

# **Stormwater Pollution Prevention Public Education and Outreach Strategy**

**A Component of the Wet Weather Flow Management  
Master Plan**



*Jump in! Get Involved!*

**Lura Consulting**

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## Introduction and Overview

*“Toronto’s communities need to be made aware of wet weather flow issues and involved in the solutions.” (Guiding Principle for the Master Plan)*

### **A Strategy for Reaching Out**

This Stormwater Pollution Prevention Public Education and Outreach Strategy (PE&O Strategy) has been developed by Lura Consulting – with direction from the Wet Weather Flow Management Master Plan (WWFMMP) Steering Committee – to begin to build a comprehensive framework for strengthening and enhancing outreach efforts directed towards Toronto residents and businesses on the topic of stormwater. The PE&O Strategy is intended to be a key foundational document for implementation of Toronto’s new Wet Weather Flow Management Master Plan.

The overall goal of this strategic framework is to identify the component strategies, possible roles for key partners, and the early approaches that will generate increased awareness and result in changing behaviors and practices that currently contribute to storm water pollution. Taken together, these strategies, roles and approaches will provide a strong foundation for ensuring the WWFMMP:

- ✓ Develops a strong network of community and business partners working together to prevent stormwater pollution;
- ✓ Develops effective public engagement and social marketing programs to assist the Toronto population in adopting more environmentally sound behaviors; and,
- ✓ In the short term, increases awareness about stormwater and water quality issues, and in the longer term, promotes pollution prevention solutions.

The PE&O Strategy's key recommendations include six major strategic directions:

- ◆ Adopt an umbrella approach to stormwater public education and outreach;
- ◆ Enhance partnerships with business, community and environmental organizations;
- ◆ Segment and target audiences for priority PE&O initiatives;
- ◆ Develop simple 'how -to' instructions and clear problem statements;
- ◆ Implement the PE&O Strategy City-wide, with supplementing initiatives at the watershed, ward and neighbourhood levels; and
- ◆ Monitor and evaluate programs and progress.

## **Listening to the Community**

Lura Consulting, on behalf of the WWFMMP Steering Committee, engaged in a cooperative, consultative process to develop and shape this framework. Guided by research into best practices on stormwater education, recent results from opinion polling and focus groups – both with resident and business participants – and input collected from numerous public consultation meetings over the past three years, the PE&O Strategy represents an assembly of insight and advice from Toronto residents, key business sectors, leading environmental organizations and technical experts. It also reflects the goals and aspirations of the members of the WWFMMP Steering Committee who contributed to its development.

## **Situational Analysis and Best Practice Research**

### **Context**

The former Municipality of Metropolitan Toronto began the WWFMMP process in 1997 to address the many environmental problems that are caused by uncontrolled wet weather flows and combined sewer overflows (CSOs), and to ensure that individual projects proposed by the various agencies and municipalities could be evaluated in the context of a larger plan.

Wet weather flow is runoff that is generated when it rains or snows. In large cities, most of the rain that falls cannot filter into the ground. Instead, stormwater runs off roofs, roads and parking lots, trickles down drainpipes and empties into stormwater grates. It is then conveyed through an extensive system of storm sewers to outlet pipes where it empties into streams, rivers, and Lake Ontario.

Stormwater is a major source of pollution because it picks up oil, grease, metals, pesticides and other pollutants and deposits them in streams and along the waterfront. The problem is exacerbated in older parts of the city, where combined sewers that carry both sanitary sewage and stormwater are still in use. In these areas, during large rainstorms, diluted sewage overflows into our rivers and the waterfront from 80 combined sewers.

The pollution problems associated with wet weather flow include poor water clarity, high concentrations of nutrients and bacteria, elevated concentrations of metals and organic contaminants, increased water temperature, and accumulation of trash. Because of high levels of bacteria from combined sewer overflows, waterfront beaches are frequently closed to swimmers, especially after rainstorms. During large storms, the system of pipes and storage tanks sometimes backs up, causing basement and surface flooding, erosion of stream banks and destruction of fish habitat.

Wet weather runoff can also affect water quality during dry weather because small particulate matter and bacteria may require one or two weeks to settle to the bottom of the watercourse, whereas the average time between storms is

usually only three to five days. This means that the contaminants remain in the water even during dry weather. In addition, there are other sources of contamination during dry weather such as cross-connections between storm and sanitary sewers.

## **Scope of the PE&O Strategy**

The City has been divided into five study areas for the purposes of the WWFMMP. Four of these generally follow the boundaries of the major watersheds (Mimico and Etobicoke Creeks, the Humber River, the Don River, and the Rouge River and Highland Creek). The fifth study area includes all the parts of Toronto where there are still combined sewers, including much of the former municipalities of Toronto, York, East York and the southwestern part of Scarborough.

The City of Toronto represents only a portion of the larger watershed areas that are shared with the “905” municipalities, including the Regions of Peel, York, and Durham. The full drainage area of all the watersheds is approximately 2092 km<sup>2</sup>. 31% of this total area, or 639 km<sup>2</sup>, is within the boundaries of Toronto and the rest is contained within the “905” municipalities.

