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ORDERS OF THE DAY
FOR TUESDAY, SEPTEMBER 28, 2021, 9:00 A.M.

1st Meeting Called to Order

2nd Adoption of Minutes – September 14, 2021

3rd Disclosure of Pecuniary Interest and the General Nature Thereof

4th Presenting Petitions, Presentations and Delegations

5th Motion to Move Into "Committee Of The Whole Council"

6th Reports of Council, Outside Boards and Staff

7th Council Correspondence

1) Items for Consideration
2) Items for Information (Consent Agenda)

8th Other Business

1) Statements/Inquiries by Members
2) Notice of Motion
3) Matters of Urgency

9th Closed Meeting Items

10th Recess

11th Motion to Rise and Report

12th Motion to Adopt Recommendations from the Committee Of The Whole

13th Consideration of By-Laws

14th Adjournment

VIRTUAL MEETING: IN-PERSON PARTICIPATION RESTRICTED

NOTE FOR MEMBERS OF THE PUBLIC:

Please click the link below to watch the Council Meeting:
https://www.facebook.com/ElginCountyAdmin/

Accessible formats available upon request.

ELGIN COUNTY COUNCIL

MINUTES

September 14, 2021

Elgin County Council met this 14th day of September 2021. The meeting was held in a hybrid in-person/electronic format with Councillors and staff participating as indicated below.

Council Present: Warden Tom Marks (Council Chambers)
Deputy Warden Dave Mennill (Council Chambers)
Councillor Duncan McPhail (Council Chambers)
Councillor Bob Purcell (Council Chambers)
Councillor Sally Martyn (Council Chambers)
Councillor Grant Jones (Council Chambers)
Councillor Mary French (Council Chambers)
Councillor Dominique Giguère (Council Chambers)
Councillor Ed Ketchabaw (Council Chambers)

Staff Present: Julie Gonyou, Chief Administrative Officer (Council Chambers)
Brian Lima, General Manager of Engineering, Planning & Enterprise (Council Chambers)
Jim Bundschuh, Director of Financial Services (Council Chambers)
Michele Harris, Director of Homes and Seniors Services (Council Chambers)
Amy Thomson, Director of Human Resources (Council Chambers)
Brian Masschaele, Director of Community and Cultural Services (Council Chambers)
Jeff Brock, Director of Information Technology Services (electronic)
Stephen Gibson, County Solicitor (Council Chambers)
Nick Loeb, Senior Legal Counsel (Council Chambers)
Jeff VanRybroeck, Fire Training | CEMC (Council Chambers)
Katherine Thompson, Manager of Administrative Services (Council Chambers)
Mike Hoogstra, Purchasing Coordinator (electronic)
Jenna Fentie, Legislative Services Coordinator (Council Chambers)
Carolyn Krahn, Legislative Services Coordinator (Council Chambers)

1. CALL TO ORDER

The meeting convened at 9:02 a.m. with Warden Marks in the chair.

2. ADOPTION OF MINUTES

Moved by: Councillor Purcell
Seconded by: Deputy Warden Mennill

RESOLVED THAT the minutes of the meetings held on July 23, 2021 and August 10, 2021 be adopted.

- Motion Carried.

3. DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

Councillor Martyn disclosed a conflict with In-Camera Item #2 – Property Matter. Councillor Martyn will leave the Council Chambers and abstain from discussion and voting on this item.

4. PRESENTING PETITIONS, PRESENTATIONS AND DELEGATIONS

Warden Marks presented a jacket to Staff Sergeant Mike Butler, Detachment Manager, and thanked him for his years of dedicated public service to the County of Elgin.

5. COMMITTEE OF THE WHOLE

Moved by: Councillor Jones
Seconded by: Councillor McPhail

RESOLVED THAT we do now move into Committee of the Whole Council.

- Motion Carried.

6. REPORTS OF COUNCIL, OUTSIDE BOARDS AND STAFF

6.1 Warden's Activity Report (August) and COVID-19 Update – Warden Marks

Warden Marks provided a summary of the County's response to the pandemic as well as a list of events and meetings he attended and organized on behalf of County Council.

Moved by: Councillor Martyn
Seconded by: Councillor French

RESOLVED THAT the September 2, 2021, report titled, *Warden's Activity Report (August) and COVID-19 Update* submitted by the Warden, be received and filed for information.

- Motion Carried.

6.2 Health Recruitment Partnership Committee – Request for Additional Funding – Councillor Jones

Councillor Jones presented an update from the Health Recruitment Partnership Committee. The Committee has requested additional funding to support Dr. Bolzon, who will take over the practice of Dr. Morrison.

Moved by: Deputy Warden Mennill
Seconded by: Councillor McPhail

RESOLVED THAT the report titled Health Recruitment Partnership Committee – Request for Additional Funding dated September 8, 2021 from Councillor Grant Jones be received and filed; and

THAT in response to growing local demand for primary physicians in the community Elgin County Council approve an additional $19,800 in funding for the Elgin-St. Thomas Health Recruitment Partnership to support grant funding for a local physician who will assume the practice of a retiring physician in Elgin County.

- Motion Carried.

6.3 Revisions to Library Branch Hours – Director of Community & Cultural Services

The Director of Community & Cultural Services presented a report recommending that open hours at eight (8) branch libraries be revised effective September 20, 2021.

Moved by: Councillor Giguère
Seconded by: Councillor Jones

RESOLVED THAT library branch hours at Port Burwell, Springfield, Belmont, Port Stanley, Shedden, Dutton, West Lorne and Rodney be revised effective September 20, 2021 as outlined in the report titled "Revisions to Library Branch Hours" from the Director of Community and Cultural Services dated September 7, 2021, and;

THAT Local Municipal Partners be informed of the change of hours wherever applicable.

- Motion Carried.

6.4 **Procurement Activity Report (April 1, 2021 to June 30, 2021) – Purchasing Coordinator**

The Purchasing Coordinator presented a report regarding the details relevant to the exercise of delegated authority for all contracts awarded that exceed $15,000, including amendments and renewals for the period from April 1, 2021 to June 30, 2021.

Moved by: Councillor Jones
Seconded by: Councillor Martyn

RESOLVED THAT the August 26, 2021 report titled, Procurement Activity Report (April 1, 2021 to June 30, 2021), submitted by the Purchasing Coordinator, be received and filed for information.

- Motion Carried.

6.5 **2021 2nd Quarter Performance – Director of Financial Services**

The Director of Financial Services presented the 2nd Quarter budget performance with a favourable performance of $225,000 bringing year-to-date performance to $402,000.

Moved by: Deputy Warden Mennill
Seconded by: Councillor Giguère

RESOLVED THAT the September 14, 2021, report titled, 2021 2nd Quarter Performance, submitted by the Director of Financial Services, be received and filed for information.

- Motion Carried.

6.6 **Final Plan of Subdivision Approval Meadows Phase 1 – Manager of Planning**

The General Manager of Engineering, Planning & Enterprise advised Council that final approval was given for Talbotville Meadows Phase 1 plan of subdivision, Part of Lots 39 and 40, Concession SNBTR, Owner: Farhi Holdings Corp., File No.:34T-SO1802, in the Township of Southwold on July 21, 2021.

Moved by: Councillor Jones
Seconded by: Councillor Purcell

RESOLVED THAT the report titled “Final Plan of Subdivision Approval Talbotville Meadows Phase 1” from the Manager of Planning, dated September 14, 2021, be received and filed.

- Motion Carried.

6.7 **Elgin (County) / North Frontenac Telephone Corporation Limited – Telecommunication Equipment Consent and Road User Agreement – General Manager of Engineering, Planning & Enterprise**

The General Manager of Engineering, Planning & Enterprise presented a report seeking Council’s approval and authorization for execution of a proposed Telecommunications Equipment Consent and Road User Agreement between Elgin County and North Frontenac Telephone Corporation Limited.

Moved by: Councillor Ketchabaw
Seconded by: Councillor McPhail

RESOLVED THAT the report, dated August 12, 2021, and entitled “Elgin (County) / North Frontenac Telephone Corporation Limited - Telecommunication Equipment Consent and Road User Agreement” be received and filed; and,

THAT County Council approve and authorize the Warden and Chief Administrative Officer to execute a proposed Telecommunication Equipment Consent and Road User Agreement as between Elgin (County) and North Frontenac Telephone Corporation Limited in the form and of the content attached.

- Motion Carried.

6.8 **Amendment to Fire Training Officer Cost Sharing Agreement – Addition of Central Elgin (Municipality) as Contracting Local Municipality – County Solicitor**

The County Solicitor informed Council of Central Elgin's request to be added as a signatory and contracting local municipality to the Fire Training Officer Cost Sharing Agreement and to seek approval and authorization for execution of the Amending Agreement.

Moved by: Councillor Jones
Seconded by: Deputy Warden Mennill

RESOLVED THAT the within report dated August 31, 2021, and entitled "Amendment to Fire Training Officer Cost Sharing Agreement -Addition of Central Elgin (Municipality) as Contracting Local Municipality" be received and filed;

THAT Elgin County Council approve addition of The Corporation of the Municipality of Central Elgin, as both a signatory and Contracting Local Municipality, to the Fire Training Officer Cost Sharing Agreement as originally effective June 1, 2021; and,

THAT Elgin County Council further approve and authorize execution of the draft Amending Agreement to the said Fire Training Officer Cost Sharing Agreement as attached as Schedule "A" hereto by the Warden and Chief Administrative Officer on behalf of the Corporation of the County of Elgin.

- Motion Carried.

6.9 **Crane Conservation Area Plaque – Chief Administrative Officer**

The Chief Administrative Officer presented to Council Mr. Jim Crane's request that the monument (brass plaque) previously displayed at the former Crane Conservation Area located in Iona Station, Southwold be relocated to Elgin County's Administration Building property.

Moved by: Councillor McPhail
Seconded by: Councillor Martyn

RESOLVED THAT the report titled "Crane Conservation Area Plaque – Request to Relocate Monument" from the Chief Administrative Officer, dated September 8, 2021 be received and filed; and

THAT the Director of Community and Cultural Services be directed to provide additional information for Council's consideration at a future meeting including, but not limited to, confirmation of ownership, acquisitions process, risks, and financial implications associated with accepting this donation.

- Motion Carried.

6.10 **COVID-19 Emergency Team Planning – August Update – Chief Administrative Officer**

The Chief Administrative Officer provided an update on the County's COVID-19 response.

Moved by: Councillor Jones
Seconded by: Councillor Giguère

RESOLVED THAT the September 8, 2021, report titled, "COVID-19 Emergency Team Planning – August Update", submitted by the Chief Administrative Officer, be received and filed for information.

- Motion Carried.

6.11 **Vaccination Administration Policy – Chief Administrative Officer**

The Chief Administrative Officer presented a Draft Vaccination Administration Policy for Council's consideration (attached).

Moved by: Deputy Warden Mennill
Seconded by: Councillor Martyn

RESOLVED THAT Council hereby approve Health and Safety Policy Number 8.390, "COVID-19 Vaccination Verification Policy."

- Motion Carried.

Council recessed at 10:36 a.m. and reconvened at 10:49 a.m.

Moved by: Councillor Martyn
Seconded by: Deputy Warden Mennill

RESOLVED THAT staff be directed to prepare a draft Long-Term Care Homes Mandatory Vaccine Policy for consideration by Council at its meeting on September 28, 2021

- Motion Carried.

6.12 **Economic Development Presentation – Chief Administrative Officer**

Moved by: Councillor Jones
Seconded by: Councillor Ketchabaw

RESOLVED THAT the Economic Development Presentation be deferred until the next meeting on September 28, 2021.

- Motion Carried.

7. COUNCIL CORRESPONDENCE

7.1 **Items for Consideration**

7.1.1 Letter from the Township of Malahide regarding road safety concerns at the intersection of Ron McNeil Line and Imperial Road.

Moved by: Councillor Giguère
Seconded by: Deputy Warden Mennill

RESOLVED THAT staff be directed to review the intersection of Ron McNeil Line and Imperial Road to determine if any safety enhancements could be implemented during the reconstruction of Imperial Road and during the completion of the County's Transportation Master Plan; and

THAT staff report back to Council with the results of their review.

- Motion Carried.

7.2 **Items for Information (Consent Agenda)**

7.2.1 The Ministry of Health with a letter regarding public health funding for Southwestern Public Health.

7.2.2 The Ministry of Transportation with a letter regarding the removal of land holding provisions 1976 Order-In-Council 228/76.

7.2.3 Western Ontario Warden's Caucus (WOWC) with their monthly newsletter for August 2021.

7.2.4 County of Elgin Homes with their August newsletter.

7.2.5 County of Elgin Homes with their September newsletter.

7.2.6 SWIFT with their Monthly Project Update for July 2021.

Moved by: Councillor Jones
Seconded by: Councillor Ketchabaw

RESOLVED THAT Correspondence Item #1-6 be received and filed.

- Motion Carried.

8. OTHER BUSINESS

8.1 Statements/Inquiries by Members

8.1.1 In response to a request made by local library staff to Councillor Martyn, Councillor Martyn requested more information about Truth and Reconciliation awareness programming in Elgin County. The Chief Administrative Officer provided an overview of programming planned by the Elgin County Library in support of Truth and Reconciliation Day in Elgin County.

8.1.2 Councillor Purcell announced his intention to run for the position of Warden for 2022.

8.2 Notice of Motion

None.

8.3 Matters of Urgency

8.3.1 The Chief Administrative Officer requested Council's consent for the addition of the following matter of urgency to the Closed Meeting Agenda:

Municipal Act Section 239 (2)(e) litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; (f) advice that is subject to solicitor-client privilege, including communications necessary for that purpose; (k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board – Litigation Matters.

Moved by: Councillor McPhail
Seconded by: Councillor Purcell

RESOLVED THAT the matter of urgency be added to the September 14th, 2021 Closed Meeting Items.

- Motion Carried.

9. CLOSED MEETING ITEMS

Moved by: Deputy Warden Mennill
Seconded by: Councillor Ketchabaw

RESOLVED THAT we do now proceed into closed meeting session in accordance with the Municipal Act to discuss the following matters under Municipal Act Section 239 (2):

In-Camera Item #1

(e) litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; (f) advice that is subject to solicitor-client privilege, including communications necessary for that purpose; (k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board – Litigation Matters.

In-Camera Item #2

(b) personal matters about an identifiable individual, including municipal or local board employees; labour relations or employee negotiations; (k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board – Human Resources.

In-Camera Item #3

(e) litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board; (f) advice that is subject to solicitor-client privilege, including communications necessary for that purpose; (k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board – Litigation Matters.

In-Camera Item #4

(a) the security of the property of the municipality or local board; (c) a proposed or pending acquisition or disposition of land by the municipality or local board; (k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board – Property Matter.

In-Camera Item #5

(d) labour relations or employee negotiations; (k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board – Emergency Services

In-Camera Item #6

(b) personal matters about an identifiable individual, including municipal or local board employees – Award Application

- Motion Carried.

Councillor Martyn left the meeting at 12:42 p.m.

10. MOTION TO RISE AND REPORT

Moved by: Councillor Ketchabaw
Seconded by: Deputy Warden Mennill

RESOLVED THAT we do now rise and report.

- Motion Carried.

In-Camera Item #1 – Litigation Matters

Moved by: Councillor Jones
Seconded by: Councillor McPhail

RESOLVED THAT staff be directed to communicate to provincial authorities to advocate for revisions to the oil and gas licensing process.

- Motion Carried.

In-Camera Item #2 – Human Resources

Moved by: Councillor Giguère
Seconded by: Councillor Ketchabaw

RESOLVED THAT the report from the Director of Human Resources be received; and

THAT staff proceed as directed.

- Motion Carried.

In-Camera Item #3 – Litigation Matters

Moved by: Councillor French
Seconded by: Councillor Jones

RESOLVED THAT the report from the County Solicitor be received; and

THAT staff proceed as directed.

In-Camera Item #4 – Property Matter

Moved by: Deputy Warden Mennill
Seconded by: Councillor Purcell

RESOLVED THAT the report from the General Manager of Engineering, Planning and Enterprise/Deputy CAO be received.

- Motion Carried.

In-Camera Item #5 – Emergency Services

Moved by: Councillor Jones
Seconded by: Councillor French

RESOLVED THAT the report from the Chief Administrative Officer be received.

- Motion Carried.

In-Camera Item #6 – Award Application

Moved by: Councillor McPhail
Seconded by: Councillor Giguère

RESOLVED THAT the report from the Chief Administrative Officer be received; and

THAT staff proceed as directed.

- Motion Carried.

11. MOTION TO ADOPT RECOMMENDATIONS FROM THE COMMITTEE OF THE WHOLE

Moved by: Councillor Jones
Seconded by: Councillor Purcell

RESOLVED THAT we do now adopt recommendations of the Committee Of The Whole.

- Motion Carried.

12. CONSIDERATION OF BY-LAWS

12.1 **By-Law 21-34 – Respecting Filming on Property Owned by the County of Elgin**

BEING a By-Law Respecting the Permitting, Regulating, and Governing of Filming on Property Owned by or under the Jurisdiction of the Corporation of the County of Elgin.

Moved by: Councillor Jones
Seconded by: Councillor Giguère

RESOLVED THAT By-Law No. 21-34 be now read a first, second and third time and finally passed.

- Motion Carried.

12.2 **By-Law 21-35 – Confirming all Actions and Proceedings**

BEING a By-law to Confirm Proceedings of the Municipal Council of the Corporation of the County of Elgin at the September 14, 2021 Meeting.

Moved by: Councillor French
Seconded by: Councillor McPhail

RESOLVED THAT By-Law No. 21-35 be now read a first, second and third time and finally passed.

- Motion Carried.

13. ADJOURNMENT

Moved by: Councillor Purcell
Seconded by: Councillor Jones

RESOLVED THAT we do now adjourn at 1:10 p.m. to meet again on September 28, 2021 at 9:00 a.m.

- Motion Carried.

Julie Gonyou,
Chief Administrative Officer.

Tom Marks,
Warden.

REPORTS OF COUNCIL AND STAFF

September 28, 2021

Staff Reports – ATTACHED

Director of Community & Cultural Services – Elgin County Library Policy Revision – "Code of Conduct for Elgin County Library Patrons"

Director of Community & Cultural Services – A Path Forward on Library Fines

Manager of Planning – Official Plan Review Discussion Paper #3 – Elgin Natural Heritage Systems Study, Source Water Protection, and Environmental Policy Amendments

Senior Counsel – Central Elgin Antennas Licence Agreement, County Administration Building

General Manager of Engineering, Planning & Enterprise – Antenna Lease Agreement – Whites Station – QuaeNet Canada Inc./Elgin (County)

Chief Administrative Officer – Strategic Plan Staff Action Plan Update September 2021

Chief Administrative Officer – Economic Development (WALK-ON)

Director of Homes & Seniors Services – Meals on Wheels Agreement Elgin/VON

Director of Homes & Seniors Services – Infection Control Policy 2.10 – Immunization – Staff COVID-19

REPORT TO COUNTY COUNCIL

FROM: Brian Masschaele, Director of Community and Cultural Services

DATE: September 28, 2021

SUBJECT: Elgin County Library Policy Revision – "Code of Conduct for Elgin County Library Patrons"

RECOMMENDATIONS:

THAT the report titled "Elgin County Library Policy Revision – Code of Conduct for Elgin County Library Patrons" from the Director of Community and Cultural Services dated September 28, 2021 be received and filed; and,

THAT the "Code of Conduct for Elgin County Library Patrons" attached to this report as Appendix A be hereby adopted.

INTRODUCTION:

This report recommends revisions to Elgin County Library's "Code of Conduct for Elgin County Library Patrons" as part of an on-going review of library policies.

DISCUSSION:

Attached to this report as Appendix A is an update to the library's Code of Conduct policy which was last adopted by County Council in 2014. This policy governs patron conduct when using the library and actions that may be taken should inappropriate conduct occur. The following are highlights of recommended updates since this policy was last adopted in 2014 which are also reflected in red text:

- More inclusionary language has been added.
- Further clarity has been added regarding how the policy will be enforced.

Staff have reviewed the cited legislation for its application to this policy.

FINANCIAL IMPLICATIONS:

Not applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Serving Elgin	Growing Elgin	Investing in Elgin
☒ **Ensuring alignment of current programs and services with community need.** ☐ **Exploring different ways of addressing community need.** ☒ **Engaging with our community and other stakeholders.**	☐ **Planning for and facilitating commercial, industrial, residential, and agricultural growth.** ☒ **Fostering a healthy environment.** ☐ **Enhancing quality of place.**	☐ **Ensuring we have the necessary tools, resources, and infrastructure to deliver programs and services now and in the future.** ☒ **Delivering mandated programs and services efficiently and effectively.**

LOCAL MUNICIPAL PARTNER IMPACT:

Not applicable.

COMMUNICATION REQUIREMENTS:

Not applicable.

CONCLUSION:

The library's supervisory team played a leading role in these revisions which included a comprehensive review of policies used by other library systems.

All of which is Respectfully Submitted

Brian Masschaele
Director of Community and Cultural

Approved for Submission

Julie Gonyou
Chief Administrative Officer

Appendix A

Subject: Code of Conduct for Elgin County Library Patrons
Elgin County Library Policy Manual
Date Approved: October 21, 2014
Date Last Revision:

CODE OF CONDUCT FOR ELGIN COUNTY LIBRARY PATRONS

PURPOSE: The purpose of this policy is to make the library a safe and enjoyable place for the public and staff and to protect the library's materials, equipment, buildings and property.

The County of Elgin provides free and equitable access to library services in a welcoming and supportive environment that is free from discrimination and harassment. Everyone has the right to equal treatment with respect to the access and use of the Library's services and facilities without discrimination on the basis of sex, sexual orientation, race, colour, ethnic origin, or creed. The County of Elgin will not tolerate any form of harassment or discrimination and will take steps necessary to ensure that employees and patrons are not subject to harassment or discrimination

The County of Elgin is committed to providing a violence free environment, and to taking immediate action in the event of any act of violence occurring against any employee or patron of the library.

This policy applies to everyone who is on library property or in library buildings. Members of the public and staff are expected to abide by the laws and regulations of Canada and the Province of Ontario, including but not limited to: *Ontario Occupational Health and Safety Act* (R.S.O. 1990, c. O.1)*; Criminal Code of Canada* (R.S.C., 1985, c. C-46) and other legislation governing public conduct*; Copyright Act* (R.S.C.,1985, c. C-42) and other legislation governing intellectual property; C*hild and Family Services Act* (R.S.O. 1990, c. C.11) and other legislation governing the rights of children; and *Trespass to Property Act* (R.S.O. 1990, c. T.21) by which the library can tell a person to leave the premises if he/she does not follow the Code of Conduct.

1. The following behaviours are not permitted:

- Behaviour or language that is disruptive, intrusive, lewd, abusive, interfering, harassing, or threatening or intimidating.
- Abusive or obscene language.
- Photographing, filming, or use of any recording device(s) without the prior approval of library staff.

- Possession of weapons.
- Theft, damage or defacement of library materials, equipment and/or property.
- Entering staff areas without permission.
- Loitering on library property when the library is closed.
- Smoking, use of controlled substances or the consumption of alcohol.
- Soliciting, distributing circulars or petitions, posting notices or selling of goods or materials on library property without prior approval of library staff.
- Bringing animals inside library buildings, with the exception of service animals and/or animals that are a part of a library sponsored program, or as permitted by staff.
- Unnecessary running or rough and boisterous conduct.

2. Appropriate clothing, including shirts and shoes, must be worn at all times.

3. Parents, guardians or caregivers are responsible for appropriate supervision of children while in the library.

Library staff will endeavour to apply the Code of Conduct Policy in an equitable manner. Serious violations and disrespect of Elgin County Library policies and/or refusal to modify behaviour or activities after staff has informed a visitor of inappropriate conduct, may result in any of the following consequences:

- Suspension of library privileges;
- Permanent or temporary exclusion from the library;
- Cost-recovery for losses and damages.

The Branch Supervisor will determine the appropriate action in consultation with the Director of Community and Cultural Services, subject to advice from the County Solicitor as warranted.

A Path Forward on Library Fines

Presentation to Elgin County Council

September 28, 2021

Elgin County

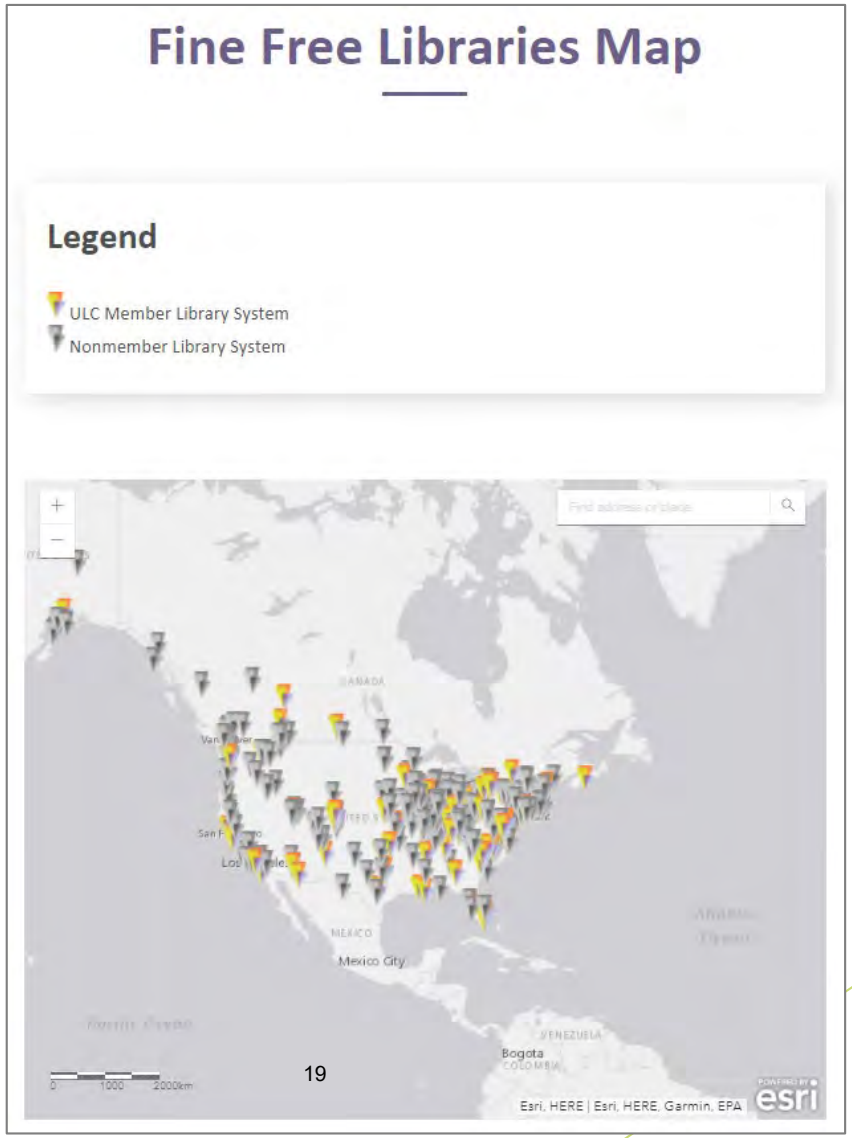
Progressive by Nature

Overview

1. Background: **The Fine-Free Movement**
2. Arguments **For Going Fine Free**
3. Arguments **Against Going Fine Free**
4. Elgin County Library **Fines Data**
5. **Impact** on Elgin County Library Families
6. **Options to Consider** for a Fine-Free Plan
7. **Next Steps**
8. **Recommendations**
9. Questions

The Fine-Free Movement

- Several neighbouring public library systems and peers have either gone fine free or partially fine free, including
  - London Public Library
  - St. Thomas Public Library
  - Oxford County Library
  - Chatham-Kent Public Library
  - and Brant County Library.
- Fine-free map



The London Free Press

Local News

London Public Library scraps late-return fines, seeks 'barrier-free' system

Jonathan Juha
Nov 09, 2020 • November 9, 2020 • 2 minute read

Here's one less reason to give London's public libraries a miss: they're ditching late fines. Delivering the good news are signbearers Kate Scarfe, left, Leonor DaCosta, chief executive Michael Ciccone and Sherry Graham. (Mike Hensen/The London Free Press)

Forget the fines on those overdue books, now and forever.

London Public Library is scrapping fines for late returns on all materials, saying the penalties have created access barriers for some of London's most vulnerable residents.

"We know that there are people who don't come back to the library because of their fines, and it's also a situation where the have-nots really do struggle," said Mariam Hamou, chairperson of the library's board.

"Libraries are trying to become as accessible and barrier-free as possible, and we feel that removing fines is a way to do that."

Library staff estimate more than 10,000 people have at some point refrained from taking out a book or other material because they know they owe fines.

That's why, besides ending fines, the library system is also forgiving all past debts in an attempt to bring more Londoners back.

Michael Ciccone, the library's chief executive, says "overdue fines" have become a "long-standing barrier to library services."

The end of late-return fines, already in effect, coincides with the library celebrating its 125th anniversary this month.

Londoners still will be expected to return borrowed materials and there will still be a replacement fee if a book or other item is kept for an extended period and not returned despite notifications.

London library has already eliminated late fines for items in its children's catalogue and cut fines in half for teens. Going fine-free follows a trend across North America.

Source: https://lfpress.com/news/local-news/london-public-library-scraps-late-return-fines-seeks-barrier-free-system

COVID-19 & The Fine-Free Movement

- In the early onset of the COVID-19 pandemic (March 2020 onwards), public libraries were **physically closed as a pandemic response, and many waived fines.**
- Waiving fines was **a response to encourage community members to stay home, not feel the need to return library materials, and stay safe**.
- It was also a way to **recognize cardholders that may have been under financial pressure at the time.**
- As public libraries **reopened their buildings, and in response to their community members, many have decided to extend their waiving of fines, or a fine-free policy.**

Source: Ontario Library Association. “Public Libraries and Library Fines”. November, 2020.

Background: What does “fine free” mean?

- **“Fines”** refer to the **daily fine or cost accrued** on each library item when library materials are **not returned on time or are overdue**.
- **“Replacement fees”** and **“processing fees”** are fees applied to each library item to **replace materials when library items are lost or damaged.**
- Both fines and replacement and processing fees contribute to the charges a library member can accrue on their library account.
- Being “fine free” means **a library system has completed one or more of the following**. In addition, a fine-free policy may focus on one or more of these things:
  - **Eliminating or partially eliminating late or overdue fines.**
  - **Eliminating or partially eliminating replacement fees on lost materials.**
  - Additionally **implementing alternative strategies to encourage the return of library materials,** such as longer loan periods.

Arguments For Going Fine Free

- Amount of fine revenue is less than 1% in most systems relative to the staff time and systems to recuperate. It is less than 1% in Elgin.
- Use of virtual and electronic resources is growing proportionally and the traditional fine model does not work for these resources.
- Encouraging donations in lieu of fines can increase revenue.
- Low-income parents may stop using the library if their kids material will cause them to pay – Fines are seen as a financial barrier to those who cannot pay.
- It is difficult to fund fixed operating costs through revenue that you actually hope you do not have to collect.
- Sometimes the embarrassment of not returning an item and having to pay a fine can be enough to cause a patron to never use the library again. Quote from recent fine-free panel: "We lost a family because of a fine of $1.75".
- Greater return on investment - Eliminating barriers allows for greater usage of materials that taxpayers have already paid for.
- Removal of fines has often resulted in more items being returned to the public library, reducing the amount that public libraries must spend on replacement materials and the effort of collection charges for lost or stolen materials.

Calculating Fines: Hidden Costs

$5

To collect a **$5 fine…**

$5.95

… a 10-minute interaction would cost **$5.95 in staff wages and a mailed overdue notice** alone.

Source: Ontario Library Association Research and Evaluations Committee. “Fines-Free Libraries”. accessola.com/fines-free-libraries. 2021.

Arguments Against Going Fine Free

- Library materials are public goods held in the public trust. Fines encourage respect for public property. No fines if you follow the rules!
- It is traditionally believed that fines incentivize timely returns to reduce wait times for others.
- Also, it is traditionally believed that having a fine structure in library membership provides a learning experience for young people to develop responsibility, accountability, good citizenship, self-discipline, and other life skills.
- Fines remain a source of revenue during a time when libraries have to think creatively about finding sources of revenue.
- Strategic and longer loan periods, automatic renewals of materials, and high fine thresholds can mitigate the need to go fine free.
- Strategic fine amounts applied to high demand collections like DVDs may be incentivizing timely returns leading to lower revenue being generated.

Current ECL Fines Structure

Fines & Fees:

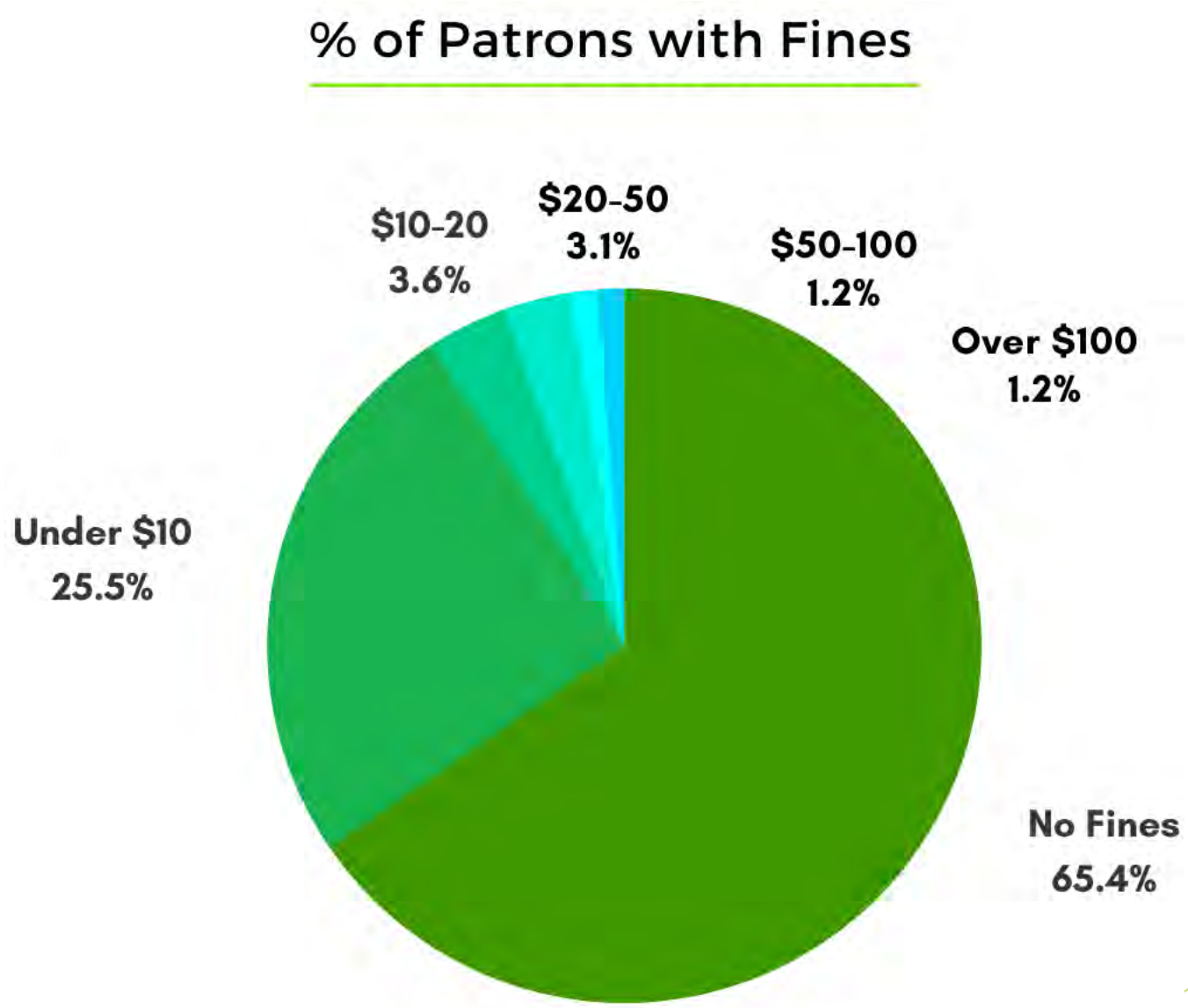
Item	Description	Loan period	Fines/Daily fee	Maximum fine	Replacement fee*	Processing fee
Book	Hardcover	4 weeks	$0.10	$7.00	$30.00	$5.00
Book	Paperback	4 weeks	$0.10	$5.00	$10.00	$5.00
DVD/Video/Game	Adult/ Juvenile	1 week	$1.00	$10.00	$20.00	$5.00
TV Series on DVD	Adult/Juvenile	2 weeks	$1.00	$10.00	$20.00	$5.00
Music CDs	Adult/ Juvenile	1 week	$0.50	$7.00	$20.00	$5.00
Bag of Books	Adult/Juvenile	4 weeks	$1.00	$10.00	$160.00	$5.00
Audiobooks & Language Kits	Adult/ Juvenile	4 weeks	$0.50	$7.00	$50.00	$5.00
Playaways & Wonderbooks	Adult/ Juvenile	4 weeks	$0.50	$7.00	$70.00	$5.00
Magazines	Adult/ Juvenile	2 weeks	$0.10	$5.00	$5.00	None
Interlibrary loan items	Adult/ Juvenile	Discretion of loaning library	$0.10	$7.00	Discretion of loaning library	None
Computer Kits	Adult	2 weeks	$1.00	$10.00	$80.00	$5.00
Park Passes	Adult	1 week	$1.00	$10.00	$100.00	$5.00
Reference Books	Adult/ Juvenile	1 week	$1.00	$10.00	$50.00	$5.00

Source: https://www.elgincounty.ca/library/membership-fees/

Elgin County Library Reality Check

- Annual revenue for overdue fines was approximately $12,000 per year but that is declining annually due to emergence of e-resources and due to COVID-19. In 2021 to date, $2,173.90 has been paid in overdue fines.
- Our print materials have a 4-week loan period which is among the most generous of any system in Ontario. A 3-week loan period is much more common. Fines do not accumulate until after 28 days and renewals are possible if there are no holds on the item.
- Our pre-COVID fine threshold is $10 which is average. If that were increased to $20, fewer patrons would be blocked. 1,310 patrons would be blocked if the threshold was $10, whereas 786 would only be blocked if this were increased to $20.
- We currently have 8,729 inactive cardholders and many due to fines. We have been flat-lined in terms of the number of active card holders and this is an area that we want to grow by at least one per cent or 100 new card holders in 2021. Going fine free would achieve that and more quickly.

Source: Elgin County Library. Sierra, Fines Paid function. 2016-2020.



***Total Patrons: Active & Inactive**

Source: Elgin County Library. Sierra, Create Lists function. September 7, 2021.

Impact on Elgin County Library Families

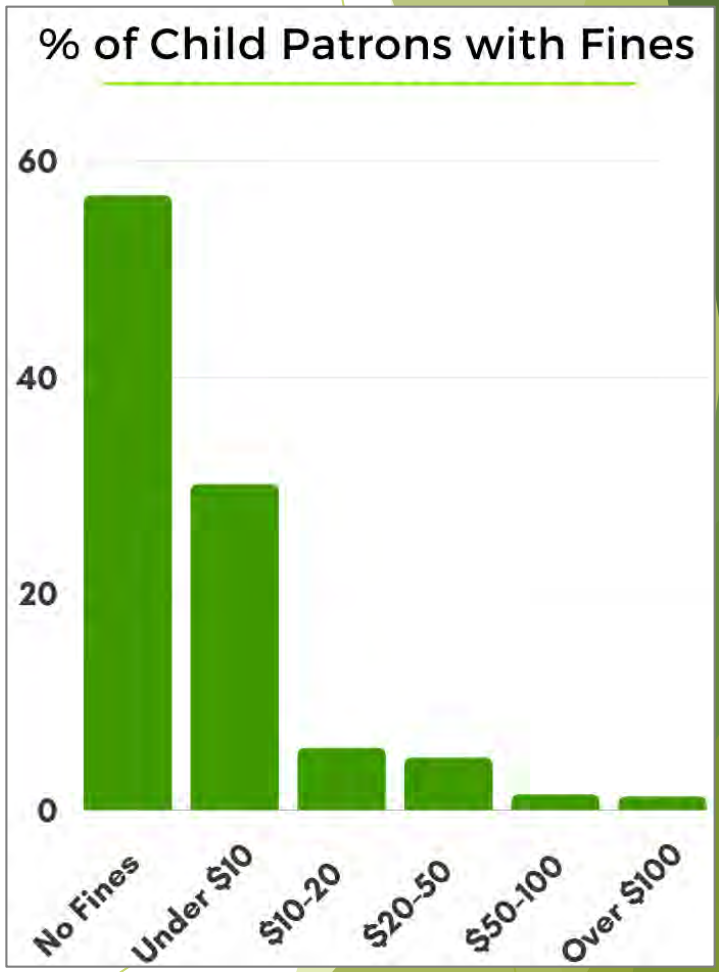
Stories of two families that reflect the impact of overdue fines on their library experience:

- **A family of four in Straffordville:** They were having difficulty finding transportation to the library and items were often overdue. They would use the Library's "Food for Fines" program to donate nonperishable food items in lieu of money and pay down all the fines on all four of their library cards (two adult and two child cards). Often one or two of their cards would be blocked by the fine threshold and they would need to use the other two. When the family had money to pay fines, which was often not enough to clear all cards, library staff would allocate the funds to whichever card would become "unblocked" to give more access to library materials. However, the family was diligent in ensuring a few of their cards were always in good standing so they could continue to check out many materials, especially for their children. They are happy to be visiting the Library in person again!

- **A group of siblings in Port Burwell:** These siblings would come to the Library together regularly to check out DVDs. Each sibling had a library card and each accrued overdue fines until the cards were blocked. All of the cards have expired, and library staff haven't seen the siblings in the Library again.

Options to Consider…

- A phased-in approach could be started in 2022. The first phase would **eliminate fines on all children's materials such as picture books, junior fiction and kids DVDs, and reducing fines on items like DVDs leading to their eventual elimination.** The impact on annual revenue from this move is likely less than $5,000 and we project that this will be offset through donations, resulting in likely no impact to ratepayers.
- Phase 2 could be started in 2023 and involve the elimination of fines **for all cardholders on certain types of materials such as adult fiction.** The cumulative impact on annual revenue is likely less than $8,000 and we project that this will be offset through donations, resulting in no impact to ratepayers.
- Phase 3 could start in 2024 which would **entail the elimination of all fines.** However, an impact analysis after each of the above phases will need to be conducted first and presented to County Council before proceeding to the next phase.



Source: Elgin County Library. Sierra, Create Lists function. September 7, 2021.

Next Steps…

- **Perform a survey to gauge public support** for going fine free; to be completed by mid-October 2021. This consultation will be done through a survey available on-line and in library branches which will target both library users and ratepayers generally. Here is an example of what the survey and consultation will look like.
- **Create a placeholder in the 2022 Elgin County Library Budget** for the reduction of fine revenue of up to $5,000 to be off-set by donations for further deliberation by Council's Budget Committee.
- **Report back to County Council** as soon as the end of 2021 for implementation.

Recommendations

THAT Elgin County Council hereby **authorizes a public consultation process** on a path forward for the reduction and/or elimination of Elgin County Library fines as outlined in the presentation "A Path Forward on Library Fines" by the Director of Community and Cultural Services at the September 28, 2021 meeting of Elgin County Council, and;

THAT the **results of this public consultation, along with recommendations on a path forward for the elimination and/or reduction of Elgin County Library fines, be presented to Elgin County Council** as soon as feasible with the necessary amendments reflected in the draft 2022 budget, and;

THAT the September 28, 2021 **presentation titled "A Path Forward on Library Fines", submitted by the Director of Community and Cultural Services, be received and filed for information.**

Thank you!

Brian Masschaele, Director

Natalie Marlowe, Library Coordinator

Susan Morrell, Library Supervisor

Dalene van Zyl, Library Supervisor

Elgin County

Progressive by Nature

REPORT TO COUNTY COUNCIL

FROM: Nancy Pasato, Manager of Planning

Brian Lima, General Manager of Engineering, Planning, & Enterprise (EPE) / Deputy CAO

DATE: September 22, 2021

SUBJECT: Official Plan Review - Discussion Paper #3 – Elgin Natural Heritage Systems Study, Source Water Protection, and Environmental Policy Amendments

RECOMMENDATION:

THAT the report titled "Official Plan Review - Discussion Paper #3 – Elgin Natural Heritage Systems Study, Source Water Protection, and Environmental Policy Amendments" from the Manager of Planning, be received and filed.

INTRODUCTION:

The Official Plan is a land use planning document that is a statement of where and how development should take place. The purpose of the 5-year Review of the Official Plan exercise is to ensure that the vision/values, directions, policies, and actions in the Official Plan meet the needs of the community into the future.

Through the public and surveys responses, and stakeholder discussions, several key topics were identified. These identified topics warrant a larger review to understand the current issue, review the background and history, provide a summary of what provincial and neighbouring municipality policy and /or practices exist, and provide possible recommendations for potential policy changes.

At its meeting on August 31, 2021, the County's Rural Initiatives and Planning Advisory Committee received the following report: "Official Plan Review - Discussion Paper #3 – Elgin Natural Heritage Systems Study, Source Water Protection, and Environmental Policy Amendments" and have recommended its presentation to Council.

DISCUSSION:

Official Plan Review - Discussion Paper #3 – Elgin Natural Heritage Systems Study, Source Water Protection, and Environmental Policy Amendments

As part of the adoption of the 2013 Official Plan for the County of Elgin, a policy was added (D1.2.4) which states… "It is a policy of this Plan that the establishment of a natural heritage system be considered at the time of the next Official Plan Review." There was a commitment to completing a Natural Heritage Systems Study at the time of the next Official Plan Review.

The Elgin Natural Heritage Systems Study (ENHSS) was commissioned in 2016, and is a terrestrial science-based study that provides a landscape level assessment of existing natural heritage features and functions. The draft 2019 study provides analysis and maps showing the existing vegetation patches that meet criteria for ecological importance.

The Clean Water Act, 2006 was approved by the province as a result of the contaminated water tragedy in Walkerton Ontario in 2000. Source Protection Plans were developed across the province and include policies to protect municipal drinking water supplies from land uses that may be a risk to them. A firm was retained to assist the County in the implementation of Source Protection Plan (SPP) policies through the preparation of new policy text that would form the basis of future amendments to the County Official Plan and to the Official Plans and Zoning By-laws of local municipalities that have municipal drinking water systems that are regulated by a Source Protection Plan.

As per Council's direction, the public will have an opportunity to review the draft Elgin Natural Heritage Systems Strategy (2019), and the Source Water Protection Implementation Plan (2017), and provide their feedback and input on the recommendations from these reports.

Comments from the Conservation Authorities and specifically the Kettle Creek Conservation Authority have also been summarised in the discussion paper.

Consultation: Two in-person public meetings (one in the east and one in the west), and a virtual public meeting will be scheduled for mid to late October. Notices will be provided to all interested parties and will be published in the appropriate papers.

Next Steps

This discussion paper will be circulated and reviewed by the public, stakeholders and local municipalities, and comments and feedback on this report will be solicited, through online comments (https://engageelgin.ca/officialplanreview), email, letter, and in person through the public meetings. Recommendations stemming from the discussion paper and feedback received will result in draft policy changes to the County Official Plan.

FINANCIAL IMPLICATIONS:

Completion of the official plan review will be undertaken primarily by County staff, with some portions completed by external consultants including background technical reports. At this time, costs will be contained within Planning and Legislative Services budgets.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Serving Elgin	Growing Elgin	Investing in Elgin
☒ **Ensuring alignment of current programs and services with community need.** ☒ **Exploring different ways of addressing community need.** ☒ **Engaging with our community and other stakeholders.**	☒ **Planning for and facilitating commercial, industrial, residential, and agricultural growth.** ☒ **Fostering a healthy environment.** ☒ **Enhancing quality of place.**	☒ **Ensuring we have the necessary tools, resources, and infrastructure to deliver programs and services now and in the future.** ☒ **Delivering mandated programs and services efficiently and effectively.**

Additional Comments: None

LOCAL MUNICIPAL PARTNER IMPACT:

The OP review and subsequent reports and discussion papers will be circulated and promoted to all municipal partner staff and Councils.

COMMUNICATION REQUIREMENTS:

This discussion paper will be made available on the County's Engage Elgin website (https://engageelgin.ca/officialplanreview), and hard copies will be distributed to the County libraries and Tourism kiosks. Availability of the discussion paper will also be communicated using email, and the County's various social media forums.

CONCLUSION:

The County's Official Plan 5-year Review process will ensure that the vision/values, directions, policies, and actions in the Official Plan meet the needs of the community into the future. Through responses and feedback, key discussion topics were identified. The following "Official Plan Review - Discussion Paper #3 – Elgin Natural Heritage

Systems Study, Source Water Protection, and Environmental Policy Amendments" is recommended for circulation and review with the public, stakeholders and local municipalities.

Additional reports presented at key intervals aims to further keep the community engaged and involved.

All of which is Respectfully Submitted

Nancy Pasato
Manager of Planning

Brian Lima, General Manager of Engineering, Planning, & Enterprise (EPE) / Deputy CAO

Approved for Submission

Julie Gonyou
Chief Administrative Officer

Discussion Paper #3

County of Elgin Official Plan 5 Year Review

Elgin Natural Heritage Systems Study, Source Water Protection, and Environmental Policy Amendments

September, 2021

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Appendix A – Policy Excerpts from the County of Elgin Official Plan, 2013 – Part D

Appendix B – draft Elgin Natural Heritage Systems Study, Upper Thames River Conservation Authority, June 5, 2019

Appendix C – Background Report Source Protection Plan Implementation Elgin County, MHBC Planning, September 2017

Executive Summary

As part of the County's Official Plan 5-Year Review process, several key topics were identified. These identified topics warrant a larger review and analysis.

As part of the adoption of the 2013 Official Plan for the County of Elgin, a policy was added (D1.2.4) which states… "It is a policy of this Plan that the establishment of a natural heritage system be considered at the time of the next Official Plan Review." There was a commitment to completing a Natural Heritage Systems Study at the time of the next Official Plan Review. The Elgin Natural Heritage Systems Study (ENHSS) was commissioned in 2016, and is a terrestrial science-based study that provides a landscape level assessment of existing natural heritage features and functions. The draft 2019 study provides analysis and maps showing the existing vegetation patches that meet criteria for ecological importance.

The Clean Water Act, 2006 was approved by the province as a result of the contaminated water tragedy in Walkerton Ontario in 2000. Source Protection Plans were developed across the province and include policies to protect municipal drinking water supplies from land uses that may be a risk to them. A firm was retained to assist the County in the implementation of Source Protection Plan (SPP) policies through the preparation of new policy text that would form the basis of future amendments to the County Official Plan and to the Official Plans and Zoning By-laws of local municipalities that have municipal drinking water systems that are regulated by a Source Protection Plan.

As per Council's direction, the public will have an opportunity to review the draft Elgin Natural Heritage Systems Strategy (2019), and the Source Water Protection Implementation Plan (2017), and provide their feedback and input on the recommendations from these reports.

Comments from the Conservation Authorities and specifically the Kettle Creek Conservation Authority have also been summarised in the discussion paper.

When reviewing this document, questions to ask include:

- Why did the County of Elgin do a Natural Heritage Study when the Official Plan already has Natural Heritage policies?
- What Natural Heritage features and areas are included?

- How does this affect my property?
- Was my property affected before this update?
- What can be done with this new information?

Introduction

An Official Plan is a legal statutory planning document required by the province that describes a municipality's land-use strategy. The County of Elgin's Official Plan includes the vision, goals and policy directions of the County, as established by the community, and provides guidance for land use planning decisions including:

- locations for settlement areas, agricultural lands, and natural heritage;
- when and in what order parts of our communities will grow; and
- protection for agricultural, mineral and environmental resources.

The purpose of an Official Plan 5-Year Review update is to ensure that the community vision/values, directions, policies and actions in the Plan reflect changes and meet the needs of the community for the future, and to review for consistency with the Provincial Policy Statement.

Through the public and surveys responses, and stakeholder discussions, several key topics were identified. These identified topics warrant a larger review to understand the current issue, review the background and history, provide a summary of what provincial and neighbouring municipality policy and /or practices exist, and provide possible recommendations for potential policy changes. This discussion paper will be circulated and reviewed by the public, stakeholders and local municipalities, and comments and feedback on this report will be solicited. Recommendations stemming from this report and feedback received will result in draft policy changes to the County Official Plan.

Elgin Natural Heritage Systems Strategy - Introduction

Under the Planning Act, the Provincial Policy Statement 2020 requires that Natural Heritage Systems be identified in Official Plans. Elgin County's first Official Plan was approved in 2013, with the commitment to doing a Natural Heritage Systems Study at the time of the next Official Plan Review.

The Elgin Natural Heritage Systems Study (ENHSS) is a terrestrial science-based study that provides a landscape level assessment of existing natural heritage features and functions including areas of natural and scientific interest, wetlands, woodlands, valleylands, meadows, thickets, young tree plantations, and natural heritage systems (excluding fish habitat and other aquatic habitat features).

The study is based on 2015 aerial photography and uses Geographic Information Systems mapping and modeling. The study provides maps showing the existing vegetation patches that meet criteria for ecological importance. The study also provides statistics showing how much vegetation cover is in the county and local municipalities (as of 2015) and how much of that meets criteria of ecological importance.

The Elgin Natural Heritage Systems Study addresses the need for information on the state of the county's natural areas and systems. The identification of natural features and areas in southwestern Ontario is an important undertaking as past human activities have resulted in the loss or degradation of over 70% of the naturally vegetated areas in the southern Ontario. Elgin County has approximately 20% woodland cover and 24% overall vegetation cover.

Background

The Upper Thames River Conservation Authority (UTRCA) was retained by Elgin County to prepare a Natural Heritage Systems Study. At the time (2016), the ENHSS was overseen by the Rural Initiatives Planning Advisory Committee (RIPAC) consisting of three County Councillors and one citizen appointee. A Project Team consisting of local municipal and conservation authority staff as well as representatives from the Ministries of Natural Resources and Municipal Affairs provided the technical input for the consultant.

The work plan included several meetings which began with an introductory meeting on September 11, 2018, a project team meeting on December 6, 2018 to review the

ecological criteria and mapping of natural heritage features, and a third meeting on April 9, 2019 to review the draft document with the RIPAC.

Following a six-month period for review and revision of the draft document, the final draft was reviewed with the RIPAC on November 26, 2019.

Elgin County Council reviewed the draft ENHSS on January 14, 2020. Several members identified a number of questions/concerns with respect to the study itself as well as possible implications/risks for individual landowners. Ultimately, County Council resolved that the Chief Administrative Officer be directed to provide a report detailing the legislative requirements associated with conducting a Natural Heritage Systems Study, summarizing Elgin County Council's feedback provided at their meeting on January 14, 2020, and recommending next steps including further action required, if any, by Council/Rural Initiatives/Planning Advisory Committee. This follow up report was provided to County Council on February 3, 2020, and summarized feedback received with respect to the ENHSS, legislative requirements, and identified next steps for Council's consideration. Council resolved to take no further action until additional direction/clarity is received from the Province of Ontario through a revised Provincial Policy Statement.

A revised Provincial Policy Statement (PPS) was adopted on May 1, 2020. Only minor changes were made to the natural heritage policies within the PPS. A subsequent report was brought forward to County Council on November 26, 2020, and Council resolved that the public engagement and consultation on the ENHSS be included as part of the required public meetings held during the Official Plan Review process, and that a summary of feedback be provided to County Council along with recommendations for next steps.

Provincial Policy, Guidelines & Official Plan Policy

Provincial Policy Statement (PPS)

Section 3 (5) of the *Planning Act* states…"*a decision of the council of a municipality in respect of the exercise of any authority that affects a planning matter,*

a) shall be consistent with the policy statements issued under subsection (1) that are in effect on the date of the decision.."

The Province of Ontario provides policy guidance to municipalities on matters of provincial interest through the Provincial Policy Statement (PPS). Since the time of the draft ENHSS (2019), the PPS was updated in May, 2020. However, the only change that was made to the PPS with respect to natural heritage was the addition of a subclause under Section 2.2 Water:

2.2.1 Planning authorities shall protect, improve or restore the quality and quantity of water by:

c) evaluating and preparing for the impacts of a changing climate to water resource systems at the watershed level;

Overall, there were no other changes made to the policies related to Natural Heritage or Natural Hazards. The Provincial Policy Statement continues to place an emphasis on Natural Heritage and the protection and enhancement of natural heritage systems in the Province of Ontario. Local and County Official Plans are required to therefore be consistent with the Provincial Policy Statement.

The PPS includes the following general directives for municipalities related to planning for natural heritage:

According to the PPS, natural heritage features and areas are defined as …"*features and areas, including significant wetlands, significant coastal wetlands, fish habitat, significant woodlands south and east of the Canadian Shield, significant valleylands south and east of the Canadian Shield, significant habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area".*

Policies related to Natural Heritage are found in Section 2 of the PPS.

2.0 Wise Use and Management of Resources
Ontario's long-term prosperity, environmental health, and social well-being depend on conserving biodiversity, protecting the health of the Great Lakes, and protecting natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits.

2.1.1 Natural features and areas shall be protected for the long term.

It is important to note that the PPS states that natural features and areas shall be protected for the long-term (2.1.1). The use of the word 'shall' in the PPS is intended to indicate a mandatory requirement and therefore, natural features and areas that are considered 'significant' must be protected by planning authorities for the long-term.

2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

The PPS defines "natural heritage systems" as *… "a system made up of natural heritage features and areas, linked by natural corridors which area necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas with the potential to be restored to a natural state."*

The PPS calls for a natural heritage systems strategy to protect natural heritage resources, provided it is implemented through a comprehensive approach. The County Official Plan should support the protection of natural heritage features and areas, and support policies and initiatives at the local municipal level that pursue the establishment and protection of natural heritage systems.

2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E1, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.

In order to be consistent with Policy 2.1.3 of the Provincial Policy Statement, an identification of the natural heritage system for the County of Elgin is necessary.

2.1.4 Development and site alteration shall not be permitted in:

- *a) significant wetlands in Ecoregions 5E, 6E and 7E1; and*
- *b) significant coastal wetlands.*

2.1.5 Development and site alteration shall not be permitted in:

- *a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E1;*
- *b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;*
- *c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;*
- *d) significant wildlife habitat;*
- *e) significant areas of natural and scientific interest; and*
- *f) coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b)*

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

2.1.9 Nothing in policy 2.1 is intended to limit the ability of agricultural uses to continue.

The implementation of these broad policy statements has resulted in the County's Official Plan polices under Section D: Natural Heritage, Water, and Natural Hazards.

Natural Heritage Reference Manual (NHRM)

The Natural Heritage Reference Manual (NHRM) was released by the Ministry of Natural Resources in 2010. The NHRM provides technical guidance for implementing the natural heritage policies of the PPS and represents recommended technical criteria and approaches to ensure consistency with the PPS. According to the NHRM, the *"recommended technical criteria and approaches [of the NHRM] should be considered for land use planning in the review of development applications under the Planning Act."*

In addition, Section 2.5 of the NHRM states that "*in accordance with the PPS, Planning Authorities should include policies in their Official Plans to:*

- *identify natural heritage systems and ways in which the bio-diversity, connectivity and ecological functions of the system will be maintained, restored or improved;*
- *identify and protect natural heritage features and areas and their ecological functions;*
- *protect these features, areas and ecological functions from incompatible land uses and activities; and*
- *provide a clear and reasonable mechanisms for assessing the impact of applications for land use changes on these features, areas, their adjacent lands and ecological functions."*

The implementation of these broad policy statements and the NHRM have resulted in the County's Official Plan polices under Section D: Natural Heritage, Water, and Natural Hazards.

County of Elgin Official Plan (OP)

The Elgin County Official Plan was approved on October 9, 2013. Detailed natural heritage data was not available at the time the Official Plan was drafted. The collection of such data would have added significant time and costs to the development of the Official Plan, and Council at that time made the decision to undertake a Natural Heritage Systems Study at the time of the 5-year review of the OP.

However, recommended policies to implement the PPS and NHRM were adopted as part of the Official Plan process. A research paper entitled "Natural Heritage, Hazards,

Water and Aggregate/Petroleum Resources" was provided to County Council in June 2011, and this report provided the recommended policy directions for the Official Plan, which resulted in Part D of the Official Plan. Appendix A to this report provides a truncated version of Part D of the County Official Plan for reference.

As part of the adoption of the 2013 OP, a policy was added (D1.2.4) which states*…"It is a policy of this Plan that the establishment of a natural heritage system be considered at the time of the next Official Plan Review."* As previously stated, there was a commitment to completing a Natural Heritage Systems Study at the time of the next Official Plan Review.

Official Plan Review

In compliance with the Planning Act (RSO 1990, as amended), a review of the County's Official Plan is required at 5-year intervals to ensure official plans remain relevant to area demographics, land use changes and emerging topics in planning. Under the upcoming review, the County will also ensure its OP is in accordance with Provincial legislation including the new Provincial Policy Statement (2020).

The Official Plan Review process is required under Section 26 of the Planning Act and as such it is a statutory Planning process requiring consultation and public participation Before revising the Official Plan, County Council shall hold a special meeting of Council, open to the public, to discuss revisions that may be required.

As part of this review, and at the direction of Council, the information and mapping from the draft ENHSS will be provided to the public, and a public meeting held to solicit feedback on the draft ENHSS.

2019 Elgin Natural Heritage Systems Study

The Elgin Natural Heritage Systems Study (ENHSS) addresses the need for information on the state of the county's natural areas and systems. The study provides a landscape level assessment of natural heritage features and functions. The identification of natural features and areas in southwestern Ontario is an important undertaking. Environment Canada[1] identified that human activities, such as agriculture, urban development and associated infrastructure, have resulted in the loss or degradation of over 70% of the naturally vegetated areas in Southern Ontario. In some areas this reduction is greater. The remaining naturally vegetated areas tend to be in unconnected patches across the landscape. Intensive land use activities have also been found to contribute to degraded water quality conditions in many streams and lakes.

The 2019 Elgin Natural Heritage Systems Study (ENHSS) evaluates the existing ecologically important terrestrial (land) resources of the county based on 2015 aerial photography (orthoimagery) using scientific methods and Geographic Information Systems (GIS) modeling.

Chapter 1 introduces the importance of the natural heritage systems planning, including policy rationale and a summary of natural heritage systems studies in other nearby counties. The study scope is discussed, including the study area, project governance, and general limitations of the study. The distinction between "significant" features, as defined in the PPS, and "ecologically important", as defined in this study, is explained. A summary of past natural heritage studies in Elgin County is provided.

Chapter 2 describes how the various components of the county's natural heritage system were defined and mapped. A variety of base mapping layers were developed by the Upper Thames River, Lower Thames Valley, Kettle Creek, Catfish Creek and Long Point Region Conservation Authorities. Using these mapping layers, the first step was to identify and delineate the smallest unit of vegetation, the Vegetation Community. Seventeen types of Vegetation Communities were delineated. The Vegetation Communities were then lumped into six broader categories called Vegetation Groups: woodlands, thickets, meadows, water features, and connected vegetation features. Three Vegetation Ecosystems were defined: terrestrial, wetland and aquatic. The final step consisted of delineating Vegetation Patches, which are a mosaic of one or more abutting Vegetation Groups. The chapter concludes with a summary of mapping results

[1] Environment Canada. 2013. How Much Habitat is Enough? Third Edition. Environment Canada, Toronto, Ontario.

for the Elgin Study Area (geographic Elgin plus a 500 m buffer around all sides except the lake side). In the Elgin Study Area there is 20.77% woodland cover, 0.77% thicket cover, 1.80% meadow cover, 0.48% water feature cover, and 0.07% connected vegetation feature cover. Wetland cover (comprised of woodland, thicket and meadow groups) is 2.64%. The wetland cover is based on MNRF evaluated wetlands plus unevaluated wetlands mapped by the UTRCA using only air photo interpretation. Environment Canada[2] sets guidelines for sustainability of at least 30% vegetation cover and at least 10% wetland cover at the watershed (or county) scale.

