AOC STEWARDSHIP PROJECT DATABASE

1995-2013

St. Clair Region Conservation Authority

AOC Stewardship Projects Database

Goals

- To determine the area of riparian and wetland areas that have been created/rehabilitated within the AOC and determine status of delisting criteria
- Compile and digitize ALL stewardship projects within the AOC (1995-2013) so that total areas can be calculated
- Collect standard project attributes so that a protocol for recording future projects can be determined

Methodology

- Reviewed and verified list of SCRCA HSP projects – converted from point file to polygons
- Reviewed and digitized SCRCA tree planting plans (from Word) including HSP projects
- Cross-referenced SCRCA planting sites with forestry database
- Worked with RLSN staff to compile and digitize stewardship projects within AOC (paper files, digital and from memory)
- Determined point/line/polygon feature rules ie. 1 row of trees was digitized as a line feature that was buffered (4ft or 1.2m) to determine area of coverage
- Calculated total area of wetlands rehabilitated
  - added new wetlands created with areas adjacent to wetlands that were enhanced
- Calculated total area of riparian cover created through stewardship projects
  - buffered watercourses by 30m to determine the total area of projects adjacent to water

Issues Encountered

- Inconsistent record-keeping between agencies – required some generalization, creative interpretation
- Some incomplete records of stewardship projects
- Duplicate records
- Reporting errors – ie. a stewardship project would record an area and when digitized into GIS the areas were inconsistent
- Inconsistencies between project plans and what was actually implemented
- Some projects, although implemented, were unsuccessful, no monitoring/recording of this
- Hard drive failure, possible data loss
- Digitizing inaccuracies / software glitches

Project Deliverables

- GIS database of AOC stewardship projects 1995-2013 (GIS GeoDatabase)
- Stewardship Project Atlas (maps by Subwatershed showing the locations of Stewardship projects)
- Calculations of total wetlands created/enhanced and also total riparian projects within the AOC

GIS Metadata (AOC_Stewardship.gdb)

Feature Class	Type	Description
Line_Projects	Line	This feature class is comprised of linear type projects such as windbreaks and shelterbelts. Due to limitations in the record keeping, not all linear projects are included and exist as polygons in the Polygon_Projects feature class.
Point_Projects	Point	This feature class lists projects that occupy a negligible surface area on the ground. ie. well decommissioning projects. This feature class was not used in any of the area calculations for projects within that AOC and are only included so that the stewardship database is all-inclusive.
Points_All_Project_Locations	Point	This is a point feature class that represents a location where a stewardship project was implemented. It was generated by creating a centroid from the Projects_by_Landowner_by_Year feature class.
Polygon_Projects_up_to_2010	Polygon	This feature class is comprised of all RAW polygon features that make up the individual components of all stewardship projects (up to 2010 only)
Polygon_Projects_with_Line_Buffers	Polygon	This feature class was created by merging the Polygon_Projects with a buffered Line_Projects feature class (the Line_Projects feature class was buffered 1.2m to represent a typical amount of ground covered by a row of trees). This feature class represents total surface area covered by all stewardship projects.
Projects_by_Landowner_by_Year	Polygon	This feature class was created as a grouping of features within the RAW Polygon_Projects. This feature class was created so that a comprehensive list of overall projects could be determined and mapped accordingly (see Points_All_Project_Locations).
Projects_flattened	Polygon	This feature class is a Merge of all projects so that a total area of coverage can be determined. Projects that are overlapping are merged to a single polygon. Polygons are clipped to subshed boundaries

All Feature Classes utilize a single domain that defines common project attributes

Domain Name	Description	Type	Values
Agency	Agency that Coordinated the project	Text	SCRCA, RLSN, SCRCA/RLSN
Funding	Agency that provided funding for the project	Text	St. Clair Stewardship Initiative, Great Lakes Sustainability Fund, Ontario Great Lakes Renewal Foundation, 50 Million Tree Program, Union Gas, Rural Lambton Stewardship Network, Trees Ontario
Type	Type of stewardship project	Text	Wetland, Tallgrass Prairie, Foodplot, Tree Planting, Ripirian, Tree Planting – Ripirian, TGP – Ripirian, Other
Year	Year stewardship project was implemented	Short Integer	1995 – 2013

Additional Attributes in each Feature Class

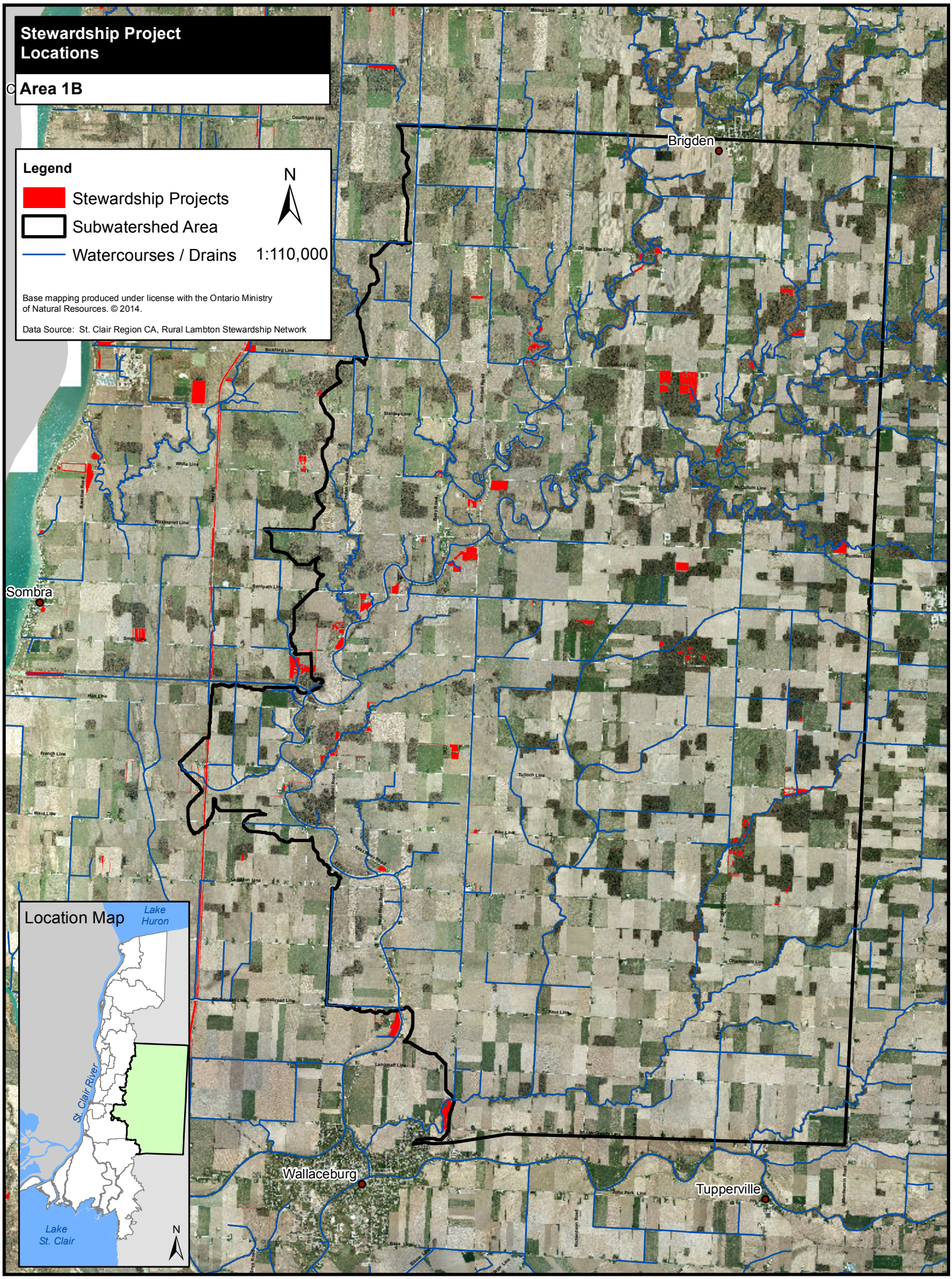
Attribute	Description	Type	Values
OBJECTID	ESRI Assigned Key	Object ID	Auto
SHAPE	Polygon	Geometry	Geometry
Landowner	Landowner Name	Text	Last, First Names
Detail	Other details about the project	Text	Additional Details
Site_ID	Agency assigned ID	Text	HSP # if applicable
Location	General Lot/Con and Municipality Name of project	Text	Lot and Concession Details
SHAPE_Area	Auto Area of Project (m2)	Double	Area in Sq metres

