

The following pages provide some highlights of selected applications completed in the 2009/2010 reporting year. The issues are very diverse, such as the need for environmental safeguards when natural gas or wind powered electricity plants are built; the need for more rigour when exemptions are granted for aggregate licences; and the need to consider moraines as important land forms in local land use planning. Please see Sections 5 and 6 of the Supplement to the Annual Report for detailed reviews of all applications completed under the EBR in 2009/2010.

## 7.1 Pushing for Natural Heritage Planning on the Waterloo and Paris-Galt Moraines

The Growth Plan for the Greater Golden Horseshoe (Growth Plan), which establishes specific density targets and planning priorities for the region, expects the region's population to increase by four million people by 2031. The Growth Plan establishes five urban growth centres within the Grand River watershed. These communities depend on groundwater and/or limited surface water supplies for drinking water. Nutrients and other pollutants from treated and untreated wastewater are discharged into the Grand River.

There is a tension between meeting the Growth Plan population targets and protecting the water resources of watersheds. If demand for water outstrips supply, municipalities will need to import water to deal with water shortages. They must also ensure water infrastructure can handle the discharged water. The situation is further compounded by the effects of climate change; by mid-century, Southern Ontario will experience an average 2.6 degrees Celsius warming in the summer with consequent increased evapo-transpiration.

