

The Black Creek Watershed:

Public, private and community involvement in watershed
management

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History of Black Creek watershed management

Organized watershed-based conservation began in the region in 1946, with the Conservation Authorities Act, and in 1948 the Humber Valley Conservation Authority began to address the soil erosion, polluted rivers, sewage and industrial waste issues that were threatening the entire ecosystem. This was the beginning of the Humber watershed conservation activities aimed at erosion and pollution control, but it was Hurricane Hazel in (MTRCA) 1954 that cemented the Metropolitan Toronto and Region Conservation Authority's role in development planning and flood protection, after the historic storm left 81 fatalities and \$25 million in damage in its wake.

In the 1980s several issues regarding the state of the watershed were brought to light and became a source of public and political controversy, in one case two brothers drowned in the creek, near Jane Street and Finch, as a result of high water levels linked to snowmelt flooding. In the second case, high bacterial levels in the creek caused the first ever beach closures along the Humber Bay. In response to these issues, citizens groups like the Black Creek Conservation Project organized in order to clearly define the current state of their watershed, develop strategies for protecting the watershed, and communicating watershed stewardship practices throughout their communities.

Today, the Black Creek watershed, as part of the Humber watershed, continues to suffer from high levels of contamination, however, the area is improving and it is largely due to the combined efforts of community groups, municipalities, environmental organizations, and environmental education initiatives taking place in the watershed.

Stakeholders

Municipalities

For the Black Creek area, there are two municipalities that would be considered stakeholders, since the watershed spreads across each of their boundaries, Vaughan and Toronto. Representatives from these municipalities sit on the Humber watershed Alliance, with representatives from each of the other Humber municipalities, including Brampton, Etobicoke, Mississauga, North York, Toronto, York Region, Vaughan, Peel Region, Caledon, Richmond Hill. Other government stakeholders with influence on the management of the Humber watershed include the Ministry of Natural Resources, the Ministry of Environment, Environment Canada, Ministry of Agriculture, Food and Rural affairs, Ministry of Citizenship, Culture and Recreation.

Currently all of the municipalities in the watershed have in place plans to protect the aquatic, terrestrial, and natural habitat areas, and address issues of water quality, conservation, and management. As well, municipal councils are increasingly being encouraged to adopt more progressive environmental policies for stronger protection of natural ecological features of their regions, and assistance from environmental agencies in the form of technical is becoming more commonplace. However, many of the more progressive existing policies have not yet been implemented, or enforced, and none of the municipalities have done a comprehensive assessment of the effectiveness of their policies, to determine what impact new regulations or programs may have had.

Watershed Report Card Evaluation:

Public/Private Agencies

Environmental Organizations

Community based groups such as the Toronto Environmental Alliance, Action to Restore the Humber, Black Creek Project, and the Humber Watershed Alliance promote stewardship activities such as the elimination of pesticide use, proper disposal of

To what extent are businesses taking responsibility as stewards of the watershed? C↑

To what extent do municipalities take responsibility as stewards of the watershed? B

hazardous waste, habitat restoration, lawn naturalization, volunteer monitoring, and trail construction. These organizations also work to partner with the TRCA and the local municipalities on programs including downspout disconnection, yellow fish storm-drain marking, private land stewardship, water efficiency initiatives, school yard renaturalization, Environment Day, Adopt-a-Park, and Adopt-a-Tree. As well some of these programs operate with the specific mandate of including diverse communities, such as Sikh, Somali, West African and other ethnic communities in stewardship initiatives, and in a recent survey, almost 80% of respondents from the community claim to take part in at least one activity to improve the environment.

Watershed Report Card Evaluation:

Business

Activity of local businesses in support of watershed stewardship initiatives is increasing, through a growing commitment to the Humber Pledge, and several other pollution prevention programs. These programs, endorsed by local environmental groups like the Emery Creek Environmental Association, encourage businesses to commit to meet targets for pollution prevention and environmental management. As well, many of the same businesses have contributed to remediation projects in their area.

While some of the businesses have shown stewardship in protecting the health of their watershed, the vast majority have shown little interest or involvement with issues concerning the local environment.