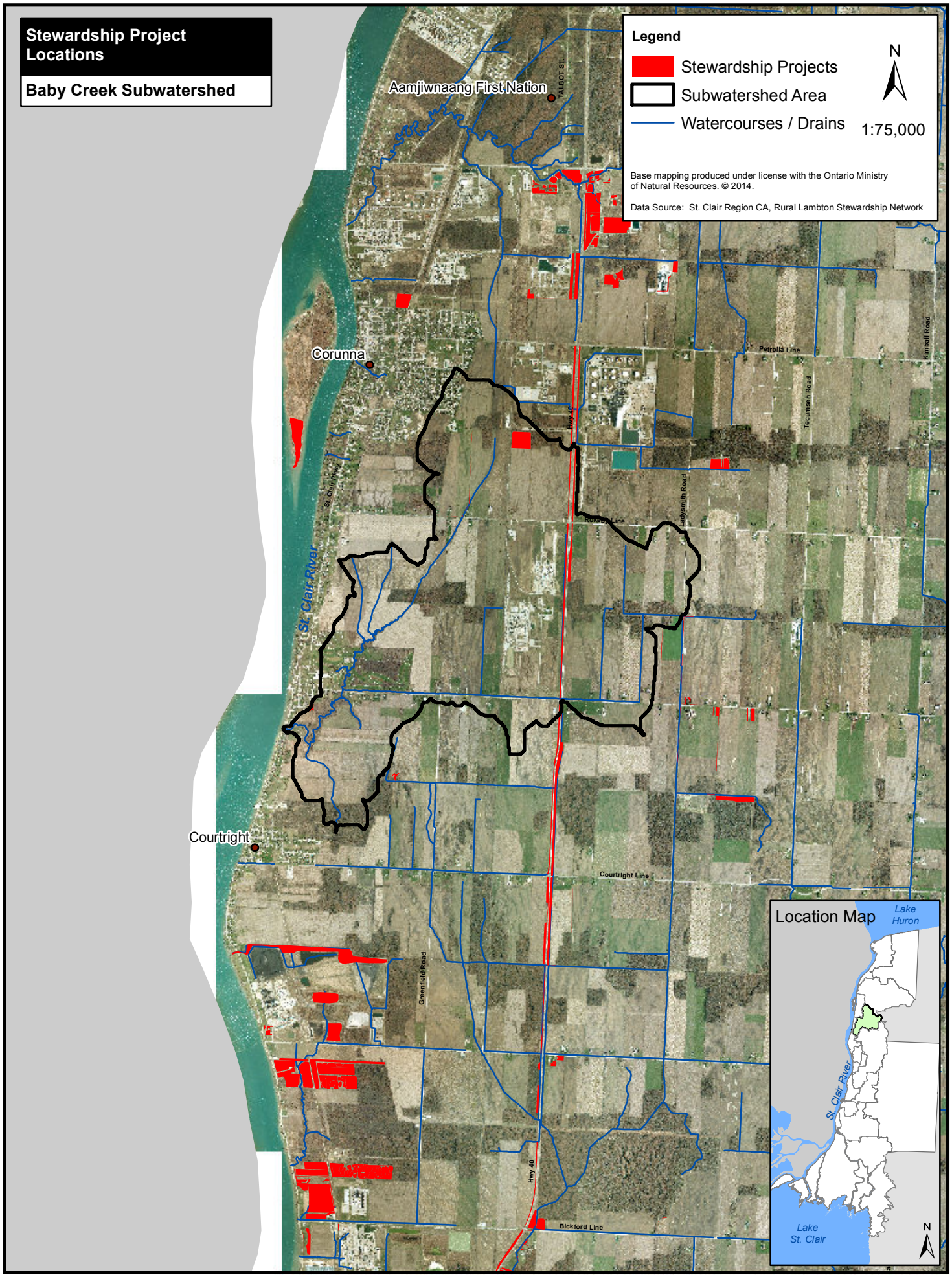
General Stewardship Project Statistics (1995-2013)

AOC Subwatershsed	Area (km2)	Stewardship Projects	Projecy Area (ha)
Area 1-B	289	99	155
Baby Creek	21	4	21
Bowens Creek	7	10	72
Clay Creek	57	19	72
Maxwell / Bear / Rankin	55	28	163
McKeough	22	14	42
Point Edward & Sarnia	30	0	0
Perch Creek	77	12	80
Running Creek / Lower Sydenham	49	13	51
St. Clair Direct Drainage Tribs	44	22	87
Talford Creek	57	15	66
Walpole	146	1	3
Whitebread / Marshy Creek	45	26	34
TOTAL	**899**	**263**	**846**

Digital and Hard Copy Deliverables

- Hard copy overall AOC map showing stewardship projects
- Hard copy subwatershed maps showing Stewardship project locations
- Digital ESRI Geodatabase containing all Stewardship Project data


