlined in this report, provides City Council and the residents of Ottawa with a background on the issues facing Ottawa's watersheds, and a road map moving forward for the City to play its part in ensuring the health of those watersheds for generations to come.

This report summarizes Ottawa's water environment, and the City's role in it. This work will inform both the City's immediate actions and, more importantly, the development of an integrated long-term plan for the management of water environment issues in Ottawa.

Phase 1 identifies key issues for Ottawa's water environment, and sets out an approach to guide short term actions and the development of a longer-term strategy. The Phase 1 strategy focuses on what the City of Ottawa can do within its mandate, with recognition of the need for collaboration with other stakeholders.

The Water Environment Strategy Phase 1 has been informed by

- Analysis of the current state of Ottawa's water Environment
- Review of best practices
- Review of jurisdictional responsibilities for watershed management, and the policies and programs in place in the City and other agencies to promote a healthy water environment
- Discussions between City of Ottawa departments, Conservation Authorities, and other watershed agencies, as well as preliminary public outreach activities and surveys

The City of Ottawa, led by the Chair and Vice-Chair of the Environment Committee, will host a Water Round Table to engage with residents on a variety of issues affecting the water environment. Feedback received at the roundtable will provide input into the development of Phase 2. Phase 2, which will be brought forward to City Council in 2015, will include a strategic framework (including long term goals, objectives and guiding principles,) a City of Ottawa action plan for the 2014-2018 Term of Council and

recommended City investments, as well as a proposed inter-agency coordination strategy.

Ottawa's Water Environment

The “water environment” includes all elements of the natural environment related to rivers, streams, creeks, lakes, wetlands, groundwater and the linkages between them. Ottawa's water environment is complex and includes myriad interrelated natural systems.

Ottawa's Watercourses and Watersheds

The City of Ottawa has an extensive network of rivers, streams and other watercourses. This includes portions of four major rivers (Rideau, South Nation, Mississippi and Ottawa Rivers), four major tributaries (Carp, Jock and Castor Rivers and Bear Brook), and many smaller creeks and streams. The total length of these watercourses within the City's boundaries is more than 4,500 km, of which only 10 per cent are larger rivers and 25 per cent are classified as municipal drains. 77 per cent of all watercourses in Ottawa are located in rural areas.

10 per cent of these watercourses flow through City-owned land, and 12 per cent through other publicly-owned land (i.e. Federal or provincial.) The remaining 78 per cent flows through private land.

A watershed includes all of the land that is drained by a watercourse and its tributaries. A watershed includes all water, whether flowing or standing, the processes, factors and natural cycles which affect it and all the organisms which live in and rely on the water for survival. Watersheds are the land areas that feed rivers, while subwatersheds are smaller areas that feed streams and creeks.

The Mississippi, Rideau and South Nation watersheds combined cover much of eastern Ontario, with only about 25% of their area within the City's boundary. The health of the upstream portions of the Rideau and Mississippi watersheds affects the City; similarly responsible management of the headwaters of the South Nation watershed benefits those downstream.

Healthy watersheds provide critical services that support the health and well being of people and the environment. Healthy watersheds provide the residents of Ottawa with drinking water sources, maintain healthy ecosystems, protect people and property from flooding, support agriculture and tourism and provide safe beaches and recreation areas

A snapshot of Watershed Health in Ottawa

A review of watershed health indicators shows that, overall, Ottawa's watersheds are relatively healthy; however, there are a number of challenges and threats.

Typically, best practice indicators used to assess watershed health are the following:

- water quality
- forest and wetland cover
- riparian cover (shoreline vegetation¹)

Other indicators such as land use can also be useful, depending on the subwatershed.

The results of this analysis are summarized below and outlined in detail in Annex 1.

Water Quality

The City of Ottawa has a comprehensive surface water monitoring program made up of over 130 monitoring sites located across six rivers, four lakes and 40 creeks. Water quality samples are collected on a monthly basis, conditions permitting, and analyzed for 43 parameters including E. Coli, nutrients and standard metals. The Canadian Council of Ministers of the Environment Water Quality Index is then used to summarize the data into simpler terms (i.e., excellent, good, poor) for reporting purposes, and to provide a relative comparison of the water quality in the City's rivers and streams.