Chapter 3 describes the 13 criteria used to identify ecologically important Vegetation Groups and Vegetation Patches. Each criterion is described, providing rationale, application/mapping rules and modeling results in terms of how many vegetation groups or patches meet each criterion. Maps showing the results for each criterion are included in Appendix H.

Chapter 4 summarizes the overall results of the criteria modeling at the vegetation group and patch levels. Patches meeting one or more criteria are deemed ecologically important in this study. The woodland group criteria for ecological importance also establish significance for woodlands consistent with the PPS. Maps showing the patches that meet one or more criteria for ecological importance are provided for Elgin County and for each local municipality and the City of St. Thomas in Appendix K and L. Approximately 81% of vegetation patches meet at least one criteria, representing 98.8% of the patch area. Some 21.74% of Elgin County is in ecologically important vegetation cover (24.12% for Elgin County Study Area with the 500 m buffer). At the local municipal level, the results range from 10.72% in Aylmer to 32.47% in Bayham.

Chapter 5 provides recommendations for the implementation of this science-based study. A number of land use planning related recommendations are provided along with additional stewardship and education recommendations.

The appendices provide additional information on methodology, rationale, and metadata.

The ENHSS is a technical document based on scientific methods that are consistent with the Provincial Policy Statement definition for “natural heritage system”. This approach has been developed through other natural heritage studies including the

[2] Environment Canada. 2013. How Much Habitat is Enough? Third Edition. Environment Canada, Toronto, Ontario.

Counties of Middlesex, Oxford, Huron and Perth. This technical document, if adopted, can assist the County and its local municipalities in identifying natural heritage areas and features and enhance the natural heritage and environmental policies in their respective Official Plans. The ENHSS provides a baseline for future comparison and a map that can be included as an appendix to official plans to raise the public's awareness that these natural heritage features are important to the County and its local municipalities and that they should be protected for future generations.

Who will this affect?

Overall, the identification of a natural heritage feature on a property will not likely affect the day to day use of a property.

Lands in a Settlement Area

For example, if a resident owned a lot with a single detached dwelling and a woodlot located to the rear of the property, the homeowner could continue to live in the single detached dwelling and enjoy the use of their property.

Further considerations would only be required if:

- the landowner wants to cut down the woodlot or a portion of the woodlot;

In this circumstance, the County has a Woodlands Conservation By-Law (2005) which regulates tree cutting. Permits and further analysis may be required for any woodlots and woodlands greater than 0.2 hectares (0.5 acres).

- the landowner wants to construct an addition or a garage on the lot, that was in proximity to or within the woodlot feature;
- the landowner wants to sever the lot and that severance line is within or in close proximity to the woodlot; or
- the landowner wants to develop the site for further development through a site plan or plan of subdivision.

All of these examples are considered "development" and could trigger a Planning Act application, which would require further study to demonstrate that there would be no negative impacts on the feature or its ecological function.

Lands in an Agricultural Area

For lands being used for agriculture, those uses can and changes in agricultural activities are allowed without a land use planning application.

For example, a farm with lands in row crop production could be converted to pasture or planted as an orchard.

Improvements to farmland, such as stone removal, tile draining a field or fencing a pasture are permitted. Some agricultural activities that would not be considered development or site alteration can also occur within key natural heritage features.

For example, maple tree taps and sap collection lines within a woodlot can continue to be used.

While not subject to an application under the Planning Act, some of these agricultural activities may be subject to the County's Woodlands Conservation By-Law (2005) or regulatory controls under the Conservation Authorities Act (such as alterations to wetlands, or development near a ravine).

New buildings and structures for agricultural uses, agriculture-related uses or on-farm diversified uses are not permitted within natural heritage features.

The involvement of planning considerations and further studies would only occur in circumstances where development or construction is proposed within or adjacent (within 50-120m, depending on the type of feature) to a component of the natural heritage system.

In situations where there may be inconsistencies with mapping, a verification can be made by completing a "scoped environmental report" which would verify the boundaries of a natural heritage feature. A scoped environmental report would also be required in support of proposed development to determine the corresponding impact on the natural heritage feature(s), if any.

It should be noted, however, that this is also the current process as per the County's Official Plan. Development and site alteration within or adjacent to a significant natural heritage feature, as identified on Appendix 1 of the Official Plan, shall not be permitted unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated, through an Environmental Impact Study (EIS), that there will be no negative impact on the natural features or their ecological functions (Policy D1.2.7).

Many of the features shown in the ENHSS have already been identified and shown on Appendix 1 of the Official Plan. The ENHSS is meant to ensure that the features were identified through a scientific, criteria-based method, and are accurate based on the latest mapping tools.

Next Steps

A public meeting will be scheduled to allow the public opportunity to comment on the proposed draft ENHSS and recommendations stemming from that report.

Based on the recommendations from the ENHSS, next steps include:

1) Assigning the vegetation groups identified in the study to major natural heritage "categories" as per the terminology used in the PPS categories;
2) A revised Appendix 1 of the County Official Plan which includes features mapping as per the ENHSS and the above new categories;
3) Recommend policy changes as a result of the mapping changes and new categories, as per the above mapping changes.

Source Water Protection - Introduction

The Clean Water Act, 2006 was approved by the province as a result of the contaminated water tragedy in Walkerton Ontario in 2000. The Clean Water Act ensures communities protect their drinking water supplies through prevention – by developing collaborative, watershed-based source protection plans that are locally driven and based on science. Under this legislation, the Drinking Water Source Protection Program was established by the Government of Ontario. This resulted in the development of science-based assessment reports and local source protection plans by multi-stakeholder source protection committees, supported by Source Protection Authorities. Source Protection Plans have now been approved across the Province. These plans include policies to protect municipal drinking water supplies from land uses that may be a risk to them.

Municipalities are a key partner in Source Protection Planning and are represented on Source Protection Committees. Source Protection Committees lead the process of implementing the Clean Water Act, 2006 through the preparation of Assessment Reports and Source Protection Plans for the areas they represent.

Source protection plans contain a series of locally developed policies that, as they are implemented, protect existing and future sources of municipal drinking water. The objectives of Source Protection Plans (SPPs) are:

- To protect existing and future drinking water sources
- To ensure that where an activity is or would be a significant drinking water threat, activity never becomes a significant drinking water threat, or activity ceases to be a significant drinking water threat.

Water resources could potentially be polluted by a variety of sources including, but not limited to, households, agricultural livestock operations, and businesses carrying out routine, everyday activities if not properly managed. Pollutants can seep into the ground contaminating the water table, and precipitation can transport contaminants to nearby streams and lakes. If pollutants reach drinking water intake areas, they can jeopardize the quality of the drinking water supply. Municipal drinking water sources in the County that are regulated by Source Protection Plans include Wellhead Protection Areas (WHPAs) and Intake Protection Zones (IPZs).

Water resources can be polluted by faulty septic systems, leaking fuel tanks, and the application of fertilizers, manure, pesticides and road salt. Water resources can also be depleted if homes and businesses use more than can be naturally replaced.

To deal with these risks, communities may change the land use to prohibit or restrict an activity. For example, a city might relocate a snow dump to better manage salt runoff or not allow a new waste disposal site if it's to be near a water intake area. Also, the municipality or health unit may set up a septic system inspection program to encourage regular septic system care and maintenance. Many source protection plans set strict conditions on land use activities within 100 meters of a municipal well.

Background

The Province provided one-time funding to qualifying municipalities to assist in the implementation of Source Protection Planning as mandated by the Clean Water Act.

The Source Protection Municipal Implementation funding, was in part, contingent upon addressing Source Protection planning across municipal boundaries. Middlesex and Elgin Counties share Source Protection Plans from the Thames/Sydenham and Lake Erie Region Source Protection Areas, and specifically the Belmont Wellhead Protection Area extends geographically into Middlesex County. In addition, the Counties of Middlesex and Elgin have similar land use planning frameworks with county official plans that are broad in scope with more detailed planning policies applied at the local official plan levels.

The County of Middlesex and the County of Elgin undertook a joint Request for Proposal to undertake "Land Use Planning Services: Drinking Source Water Protection". A firm was retained in November 2016 to assist in the implementation of Source Protection Plan (SPP) policies through the preparation of new policy text that would form the basis of future amendments to the County Official Plan and to the Official Plans and Zoning By-laws of local municipalities that have municipal drinking water systems that are regulated by a Source Protection Plan. As part of this undertaking, mapping to implement the policies of the Source Protection Plans applicable to the County and relevant local municipalities was also prepared. Zoning regulations and mapping was also be prepared for relevant local municipalities to implement the SPP and related Official Plan policy frameworks.

Appendix C to this report contains the Background Report "Source Protection Plan Implementation Elgin County, MHBC Planning, September 2017" prepared for Elgin County.

County of Elgin

There are four (4) Source Protection Plans that apply within Elgin County:

- Kettle Creek Source Protection Plan;
- Long Point Region Source Protection Plan;
- Thames, Sydenham & Region Source Protection Plan; and
- Catfish Creek Source Protection Plan.

There are three (3) municipal drinking water systems regulated by a Source Protection Plan located within Elgin County as follows:

- Central Elgin - Belmont (2 wells)
- Elgin Area Primary Water Supply System - Lake Erie Intake
- Bayham - Richmond (2 wells)

These municipal drinking water systems are owned and operated by the local municipalities with which they serve, and are regulated by the provincial Ministry of the Environment, Conversation and Parks. The Wellhead Protection Area (WHPA-C) associated with the Richmond and Belmont wells both extend into the Township of Malahide. Malahide therefore has two WHPA-Cs associated with municipal wells located within their municipal boundary. Each WHPA is regulated by a different Source Protection Plan.

Next Steps

A public meeting will be scheduled to allow the public opportunity to comment on the proposed draft Source Protection Plan and recommendations and policies stemming from that report.

Based on the recommendations from the Source Protection Plan, next steps include:

1) As per the recommendations from the Source Protection Plan report, Section 6 outlines the possible implementation strategy which includes mapping changes and proposed policy:

a) New Schedules to Official Plans will be required to meet the implementation requirements of the SPPs and serve as a reference for the new policy framework:
    - For Elgin County, identify the boundaries of the Long Point Region, Thames-Sydenham & Region, Kettle Creek, and Catfish Creek Source Protection Plans as they apply to the County and the location and extent of protection areas within Central Elgin, Bayham and Malahide;
    - For Central Elgin, Bayham and Malahide, identify the vulnerable areas as delineated in the report SPPs and their associated vulnerability scores;
    - For Central Elgin, Bayham and Malahide, identify the boundaries of the applicable Source Protection Plan Areas.

b) Proposed policy for the respective Official Plans is provided under Appendix D of the Source Protection Plan report.

c) Proposed zoning amendments have also been included in the report under Appendix E. These will be discussed with each of the affected municipalities after adoption of the applicable official plan policies.

Environmental Policy Amendments

Conservation Authorities

The County of Elgin has four conservation authorities within its boundaries:

- Lower Thames Valley Conservation Authority (LTVCA), which includes West Elgin, Dutton Dunwich, and parts of Southwold;
- Kettle Creek Conservation Authority (KCCA), which includes parts of Southwold and Central Elgin;
- Catfish Creek Conservation Authority (CCCA), which includes parts of Central Elgin, Malahide, and Aylmer; and
- Long Point Conservation Authority (LPCA), which includes parts of Malahide and Bayham.

As part of the County's stakeholder consultation, a meeting between all four Conservation Authorities was conducted, and a follow up letter was provided on their collective behalf by the KCCA. Recommendations for policy changes were provided by the KCCA, as detailed below, with staff reviewing each suggested change and providing a response. Any recommendations for changes related to the ENHSS and Source Protection Plans has been addressed through previous sections of this report.

Wetlands

1. All wetlands, including provincially and locally significant, and unevaluated features are included in the areas of Conservation Authority regulatory jurisdiction whereby any change or interference with a wetland requires the prior written permission of the Conservation Authority. As a result, the County of Elgin should consider including additional development policies consistent with the local Conservation Authority's policies for wetland management within the County OP update. Specifically, KCCA wetland management policies include:
   - Provincially Significant Wetlands or wetlands greater than 2 hectares in size:
     a) Prohibiting development and/or site alterations within 30 metres of a Provincially Significant Wetland or wetland greater than 2 hectares in size; and
     b) Requiring hydrogeological assessments to be completed by qualified professionals for any development proposed within 30 to 120 metres of a Provincially Significant Wetland or wetland greater than 2 hectares in size to identify whether the proposed development will have a hydrologic impact upon the wetland feature and/or its function.

- Locally Significant Wetlands or wetlands less than 2 hectares in size:
  a) Prohibiting development and/or site alterations within 15 metres of a Locally Significant Wetland or wetland less than 2 hectares in size; and
  b) Requiring hydrogeological assessments to be completed by qualified professionals for any development proposed within 15 to 30 metres of a Locally Significant Wetland or wetland greater than 2 hectares in size to identify whether the proposed development will have a hydrologic impact upon the wetland feature and/or its function.

County Response: PPS and County policy does not permit development within significant wetlands. Wetlands are evaluated as either provincially or locally significant. Many provincially significant wetlands occur across the County of Elgin, and many wetlands often overlap with other natural heritage features including woodlands. As part of any development application within 120 m of a significant feature such as a woodland, or wetland, no development or site alteration shall be permitted on these adjacent lands unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated, through an Environmental Impact Study (EIS), that there will be no negative impact on the natural features or their ecological functions. It would be anticipated that as part of any scoping exercise for an EIS, the CA's can ensure that the necessary studies are required as part of the submission. Mapping is proposed through the ENHSS which would identify additional wetland features. Additional policies related to wetlands may be added through the recommendations of the ENHSS.

Source Water Protection

2. The Clean Water Act, 2006 is intended to ensure the protection of current and future sources of municipal drinking water by requiring the development of collaborative, locally-driven and science-based source protection plans. The Kettle Creek watershed is part of the Lake Erie Source Protection Region – one of 19 created by the Clean Water Act. The Kettle Creek Source Protection Plan, 2015 contains policies to address the municipal drinking water threats identified in the science-based Assessment Report. Proposed source water protection policies should consider the Kettle Creek Source Protection Plan and its associated policies and mapping.

County Response: Addressed though previous sections of this report.

Shoreline Hazard

3. The policies of the current version of the County OP identifies that the areas of the shoreline hazard lands be delineated in lower tier Official Plans and zoning by-laws. As part of the County OP update, the associated map schedules could provide a consolidated delineation of the shoreline hazard lands crossing the affected Conservation Authority watersheds and lower tier municipalities within the County of Elgin. As part of its regulatory responsibilities, Conservation Authorities maintain hazardous lands mapping and technical data which can be shared for inclusion into the County OP for consideration of hazard land designations and associated policies at the County level. It should also be noted that the delivery of the 2020 SWOOP aerial photography is anticipated this summer and that KCCA intends to update the extent of the shoreline erosion hazard limit mapping based on depicted toe of slope within the new aerials once received.

4. Provincial guidance documents recommend that new development be prevented from occurring within or upon areas of the Great Lakes – St. Lawrence River shorelines that would be affected by erosion hazards over a 100-year time period. Specifically, the Province of Ontario developed the Understanding Natural Hazards technical guide (MNR, 2001) and the Great Lake-St. Lawrence River Technical Guide (MNR, 2001a) to accompany the PPS and set out the technical requirements for the implementation of this legislation. These technical guides confirm that the provincial perspective on natural hazards is to prevent risk to loss of life and minimize property damage through prevention, protection and emergency response. The highest priority being "preventative measures" which provides the greatest, and most cost-effective means of protecting public health and safety. In addition, Table A7.2 of the Technical Guide for the Great Lakes – St. Lawrence River System Shorelines (MNR, 2001a) states that "It is not the intent of the Provincial Policy Statement (i.e. Policy 3.1 governing Natural Hazards) that the presence of existing development be used as a justification for increasing or intensifying the development. The first and primary premise of Policy 3.1 is to direct development and site alteration to locations outside of hazardous lands." The shoreline management plans (Phillpott, 1989 & Baird, 2015) prepared for the Lake Erie shoreline within the Kettle Creek watershed have determined that the average annual recession rates for the high bluff reaches of Lake Erie are "very high" and "severe" based on Provincial standards. The average annual recession rate for the high bluff reaches of shoreline within the Kettle Creek watershed and Elgin County

ranges between 1.6m to 2.2m per year. In addition, recent studies completed for the Lake Erie shoreline in consideration of a changing climate, suggest that the existing recession rates will increase and exacerbate erosion based on predicted high lake levels and future impacts of predicted ice-free winters of Lake Erie. The County may wish to consider developing consistent shoreline erosion hazard policies across the reach of the Lake Erie shoreline within the County of Elgin that is consistent with the provincial perspective on shoreline erosion hazards and Conservation Authority regulations.

5. When considering development proposals for existing development and/or relocation of existing buildings already located within or upon shoreline erosion hazard lands, KCCA relies upon the guidance document prepared by the Province entitled "Technical Guide for Great Lakes – St. Lawrence River Shorelines, Appendix A7.2 – Existing Development Within the Hazardous Lands".

County response: The issue of existing development adjacent to the Lake Erie Shoreline is complicated and has a long history with many stakeholders involved (Conservation Authorities, local stakeholders' groups such as LENSLA).
There may be the potential to look at policies related to lands adjacent to Lake Erie as part of a larger review. It is anticipated that further discussion will need to occur with County Council on the possible direction of this review.

Development in the Floodplain

6. KCCA staff support the existing floodplain policy within the County OP whereby development or site alteration is not permitted within the floodplain of a river or stream system, and where buildings and structures are not permitted within the floodplain, except where written permission is obtained from the appropriate Conservation Authority. However, within the former limits of the Village of Port Stanley, Municipality of Central Elgin, a Two-Zone Floodplain Management is applied based on historical technical studies and approvals. Consistent with associated policies of the PPS for Two-Zone Floodplain Management, KCCA does not permit development and site alteration within a floodway portion of the floodplain regardless of whether the area of inundation contains high points of land not subject to flooding. In addition, development and site alterations may be permitted within the Flood Fringe portion of the floodplain within Port Stanley where the effects and risk

to public safety are minor, could be mitigated in accordance with provincial standards, and where all of the following are demonstrated and achieved:

a) Development and site alteration is carried out in accordance with floodproofing standards, protection works standards, and access standards;
b) Vehicles and people have a way of safely entering or exiting the area during times of flooding, erosion and other emergencies;
c) New hazards are not created and existing hazards are not aggravated; and
d) No adverse environmental impacts will result.

7. The County OP should also recognize that the flood standard for the associated floodplain policies within the Kettle Creek watershed is the Hurricane Hazel Flood Standard as prescribed within the PPS and Kettle Creek regulations.

County response: Discussions with Central Elgin and a revised policy related to the two-zone flood plain may be added. Draft policy will be provided as part of the draft OPA.

Erosion Hazard Limit and Hazardous Slopes

8. In addition to existing erosion hazard and slope policies, KCCA would recommend consideration of the following additional policy consistent with its lower tier municipal policies:
   - That the use of stabilization works as a means to adjust the Erosion Hazard Limit or development setbacks for the purposes of increasing the potential development envelope or permitting new development and/or site alterations within the erosion hazard limit shall not be permitted.

County response: Draft policy will be provided as part of the draft OPA.

Stormwater Management

9. KCCA would recommend that the County consider additional policies for stormwater management considerations that would discourage, if not prohibit the placement of proposed stormwater management facilities from occurring within or upon significant natural heritage features and/or natural hazard areas.

County response: PPS policy does not permit development within significant features, such as significant wetlands. Ultimately, an Environmental Impact Study would need to demonstrate that the location of a SWM within or near a feature will not impact the features and functions, and this will also require review and approval from the CA's.

Maps and Appendices

10. KCCA would recommend that the County consider an additional Map Appendix for Natural Hazard Areas similar to Map Appendix #1 – Natural Heritage Features and Areas. KCCA can assist with providing associated hazard mapping that is currently being used for Conservation Authority natural hazard regulatory purposes. Such mapping should also include identification of the watershed boundaries of the four Conservation Authorities within Elgin County.

County response: mapping that delineates the watershed boundaries for the four conservation authorities will be added to Appendix 1. Hazard mapping is included in the local municipal official plans.

Elgin County Natural Heritage Systems Study & Natural Heritage

11. As requested by the County of Elgin, KCCA staff participated in the technical committee for development of the Elgin County Natural Heritage Systems Study. It is hoped that consideration would be given to incorporating the results of this study and its associated policies into the County of Elgin Official Plan.

12. KCCA requests that the County of Elgin consider developing natural heritage offsetting policies that support the restoration and/or improvement of natural heritage coverage areas with an objective of reaching NET GAIN results. The PPS and the County of Elgin Official Plan states that the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems (NHS), should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features. With a specific regard to woodlands coverage, KCCA is concerned that there is a potential forest cover loss policy gap within the County. KCCA requests that the County consider NET GAIN policies for natural heritage features within their associated planning and development policies to assist with achieving the County's goal of no net loss and striving for improvements to existing natural heritage coverage.

County Response: addressed though previous sections of this report.

Service Agreements

13. Any proposed policies being considered that may relate to the involvement of the appropriate Conservation Authority for development of Environmental Impact Studies to address natural heritage policy requirements should include an acknowledgement that a Service Agreement with the appropriate Conservation Authority would need to be developed and executed prior to consideration of the Conservation Authority providing such service.

County response: Once the regulations related to the CA Act changes are known, staff will be providing a follow up report to council on possible service agreements that may be necessary.

Conclusion

This report provides possible policy changes based on two draft policy documents – Elgin Natural Heritage Systems Study (2019) and the Source Protection Plan (2017).

Circulation and public engagement is recommended as the next step, to understand public, stakeholder and local municipal comments on proposed policy and mapping changes. A public meeting before council will be scheduled in order for Council to hear from the public and determine options for implementation.

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PART D: NATURAL HERITAGE, WATER AND NATURAL HAZARDS

D1.1 OBJECTIVES

It is the objective of this Plan to:

a) identify known *natural heritage features and* to protect those features and their *ecological functions* from incompatible *uses*;

b) raise the public's awareness that these *natural heritage features* are important to the County of Elgin and to its local municipalities and should be protected for future generations;

c) maintain, restore or where possible, improve the diversity and connectivity of natural features in an area, and the *ecological function* and biodiversity of *natural heritage systems* recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *ground water features*;

d) protect, improve or restore the *quality and quantity of water;*

e) identify *surface water features*, *ground water features*, *hydrologic functions* and *natural heritage features and areas* which are necessary for the ecological and hydrological integrity of the *watershed*;

f) implementing necessary restrictions on *development* and *site alteration* to: protect all municipal drinking water supplies and designated vulnerable areas; and protect, improve or restore vulnerable surface and ground water, sensitive *surface water features* and sensitive ground water features, and their hydrologic functions;

g) maintain linkages and related functions among *surface water features*, *ground water features*, *hydrologic functions* and *natural heritage features and areas*; and,

h) direct *development* and site alternation to areas outside *hazardous lands* adjacent to the shorelines of Lake Erie which are impacted by *flooding hazards*, *erosion hazards* and/or dynamic beach hazards; *hazardous lands* adjacent to

river, stream and small inland lake systems which are impacted by *flooding hazards* and/or *erosion hazards*; and hazardous sites.

D1.2 NATURAL HERITAGE

D1.2.1 Natural Heritage Features and Areas

The County shall recognize and protect the *natural heritage features and areas* in the County. *Natural Heritage features and areas*, as defined by the Provincial Policy Statement and the Ministry of Natural Resources' Natural Heritage Reference Manual, as updated from time to time, include: *significant wetlands*, *significant coastal wetlands*, *significant habitat of endangered species and threatened species, significant woodlands, significant valleylands,* significant *wildlife habitat, fish habitat*, and *significant areas of natural and scientific interest* (ANSIs). Many natural heritage features rely on the *ecological functions* provided by watercourses. Watercourses also connect natural heritage features and are especially important in fragmented landscapes where a watercourse may be the only remaining natural area left. *Natural heritage features and areas* can often, also, overlap with natural hazards.

The local municipalities in Elgin County have policies in the local Official Plans to protect significant *natural heritage features and areas*. Local municipalities will be encouraged to continue to identify and protect provincially and locally significant *natural heritage features and areas*. Nothing in this Plan is intended to limit local municipalities from providing more detailed policies or a higher level of protection of *natural heritage features and areas* and/ or *natural heritage systems* in the local Official Plans provided that the such policies maintain the minimum standards set out in this Plan.

D1.2.2 Defining Natural Heritage Significance

The determination of the areas and the significance of the *natural heritage features and areas* are described as follows.

D1.2.2.1 Significant Woodlands

A woodland is a treed area, woodlot or forested area that provides environmental and economic benefits to both the private landowner and the general public. Woodlands provide benefits such as clean air, *wildlife habitat*, and outdoor recreational opportunities.

In 2006, *woodlands* made up less than 20% of the land cover in the County of Elgin. The locations of *woodlands* in the County of Elgin are shown on Appendix Map 1.

Elgin County considers *woodlands* 10 hectares or greater as *significant woodland*. *Woodlands* between 2 hectares and 10 hectares are also *significant* if they are located within 30 metres of the boundary of a significant natural heritage feature (e.g. *significant wetland*, *significant valleyland, fish habitat and/ or watercourses).*

Other significant woodland criteria may be identified when a *natural heritage system* is established in accordance with Section D1.2.4 of this Plan.

D1.2.2.2 Significant Habitat of Endangered Species and Threatened Species

The *significant habitat of endangered species and threatened species* is not shown on Appendix Map 1. Species at Risk are identified as extirpated, endangered, threatened or species of special concern on the Species at Risk in Ontario List. The Ministry of Natural Resources (MNR) administers the *Endangered Species* Act, 2007 (ESA) to protect and conserve species at risk and their habitats. Under the ESA, the MNR is responsible for identifying and approving general and regulated habitat, as well as giving technical advice on species at risk and their habitats. The technical advice provided under the ESA supports the implementation of natural heritage policies found within the Provincial Policy Statement, 2005 (PPS). For the purposes of the PPS, MNR is responsible for approving the delineation of significant habitat for species identified as endangered and threatened.

Environmental Impact Studies or other planning reports may help with identifying the extent of the habitat of *endangered species* and threatened species.

The *significant habitat of endangered species* and *threatened species* will be based on an evaluation of the following considerations:

a) assessments reviewed and approved by the Ministry of Natural Resources regarding the extent of the species'

habitat;

b) habitats or areas delineated by MNR and/ or regulated under the ESA; and,

c) habitat that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of *endangered species* or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle.

D1.2.2.3 Significant Wetlands

Wetlands are lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case, the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four types of *wetlands* are swamps, marshes, bogs, and fens.

Wetlands play a very important role in the *natural heritage system*, since they:

- provide habitat for plants and animals;
- store water for groundwater recharge purposes;
- trap sediments, nutrients and contaminants thereby improving downstream water quality;
- provide corridors for plant and animal movements; and,
- provide flood control and protect shorelines from erosion.

Wetlands are evaluated as either provincially or locally significant. Many *provincially significant wetlands* occur across the County of Elgin (for example, the Calton Swamp, the Aylmer Wildlife Area, and the West Dutton Woodlot). *Wetlands* often overlap with other natural heritage features including *woodlands*. Wooded *wetlands* are known as swamps. Swamps are a predominate feature in Elgin County. *Wetlands* are also incredibly diverse and therefore provide wildlife habitat for a number of species of plants, mammals, birds, reptiles, amphibians and fish. Currently identified *provincially significant wetlands* are designated on Schedule A and shown on Appendix Map 1.

Locally significant or unevaluated *wetlands* may be identified and incorporated into the County's *natural heritage system* in accordance with Section D1.2.4 of this Plan.

D1.2.2.4 Significant Areas of Natural and Scientific Interest

Both Earth Science and Life Science Areas of Natural and Scientific Interest (ANSIs) are areas of land and water containing natural landscapes or features that have been identified as having values related to protection, natural heritage appreciation, scientific study, or education.

MNR ranks ANSIs as being provincially, regionally or locally significant. For the purpose of this Official Plan, and to ensure consistency with the Provincial Policy Statement, *significant ANSIs* include only ANSIs identified as provincially significant.

ANSIs play an important role in the protection of Ontario's natural heritage, since they best represent the full spectrum of biological communities, natural landforms and environments across Ontario (outside of Provincial Parks or Conservation Reserves). Although ANSI identified as regionally or locally significant are not included in the PPS definition, information about such ANSIs support the development of *natural heritage systems* and the identification of *significant wildlife habitat*. Many ANSIs overlap with other *natural heritage features and areas* such as *significant wetlands, significant woodlands,* and *significant valleylands.*

Regionally and locally significant ANSIs may be may be identified and incorporated into the County's *natural heritage system* in accordance with Section D1.2.4 of this Plan. *Significant ANSIs* are shown on Appendix Map 1.

D1.2.2.5 Significant Wildlife Habitat

Significant Wildlife habitat is an area of land where plants, animals, and other organisms live, and find adequate amounts of food, water, shelter, and space needed to sustain their populations.

Significant wildlife habitat is ecologically important in terms of features, functions, representation or amount. It contributes to the quality and diversity of an identifiable geographic area or *natural heritage system*.

Significant wildlife habitat frequently occurs in other *natural heritage*

features and areas such as *significant wetlands, significant woodlands, significant areas of natural and scientific interest* and/or *significant valleylands. Significant wildlife habitat* is not currently mapped in the Official Plan. The presence of *other natural heritage features and areas* can assist with the determination of *significant wildlife habitat*.

D1.2.2.6 Fish Habitat

Fish habitat is spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes.

The County is responsible for identifying *fish habitat* using criteria recommended in the Natural Heritage Reference Manual, in consultation with the appropriate *Conservation Authority*.

D1.2.2.7 Significant Valleylands

Valleylands are natural areas that occur in a valley or other landform depression that has water flowing through or standing for some period of the year. They connect *natural heritage features and areas* within the landscape over large distances (from headwaters to outlets). In urbanized areas or fragmented landscapes, *valleylands* often constitute, or are associated with, the remaining natural areas.

All *valleylands* which have a well-defined slope, with permanent or intermittent water flowing through and have an average width of 25 metres or more are significant. *Significant valleyland* boundaries will be defined by taking into consideration stable top of bank, riparian vegetation and flooding hazard limits.

Valleylands provide valuable *ecological functions.* They are also extremely important to the Elgin County social well-being and cultural history. *Valleylands* are an essential component for establishing connectivity in a *natural heritage system*. These features may be considered in greater detail when a *natural heritage system* is established in accordance with Section D1.2.4 of this Plan.

D1.2.2.8 Table, Criteria for Determining Significance

Natural Heritage Feature	**The agencies responsible for determining significance:**	**Criteria and methods used to determine significance:**
Significant Woodlands	County of Elgin	Using criteria recommended in the Natural Heritage Reference Manual.
Significant Habitat of Endangered Species and Threatened Species	MNR	Delineating/ describing, reviewing and approving the work of others or establishing methods such as training and standards that ensures that the work of others will be acceptable.
Significant Wetlands and *Significant Coastal Wetlands*	MNR	Delineating wetlands or reviewing and approving the work of others in accordance with the Ontario Wetland Evaluation System.
Significant Areas of Natural and Scientific Interest	MNR	In accordance with the ANSI confirmation process.
Significant Wildlife Habitat	County of Elgin	Using criteria recommended in the Natural Heritage Reference Manual, the Significant Wildlife Habitat Technical Guide and the Eco-Region Criteria Schedules and using Ecological Land Classification.
Significant Valleylands	County of Elgin	Using criteria recommended in the Natural Heritage Reference Manual.

D 1.2.3 Mapping of Natural Heritage Features in this Plan

All natural heritage features are considered to be important to the County. While the location and significance of these features has yet to be determined in some cases, all of these features need to be considered when applications for development and site alteration are being evaluated. It is recognized that additional natural heritage features will be identified by the County, local municipalities, applicable Conservation Authority's or the Ministry of Natural Resources.

Appendix Map 1 is intended to reflect the following *natural heritage features and areas*:

a) *Provincially Significant Wetlands and Coastal Wetlands* (which are also designated on Schedule A);

b) *Provincially Significant Areas of Natural and Scientific Interest and;*

c) woodlands.

Other features such as *valleylands*, corridors, *significant woodlands*, *significant habitat of endangered species and threatened species*, *fish habitat* and *significant wildlife habitat* are not mapped. As more detailed mapping of *natural heritage features and areas* becomes available, the appropriate Schedules will be updated to include the more detailed information.
The boundaries of these features and areas are considered to be approximate.

D1.2.4 Establishing a Natural Heritage System

The County of Elgin is committed to maintaining and promoting a healthy natural environment and protecting its unique and special natural heritage features for the present generation and all successive generations. Therefore, an ecosystem based planning and management approach is required to guide the land use decision-making process. This approach must emphasize that *development* should not only protect and manage impacts to ecosystems but also include the objective of enhancing and restoring ecosystems appropriately.

The diversity and connectivity of natural features in an area, and the long term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or where possible, improved, recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *groundwater features*. It is a policy of this Plan that the establishment of a *natural heritage system* be considered at the time of the next Official Plan Review.

After a Natural Heritage Study is completed the County Official Plan will be amended to implement the recommendations of the study. Local municipalities will also need to update their Official Plans to conform with the County Official Plan. The County will engage adjacent jurisdictions when developing its *natural heritage system*,

recognizing that *natural heritage features and areas* cross municipal boundaries.

D1.2.5 Potential Natural Corridors

Natural corridors are defined as linear natural features such as streams, *floodplains*, steep slopes, valleys, contiguous narrow *woodlands* and *wetlands* that connect two or more natural heritage features. While these corridors are not identified on the schedules to this Official Plan, nor within Appendix Map 1, it is the intent of the County to identify these corridors when a *natural heritage system* is developed in accordance with Section D1.2.1 of this Plan. These natural corridors should be identified since they:

- allow for the passage of animals requiring a variety of habitats for their survival;
- allow for the movement of plants and animals to other areas thereby increasing their population;
- provide for reproductive interchanges for plants and animals, thereby promoting genetic variations; and,
- provide escape routes for animals from predators and natural and human disturbances.

It is the policy of this Plan that the integrity of natural corridors be preserved wherever feasible to protect existing linkages and encourage the development of new linkages.

D1.2.6 Development and Site Alteration

a) *Development* and *site alteration* shall not be permitted in *significant habitat of endangered species and threatened species, significant wetlands and significant coastal wetlands.*

b) *Development* and *site alteration* shall not be permitted in
   i) *significant woodlands;*
   ii) *significant valleylands;*
   iii) *significant wildlife habitat*; and,
   iv) *significant areas of natural and scientific interest*

   unless it has been demonstrated through an Environmental Impact Study (EIS), that there will be no *negative impacts* on the natural features or their *ecological functions*.

c) *Development* and *site alteration* shall not be permitted in *fish habitat* except in accordance with Provincial and Federal requirements.

D1.2.7 Adjacent Lands

Adjacent lands are the lands contiguous to a natural heritage feature or area where it is likely that *development* or *site alteration* would have a *negative impact* on the feature or area. For the purposes of this Official Plan, *adjacent lands* are defined as all lands within the specified distance of the boundary of *natural heritage features and areas* as set out in the following Table.

NATURAL HERITAGE FEATURE	ADJACENT LANDS (metres)
Provincially *Significant* Wetlands	120
Significant woodlands	120
Significant wildlife	120
Significant habitat of endangered species and threatened species	120
Provincially *Significant* Areas of Natural Scientific Interest – Earth Science	50
Provincially *Significant* Areas of Natural and Scientific Interest – Life Science	120
Significant Valleylands	120
Fish Habitat	120

No *development* or *site alteration* shall be permitted on these *adjacent lands* unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated, through an Environmental Impact Study (EIS), that there will be no *negative impact* on the natural features or their *ecological functions*.

D1.2.8 Environmental Impact Studies

Where the policies of this Plan require that an EIS be prepared, such an EIS shall be prepared in accordance with the requirements of this section and Appendix B of this Plan. A site inspection may be needed where there is insufficient natural heritage data to determine whether an EIS is triggered. The purpose of the site inspection is to identify potential *significant natural heritage features and areas* that may require further study and evaluation.

D1.2.8.1 Purpose of an Environmental Impact Study

The purpose of an EIS is to:

a) collect and evaluate the appropriate information in order to have a complete understanding of the boundaries, attributes and functions of *natural heritage features* and associated ecological and *hydrological functions* that exist;

b) to determine whether there are any additional *natural heritage features* on the lands and *adjacent lands*; and,

c) make an informed decision as to whether or not the proposed *development* and/or *site alteration* will have a *negative impact* on the *natural heritage features* and ecological and *hydrological functions*.

The approval authority, in consultation with the appropriate *Conservation Authority*, must be satisfied with an EIS prior to the granting of *development* approvals. The recommendations of an EIS shall be implemented through Official Plan amendments, zoning by-laws, subdivision conditions, site plan control, and/or applicable regulations.

Where an Environmental Impact Study has been completed, the County, as the approval authority for land use planning applications, must be satisfied that it has been demonstrated that there will be no *negative impact* on the natural features or their *ecological functions*. A local Municipality, as the approval authority for zoning, minor variance, site plan and building permit applications will require Environmental Impact Studies to be completed, depending upon the feature and the policies of the local Official Plans.

D1.2.8.2 What an Environmental Impact Study Should Demonstrate

Before *development* is approved in the area subject to the EIS, the EIS shall demonstrate that the relevant policies of this Plan and the local Official Plan are met. The EIS should also demonstrate that *development* and *site alteration* will not have a *negative impact* on *significant natural heritage features* and related *ecological functions*.

D1.2.9 Use of Lands in Private Ownership

Where any land within the Provincially *Significant Wetlands* designation or identified on Appendix Map 1 is held under private ownership, this Plan shall not be construed as implying that such areas are free and open to the general public.

D1.2.10 **Agricultural Uses**.

Nothing in this Plan is intended to limit the ability of existing *agricultural uses* to continue on lands within, or adjacent to, *natural heritage features and areas*. New *agricultural uses* that require approval under the *Planning Act* will be permitted within, or adjacent to, *natural heritage features and areas* provided it has been demonstrated, to the satisfaction of the County or the local municipality, as the case may be, that there will be no *negative impact* on the natural heritage features or their *ecological functions.*

D2 WATER RESOURCES

D2.1 Watercourses

All of the watercourses in the County are considered to be environmentally *significant* since they:

a) store storm and melt waters;

b) contain fish and *wildlife habitat* areas;

c) function as corridors for migrating *wildlife habitat* movement and vegetation dispersal;

d) serve to maintain the *quality and quantity of water* (surface and ground water resources); and,

e) assist in the improvement of air quality.

It is the intent of this Plan to protect all watercourses from incompatible *development* to minimize the impacts of such *development* on their function.

D2.2 Improving, Protecting and Restoring

The County and local municipalities shall protect, improve or restore the quality and quantity of water by:

a) using a watershed as the ecologically meaningful scale for planning;

b) minimizing potential *negative impacts*, including cross-jurisdictional and cross-watershed impacts;

c) identifying *surface water features*, ground water features, hydrologic functions and *natural heritage features and areas* that are necessary for the ecological and hydrological integrity of the watershed;

d) implementing necessary restrictions on *development* and *site alteration* to:
   i) protect all municipal drinking water supplies and designated vulnerable areas; and,
   ii) protect, improve or restore vulnerable surface and ground water, sensitive *surface water features* and sensitive ground water features, and their hydrologic functions;

e) maintaining linkages and related functions among *surface water features*, ground water features, hydrologic functions and *natural heritage features and areas*;

f) promoting efficient and sustainable use of water resources, including practices for water conservation and sustaining water quality;

g) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces; and,

h) promoting the use of sustainable and low impact development stormwater strategies and practices.

Source water protection plans are currently being prepared for Elgin County. Appropriate and relevant policies and mapping from these source water protection plans will be implemented by way of amendment to this Plan.

D2.3 Restriction on Development and Site Alteration

a) *Development and site alteration* shall be restricted in or near sensitive *surface water features* and sensitive ground water features such that these features and their related hydrologic

functions will be protected, improved or restored.

b) Mitigative measures and/or alternative *development* approaches may be required in order to protect, improve or restore sensitive *surface water features*, sensitive ground water features, and their hydrologic functions.

D3 NATURAL AND MAN-MADE HAZARDS

D3.1 Hazardous Lands

Hazardous lands are lands that could be unsafe for *development* due to naturally occurring processes. Along the shoreline of Lake Erie, this means the land, including that covered by water and the furthest landward limit of the *flooding hazard*, *erosion hazard* or *dynamic beach hazard* limits. Along *river, stream and small inland lake systems*, this means the land, including that covered by water, to the furthest landward limit of the *flooding hazard* or *erosion hazard* limits.

D3.2 Shoreline of Lake Erie

The Conservation Authorities have commissioned Shoreline Management Plans for the Lake Erie shoreline within the boundaries of the County of Elgin. These management plans were prepared to balance the options of shoreline prevention, protection, environmental impact, monitoring, emergency response and public education in an overall management plan of the shoreline resources. The recommendations of these Shoreline Management Plans and the *Conservation Authority* regulations have resulted in *development* design standards and/or prohibition within the established shoreline hazard lands.

The shoreline hazard lands is not shown on this Plan. Instead, it is a policy of this Plan that this area be delineated in lower tier Official Plans and zoning by-laws.

D3.3 Development in a Floodplain

It is the intent of this Plan that no *development* or *site alteration* be permitted within the *floodplain* of a river or stream system to minimize and eliminate any risks to life and property resulting from flooding, in accordance with relevant *Conservation Authority* regulations. Buildings and structures are not permitted within the *floodplain*, except where written permission is obtained from the appropriate *Conservation Authority*.

D3.4 Erosion Hazard Limit

Development shall be directed to an area outside of the *erosion hazard* limit of a riverine valley slope. The *erosion hazard* limit distance shall be determined in consultation with the affected municipality and *Conservation Authority* and be subject to the following criteria as identified within the provincial technical guide for natural hazards:

a) toe erosion allowance;

b) stable slope allowance (3:1);

c) *flooding hazard* limit or meander belt allowance; and,

d) erosion/erosion access allowance.

The *erosion hazard* limit will be defined on a site-by-site basis in consultation with the appropriate *Conservation Authority*. Provincial guidelines related to natural hazards will be used as a basis in determining the *erosion hazard* limit.

D3.5 HAZARDOUS SLOPES

a) *Development* shall be sufficiently setback from the top of bank of slopes greater than 3:1. The *development* setback distance shall be determined by a qualified geotechnical engineer in consultation with the local municipality and the appropriate *Conservation Authority* and be subject to the following criteria:

   i) soil type and groundwater patterns;

   ii) vegetation type and cover;

   iii) severity of slope; and,

   iv) nature of *development*;

D3.6 ONTARIO REGULATIONS

Certain lands within the County are subject to the Development, Interference with Wetlands and Alterations to Shorelines and Watercourse Regulation issued by the Province. The Regulation Limit represents a compilation of various information including

engineered *floodplain* mapping, estimated *floodplain* mapping and *erosion hazards*. The extent of these regulated areas and features are subject to adjustment as confirmed by site visits and studies. The respective Conservation Authorities should be consulted for details.

Development in a regulated area or the straightening, changing, diverting or interfering in any way with the existing channel or a river, creek, stream, watercourse or changing or interfering with a *wetland* shall require permission from the applicable *Conservation Authority*.

D3.7 WASTE DISPOSAL SITES

Known existing and former (closed) waste disposal sites are shown with a symbol on Schedule B.

The *development* of new uses or new or enlarged buildings or structures within an assessment area of 500 metres from the fill area of the waste disposal site may be permitted, provided an assessment is completed to determine:

a) whether the proposed use will be adversely affected by noise, odour, dust or other nuisance factors from the *waste disposal site*;

b) potential traffic impacts;

c) whether the proposed use will be adversely affected by ground and surface water contamination by leachate migrating from the *waste disposal site*; and,

d) the impact of the proposed use on leachate migration from the *landfill site*.

The assessment is intended to address these matters and other items outlined in the Province's Guideline D-4, April 1994, or its successor as required to ensure that the proposed land uses are *compatible* in nature and do not adversely impact upon each other.

In order to implement these policies, local municipal Zoning By-laws shall restrict the *development* of new uses or new or enlarged buildings or structures on lands within the 500 metre assessment area in accordance with this Plan. As an alternative, all lands within the assessment area shall be subject to a Holding provision in the Zoning By-law. The lifting of a Holding provision permitting the *development* of any new use or new or enlarged buildings or

structures within the assessment area shall not occur until *Council* is satisfied that all of the studies required by the Municipality and County have been completed.

D3.8 CONTAMINATED OR POTENTIALLY CONTAMINATED SITES

If the site of a proposed use or *development* is in the opinion of the County or other approval authority known or suspected to be a contaminated site, *Council* shall require that prior to permitting *development* on the site, the proponent shall complete the following to the satisfaction of the County or other approval authority:

a) Environmental Site Assessment (ESA) in accordance with Ministry of Environment guidelines; and,

b) site restoration in accordance with a remedial plan, where the need for remediation is identified.

Where an ESA has determined that contamination exists, no *development* shall be permitted until such time as the completion of any required decommissioning and/or remediation of the site, and a Record of Site Condition has been prepared by a Qualified Person confirming that site soil conditions meet Provincial criteria for the proposed use.

APPENDIX 'A' - DEFINED TERMS

Adjacent Lands

Means those lands contiguous to a specific *natural heritage feature or area* where it is likely that *development* or *site alteration* would have a *negative impact* on the feature or area.

Adverse Effects

Means, pursuant to the Environmental Protection Act one or more of:

a) impairment of the quality of the natural environment for any use that can be made of it;

b) injury or damage to property or plant or animal life;

c) harm or material discomfort to any person;

d) an adverse effect on the health of any person;

e) impairment of the safety of any person;

f) rendering any property or plant or animal life unfit for human use;

g) loss of enjoyment or normal use of property; and,

h) interference with normal conduct of business.

Agricultural Use

Means the growing of crops, including nursery and horticultural crops; raising of livestock; raising of other animals for food, fur or fibre, including poultry and fish; aquaculture; apiaries; agro-forestry; maple syrup production; and associated on-farm buildings and structures, including accommodation for full-time farm labour when the size and nature of the operation requires additional employment.

Airports

Means all Ontario *airports*, including designated lands for future *airports*, with Noise Exposure Forecast/Noise Exposure Projection mapping.

Alternative Energy Systems

Means sources of energy or energy conversion processes that significantly reduce the amount of harmful emissions to the environment (air, earth and water) when compared to conventional energy systems

Archaeological Resources

Means artifacts, archaeological sites and marine archaeological sites. The identification and evaluation of such resources are based upon archaeological fieldwork undertaken in accordance with the Ontario Heritage Act.

Areas of Archaeological Potential

Means areas with the likelihood to contain *archaeological resources*. Criteria for determining archaeological potential are established by the Province, but municipal approaches which achieve the same objectives may also be used. Archaeological potential is confirmed through archaeological fieldwork undertaken in accordance with the Ontario Heritage Act.

Area of Natural and Scientific Interest

Means an area of land and water containing natural landscapes or features that has been identified as having earth or life science values related to protection, scientific study or education.

Brownfield Sites

Means undeveloped or previously developed properties that may be contaminated. These are usually, but not exclusively, former industrial or commercial properties that may be underutilized, derelict or vacant.

Built Heritage Resources

Means an individual or group of *significant* buildings, structures, monuments, installations, or remains, which are associated with architectural, cultural, social, political, economic, or military history and identified as being important to a community. These resources may be designated or subject to a conservation easement under the Ontario Heritage Act, or listed by the federal or provincial governments or the County.

Coastal Wetland

Means:

a) any *wetland* that is located on one of the Great Lakes or their connecting channels (Lake St. Clair, St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers); or,
b) any other *wetland* that is on a tributary to any of the above-specified water bodies and lies, either wholly or in part, downstream of a line located 2 kilometres upstream of the 1:100 year floodline (plus wave

run-up) of the large water body to which the tributary is connected.

Compatible

Means the *development* or *redevelopment* of uses which may not necessarily be the same as or similar to the existing *development*, but can coexist with the surrounding area without *negative impact*.

Comprehensive Review

Means:

a) for the purposes of Sections B2.8 and B2.7.1 of this Plan, an Official Plan Review which is initiated by a planning authority, or an Official Plan Amendment which is initiated or adopted by a planning authority, which:

   i. is based on a review of population and growth projections and which reflect projections and allocations by upper-tier municipalities and *provincial plans*, where applicable; considers alternative directions for growth; and determines how best to accommodate this growth while protecting provincial interests;

   ii. utilizes opportunities to accommodate projected growth through *intensification* and *redevelopment*;

   iii. confirms that the lands to be developed do not comprise *specialty crop areas*;

   iv. is integrated with planning for *infrastructure* and *public service facilities*; and,

   v. considers cross-jurisdictional issues.

Conservation Authority

Means the Lower Thames *Conservation Authority*, the Kettle Creek *Conservation Authority*, the Catfish Creek *Conservation Authority* or the Long Point Region *Conservation Authority*.

Conserved

Means the identification, protection, use and/or management of cultural heritage and *archaeological resources* in such a way that their heritage values, attributes and integrity are retained. This may be addressed through a conservation plan or heritage impact assessment.

Contaminated Sites

Means property or lands that have not been rehabilitated and for reasons of public safety or environmental quality, are unsafe for use as a result of human activities, particularly those activities that have left a chemical or radioactive residue.

Council

Means the Municipal *Council* of the Corporation of the County of Elgin.

Cultural Heritage Landscape

Means a defined geographical area of heritage significance that has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a *significant* type of heritage form, distinctive from that of its constituent elements or parts.

Deposits of Mineral Aggregate Resources

Means an area of identified *mineral aggregate resources*, as delineated in Aggregate Resource Inventory Papers or comprehensive studies prepared using evaluation procedures established by the Province for surficial and bedrock resources, as amended from time to time, that has a sufficient quantity and quality to warrant present or future extraction.

Designated and Available

Means lands designated in this Plan for urban and hamlet residential use.

Development

Means the creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act, but does not include:

a) activities that create or maintain *infrastructure* authorized under an environmental assessment process; and,

b) works subject to the Drainage Act.

Dynamic Beach Hazard

Means areas of inherently unstable accumulations of shoreline sediments along the Great Lakes - St. Lawrence River System and large inland lakes, as identified

by provincial standards, as amended from time to time. The *dynamic beach hazard* limit consists of the *flooding hazard* limit plus a dynamic beach allowance.

Ecological Function

Means the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.

Emergency Housing

Means emergency shelters or facilities that accommodate not less than three and not more than ten residents, and provide temporary lodging, board, and/or personal support services to homeless individuals in a 24-hour supervised setting, for up to 30 days.

Employment Area

Means those areas designated in an official plan for clusters of business and economic activities including, but not limited to, manufacturing, warehousing, offices, and associated retail and ancillary facilities.

Endangered Species

Means a species that is listed or categorized an *Endangered species* on the Ministry of Natural Resources' official species at risk list, as updated and amended from time to time.

Enhance

Means, as applied to the natural heritage/environmental policies of this Plan, strengthening the components of a natural area through management measures to increase stability, biodiversity and long-term viability.

Means, in other respects, to complement and strengthen the character of the County, community, neighbourhood, site or structure.

Erosion Hazard

Means the loss of land, due to human or natural processes, that poses a threat to life and property. The *erosion hazard* limit is determined using considerations that include the 100 year erosion rate (the average annual rate of recession extended over an one hundred year time span), an allowance for slope stability, and an erosion/erosion access allowance.

Estate Winery

Means a secondary use to a vineyard, where wines are produced and may include storage, display, processing, *hospitality room*, administrative facilities, and outdoor patio area.

Farm Winery

Means a building or structure of part thereof, associated with *agricultural use*(*s*) on the same farm lot, where wines are produced and may include storage, display, processing, wine tasting, a tied house licensed by the Alcohol and Gaming Commission of Ontario, and retail, administrative facilities and outdoor patio area, but shall not include a restaurant, banquet facility, or on-site commercial kitchen. Wine tasting and the offering or sale of locally grown product samples is considered part of the *farm winery* activity.

Fish Habitat

As defined in the Fisheries Act, C. F- 14**,** means spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes.

Floodplain

For *river stream, and small inland lake systems*, means the area, usually low lands adjoining a watercourse, which has been or may be subject to *flooding hazards.*

Flooding Hazard

Means the inundation, under the conditions specified below, of areas adjacent to a shoreline or a river or stream system and not ordinarily covered by water:

a) Along the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes, the *flooding hazard* limit is based on the one hundred year flood level plus an allowance for wave uprush and other water-related hazards;
b) Along river, stream and small inland lake systems, the *flooding hazard* limit is the greater of:

    i. the flood resulting from the rainfall actually experienced during a major storm such as the Hurricane Hazel storm (1954) or the Timmins storm (1961), transposed over a specific watershed and combined with the local conditions, where evidence suggests that the storm event could have potentially occurred over watersheds in the general area;

ii. the one hundred year flood; and
iii. a flood which is greater than 1. or 2. which was actually experienced in a particular watershed or portion thereof as a result of ice jams and which has been approved as the standard for that specific area by the Minister of Natural Resources; where the use of the one hundred year flood or the actually experienced event has been approved by the Minister of Natural Resources as the standard for a specific watershed (where the past history of flooding supports the lowering of the standard).

Groundwater Features

Refers to water-related features in the earth's subsurface, including recharge/discharge areas, water tables, unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations.

Hazardous Lands

Means property or lands that could be unsafe for *development* due to naturally occurring processes. Along the shorelines of the Great Lakes - St. Lawrence River System, this means the land, including that covered by water, between the international boundary, where applicable, and the furthest landward limit of the *flooding hazard*, *erosion hazard* or *dynamic beach hazard* limits. Along the shorelines of large inland lakes, this means the land, including that covered by water, between a defined offshore distance or depth and the furthest landward limit of the *flooding hazard*, *erosion hazard* or *dynamic beach hazard* limits. Along river, stream and small inland lake systems, this means the land, including that covered by water, to the furthest landward limit of the *flooding hazard* or *erosion hazard* limits.

Hazardous Substances

Means substances which, individually, or in combination with other substances, are normally considered to pose a danger to public health, safety and the environment. These substances generally include a wide array of materials that are toxic, ignitable, corrosive, reactive, radioactive or pathological.

Heritage Attributes

Means the principal features, characteristics, context and appearance that contribute to the cultural heritage significance of a *protected heritage property*.

Heritage Conservation District

Means an area defined by the County to be of unique character to be *conserved* through a designation By-law pursuant to Part V of the Ontario Heritage Act.

Home Industry

Means a small-scale *industrial use*, including, but not limited to a carpentry, metal working, welding or electrical shop that provides services or wares to the rural community and which is an accessory use to an *agricultural use* or a single detached dwelling. For the purpose of this Official Plan, the sale, storage or repair of non-farm motor vehicles, mobile homes and/or trailers as well as a paint shop are not considered a *home industry*. The policies of each local Official Plan shall further detail the types of uses permitted or prohibited as part of a *home industry*.

Home Occupation

Means an occupation that provides a service as an accessory use within a dwelling unit performed by one or more of its residents. Such activities may include services performed by an accountant, architect, auditor, dentist, medical practitioner, engineer, insurance agent, land surveyor, lawyer, realtor, planner, hairdresser or a provider of private home daycare.

Hospitality Room

Means a designated area within the main winery building and/or patio attached to the main winery building where complementary food service is provided to patrons for the purpose of an accompaniment to the wine tasting experience, but shall not include a restaurant, banquet hall or conference facility.

Hydrological Functions

Means the functions of the hydrological cycle that include the occurrence, circulation, distribution, and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

Infrastructure

Means physical structures that form the foundation for *development*. *Infrastructure* includes sewage and water works, waste management systems, electric power generation and transmission, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.

Institutional Use

Means a use that caters to the social, educational and/or religious needs of humans.

Intensification

Means the *development* of a property, site or area at a higher density than currently exists through:

a) *redevelopment*, including the reuse of *brownfield sites*;
b) the *development* of vacant and/or underutilized lots within previously developed areas;

c) infill *development*; and,

d) the expansion or conversion of existing buildings.

Legal or Technical Reasons:

For the purposes of Section C1.2.2.4 of this Plan, means severances for purposes such as easements, corrections of deeds, quit claims, and minor boundary adjustments, which do not result in the creation of a new lot.

Low and Moderate Income Households

Means:

a) in the case of ownership housing, households with incomes in the lowest 60 percent of the income distribution for the *regional market area*; or,

b) in the case of rental housing, households with incomes in the lowest 60 percent of the income distribution for renter households for the *regional market area*.

Mineral Aggregate Operation

Means:

a) lands under license or permit, other than for wayside pits and quarries, issued in accordance with the Aggregate Resource Act, or successors thereto; and,

b) associated facilities use in extraction, transport, beneficiation, processing or recycling of *mineral aggregate resources* and derived products such as asphalt and concrete, or the production of secondary related products.

Mineral Aggregate Resources

Means gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, rock or other material prescribed under the Aggregate Resources Act suitable for construction, industrial, manufacturing and maintenance purposes but does not include metallic ores, asbestos, graphite, granite, mica, nepheline syenite, salt, talc, wollastonite, mine tailings or other material prescribed under the Mining Act.

Minimum Distance Separation (MDS) Formulae

Means formulae and associated guidelines developed by the Province to separate uses so as to reduce incompatibility concerns about odour from livestock facilities.

Natural Heritage Features and Areas

Means features and areas, including *significant wetlands*, *fish habitat*, *significant woodlands*, *significant* valleylands, *significant* habitat of *endangered species* and *threatened species*, *significant wildlife habitat*, and *significant* areas of natural and scientific interest that are important for their environmental and social values as a legacy of the natural landscapes of an area.

Natural Heritage System

Means a system made up of *natural heritage features and areas*, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and *ecosystems*. These systems can include lands that have been restored and areas with the potential to be restored to a natural state.

Negative Impact

Means:

a) in regard to Section D2 degradation to the *quality and quantity of water*, *sensitive surface water features* and *sensitive ground water features*, and their related *hydrologic functions*, due to single, multiple or successive *development* or *site alteration* activities;

b) in regard to *fish habitat*, the harmful alteration, disruption or destruction of *fish habitat*, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act, using the guiding principle of no net loss of productive capacity; and,

c) in regard to other *natural heritage features and areas* in Section D1 degradation that threatens the health and integrity of the natural features or *ecological functions* for which an area is identified due to single, multiple or successive *development* or *site alteration* activities.

Normal Farm Practices

Means a practice, as defined in the Farming and Food Production Protection Act, 1998, that is conducted in a manner consistent with proper and acceptable customs and standards as established and followed by similar agricultural operations under similar circumstances; or makes use of innovative technology in a manner consistent with proper advanced farm management practices. *Normal farm practices* shall be consistent with the Nutrient Management Act, 2002 and regulations made under that Act.

Partial Services

Means:

a) municipal sewage services or private communal sewage services and individual on-site water services; or

b) municipal water services or private communal water services and individual on-site sewage services.

Petroleum Resources

Means oil, gas, and brine resources which have been identified through exploration and verified by preliminary drilling or other forms of investigation. This may include sites of former operations where resources are still present or former sites that may be converted to underground storage for natural gas or other hydrocarbons.

Portable Asphalt Plant

Means a facility:

a) with equipment designed to heat and dry aggregate and to mix aggregate with bituminous asphalt to produce asphalt paving material, and includes stockpiling and storage of bulk materials used in the process; and,

b) which is not of permanent construction, but which is to be dismantled at the completion of the construction project.

Portable Concrete Plant

Means a building or structure:

a) with equipment designed to mix cementing materials, aggregate, water and admixtures to produce concrete, and includes stockpiling and storage of bulk materials used in the process; and,

b) which is not of permanent construction, but which is designed to be dismantled at the completion of the construction project.

Prime Agricultural Area

Means an area where *prime agricultural land* predominates. This includes: areas of *prime agricultural lands* and associated Canada Land Inventory Class 4-7 soils; and additional areas where there is a local concentration of farms which exhibit characteristics of on-going agriculture.

Prime Agricultural Land

Means land that includes specialty crop lands and/or Canada Land Inventory Classes 1, 2 and 3 soils, in this order for priority protection.

Protected Heritage Property

Means designated real property and heritage conservation easement property under the Ontario Heritage Act and property that is subject to a covenant or agreement between the property owner and a conservation body or level of government, registered on title, with the primary purpose of conserving a cultural heritage resource or preventing its destruction, demolition or loss.

Public Service Facilities

Means land, buildings and structures for the provision of programs and services provided or subsidized by a government or other body, such as social assistance, recreation, police and fire protection, health and educational programs, and cultural services. *Public service facilities* do not include *infrastructure.*

Redevelopment

Means the creation of new units, uses or lots on previously developed land in existing communities, including *brownfield sites*.

Reserve Sewage System Capacity

Means design or planned capacity in a centralized waste water treatment facility

which is not yet committed to existing or approved *development*. Reserve capacity for private communal sewage services and individual on-site sewage services is considered sufficient if the hauled sewage from the *development* can be treated or disposed of at sites approved under the Environmental Protection Act or the Ontario Water Resources Act, but not by land-applying untreated, hauled sewage.

Reserve Water System Capacity

Means design or planned capacity in a centralized water treatment facility which is not yet committed to existing or approved *development*.

Residential Intensification

Means *intensification* of a property, site or area which results in a net increase in residential units or accommodation and includes:

a) redevelopment, including the *redevelopment* of *brownfield sites*;

b) the *development* of vacant or underutilized lots within previously developed areas;

c) infill *development*;

d) the conversion or expansion of existing industrial, commercial and institutional buildings for residential use; and,

e) the conversion or expansion of existing residential buildings to create new residential units or accommodation, including accessory apartments, secondary suites and rooming houses.

Secondary Uses

Means uses secondary to the principal use of the property, including, but not limited to, *home occupations*, *home industries* and uses that produce value-added agricultural products from the farm operation on the property.

Sensitive Land Use

Means buildings or structures or parts thereof, amenity areas or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more *adverse effects* from contaminant discharges generated by a major nearby facility. *Sensitive land uses* may be part of the natural or built environment. Examples include residences, day nurseries and educational and health facilities.

Settlement areas

Means urban areas and rural *settlement areas* within Municipalities, as depicted in Schedule A, such as cities, towns, villages and hamlets that are:

a) built up areas where *development* is concentrated and which have a mix of land uses; and,

b) lands which have been designated in an Official Plan for *development* over the long term planning horizon provided for in this Plan. In cases where land in designated growth areas is not available, the *settlement area* may be no larger than the area where *development* is concentrated.

Significant Wetland

Means a wetland area or *coastal wetland* approved as Provincially *significant* by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.

Significant Woodland

Means a *woodland* 10 hectares or greater as a significant woodland. *Woodlands* between 2 hectares and 10 hectares are also *significant* if they are located within 30 metres of the boundary of a significant natural heritage feature (e.g. *significant wetland*, *significant valleyland) fish habitat and/ or watercourses.*

Significant Habitat of Endangered Species and Threatened Species

Means the habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of endangered and *threatened species*, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle.

Significant Wildlife Habitat

Means areas that are ecologically important in terms of features, functions, representation or amount, contributing to the quality and diversity of an identifiable geographic area or *natural heritage system.* In making this determination on significance, the approval authority will rely on the MNR Wildlife Habitat Technical Guide and the Natural Heritage Reference Manual and the Eco-Region Criteria Schedules and using Ecological Land Classification.

Significant Valleyland

Means a valleyland that has a well-defined slope, with permanent or intermittent water flowing through and has an average width of 25 metres or more. *Significant*

valleyland boundaries will be defined taking into consideration stable top of bank, riparian vegetation and flooding hazard limits.

Significant Area of Natural and Scientific Interest

Means an area identified as Provincially *significant* by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.

Significant Built Heritage Resources, Cultural Heritage Landscapes, and Archaeological Resources

Means resources that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people.

Site Alteration

Means activities, such as the placement of fill, grading and excavation that would change the landform and natural vegetative characteristics of a site.

