



Water Budget Conceptual Understanding Map Booklet

Version 1.1.0

February 2007 (Revised October 2009)

For consideration in the preparation of a Source Water Protection Assessment Report

Raisin-South Nation Source Protection Region





Version Control

Document Version	Revision	Date	Author	Change Reference
1.1.0	Final Draft	October 1, 2009	Phil Barnes	Reformatted, addressed Laura Landriault's (MNR) comments; Maps re-numbered.
1.0.0	Draft	January 2008	Tessa Di Iorio	Additional Analyses introduced, Document Reformatted, Peer Review Comments Incorporated, Maps re- numbered.
0.1.0	Inital Drraft	February 2007	Anne-Marie Chapman	Initial Document





List of Maps

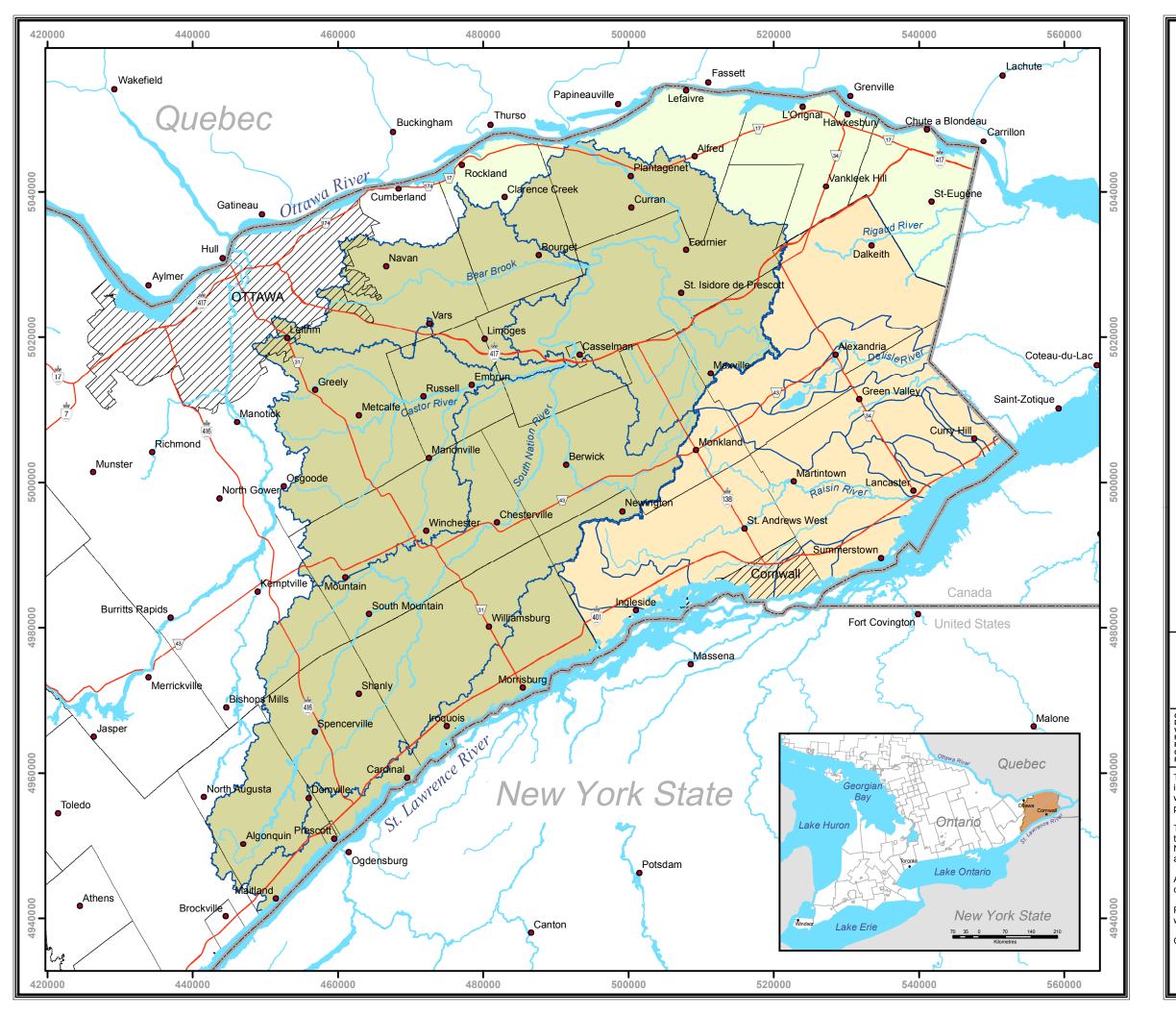
- Map 1: Raisin-South Nation Source Protection Region
- Map 2: Environment Canada Climate Stations
- Map 3: Environment Canada Climate Stations with Average Annual Precipitation
- Map 4: Normal Annual Precipitation
- Map 5: Normal Annual Temperature
- Map 6: Estimated Actual Evapotranspiration
- Map 7: Land Use
- Map 8: Soils
- Map 9: Physiographic Units
- Map 10: Fish Habitat Drain Classification
- Map 11: Topography
- Map 12: Bedrock Formations and Faults
- Map 13: Surficial Geology
- Map 14: Overburden Thickness
- Map 15: Bedrock Topography
- Map 16: Bedrock Topography and Interpreted Bedrock Valley Centre Lines
- Map 17a: Geologic Isopach Lower Sediment
- Map 17b: Geologic Isopach Till
- Map 17c: Geologic Isopach Glaciofluvial Sediments
- Map 17d: Geologic Isopach Fine Textured Glacial Marine
- Map 17e: Geologic Isopach Coarse Textured Glacial Marine
- Map 17f: Geologic Isopach Recent Deposits
- Map 18: Esker Distribution
- Map 19: Provincial Groundwater Monitoring Network and Groundwater Well Locations
- Map 20a: Selected MOE Wells completed in the Overburden
- Map 20b: Selected MOE Wells completed in the Shallow Bedrock
- Map 20c: Selected MOE Wells completed in the Intermediate Bedrock
- Map 20d: Selected MOE Wells completed in the Deep Bedrock
- Map 21: Overburden Potentiometric Surface with Direction of Groundwater Flow
- Map 22: Shallow Bedrock Potentiometric Surface with Direction of Groundwater Flow
- Map 23: Potentiometric Surface in the Intermediate Bedrock
- Map 24: Potentiometric Surface in the Deep Bedrock
- Map 25: Vertical Gradient for Recharge to the Contact Zone Aquifer
- Map 26: Hydraulic Conductivity of the Confining Unit
- Map 27: Average Annual Recharge to the Contact Zone Aquifer
- Map 28: Land Slope Classes
- Map 29: Soil Permeability Classes
- Map 30: Land Cover Classes
- Map 31: Groundwater Recharge Coefficient
- Map 32: Average Annual Groundwater Recharge (Overburden and Contact Zone Aquifers)
- Map 33: Average Annual Recharge to the Overburden Aquifers

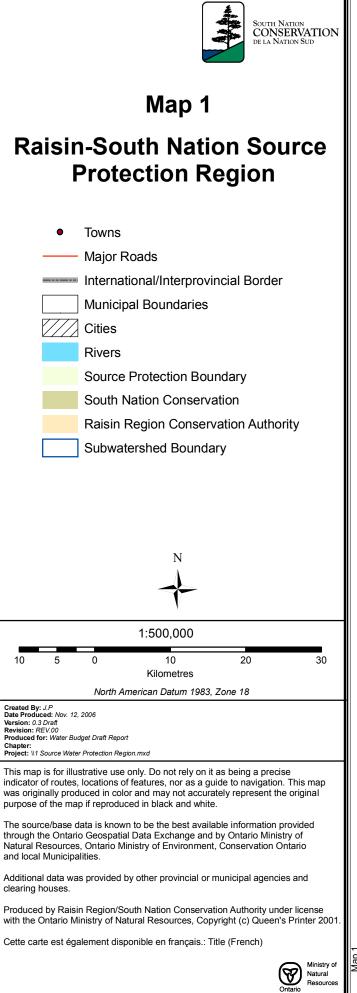


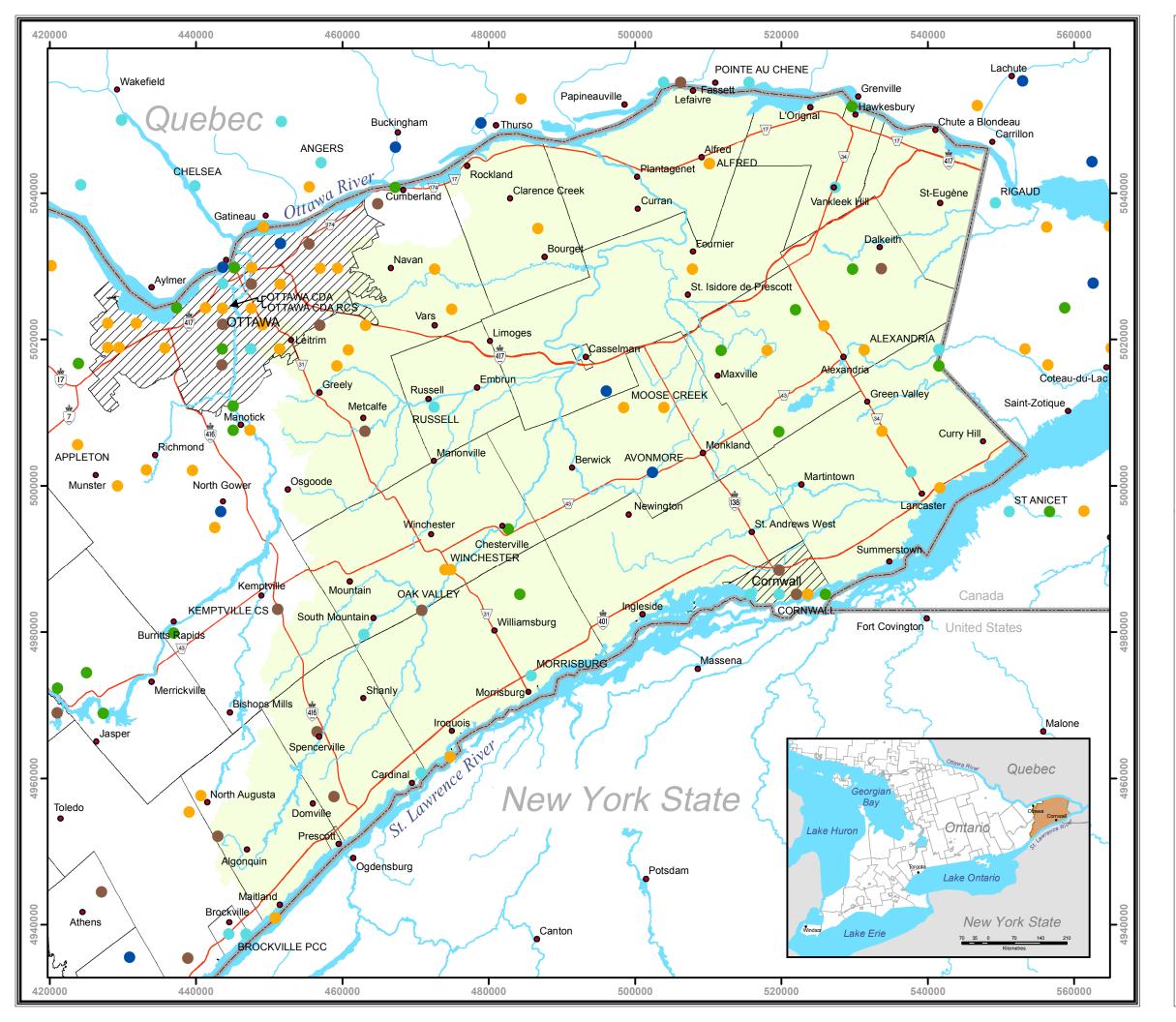




- Map 34: Subwatersheds
- Map 35: Subwatersheds and General Flow Direction
- Map 36: Major River Reaches in the South Nation River Watershed
- Map 37: Major River Reaches in the Raisin Region Conservation Authority
- Map 38: Approximate Drainage Divides of Selected WSC Stream Gauges
- Map 39: Dams, Diversions and Control Structures
- Map 40: Strahler Stream Classification
- Map 41: Environment Canada Surface Water Flow Stations
- Map 42: Significant Wetlands
- Map 43: Municipally Serviced Settlements (Surface Water)
- Map 44: Municipally Serviced Settlements (Groundwater)
- Map 45: Permit to Take Water (PTTW) Water Use
- Map 46: Permit to Take Water (PTTW) Water Takings
- Map 47: Documented water shortages
- Map 48: Average Annual Water Surplus
- Map 49: Average Annual Direct Runoff
- Map 50: Average Annual Direct Runoff and Overburden Recharge
- Map 51: Watersheds for Tier 1 Surface Water Analysis









Environment Canada Climate Stations

Towns

Major Roads

----- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

Environment Canada Climate Stations

Years of Record

0 - 5

6 - 10

11 - 20

21 - 30

31 and above



1:500,000 5 10 Kilometres North American Datum 1983, Zone 18

Created By: J.P Date Produced: Sept 26, 2006

Are Produced Sept 20, 2000 Persion: 0.3 Draft Revision: REV.01 - Nov. 12, 2006 Produced for: Water Budget Draft Report

Chapter:
Project: \\2 Environment Canada Climate Stations.mxd

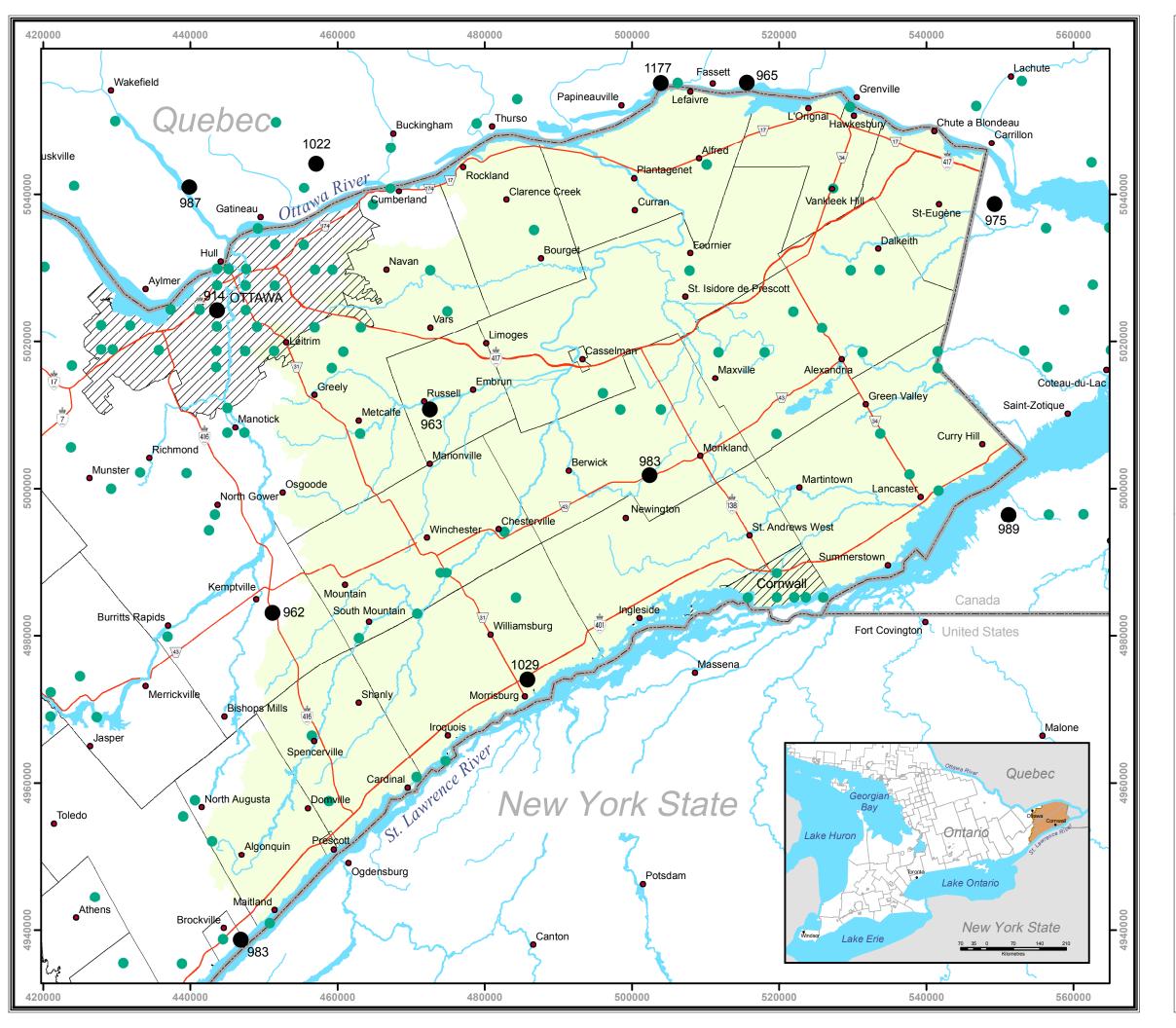
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed Ministry of Natural Resources





Environment Canada Climate Stations with Average Annual Precipitation

- Towns
- EC Climate Stations
- EC Climate Stations with Average Precipitation

Major Roads

---- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary



1:500,000 10 5 0 10 20 30 Kilometres

North American Datum 1983, Zone 18

Created By: J.P Date Produced: Jan 11, 200 Version: 0.3 Draft

Are Friddled San 11, 2000 Revision: 0.3 Draft Revision: REV.00 Produced for: Water Budget Draft Report

Chapter:
Project: \\3 EC Climate Stations with Average Annual Precipitation.mxd

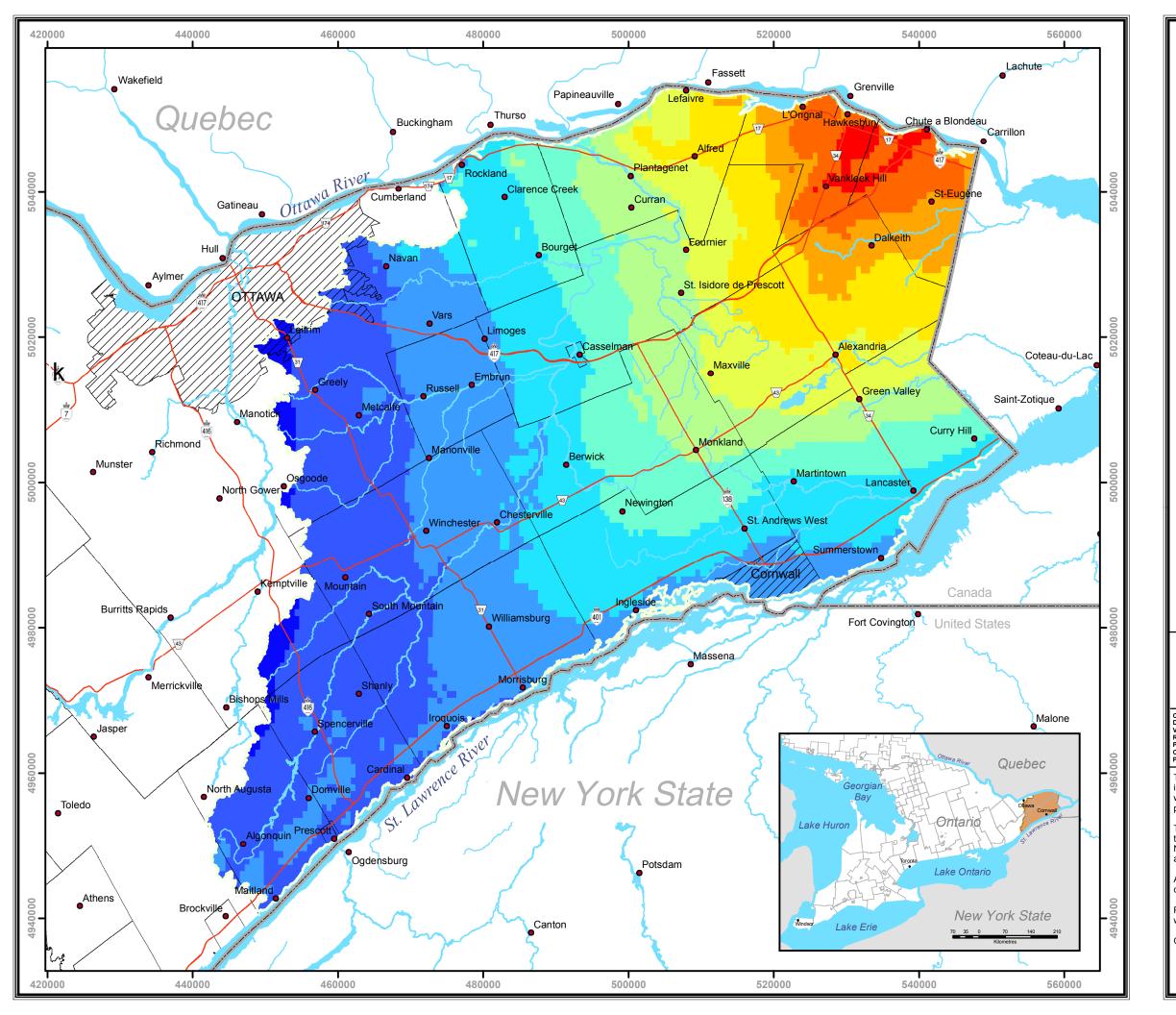
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

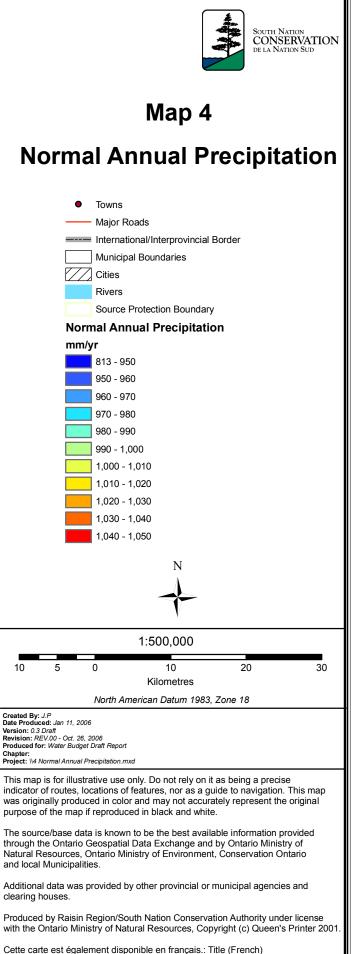
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

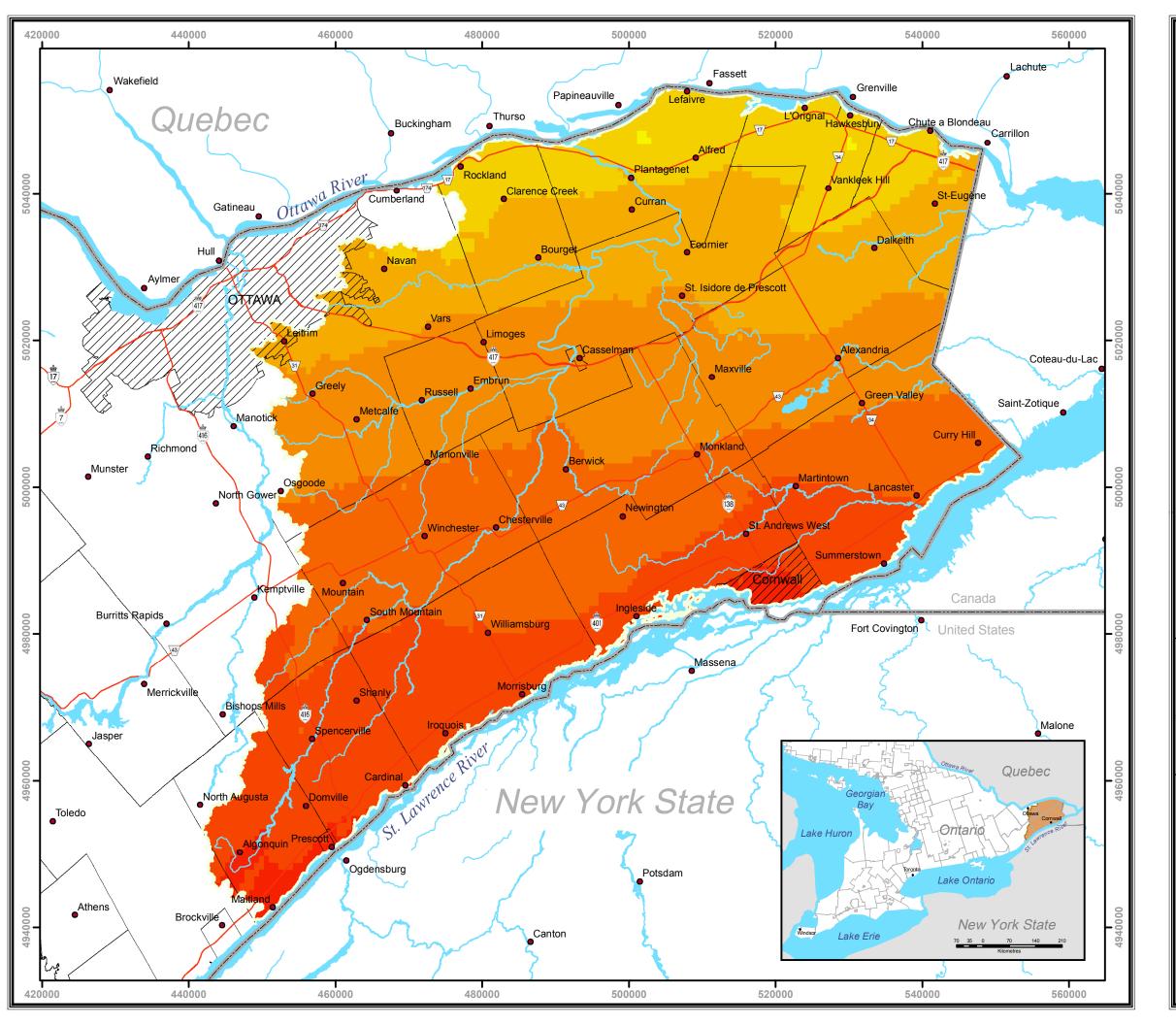
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