To what extent are people taking responsibility as stewards of the watershed? C

Watershed Report Card Evaluation:

Community

Community groups

Implementation of the Humber Alliance watershed sustainability plan has been most effective at the sub-watershed level, given that local participation is essential to the uptake of plan recommendations. Regeneration of the Black Creek, the most degraded of the sub-watersheds, is focused on cleanup of the shores of the creek as well as renaturalization of the Black Creek corridor to counter some of the effects of overdevelopment.

Each Earth Day, schools, church groups, businesses and scouts groups organize over

What is the extent to which people are being educated about the environment?

C↑

25,000 people take charge of the aesthetic of the watershed, and volunteer for cleanup events in their local neighborhoods. These events, remove over 40 tons of garbage from parks and highway green spaces, and encourage awareness about responsible waste management and change attitudes about littering. However, evidence in the Black Creek indicates that some rural sites along the creek are still being used for illegal dumping of waste, including tires, shopping carts, and plastic packaging continue to turn up in down stream locations.

Watershed Report Card Evaluation:

Outdoor EE

Teachers have TRCA facilities for support in outdoor environmental education, including the Kortright Centre for Conservation, the Boyd Conservation area, and Black Creek Pioneer Village. They also have the option of using TRCA designed lesson plans and curriculum materials for in class learning and the “Watershed on Wheels” program that sends TRCA teaching staff into the classroom.

While an average of one in three students have the opportunity to benefit from these programs, environmental education must be a priority in the curriculum for teachers to a lot the time to these activities. In addition, many of these environmental education programs are operating at capacity and some schools go without the classroom materials and teacher expertise in the area.

Watershed Report Card Evaluation:

What is the condition of the clean up of the watershed?

C

York University

Although not mentioned specifically in the Watershed Report Card, York University can be viewed as a major stakeholder in the watershed, given the vastness of its footprint.

While some participation has taken place through small isolated relationships between York University faculty / students and local environmental stewardship projects, the extent to which the university contributes to a healthy watershed would receive a low grade. According to Wahl, the university's negative impact is two-fold, as they are both neglectful of stewardship opportunities and major contributors to the contamination of the watershed.

Development of the York campus has had a significant effect on natural drainage patterns, continues to increase the campus' adverse affect on Black Creek water quality. The York University Master Plan delineates how one hundred percent of the stormwater runoff is routed directly into the Black Creek, carrying with it pollutants such as lawn-care chemicals and car related contaminants (Wahl, 2002).

The neglect of stewardship opportunities is in reference to a generally unresponsive attitude toward partnership with local environmental organizations. While York University does have its own environmental management practices, their reluctance to work collaboratively toward more sustainable development, continues after more than twenty years of opportunity for large-scale community based partnership.

Profiles of Watershed management

Decision making and power dynamics within the Black Creek

Decision making within the watershed is shaped by the Toronto and Region Conservation Authority (TRCA), the Federal Department of Fisheries and Oceans (DFO) and the Ministry of Natural Resources (MNR). The TRCA, with the most power in the decision making process, is the primary landowner along the creeks and rivers in Toronto, and while they do not have ownership of the floodplains and valleys they still maintain jurisdiction over them (Joudrey 2005). As such, any development activity occurring in these areas must be approved by the TRCA.

The Department of Fisheries and Oceans also influences the development processes within the watershed by requiring that development not degrade fish habitat and not result in a loss of fish habitat, even if no fish happen to exist in the particular stream. If development is to occur, approved compensation or restoration must be undertaken elsewhere in the watershed by the developer to make up for the loss, allowing the DFO the final decision (2005).

The Ministry of Natural Resources is involved in the decision making process and reviews all applications for water-taking in the province of Ontario. For instance, water-taking permits are granted to organizations and individuals (ie: a golf course) who wish to take water from the creek. That being said, restrictions are in place for those who are granted permission by the Ministry, and there are also instances where decisions are made in partnership. Those involved, depending on the project, may include local stakeholders (The Humber Alliance, BCP, other environmental groups and residents), the TRCA, City Parks etc.

