

UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data

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**Legend**

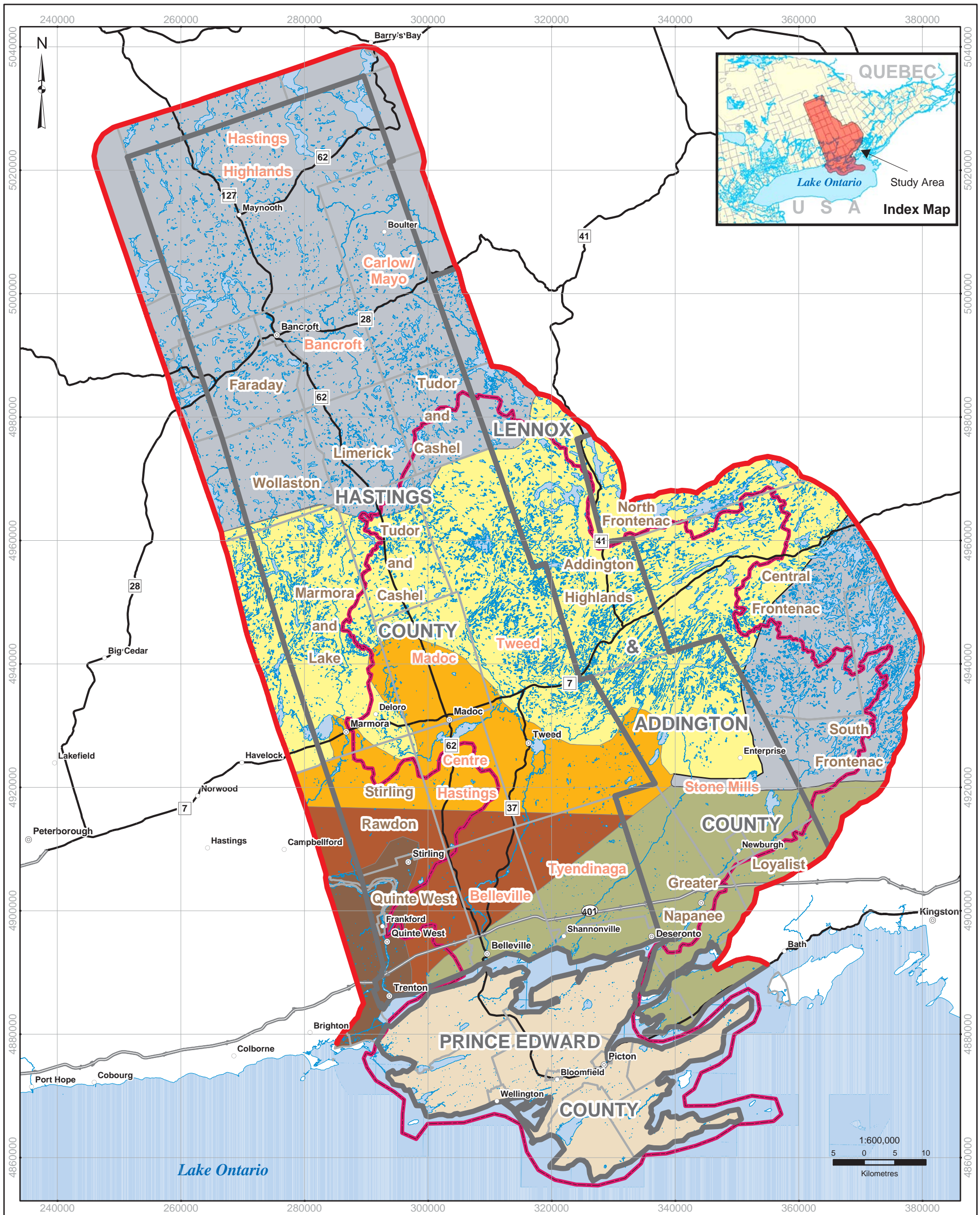
- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- Quinte Conservation Area
- Lakes
- Study Partner



**Study Area**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_1\_study\_area.mxd





Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data

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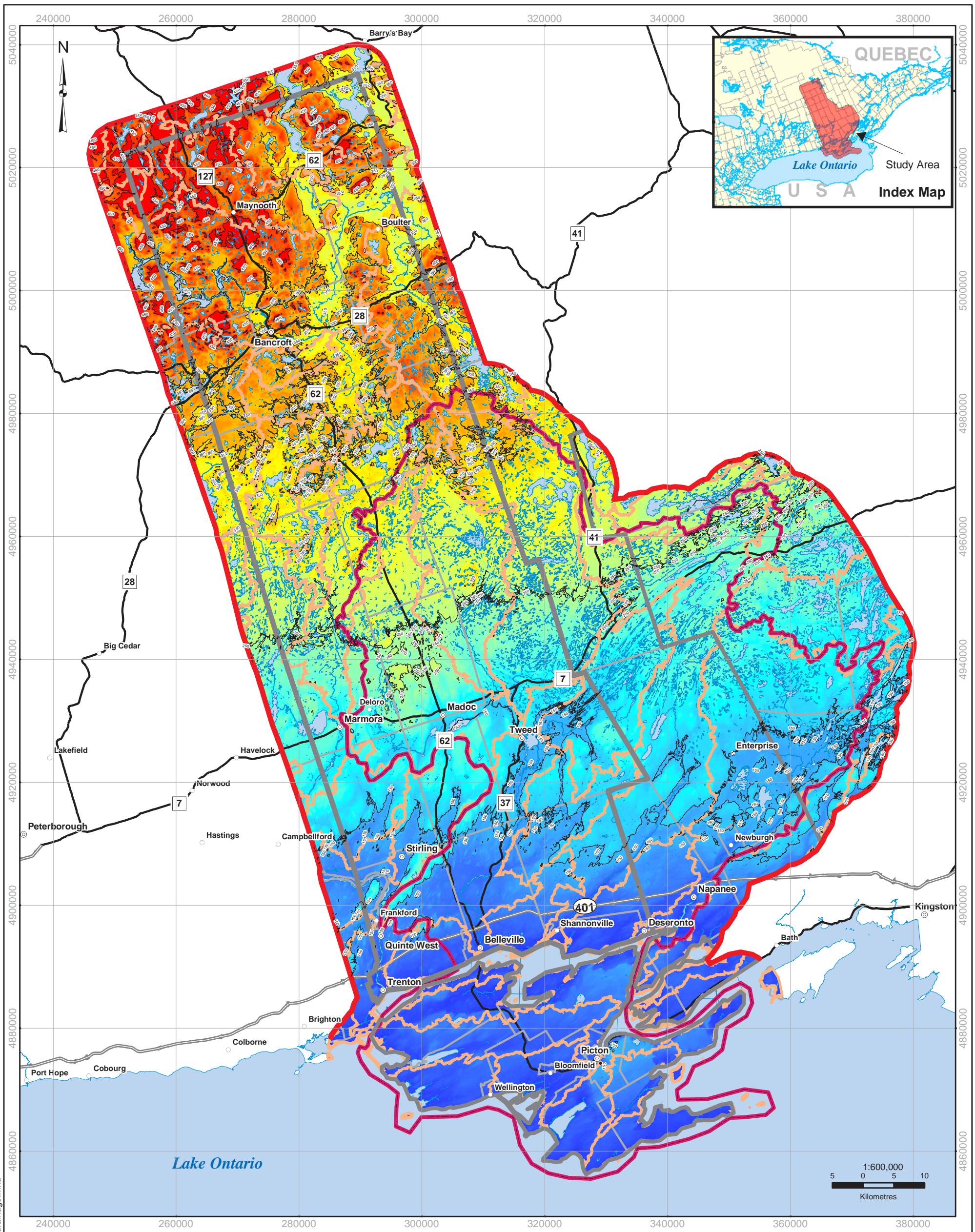


| Legend                     |                            |
|----------------------------|----------------------------|
| ⊙ Major Population Centres | Algonquin Highlands        |
| ○ Communities              | Dummer Moraines            |
| — Expressways              | Georgian Bay Fringe        |
| — Highways                 | Iroquois Plain             |
| — Counties                 | Napanee Plain              |
| — Municipalities           | Peterborough Drumlin Field |
| — Study Area Boundary      | Prince Edward Peninsula    |
| — Quinte Conservation Area |                            |
| — Lakes                    |                            |

**Physiographic Regions**  
**Quinte Regional Groundwater Study**

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**Legend**

- ⊙ Major Population Centres
  - Communities
  - Expressways
  - Highways
  - Study Area Boundary
  - Contours (Interval 100m)
  - Lakes
  - Quinte Conservation Watershed
  - Quaternary Watersheds
- Land Elevation (masl)\*
- High : 540
- Low : 75

masl\* - metres above sea level

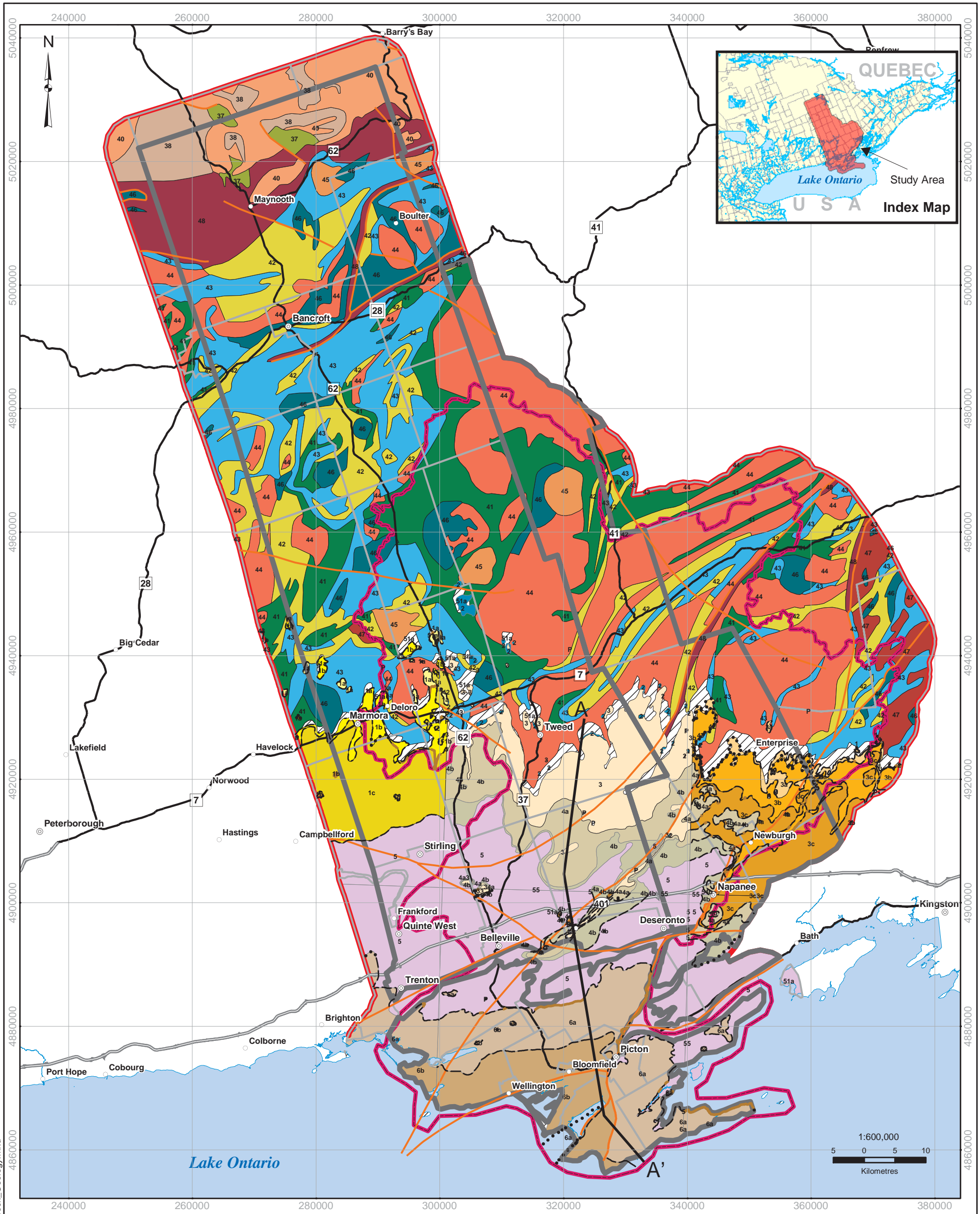


**Topography and Drainage**  
**Quinte Regional Groundwater Study**

**Map 2.2**

G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_2\_topography\_and\_drainage.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data,  
 Various MNDM and GSC Maps