The Conservation Authorities also have a monitoring program that complements the City's. They engage residents in community-based monitoring; monitor groundwater quality and quantity on behalf of the province; and monitor watershed health beyond the City boundaries.²

Results to date suggest that the major rivers (Ottawa, Rideau and Mississippi) have good to excellent water quality and the major tributaries (e.g. Jock, Carp, Castor and Bear Brook) range from fair to good. Smaller tributaries vary between poor and excellent, but generally fall in the fair to good range. This situation reflects the lesser ability of small streams to withstand the effects of pollution and highlights the need to protect them.

Forest and Wetland Cover

The City's overall forest cover is 32 per cent; however, this forest cover is fragmented and varies greatly across the City ³Also, change over time varied. For example, from 2002 to 2008, seven catchment areas in the Lower Rideau saw an increase in cover, while nine saw a loss (some as much as 10%)⁴. Additionally, only 3% is considered 'deep or interior forest'⁵.

Riparian Cover (shoreline vegetation)

A vegetated or riparian buffer is a vegetated area near a stream that shades or protects the stream. Based on 2008 aerial photography, the percentage of naturally vegetated riparian buffers in Ottawa was below the threshold recommended by Environment Canada.⁶ In all areas, vegetative buffers provide important terrestrial habitat and assist with maintaining water quality and temperature control for in stream biodiversity. Beyond habitat value, suitable vegetative buffers in agricultural areas can assist with soil conservation and preserve a platform for required drainage maintenance.

Further information on the state of Ottawa's watersheds can be found in Annex 1.

Key Issues

Key issues identified during the development of the Strategy include:

- protecting drinking water including that of rural residents reliant on wells.
- protecting smaller tributaries, including headwater streams;
- managing untreated runoff from older urban areas and agricultural areas;
- protecting significant aquifers (e.g. Nepean aquifer), and groundwater recharge areas;
- balancing landowner rights and urban development with stewardship and protection of the natural environment;
- balancing the needs for urban and rural drainage and environmental protection and habitat conservation;
- reducing beach closures and maintaining clean waterways for recreational uses;
- restoring the natural structure and flow of streams
- responding to changes in environmental legislation and availability of resources from other levels of government; and
- adapting to extreme weather events and changes in climate

The City's role in a multi-jurisdictional environment

Water environment resources are managed by all three levels of government, federal, provincial and municipal, working closely with the Conservation Authorities. An understanding of the City of Ottawa's role within this arena informs the actions the City can undertake, alone and in partnership with other agencies.

The City has a front-line role in monitoring, assessing and delivering key programs that protect and restore the water environment.

Guided by the *Municipal Act*, Provincial Policy Statement (PPS), and the City's Official Plan, the City of Ottawa is responsible for environmentally sustainable land use planning and development; the protection of natural systems (including watercourses); the management of water-related infrastructure (drinking water, waste water and storm water); promoting environmental stewardship; and compliance, monitoring and reporting. Further detail on the City's legislative responsibilities with respect to the Water Environment can be found in Annex 2.

Recent changes to the Provincial Policy Statement place greater emphasis on the watershed as an appropriate scale for integrated and long-term planning, including considering cumulative impacts of development, and identifying and maintaining water resource systems, including the importance of shoreline areas. The new Statement also includes greater emphasis on green infrastructure, stormwater management practices as well as adapting to changes in climate.

Several City departments play key roles in the management of the water environment, including the Environmental Services Department, Planning and Growth Management Department, Infrastructure Services Department and Public Works. These responsibilities are summarized below and detailed in Annex 2.

Environmental Services

Environmental Services Department (ESD) has the primary accountability for the management of surface water resources, and serves as the lead department on the Water Environment Strategy. ESD's operational responsibilities include managing the drinking water, wastewater and stormwater collection and treatment systems, conducting extensive monitoring and compliance reporting on water resources, and maintenance of ditches, drains and other watercourses outside of the Right of Way and managing stream restoration and rehabilitation projects. ESD also has a policy development and outreach role, developing and advising on long-term environmental planning, policies, and strategies such as the Ottawa River Action Plan.

Infrastructure Services

The Infrastructure Services Department is responsible for the detailed design and construction of stream restoration and related infrastructure projects, as well as the development and implementation of the Wet Weather Infrastructure Master Plan.

Planning and Growth Management

The Planning and Growth Management Department is accountable for planning and policy related to subwatersheds, stormwater management, groundwater, drinking water source protection and natural heritage systems, and ensuring watershed assets are

adequately protected during development. They also provide technical expertise and facilitate access to environmental data.