In addition to the watershed areas within the City, the waterfront is another important area must be addressed by the PE&O Strategy. The amount of time that water quality along the waterfront exceeds the Provincial Water Quality Objectives for any given pollutant is a major concern for the City and its residents. In particular, beach closures resulting from high bacteria counts are an important driver for the WWFMMP.

Throughout the development of the Master Plan, it has become increasingly clear that a large-scale, comprehensive PE&O Strategy and is essential to assist in achieving the goals of the project. The Strategy needs to reach audiences in the City’s watershed and waterfront areas, and ideally, extend its reach into the “905” upper watershed areas, which have a significant effect on the quality and quantity of Toronto’s watersheds, waterways and waterfront.

## Surveys Say...

Public opinion polling and focus group research identified a number of interesting challenges to overcome in designing an effective PE&O Strategy to support implementation of the Master Plan. Simply put, Toronto residents do not understand stormwater. There exists a low level of knowledge of the causes of stormwater pollution and the resulting impacts on water quality. And for many, actions that they can take to prevent pollution entering Toronto's sewer system remain unclear.

For example:

- ◆ There is a relatively low level of awareness and understanding among Toronto residents that stormwater pollution is an important issue -- 75 per cent of those polled say they are 'very concerned' about air pollution; yet by comparison, only 44 per cent say they are 'very concerned' about stormwater pollution;
- ◆ There is little understanding about the sources of water pollution in Lake Ontario -- 56 per cent credit business practices and industrial dumping as the 'main cause' of water pollution, only 7 per cent recognize stormwater runoff as a contributor;
- ◆ The majority, about 56 per cent, of those polled say they do not know what causes stormwater pollution. 18 per cent say it is caused by combined sewer overflows, 10 per cent say it is caused by water collection in storm sewers, and 9 per cent tag water running off of driveways, streets and sidewalks as the culprit;
- ◆ 73 per cent of Torontonians do not know what combined sewers are;
- ◆ When asked about actions individuals can take to reduce stormwater pollution, 31 per cent of Toronto residents say they don't know, 15 per cent say reducing the use of household hazardous waste; 14 per cent say

street clean up and no garbage dumping, and 12 per cent say avoid dumping things down the storm sewer.<sup>1</sup>

## **Current Stormwater PE&O in City of Toronto**

To date, the City of Toronto's efforts at stormwater PE&O have been concentrated in three main areas:

1. Stormwater advertising;
2. Downspout Disconnection and Rain Barrels Programs; and the
3. Yellow Fish Road Program.

The PE&O Strategy needs to build on, and where appropriate, integrate elements of these municipal initiatives as part of awareness building and outreach for the WWFMMP.

In addition, the PE&O program should reflect the existence of, and build on the work done by the many non-governmental, universities, businesses and trade associations involved in social marketing and environmental communication projects in Toronto. A quick survey of current project activities shows over 15 groups involved in stormwater and water quality related educational projects in Toronto.

Concise descriptions of these municipal and non-government PE&O initiatives are included in the appendices.

## **Best Practices Research Says...**

In addition to research conducted on City of Toronto and other Toronto-based groups' stormwater PE&O activities, Lura examined stormwater PE&O campaigns in Boston, Massachusetts; Sacramento, California; San Francisco, California; and Sydney, Australia, among others.

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<sup>1</sup> Axmith McIntyre Wicht Ltd., "Stormwater Pollution Campaign 2002" presentation to WES, March 24, 2002

In summary, the most successful PE&O campaigns incorporate:

- ✓ “In person” contact and outreach;
- ✓ Incentives, such as free or rebated materials;
- ✓ Reaching people with the message many times in many different ways;
- ✓ Separate and specific campaigns for each different behavior to be changed;
- ✓ Flexibility in approach: different groups and sectors need to be targeted and reached in different ways (e.g., small businesses need a different approach than residents);
- ✓ Positive approaches rather than those that condemn past practices;
- ✓ Partnerships between government, the private sector and NGOs to provide expertise, services or in-kind donations; and,
- ✓ Strategies to focus public attention on the issue so businesses and other groups want to get involved.

By incorporating these stormwater PE&O best practices approaches into the PE&O Strategy for the WWFMMP, the City of Toronto and its residents will achieve the greatest stormwater improvements in the most effective way possible.

## Recommended Strategies

The framework for the PE&O Strategy is built on six important elements. These strategic elements, collectively:

- ◆ Offer comprehensive coverage of the myriad point and non-point sources of stormwater pollution;
- ◆ Build on the solid PE&O work to date by both the City of Toronto and non-government organizations;
- ◆ Target and segment diverse audiences;
- ◆ Make the best use of limited public education funds; and,
- ◆ Celebrates and rewards the activities of key program partners, including the voluntary sector and leading professional and trade associations.

This section outlines each strategic element in more detail and offers recommendations for next steps – short- and medium-term communication and PE&O activities that support each element.

### **1) Adopt an Umbrella Approach to Stormwater PE&O**

In order to achieve maximum effectiveness, the PE&O strategy should have an overarching approach that provides consistent verbal and visual cues to the targeted audiences. This ‘umbrella approach’ will:

- ✓ provide an overall campaign identity;
- ✓ provide necessary repetition for campaign tag lines and identifying ‘brands’ without adding additional advertising or branding costs;
- ✓ provide a City-wide theme for the campaign, especially important when used in support of a localized activity;

- ✓ help reach the audience several times with the same message through the use of different messengers;
- ✓ allow partners to ‘co-brand’ their targeted outreach efforts; and,
- ✓ be conducive to modular and flexible components – new elements and new projects that can be added and adapted over the five year life of the strategy.