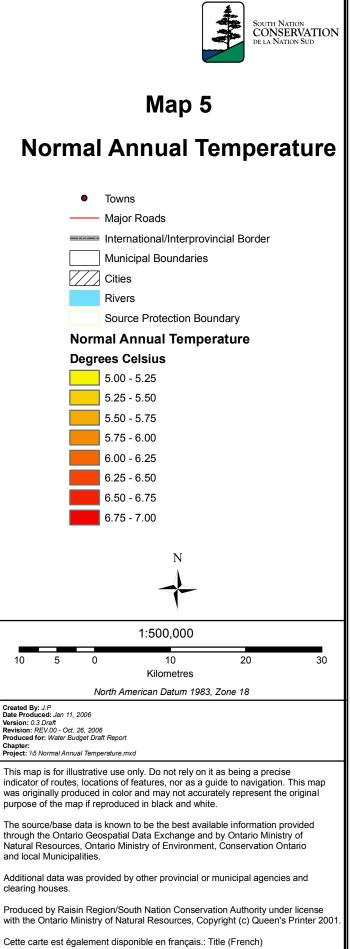


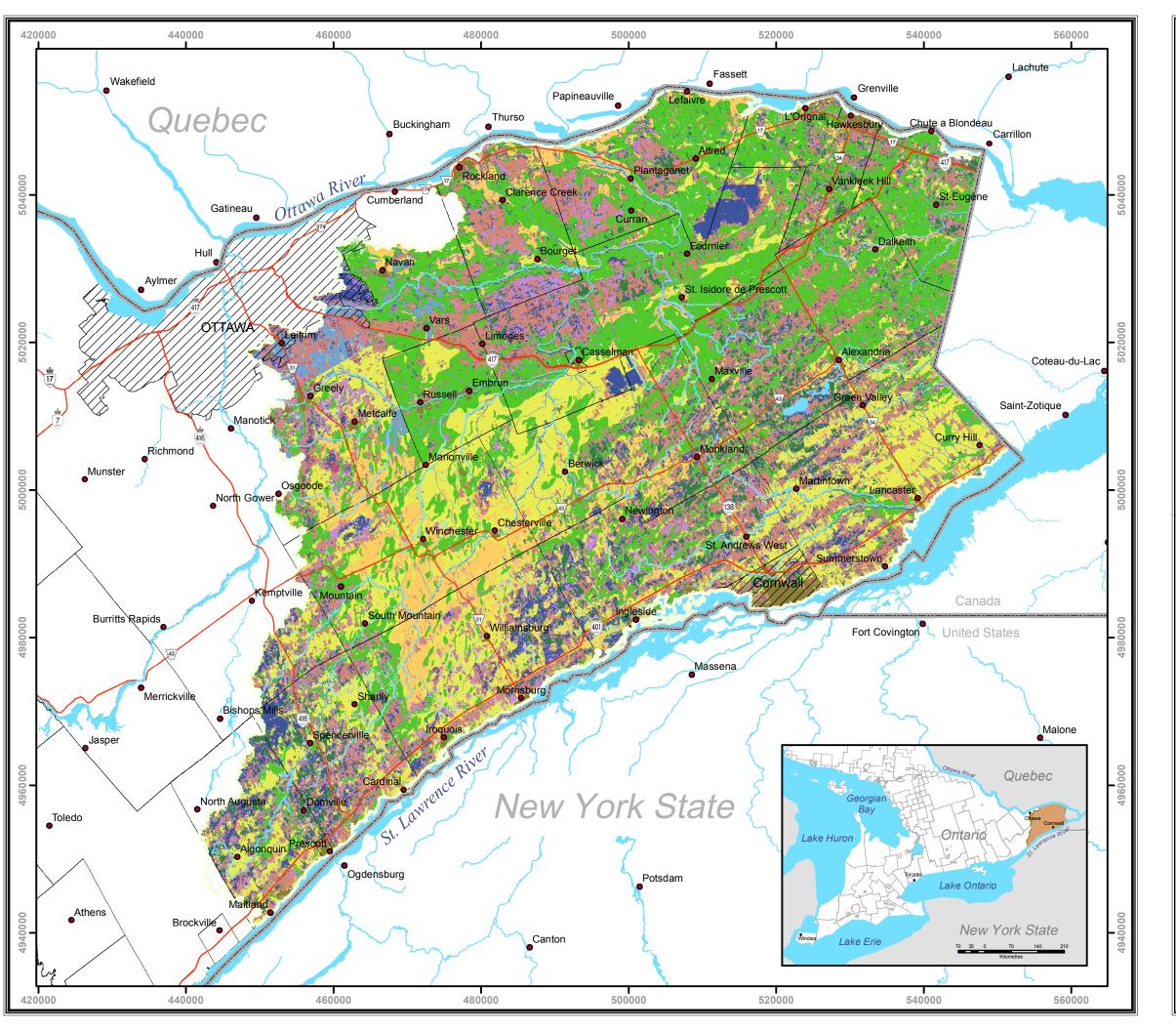


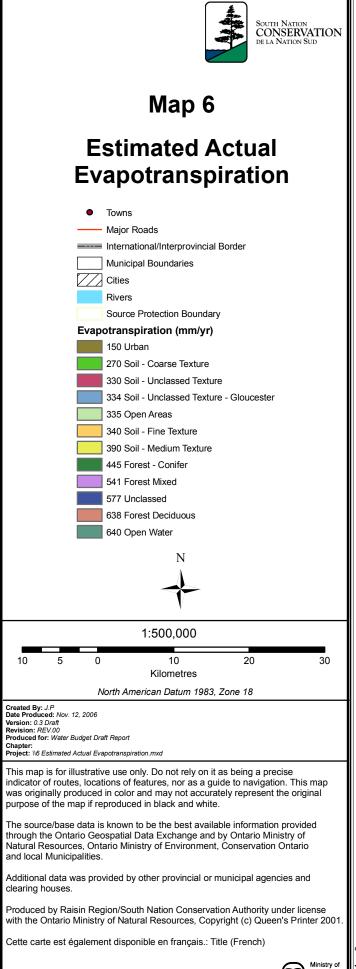


Man 4

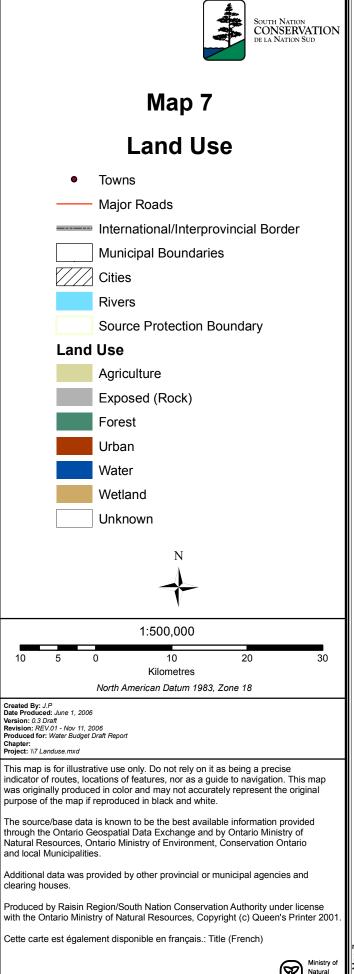


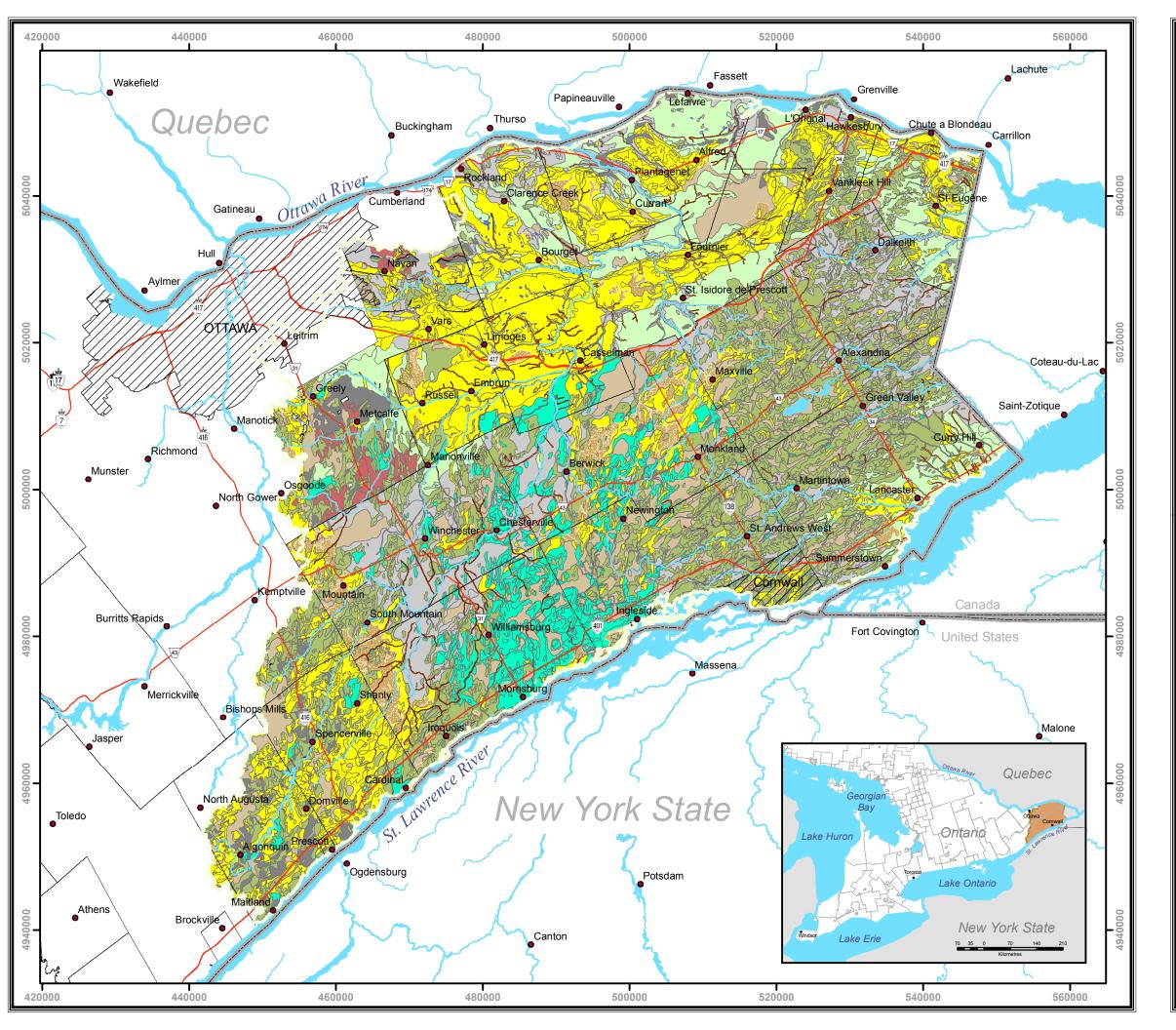


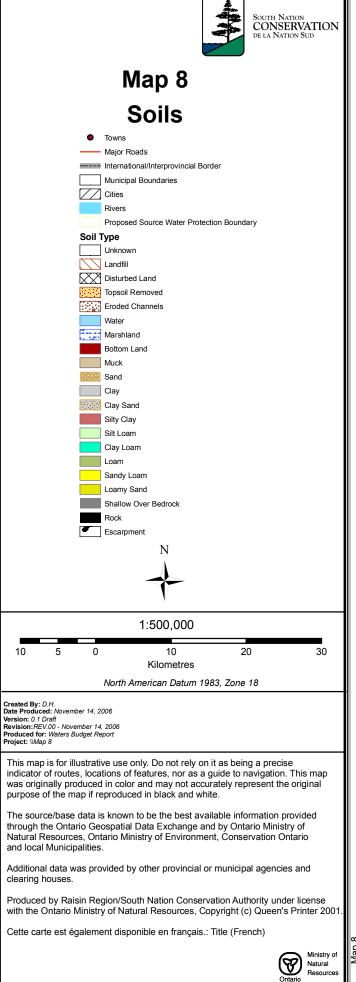


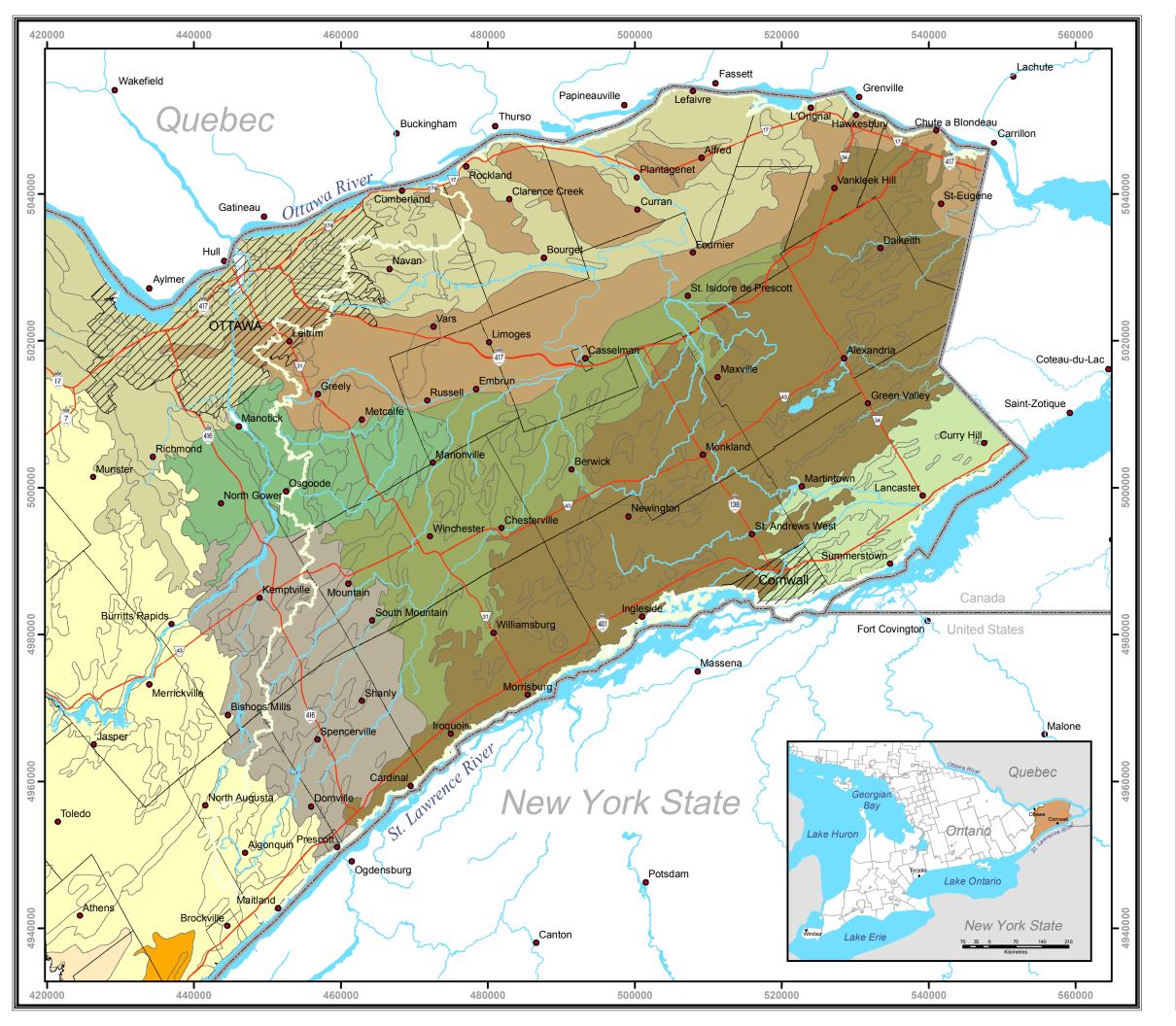


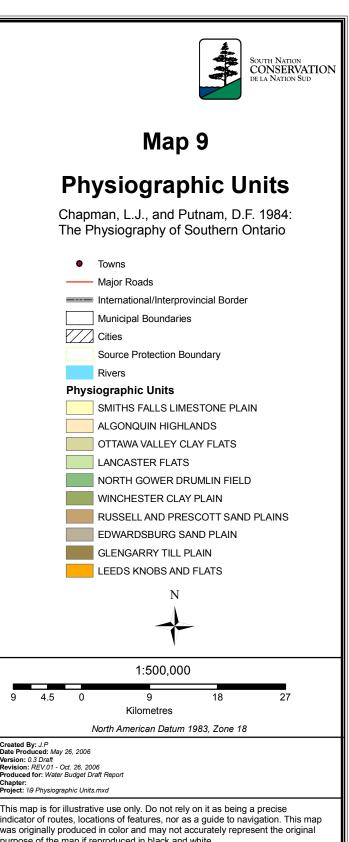












Created By: J.P Date Produced: May 26, 2006 Are Produced. May 20, 2000 Persion: 0.3 Draft Revision: REV.01 - Oct. 26, 2006 Produced for: Water Budget Draft Report

4.5

Shapter: Project: \\9 Physiographic Units.mxd

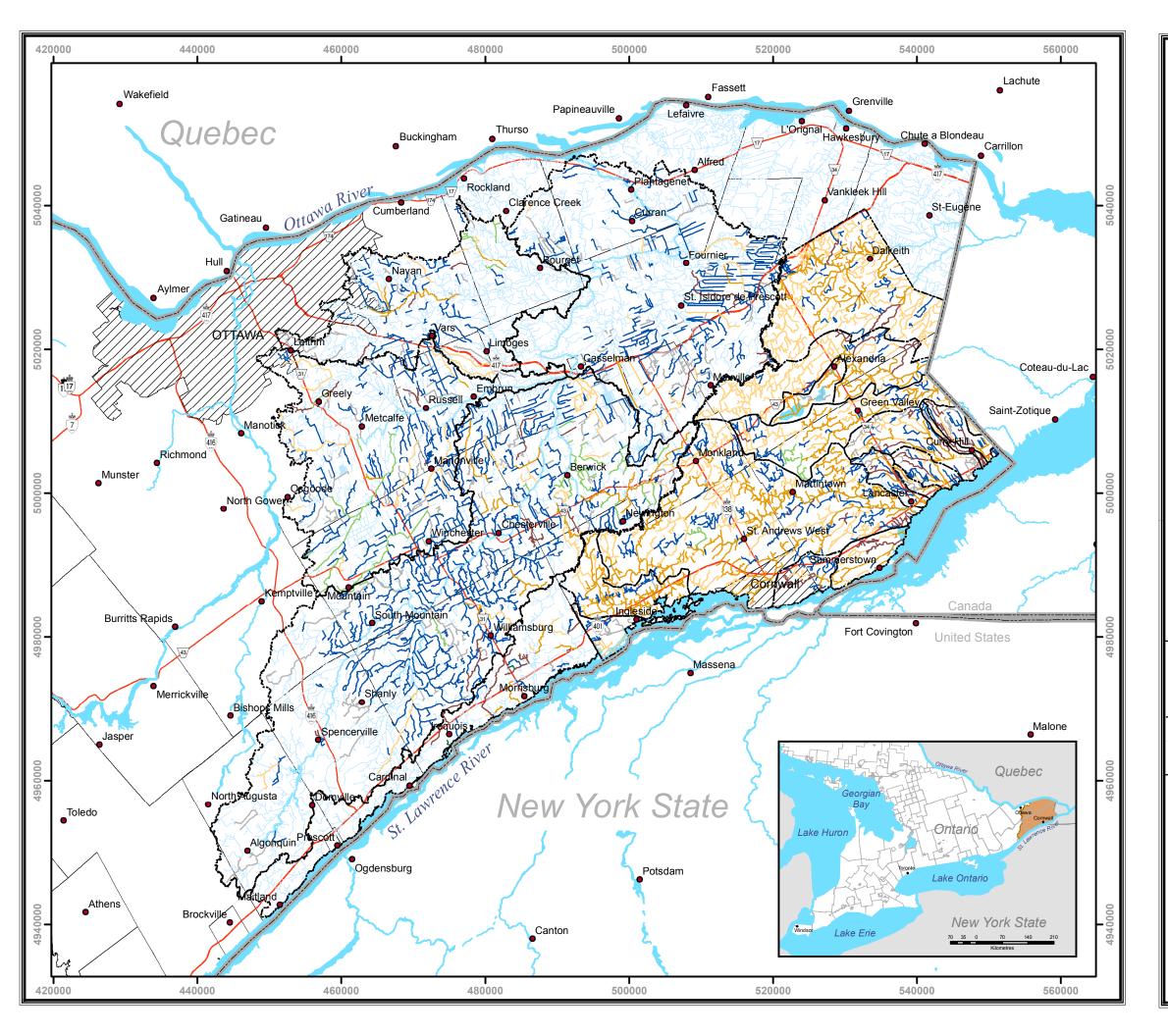
indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001







Map 10 Fish Habitat Drain Classification

Towns				
—— Major Roads				
International/Interprovincial Border				
Municipal Boundaries				
Cities				
DFO Stream Classification				
U/N-Unknown				
——— A-Permanent, Cold/Cool, No Trout or Salmon				
—— B-Permanent, Warm, Gamefish, Unstable Habitat				
C-Permanent, Warm, Baitfish				
—— D-Permanent, Cold/Cool Trout and/or Salmon				
E-Permanent, Warm, Gamefish, Stable Habitat				
F-Intermittent				
Outside Original DFO Classification Study Area				
Subwatershed Boundary				
Rivers				
N				
+				
1:515,625				

Created By: D.H.
Date Produced: November 14, 2006
Version: 0.3 Draft
Revision: REV.00 - January 19, 2009
Produced for: Water Budget Report
Project: \Map 10 Fish Habitat Drain Classification.mxd

4.5

This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

Kilometres

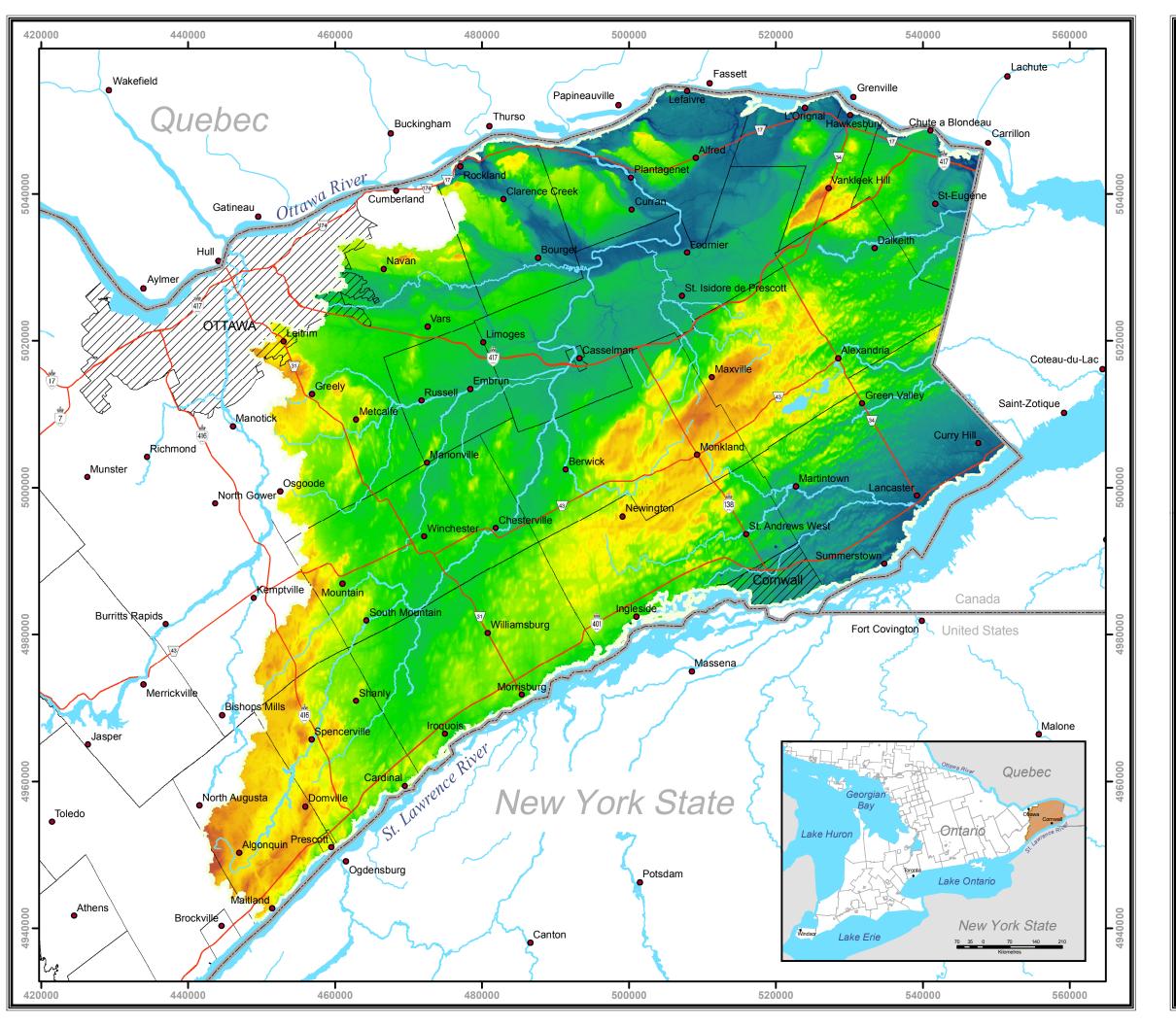
North American Datum 1983, Zone 18

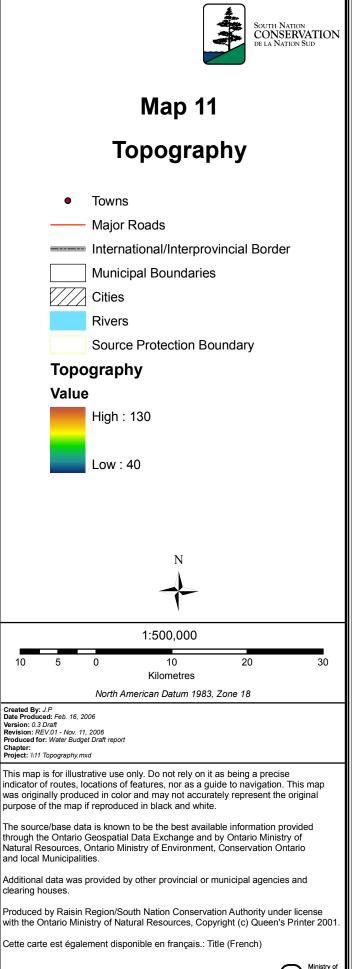
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

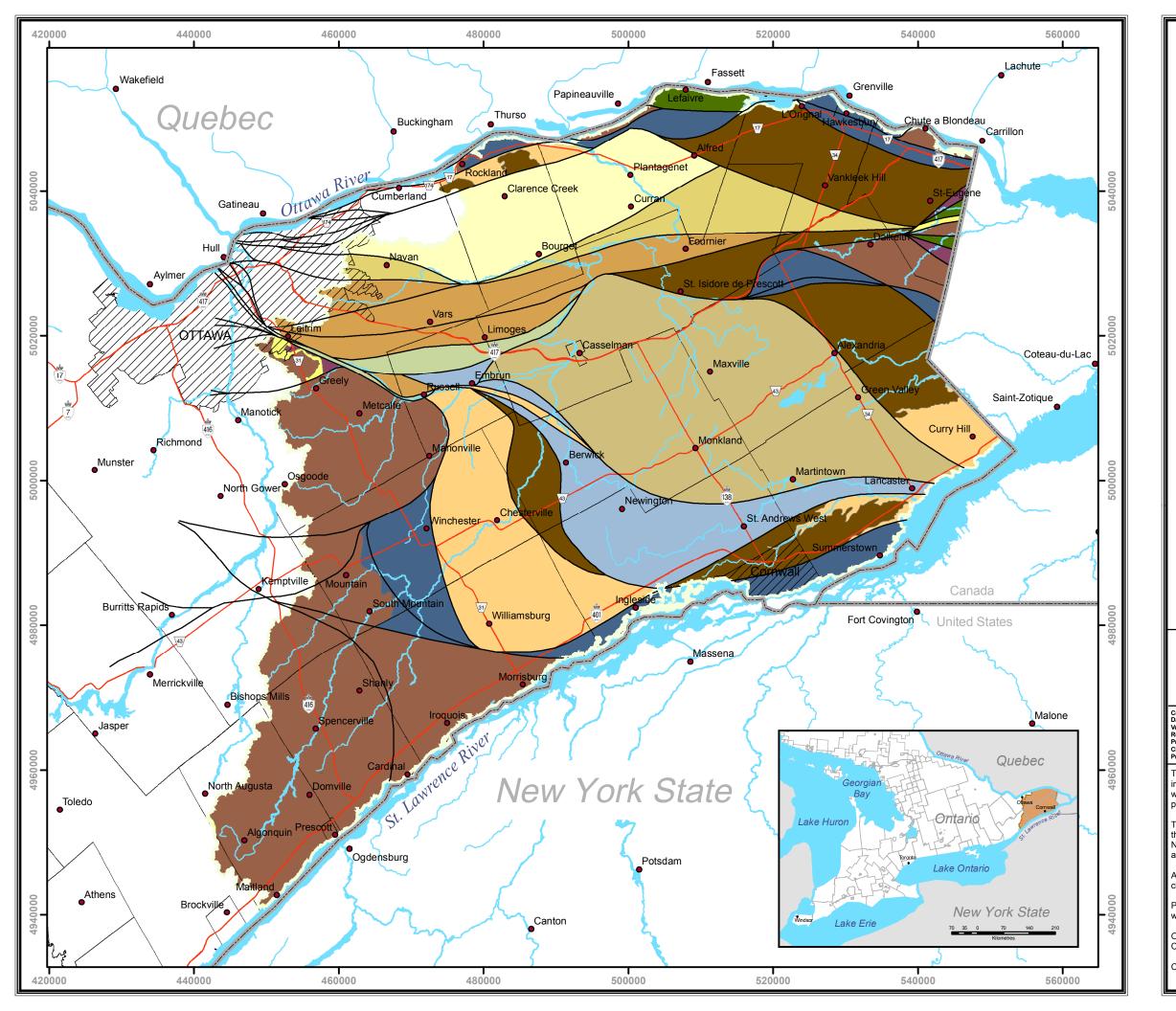
Additional data was provided by other provincial or municipal agencies and clearing houses.

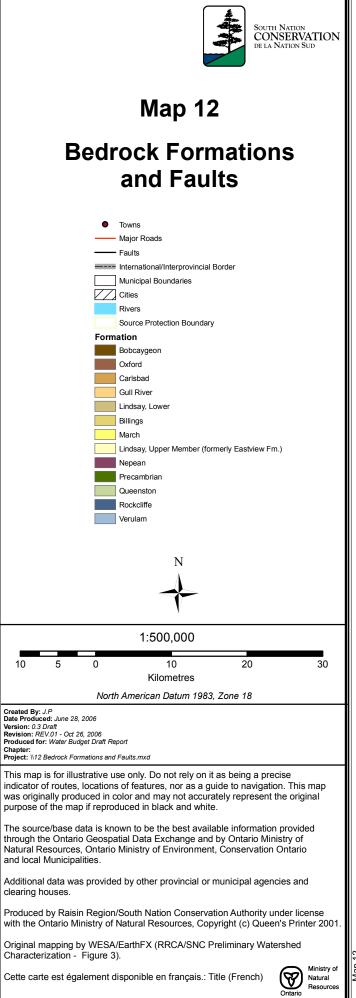
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

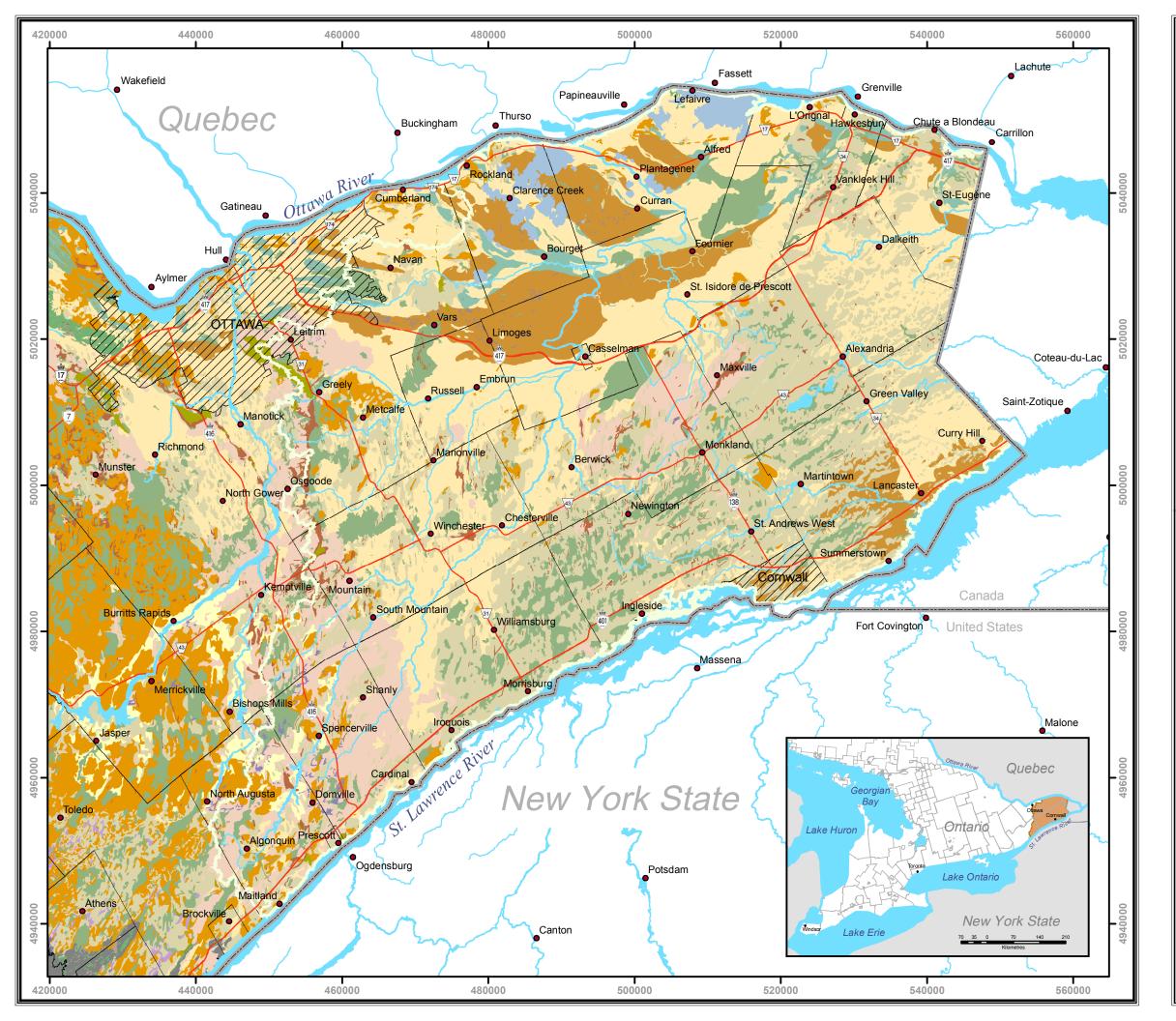


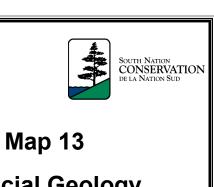






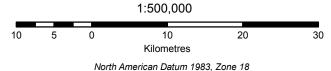






Surficial Geology





Created By: J.P Date Produced: Dec 14, 2006 Version: 0.3 Draft Revision: REV.01 - June 6, 2006 Produced for: Water BudgetDraft Report Chapter(s): Project: \\13 Surficial Geology.mxd