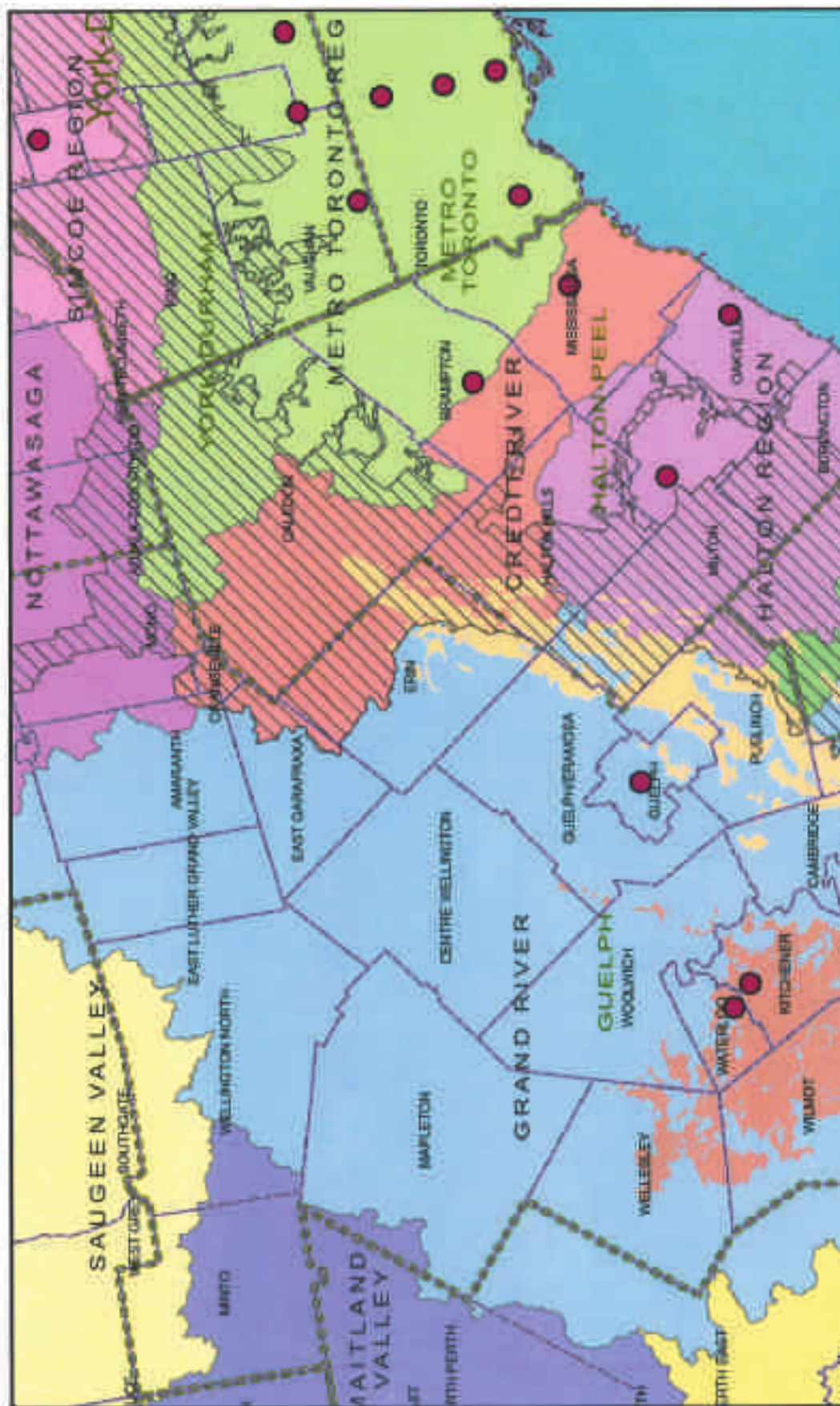
### The Moraines

Moraines are a geological feature formed at the edge of glaciers traversing across the landscape. The glacial sand and gravel deposits act like a sponge, absorbing rain and snowmelt. The water stored in the moraine's aquifers is filtered and slowly released into lakes, rivers and streams. As such, moraines are often an important source of drinking water and act as a recharge/discharge area for watersheds. The forested areas of the moraine typically support diverse ecological habitats.

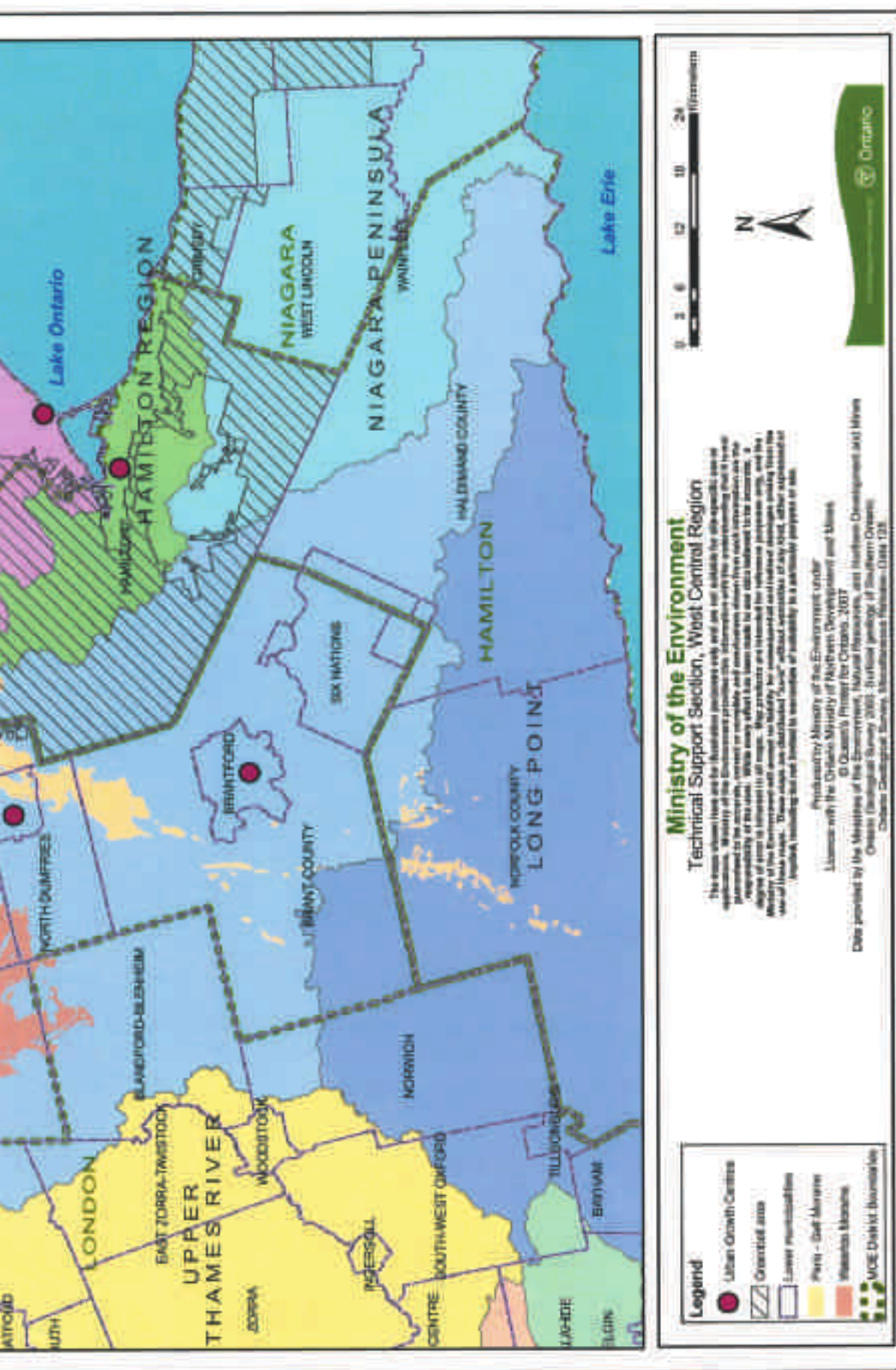
The Waterloo Moraine spans approximately 400 square kilometres of the Grand River watershed in the Region of Waterloo. The municipalities of Waterloo and Kitchener have developed on the central portion of the moraine. The multi-aquifer provides water to the majority of Kitchener/Waterloo inhabitants and those in rural areas west of the municipalities.