Stewardship Project Locations
Area 1B
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
1:110,000
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Brigden
Sombra
Wallaceburg
Tupperville
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
Baby Creek Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
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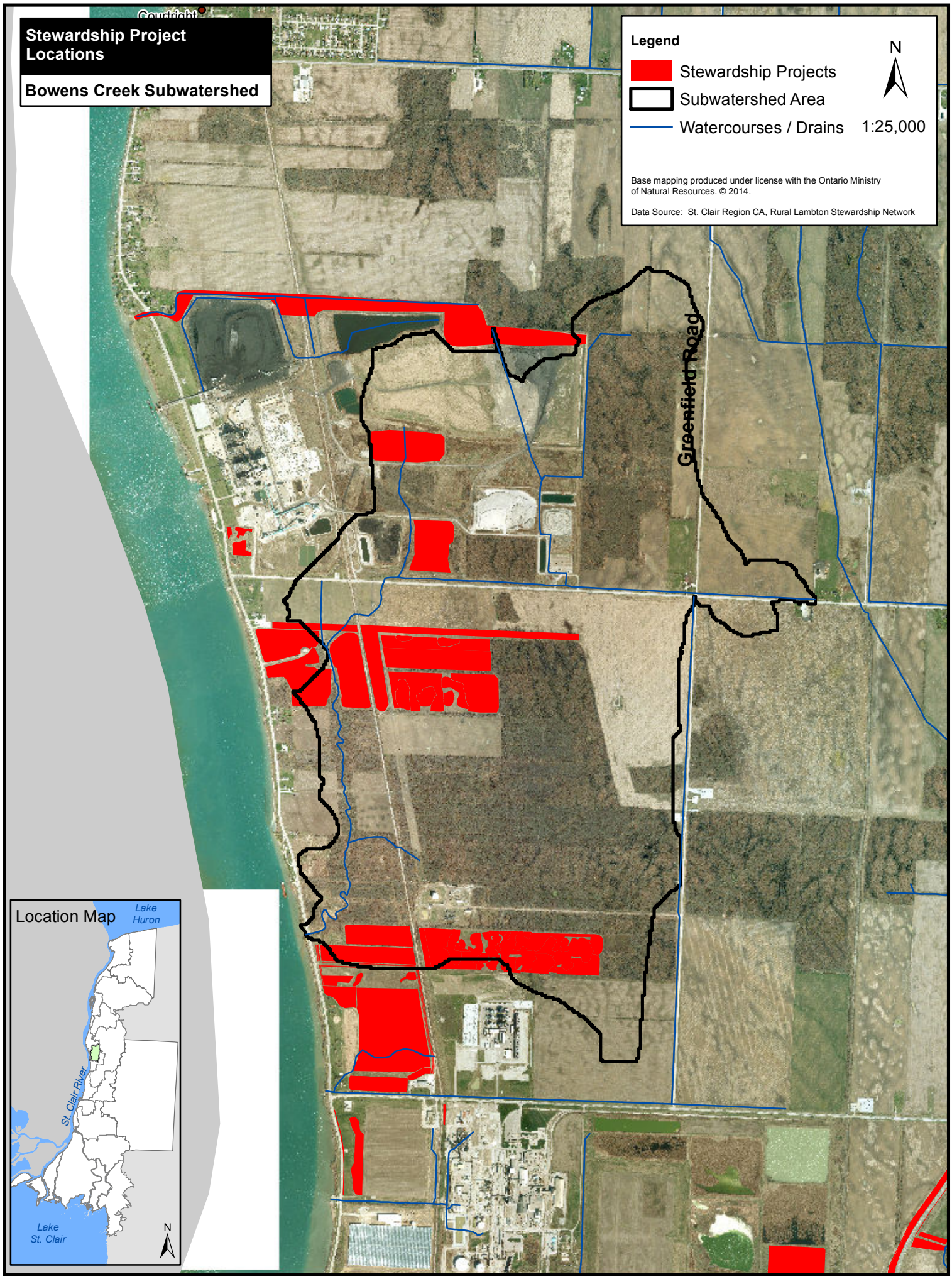
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Aamjiwnaang First Nation
TALBOT ST.
Corunna
Petrolia Line
Kimball Road
Tecumseh Road
Hwy 40
St. Clair Pkwy
St. Clair River
Ladysmith Road
Rokeby Line
Courtright
Courtright Line
Greenfield Road
Hwy 40
Bickford Line
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