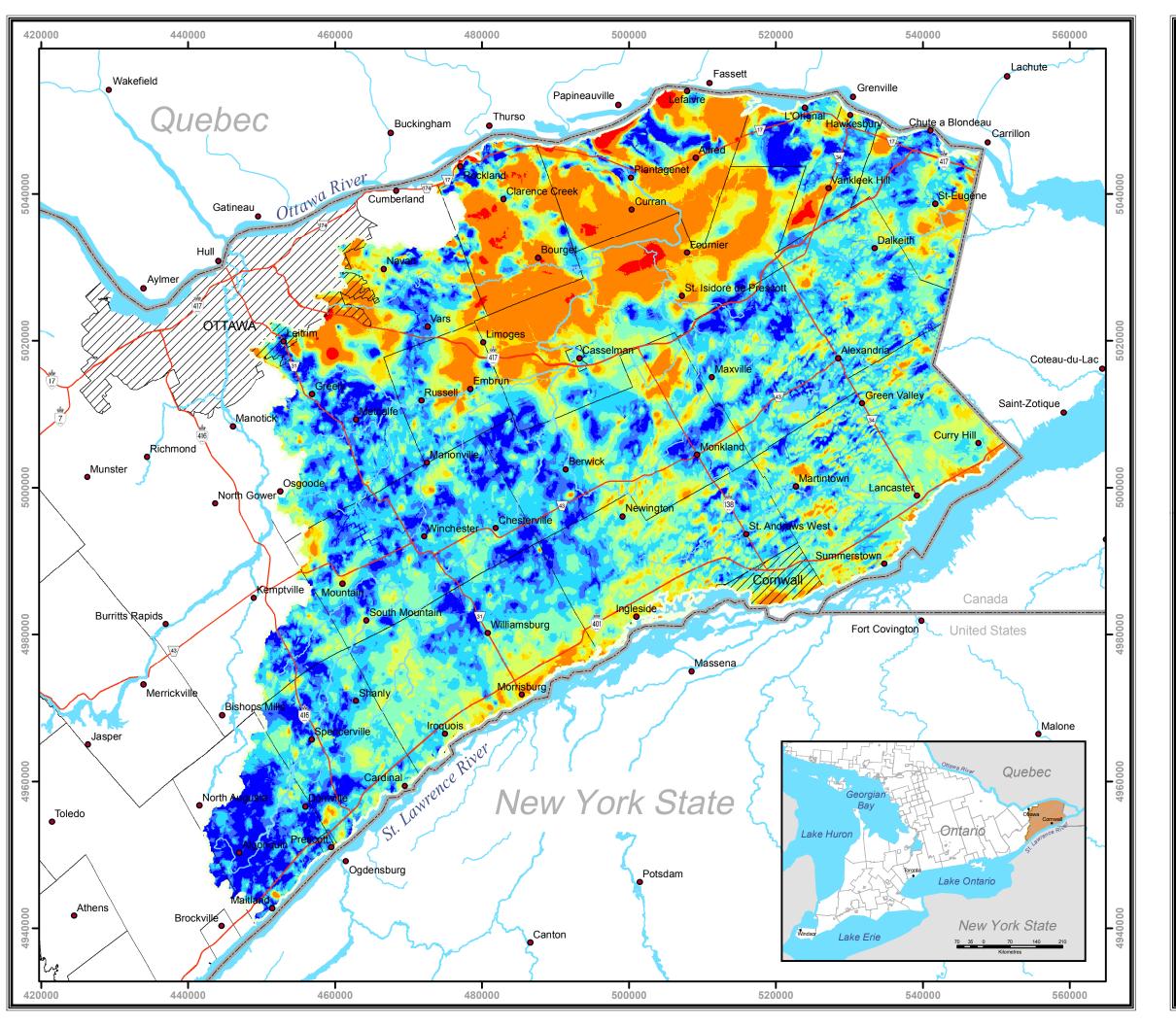
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

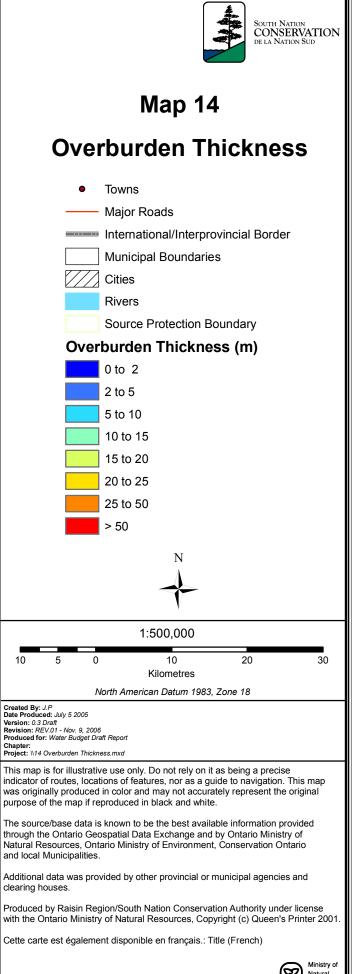
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

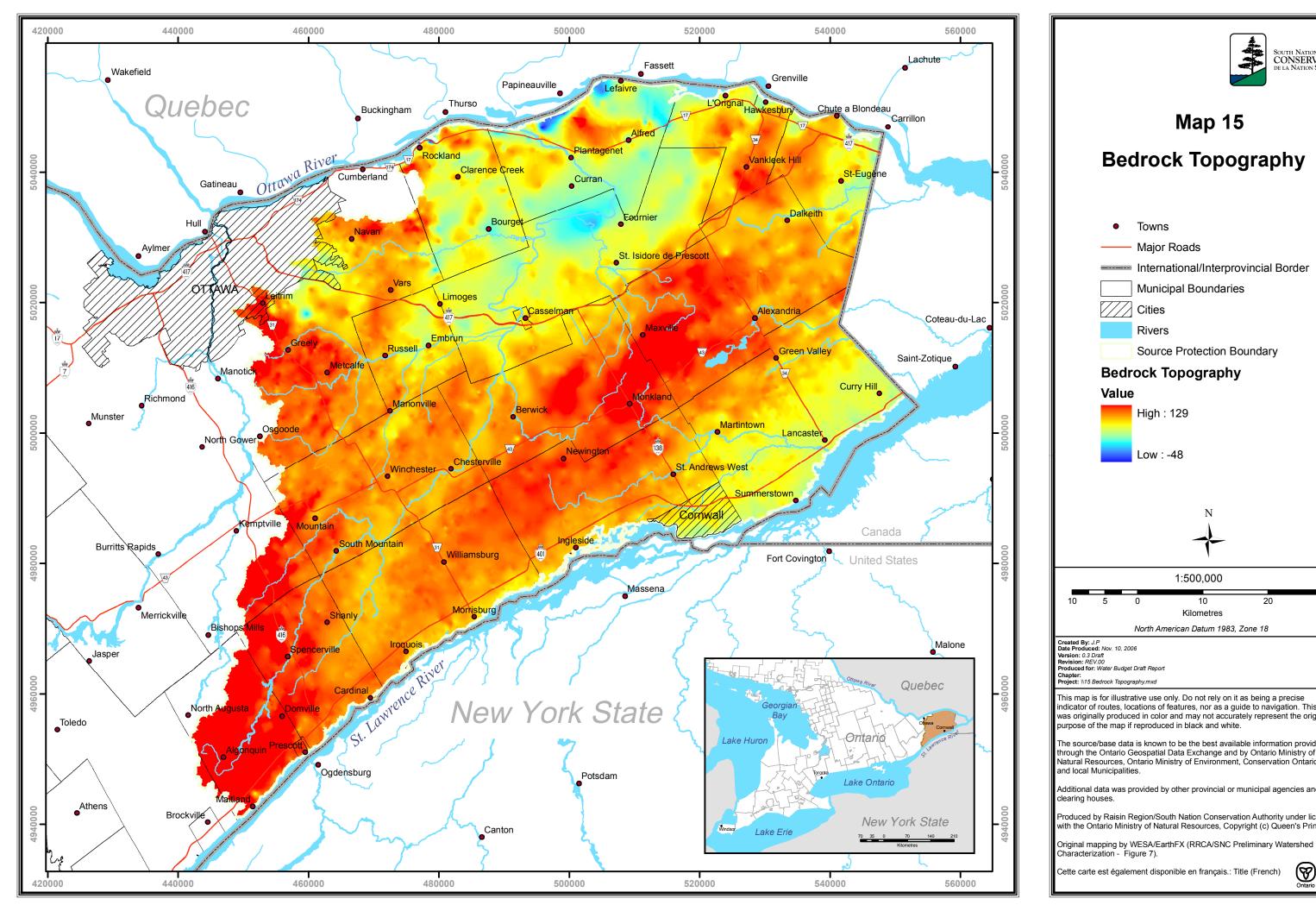
Additional data was provided by other provincial or municipal agencies and clearing houses.

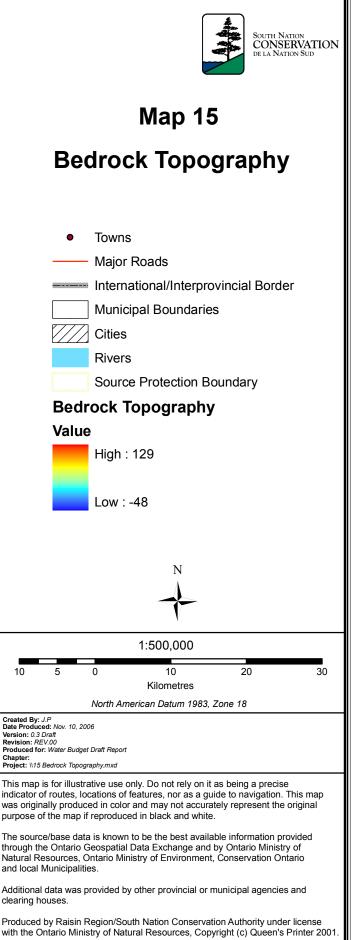
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001 and Ontario Geological Survey 2003. Surficial Geology of Southern Ontario: Ontario Geological Survey, Miscellaneous Release--Data 128.

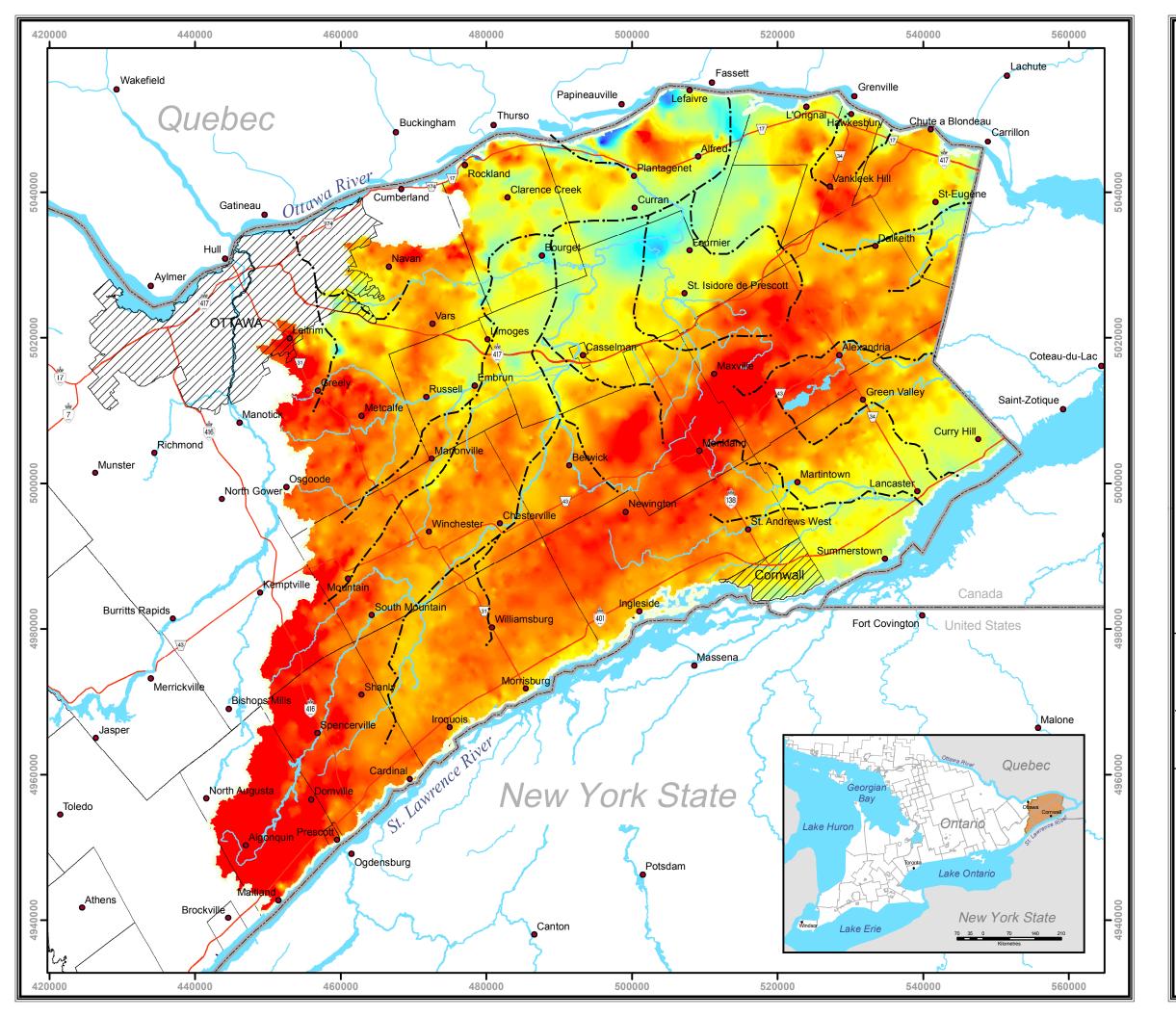


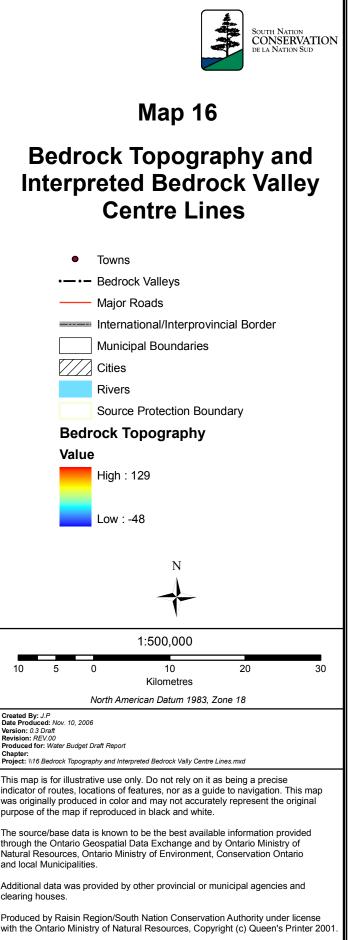






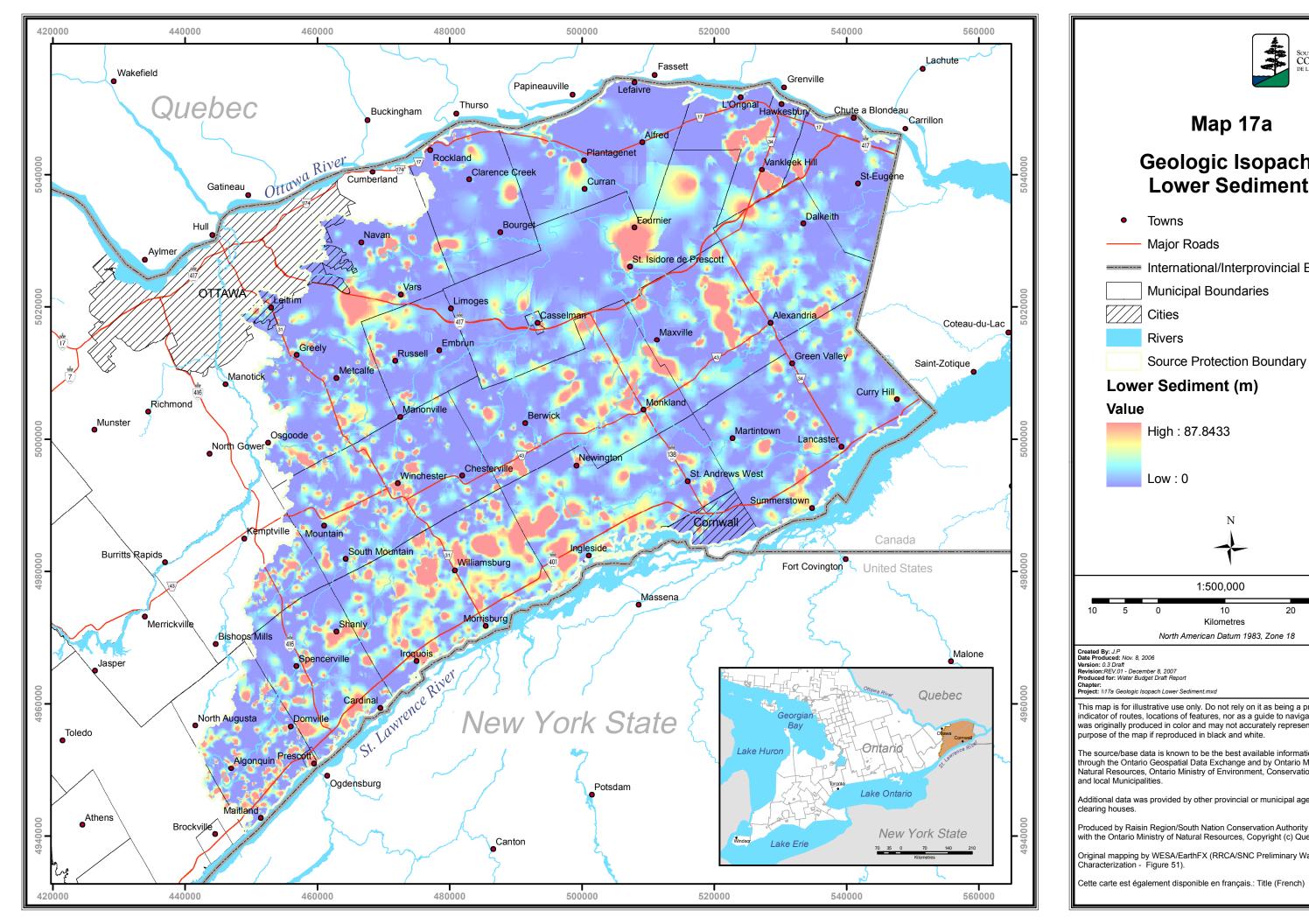


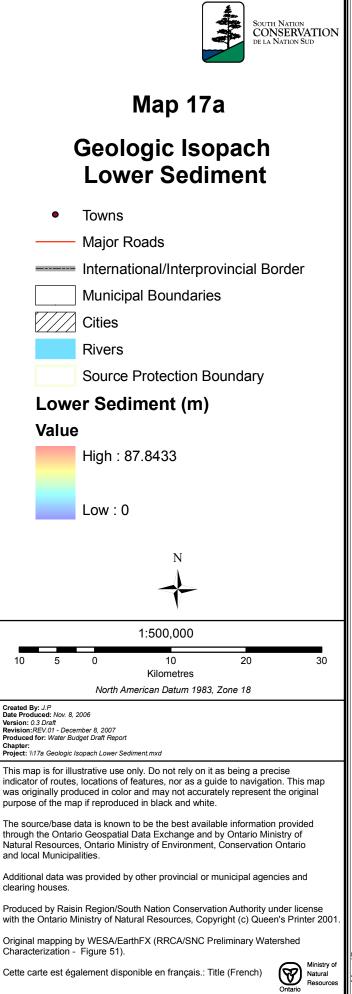


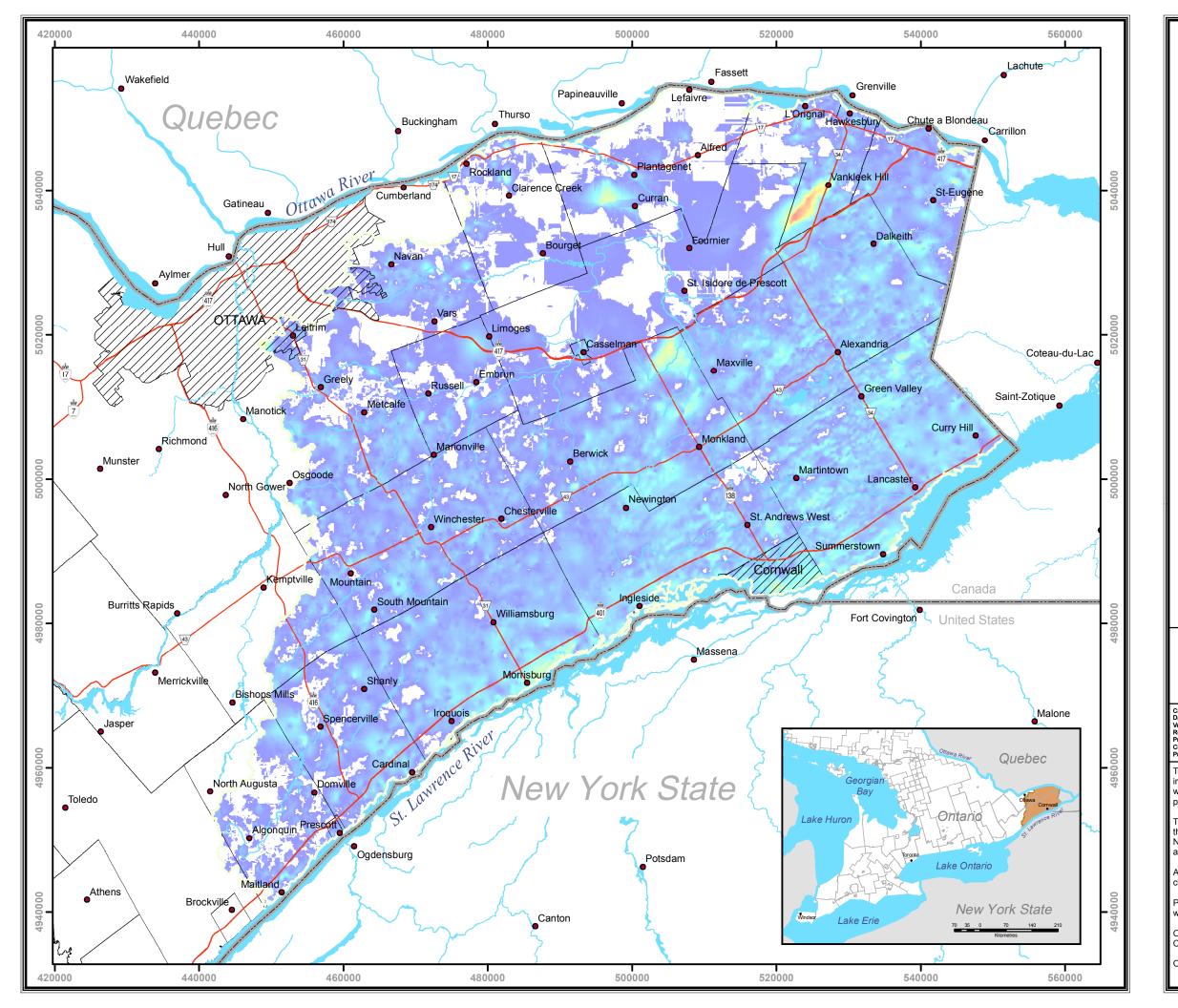


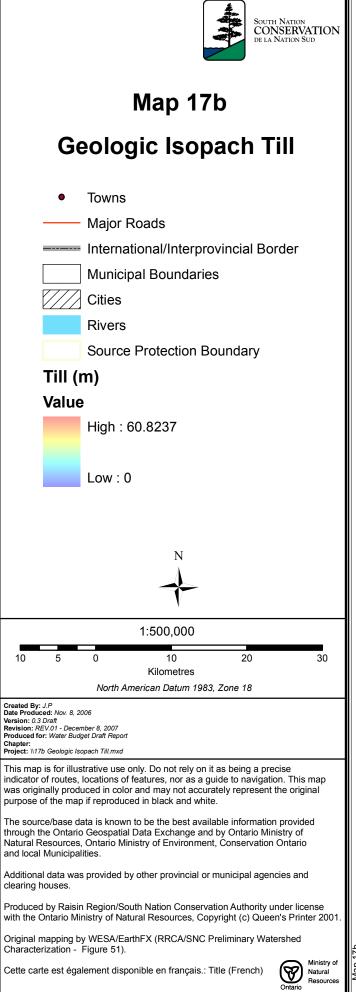
Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed

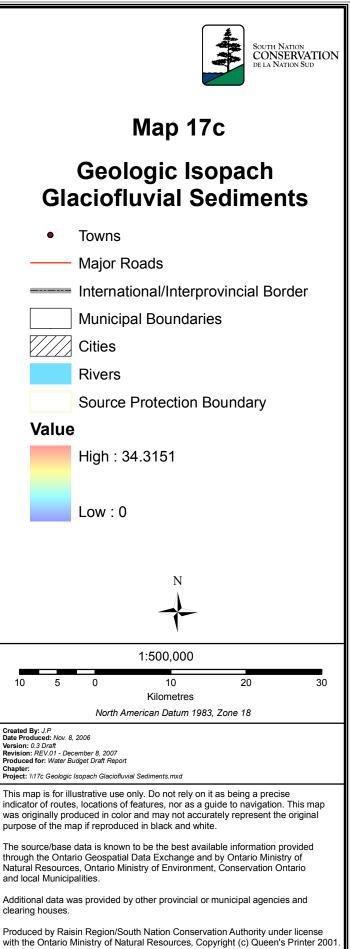
Cette carte est également disponible en français.: Title (French)





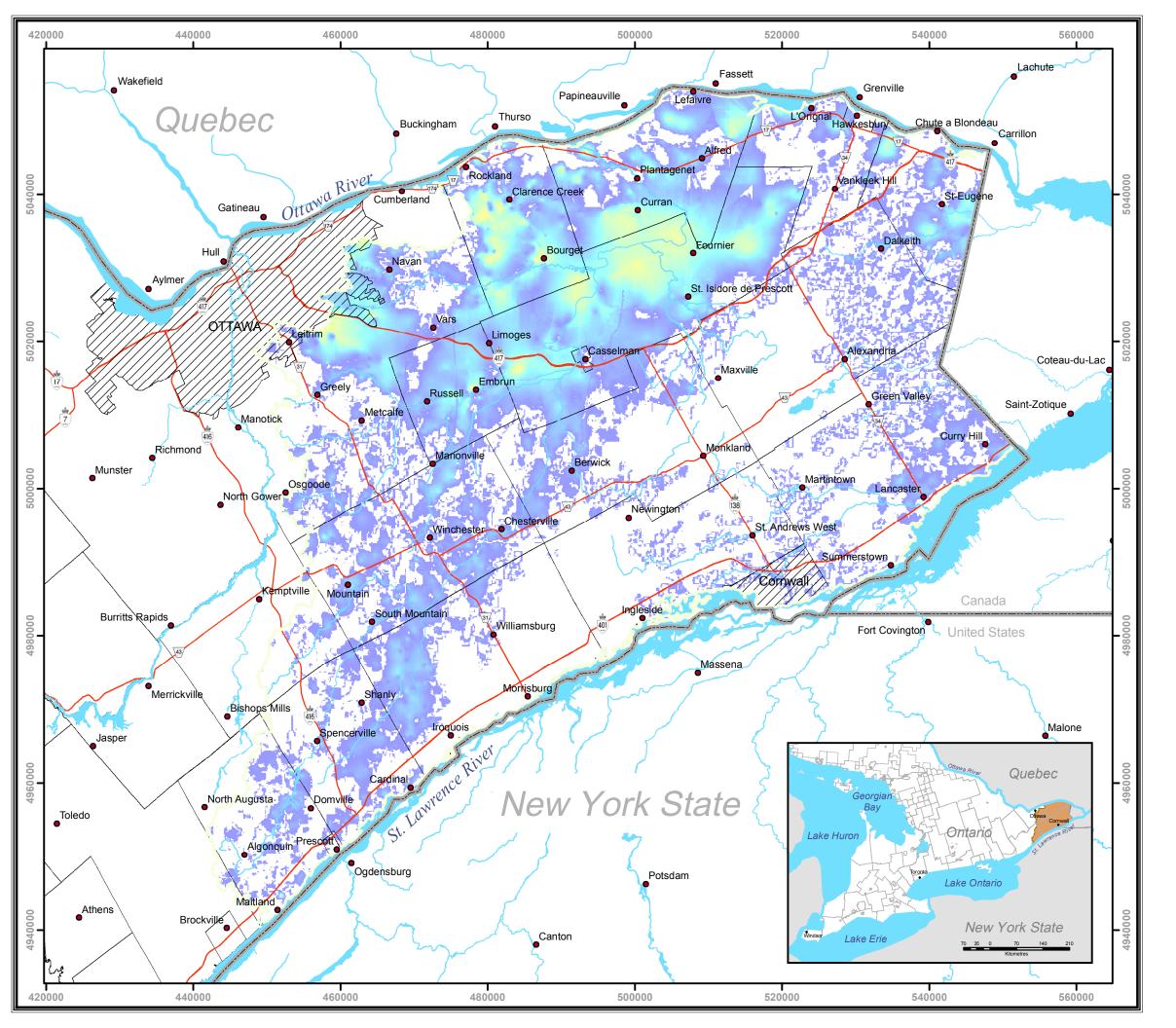






Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed

Cette carte est également disponible en français.: Title (French)





Map 17d

Geologic Isopach Fine Textured Glacial Marine

Towns

Major Roads

----- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

Fine Textured Glacial Marine (m)

Value

High: 70.6214

Low : 0



1:500,000

10 5 0 10 20 30

Kilometres

North American Datum 1983, Zone 18

Created By: J.P Date Produced: Nov. 8, 2006 Version: 0.3 Draft

Version: 0.3 Draft Revision: REV.01 - December 8, 2007 Produced for: Water Budget Draft Report

