The Niagara Peninsula Conservation Authority and Niagara Region, along with their partners, are pleased to present the third annual Report Card on the environmental health of the Niagara watershed. The Report Card is intended to inform residents on the state of water resources, stimulate government action, and encourage public stewardship initiatives.

Take a moment to read the Report Card. In many areas we are doing quite well. In others, we need improvement. It is through the continual support and involvement of all of us that we can improve the Niagara Watershed.

**INTERPRETATION OF GRADES ASSIGNED**

The ratings, or grades, are used to track changes and provide updated information in future reports. Due to various factors, including the slow rate of change associated with some indicators and in some cases, the lack of ‘meaningful’ short-term data, the 2007 Report Card only reports on a subset of the original 18 indicators from 2005. Indicators not included will be reported on when additional or more trend-orientated data has been collected.

“High quality water is more than the dream of the conservationists; more than a political slogan; high quality water, in the right quantity, at the right place, at the right time, is essential to health, recreation and economic growth. Of all our planet’s activities, no force is greater than the hydrological cycle.”

Richard Bangs and Christian Kallen
In a watershed, the flow of water through the water cycle links everything together. This web of linkages is referred to as an ecosystem. The six theme areas from the Niagara Water Strategy are linked into the ecosystem, as are watershed residents, businesses and agencies. Human Activities either harmonize with natural processes and help to maintain the web, or they conflict with them, thereby causing stresses and potentially harming the water and the systems, that rely on it. When the Impacts of Human Activities are harmful, the Ecological Effects can eventually reach a level that triggers a Societal Response to reduce these detrimental effects.

**INDICATORS**

**WHAT IS THE CURRENT STATUS?**

<table>
<thead>
<tr>
<th>HUMAN HEALTH</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOIL WATER ADVISORIES</strong></td>
<td>No community Boil Water Advisories were issued by Public Health in 2007.</td>
<td>A</td>
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<thead>
<tr>
<th>NATURAL ENVIRONMENT</th>
<th>2006</th>
<th>2007</th>
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<tr>
<td><strong>COMBINED SEWER OVERFLOWS (CSO)</strong></td>
<td>Niagara Region and its area municipalities are continually investing resources to reduce the impact of CSO's through ongoing initiatives. An investment of over $26 Million has been made over the last two years.</td>
<td>C</td>
</tr>
<tr>
<td><strong>PROTECTED NATURAL AREAS</strong></td>
<td>This indicator has not changed since 2006, but when additional information is available from the Natural Heritage Areas Inventory study, this indicator will be more accurately represented.</td>
<td>C</td>
</tr>
<tr>
<td><strong>INDICATOR SPECIES ABUNDANCE</strong></td>
<td>In 2007, the indicator abundance score was 3.7, a score of poor. In comparison, an excellent score would be between nine and twelve</td>
<td>C+</td>
</tr>
<tr>
<td><strong>STREAM QUALITY</strong></td>
<td>Stream quality is a function of the levels of pollutants, types of aquatic species and vegetation found along the stream bank.</td>
<td>D</td>
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<tr>
<td><strong>GROUNDWATER QUALITY</strong></td>
<td>The Groundwater indicator grade has diminished as a result of the continuous nitrate exceedances in the Niagara-on-the-Lake well and rising nitrate concentration at Fonthill.</td>
<td>B</td>
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<tr>
<th>AGRICULTURE</th>
<th>2006</th>
<th>2007</th>
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<tr>
<td><strong>ENVIRONMENTAL FARM PLANS</strong></td>
<td>There have been over 343 completed Environmental Farm Plans in the Niagara watershed since the program started in 2005. The number of new programs for 2007 has remained close to the 2006 value.</td>
<td>B</td>
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<tr>
<th>FLOODING AND EROSION</th>
<th>2006</th>
<th>2007</th>
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</thead>
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<tr>
<td><strong>FLOODING ADVISORIES</strong></td>
<td>The Niagara Peninsula Conservation Authority issued five General Watercourse Safety Bulletins in 2007. A decrease from nine to five from 2006.</td>
<td>I</td>
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<th>RECREATION</th>
<th>2006</th>
<th>2007</th>
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<tbody>
<tr>
<td><strong>BEACH POSTINGS</strong></td>
<td>In 2007, thirty six public beaches were monitored including thirty three by the Region and three by the City of St.Catharines. There were 3924 bathing days with 810 days lost due to posted beaches. This equals a 20.6% loss of bathing opportunity days.</td>
<td>D</td>
</tr>
<tr>
<td><strong>USE OF PROTECTED NATURAL AREAS</strong></td>
<td>Visits to natural areas increased by 6.5% in 2007 for a total attendance of 541,800 people.</td>
<td>B</td>
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<th>WATER USE</th>
<th>2006</th>
<th>2007</th>
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<td><strong>TOTAL WATER DEMAND</strong></td>
<td>In 2007, the Region’s Total Water Demand increased from 424 litres per capita per day to 431 litres per capita per day. The 2007 rate is still lower than the rate reported in the 2005 Watershed Report Card.</td>
<td>B</td>
</tr>
</tbody>
</table>