Special Needs

Means any housing, including dedicated facilities, in whole or in part, that is used by people who have specific needs beyond economic needs, including but not limited to, needs such as mobility requirements or support functions required for daily living. Examples of *special needs* housing may include, but are not limited to, housing for persons with disabilities such as physical, sensory or mental health disabilities, and housing for the elderly.

Specialty Crop Area

Means areas designated using evaluation procedures established by the province, as amended from time to time, where specialty crops such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil lands are predominantly grown, usually resulting from:

a) soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both; and/or,

b) a combination of farmers skilled in the production of specialty crops, and of capital investment in related facilities and services to produce, store, or process specialty crops.

Surface Water Feature

Means water-related features on the earth's surface including headwaters, rivers, stream channels, inland lakes, seepage areas recharge/discharge areas, springs, *wetlands*, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation topographic characteristics.

Threatened Species

Means a species that is listed or categorized as a *Threatened species* on the Ontario Ministry of Natural Resources' official species at risk list, as updated and amended from time to time.

Valleylands

Means a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year.

Wayside Pit or Quarry

Means a temporary *pit or quarry* opened and used by or for a public authority solely for purpose of a particular project or contract of road construction and which is not located within the right-of-way of a public street.

Wetland

Means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of *wetlands* are swamps, marshes, bogs and fens.

Wildlife Habitat

Means areas where plants, animals and other organisms live and find adequate amounts of food, water, shelter and space to sustain their populations. Specific *wildlife habitats* of concern, may include areas where a species concentrate at a vulnerable point in their annual or life cycle and an area that is important to a migratory or non-migratory species.

Woodlands

Means treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of *wildlife habitat*, outdoor recreational opportunities, and the

sustainable harvest of a wide range of woodland products. *Woodlands* include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels.

APPENDIX 'B' – CONTENTS OF AN ENVIRONMENTAL IMPACT STUDY

The determination of the scope and content of an Environmental Impact Study (EIS) shall be in general accordance with the guidelines set out in this appendix and be agreed to in advance with the appropriate agencies and shall be scoped as required.

The area under study shall generally include the lands that are subject of the application and any lands that may be subject to impacts from the proposed *development*. Once agreement on the scope of the EIS is determined, all or some of the items below may need to be carried out:

a) a description of the proposed undertaking;
b) a three season survey of trees, shrubs and herbaceous vegetation on-site and classification of community types using criteria as standardized by the Ecological Land Classification for Southern Ontario (Lee, et al., 1998);
c) a three season survey of bird, mammal and reptile and amphibian species and an assessment of potential wildlife species based on available habitat types with the bird survey being undertaken during the peak period for migratory and breeding bird activity (i.e. May and June for Breeding Bird Activities and May to October for peak migratory activity);
d) a description which identifies and confirms candidate and significant wildlife habitat;
e) a list based on the above mentioned inventories, of any vegetation or wildlife species observed and reported on-site that are designated rare, threatened or endangered by a government agency as well as a map illustrating the features and their locations;
f) a description of the location and characteristics of all *wetlands*, all permanent and intermittent watercourses or waterbodies and the associated quality and type of aquatic or *fish habitat* (e.g., cold / warm water) including observed and recorded fish species present with reference to fish sampling data or benthic/invertebrate studies should accompany the field data on watercourses/fisheries.
g) preparation of a *wetland* evaluation in accordance with the Ministry of Natural Resources evaluation system. In all cases, the Ministry of Natural Resources is responsible for reviewing and approving the wetland evaluations;
h) an overview of site geology, topography and soil types, including data obtained from hand-augered holes or test pits;
i) an overview of site hydrology describing recharge and discharge areas, and characteristics of existing or new wells;

j) a discussion of existing and proposed sources of potential contamination (e.g. gas stations, machinery repair operations, etc.);
k) a description of *ecological functions* and interrelationships for each natural heritage feature (e.g., ground water discharge maintaining a cold water trout stream, wildlife passage corridors, provision of habitat for rare species, vegetation of steeply-sloped lands that function to prevent erosion, etc.);
l) how the proposed use affects the possibility of linking components of the significant natural heritage features and *natural heritage system* by natural corridors that may or may not be identified on the schedules to this Plan; and,
m) a Management Plan (MP) identifying how the *adverse effects* will be avoided over the construction period and the life of the undertaking and how environmental features and functions will be enhanced where appropriate and describing the net effect of the undertaking after implementation of the MP. The MP shall also establish the limits of buffers and setbacks adjacent to watercourses, waterbodies, valleys, *wetlands* and vegetation to protect the natural feature and its attributes and/or function from the effects of *development*. Performance measures, monitoring and adaptive management (where appropriate) may also need to be considered.

As required, an EIS should also include mapping to illustrate the proposed development in relation to natural heritage features and areas. The mapping should include:

- known significant natural heritage features;
- the property boundary;
- the study area/adjacent lands; and
- all components of the project proposal.

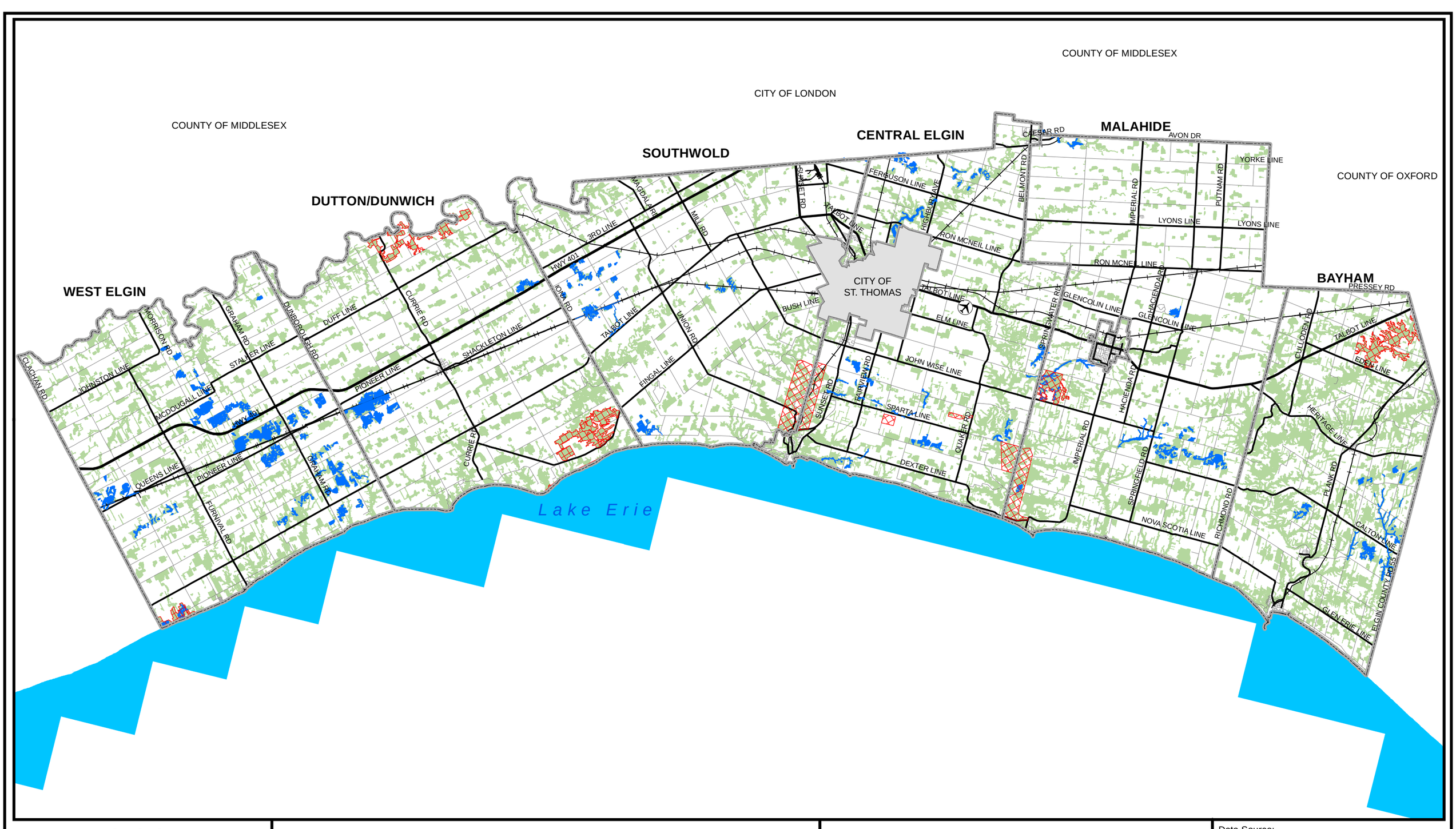
Description of Changes

Any EIS shall describe what changes the proposed *development* and/or *site alteration* will have on the following, if applicable:

a) significant natural heritage features (i.e. those outlined in Section D1.2 of the Plan);
b) ground and surface water recharge and discharge;
c) predicted ground water use and potential for interference with nearby wells (e.g., well yield, water quality);
d) ground water quality or quantity as it affects the natural environment (e.g. discharge to surface, aquifer conditions);
e) surface water quality and quantity (e.g., sedimentation, temperature, flow volume);

f) terrestrial *wildlife habitat* quantity or quality (e.g., loss of deer wintering yards, cover for wildlife movement, increased potential for bank erosion);
g) aquatic or *fish habitat* quantity or quality (e.g., water warming from removal of stream bank vegetation, potential for destruction or alteration of a fisheries resource);
h) wildlife movement corridors;
i) the *ecological function* of the natural environmental features;
j) noise and traffic levels and their impacts on wildlife as compared to existing conditions (e.g., truck traffic from excavation activities);
k) the potential for fragmentation or isolation of portions of a *significant* natural heritage feature or breakage of an identified linkage as a result of the proposed change in land use;
l) the potential for off-site discharge of materials (e.g., storm water runoff, effluent, odours. air emissions) as a result of the proposed *development*;
m) erosion potential from grading and construction techniques and proposed mitigation measures for steep slopes or unstable soils;
n) the compatibility of the proposed land use with surrounding land uses within the Greenlands system and/or associated linkages;
o) flooding or changes in storm water retention capabilities as a result of the proposed land use or changes to flood attenuation capabilities of lands in the area; and,
p) the duration of the effects, the size of the area affected, the sensitivity of the feature to change and any loss of *ecological functions* either within the area proposed for *development*.

In addition to the above, the EIS shall describe the positive impacts or enhancements that may occur as a result of mitigation.



County of Elgin Official Plan

Appendix #1
Natural Heritage Features and Areas

Resource Areas

- Woodlands
- Provincially Significant Wetlands
- ANSI
- St. Thomas Municipal Airport

105

N W E S

0 5 10 15 20 km

Data Source:
Data provided by the County of Elgin and the Ministry of Natural Resources Land Information Ontario.
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August 12, 2013

Elgin Natural Heritage Systems Study

(includes City of St. Thomas)

2019 (June 5th DRAFT)

Prepared by

Upper Thames River Conservation Authority

in cooperation with Elgin County Conservation Authorities

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Cover Photo
A bird's eye view of the Elgin County shoreline and nearby woodlands. *Drone photo by Joseph McNeil.*

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Executive Summary

The 2019 Elgin Natural Heritage Systems Study (ENHSS) evaluates the existing ecologically important terrestrial (land) resources of the county based on 2015 aerial photography (ortho-imagery) using scientific methods and Geographic Information Systems (GIS) modeling.

Chapter 1 introduces the importance of the natural heritage systems planning, including policy rationale and a summary of natural heritage systems studies in other nearby counties. The study scope is discussed, including the study area, project governance, and general limitations of the study. The distinction between "significant" features, as defined in the PPS, and "ecologically important", as defined in this study, is explained. A summary of past natural heritage studies in Elgin County is provided.

Chapter 2 describes how the various components of the county's natural heritage system were defined and mapped. A variety of base mapping layers were developed by the Upper Thames River, Lower Thames Valley, Kettle Creek, Catfish Creek and Long Point Region Conservation Authorities. Using these mapping layers, the first step was to identify and delineate the smallest unit of vegetation, the *Vegetation Community*. Seventeen types of *Vegetation Communities* were delineated. The *Vegetation Communities* were then lumped into six broader categories called *Vegetation Groups*: woodlands, thickets, meadows, water features, and connected vegetation features. Three *Vegetation Ecosystems* were defined: terrestrial, wetland and aquatic. The final step consisted of delineating *Vegetation Patches*, which are a mosaic of one or more abutting *Vegetation Groups*.

Chapter 2 concludes with a summary of mapping results for the Elgin Study Area (geographic Elgin plus a 500 m buffer around all sides except the lake side). In the Elgin Study Area there is 20.77% woodland cover, 0.77% thicket cover, 1.80% meadow cover, 0.48% water feature cover, and 0.07% connected vegetation feature cover. Wetland cover (comprised of woodland, thicket and meadow groups) is 2.64%. The wetland cover is based on MNRF evaluated wetlands plus unevaluated wetlands mapped by the UTRCA using only air photo interpretation. Environment Canada (2013) sets guidelines for sustainability of at least 30% vegetation cover and at least 10% wetland cover at the watershed (or county) scale.

Chapter 3 describes the 13 criteria used to identify ecologically important *Vegetation Groups* and *Vegetation Patches*. Each criterion is described, providing rationale, application/mapping rules and modeling results in terms of how many *vegetation groups* or *patches* meet each criterion. Maps showing the results for each criterion are included in Appendix H.

Chapter 4 summarizes the overall results of the criteria modeling at the *vegetation group* and *patch* levels. Patches meeting one or more criteria are deemed ecologically important in this study. The woodland group criteria for ecological importance also establish significance for woodlands consistent with the PPS. Maps showing the patches that meet one or more criteria for ecological importance are provided for Elgin County and for each local municipality and the City of St. Thomas in Appendix K and L. Approximately 81% of vegetation patches meet at least one criteria, representing 98.8% of the patch area. Some 21.74% of Elgin County is in ecologically important vegetation cover (24.12% for Elgin County Study Area with the 500 m buffer). At the local municipal level, the results range from 10.72% in Aylmer to 32.47% in Bayham.

Chapter 5 provides recommendations for the implementation of this science-based study. A number of land use planning related recommendations are provided along with additional stewardship and education recommendations.

The appendices provide additional information on methodology, rationale, and metadata. The digital data is provided to each municipality and conservation authority.

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American Goldfinch. *Photo by Ron Ridout*

1.0 Background

1.1 Purpose of the Elgin County Natural Heritage Systems Study

The Elgin Natural Heritage Systems Study (ENHSS) addresses the need for information on the state of the county's natural areas and systems. The study provides a landscape level assessment of natural heritage features and functions.

The identification of natural features and areas in southwestern Ontario is an important undertaking. Environment Canada (2013) identified that human activities, such as agriculture, urban development and associated infrastructure, have resulted in the loss or degradation of over 70% of the naturally vegetated areas in Southern Ontario. In some areas this reduction is greater. The remaining naturally vegetated areas tend to be in unconnected patches across the landscape. Intensive land use activities have also been found to contribute to degraded water quality conditions in many streams and lakes.

The Province of Ontario provides policy guidance to municipalities on matters of provincial interest in the Provincial Policy Statement (PPS). The PPS (2014) includes the following general directives for municipalities related to planning for natural heritage:

Excerpt from the 2014 PPS (page 22)

2.0 Wise Use and Management of Resources

Ontario's long-term prosperity, environmental health, and social well-being depend on conserving biodiversity, protecting the health of the Great Lakes, and protecting natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits.

Accordingly:

2.1 Natural Heritage

2.1.1 Natural features and areas shall be protected for the long term.

2.1.2 The diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *ground water features*.

2.1.3 *Natural heritage systems* shall be identified in Ecoregions 6E & 7E1, recognizing that *natural heritage systems* will vary in size and form in *settlement areas*, *rural areas*, and *prime agricultural areas*.

Note: Elgin County falls within Ecoregions 6E and 7E1, more specifically 7E2 and 7E6.

The ENHSS is a science based study that uses high quality ortho-imagery and Geographic Information System (GIS) modeling to identify natural vegetation patches that are considered to be ecologically important at the County level. Many of the ecologically important features also are significant in the context of the PPS (see text box below).

Excerpt from the 2014 PPS (pages 48, 49)

Significant means

a) in regard to wetlands, coastal wetlands and areas of natural and scientific interest, an area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time;
b) in regard to woodlands, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. These are to be identified using criteria established by the Ontario Ministry of Natural Resources;
c) in regard to other features and areas in policy 2.1, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system;

Criteria for determining significance for the resources identified in sections (c)-(e) are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used.

While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation.

The ENHSS methodology is intended to establish the local approach for identifying the terrestrial Natural Heritage System (Fish Habitat and other aquatic habitat features are not identified in the study), as required by the natural heritage policies of the PPS. The ENHSS incorporates the most current information available from the Ministry of Natural Resources and Forestry (MNRF) to identify the Natural Heritage Features and Areas that they are responsible for identifying as per a) of the PPS definition of significant in the above text box and related policies (e.g., provincially significant wetlands and Areas of Natural and Scientific Interest).

The study also includes the identification of significant woodlands and valleylands, in accordance with the Natural Heritage Reference Manual (MNR, 2010), and sets outs a recommended approach for identifying significant wildlife habitat, to address the PPS requirement for planning authorities to identify such Natural Heritage Features and Areas as per b) and c) of the PPS definition in the text box above. The complete list of Natural Heritage Features and Areas as set out in the PPS is shown in the text box below.

NOTE: In the case of valleylands, the identification and evaluation of Significant Valleylands is based on the recommended criteria outlined in section 8.3.1 of the Natural Heritage Reference Manual (MNR, 2010). It is the responsibility of planning authorities to identify these features.

Excerpt from the 2014 PPS (page 22)

2.1.4 *Development* and *site alteration* shall not be permitted in:

a) *significant wetlands* in Ecoregions 5E, 6E and 7E1; and

b) *significant coastal wetlands*.

2.1.5 *Development* and *site alteration* shall not be permitted in:

a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E[1];

b) *significant woodlands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)[1];

c) *significant valleylands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)[1];

d) *significant wildlife habitat*;

e) *significant areas of natural and scientific interest*; and

f) *coastal wetlands* in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be no *negative impacts* on the natural features or their *ecological functions*.

2.1.6 *Development* and *site alteration* shall not be permitted in *fish habitat* except in accordance with *provincial and federal requirements*.

2.1.7 *Development* and *site alteration* shall not be permitted in *habitat of endangered species and threatened species*, except in accordance with *provincial and federal requirements*.

2.1.8 *Development* and *site alteration* shall not be permitted on *adjacent lands* to the *natural heritage features and areas* identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no *negative impacts* on the natural features or on their *ecological functions*.

2.1.9 Nothing in policy 2.1 is intended to limit the ability of *agricultural uses* to continue.

This study also identifies various other natural features and areas that comprise the natural heritage system that are not considered "significant" as defined in the PPS. These other features and areas are described in more detail in Section 1.5.

The ENHSS provides mapping of the Natural Heritage Systems for the Corporate County of Elgin, including local municipalities: Municipalities of West Elgin, Dutton/Dunwich, Central Elgin, and Bayham and the Townships of Southwold and Malahide and the Town of Aylmer. The City of St. Thomas is geographically located in Elgin County and so is included in this study, but it is a separated city.

The PPS (2014) defines the natural heritage system as follows:

> ***Excerpt from the 2014 PPS (page 45)***
>
> ***Natural heritage system:*** means a system made up of *natural heritage features and areas*, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. These systems can include *natural heritage features and areas*, federal and provincial parks and conservation reserves, other natural heritage features, lands that have been restored or have the potential to be restored to a natural state, areas that support hydrologic functions, and working landscapes that enable ecological functions to continue. The Province has a recommended approach for identifying *natural heritage systems*, but municipal approaches that achieve or exceed the same objective may also be used.

The Natural Heritage System includes: woodlands, wetlands, thickets, young plantations, meadows, waterbodies and watercourses and connected vegetation features.

Agriculture is the dominant land use in the County of Elgin. The working agricultural fields can provide linkages between natural features and areas and these linkages may be utilized in different ways depending on the cropping patterns or the time of year. The ENHSS does not attempt to map all of these potential system linkages but rather acknowledges that the agricultural landscape (i.e., crop fields, pastures, etc.) can provide some linkage functions. Given the size of the study area, the predominantly agricultural land use and that land use change is anticipated to be limited, the ENHSS maps the Natural Heritage Systems at the county level of scale.

In cases where land use change is anticipated, the potential impact of the land use change on system linkages must be considered. For example, if agricultural land is proposed to be converted to urban development or other non-agricultural uses, the system linkages that would have been provided in the working agricultural landscape may be disrupted or eliminated by the post development urban landscape. In such cases it is necessary that Natural Heritage System linkages be studied at an appropriate level of detail and that system linkages be provided as part of the planning approval process.

The 2015 Elgin County Official Plan, Section D1.2.4 states that "It is a policy of this Plan that the establishment of a natural heritage system be considered at the time of the next Official Plan Review."

Excerpt from the 2015 Elgin County Official Plan

Section D1.2.4 Establishing a Natural Heritage System

The County of Elgin is committed to maintaining and promoting a healthy natural environment and protecting its unique and special natural heritage features for the present generation and all successive generations. Therefore, an ecosystem based planning and management approach is required to guide the land use decision-making process. This approach must emphasize that *development* should not only protect and manage impacts to ecosystems but also include the objective of enhancing and restoring ecosystems appropriately. The diversity and connectivity of natural features in an area, and the long term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or where possible, improved, recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *groundwater features*. It is a policy of this Plan that the establishment of a *natural heritage system* be considered at the time of the next Official Plan Review.

After a Natural Heritage Study is completed the County Official Plan will be amended to implement the recommendations of the study. Local municipalities will also need to update their Official Plans to conform with the County Official Plan. The County will engage adjacent jurisdictions when developing its *natural heritage system*, recognizing that *natural heritage features and areas* cross municipal boundaries.

1.2 Natural Heritage Systems Studies

The UTRCA has led Natural Heritage Systems Studies in Oxford (County of Oxford, 2016), Middlesex (County of Middlesex, 2014) and Huron (County of Huron, 2014 draft). These studies evolved from earlier Natural Heritage Studies (County of Oxford 2006 and County of Middlesex 2003).

1.2.1 Natural Heritage Studies (2003 to 2006)

The first study, the 2003 Middlesex Natural Heritage Study (County of Middlesex and UTRCA 2003), was a pilot project for the Carolinian Canada Big Picture Project and the Ministry of Natural Resources Ecological Land Classification System. The Middlesex Natural Heritage Study (MNHS) involved analysis of existing information along with new botanical information for private property that was collected as part of the study. This information, combined with a detailed review of the ecological literature, led to the development of a set of landscape criteria that were then modelled using Geographic Information System (GIS) technology. The study focused on the identification of significant woodland patches only.

Building upon the Middlesex study, the 2006 Oxford Natural Heritage Study (ONHS) (County of Oxford 2006) was led by the UTRCA in collaboration with other county Conservation Authorities and completed for the County of Oxford. Various partners participated in the project. The 2006 ONHS had the following goals:

1. To increase understanding of the County's natural heritage features and systems (e.g. woodlands, wetlands, aquatic systems such as streams and rivers, etc.).
2. To develop land use planning information and establish the scientific and provincial policy basis, to identify, protect and enhance the natural heritage features and systems, at both the County and local municipal levels.
3. To encourage and facilitate private stewardship and public education.
4. To strengthen links between natural areas and protect the relationships between plant and animal communities.

The ONHS broadened the approach beyond wooded areas to include flood plain meadows and other elements of the natural heritage system, including an aquatic resources analysis. The ONHS was subjected to a third party peer review. The basic approach was validated through the peer review and minor adjustments were made to some criteria.

1.2.2 Natural Heritage Systems Studies (2014 to present)

Since the 2014 PPS Section 2.1.3 requires that natural heritage systems be identified in ecoregions 6E and 7E, new iterations of natural heritage studies are using a systems approach. The system expands from the previous studies that primarily focused on identifying significant woodlands. Current system studies now include other habitat types such as meadows, thickets, hedgerows, riparian buffers, etc.

Recent studies using this approach were completed by the UTRCA for Middlesex (County of Middlesex, 2014), Huron (County of Huron, 2014 draft), Oxford (County of Oxford, 2016 draft), and Perth (County of Perth, 2018 draft). These studies provide the basis for this Elgin study.

1.3 Study Area

A map of Elgin County is shown in Figure 1. The County of Elgin has seven local municipalities, including the municipalities of Bayham, Central Elgin, Dutton/Dunwich, Town of Aylmer, Township of Malahide, Municipality of Southwold, and Municipality of West Elgin. The City of St. Thomas is geographically located in Elgin County and so is included in this study, but is a separated city. However, this study treats the entire county as a whole for the purposes of natural heritage mapping. The county is under the jurisdiction of four Conservation Authorities: Lower Thames Valley, Kettle Creek, Catfish Creek and Long Point Region.

A 500m buffer was placed around the county boundary when modelling the criteria to avoid cutting off woodlands and other natural heritage features that spanned both sides of the boundary or were less than 120 m from the boundary. The buffer is not included on the lake side of the county. This larger area is termed the Study Area. The Natural Heritage Reference Manual (page 156) recommends that the natural heritage system adequately and appropriately connect features to other natural heritage systems beyond the study area. The Elgin County geographic area is approximately 188,482 ha and the study area with the 500 m buffer is 197,159 ha.

1.4 Project Governance

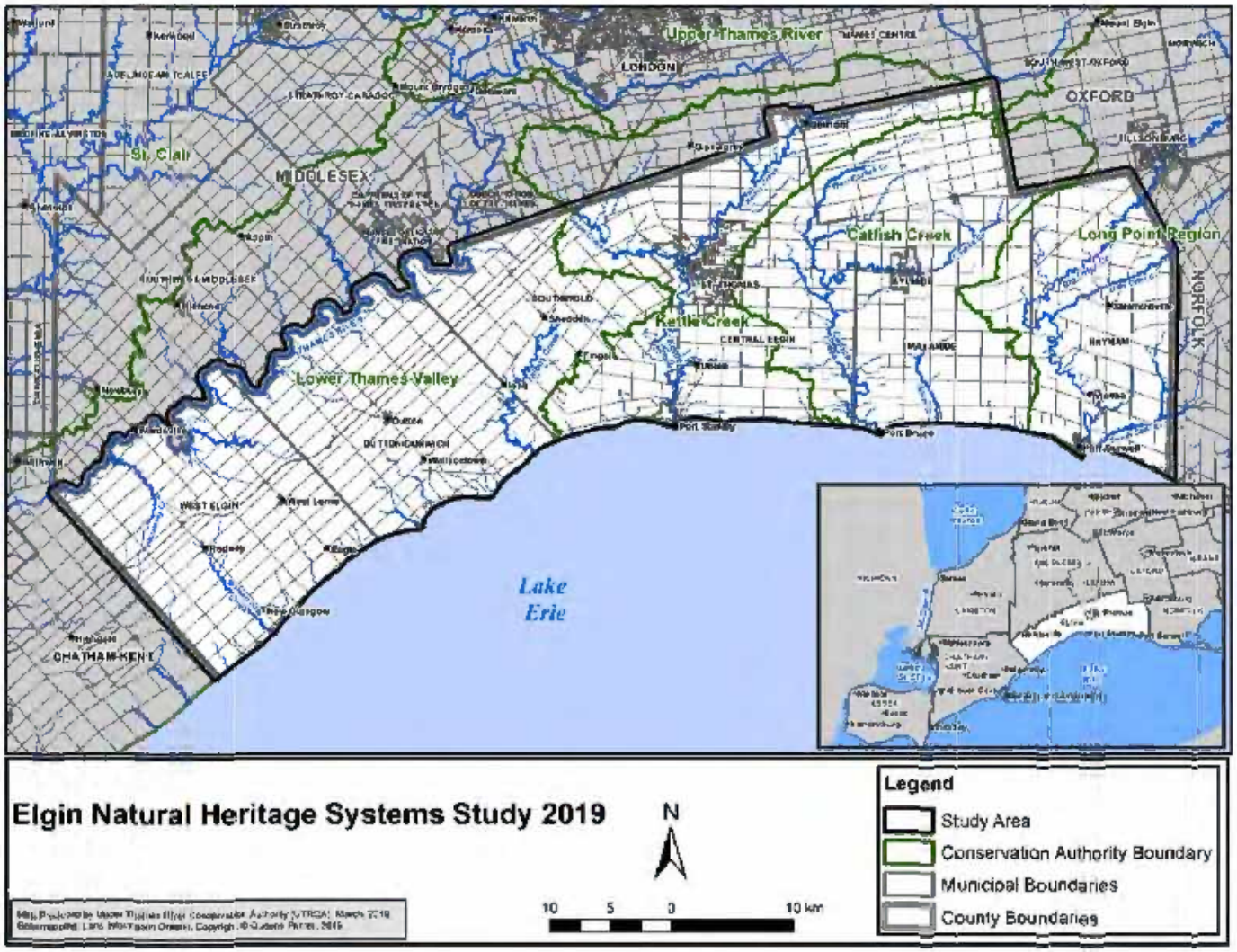
To involve all of the partners, a Project Team was assembled and invited to meetings to review the methodology and discuss various specifics around criteria, etc. The project was guided by a partnership of the following agencies:

- County of Elgin, Planning & GIS staff
- Upper Thames River Conservation Authority
- Lower Thames Valley Conservation Authority
- Kettle Creek Conservation Authority
- Catfish Creek Conservation Authority
- Long Point Region Conservation Authority
- Ministry of Natural Resources and Forestry (Aylmer Office)
- Ministry of Municipal Affairs and Housing
- Municipality of West Elgin
- Municipality of Dutton/Dunwich
- Township of Southwold
- Municipality of Central Elgin
- City of St. Thomas (separated city)
- Township of Malahide
- Municipality of Bayham
- Town of Aylmer

A total of three meetings were held between Sept 2018 and April 2019. The kick-off meeting provided an introduction to natural heritage systems studies and some of the technical issues to be discussed. The second meeting was a technical workshop where the woodland size cutoff options were reviewed in detail with draft mapping results, and the modeling criteria were reviewed in greater depth. The third meeting focused on reviewing the study findings, maps, and recommendations.

The County of Elgin approved the final project proposal and oversaw the fulfillment of project time lines and deliverables. The Upper Thames River Conservation Authority (UTRCA) oversaw project coordination.

Figure 1. County of Elgin showing Local Municipalities, City of St. Thomas and Conservation Authority Watersheds



Peer Review

A third party peer review of the ENHSS was not part of the contract as similar earlier studies have been peer reviewed and the ENHSS project team and steering committee provided feedback at several stages throughout the study.

The 2006 Oxford Natural Heritage Study (ONHS) and the 2014 Middlesex Natural Heritage Systems Study (MNHSS) were both peer-reviewed by third party consultants. The early 2006 ONHS was received by the County of Oxford and subjected to a third party per review. The basic approach was validated through the peer review and minor adjustments were made to some criteria.

The 2014 MNHSS was subjected to a technical peer review by a qualified third party expert at two stages in the process, the criteria development phase and the mapping results phase. This study was the first 'systems' study to evolve out of the earlier natural heritage studies, so a review was appropriate. Again, the approach was validated.

The only significant changes from the 2014 MNHSS to this ENHSS study are:

- the meadow size criterion cut-off was reduced from ≥ 10 ha in the MNHSS to ≥ 5 ha (the rational is included in section 3.4.2.),
- there was the addition of the Shoreline Zone criterion (see section 3.3.2), and
- the unmapped criterion (Significant Wildlife Habitat, Groundwater Dependent Ecosystems, and Watercourse Bluffs & Depositional Areas) were removed as criterion and grouped into the list of additional natural heritage features and areas that must be considered in an EIS (see Appendix N and Section 5.1).

The methodology used to identify the valleyland systems in the 2014 MNHSS and 2016 Oxford Natural Heritage Systems Study was reviewed by the MNRF who agreed that the methodology met evaluation criteria and standards as per the NHRM requirements to identify Significant Valleylands.

1.5 Significant versus Ecologically Important

As outlined in Section 1.1., this study maps and evaluates the natural heritage systems of Elgin County and its component features and areas, to provide the scientific basis for their identification by the County, as required to be consistent with the applicable natural heritage policies of the PPS.

The term/phrase "ecologically important" is used to identify the features of the natural heritage system that meet the ecologically based criteria established in this study. These features include:

- vegetation groups and patches that are "significant" as per the definitions of significant in the PPS and MNRF criteria, including significant woodlands, significant valleylands, fish habitat, provincially significant wetlands, and provincially significant ANSIs, and

- various other vegetation groups that are ecologically important from a natural heritage system analysis perspective, including additional features and areas such as meadows, thickets, regionally significant ANSIs, evaluated and unevaluated wetlands, and connected vegetation features. These latter features are not significant as per the PPS definition and the MNRF criteria (unless they are determined to be Significant Wildlife Habitat).

Table 1 summarizes the natural heritage features that meet the definition of significant and ecologically important.

The valleyland layer developed in this study meets the requirements of Significant Valleylands as noted in the previous section.

Natural Heritage Systems Studies identify "ecologically important" features using a series of ecologically based criteria and GIS modeling. Each criterion measures a unique aspect of the ecological services that a natural feature provides. Thus, any patch that meets at least one criterion is considered "ecologically important" in Elgin, with some of these ecologically important features also being significant as per the PPS.

This one-criterion approach has been utilized in many other studies including the 2016 Oxford Natural Heritage Systems Study, 2014 Middlesex Natural Heritage Systems Study and the 2014 Huron Natural Heritage Study. In these other studies, the criteria were called "significance criteria", but in this study the word "significant" has been replaced with "ecologically important". This change was made to distinguish the use of the word significant in the Provincial Policy Statement for features such as Provincially Significant Wetlands and Provincially Significant ANSIs.

Table 1. Significant versus Ecologically Important Natural Heritage Features and Areas

Natural Heritage Features	Significant as per the PPS	Ecologically Important in the ENHSS 2019
Significant Woodlands that meet PPS Criteria (as per Table 7-2 NHRM)	Yes	Yes (see Section 3.2.2 of this study)
Significant Valleylands	Yes	Yes (only the NHFs within or touching them)
Fish Habitat	Yes	No (not a criteria in this terrestrial study)
Provincial Earth Science ANSIs	Yes	No (some NHF&A on them may be if they meet other ENHSS criteria)
Provincial Life Science ANSIs	Yes	Yes
Regional Life Science ANSIs	No	Yes (the ENHSS is the appropriate regional scale to recognize them)
Provincially Significant Wetlands	Yes	Yes
Evaluated Wetlands (non-significant)	No	Yes
Unevaluated Wetlands	No	Yes
Meadows	No	Yes (if meet ENHSS group or patch criteria)
Thickets	No	Yes (if meet ENHSS group or patch criteria)
Connected Vegetation Features	No	Yes (if meet ENHSS group or patch criteria)
Non-significant Woodlands that do not meet PPS criteria	No	Yes (if they meet ENHSS patch criteria)
Water bodies and Major Watercourses	Yes (If they contain Fish Habitat)	Yes (if part of a group or patch that meets ENHSS criteria)
Other Natural Features and Areas that require field-level identification (e.g., they are not landscape level criteria so cannot be modeled as part of the ENHSS)		
Habitat of Endangered, Threatened species	Yes (where identified, under the SAR Act)	
Significant Wildlife Habitat	Yes (where identified, see SWH Criteria Schedule)	
Watercourse Bluffs and Depositional Areas	Yes (if they contain Fish Habitat)	
Groundwater Dependent Wetlands/Ecosystems	Yes (if they meet MNRF Provincially Significant Wetland criteria)	

1.6 Statement of Limitations (Scope)

The methodology for this study involves using the best available vegetation information from digital mapping layers and current landscape ecology literature to develop landscape criteria for local importance (e.g., size, proximity). Several limitations are noted in this section.

1.6.1 Mapping Limitations

The base mapping layer is based on spring colour 2015 aerial photography (ortho-imagery). The boundaries of the natural features are accurate for that point in time only. Base mapping layers are manually interpreted through an on-screen process. The *Vegetation Community* information is derived from the colours and patterns seen on the photography. Misinterpretation of certain features may occur. As well, the mapping layer is only accurate to the date and season when the air photo was taken. The 2015 photography was flown prior to leaf-out and is an excellent product for discerning natural heritage features.

Although the boundary of some natural heritage features will have changed from 2015 to present, it is important to use a base layer from a single point in time that is consistent across the county so that it can be used for future comparisons. If needed, an Environmental Impact Study will verify any changes to the boundaries of the natural features.

Another limitation with mapping features that are developed and maintained by dynamic processes (e.g., old field succession) is that they are more likely to change over a shorter period of time than features that are more stable (e.g., mature woodlands).

For many of the ecosystem functions and derived services, it is not possible or appropriate to delineate clear spatial boundaries between natural heritage features. Often these boundaries are dynamic in both space and time, depending on seasonal patterns of rainfall and/or land use. Dynamic processes include geomorphology (e.g., bluff development), natural disturbances such as fire, wind erosion, flooding, plant succession (e.g., meadow to thicket to woodland), and anthropogenic disturbances (e.g., cattle grazing, drainage changes, deforestation, etc.).

1.6.2 Watercourse Layer

Although digital data for watercourses exists for southern Ontario, this data is not current and was not updated as part of this study. Recognizing time and resource constraints, a method was developed that eliminated the need to update the entire watercourse layer when running the criteria. Using spring 2015 aerial photography (SWOOP – Southwestern Ontario Orthoimagery Project), an on-screen interpretation of the edge (i.e., the bank-full width) of open watercourses was completed in tandem with the interpretation of Vegetation Community boundaries. Section 3.3.3 provides more details.

Notwithstanding the state of the water course layer, it should be understood that all open watercourses are still considered to be potential fish habitat and should be screened for at the site level as part of any development application. All open watercourses are considered part of the aquatic system, however, this study focuses on the terrestrial system. Best available watercourse mapping is shown in Appendix I-3.

1.6.3 Connectivity and System Linkages

Ecological connectivity is a fundamental conservation biology principle that is scientifically defensible, yet difficult to identify given the dynamic nature of the landscape and the species within it (Rodewald 2003). In urban areas, roads, hard surfaces and dense human populations are an obvious barrier to many native plant and animal species. As a result, remaining wildlife linkages in existing developed urban areas are often limited to waterways, valleys and protected parkland/natural areas.

However, in agricultural landscapes, it is difficult to define linkages outside of the defined natural heritage system (woodlands, hedgerows, wetlands, major watercourses, etc.) where it could be argued that many farm fields can be part of the system. Ontario Nature (2014) recognizes the natural heritage / agricultural matrix interactions in southwestern Ontario. Crop fields and pastures do not present as much of a barrier to animal/seed movement as dense urban landuses, though they do not replace Natural Heritage Features and Areas (NHFA) and formal linkages. Thus the ENHSS does not attempt to identify current or future linkages between patches or across agricultural fields or along unvegetated stretches of watercourses (drains) in rural areas, as the concern over loss of connectivity is not asd great as it is for urban areas.

Identifying and planning for a natural heritage systems study ideally should include both the identification of patch and linkage/corridor attributes. This is supported in the policies/definition for natural heritage studies under the PPS 2014, and the technical guidance under the 2010 Natural Heritage Reference Manual.

This study identifies Significant Valleylands *as per* the methods established in the 2016 Oxford Natural Heritage Systems Study, which MNRF recommended form the backbone of the linkages/corridors of the Natural Heritage System. This study also identifies the Lake Erie shoreline zone as an important linkage feature that connects the vegetation groups along the shore as well as the lower ends of the valleys/ravines that discharge into the lake.

Chapter 5 outlines recommendations for identifying and evaluating natural linkages as part of the review of proposals to develop land for uses that could affect the ability for species to move between natural features. The recommendations consider the site as a part of the overall system and the need to demonstrate that there is no impact on the loss of connectivity and linkages between the features defined in this study. The analysis of proposed development of agricultural and future development lands for other uses must characterize and prioritize these linkages according to factors such as the presence of threatened and endangered species, proximity to other features, application of the Carolinian Canada Big Picture corridor rules, etc. As well, several criteria deal with proximity between Vegetation Communities and Patches.

This study evaluates what is significant, but does not attempt to analyze whether the natural heritage features are in the best location, nor does it build an ecologically sustainable ecosystem. Through the submissions of an Environmental Impact Study, opportunities to improve linkages should be provided.

1.7 Earlier Elgin Studies on Natural Areas and Features

Over the last few decades, several studies have been undertaken to identify the most important natural areas in the county and to further restore and conserve the natural heritage of Elgin County. These studies, and others like it, can be seen as the precursors to this landscape-level natural heritage systems study. This section highlights three key studies.

Significant Natural Areas of Elgin County, Ontario 1985-1986 (Carolinian Canada 1993)

In 1985-1986, an in-field study was undertaken in Elgin and Kent Counties, under the Carolinian Canada Committee, to identify key natural areas throughout the region which required protection through government and municipal planning processes in order to protect the natural diversity of the county. Identification of areas was accomplished by accumulating data on the vegetation, flora, fauna and physical features of candidate sites (Bowles, Oldham and Klinkenberg, 1993). A standard set of environmental criteria were developed by which to judge the sites. In total, 41 Significant Natural Areas were identified, those which met at least three, but usually more of the criteria.

Elgin Landscape Strategy (Elgin Stewardship Council 2005)

The Elgin Landscape Strategy is an information tool to identify and prioritize potential stewardship actions throughout Elgin County. It maps out key natural heritage areas where focused conservation and restoration efforts would be most effective in retaining a healthy and functioning landscape. The Elgin Stewardship Council, in partnership with many stakeholders, undertook this GIS mapping exercise, producing maps of restoration potential that identify the potential contribution of non-vegetated lands to meeting the county-wide stewardship goals. The strategy was meant to provide coordination and direction for informing stakeholders about options for land stewardship actions, a tool to identify and prioritize areas for rehabilitation in cooperation with landowners and the farming community.

Elgin Greenway Conservation Action Plan (Carolinian Canada Coalition 2012)

In 2012, the Carolinian Canada Coalition completed the Elgin Greenway Conservation Action Plan (CAP) in partnership with many local stewardship, agricultural and naturalist groups and agencies. The CAP identified 10 key conservation targets ranging from valley and ravine forests to inland wetlands and Species At Risk reptiles. It also identified key stressors and key conservation objectives and strategic actions to overcome or improve the health of the system including establishing functional ecological linkages between and within existing core natural areas, developing outreach strategies to communication the themes to residents, control the spread of invasive plant species, and develop a strategy to promote sustainable agricultural practices. As a spinoff project, the Thames Talbot Land Trust (TTLT) spearheaded the *Lake Eire Coastal Ravines Initiative* aimed at securing and protecting natural habitat specifically along Elgin County's coastline.

2.0 Mapping Guidelines

2.1 Assemble Digital Vegetation Layers (Base Mapping Layers)

Before evaluation criteria can be applied to the natural heritage features of the county, it is necessary to develop a method to define and delineate these natural heritage features and systems. Photo interpretation techniques using 2015 South Western Ontario Orthoimagery Project (SWOOP) as a backdrop were used to prepare a detailed and comprehensive mapping product of the natural heritage features in Elgin County. Air photo interpretation enables coarse level identification of vegetation communities without a site visit.

The natural heritage features were defined using a minimum scale of 1:2,000. The work was completed primarily by the UTRCA with base layers supplied by LTVCA, KCCA, CCCA, and LPRCA. Table 2 summarizes the work that each conservation authority undertook.

Table 2. Digital mapping layer development for the 2019 ENHSS

Agency	Data Provided
Lower Thames Valley CA	- Natural Heritage Cover, reviewed by UTRCA - Draft of Valley Lands and Lakeshore Zone
Kettle Creek CA	- Draft Woodlands - Hydrology - Component of Valley Lands and Shoreline Zone
Catfish Creek CA	- Draft Woodlands - Hydrology - Component of Valley Lands and Shoreline Zone
Long Point Region CA	- Hydrology - Component of Valley Lands and Shoreline Zone
Land Information Ontario	- Evaluated Wetlands layer, evaluated using the Ontario Wetland Evaluation System (MNRF) - Draft Woodland layer for Long Point Region CA watershed within Elgin County
Upper Thames River CA (as the ENHSS consultant)	- Review and update of natural heritage features using SWOOP 2015 imagery - Unevaluated Wetlands identified through a cursory view of the SWOOP imagery. No other wetland parameters (e.g., soils, elevation data, historical woodlands, etc.) were used to confirm wetland identification.

2.2 Delineation of Digital Vegetation Layers

Natural heritage in Elgin County is comprised of a hierarchy of four vegetation layers or components described in detail in this chapter and shown in the schematic below. The smallest unit of delineation is the *Vegetation Community*. *Vegetation Communities* are lumped by type into *Vegetation Groups* and contiguous *Vegetation Groups* are then lumped into *Vegetation Patches*. *Vegetation Communities* are also lumped by type into *Vegetation Ecosystems*.

The graphic below summarize and illustrate how the layers are put together and Table 3 summarizes the relationship between the various layers. Land ownership boundaries do not impact the creation of *Vegetation Communities*, *Groups*, *Ecosystems* and *Patches*. For example, any given *Vegetation Patch* could be under the ownership/jurisdiction of many landowners.

The metadata for *Vegetation Patch* and *Group* is included in Appendix F and the metadata for *Vegetation Community* is included in Appendix G.

Vegetation Layers in the ENHSS

Vegetation Community
smallest unit
17 types
↓
Vegetation Group
grouping of Vegetation Communities
6 types
↓
Vegetation Patch
grouping of contiguous Vegetation Groups

Vegetation Communities and Ecosystems

Vegetation Community
17 types
↓
Vegetation Ecosystem
grouping of Vegetation Communities
3 types

Table 3. Relationship between *Vegetation Communities*, *Groups* and *Ecosystems*

Vegetation Community (18 types)	*Vegetation Group* (7 types)	*Vegetation Ecosystem* (3 types)
Deciduous Woodland	Woodland	Terrestrial
Mixed Woodland	Woodland	Terrestrial
Coniferous Woodland	Woodland	Terrestrial
Mature Plantation	Woodland	Terrestrial
Deciduous Swamp	Woodland, Wetland	Wetland
Mixed Swamp	Woodland, Wetland	Wetland
Coniferous Swamp	Woodland, Wetland	Wetland
Plantation Swamp	Woodland, Wetland	Wetland
Upland Thicket	Thicket	Terrestrial
Young Plantation	Thicket	Terrestrial
Young Plantation Swamp	Thicket, Wetland	Wetland
Wetland Thicket	Thicket, Wetland	Wetland
Meadow Marsh	Meadow, Wetland	Wetland
Upland Meadow	Meadow	Terrestrial
Connected Vegetation Feature	Connected Vegetation Feature	Terrestrial
Water bodies	Water Feature	Aquatic
Major Watercourses	Water Feature	Aquatic

Note: The shoreline bluff can be considered an open vegetation community but because of its vertical nature it cannot be seen well on aerial photography (i.e., not wide enough) and so cannot be mapped. The Lakeshore Zone as a whole is an important natural heritage/landform feature, and is mapped as an overlay feature (see Section 3.3.2).

2.3 *Vegetation Communities*

The smallest unit mapped in this study is the *Vegetation Community.* The *Vegetation Community* is a unit of vegetation that is normally visible and consistently interpreted on remotely sensed images. *Vegetation Communities* are internally homogenous and distinguishable at a 1:2,000 scale by the dominant types of plant forms that characterize the *Vegetation Community*. The *Vegetation Communities* must be at least 0.5 ha in area and 30 m wide to be included (length is the longer direction and width is the shorter). This minimum width was chosen to ensure the protection of the roots of some of the tree species. Tree roots often extend out from the core of the tree to a distance of at least the height of the tree, and the average height of a mature tree in this region is 30 m. The Natural Heritage Reference Manual (section 7.3.2) suggests 0.5 ha in size and 40 m width, but the width was reduced to 30 m in the Middlesex, Oxford and Perth NHSSs for the reasons mentioned above.

Vegetated areas 20 to 30 m wide and connected to two or more *Vegetation Communities* are considered connecting features (e.g., hedgerows), not woodlands. Unconnected vegetated areas of the same width are not mapped or included in this study. Linear treed areas <20 m wide are considered windbreaks and are not mapped or included in this study, though it is understood that windbreaks do provide many benefits to the environment including protection from soil erosion. For consistency, the 30 m width was chosen as the minimum width for thickets and meadows as well as woodlands.

A Minimum Mapping Unit (MMU) of 0.5 ha was used as the minimum size of an isolated *Vegetation Community*. The Ecological Land Classification (ELC) (Lee *et al.* 1998) uses 0.5 ha and that is one of the standards referenced as being acceptable for woodland delineation in the PPS definition. Land cover classifications commonly use a MMU of 0.5 to 1.0 ha for large scale county level maps, and 10 to 100 ha for very small scale regional maps.

Exceptions to the 0.5 ha MMU rule in this study include:

- **Connected Vegetation Features.** These features do not have a minimal area associated with them, but they do have to be > 20 m in length and 20 to 30 m in width and connected to two or more *Vegetation Communities.*

- **Provincially Significant Wetlands.** Some evaluated wetland communities are smaller than 0.5 ha and are retained as part of the natural heritage system.

- **Artifacts of Mapping**. *Vegetation Communities* smaller than 0.5 ha in size are identified if they are either: 1) surrounded by *Vegetation Communities* or 2) connect two or more *Vegetation Communities* that are greater than 0.5 ha. A *Vegetation Community* < 0.5 ha does not, by itself, become a *Vegetation Group*, but it is included in the *Vegetation Patch* to maintain shape and size of the *Vegetation Patch* (see Figure 3).

Vegetation Communities in Elgin County were mapped using on-screen air photo interpretation. The work was guided by the Southern Ontario Land Resources Information System (SOLRIS) Image Interpretation Manual (MNR 2004).

A note about features that do and do not break up a vegetation community:

- **Small Intrusions** – Existing buildings, structures, gardens, manicured areas and waterbodies that are < 20 m in width are considered part of the surrounding natural feature (i.e., they do not cause a break in the *Vegetation Community*), as per the SOLRIS manual.

- **Roads, Railroads, Watercourses** − All municipal roads, railroads and watercourses do separate *Vegetation Communities* regardless of their width. However, later, when *Vegetation Communities* are put into *Vegetation Groups*, clustering rules apply when these features are < 20 m wide (see Section 2.4 and 2.4.7).

Seventeen types of *Vegetation Communities* were delineated in Elgin County for this study. Table 4 provides a description of each *Vegetation Community* including how they are identified and the ELC (Ecological Land Classification) equivalent. The ELC code name descriptions are provided in Appendix A1 and A2.

Royal Ferns grow in a deciduous swamp within the Lusty Family Tract of West Lorne Woods, a Thames Talbot Land Trust property. Photo by Cathy Quinlan.

Table 4. Definitions and attributes of the 17 *Vegetation Communities*

Vegetation Community	Description and Methods uses for Identification on Imagery	ELC Equivalent (Appendix A)
1. Deciduous Woodland (Forest)	- Contains ≥60% tree cover. Comprised of tree species that lose their leaves at the end of the growing season and are capable of reaching heights of several metres (typically 20-30 m). - Individual deciduous trees have a billowy texture on air photography. If the image is taken when trees are not in leaf, individual trees have a translucent appearance such that tree trunks can be seen through the branching canopy.	FOD
2. Mixed Woodland	- Contains ≥60% tree cover. Comprised of a combination of coniferous and deciduous tree types scattered throughout. - Each tree type comprises >25% but <75% of the canopy.	FOM
3. Coniferous Woodland	- Contains ≥60% tree cover. Comprised of >60% coniferous (cone-bearing) tree species capable of reaching heights of several metres. - Individual trees are dark in colour as most are evergreen, and have a conical shape with a pointed top.	FOC
4. Mature Plantation	- Contains ≥60% tree cover. Comprised of deciduous and/or coniferous tree species. - In the past, most plantations start as planted rows of conifers, but in time deciduous trees filled in. - Boundary distinguishable by at least one edge with a straight line. - At maturity, individual trees or rows of trees are not clearly discernible at 1:2,000.	CUP
5. Deciduous Swamp	- Contains ≥60% tree cover. Deciduous woodland with a more open canopy (indicating lower tree vigor) located in a wetland as identified by MNRF or CAs. - Common in Elgin. - The standing water, common in spring, appears dark in colour.	SWD
6. Mixed Swamp	- Contains ≥60% tree cover. Mixed woodland (coniferous and deciduous) with a more open canopy (indicating lower tree vigor) located in an MNRF or CA identified wetland area.	SWM
7. Coniferous Swamp	- Contains ≥60% tree cover. Coniferous woodland with a more open canopy (indicating lower tree vigor) located in a MNRF or CA identified wetland area. - Treed bogs, a type of coniferous wetland, are uncommon and often have a pond or low open thicket at the centre.	SWC
8. Plantation Swamp	- Contains ≥60% tree cover. A mature plantation with a more open canopy (indicating lower tree vigor) located in a MNRF or CA identified wetland area. - Not common in Elgin. - Trees are usually conifers (planted).	CUP
9. Upland Thicket	- Comprised of 25 to 60% tree or shrub cover. Shrubs are woody plants that are not capable of reaching heights of several metres. - < 20% standing water.	TPW, CUT, CUW
10. Wetland Thicket	- A thicket located either along a watercourse or in a MNRF or CA identified wetland area and/or has ≥20% standing water. - Has 10-25% tree cover or, <10% tree cover and >25% shrub cover. - Dark water tones interspersed demarking standing water.	SWT, FET, FES, BOT, BOS

11. Young Plantation	- Comprised of coniferous (usually) or deciduous trees planted in rows that are discernable at 1:2,000 scale. Trees short, not mature. - Boundary distinguishable by at least one edge with a straight line - Does NOT include fruit/nut orchards or Christmas tree farms and these may need to be verified at the site level if in question.	CUT, CUW
12. Young Plantation Wetland	- A young plantation *Vegetation Community* located in a MNRF or CA identified wetland area where individual trees or rows of trees are discernible at 1:2,000. Trees are usually young conifers.	CUT
13. Upland Meadow	- Comprised of grasses or forbs primarily, with <25% tree or shrub cover.	TPO, CUM
14. Meadow Marsh	- A meadow marsh *Vegetation Community* located in a wetland identified by the MNRF or CA, comprised of cattails, wetland grasses and other wetland forbs (non-treed). - Fens and open bogs may not be distinguished in the wetland mapping layer, but these habitats are uncommon in Elgin County. They should be distinguished when conducting EIS surveys.	FEO, BOO, MAM, MAS, SAS, SAM, SAF
15. Water Bodies	- Comprised of a body of standing water ≥ 20 m wide adjacent to another *Vegetation Community*. Can include a: • man-made pond associated with construction or extraction (e.g., aggregate pit), • reservoir created by a dam or barrier, • natural pond within a wetland or a natural water feature such as a kettle lake, or • sewage lagoon found in/on the outskirts of an urban area. - Appears as a flat plain surface on air photos; may show patterns of wind disturbance, floating aquatic vegetation, or cloud reflections.	OAO
16. Major Watercourse	- A linear feature >1 km long and mostly >20 m wide and containing flowing water at least for part of the year. - Delineated as a polygon using bank-full width as seen on aerial photography flown in the spring. - See Section 2.4.5 for more details.	OAO
17. Connected Vegetation Feature	- A linear feature comprised of woody plants (trees, shrubs) that connects two or more *Vegetation Communities*, often called a buffer, hedgerow or shelterbelt. - Length is >20 m and width is >20 m but <30 m. See Section 2.4.6 - Considered one feature as long as there are no gaps >20 m. - Often located between farm fields.	--

2.4 *Vegetation Groups*

Each *Vegetation Community* is assigned to broader *Vegetation Groups*. Six types of *Vegetation Groups* were delineated in Elgin County for this study:

1) Wetland (contains woodland, thicket and meadow)
2) Woodland
3) Thicket
4) Meadow
5) Water Feature, and
6) Connected Vegetation Feature.

Vegetation Groups are comprised of a mosaic of one or more *Vegetation Communities* within 20 m of each other, as illustrated in Figure 2. Figure 3 also illustrates *Vegetation Group* formation as well as *Vegetation Patch* formation.

Figure 2. Illustration of two Woodland *Vegetation Communities* (Deciduous Woodland and Deciduous Swamp) forming a *Woodland Group*

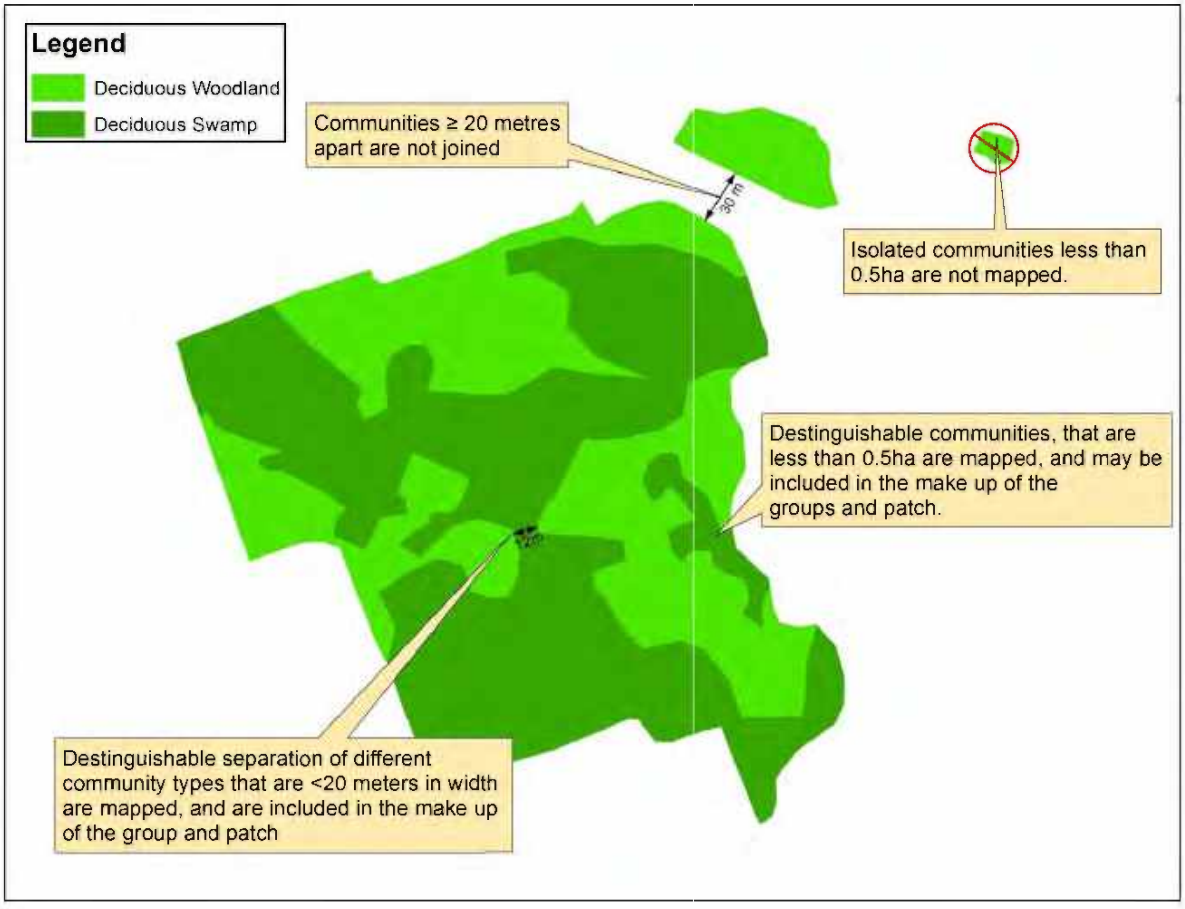
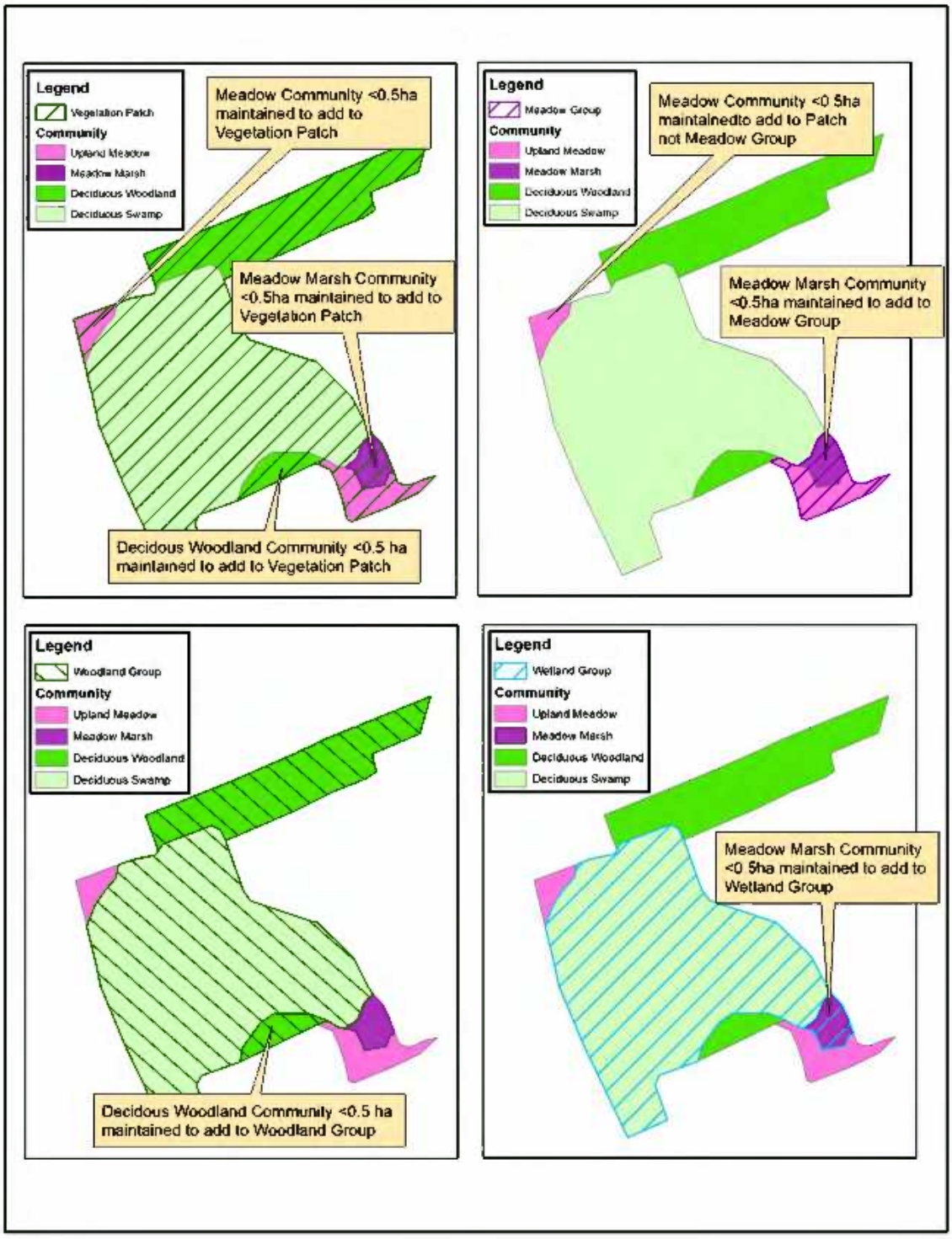


Figure 3. Illustration of how small and large *Vegetation Communities* are combined into *Vegetation Groups* and *Patches*



Note: Small *Vegetation Communities* <0.5 ha become part of *Vegetation Groups* if they are adjacent to (or <20 m from) a *Vegetation Community* of the same group (e.g., Deciduous Woodland and Deciduous Swamp are both in the Woodland Group). Small *Vegetation Communities* <0.5 ha become part of a *Vegetation Patch* if they are adjacent to any *Vegetation Community* within the patch.

Table 4, shown earlier, presents a comparison between the *Vegetation Groups* identified in this study to the ELC *Vegetation Community* Series level (Lee *et al.* 1998). Appendix A-2 contains additional details on the similarities and differences between the ELC (Ecological Land Classification) Vegetation Community Series and the *Vegetation Groups* defined in this study. There are four main differences outlined below.