Chapter: Project: \\17d Geologic Isopach Fine Textured Glacial Marine.mxd

This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

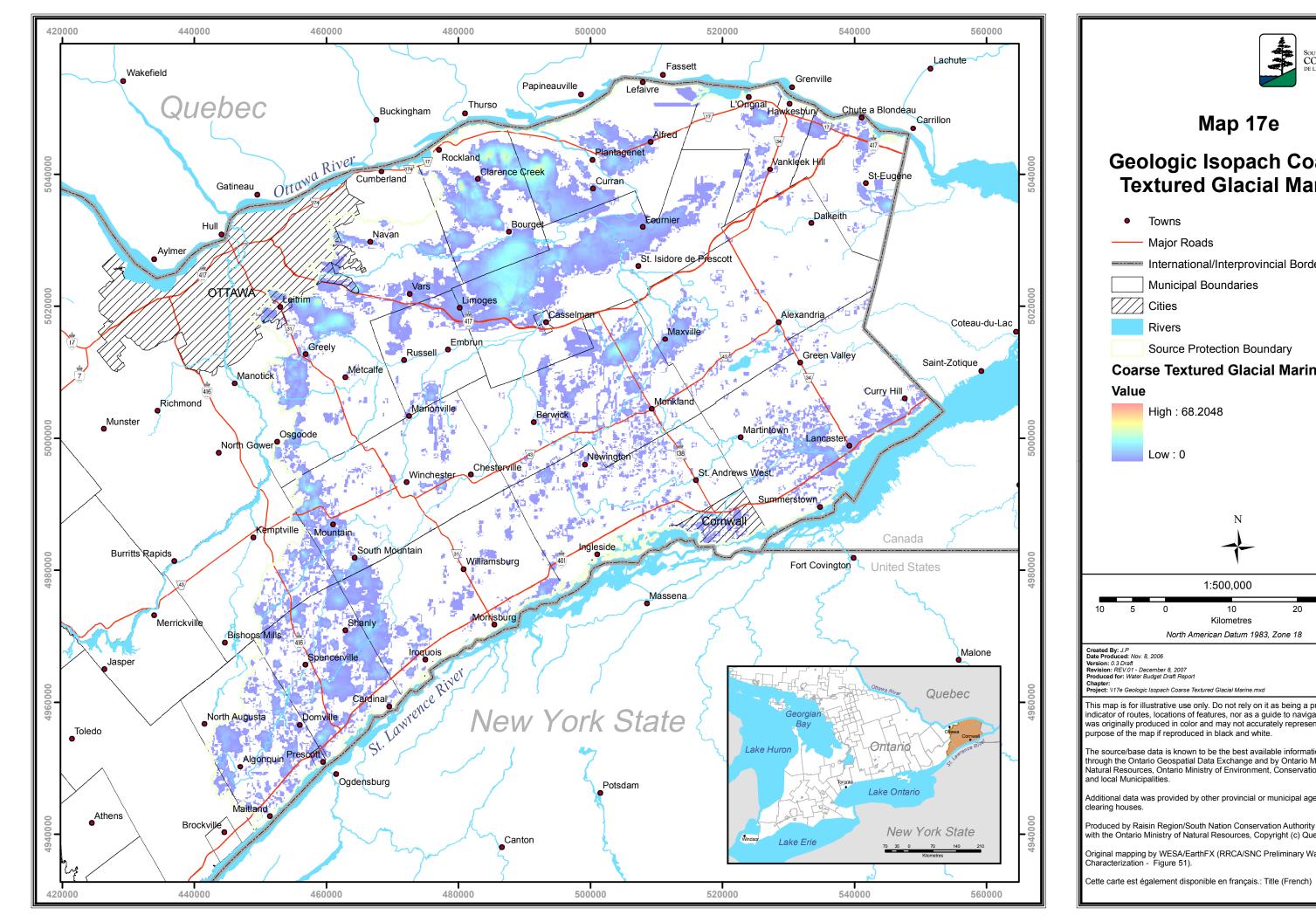
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities

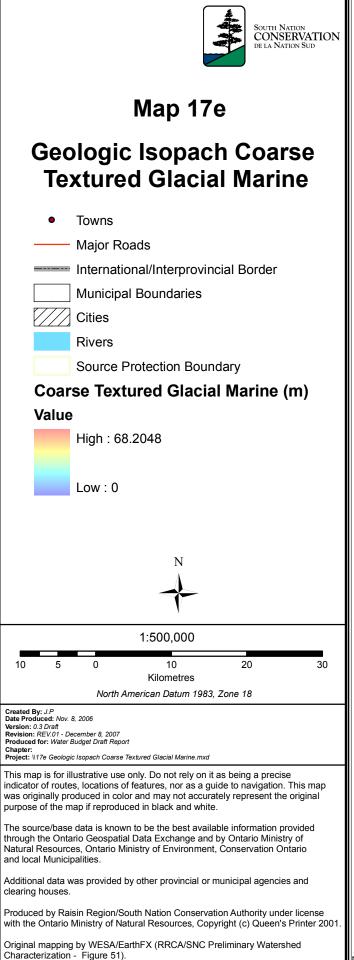
Additional data was provided by other provincial or municipal agencies and clearing houses.

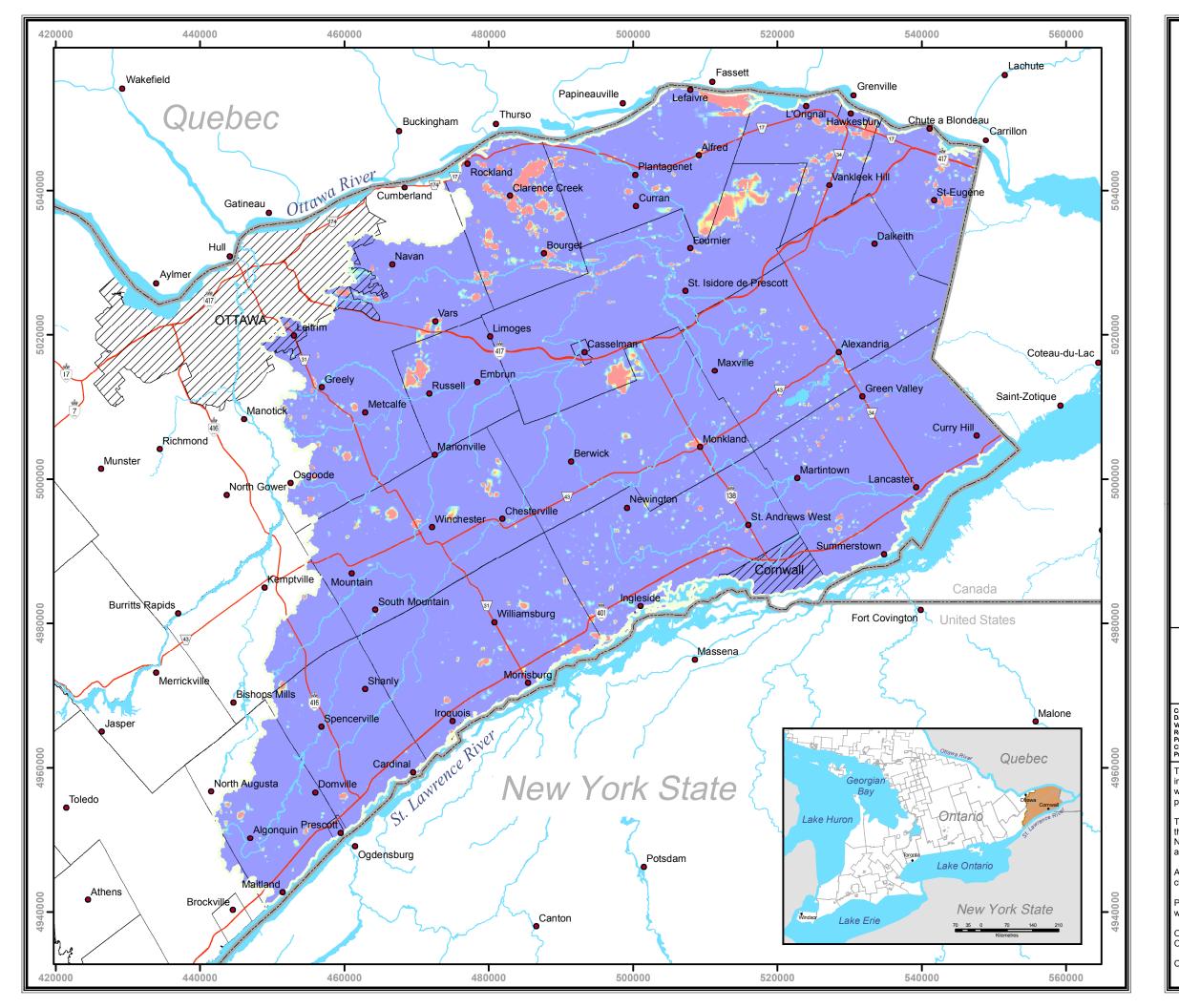
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

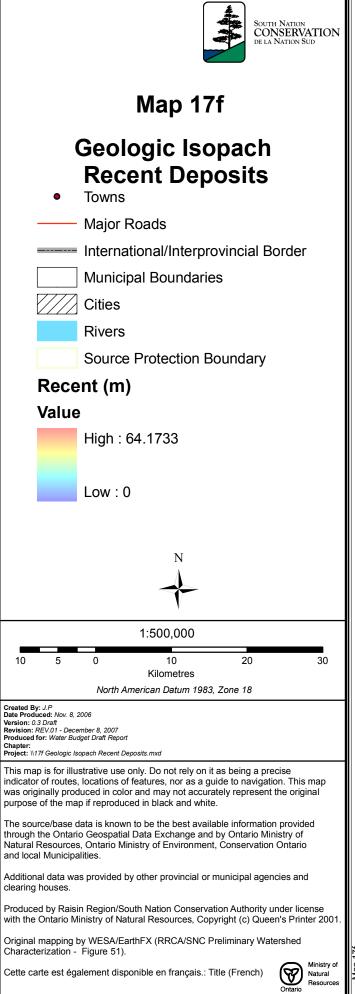
Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed Characterization - Figure 51).



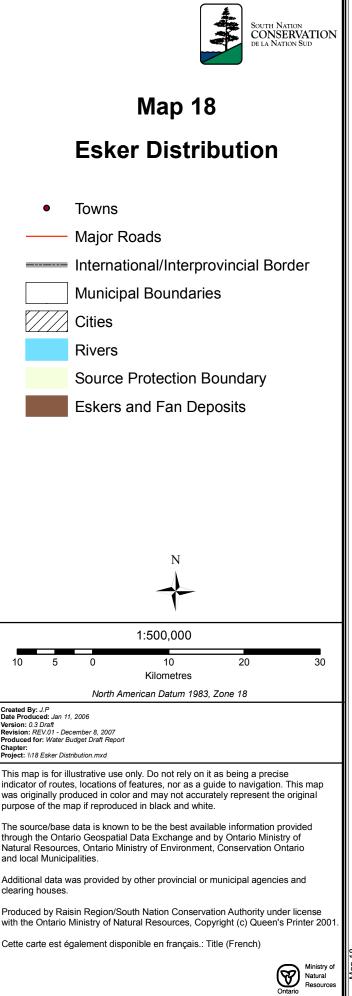


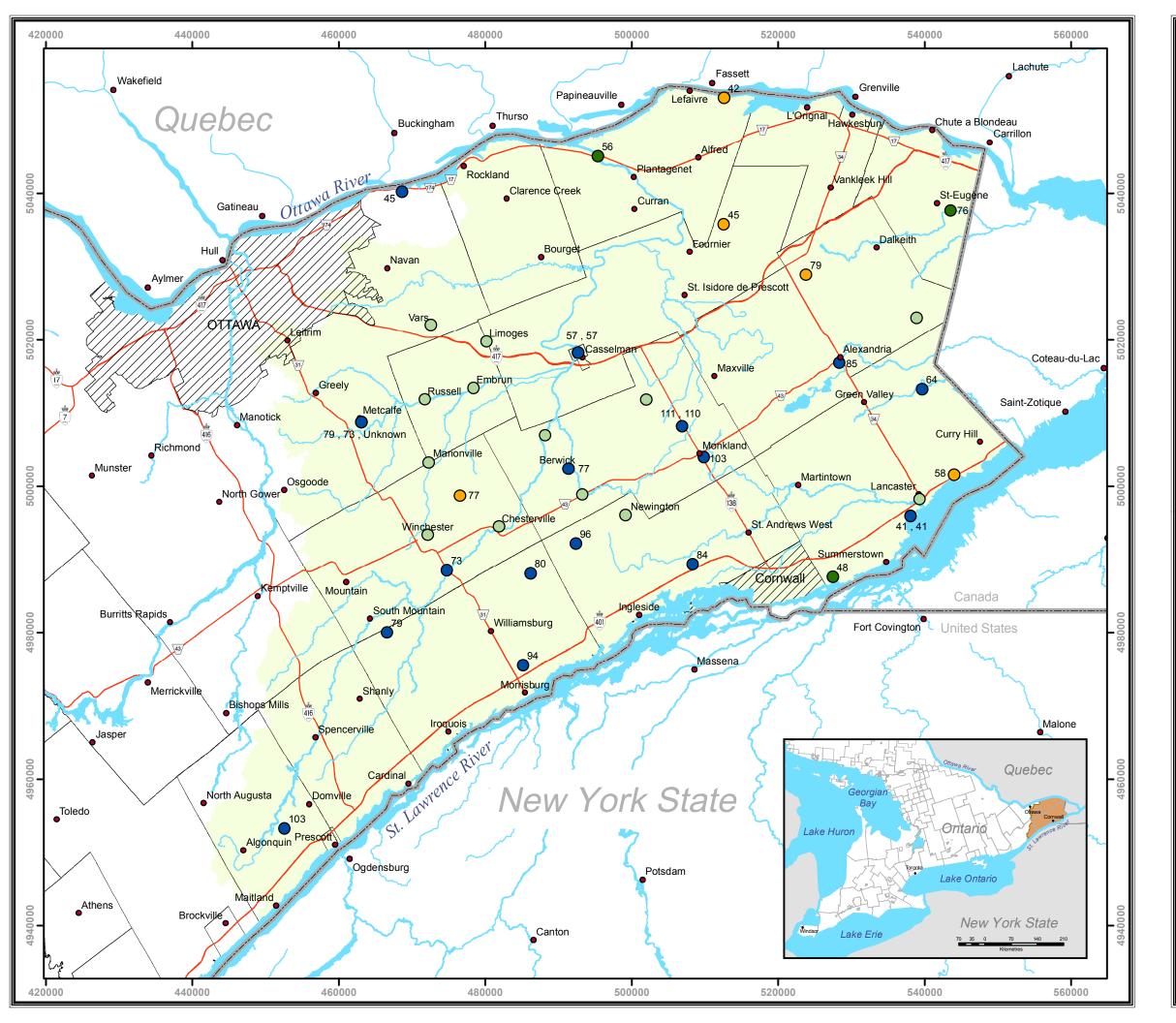














Provincial Groundwater Monitoring Network and Groundwater Well Locations

Towns

Municipal Groundwater Wells

Provincial Groundwater Monitoring Network

Well Screen Location

Bedrock

Overburden

Major Roads

--- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

The numbers indicate static water levels at the PGMN station. More than one value indicates a multi-level well.



1:500,000 0 5 0 10 20 30 Kilometres

North American Datum 1983, Zone 18

Created By: J.P Date Produced: June 5, 2006 Version: 0.3 Draft

Version: 0.3 Draft Revision: REV.01 - Nov. 12, 2006 Produced for: Water Budget Draft Report

hapter: roject: \\19 PGMN, Groundwater Wells.mxd

This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

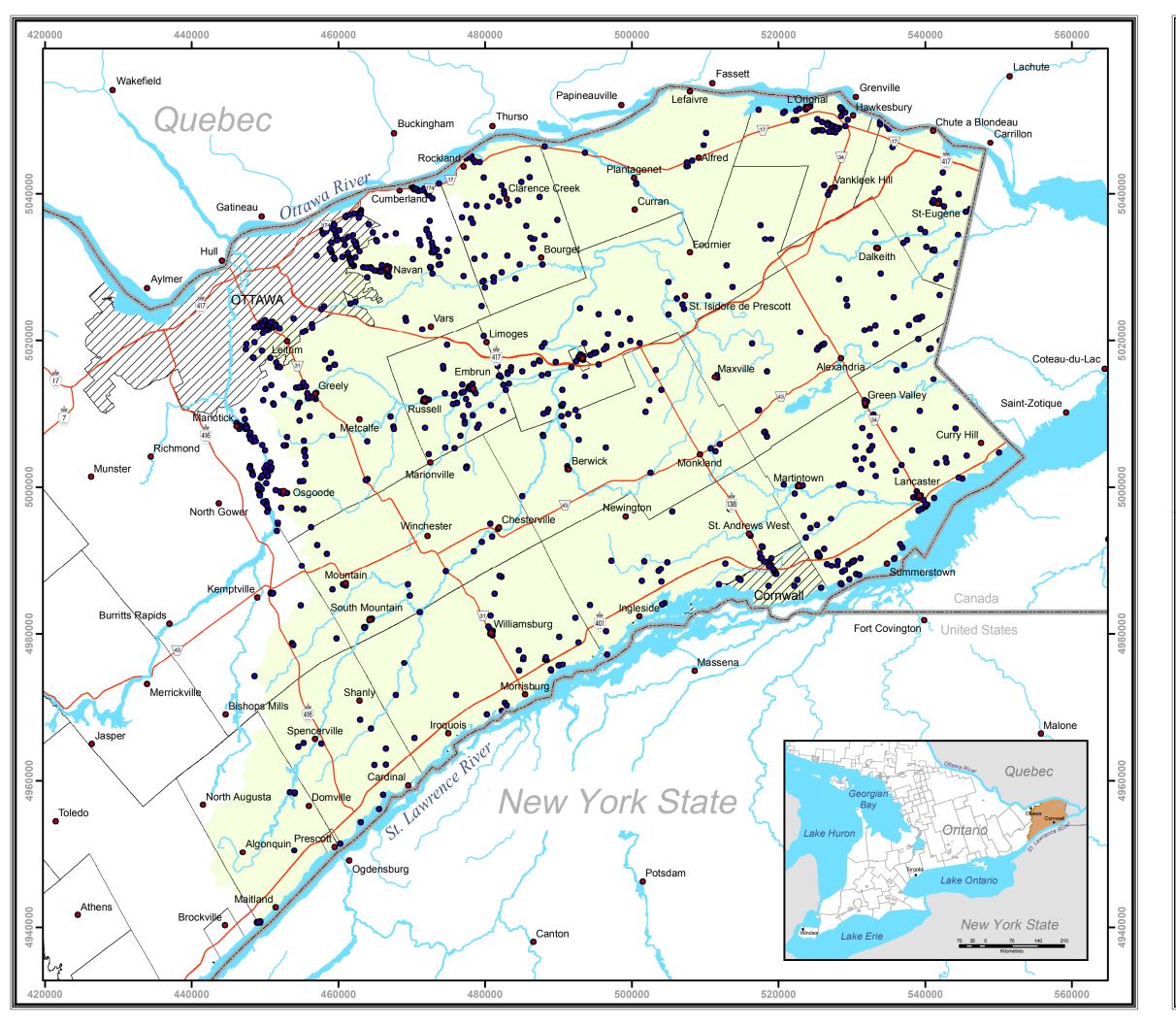
Additional data was provided by other provincial or municipal agencies and

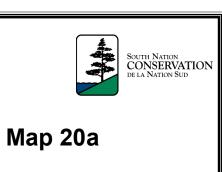
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001.

Cette carte est également disponible en français.: Title (French)

purpose of the map if reproduced in black and white.







Selected MOE Wells Completed in the Overburden

- **Towns**
- Selected Wells
- Major Roads
- International/Interprovincial Border
- **Municipal Boundaries**
- Cities
- Rivers
- Source Protection Boundary



1:500,000 Kilometres

North American Datum 1983, Zone 18

Are Froduced. 3ai 77, 2000 Persion: 0.3 Draft Revision: REV.01 - Oct. 26, 2006 Produced for: Water Budget Draft Report

Chapter: Project: \\20a Selected MOE Wells Completed in the Overburden.mxd

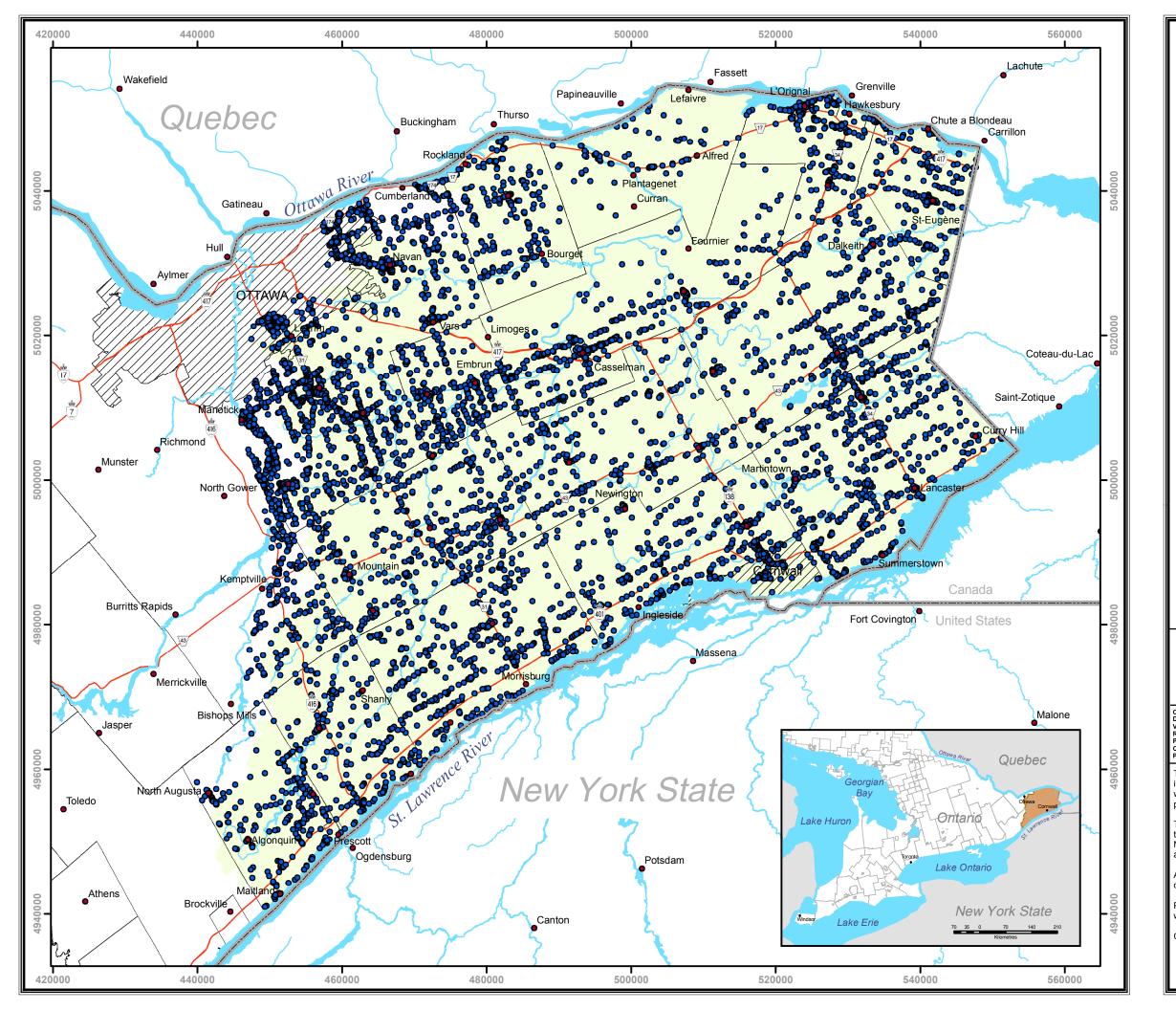
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

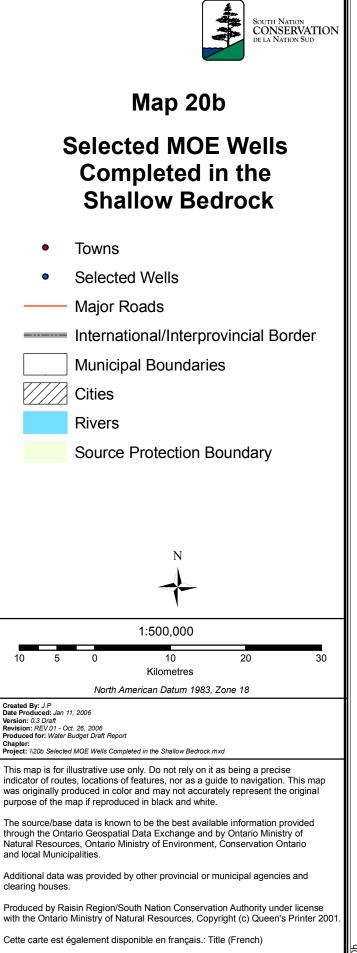
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and

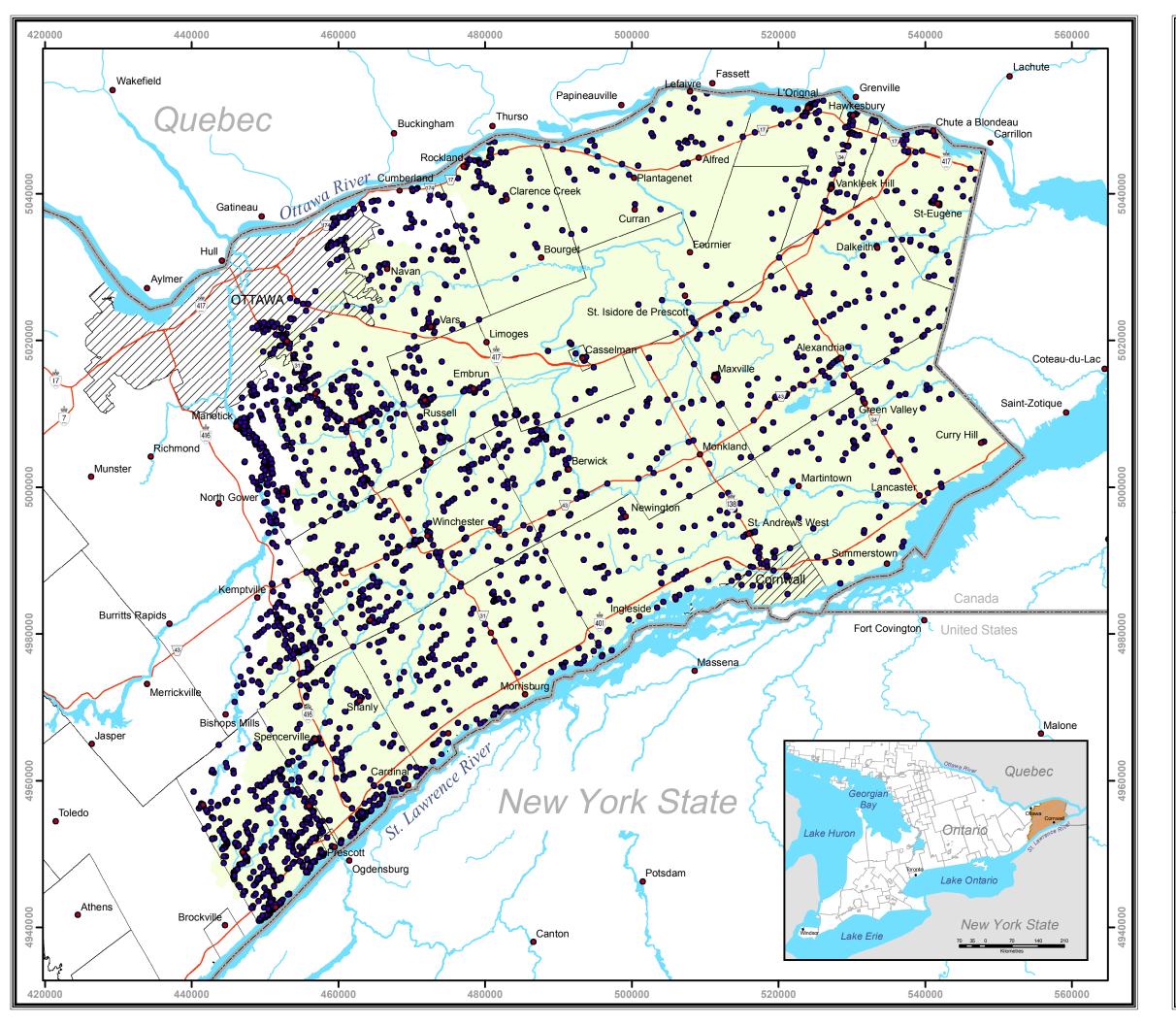
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001







y of





Map 20c

Selected MOE Wells Completed in the Intermediate Bedrock

- Towns
- Selected Wells

— Major Roads

International/Interprovincial Border

Municipal Boundaries

//// Cities

Rivers

Source Protection Boundary



1:500,000 0 5 0 10 20 30 Kilometres

North American Datum 1983, Zone 18

Created By: J.P Date Produced: Jan 11, 2006 Version: 0.3 Draft

bate Produced: 3an 11, 2006 Version: 0.3 Draft Revision: REV.01 - Oct. 26, 2006 Produced for: Water Budget Draft Report

oject: \\20c Selected MOE Wells Completed in the Intermediate Bedrock.mxd

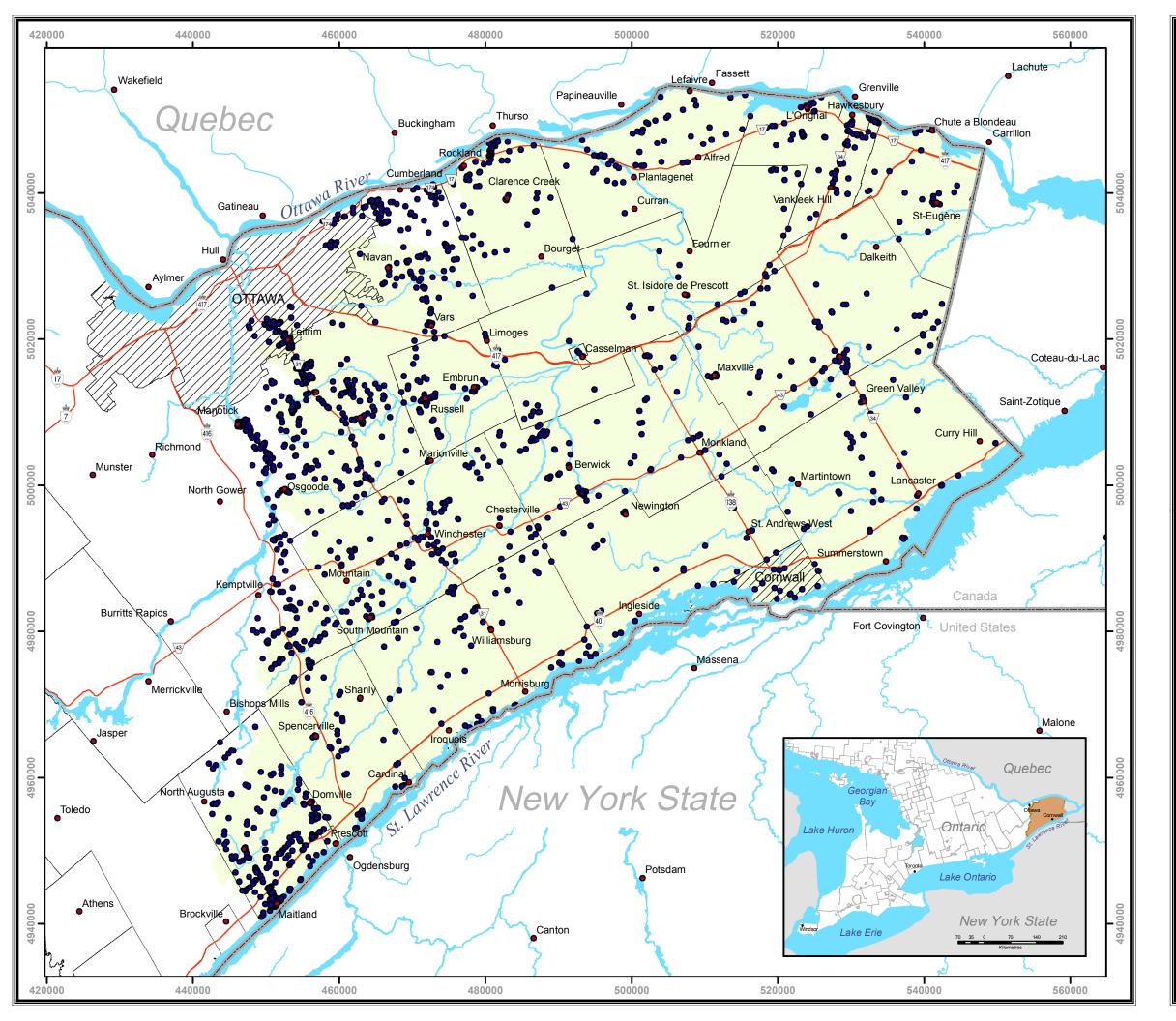
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001.