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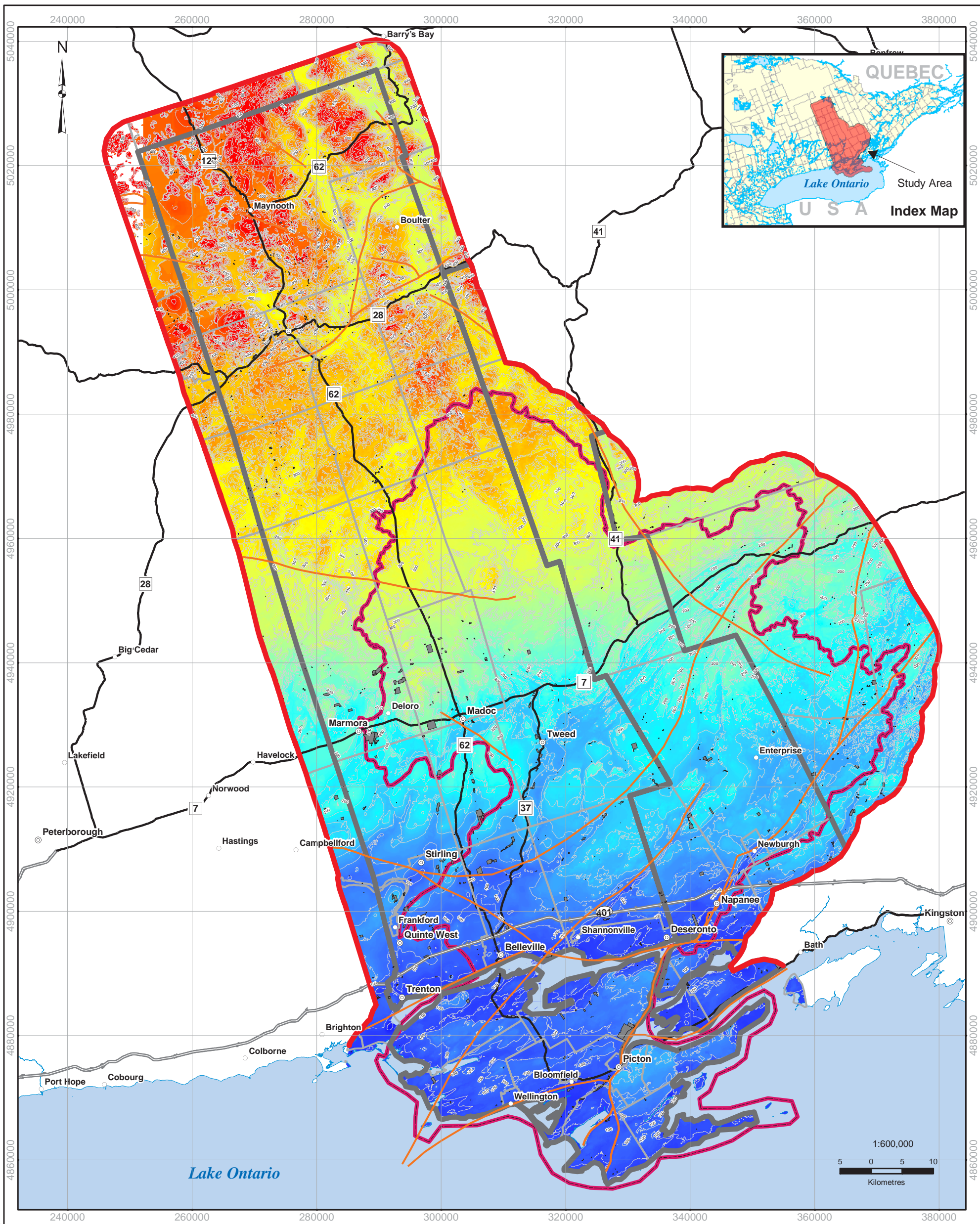
in association with  
 Agricultural Watersheds Associates

| Legend                       |  | 1 : 250 000 Precambrian Geology |  |
|------------------------------|--|---------------------------------|--|
| ⊙                            | Major Population Centres   | 37                              | Mafic rocks  |
| ○                            | Communities  | 38                              | Migmatitic rocks and gneisses of uncertain protolith   |
| —                            | Expressways  | 40                              | Felsic igneous rocks   |
| —                            | Highways   | 41                              | Mafic to felsic metavolcanic rocks   |
| —                            | Counties   | 42                              | Clastic metasedimentary rocks  |
| —                            | Municipalities   | 43                              | Carbonate metasedimentary rocks  |
| —                            | Study Area Boundary  | 44                              | Early felsic plutonic rocks  |
| —                            | Fault - Approximate Location   | 45                              | Alkaline plutonic rocks  |
| —                            | Geological Boundary - position approximate   | 46                              | Mafic to ultramafic plutonic rocks   |
| —                            | Geological Boundary - position interpreted   | 47                              | Late felsic plutonic rocks   |
| —                            | Geological Boundary - observed   | 48                              | Tectonite unit   |
| —                            | Quinte Conservation Watershed  | 51a                             | Unknown, data not reconciled between different map scales  |
| —                            | Lakes  |                                 |  |
| —                            | Section Line   |                                 |  |
| 1 : 50 000 Paleozoic Geology |  |                                 |  |
| 1                            | Potsdam Formation: evenly textured sandstone   | 1b                              | Gull River Formation: pale grey and brown sublithographic to lithographic limestone: minor dolostone                   |
| 1a                           | Shadow Lake Formation: red and green arkosic sandstone, siltstone and shale  | 1c                              | Bobcaygeon Formation: bioclastic limestone, nodular limestone  |
| 2                            | Shadow Lake Formation: arkosic sandstone, siltstone, and shale   | 1d                              | Verulam Formation: interbedded limestone and shale   |
| 3                            | Gull River Formation: lithographic to sublithographic limestone  | 2                               | Shadow Lake Formation: arkosic sandstone, siltstone, and shale   |
| 3a                           | Gull River Formation (lower member): brown lithographic to finely crystalline limestone                                | 3                               | Gull River Formation: lithographic to sublithographic limestone  |
| 3b                           | Gull River Formation (middle member): buff and green siltstone, dolomitic siltstone, and brown, lithographic limestone | 3a                              | Gull River Formation (lower member): brown lithographic to finely crystalline limestone                                |
| 3c                           | Gull River Formation (upper member): brown, lithographic and sublithographic limestone                                 | 3b                              | Gull River Formation (middle member): buff and green siltstone, dolomitic siltstone, and brown, lithographic limestone |
| 4a                           | Bobcaygeon Formation (lower member): crystalline limestone and calcarenite   | 3c                              | Gull River Formation (upper member): brown, lithographic and sublithographic limestone                                 |
| 4b                           | Bobcaygeon Formation (upper member): crystalline limestone and calcarenite   | 4a                              | Bobcaygeon Formation (lower member): crystalline limestone and calcarenite   |
| 5                            | Verulam Formation: interbedded limestone and shale   | 4b                              | Bobcaygeon Formation (upper member): crystalline limestone and calcarenite   |
| 6a                           | Lindsay Formation (lower member): crystalline limestone with shaly partings  | 5                               | Verulam Formation: interbedded limestone and shale   |
| 6b                           | Lindsay Formation (upper member): nodular limestone and shale  | 6a                              | Lindsay Formation (lower member): crystalline limestone with shaly partings  |
|                              |  | 6b                              | Lindsay Formation (upper member): nodular limestone and shale  |

## Generalized Bedrock Geology Quinte Regional Groundwater Study

C:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_3\_Generalized\_Bedrock\_Geology.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
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 Prince Edward Municipal Mapping, MOE NRVIS data

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**Legend**

- ⊙ Major Population Centres
  - Communities
  - Expressways
  - Highways
  - Counties
  - Municipalities
  - Study Area Boundary
  - ▭ Quinte Conservation Area
  - Lakes
  - Contours Interval 20m
  - Fault - Approximate Location
  - Pit / Quarry
- Bedrock Elevation (masl)\***
- High : 525
- Low : 50

\*masl - metres above sea level

**DILLON CONSULTING**  
in association with

**Lissom**  
EARTH SCIENCES

**Golden Associates**

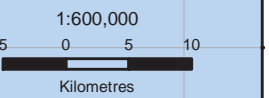
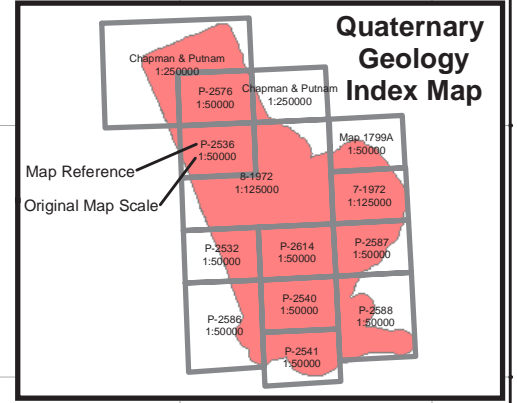
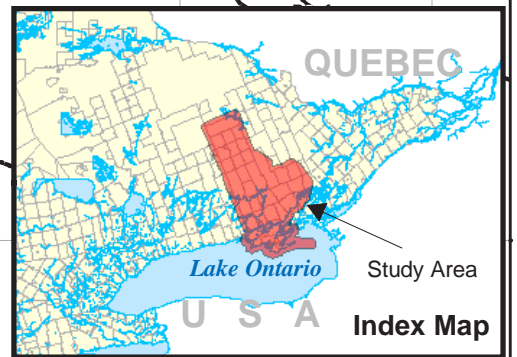
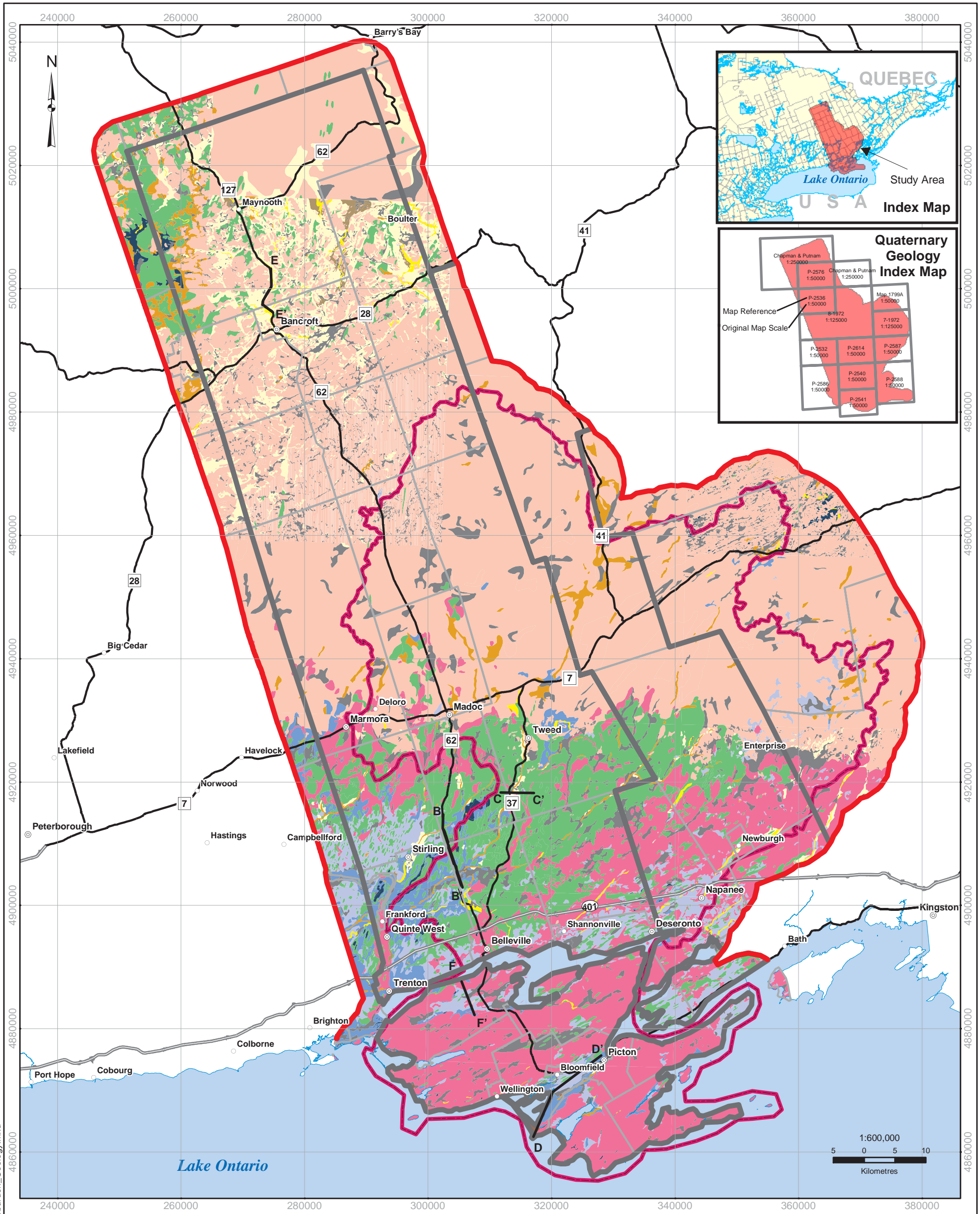
**Ainley**  
WATER RESOURCES & PLANNING

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**Bedrock Surface Elevation**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXDs\fig\_4\_bedrock\_elev.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data,  
 Various Scale Government Geology Maps.