**Note:** A number of indicators were originally included in the 2005 Watershed Report Card. Due to various factors including the slow rate of change associated with human health, the Niagara region Public Health Department has identified a number of issues and impacts within the Niagara watershed. The indicators used to address these issues and impacts within the Niagara watershed have been organized according to the primary themes associated with the Niagara Water Strategy.
Water use

FLOODING AND EROSION
Protection for our residential, commercial, industrial and public land uses from detrimental flooding and erosion.

RECREATION
Sufficient, clean water to support and sustain our recreational uses, such as beaches and natural areas.

WATER USE
Clean and abundant water for commercial users.

HUMAN HEALTH
Clean and abundant drinking water for our safe consumption.

NATURAL ENVIRONMENT
Water of a sufficient quantity and quality in natural areas like wetlands and streams ensuring healthy plants, species and the integrity of the ecosystem.

AGRICULTURE
Clean and abundant water for agriculture operations.

Note: a number of indicators were originally included in the 2005 Watershed report Card. Due to various factors, these indicators have not been incorporated in this report; however, they will be reported on at a later date. These indicators include:

- Bulletins in 2007. A decrease from nine to five from 2006.
- For additional information on beach postings, visit the Niagara region website at www.geosmartniagara.ca/beachmonitor/
- For additional information on what the Niagara Peninsula Conservation Authority is currently doing, please visit: www.conservation-niagara.on.ca/water_management/floodwarning.html
- For further information on beach postings, visit the Niagara Region website at www.geosmartniagara.ca/beachmonitor/
- For further information on conservation areas in your neighbourhood, please visit the Niagara Peninsula Conservation Authority website at: www.conservation-niagara.on.ca/conservation_areas/
- For additional information on conservation areas in your neighbourhood, please visit the Niagara Peninsula Conservation Authority website at: www.conservation-niagara.on.ca/conservation_areas/
- The Niagara Peninsula Conservation Authority manages/owns thirty six conservation areas encompassing approximately 2,870 hectares of environmentally significant and natural lands.
- The Marsh Monitoring Program was developed by Birds Studies Canada in partnership with Environment Canada.
- For more information on how you can get involved with this program, please visit: www.bsc-eoc.org/volunteer/glmmp/
- For additional information on environmental farm Plans, please visit the ontario soil and Crop improvement associations website at: www.ontariosoilcrop.org/cms/en/ProgramsabouthEFP.aspx?menuid=61
- For more information on the Niagara Peninsula Conservation Authority is currently doing, please visit: www.conservation-niagara.on.ca/water_management/surfacewater.html
- For further information or to see what we are doing, please visit the Region’s website at: www.niagararegion.ca or WaterSmart Niagara at www.watersmartniagara.ca or the NPCA's website at: www.conservation-niagara.on.ca