- The ELC distinguishes whether the vegetation is the result of an anthropogenic (cultural) process or a natural process. However, it should not be assumed that a cultural feature is not significant. Cultural, disturbed or successional natural features can have significant ecological functions and could be identified as Significant Wildlife Habitat (SWH). Therefore, it is important to consider any ELC communities classified as cultural for their potential to provide important ecological functions by comparing the community description with criteria in the Significant Wildlife Habitat Technical Guide. Thus, there is no distinction in this study as to whether the vegetation was influenced by natural or anthropogenic (cultural) processes.

- The ELC defines Open Water bodies as > 2 m depth and Shallow Water bodies as <2 m depth. Since depth of water bodies cannot be determined from aerial photos or remotely sensed data, these two features are combined into a single open water feature.

- The key factor in distinguishing wetlands from water bodies and other aquatic components in the ELC is the presence of > 25% emergent or woody vegetation cover. For this study, water bodies did not contain any water tolerant herbaceous or woody plants.

- The ELC distinguishes thickets, woodlands and forests. The ELC lists two types of woodlands (Tallgrass Woodland TPW and Cultural Woodland CUW), with a tree cover of 35% to ≤60%. Both these woodland types are rare in Elgin. For the ENHSS, these ELC woodlands were lumped in the thicket *Vegetation Community* because of the low tree cover. As well, the ELC defines forests as habitats with > 60% tree cover. The ENHSS calls them woodlands to be consistent with the PPS wording. See Appendix A for more details.

2.4.1 Wetland *Vegetation Group*

The wetland *Vegetation Group* is comprised of seven wetland *Vegetation Communities* of which four are treed and three are untreed:

1) coniferous swamp (treed)
2) deciduous swamp (treed)
3) mixed swamp (treed)
4) plantation swamp (treed)
5) wetland thicket (untreed)
6) meadow marsh (untreed)
7) young plantation wetland (untreed)

The wetland information for this study was derived from the MNRF Evaluated Wetlands layer (2017). Additional unevaluated wetlands were mapped through air photo interpretation by the UTRCA during the vegetation mapping for this study. The full procedure for mapping unevaluated wetlands was not used so additional work to refine the layer and to map additional unevaluated wetlands may still be required.

2.4.2 Woodland *Vegetation Group*

The Woodland *Vegetation Group* is comprised of eight *Vegetation Communities*, of which four are terrestrial/upland and four are wetland:

1) coniferous woodland (terrestrial/upland),
2) deciduous woodland (terrestrial/upland),
3) mixed woodland (terrestrial/upland),
4) mature plantation (terrestrial/upland),
5) coniferous swamp (wetland),
6) deciduous swamp (wetland),
7) mixed swamp (wetland) and
8) plantation swamp (wetland).

Because this is a GIS exercise, the SOLRIS (Southern Ontario Land Resources Information System) definition for woodland is used: Woodland describes areas with more than 60% tree cover. The ELC uses the word *forest* for this same definition, but to be consistent with the PPS, the word woodland is used in this study. In the NHRF (OMNR 2010), woodland means "a treed area, woodlot or forested area, other than a cultivated fruit or nut orchard or a plantation established for the purpose of producing Christmas trees, that is located south and east of the Canadian Shield".

Mature plantations and plantation swamps are included as part of the woodland *Vegetation Group* as they are important components in the ecosystem. Mature plantations are old enough that the original tree rows (usually conifers) are not very visible on the ortho-imagery because a variety of other tree species (usually deciduous) have moved in. Plantation swamps are communities where trees have been planted in an area recognized as a wetland (evaluated or unevaluated) and the trees are full size or taller than shrub height.

Similar to natural forests and woodlands, plantations contribute to the net removal of carbon dioxide from the atmosphere, produce oxygen, modify wind and temperature, remediate soil pollution and structure and provide wildlife habitat. Often, landowners plant trees into a plantation or block planting to retire a parcel of land from agriculture and begin the process of natural succession towards mature forest/woodland. Narrow plantings of trees < 30 m wide and < 0.5 ha in size are not included in this group as they fall into the category of windbreaks, screen trees or visual barriers.

2.4.3 Thicket *Vegetation Group*

The Thicket *Vegetation Group* is comprised of four *Vegetation Communities*, two terrestrial and two wetland:

1) upland thicket (terrestrial/upland),
2) young plantation (terrestrial/upland),
3) wetland thicket (wetland), and
4) young plantation swamp (wetland).

Thickets are usually early successional communities dominated by shrubs, young trees or stunted mature trees. Upland thickets that develop on abandoned farm fields succeed to woodland much more quickly than wetland thickets which tend to be found in areas too wet for trees. Wetland thickets may also succeed to swamp if the wetland slowly fills in. Thickets along watercourses may be maintained even longer as flooding and ice scour knock back trees. Young tree plantations are called thickets when the trees are still short (e.g., shrub height).

Table 4 provides definitions for each thicket *Vegetation Community*. To be included, thicket *Vegetation Communities* must be ≥ 30 m wide and ≥ 0.5 ha.

2.4.4 Meadow *Vegetation Group*

The Meadow *Vegetation Group* is comprised of two *Vegetation Communities*, one terrestrial/upland and one wetland:

1) upland meadow (terrestrial/upland), and
2) meadow marsh (wetland).

Table 4 provides a description of the defining meadow habitat features. Meadows are short, open *Vegetation Communities* dominated by grasses and broad-leaved herbaceous plants and a scattering of shrubs and trees. Many meadows in Elgin County are old fields of cultural origin (e.g., abandoned or retired farmland, future development land) and may, in time, succeed to thicket and then forest/woodland if left in a natural state. Meadows are often transitional communities, as in the examples given. However, meadows along watercourses may be more permanent habitats as the frequent flooding and ice scour keeps trees and shrubs from becoming established.

Meadows must be ≥ 30 m wide and ≥ 0.5 ha to be included. Pastures are not included in meadows as they are often heavily grazed and are part of the farm cycle.

2.4.5 Water Feature *Vegetation Group*

The Water Feature *Vegetation Group* is comprised of two *Vegetation Communities*:

1) permanent water bodies and
2) major watercourses.

Permanent water bodies include natural and man-made ponds ≥ 20 m wide and ≥ 0.5 ha in size without any vegetation cover or emergent vegetation.

Major watercourses are defined as watercourses ≥ 20 wide and ≥ 1 km long. Short stretches of major watercourses that are < 20 m wide are included as part of the major watercourse to maintain continuity. However, when a watercourse is < 20 m wide for 1 km or longer, it no longer becomes a major watercourse and becomes part of the surrounding *Vegetation Group*. However, all open watercourses are used to inform the proximity criteria as described in Section 3.3.3.

2.4.6 Connected Vegetation Feature *Vegetation Group*

The Connected Vegetation Feature *Vegetation Group* is comprised only of the Connected Vegetation Features *Vegetation Community*. Connected Vegetation Features are narrow *Vegetation Communities* consisting of trees and/or shrubs that connect two or more *Vegetation Communities*. They must be >20 m long and 20-30 m wide. They are sometimes called buffers, hedgerows, shelterbelts or natural fencerows. For example, a connected vegetation feature can connect two deciduous woodlands, or it can connect a deciduous woodland and a major watercourse, or a water body and a meadow marsh and a mixed woodland.

They are an important component of the natural heritage system because they provide corridors for wildlife movement as well as wildlife habitat, and may include remnants of vegetation present prior to disturbance (e.g., forest remnants). More common in the past, many of these features have been or are being removed in the agricultural landscape to increase field size. This is despite the fact that these features have many advantages to agriculture including protecting crops from wind damage, protecting soil from wind erosion, increasing crop yields, conserving water and controlling snow accumulation (Agriculture Canada and Ministry of Agriculture and Food 1992). Hedgerows provide a barrier that can slow water flow and trap soil particles especially along waterways (Hobbs and McGrath, 1998).

Section 7.3.2 of the Natural Heritage Reference Manual (NHRM) (MNR 2010) recommends establishing a minimum width to Woodland *Vegetation Groups* to exclude these relatively narrow linear treed areas (e.g., windbreaks). Recognizing that breaks < 20 m are too small to separate Woodland *Vegetation Groups*, the width of a connected vegetation feature was defined as being >20 m but < 30 m in width.

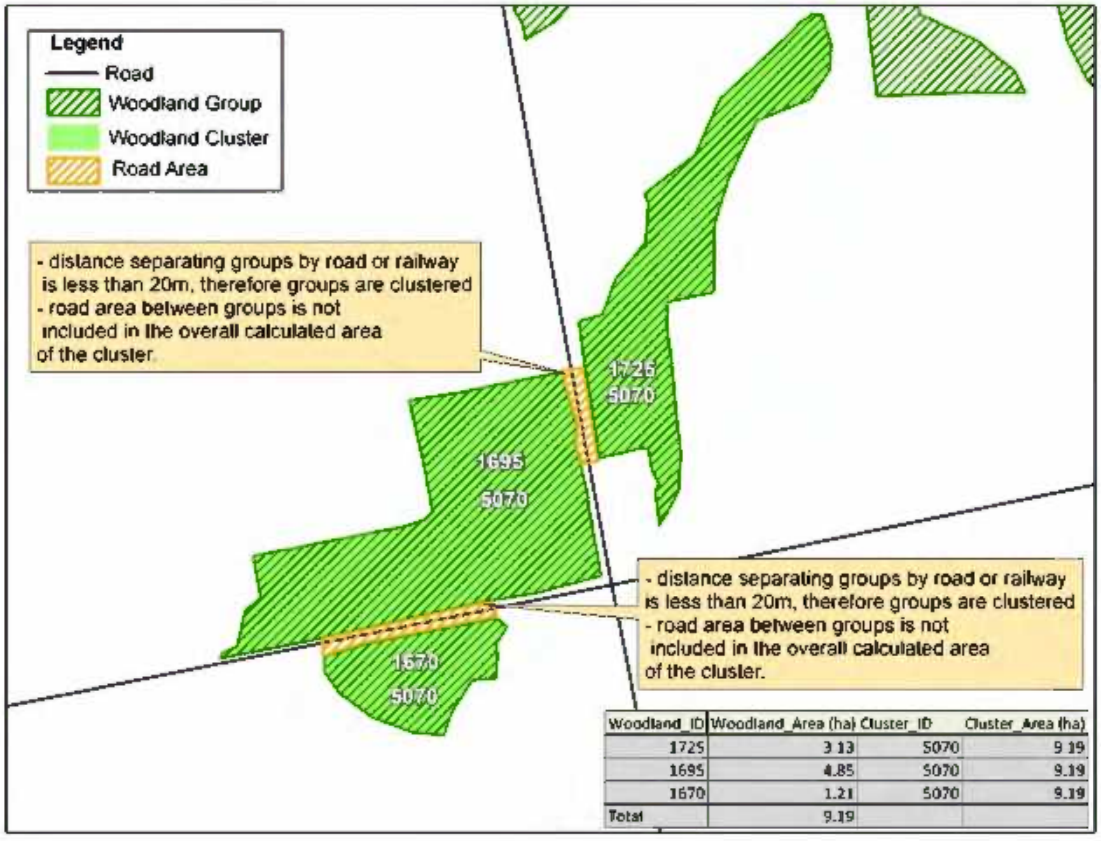
2.4.7 Clustering around Narrow Breaks (Roads, Railroads, Rivers)

As stated in Section 2.3, roads, railroads and watercourses ≥ 20 m separate *Vegetation Communities* and *Vegetation Groups*. Where roads, railroads and watercourses are < 20 m wide, the vegetation is not broken, but an extra step in the mapping is needed so that the area of the road/railroad/ watercourse is not included when vegetation area measurements are calculated, as per section 7.3.2 of the Natural Heritage Reference Manual (MNR 2010). This step is called clustering and is applied to woodlands, thickets and meadow groups.

Clustering methodology is as follows (see Figure 4 example):

- A unique identification number is assigned to each *Vegetation Group* (in Figure 4: 1725, 1695, 1670).
- A unique cluster identification number is assigned to each clustered *Vegetation Group* (5070).
- Clustering was applied to the *Vegetation Groups* before modeling the criteria (Chapter 3).
- Criteria that measure area were applied to the entire clustered *Vegetation Group* (5070), and then the area of the road was subtracted.
- The remaining criteria were applied to the clustered *Vegetation Groups* (5070).

Figure 4. Illustration of clustering *Vegetation Groups* (1725, 1695, 1670) around narrow roads into one Woodland Cluster (5070)



2.5 *Vegetation Patches*

A *Vegetation Patch* is a mosaic of one or many different abutting (or < 20 m apart) *Vegetation Groups* (see Figure 5).

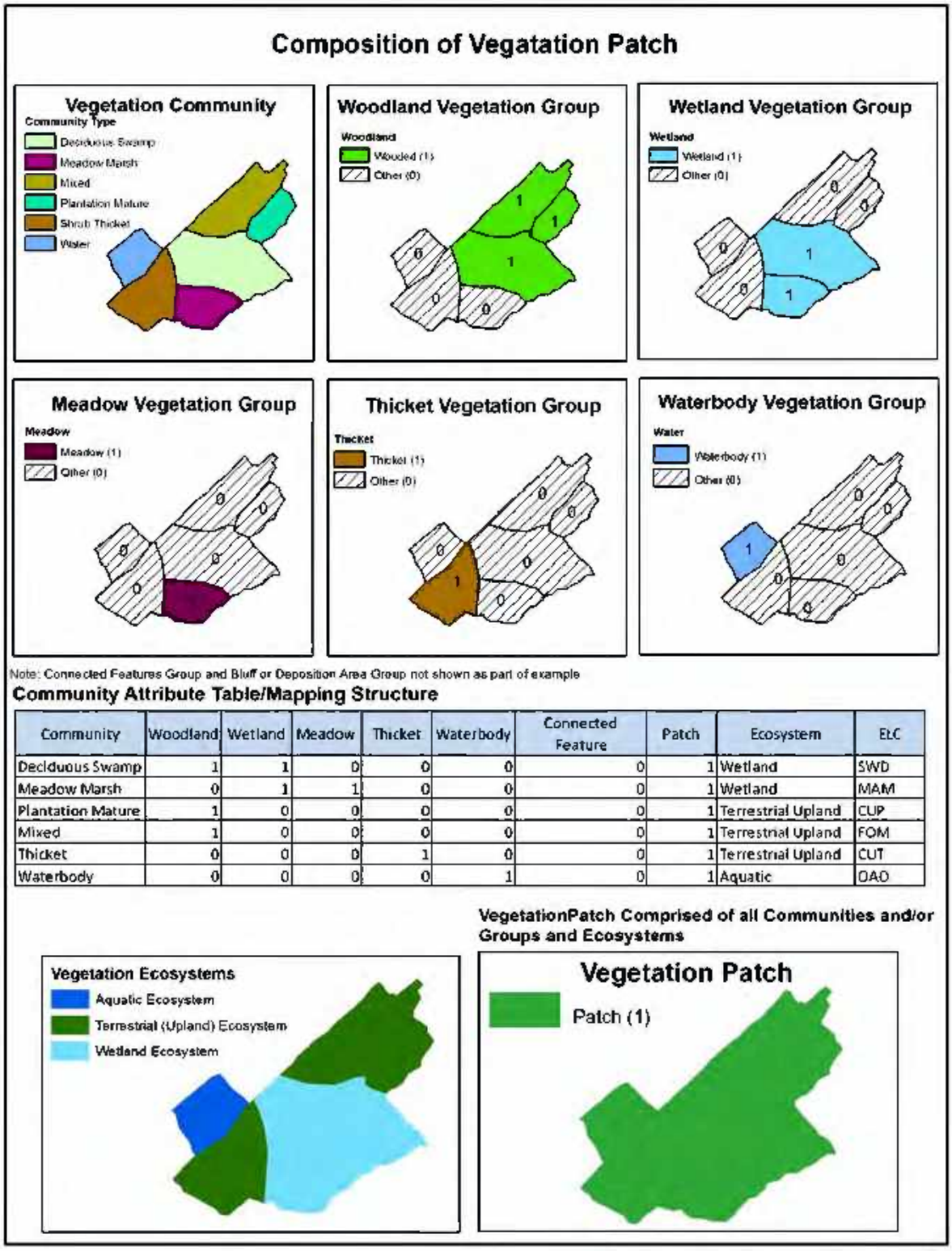
Roads ≥ 20 m wide separate *Vegetation Patches* as they do for *Vegetation Groups*. However, where smaller roads < 20 m wide separate *Vegetation Patches*, the patches are rejoined as a cluster as described for *Vegetation Groups* in Section 2.4.8. Clustering is applied to the *Vegetation Patches* before modeling the patch criteria (see Table 9). Since the NHRM does not calculate the area of a road when determining size and interior (MNR 2010), area criteria will be applied to the entire clustered *Vegetation Patch* less the area of the road. The remaining criteria will be applied to the clustered *Vegetation Patches* and include the road and railroads as part of the *Vegetation Patch* (see Figure 4).

A *Vegetation Patch* digital layer was created with unique number attributes assigned to each *Vegetation Patch*:

- the unique identification number to each *Vegetation Patch*, and
- a unique cluster identification number for clustered *Vegetation Patch*(s).

The young tree planting site in the foreground is classified as a meadow until the trees reach close to mature height. This meadow is also part of a patch that contains the adjacent woodland.
Photo by Cathy Quinlan

Figure 5. Illustration of the composition of a *Vegetation Patch* comprised of different *Vegetation Communities*, *Groups* and *Ecosystems*



Note: Connected Features Group and Bluff or Deposition Area Group not shown as part of example

Community Attribute Table/Mapping Structure

Community	Woodland	Wetland	Meadow	Thicket	Waterbody	Connected Feature	Patch	Ecosystem	ELC
Deciduous Swamp	1	1	0	0	0	0	1	Wetland	SWD
Meadow Marsh	0	1	1	0	0	0	1	Wetland	MAM
Plantation Mature	1	0	0	0	0	0	1	Terrestrial Upland	CUP
Mixed	1	0	0	0	0	0	1	Terrestrial Upland	FOM
Thicket	0	0	0	1	0	0	1	Terrestrial Upland	CUT
Waterbody	0	0	0	0	1	0	1	Aquatic	OAO

2.6 *Vegetation Ecosystems*

The 18 *Vegetation Communities* belong to one of three *Vegetation Ecosystems*:

1) terrestrial,
2) wetland and
3) aquatic.

Vegetation Groups can belong to one or more *Vegetation Ecosystem* (see Table 5). For example, woodland, thicket and meadow *Vegetation Groups* include both wetland and terrestrial *Vegetation Communities*. The only time *Vegetation Ecosystems* are used is for Criterion 13 on habitat diversity.

Terrestrial Vegetation Ecosystem

Table 5 lists the nine *Vegetation Communities* and five *Vegetation Groups* that are part of the *Terrestrial Vegetation Ecosystem* within this study.

Terrestrial *Vegetation Ecosystems* occur where soil moisture is scarce for at least some point in the growing season. Terrestrial *Vegetation Ecosystems* are distinguished from wetland or aquatic Vegetation Ecosystems by:

- a lower availability of water and the consequent importance of water as a limiting factor,
- greater temperature fluctuations on both a diurnal and seasonal basis,
- greater availability of light and gases (including carbon dioxide for photosynthesis, oxygen for aerobic respiration, and nitrogen for nitrogen fixation), and
- a subterranean portion (soil) from which most water and ions are obtained, and an atmospheric portion from which gases are obtained and where the physical energy of light is transformed into the organic energy of carbon-carbon bonds through the process of photosynthesis.

Wetland Vegetation Ecosystem

Table 5 lists the seven *Vegetation Communities* and four *Vegetation Groups* that are part of the *Wetland Vegetation Ecosystem*. Wetland *Vegetation Ecosystems* are considered semi aquatic. Section 2.4.1 describes how these features were identified and delineated.

Aquatic Vegetation Ecosystem

Table 5 lists the two *Vegetation Communities* (Water Bodies and Major Watercourses) and one *Vegetation Group* (Water Body Feature) that are part of the Aquatic *Vegetation Ecosystem*. Freshwater aquatic *Vegetation Ecosystems* are characterized as lotic (having flowing water) or lentic (still water).

Table 5. ***Vegetation Ecosystems*** **in relation to** ***Vegetation Communities*** **and** ***Groups***

	Vegetation Ecosystem		
	Terrestrial	**Wetland**	**Aquatic**
Vegetation Community			
Deciduous Woodland	Yes		
Coniferous Woodland	Yes		
Mixed Woodland	Yes		
Mature Plantation	Yes		
Deciduous Swamp		Yes	
Mixed Swamp		Yes	
Coniferous Swamp		Yes	
Plantation Swamp		Yes	
Upland Thicket	Yes		
Wetland Thicket		Yes	
Young Plantation	Yes		
Young Plantation Wetland		Yes	
Upland Meadow	Yes		
Meadow Marsh		Yes	
Water Bodies			Yes
Major Watercourse			Yes
Connected Vegetation Feature	Yes		
Vegetation Group			
Woodland	Yes	Yes	
Thicket	Yes	Yes	
Meadow	Yes	Yes	
Wetland		Yes	
Water Body Feature			Yes
Connected Vegetation Feature	Yes		

2.7 Results of Mapping the Vegetation Layers

Table 6 summarizes the number and area of the three vegetation layers: communities, groups and patches. The 7,413 *Vegetation Communities* are merged into 4,072 *Vegetation Groups*, and then are compiled into 1,909 *Vegetation Patches*.

Table 6. Number of *Vegetation Communities*, *Groups* and *Patches* in the Study Area

Vegetation Layers	Approximate Number in the Study Area*
Communities	7,413
Groups	4,072 (642 Wetlands**)
Patches	1,909

*The Study Area is the area of geographic Elgin County plus a 500 m buffer around the perimeter, excluding the lake side which ends at the top of the bluff, established to capture natural heritage features that are located on both sides of the boundary and need to be modeled based on their full size. The area is 197,159 ha.

***Wetland Groups* are all part of other *Vegetation Groups* (e.g., Deciduous Swamp is part of the *Wetland Group* and *Woodland Group*) so it is double counting to add them to the 4,072 other groups.

Table 7 shows the number and area of each *Vegetation Community* in the study area (buffered Elgin). Table 8 shows the same information, sorted from largest to smallest area.

The three *Vegetation Communities* making up the largest area (83% of total vegetation cover) are: deciduous woodland, mixed woodland and deciduous swamp. Deciduous woodland is by far the largest community at 26,228 ha or 56% of the total vegetation cover. In second place is mixed woodland (coniferous/deciduous woodland) at 8,070 ha or 17.3% of the total vegetation cover. A distant third, deciduous swamp at 4,156 ha or 8.9% of the vegetation cover. In fourth place is upland meadow at 3,226 ha or 6.9% of the vegetation cover.

Table 7. Number and area of the 17 *Vegetation Community* types in the Study Area

Vegetation Community **(sorted by like types)**	**Number of *Vegetation Communities***	**Area of *Vegetation Communities*** (ha)	**% Area of all *Vegetation Communities*** (46,548 ha)	**% of Elgin Study Area** (197,159 ha)
Deciduous Woodland	2,428	26,228	56.3%	13.30%
Mixed Woodland	465	8,070	17.3%	4.09%
Coniferous Woodland	450	993	2.1%	0.50%
Mature Plantation	131	331	0.7%	0.17%
Deciduous Swamp	589	4,156	8.9%	2.11%
Mixed Swamp	90	579	1.2%	0.29%
Coniferous Swamp	20	9	<1%	0.00%
Plantation Swamp	1	<1	0%	0.00%
Upland Thicket	679	1,206	2.6%	0.61%
Wetland Thicket	53	86	0.2%	0.04%
Young Plantation	133	237	0.5%	0.12%
Young Plantation Swamp	0	0	0%	0.00%
Upland Meadow	1,724	3,225	6.9%	1.64%
Marsh Meadow (Meadow Marsh)	219	317	0.7%	0.16%
Water Body	230	408	0.9%	0.21%
Major Watercourse	15	541	1.2%	0.27%
Connected Vegetation Feature	184	160	0.3%	0.08%
TOTAL	**7,411**	**46,548**	**100%**	**23.61%**
Shoreline Zone*		8,842		

Notes:

- Study Area = Geographic Elgin County plus a 500 m buffer around all sides except the lake side. The boundary is the top of the bank, not the waterline or out into the lake.
- *The Shoreline Zone is an important natural feature in Elgin, and is treated as an overlay feature for the purposes of this study, similar to the Significant Valleylands. Its area is shown here for information only. It is not treated as a vegetation community or vegetation group because it is extremely large (8,842 ha) and would skew the percent vegetation cover results.

Table 8. *Vegetation Community* types sorted by Area in the Study Area

Order Number	*Vegetation Community*	Area (ha)	% of Total Vegetation Community Area (46,548 ha)
1	**Deciduous Woodland**	26,228	56.3%
2	**Mixed Woodland**	8,070	17.3%
3	**Deciduous Swamp**	4,156	8.9%
4	**Upland Meadow**	3,225	6.9%
5	**Upland Thicket**	1,206	2.6%
6	**Coniferous Woodland**	993	2.1%
7	**Major Watercourse**	541	1.2%
8	**Water Body**	408	0.9%
9	**Mixed Swamp**	579	1.2%
10	**Mature Plantation**	331	0.7%
11	**Marsh Meadow/Meadow Marsh**	317	0.7%
12	**Young Plantation**	237	0.5%
13	**Connected Veg Feature**	160	0.3%
14	**Wetland Thicket**	86	0.2%
15	**Coniferous Swamp**	9	<0.0%
16	**Plantation Swamp**	<1	<0.0%
17	**Young Plantation Swamp**	0	0.0%
	Total	**46,548**	**100%**
	Shoreline Zone*	8,842	

Notes:

- Study Area = Geographic Elgin County plus a 500 m buffer around all sides but the lake side. The boundary is the top of the bank, not the waterline or out into the lake.
- *The Shoreline Bluff is an important natural feature in Elgin, and is treated as an overlay feature for the purposes of this study, similar to the Significant Valleylands. Its area is shown here for information. It is not treated as a vegetation community or vegetation group because it is extremely large (8,842 ha) and would skew the percent vegetation cover results.

Table 9 summarizes the information by *Vegetation Group* for the Study Area. Vegetation Groups make up 23.89% of the Elgin Study Area. As expected, the woodland group is the largest. Overall, woodland covers 20.77% of the Elgin Study Area, meadow 1.80%, thicket 0.77%, water features 0.48% and connected vegetation features 0.07%. Watercourse bluffs and depositional areas are not mapped but will be very small.

There is 2.64% wetland cover in the county, comprised of swamps, wetland thickets and meadow marshes. It makes up 11.1% of the vegetation cover. The 2.64% wetland cover is part of the total vegetation cover, not in addition to it.

Table 9. Area of *Vegetation Groups* as a percentage of the Elgin Study Area

Vegetation Group	**# of groups**	**Area (ha)**	**% Area of Total Vegetation Cover** (47,107 ha)	**% of Elgin Study Area** (197,159 ha)
Woodland	1,730	40,949	6.9%	20.77%
Thicket	784	1,527	3.2%	0.77%
Meadow	1,217	3,544	7.5%	1.80%
Water Feature	237	949	2.0%	0.48%
Connected Veg. Feature	104	138	0.3%	0.07%
Total	**4,072**	**47,107**	**100%**	**23.89%**
Wetland Group (part of the total above)	690	5,210	11.1%	2.64%

3.0 Criteria for Ecological Importance

3.1 Background

In settled landscapes, both habitat loss and fragmentation of the original natural cover increases the significance of, and need to protect, any remaining natural heritage features and functions (Levenson 1981, Lovett *et al*. 2005, Manning *et al*. 2004). However, haphazard protection of individual natural heritage features is unlikely to ensure the survival of species or ecosystems, as it does not take into account how well the remaining natural features function or how effective they are in providing environmental benefits (Humke *et al*. 1975).

Carter (2000), Bowles (1997) and Bowles *et al*. (2000) argue that no single characteristic can sufficiently measure the value of a natural feature. On the one hand, there is a danger of cumulative loss when habitat patches are assessed solely on site specific characteristics because their importance within the broader landscape is unknown. On the other hand, the external characteristics or location of a feature using landscape metrics such as size, connectedness, regional representation, and hydrological function may not always reflect its internal quality. Instead, it is important to use multiple criteria to assess the characteristics of a natural feature.

Site level analysis (i.e., biological inventory) is not feasible for a county scale study. However, local municipalities, because of their smaller geographic area, are encouraged to conduct more in-depth studies and evaluate their natural heritage features at the site level. For example, the City of London has used landscape, community and species parameters to assess importance/significance (City of London 2006). In general, regional (i.e., county) natural heritage studies evaluate natural areas based on landscape metrics while local (i.e., lower tier) natural heritage studies tend to use both landscape metrics and site specific content metrics (i.e., what the natural feature contains).

The location, size and shape of a *Vegetation Patch* have been identified as critical factors in the maintenance of species diversity and abundance in fragmented landscapes (Burgess and Sharpe 1981, Forman 1995a, b and c, Forman and Godron 1986, Harris 1984, Turner and Gardner 1991, Schiefele and Mulamoottil 1987, Robbins *et al*. 1989, Hounsell 1989, Weyrauch and Grubb 2004). These metrics act as surrogate measurements of more detailed studies and can be easily measured using remote sensing/GIS.

However, these indicators provide only a partial picture of the complexity of ecosystem functioning. Land managers must realize that conservation of biological diversity might not be achieved by manipulating the size and configuration of remnant *Vegetation Patches*, but instead depend on how the extensive areas surrounding the *Vegetation Patches* are managed. Recognizing that this area of human modified land, the habitat matrix, overwhelmingly dominates all of the world's terrestrial ecosystems (Foley *et al*. 2005, Lindenmayer and Franklin 2002), conservation biologists and resource managers need to also focus attention on improving the quality of the habitat matrix and the environmental impacts associated with a change of land use in the habitat matrix if programs to conserve biological diversity are to succeed.

3.2 Ecologically Important Criteria

According to the Natural Heritage Reference Manual (MNR 2010), the responsibility for the identification and evaluation of significant wetlands and Areas of Natural and Scientific Interest (ANSIs), in accordance with the PPS, lies with the Ontario Ministry of Natural Resources and Forestry (MNRF). The MNRF also approves what is to be considered as significant habitat of endangered species and threatened species. In all other cases, with the exception of fish habitat, the responsibility for the identification, evaluation and designation of significant natural features and areas in accordance with the PPS lies with the planning authority.

The purpose of this 2019 Elgin Natural Heritage Systems Study is to identify the Natural Heritage Systems, which is comprised of "ecologically important" natural features and areas identifiable on 2015 colour air photos of Elgin County using a set of ecological criteria that include and go beyond the criteria for Significance according to the PPS.

The term "Significant" as it relates to Natural Heritage Features and Areas in the (PPS) is discussed on page 2 of this report. Natural Heritage Features and Areas include the following:

- Significant Wetlands,
- Significant Woodlands,
- Significant Valleylands,
- Significant Areas of Natural and Scientific Interest (ANSIs), Life and Earth Science*,
- Fish Habitat*,
- Habitat of Endangered and Threatened Species*, and
- Significant Wildlife Habitat*.

Of the above features, those with asterisks (*) are not identified in this study. Earth Science ANSIs are not necessarily correlated to the importance of the vegetation community on it. The presence of an Earth Science ANSI does not mean that there are unique vegetation community features that result from the characteristics of the Earth Science ANSI (e.g., a moraine or glacial spillway). Fish habitat is identified by DFO (Department of Fisheries and Oceans). This study does not identify or address habitat of endangered and threatened species because Species at Risk have their own legislation and are not uniformly mapped across the landscape (i.e., they need to be identified at the site level). Significant Wildlife Habitat also needs to be identified at the site level (see Chapter 5, Recommendations). These features should still be identified at the site level during an EIS (see Chapter 5).

3.2.1 Thirteen Ecologically Important Criteria

Thirteen criteria were developed in this study to identify ecologically important *Vegetation Patches*, using the discrete *Vegetation Communities*, *Vegetation Groups* and *Vegetation Patches* defined in Chapter 2. Table 10 provides a summary of the criteria. Appendix D provides a more detailed summary table that includes rationale and a list of other studies that have used the criteria.

Criteria 1 to 10 are used to identify ecologically important *Vegetation Groups*. Criteria 1 to 4 are applied to all *Vegetation Groups*. Criterion 5 is applied to wetlands only. Criteria 6 to 10 are applied to either woodlands, thickets or meadows and are based on specific size cutoffs and proximity. Criteria 11 to 13 are applied to all *Vegetation Patc*hes.

Two additional criteria (patches ≥ 100 ha and woodland with interior ≥0.5 ha) were modeled but did not capture any patches that were not already captured by other criteria, so they were not used. However, the results are provided as additional information (Section 3.6). As well, many other criteria were examined but were not used for a variety of reasons as described in Appendix E.

Table 10. Summary of the 13 Ecologically Important Criteria

Criterion #	Key Words	Description
Applied to *Vegetation Groups*		
1	**Significant Valleylands**	Any *Vegetation Group* within or touching a Significant Valleyland
2	**Shoreline Zone**	Any *Vegetation Group* within 100 m of the Shoreline Zone
3	**ANSI**	Any *Vegetation Group* located within or touching a provincial or regional Life Science ANSI (Area of Natural and Scientific Interest)
4	**Open Watercourse**	Any *Vegetation Group* located within 30 m of an Open Watercourse
5	**Wetlands**	All evaluated and unevaluated Wetland *Vegetation Groups* ≥ 0.5 ha (*Note*: additional unmapped wetlands are to be included when identified)
6	**Woodland Size**	Any Woodland *Vegetation Group* ≥ 4 ha
7	**Woodland Proximity**	Any Woodland *Vegetation Group* within 100 m of a ≥ 4 ha Woodland *Vegetation Group*
8	**Thicket Size**	Any Thicket *Vegetation Group* ≥ 2 ha
9	**Meadow Size**	Any Meadow *Vegetation Group* ≥ 5 ha
10	**Meadow Proximity**	Any Meadow *Vegetation Group* within 100 m of a ≥ 4 ha Woodland or ≥ 2 ha Thicket *Vegetation Group*
Applied to *Vegetation Patches*		
11	**Patches with a *Vegetation Group* that meet a Group Criteria**	Any *Vegetation Patch* that contains a *Vegetation Group* that meets a group criteria (i.e., meets Criteria 1 – 10 above)
12	**Diversity**	Any *Vegetation Patch* that contains a diversity of *Vegetation Communities*, *Groups* or *Ecosystems*
13	**Proximity**	Any *Vegetation Patch* within 100 m of a *Vegetation Patch* that meets Criteria 11 or 12 above.

3.2.2 Significant Woodlands

Of the 13 criteria mentioned above and shown in Table 10, six establish Significant Woodlands consistent with the PPS (section 2.1) and NHRM (Table 7-2 Recommended Significant Woodland Evaluations Criteria and Standards). Table 11 provides a summary of ENHSS criteria that are applied to woodland vegetation groups that meet the criteria for significance in the PPS.

The GIS layers and associated data for this study have been provided to the County to allow Significant Woodlands (e.g., woodlands meeting one or more of the above noted criteria) to be differentiated from other ecologically important woodlands for the purposes of informing Official Plan policy development.

> **PPS, Section 6, Definitions.**
> "**Significant**: means…
>
> b) in regard to *woodlands*, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. These are to be identified using criteria established by the OMNR;

Table 11. ENHSS Criteria for Ecologically Important Woodlands that meet PPS Criteria for Significant Woodlands

ENHSS Ecologically Important Criteria applied to Woodland Vegetation Groups	Description of how it meets/fits PPS Criteria for Woodland Significance	PPS Section	NHRM Table 7-2 Section
Criteria 1 – Any Vegetation Group within or touching a Significant Valleyland	Due to their connectivity and linkage function	2.1.5	2c
Criteria 2 – Any Vegetation Group within 100 m of the Shoreline Bluff	Due to linkage function, stepping stones for movement		2c
Criteria 3 – Any Vegetation Group located within or touching a provincial or regional Life Science ANSI	Meets standards for proximity and linkage functions		2b, 2c
Criteria 4 – Any Vegetation Group located within 30 m of an Open Watercourse	Meets water protection standard		2d
Criteria 6 – Any Woodland Vegetation Group ≥ 4 ha	Meets size criteria and may contain woodland interior		1, 2a
Criteria 7 – Any Woodland Vegetation Group within 100 m of a ≥ 4 ha Woodland Vegetation Group	Meets the standard for proximity and linkage function		2b

NHRM = Natural Heritage Reference Manual (MNR 2005)

3.3 Criteria Applied to all *Vegetation Groups* and *Ecosystems*

Note: Small *Vegetation Communities* <0.5 ha become part of Ve*getation Groups* if they are adjacent to another *Vegetation Community* belonging to the same Group (e.g., a small deciduous swamp next to a larger mixed swamp). Small (<0.5 ha) *Vegetation Communities* also become part of the patch if they are adjacent to any other larger *Vegetation Community* or *Group*. Figure 3 in Chapter 2 illustrates this mapping rule.

3.3.1 Criterion 1 – *Vegetation Group* within or touching a Significant Valleyland

Rationale

River valleys perform numerous ecological functions. The Natural Heritage Reference Manual (NHRM) (MNR 2010) recognizes that valleys can be important linkages and corridors for wildlife movement, providing habitat for a variety of wildlife and connecting natural areas over large distances. Some river valleys have unusual features associated with them, such as calcareous seeps, cliffs, bedrock pavements, etc. These features are characterized by micro-environments that may provide conditions for unusual and diverse *Vegetation Communities* and / or species.

Permanent vegetation on valley lands improves water holding capacity and reduces river erosion. Actively eroding valleys have unstable slopes with little or no vegetation cover. As they erode, valleys deepen, widen and land area is lost. Valley land erosion is exacerbated by human activity. Excess weight near the top of the slope from buildings, roads or farm machinery can increase internal stresses. Structural attempts to stabilize valleys (e.g., retaining walls or hardening the toe of the slope) can be expensive and are usually unsuccessful in the long term.

Valleys are linear depressions that stretch across the landscape from their origins in headwater areas to their outlets into aquatic systems such as lakes. They contain water that flows for at least some periods of the year. The Natural Heritage Reference Manual (NHRM) recognizes that an understanding of hydrological and geomorphic structure is important to identifying valley lands. Valley lands are formed by a combination of the down cutting action of swiftly flowing water, the slumping action of river banks, and the removal of slumped material from the river bed (Etmanski and Schroth 1980, Bowles 1993).

Application / Mapping Rules

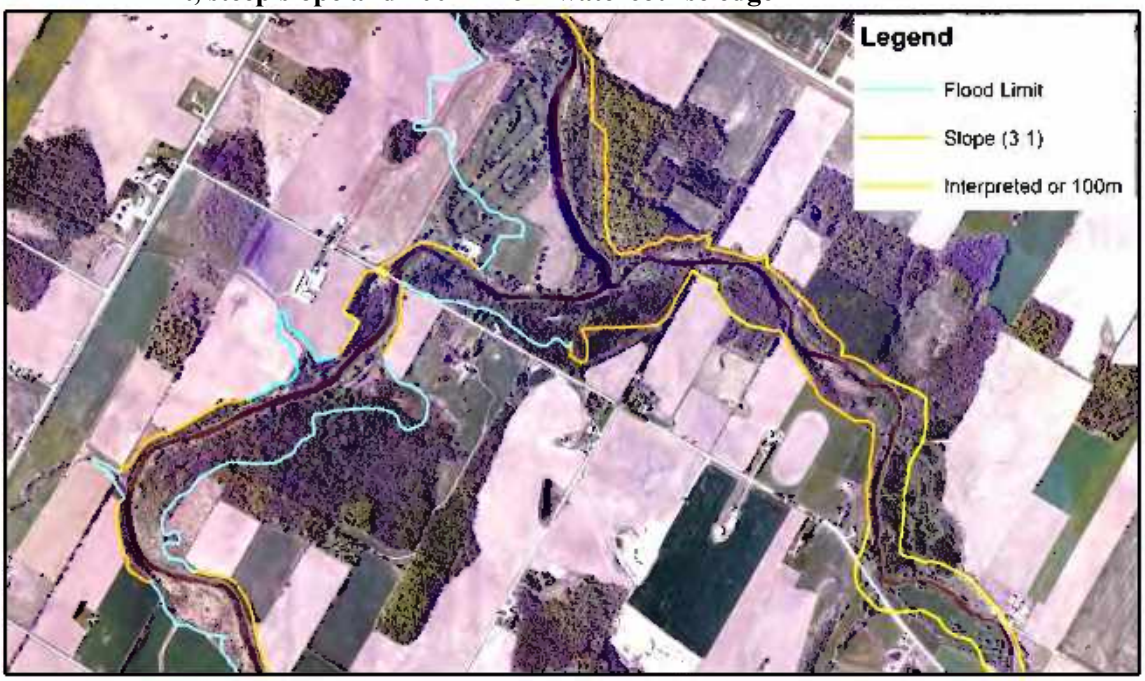
Table 8-1 (Recommended Significant Valleylands Evaluation Criteria and Standards) of the NHRM was used to identify and map Significant Valleylands in Elgin County. It is the responsibility of planning authorities to identify Significant Valleylands using these recommended NHRM criteria and standards. The key components are outlined below.

- ***Groundwater function*** – areas contributing to groundwater infiltration and groundwater release. Overlayed Significant Groundwater Recharge Areas (SGRAs) defined by local Source Water Protection Plans (see Appendix J-1). SGRCAs are prominent along the valley borders, suggesting groundwater seepage may be occurring along the banks, creating groundwater dependent wetlands and seepage zones.
- ***Landform prominence*** – Large, well-defined valleylands are often significant landscape features essential to the character of an area. Valley land makes up approximately 13% of the Elgin Study Area.
- ***Distinct geomorphic landforms*** – Soils, quarternary geology and physiography mapping provide information that allows distinct landforms to be identified. Fluvial features from the Ministry of Northern Development and Mines Surficial Layer, Bottom Land and Water from the OMAFRA Soils layer, and Beaches and Shorecliff, Spillways, and Water from the Physiography of Ontario were used to assist in the identification of Significant Valleys (see Appendix J-2).

- ***Degree of naturalness*** – 71% of the valley land in Elgin County is in natural patch cover and 39% of total patch cover in the county lies within the valley boundaries (see Appendix J-3).
- ***Unique communities*** – though not unique, the valleyland contains a majority of the 18 *Vegetation Communities* in the Study Area, making it one of the most naturally diverse areas within the county
- ***Linkage function*** – some of the largest and most diverse patches within the county are within the valley corridor because of the continuous watercourse layer linking many vegetation communities and groups together. The linkage to the watercourse also provides habitat value as described in the Habitat Value Section of the NHRM.

Figure 6 illustrates the delineation of the Significant Valley System boundary using flood limit, steep slope and 100 m from watercourse edge.

Figure 6. Criterion 1, illustration of Significant Valleyland boundary delineation using flood limit, steep slope and 100 m from watercourse edge



For well-defined valleys, the following components of the Conservation Authority riverine erosion and flooding hazards boundaries were used to identify the stable top of bank (top of slope):

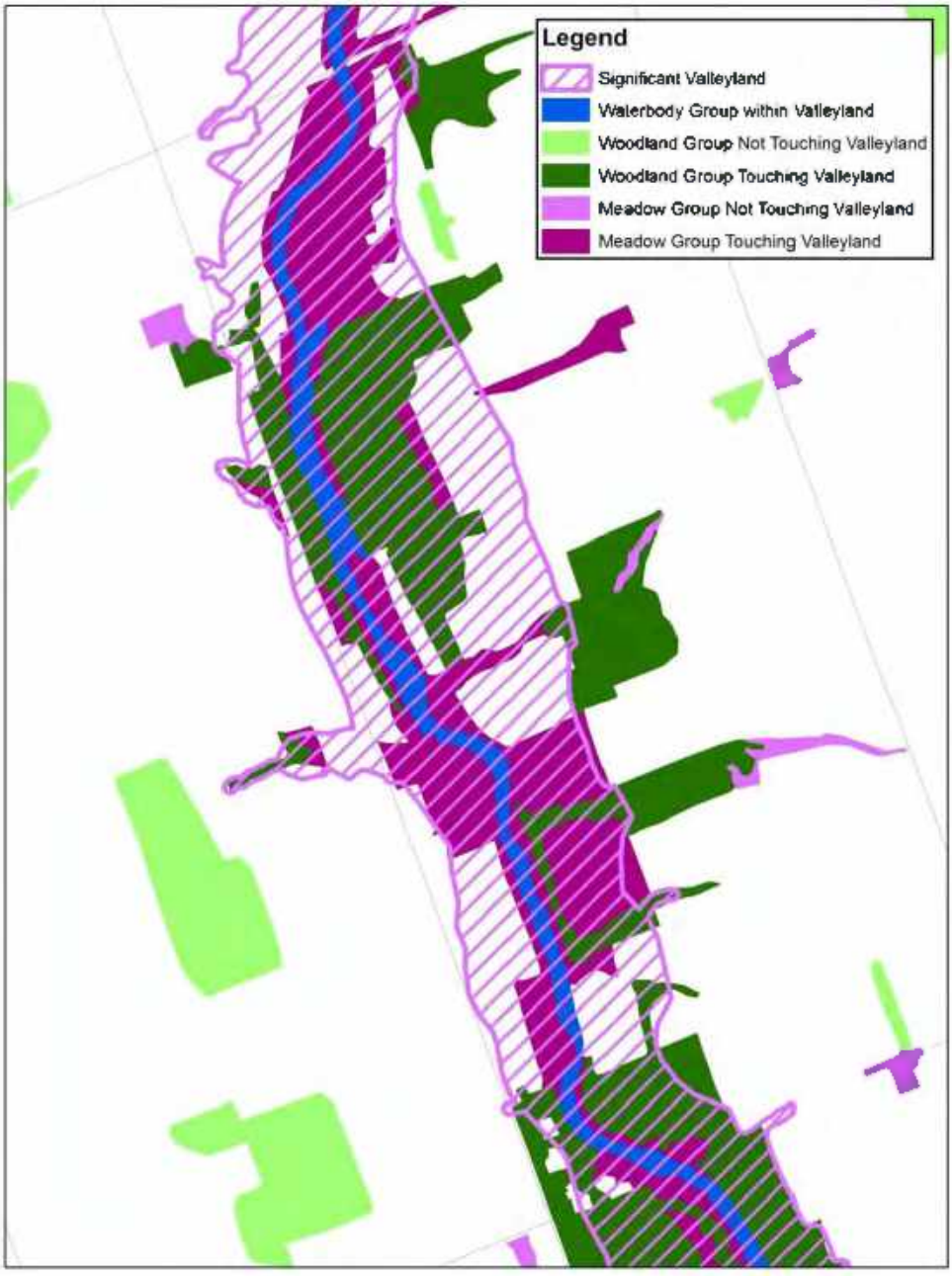
i) The valley must be ≥100 m wide and ≥2 km long.
ii) The valley banks must be ≥3 m in height (extrapolated from 5 m contours at 1:10,000 or better).
iii) To create a continuous valley feature in situations where the valley slope is 3:1 on one side and no slope on the opposite side, the opposite valley limit was delineated using either the limit of the floodplain (based on conservation authority flood lines) or, if unavailable, 100m from the centre line of the water course.
iv) Where 3:1 valley slopes occur on both sides of the river, but they are not continuous, the flood plain limit (or contour information and professional judgment) was used to delineate a continuous valley feature.

For less defined valleys, riparian vegetation, flooding hazard limit (based on regional events), meander belt, or highest seasonal (annual) inundation were used to determine the valley boundary.

All *Vegetation Groups* found within or touching the valley land meet this criterion (see Figure 7).

Other land uses within the valleyland (e.g., cropland, pasture, golf courses) are not identified as part of the Natural Heritage System in this study. However, the valleyland, by its nature, includes natural hazard features (i.e., flood plains, erosion hazards) which are constraints to development. The areas of Significant Valleylands not identified as part of the Natural Heritage System may provide Natural Heritage System linkage functions which should be assessed if a substantial land use change is proposed within or adjacent to such areas. See Chapter 5 for further discussion.

Figure 7. Criterion 1, illustration showing *Vegetation Groups* on or touching a Significant Valleyland



Results

Table 12 below shows the results of the application of Criterion 1 in the Study Area. Over 40% (43%) of the *Vegetation Groups* meet Criterion 1, accounting for 61.9% of the total vegetation cover (total of all *Vegetation Groups*). This result is not surprising given the large number of watercourses and ravines in Elgin County. Of the *Vegetation Groups* that meet this criterion, only a small number (163 of 2,147) meet only Criterion 1 and no other. See map in Appendix H-1.

Table 12. Criterion 1 Results – *Vegetation Groups* located on or touching Significant Valleylands in the Study Area

	Number				Area			
Vegetation Group	**# that meet Criterion 1**	**Total # Groups**	**% that meet Criterion 1**	**# that meet only Criterion 1**	**Area that meets Criterion 1 (ha)**	**Total area (ha)**	**% Area that meet Criterion 1**	**% of Study Area that meet Criterion 1**
Woodland	552	2,146	25.7%	13	25,626	40,949	62.6%	13.00%
Thicket	426	784	53.3%	103	837	1,527	54.8%	0.42%
Meadow	977	1,712	57.1%	4	1,946	3,544	54.9%	0.99%
Water Feature	107	237	45.1%	34	678	949	71.4%	0.34%
Connected Veg. Feature	85	119	71.4%	9	92	138	66.7%	0.05%
TOTAL	**2,147**	**4,998**	**43.0%**	**163**	**29,179**	**47,107**	**61.9%**	**14.8%**
Wetland	119	642	18.5%	0	963	5,210	18.5%	0.49%

The Study Area is 197,159 ha and includes a 500 m buffer around the county perimeter, excluding the lake side.

3.3.2 Criterion 2 – *Vegetation Group* within 100 m of the Shoreline Zone

Rationale

Lake shorelines perform numerous ecological functions. Wildlife such as foxes, deer and snakes move along shoreline beaches and bluff and access the lake water for drinking or foraging (MNRF Aylmer Biologist, Personal communication). Some species such as the threatened Bank Swallow, nest exclusively in bluffs and banks. Bald Eagles nest near the shoreline and frequent it in search of fish prey. Rare forest birds such as the Acadian Flycatcher breeds in the coastline's forested ravines and adjoining patches of upland forest.

The Lake Erie shoreline is a major migratory pathway for birds. Archibald *et al.* (2017) showed that when birds migrate south in the fall, they can pileup on the north side of the lake if the weather is poor or they judge they can't make the crossing successfully in one night. Thus shoreline habitats are highly valuable for conservation of migratory bird populations in the Great Lakes Region by providing resting and feeding areas so the birds can continue their migration in good physical condition (lakeeriewaterkeeper.org). With the exception of the Gulf coast, no other region of eastern North American can demonstrate concentrations of avian migrants like Lake Erie's coastland (lakeeriewaterkeeper.org.). The strip of Elgin coastline from J.E. Pearce Provincial Park (in Dutton/Dunwich) westwards to the Chatham-Kent border (IB948 Southwest Elgin Forest Complex) is designated an internationally Important Bird Area (www.ibacanada.ca/).

The north shore of Lake Erie is renowned as one of the best places in North America to view flights of hawks. The birds become concentrated through a combination of wind and geography. Hawks and other birds of prey try to avoid crossing large bodies of open water and so follow the shoreline and move down the spits (Theberge 1989).

Migrating Monarch butterflies rely on meadows near the shore to fuel up before the long flight southward in the autumn.

Lake Erie water levels have been high for the last several years, so very little beach is evident. However, during lower lake level conditions, beaches are present, providing increased linkage function for wildlife movement as well as feeding grounds for shorebirds, etc. Soil from these bluffs is washed into the lake, then moved by shoreline currents, and finally deposited on the sand spits of Point Pelee, Rondeau and Long Point (Theberge 1989).

The Natural Heritage Reference Manual (MNR 2010) recognizes that linkage is an important factor in woodland significance. Just as watercourse valleys play an important role in connecting habitats, the Lake Erie shoreline bluff would do the same. Linkages are natural corridors for wildlife movement, and connecting natural areas over large distances.

Vegetation on or near the bluff also provides some protection from erosion. Permanent vegetation on the lakeshore bluff improves water holding capacity and reduces erosion somewhat. While this erosion is a natural process, erosion can be exacerbated by human activity. Excess weight near the top of the slope from buildings, roads or farm machinery can increase internal stresses. Structural attempts to stabilize valleys (e.g., retaining walls or hardening the toe of the slope) can be expensive and are usually unsuccessful in the long term.

Application / Mapping Rules

To map the shoreline zone, a polygon was created from the top of the bluff to 1 km out into the lake, as seen on the 2015 aerial photography (see map in Appendix H-2). The shoreline zone is extended 1km out as this is the active zone where sediment that is eroded from the bluff mixes with the lake water and travels up and down the shore to the major sand spits (see illustration in Appendix O). The shoreline in Elgin County is over 80 km long and1 km wide, totalling 8,842 ha.

The ENHSS Project Team Participants agreed that the bluff and shoreline zone should be recognized as a key natural heritage feature in the county since it is an important linkage between the land and lake, especially for migratory birds.

Given the benefits associated with proximity of vegetation communities to the shore and using 100m as the cutoff distance (a conservative estimate based on the scientific literature discussed in Section 3.4.3), all *Vegetation Groups* found within 100 m of the Shoreline Zone meet Criterion 2.

Note 1: The shoreline zone polygon is provided as an overlay feature in this study, similar to Significant Valleylands.

Note 2: It is recognized that the policies of the PPS do not provide protection for upland thickets and meadows as natural heritage features and areas, unless they have been determined to be significant wildlife habitat.

Results

The results for Criterion 2 are shown in Table 13 and in Appendix H-2. Only 4.6% of the *Vegetation Groups* meet Criterion 2, accounting for 10.1% of the total vegetation cover (total of all *Vegetation Groups*). This result is not surprising given that only vegetation groups within 100 m of the Shoreline Zone are eligible, but the shoreline is very long, over 80 km. Of the 233 *Vegetation Groups* that meet this criterion, only 23 meet only Criterion 2 and no other criteria. See map in Appendix H-2.

Table 13. Criterion 2 results – Vege*tation Groups* within 100 m of the Shoreline Zone

Vegetation Group	Number				Area			
	# that meet Criterion 2	Total # Groups	% that meet Criterion 2	# that meet Criterion 2 and no other	Area that meet Crit. 2 (ha)	Total area of Groups (ha)	% Area of All Veg Groups	% of Elgin Study Area that meet Criterion 2
Woodland	108	2,146	5.0%	9	4,362	40,949	10.7%	2.21%
Thicket	40	784	5.1%	13	86	1,527	5.6%	0.04%
Meadow	78	1,712	4.6%	0	196	3,544	5.5%	0.10%
Water Feature	7	237	3.0%	1	110	949	11.6%	0.06%
Connected Veg Feature	0	119	0.0%	0	0	138	0%	0%
Total	**233**	**4,998**	**4.6%**	**23**	**4,754**	**47,107**	**10.1%**	**2.41%**
Wetland	12	642	1.9%	0	75	5,210	1.4%	0.04%

Notes: The Study Area is the geographic Elgin County plus a 500 m buffer around all sides but the lake side. The boundary is the top of the bank, not the waterline or out into the lake.

The Lake Erie shoreline with Hawk Cliff Woods in the foreground. Drone photo by Joseph O'Neil.

3.3.3 Criterion 3 − *Vegetation Group* within or touching any Life Science ANSI

Rationale

The Natural Heritage Reference Manual (MNR 2010) recognizes that significant natural heritage features and areas are typically used as a starting point in natural heritage system studies as they provide a logical foundation upon which to design a planning area's natural heritage system. Life Science Areas of Natural and Scientific Interest (ANSIs) are areas of land and/or water located on both public and private lands that are significant representative segments of Ontario's biodiversity and natural landscapes (MNR 2000a). These areas contain relatively undisturbed vegetation and landforms including specific types of forests, valleys, prairies, and wetlands as well as their associated plant and animal species and communities. ANSIs are a critical complement to provincial parks and conservation reserves as they represent important natural features that are not found in publicly protected areas. Earth Science ANSIs were not included in this criterion for the reasons noted in Appendix E, point 16.

The Ministry of Natural Resources and Forestry (MNRF) evaluates and subdivides candidate ANSIs into categories of significance: provincial (considered Significant under the PPS), and regional or local (not Significant under the PPS). These categories are based on the consideration of five evaluation selection criteria (MNR 2000a):

i. Representation – landform/vegetation features of an ecodistrict,
ii. Condition – degree of human-induced disturbances,
iii. Diversity – the number of high quality, representative features that exist within a site,
iv. Other ecological considerations – ecological and hydrological functions, connectivity, size, shape, proximity to other important areas, etc., and
v. Special features – such as populations of species at risk, special habitats, unusual life science features and educational or scientific value.

Application / Mapping Rules

The Life Science ANSI boundary layer is based on MNRF data. This study considers both provincially and regionally designated Life Science ANSIs as ecologically important as they contain the best examples of landform/vegetation features and contribute to the representation of the natural features and landscapes of the county. All *Vegetation Groups* included within a Life Science ANSI boundary or those touching the ANSI meet Criterion 3 (see Figure 8). There are 21 Life Science ANSIs in the Elgin Study Area (see map in Appendix H-3):

Regional ANSIs		**Provincial ANSIs**
Big Mundy Creek	Little Otter Creek	Big Otter Creek
Big Otter Creek S of Bayham	Mount Salem Forest	Kent & Elgin Shoreline
Eagle Woodlots	North Rodney Woodlots	Skunk's Misery*
Hawk Cliff	Plum Point	Springwater Forest
Iroquois Beach Prov. Pk.	Tate's Bridge Floodplain*	Talbot Creek
Lakeview South	West Elgin Tract	Thames River Floodplain
Little Jerry Creek	West Lorne Tract	

*Note: * located on the north side of the Thames River in Middlesex County*

Results

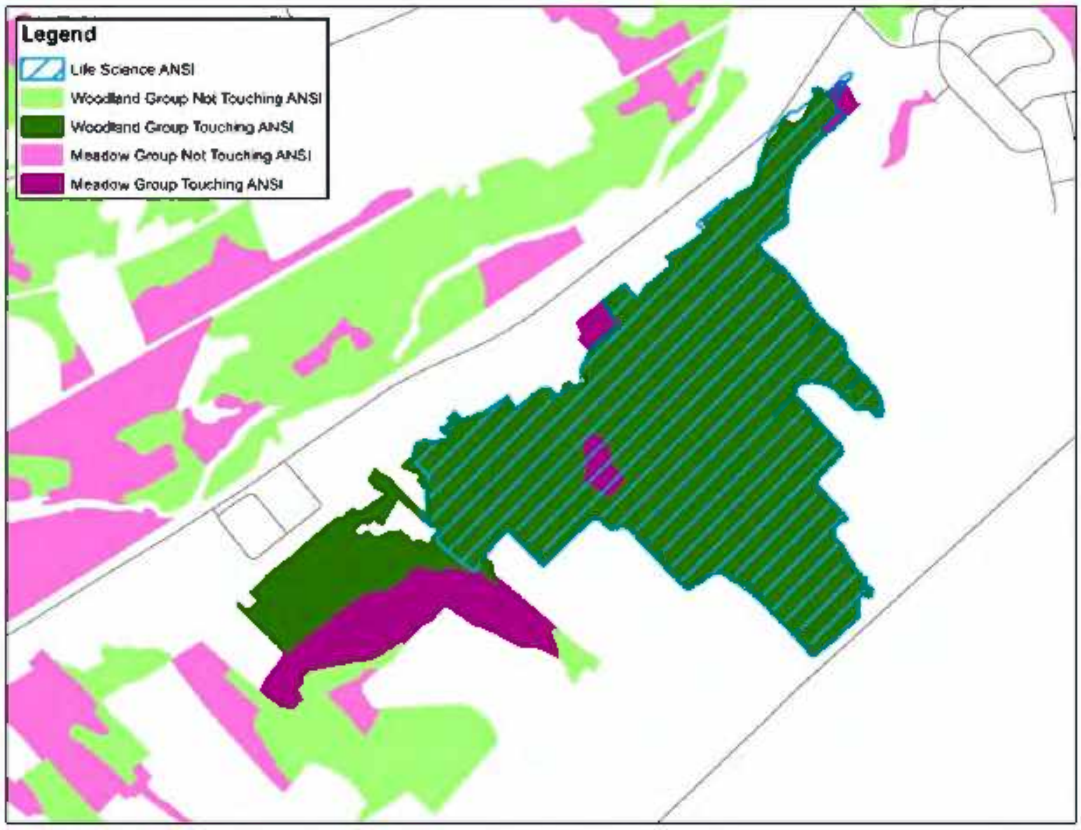
Table 14 below summarizes the mapping results for Criterion 3. Not surprisingly, only a moderately small number of *Vegetation Groups* (180) meet Criterion 3 since there are only 21ANSIs in the study area. However, the groups that meet this criterion account for a large area (7,487 ha or 15.9% of the vegetation cover), indicating that the ANSIs include some of the largest natural areas on the landscape. Only 9 *Vegetation Groups* meet this criterion and no other, also not surprising since ANSIs are designated on numerous criteria. See map in Appendix H-3.

Table 14. Criterion 3 results – *Vegetation Groups* within or touching a Life Science ANSI in the Study Area

Vegetation Group	Number				Area			
	# that meet Criterion 3	Total # Groups	% that meet Crit. 3	# that meet only Criterion 3	Area that meet Criterion 3 (ha)	Total area (ha)	% Area of All Veg Groups	% of Study Area that meet Criterion 3
Woodland	44	2,146	2.0%	0	6,785	40,949	16.6%	3.44%
Thicket	30	784	3.8%	4	67	1,527	4.4%	0.33%
Meadow	91	1,712	5.3%	0	216	3,544	6.1%	0.11%
Water Feature	10	237	4.2%	5	415	949	43.7%	0.21%
Connected Vegetation Feature	5	119	4.2%	0	4	138	2.3%	0.00%
Total	**180**	**4,998**	**3.6%**	**9**	**7,487**	**47,107**	**15.9%**	**3.80%**
Wetland	75	642	11.7%	0	1,265	5,210	24.3%	0.64%

Study Area is 197,159 ha and includes a 500 m buffer around the county perimeter, excluding the lake side.

Figure 8. Criterion 3, illustration showing *Vegetation Groups* within or touching a Life Science ANSI



3.3.4 Criterion 4 – *Vegetation Group* within 30 m of an Open Watercourse

Rationale

Natural areas adjacent to watercourses (i.e., areas of riparian vegetation) affect and are affected by the water. Open watercourses contain flowing water for at least part of the year and can be natural or channelized, but not buried or tiled (these are considered closed watercourses). Some watercourses in Elgin County are classified as agricultural drains. Whether or not they are open drains or natural watercourses they are all part of a connected creek or river system and can support Species at Risk, sport fish, top predators, cool water species, and have permanent flow. Best available watercourse mapping is shown in Appendix I-3.

The Natural Heritage Reference Manual (MNR 2010) recognizes that the relationship between water features and vegetation is interactive. The physical processes operating in and adjacent to the stream channel create and maintain fish habitat by providing shade for water temperature regulation, food through organic inputs such as leaves, habitat from input of large woody debris, and cover in the form of accumulated vegetation. As a result, fish community composition and productivity in streams is partly related to the condition and health of vegetation beside the stream. Permanent vegetation near waterways protects water quality by reducing peaks in water flow, filtering out sediments and excess nutrients, trapping toxins, and reducing soil erosion by retaining water run-off (Bosch and Hewlett 1982, Mooney 1993, Filyk 1993).

Riparian habitats are important terrestrial habitats in their own right and are supported by healthy watercourses. Vegetated riparian areas along streams are regional hot spots for a disproportionately high number of wildlife species, providing a wide array of ecological functions and values (Naiman *et al*. 1993, Fischer and Fischenich 2000). Watercourses and associated riparian areas can provide important linkage functions and act as continuous corridors for the movement of wildlife because the land-water interface usually supports a high level of biodiversity that meets multiple species needs (Wegner and Merriam 1979). Many plants and animals benefit from riparian habitat where the water and the high level of nutrients derived from overland flow create primary centres of bird activity and critical locations for amphibians and reptiles (Harris and Gallagher 1989).