If a developer seeks a permit not involving water-taking or fish habitat projects, an application must be submitted to the TRCA. The next step involves reviewing the application with the TRCA planning staff, the TRCA resource science staff (scientists, engineers, and biologists), and the developer. A report is created, citing if a permit will be granted or not, and the final decision is then made by the TRCA Executive Board (2005).

The board itself is comprised of municipal councillors within the TRCA jurisdiction (Toronto, York, Peel, Durham) and three citizen representatives. Members of the board pose a problem to conservation efforts as Mayor DiBiase of Vaughan and many other municipal councillors, with significant power within the decision making process, are openly pro-development (2005). While the board does consider TRCA staff recommendations, these recommendations have also faced scrutiny as many in the environmental field believe that the TRCA staff does not adhere to their own regulations and requirements when reviewing applications. According to Joudrey, "the TRCA are in a difficult position, in that they are used as a tool and resource by Toronto and other municipalities to review development permits but they are also reliant on ongoing funding from Toronto and its municipalities. It can be assumed that if a municipality

deems that the TRCA has become too much of an obstacle in allowing certain developments to occur, that municipality can simply reduce the amount of funding given to the TRCA” (2005). Therefore, the councillors and municipalities have both representative power in the deliberations as well as financial power as the main funders of TRCA activities.

Moreover, while some projects do involve input from local stakeholders, it is more common to find stakeholders involved in the very last stages of the development process. When they do get involved, it is common that a delegation is formed at TRCA Board meetings, or letters are written to the TRCA and board members to voice concern, suggest accountability and offer alternatives. However, in the face of semi-transparent development approvals process, concerns of community stakeholders can be trumped against the political power of developers and municipal leaders (Humber Alliance meeting).

Profile: Toronto and Region Conservation Authority

The Toronto and Region Conservation Authority (TRCA) works as a bridge between community members and their expectations for the watershed and watershed policy. They act as a catalyst for responsible environmental management, providing technical expertise and working with volunteer groups to improve the health of watersheds. They also advocate for watershed protection by working with municipalities to assert that the watershed ecosystems become as important in community planning as the road, sewer, and water supply systems.

The TRCA model for watershed management has a strong focus of community participation, and in each of the region’s watersheds, a public group (like the Humber Alliance) has a voice in planning and development decisions and has in the past demonstrated their power in the face of land developers. TRCA tools for community engagement include environmental stewardship programs like the regional watershed monitoring network and the healthy lawn care program. These learning programs (one web based and another in workshop format) are aimed to engage both watershed ecologists and the community members in identifying watershed problems and designing remedial strategies.

Community Outreach Programs

According to Carol Cirillo, organizer of a healthy lawn care program, the effectiveness of TRCA stewardship activities, is limited to its success among a group of residents that already share the views of the program implementers, but the program can also be evaluated as ineffective in reaching and engaging new people. Although the stewardship programs are making a difference at the local level, the total impact of these initiatives on uptake of sustainable watershed recommendations remains low, as other groups from the community -those living in rental units, those who do not see watershed health as a priority, or those who can not afford to invest the time in learning about the watershed- have a consistently low representation in these activities (Cirillo, 2005).

Finances

The TRCA has had been heavily impacted by government restructuring and downsizing.

In the last decade, the TRCA's fundraising body has had to more than triple its size in order to compensate for losses in provincial and federal funding (Craib). While its original role, when founded was to be a linkage organization between the three levels of government and the greater public, the new TRCA devotes an increasingly larger portion of their resources to the Conservation Foundation, whose mandate is to finance TRCA activities, in spite of these lost government subsidies, through fundraising with individual donors and corporate sponsors.

Profile: Humber Watershed Alliance

The Humber Watershed Alliance was established by TRCA in October 1997. Its membership of 73 people includes residents, interest groups, and business associations, elected representatives from the local and regional municipalities in the watershed, agency staff and the TRCA. As well, each NGO interest group in the Humber, like the Black Creek Project, has a representative seat on the Alliance.

