

Middlesex-Elgin Groundwater Study Steering Committee
Meeting No. 4
October 30, 2002, 9:30 a.m.
Middlesex County Building, Middlesex Room, Middlesex County Offices,
399 Ridout St. N., London

In Attendance

David Aristone, Township of Southwold
Ted Briggs, UTRCA
Bob Cooper, City of London
Gary Crandall, Thames Centre
Jarrod Craven, Thames Centre
Al Edmondson, Warden Middlesex County
Steve Evans, Middlesex County
Patty Hayman, St. Clair Region CA
Rob Kell, Dillon
Ken Loveland, Municipality of Dutton/Dunwich
Peter MacDonald, Ausable Bayfield CA
Catherine Marsden, Dillon
Linda Nicks, UTRCA

Lloyd Perrin, Municipality of Central Elgin
Jim Reffle, Middlesex-London Health Unit
Jim Reith, Middlesex Federation of Agriculture
Gerald Reu, City of St. Thomas
Cathy Saunders, Middlesex Centre
Hugh Simpson, OMAF
Janet Smolders, Dillon
Brent Stainton, Middlesex Centre
Ganesh Vallamkonda, Elgin-St. Thomas Health
Unit
Don Weir, Malahide Twp
Mark Widner, Malahide Twp

Welcome and Introduction of New Steering Committee Members

Ted Briggs (UTRCA) opened the meeting by welcoming the new steering committee members: Dave Aristone (Southwold), Ken Loveland (Dutton-Dunwich) and Gerald Reu (St. Thomas).

Project Status: Rob Kell (Dillon)

Rob suggested that we call the committee the Middlesex-Elgin Groundwater Study to simplify the name now that the remaining four communities in Elgin County (addition of 4 townships: Southwold, Dutton-Dunwich, St. Thomas and West Elgin) are included. Bayham is being completed by Waterloo Hydrogeologic in combination with Norfolk County.

Rob Kell updated the committee on the study's status:

1. The regional aquifer characterization:
2. The Intrinsic Susceptibility Mapping (ISI) to Water Table (using all wells) was completed in its preliminary form for the existing study area. This susceptibility mapping assumes that everything is unconfined. Areas of low vulnerability are areas with significant clay thickness above the water table and high vulnerability areas are located where there is significant sand thickness above the water table. In the MOE Term of Reference, the ISI value at each well is categorized into low (<30), medium (30-80) and high (>80) groupings. The higher the value the less permeable the material as it is calculated using a scoring for various lithologies (e.g. Sand has a factor of 2, clay has a factor of 8 and diamicton (till) has a factor of 5). The weighting provided by the MOE is based on conditions on the Oak Ridges Moraine which has been studied by the Geological Survey of Canada. However, the nature of materials in the Oak Ridges Moraine is significantly different from Middlesex County. Generally the moraines in Middlesex County are less permeable than the Oak Ridges moraine. This

coding is consistent throughout all of the study areas but may present a more vulnerable water table than actually exists at the local scale.

3. Dillon has physiography/ glacial geology and bedrock geological mapping for the entire survey, including the rest of Elgin.
4. Southwest Region Aquifer Mapping Committee met October 8, 2002 in Barrie. Middlesex-Elgin study is on similar track as other studies; Perth is more advanced; Simcoe studies less advanced. Major discussions focused on the status of the MOE contaminant source data and its inconsistencies.
5. Groundwater Use Survey: 48 large PTTW-s (>200,000 L/day). Approximately 60% have returned questionnaires. One respondent wanted to know why we needed the information; some PTTW were for surface water only and about 5% were out of date.
6. WHPA underway for London stand-by wells.
7. Public Participation: Posters were displayed at the Western Fair, Rural Expo and Dorchester. A workshop will take place by invitation to stakeholders from the study area, to review study findings and recommend measures. Invitation list to be developed by the Steering Committee.

Al Edmondson asked: Oxford County is farther along in the planning process, do you know their recommendations?

Oxford County has implemented guidelines but until bylaws are passed, they cannot be enforced.

Steve Evans added: In vulnerable areas, for example the Norfolk sand plain, high nitrates occur especially in areas of corn farming. Guidelines are difficult to enforce in agricultural areas and may need to suggest decreased nitrate use in certain areas. In addition there should be some compensation for farmers.