Bowens Creek Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
1:25,000
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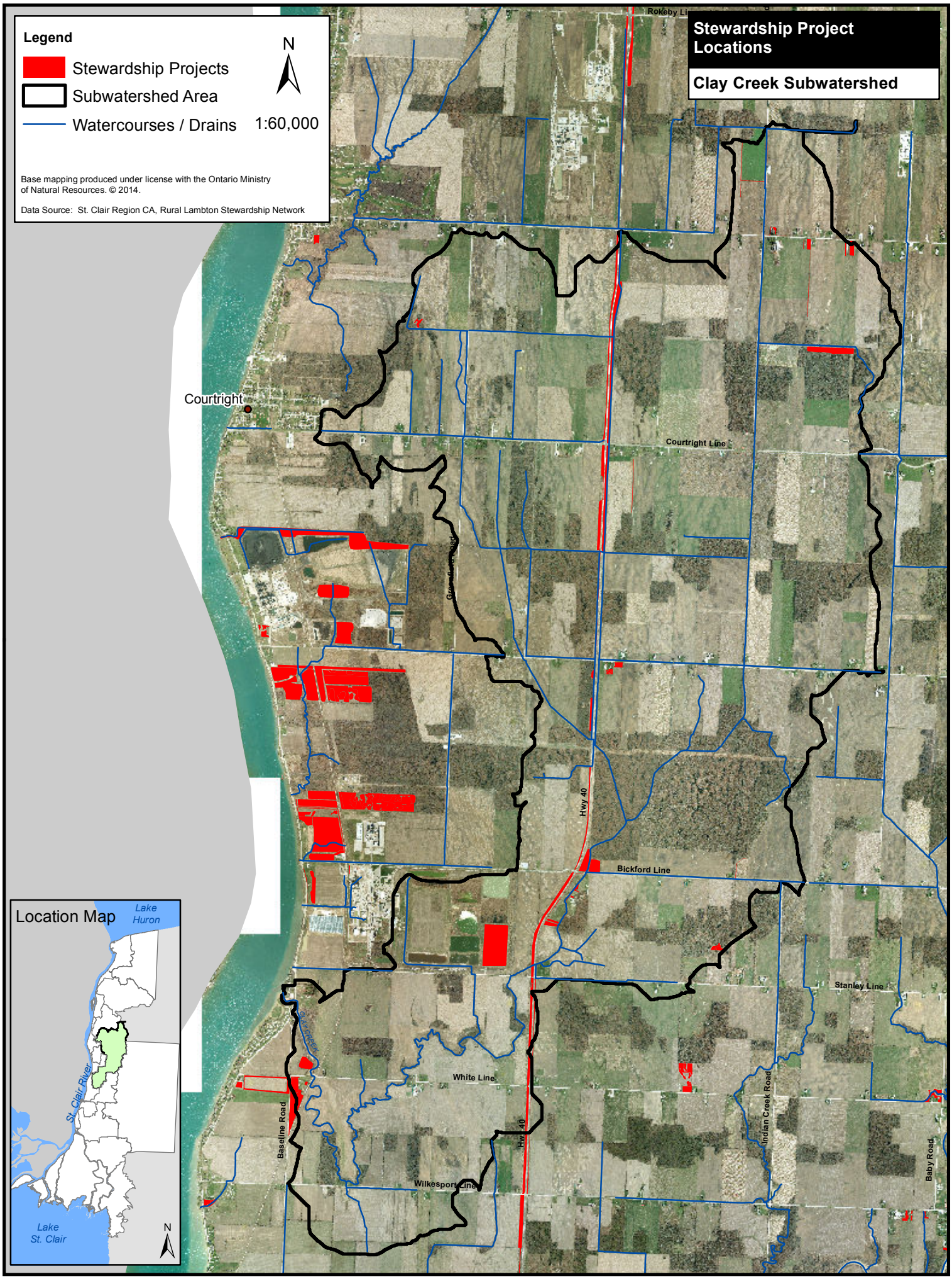
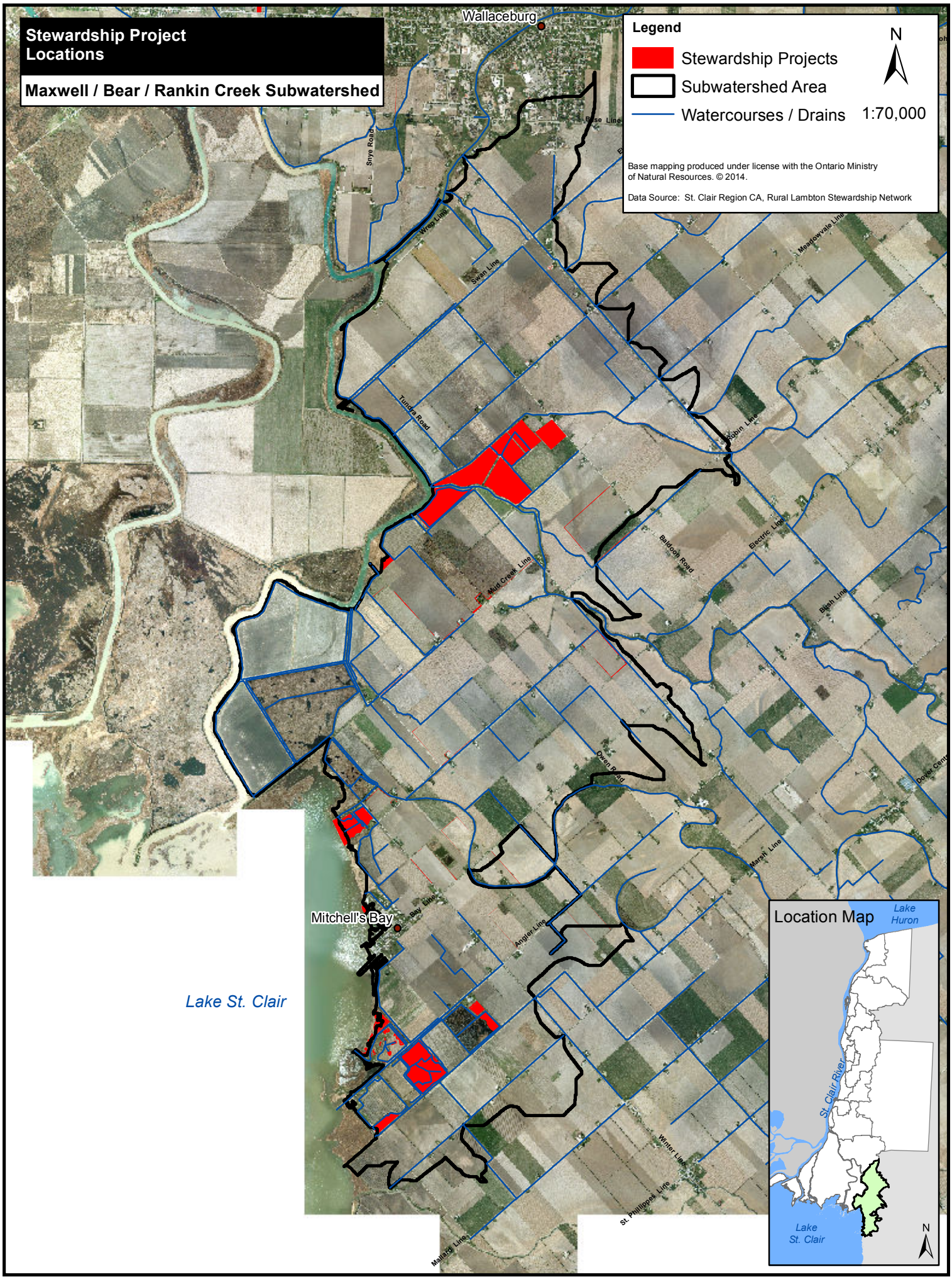
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Greenfield Road
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
Clay Creek Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
1:60,000
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Courtright
Courtright Line
Hwy 40
Bickford Line
Stanley Line
White Line
Wilkesport Line
Baseline Road
Indian Creek Road
Baby Road
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
Maxwell / Bear / Rankin Creek Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