The Alliance is the body that develops objectives and the programs for the Humber, and the sub committees, like the watershed Task Force is develop the action plans, to achieve these healthy watershed goals. Since its creation the Humber Alliance has contributed to an impressive list of accomplishments, including the *Strategy for a Healthy Humber* plan and the *Humber Watershed Report Card*.

The Strategy for a Healthy Humber

The *Strategy for a Healthy Humber* was developed by a special task force of the Humber Alliance, consisting of Municipal representatives, residents, interest group representatives equally. The 5 committees: Vision + Principles, Natural Heritage, Culture Heritage, Community Involvement and Public use, and Economics put forth their recommendations for the environmental, social, and economic health of the Humber Watershed. The action plan, is not a legal regulatory policy, but is based in implementation strategies and various environmental education programs that are designed to encourage water and land stewardship from communities. Objectives 25 to 30 of the implementation strategy, cement the role of the community in watershed politics:

- Establishing an Alliance to take responsibility for the execution of plan objectives
- Promote signing of The Humber Pledge, a commitment to watershed stewardship
- Encourage grassroots implementation projects for protection, conservation, and regeneration of watershed.
- Develop technical education, community education on the watershed as well as incorporation of watershed education in primary, secondary, and college education.
- Develop a Humber Watershed Report card for stakeholders to monitor and evaluate the effectiveness of the implementation plan.

Currently the Task Force has identified 17 Community Action Sites, or locations most in need of remediation. In accordance with the strategy objectives above, the implementation of remediation activity in each of these areas begins with community-based planning techniques and public consultation meetings, and which encourage all

sectors of the community to provide knowledge, labour, materials, and resources to the regeneration project.

Profile: Black Creek Conservation Project

The Black Creek Conservation Project, created in 1982, is a not for profit, charitable, volunteer organization that seeks to raise awareness and advocate for issues affecting the Black Creek watershed. Concerned about the affect development was having on the Black Creek, residents like BCP founder Sandy Agnew enlisted the help of other local organizations to lobby for the protection of the natural heritage of the sub-watershed and to carry out rehabilitation projects (Agnew and Peppard, 2001).

According to Wahl, the BCP's first success came in 1985 when the group protested the City of Vaughan's approval of a stormwater facility for the Vaughan – 400 Industrial Estates at Jane and Highway 7, which called for the complete removal of an onsite woodlot (2002). In 1995, the BCP obtained charitable status, allowing them to apply to funding agencies, increasing their work in the watershed (2002). Over the last 23 years, the BCP has become more involved in encouraging community participation through programs offered within the watershed. Today, the BCP is the only group solely dedicated to the restoration of the Black Creek watershed (Joudrey, 2005). For an overview of the strengths and weaknesses of the BCP, see Appendix 2.

Group Membership and Administration

The BCP has over 40 members, primarily volunteer and varying in ages and experiences, 1-2 paid coordinators, and several community partners, including local schools. The volunteer Executive Board is elected annually by general membership, and is run by the 3-5 Directors (ultimately responsible for BCP activities), the President (supervises coordinator, acts as spokesperson for group, calls, sets and runs monthly meetings, unifies group), and the Vice President, Treasurer, and Secretary, who support in decision-making and administration. Typically the BCP's funding has allowed for one or two paid staff, and the coordinator and assistant coordinator carry out BCP programs, act as primary contact with public and TRCA, manage funding and funding applications, and are responsible for reporting back to funders (Wahl, 2002).

Support Agencies that enable the BCP to operate include the TRCA (in donations of office resources and expertise, The City of Toronto, and the Toronto Field Naturalists. As well, organizations that directly fund the BCP, like the Ontario Trillium Foundation, are essential to the groups' ability to carry out its programs.

Finances

For community groups like the Black Creek Project, funding cuts from government at the provincial and municipal level has had a heavy impact. As the lack of funding trickled down to the community level, this has meant a loss that has temporarily halted the progress of the BCP. According to Joudrey, the BCP is not very active, and have been experiencing a funding crisis since 2004. They have had little activity, and currently wait for further funding in order to resume their activities.