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- Legend**
- ⊙ Major Population Centres
  - Communities
  - Expressways
  - Highways
  - Counties
  - Municipalities
  - Study Area Boundary
  - Geological Cross Section
  - Quinte Conservation Area
  - Lakes

- Quaternary Geology**
- Ru-Precambrian Bedrock, covered by <1m of overburden
  - R - Paleozoic Rock, covered by <1m of overburden
  - 1-Till: sandy, silty, or gravelly
  - 2-Glaciofluvial ice-contact deposits: gravel, cobbles and sand
  - 3-Glaciofluvial outwash and deltaic deposits: sand and gravel
  - 7-Offshore: silt and clay
  - 8-Nearshore: sand and silt
  - 9-Beach and nearshore: gravel and sand
  - 10-Older alluvium: sand and gravel
  - 12-Alluvium: clay, silt, sand, gravel and muck
  - 13-Organic: peat and muck
  - 14-Eolian: sand and silt

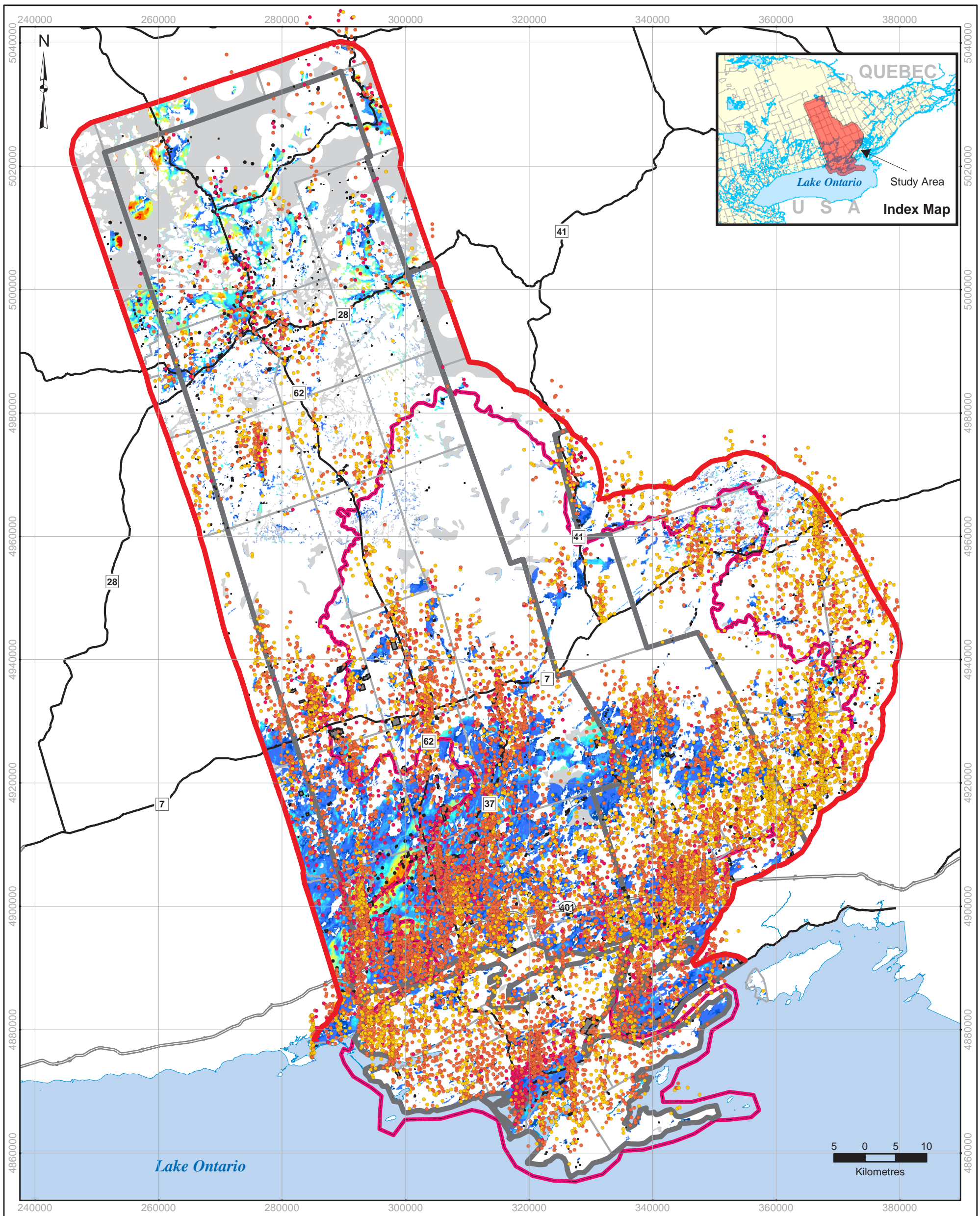
in association with

Agricultural Watersheds Associates

**Generalized Overburden Geology**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_5\_Generalized\_Overburden\_Geology.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data,  
 MOE WWIS, Various MNDM Maps

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**Legend**

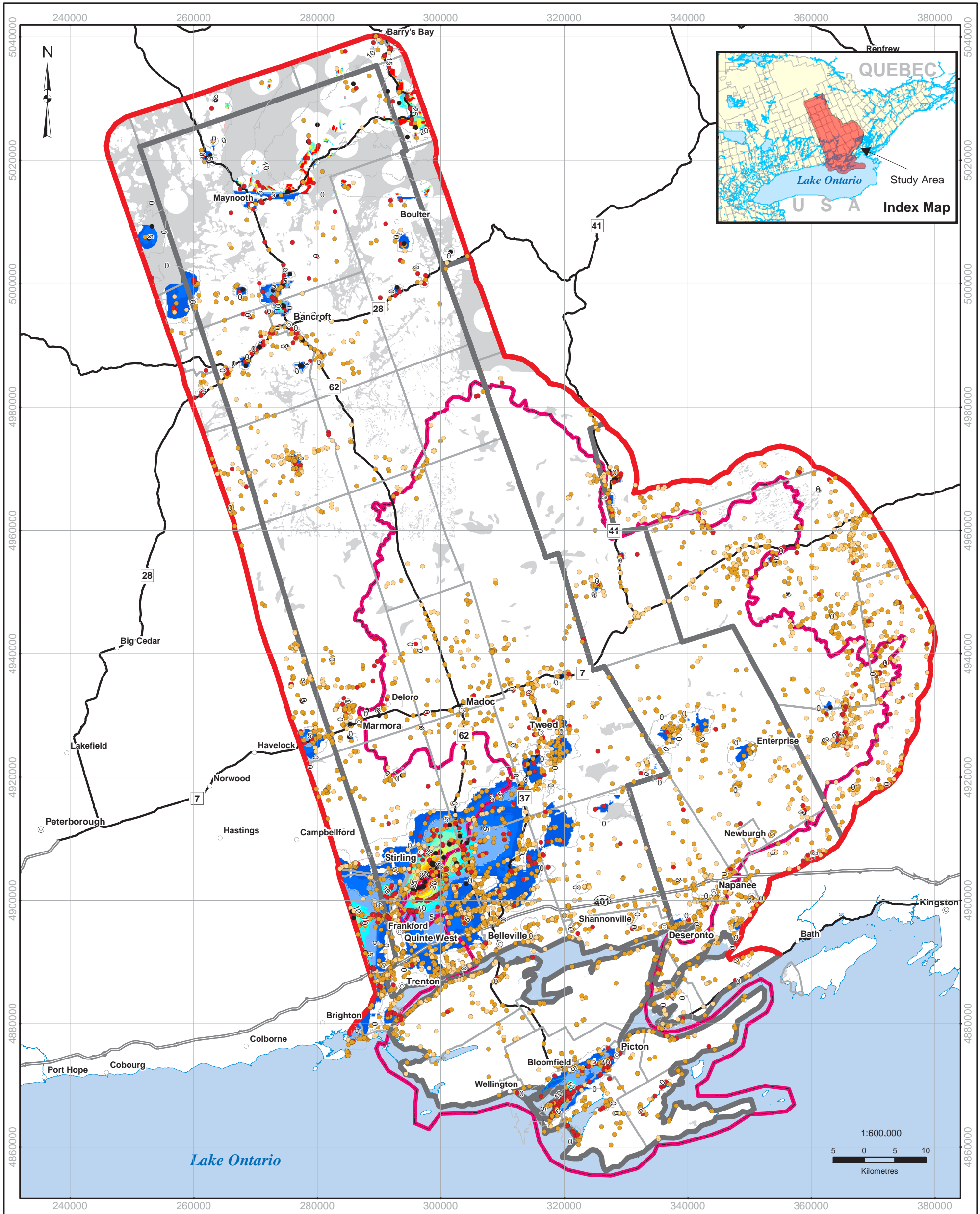
- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- Quinte Conservation Area
- Lakes
- Pit / Quarry
- Bedrock Wells Used in Analysis
  - < 1.5 m
  - 1.5 - 10 m
  - 10 - 30 m
  - > 30 m
- Overburden Thickness (m)
  - Insufficient Data
  - < 1.5
  - 1.5 - 3
  - 3 - 10
  - 10 - 15
  - 15 - 20
  - 20 - 30
  - 30 - 40
  - 40 - 50
  - 50 - 60
  - 60 - 70
  - 70 - 80
  - 80 - 100
  - > 100



**Overburden Thickness**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_1\_study\_area.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data  
 Water Wells from the MOE Water Well Information System.

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Map accuracy varies with location.

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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- Quinte Conservation Area
- Lakes

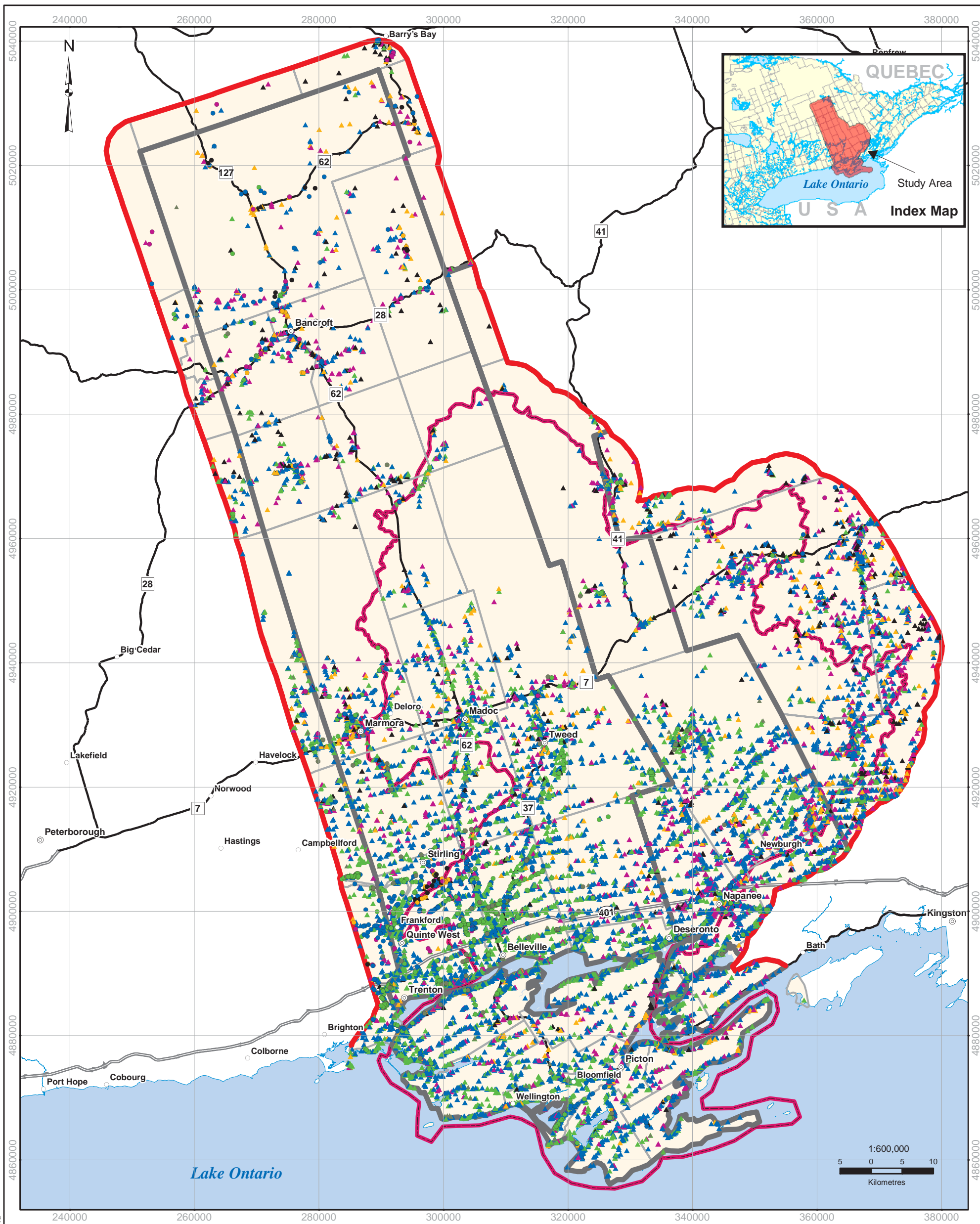
- Wells Used in Analysis**
- < 1.5 m
  - 1.5 - 10 m
  - 10 - 30 m
  - > 30 m
- Contours Interval 5m