Additionally, research supports the value of a ‘problem first, solutions second’ approach, which means the overall campaign identity should focus first on increasing awareness about the problem, or issue, the WWFMMP is designed to resolve. Water quality, Lake Ontario and river pollution and beach closings are the ‘problem end’ of the problem-solution equation, and should be a primary focus for general communications material produced by WES early in the implementation of the PE&O Strategy.

**SAMPLE: WHAT AN UMBRELLA BRANDING CAMPAIGN MAY LOOK LIKE**

<p>WES develops an overall theme &amp; ‘tag line’ for the campaign. Suggestions include: Not Grate for the Lake/Toronto Stormwater Pollution Prevention Project; or, Not Grate for the Lake/Toronto Clean Lake Project.</p> <p>The umbrella campaign is supported by a broad media advertising plan.</p>		
<p>Ward x Beach Sweep - A Toronto beach Councillor organizes his/her 1st Annual Beach Sweep. River ward Councillor organizes River Sweep. Material distributed before &amp; during the event includes the tag line: A member of the <b>Toronto Stormwater Pollution Prevention Project.</b></p>	<p>TEA’s Beach Watch Project begins again, in June 2003.</p> <p>Material distributed throughout the project are modified slightly to include the tag line: A member of the <b>Toronto Stormwater Pollution Prevention Project.</b></p>	<p>Trade Association Y Develops initial membership outreach material which includes the tag line: A member of the <b>Toronto Stormwater Pollution Prevention Project.</b></p>

## **Recommended Next Steps**

The above table provides only a sample of what an umbrella campaign may look like.

The umbrella concept – including themes, tag lines, and brands – needs to be further developed and fleshed out.

## **2) Enhance Partnerships with Business, Community Groups and Environmental Organizations**

Research for this PE&O Strategy has illustrated that much good work on stormwater PE&O has been done both by the City and at least 15 non-government organizations in the Toronto area.

There is a tremendous opportunity to build on this work, and more specifically to enhance existing and create new partnerships for PE&O implementation.

A broad-based partnership approach has many benefits, including:

- ◆ Enhanced credibility – messages and suggested actions supported by a wide range of voices are perceived with higher credibility than those coming from any single source;
- ◆ Improved ability to translate materials into audience-ready material – for example, real estate agents know how best to communicate with first time home buyers;
- ◆ The creation of an immediate, local and peer contact base – for example, developers may call a peer to ask for more information about green infrastructure and design rather than the local activist group, and residents may recognize the name of their local councillor more readily than the Council Water Advocate;
- ◆ Access to a broader spectrum of information – partners may create their own, complementary education programs within the umbrella framework, which allows other partners the ability to refer questions or follow-up to them, rather than providing the one stop shopping approach,

which often falls victim to general messaging as opposed to tailored responses;

- ◆ Most effective use of limited public funds for public education and outreach; and,
- ◆ The development of long-term trust and respect among the many partners and contribution towards the develop of new, strategic alliances in pursuit of the common goal of stormwater pollution prevention.

The use of partnerships for stormwater education and outreach is enabled by the Internet and Web-based tools. The extensive use of links by organizations, for example, allows quick access by the user to related sites for further information.

### **Recommended Next Steps**

Partners to approach on a preliminary basis for the purposes of PE&O strategy implementation should include all organizations who have participated on the Wet Weather Steering Committee, as well as the 30 or so community-based watershed groups and organizations that have participated in the Master Plan process over the past three years.

A more detailed partnership strategy – outlining potential roles for PE&O partners – should be developed based on consultations with potential partners.

### **3) Segment and Target Audiences**

While a large proportion of Toronto's population can be reached through an integrated communications campaign designed to raise awareness about the issue of stormwater pollution and provide 'how-do' advice to homeowners to encourage new behavior, research shows social marketing programs tailored to specific audiences are highly effective. To maximize program impact, the stormwater PE&O Strategy should develop priority activities targeted to specific audiences.

In the early stages of the strategy's implementation, we recommend that the following priority audiences include:

- ◆ Potential PE&O partners, advocates and champions, including City of Toronto staff who will be involved with implementation of the PE&O strategy and Wet Weather Flow Management Master Plan;
- ◆ The CSO neighbourhoods and the five study area neighbourhoods – in particular those neighbourhoods with the greatest opportunity to maximize ‘lot level’ source controls (e.g. areas where the majority of downspouts have not been disconnected), and those adjacent to rivers, streams and the waterfront;
- ◆ Councillor wards in beach and river areas;
- ◆ The development industry (once the new Stormwater Policy has been formally adopted);
- ◆ The home repair and renovation sector;
- ◆ The landscaping and gardening sector;
- ◆ ‘Early adopters’ in the business sector, and umbrella organizations like the Board of Trade;
- ◆ City agencies, boards and commissions, senior decision makers, and City Councillors; and
- ◆ ‘905’ municipalities.