Public Works

The Public Works department manages the City's trees and forests, maintains parks and beaches, and adopts pollution prevention practices while maintaining streets and sidewalks.

Other City departments whose work impacts the water Environment are **Ottawa Public Health**, whose responsibilities include testing and reporting on water quality at public beaches, and the **Real Estate Partnerships and Development Office (REPDO)**, which manages the acquisition, leasing and disposition of City property.

Specific roles and responsibilities of City departments can be found in Annex 2.

Building on Ottawa's Accomplishments

As part of the Water Environment Strategy City of Ottawa departments will work together to build on the existing foundation of watershed services and actions by the City, which includes:

- [Ottawa River Action Plan](#) – 17 projects including combined sewer overflows, stormwater management and wet weather management to improve the health of the Ottawa River and its many tributaries
- *Comprehensive planning and policy framework* – including the current [Official Plan](#), the [Greenspace Master Plan](#), the [Infrastructure Master Plan](#), which have strong policy statements around the water environment
- *Stormwater Management Retrofit plans* for older urban areas that have limited stormwater management
- [Watershed and Subwatershed Studies](#) and [Natural Heritage plans/ reports](#)
- [Water Environment Protection Program \(WEPP\)](#) - extensive water monitoring program with samples from 6 rivers, 4 lakes and 40 creeks, providing a breadth of detailed data
- *Well established collaborative environmental stewardship programs* including – [Rural Clean Water Grants Program](#) and [Community Environmental Projects Grants](#)
- [Characterization of Ottawa's Watersheds](#) – a compilation of existing environmental conditions.

An Integrated Asset Management Approach to City Actions

Phase 1 of the Water Environment Strategy proposes that City of Ottawa departments adopt an integrated asset management approach to the water environment, similar to the approach the City uses for its “built” infrastructure. This approach would be used to guide short term actions and the development of the Phase 2 Water environment strategy.

Asset management is an established approach for managing infrastructure to efficiently allocate resources amongst valid and competing needs. The application of asset management to natural systems is relatively new, but uses the same principles to value and invest in natural assets to protect the services they provide. An integrated asset management approach recognizes how upstream actions affect downstream watercourses; identifies and mitigates the negative impacts of human activities from development, infrastructure, agriculture or recreation; and manages the uncertainties of extreme weather and climate changes.

A key concept of asset management is understanding asset value. The direct benefits of safe, adequate supplies of water are known, and governments invest heavily in infrastructure to test, treat and distribute clean drinking water. However, the value of the broader water environment, and the resources needed to support it, can be less apparent.

With 4,500 km of rivers, streams, creeks and other watercourses within Ottawa’s boundaries, an asset management approach will help to more systematically inventory and protect these watercourses and direct how to best allocate the City’s resources.

Adopting an integrated asset management approach is ultimately about making the best decisions about where to allocate resources. This is particularly challenging for natural systems, given the complexity of information, disciplines and jurisdictions. An integrated asset management approach will guide development of a decision framework and priority setting process that systematically builds on the best available information to get the best ‘bang for the buck’ from the City’s resources.

More details on applying an asset management approach to natural systems can be found in Annex 3.

Federal and Provincial Agencies

As a large municipality, and the Nation’s Capital, the City of Ottawa is involved in a number of program and policy areas that are characterized by jurisdictional complexity. The Water Environment is no exception. The City of Ottawa is one of three levels of government, spanning two provinces, with jurisdiction over the capital’s water

resources. There are a number of federal and provincial agencies that have policy and regulatory authority over watersheds, in addition to delivering a number of watershed programs in the region.

The roles and responsibilities of these government agencies, and associated legislative authorities, are summarized below and detailed in Annex 2.

Ontario Provincial Agencies

Ministry of Agriculture and Food (OMAF)

The Ontario Ministry of Agriculture and Food (OMAF) has regulatory responsibility for the Drainage Act (1990) which regulates Municipal Drains. It promotes best management practices to protect rural land and water resources, including Environmental Farm Plans, in accordance with the *Nutrient Management Act* and operates Growing Forward 2, a federal-provincial-territorial framework aimed at encouraging innovation, competitiveness and market development in the agricultural sector. .

Ministry of the Environment

The Ontario Ministry of the Environment (MOE) regulates activities to protect air, land and water to ensure healthy communities, ecological protection and sustainable development. The Ministry is responsible for providing and/or regulating the provision of safe drinking water and protecting fresh water resources from pollution.