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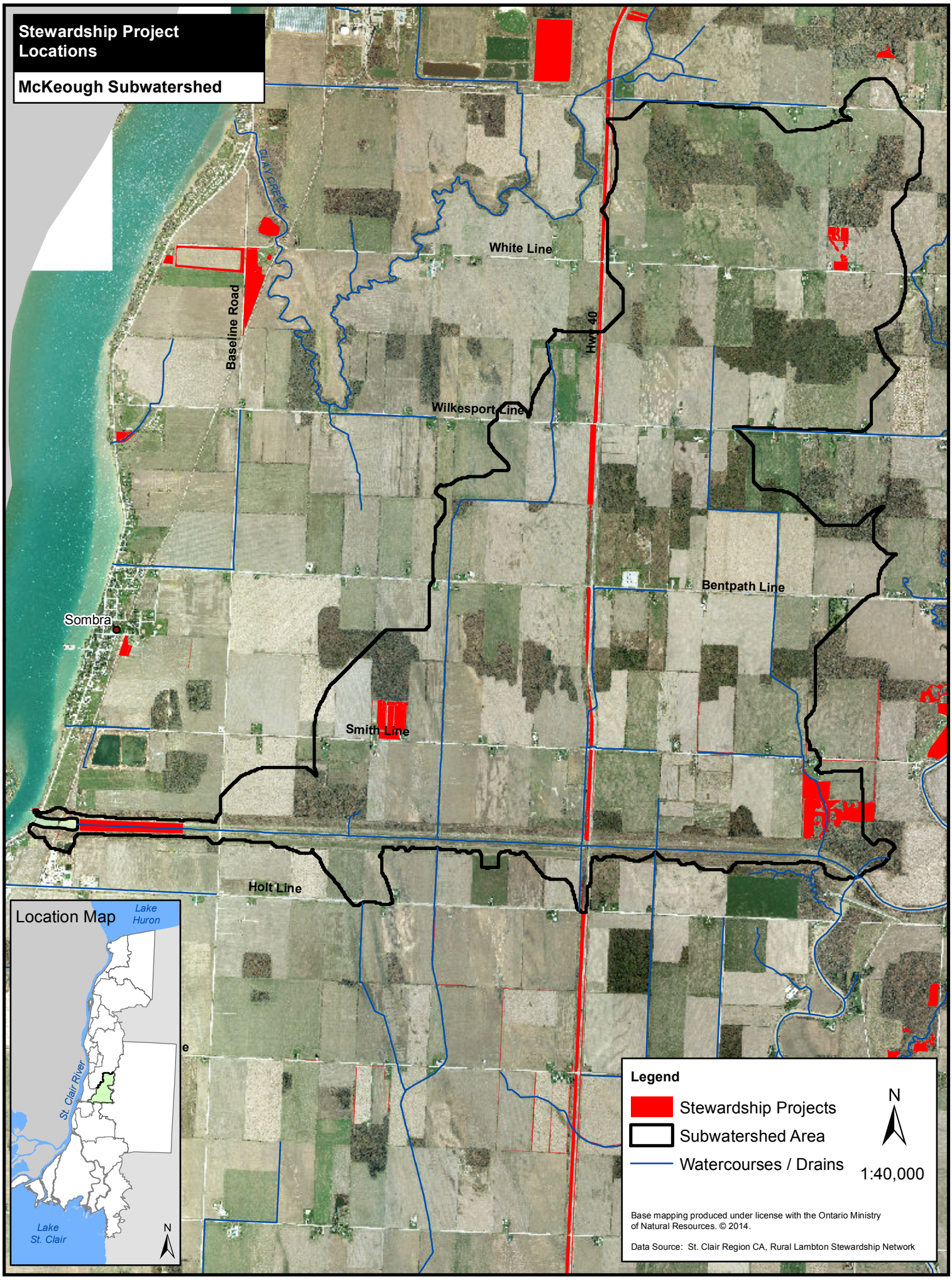
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Wallaceburg
Mitchell's Bay
Lake St. Clair
Snye Road
Base Line
Wrap Line
Swan Line
Tundra Road
Meadowvale Line
Robin Line
Electric Line
Baldoon Road
Mud Creek Line
Bish Line
Owen Road
Dover Cent
Marsh Line
Bay Line
Angler Line
Winter Line
St. Philippes Line
Mallard Line
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
McKeough Subwatershed
CLAY CREEK
White Line
Baseline Road
Hwy 40
Wilkesport Line
Bentpath Line
Sombra
Smith Line
Holt Line
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
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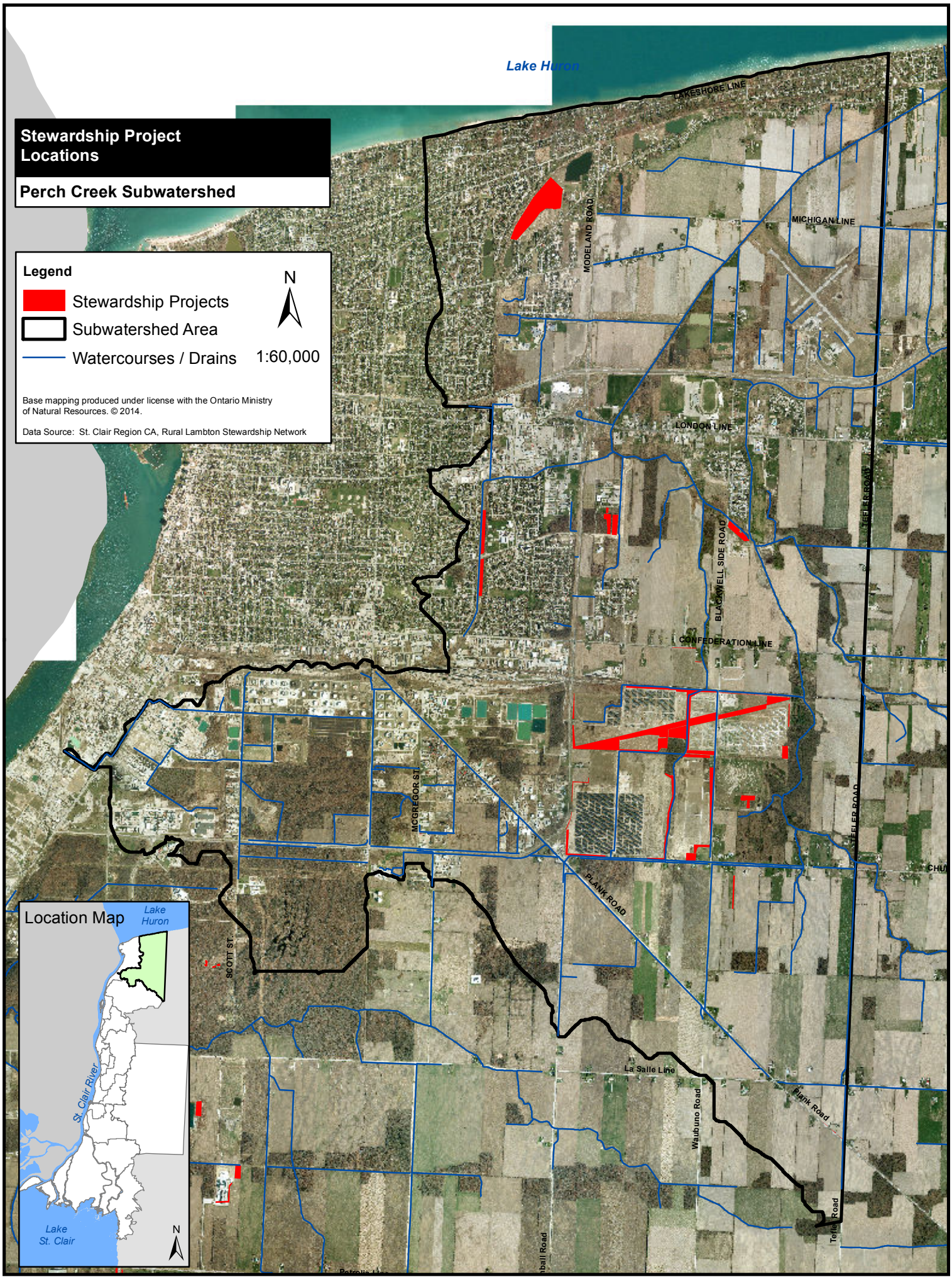
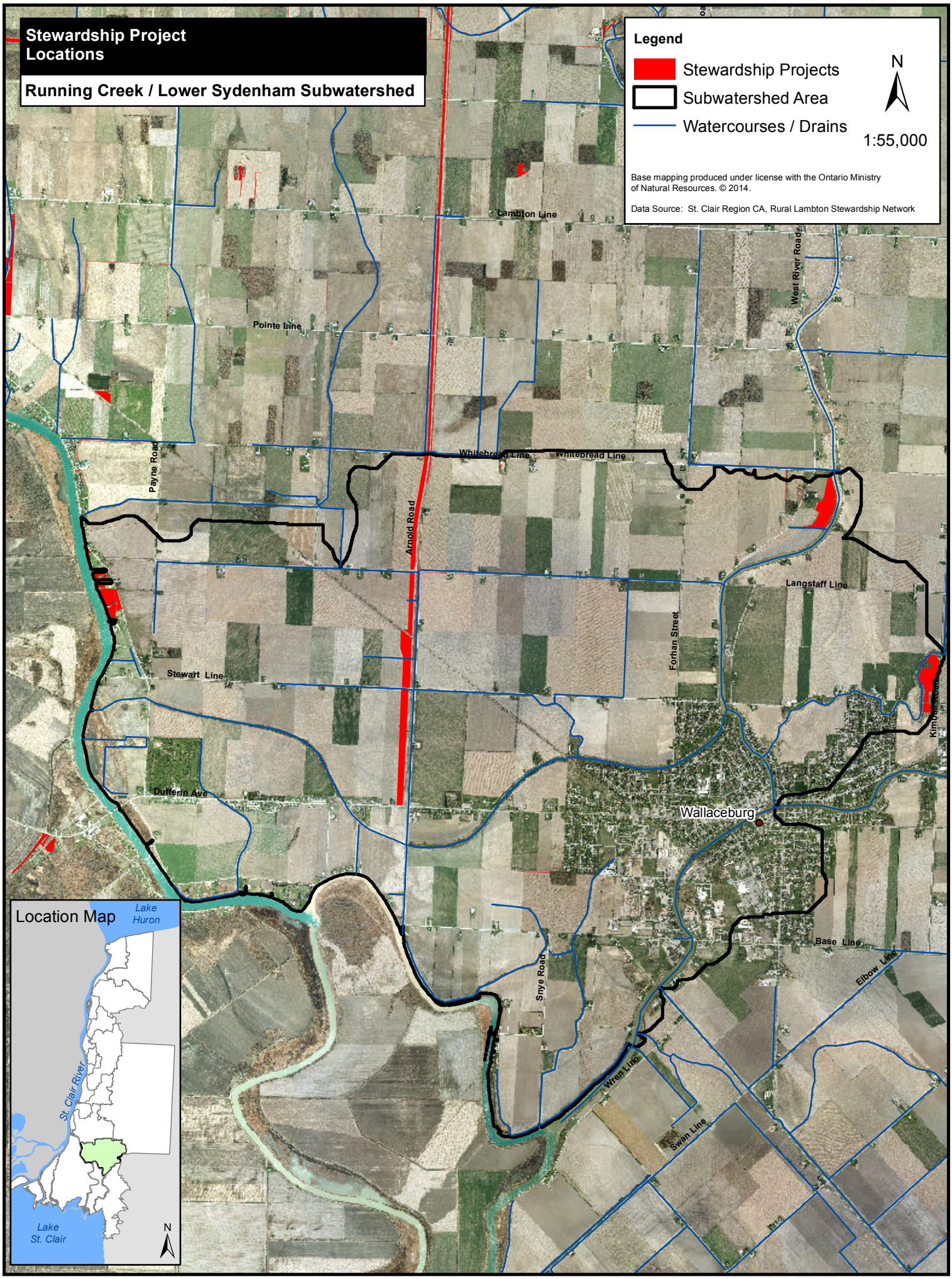