These target audiences have been selected to reflect their relative ability to reduce the greatest amount of pollutants entering the storm sewers, or because the activities will focus attention on the issue of beach closings and water quality and contribute to building general awareness levels in Toronto.

## **Recommended Next Steps**

An implementation plan should be developed confirming these priority target audiences and identifying specific approaches and information needs for each audience.

Described below are several suggested areas of focus:

### **Residential Neighbourhoods**

Recent stormwater demonstration projects in three areas of the City of Toronto, as well as the City's Downspout Disconnection and Rain Barrel Programs, have all looked at and in some cases implemented programs to encourage stormwater pollution prevention at the residential lot level. Several non-government organizations have also designed and implemented 'door-to-door' campaigns to encourage residential stormwater pollution prevention. These initiatives have had varying degrees of success in encouraging residents to implement various source control measures, success as disconnecting downspouts or installing rain barrels. With the strong focus of the WWFMMP on source controls, an aggressive residential education and outreach initiative is essential to maximize 'uptake' of measures by residents.

It is recommended that the approaches taken by the above-referenced approaches be reviewed and assessed, and that a specific residential strategy be developed, drawing on and enhancing the best elements of these current initiatives. The recommended residential approach should also draw on the latest body of social marketing knowledge, particularly Community-Based Social Marketing, with its emphasis on personal contact and commitment strategies to foster more sustainable behaviour. In addition, a comprehensive approach is recommended, offering residents the opportunity to implement one or more stormwater pollution prevention measures, including: rain barrels, downspout disconnection, soakaway pits, storm gardens, landscaping, and reduction/elimination of fertilizers and pesticides.

The recommended residential approach should be piloted in several 'high potential' areas of Toronto (e.g., promising soil conditions and lot characteristics, etc.) to fine-tune the approach and assess 'uptake' potential before broader implementation on a City-wide basis.

### **Early Adopters in the Business Sector**

Early adopters in the business sector are an important segment – their new practices can serve as 'best practice' examples for other business, and they broaden the base of business concern for the issue. Early adopter opportunities

arise due to a number of factors, including the introduction of new services or products, site and lot expansions, (which can be identified through the Building Permit system at City Hall), a corporate-wide commitment to pollution reduction, and senior management involvement and awareness levels. At a minimum, the commercial, industrial and institutional participants in the WWFMMP outreach activities should be polled for the likelihood to adopt stormwater pollution prevention programs.

The following is a list of exciting opportunities that could be pursued early in the implementation of this strategy. Though not a comprehensive listing, the examples illustrate both an opportunity for change, and supporting motivational factors.

### **The Beer Stores**

This company-owned co-operative markets its environmental programs aggressively, and owns many outlets in Toronto with relatively large surface parking lots. A number of the WWFMMP partners have good working relationships with the senior decision makers within Ontario beer industry and with Brewer's Retail.

### **Loblaws**

In the spring of 2003, this grocery chain will introduce its new line of 'chemical free' lawn and garden products. The garden centers are not only excellent marketing vehicles for simple, 'how-to' messages directed to homeowners - their parking lots provide both an interesting display opportunity for stormwater pollution prevention materials and green lot design.

### **York University and the University of Toronto**

Both universities have active environmental programs and faculty, as well as senior environmental leadership within facilitates management divisions. York University is currently developing new parking lot spaces to meet the growing demand of its students. The University of Toronto has buildings still connected to the sewer system. A co-operative venture with the Vice Presidents of facilities, green planning and urban design programs and with student environmental organizations could be pursued.

**City Agencies/Boards/Commissions, Senior Decision Makers and City Council**

There are a number of opportunities for segmentation within the City of Toronto itself. An approach mimicking the Better Building Partnership energy efficiency program for City-owned buildings, phased in over a number of years, will provide high profile examples of early action to reduce stormwater pollution to the large property management sector in Toronto. Additionally, opportunities should be explored with Toronto's ABCs, including the Toronto Transit Commission and the Parking Authority.

The Toronto Parking Authority operates many thousands of square feet of parking space. A pilot 'green infrastructure' program should be developed in partnership with the City of Toronto, both as an example of 'getting our own house in order,' but also for the high profile example of how simple changes in parking lot design can contribute to heat island reduction and stormwater pollution prevention.

**4) Develop Simple 'How-to' Instructions and Clear Problem Statements**

Clear, compelling communication materials will be needed to support the PE&O Strategy and its implementation. In addition, the materials will need to be specifically tailored to the audiences identified above.

**Recommended Next Steps**

A number of current stormwater pollution prevention programs have already developed simple, effective communication materials, with how to instructions connected clearly to problems they are designed to overcome. An initial review of current material is warranted, in order to identify any significant gaps in instructional material. If appropriate, new materials should be developed to support the umbrella campaign, and local PE&O initiatives. An important first step will likely be to develop a 'user-friendly' stormwater pollution prevention tool kit that PE&O partners, advocates and champions (including City councillors and staff) can use to share information with their constituencies and networks about stormwater and water quality issues and solutions.

As well, the outreach materials should be periodically evaluated to determine their effectiveness.

## **5) Implement City-Wide, with Supplementing Initiatives at the Watershed, Ward & Neighbourhood Levels**

Some elements of the PE&O Strategy, especially communications materials designed to increase awareness about the issue of stormwater pollution, should be developed to have a City-wide impact. Programs built to motivate behavior change should be designed to reach participants at the watershed neighbourhood level.