Hugh Simpson added: Nutrient management plans will be required starting in March 2003 depending on the size of the farm. In areas of higher vulnerability, additional guidelines may need to be established.

Lloyd Perrin added: Groundwater has no municipal boundaries and different guidelines may be developed for each municipality and this may cause problems with adjacent townships or counties.

Jim Reith suggested: We have to make sure that nutrient management plans need to have differing guidelines depending on the size of the farm operation. For example, small farms may find the nutrient management plans are cost-prohibitive to obtain or manage and may be a disincentive.

Rob Kell suggested that certain land uses would be prohibited in certain areas, for example landfills, due to the vulnerability of the aquifer.

Catherine Marsden updated the committee on the Groundwater Protection Workshop. The next step of the study involves a groundwater management and protection strategy. The committee needs to summarize the technical results and planning tools, identify general and specific groundwater protection recommendations. The committee decided that a workshop to review and finalize the recommendations would take place on January 22, 2003. The intent of the workshop is to provide a **made in Middlesex-Elgin** approach for groundwater protection guidelines. At this time, the provincial government has not included source water protection in the proposed Safe Drinking Water Act (SDWA) but there is continued discussion surrounding this issue. The following items are a suggested starting point for discussion in the workshop:

\$ Summarize the provincial context.

\$ Identify general planning **tools** and voluntary measures (e.g. public education programs, Environmental Farm Plans, Conservation Authority: Operation Clean Water incentives) that could apply anywhere, region-wide.

- \$ In addition: identify specific requirements for: areas that have been identified as having an elevated risk of groundwater susceptibility and wellhead capture zones for municipalities.
- \$ In areas of high susceptibility, site specific assessment could be required as a pre-condition of development for higher-risk land uses.
- \$ Wellhead capture zones: In areas identified as being in a wellhead capture zone, acceptable vs. restricted land uses could be identified in one or more of the zones (i.e. 2 year, 10 year or 25 year time of travel zones).
- \$ Workshop Preparation: from each municipality/organization represented on the Steering committee: steering committee members who will attend, names of 2 to 3 other potential invitees- e.g. from agricultural associations, environmental groups, commercial sector, large industry, etc. Send names and contact information to Linda Nicks by November 15.

Patty Hayman (SCRCA) asked if we should be looking at recommendations for source protection. How can Conservation Authorities assist in this decision making? Furthermore, there is no subwatershed protection for areas like the Caradoc Sand Plain.

Patty Hayman (SCRCA) enquired as to whether there might be a recommendation to do subwatershed-level studies of groundwater conditions prior to development (i.e. for the highly vulnerable areas), in lieu of site specific assessments for each individual property; there would be efficiencies in approaching it this way; however, there might be issues re: who would pay and coordination among various property owners.

Catherine FM responded yes we should look at recommendations; however, funding is an issue at this time.

Jim Reffle indicated that for the wellhead capture zones, perhaps we should specify certain criteria to be met, thresholds not to be exceeded, etc. rather than trying to identify the land uses and associated activities that are acceptable or not acceptable.

Introduction to Land Use Planning Strategies for Groundwater Management and Protection (Janet Smolders, Dillon)

Development of land use planning strategies for the management and protection of groundwater focuses on existing and emerging provincial policies and municipal land use planning powers under the Planning Act as well as voluntary measures.

Upon completion of the technical studies, a framework needs to be established to identify recommendations for intensive agricultural operations, multi-lot subdivisions on septic systems and commercial/industrial development which may pose as a potential threat to the groundwater. Clean-up is always more expensive than prevention. Groundwater has a high socio-economic importance however, municipalities have limited resources.

The key challenge for the land use planning component of the study will be to translate the technical conclusions into an effective land use plan to protect groundwater. To understand this challenge, the committee needs to incorporate existing/ emerging Provincial policies on groundwater management and protection. The existing Provincial policies is the Provincial Policy Statement (PPS) which promotes efficient, cost-effective development and land use patterns to stimulate economic growth and protect the environment and public health:

- \$ Urban areas and rural settlement areas are the focus for growth.