The MOE's water-related regulatory responsibilities include the *Clean Water Act*, *Ontario Water Resources Act*, *Water Opportunities Act*, *Environmental Protection Act*, *Environmental Assessment Act*, *Safe Drinking Water Act*, monitoring and enforcement of the *Nutrient Management Act* and the *Pesticides Act*. The MOE also coordinates key programs including the Source Water Protection Program, Ontario Drinking Water Stewardship Program and Provincial Groundwater Monitoring Program, among others.

Ministry of Municipal Affairs and Housing

The Ministry of Municipal Affairs and Housing (MMAH) has regulatory responsibility for the *Municipal Act*, which governs the establishment and authority of municipalities.

Planning Act (1990) - provides the legislative framework and tools for municipal land use planning and development and requires that municipal planning be consistent with the Provincial Policy Statement (PPS), which includes policies related to the wise use and management of resources, and protecting public health and safety.

Ministry of Natural Resources

The Ministry of Natural Resources (MNR) has regulatory responsibilities with respect to sustainable development of natural resources, including water, and delivers programs to support the Province's priorities in those areas. With respect to water, it ensures the integrated and sustainable management of surface waters and their hydrological functions; supports sustainable use of water resources (e.g. hydropower and dams); and protects people, property and natural resources from water-related hazards (floods, droughts and erosion).

MNR regulatory responsibilities include the *Conservation Authorities Act* and *Lakes and Rivers Improvement Act*.

The MNR coordinates key programs that include Provincial Flood Emergency Response Plan, Low Water Response, Surface Water Monitoring Centre, Land Stewardship and Habitat Restoration Program and provides guidance and policies on watershed planning, ecosystem restoration, natural heritage protection, water quantity and flows, the management of shorelines, stream corridors and natural hazards (including flooding and erosion), as well as water control infrastructure.

Federal Agencies

Environment Canada

Environment Canada sets national policies and standards for environment and health and undertakes water resource quantity and quality monitoring and data/information programs in cooperation with its provincial and territorial counterparts.

Fisheries and Oceans Canada

The federal *Fisheries Act* aims to maintain or enhance the ecological integrity of aquatic ecosystems notably through the prohibition of harmful alteration, disruption or destruction of fish habitat. In Ontario, Conservation Authorities are frequently delegated the authority by Fisheries and Oceans Canada to review projects and recommend measures to mitigate any impacts to fish habitat.

National Capital Commission

The NCC is a major property owner and manager within Ottawa's watersheds, owning and managing 6 per cent of our total area within the City's boundaries, through the Federal Land Use Plan, Greenbelt Master Plan and Plan for Canada's Capital.

Parks Canada

Parks Canada manages and protects National Parks, Marine Conservation Areas and Historic Sites including the Rideau Canal, designated as a Canadian Heritage River.

Transport Canada

Transport Canada has authority over the implementation of the *Navigable Waters Protection Act*, designed to protect the public's right to navigation and marine safety in Canada's navigable waters

Conservation Authorities

The Conservation Authorities are the City of Ottawa's key partners in the stewardship of Ottawa's watersheds. Conservation Authorities (CAs) are watershed-based management agencies that deliver services and programs that protect and manage water and other natural resources in partnership with government, landowners and other organizations. Created under the *Conservation Authorities Act* (1946) of Ontario, CAs are accountable for planning and regulatory functions under the *Act*. They undertake monitoring and reporting of subwatersheds, promote public engagement and landowner stewardship, and manage conservation areas. CAs promote an integrated watershed management approach balancing human, environmental and economic needs.

Due to the breadth of Ottawa's geography, there are three Conservation Authorities operating within the boundaries of the City of Ottawa, each representing a different major watershed:

The **Mississippi Valley Conservation Authority (MVCA)** oversees the Mississippi Valley Watershed, which encompasses 3750 km² and includes a complex network of rivers, streams and lakes from Addington Highlands and North Frontenac in the west to where the Mississippi River drains into the Ottawa River near Galetta in the City of Ottawa's west end. It contains 11 municipalities. MVCA also oversees the Carp River watershed which encompasses 700 km² and is solely within the City of Ottawa's boundaries, starting in Glen Cairn and flowing into the Ottawa River at Fitzroy Harbour.