- Sand and Gravel Thickness (m)**
- Insufficient Data
  - 0 - 1.5
  - 1.5 - 3
  - 3 - 5
  - 5 - 8
  - 8 - 11
  - 11 - 14
  - 14 - 17
  - 17 - 20
  - 20 - 26
  - 23 - 26
  - 26 - 29
  - 29 - 32
  - > 32

**Sand and Gravel Thickness  
 Quinte Regional Groundwater Study**

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Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data  
 Water Wells from the MOE Water Well Information System.

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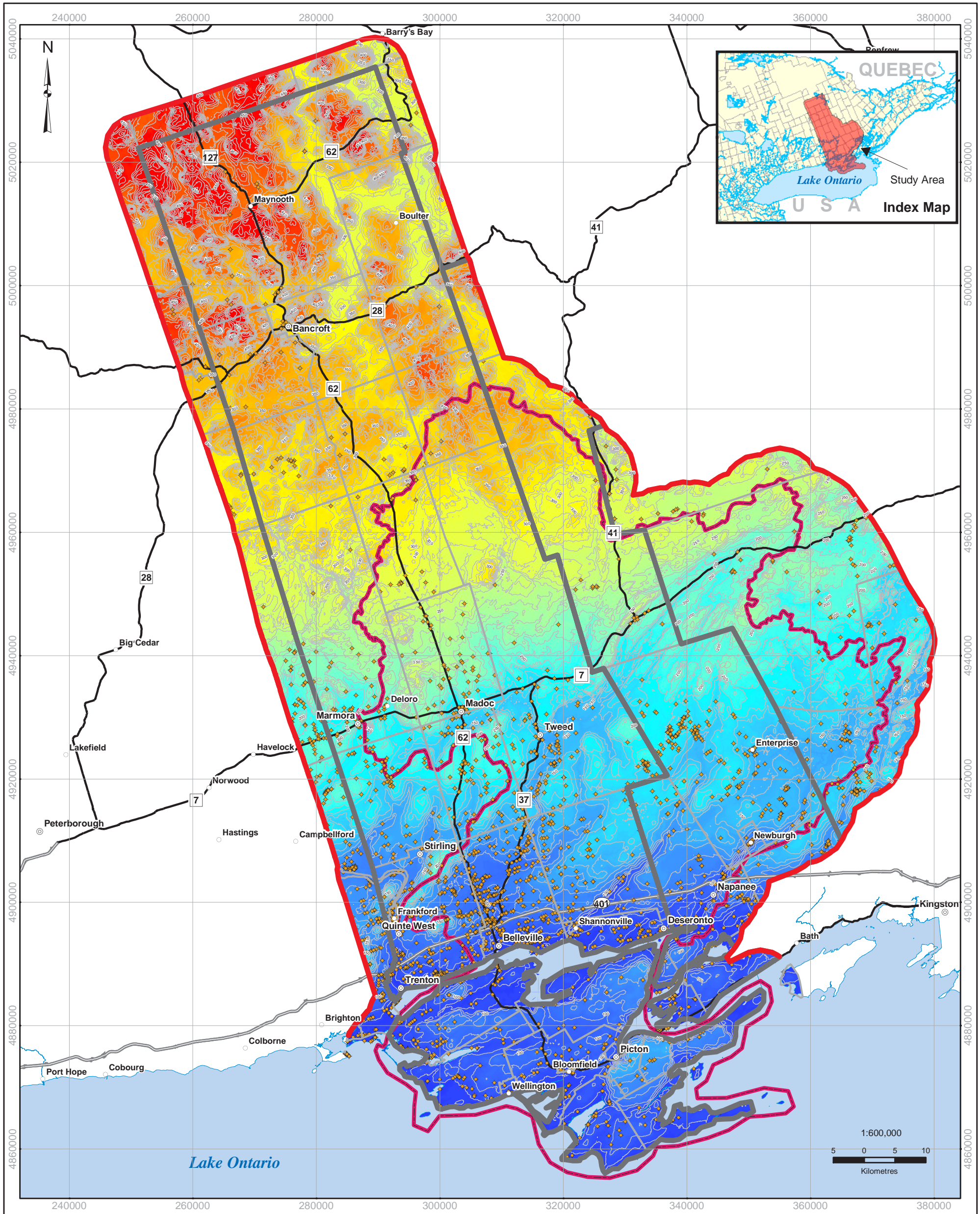
**Legend**

- ⊙ Major Population Centres
  - Communities
  - Expressways
  - Highways
  - Counties
  - Municipalities
  - Study Area Boundary
  - ▭ Quinte Conservation Watershed
  - ▭ Lakes
- | Bedrock Wells and Depth | Overburden Wells and Depth |
|-------------------------|----------------------------|
| ▲ < 7.6 m               | ● < 7.6 m                  |
| ▲ 7.6 m - 15 m          | ● 7.6 m - 15 m             |
| ▲ 15 m - 30 m           | ● 15 m - 30 m              |
| ▲ 30 m - 45 m           | ● 30 m - 45 m              |
| ▲ 45 m - 60 m           | ● 45 m - 60 m              |
| ▲ > 60 m                | ● > 60 m                   |

**Water Well Distribution and Well Depths**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXDs\fig\_8\_Well\_Locations.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data  
 Water Wells from the MOE Water Well Information System.

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**Legend**

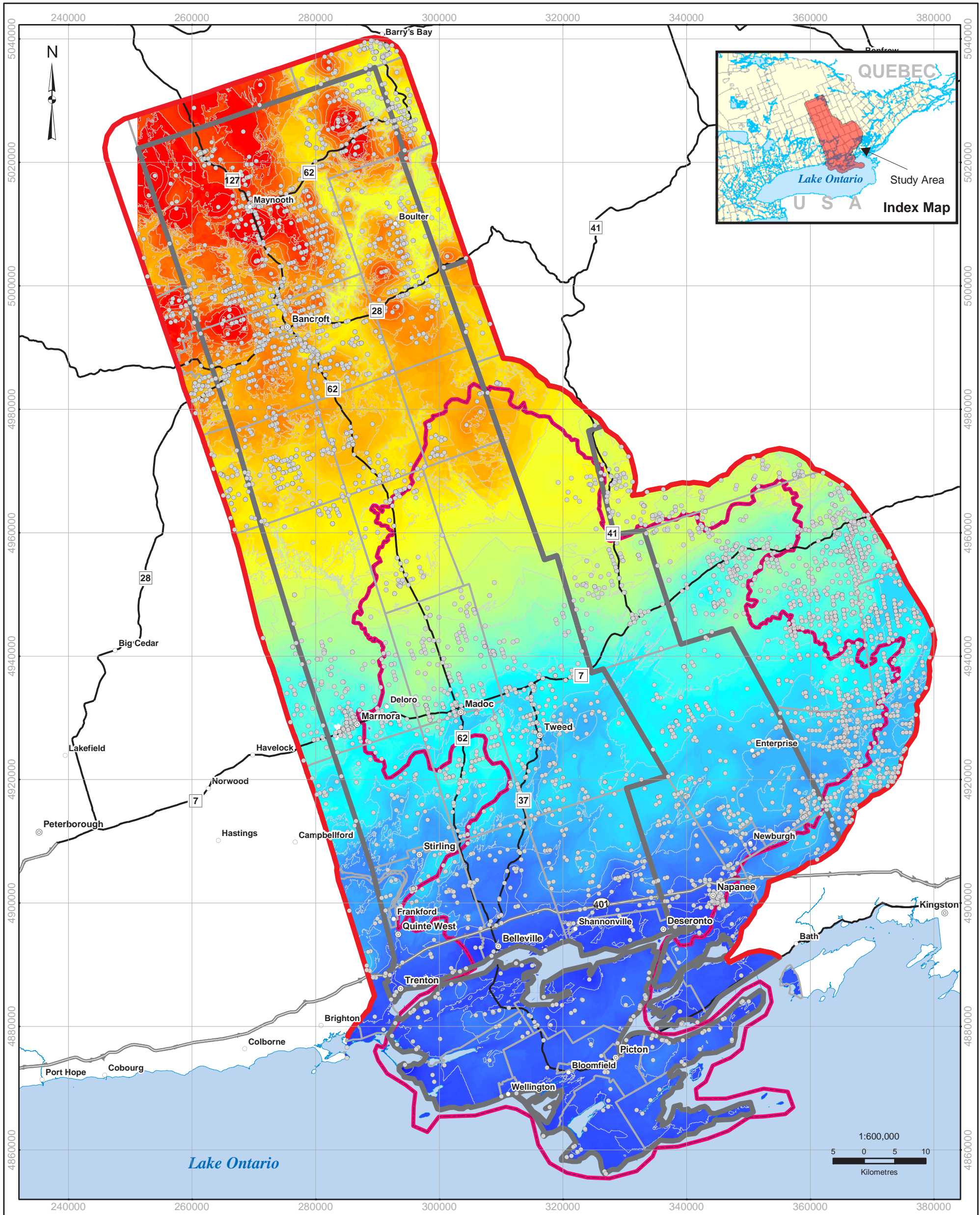
- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- ▭ Quinte Conservation Watershed
- ▭ Lakes
- ◆ Wells Used in Analysis
- Contours Interval 10m
- Water Table (masl)\*
- High : 520
- Low : 75

masl\* - metres above sea level

**Water Table Elevation**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_9\_waterable.mxd





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Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data,  
 MOE WWIS

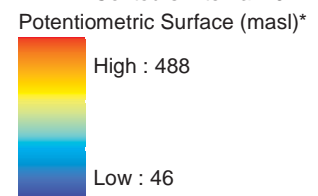
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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- ▭ Quinte Conservation Area
- Lakes
- Wells Used in Analysis
- Contours Interval 20m