Definition

Natural features and areas in proximity to water features maintain linkages across the landscape. The PPS *recognizes linkages between and among natural heritage features and areas, surface water features and ground water features* (MMAH 2014)

Based on a review of literature, Fischer and Fischenich (2000) found that 30 m is the minimum width for ecological functions such as wildlife movement and that a vegetated strip of 30 m will protect most water quality parameters on moderate slopes. Environment Canada (2013) sets a guideline target of at least 30 m wide naturally vegetated riparian areas on both sides of streams, as a minimum to protect aquatic habitat, and wider riparian buffers to provide highly functional wildlife habitat. Environment Canada (2013) also sets a guideline of 75% of stream length be naturally vegetated. In the Upper Thames River Watershed Report Cards (UTRCA 2012), one of three indicators for forest condition grades is “percent riparian zone forested”. Here, a 30 m swath on both sides of a watercourse defines the riparian zone. Conservation Ontario (2011) recommends the same approach for conservation authorities developing watershed report cards.

Since 30 m is a commonly held minimum riparian buffer width, this Criterion 3 captures *Vegetation Groups* that contain a watercourse or lie wholly or in part within this 30 m riparian zone.

Application / Mapping Rules

Open watercourses are linear features that contain flowing water for at least part of the year and can be natural or channelized. They include open intermittent or headwater drainage features, streams, rivers, creeks and open drains. Tiled or buried drains with no surface connection are considered "closed" watercourses and were excluded from the analysis.

Although digital data for watercourses exists for southern Ontario, this data is not current. Recognizing time constraints, a method was developed that eliminates the need to update the entire watercourse layer. Using spring 2015 aerial photography (SWOOP), an on-screen interpretation of the edge of open watercourses (i.e., the bank-full width) was completed in tandem with the interpretation of *Vegetation Community* boundaries. Onscreen measurements were made from the watercourse edge to the *Vegetation Community* edge, and if ≤ 30 m, the community was identified as meeting this criterion.

Terrestrial *Vegetation Communities* within 30 m of the bank-full width of an open watercourse are identified as a riparian area (Figure 9). As these riparian *Vegetation Communities* were attributed to their broader *Vegetation Groups*, the *Vegetation Groups* containing these riparian *Vegetation Communities* meet this criterion (Criterion 4).

Results

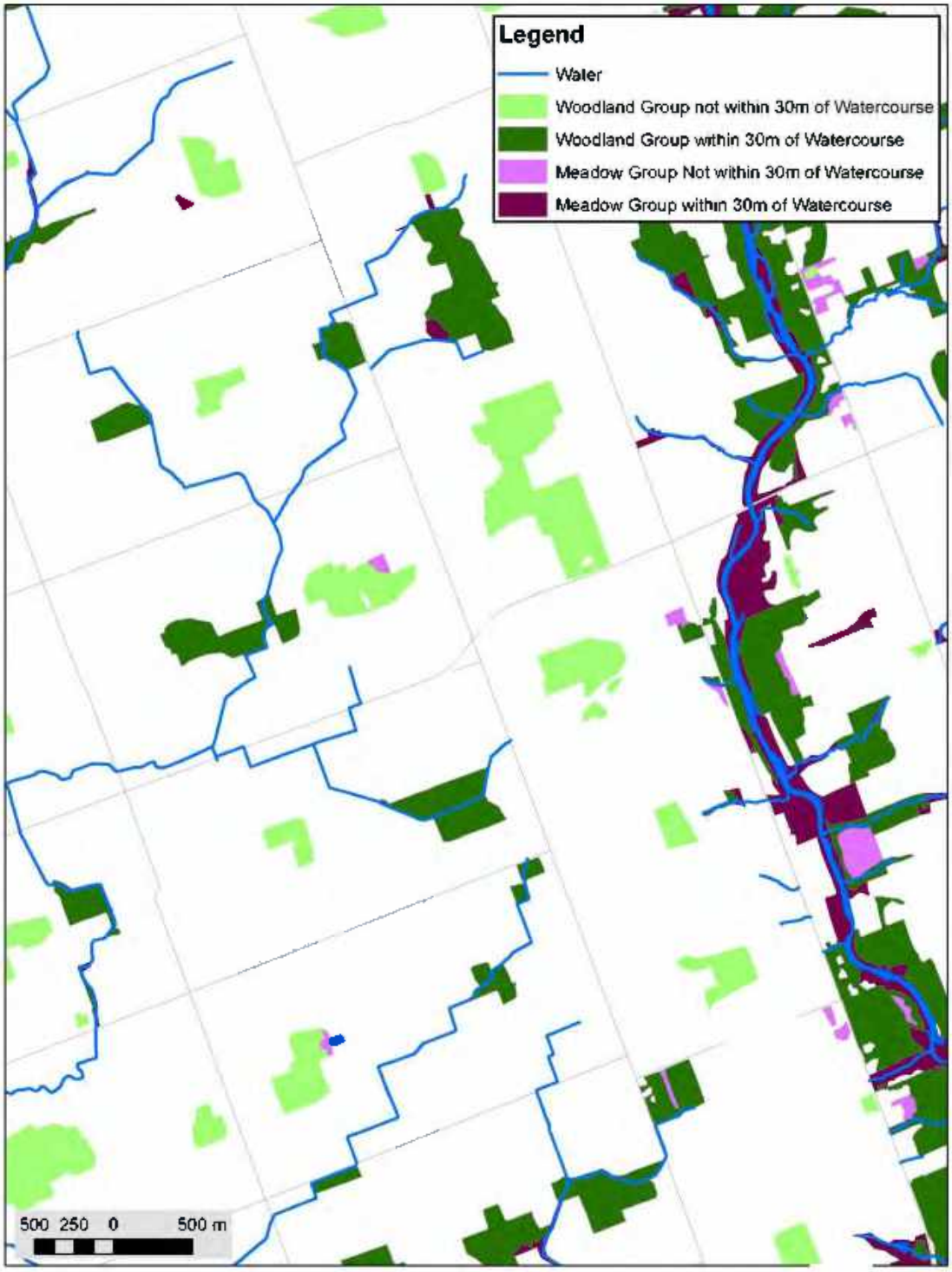
Table 15 below summarizes the results for Criterion 4 and the map in Appendix H-4 shows the results. About half (55.7%) of the *Vegetation Groups* meet this criterion but 85.2% of the vegetation cover. These figures indicate that many of the remaining natural areas on the landscape are near a watercourse because the land is harder to farm or develop and/or because there is a high density of watercourses in the county. Of the 2,786 *Vegetation Groups* that met this criterion, 405 (14%) met only this criterion and no other criterion.

Table 15. Criterion 4 Results – *Vegetation Groups* containing or within 30 m of an Open Watercourse in the Study Area

Vegetation Group	Number				Area			
	# that meet Criterion 4	Total # Groups	% that meet Criterion 4	# that meet Criterion 4 and no other	Area that meet Crit. 4 (ha)	Total area of Groups (ha)	% Area of All Veg Groups	% of Study Area that meet Criterion 4
Woodland	1,124	2,146	52.4%	155	35,819	40,949	87.5%	18.17%
Thicket	443	784	56.5%	107	1,009	1,527	66.1%	0.51%
Meadow	1,025	1,712	59.9%	96	2,491	3,544	70.3%	1.26%
Water Feature	99	237	41.8%	28	693	949	73.0%	0.35%
Connected Veg Feature	95	119	79.8	19	107	138	77.5%	0.05%
Total	**2,786**	**4,998**	**55.7**	**405**	**40,119**	**47,107**	**85.2%**	**20.35%**
Wetland	322	642	50.2%	0	3,293	5,210	63.2%	1.67%

Study Area is 197,159 ha and includes a 500 m buffer around the county perimeter, excluding the lake side.

Figure 9. Criterion 4, illustration showing *Vegetation Groups* within 30 m of Open Watercourses



3.4 Size Criteria Applied to Specific *Vegetation Groups*

A note about clustering Vegetation Groups around roads, railroads and watercourses

Vegetation Groups separated by a road, railroad or watercourse < 20 m in width were clustered into the adjacent *Vegetation Group* (Section 2.4.8). All criteria for *Vegetation Groups*, except area, were applied to the clustered *Vegetation Group*. When calculating the area of a *Vegetation Group* cluster, the area of the road/railway/watercourse was not included in the calculation. Instead, area was calculated as the area of the entire *Vegetation Group* cluster less the area of the road/railroad/watercourse. Area of the woodland *Vegetation Group* and interior area were calculated on the non-clustered woodland *Vegetation Groups* (i.e., calculated before clustering so it does not include roads or watercourses in the calculation).

3.4.1 Criterion 5 – All Wetland *Vegetation Groups* ≥ 0.5 ha

Rationale

Since European settlement, approximately 85% of wetlands greater than 10 ha have been lost in southern Ontario (Ducks Unlimited Canada 2010). The Natural Heritage Reference Manual (MNR 2010) recommends protection of wetland areas for their important contribution to stream flow through groundwater release.

Wetlands provide important breeding and overwintering habitat for reptiles and amphibians, many of which are at-risk due to habitat loss, as well as herons and Wood Ducks. Wetlands are among Ontario's most productive and diverse habitats, in large part because of the irregular mosaic of 'edge' created where land and water meet.

Wetlands occur where the water table is close to or at the surface and are characterized as seasonally or permanently covered by shallow water less than 2 m deep. The presence of this abundant water causes the formation of hydric soils. The fluctuation of water levels and the presence of water tolerant plants distinguish wetlands from aquatic Vegetation Ecosystems (Lee *et al*. 1998).

It has been well documented that wetlands improve water quality and base flow by storing and infiltrating precipitation and runoff on the landscape and filtering out contaminants. In Wisconsin, Hey and Wickencamp (1996) found that increasing the amount of wetland in a watershed to 10% resulted in reduced flooding, higher base flows, and reduced occurrence of high flows. Environment Canada (2013) set the following guideline: "At a minimum, the greater of (a) 10% of each major watershed and 6% of each subwatershed, or (b) 40% of the historic watershed wetland coverage, should be protected and restored". Wetlands are not uniformly distributed across the landscape and there is limited data on historical wetland cover within the watersheds of Elgin County. Environment Canada (2013) recognizes that a watershed and a municipality are similar-sized units, useful for planning purposes.

It is important to protect as many wetlands on the landscape as possible. Johnson *et al*. (1990) found that watersheds containing less than 10% wetland cover were more susceptible to incremental losses of wetlands than those with more wetlands. The amount of natural habitat that is located adjacent to wetlands can be important to the maintenance of wetland functions and attributes. The value of a wetland is enhanced where the wetland is located close to other wetlands and natural areas so that wildlife can move between them to take advantage of favourable habitat and food (Findlay and Houlahan 1997, Houlahan and Findlay 2003). For example, wetlands situated within 100 m of other wetlands are more likely to have movement of fish among them (Golet 1976).

Application / Mapping Rules

The wetland layer was derived from:

- the MNRF evaluated wetland mapping layer (2017), providing Significant Wetlands and evaluated wetlands, and
- the unevaluated wetlands mapped as *Vegetation Communities* by the UTRCA during the vegetation mapping of the ENHSS (see Section 2.4.1). See Note 3 below.

All evaluated wetlands approved by the MNRF, regardless of size, as well as unevaluated wetlands ≥0.5 ha identified by the UTRCA, meet Criterion 5.

Since it is recognized that there are additional unmapped and unevaluated wetlands on the landscape that have not been captured in this model, any wetlands mapped or evaluated in the future also meet this criterion.

Note 1: The term significant wetland is reserved for wetlands that have been evaluated and deemed significant using the Ontario Wetland Evaluation System of MNRF. The identification and delineation of significant wetlands must be approved by MNRF.

Note 2: If a Woodland *Group* contains a Wetland *Vegetation Community*, the entire woodland group does NOT become ecologically important until it becomes a *Vegetation Patch*.

Note 3: The evaluated wetland layer obtained from MNRF can contain wetlands that are shown as many small components dispersed throughout a larger feature. For example, some woodland swamps are characterized by gently undulating topography, and only the wettest pockets are mapped as wetland by the MNRF, creating a tight, intricate pattern. However, the entire feature is generally considered to function as a wetland (e.g., swamp), not just the wettest pockets. During the mapping process for the ENHSS, these small communities may be captured and represented as a single feature (i.e., one large swamp). Thus, the wetland layer in this study will not represent the Evaluated Wetlands boundaries defined by MNRF and the original layer should be obtained from MNRF when reviewing planning applications.

Results

Table 16a shows the results of the wetland *Vegetation Group* (see map in Appendix H-5). There are 658 wetland *Vegetation Groups*, totaling 5,001 ha in the Study Area. There is 2.54% wetland cover in the Elgin Study Area.

Table 16b shows the breakdown of wetlands by type/source: evaluated and unevaluated. The unevaluated wetlands mapped by the UTRCA as part of this study add another 50% to the evaluated cover.

Table 16c shows the results for each member municipalities (the areas do not include the buffer zone). West Elgin has the highest wetland cover (3.87%) and the other municipalities have less than 3% wetland cover. Environment Canada (2013) recommends a minimum of 6% wetland cover at the subwatershed scale (equivalent to a small sized municipality).

Table 16a. Criterion 5 Results – *Vegetation Groups* that contain Wetland *Vegetation Communities* (in the Study Area)

Vegetation Group	Number	% that meet Criterion 5	Area (ha)	% of Elgin Study Area (197,159 ha)
Wetland *Vegetation* *Group*	642	100%	5,210	2.64%

Table 16b. Wetland Cover: Evaluated and Unevaluated in the Study Area

Wetland (Source)	Area (ha)	% of Total Wetland Area
Evaluated (Significant and other)	3,293	63%
Unevaluated	1,917	37%
Total	**5,210**	**100%**

Table 16c. Wetland Cover by Municipality

Name	Municipal Area (ha)	Wetland Area (ha)	% Wetland Cover in Municipality
West Elgin	32,324	1,250	3.87%
Dutton/Dunwich	29,526	436	1.48%
Southwold	30,182	889	2.95%
Central Elgin	28,142	688	2.45%
Malahide	39,552	855	2.16%
Bayham	24,558	668	2.72%
St. Thomas	3,588	29	0.80%
Aylmer	611	2	0.35%
County (no buffer)	**188,482**	**4,816**	**2.56%**

Areas of the municipalities and wetlands do NOT include the 500 m buffer, so the area figures are smaller than shown in Tables 16a and 16b.

3.4.2 Criterion 6 – Woodland *Vegetation Groups* ≥ 4 ha

Rationale

Habitat size is one of the most important measures for sustaining stable, diverse and viable populations of wildlife species. Larger woodlands tend to have a greater diversity of habitat niches and are more effectively buffered from external negative influences such as environmental disturbances, nest predation, and parasitism (Askins and Philbrick 1987, Villard *et al*. 1999, Schwartz 1999, Soulé and Terborgh 1999, Burke and Nol 2000, Burke *et al*. 2011, Forman 1995c, Kohm and Franklin 1997, Bennett 2003, Marini *et al.* 1995). In a highly fragmented landscape, the size definition of a "large" woodland can be relatively small. Studies indicate that smaller woodlands (<10 ha) can be considered important and worth protecting as they provide certain ecosystem benefits.

Small mammals, such as mice and voles, use woodlands as small as 0.1 ha. In agricultural landscapes, these small woodlands become especially important during harvest, when these rodents are displaced from the field (Fitzgibbon 1997). Although small woodland *Vegetation Groups* are often regarded as poor habitat for breeding birds, Friesen *et al*. (1999) have demonstrated that small woodlands in agricultural landscapes can experience high pairing success for birds. Small forest fragments of 1 to 4 ha are also important stopover sites for migratory birds (Packett and Dunning 2009, Swanson *et al*. 2005). Insects, especially bees and butterflies, also rely on small woodlands in a fragmented landscape. Small woodlands may be just as important as larger ones for pollinator diversity and abundance (Banaszak 1996, Cane 2001, Donaldson *et al.* 2002).

Application / Mapping Rules

Riley and Mohr (1994) and the Natural Heritage Reference Manual (MNR 2010) recommend that the minimum standard for determining the size of wooded *Vegetation Groups* considered to be significant within the planning area is a function of the percentage of forest cover within that area. The Natural Heritage Reference Manual (MNR 2010) recommends that woodlots of 4 ha or more should be considered significant in landscapes with about 5-15% woodland cover, and woodlots of 20 ha for areas with about 15-30% woodland cover. However, the Provincial Policy Statement states that authorities can go above the minimum standards.

Based on this guidance, the 2016 Oxford Natural Heritage Systems Study, 2013 Huron Natural Heritage Systems Study (draft) and 2014 Middlesex Natural Heritage Systems Study all used a woodland size cutoff of ≥ 4 ha. These counties had approximately 13.2%, 16.6% and 15.8% woodland cover respectively. Elgin County has approximately 20% woodland cover (see Table 9), slightly more than these other counties, but well within the range.

The Elgin NHSS Project Team reviewed the woodland size options. Elgin County's current Official Plan policy for significant woodlands states:

Section D1.2.2.1

- **Elgin County considers woodland ≥10 ha as significant woodland.**
- **Woodlands between 2 ha and 10 ha are also significant if they are located within 30 m of a significant natural heritage feature (e.g., significant wetland, significant valleyland, fish habitat and/or watercourse).**

To make the determination, the consultants mapped the woodland criteria for both the 4 ha and 2 ha woodland size cutoffs. The maps and statistics were reviewed and discussed at the subsequent meeting. The 4 ha and 2 ha cutoffs capture close to 98% and 99% of woodland area, respectively. The Project Team felt the 4 ha cutoff was appropriate as this cutoff is used in many other southwestern Ontario jurisdictions. Also, woodlands ≥1 ha will still be subject to the Woodlands Conservation Bylaw.

Therefore, all woodland *Vegetation Groups* ≥ 4 ha in size meet Criterion 6 (see Appendix H-6).

Results

Table 17 shows the results for Criterion 6 and a map of the results is provided in Appendix H-6. Slightly fewer than half (47.8%) the woodland *Vegetation Groups* (1,026 of 2,146) met this size criterion but they account for over 95% of the woodland area (39,114 of 40,949 ha). Thus, the remaining woodland *Vegetation Groups* that don't meet the criterion are very numerous but small and don't add up to a lot of area. Of the 1,026 *Vegetation Groups* that meet this size criterion, 240 (approximately 23%) meet only Criterion 6 and no other criterion.

Table 17. Criterion 6 Results – Woodland *Vegetation Group* ≥ 4 ha in the Study Area

Vegetation Group	**# that meet criterion 6**	**% of all Woodland Groups** (2,146)	**# that meet only criterion 6**	**Area that meet Criterion 6** (ha)	**% of Total Woodland Group Area** (40,949 ha) **that meet Criterion 6**	**% of Study Area** (197,159 ha) **that meet Criterion 6**
Woodland *Vegetation Group* ≥ 4 ha	1,026	47.8%	240	39,114	95.5%	19.84%

3.4.3 Criterion 7 – Woodland *Vegetation Groups* within 100 m of a Woodland *Vegetation Group* ≥ 4 ha

Rationale

The Natural Heritage Reference Manual (MNR 2010) recognizes that the distance between individual woodlands is an important factor in maintaining woodland integrity. Woodlands that are located near each other or to other natural features have more opportunities for restoring connectivity since linkages are important for both animal and plant dispersal. Small woodlands located close to large woodlands are more important in feature and function than those that are isolated. One reason is that smaller woodlands that are closely spaced can serve as stepping stones for species movement. For example, Bowles (1997) found that species richness was higher for small *Vegetation Patches* closely linked to larger *Vegetation Patches* than similarly sized *Vegetation Patches* not linked to larger *Vegetation Patches*.

The identification of landscape connectivity is an evolving science. Sutherland *et al*. (2000) compared dispersal data for 77 bird and 68 mammal species. In the case of birds, maximum dispersal distances ranged from 130 m for the European Magpie to 1,305 km for the Great Horned Owl. For mammals, maximum dispersal distances ranged from 140 m for the Prairie Vole to 930 km for the Lynx. As for plants, the limited distances that most seeds travel are well documented for all growth forms (Cain *et al*. 2000, Harper 1977, Howe and Smallwood 1982, Willson 1993, Cain *et al*. 1998).

Recognizing that plants (seeds, pollen) have limited mobility compared to animals, the average wind dispersal distance of 100 m (Nathan *et al*. 2002) was used as the distance that would functionally connect two woodlands.

Application and Mapping Rules

Woodland *Vegetation Groups* that are within 100 m of a woodland *Vegetation Group* ≥ 4 ha, regardless of what is surrounding them, meet Criterion 7 (see Figure 10).

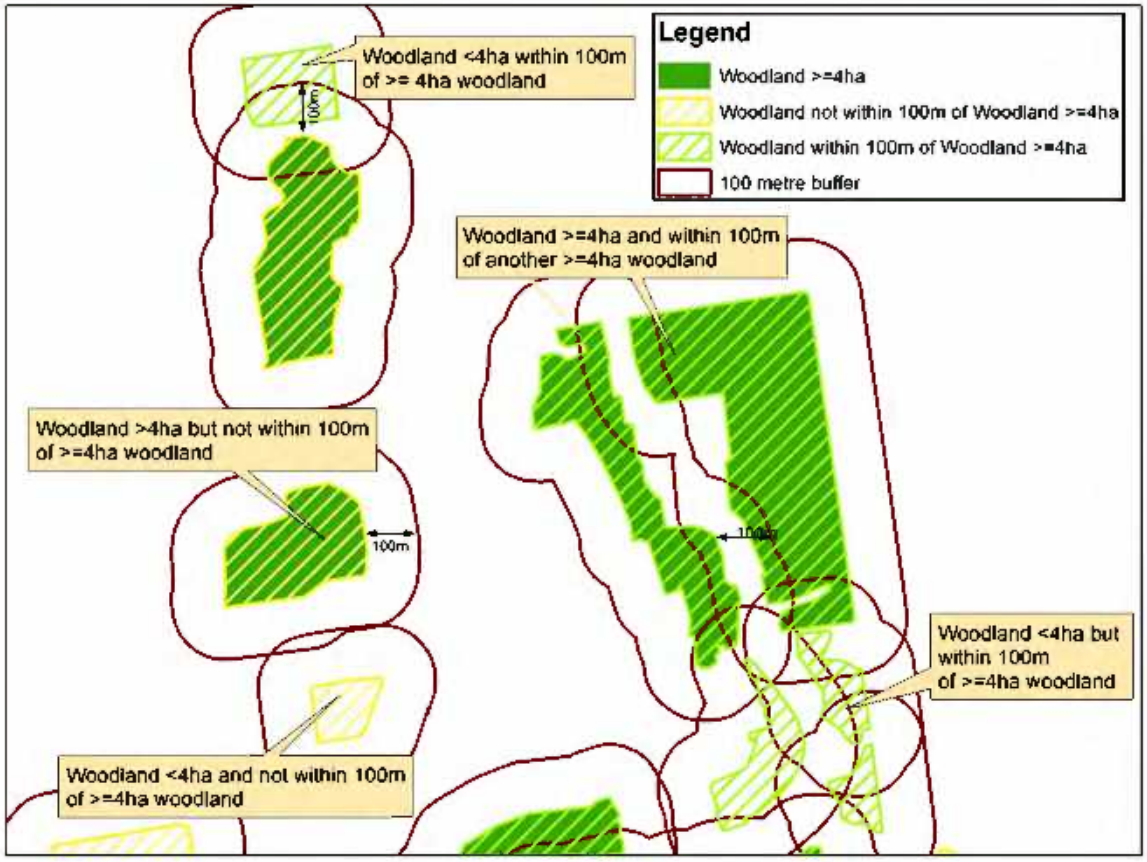
Results

The findings are shown in Table 18 and in Appendix H-7. Over 40% (42.2%) of all the woodland *Vegetation Groups* are within 100 m of a woodland *Vegetation Group* ≥ 4 ha, amounting to 75.1% of all woodland area. These figures indicate that about three-quarters of woodland area is in close enough proximity to larger woodlands to help maintain ecological integrity.

Table 18. Criterion 7 Results – Woodland *Vegetation Groups* within 100 m of a Woodland *Vegetation Group* ≥ 4 ha in the Study Area

	# meet Criterion 7	% of all Woodland Groups (2,146)	# that meet only Criterion 7	Area meeting Criterion 7 (ha)	% of Total Woodland Group Area (40,949 ha)	% of Study Area (197,159 ha)
Woodland *Vegetation Group* within 100 m of a Woodland *Vegetation Group* ≥ 4 ha	905	42.2%	188	30,743	75.1%	15.59%

Figure 10. Criterion 7, illustration of 100 m proximity between woodland Vegetation Groups ≥ 4 ha



3.4.4 Criterion 8 – Thicket *Vegetation Group* ≥ 2 ha

Rationale

Thickets are vegetation communities dominated by shrubs or young trees. Like woodlands, they are most likely to support and sustain a diversity of species if they are large (Rodewald and Vitz 2005, MNR 2012). Often thicket habitats are temporary and eventually succeed or transition into woodlands/forests. For example, when a farm field is left fallow for just a few years, grasses and sun-loving herbaceous plants will colonize the field first as part of the natural succession process. A few years later the area is colonized by shrubs (e.g., hawthorn, sumac, Grey Dogwood) and young trees such as poplars and willows; this is the thicket stage. As the trees mature, they shade out most shrubs, grasses and sun-loving wildflowers and within 25 to 30 years, the area becomes a young woodland. Some thickets do not succeed to woodlands as they are maintained by wet, poor or shallow soils or disturbances such river flooding and ice scour. Wetland thickets and upland thickets can be identified by remote sensing.

The literature on bird species that use thickets suggests that thicket habitat is on the decline and large thickets are becoming increasingly uncommon. Thicket habitats may be declining due to changes in rural land uses (e.g., more cropland and less rough land pasture and hedgerow). As a result, many of the bird species that typically use thickets and early succession stages of woodland development are also declining rapidly (Sauer *et al*. 2001). Some thicket birds are area sensitive and select large areas of contiguous habitat for breeding. Birds such as the Chestnut-sided Warbler will use smaller areas less than 0.5 ha, but the more uncommon species such as Golden-winged Warblers, Yellow-breasted Chats or Woodcock require areas of 10 ha or more (Chandler *et al.* 2009, Rodewald and Vitz 2005, Oehler *et al*. 2006, Schlossberg and King 2008, King *et al*. 2001, King and Byers 2002, King *et al*. 2009). In general, large blocks of any habitat (grassland/meadow, thicket, mature forest, wetland, etc.) are more valuable to wildlife than small blocks because they tend to support both the common and uncommon species.

Note: It is recognized that the policies of the PPS do not provide protection for upland thickets and meadows as natural heritage features and areas, unless they have been determined to be significant wildlife habitat. Wetland thickets are protected under wetland policies.

Application / Mapping Rules

If managing thickets to enhance the long-term survival of a variety of wildlife, larger is better. Thickets of at least 10 ha in size are required for area sensitive thicket birds, yet this class size is very rare in Elgin County. To determine the cut-off size for thicket *Vegetation Groups* in the study area, the top 25th percentile of data was calculated (a method of descriptive statistical analysis to determine rarity). The 25th percentile was 2.1 ha and it was then rounded to the nearest whole number, 2 ha.

Thus, all thicket *Vegetation Groups* ≥2 ha meet Criterion 8.

Results

The results of the mapping are shown in Table 19 and in Appendix H-8. Over a quarter (28.1%) of all thicket *Vegetation Groups* (220 of 784) meet the criterion, accounting for almost two-thirds (62.3%) of all thicket area. Appendix H-8 shows the results in map form. Only 38 of 220 thicket *Vegetation Groups* (17%) met only this criterion and no other criterion.

Table 19. Criterion 8 Results – Thicket *Vegetation Group* ≥2 ha in the Study Area

	# meet Criterion 8	**% of all thicket groups** (784)	**# that meet only Criterion 8**	**Area meeting Criterion 8** (ha)	**% area of all thicket groups** (1,527 ha)	**% of Study Area** (197,159 ha)
Thicket *Vegetation Group* ≥2 ha	220	28.1%	38	952	62.3%	0.48%

3.4.5 Criterion 9 – Meadow *Vegetation Group* ≥ 5 ha

Rationale

Meadows and grasslands of all sizes are used by many different native wildlife species from butterflies and bees to birds and mammals. The amount of native grassland and meadow habitat has declined drastically throughout North America. Minimum habitat size is not usually a limiting factor for most generalist species and no reasonable estimate of minimum habitat size exists for butterflies as a group (USDA and the Wildlife Habitat Council 2000).

Grassland birds, however, are of special concern since they are habitat size dependant and have suffered more serious population declines than any other group of birds (Igl and Johnson 1997, Peterjohn and Sauer 1999, Sauer *et al.* 2001). Johnson (2001) demonstrated a number of grassland bird species, including the Savannah, Grasshopper, and Henslow's Sparrow prefer large grasslands far in excess of their territory size (typically <1 ha). Corace *et al*. (2009), Davis (2004), Winter *et al*. (2006) and Ribic and Sample (2001) found that the density of open land bird species is regulated by the interaction of field size, shape and edge type, and that larger open areas tend to support a more diverse bird community.

The Significant Wildlife Habitat Technical Guide (MNR 2000b) identifies 10 ha blocks of undisturbed grassland as excellent raptor hunting areas, and meadows >30 ha as significant open country bird breeding habitat. Grassland species such as Bobolink, Savannah Sparrow, Eastern Meadowlark and Grasshopper Sparrow are more abundant as breeding birds in continuous grassland habitats of 4-6 ha (McCracken *et al*. 2013, Ochterski 2006a, 2006b, Mitchell *et al*. 2000).

Bobolinks and Eastern Meadowlarks can nest in relatively small patches of grassland, but abundance and productivity are higher in large patches (>10 ha) and in patches surrounded by other open habitats (e.g., Ribic and Sample 2001, Herkert *et al*. 2003, Bollinger and Gavin 2004, Keyel *et al*. 2011). The General Habitat Description for the Eastern Meadowlark (MNR undated) notes that "*minimum patch area requirements to support breeding habitat for the species have been reported at 5 ha (Herkert 1994), however abundance and productivity are higher in larger patches and in patches surrounded by other open habitats"*. Regardless of the patch size, breeding habitat for Eastern Meadowlark is protected under the Endangered Species Act.

Application

Based on the Bobolink and Eastern Meadowlark Recovery Strategy (McCracken *et al*. 2013) and the General Habitat Description for the Eastern Meadowlark, patch areas of 5 ha support these grassland bird species protected under the Endangered Species Act. In Elgin County the natural cover is fragmented by other land uses and grassland/meadow patches closer to 5 ha may be more widely utilized by listed grassland birds because there is a lack of larger patches to support breeding pairs. In fact, in the Elgin study area, the top 25th percentile of meadow sizes is 2.4 ha, indicating most (75%) meadows are less than 2.4 ha in size.

Thus, all meadow habitats ≥ 5 ha meet Criterion 9.

Note: It is recognized that the policies of the PPS do not provide protection for upland thickets and meadows as natural heritage features and areas, unless they have been determined to be significant wildlife habitat.

Results

The results for Criterion 9 are shown in Table 20 below. Only 7.9% of the meadow *Vegetation Groups* meet this criterion, but account for over a third (38.5%) of the meadow area. Of the 136 meadow *Vegetation Groups* that meet the criterion, only 3 meet this criterion alone and no other criteria. Thus the vast majority of meadows meet other criteria as well. The map in Appendix H-9 shows the meadows that meet criterion 9.

Table 20. Criterion 9 Results – Meadow *Vegetation Groups* ≥ 5 ha in the Study Area

	# that meet Criterion 9	**% of Total Number** (1,712)	**# that meet only Criterion 9**	**Meadow Area** (ha)	**% of total Meadow Area** (3,544 ha)	**% of Study Area** (197,159 ha)
Meadow *Vegetation Groups* ≥ 5 ha	136	7.9%	3	1,364	38.5%	0.69%

3.4.6 Criterion 10 – Meadow *Vegetation Group* within 100 m of a ≥ 4ha Woodland or ≥ 2 ha Thicket *Vegetation Group*

Rationale

While larger meadows are required for grassland and open country birds, smaller meadows and meadows closely associated with woodlands and thickets are used by other animals. Mammals such as White-tailed Deer, Red Fox, and Coyote are generalists and live in many diverse habitats from forests to grasslands. Meadows provide both food and cover for animals at times when the woodlands do not.

Butterflies, in particular, rely on this habitat mosaic of meadow-thicket-woodland. According to the U.S. Department of Agriculture (USDA) and the Wildlife Habitat Council (2000), land use and development practices have resulted in significant losses of native butterfly habitat. Among the invertebrates, butterflies are an iconic species for recognition and conservation for many reasons; butterflies are important pollinators, are not usually considered pest species, are of interest to the public, have a relatively short lifespan as an adult, are relatively low in biodiversity, and are a food source for other species.

Minimum habitat size is not usually a limiting factor for most generalist species and no reasonable estimate of minimum habitat size exists for butterflies as a group (USDA and the Wildlife Habitat Council 2000). Instead, it is important to consider meadow butterfly habitat in context with the surrounding range of habitats. To be effective, butterfly habitat must support as many of the life stages of the butterfly species as possible. The adults have very different food and cover needs from their larval (caterpillar) stage. Adult butterflies have a strong preference for open, sun-lit habitats with nectar sources (flowers), while the larvae require host trees, shrubs and herbaceous plants found in shaded thicket and woodland habitats (USDA and the Wildlife Habitat Council 2000). Larger woodlands and thickets are more likely to contain a wider variety of species to meet the needs of a range of butterfly species.

Application / Mapping Rules

Given the benefits associated with proximity of meadows to larger woodland and thicket habitats and using 100 m as the cutoff distance (a conservative estimate based on the scientific literature discussed in Section 3.4.3), all meadow *Vegetation Groups* found within 100 m of a ≥4 ha woodland *Vegetation Group* (see Criterion 7) or ≥ 2 ha thicket *Vegetation Group* (see Criterion 8) meet Criterion 10.

Note: It is recognized that the policies of the PPS do not provide protection for upland thickets and meadows as natural heritage features and areas, unless they have been determined to be significant wildlife habitat.

Results

The results for Criterion 10 are shown in Table 21 and in Appendix H-10. Over 80% (81.8%) of all meadow *Vegetation Groups* meet this criterion. Of the 1,401 groups that meet this criteria, a moderate number, 221(12.9%), meet only this criterion and no others. These results suggest the three habitat types (meadow, thicket and woodland) are closely tied and intermixed in the landscape.

Table 21. Criterion 10 results – Meadow *Vegetation Groups* within 100 m of a ≥4 ha woodland or ≥2 ha thicket *Vegetation Group* in the Study Area

	# that meet Criterion 10	**% of all Meadow Groups** (1,712)	**# that meet only Criterion 10**	**Area that meet Criterion 10** (ha)	**% of all Meadow Area** (3,544 ha)	**% of Study Area** (197,159 ha)
Meadow *Vegetation Group* within 100 m of a ≥ 4 ha woodland or ≥2 ha thicket *Vegetation Group*	1,401	81.8%	221	2,994	84.5%	1.80%

3.5 Criteria Applied to All *Vegetation Patches*

3.5.1 Criterion 11 – *Vegetation Patches* containing a *Vegetation Group* that meets a Group Criterion

Note: Criterion 11 is used to identify the natural heritage system since it recognizes that *Vegetation Groups* identified using Criteria 1-10 and 14-17 do not exist in isolation. Criterion 11 is a mapping rule that translates *Vegetation Group* criteria 1-10 into a single *Vegetation Patch* criterion.

Rationale

Vegetation Patches are comprised of one- to- many *Vegetation Groups*. The spatial arrangement between the *Vegetation Communities* within the *Vegetation Patch* determines the resistance to flow or movement of species, energy, materials, and water (Forman 1995b). Recognizing this interdependency between landscape structure and function, it is important to consider the entire *Vegetation Patch* as a single entity when determining importance. To maintain biological diversity, natural functions, and viable populations of native species and ecosystems, significant natural features and functions cannot exist in isolation.

Application

Mapping rules of adjacency and proximity were used to define a *Vegetation Patch*. If a *Vegetation Patch* contained a *Vegetation Group* that met a group criterion (i.e., Criterion 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10), the entire *Vegetation Patch* meets this criterion.

Results

The results for Criterion 11 are shown in Table 22 and in Appendix H-11. Some 76.5% of the patches met this criterion, accounting for 98.5% of the patch area. Since Criterion 11 is really a summary of Criteria 1 through 10, it should account for a great number of patches on the landscape.

Table 22. Criterion 11 Results – *Vegetation Patches* that contain a *Vegetation Group* that meets a group criteria in the Study Area

	# that meet Criterion 11	**% of all *Vegetation Patches*** (1,909)	**# that met only Criterion 11**	**Patch Area** (ha)	**% Area of all *Vegetation Patches*** (48,116 ha)	**% of Study Area** (197,159 ha)
***Vegetation Patches* that contain a *Vegetation Group* that meets a Group Criterion**	1,460	76.5%	1,141 (9,025 ha)	47,397	98.5%	24.04%

3.5.2 Criterion 12 – *Vegetation Patch* Containing a Diversity of *Vegetation Ecosystems, Groups* or *Communities*

Rationale

Representation approaches have become key concepts in developing methods to select the most significant remaining natural areas (Canadian Council on Ecological Areas 1991, Peterson and Peterson 1991, Horn and Koford 2004). The Natural Heritage Reference Manual (MNR 2010) recognizes that a fundamental step in natural heritage system planning is to consider the protection of the full range of natural features that occur in an area (representation), including both rare and common features, in order to preserve biodiversity at the species and community levels.

Natural areas or clusters of natural areas that span a range of topographic, soil and moisture conditions tend to contain a wider variety of plant and animal species, and may support a greater diversity of ecological processes. The diversity of species is dependent upon the diversity of habitats on the landscape since dissimilar habitats provide food, shelter, and reproductive requirements for different species. Since many species use more than one habitat type to meet their life cycle requirements, it is valuable for *Vegetation Patches* to be comprised of different habitat/vegetation types or communities. This criterion encompasses structural diversity (i.e., the full range of canopy heights and types), as well as diversity in the context of slope, aspect, wetness, physiography, etc.

Definition

The number of different *Vegetation Ecosystems*, *Vegetation Groups* and *Vegetation Communities* in a *Vegetation Patch* can be used as proxy measures of diversity.

The three types of *Vegetation Ecosystems,* terrestrial, wetland and aquatic (see Table 3 in Section 2.2), are linked by a multitude of processes. For example, aquatic *Vegetation Ecosystems* in forests are coupled to adjacent terrestrial *Vegetation Ecosystems* by transitional riparian zones and wetland areas. Processes within wetlands and riparian zones can regulate the retention and release of nutrients and carbon into the aquatic *Vegetation Ecosystem* (Tufford *et al*. 1998, Junk *et al*. 1989). At a broader scale, the inflow of water, nutrients, and sediments from surrounding watersheds are heavily influenced by conditions within the floodplain. Conversely, floodplain plant and animal habitat value and sediment supply and fertility are often determined by river hydrology. The surrounding landscape can also influence the capacity of wetlands to perform functions such as sequestering pollutants, modifying nutrient loads, and providing habitat (Wetzel 2001). The interdependencies between the three natural *Vegetation Ecosystems* provide strong support for criteria based on linkages and spatial patterns.

Application

Three different measures (combinations of vegetation ecosystems, groups and communities) were used to determine if a *Vegetation Patch* was diverse. If any one of the following three measures was met, the *Vegetation Patch* met this criterion (see Figure 11):

i) *Vegetation Patch* contains > 1 *Vegetation Ecosystem* or,
ii) *Vegetation Patch* contains > 2 *Vegetation Groups* or,
ii) *Vegetation Patch* contains > 3 *Vegetation Communities*.

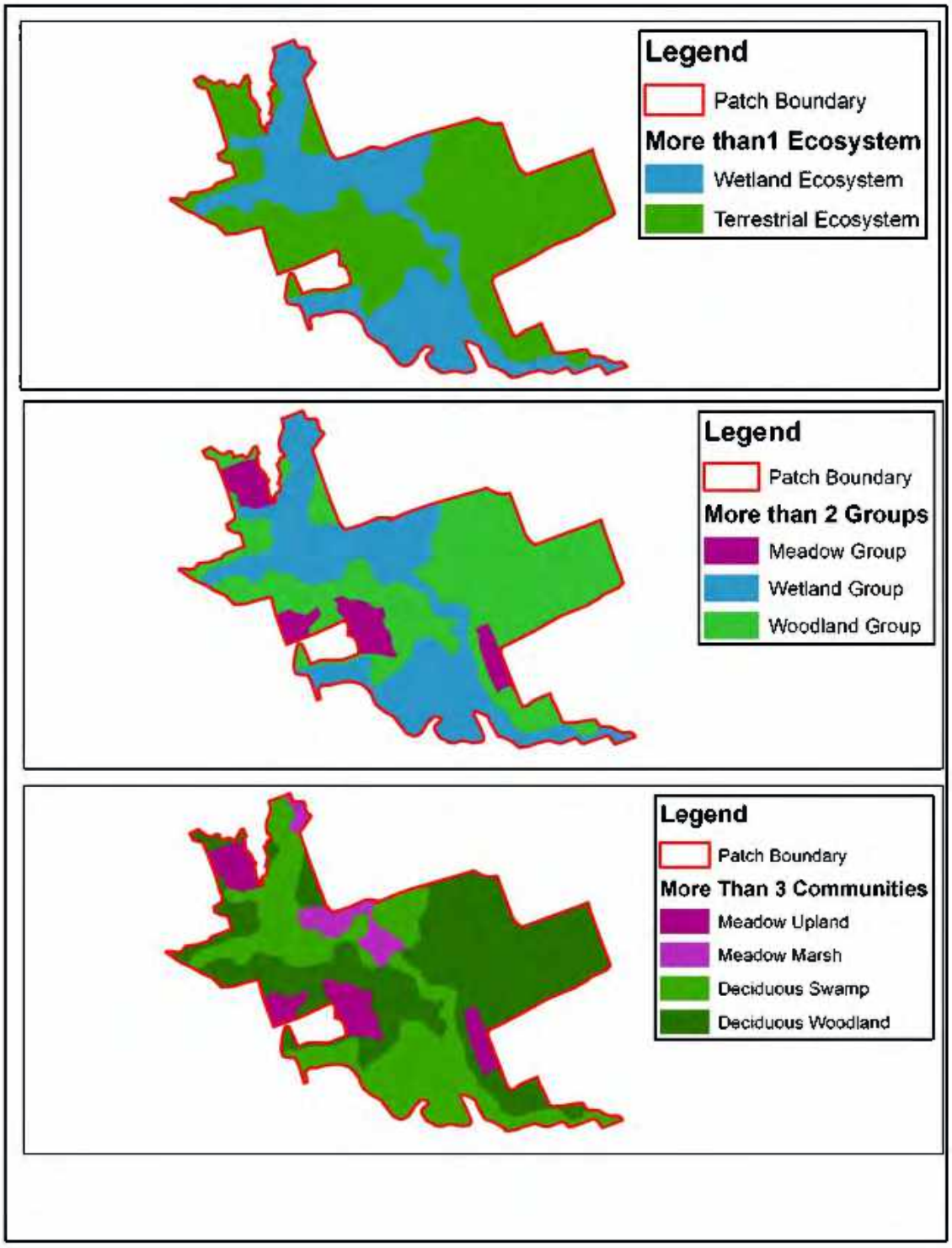
Results

Table 23 shows the results for Criterion 12 and the results map is included in Appendix H-12. Only 19% of all patches met this criterion, but the area totals 81.2% of patch area, indicating it is picking up mostly large patches. It is not surprising, since large patches are more likely to contain more habitat types than small patches. Only a small number of patches (12) met only this criterion and no others.

Table 23. Criterion 12 Results –*Vegetation Patches* that contain a diversity of *Vegetation Ecosystems, Groups* and/or *Communities* in the Study Area

	# that meet Criterion 12	**% of *Vegetation Patches*** (1,909)	**# that meet only Criterion 12**	**Area** (ha)	**% Total Patch Area** (48,116 ha)	**% of Study Area** (197,159 ha)
***Vegetation Patches* that contain:** **> 1 Vegetation Ecosystem or** **> 2 Vegetation Groups or** **> 3 Vegetation Communities**	362	19.0%	12 (36 ha)	39,077	81.2%	19.82%

Figure 11. Criterion 12, illustration of patches containing many different *Vegetation Ecosystems, Groups* and *Communities*



3.5.3 Criterion 13 − *Vegetation Patches* that don't meet any criteria but are within 100 m of a *Vegetation Patch* that meets other Patch Criteria

Rationale

The presence of large natural habitat patches in a landscape is not sufficient to counteract the effects of fragmentation, especially if there are relatively few such patches, they are widely dispersed, or there are few natural corridors linking them (Riley and Mohr 1994, Prugh *et al*. 2008). Natural areas close to protected areas are increasingly seen as important to the ecological integrity of the protected sites. Research shows local landscapes that include large natural areas, linked to the regional landscape mosaic by a network of smaller interacting natural areas and corridors, offer the highest probability of maintaining overall ecological integrity (Larson *et al*. 1999, Villard *et al*. 1999).

Smaller *Vegetation Patches* of natural cover that are closely spaced can serve as stepping stones for species movement. Baguette and Van Dyck (2007) showed that the ability and willingness of wildlife species to move between and successfully settle in different *Vegetation Patches* was affected by the distance between the *Vegetation Patches*. Environment Canada (2013) found that two or more *Vegetation Patches* are more likely to support more species collectively than they would if they were isolated from each other. In areas where large core areas do not exist, clusters of smaller natural areas that span a range of habitats and are arranged close together support a greater diversity of ecological processes and are able to reduce the effects of fragmentation.

Application / Mapping Rules

Recognizing that plants have limited mobility compared to animals, the average wind dispersal distance of 100 m (for seeds and pollen) was used as the distance that would functionally connect two *Vegetation Patches* (Cain *et al*. 2000, Harper 1977, Howe and Smallwood 1982, Nathan *et al*. 2002, Willson 1993, Cain *et al*. 1998).

In Elgin County, all *Vegetation Patches* that do not meet a criterion but are within 100 m of a *Vegetation Patch* that does meet a criterion, meet Criterion 13. Figure 12 illustrates this criterion.

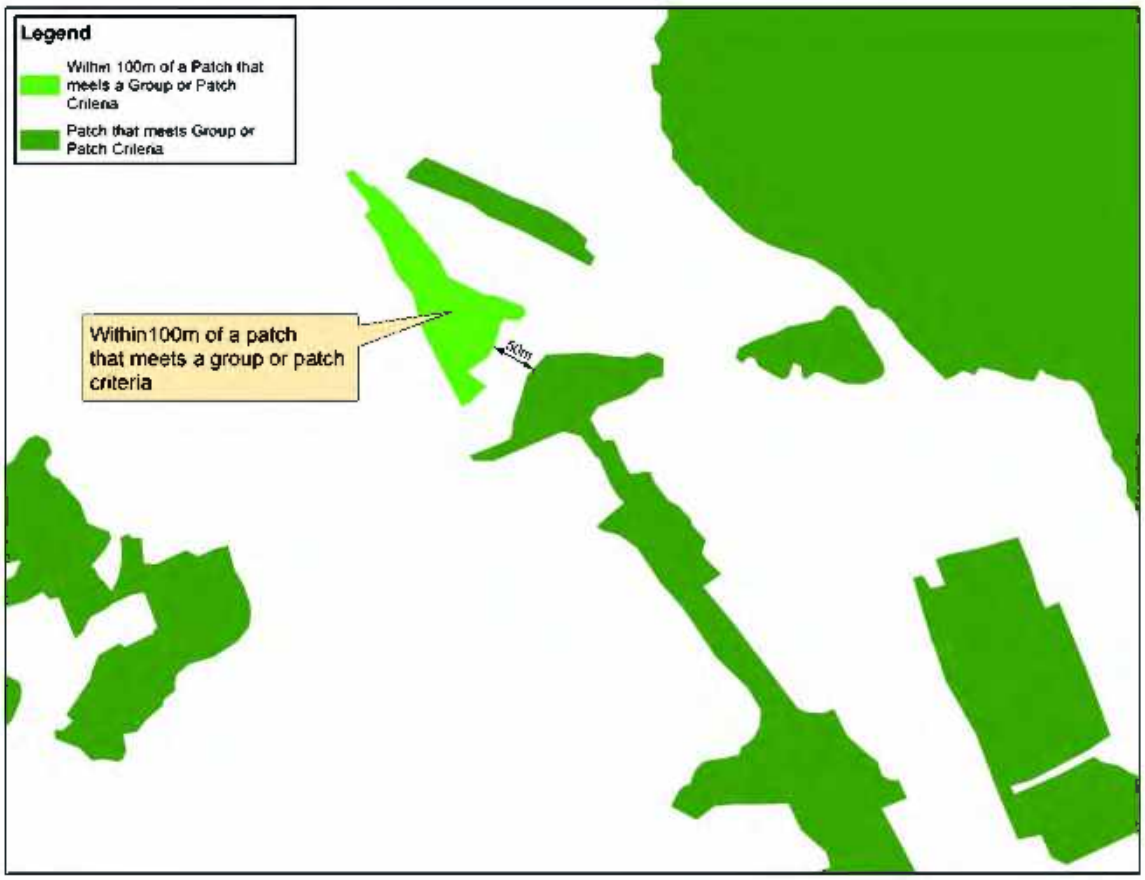
Results

Table 24 below shows the mapping results for Criterion 13. The map showing the results is included in Appendix H-13 (note, the patches are very tiny and difficult to see). This criterion is met by only 77 patches and accounts for only 113 ha (0.2% of patch area). Because this is the last criterion and it is targeted at those patches that have not met any other criterion, it stands to reason that all 77 of these patches only meet this one criterion. Thus, this criterion picks up a small number of small patches that would not have been picked up with any other criteria.

Table 24. Criterion 13 Results —*Vegetation Patches* that do not meet any criteria but are within 100 m of a *Vegetation Patch* that meets other patch criteria in the Study Area

	# that meet Criterion 13	**% of all *Vegetation Patches*** (1,909)	**# that only meet criterion 13**	**Patch Area** (ha)	**% Total Patch Area** (48,116 ha)	**% of Study Area** (197,159 ha)
***Vegetation Patches* that do not meet any criteria, but are within 100 m of a *Vegetation Patch* that meets other patch criteria**	77	4.0%	77	113	0.2%	0.06%

Figure 12. Criterion 13, illustration of a small patch that does not meet any criteria but is within 100 m of a patch that does meet criteria



3.6 Additional Information – Criteria that did not pick up any patches not already picked up by other criteria

Two criteria, *Vegetation Patches* ≥ 100 ha and Woodland Interior, were part of the 2006 Oxford Natural Heritage Study and other early natural heritage studies. However, the current study has more and slightly different criteria. For example, the woodland size cutoff is 4 ha versus 10 ha in the earlier study (see section 3.4.3). When the model was run for the current study, these two criteria did not pick up any patches that were not already picked up by other criteria. These two criteria and their results are provided here as added information items.

3.6.1 *Vegetation Patches* ≥ 100 ha

Rationale

Size is a key landscape-level factor affecting the presence, abundance, and diversity of species (Environment Canada 2013, Mazerolle and Villard 1999, Lovett-Doust and Kuntz 2001, Lovett-Doust *et al*. 2003, Bender *et al*. 1998). The Natural Heritage Reference Manual (MNR 2010) recognizes that large patches of natural area are more valuable than smaller patches, provided that size is not the only consideration.

The size of a *Vegetation Patch* considered to be large depends on the landscape of the planning area. In a planning area with a low percentage of natural feature cover that is highly fragmented, the size of areas considered to be large would be smaller than in a region where natural feature cover is extensive. As well, natural areas should be large enough to be resilient to typical natural disturbances. Current science suggests that 100 ha woodland *Vegetation Groups* will support approximately 60% of area sensitive species while 200 ha woodland *Vegetation Groups* will support approximately 80% (Environment Canada 2013). Burke and Nol (2000) determined that reproductive success of forest birds in southern Ontario was consistently higher for woodland *Vegetation Groups* greater than 94 ha.

However, the size of a patch does not take into account its shape; long linear patches would not function the same as square shaped patches of the same size.

Application / Mapping Rules

All *Vegetation Patches* ≥ 100 ha in size or greater meet this parameter.

Results

Table 25 shows there are only 62 patches (3.2% of all patches) that are ≥ 100 ha. However, these patches account for almost two-thirds (63.6%) of all the vegetation patch area. Appendix I-1 shows the results in map form. Many of the large patches include the long, continuous vegetated ravine corridors.

Table 25. *Vegetation Patches* ≥ 100 ha

	# meeting this criterion	% of all *Vegetation Patches* (1,909)	# meeting this criterion and no other	Patch Area (ha)	% Total Patch Area (48,116 ha)	% of Study Area (197,159 ha)
***Vegetation Patches* ≥ 100 ha**	62	3.2%	0	30,611	63.6%	15.53%

3.6.2 Woodland Interior Habitat

Interior habitat is useful as a measure of ecosystem health (Weathers *et al.* 2001, LRC and MNR 2000, Sandilands and Hounsell 1994, Sisk *et al*. 1997), but not as useful in selecting significant woodlands. Environment Canada (2013) recommends that a minimum of 10% of watersheds should be in woodland interior habitat. Many area-sensitive forest birds require the protective core of a woodland to nest successfully, away from the edge habitat that is more prone to high predation, wind damage and alien species invasion. The Natural Heritage Reference Manual (MNR 2010) defines edge habitat as habitat that exists within 100 m from the outermost trees. Meffe and Carroll (1997), Matlack (1993), Chen *et al*. (1995), and Hamill (2001) consider edge habitat as a zone of influence that varies depending on where and what is being measured.

Application / Mapping Rules

To define interior habitat, a swath of 100 m around the inside perimeter of the woodland *Vegetation Group*, before clustering around roads, was delineated as "edge" habitat. Any habitat within the woodland *Vegetation Community*, but not within the 100 m wide edge, was identified as woodland interior. Figure 13 provides an illustration of the mapping of interior.

The 2006 Oxford Natural Heritage System study used an interior habitat criterion because the woodland size cutoff was 10 ha and the study wanted to capture those woodlands 4 to10 ha with interior. Woodlands 4 to 10 ha in size may contain interior habitat depending on their shape, but woodlands < 4 ha do not (i.e., a perfectly square 4 ha woodlot is 200 m x 200 m, leaving no room for interior). Since the current study uses a 4 ha woodland size minimum, there should be no woodlands smaller than 4 ha that contain interior.

Results

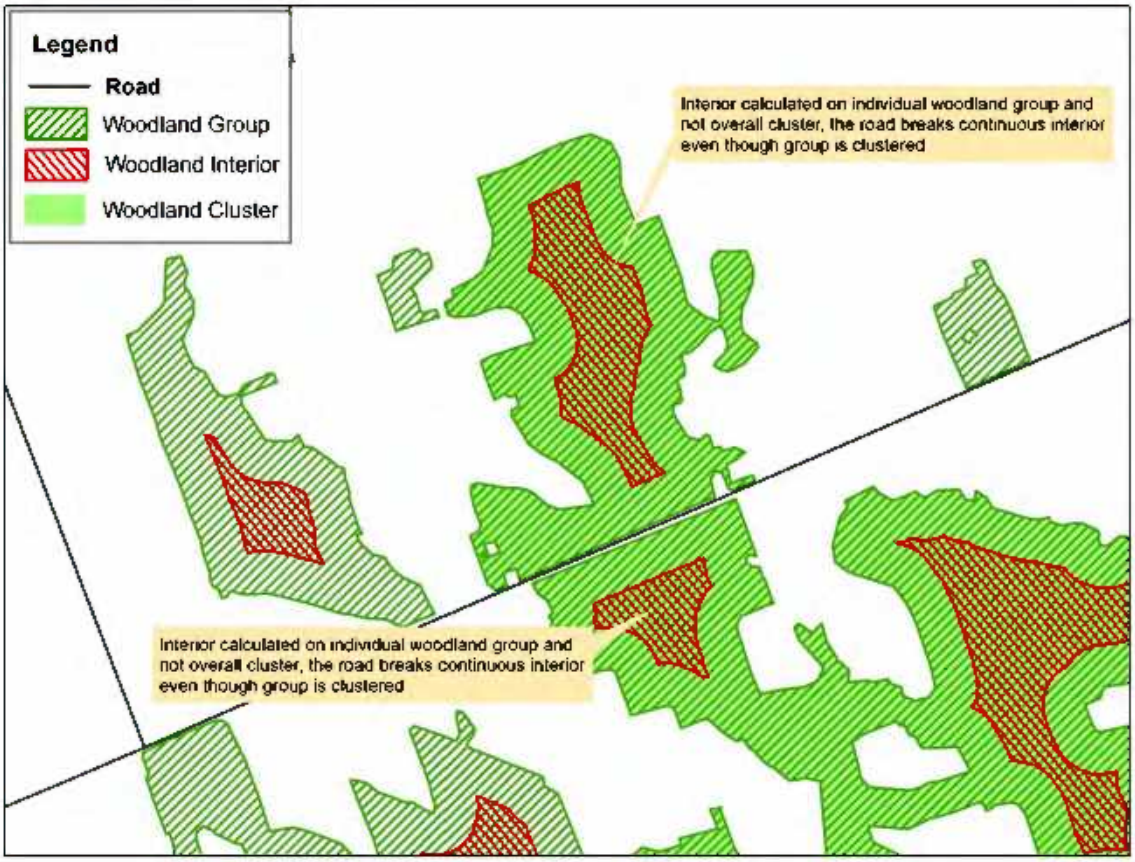
Table 26 and Appendix I-2 provide a summary of interior woodland habitat in the Elgin Study Area. Only 21% of all woodland groups contain interior habitat, which means 79% of woodlands are too small and/or narrow to contain interior. There are 6,045 ha of interior forest in the study area, representing almost 15% of the woodland area and 3% of the study area. Environment Canada (2013) recommends at least 10% woodland interior cover by watershed.

Table 26. Woodland Groups with Woodland Interior Habitat

	# Woodland Groups that have interior	**% of all Woodland Groups** (2,146)	**# that only meet this criterion**	**Area of woodland groups that contain interior** (ha)	**Total Area of woodland interior ≥0.5 ha** (ha)
Woodland *Vegetation Groups* that contain ≥0.5 ha of interior woodland habitat	455 (755 polygons)	21%	0	32,982	6,045 (14.8% of Woodland area; (3.07% of Study Area)

Study Area = 197,159 ha; Total Woodland Area = 40,949 ha

Figure 13. Illustration showing how interior woodland area is calculated



3.7 Criteria Reviewed but Not Included

Several additional potential criteria were suggested and reviewed as part of the 2014 Middlesex Natural Heritage Systems Study and 2016 Oxford NHSS and were not used for a variety of reasons. Many did not add value (e.g., were redundant), did not fit the study or had other limitations. A full description of these criteria and the rationale for not including them is shown in Appendix E. Below is a list of the 19 criteria that were not used:

- Best representative *Vegetation Patch* on landform physiography and soil type
- Located on a distinctive, unusual or high quality landform. All areas (both vegetated and non-vegetated) on: gullies, valley lands, within 30 m of limestone outcroppings
- *Vegetation Patch* on an Earth Science ANSI that contributes to the presence of an uncommon *Vegetation Community*
- All *Vegetation Patches* found alongside a coldwater watercourse or watercourse containing Brook Trout
- Shape of *Vegetation Patch* (i.e., closest to a round shape)
- Adjacent to an MNR evaluated wetland or life science ANSI
- Contains an area identified in the local official plans such as the Locally Significant Natural Areas identified by Hilts and Cook 1982
- Unique intrinsic characteristics (i.e., site level characteristics)
- Distance from development (e.g., permanent infrastructure and buildings) or matrix
- Persistence or threatened
- Porous or erodible soils
- *Vegetation Patch* contains a large sized wetland defined as:
    - wooded wetlands > 4 ha based on Environment Canada (2013),
    - wetland meadows and marshes >10 ha based on Environment Canada (2013),
    - small wetland meadows and marshes adjacent to other *Vegetation Communities* may be vital to butterflies,
    - wetland thicket size determined by top 75th percentile distribution cutoff of all county wetland thicket sizes.
- *Vegetation Patch* contains a wetland that is within 1000 m of another wetland
- *Vegetation Patch* contains a recently observed (post 1980) regionally rare plant
- *Vegetation Patch* contains thicket with interior
- Carolinian Canada Big Picture Corridors
- Interior woodland habitat that is ≥0.5 ha in size of continuous habitat
- Presence of Species at Risk

The 2014 MNHSS and 2016 ONHSS included three "unmapped criteria" (see list below). However, upon review for the ENHSS, it was decided that since these features can only be identified at the site-level, they should not be included as landscape-level criteria in this modelling study. Instead, they are specifically named in the list of features to be identified at the EIS stage (See Chapter 5).

- *Vegetation group* contains a Significant Wildlife Habitat
- *Vegetation group* contains a Groundwater Dependent Ecosystems or Wetlands
- *Vegetation group* contains a Watercourse Bluff or Depositional Area

4.0 Results of Running the Ecologically Important Criteria

Each criterion in this study measures a unique aspect of the ecological services that a natural feature provides. Thus, any patch that meets at least one criterion is considered "ecologically important" in Elgin County. This one-criterion approach has been utilized in many other studies including the 2018 Perth Natural Heritage Systems Study (draft), 2016 Oxford Natural Heritage Systems Study, 2014 Middlesex Natural Heritage Systems Study and the 2014 Huron Natural Heritage Study (draft). In the Middlesex and Huron studies, the criteria were called "significance criteria", but in this study the word "significant" has been replaced with "ecologically important". This change was made to distinguish it from the use of the word significant in the Provincial Policy Statement for certain Natural Heritage Features and Areas such as Provincially Significant Wetlands and Provincially Significant ANSIs (see section 1.1).

As explained in the previous chapter, the running of the criteria was done on the Elgin Study Area that includes a 500 m buffer around the perimeter of Elgin County (excluding the lake side). This was done so that *Vegetation Communities* and *Patches* that spanned the border would be modelled in their entirety and not artificially cut off by the political boundary.

Section 4.1 summarizes the results of running the *Vegetation Group* level criteria (Criteria 1 to 10). Section 4.2 summarizes the results of running the *Vegetation Patch* level criteria (Criteria 11 to 13). Section 4.3 describes the three categories of woodlands that inform Official Plan policies.

Central Elgin landscape with Hawk Cliff in the foreground. Drone photo by Joseph McNeil.

4.1 *Vegetation Groups* that meet Criteria

Table 27 summarizes the results of running the model for *Vegetation Groups* for the Elgin Study Area.

As expected, the woodland group, which is the largest group at 40,949 ha, has the largest percentage that is ecologically important (98.4% or 40,276 ha).

The meadow group has the second largest area (3,544 ha) and 95.4% of the area is ecologically important. The thicket group and water feature groups have similar areas (952 ha and 949 ha respectively), and 91.3% and 80.3% of those groups respectively are ecologically important.

The wetland group, made up of woodland, thicket, and meadow vegetation communities, is also quite large at 5,210 ha or 2.64% of the Elgin Study Area. All wetland groups are ecologically important. As noted earlier, only the evaluated wetlands are included at this time, and unevaluated wetlands are currently unmapped.

The map in Appendix K-1 shows the woodland groups that meet a criterion (and are ecologically important) and those that do not. Since the woodland group criteria (Criteria 1, 2, 3, 4, 6 and 7) establish significance for woodlands consistent with the PPS (see Table 11), the ecologically important woodland groups also represent Significant Woodlands as per the PPS.

The map in Appendix K-2 shows the meadow groups that meet a criterion (and are ecologically important) and those that do not. The map in Appendix K-3 shows the thicket groups that meet a criterion (and are ecologically important) and those that do not (note: the features are quite small).