Map 20d

Selected MOE Wells Completed in the Deep Bedrock

- Towns
- Selected Wells
- Major Roads
- ----- International/Interprovincial Border
- Municipal Boundaries
- Cities |
- Rivers
 - Source Protection Boundary



1:500,000 10 5 0 10 20 30 Kilometres North American Datum 1983, Zone 18

By: J.P

vate Produced: 3an 11, 2006 fersion: 0.3 Draft Revision: REV.01 - Oct. 26, 2006 Produced for: Water Budget Draft Report

hapter: roject: \\20d Selected MOE Wells Completed in the Deep Bedrock.mxd

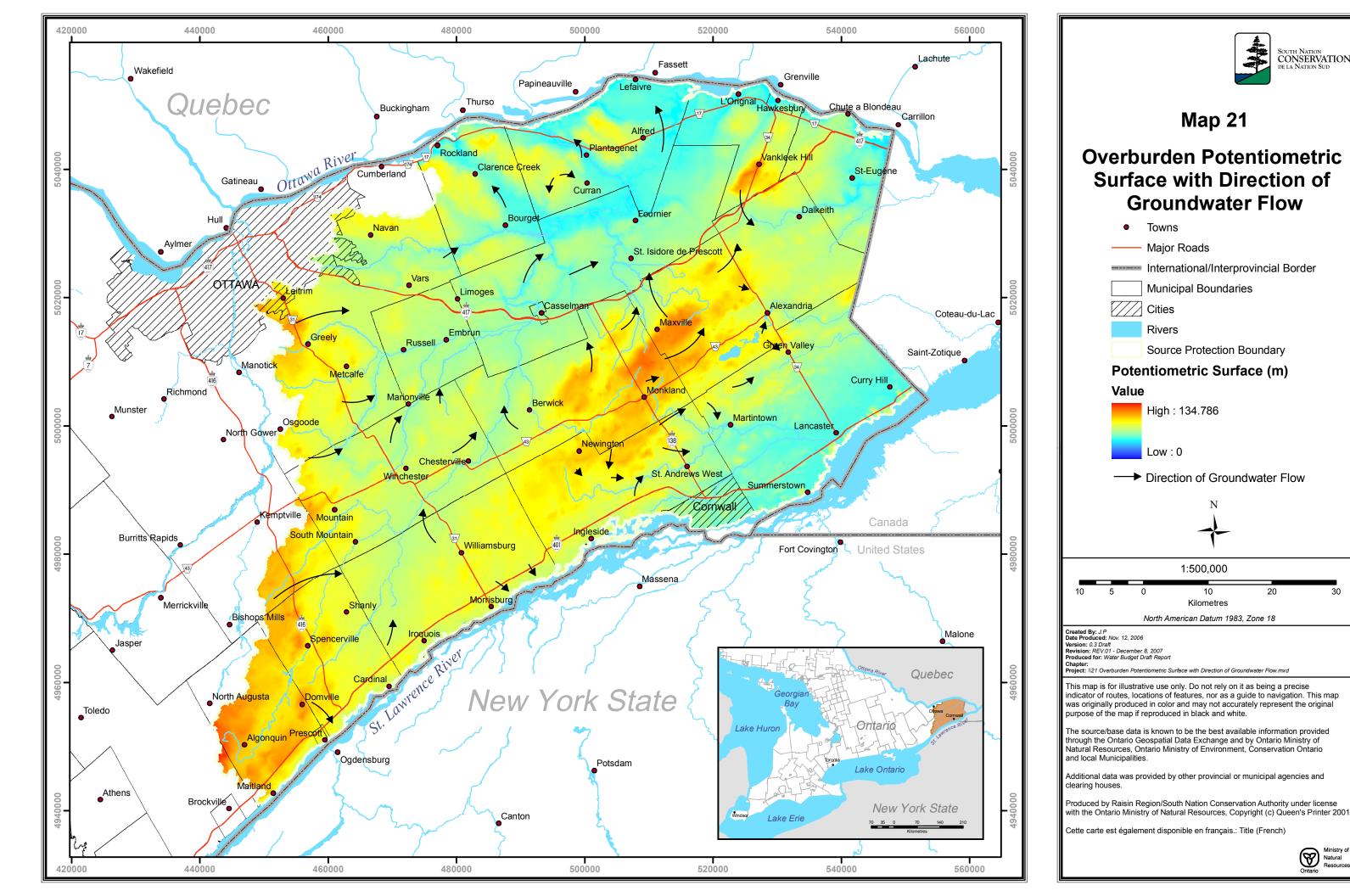
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

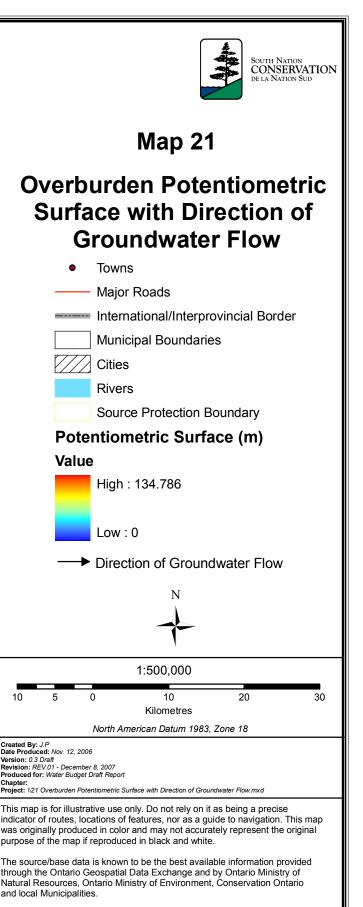
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

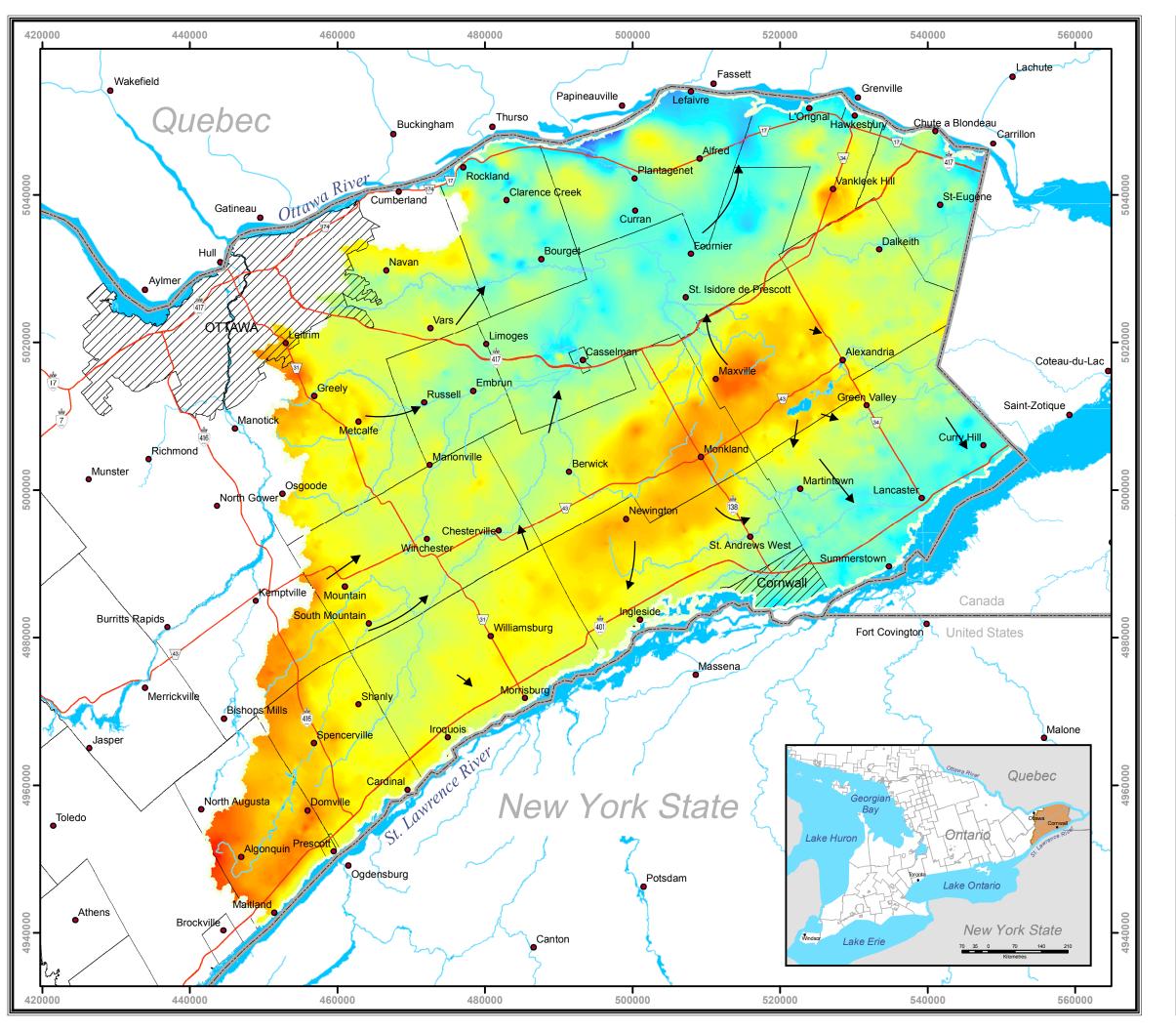
Additional data was provided by other provincial or municipal agencies and clearing houses.

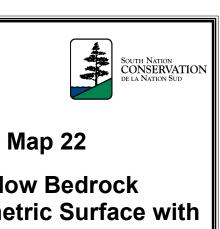
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001.











Shallow Bedrock Potentiometric Surface with Direction of Groundwater Flow Towns

- Major Roads

----- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

Potentiometric Surface (m)

Value

High: 122

Low: 5

Direction of Groundwater Flow



1:500,000 5 Kilometres

North American Datum 1983, Zone 18

Created By: J.P Date Produced: Nov. 12, 2006

Are Produced Nov. 12, 2000 Persion: 0.3 Draft Revision: REV.01 - December 8, 2007 Produced for: Water Budget Draft Report

Chapter:
Project: \\22 Shallow BedrockPotentiometric Surface with Direction of Groundwater Flow.mxd

This map is for illustrative use only. Do not rely on it as being a precise

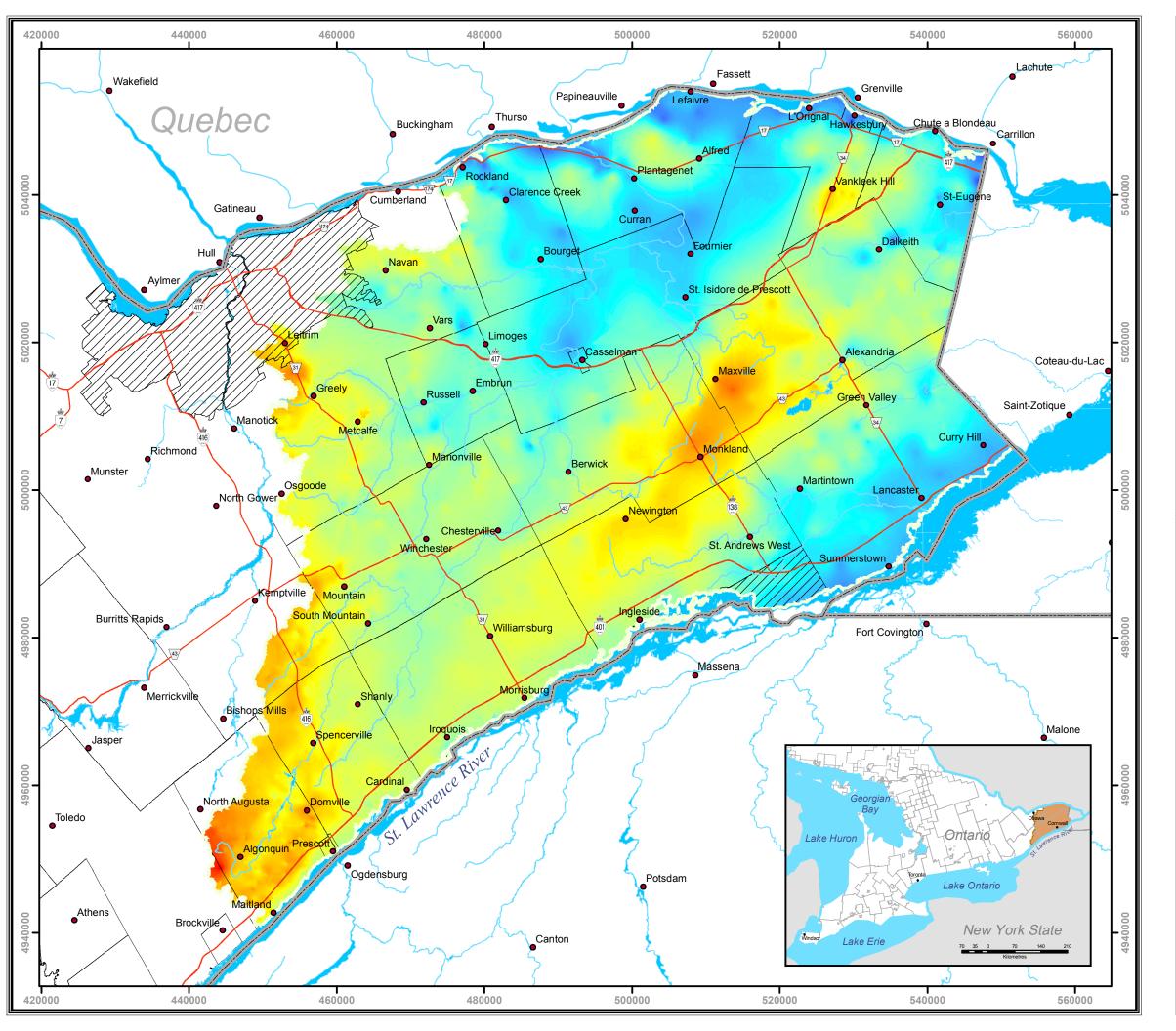
indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001







Potentiometric Surface in the Intermediate Bedrock

Towns

— Major Roads

----- International/Interprovincial Border

Municipal Boundaries

/// Cities

Rivers

Source Protection Boundary

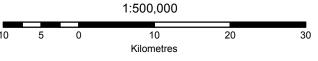
Potentiometric Surface (m)

Value

High: 126

Low : 20





North American Datum 1983, Zone 18

Created By: J.P
Date Produced: Nov. 12, 2006

Revision: 0.3 Draft Revision: REV.00 Produced for: Water Budget Draft Report

Ргоduced for: water Budget Draft Report Chapter: Project: \\23 Potentiometric Surface in the Intermediate Bedrock.mxd

This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map

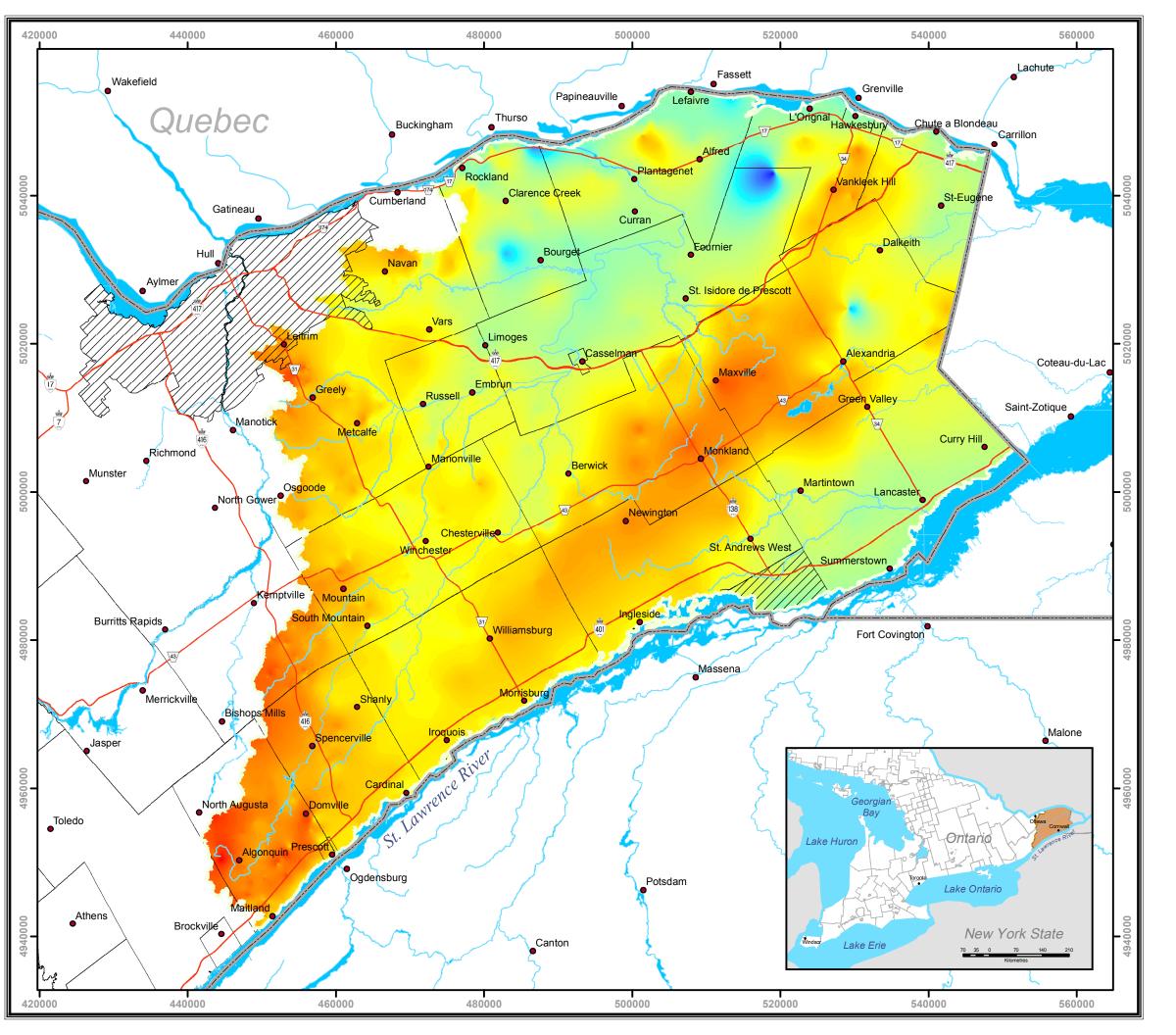
was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001.







Potentiometric Surface in the Deep Bedrock

Towns

— Major Roads

International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

Potentiometric Surface (m)

Value

High : 118

Low : -20



1:500,000 10 5 0 10 20 30 Kilometres North American Datum 1983, Zone 18

seted Div. 1D

Created By: J.P Date Produced: Nov. 12, 2006 Version: 0.3 Draft

Revision: 0.3 Draft Revision: REV.00 Produced for: Water Budget Draft Report

Chapter:
Project: \\24 Potentiometric Surface in the Deep Bedrock.mxd

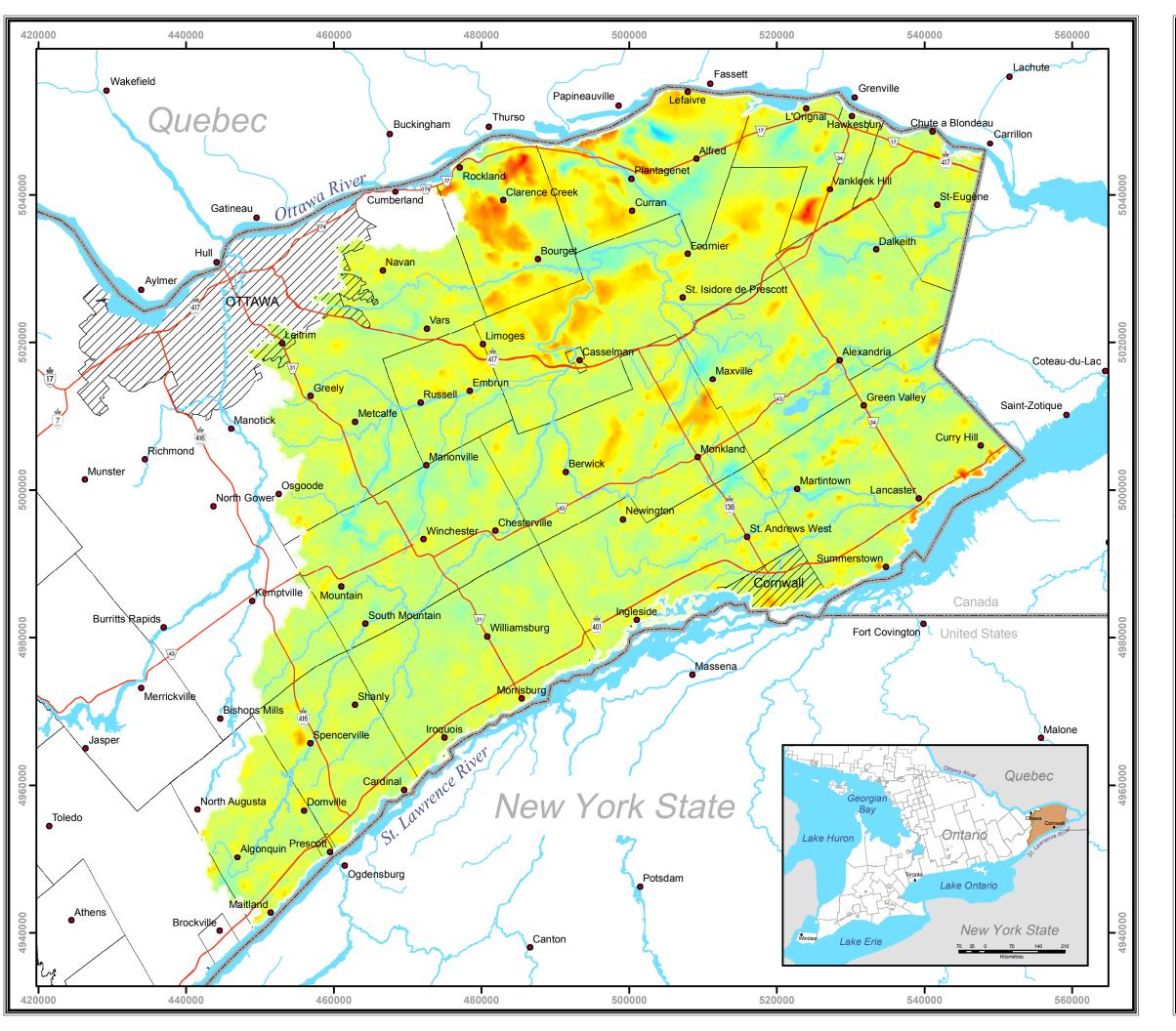
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

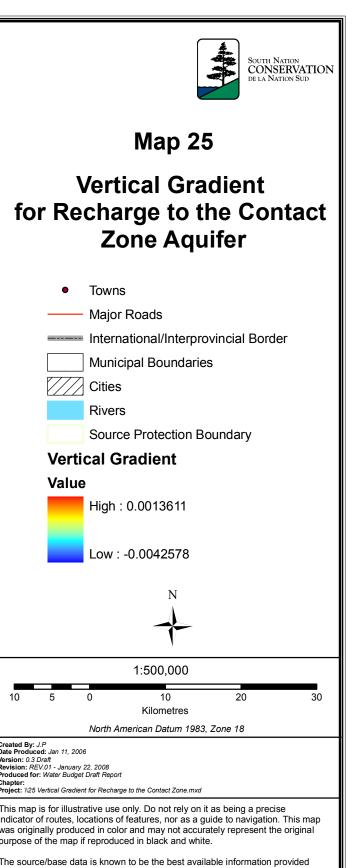
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001.







Are Froduced. 3a7 17, 2000 Persion: 0.3 Draft Revision: REV.01 - January 22, 2008 Produced for: Water Budget Draft Report

Value

Chapter:
Project: \\25 Vertical Gradient for Recharge to the Contact Zone.mxd

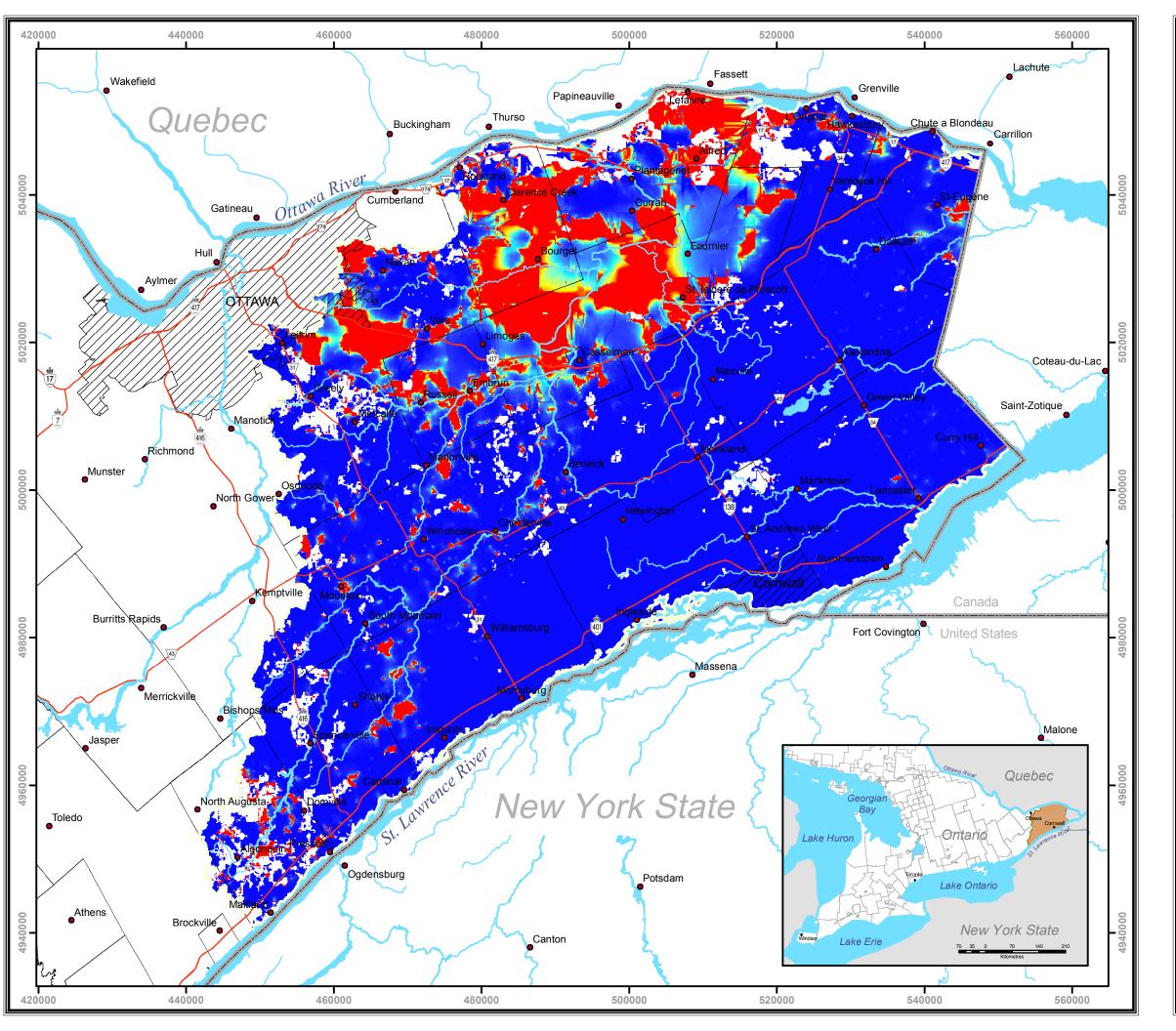
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

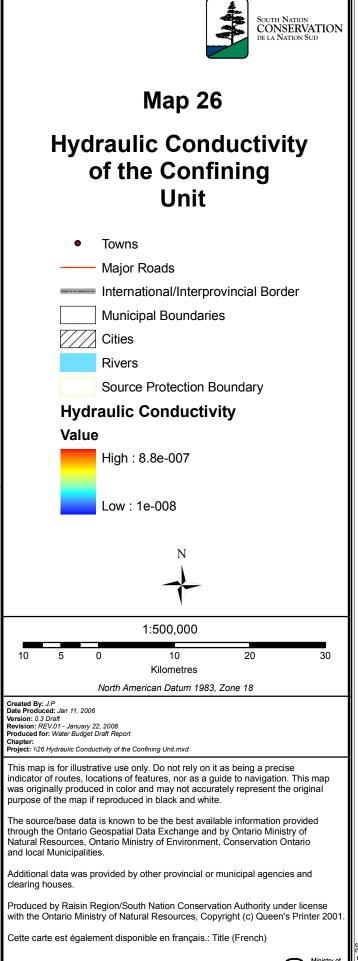
through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