The Regeneration Strategy for the Black Creek Sub-watershed

Soon after '*Legacy: A Strategy for a Healthy Humber*' identified the most degraded of the sub-watersheds, the Black Creek, as a Community Action Site, the BCP, in partnership with the Humber Alliance and other public agencies, began to work toward a Regeneration Strategy, based on a survey carried out in the sub-watershed in 2000, information they had already collected, research and the documents created by the HWTF. The Regeneration Strategy outlined areas of concern in the Black Creek. Ecological issues (water quality, water quantity, and natural history features), social issues (the need for sustained community awareness and perception of the watershed as a natural ecosystem), prioritized action to be taken, and potential partnerships were outlined in the Regeneration Strategy.

The BCP regarded the strategy as a necessary progression toward a site specific plan and would add to it as they gained more knowledge about the watershed. One focus of the Black Creek regeneration strategy is on the channelized sections of the Black Creek and on bringing back some of the species that have disappeared with increased pollution. If implemented, it will replace 500 meters of concrete channel with natural banks, vegetation, and a restored aquatic community. This park would meet the recreation and education objectives of the watershed strategy, through integrated interpretive signage for picnickers, bird watchers, and cyclists.

Partnerships in Restoration

The BCP, with a strong interest in partnering with local stakeholders created the Partnerships in Restoration program in 2002. The program was initiated by former coordinator Michael Peppard, with the goal of creating a program that would “foster ownership and encourage a more active, and eventually more independent role in making decisions for the watershed” (Wahl, 2002).

Today, there are dozens of schools and some community groups (Doorsteps Neighbourhood Services, the Hispanic Development Council, and York Community Services) involved in activities within the creek. Specifically, the BCP has worked with six schools that now have their own Black Creek related projects, with their own adopted restoration site along the creek (Appendix 3).

Environmental Education in Schools

While environmental education has long since been removed from the formal school curriculum in Ontario, groups like the BCP have remained active in school classrooms, inspiring students from Kindergarten to grade 12 to think and participate in their local watershed. The Participation program offers a range of activities and events, typically outdoors, for local students. To date, activities like clean ups, plantings of native trees and shrubs, native seed collection and propagation, schoolyard naturalization projects, creation of community action plans, water quality testing, building of trails and interpretive signage, interpretive walks and in-school presentations on curriculum

related topics have all been successfully carried out in local schools within the watershed (Joudrey, 2005).

Some of the main obstacles related to the promotion of BCP environmental education programming were sensitivity to socio-cultural issues within the watershed, credibility of outdoor experiential learning over the traditional class setting, and the difficulty of building and maintaining relationships between BCP coordinators and local teachers. In spite of these challenges, the BCP was successful in bringing EE back into the curricula and encouraging these school groups to take an active and independent role in the Black Creek.

Appendix 1

Other Environmental groups active in the Humber Watershed (TRCA, 2005)

Citizens' Environment Watch (CEW) a non-profit organization dedicated to environmental education, monitoring and identifying environmental quality concerns in communities across Ontario. CEW provides surface water and air quality monitoring resources and training, and helps volunteers to take the first step toward achieving positive environmental change.

Action to Restore a Clean Humber (ARCH) is an environmental non-profit community group of experts and stakeholders with a common aim of a healthy Humber watershed. Volunteers are invited to participate in such activities as: monitoring/keeping inventory of fish, invertebrates, birds and plants found in the Humber watershed, determining the water quality by means of chemical analysis, and creating habitats for aquatic life. ARCH also offers training to demonstrate techniques while providing guidance and materials.

Trout Unlimited - Humber River Chapter is a non-profit organization dedicated to cold-water conservation and promoting stewardship in the Upper Humber watershed. Trout Unlimited - Humber River Chapter works in cooperation with the community, local groups, schools and government agencies to protect and restore the health of the Humber River watershed and to monitor the river from the perspective of a cold-water resource. Working towards short and long term enhancement of trout habitat, the group engages in a wide range of projects and initiatives including: outreach and education; encouraging community involvement; organizing and implementing native tree and shrub plantings designed to enhance riparian cover and improve water quality and quantity; creating in-stream habitat and cover; and the removal and/or mitigation remaining barriers and warming influences.