In the early stages of the Strategy's implementation and to assist in the important preliminary goal of increasing issue awareness, we recommend a made-in-Toronto version of a Beach/River Sweep program be developed and piloted through the offices of several of Toronto's 'beach' and 'river' ward Councillors. Overwhelmingly successful in coastal areas, including Nova Scotia and New Hampshire, the Beach/River Sweeps will provide both an opportunity to engage important Toronto neighbourhoods in Clean Up activities, and involve key Council leaders as water quality advocates.

The best practices research showed that many successful PE&O programs include elements of Council and internal city decision maker outreach, and many actively involve Councillors, using their extensive circle of contacts to reach community groups, business improvement areas and residents.

### **Recommended Next Steps**

An overall PE&O implementation plan should be developed to guide the 'roll out' of the Strategy at the City-wide and watershed, ward and neighbourhood levels. Initially, it is recommended that a five-year plan be developed, listing PE&O plans and initiatives to support WWFMMP implementation on a year-by-year basis.

## **6) Monitor and Evaluate Programs and Progress**

The PE&O Strategy should include a monitoring and evaluation component to measure the effectiveness of the program activities by assessing increased population awareness and uptake in new behaviors. Regular monitoring and evaluation – through activities such as opinion polling and focus groups – will also ensure that program components, including the activities of key partners, are adjusted and enhanced on a regular basis to change what does not work, to

enhance what does work, and to tailor outreach to help overcome specific barriers. A number of the best practices case studies have developed comprehensive monitoring and evaluation programs.

### **Recommended Next Steps**

An evaluation plan for Toronto's PE&O Strategy should be developed collectively by WES and the groups currently operating stormwater pollution prevention programs.

## Proposed Budget for PE&O Strategy

The stormwater PE&O best practices research revealed that there is no consistent trend on stormwater PE&O spending, with relative spending ranging from 1% of overall budget (Boston) to Sacramento at 31% to Sydney, which has taken a very aggressive PE&O approach while working on a Master Plan.

For a comparison closer to home, The Region of York's Water for Tomorrow program has a total budget of \$10,135,164, of which approximately 8% is dedicated for PE&O activities.

In Toronto's case, a PE&O budget of 3-5% of overall spending for WWFMPP implementation would be in the right range. The higher end of this range may be desirable because:

1. PE&O has been clearly and repeatedly identified as a priority and guiding principle by the Steering Committee and public.
2. Aggressive PE&O initiatives will be needed to implement 'maximum' source control for a range of audiences: homeowners; developers; industry; small businesses; multi-residential; commercial; and institutional, among others.
3. A mix of traditional awareness-raising approaches (print ads, radio, etc.) will be needed along with on-the-ground, door-to-door approaches to change behavior and achieve the highest possible 'uptake' of source control measures throughout the various sectors.

## **Moving Forward**

During the past three years, the City's Works Department and the WWFMMP Steering Committee have been engaged in a public dialogue about enhancing water quality in Toronto over the next twenty five years through the development and implementation of the Wet Weather Flow Management Master Plan. Consensus has been reached on many future directions. Controversial issues have been debated. A wide range of new perspectives and creative, green ideas have been built into the Plan. Public education and outreach activities have been developed and new partnerships have been formed.

Much work still lies ahead. We will all need to continue to challenge our old ways of thinking so new ways can emerge. Our partnerships will need continue to expand and deepen as we move into implementation of the Plan and its public education and outreach strategy.

## Appendix A

### Summary of Current City Efforts

Although the City is involved in many programs and campaigns that are related and relevant to stormwater, such as water conservation and pesticides, to date, the City's specific efforts at stormwater PE&O are concentrated in three main areas:

1. Yellow Fish Road;
2. Downspout Disconnections and Rain barrels; and
3. Stormwater advertising.

**Yellow Fish Road.** This program invites school and youth groups to stencil yellow fish beside storm drains with the message "Do not dump into storm drains." The objectives are (1) to educate the public that whatever goes down the storm drain ends up in the rivers and Lake; and (2) to prevent illegal dumping down storm drains.

**Downspout Disconnection & Rain barrels.** With the message of "Recycle your Rain," the objectives of this program are (1) to reduce basement flooding and pollution impacts on rivers and lake; and (2) to capture water from disconnected downspouts and re-use the water for gardens. Residents have their downspouts disconnected free of charge, and are provided with a rain barrels at a reduced cost. A school curriculum component on downspout disconnection was added to the water efficiency curriculum developed and delivered by City staff. Publicity for the program is in the form of flyers, exhibits, posters, presentations, glossy handouts and a more detailed information package for use in door-to-door promotions.

**Stormwater Advertising.** Having used the messages of "Not Grate for the Lake" and "Please walk on the grass" plans are to make signs that read "Please swim in the Lake." The objectives of this campaign are to (1) raise public awareness about stormwater pollution; and (2) give the public an overview of stormwater pollution and what you can do. The media used for these annual (spring/ summer) campaigns are largely newspapers (Toronto Star, Toronto Sun, Globe & Mail, 8 community papers and the three leading Chinese, Italian & Portuguese papers in the City). Other publicity is through radio spots, transit shelter ads, fridge magnets and Website postings.