The Paris and Galt Moraines extend 560 square kilometres from Caledon to Norfolk County. The moraines are significantly lower in relief than the Waterloo Moraine and have a relatively permeable surface geology. These features contribute to high levels of recharge into the moraines, supporting coldwater streams and wetlands. While the moraines are not subject to imminent development pressures, Guelph and Cambridge are set to reach density targets by 2031. Significant aggregate extractions are also occurring on the Paris and Galt Moraines.

## Conservation Authority Watersheds Relative to Moraine Features







## The Applications for Review

In June/July 2006, and in May 2007, the ECO received three separate applications for review outlining the need for a new policy or act to protect the Waterloo, Paris and Galt Moraines. The applicants asserted that increased growth would detrimentally affect the quality and quantity of groundwater, and increase the risk of well contamination, floods and water shortages. The applicants contend existing policies and laws are insufficient to protect the moraines.

The Ministry of Natural Resources (MNR) and the Ministry of Municipal Affairs and Housing (MMAH) denied all three applications (see Section 5.3.3 of the Supplement to the 2007/2008 Annual Report). In mid-2007, MOE agreed to review the necessity of a law or policy to protect the moraines. The review excluded policies not under MOE's mandate (i.e., the Provincial Policy Statement [PPS], the Greenbelt Plan and the Growth Plan). Also, the review did not examine decisions made within the last five years (e.g., *Clean Water Act, 2006* [CWA], *Ontario Water Resources Act* [OWRA], *Nutrient Management Act, 2002*, and the *Environmental Assessment Act*).

## Ministry Response

In May 2009, MOE released a report on its review that concluded new provincial policy or legislation was not required to protect the moraines. The report found that the Waterloo Moraine has been extensively studied. It was experiencing local contamination issues at several well fields, particularly from road salts and fertilizers. The area did not face decreases in water quantity. The report noted the Region of Waterloo has been proactive in water resource protection; however, no specific land-use controls have been proposed. Additional water budget studies are being completed.