The **Rideau Valley Conservation Authority (RVCA)** oversees the Rideau Watershed, which drains an area of over 4,000 square kilometres of Eastern Ontario. The main stem of the river flows in a northerly direction from Upper Rideau Lake to the City of Ottawa where it joins the Ottawa River. Total length of the longest part of the watershed is about 180 kilometres. About 620,000 people live in the watershed including a large

part of the City of Ottawa. There are 18 municipalities within the valley and most people, outside of Ottawa, draw their drinking water from the river or from groundwater. RVCA also oversees several tributaries in the eastern part of the City which flow directly into the Ottawa River, including Green, Voyageur, Bilberry, Cardinal and Beckett's Creeks.

The **South Nation Conservation Authority (SNCA)** oversees the South Nation Watershed. The South Nation River flows from headwaters north of Brockville, then northeast for 175 km, through the eastern portion of the City of Ottawa, and empties into the Ottawa River near Plantagenet. The watershed covers over 4,200 km² of complex ecosystems and contains 15 municipalities.

Conservation Authority Watershed Programs and Services

Conservation Authority-led programs assist in watershed planning and management and protecting the health of the watersheds. Key services and programs delivered by the CAs include:

- Watershed planning and management, such as a lead role in Source Water Protection Plans;
- Regulation of development in, or adjacent to, watercourses, wetlands and hazardous lands subjected to flooding and erosion. (as per Section 28 of the *Conservation Authorities Act* and Generic Regulations);
- Designated authority to advise on fish habitat protection (as per the *Fisheries Act*)
- Designated authority for septic system inspections and approvals (under the *Ontario Building Code*);
- Advice to municipalities on land use planning and development related to wetlands, river and stream valleys, woodlands, fish habitat, hazard lands, hydrogeology etc.;
- Emergency planning and response, including flood forecasting and warning, and low water response;
- Assessment of climate change impacts and risks, and development and implementation of adaptation and watershed resilience strategies
- Monitoring and reporting on watercourse condition and subwatershed health;
- Stewardship programs that engage landowners and residents through education, technical advice and/or incentives in waterway clean-ups, tree planting, shoreline naturalization, erosion control and water quality protection;
- Construction and operation of measures to protect or restore fish and wildlife habitat, restore shorelines, reduce water pollution, and protect property from natural hazards such as flooding, drought and erosion; and

- Management of Conservation Areas including public education and recreation programs

Governance and Funding of Conservation Authorities

Conservation Authorities are non-profit organizations, each with their own Board of Directors with members appointed by local municipalities within their respective watershed. The City of Ottawa has several representatives, including members of City Council and Council appointees, on the board of each of the Conservation Authorities, who sit alongside representatives from other municipalities in the watershed.

The operating costs of Conservation Authorities are partially funded through a municipal property tax levy – The City of Ottawa’s share of the levy is determined primarily on the basis of the City’s assessment relative to the total assessment within the watershed. Subject to Council Approval, the City’s total share in 2014 amounts to \$10,188,178.

The City of Ottawa appoints directors to the Conservation Authority Boards at the start of every term of council through the nominating committee that appoints council and citizen representatives to various boards

In addition to the City of Ottawa’s representation on the Conservation Authority boards, City of Ottawa staff work closely with conservation authority staff on a variety of initiatives.

The Ottawa River – Protecting an interprovincial asset

Through the 17 ORAP projects, the City of Ottawa is working to enhance the health of the Ottawa River and protect the water environment for future generations. When it comes to the Ottawa River, there is recognition that the City’s Water Environment Strategy should be informed by an understanding of the roles, responsibilities and planned actions of the actors on the Quebec side of the river. These actors include the City of Gatineau, and the Quebec Ministry of Sustainable Development, Environment, Wildlife and Parks.

The City of Ottawa has engaged in discussions with Gatineau, at both the staff and Council level, on a number of initiatives impacting the Ottawa River.

Phase 1 of the Water Environment Strategy has focused primarily on Ontario watercourses that flow through the City of Ottawa’s boundaries, many of which flow into the Ottawa River. Phase 2 will reflect the interprovincial stewardship of the Ottawa River itself, and staff will engage both the City of Gatineau and the relevant provincial agencies as in the development of the Phase 2 report.

A collaborative approach to Inter-agency Coordination

The Water Environment Strategy, Phase 1, recommends that the City of Ottawa pursue a collaborative approach to managing the Water Environment, which reflects the multi-jurisdictional reality of Ottawa's Water Environment as well as the overall trend in Canada and internationally towards multi-stakeholder, decentralized and ecosystem-based management and protection of watersheds. Further information on trends and best practices in watershed management can be found in Annex 4.