## Other City PE&O Initiatives

**Campaign:** Wise watering

**Objectives:** Reduce lawn watering to once per week, to off-peak hours.

**Approach/Tactics:** Ads in daily newspapers and community and ethnic papers (Chinese, Italian, Portuguese); Website; Hotline; Transit shelter and subway ads (inside subway cars); OMG bins.

**Key Messages:** “Watering your lawn too much?”; “For healthy roots, water your lawn just once a week”; “Put away your hose, grasscycle instead”; Water between 11 pm and 8 am.

**Target Audience:** City of Toronto homeowners, mostly men 35-65.

**Campaign:** Toilet replacement program

**Objectives:** (1) Encourage residents to replace old toilets with new low-flush toilets; (2) Reduce average water use; and (3) Delay or eliminate expansion of water treatment facilities.

**Approach/Tactics:** Incentive (rebates) to purchase water efficient toilet (\$60 for 6L toilet, \$75 for dual-flush toilet); ad campaign in Toronto Sun and Star and community newspapers; OMG bins; subway car ads with tear-offs; media news releases; ads in Water Watch newsletter.

**Key Messages:** Rebates available; must register; 45 days to install toilet once registered.

**Target Audience:** Home-owners, landlords of residences with 6 units or fewer.

**Campaign:** Pesticides

**Objectives:** To reduce the use of pesticides by residents of Toronto.

**Approach/Tactics:** brochure – several editions, colour, user-friendly; pesticide-free sign; magnet (where to call for information); lawn-line – automated info regarding lawn care, fertilizers, wise watering, can ask question for callback and request literature; materials put at all Civic Centres, Access Toronto and Toronto Public Health counters; website; fact sheets about plants, seasonal fact sheets, mulching, organic lawn care; presentations and workshops to the public, children/schools, community garden groups – staff from Parks & Recreation also give talks; outreach internally throughout City via departmental newsletters; displays at Trade Shows; online materials; there is a TIE (Toronto Interdepartmental Environment committee) pesticides subcommittee;

advertising: transit shelters, OMG bins, newspapers, radio; public meetings

**Key Messages:** “Using too many pesticides?”

“Please keep poisons off the grass.” Pesticides affect everyone’s health; There are alternatives to using pesticides; Ten steps to a healthy lawn.

**Target Audience:** Homeowners and general public

**Campaign:** Water Efficiency School Curriculum

**Objectives:** (1) To increase awareness of efficient use of water; (2) To encourage behavioral changes in students regarding water use.

**Approach/Tactics:** Partnering with public and separate school boards.

**Key Messages:** Every Drop Counts

**Target Audience:** Former City of Toronto, kindergarten to grade 8 students.

**Campaign:** Water conservation programs

**Objectives:** To conserve/ reduce the use of water

**Approach/Tactics:** Distribute water efficiency kits; strategies for reducing outdoor water use: water audits and Xeriscaping and naturalization; newspaper, transit shelter and radio ads; water efficiency newsletter; media relations program; distribution of education materials: pamphlets, fact sheets, booklets; water efficiency displays used at trade shows, malls and special events; curriculum supplements; Water efficiency programs undertaken by the City of Toronto include: **Water saving retrofit kits** distributed to homes, **A Universal Metering Program** to install water meters, **Water Conservation Curriculum Supplements** for grades 4-6 and K-3, including Water Saving Kits, classroom presentations, water activity days and tours of water and waste management facilities and provision of teacher’s workshops and development of a Leader’s Guide; **A Water Efficiency Training Manual** for City of Toronto Schools was developed including training workshops for plumbers and caretakers; **A Water Efficiency in the Workplace Manual** for the industrial, commercial and institutional sectors; **Media and transit shelter advertising**, press releases and bill stuffers to encourage metering; **A Water Efficiency Display** was produced with working models of a toilet and shower for use at malls, schools and environmental events; **Videos and slide presentations** available to renovators, community groups, and public information forums; **Brochures and information leaflets** available on wide variety of topics.

**Key Messages:**

**Target Audience:** General public and schoolchildren.

## Appendix B

### Summary of Current PE&O Activities of Non-Municipal Groups in Toronto

The list of groups which have been involved and/or interested in stormwater PE&O include the Ontario Ministry of the Environment, the Toronto and Region Conservation Authority, the Waterfront Regeneration Trust, Emery Creek Environmental Association, RiverSides Stewardship Alliance, Toronto Environmental Alliance, Task Force to Bring Back the Don, Don Watershed Regeneration Council, Etobicoke-Mimico Creek Task Force, Humber Watershed Alliance, Rouge Park Alliance, Friends of Highland Creek and the Toronto Bay Initiative.

The range of activities performed by these groups is broad and diverse. A sampling of their activities reveals the following:

“Business Helping Business” and “Do not dump – flows to creek,” are the catch-phrases of the Emery Creek Environmental Association. The ECEA has a storm sewer marking program on business sites; a newsletter with technical articles, pollution prevention tips, advice on ISO 14001, meeting notices, and success stories; technical seminars on related environmental and pollution prevention topics; and a Resource Centre that businesses have access to in developing a pollution prevention plan. The ECEA also provides assistance to companies to receive recognition for accomplishments through government award programs and facilitates networking between business, governments and non-governmental organizations for information sharing, pollution prevention planning and waste exchange.