Stewardship Project Locations
Perch Creek Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
1:60,000
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Lake Huron
LAKESHORE LINE
MODELAND ROAD
MICHIGAN LINE
LONDON LINE
BLACKWELL SIDE ROAD
CONFEDERATION LINE
MCGREGOR ST
PLANK ROAD
SCOTT ST
La Salle Line
Waubuno Road
Blank Road
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
Running Creek / Lower Sydenham Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
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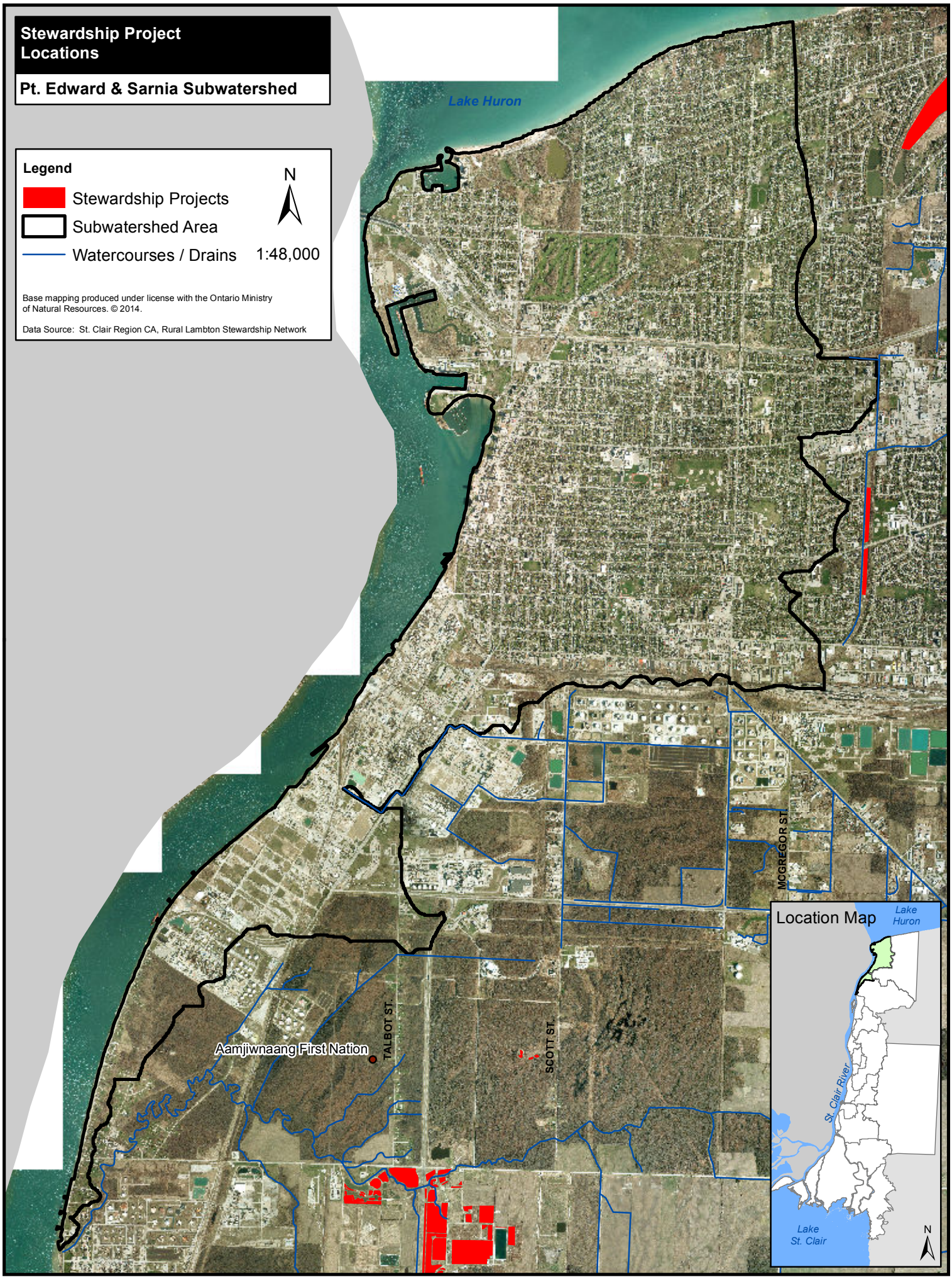
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Lambton Line
Pointe Line
West River Road
Payne Road
Whitebread Line
Whitebread Line
Arnold Road
Langstaff Line
Forhan Street
Stewart Line
Kimberly Road
Dufferin Ave
Wallaceburg
Base Line
Elbow Line
Snye Road
Wren Line
Swan Line
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
Pt. Edward & Sarnia Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
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Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Lake Huron
MCGREGOR ST
TALBOT ST.
SCOTT ST.
Aamjiwnaang First Nation
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N

