



## Environmental Monitoring

Environmental monitoring is essential for the proper management of our natural resources. Monitoring provides us with quantitative information required for making informed decisions about the planning, management, and rehabilitation of the natural environment. In 2005, Conservation Halton implemented the Long Term Environmental Monitoring Program. This program ensures that monitoring is completed in a consistent manner over an extended period of time. It also provides a comprehensive understanding of the structure and function of local ecosystems necessary for assessing the long-term health of the watershed.



### The Three-Tiered Approach

Conservation Halton's Long Term Environmental Monitoring Program takes a three-tiered approach to monitoring the health of our watershed. All monitoring protocols are science-based and follow provincially standardized methodologies.

**Tier One** focuses on aquatic (water) and terrestrial (ground or earth) biological communities as indicators of watershed health. Aquatic indicators include: the fish community, the benthic community (organisms living on the bottom of a creek), in-stream habitat and water quality. Terrestrial indicators include: frogs and marsh birds, forest birds, forest health and biodiversity, and ecological land classification.

Environmental monitoring provides the information we need to make good decisions



Creeks are monitored as part of a five-year cycle

**Tier Two** complements Tier One and determines physical changes in the landscape over time. Tier Two monitoring is Geographical Information System (GIS) based, and with the use of aerial photography, identifies changes in the size and shape of natural areas. Other factors evaluated include patch connectivity, patch diversity and percent cover of various habitat types such as: forest, wetland, riparian vegetation, and interior forest.

**Tier Three** determines the factors that are driving changes in the landscape. These factors may include natural succession, rehabilitation, or urban growth and development. Tier Three is also GIS based and uses ground-truthing, where staff go out in the field to verify the data is correct, as needed.

### The Five-Year Cycle

Conservation Halton's environmental monitoring program is based on a five-year cycle, ensuring the entire Conservation Halton watershed is routinely monitored every five years. Years one through four focus on our major watersheds, while in year five monitoring centres on Conservation Halton's

operated lands and parks. At the completion of the five-year period, the cycle restarts at year one. The five-year plan is organized as follows:

1. Sixteen Mile Creek Watershed
2. Grindstone Creek Watershed
3. Bronte Creek Watershed
4. Urban Creeks Watershed
5. Conservation Halton Lands

### Results

Conservation Halton reports the results of our environmental monitoring initiatives both annually and at the end of each five-year cycle. Annual reports contain a brief summary of the field season with a focus on the watershed studied that year. Watershed Report Cards are published every five years and provide a detailed review of the entire Conservation Halton watershed. Contents of the Watershed Report Card can be accessed through Conservation Halton's website. Copies are also available by calling our administration office.

## Conservation Halton Natural Champion for a Healthy Watershed



Conservation Halton is the community based environmental agency that protects, restores and manages the natural resources in its watershed. Conservation Halton has staff that includes ecologists, land use planners, engineers, foresters and educators, along with a network of volunteers, who are guided by a Board of Directors that includes municipally elected and appointed citizens. Conservation Halton is recognized for its stewardship of creeks, forests and Niagara Escarpment lands through science based programs and services.

For more information on Environmental Monitoring contact Conservation Halton:

[www.conservationhalton.ca](http://www.conservationhalton.ca)

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