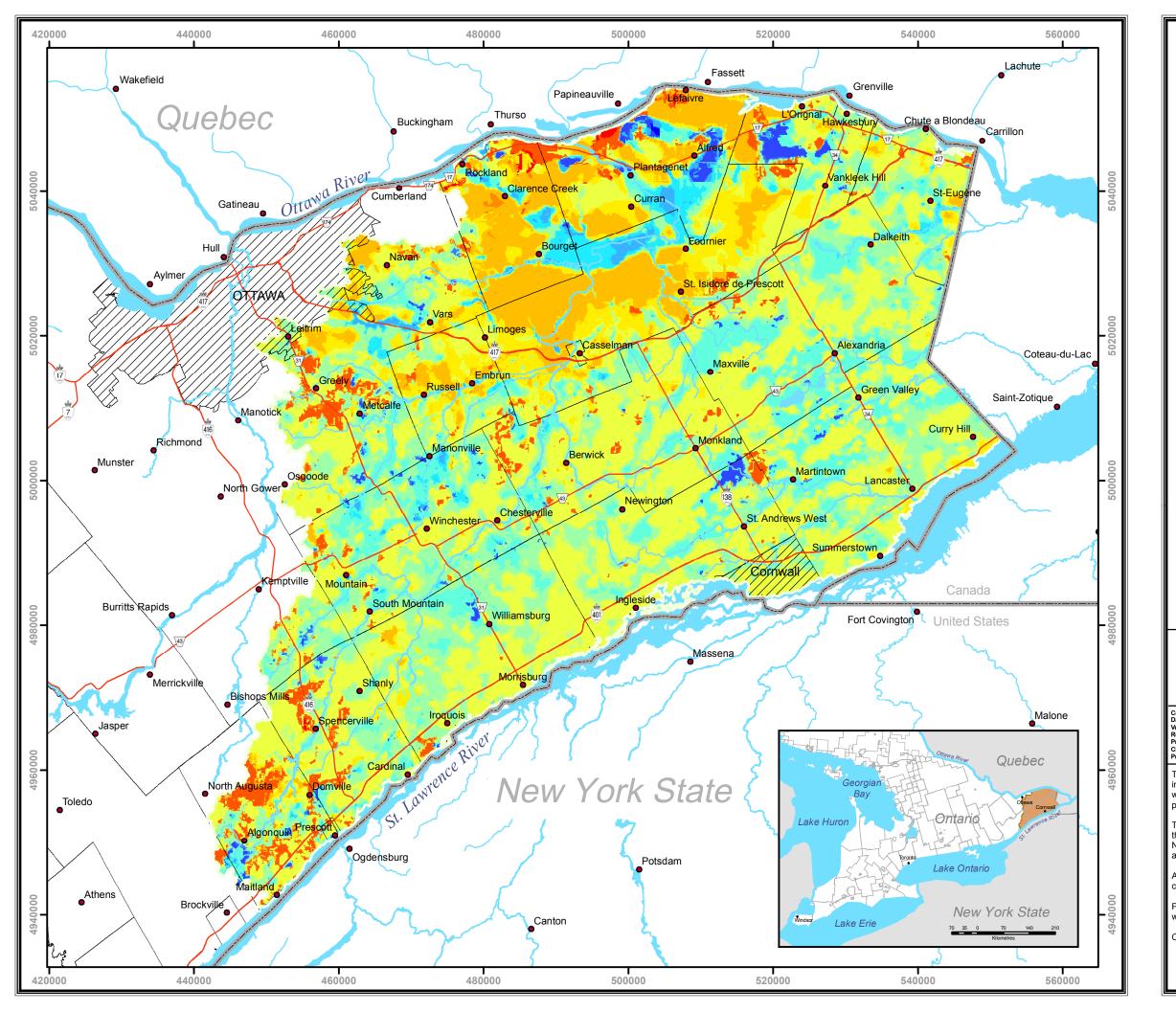
Additional data was provided by other provincial or municipal agencies and

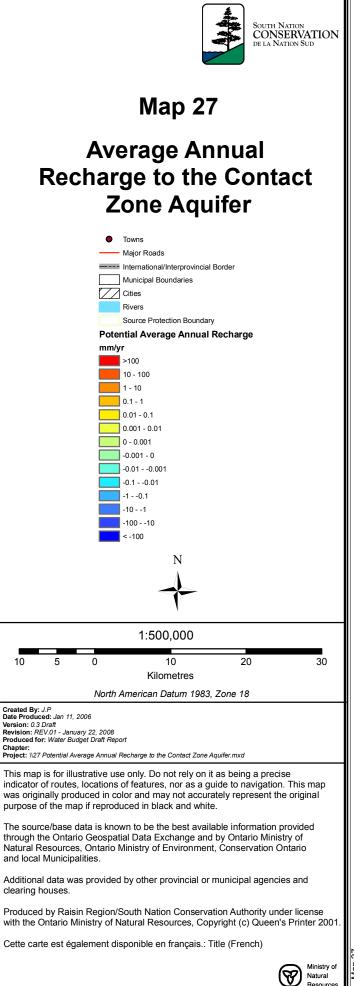
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