> *Note:* It is recognized that the policies of the PPS do not provide protection for upland thickets and meadows as natural heritage features and areas, unless they have been determined to be significant wildlife habitat.

Table 27. *Vegetation Group* Results for the Elgin Study Area

Vegetation Group ↓	**Total Group Area** (ha)	**% Total Group Area of Study Area** (197,159 ha)	**Ecologically Important Area** (ha)	**% Ecologically Important Group Area of Study Area** (197,159 ha)	**% Group Area that is Ecologically Important**
Woodland	40,949	20.77%	40,276	20.43%	98.4%
Thicket	1,527	0.77%	1,390	0.71%	91.3%
Meadow	3,544	1.80%	3,379	1.71%	95.4%
Water Feature	949	0.48%	762	0.39%	80.3%
Connected Veg. Feature	138	0.07%	115	0.06%	83.7%
Total	**47,107**	**23.90%**	**45,922**	**23.29%**	**98.7%**
Wetland	5,210	2.64%	5,210	2.64%	100.0%

- Wetlands include woodland, thicket and meadow groups and are already part of the total. Wetland area includes evaluated and some unevaluated wetlands (see Section 3.4.1)
- Ecologically Important *Woodland Groups* also meet criteria for Significant Woodlands as per the PPS

4.2 *Vegetation Patches* that meet Criteria

Table 28 summarizes the number of vegetation patches that met a certain number of criteria in the Study Area. The number of criteria met refers to the total number of criteria, not any specific criterion. The maximum number of criteria any patch can meet is 11 out of the 13, since Criterion 11 is simply a mapping rule to bring Criteria 1-10 from a *Vegetation Group* to a *Vegetation Patch*, and Criterion 13 can only apply to patches that have not yet met any criteria.

Over 80% of patches (1,549 of 1,909) meet at least one criterion, and are thus ecologically important. Some 360 patches (18.9%), do not meet any criterion, however, the total area of these patches is very small. The figures in Table 29 show that 98.8% of *Vegetation Patch* area meets one or more criteria, representing 24.12% of the Elgin Study Area.

Tables 30 and 31 summarize the modeling results by municipality. These results were calculated for the municipalities without the 500 m buffer, so the figures are smaller than shown in Table 29 for the entire Study Area. The corresponding maps showing the patches that do and do not meet a criterion for each municipality are included in Appendix L-1 to L-10.

Table 28. The number of *Vegetation Patches* versus the number of criteria met in the Elgin Study Area

# of Criteria Met	# *Vegetation Patches*	% of Patches (1,909)
0	360	18.9%
1	617	32.3%
2	350	18.3%
3	206	10.8%
4	130	6.8%
5	80	4.2%
6	68	3.6%
7	35	1.8%
8	35	1.8%
9	17	0.9%
10	8	0.4%
11	3	0.2%
TOTAL	**1,909**	**100.0%**

Note: The number of criteria met refers to the total number of criteria, not any specific criterion.

Table 29. The Area of *Vegetation Patches* that meet criteria in the Elgin Study Area

Total Area of *Vegetation Patches*	Area of *Vegetation Patches* that met at least one criterion	% of Vegetation Patch Area that meet criteria	% Ecologically Important Vegetation Patches in Elgin Study Area (197,159 ha)
48,116	47,546	98.8%	24.12%

Table 30. Number of Vegetation Patches that are Ecologically Important by Municipality

Municipality	# Patches	# Patches that are ecologically important	% of Patches that are ecologically important
West Elgin	331	275	83.1%
Dutton/Dunwich	283	236	83.4%
Southwold	309	252	81.6%
Central Elgin	309	255	82.5%
Malahide	350	279	79.7%
Bayham	222	167	75.2%
Aylmer	17	13	76.5%
St. Thomas	47	41	87.2%
Elgin County (no buffer)	**1,868**	**1,549**	**81.3%**

- The number of patches is slightly lower than in the Study Area results shown in Table 28 because the buffer zone around the municipalities has been removed.

Table 31. Area of Vegetation Patches that are Ecologically Important by Municipality

Municipality	Municipal Area (ha)	Area of all patches (ha)	% of municipality in patch cover*	Area of patches that are ecologically important (ha)	% of patch area that is ecologically important	% of municipality that is ecologically important*
West Elgin	32,324	7,442	23.02%	7,344	98.7	22.72%
Dutton/ Dunwich	29,526	6,504	22.03%	6,421	98.7	21.75%
Southwold	30,182	5,568	18.45%	5,479	98.4	18.15%
Central Elgin	28,142	6,388	22.70%	6,308	98.8	22.42%
Malahide	39,552	6,704	16.95%	6,598	98.4	16.68%
Bayham	24,558	8,049	32.77%	7,973	99.1	32.47%
Aylmer	611	69	11.30%	66	94.9	10.72%
St. Thomas	3,588	794	22.14%	784	98.7	21.85%
Elgin County (no buffer)	**188,482**	**41,517**	**22.03%**	**40,973**	**98.7**	**21.74%**

- Area of each municipality was calculated based on municipal boundaries obtained from Land Information Ontario, 2017 (based in 2015 photography). The vegetation patches were clipped at the municipal boundaries, and no buffer was added.

The key findings are listed below.

Results for the Elgin Study Area (includes 500 m buffer around all sides except lake side):

- 24.40% is in natural vegetation/patch cover (48,116 ha of 197,159 ha)
- 20.77% is in woodland/forest cover and an additional 3.12% is in other vegetation cover (meadow, thicket, water feature and connected vegetation feature cover)
- 24.12% is in ecologically important patch cover (47,546 ha)
- 20.43% is in ecologically important woodland cover
- 81% of vegetation patches meet at least one criteria for ecological importance, representing 98.8% of the patch area.

Municipal and Elgin County Results (no buffer)

- 98.7% of the natural vegetation/patch cover by area (40,974 of 41,519 ha) in Elgin County meets one or more criterion and is ecologically important and only 1.3% of the vegetation patch cover (545 ha) meet no criteria
- 21.74% of Elgin County is in ecologically important vegetation cover and at the municipal level, the results range from 10.72% in Aylmer to 32.47% in Bayham
- 2.64% of Elgin County is in wetland cover, including both evaluated and unevaluated wetlands, totaling 5,210 ha

4.3 Woodlands: Significant, Ecologically Important, and Other

To inform Official Plan policies, woodlands have been sorted into three categories:

1) Significant Ecologically Important Woodlands
   - *Definition*: woodland groups that meet group level criteria within the ENHSS
   - As explained in section 3.2.2, ENHSS criteria 1, 2, 3, 4, 6 and 7 establish significance for woodlands consistent with the PPS (see Table 7-2 of the NHRM).
   - These woodlands are considered to be both significant as per the PPS and ecologically important as per the ENHSS.

2) Non-Significant Ecologically Important Woodlands
   - *Definition:* woodland communities or groups within a patch that meet patch level criteria but not group level criteria within the ENHSS
   - Some woodlands that do not meet *Vegetation Group* level criteria, may be part of a larger *Vegetation Patch* made up of other vegetation groups such as thicket, meadow, or water feature, that does meet a patch level criteria (i.e., Criteria 11, 12 or 13).
   - Thus, the woodland is ecologically important and part of the Elgin Natural Heritage System, though not Significant as per the PPS.

3) Other Woodlands / Non-ecologically Important Woodlands
   - *Definition:* woodland groups and patches containing woodlands that do not meet any group or patch level criteria within the ENHSS
   - Although non-ecologically important based on mapped ENHSS criteria, these woodlands could still be considered "candidate sites" until an EIS determines that no unmapped criteria are present (see Chapter 5 recommendations).

Appendix M provides a map that shows these three categories of woodlands in Elgin County. Other PPS features (e.g., Significant Wetlands) are not shown on this map as they are part of the provincial data layer available from MNRF. The Significant Valleylands are shown separately in Appendix H-1-1. Table 32 shows that 98.4% of the woodland group area falls under the significant ecologically important category and occupies 20.43% of the Elgin County study area.

The GIS data for the ENHSS allows the planning agencies to determine which criteria any individual vegetation group or patch met, as well as other details.

Table 32. Woodland Category Results for the Elgin Study Area

Woodland Category	# of Woodland Groups	% of total number of Woodland Groups	Area (ha)	% of total Woodland Group Area	% of Elgin Study Area (197,159 ha)
Significant Ecologically Important	1,730	81%	40,276	98.4%	20.43%
Non-significant Ecologically Important	134	6%	205	0.5%	0.10%
Other (Non-ecologically Important)	282	13%	469	1.1%	0.24%
Total	**2,146**	**100%**	**40,949**	**100.0%**	**20.77%**

5.0 Recommendations

The Elgin Natural Heritage Systems Study (ENHSS) is a science based study that identifies natural heritage system components following a landscape ecology methodology. The information it provides can be implemented through both regulatory and non-regulatory approaches. However, regulation must play a role in implementation due to the need for local planning policies and decisions to be consistent with the PPS natural heritage policies. This section provides various recommendations for implementation of the study.

It is important to note that the ENHSS focused primarily on the natural heritage system of the Elgin landscape and that implementation will also require consideration of cultural, economic, public health and safety factors. The broader considerations are inherent in implementation processes under Planning and Environmental Legislation. These processes involve considerable review and consultation to assist in providing a positive impact on the quality of life in Elgin County and its environs.

The ENHSS project did not include a process to engage stakeholders on implementation options. However, extensive consultations on implementation options were undertaken as part of the 2006 ONHS. The majority of the implementation options developed as part of that study could be applied to the Elgin County area and so are included in Appendix K for reference. The ENHSS focused primarily on identifying and characterizing natural heritage features and areas and the broader natural heritage system, so that this information could inform the various implementation options. It is recognized that further stakeholder consultation will be undertaken as part of the various processes required to implement the study recommendations (e.g., updates to Official Plan policies and Woodland Conservation By-Law).

John E. Pearce Provincial Park preserves an older growth deciduous forest. Photo by Cathy Quinlan

5.1 Land Use Planning

The results of this study should be incorporated into the Official Plan policies, as necessary to ensure consistency with the natural heritage policies of the Provincial Policy Statement (PPS). The PPS notes that the policies represent minimum standards while planning authorities and decision-makers may go beyond these standards to address matters of local importance (see text box below).

> ***Excerpt from 2014 PPS (page 3)***
>
> **Policies Represent Minimum Standards**
>
> The policies of the Provincial Policy Statement represent minimum standards.
>
> Within the framework of the provincial policy-led planning system, planning authorities and decision-makers may go beyond these minimum standards to address matters of importance to a specific community, unless doing so would conflict with any policy of the Provincial Policy Statement.

The most appropriate means to implement the results of this study will be determined at the time that Planning Act applications are considered and will be guided by the PPS, Official Plan policies and input obtained through the process. To ensure an appropriate review framework is put in place to evaluate such applications, this study provides a number of specific land use planning recommendations for consideration by the County and City of St. Thomas, as follows:

1) To be consistent with the Provincial Policy Statement (2014), it is recommended that the County of Elgin and City of St. Thomas utilize the ENHSS (2019) as the scientific basis for identifying natural heritage features and areas and the broader natural heritage systems within the Official Plans.

   The Official Plan should include policies governing the protection of natural heritage features and areas and the protection of natural heritage systems as a result of land use change that could impact such features and areas. Such policies should require assessment that is appropriate to the scale of the proposed land use change. For example, small scale applications should consider the potential impact on the natural heritage system through the preparation of an Environmental Impact Study (EIS) or edge management planning process (i.e., verifying natural feature boundaries on a site specific basis for scoped level assessments). Larger scale developments and urban expansions should be assessed at a subwatershed scale of study and include the integration of natural heritage, natural hazard and servicing planning.

   The natural heritage features and areas can be identified on a map schedule in an appendix to the Official Plan which would not require such features and areas to be designated as a land use. Rather, such mapping would raise the public's awareness that these natural heritage features are important to the County and its local municipalities and that they should be protected for future generations.

   Note: Provincially Significant Wetlands and Provincially Significant ANSIs are designated in the OP.

2) An updated Environmental Impact Study (EIS) guideline document should be developed to provide more specific guidance on the implementation of the ENHSS through the land use planning and development process, including initial consultation, EIS submission requirements, review process and scoping and/or waiver criteria. Currently, Appendix B of the Elgin OP outlines the contents of an EIS. The City of St. Thomas OP contains policies and associated guidelines in Section 8.3.4.

   a) A patch validation guideline should be developed to support the EIS guideline document. The patch validation guideline can assist with confirming patch attributes (e.g., which criteria were met, confirm unevaluated wetlands are wetlands, etc.) and patch boundaries. An example would be re-measuring distance to woodlands, valleylands and the shoreline.

   b) Patches that do not meet any criteria can be viewed as non-ecologically important or candidate ecologically important. If development is proposed, preparation of an EIS should be requested to confirm that the patch does not:

      - meet any of the 13 mapped landscape criteria,
      - contain an unevaluated or unmapped wetland,
      - contain any natural heritage features and areas that need to be identified at the site level including: Significant Wildlife Habitat, Groundwater Dependent Wetlands/Ecosystems, Bluffs and Depositional Areas (see Appendix N), and rare vegetation communities,
      - contain fish habitat or habitat of endangered or threatened species in accordance with provincial and federal requirements (MMAH, 2014).

        Note: It should be recognized that development and site alteration may not be permitted in fish habitat and habitat of endangered species and threatened species except in accordance with provincial and federal requirements (MMAH, 2014). These features need to be confirmed to be consistent with the PPS.

   c) The guideline document should also identify instances where the completion of an EIS can be scoped and/or waived (i.e., maintenance activities associated with stormwater management ponds and sewage lagoons, minor additions to buildings, etc.).

3) If agricultural or other similar lands are proposed to be developed for settlement or other non-agricultural land uses, the system linkages that would have been provided in the working agricultural or other pre-development landscape may be disrupted or eliminated by the post development landscape. In such cases, it is necessary that natural heritage system linkages be studied at an appropriate level of detail and that appropriate system linkages be identified (e.g., through an EIS) and provided as part of the development review process.

4) Significant valleylands have been identified in this study. The vegetation groups within or abutting these valleylands meet the criteria for significance consistent with the PPS, as well as this study. However, farmland and other lands that do not correspond with an ecologically important vegetation group that fall within significant valleylands are not specifically identified as part of the Elgin Natural Heritage System. Thus, proposed developments adjacent to these lands (e.g., farmland) do not require the completion of an EIS to assess negative impacts. Development within valleylands is typically already limited by the Natural Hazard features with which the valleyland is associated. However, in the limited instances where development may be proposed within a significant valleyland, natural heritage system linkages should be studied at an appropriate level of detail and appropriate system linkages identified (e.g., through an EIS) and provided as part of the development review process.

5) Policies should be included in the Official Plan to maintain, restore and improve the existing natural heritage systems.

Note: The ENHSS does not determine if there are enough natural heritage features, whether they are in the right places or of the right type. Also, this study does not determine whether the existing natural heritage system is sustainable over the long term. The 2005 Elgin Landscape Strategy (Elgin Stewardship Council) does present restoration potential.

5.2 Other Implementation Measures

1) Elgin County's Protection and Enhancement of Tree Canopy and Natural Vegetation Policy includes several initiatives that, cumulatively, protect and enhance the tree canopy and natural vegetation within the County including: the Elgin Natural Heritage Systems Study, the Elgin County Official Plan, Decisions under the Planning Act, and the Woodlands Conservation By-law.

2) The County should develop a mechanism to implement the *No Net Loss Policy* under the Woodland Conservation By-law to ensure trees that are planted by order as part of a *No Net Loss Policy* (i.e., when trees are cleared for development), are maintained and allowed to mature into woodland over time.

3) The ENHSS should be considered in the development and ongoing implementation of stewardship and incentive programs (i.e., Clean Water Program and ALUS), education programs and the management of publicly owned forests and natural areas in the county.

4) The county/municipalities should produce a factsheet on ways to minimize negative impacts on wildlife during routine maintenance of man-made pond structures such as sewage lagoons, stormwater management ponds, irrigation ponds and ponds in licenced aggregate pits. These man-made ponds can be included in the Water Feature *Vegetation Group* if they are connected to meadows, woodlands or other *Vegetation Groups*. Some of these *Vegetation Groups* may be ecologically important by meeting one or more criteria. The results of this study do not presume to change the intended purpose of these man-made structures. These structures can continue to function as designed. However, since they attract plants and wildlife by their very design (i.e., holding water, using biological processes to break down pollutants, etc.), undertaking cleanouts and other maintenance activities should be done prior to wildlife hibernation or after fledging.

   Such a factsheet could assist the managers of these pond structures. Regular maintenance activities would not require the submission of an EIS, however, the updated EIS guidelines recommended above should address this. The county/municipalities should work with the Certificate of Approval process for sewage lagoons and stomwater management ponds to see if there is flexibility in the timing of maintenance works.

5) The county/municipalities should continue to support the Southwestern Ontario Ortho-Imagery Project (SWOOP), or other similar partnerships, to obtain updated digital aerial photography on a regular basis. The County should update the vegetation layers (including unevaluated wetlands) as new ortho-imagery becomes available, approximately every 5 years. The natural heritage systems model of the ENHSS should be re-run with the updated vegetation layers to assess vegetation cover changes every five years.

   The ENHSS modeling criteria (Criteria 1 to 13) should be re-visited at 10 year intervals to confirm and/or update the science.

6) The watercourse layer should be updated to ensure that smaller watercourses are accurately delineated and categorized to distinguish them from other features such as swales and enclosed drains.

   Note: Notwithstanding the current state of the water course mapping layer shown in this study, all open watercourses are considered to be potential fish habitat and should be screened for at the site level as part of any development application. All open watercourses are considered part of the aquatic system, however, this study focuses on the terrestrial system.

Mixed woodland on steep valley land in West Elgin. Photo by Cathy Quinlan.

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List of Acronyms

ANSI	Area of Natural and Scientific Interest
CA	Conservation Authority
CCCA	Catfish Creek Conservation Authority
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species At Risk in Ontario
DEM	Digital Elevation Model
DFO	Department of Fisheries and Oceans
EIS	Environmental Impact Study
ELC	Ecological Land Classification
EO	Element Occurrence
ESA	Environmentally Significant Areas
FEFLOW	Finite Element Subsurface FLOW System (software package for modeling fluid flow)
GDE	Groundwater Dependent Ecosystems
GIS	Geographic Information System
HVA	Highly Vulnerable Aquifer
IRS	Indian Remote Sensing
ISI	Intrinsic Susceptibility Index
IUCN	International Union for Conservation of Nature
KCCA	Kettle Creek Conservation Authority
LPRCA	Long Point Region Conservation Authority
LTVCA	Lower Thames Valley Conservation Authority
MECP	Ministry of the Environment, Conservation and Parks
MMU	Minimal Mapping Unit
MNHS	Middlesex Natural Heritage Study
MNHSS	Middlesex Natural Heritage Systems Study
NHIC	Natural Heritage Information Centre
NHRM	Natural Heritage Reference Manual
NHS	Natural Heritage System
NRVIS	Natural Resource Value Information System
OBM	Ontario Base Mapping
OMAFRA	Ontario Ministry of Agriculture ,Food and Rural Affairs
ONHS	Oxford Natural Heritage Study
ONHSS	Oxford Natural Heritage Systems Study
MMAH	Ministry of Municipal Affairs and Housing
MNR	Ministry of Natural Resources
MNRF	Ministry of Natural Resources and Forestry
ONHSS	Oxford Natural Heritage Systems Study
OWES	Ontario Wetland Evaluation System
PNHSS	Perth Natural Heritage Systems Study
PPS	Provincial Policy Statement
SAR	Species At Risk
SOLRIS	Southern Ontario Land Resource Information System

SWH	Significant Wildlife Habitat
SWHTG	Significant Wildlife Habitat Technical Guide
SWOOP	South West Ontario Ortho Photography
SWP	Source water Protection
USDA	United States Department of Agriculture
UTRCA	Upper Thames River Conservation Authority

Appendices

Appendix A-1. Ecological Land Classification (ELC) Code Descriptions

FOC – Coniferous Forest
FOD – Deciduous Forest
FOM – Mixed Forest
CUP – Cultural Plantation
TPW – Tallgrass Woodland
CUT – Cultural Thicket
CUW – Cultural Woodland
TPO – Open Tallgrass Prairie
CUM – Cultural Meadow
BBO – Open Beach / Bar
BBS – Shrub Beach / Bar
BBT – Treed Beach / Bar
BLO – Open Bluff
BLS – Shrub Bluff
BLT – Treed Bluff
CLO – Open Cliff
CLS – Shrub Cliff
CLT – Treed Cliff
TAO – Open Talus
TAS – Shrub Talus
TAT – Treed Talus
SWC – Coniferous Swamp
SWD – Deciduous Swamp
SWM – Mixed Swamp
SWT – Thicket Swamp
FET – Treed Fen
FES – Shrub Fen
BOT – Treed Bog
BOS – Shrub Bog
FEO – Open Fen
BOO – Open Bog
MAM – Meadow Marsh
MAS – Shallow Marsh
SAS – Submerged Shallow Aquatic
SAM – Mixed Shallow Aquatic
SAF – Floating-leaved Shallow Aquatic
OAO – Open Aquatic

Source: Lee *et al*, 1998. *Ecological Land Classification for Southern Ontario: First Approximation and Its Application.* SCSS Field Guide FG-02.

Appendix A-2. The similarities and differences between the ELC *Vegetation Community* Series and the ENHSS *Vegetation Groups*

ELC *Vegetation Community* Series		ENHSS *Vegetation Group*	
Code	**Definition**	***Veg. Group* (Ecosystem)**	**Definition**
SWC, SWD SWM	>25% tree or shrub cover; >20% standing water;	Woodland (Wetland)	>20% standing water; >25% tree or shrub
CUP	>60% tree cover; >20% standing water; ≥1 linear edge;		
FOC, FOD FOM	>60% Tree cover	Woodland (Terrestrial)	>60% Tree cover <20% standing water
CUP	>60% tree cover < 20% standing water; ≥1 linear edge		
TPW	35-60% tree cover	Thicket (Terrestrial)	25-60% tree/shrub cover; <20% standing water
CUT	<25% Tree cover; >25% shrub cover		
CUW, TPW	35-60% tree cover		
SWT	<25% tree cover; >25% hydrophytic shrub cover	Thicket (Wetland)	10-25% tree cover or <10% tree cover and >25% shrub cover; >20% standing water
FET	20-25% tree cover		
FES	<10% tree cover; >25% shrub cover		
BOT	10-25% tree cover		
BOS	<10% tree cover; >25% shrub cover		
TPO CUM	<25% tree cover; <25% shrub cover	Meadow (Terrestrial)	<10% tree cover and <25% shrub cover
FEO BOO	<10% tree cover; <25% shrub cover	Meadow (Wetland)	<10% tree cover and <25% shrub cover; located in wetland as defined in Section 2.2.2.1 below
MAM MAS	<25% tree cover; <25% shrub cover		
SAS, SAM SAF	No tree cover; >25% macrophytes		
OAO	No vegetation; open water	Water Feature (Aquatic)	No vegetation; open water
BBO, BBS BBT	<60% tree cover; along shorelines	Watercourse Bluff and Depositional Area (Terrestrial)	<60% tree cover; on naturally active sites such as shorelines, steep slopes and base of cliffs
BLO BLS BLT	<10% tree cover; on active or steep near vertical surfaces		
CLO, CLS CLT	<60% tree cover; on steep near vertical surfaces		
TAO, TAS TAT	<60% tree cover; on slopes of rock rubble at base of cliffs		

*Note: Connected *Vegetation Group* can be made up trees and shrubs

Appendix B. Evaluated Wetland Layer

Ministry of Natural Resources and Forestry (MNRF) Evaluated Wetlands

The Ontario Ministry of Natural Resources and Forestry evaluates wetlands based on the Ontario Wetland Evaluation System (OWES) Southern Manual (MNR 2013). Sites are evaluated in the field, mapped, and then scored based on field data, hydrology and use. Since evaluated wetlands have been mapped during site visits, they can be smaller than 0.5 ha and are retained as part of the natural heritage system.

In some cases, Conservation Authority staff found the perimeter of the evaluated wetland did not match the natural heritage feature boundary on the latest orthoimagery and so boundary amendments were made. It should be noted that this may have resulted in extending or decreasing the wetland beyond the boundary approved under OWES at the time of the evaluation.

For policy decisions, the approved wetland boundary should be referenced. Recognizing that wetlands are dynamic, an Environmental Impact Study be completed to determine the accurate wetland boundary using the OWES (MNR 2013). The OWES uses an open file system where files can be amended as new information becomes available. MNRF is the approval authority on Significant Wetlands so any changes to the boundaries must be approved by the MNRF.

Appendix C. Unevaluated Wetlands and their Identification and Mapping (UTRCA Methodology)

The Upper Thames River Conservation Authority (UTRCA) began identifying unevaluated wetlands in 2006 in an attempt to consolidate information and map the numerous wetlands that were not part of the evaluated wetland layer of MNR to better represent natural features in the watersheds. These wetland areas were identified for the generic regulations using the following desk-top procedure:

i. Wetland indicators:
   a. *Historic Forest Cover* -- historic forest cover information collected in the 1950s and 1960s by teams of foresters who examined every woodlot in the watershed and characterized dominant cover types. Identify areas associated with wetland species (e.g., Silver Maple, Black Ash, cedar, White Elm, and Tamarack).

   b. *Soils* -- organic and clay soils (wetland soils) using OMAF soils maps.

   c. *Elevation* -- areas in depressions or lower elevations using a Digital Elevation Model (DEM).

   d. *Groundwater* -- discharge areas as defined in the Six CA Groundwater Model Study, July 2008, and recharge areas as defined as Significant Groundwater Recharge Areas from the Thames-Sydenham and Region Source Protection Region, Upper Thames River Source Protection Area, Assessment Report, Approved, September 16, 2015.

   e. *Proximity* -- areas within 120 m of an MNRF evaluated wetland since 120 m is the distance at which adjacent lands may have an impact on a wetland.

ii. Overlay the indicators to determine possible wetland areas. The more indicators that overlap, the more likely there is a wetland in that area.

iii. Compare the areas delineated by overlaying the wetland indicators to an aerial photo interpretation of wetland areas where wetness is indicated by color (dark), texture (granular), and canopy cover (sparse or spotty). Areas that matched were identified as unevaluated wetlands.

Note: Several other Conservation Authorities use similar methods in mapping unevaluated wetlands within their jurisdictions.

Appendix D. Summary of Ecologically Important Criteria, Rationale and Application

#	***Vegetation Group*** **Criteria**	**Scientific Rationale**	**Application**
1	Any *Vegetation Group* within or touching a significant **valleyland**	Vegetation on valley lands prevents erosion, improve water holding capacity that ensures regeneration of vegetation, and encourages wildlife movement.	*Vegetation Group* on valley land defined using 3:1 slope or 100m from centerline of watercourse.
2	Any *Vegetation Group* within 100 m of the **Shoreline Zone**	Vegetation along the Lake Erie shoreline is crucial for migrating birds as resting and feeding areas. The western section is an Important Bird Area. Vegetation near the bluff also provides some erosion protection.	To map the shoreline zone, a polygon was created from the top of bluff to 1 km out into the lake. The bluff itself is too narrow to map. The shoreline is over 80 km long in Elgin County.
3	Any *Vegetation Group* located within or touching a **Life Science ANSI** (Area of Natural and Scientific Interest) (provincial and regional)	Recognized ANSIs are a logical foundation on which to design a natural heritage system.	Pre-determined by MNR using five evaluation selection criteria: representation, condition, diversity, other ecological considerations, and special features.
4	Any *Vegetation Group* located within 30 m of an **open watercourse**	Relationship between water course and vegetation is interactive whereby vegetation along watercourses improves water quality for aquatic Vegetation Ecosystems through reduction in soil erosion and input of nutrients; while the watercourse attracts animals and acts as a corridor.	All *Vegetation Groups* within 30 m from the edge of an open watercourse (defined as the bank-full width if greater than 20m wide, or a defined channel visible on the aerial photography if less than 20m wide).
5	All evaluated and unevaluated **wetland** *Vegetation Group* ≥0.5 ha	Wetlands have disproportionately been removed from the landscape of southern Ontario. Some of their important functions are to maintain the hydrological regime of the surrounding area by dampening water peaks in the gullies, reduce the potential for erosion and provide critical breeding and overwintering habitat for reptiles and amphibians.	The wetland layer was derived from the MNRF evaluated wetland mapping layer, as well as the unevaluated wetland layers developed by the UTRCA for this study.

6	Any **woodland *Vegetation Group* ≥ 4 ha**	Habitat size is one of the most important measures for sustaining stable, diverse and viable populations of wildlife species. In a highly fragmented landscape, the definition of a "large sized" woodland can be relatively small.	All woodland vegetation groups ≥ 4 ha meet this criterion.
7	Any Woodland *Vegetation Group* **within 100 m of a ≥4 ha Woodland** *Vegetation Group*	The < 100 m distance is based on average seed dispersal distances in the literature.	All woodland less than 1 ha within 100 m of a ≥ 4 ha woodland, regardless of what land use surrounds them, meet this criterion.
8	Any **Thicket *Vegetation Group* ≥ 2 ha in size**	Larger thickets are better if managing to enhance the long-term survival of a variety of wildlife. Large thickets >2 ha are relatively rare in Perth County, yet thickets of at least 10 ha in size are required for uncommon species (Oehler *et al.* 2006).	Thickets ≥ 2 ha meet this criterion. They are relatively rare in Perth County
9	Any **Meadow *Vegetation Group* ≥ 5 ha in size**	The amount of native meadow habitat has declined drastically throughout North America. Grassland birds are of special concern since they have suffered more serious population declines than any other group of birds. Johnson (2001) demonstrated a preference for large grassland *Vegetation Groups* by a number of grassland bird species, irrespective of territory size.	All meadows ≥ 5 ha meet this criterion.
10	Any **Meadow *Vegetation Group* within 100 m of a ≥4 ha Woodland or ≥2 ha Thicket** *Vegetation Group*	Meadow butterfly habitat must be considered in context with the surrounding range of habitats. Using the average distance of wind dispersed seeds as a conservative estimate, all meadows found within 100 m of a large shrub land or woodland were identified meeting this criterion.	All meadows within 100 m of a ≥4 ha woodland or ≥2 ha thicket meet this criterion.

11	**Any *Vegetation Patch* that contains a *Vegetation Group* identified as significant**	Criterion 10 is really a summary of Criteria 1 through 9.	All *Vegetation Patches* containing a *Vegetation Group* that has been identified as significant.
12	Any *Vegetation Patch* that contains a **diversity of *Vegetation Communities*, Ecosystems or Groups**	The number of *Vegetation Communities* in a *Vegetation Patch* is a measure of habitat and species diversity.	The *Vegetation Patch* was identified as significant if it either contained more than one Vegetation Ecosystem, or more than two *Vegetation Groups*, or more than three *Vegetation Communities*.
13	Any *Vegetation Patch* within 100 m of a *Vegetation Patch* that meet Criteria 11 or 12 above	Local landscapes that include large natural areas linked to the regional landscape mosaic by a network of smaller interacting natural areas and corridors, offers the highest probability of maintaining overall ecological integrity. The < 100 m distance is based on average seed dispersal distances in the literature.	All *Vegetation Patches* within 100m of a significant *Vegetation Patch*, regardless of what land use surrounds them, are identified.

Appendix E. Summary of rationale for criteria NOT used in the ENHSS

Criteria	Rationale for Not Including	Use in Other Natural Heritage Studies*
1. Best representative *Vegetation Patch* on **landform physiography and soil type**	This is redundant as the Life Science ANSI uses this criterion, even though it is done at a different scale (i.e., by site district rather than by county).	ONHS 2006: largest patch on each landform and each soil type LCNHS 2013: largest patch on slope of 10% or greater and largest patch on each landform and each soil type COL 2006: patch contains either: - > 1 ecosite in 1 Community series OR - > 2 vegetation types OR - > 1 topographic feature OR - 1 vegetation type with inclusions/ complexes
2.Located on a **distinctive, unusual or high quality landform**	Definition of a distinctive, unusual or high quality landform is subjective.	COL 2006: patch located on either - Beach Ridge - Sand Plain - Till Plain - Till Moraine
3.All areas (both vegetated and **non-vegetated**) on: - **Valley lands** - **Gullies** - within 30 m of **limestone outcroppings**	The ENHSS identifies *Vegetation Patches* on Significant valleylands as ecologically important and recommend that other land uses on valley lands (e.g., agriculture, golf courses, etc.) be considered as special policy areas with limitations on further development to maintain valley land connectivity. Gullies not used because they require field level surveys to map; it is an important feature in Huron County by the Lake shoreline Limestone outcroppings are not mapped at this time.	ONHS 2006: patches on valley lands HCNHS 2013: patches on or < 100m from landform features - dunes, - shore bluffs, - gullies, - valley lands, - within 30m of limestone outcroppings
4.All *Vegetation Patches* found alongside a **coldwater watercourse or watercourse containing Brook Trout**	Definition of a watercourse, both cold and warm, includes an additional area immediately adjacent to the water (in proportion to the size of the watercourse feature) and therefore it is not necessary to include additional lands for protection (e.g., *Vegetation Patches* 30 m from edge) Non vegetated setbacks from watercourses can be restricted using other official plan and zoning plan policies. Questions remain: Is this sensitive information? How easy is it to determine coldwater streams? Are they already identified?	
5.Shape of *Vegetation Patch*	When shape metrics are used, often very small and round *Vegetation Patches* are selected over larger *Vegetation Patches*.	COL 2006: has perimeter to area ratio <3.0 m/m^2

Appendix E continued

Criteria	Rationale for Not Including	Use in Other Natural Heritage Studies*
6.Adjacent to a MNRF evaluated wetland or life science ANSI	This is redundant as other adjacency rules have these features incorporated into them.	MNHS 2003: woodland < 750m from recognized feature. ONHS 2006: < 150m of non-wetland feature
7.Contains an area identified in the local official plans e.g. **Local ESAs (**Environmentally Significant Areas) identified in the 1970s or 1980s.	The natural heritage systems studies use modern landscape parameters. Verification that the old ESAs are being identified as locally important will occur.	ONHS 2006: Local OP designated habitats
8.Unique Intrinsic Characteristics (i.e., site level)	No field work or site visits are being conducted for this landscape study, so it is not possible to evaluate the intrinsic or site specific characteristics of *Vegetation Patches* at this fine scale.	LCNHS 2013: > 0.5 ha woodland with either - - unique species composition, - cover type, - age, and - structure. COL 2006: woodland with either – - mid to old age community, or - tree size > 50 cm DBH, or - > 16 m2/ha for trees >25 cm DBH, or - > 12 m2 / ha for trees > 10 cm DBH, or - All diameter class sizes represented or - community with MCC > 4.1, or - patch MCC > 3.9, or - > 1 community in good condition or - Community with SRANK > S4 or - > 1 northern / specialized habitat / tree / shrub species or - > 2 Carolinian tree / shrub species
9.Distance from development (e.g., permanent infrastructure and buildings) or matrix	Difficult to evaluate. Too complex for this study.	COL 2006: > 7% vegetation cover within 2 km radius from woodland centroid
10.Persistence or Threatened	A natural feature that persists through time is not necessarily more important or significant. However, it is interesting to compare 2006 to 2010 aerial photography to see what the trends are and why.	LCNHS 2013: > 0.5 ha woodland with high economic or social value
11.Porous or erodible soils	The aim of the PNHSS is to identify important biological natural heritage features, not to protect the ground water system.	MNHS 2003: woodland on porous soils COL 2006: patch on either- - 25% slope any soil - Remnant slope - >10% to <25% on clay, silty clay

Appendix E continued

Criteria	Rationale for Not Including	Use in Other Natural Heritage Studies*
12.*Vegetation Patch* contains **a large sized wetland** defined as: • Wooded wetlands > 4 ha based on Env. Canada • Wetland meadows and marshes > 10ha based on Env. Canada • Small wetland meadows and marshes adjacent to other *Vegetation Communities* may be vital to butterflies • Wetland thicket size determined by top 75th percentile distribution cutoff of all county wetland thicket sizes	The PNHSS has identified all wetlands ≥0.5 ha (MMU) as ecologically important, regardless of size or type.	HCNHS 2013: either - - 4 ha wooded wetland - 10ha wetland meadow or marsh - 2.5ha wetland shrubland COL 2006: woodland contains or contiguous to a wetland
13.*Vegetation Patch* contains a wetland that is **within 1,000m of another wetland;** distance based on S. Ont. Wetland Evaluation Manual where wetlands are scored based on their proximity to another wetland (Section 1.2.4) and receive points if they are within 1 km of another wetland. The 750m is for delineating wetland boundaries, not scoring wetlands.	PNHSS 2016 has identified all wetlands ≥0.5 ha (MMU) as ecologically important.	ONHS 2006: < 750 m from wetland HCNHS 2013: < 1000 m from wetland
14.*Vegetation Patch* contains a recently observed (post 1980) **Regionally Rare Plant**	Regional rarity was once tracked by MNR Aylmer but no longer. Data is difficult to find and confirm. Neither MNRF Aylmer nor NHIC have retained or digitized the historic data. Presently, no agency is responsible for ensuring the data is being updated and monitored for change in status	ONHS 2006: contains rare species COL 2006: Contains either: • Rare tree / shrub • Rare herbaceous • Regionally rare plant

Appendix E continued

Criteria	Rationale for Not Including	Use in Other Natural Heritage Studies*
15.*Vegetation Patch* contains **thicket with interior**	Although studies have shown that most shrub land birds avoid edges (Schlossberg and King 2008) and experience lower nesting success near edges (King et al. 2001, King and Byers 2003, King et al. 2009b), there is not a consistent definition of edge habitat. Rather, the size of a shrub land is used as a proxy measure of edge habitat.	
16.*Vegetation Patch* on an **Earth Science ANSI** that contributes to the presence of an uncommon *Vegetation Community*	Biodiversity planning requires an understanding of uncommon *Vegetation Communities* in terms of their distribution on significant/important areas. However, the presence of an ES ANSI does not mean there are unique *Vegetation Community* features that are resulting from the characteristics of the Earth Science ANSI. Soils have more of an influence on vegetation than deeper features. Uncommon Vegetation Communities are not usually identifiable from ortho-imagery. Field level analysis would be needed.	
17.Carolinian Canada **Big Picture Corridors**	Carolinian Canada's Big Picture has been accepted as a planning tool when no other landscape level studies were complete. Many of the rules used to identify Carolinian Corridors on the larger landscape (SW Ont) have been incorporated in the PNHSS criteria, but refined for the smaller County scale (e.g., valley land definition layer and proximity criteria). The Big Picture corridors incorporate areas that are not vegetated at present, as part of a restoration plan. The PNHSS captures only vegetated natural heritage patches, not farmland or other lands that could be restored or naturalized. Picking corridors at a larger scale is somewhat arbitrary. It is proposed that more current science and mapping be used to delineate corridors. Recommend as a followup step to the PNHSS or deal with it when there is a landuse change.	MNHS 2003: woodland within recognized corridor COL 2006: woodlands connected by either – - Watercourses - Gaps < 40m - Recognized corridors - Abandoned rail and utility lines - Open space greenways and golf courses - Active agriculture or pasture
18.Interior woodland habitat that is ≥ **0.5 ha in size** of continuous habitat	No patches were picked up with this criteria that were not already picked up by other criteria, therefore redundant. This criteria was used in the past when the woodland size cutoff of ≥ 10 ha (i.e., woodlands 4-10 ha that had interior were picked up).	MNHS 2003: has interior >100 m from edge ONHS 2006: has interior >100 m from edge HCNHS 2013: has interior > 0.5 ha that is > 100 m from edge LCNHS 2013: has interior >100 m from edge COL 2006: : has interior >100 m from edge

Appendix E continued

Criteria	Rationale for Not Including	Use in Other Natural Heritage Studies*
19.Species at Risk	• Includes plants, *Vegetation Communities*, birds, mammals, herptofaunal (frogs, toads, salamanders, turtles and snakes). Rare or uncommon species can be indicators of unusual and rare habitat and are often used to guide conservation strategies (Lesica and Allendorf 1995, Lomolino and Channell 1995). • Table 3-4 in the Natural Heritage Reference Manual (MNR, 2010) recognizes species rarity as an ecological function, and habitats that contain rare species are more valuable. MNR recommends that this be restricted to END and THR. • SAR have their own legislation for protection and an EIS needs to consider their presence This is not a criterion for the following reasons: - This is a landscape study rather than an intrinsic characteristics study and there is not a complete inventory - The absence of a species does not mean that suitable habitat or conditions are not present - Areas with END or THR species are already protected in the SAR Act while IUCN S1 – S3 are considered under SWH - Mapping limitations of the past limit accuracy in identifying locations. New species are added to the SAR over time. • These areas are not mapped currently but it is recommended that they be mapped as they are identified through site studies on the landscape and reported to the MNR and the appropriate Conservation Authority.	

Natural Heritage Studies Referenced above

COL – City of London (City of London, 2006)
- evaluation of woodlands, cutoffs based on medium to high rankings

HCNHS – Huron County Natural Heritage Study (County of Huron, 2013 Draft)
- based on more complete natural heritage system mapping and no field work

LCHNS – Lambton County Natural Heritage Study (County of Lambton *et al*., 2012 Draft)
- based only on woodlands and field work

MNHS – Middlesex Natural Heritage Study (UTRCA, 2003)
- based only on woodlands and field work

ONHS – Oxford Natural Heritage Study (County of Oxford, 2006)
- based on woodlands, floodplain meadows, watercourses and dated fieldwork

Perth – Perth County Official Plan Amendment #47 (County of Perth Official Plan. 2008. Section 11.5.5)
- regarding minimal woodland size

Appendix F. Metadata: Vegetation Patch and Group Criteria Mapping and Field Description

The following Information describes the feature classes (layers) and fields that are associated with criteria section of the report. The feature classes are being delivered in a file geodatabase format (name).

Naming Convention
A naming convention is being followed that should make data easy to understand and follow.

Table 1 describes short forms used for Groups:

Group Type	Short Form
Woodland	WDL
Meadow	MDW
Thicket	THK
Wetland	WTL
Connecting Features	CNF
Waterbody	WBY

Table 2 describes short forms used for Patch:

Patch	Short Form
Patch	PTC

Table 3 describes how the level of information are defined.

Level of Detail	Detail
Field provides criteria of the individual group	CR
Field provides supporting information that may be important to the group	INF

Study Area Features
Mapping was completed beyond the Elgin County boundary and study limits. The features (Communities, Groups and Patches) that were included in the study are represented by the "Study_Area" field in most layer.

Field Name (Included in most layers)	Short Form
Study_Area	0 =Not included in mapping and study calculations 1= Included in mapping and study calculations

Populated data and Field Structure
Field names are generally named in the following manner "Short Form"_"Detail"_Description (eg. Woodland_Criteria_Greater Than 1ha is WDL_CR_GT1ha)

Group, Patch and Information fields are *short integers* fields and are populated with 1 or 0, 0=Not applicable or 1=Applicable – See table below

"Short Form"_"CR"_Total– are short integers fields that indicate the total number of criteria met within the individual group

Appendix F continued

Table 4 provides field descriptions and field names within each group and patch feature class. It also provides information of what values are populated.

Feature Name and Field Description	Field Name	Value
Group_Woodland_Cluster		
Within valley land	WDL_CR_Valleyland	0= Not applicable, 1=applicable
Within 100m of the Lakeshore Bluff	WDL_CR_Shoreline_100	0= Not applicable, 1=applicable
Within Life Science ANSI	WDL_CR_ANSI	0= Not applicable, 1=applicable
Group within 30m of Watercourse	WDL_CR_Watercourse	0= Not applicable, 1=applicable
Any Woodland or Woodland Cluster >4ha	WDL_CR_GT4ha	0= Not applicable, 1=applicable
Any Woodland within 100m of a Woodland Cluster > 4ha	WDL_CR_100m_GT4ha	0= Not applicable, 1=applicable
Number of Significant Woodland Criteria Met	WDL_CR_Total	0 = Not applicable >0=Applicable
Wetland within Woodland	WDL_INF_Wetland	0= Not applicable, 1=applicable
Individual Woodland or Woodland within Cluster has Interior	WDL_INF_Interior	0= Not applicable, 1=applicable
1. Defines if a feature meets a group and system feature (meets one or more group criteria) 2. Defined if only meets a system criteria (is part of feature within the patch that meets patch criteria other than Group Woodland Criteria, does not include 1 above or 3 below) 3. Defines features that do not meet a group or system criteria. Does not include 1 or 2 above. Require further study beyond landscape level.	WDL_INF_Ecological_Level	1. Group and System Ecological Important 2. System Ecological Important 3. Candidate for Ecological Important
1. Defines if a feature meets a group and system feature (meets one or more group criteria) and meets Provincial Policy Statement (PPS) as Significant. 2. Defined if only meets a system criteria (is part of feature within the patch that meets patch criteria other than Group Woodland Criteria, does not include 1 above or 3 below). Recognized as part of the overall heritage system as defined by PPS but does not fall under level as significant. 3. Defines features that do not meet a group or system criteria. Does not include 1 or 2 above. Require further study beyond landscape level.	WDL_INF_Ecological_Status	1. Significant Ecologically Important 2. Ecological Important 3. Candidate for Ecological Important

Group_Meadow_Cluster		
Within valley land	MDW_CR_Valleyland	0= Not applicable, 1=applicable
Within 100m of the Lakeshore Bluff	MDW_CR_Shoreline_100	0= Not applicable, 1=applicable
Within Life Science ANSI	MDW_CR_ANSI	0= Not applicable, 1=applicable
Group within 30m of Watercourse	MDW_CR_Watercourse	0= Not applicable, 1=applicable
Any Meadow or Meadow Cluster >5ha	MDW_CR_5ha	0= Not applicable, 1=applicable
Any Meadow within 100m of a 4ha Woodland or 2ha Thicket	MDW_CR_Proximity	0= Not applicable, 1=applicable
Number of Meadow Significant Criteria Met	MDW_CR_Total	0 = Not applicable >0=Applicable
Wetland within Meadow	WDW_INF_Wetland	0= Not applicable, 1=applicable
Any Meadow or Meadow Cluster >10ha	MDW_INF_10ha	
1. Defines if a feature meets a group and system feature (meets one or more group criteria) 2. Defines if only meets a system criteria (is part of feature within the patch that meets patch criteria other than Group Meadow Criteria, does not include 1 above or 3 below) 3. Defines features that do not meet a group or system criteria. Does not include 1 or 2 above. Require further study beyond landscape level	MDW_INF_Ecological_Level	1. Group and System Ecological Important 2. System Ecological Important 3. Candidate for Ecological Important
Within valley land	THK_CR_Valleyland	0= Not applicable, 1=applicable
Within 100m of the Lakeshore Bluff	THK_CR_Shoreline_100	0= Not applicable, 1=applicable
With Life Science ANSI	THK_CR_ANSI	0= Not applicable, 1=applicable
Group within 30m of Watercourse	THK_CR_Watercourse	0= Not applicable, 1=applicable
Any Thicket or Thicket Group >2ha	THK_CR_GT2 ha	0= Not applicable, 1=applicable
Number of Significant Thicket Criteria Met	THK_CR_Total	0 = Not applicable >0=Applicable
Wetland within Thicket	THK_INF_Wetland	0= Not applicable, 1=applicable
1.Defines if a feature meets a group and system feature (meets one or more group criteria) 2.Defined if only meets a system criteria (is part of feature within the patch that meets patch criteria other than Group Thicket Criteria, does not include 1 above or 3 below) 3. Defines features that do not meet a group or system criteria. Does not include 1 or 2 above. Require further study beyond landscape level.	THK_INF_Ecological_Level	1. Group and System Ecological Important 2. System Ecological Important 3. Candidate for Ecological Important

Group_Wetland		
Within valley land	WTL_CR_Valleyland	0= Not applicable, 1=applicable
Within 100m of the Lakeshore Bluff	WTL_CR_Shoreline_100	0= Not applicable, 1=applicable
With Life Science ANSI	WTL_CR_ANSI	0= Not applicable, 1=applicable
Group within 30m of Watercourse	WTL_CR_Watercourse	0= Not applicable, 1=applicable
Any wetland >0.5 ha or Provincial Evaluated Wetland	WTL_CR_Wetland	0 = Not applicable >0=Applicable
Number of Significant Wetland Criteria Met	WTL_CR_Total	>0=applicable
Group_Connected_Feature		
Within valley land	CNF_CR_Valleyland	0= Not applicable, 1=applicable
Within 100m of the Lakeshore Bluff	CNF_CR_Shoreline_100	0= Not applicable, 1=applicable
With Life Science ANSI	CNF_CR_ANSI	0= Not applicable, 1=applicable
Group within 30m of Watercourse	CNF_CR_Watercourse	0= Not applicable, 1=applicable
Number of Connecting Features Significant Criteria Met	CNF_CR_Total	0 = Not applicable >0=Applicable
Wetland within Connecting Feature	CNF_INF_Wetland	0= Not applicable, 1=applicable
1. Defines if a feature meets a group and system feature (meets one or more group criteria) 2. Defines if only meets a system criteria (is part of feature within the patch that meets patch criteria other than Group Connected Vegetation Criteria, does not include 1 above or 3 below) 3. Defines features that do not meet a group or system criteria. Does not include 1 or 2 above. Require further study beyond landscape level.	CNF_INF_Ecological_Level	1. Group and System Ecological Important 2. System Ecological Important 3. Candidate for Ecological Important
Group_Waterbody		
Within valley land	WBY_CR_Valleyland	0= Not applicable, 1=applicable
Within 100m of the Lakeshore Bluff	WBY_CR_Shoreline_100	0= Not applicable, 1=applicable
With Life Science ANSI	WBY_CR_ANSI	0= Not applicable, 1=applicable
Group within 30m of Watercourse	WBY_CR_Watercourse	0= Not applicable, 1=applicable
Number of Waterbody Significant Criteria Met	WBY_CR_Total	0 = Not applicable >0=Applicable

1. Defines if a feature meets a group and system feature (meets one or more group criteria) 2. Defined if only meets a system criteria (is part of feature within the patch that meets patch criteria other than Group WBY Criteria, does not include 1 above or 3 below) 3. Defines features that do not meet a group or system criteria. Does not include 1 or 2 above. Require further study beyond landscape level.	WBY_INF_Ecological_Level	1. Group and System Ecological Important 2. System Ecological Important 3. Candidate for Ecological Important
Elgin_NH_Patch_2015_Cluster		
Patch contains at least one group significant from field list below (see field descriptions below in Patch Information) MDW_CR_Significant- patch meets a criteria THK_CR_Significant - patch meets a criteria WDL_CR_Significant- patch meets a criteria WTL_CR_Significant- patch meets a criteria CNF_CR_Significant- patch meets a criteria WBY_ CR_Significant- patch meets a criteria	PTC_CR_Group	0= Not applicable, 1=applicable
Vegetation Communities I) Patch contains more than one vegetation system, or ii) Patch contains more than two vegetation groups, or iii) Patch contains more than three vegetation communities	PTC_CR_Diversity	0= Not applicable, 1=applicable
Other patches that are within 100m of a patches that meet either/both a Group or Patch Diversity criteria	PTC_CR_Proximity	0= Not applicable, 1=applicable
Number of Patch Criteria Met	PTC_CR_Total	0= Not applicable, >0=Applicable
Patch contains a Woodland Group criteria	WDL_CR_Signficant	0= Not applicable, 1=applicable
Patch contains a Meadow Group criteria	MDW_CR_Signficant	0= Not applicable, 1=applicable
Patch contains a Thicket Group criteria	THK_CR_Signficant	0= Not applicable, 1=applicable
Patch contains a Wetland Group criteria	WTL_CR_Signficant	0= Not applicable, 1=applicable
Patch contains a Connecting Feature Group criteria	CNF_CR_Signficant	0= Not applicable, 1=applicable
Patch contains a Waterbody Group criteria	WBY_CR_Signficant	0= Not applicable, 1=applicable
Number of Group and Patch Criteria each Patch meets (including, Valley, ANSI, Shoreline, Watercourse)	PTC_Group_CR_Totals	0 -10

Appendix G. Metadata for Vegetation Communities and Vegetation Groups

The following information describes the feature classes (layers) and field names within the Study data.

Naming Convention

Table 1 describes short forms used for Groups:

Group Type	Short Form
Woodland	WDL
Meadow	MDW
Thicket	THK
Wetland	WTL
Connecting Features	CNF
Waterbody	WBY

Table 2 describes short forms used for Patch:

Patch	Short Form
Patch	PTC

Table 3 describes how the level of information are defined.

Level of Detail	Detail
Field provides criteria of the individual group	CR
Field provides supporting information that may be important to the group	INF

Study Area Features

Mapping was completed beyond the Elgin County boundary and study limits. The features (Communities, Groups and Patches) that were included in the study are represented by the "Study Area" field in most layer.

Field Name (Note: in most layers)	Short Form
Study_Area	0 =Not included in mapping and study calculations 1= Included in mapping and study calculations

Elgin_NHSS_Community_(Date)

The community feature class consists of all community features that allow them to be dissolved into individual Groups or create the overall Patch Feature Class. Zero in the field indicates that it is not applicable to the community or group/patch type and 1 indicates that it is applicable. Visible bluff or Deposition areas have been mapped but not all features can be defined so they have not been mapped as a group.

Field Name	Type	Parameters
NH_Community_ Type_2015	Text	Bluff or Deposition, Coniferous, Deciduous, Connected Vegetation Feature, Meadow Marsh, Meadow Upland, Mixed, Plantation Mature, Plantation Young, Thicket, Water Body, Watercourse
Status	Text	**Present 2015** - Feature is present on 2015
NH_Woodland	Short	0, 1
NH_Meadow	Short	0, 1
NH_Thicket	Short	0, 1
NH_Wetland	Short	0,1
NH_Water	Short	0, 1
NH_Connecting_ Features	Short	0 ,1
Vegetation_Group	Text	Bluff or Deposition Area, Connected Vegetation Feature, Meadow, Meadow and Wetland*, Thicket, Thicket and Wetland*, Water, Water and Wetland*, Woodland, Woodland and Wetland* * included in both groups
Vegetation_Ecosystem	Text	Aquatic, Wetland, Terrestrial Upland
WTL_Defined_By	Text	MNR
PSW	Text	0, 1
ELC_CODE	Text	Bluff or Deposition Area (BBO), Connecting Vegetation Feature (NA), Meadow (CUM), Meadow and Wetland (MAM), Thicket and Plantation Young(CUT), Thicket and Wetland, Plantation Young and Wetland (SWT), Water (OAO), Woodland: Conifer (FOC), Deciduous (FOD), Mixed (FOM), Mature Plantation (CUP); Woodland and Wetland: Conifer Swamp (SWC), Deciduous Swamp (SWD), Mixed Swamp (SWM) Plantation Swamp (CUT)
Study_Area	Short	0,1

Group Woodland
This feature class was created by exporting woodlands from the Elgin_NH_Community_"Date" feature class. Using values equal to one in the NH_Woodland field, data was exported to a new feature class and all communities were dissolved using the NH_Woodlands field equal to one to create a seamless polygon woodlands feature class. The woodlands less than 0.5 ha were then deleted using the Shape Area Field to create the Group_Woodland feature class. This feature class was then used to establish the Woodland Cluster Feature Class (see below) and perform the interior forest calculation.

Group_Woodland_Cluster
This feature class was created from the Group_Woodland Feature Class. The values in the WDL_Cluster_ID field were merged to create multipart features which act as a single woodland polygon.

This feature class supports the criteria information for the woodland group.

Zero in the field indicates that it is not applicable to criteria or information and 1 indicates that it is applicable.

Field Name	Type	Parameters
WDL_Cluster_ID	Short	Unique Value, values over 6000 have been clustered
WDL_CR_Valleyland	Short	0, 1
WDL_CR_Shoreline_100	Short	0, 1
WDL_CR_ANSI	Short	0, 1
WDL_CR_Watercourse	Short	0, 1
WDL_CR_GT_4ha	Short	0, 1
WDL_CR_GT_4ha_100m	Short	0, 1
WDL_INF_Wetland	Short	0, 1
WDL_INF_Interior	Short	0, 1
WDL_CR_Total	Short	0 to 7
Study_Area	Short	0,1

Group Meadow

This feature class was created by exporting meadows from the Elgin_NH_Community_"Date" feature class. Using values equal to one in the NH_Meadow field, data was exported to a new feature class and all communities were dissolved using the NH_Meadow field equal to one to create a seamless polygon meadow feature class. The Meadows less than 0.5 ha were then deleted using the Shape Area Field to create the Group_Meadow Feature Class. This feature class was then used to establish the Meadow Cluster Feature Class (see below).

Group_Meadow_Cluster

This feature class was created from the Group_Meadow feature class. The values in the MDW_Cluster_ID field were merged to create multipart features which act as a single meadow polygon.

This feature class supports the criteria information for the meadow group.

Zero in the field indicates that it is not applicable to criteria or information and 1 indicates that it is applicable.

Field Name	Type	Parameters
MDW_Cluster	Short	Unique Value, values over 6000 have been clustered
MDW_CR_Valleyland	Short	0, 1
MDW_CR_Shoreline_100	Short	0, 1
MDW_CR_ANSI	Short	0, 1
MDW_CR_Watercourse	Short	0, 1
MDW_CR_GT_5ha	Short	0, 1
MDW_CR_Proximity	Short	0, 1
MDW_INF_Wetland	Short	0, 1
MDW_CR_Total	Short	0 - 7
Study_Area	Short	0,1

Group Thicket

This feature class was created by exporting Thickets from the Elgin_NH_Community_"Date" feature class. Using values equal to one in the NH_Thicket field, data was exported to a new feature class and all communities were dissolved using the NH_Thicket field equal to one to create a seamless polygon Thicket Feature Class. The Thickets less than 0.5 ha were then deleted using the Shape Area Field to create the Group_Thicket Feature Class. This feature class was then used to establish the Group Thicket Cluster Feature Class (see below).

Group_Thicket_Cluster

This feature class was created from the Group_Thicket feature class. The values in the THK_Cluster_ID field were merged to create multipart features which act as a single Thicket polygon.

This feature class support the criteria information for the Thicket group.

Zero in the field indicates that it is not applicable to criteria or information and 1 indicates that it is applicable.

Field Name	Type	Parameters
Unique_Cluster	Short	Unique Value, values over 6000 have been clustered
THK_CR_Valleyland	Short	0, 1
THK_CR_Shoreline_100	Short	0, 1
THK_CR_ANSI	Short	0, 1
THK_CR_Watercourse	Short	0, 1
THK_CR_GT_2ha	Short	0, 1
THK_INF_Wetland	Short	0, 1
THK_CR_Total	Short	0 - 6
Study_Area	Short	0,1

Group Wetland_Source

This feature class was created by exporting Wetlands from the Perth_NH_Community_2015 Feature Class. Using values equal to one in the NH_Wetland field, data was exported to a new feature class and all communities were dissolved using the Wetland field equal to one to create a seamless polygon Wetland feature class. All wetlands that were identified are included in this layer. The Wetland_Group field identifies wetlands that are used to be identified as significant (greater than 0.5 ha or evaluated), where zero in the field indicates that it is not applicable and 1 indicates that it is applicable.

Field Name	Type	Parameters
WTL_Defined_By	Text	MNRF-County-Unevaluated, MNRF Unevaluated Other, MNRF-Evaluated Provincial, UTRCA-Unevaluated, UTRCA for LPRCA-Unevaluated
Group_Wetland	Short	0, 1

Group Wetland

This feature class was created from the Group Wetland_all feature class. The values equal to 1 in the Group Wetland field were selected and features were exported to a new layer Group Wetland.

This feature class supports the criteria information for the wetland group.

Zero in the field indicates that it is not applicable to criteria or information and 1 indicates that it is applicable.

Feature Class	Field Name	Type	Parameters
Group_Wetland	WTL_CR_Valleyland	Short	0, 1
	WTL_CR_Shoreline_100	Short	0, 1
	WTL_CR_ANSI	Short	0, 1
	WTL_CR_Watercourse	Short	0, 1
	WTL_CR_Wetland	Short	0, 1
	WTL_CR_Total	Short	1 to 5
	Study_Area	Short	0, 1

Group Connected Vegetation Features all

This Feature Class was created by exporting Connected Vegetation Features from the Perth_NH_Community_2015 Feature Class. Using values equal to one in the NH_ Connected_Featues field, data was exported to a new Feature Class and all communities were dissolved using the NH_Connecting_Features field equal to one to create a seamless polygon Group_Connected_Features, Feature Class.

Feature Class	Field Name	Type	Parameters
Group_Connecting_Features_all	Connecting_Feature	Short	0, 1
	Study_Area	Short	0,1

Group Connected Vegetation Features

This feature class was created from the Group_Connected_Feature_all, feature class. The values >0.5ha in shape field were exported to a new feature class.

This feature class support the criteria information for the Connected Vegetation Feature group.

Zero in the field indicates that it is not applicable to criteria or information and 1 indicates that it is applicable.

Field Name	Type	Parameters
CNF_CR_Valleyland	Short	0, 1
CNF_CR_Shoreline_100	Short	0, 1
CNF_CR_ANSI	Short	0, 1
CNF_CR_Watercourse	Short	0, 1
CNF_INF_Wetland	Short	0, 1
CNF_CR_Total	Short	0 to 5
Study_Area	Short	0,1

Group_Waterbody_All

This feature class was created by exporting Group_Waterbody_All from the Elgin_NH_Community_2015 Feature Class. Using values equal to one in the NH_Water field, data was exported to a new Feature Class and all communities were dissolved using the NH_Water field equal to one to create a seamless polygon Waterbody feature class.

Zero in the field indicates that it is not applicable to the Information being provided and 1 indicates that it is applicable.

Group _Waterbody

This feature class was created from the Group_Waterbody_all feature class. The values in the >0.5ha in shape field were exported to a new feature class.

This feature class support the criteria information for the Waterbody group.

Zero in the field indicates that it is not applicable to criteria or information and 1 indicates that it is applicable.

Field Name	Type	Parameters
WBY_CR_Valleyland	Short	0, 1
WBY_CR_Shoreline_100	Short	0, 1
WBY_CR_ANSI	Short	0, 1
WBY_CR_Watercourse	Short	0, 1
WBY_CR_Total	Short	0 to 4
Study_Area	Short	0,1

Valley_Shoreline_Landform

Valley Land data was created according to description in report. This layer represents the major valley areas within the County. The shoreline is defined using SWOOP 2015, estimated from top of bluff to 1 km into the lake.