The Toronto Environmental Alliance has a Beach Watch program with the goal of having clean beaches by 2006. To spread their messages of “Pollution in need of a solution,” “Keep rain out of the drain,” “Don't poison the lake at the sewer grate” and “Call your Councillor,” students were hired to visit all of Toronto's beaches, whether open or closed, in order to conduct public opinion surveys. A web site was created with stormwater information, tips on “what you can do” and known health risks of stormwater pollution. The web site also includes a sign-up to receive newsletters and information packages.

RiverSides Stewardship Alliance, “Where water quality begins,” conducts social outreach, educational programs, issues advocacy and policy initiatives; advocates and educates for and develops programs designed to achieve urban water quality, quantity and flow management for the purposes of ensuring a livable and sustainable city; and partners with other groups to deliver the Water Information Network program and H2infO, an online clearinghouse. RiverSides also conducts a number of other programs and campaigns, such The Water in the City Walk; The Municipal Low Salt Diet; No Net Loss of Permeability Campaign; Take Me Out to the Car Wash; and the Dental Mercury Initiative.

## Appendix C

### Summary of PE&O Best Practices from Other Municipalities

#### Boston

Boston Water and Sewer Commission's *2001 Stormwater Management Report* is largely about structural improvements, but includes a section on PEO and program evaluation. Most of Boston's PE&O activities reach out to the general public, without any market segmentation. They have not conducted any comprehensive evaluation to date.

#### Elements of PEO activities:

- **Billing inserts** (stormwater newsletter that also includes info on related topics, such as hazardous waste, used oil recycling, community outreach meetings, pet waste, etc.)
- **Web site:** informative and user friendly, sections of it geared to specific target groups such as developers and contractors.
- **Cable TV:** public service announcements produced by American Oceans Campaign and narrated by Ted Danson
- **Catch basin stenciling** (new developments are required to have permanent metal "Don't Dump" signs near new or reconstructed catch basins)
- **Doorhangers** distributed in neighbourhoods where incidents of illegal dumping have occurred. Serves to convey the "Don't Dump" message and informs people of prohibition on illegal dumping; also alerts people to look out for violators and provides phone number for reporting illegal dumpers
- **Stormwater outfall signs** permanently posted on or near ~190 of its 198 storm drain outfalls
- **Support for environmental agencies and watershed groups:** Funding to the Charles and the Neponset River Watershed Associations to support their citizen water quality sampling programs and public education efforts. The BWSC also funds projects started by The Boston Harbor Institute, EPA and DEP's Watershed Initiative.
- **Stormwater management brochure for small commercial businesses**

## **Sacramento**

City of Sacramento's 2001/2002 Annual Progress Report to the State Regional Water Quality Board has a series of reports on all the program elements for the previous fiscal year.

Sacramento's PE&O activities fall into the following main categories:

1. General Public and Target Sector Outreach
2. School Outreach
3. Public Official Outreach
4. Statewide and Regional Outreach

### **Principles arising from their PE&O activities:**

- Go to them (don't make them come to you)
- Have a lot of outreach for the general public and also some activities specifically tailored for specific groups

### **General Public and Target Sector Outreach**

- **Catch basin stenciling** promoted to elementary, middle and high school students, scouts and youth organizations
- **Clean Water Business Partners (CWBP) Program** for carpet cleaners and landscape industry, incentives-based, partnerships with California Landscape Contractors Association and Business Environmental Resource Center
- **Community Action Grants**
- **Interactive Electronic Display:** Rain, lightning, and thunder over model of urban setting, showing how common activities affect urban runoff and impacts local watercourses. Rotates among community centers and libraries.
- **Media Campaigns:** The City uses a recognizable mascot (Sammy Salmon) for TV, radio and print materials.
- **Water Wise Pest Control Program:** In collaboration with UC Cooperative Extension Statewide Integrated Pest Management Program, local Master Gardeners, local nurseries, and Sacramento Regional County Sanitation District, City staff developed the Water Wise Pest Control educational outreach program for residents. Advertised in elementary schools through The Sacramento Bee's Newspapers in Education "BugBuddies" curriculum.
- **"Explore Station"** interactive display signs at the Sacramento Zoo

- **Pesticide Control Operator** education and outreach presentations included in continuing education seminars, meetings, and workshops that PCOs are required to attend regularly to maintain their license.
- **Tailgate Sessions:** The Stormwater Management Program (SMP) inspector conducts tailgate sessions with contractors and subcontractors and attends various pre-construction meetings to outline erosion, sediment and pollution control requirements, and penalties for non-compliance.
- **Development Community Education:** City staff developed and conducted workshops for such as Stormwater 101, the SWPPP Preparation Course, the Subcontractor Training, and the Two-hour Field Short Course.
- **Brochures** on pollution prevention for construction sites covering General Construction, Concrete, Painting, Pool Water Disposal , Earth Moving, Heavy Equipment Operation, Landscaping and Pool Maintenance, and Roadwork and Paving.
- **handbook/telephone directory** designed for new residents to use throughout the year and encourages them to preserve their basins. Includes phone numbers for city services, stormwater pollution prevention information, and a section for personal phone numbers and notes.