Each indicator has been rated or graded using the following scale:

- A Very Good
- B Satisfactory
- C Needs Some Improvement
- D Needs Lots of Improvement
- I Insufficient Data Available at this Time
- I+ No Change
- I- Improvement
- I- Downwards Trend

TREND

MORE INFORMATION

- Boil Water Advisories are issued by the Niagara Region Public Health Department. A Boil Water Advisory remains in effect for the lakeshore community in Wainfleet.
- Additional information can be found at www.niagararegion.ca

- The Niagara Peninsula Conservation Authority, in partnership with Peninsula Field Naturalists and others, is preparing an Inventory of Natural Areas for the Niagara Watershed. This project will be completed in 2009.
- For results from the 2006 sampling season, please go to: www.conservation-niagara.on.ca

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- The Niagara Peninsula Conservation Authority has updated the Annual Water Quality Report. Please visit: www.conservation-niagara.on.ca/water_management/surfacewater.html

- The Niagara Peninsula Conservation Authority is working with the Province and others to better understand groundwater resources.
- For further information on what the Niagara Peninsula Conservation Authority is currently doing, please visit: www.conservation-niagara.on.ca/water_management/surfacewater.html

- The Environmental Farm Plan program is administered by the Ontario Soil and Crop Improvements Association.
- For additional information on Environmental Farm Plans, please visit the Ontario Soil and Crop Improvement Associations website at: www.ontariosoilcrop.org/cms/en/ProgramsabouthEFP.aspx?menuid=61

- The Niagara Peninsula Conservation Authority administers and operates a flood warning system to reduce the risk to life and property due to riverine and shoreline flooding.
- For additional information, please visit the website at: www.conservation-niagara.on.ca/water_management/floodwarning.html

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- There are many factors that influence the rate given for Total Water Demand. While usage is high from a global perspective, there is an increasing awareness by consumers of the benefits associated with conserving this important natural resource.
- Many municipalities have installed water meters. This provides data to allow us to track usage more accurately.
- Please visit the Niagara Region website to learn more on how you can reduce your water consumption at: www.niagararegion.ca

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GET INVOLVED IN PROTECTING AND ENHANCING THE WATERSHED
“YOUR ACTIONS TODAY WILL MAKE A BETTER TOMORROW.”

- Join and support local and national environmental groups that work to solve environmental problems; they are always in need of more volunteers and different talents.
- Don’t dump hazardous products such as oils, paint compounds, solvents into storm drains or ditches.
- Stoop and scoop animal waste.
- Disconnect your home’s eavestrough downspouts from the sewer and install a rain barrel.
- Use native trees and shrubs in your gardens to restore the natural water cycle on your property. Replace hard surfaces with natural groundcovers and porous paving to allow rainfall to soak into the ground.
- Support your municipality in implementing best management practices in parks, municipal yard maintenance, water conservation programs and garden/yard waste pick-up.
- Water efficiency saves money and reduces the demand on our waterways and treatment plants.
- Maintain your septic system in good working order; have the septic system pumped every three to five years. Most importantly, upgrade a leaky system to minimize leaching of nutrients.

THANKS TO OUR PARTNERS AND STAKEHOLDERS FOR THEIR COOPERATION AND CONTINUED SUPPORT.

Watershed Partners: Town of Fort Erie, Town of Grimsby, Town of Lincoln, City of Niagara Falls, Town of Niagara-on-the-Lake, Town of Pelham, City of Port Colborne, City of St. Catharines, City of Thorold, Township of Wainfleet, City of Welland, Township of West Lincoln, City of Hamilton and Haldimand County.


Coordinated by:
Heather Dearlove, B. Sc., Environmental Planner, Philips Engineering Ltd. and Mary Stack, Director of Communications, Niagara Peninsula Conservation Authority

We are interested in hearing from you. Contact us at: hdearlove@philipseng.com, 905-335-2353 ext. 1276 or mstack@conservation-niagara.on.ca, 905-788-3135 ext. 242