The City of Ottawa's Phase 2 Water Environment Strategy should take into account the complementary roles and priorities of the Conservation Authorities and government agencies in the management of water associated natural resources. It should also account for what programs and initiatives those organizations have planned for the next five years. This will enable the City to target its 2015-2018 Action Plan and associated investments to areas of greatest need, and direct resources towards initiatives where the City can have the most impact, both within its own mandate, and through leveraging a cooperative relationship with the Conservation Authorities and other agencies.

To achieve this, City Staff will further engage the Conservation Authorities, Federal and Ontario and Quebec Provincial agencies and the City of Gatineau and to identify their watershed priorities as well as what actions and initiatives are planned over the next five years. This information, along with feedback received from the City of Ottawa's Water Roundtable, will be used to inform the City's Phase 2 Water Environment Strategy and 2015-2018 Action Plan.

The Phase 2 Water Environment Strategy will include a recommended approach for inter-agency coordination, to ensure coordinated and complementary action that maximizes the impact of the City's investments in the health of Ottawa's watersheds.

Conclusions and Recommendations

This report is the first of a two-phase Strategy to identify the City of Ottawa's long-term watershed objectives and how to achieve them on an ongoing basis, ensuring that the City addresses water environment issues in a coordinated and integrated manner in cooperation with agency partners and stakeholders.

The development of the Water Environment Strategy Phase 1 has been informed by analysis of the current state of Ottawa's water Environment, a review of jurisdictional responsibilities for watershed management, a review of existing programs in place in Ottawa, and best practices and experiences across Canada and globally, as well as discussions between City of Ottawa departments, Conservation Authorities, and other watershed agencies, as well as preliminary public outreach activities and surveys.

Through the development of the Phase 1 strategy, key challenges facing Ottawa's Water Environment have been identified, as well as some gaps and opportunities that should be addressed in the development of a longer term strategy. These include:

- The need for greater awareness and understanding of the health of Ottawa's watersheds, and the individual and collective actions that can be taken to protect them.
- The need for an asset management approach to identify and assess risks, set priorities, and secure adequate resources.
- The importance of integration and coordination across City departments
- The need for clear roles, responsibilities amongst watershed agencies as well as coordinated and complementary action
- The need for systematic collection, integration and access to information.

Water Environment Strategy Phase 1 Action Plan

1. City of Ottawa departments will adopt an integrated asset management approach to the water environment, similar to the approach the City uses for its "built" infrastructure. This approach would be used to guide short term actions and the development of the Phase 2 Water environment strategy.
2. City of Ottawa departments will implement short-term actions that can be undertaken in 2014 within the City's authority, and within existing resources, to improve the Water Environment, working with Conservation Authorities and other agencies where required.
3. City staff, led by the Environmental Services Department, will further engage the Conservation Authorities and Federal and Provincial agencies to identify their watershed priorities as well as what actions and initiatives are planned over the next five years, and use this information to inform the City's Phase 2 Water Environment Strategy and 2015-2018 Action Plan.
4. The City of Ottawa, led by the Chair and Vice Chair of the Environment Committee, will host a Water Round Table to engage with residents on a variety of issues affecting the water environment
5. Staff will bring forward a Water Environment Strategy Phase 2 report for Council's consideration in 2015, which will include a City of Ottawa Strategic Framework, 2015-2018 City of Ottawa action plan, and recommended City investments.

List of Annexes

Annex 1: Existing Watershed Conditions

Annex 2: Watershed Governance, Regulatory Framework and Key Agencies

Annex 3: Applying Asset Management to Natural Systems

Annex 4: Best Practices Review

¹ Guide to Developing Conservation Ontario Watershed Report Cards (Conservation Ontario, 2011)

² Conservation Authorities also monitor surface water quality and quantity at a limited number of stations within the City's boundary that are part of the long term provincial water quality monitoring network

³ Characterization of Ottawa's Watersheds (2011).

⁴ Rideau Valley Conservation Authority *2012 Lower Rideau Subwatershed Report Ottawa*

⁵ South Nation Conservation is finalizing the Forest Trend Analysis for the South Nation River watershed.

⁶ Environment Canada, 2004 *How Much Habitat is Enough?*