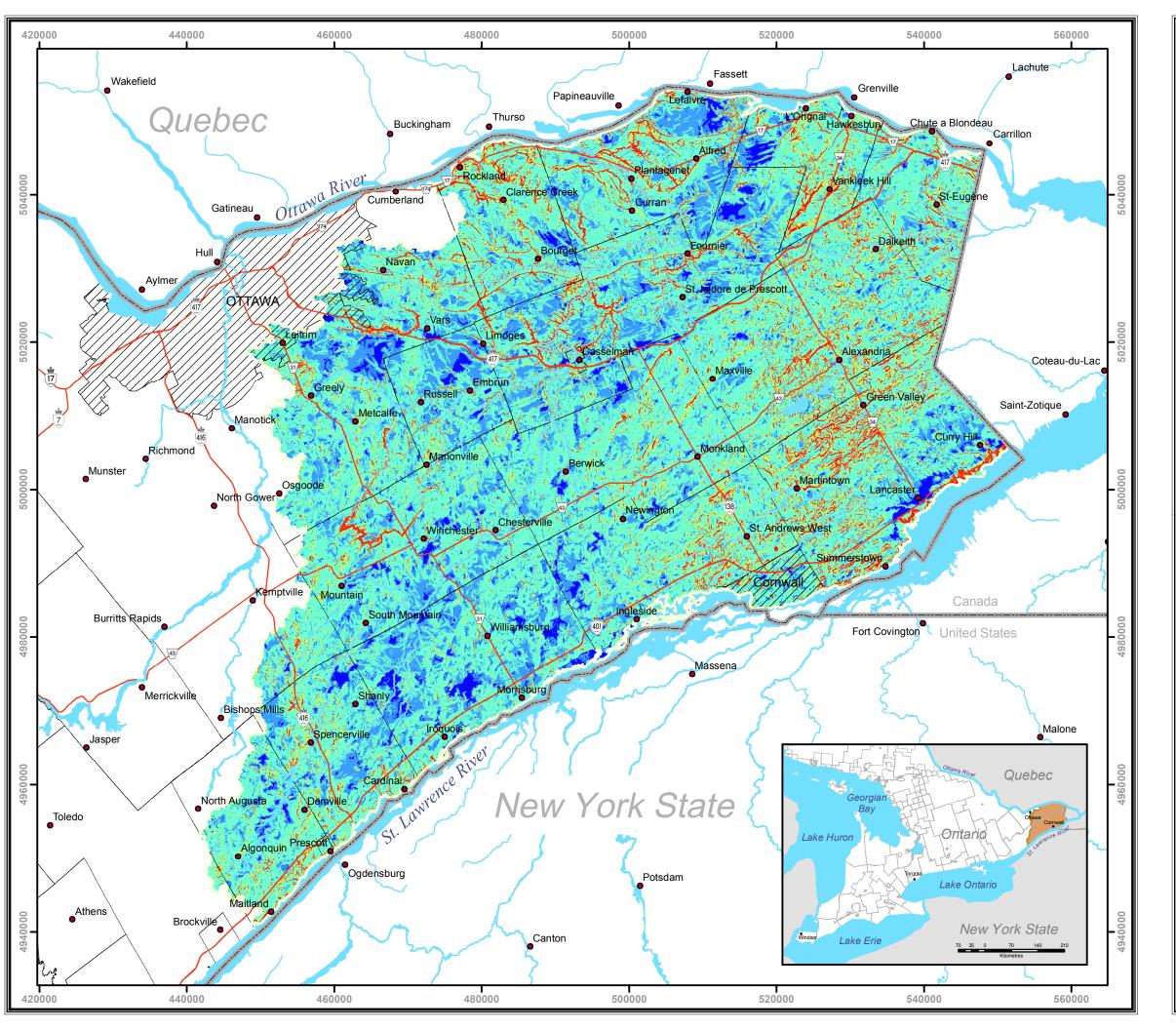


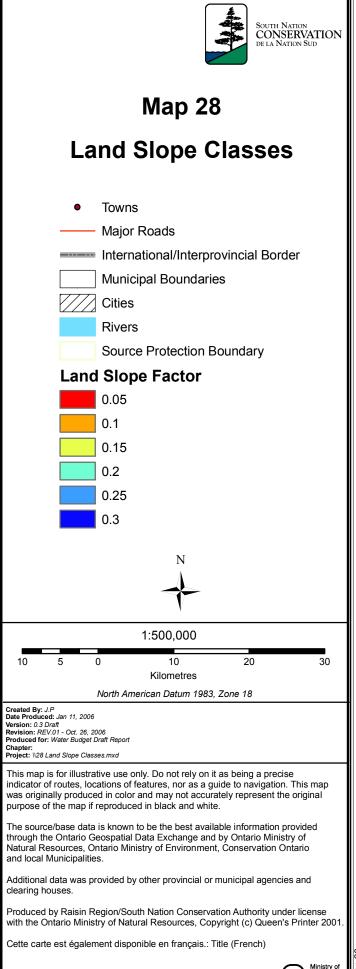


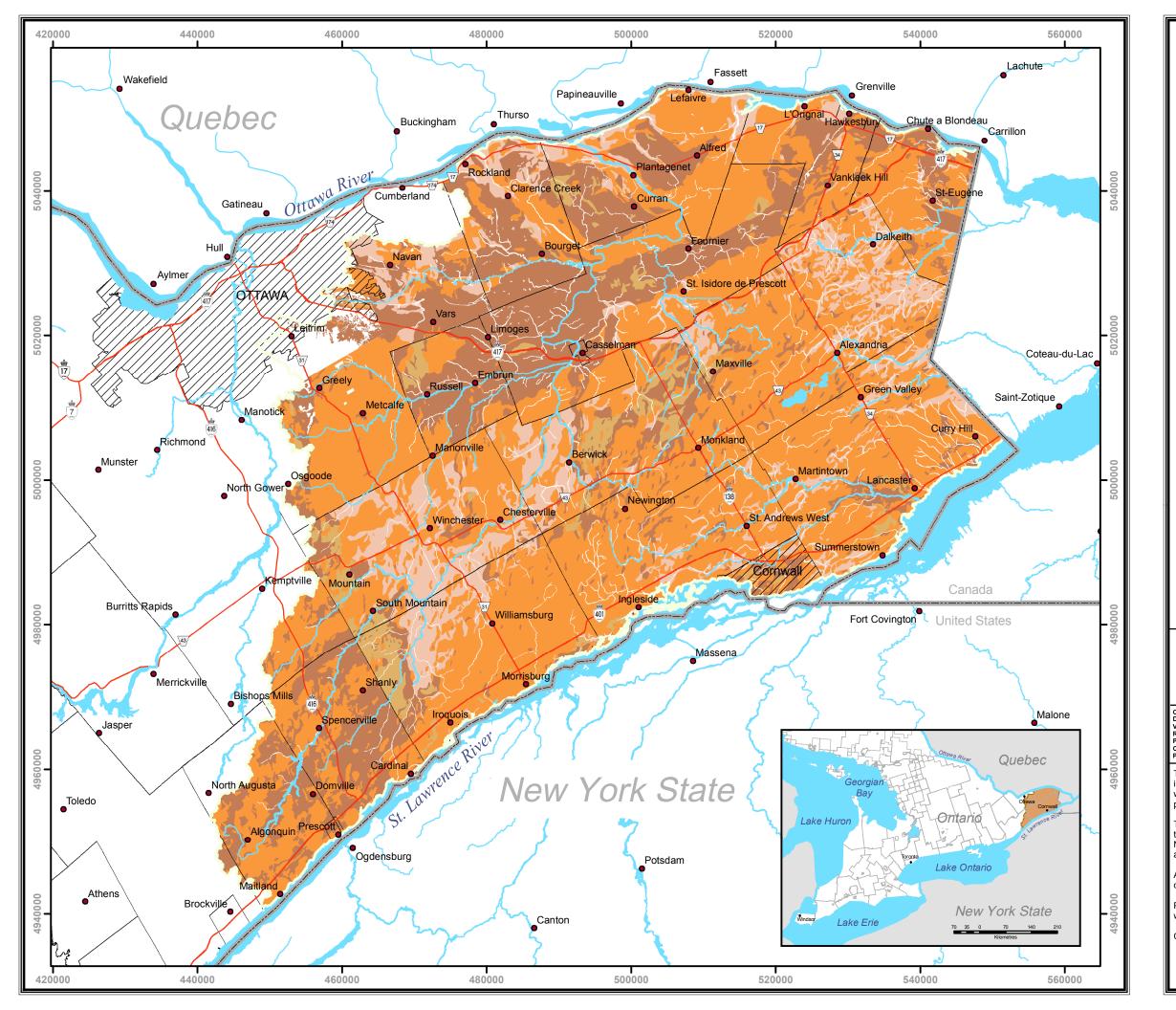


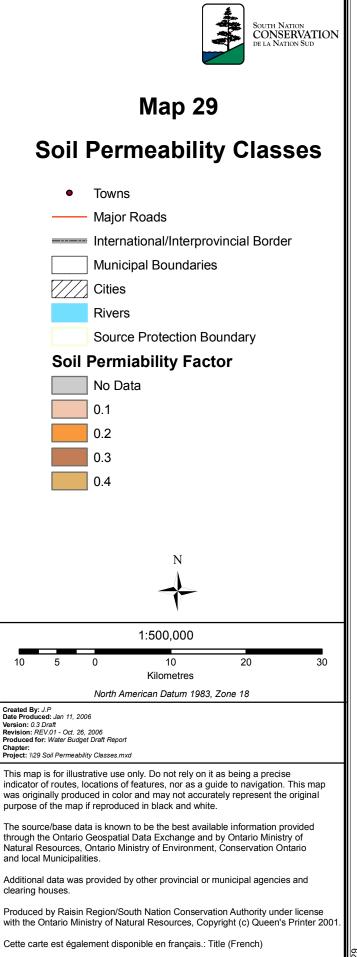




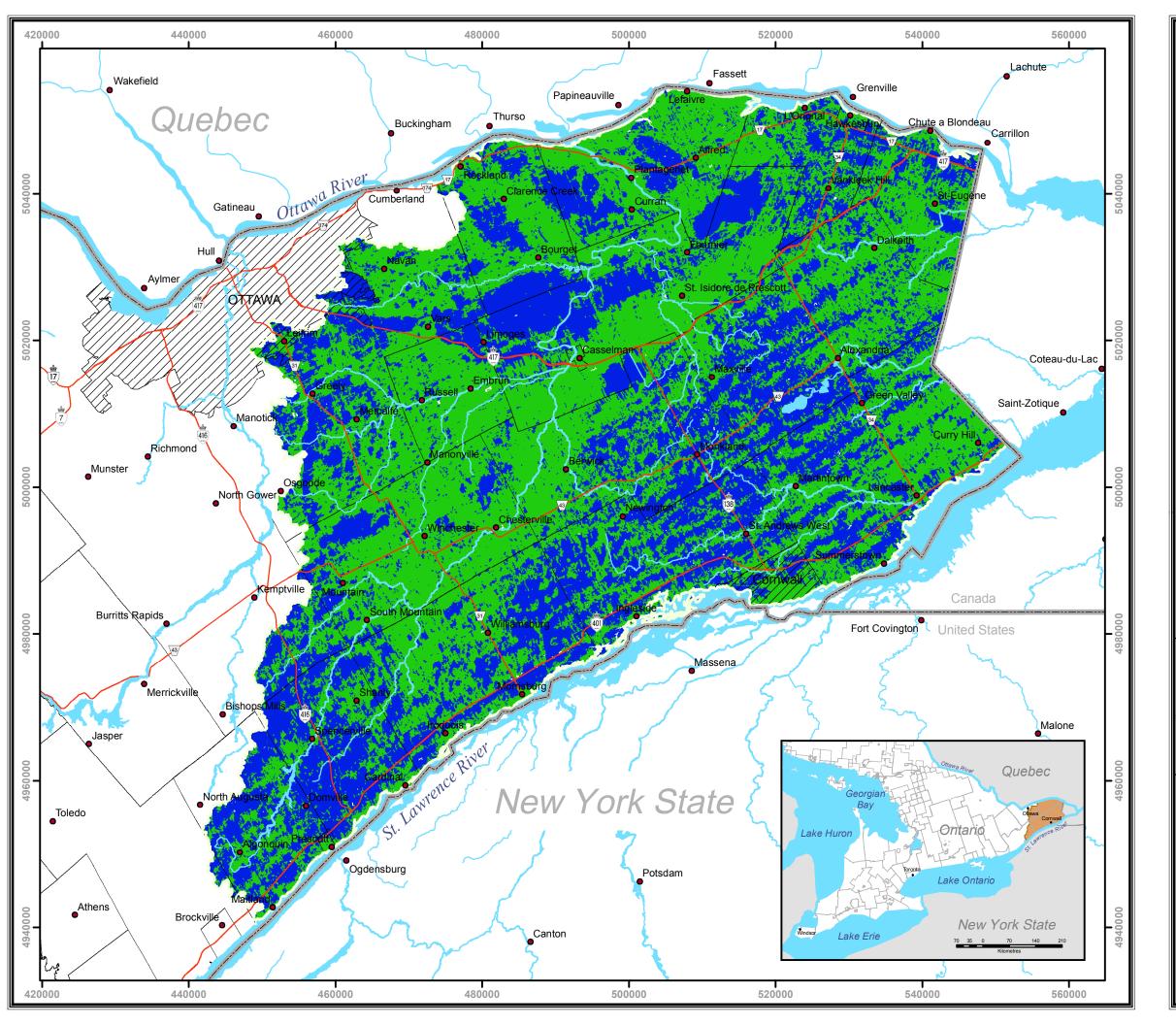


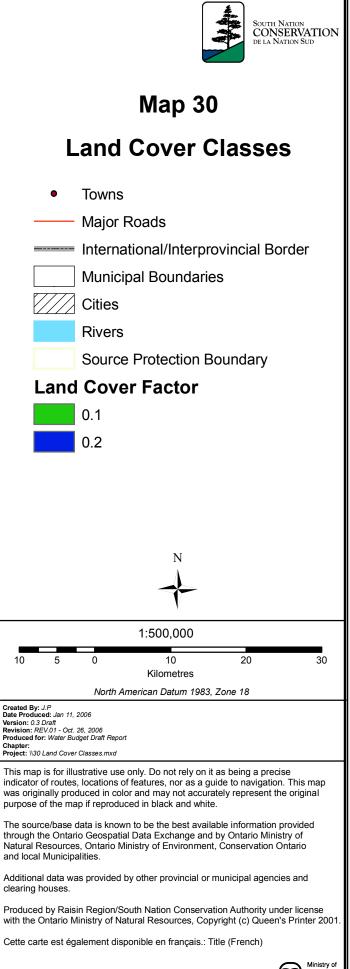


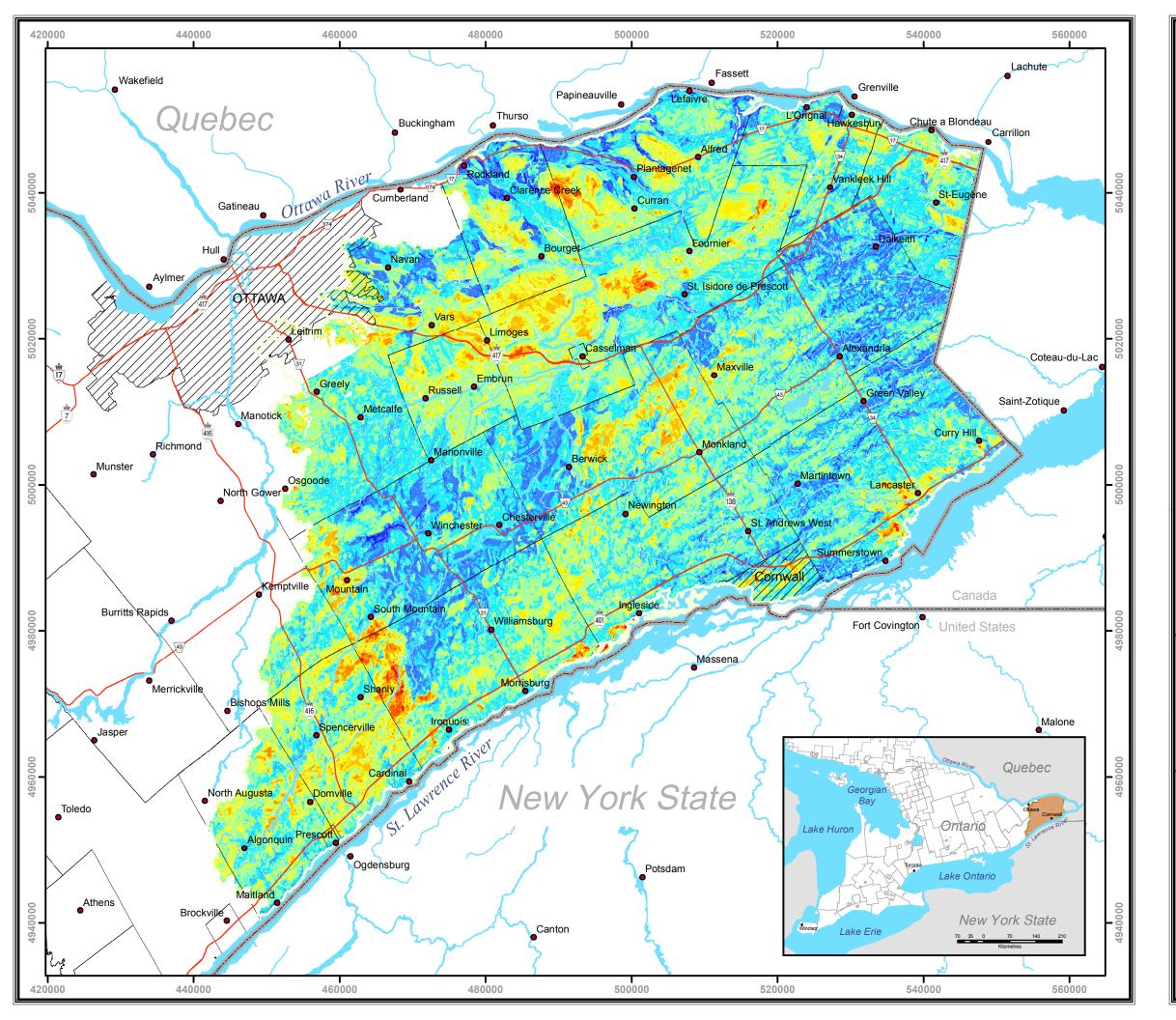


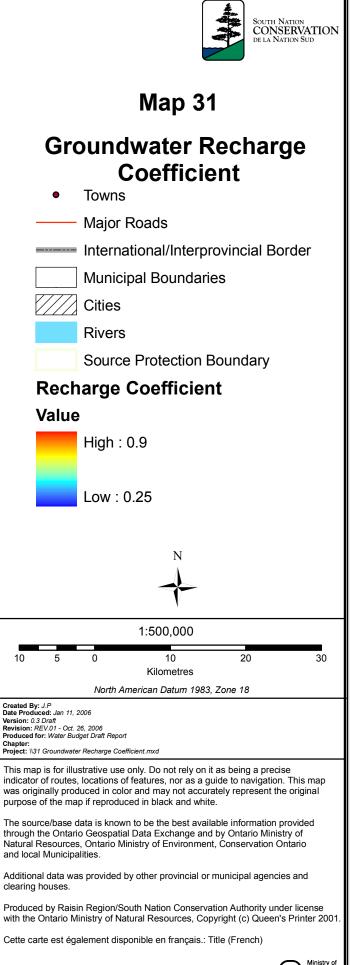


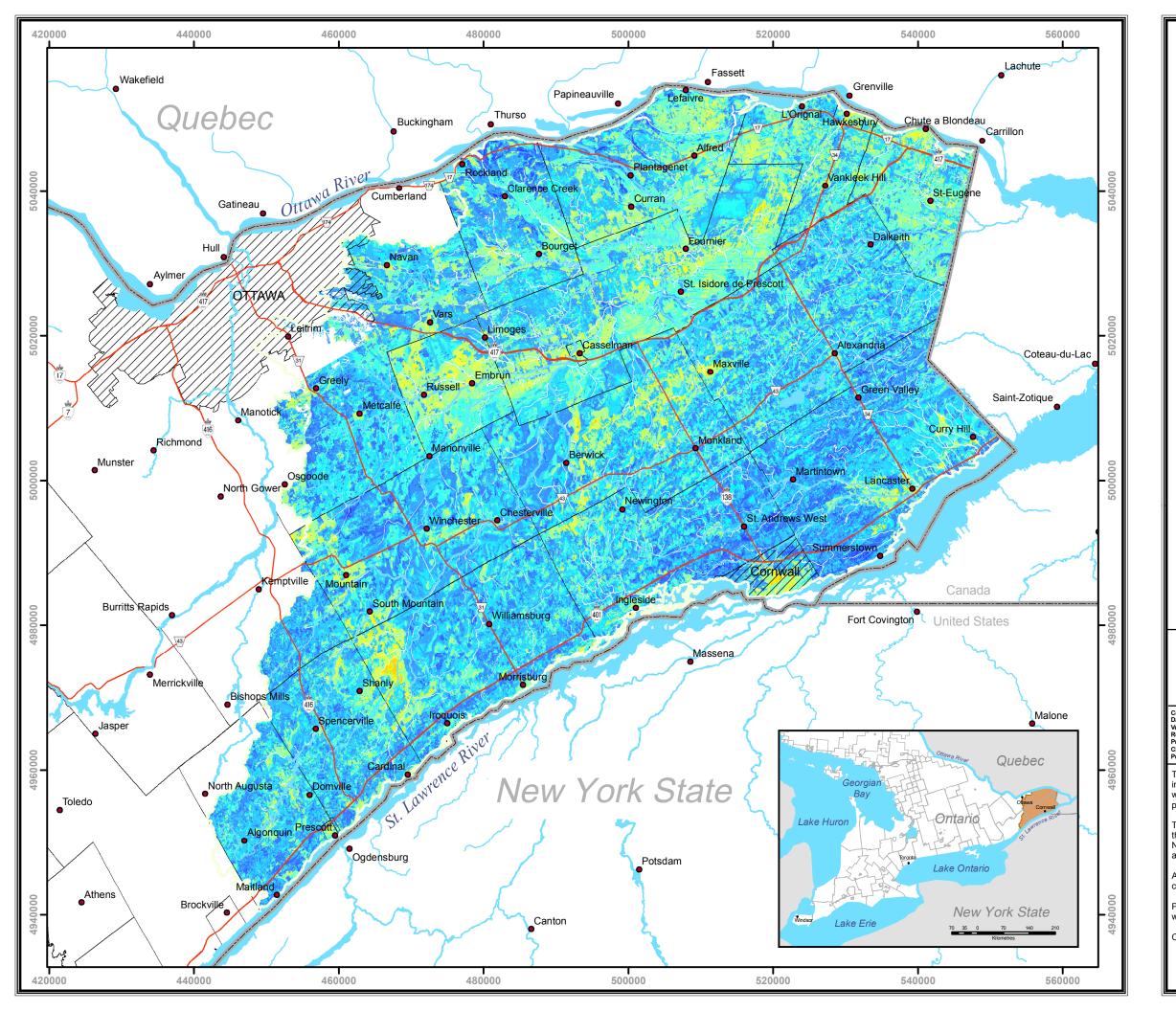
Man 20

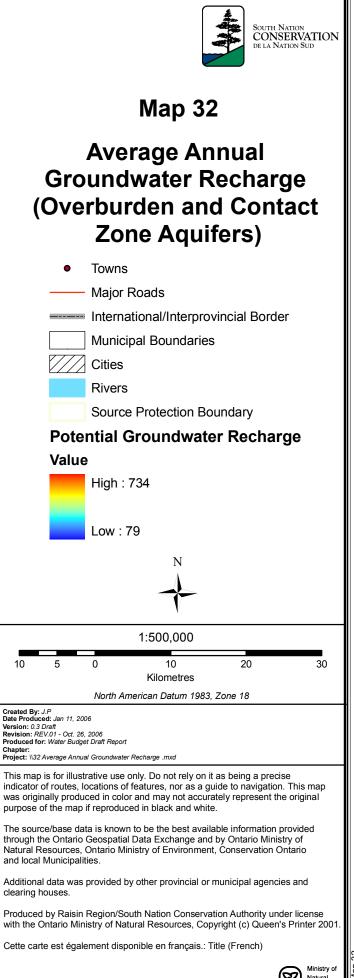


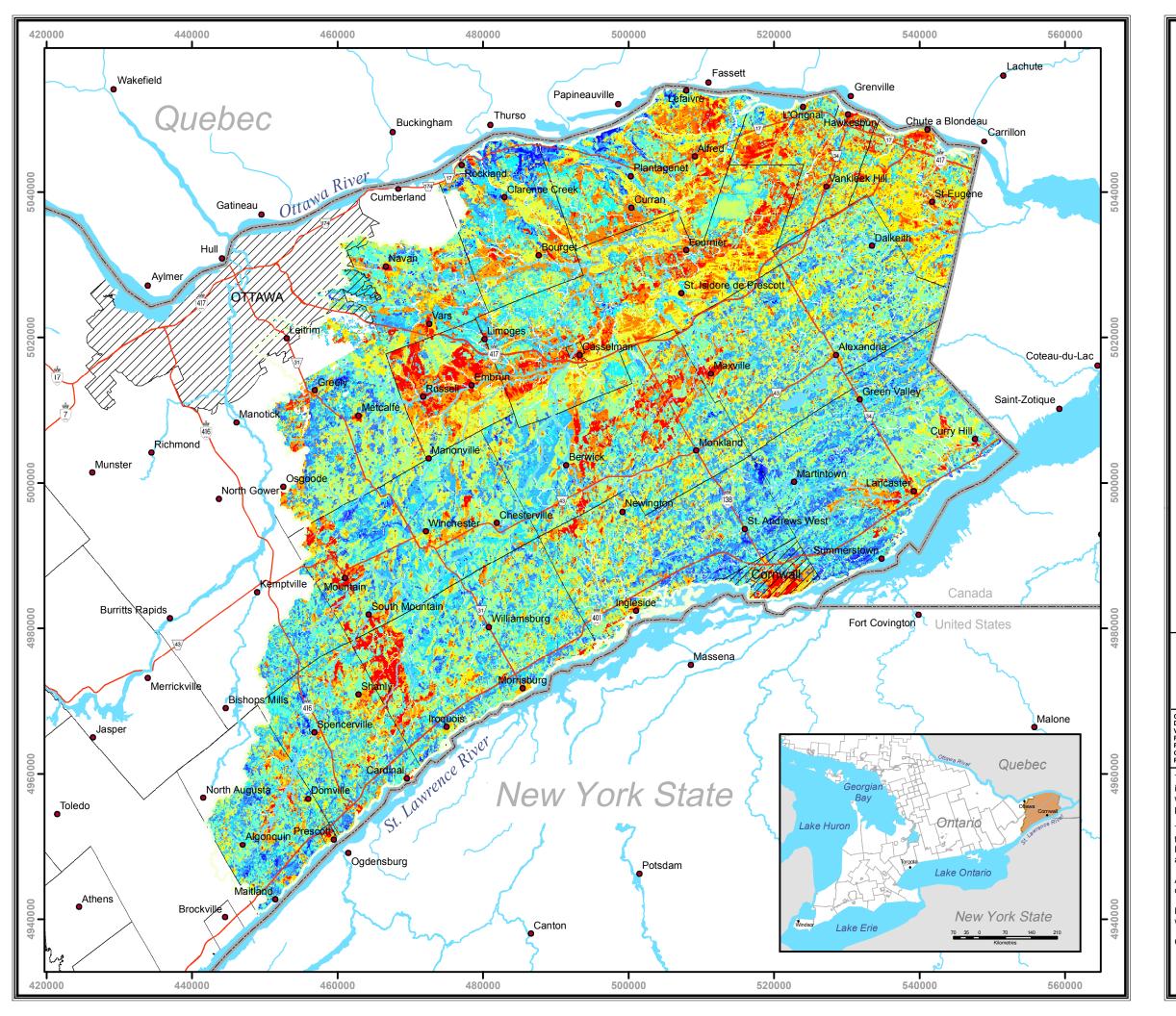


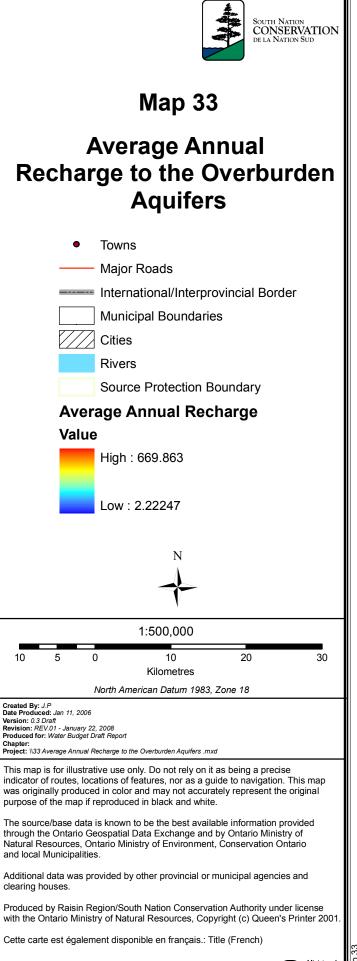


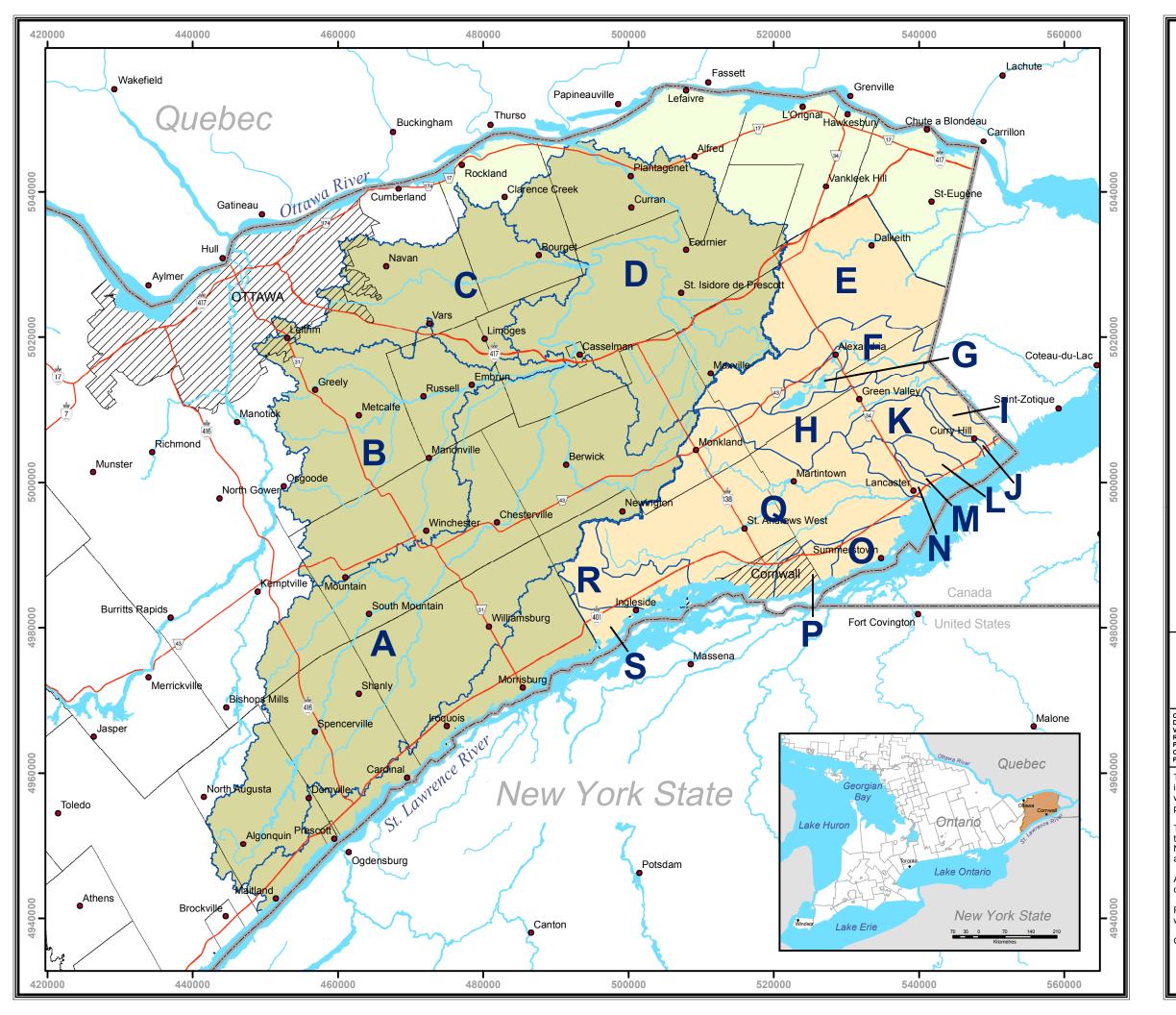


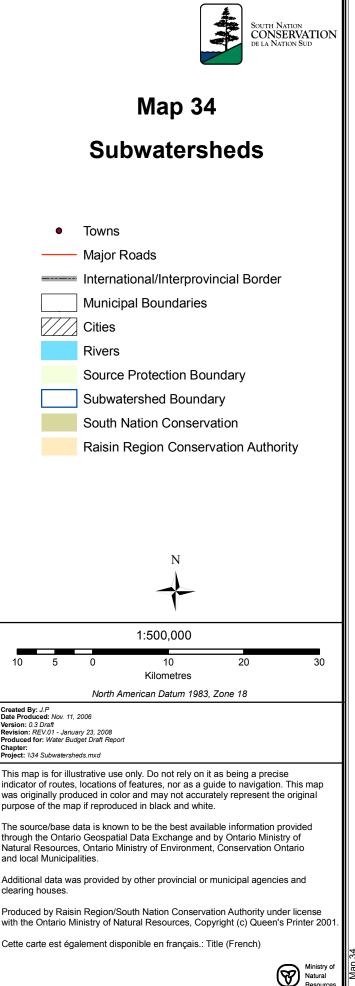


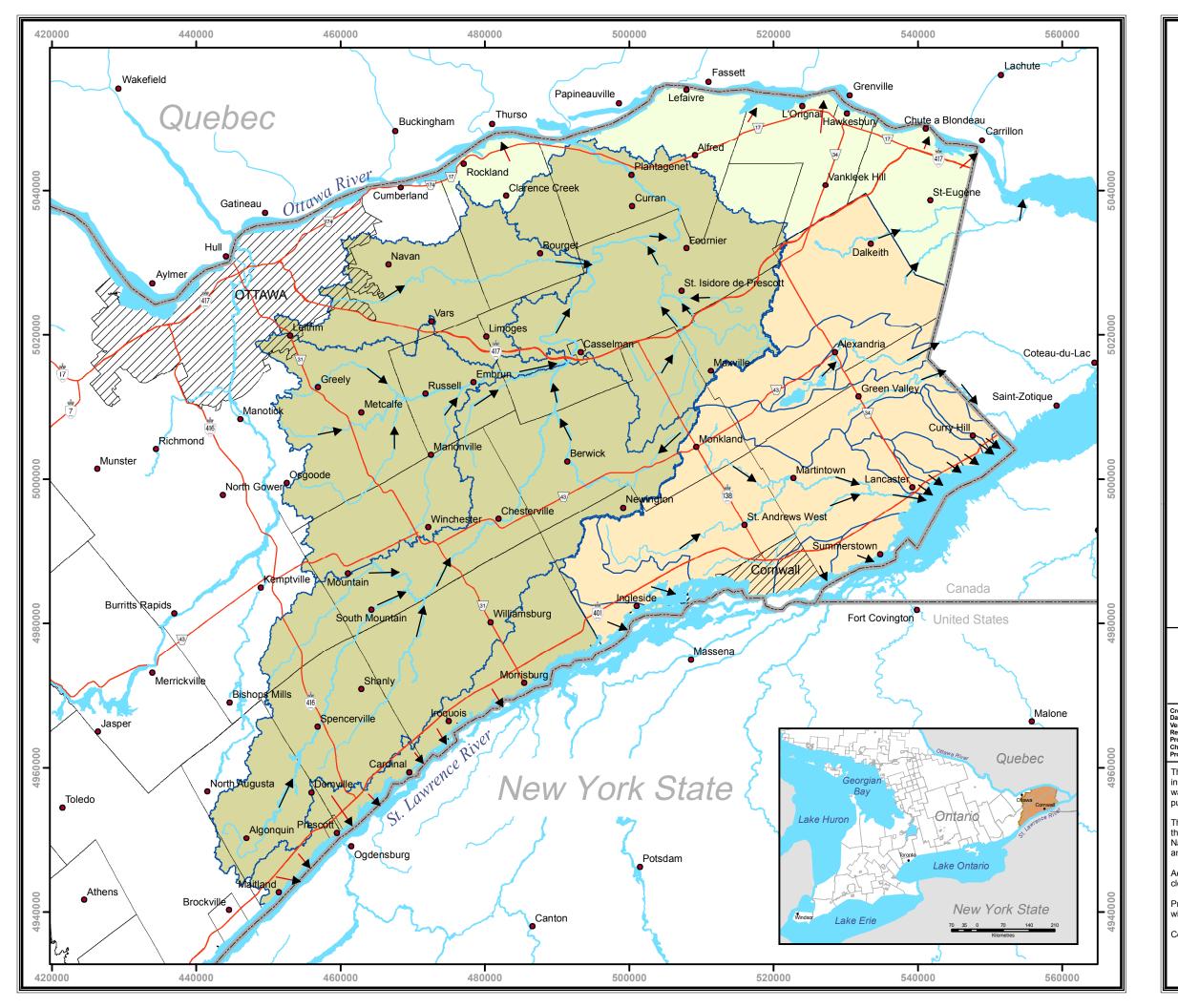


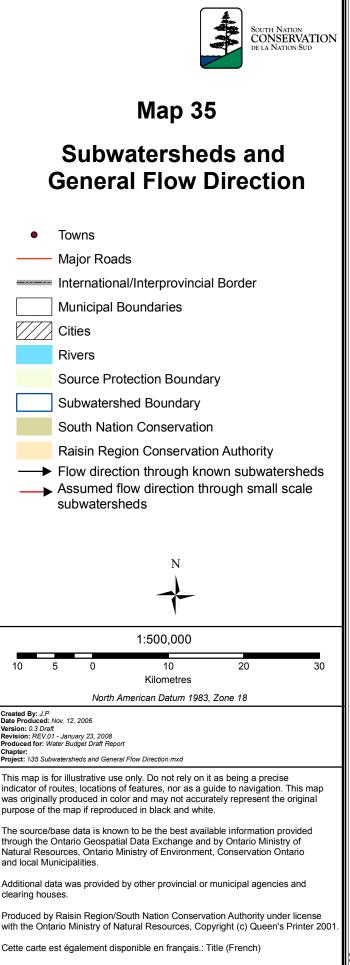


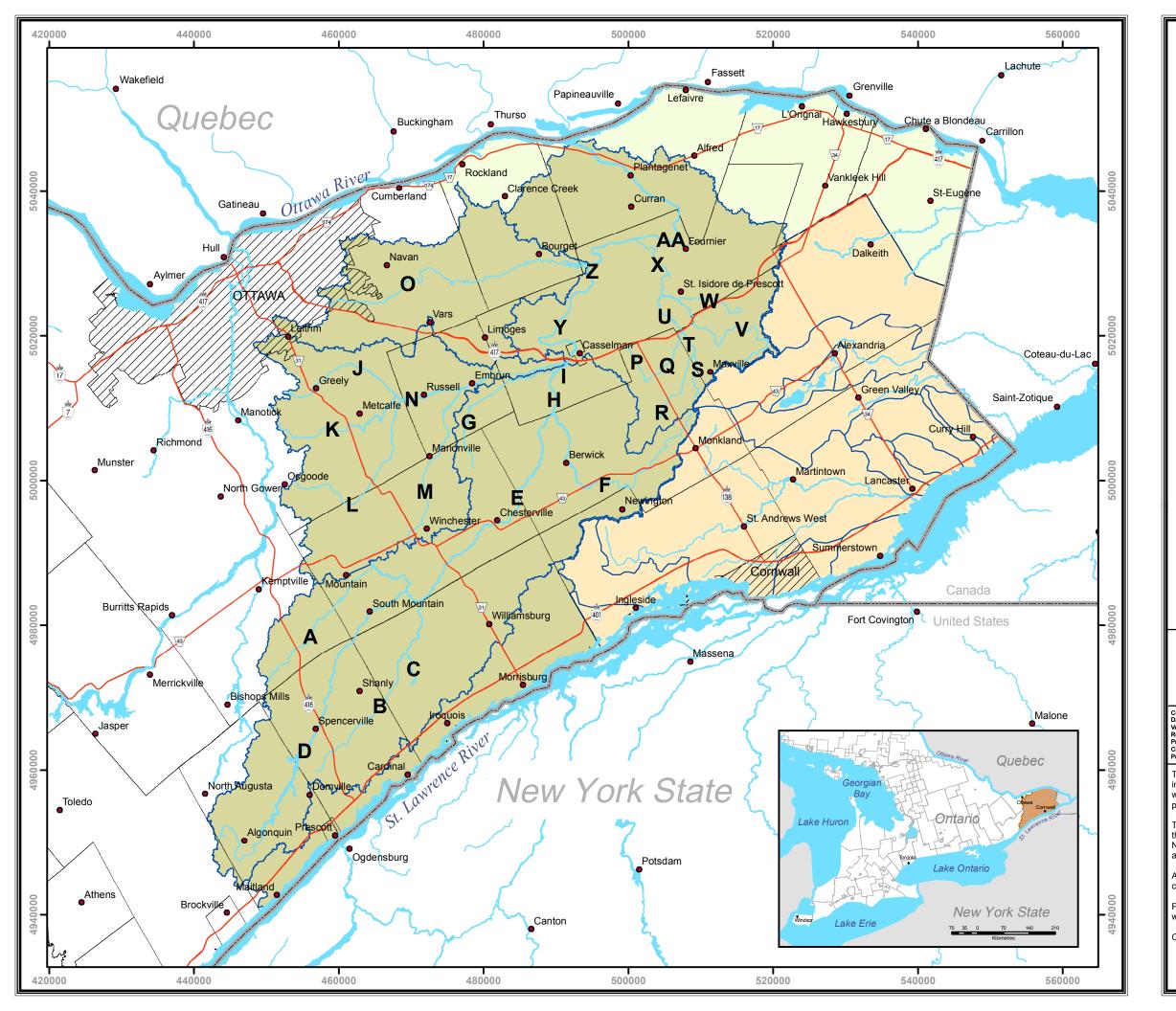


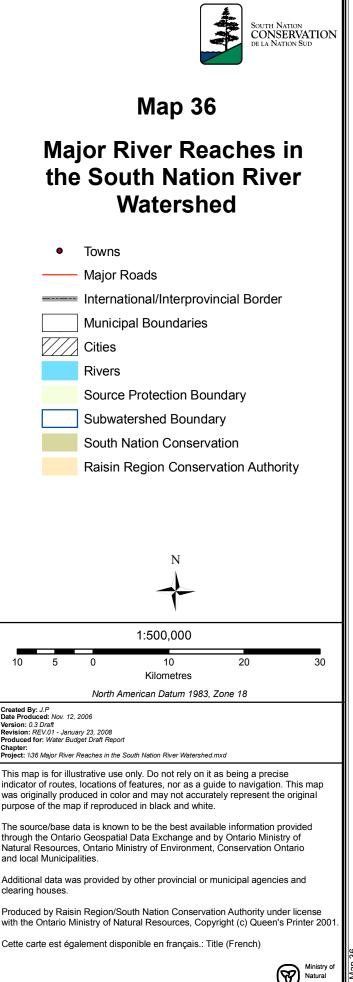


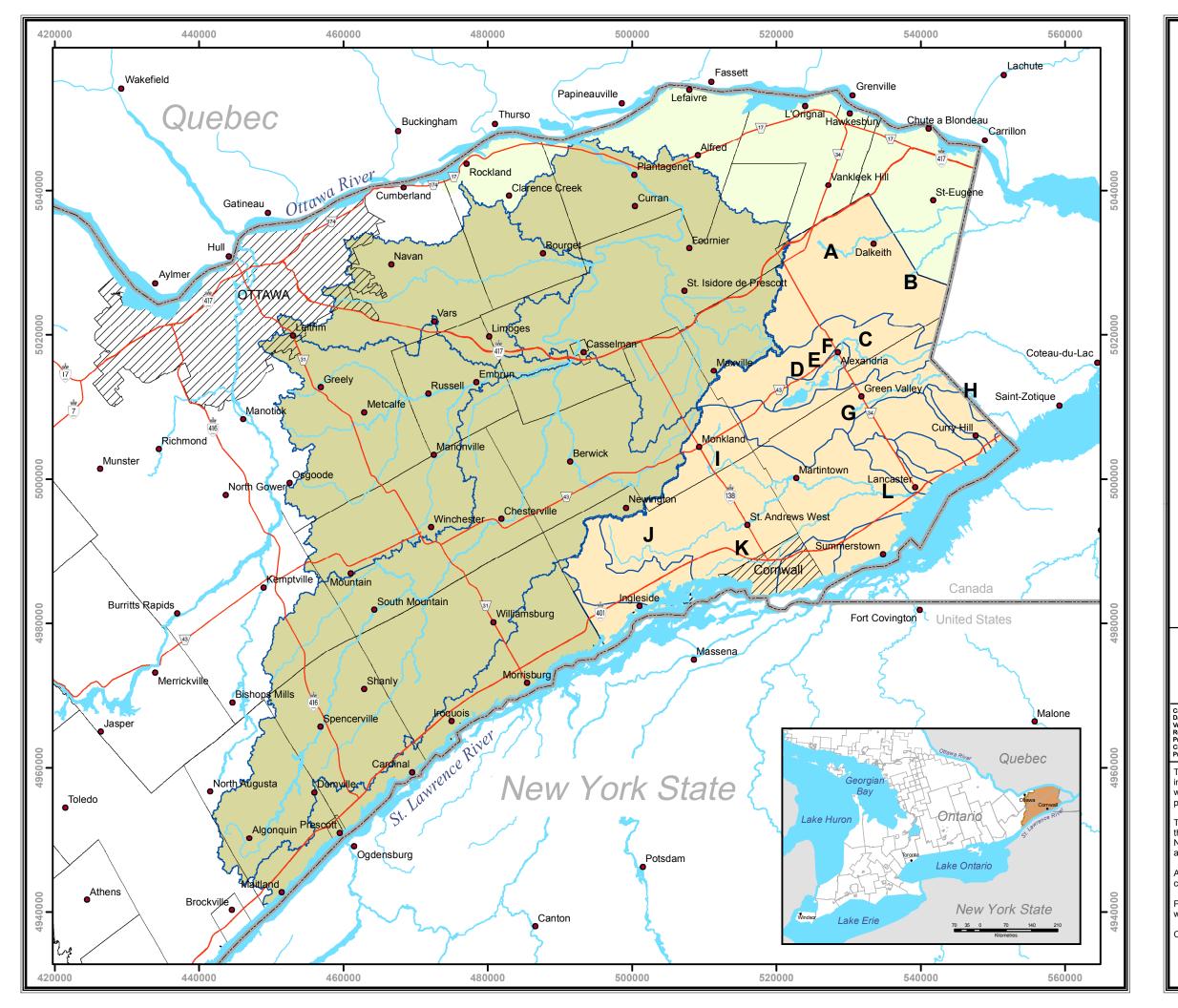


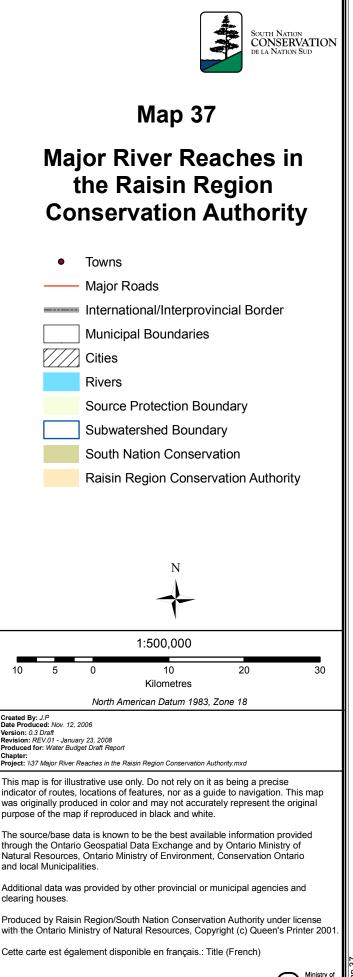


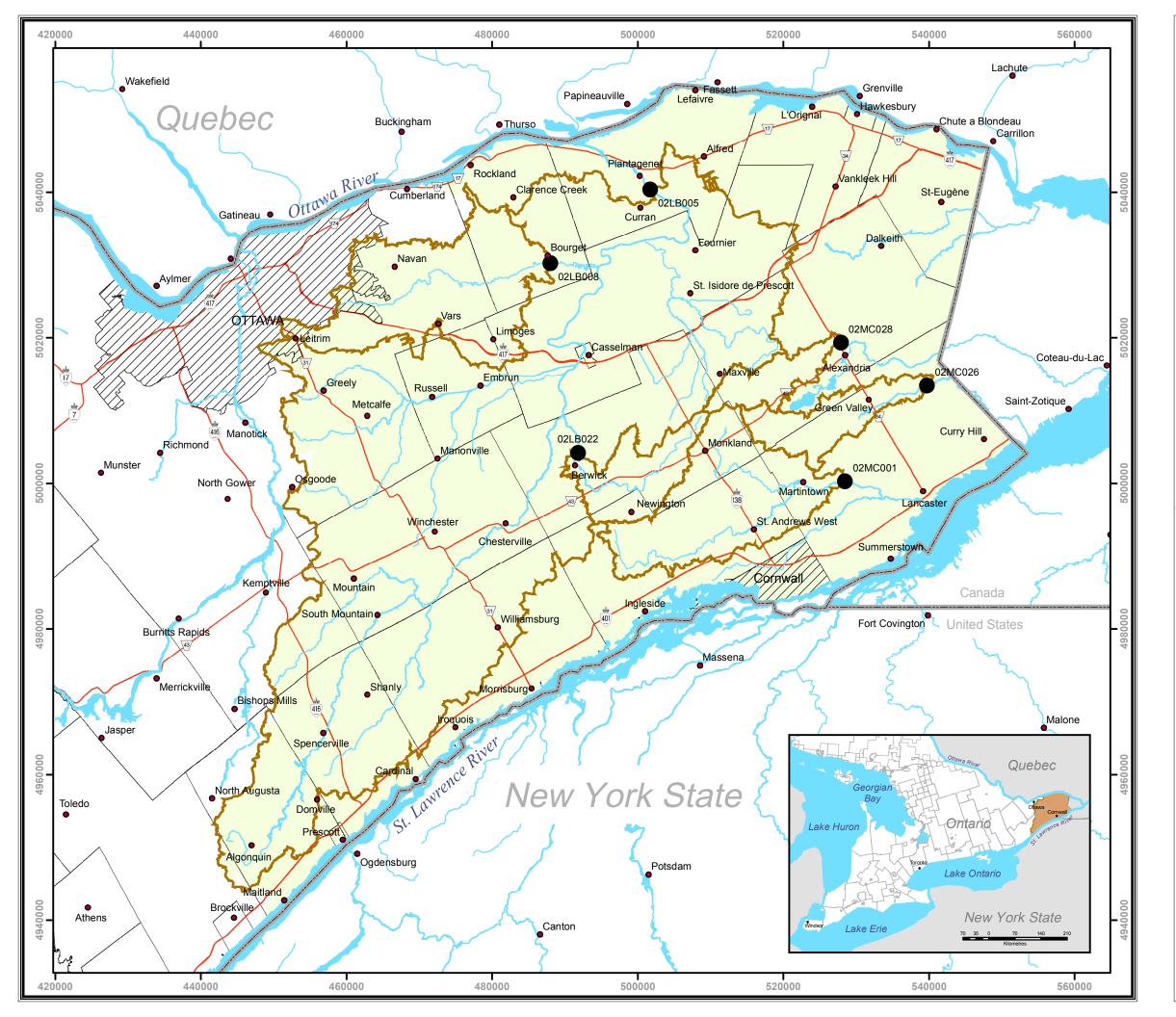














Approximate Drainage Divides of Selected WSC Stream Gauges

Towns

WSC Stations

Major Roads

----- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

Drainage Divide

The drainage divide for station 02LB005 also includes the area for station 02LB008.