Canadian Community Monitoring Network was originally tested in pilot communities across Canada to develop a model for nationally coordinated community-based monitoring initiatives and to engage entire communities in monitoring activities. The model intended to discover methods by which local ecological information could be collected, inventoried and shared, to facilitate sustainable decision-making. It is projected that the future function of the CCMN would include a means of connecting volunteers with monitoring programs that need participants, as well as sharing the data collected.

The Emery Creek Environmental Association (ECEA) is a non-profit organization of businesses, industries and individuals within the Emery Creek watershed with a mission to heighten awareness of environmental responsibility in the community through voluntary participation in environmental activities for environmental remediation.

Many more, including the Humber Heritage Committee, Save the Oak Ridges Moraine, Soil and Crop Improvement Association.

Appendix 2

Tables 1 - 2. The Black Creek Project- Strengths and Challenges (Wahl, 2002)

Strengths	
23 year history in the watershed	<ul style="list-style-type: none"> ▪ A reputation for good work assists in gaining support for projects
Committed Volunteers	<ul style="list-style-type: none"> ▪ Genuine care about watershed among membership
Scale and Context of Work	<ul style="list-style-type: none"> ▪ Creation of the Regeneration Strategy, outlining issues on watershed scale ▪ Projects and programs consider ecological and socio-economic context of sites
Many Accomplishments	<ul style="list-style-type: none"> ▪ Creation of strategies for erosion control ▪ Construction of wetlands ▪ Planted over 30, 000 native trees, shrubs and herbaceous plants ▪ Removed tonnes of garbage from watershed
Partnerships in Restoration	<ul style="list-style-type: none"> ▪ Replaced isolated, one time events with committed action ▪ Encouraged student involvement in the watershed ▪ Integrated environmental education back in to the curriculum ▪ Potential to reach wider community through working with social agencies

Challenges	
Sustaining Community Involvement	<ul style="list-style-type: none"> ▪ Community groups tend to focus on socio-economic concerns ▪ Partner with groups that 'fizzle' and disappear ▪ Need to reach people at level meaningful to them ▪ Partnerships in Restoration has changed this
York University	<ul style="list-style-type: none"> ▪ University has many detrimental impacts on watershed ▪ Administration seems to have apathy toward Black Creek ▪ Difficult to motivate 'transient' student body
Preventing Sources of Degradation	<ul style="list-style-type: none"> ▪ Proposed program designed to combat sources of commercial and industrial pollutants and water quantity issues ▪ Source control of garbage part of Partnerships program
Raising Public Awareness	<ul style="list-style-type: none"> ▪ Partnership program connects with students and residents to raise awareness ▪ Newsletter recently revived – does not increase public awareness

Appendix 3

Partner schools for the Black Creek Project environmental education programs from Wahl, 2002

Archbishop Romero Catholic Secondary School

- Adopted part of watershed
- Participated in planting and clean up events
- Seed propagation, courtyard naturalization
- Developing community action plans (working to integrate EE into curriculum and incorporating socio-cultural and ecological considerations into subject areas, goal for whole school involvement)

Chaminade College School

(Started working in the creek before the BCP Partnerships program, with own funding)

- Adopted part of the watershed
- Fish hatchery
- Bioengineered stream bank project
- Benthic monitoring protocols
- Water quality testing
- Planting and clean up events
- Integrating EE into programs – math, science and technology
- Whole school involvement
- Funding proposal for study to remove concrete channel upstream

Rockcliffe Public School

- Environmental club
- Tree plantings
- School naturalization project

St. Francis de Sales Catholic School

- School yard naturalization project
- Interpretive walks
- Planting and clean ups in valleys

Shoreham Public School

- Many curriculum related activities for different classes
- Habitat and erosion walks
- In school slide show about watershed issues
- Planting and clean up events
- School yard naturalization projects

Stering Hall School

- Water quality testing
- Planting and clean up