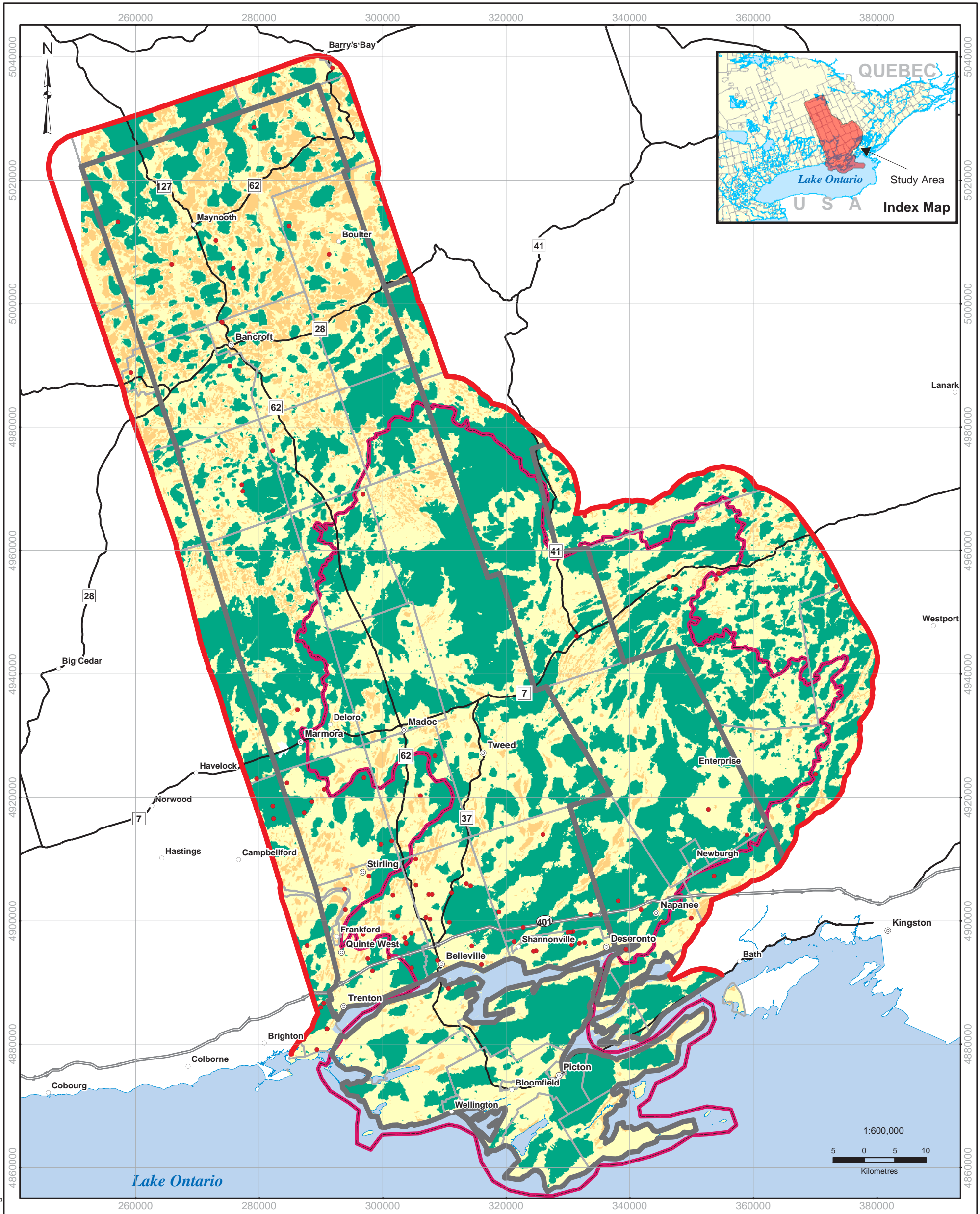


masl\* - metres above sea level

**Potentiometric Surface Elevation**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_4.3\_Potentiometric\_surface.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data  
 Wells from the MOE Water Well Information System.

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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- ▭ Quinte Conservation Area
- ▭ Lakes
- Flowing Wells
- ▭ Potential Discharge (<math><-5\text{m}</math>)\*
- ▭ Transitional (<math>-5\text{m} - 5\text{m}</math>)\*
- ▭ Potential Recharge (>math>5\text{m}</math>)\*

Note: \* - Difference in metres between the water table and the potentiometric surface.

**Vertical Hydraulic Gradient**

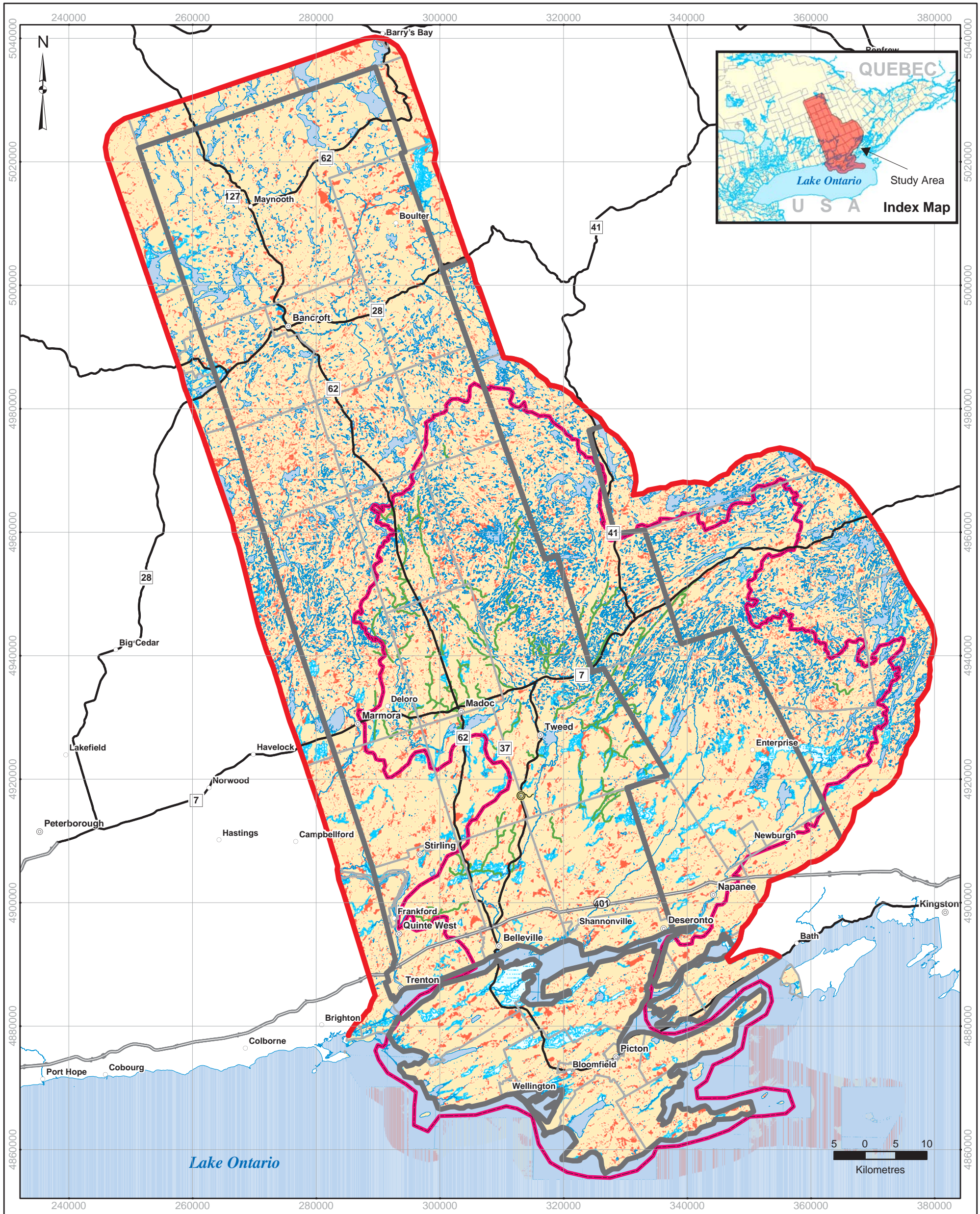
**Quinte Regional Groundwater Study**

**Map 4.4**

G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_4.4\_Recharge\_Discharge.mxd







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 Base Mapping Features - CANMAP v5.0,  
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 MOE WWIS.

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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- Quinte Conservation Area
- Lakes
- ⊙ Reported Springs
- Cold or Cool water stream (Moir & Napanee watershed only)
- Potential Groundwater Discharge Areas
- Wetlands

**Potential Groundwater Discharge Areas**

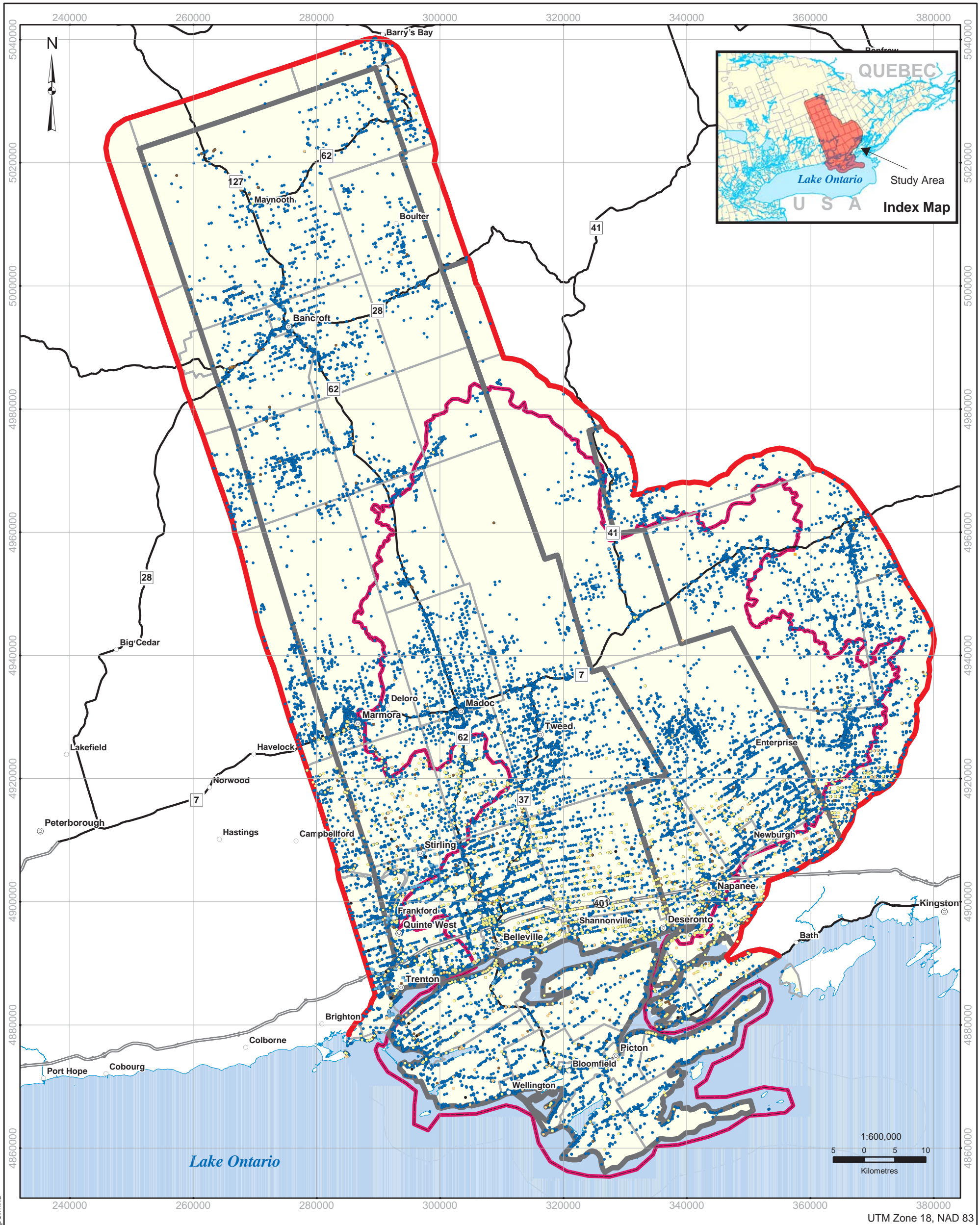
**Quinte Regional Groundwater Study**

**Map 4.5**

G:\Projects\2003\031-119004\_Quinte\GIS\MXDs\fig\_1\_study\_area.mxd

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 Agricultural Watersheds Associates





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data  
 Water Wells from the MOE Water Well Information System.  
 Water Quality as reported by Well Drillers at time of construction.

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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- Quinte Conservation Area
- Lakes

**Water Well Quality**

- Overburden, Fresh
- Overburden, Mineral
- Overburden, Salty
- Overburden, Sulphur
- Bedrock, Fresh
- Bedrock, Gas
- Bedrock, Mineral
- Bedrock, Salty
- Bedrock, Sulphur

Note: Both georeferenced and non-georeferenced wells are shown.