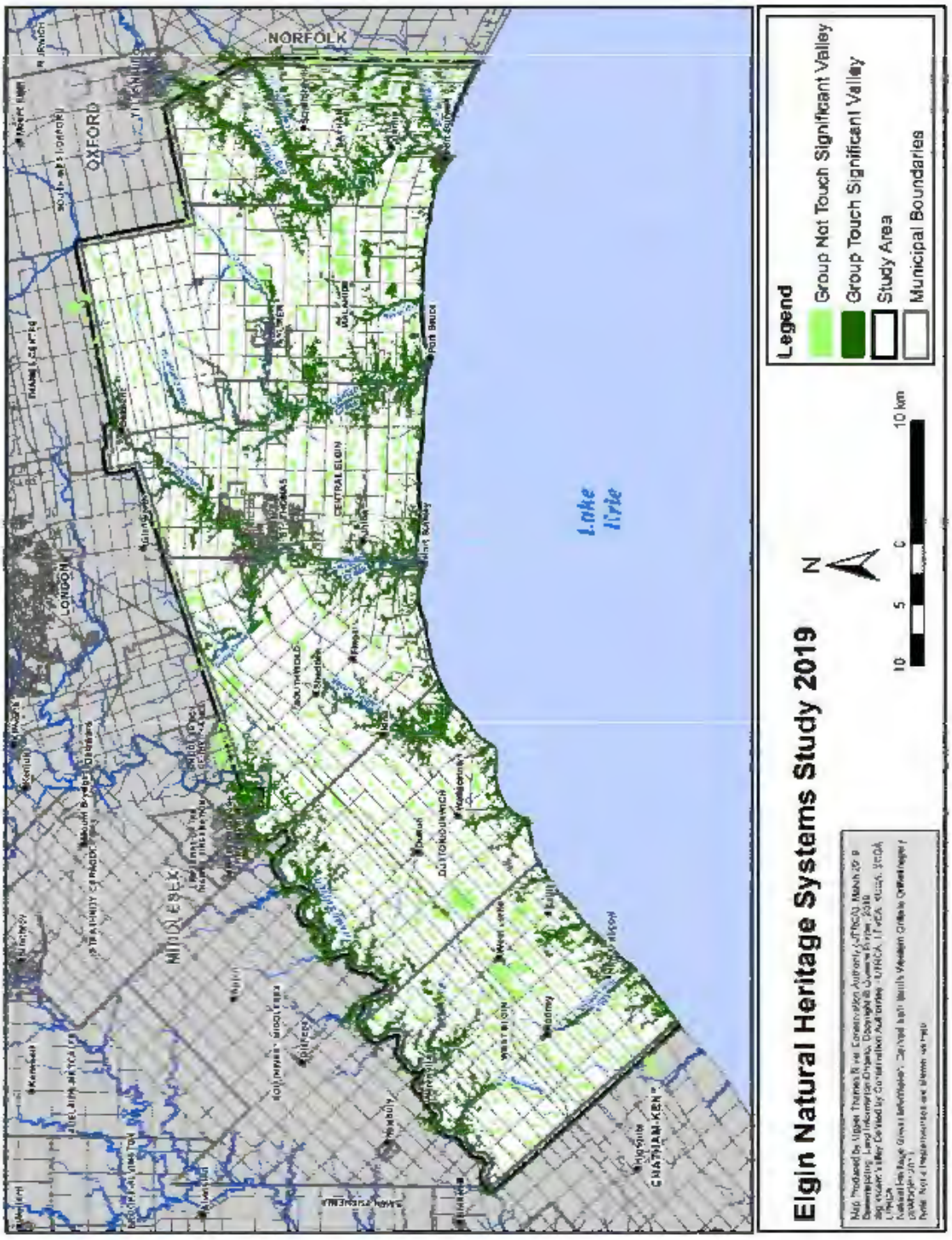
Field Name	Type	Parameters
CA	Text	Kettle Creek, Catfish Creek, Long Point Region, Lower Thames Valley
Landform	Text	Valley Landform, Great Lakes Bluff and Deposition (Shoreline Zone)

Elgin_NH_Patch_2015_Cluster

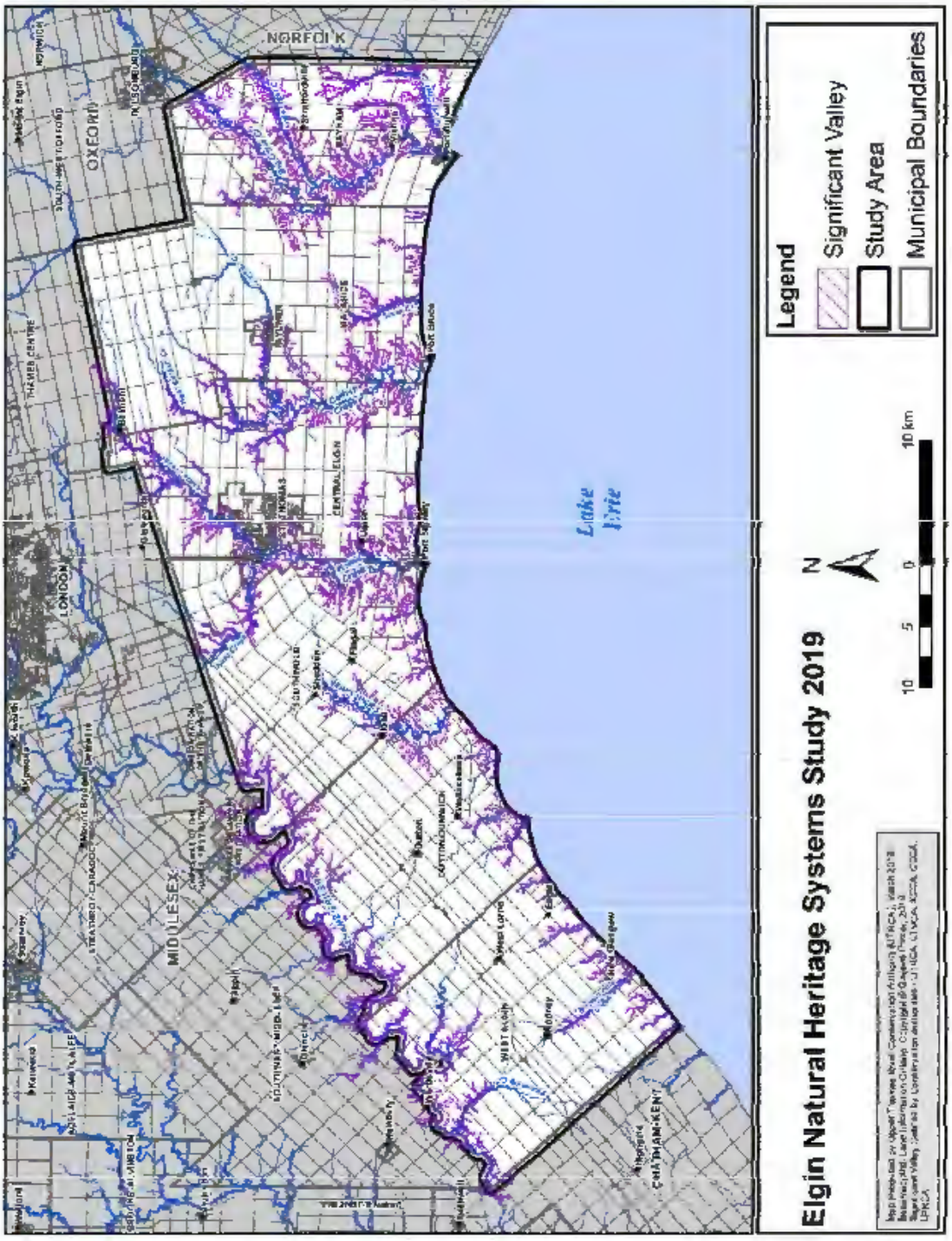
Elgin_NH_Patch_2015 Cluster feature class was created from Elgin_NHSS_Community_"Date" feature class. All communities were dissolved using the Patch Field that is equal to 1.

Field Name	Type	Parameters
Unique_ID	Short	Unique Value, values over 6000 have been clustered
WDL_Cr_Significant	Short	0, 1
MDW_Cr_Significant	Short	0, 1
THK_Cr_Significant	Short	0, 1
WTL_Cr_Significant	Short	0, 1
WBY_Cr_Significant	Short	0,1
CNF_Cr_Significant	Short	0, 1
PTC_CR_Group	Short	0, 1
PTC_CR_Diversity	Short	0, 1
PTC_CR_Proximity	Short	0 ,1
PTC_CR_Total	Short	0, 1, 2
DIV_Community_Total	Short	0 to 15
DIV_Group_Total	Short	0 to 6
DIV_Ecosystem	Short	0 to 3
PTC_INF_GT_100ha	Short	0, 1
PTC_Group_CR_Total	Short	0 to 11
Study_Area	Short	0,1

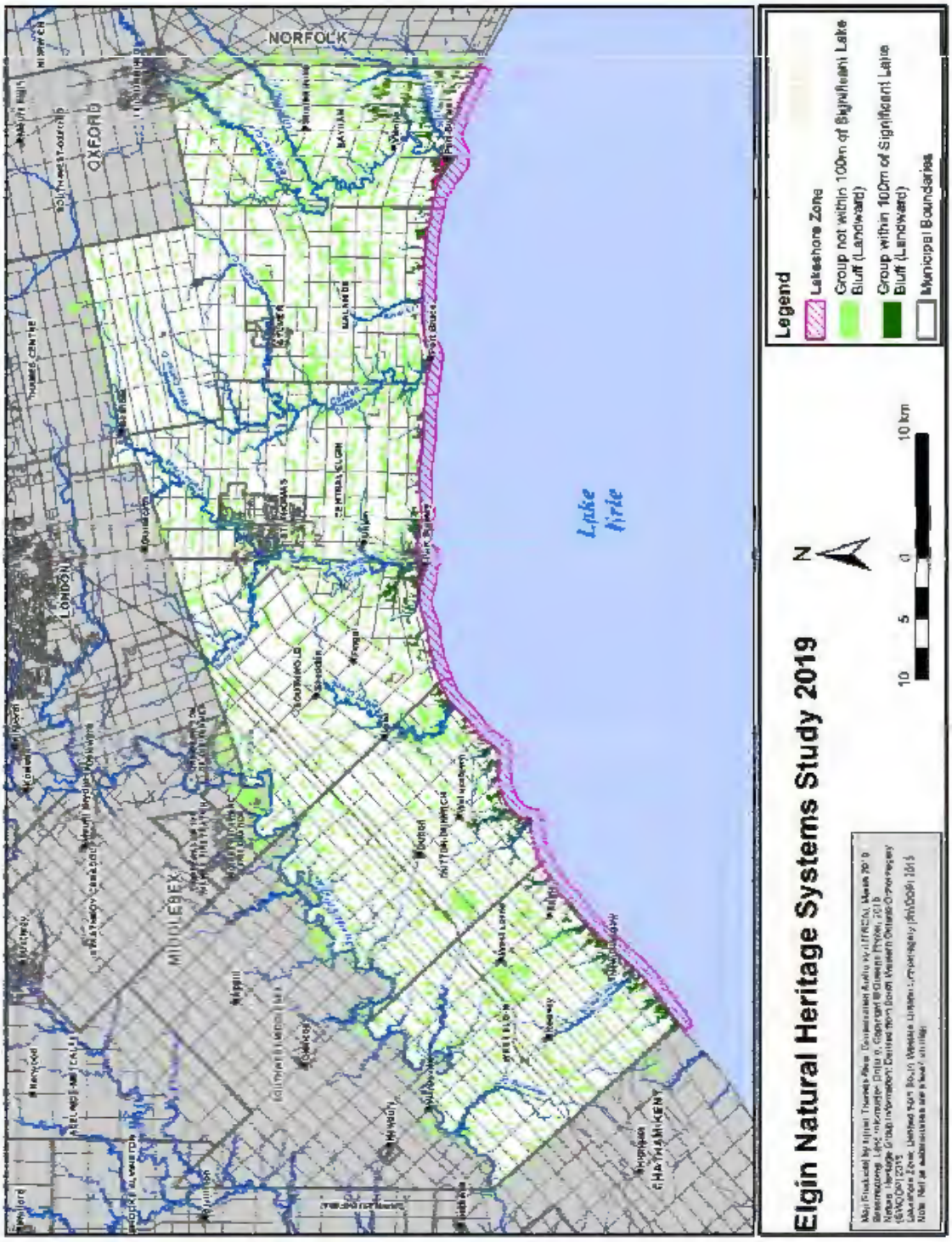
Appendix H-1. Criterion 1 Map, Vegetation Group within or touching a Significant Valleyland



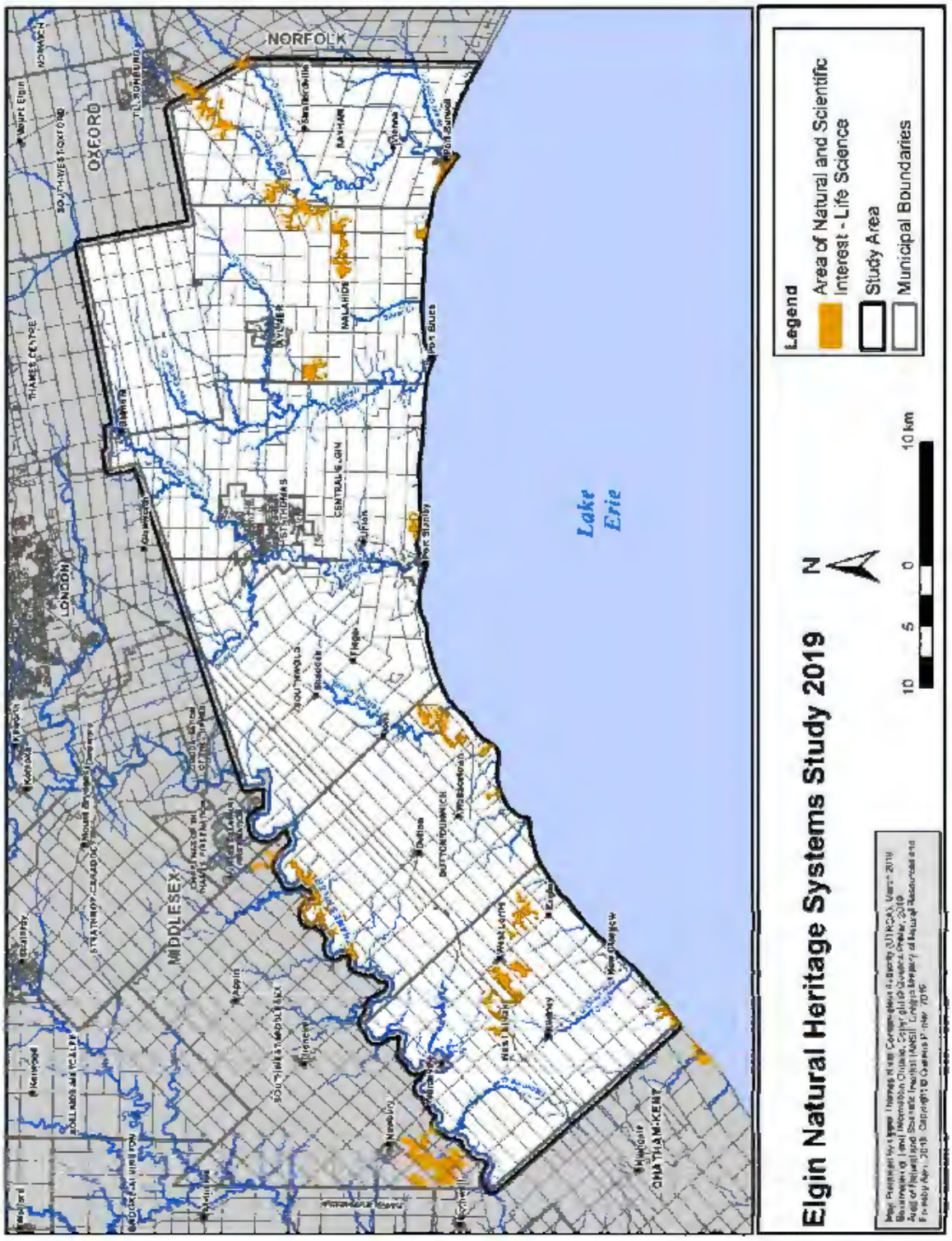
Appendix H-1-1. Significant Valleylands



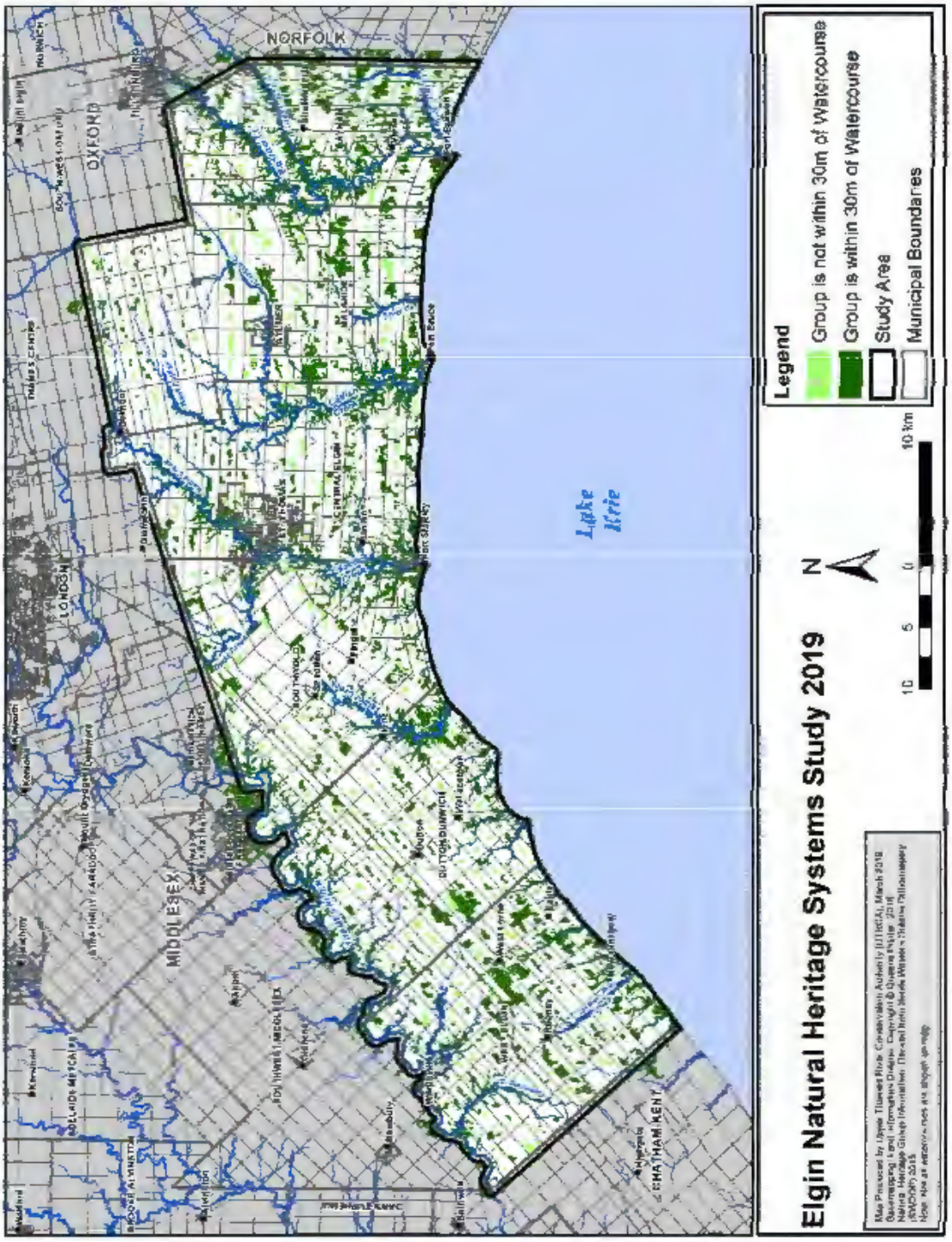
Appendix H-2. Criterion 2 Map, Vegetation Groups within 100m of the Shoreline Zone



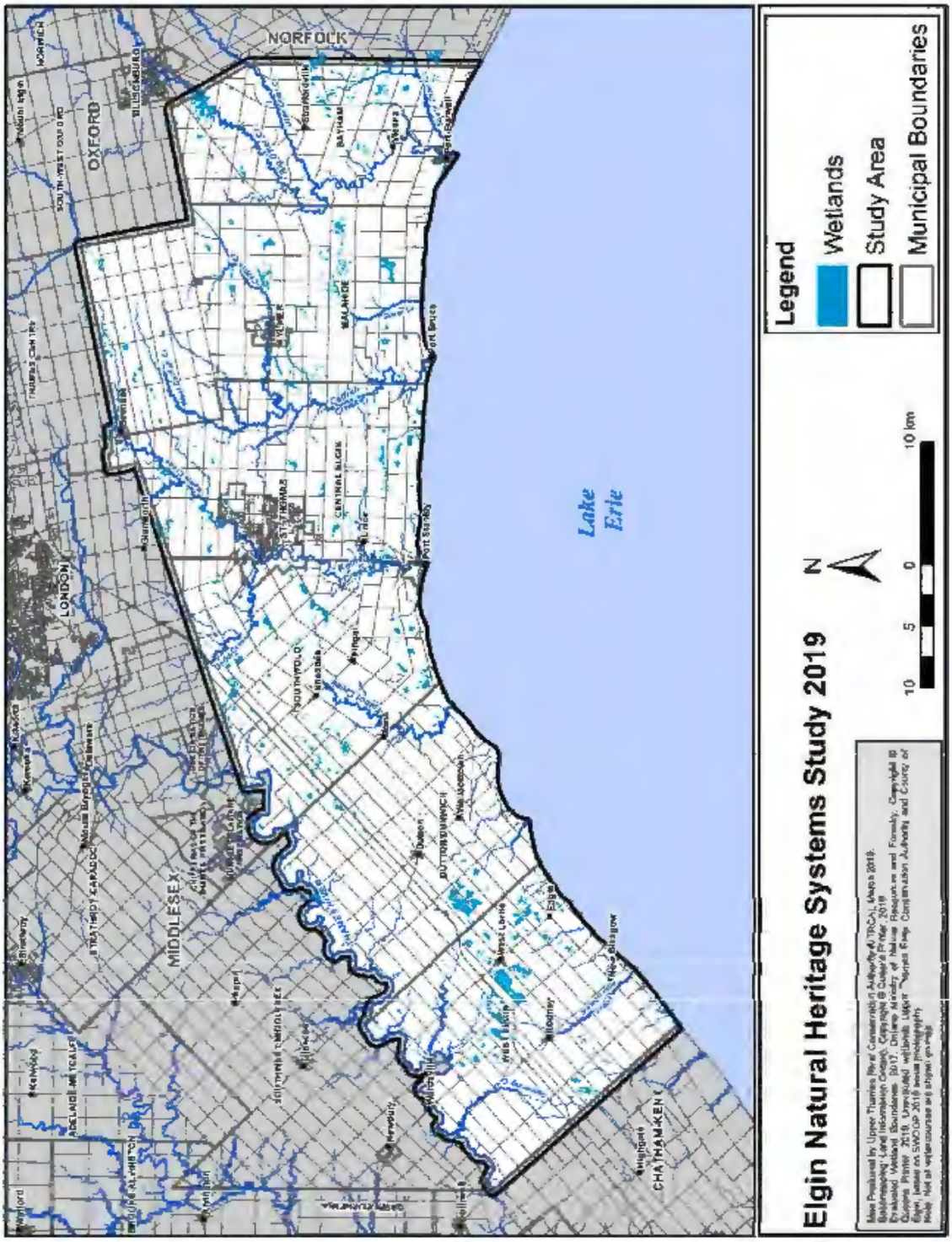
Appendix H-3. Criterion 3 Map, *Vegetation Groups* within or touching a Life Science ANSI



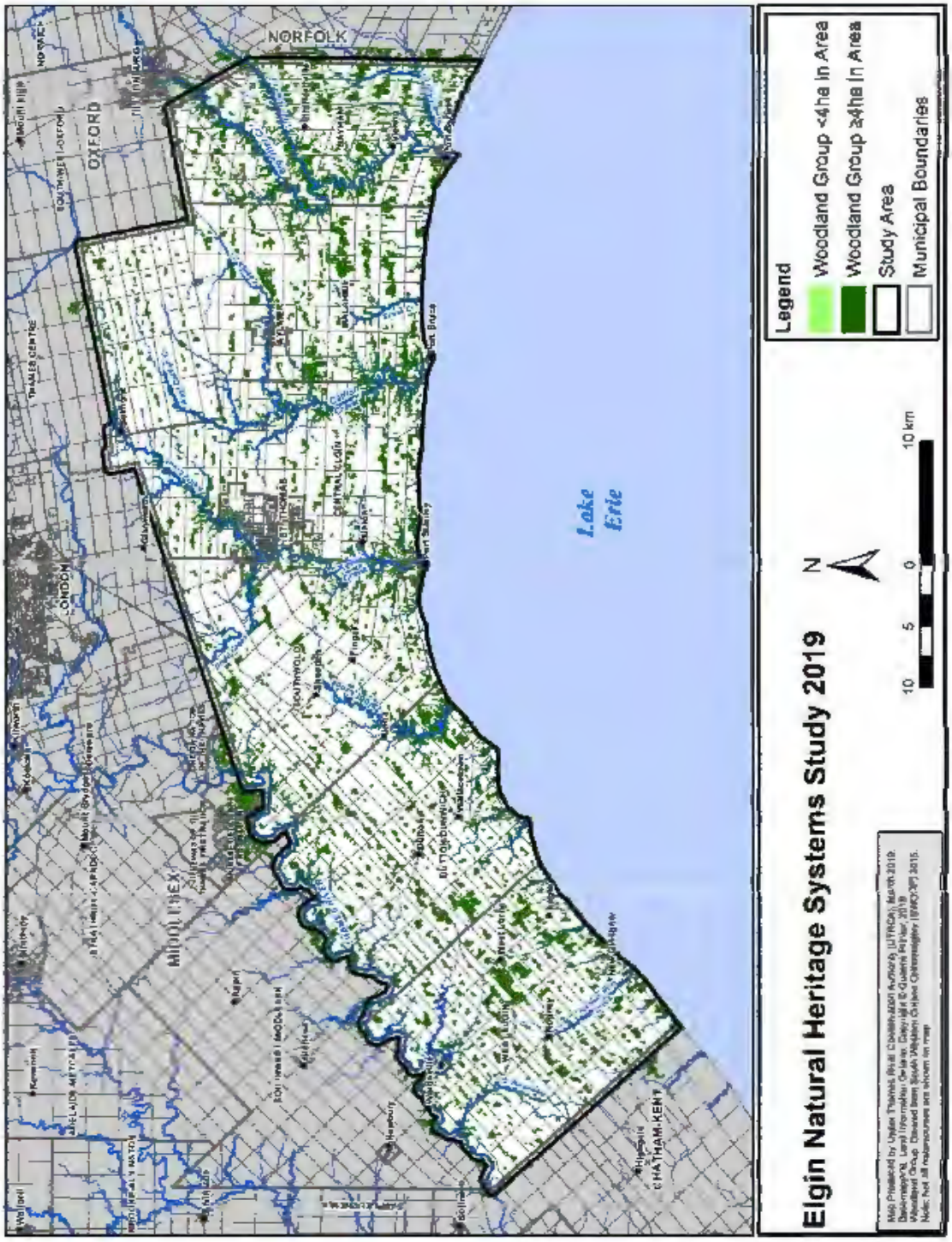
Appendix H-4. Criterion 4 Map, Vegetation Groups within 30 m of an open watercourse



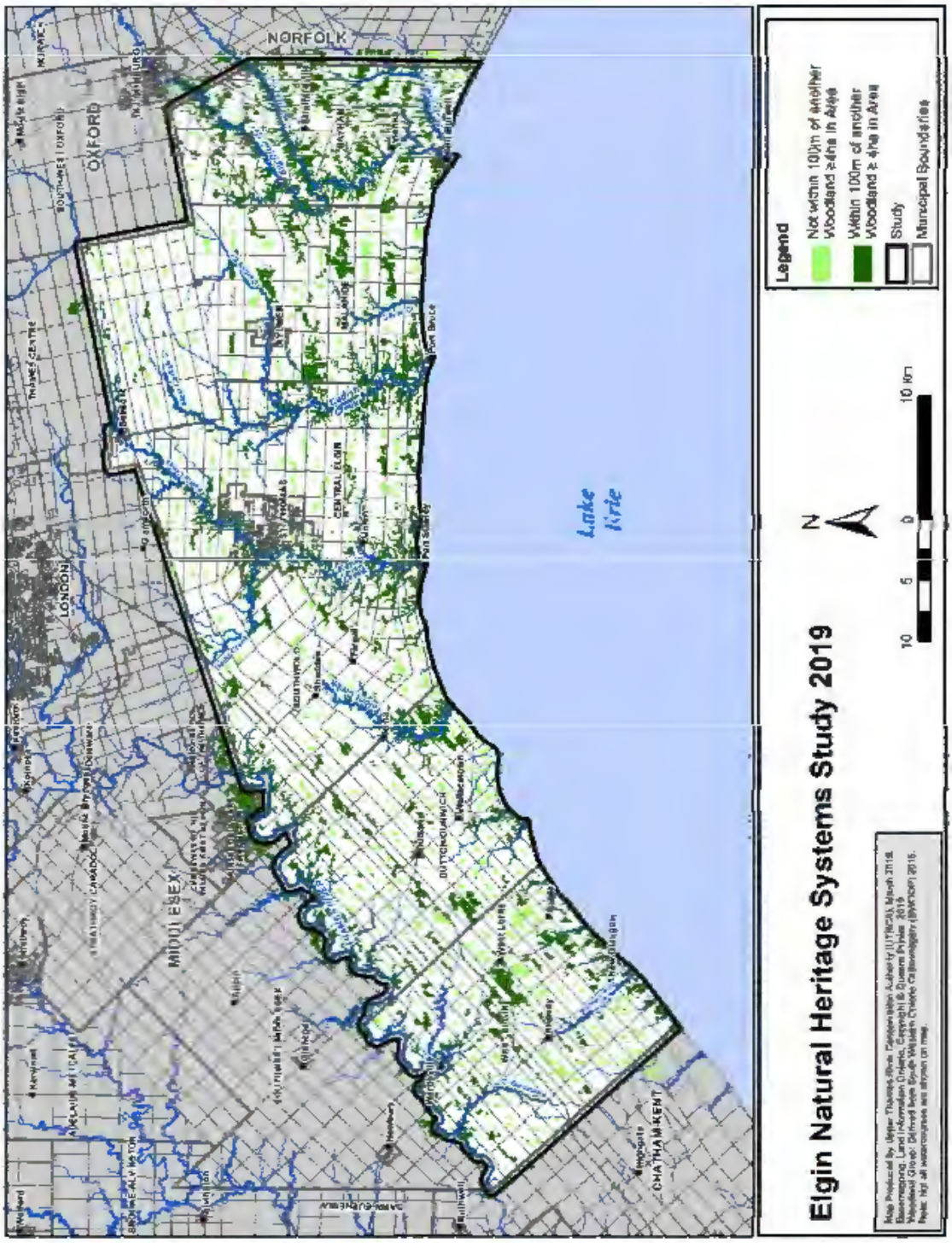
Appendix H-5. Criterion 5 Map, Wetlands (Evaluated)



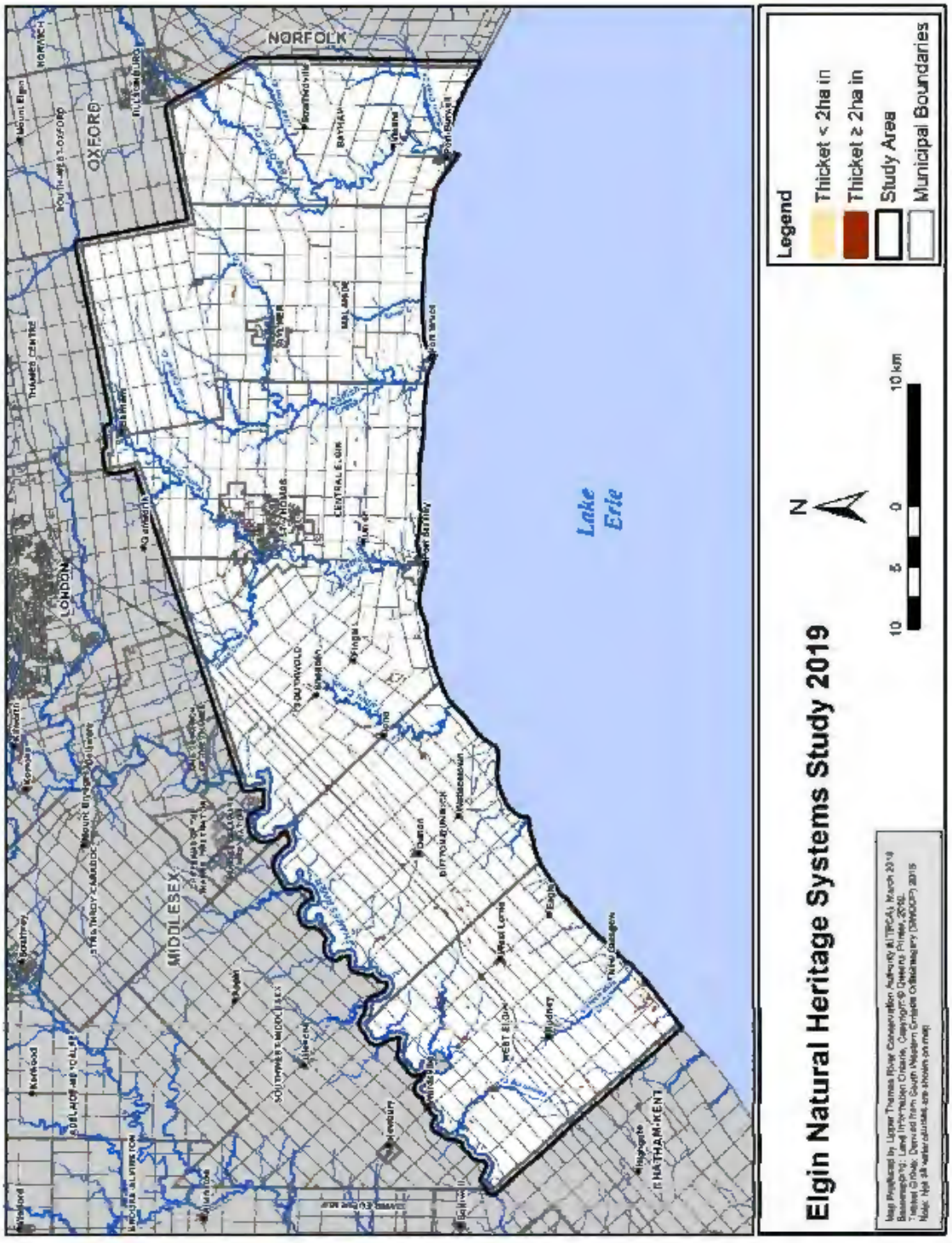
Appendix H-6. Criterion 6 Map, Woodland Size ≥ 4 ha



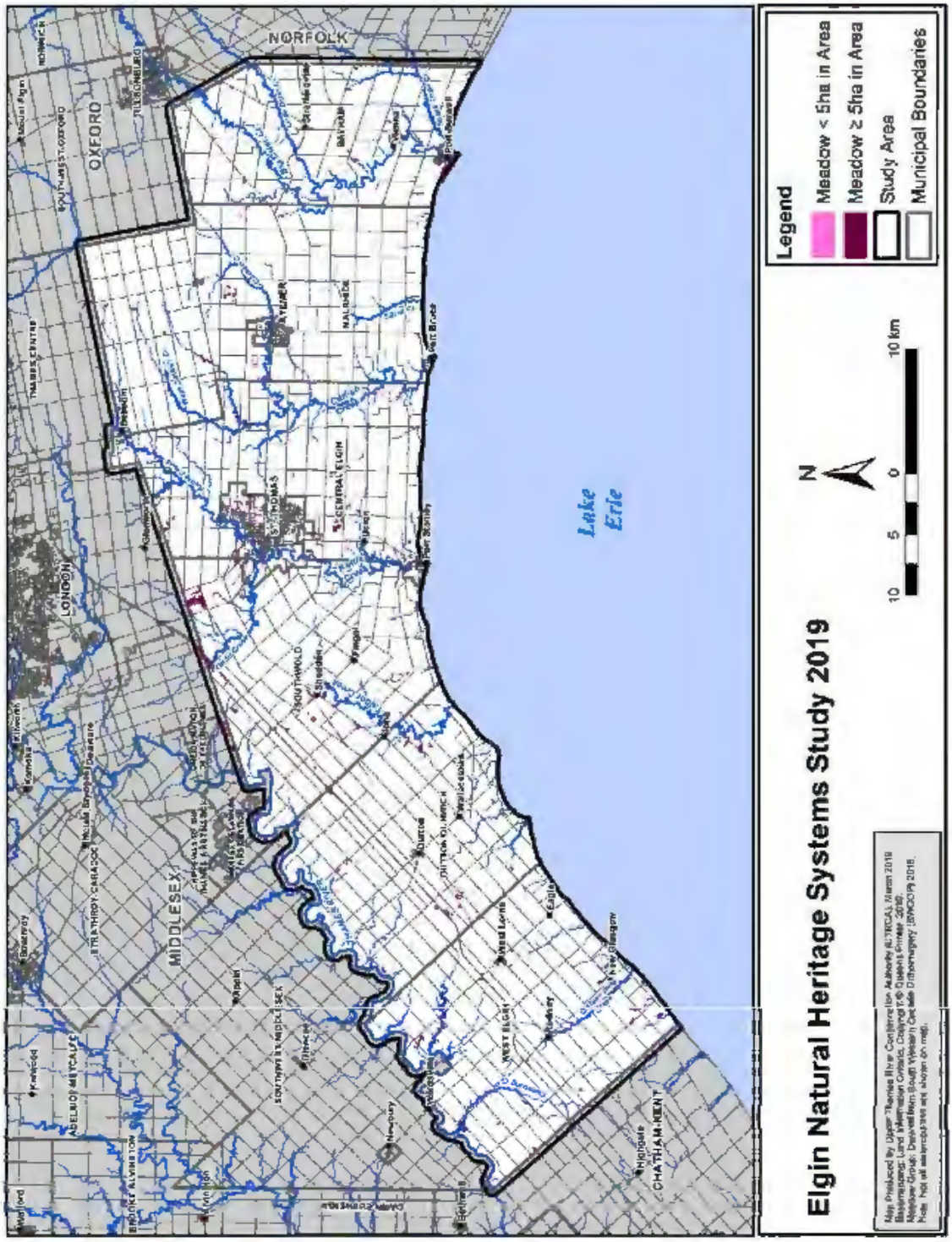
Appendix H-7. Criterion 7 Map, Woodlands within 100m of a >4 ha Woodland (Proximity)



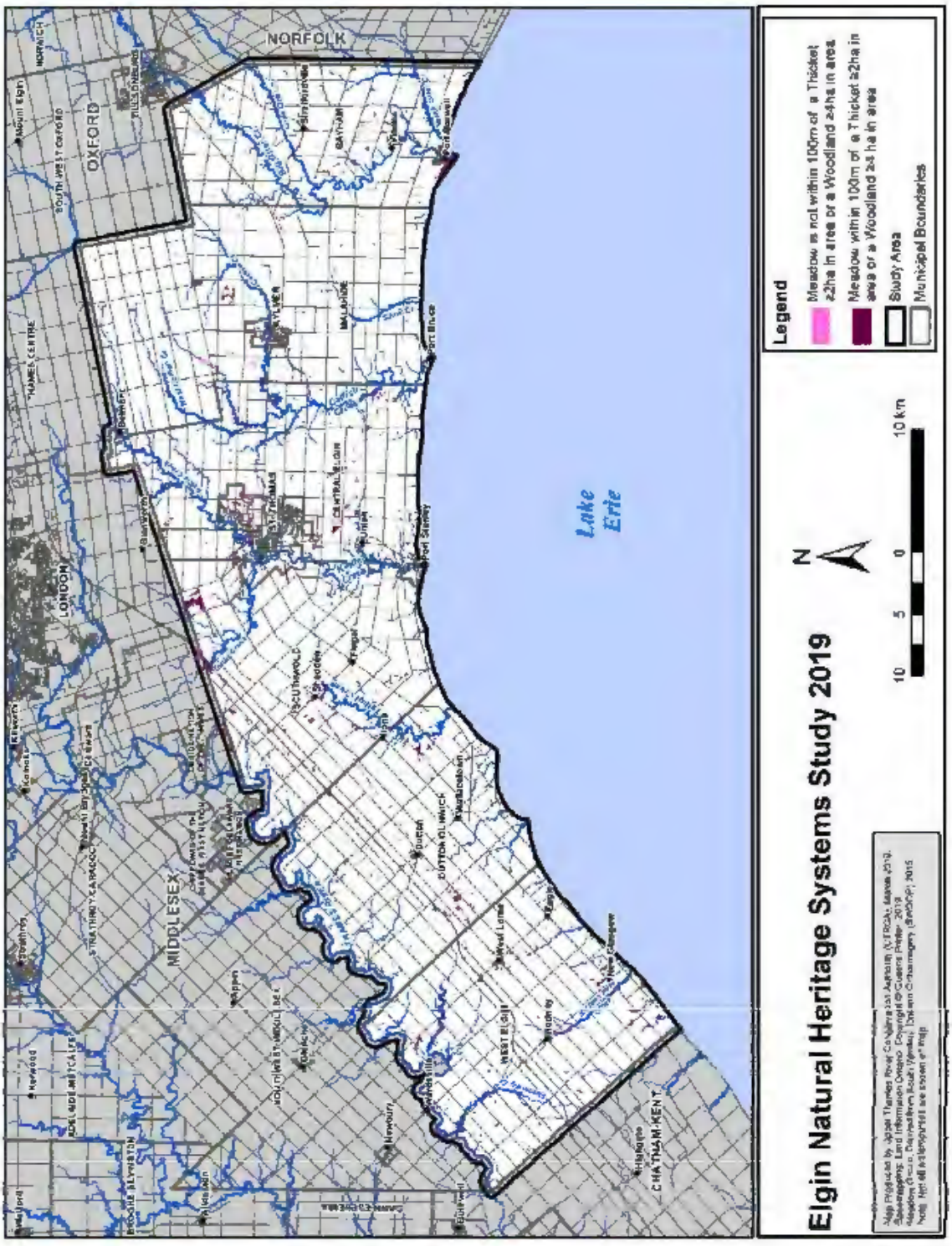
Appendix H-8. Criterion 8 Map, Thicket Group Size ≥ 2 ha



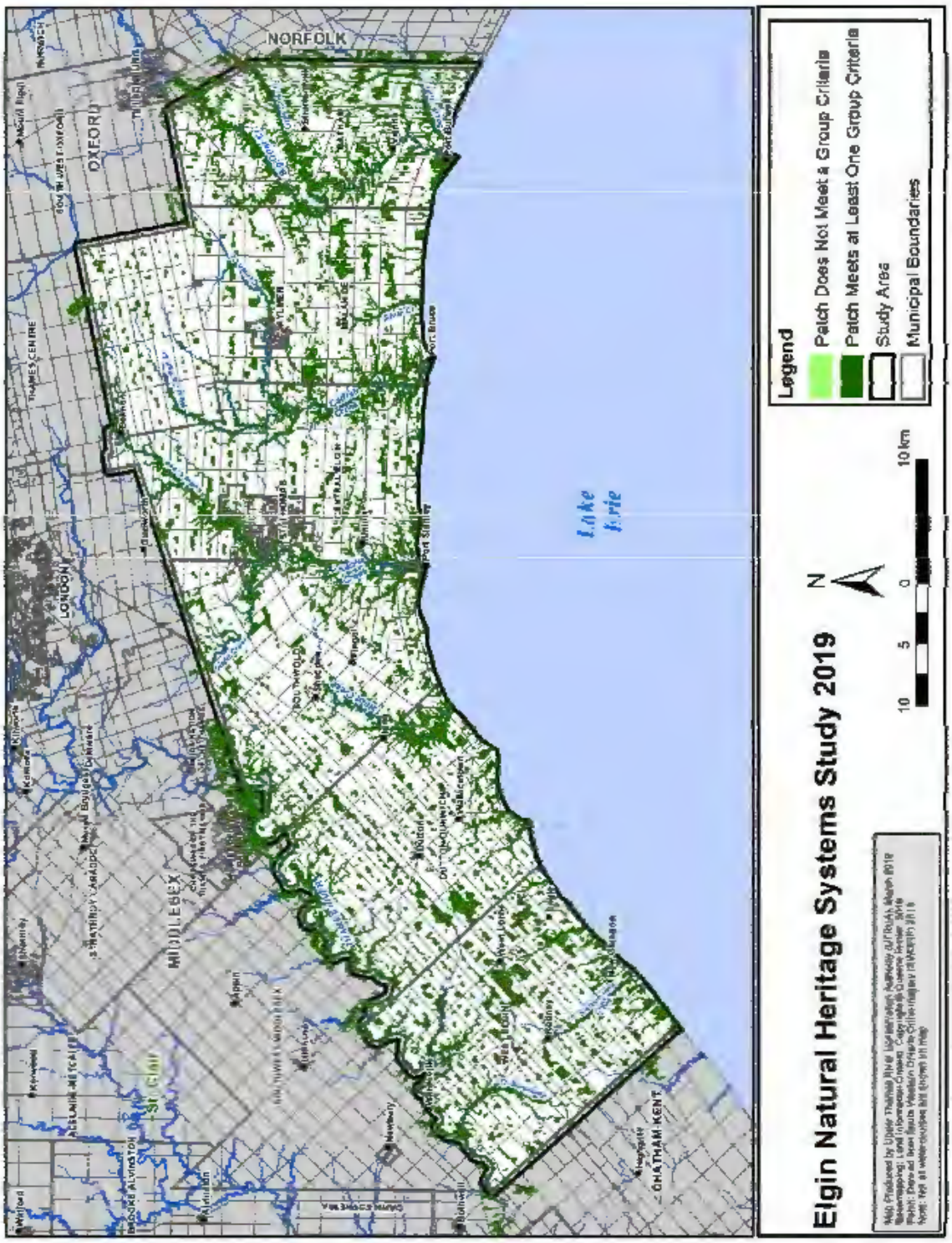
Appendix H-9. Criterion 9 Map, Meadow Size ≥ 5 ha



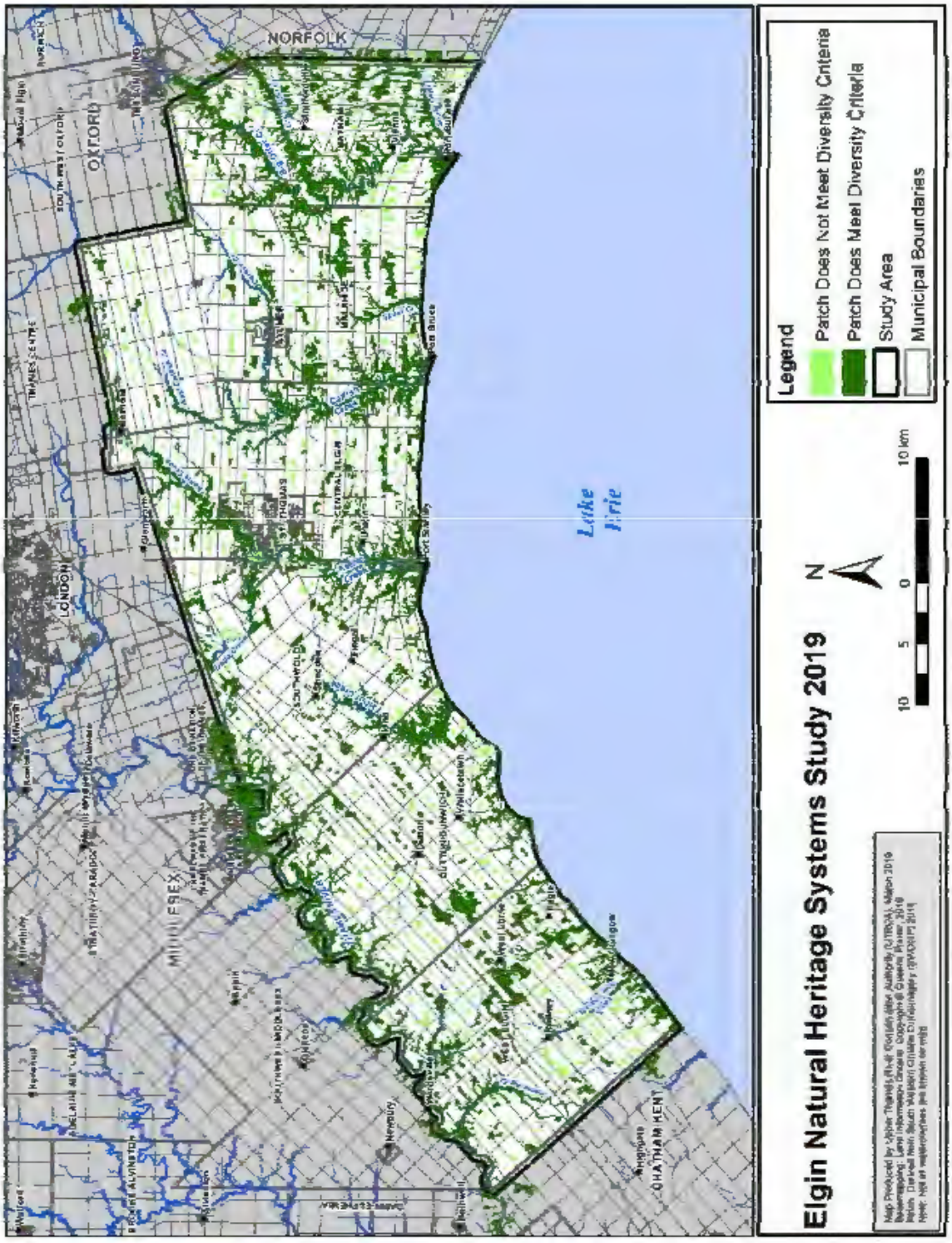
Appendix H-10. Criterion 10 Map, Meadow Group within 100m of a Thicket >2 ha or a Woodland >4 ha



Appendix H-11. Criterion 11 Map, Patches that meet a Group Criteria



Appendix H-12. Criterion 12 Map, Diversity



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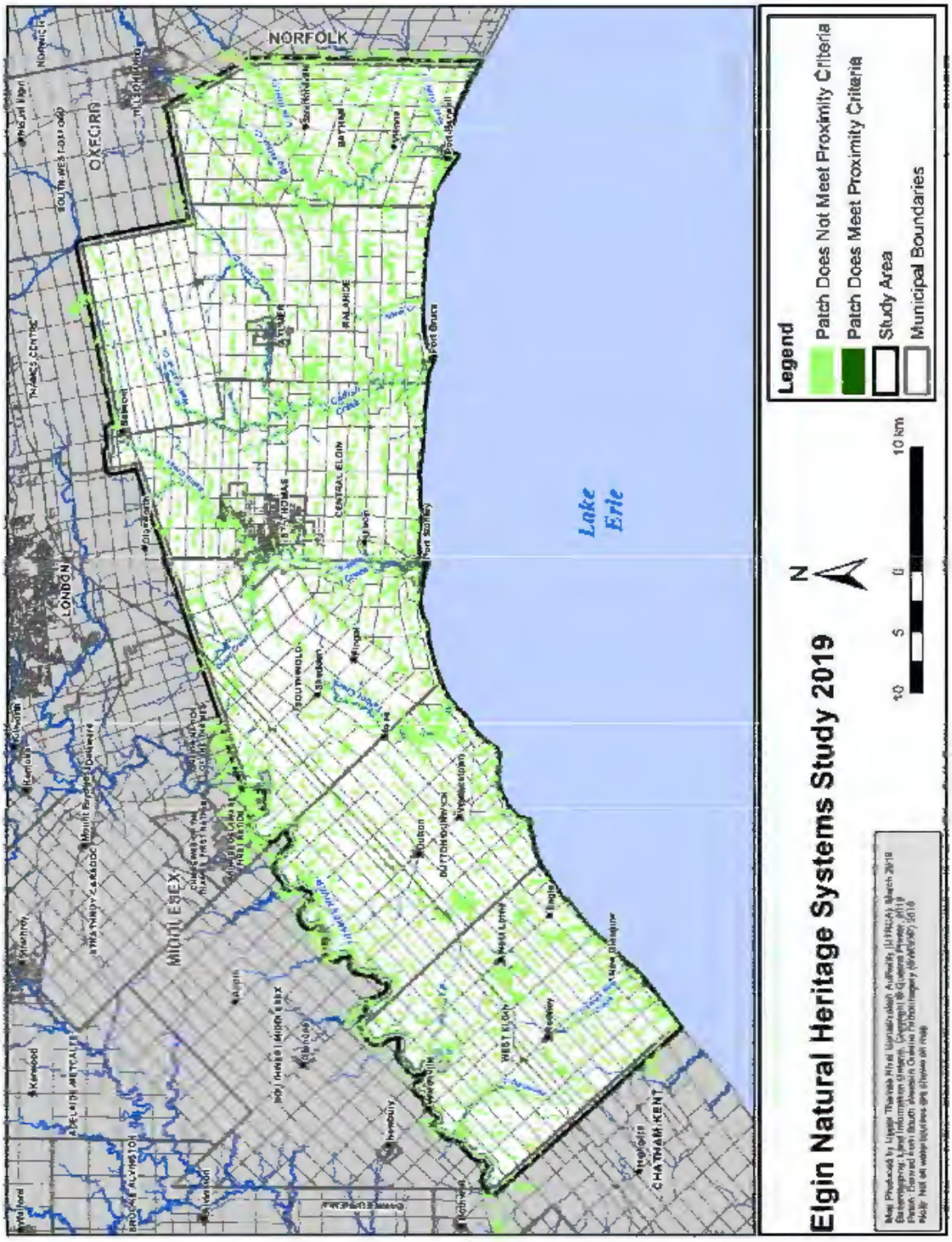
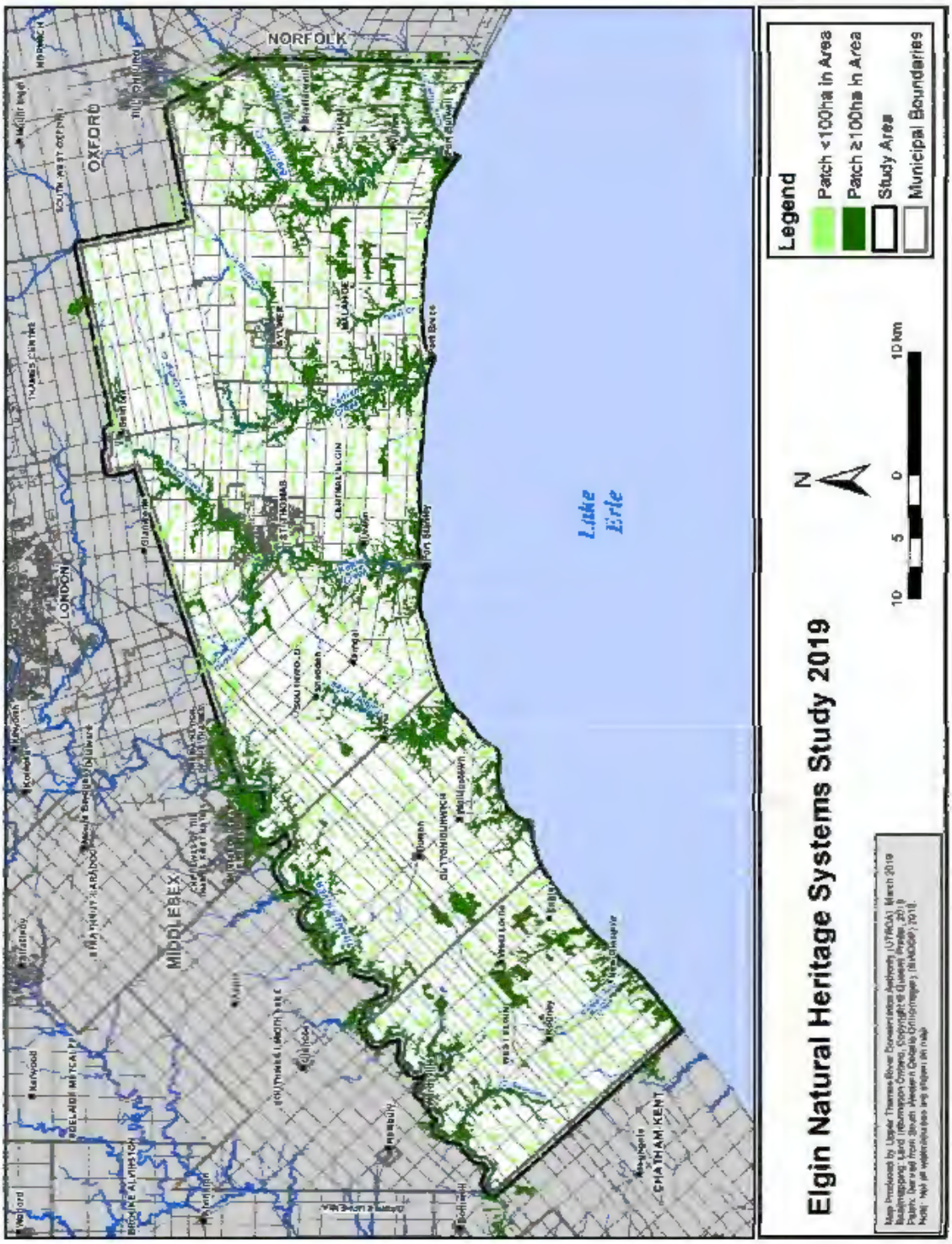
Appendix H-13. Criterion 13 Map, Patch Proximity

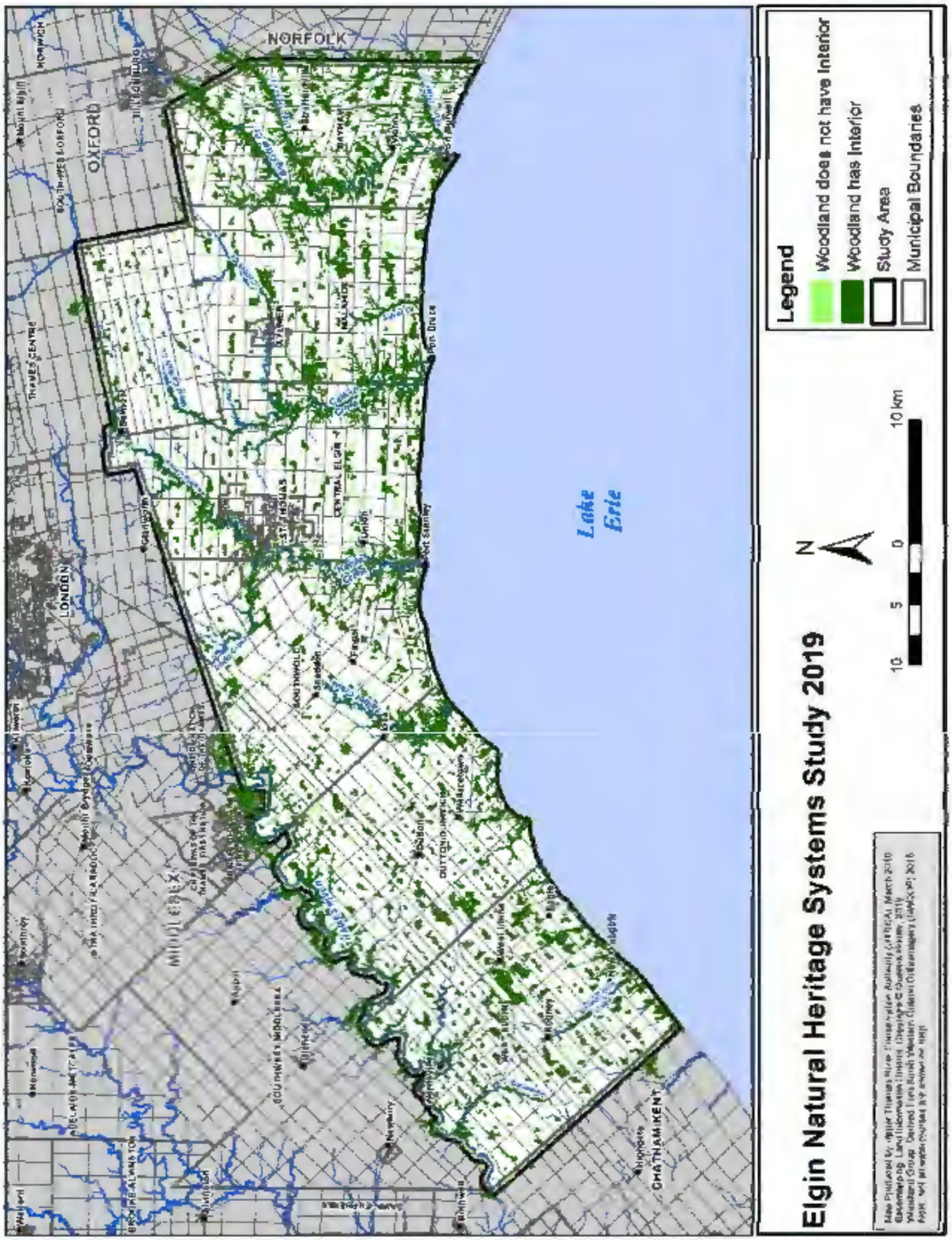


Appendix I-1. Map showing patches ≥100 ha

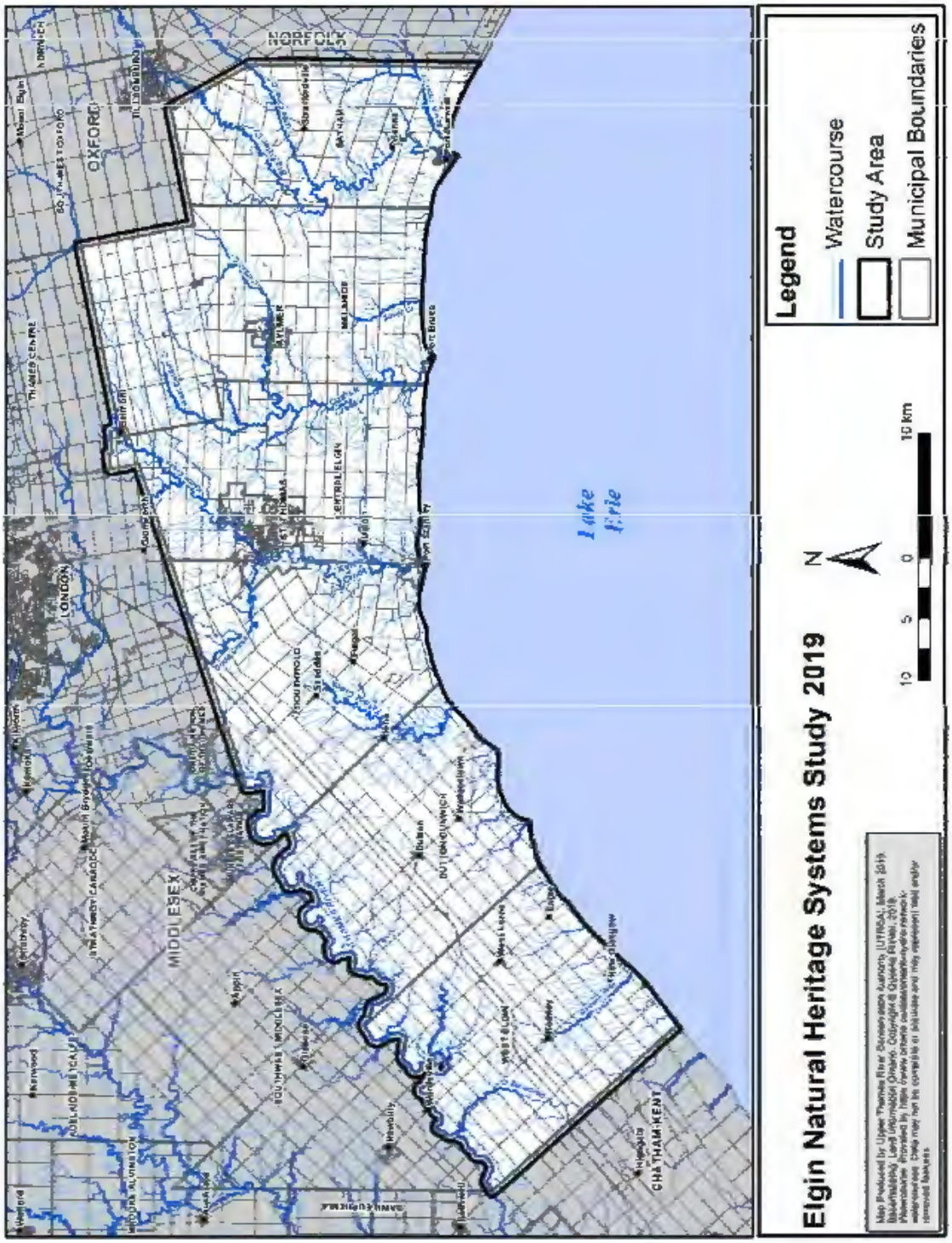


255

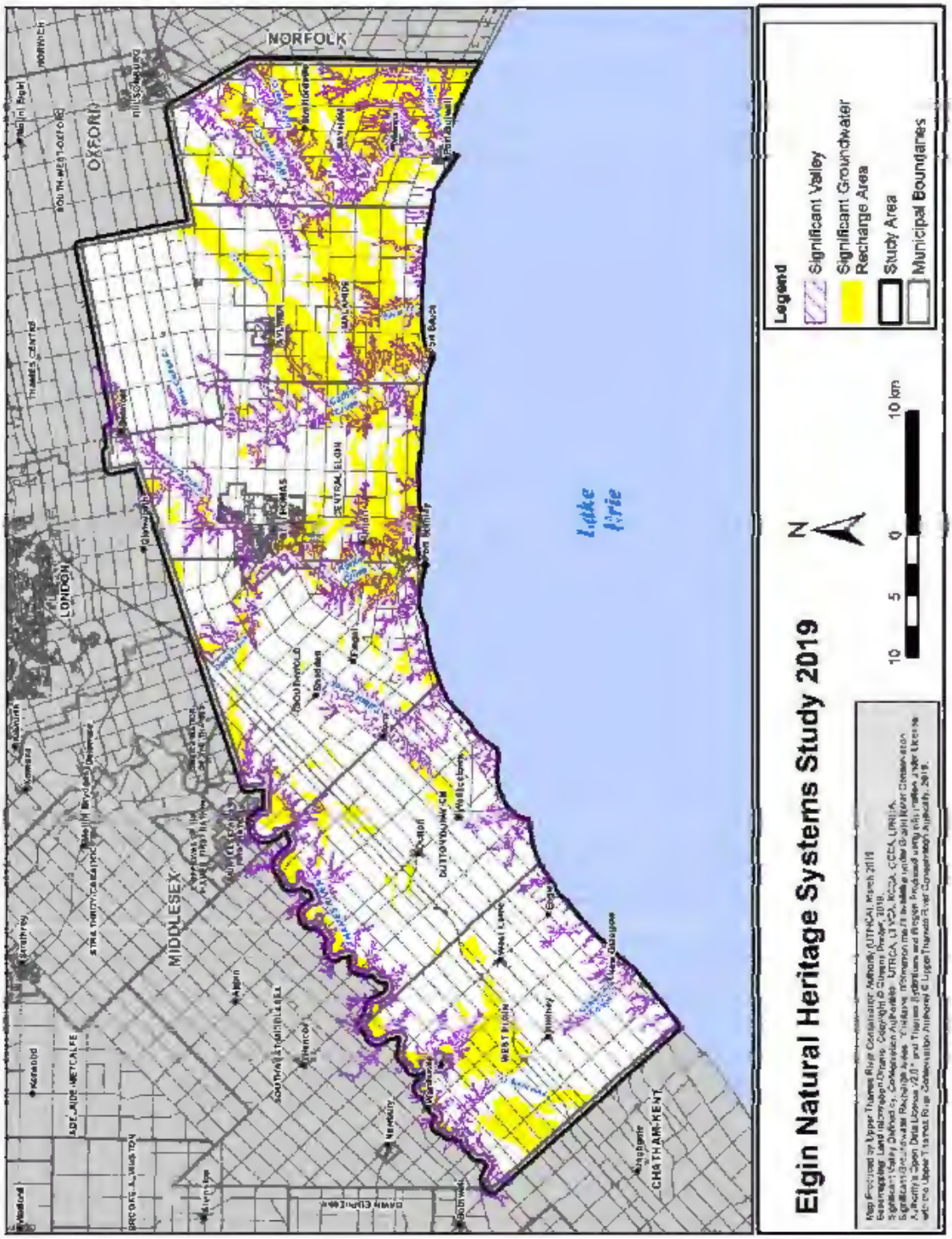
Appendix I-2. Map showing Woodlands that contain Woodland Interior