Regarding the Paris and Galt Moraines, the report found there was detailed hydrogeology data in the developed areas of the moraines, but insufficient data for the majority of the moraine. Water level trends are stable, and there are high levels of recharge into the moraines. While groundwater quality is being affected by agriculture, septic systems and de-icing material, gravel extraction does not appear to be affecting groundwater, surface water or wetlands.

Although not reviewed, the report found that the CWA, the PPS, the Greenbelt Plan and the OWRA provide adequate protection for groundwater recharge in the Upper Grand River watershed. MOE stated that the CWA would address most of the applicants' concerns over drinking water once source protection plans are implemented.

MOE revealed that additional water resource studies were underway and expected to be completed in 2010. MOE committed to developing guidance materials to assist with the implementation of policies protecting hydrologic functions of the moraines.

## ECO Comment

The ECO believes MOE's research outlining the hydrogeology of the moraines, as well as the applicable laws and policies, is important and is to be commended. But it is not the final step in determining how best to protect water resources for future generations. If the principles of watershed-based planning are applied to an examination of the environmental and socio-economic context of

the moraines, the ECO believes current provincial policies do not adequately protect the ecological integrity and hydrogeology of the moraines.

On the 10th anniversary of the Walkerton water tragedy, we are reminded of the critical role water plays in the environmental, social and economic well-being of our communities. Our 2006/2007 Annual Report found that "serious conflicts are inherent in the province's plans for balancing growth and ecosystem sustainability." These conflicts must be addressed in a proactive manner through the mandated use of a systems-based approach that requires the explicit prioritization of ecological and hydrological integrity in land use planning. Sustainability requires regular assessments of where development is feasible and how much growth the natural environment can support. Although MOE's report provided excellent benchmarking information on the moraines, it did not assess whether the ecological capacity of the moraines can realistically accommodate the projected growth in the region. Nor did it examine the cumulative environmental effects from the projected growth.

Not only does the Growth Plan fail to require population allocations be adjusted for communities with watersheds close to or already at carrying capacity, it favours large-scale infrastructure projects aimed at overcoming the natural limits to growth. Waterloo is proposing to address any future water shortages by constructing a pipe to Lake Erie. Such infrastructure projects override ecological carrying capacities and are exempt from natural heritage protections in the PPS and Greenbelt Plan, despite their significant environmental effects. Provincial policies, such as the Growth Plan, favour development over sustainable planning processes.

A comprehensive systems-based plan for natural heritage protection and land use planning is needed. The moraines extend across several cities and regions, each with their own official plans and zoning. The resulting piecemeal approach to planning and protection can leave environmentally significant areas vulnerable or under-protected, thereby compromising the entire landscape. Although the province's land use planning laws and policies are laudable in some respects, our past reviews reveal that they were ineffective in preventing, curtailing or modifying environmentally destructive developments.

Natural features, such as moraines, should be the basis upon which local land use planning decisions are weighed. Yet the province does not specifically identify moraines as a landform or natural heritage feature to be considered for protection. On numerous occasions, the province has asserted its planning system is adequate to protect significant environmental features. Yet, it has created specific laws and policies for several vulnerable regions, including the Oak Ridges Moraine, the Greenbelt and Lake Simcoe.

The province must use the opportunity of the current PPS review to make a strong commitment to ecosystems-based planning in Ontario. MMAH should revise the PPS to require that the diversity and connectivity of natural features, as well as their long-term ecological function and biodiversity, be maintained and restored.

#### **Recommendation 14**

The ECO recommends that the Ministry of Municipal Affairs and Housing amend the Provincial Policy Statement to require that the long-term ecological function and biodiversity of natural heritage systems are maintained.

For a more detailed review of this application, please refer to Section 5.2.3 of the Supplement to this Annual Report. For ministry comments, please see Appendix C.