Stewardship Project Locations

St. Clair Direct Drainage Tributaries

Legend

- Stewardship Projects
- Subwatershed Area
- Watercourses / Drains

N

1:120,000

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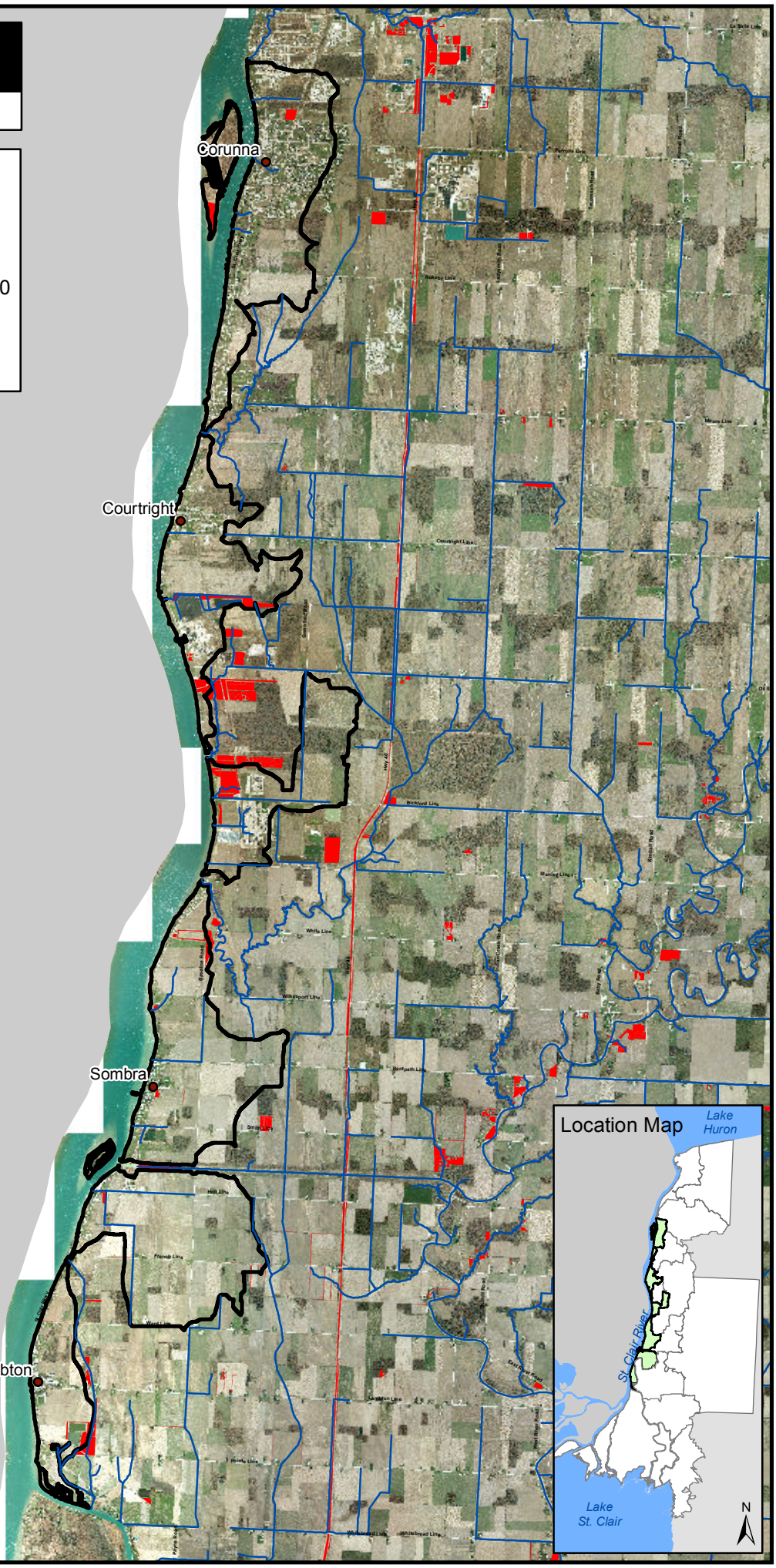
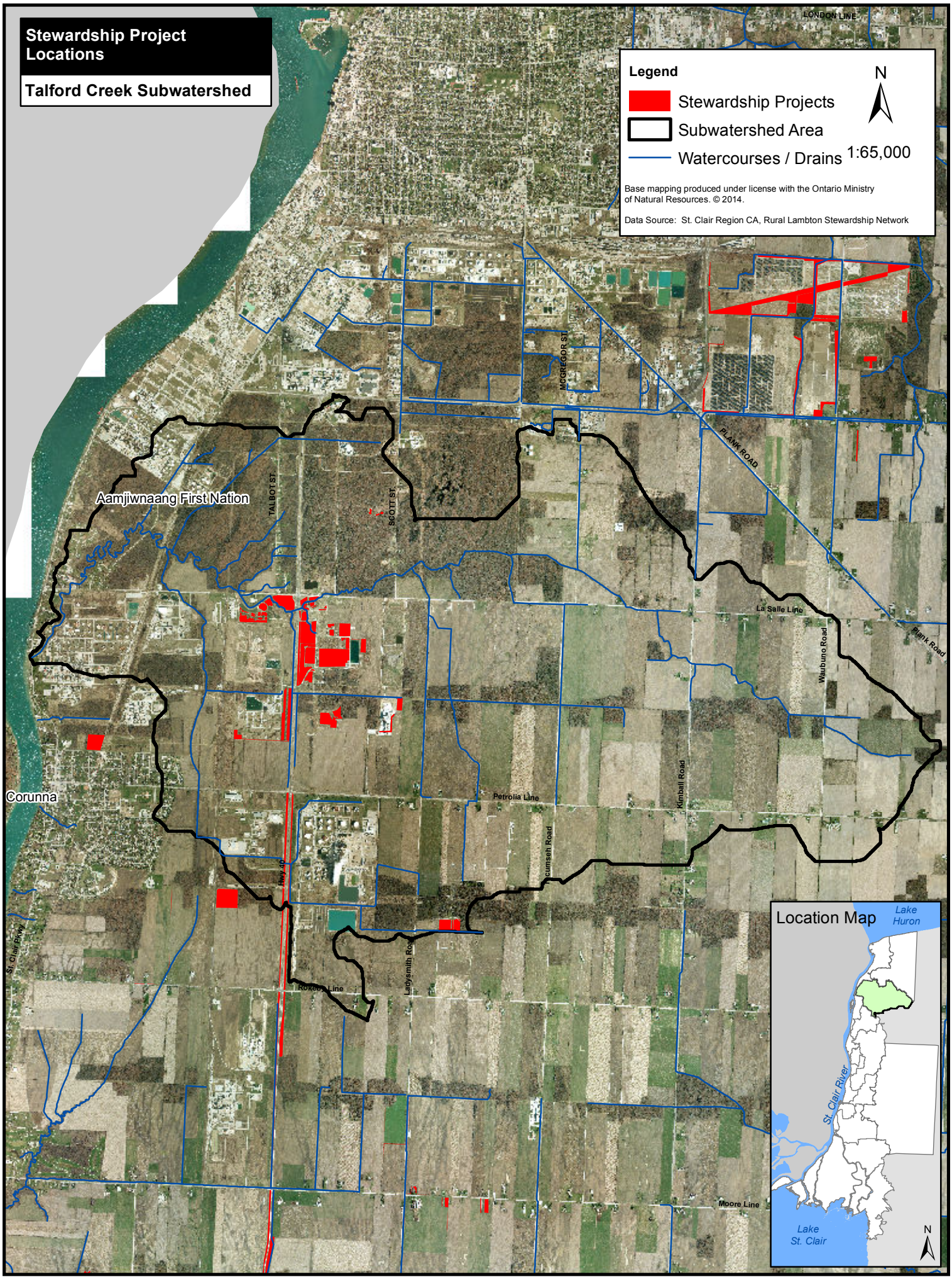
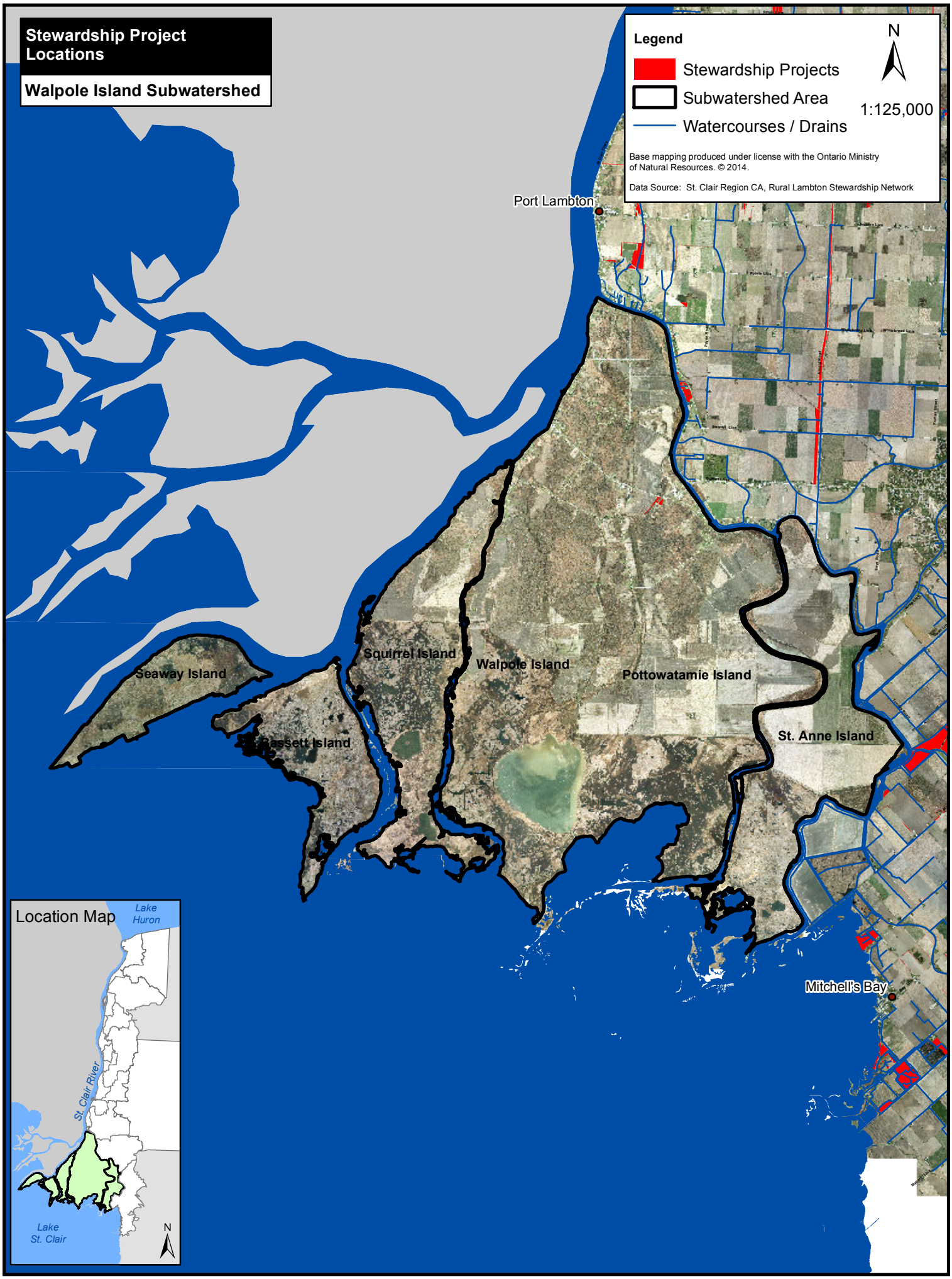
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network




Stewardship Project Locations
Talford Creek Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
1:65,000
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
LONDON LINE
MCGREGOR ST
PLANK ROAD
Aamjiwnaang First Nation
TALBOT ST
SCOTT ST
La Salle Line
Waubuno Road
Plank Road
Corunna
Petrolia Line
Kimball Road
Tecumseh Road
Hwy 40
St. Clair Pkwy
Ladysmith Road
Rokeby Line
Moore Line
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N


Stewardship Project Locations
Walpole Island Subwatershed
Legend
Stewardship Projects
Subwatershed Area
Watercourses / Drains
N
1:125,000
Base mapping produced under license with the Ontario Ministry of Natural Resources. © 2014.
Data Source: St. Clair Region CA, Rural Lambton Stewardship Network
Port Lambton
Seaway Island
Squirrel Island
Walpole Island
Pottowatamie Island
Bassett Island
St. Anne Island
Mitchell's Bay
Location Map
Lake Huron
St. Clair River
Lake St. Clair
N