



**A World-class Water Environment Strategy for Ottawa  
Ecology Ottawa's Preliminary Policy Considerations  
(Brief in preparation for the June 14, 2014 Water Roundtable)**

***Introduction***

Ottawa's water environment – its rivers, streams, creeks, lakes, ponds, and wetlands – are critical to the health and well-being of Ottawa's current and future residents. We are fortunate to have access to these plentiful water resources and reap their many benefits. Despite this importance in every facet of our lives, Ottawa's development has not proceeded with the ecological health of its watersheds as a priority, leading to increased watershed degradation. Embracing the fact that Ottawa is a city that thrives off of the water that permeates it is the first step towards creating the kind of world-class city we aspire to have.

The good news is that Ottawa contains growing understanding, expertise and inspiration regarding healthy city-watershed relationships; the City of Ottawa is currently developing a Water Environment Strategy, as committed to under the Ottawa River Action Plan. This is an opportunity to create a world-class strategy; one that will provide a vision to ensure healthy watersheds for Ottawa's residents and wildlife, and will prepare the city for the future challenges of a rapidly changing environment. Ensuring Ottawa has healthy watersheds is in the interest of all residents and the Water Environment Strategy provides a chance for participation in this important initiative.

The first phase of the Water Environment Strategy was released by the City of Ottawa in March 2014. It is a very promising start. In this brief document Ecology Ottawa outlines the key elements we believe need to be included in the Phase 2 Water Environment Strategy, to ensure Ottawa gets a world-class strategy.

In particular, we would like to see an ambitious vision for Ottawa's water environment, based on clear principles and with detailed objectives: integration of the Water Environment Strategy and the Complete Streets Strategy; adoption of the "environment first" approach already embraced in the Lower Rideau Watershed Strategy; and adoption and promotion of "Water Sensitive Urban Design (WSUD)". Based on the Water Environment Strategy Phase 1 and our own analysis, we are developing a vision for Ottawa's future water environment, with supporting goals to be achieved through

application of sustainable guiding principles, and with actions grouped around four policy priorities.

***Vision for Ottawa’s Water Environment***

*Old urban and suburban infrastructure has been upgraded to prevent combined sewer overflows into the Ottawa River, along with completion of a Combined Sewer Overflow Storage Area. All new urban and suburban infrastructure is designed to minimize water consumption and prevent negative impacts from stormwater and runoff on the Ottawa watershed and its subwatersheds.*

*By 2035 the Ottawa River watershed has been restored and protected so as to ensure residents have access to clean water for drinking and recreation; provide healthy habitat for wildlife; and contribute to climate change mitigation and adaptation.*

*Ottawans understand and value their water environment, and they are stewards of Ottawa’s water resources for the benefit of current and future residents, and the other life that depends on them.*

***Goals***

What do we want to achieve?	What do we want to avoid?
<ul style="list-style-type: none"> <li>• Best practice urban stormwater management</li> <li>• High water quality for drinking, fishing and swimming</li> <li>• Water conservation (a soft water path)</li> <li>• Restoration of habitat and species</li> <li>• Minimized flood risk</li> <li>• Climate change mitigation and adaptation benefits</li> <li>• Effective public engagement and transparency</li> </ul>	<ul style="list-style-type: none"> <li>• Water scarcity (surface and groundwater)</li> <li>• Loss of wetlands and other habitat</li> <li>• Loss of species</li> <li>• Degradation and development of river/stream/creek banks</li> <li>• Water pollution (surface and groundwater)</li> <li>• Invasive species</li> <li>• Flooding</li> <li>• One-way communications from the City to the public</li> </ul>

## ***Principles***

The Water Environment Strategy should include clear principles to support the goals listed above.

- *Ecosystem approach* – Adopt an ecosystem approach at the watershed and sub-watershed levels (integrated watershed management). Among other things, an ecosystem approach will require recognizing and respecting ecological limits.
- *Prevention* – Ensure city-funded projects, subsidies and permits do not cause or contribute to increased water pollution, wasteful water use and watershed degradation; and establish policies to foster prevention by the private sector.
- *Conservation* – Design new city buildings and infrastructure to reduce water consumption, and promote a culture of reduced consumption by households and businesses.
- *Restoration* – Restore the ecological functions of degraded watersheds and sub-watersheds.
- *Evidence-based policy development and in-house capacity*– Require that policy development and decision-making be supported by comprehensive evidence and ensure sufficient financial and human resources for in-house evidence gathering and analysis.

## ***Water Environment Strategy Priorities***

As mentioned earlier, based on the Water Environment Strategy Phase 1 and our own analysis, we see four priorities for the Water Environment Strategy. These priorities overlap in some aspects and it is clear that some measures/actions may fall under several areas. For example planting trees contributes to stormwater management, advances climate change goals, increases the urban forest canopy, and improves neighbourhood liveability.

The priorities are as follows:

1. **Sustainable Water Infrastructure – The City of Ottawa should vigorously adopt greening practices to promote water recycling, reduce pollution and minimize flood risks. It should lead by example, use regulatory tools and provide incentives to developers and homeowners.**

Sustainable water infrastructure comprises private and public buildings, roads, streets and other infrastructure explicitly designed to minimize impacts on water resources and watersheds, to promote water recycling and pollution prevention, and minimize flood risks. It should be promoted through a variety of strategies from building awareness to the use of policy and regulatory measures:

- At the street level, this means ensuring best green building practices are used when carrying out upgrades and repairs to existing infrastructure, and in all intensification projects.
- At the community level, this entails taking a watershed approach when planning and approving new developments.