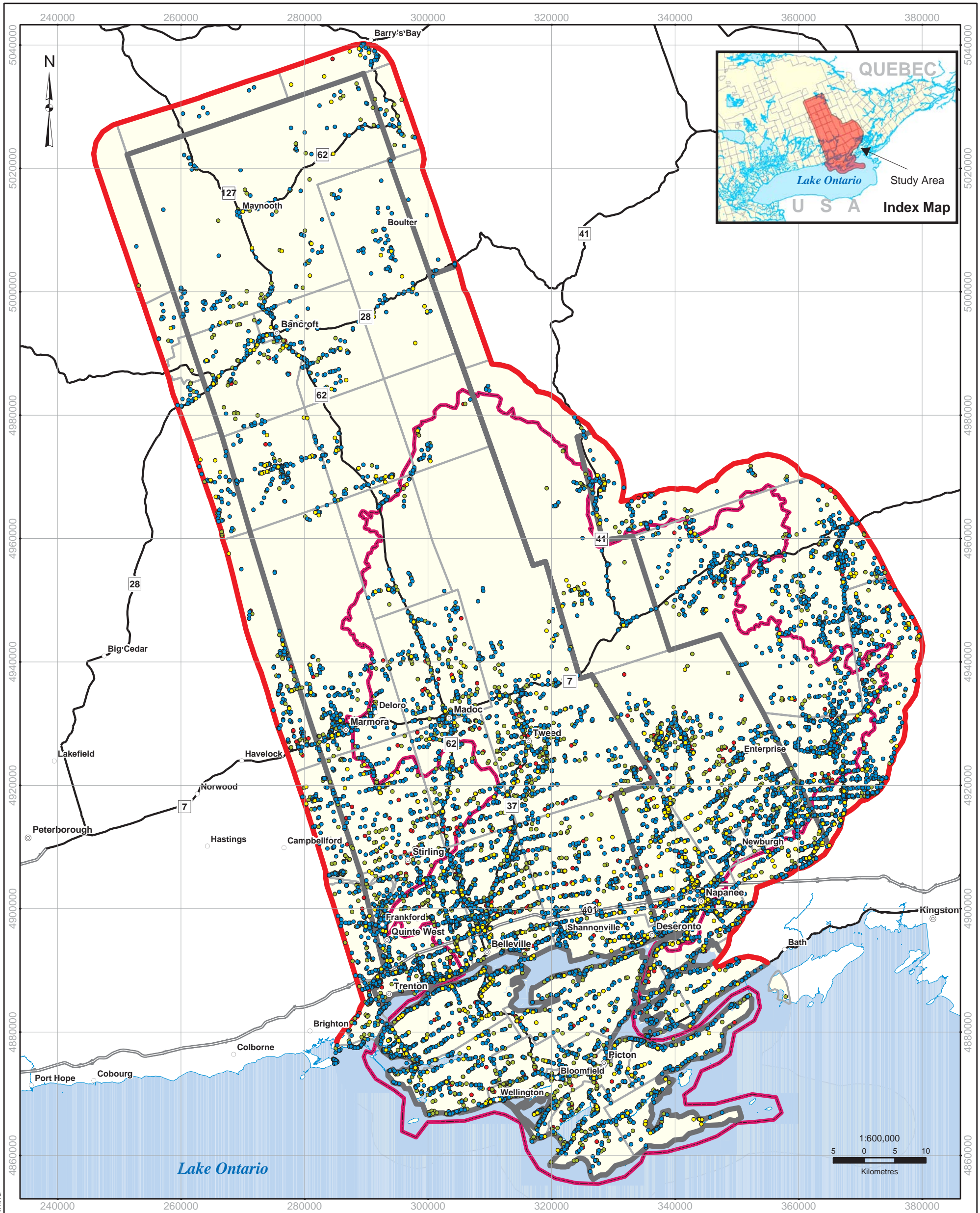
**Driller Reported Well Water Quality**  
**Quinte Regional Groundwater Study**

Map 4.6

G:\Projects\2003\031-119004\_Quinte\GIS\MXDs\fig\_13\_well\_water\_type.mxd







UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data,  
 Water Wells from the MOE Water Well Information System.

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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- ▭ Quinte Conservation Watershed
- ▭ Lakes

**Specific Capacity (m<sup>3</sup>/day/m)**

- 0 - 0.1
- 0.1 - 5
- 5 - 50
- > 50

**Well Specific Capacity**

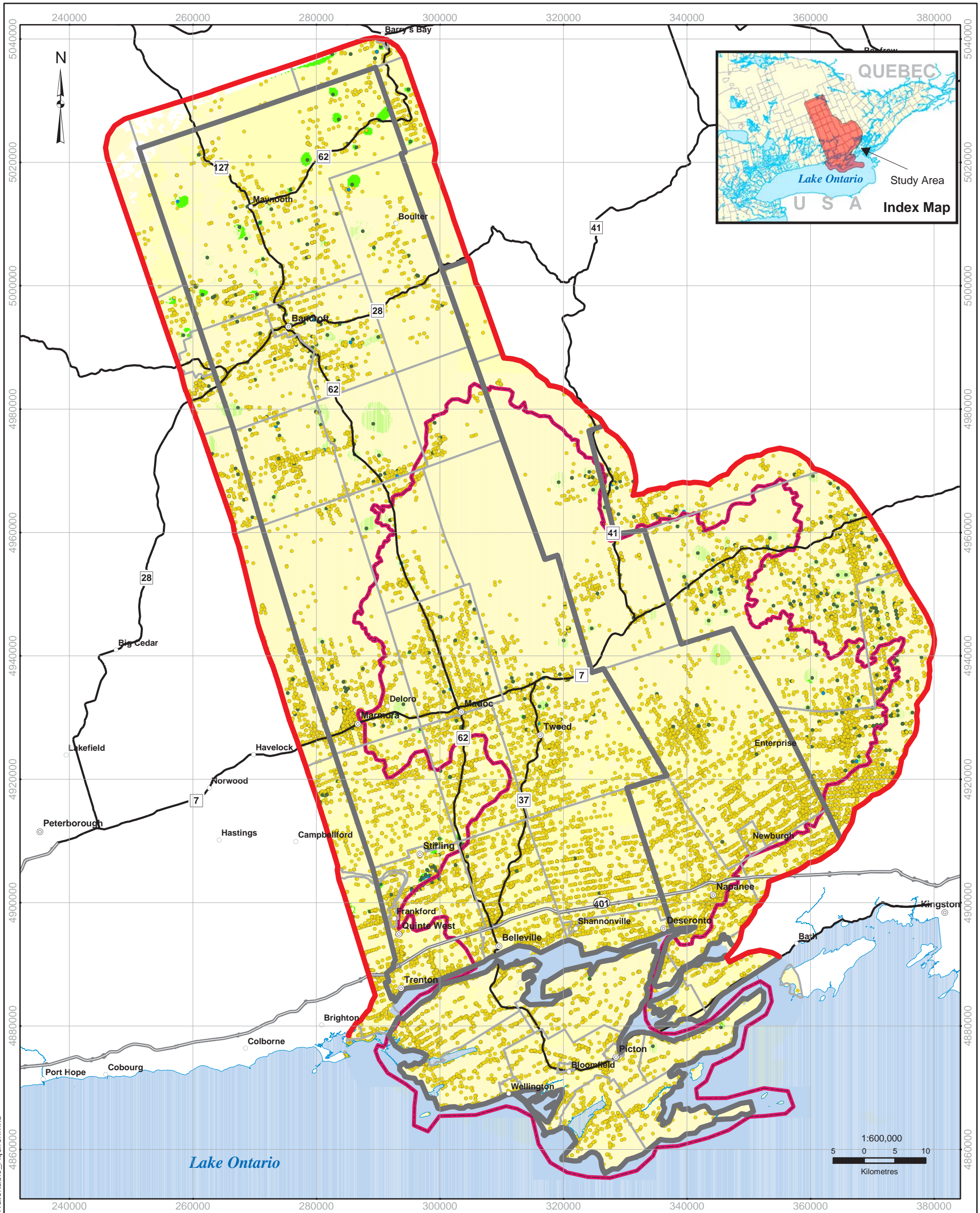
**Quinte Regional Groundwater Study**

**Map 4.7**

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G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_14\_specific\_capacity.mxd





Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data  
 Water Wells from the MOE Water Well Information System.

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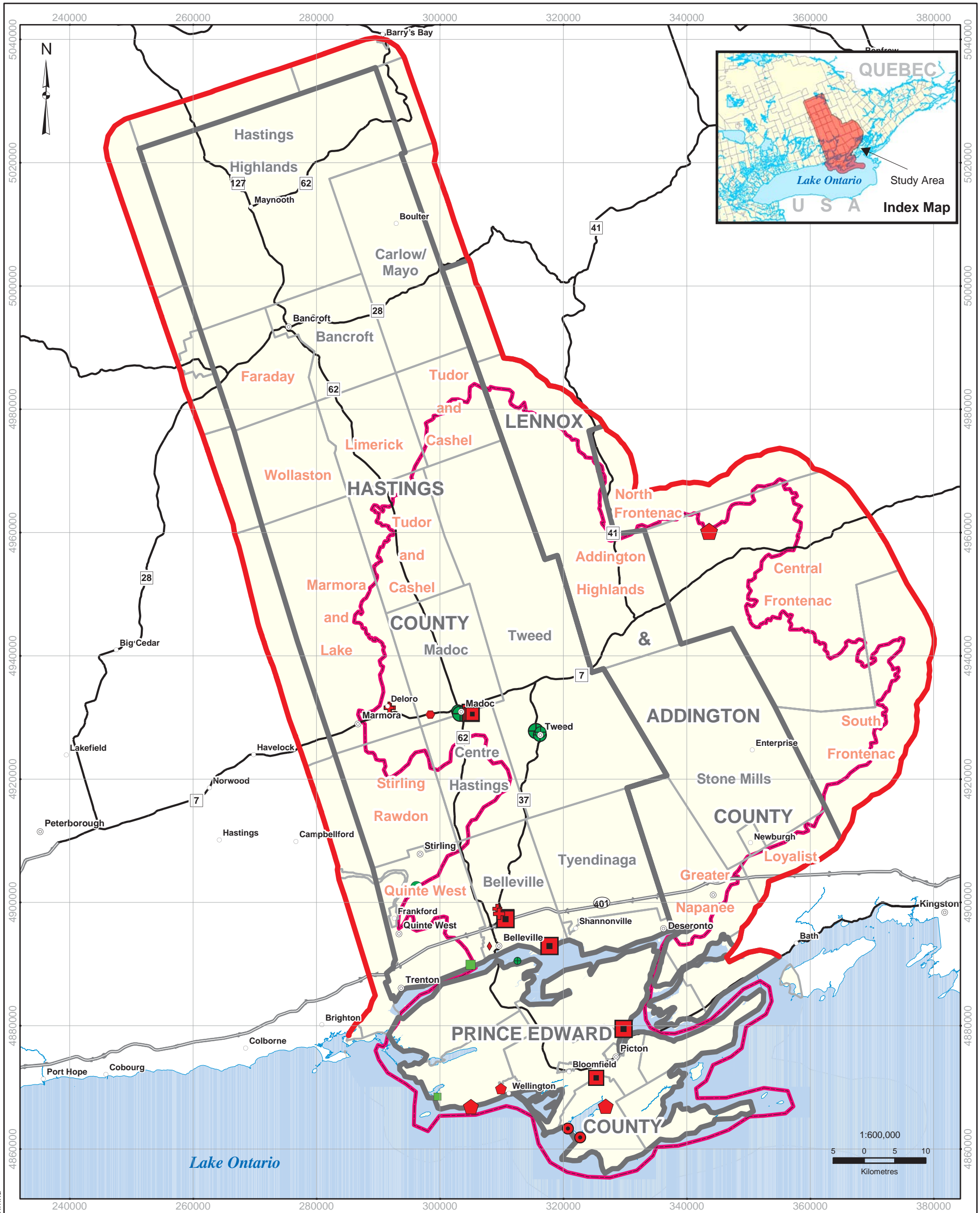
**Legend**

- ⊙ Major Population Centres
  - Communities
  - Expressways
  - Highways
  - Counties
  - Municipalities
  - Study Area Boundary
  - Quinte Conservation Watershed
  - Lakes
- Aquifer Vulnerability (ISI)\***
- Low
  - Medium
  - High
- Aquifer Vulnerability (ISI)\***
- Low
  - Medium
  - High

Note: ISI - Intrinsic Susceptibility Index.  
 Both georeferenced and non-georeferenced wells area shown.