- \$ Expansion into prime agricultural areas is discouraged.
- \$ Full municipal services are the preferred form of servicing.
- \$ Natural features should be protected, including groundwater. Nothing in this policy is intended to limit the ability of agricultural uses to continue.

The province is moving back to a more prescriptive, regulatory approach to groundwater management.

Emerging Provincial Policies

The Walkerton tragedy provided the impetus to address groundwater. At this time, the province has invoked the ODWR, ODWS, Nutrient Management Act and the Safe Drinking Water Act is in the process of being enacted.

Local Impacts: MOE Director's Order to Central Elgin, under the ODWR, to assume ownership of the Oakview Crescent Subdivision communal wells: the municipality was forced to provide piped water into Union.

Recommendations included in the Walkerton report are based on a multiple-barrier approach to providing safe drinking water. The concept is: a failure in any given barrier will not cause a failure of the entire system.

Recommended Barriers

1. Source Protection
2. Zoning by-laws
3. Development Control
4. Other barriers are enforcement of existing and proposed legislation (EPA, OWRA, Fisheries Act, Gasoline Handling Act, Transport of Dangerous Goods, etc.
5. Voluntary Measures also act as effective barriers: e.g. OMAFRA farm programs and community partnership programs: CA administered.

Source Protection

Source protection developed on a watershed basis as groundwater does not adhere to municipal boundaries. Source protection is currently not included in the Safe Drinking Water Act; however, it is likely there will be additional legislation to deal with this issue. Further regulations would be based on local planning process to reflect public input and would require MOE approval.

Official Plans

Many examples of regional and local official plans that include groundwater management and protection policies: County of Brant, County of Oxford, City of London, and Township of Caradoc Official Plan.

Development Control

Ontario Smart Growth: A Growth is a good thing@ To protect and enhance the environment by steering growth pressures away from significant agricultural lands and natural areas. An example of this is the comprehensive Oak Ridges Moraine Conservation Plan.

Performance Zoning

Performance Zoning is an alternative to conventional zoning. Performance zoning provides both control and flexibility by imposing minimum Aperformance@ levels for all land uses. Allows zoning to reflect the individual characteristics of a site, including the vulnerability of aquifers and wellheads. For example: first determine the vulnerability of aquifers and wellheads. Second, determine Zones where development is prohibited or restricted to existing uses only. Finally, the remaining zones where some development is permitted, determine appropriate uses, density of use and any other provisions required to protect groundwater. As an alternative to the Aperformance@ approach, show all vulnerable areas as one Zone and require applicants to Aprove@ the safety of a proposed use. The proof would require: specific hydrogeological study to determine vulnerability, prove that the proposed use is safe through a site specific risk assessment. Following the site specific risk assessment, the applicant would enter into an agreement with the municipality for monitoring and contingency plans.

Development Approvals

Under the Planning Act, municipalities have clear powers to consider the impacts of subdivisions and consents on groundwater- *Ahealth, safety, convenience and welfare of present and future inhabitants.@*

1. All developments directed to small and large urban areas with full services
2. Multi-lot subdivisions on private services, Ain the middle of nowhere@ not permitted
3. Consents for non-agricultural uses on farmland strongly discouraged.

Comprehensive storm water management plans are an important engineering tool for development approvals.

Site plan control (Section 41) allows municipalities to require as a condition of approval of a new development or expansion of an existing use: facilities for the disposal of storm, sewer and wastewater. However, Section 41 does not include any provision for preventing potential adverse impacts on groundwater. This study could recommend that the Province enact a AGreening@ amendment to Section 41 to empower municipalities to require environmental protection.

Integrated Approach

All land use planning tools should be developed using an integrated approach. Integrate input from:

1. Land use and environmental planners
2. Public consultation specialists
3. Hydrogeologists, other engineers specializing in risk assessment
4. Terrestrial and aquatic biologists, etc.

Other Business

- The Middlesex Elgin website is up and running on the UTRCA website: www.thamesriver.on.ca under Projects, Groundwater. Suggestions and comments are welcome.
- Hugh Simpson: Nutrient Management Regulations are phased in beginning in March, 2003.

Proposed Final Steering Committee Meeting: February 26, 2003