Examples of actions:

- Adoption of Silva Cell technology whereby the healthy soil housed within the Silva Cell serves to grow large trees and treat stormwater onsite.
- Reducing impermeable areas in new roads and other development.
- Naturalizing stormwater management and integrating green infrastructure (e.g. rain gardens/permeable pavement, infiltration trenches) into urban design and planning.
- Providing rebates or subsidies to property owners for rain barrels, rain gardens, stormwater cisterns, green roofs and permeable pavement.
- Applying mandatory downspout disconnection from the city sewer system.

**2. Hard Infrastructure – The City of Ottawa should upgrade and maintain its potable water, stormwater and wastewater infrastructure in a timely way while following best industry practices, including the adoption of green infrastructure principles where feasible, in order to support clean and healthy watersheds, and reduce flood risks.**

Hard infrastructure comprises pipes, sewers and any part of a water treatment system or other municipal infrastructure that serves to distribute potable water and to collect, treat and recycle or properly dispose of household and stormwaters. Several Ottawa River Action Plan projects implemented to date and the pending construction of the overflow tunnels and implementation of the stormwater management subwatershed studies contribute to Priority 2.

**3. Water Efficiency and Conservation – The City of Ottawa should implement water demand management in the short term (10 to 15 years) and a water soft path in the long term; considered together from the start.**

‘Water efficiency’ is an economic concept that is based on applying cost-effectiveness criteria to options for reducing water demand. It is generally described as water demand management and requires only broader use of well-known engineering and planning tools. It typically shows ways of cutting current and projected water use by 30 to 40%. Potential measures of Water Demand Management include, for example, water pricing to ensure full cost recovery for water deliveries and water treatment, with adjustments to ensure utility economic viability; by-laws to require gradual replacement of flushes in existing building to low flush systems, and in new buildings the installation of ultra-low flush systems; etc.

'Water conservation' is an ecological concept that is based on ensuring sustainability and working backwards from that concept through changing habits and practices, as well as technology, to find the most appropriate combination of demand and supply options. It is coming to be described as water soft path and requires considerable change in current engineering and planning methods. It typically shows ways of cutting current and projected water use by 70-80%. Potential measures of Water Soft Path may include: water pricing that goes beyond full cost recovery to promote conservation; the shift of utility structuring from revenue derived from sale of water to revenue from selling water services; rooftop water collection; and, housing or building use for non-potable uses; etc.

Water Demand Management is appropriate for the short term and water soft path for the long term, where "short" means 10 to 15 years, and "long" beyond that period. These two should be seen as complementary strategies, and considered together from the start. Both must start from existing projections for regional population and economic growth, and almost all actions taken within a demand management context represent initial steps in a soft path context. Moreover, water pricing is a critical component of both approaches, and both must begin from existing plans for future level and structure of prices.

#### **4. Ecosystem Health – The City of Ottawa should integrate human and ecosystem health benefits.**

Water availability and quality is as important for the residents of Ottawa as it is for the wildlife, fish and plants that live in the area. The biodiversity of Ottawa's watershed is an indicator of ecosystem health, which in turn impacts human health; in a healthy ecosystem, water quality and availability tend to be greater. Wetlands and forested areas are critical to ensure water quality and quantity for urban and rural needs. Site alteration guidelines and other policies to protect them are needed, as well as restoration actions. Maintaining ecological corridors along river waterfronts is critical to ecosystem health and human enjoyment of Ottawa's waterways.

#### ***Comments on Asset Based Management***

The Water Environment Strategy Phase 1 proposes to apply asset based management to natural systems in Ottawa. Clarification and discussion is needed regarding this proposal. The debate regarding nature valuation aside, the information presented by the City in the Water Environment Strategy Phase 1 does not make a clear case for why adopting such an approach is desirable and does not explain how it would be implemented.

This could be a very progressively beneficial initiative for the city to take on, or it could be bad news for our ecosystems, depending on the how it is implemented. Among the questions we hope to see addressed upfront are how transparent and consultative the city

is planning to be in its valuation exercise, and what the findings of the valuation analyses will be used for. More detailed technical questions that we will seek to discuss include, for example, the scope of benefits that will be considered, the assumptions about the linearity of impacts that will be made, and what techniques will be used to assess value, among others.

### ***Seizing this Great Opportunity***

The Water Environment Strategy provides a unique opportunity for ensuring Ottawa has healthy watersheds for the benefits of all residents and the enjoyment of its visitors, especially as the city strengthens its appeal as a tourism destination. We must seize this opportunity to establish a world-class Water Environment Strategy that Ottawa can showcase at the upcoming 2017 celebrations.

Ecology Ottawa's Clean Water Team welcomes any input regarding these policy recommendations. This document will evolve as the Water Environment Strategy goes through its various stages and iterations and as we gather input from a diversity of stakeholders.

We look forward to engaging with all of Ottawa's water champions at the Saturday, June 14th Water Roundtable and elsewhere, and to a timely report back from the City of Ottawa.