**Vulnerability of Water Table Aquifer  
 Quinte Regional Groundwater Study**





G:\Projects\2003\031-119004\_Quinte\GIS\MXDs\fig\_15\_groundwater\_use.mxd

Digital Mapping Sources:  
Base Mapping Features - CANMAP v5.0,  
MOE NRVIS data

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| Legend |                          | Maximum Litres/Day |                   | Public Supply - Municipal |                   | Self Supply - Industrial/Manufacturing |                   | Self Supply - Mining |                   | Self Supply - Other, Remediation |                   |
|--------|--------------------------|--------------------|-------------------|---------------------------|-------------------|--|-------------------|----------------------|-------------------|----------------------------------|-------------------|
| ⊙      | Major Population Centres | ●                  | 50000 - 100000    | ●                         | 50000 - 100000    | ●                                      | 50000 - 100000    | ■                    | 50000 - 100000    | +                                | 50000 - 100000    |
| ○      | Communities              | ●                  | 100000 - 200000   | ●                         | 100000 - 200000   | ●                                      | 100000 - 200000   | ■                    | 100000 - 200000   | +                                | 100000 - 200000   |
| —      | Expressways              | ●                  | 200000 - 500000   | ●                         | 200000 - 500000   | ●                                      | 200000 - 500000   | ■                    | 200000 - 500000   | +                                | 200000 - 500000   |
| —      | Highways                 | ●                  | 500000 - 1000000  | ●                         | 500000 - 1000000  | ●                                      | 500000 - 1000000  | ■                    | 500000 - 1000000  | +                                | 500000 - 1000000  |
| —      | Counties                 | ●                  | 1000000 - 2000000 | ●                         | 1000000 - 2000000 | ●                                      | 1000000 - 2000000 | ■                    | 1000000 - 2000000 | +                                | 1000000 - 2000000 |
| —      | Municipalities           | ●                  | > 2000000         | ●                         | > 2000000         | ●                                      | > 2000000         | ■                    | > 2000000         | +                                | > 2000000         |
| —      | Study Area Boundary      | ●                  | > 2000000         | ●                         | > 2000000         | ●                                      | > 2000000         | ■                    | > 2000000         | +                                | > 2000000         |
| —      | Quinte Conservation Area | ■                  | 50000 - 100000    | ■                         | 50000 - 100000    | ■                                      | 50000 - 100000    | ■                    | 50000 - 100000    | ■                                | 50000 - 100000    |
| —      | Lakes                    | ■                  | 100000 - 200000   | ■                         | 100000 - 200000   | ■                                      | 100000 - 200000   | ■                    | 100000 - 200000   | ■                                | 100000 - 200000   |
|        |                          | ■                  | 200000 - 500000   | ■                         | 200000 - 500000   | ■                                      | 200000 - 500000   | ■                    | 200000 - 500000   | ■                                | 200000 - 500000   |
|        |                          | ■                  | 500000 - 1000000  | ■                         | 500000 - 1000000  | ■                                      | 500000 - 1000000  | ■                    | 500000 - 1000000  | ■                                | 500000 - 1000000  |
|        |                          | ■                  | 1000000 - 2000000 | ■                         | 1000000 - 2000000 | ■                                      | 1000000 - 2000000 | ■                    | 1000000 - 2000000 | ■                                | 1000000 - 2000000 |
|        |                          | ■                  | > 2000000         | ■                         | > 2000000         | ■                                      | > 2000000         | ■                    | > 2000000         | ■                                | > 2000000         |
|        |                          | ■                  | 50000 - 100000    | ■                         | 50000 - 100000    | ■                                      | 50000 - 100000    | ■                    | 50000 - 100000    | ■                                | 50000 - 100000    |
|        |                          | ■                  | 100000 - 200000   | ■                         | 100000 - 200000   | ■                                      | 100000 - 200000   | ■                    | 100000 - 200000   | ■                                | 100000 - 200000   |
|        |                          | ■                  | 200000 - 500000   | ■                         | 200000 - 500000   | ■                                      | 200000 - 500000   | ■                    | 200000 - 500000   | ■                                | 200000 - 500000   |
|        |                          | ■                  | 500000 - 1000000  | ■                         | 500000 - 1000000  | ■                                      | 500000 - 1000000  | ■                    | 500000 - 1000000  | ■                                | 500000 - 1000000  |
|        |                          | ■                  | 1000000 - 2000000 | ■                         | 1000000 - 2000000 | ■                                      | 1000000 - 2000000 | ■                    | 1000000 - 2000000 | ■                                | 1000000 - 2000000 |
|        |                          | ■                  | > 2000000         | ■                         | > 2000000         | ■                                      | > 2000000         | ■                    | > 2000000         | ■                                | > 2000000         |
|        |                          | ■                  | 50000 - 100000    | ■                         | 50000 - 100000    | ■                                      | 50000 - 100000    | ■                    | 50000 - 100000    | ■                                | 50000 - 100000    |
|        |                          | ■                  | 100000 - 200000   | ■                         | 100000 - 200000   | ■                                      | 100000 - 200000   | ■                    | 100000 - 200000   | ■                                | 100000 - 200000   |
|        |                          | ■                  | 200000 - 500000   | ■                         | 200000 - 500000   | ■                                      | 200000 - 500000   | ■                    | 200000 - 500000   | ■                                | 200000 - 500000   |
|        |                          | ■                  | 500000 - 1000000  | ■                         | 500000 - 1000000  | ■                                      | 500000 - 1000000  | ■                    | 500000 - 1000000  | ■                                | 500000 - 1000000  |
|        |                          | ■                  | 1000000 - 2000000 | ■                         | 1000000 - 2000000 | ■                                      | 1000000 - 2000000 | ■                    | 1000000 - 2000000 | ■                                | 1000000 - 2000000 |
|        |                          | ■                  | > 2000000         | ■                         | > 2000000         | ■                                      | > 2000000         | ■                    | > 2000000         | ■                                | > 2000000         |

Note: Values based on MOE Permit To Take Water database. Only permitted locations active on Jan. 13, 2003 are shown.

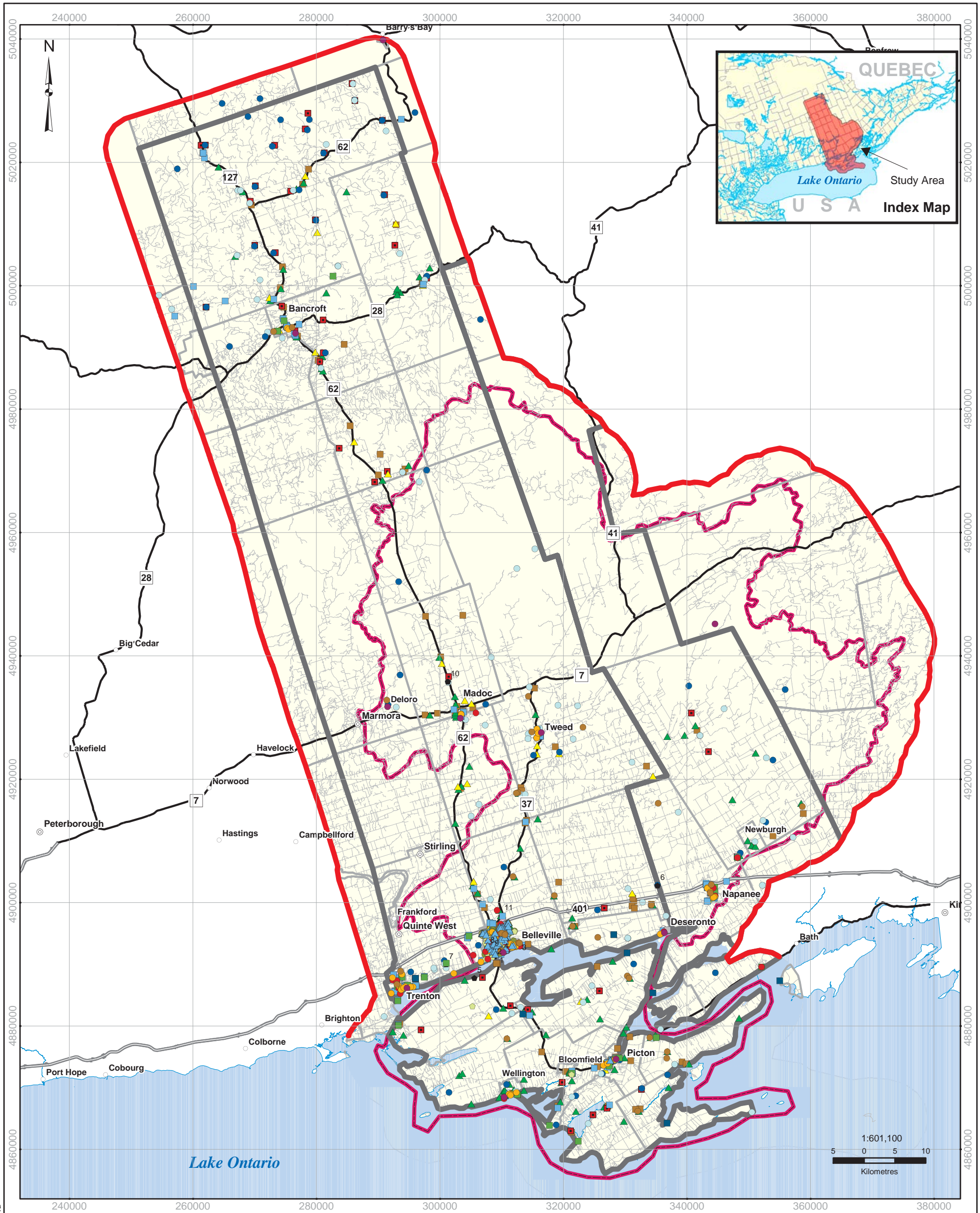
## Location of Large Groundwater Takings > 50,000 L/day

### Quinte Regional Groundwater Study

Map 5.1

UTM Zone 18, NAD 83





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data

Disclaimer: Only georeferenced data provided at the time of the report is shown. Both georeferenced and non-georeferenced data is in the digital database. The completeness and positional accuracy of the plotted data is variable. Some locations may appear in duplicate. The map should only be interpreted in conjunction with the accompanying written report.

Date: August 2004 © 2004 Queen's Printer for Ontario



**Legend**

- |                                 |                                   |                                  |                            |
|---------------------------------|-----------------------------------|----------------------------------|----------------------------|
| ⊙ Major Population Centres      | ◆ Known Contaminated Sites        | ■ Petroleum Fuel Storage: Retail | ■ Municipal Survey Results |
| ○ Communities                   | ● Landfill - Open                 | ■ Coal Tar Sites                 | ■ Gas Station              |
| — Expressways                   | ● Landfill - Closed               | ■ Federal Contaminated Sites     | ▲ Industrial               |
| — Highways                      | ● Transfer Station/Other          | ● Reported Spills                | ■ Landfill                 |
| — Counties                      | ● Waste Receivers                 | ● PCB Sites                      | ▲ Salt and Sand Sheds      |
| — Municipalities                | ● Hazardous Waste Generators      | ● Pesticide Sites                |                            |
| — Study Area Boundary           | ● Autowreckers/Recyclers          | ● Sewage Treatment Plants        |                            |
| — Quinte Conservation Watershed | ■ Petroleum Fuel Storage: Private | ▲ Industry                       |                            |
| ■ Lakes                         |                                   |                                  |                            |

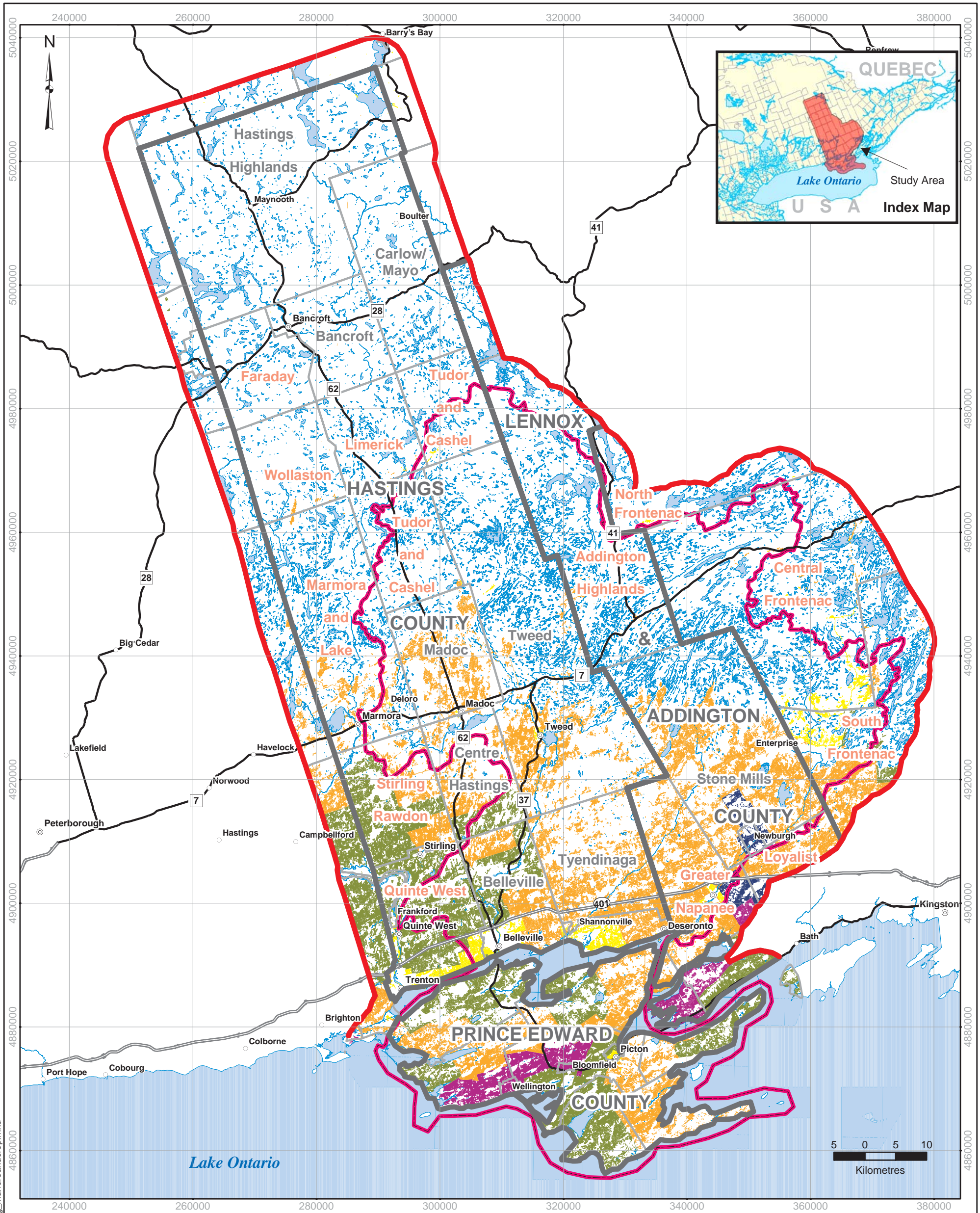
Note: Data only shown primarily for Partner Municipalities.