1:500,000 5 Kilometres North American Datum 1983, Zone 18

Created By: J.P Date Produced: Sept 26, 2006 Aris of Produced. Sept 20, 2000 Persion: 0.3 Draft Revision: REV.01 - January 23, 2008 Produced for: Water Budget Draft Report

Chapter:

Project: \\38 Approximate Drainage Divides of Selected WSC Stream Gauges.mxd

This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

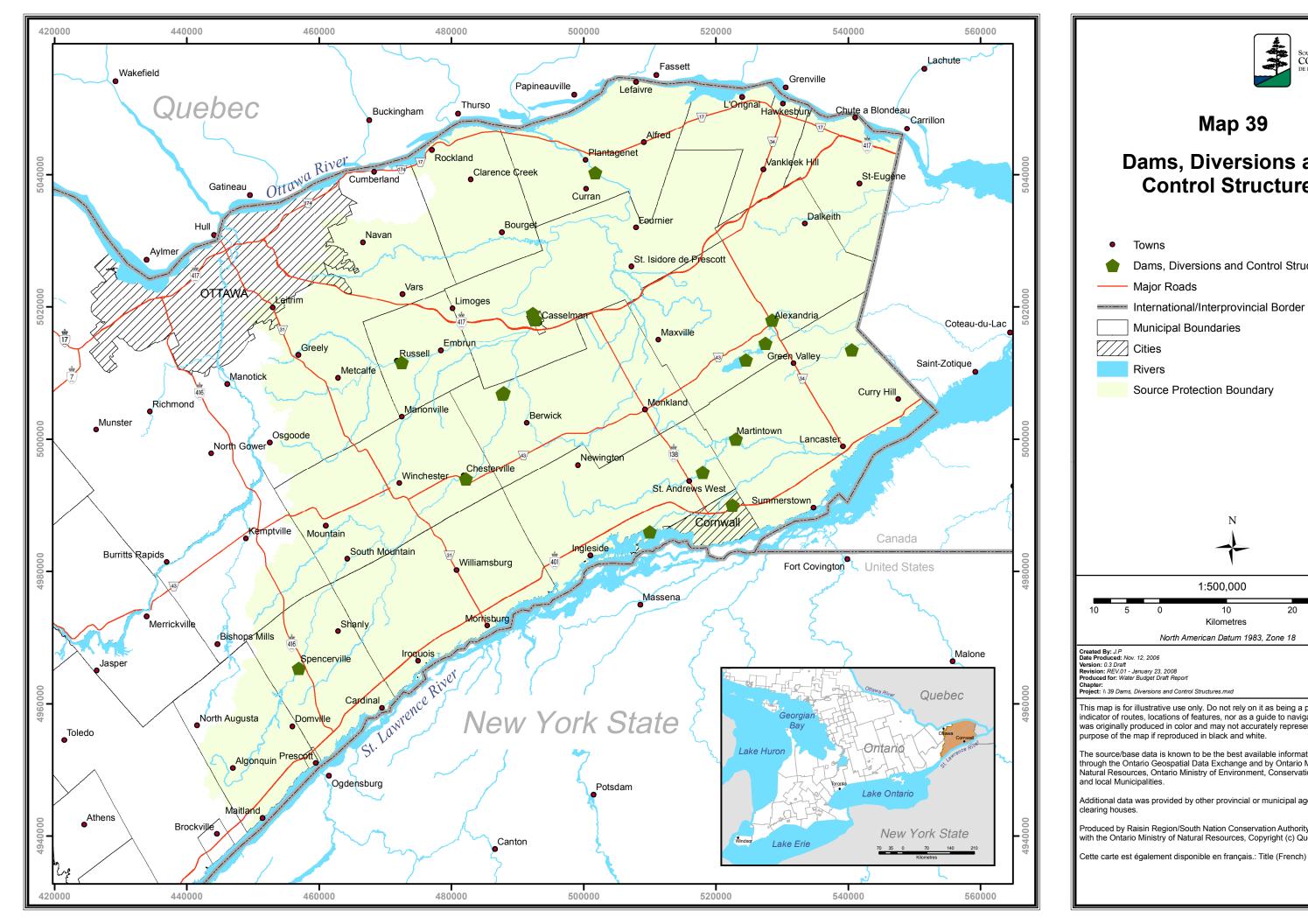
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

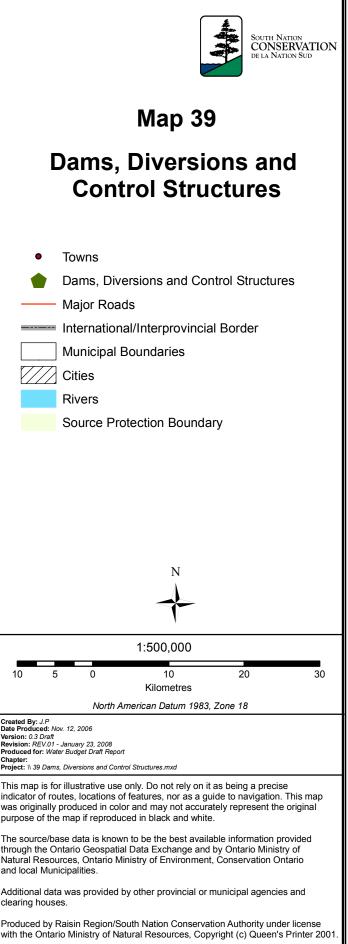
Additional data was provided by other provincial or municipal agencies and

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

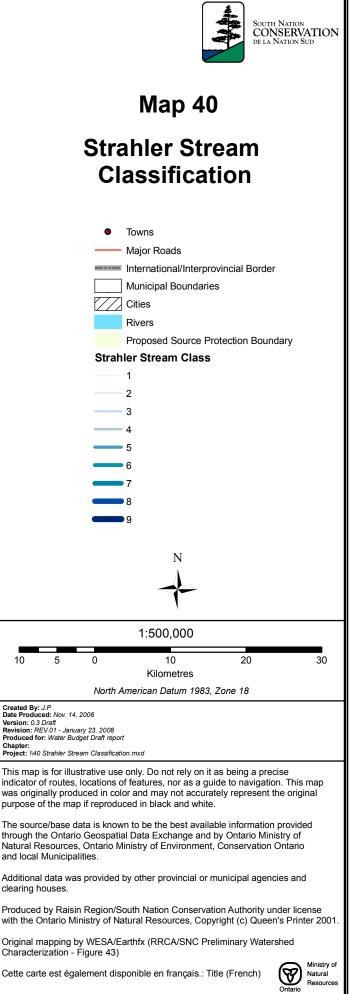
Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed

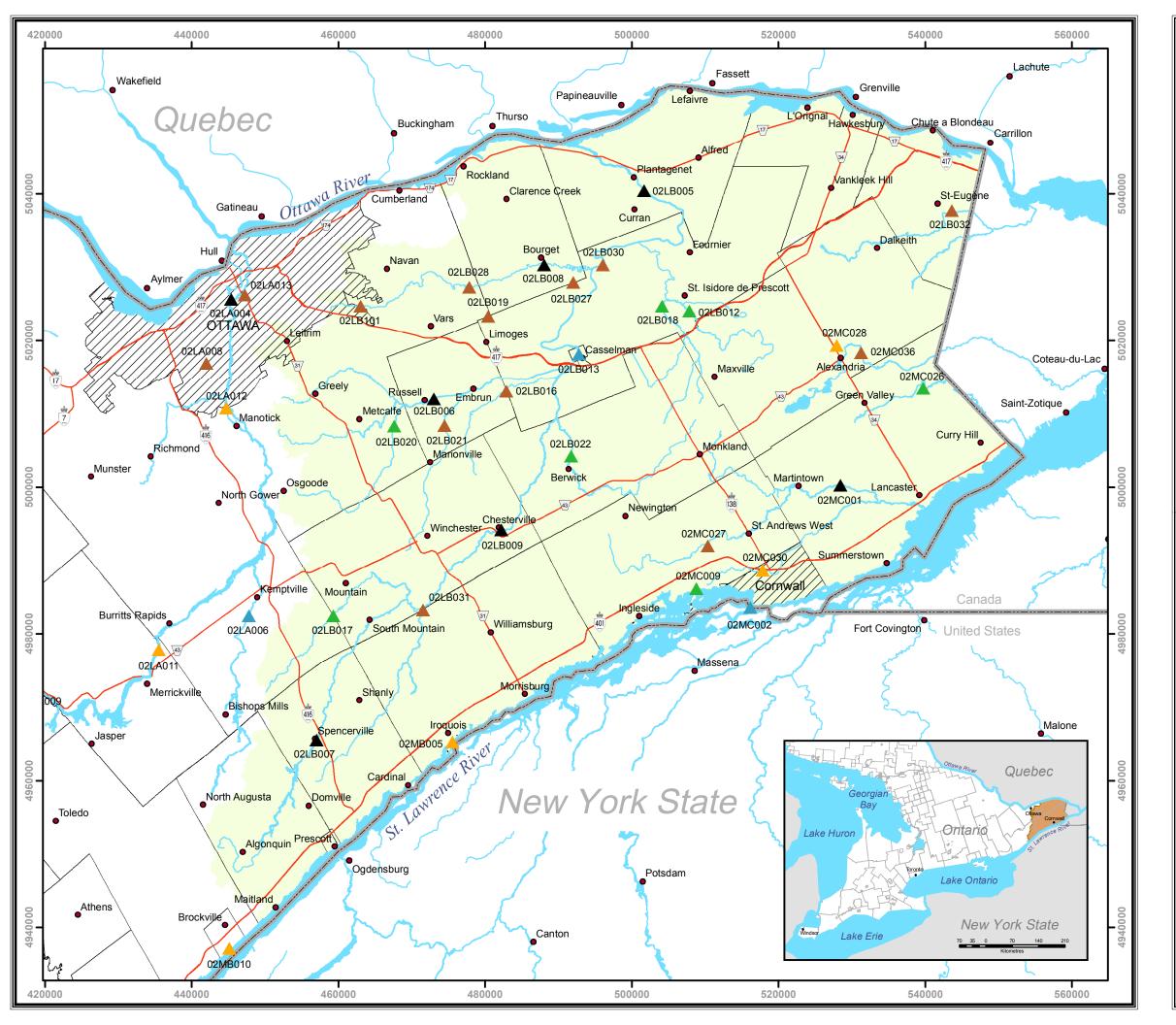














Environment Canada Surface Water Flow Stations

Towns

Major Roads

----- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

Surface Water Flow Stations Years of Record

<10

1:500,000 5 10 Kilometres North American Datum 1983, Zone 18

Created By: J.P Date Produced: Sept 26, 2006

Revision: 0.3 Draft Revision: REV.01 - January 23, 2008 Produced for: Watershed Characterization Draft Report

Chapter: Hydrology Project: \\41 Environment Canada Surface Water Flow Stations.mxd

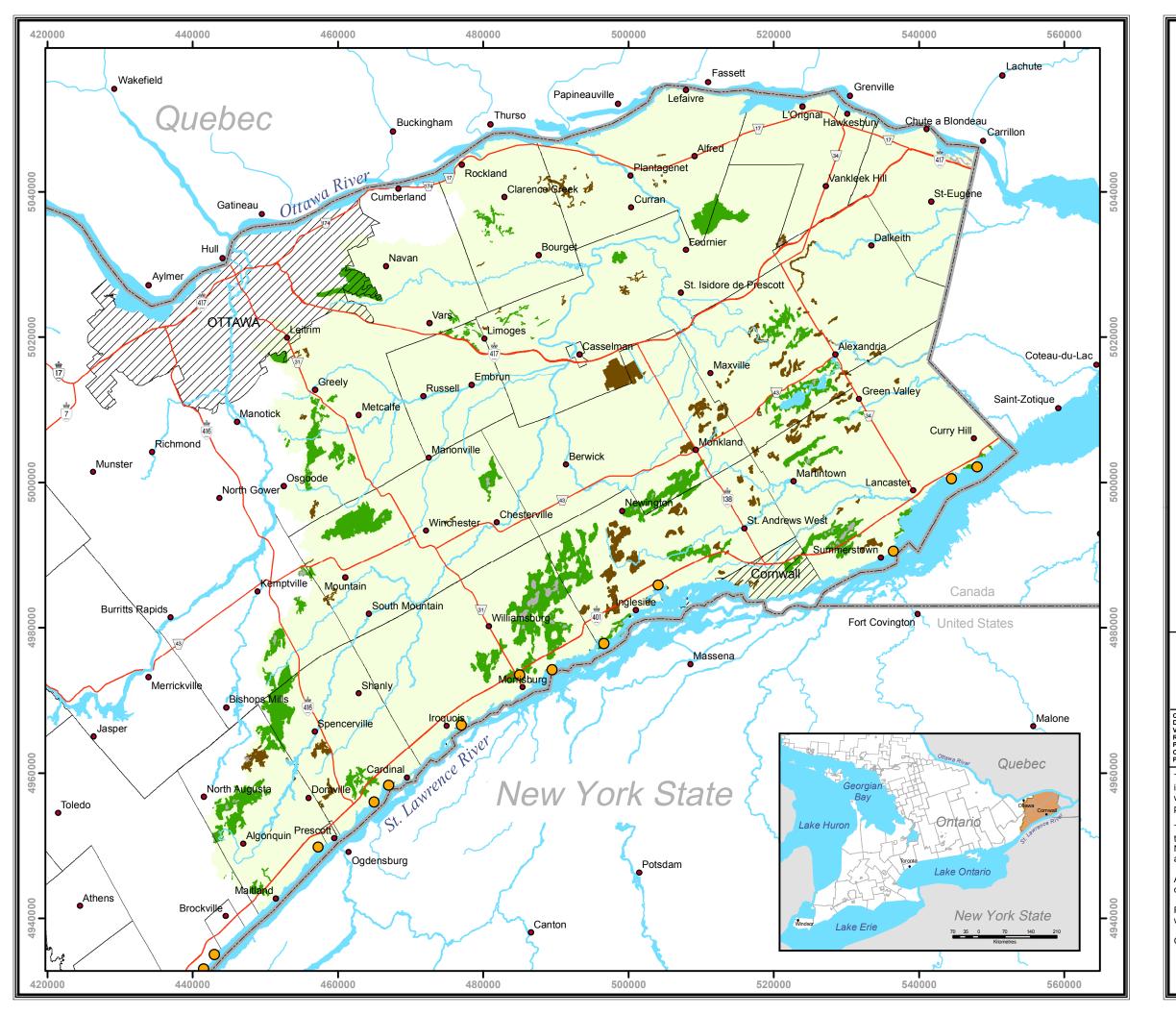
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

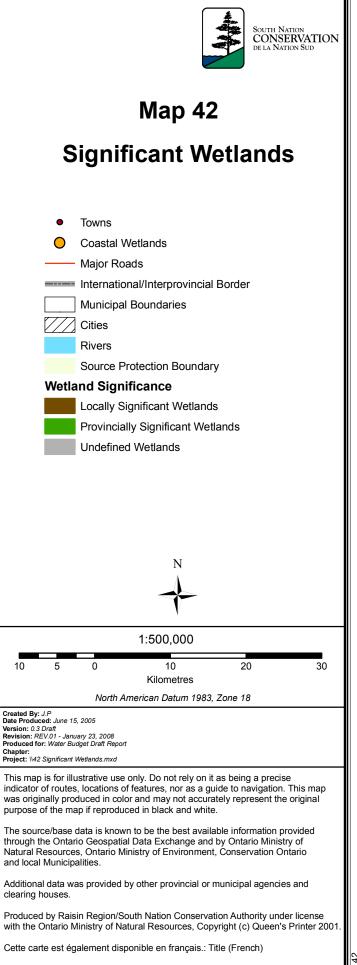
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

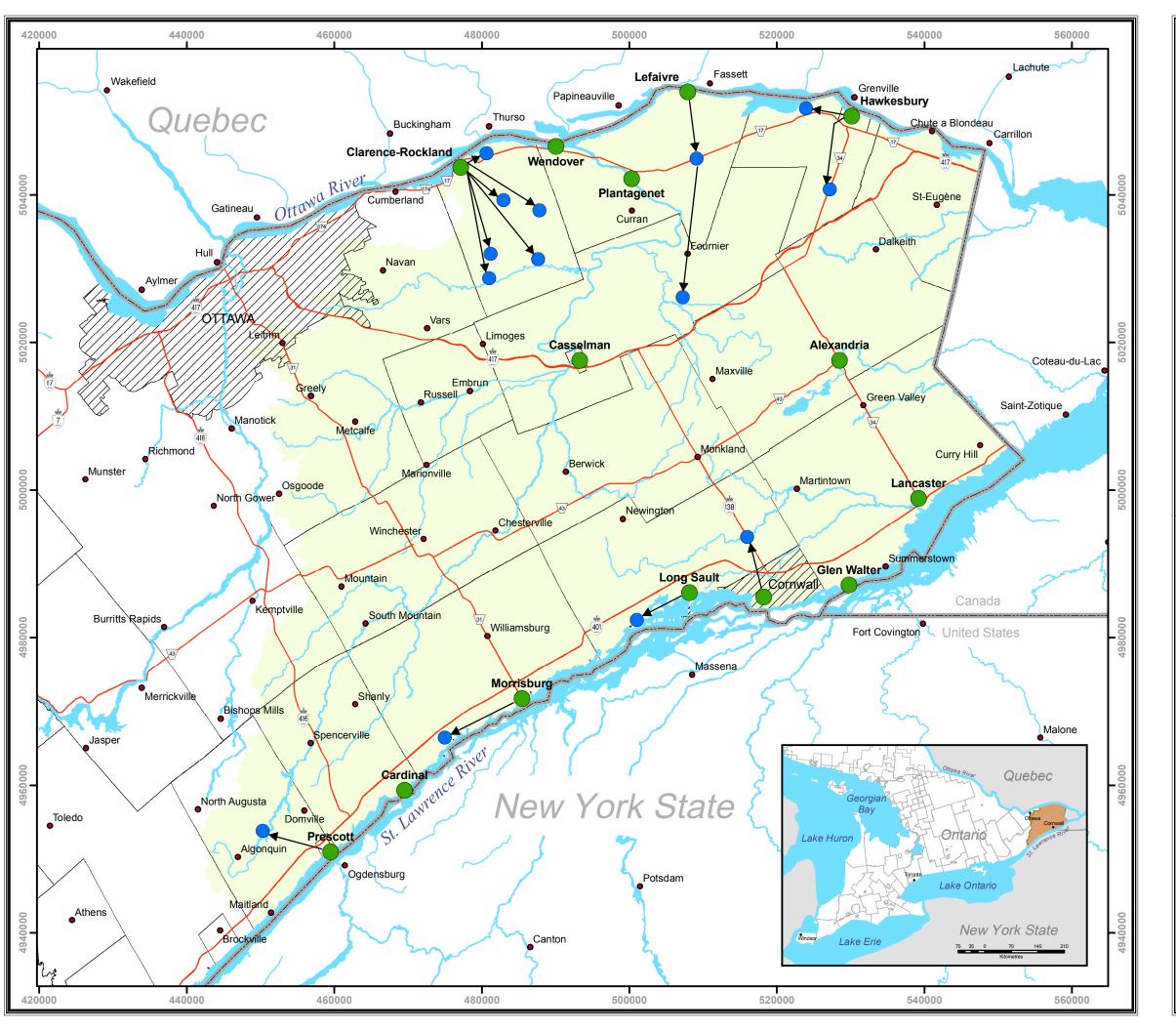
Additional data was provided by other provincial or municipal agencies and

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

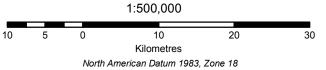
Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed











Created By: J.P Date Produced: Oct. 2, 2006 Aris of Produced. Oct. 2, 2000 Persion: 0.3 Draft Revision: REV.01 - January 23, 2008 Produced for: Water Budget Draft Report

Towns

Rivers

Cities

Major Roads

Chapter: Project: \\43 Municipally Serviced Settlements (Surface Water).mxd

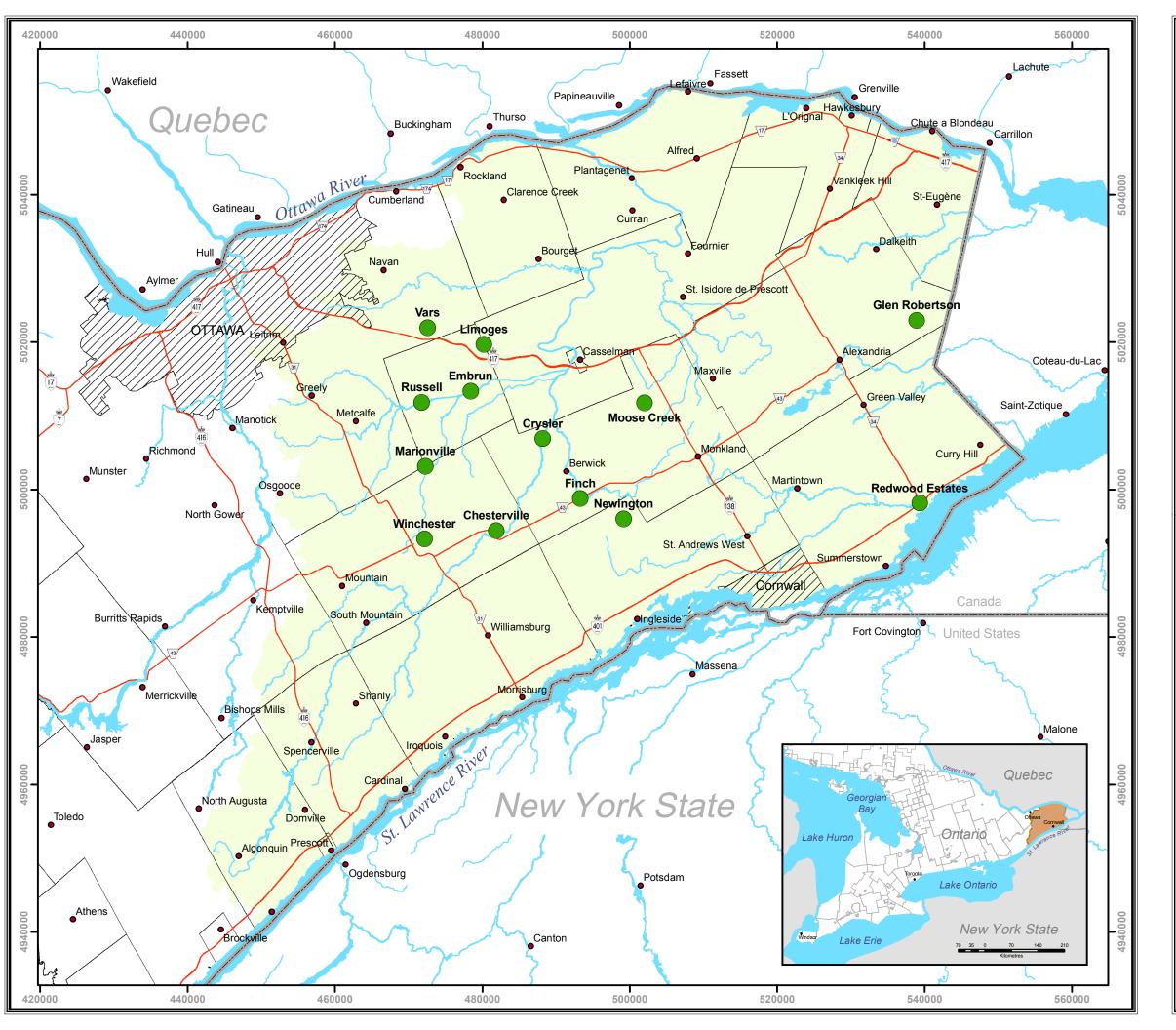
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

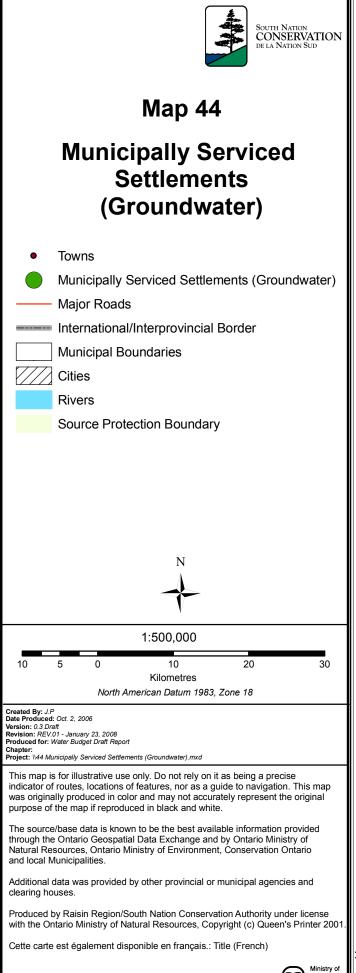
The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

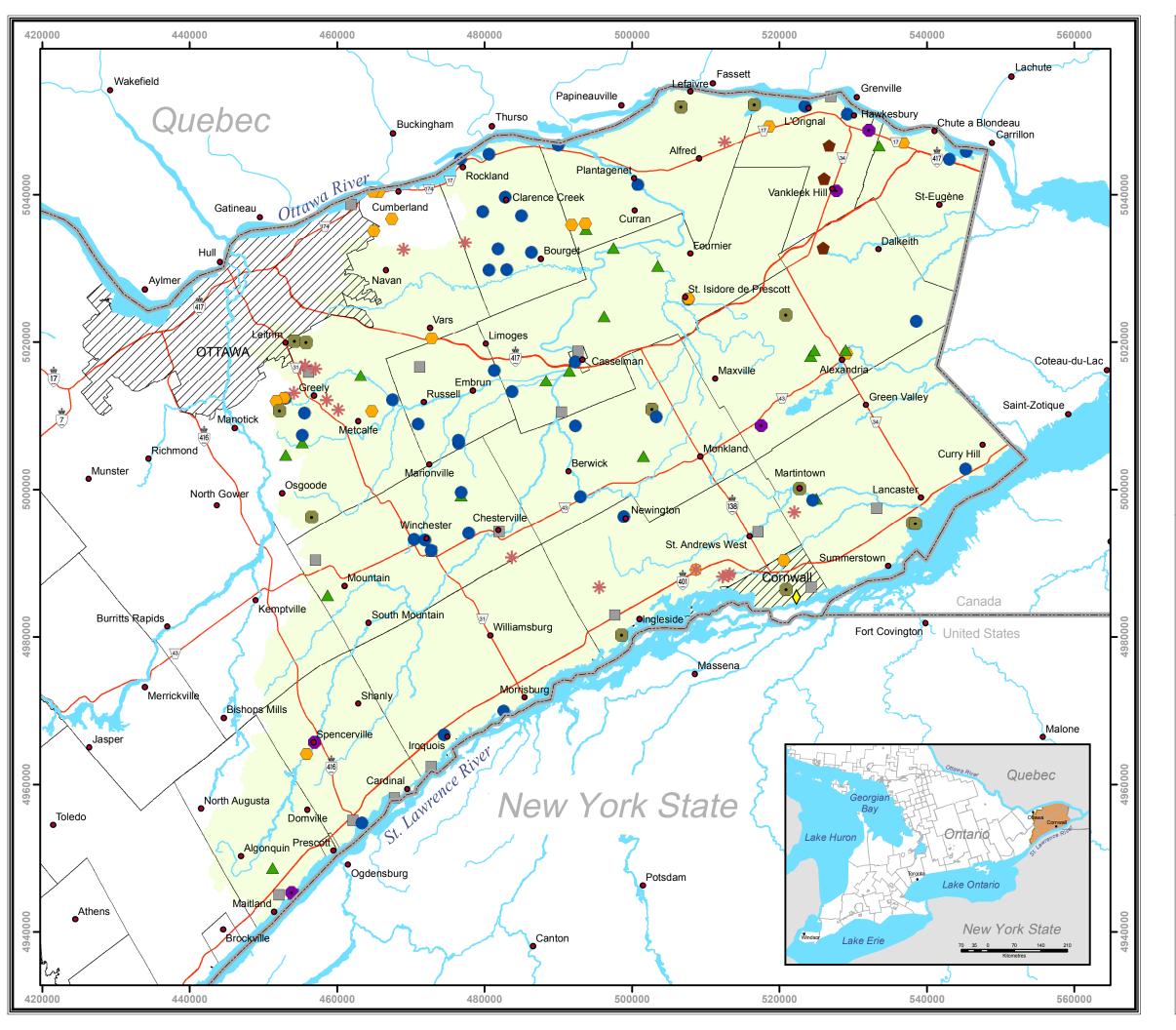
Additional data was provided by other provincial or municipal agencies and

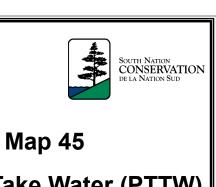
Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001



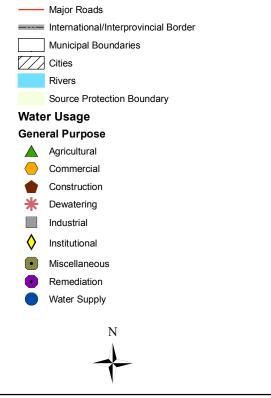


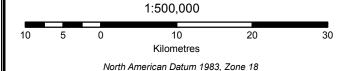






Permit to Take Water (PTTW) Water Use





Created By: J.P Date Produced: July 27, 2006 Version: 0.3 Draft Revision: REV.01 January 23, 2008 Produced for: Water Budget Draft Report Chapter: Project: \\45 PTTW Water Use.mxd

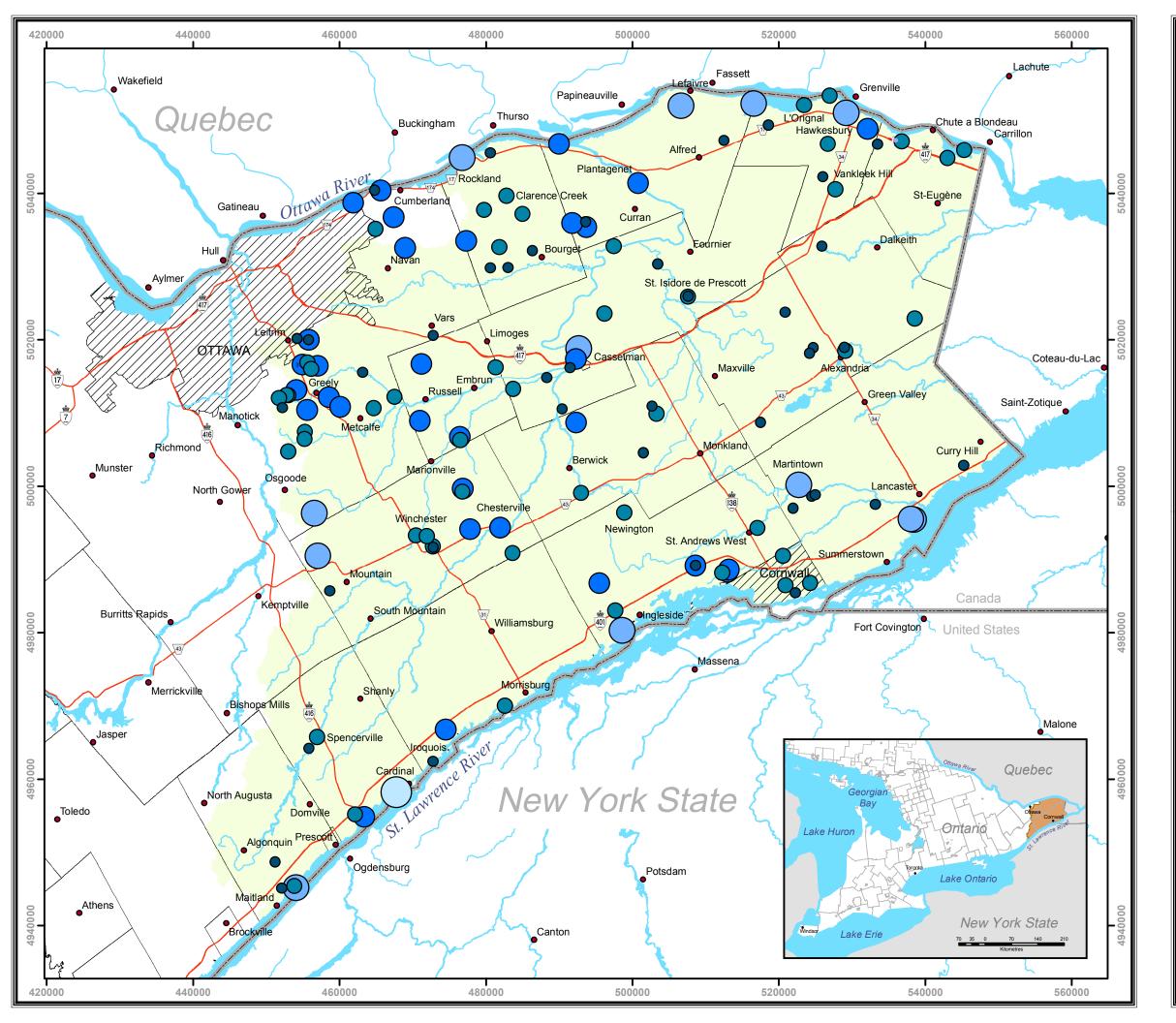
This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001

Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed Characterization - Figure 67).





Permit to Take Water (PTTW) Water Takings



Major Roads

----- International/Interprovincial Border

Municipal Boundaries

Cities

Rivers

Source Protection Boundary

Water Takings

Litres/Day

97 - 50000

50001 - 500000

500001 - 5000000

5000001 - 500000000

500000001 - 1500000000

N

1:500,000 10 5 0 10 20 30 Kilometres

North American Datum 1983, Zone 18

Created By: J.P Date Produced: July 25, 2006 Version: 0.3 Draft

Arsion: 0.3 Draft Revision: REV.01 - January 23, 2008 Produced for: Water Budget Draft Report

Chapter: Project: \\46 PTTW Water Takings.mxd

This map is for illustrative use only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation. This map was originally produced in color and may not accurately represent the original purpose of the map if reproduced in black and white.

The source/base data is known to be the best available information provided through the Ontario Geospatial Data Exchange and by Ontario Ministry of Natural Resources, Ontario Ministry of Environment, Conservation Ontario and local Municipalities.

Additional data was provided by other provincial or municipal agencies and clearing houses.

Produced by Raisin Region/South Nation Conservation Authority under license with the Ontario Ministry of Natural Resources, Copyright (c) Queen's Printer 2001.

Original mapping by WESA/EarthFX (RRCA/SNC Preliminary Watershed Characterization - Figure 68).