#### **School Outreach**

- **Sacramento Splash program:** curricula and assistance for 5<sup>th</sup> - 12<sup>th</sup> grade students.

#### **Public Official Outreach**

- A number of activities, including involving City officials in stormwater pollution prevention activities, providing an Annual City Council Update, promoting stormwater pollution prevention awareness to other City departments and working with other departments to promote awareness to general public and specific businesses.
- Pollution Prevention Week declared in Sacramento

#### **Statewide and Regional Outreach:**

- A number of activities, including participating in the Stormwater Quality Task Force, Central Valley Outreach Group, and working with other regional groups to promote water pollution prevention.

**Also:**

- **Stormwater web site**, sections geared to specific target groups such as developers and contractors.

**Evaluation**

Sacramento evaluates their program in the following way:

- Community grants awarded = 4
- Community events attended = 20
- Water Wise Pest Control Presentations/Apearances = 25
- Water Wise Pest Control consumer cards distributed = 40,000+
- CWBP Business Participating = 56
- CWBP surveys returned = 517
- CWBP Brochures distributed = 10,000
- Local television media placements = 87 percent of households a minimum of 6.7 times
- Cable television media placements = 57 percent of households a minimum of 27 times
- Radio media placements = Average of 365,000 listeners per week
- Print media placement = 234,000+ utility bill inserts
- Electronic stormwater model placement = 3
- Sammy Salmon brochures distributed = 16,000
- Sammy Salmon Workbooks distributed = 6,000
- Zoo brochures distributed = 10,000 +
- Stenciling volunteers = 200
- Storm drains stenciled = 469
- Hits to website = 5,475
- City elementary classroom presentations = 92
- City elementary students receiving presentations = 2,400
- City classrooms receiving Splash curricula = 17
- City students receiving Splash curricula = 510

**The Water Wise Pest Control program** received awards for marketing and public outreach and education from multiple sources.

However, the Stormwater Awareness Program Tracking Survey (Meta Information Services) concluded from their survey research, that:

- Some residents seem to be becoming less compliant and/or more complacent about stormwater pollution, even knowing they should change their behavior.
- The perceived harmfulness of water pollution has declined.
- In citizens' minds, water pollution is a distant second to air pollution as our most serious environmental problem.
- There is continuing benefit to making the link between the point-of-entry into the storm drain system and ultimate watershed pollution.

## Sydney

Sydney is just now preparing their Master Plan (they are at a similar place in their process as Toronto is in theirs).

- **Raising awareness of Council personnel:** Courses on water and sediment erosion control could be expanded to suit Council needs. Create a statement of joint intent between local Councils and major stakeholders to ensure joint commitment to the plan and its objectives.
- **Community education and awareness strategy:** Emphasize active involvement of the community rather than more brochures and pamphlets.
- **Staff resources:** education/catchment officer responsible for implementing the community and industry involvement strategy.

## Evaluation

- **Raising awareness of Council personnel:** Awareness training for all relevant personnel should commence within three months of Council's adoption of the plan and be complete within fifteen to twenty four months.
- **Community education and awareness strategy:** Evaluation should be based on number of people committed to active involvement in stormwater quality control and percentage of the catchment area covered by groups active in stormwater quality control.

However, while developing their Plan they have been involved in active stormwater PE&O activities, including:

- Information kits sent to all Central Business District managers/owners/proprietors
- Memorandum of Understanding between the City and partner businesses

- Subsidized cigarette receptacles
- Provide signage for smokers/smoking areas and educational memos/emails
- Limited number of free passes to the Sydney Aquarium
- Pledge certificate
- Publicity via City's website and press releases
- Consultation to resolve site-specific issues
- Posters in bus shelters
- Brochures
- Information sheet for contractors
- Environmental checklist
- Lunch bags
- Displays
- Public events
- Encouraging organizations to address all stormwater pollutants on property (chemicals, waste, sediments) and carrying out environmental reviews of their premises.
- Much greater publicity in the media to tap into strong public opinion on environmental issues. It is hoped this will encourage business to get more involved

These activities will be evaluated as follows:

- Number of packages distributed;
- Qualitative feedback by recipients and peers;
- Number of website hits.
- Comprehension of key messages
- Actions taken resulting from program information
- Number of organizations agreeing to take part in stormwater education campaign.
- Number and type of positive actions reported by Partners
- Percentage of targets recognizing campaign material.
- Percentage of increase in comprehension of key messages
- Number of cigarette receptacles installed by CBD premises.
- Number and type of actions taken by program participants

**York Region**

The Water for Tomorrow program focuses on water efficiency rather than stormwater. Decision made to establish positive habits in young people rather than change the existing attitudes and habits of adult water consumers.

**General Public Outreach program:**

- Booklets
- Leaflets
- Newspaper advertising
- Bill inserts
- Interactive webpage with:
  - phone numbers for landscape advice
  - water efficient gardening workshops

**School Outreach program:**

- Teacher's manual
- Student Activity Book
- Video
- Art drawing contest on water efficiency; best pictures used to create calendar
- All materials also produced in French

To evaluate the program, the Region carries out annual focus groups and surveys of the teachers and students. Feedback from teachers has been very positive. Has won awards for public education.