**Known and Potential Contaminant Sources**  
**Quinte Regional Groundwater Study**

Map 6.1

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UTM Zone 18, NAD 83

Digital Mapping Sources: Base Mapping Features - CANMAP v5.0, Prince Edward Municipal Mapping, MOE NRVIS data, Various agriculture data sources (see report)

Individual parcels of land may have values higher or lower than the average shown on the map (including zero).

Disclaimer: The information conveyed by this map is regional in nature and is not suitable for use in site specific evaluations. The map should only be interpreted in conjunction with the accompanying written report.

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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- ▭ Quinte Conservation Area
- ▭ Lakes

**Estimated Nitrogen available for leaching (kg/ha)**

- ▭ >0.00 - 10.00
- ▭ 10.00 - 20.00
- ▭ 20.00 - 30.00
- ▭ 30.00 - 40.00
- ▭ 40.00 - 50.00
- ▭ No Agriculture

Note: Sum of estimated residual nitrogen after crop growth and nitrogen produced in manure in excess of crop needs. Values computed from various sources and applied to data derived by Agriculture and Agri-Food Canada from 1996 Census of Agriculture, Statistics Canada. These data represent the average for a grouping of Enumeration Areas.

in association with

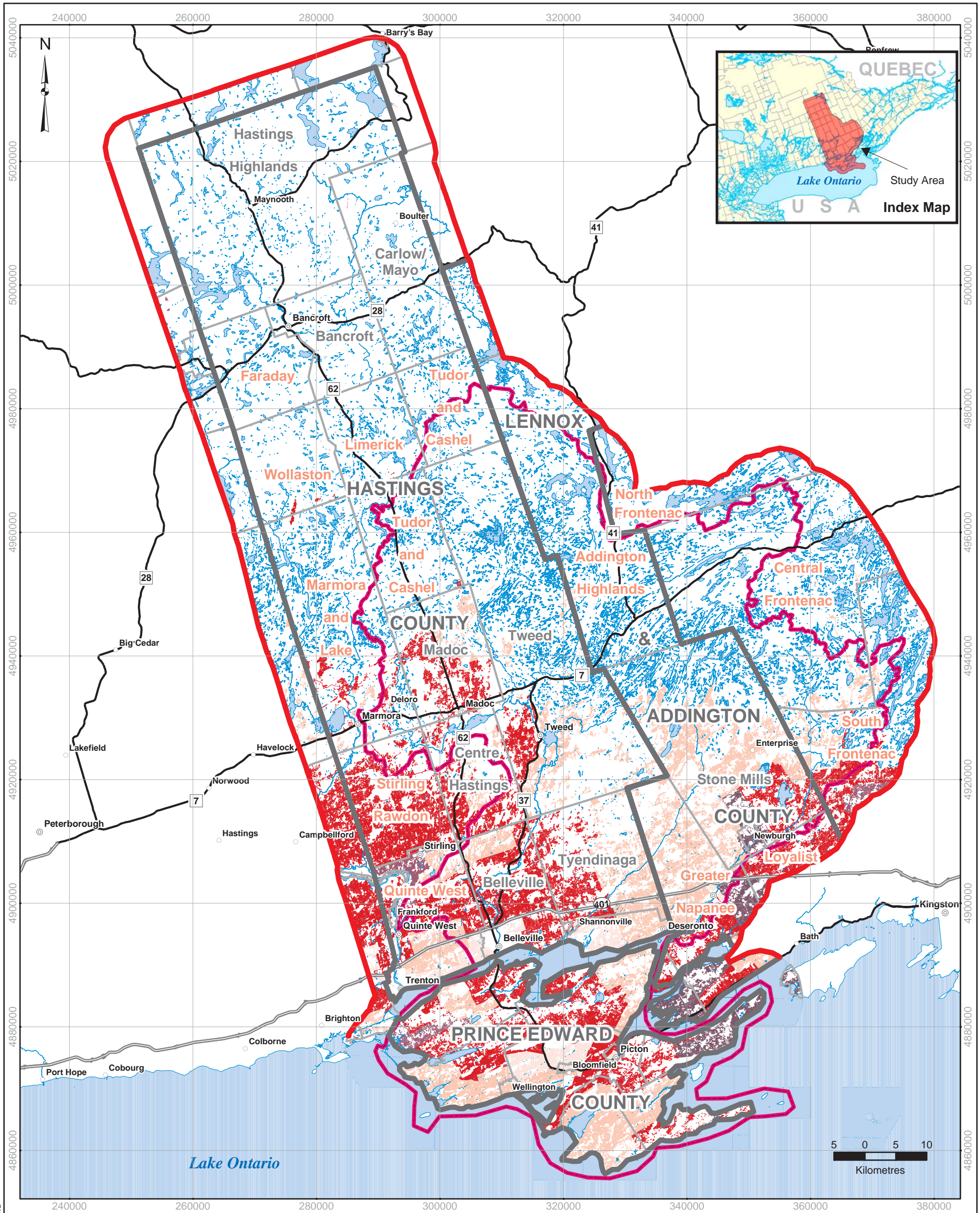
**Agricultural Watersheds Associates**

**Estimated Nitrogen available for Leaching from Manure and Crop Residuals, in kg/ha of Agricultural Land/Year**

**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXDs\fig\_21\_nitrogen\_leaching\_manureandcrop.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data,  
 Various agriculture data sources (see report)

Individual parcels of land may have values higher or lower than the average shown on the map (including zero)

Disclaimer: The information conveyed by this map is regional in nature and is not suitable for use in site specific evaluations. The map should only be interpreted in conjunction with the accompanying written report.  
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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- Quinte Conservation Area
- Lakes

**Livestock Units/ha**

- >0 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.05
- No Agriculture

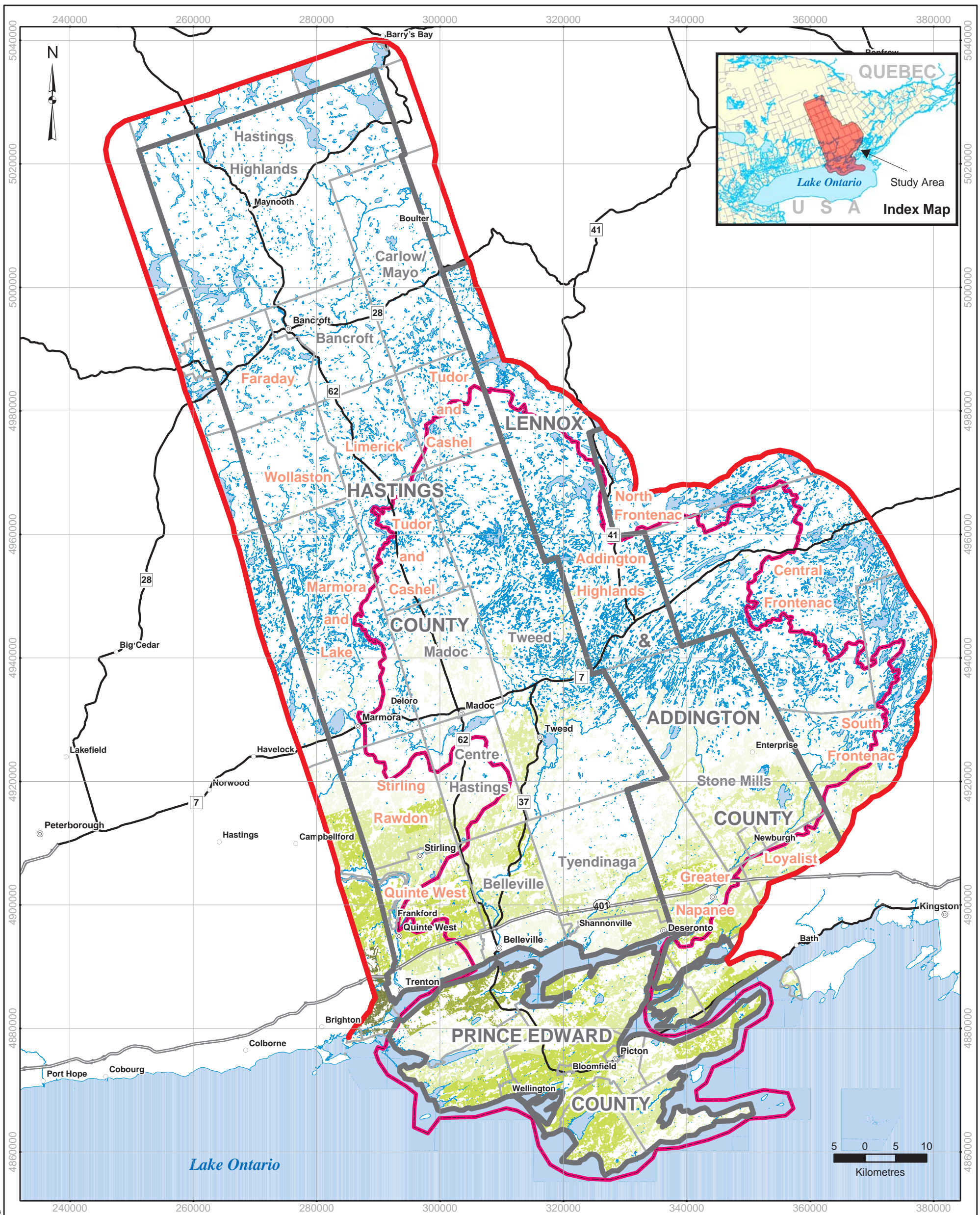
Note: Calculated from data derived by Agriculture and Agri-Food Canada from 1996 Census of Agriculture, Statistics Canada. These data represent the average for a grouping of Enumeration Areas.

in association with
   
  
 Agricultural Watersheds Associates

**Livestock Units/ha of Agricultural Land**  
**Quinte Regional Groundwater Study**

G:\Projects\2003\031-119004\_Quinte\GIS\MXDs\fig\_22\_LivestockUnits.mxd





UTM Zone 18, NAD 83

Digital Mapping Sources:  
 Base Mapping Features - CANMAP v5.0,  
 Prince Edward Municipal Mapping, MOE NRVIS data,  
 Various agriculture data sources (see report)

Individual parcels of land may have values higher or lower than the average shown on the map (including zero).

Disclaimer: The information conveyed by this map is regional in nature and is not suitable for use in site specific evaluations. The map should only be interpreted in conjunction with the accompanying written report.  
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**Legend**

- ⊙ Major Population Centres
- Communities
- Expressways
- Highways
- Counties
- Municipalities
- Study Area Boundary
- Quinte Conservation Area
- Lakes

**% Land Treated with Pesticides**

- >0 - 24
- 25 - 49
- 50 - 74
- 75 - 100
- greater than 100 (Land treated more than once)
- No cropland

Note: Pesticides includes herbicides, fungicides and insecticides. Data derived by Agriculture and Agri-Food Canada from 1996 Census of Agriculture, Statistics Canada. These data represent the average for a grouping of the Enumeration Areas.

**Agricultural Land Treated with Pesticides**

**Quinte Regional Groundwater Study**

Map 6.4



G:\Projects\2003\031-119004\_Quinte\GIS\MXD\fig\_25\_PesticideUse.mxd