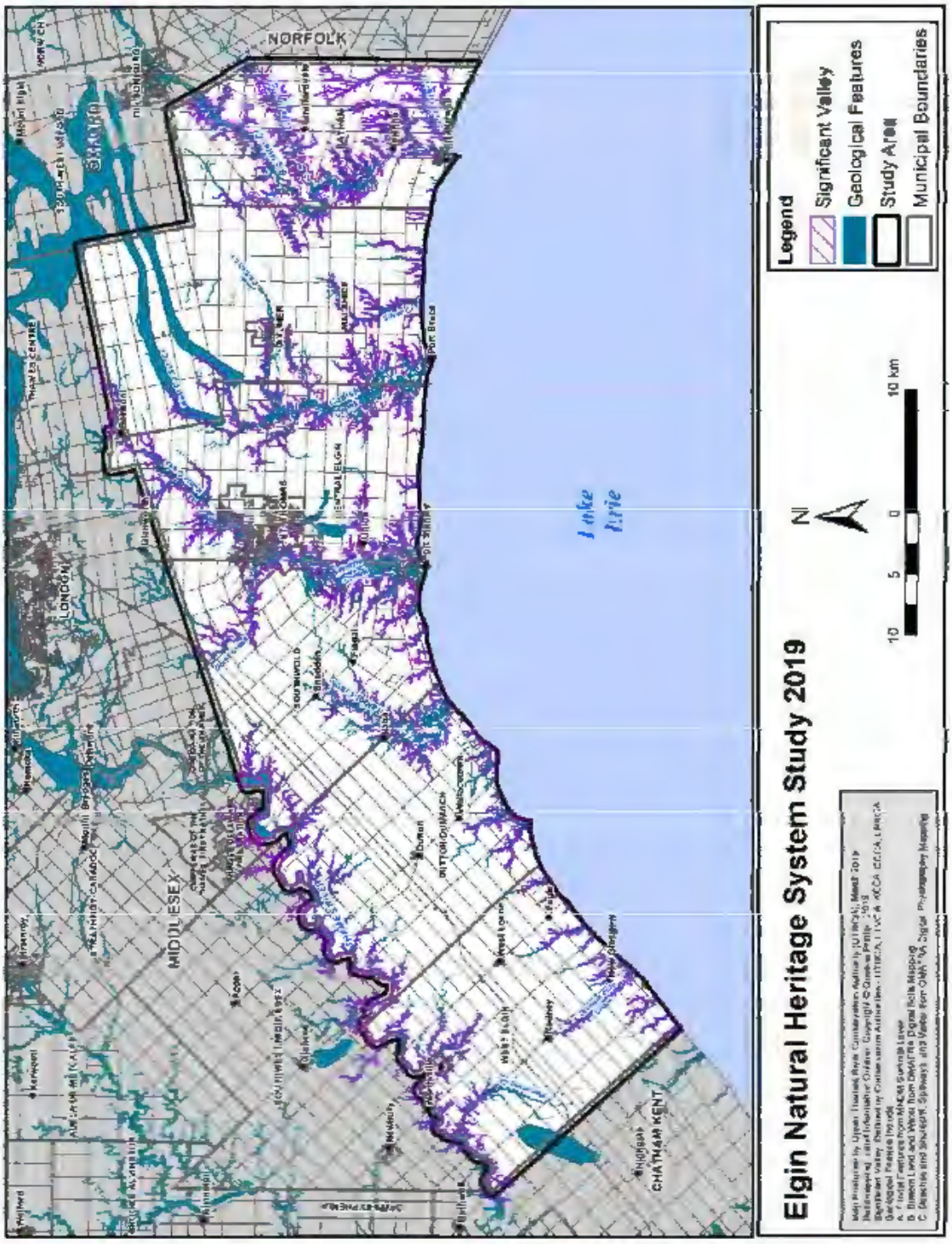
Appendix I-3. Map showing the watercourse layer (open and tiled)



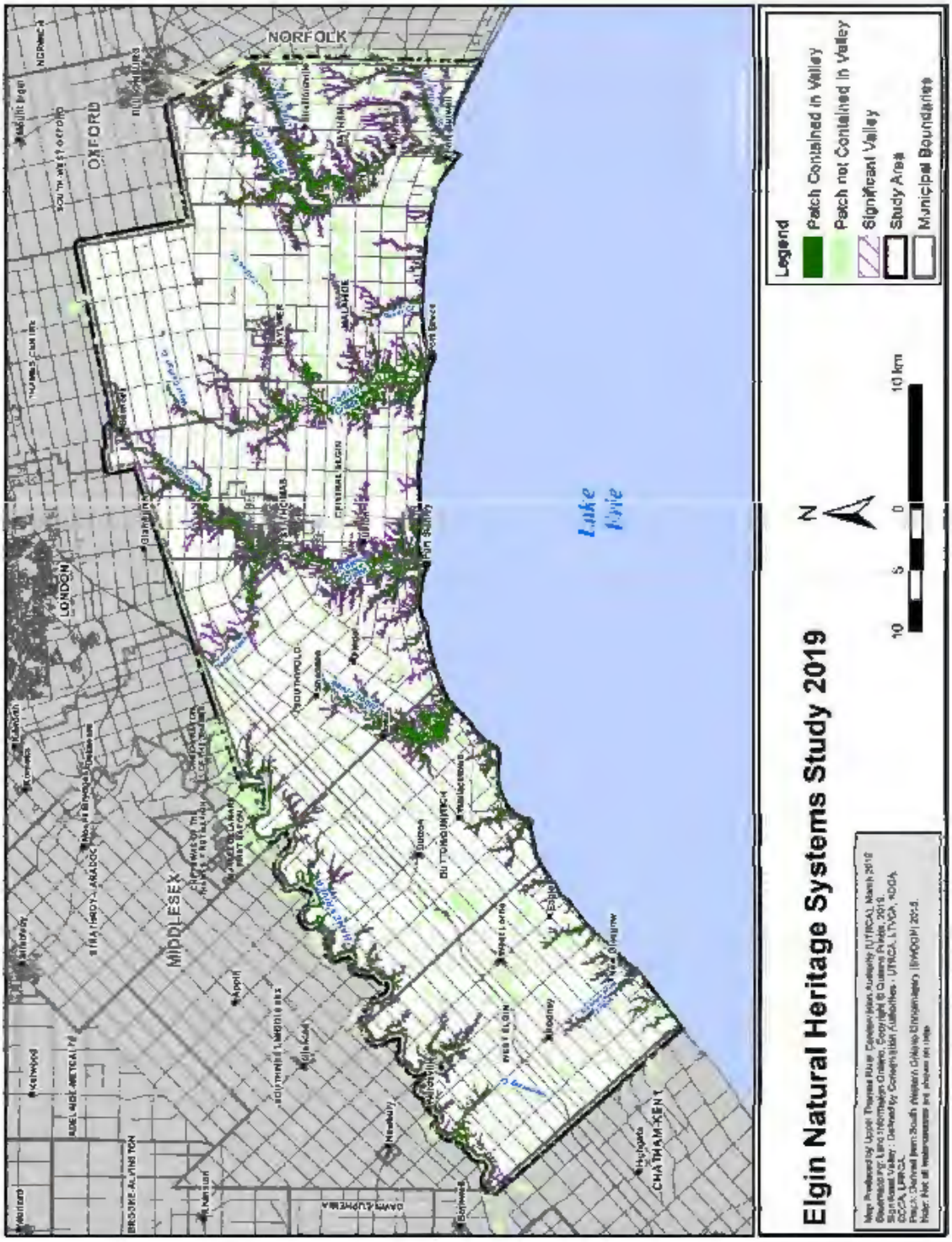
Appendix J-1. Valley in relation to Significant Groundwater Recharge



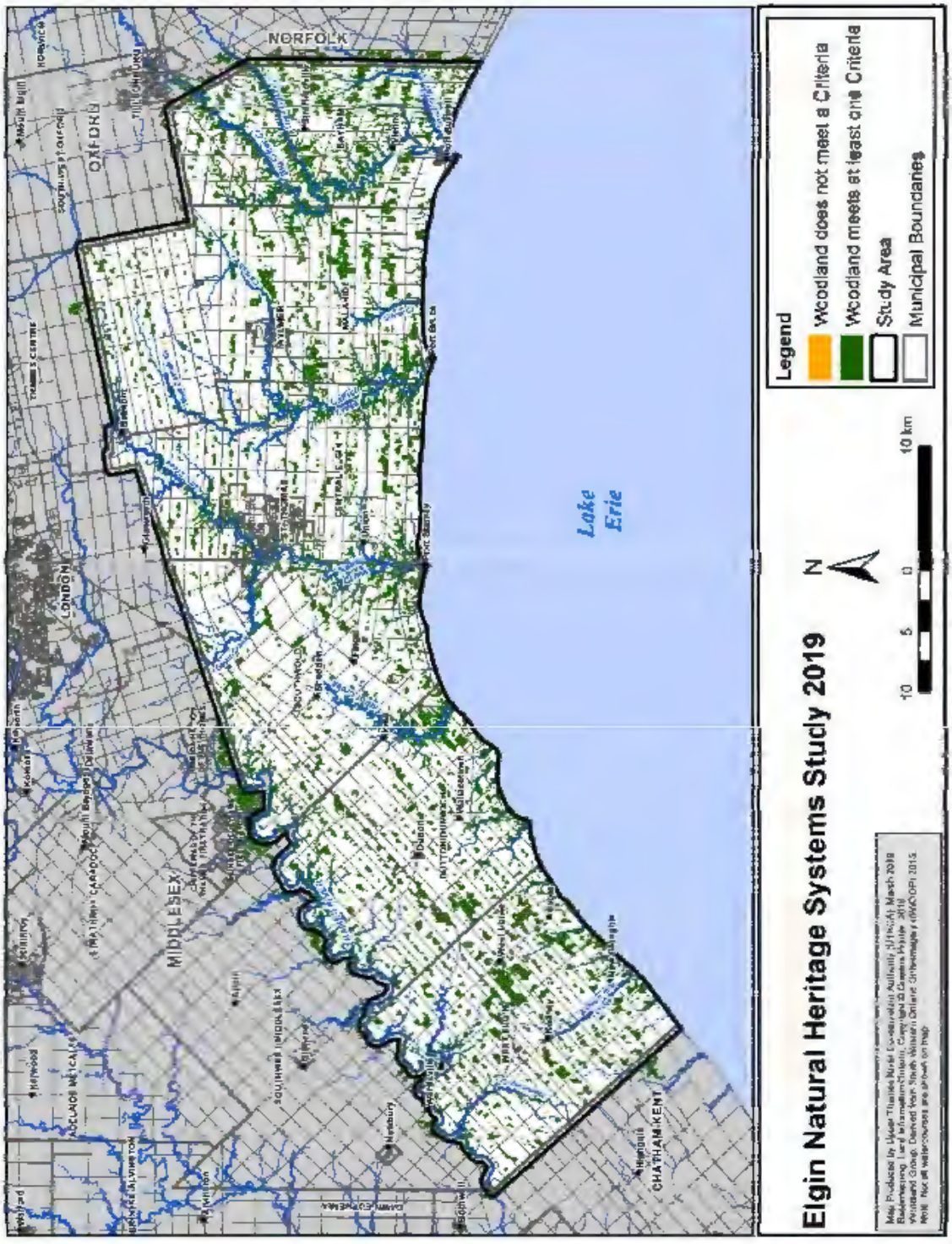
Appendix J-2. Valley in relation to Geological Features



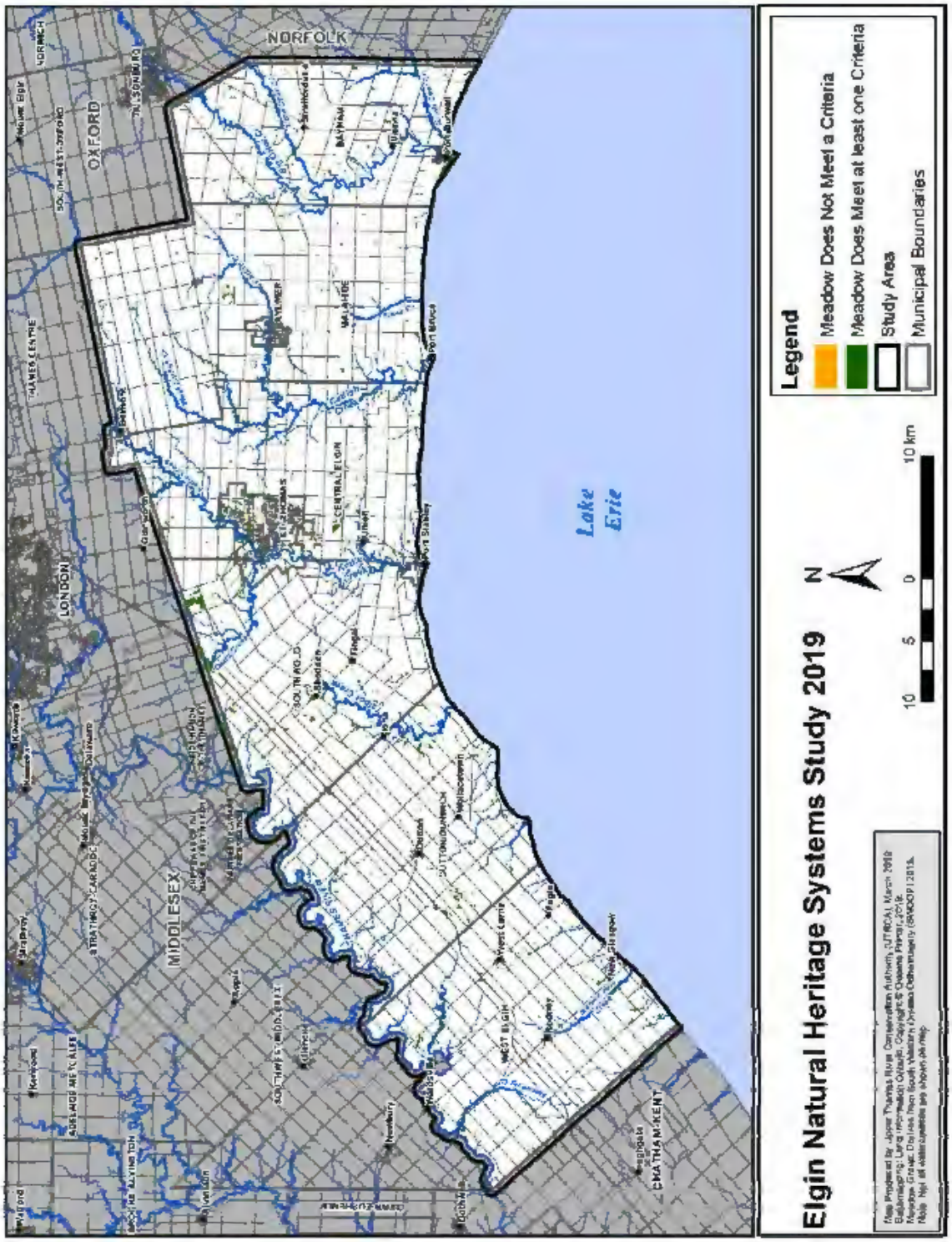
Appendix J-3. Valley in relation to vegetation patch cover



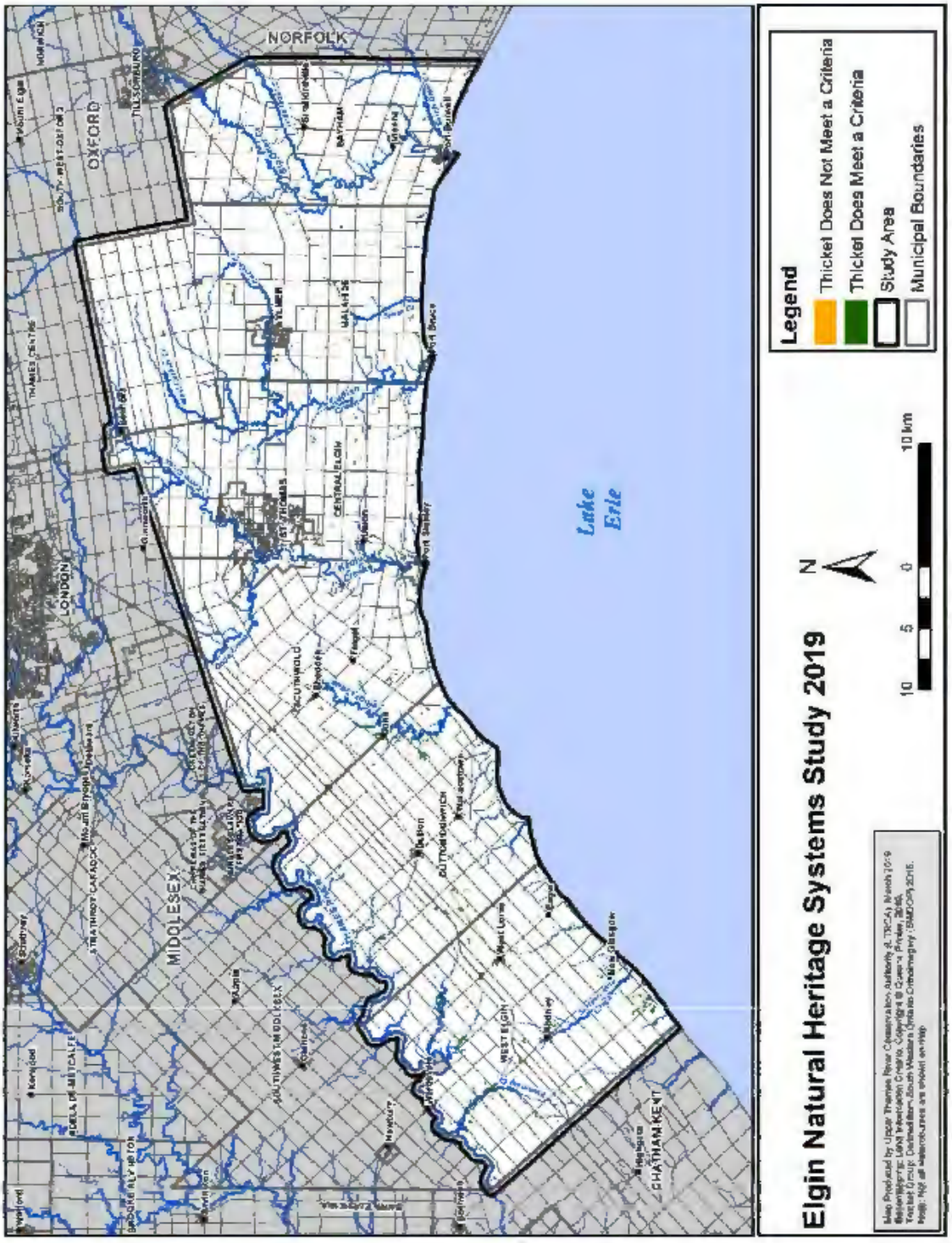
Appendix K-1. Woodland Groups that meet one or more criteria for Ecological Importance in Elgin



Appendix K-2. Meadow Groups that meet one or more criteria for Ecological Importance in Elgin



Appendix K-3. Thicket Groups that meet one or more criteria for Ecological Importance in Elgin



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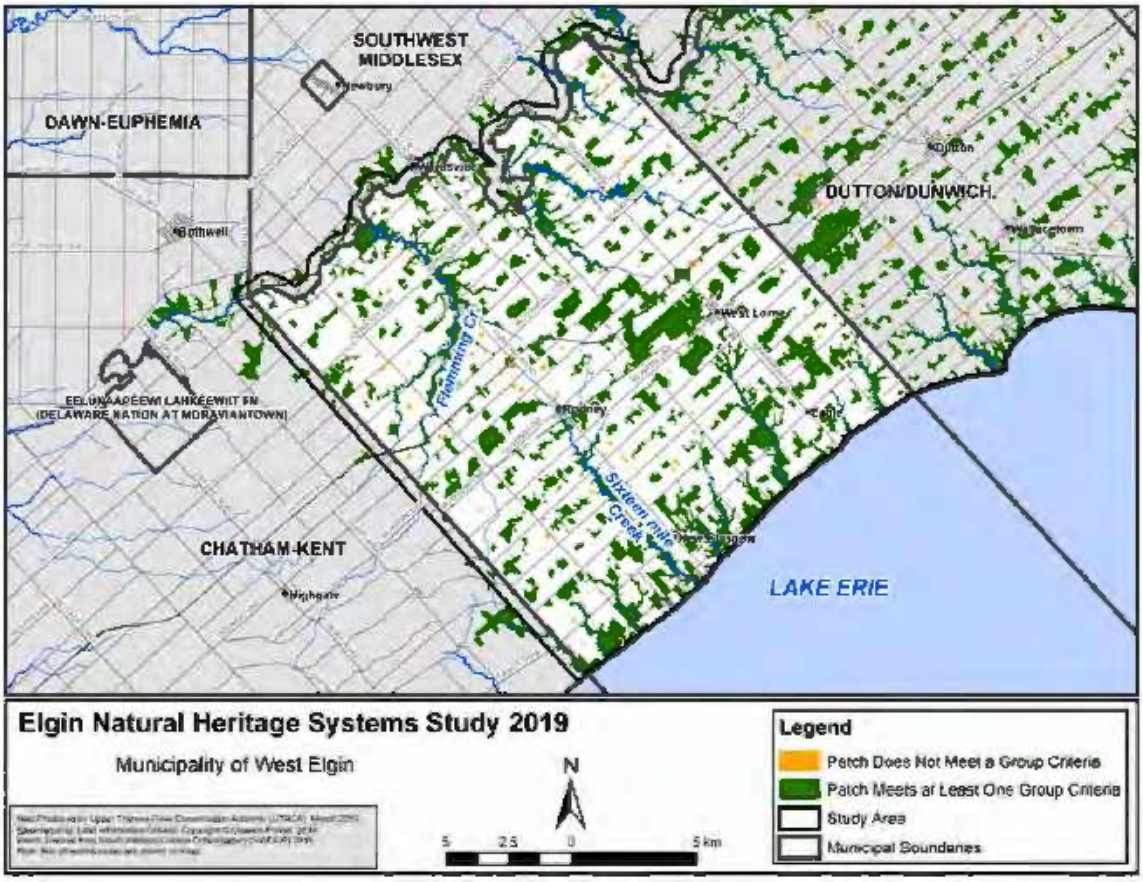
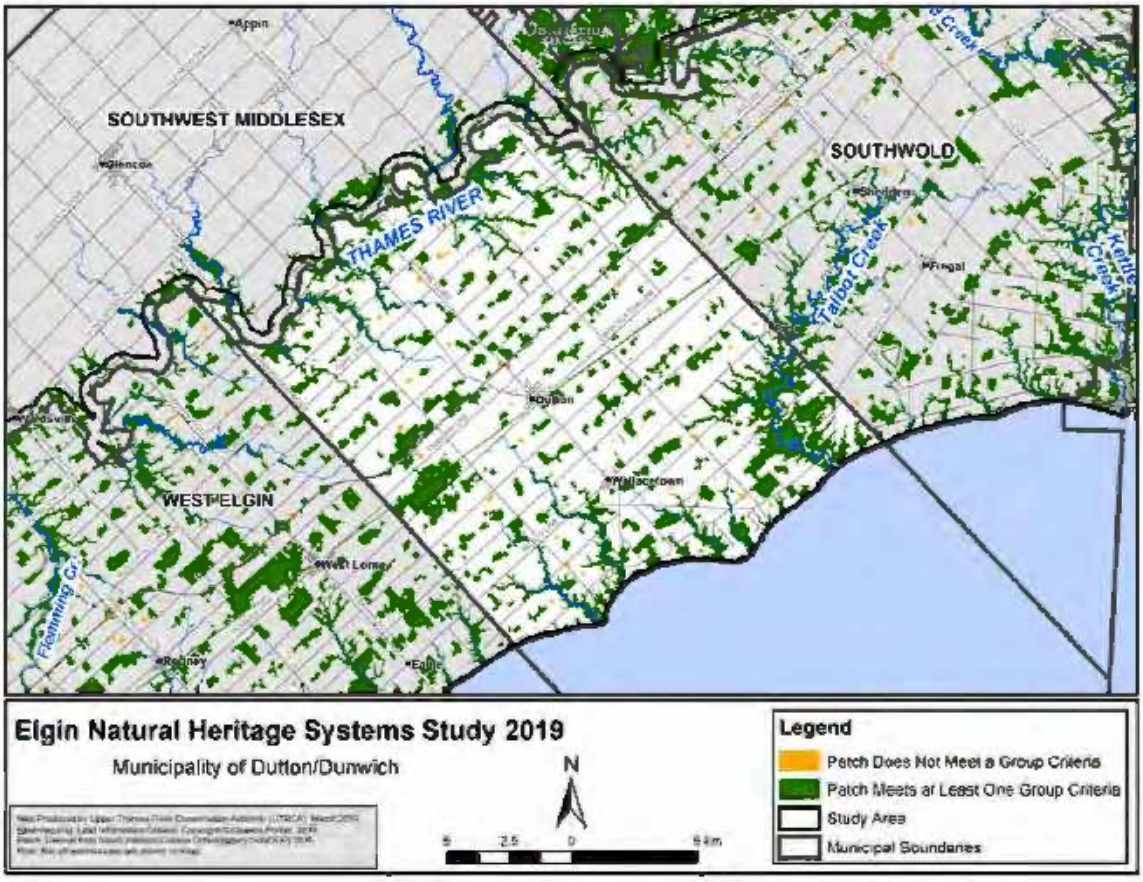
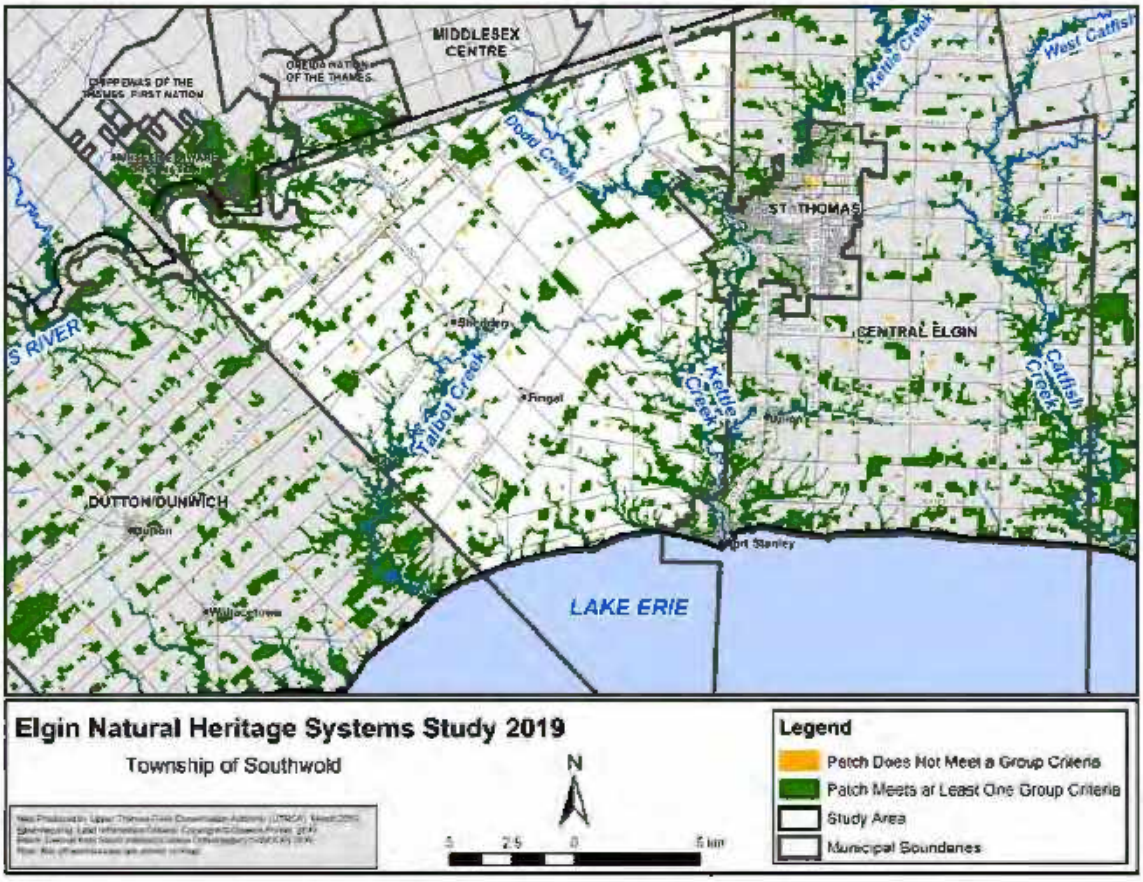
Appendix L-1. Patches that meet one or more criteria for Ecological Importance in West Elgin



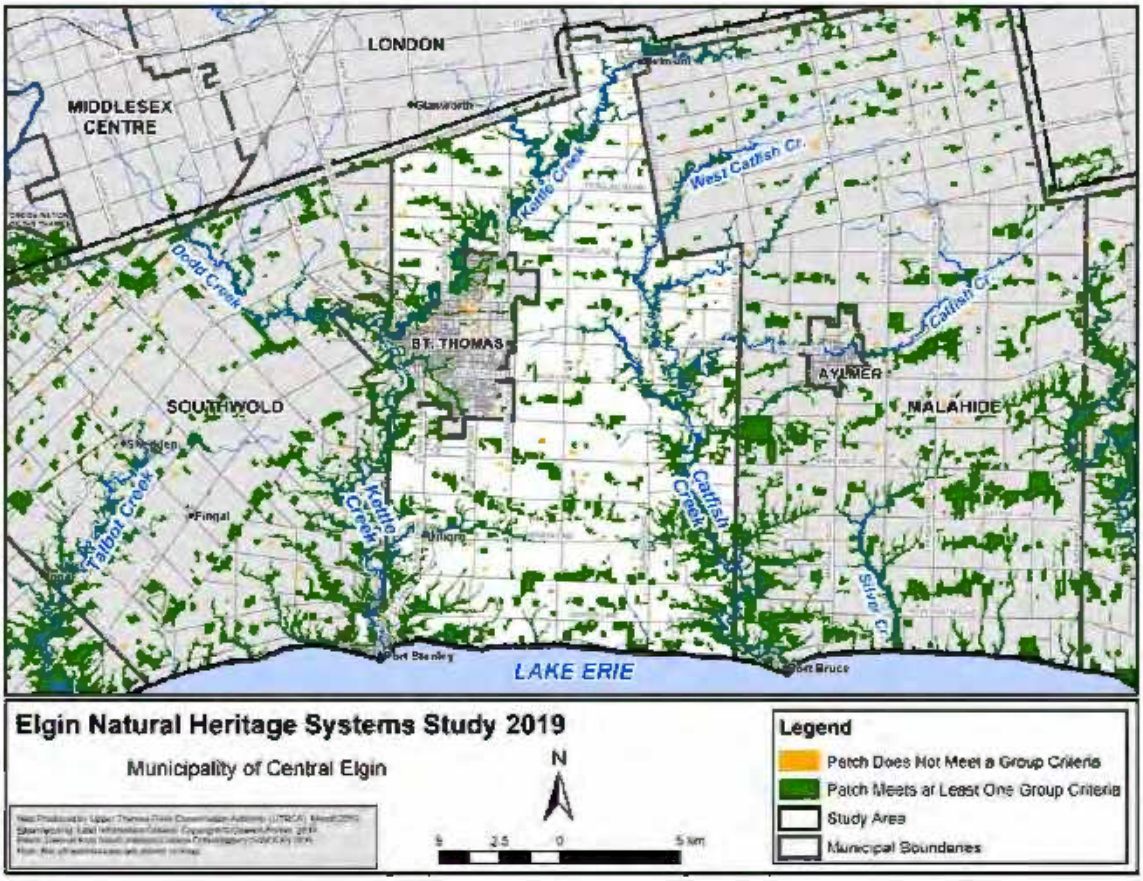
Appendix L-2. Patches that meet one or more criteria for Ecological Importance in Dutton/Dunwich



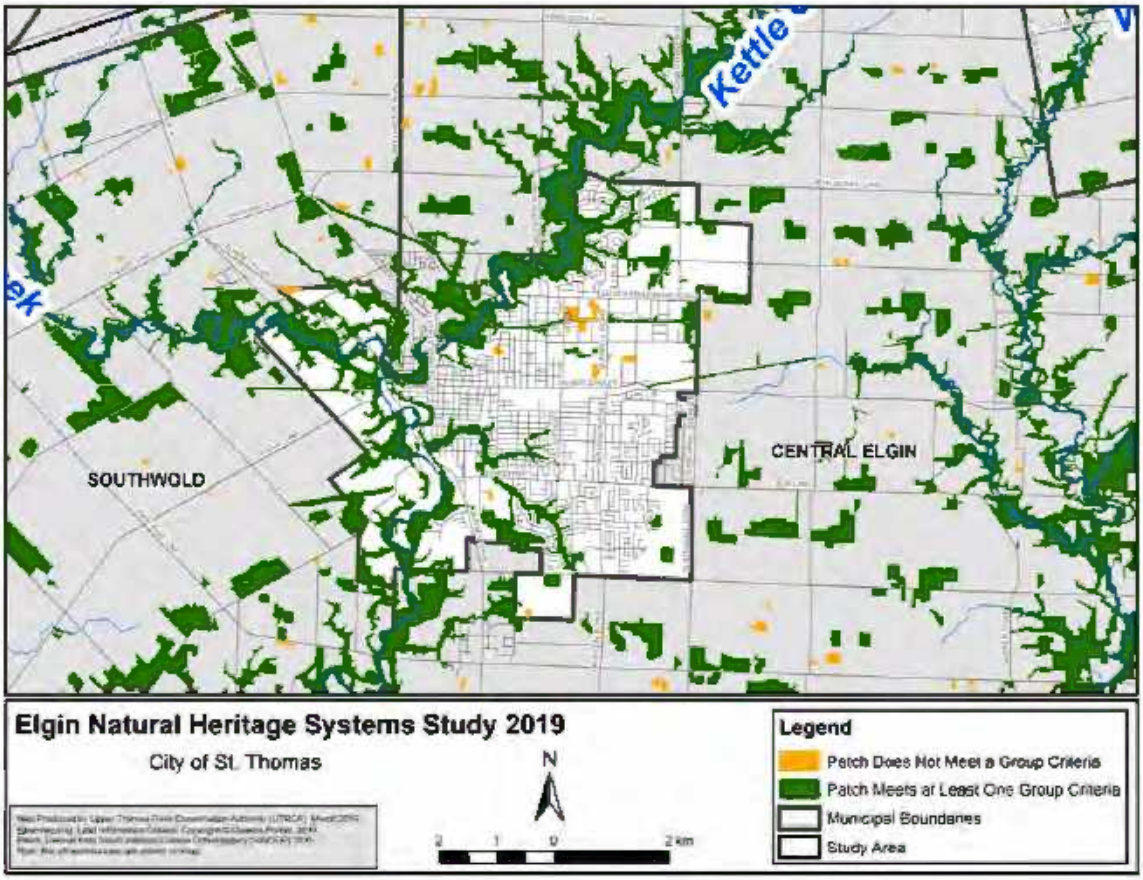
Appendix L-3. Patches that meet one or more criteria for Ecological Importance in Southwold



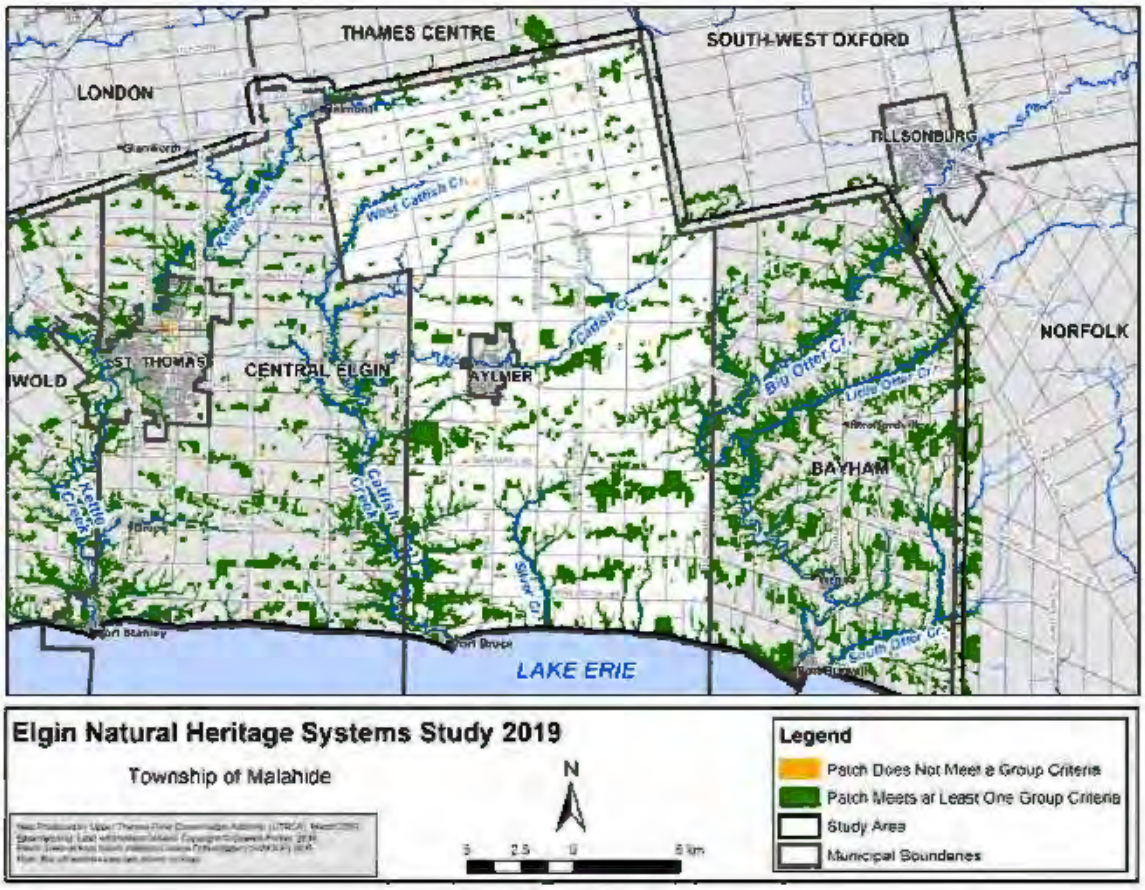
Appendix L-4. Patches that meet one or more criteria for Ecological Importance in Central Elgin



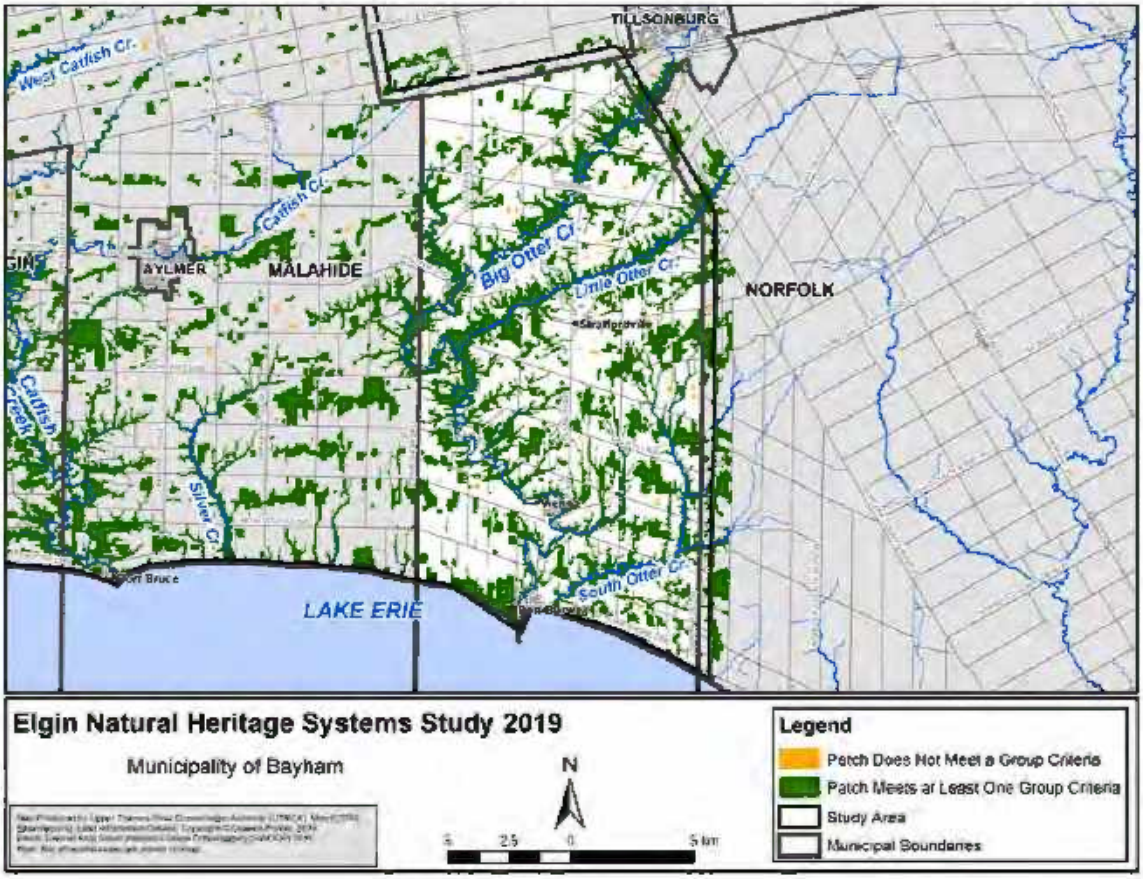
Appendix L-5. Patches that meet one or more criteria for Ecological Importance in St. Thomas



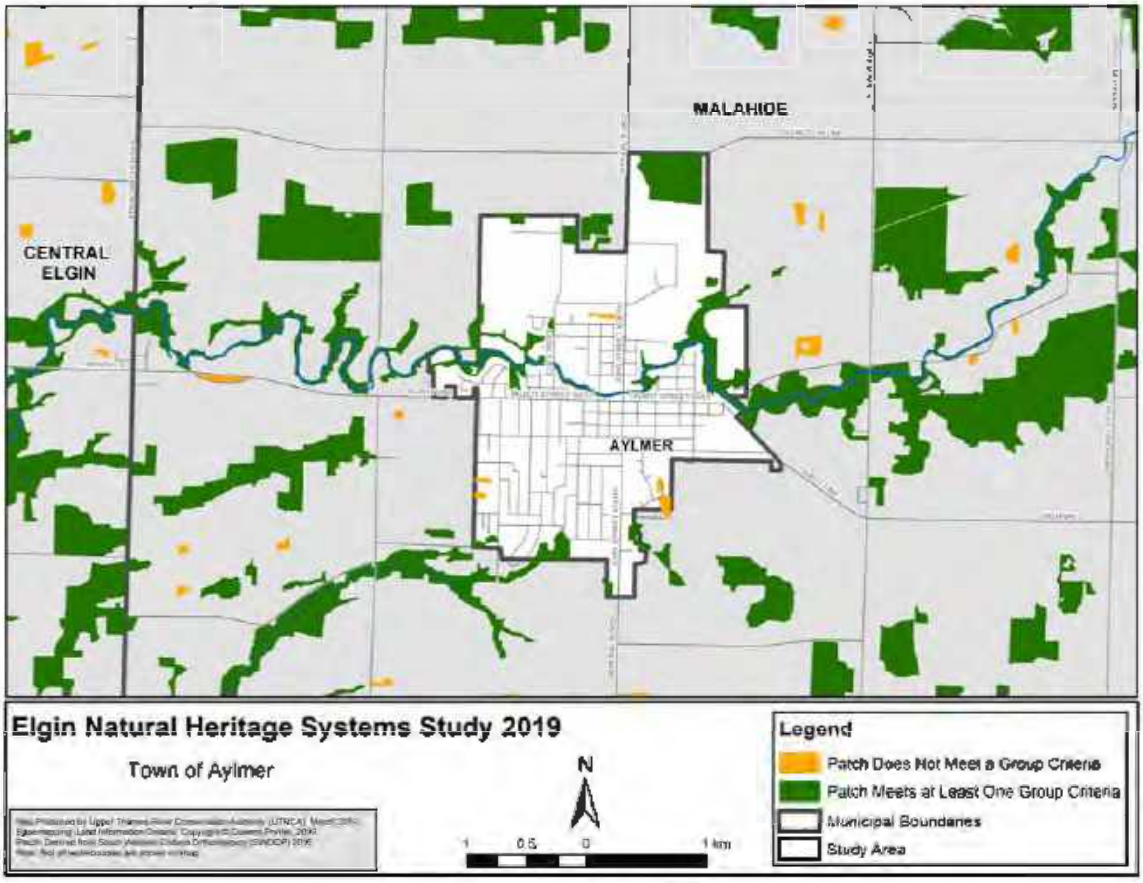
Appendix L-6. Patches that meet one or more criteria for Ecological Importance in Malahide



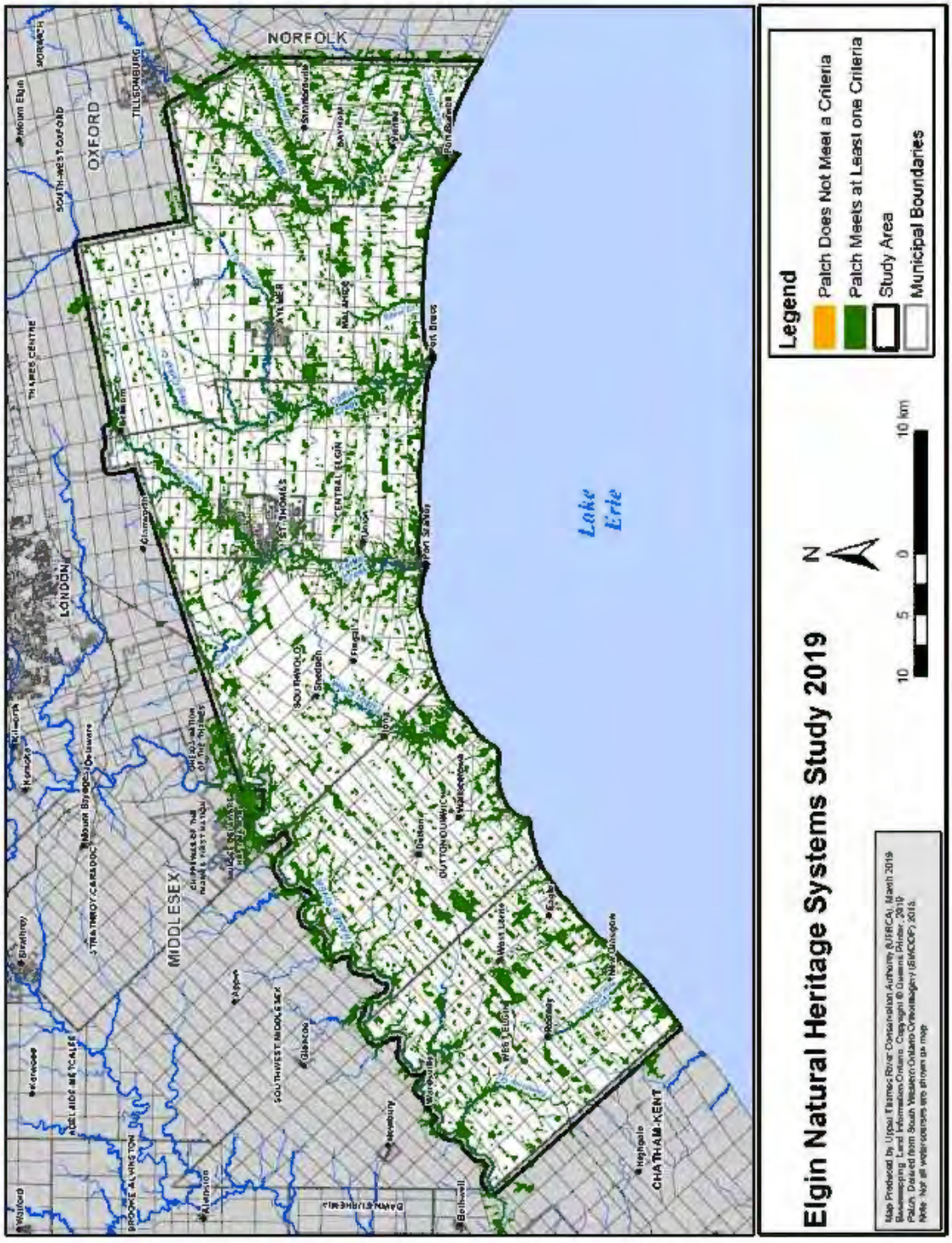
Appendix L-7. Patches that meet one or more criteria for Ecological Importance in Bayham



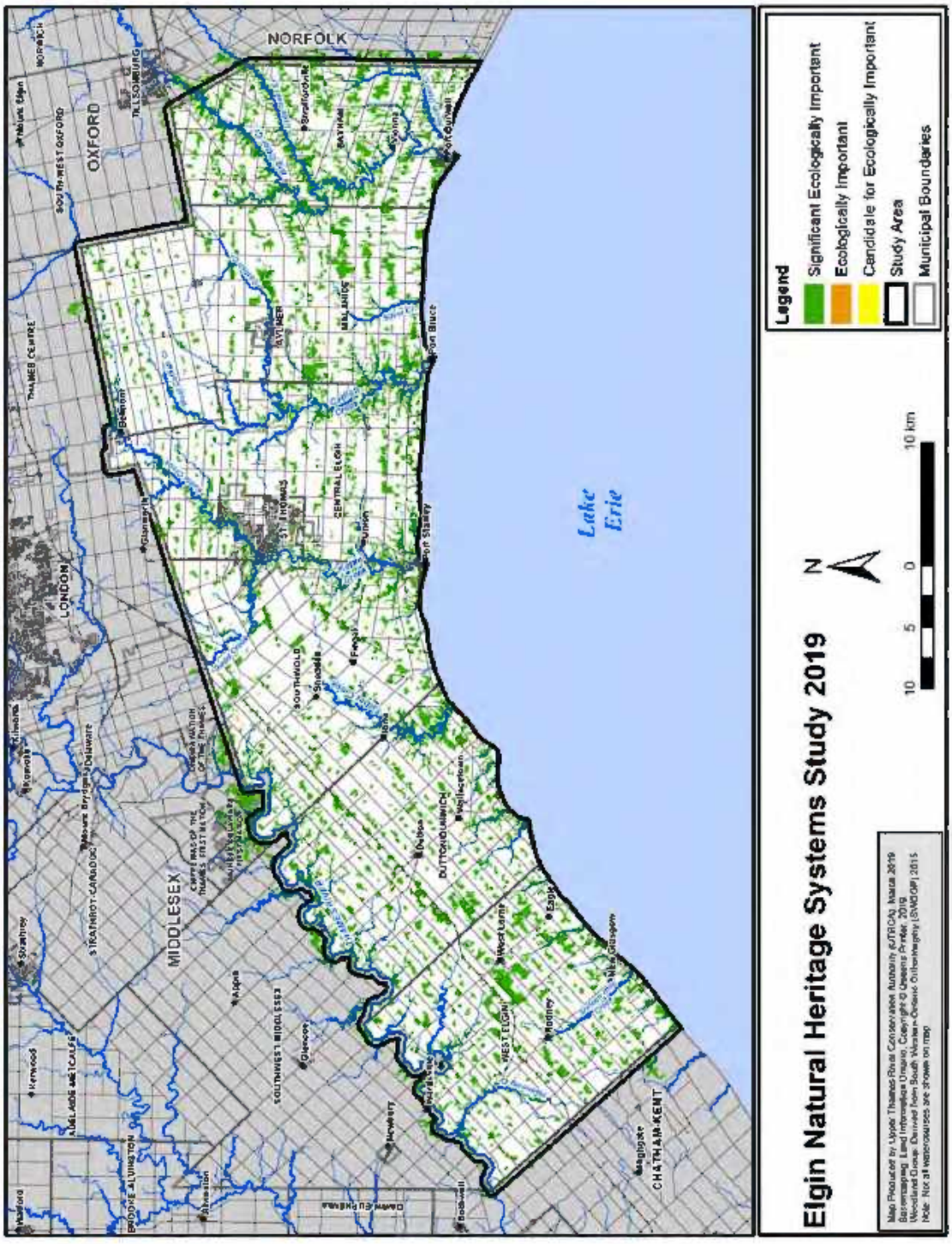
Appendix L-8. Patches that meet one or more criteria for Ecological Importance in Aylmer



Appendix L-9. Patches that meet one or more criteria for Ecological Importance in Elgin



Appendix M. Woodlands: Significant, Ecologically Important and Other in Elgin County



Appendix N. Other Natural Heritage Features and Areas Identified at the Site Level

There are natural features and areas that are important but that cannot be mapped at the GIS level or modelled, but instead must be identified at the site-level (e.g., during an EIS).

Significant Wildlife Habitat (SWH)

The Significant Wildlife Habitat Technical Guide (MNR 2010) describes four categories of significant wildlife habitat:

- Seasonal concentrations of animals
- Rare vegetation communities or specialized habitat for wildlife (includes IUCN S1-S3)
- Habitat of species of conservation concern (not including Endangered or Threatened species)
- Animal movement corridors

Criteria for Significant Wildlife Habitat (SWH) are provided by MNRF in the Significant Wildlife Habitat Technical Guide (MNR 2000b) and the Natural Heritage Reference Manual (MNR 2010). More detailed guidelines for evaluating habitat within Ecoregions 6E and 7E, including thresholds of number of species that designate an area as a SWH, have been provided in the January 2015 Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E and 7E (MNRF 2015). The MNRF also recommends that the IUCN (International Union for Conservation of Nature) class S1-S3 species be considered under Significant Wildlife Habitat.

Identification of this habitat can occur through field studies conducted through EISs or other field studies/inventories, and then reported to the MNRF.

Groundwater Dependent Ecosystems and Wetlands (GDEW)

Groundwater is not only an important water source to meet human consumptive needs, it also plays a critical role in supporting many ecosystems. However, the policies and regulations that protect groundwater for human consumption may not necessarily protect Groundwater-Dependent Wetlands (GDWs), a vital yet poorly understood sub-set of the natural environment (Howard and Merrifield 2010).

GDWs are ecosystems that require access to groundwater to maintain their communities of plants and animals, ecological processes and ecosystem services. Typical examples of these systems are springs, seeps, fens and perched groundwater wetlands.

In all of these systems, terrestrial vegetation interacts with the groundwater. Recognizing that the chemical composition of groundwater is closely related to the type of bedrock and surficial deposits through which it has moved, the groundwater contributes water and nutrients to maintain a rich and unique biodiversity adjusted to these special conditions (Howard and Merrifield 2010).

There has not been a great deal of study or conservation planning around groundwater-dependent ecosystems. Consequently, there is much that needs to be learned about these ecosystems. The increasing demand for groundwater resources due to the combined pressures of development, a variable climate, and a growing population threatens these ecosystems (Brussard *et al.* 1999, MacKay 2006). The availability of surface water to meet consumptive needs has declined and the pressure on groundwater resources is growing. GDWs are threatened by the alteration of the quality or quantity of groundwater discharge resulting from development in groundwater recharge areas and by heavy machinery either in the GDW itself or in its immediate vicinity. Heavy

machinery can create deep ruts that destroy the vegetation, alter the hydrology, and disturb resident amphibian species that spend their adult lives in or near water.

According to the NHRM (MNR 2010), woodlands should be considered significant if they are located within, or a specific distance from, a sensitive groundwater discharge area (e.g., springs, seepage slopes). Groundwater discharge is evident at the seep margin and provides a constant supply of water to the seep community, with flows at many seeps persisting even through the driest summer months. As a result of the continuous soil saturation, thin surface organic layers are generally present over saturated mineral soils.

Currently, areas of groundwater release tend to be small occurrences (i.e., not picked up by aerial photography). Groundwater ecosystems can be classified by their geomorphic setting (aquatic or terrestrial) and associated groundwater flow mechanism (deep or shallow). On this basis, Howard and Merrifield (2010) identified three groundwater dependent ecosystem types: springs and seeps, wetland ecosystems, and groundwater dependent streams.

Watercourse Bluff and Deposition Areas

Steep slopes, cliffs, valley bluffs, gravel bars and beaches are similar to upturned sections of earth and can create unique natural features for specialized assemblages of plants and animals.

Bluffs found along rivers can be devoid of life due to the arid conditions or full of rare and fragile plant life that grow sporadically along different soil layers. Bluffs of steep river banks are formed by river erosion on the outside of a meander. Erosion can also be the result of ground water movement and surface runoff. Bluffs can provide prime nesting quarters for all sorts of birds, including an assortment of swallows, Belted Kingfishers and Turkey Vultures.

The Bank Swallow that nests along naturally eroding slopes of streams, rivers, and lakes, has undergone significant population declines throughout Canada. In Ontario, Bank Swallows have declined at a rate of 4.7% annually over the last 40 years based on Breeding Bird Survey (BBS) data. Although the precise mechanisms driving the declines are unknown, the size and longevity of Bank Swallow colonies is dependent on bank erosion, which determines suitable nesting habitat. Declines are generally thought to be a consequence of habitat loss, changes in food source (i.e., aerial insects), and threats during migration or on the wintering grounds.

Depositional areas include gravel bars and beaches that form in watercourses where water flow is slower (e.g., inside river meander), allowing soil, sand and gravel to settle out of the water column. These features, while often small in scale, are prime nesting sites for turtles, especially Snapping Turtles and Spiny Softshell turtles. Bars and beaches can be unvegetated or support early successional plants, depending on how recent there has been flooding and re-shaping of the feature.

Proposed development along watercourses would require approval from the Conservation Authority. As part of the permit process an EIS may be required.

Appendix O. Lakeshore Zone

Conceptual diagram representing coastal and hinterland types. Hinterland landforms begin 100 m from top of bank. The diagram was prepared for the Huron Natural Heritage Plan (2018 draft).

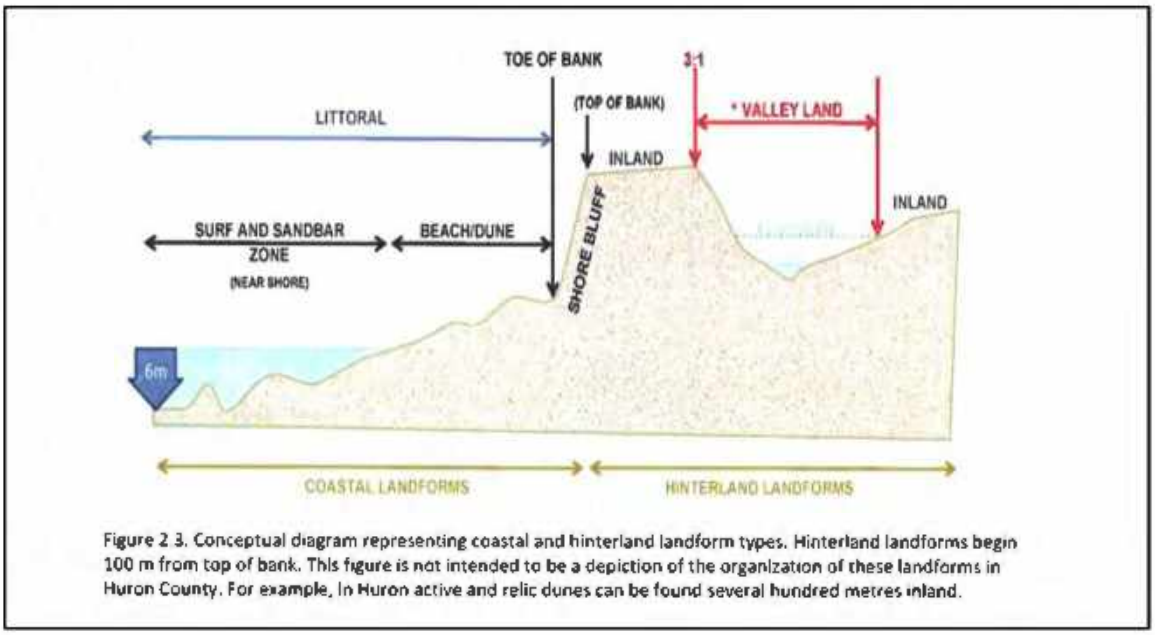


Figure 2 3. Conceptual diagram representing coastal and hinterland landform types. Hinterland landforms begin 100 m from top of bank. This figure is not intended to be a depiction of the organization of these landforms in Huron County. For example, in Huron active and relic dunes can be found several hundred metres inland.

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

KITCHENER
WOODBRIDGE
LONDON
KINGSTON
BARRIE
BURLINGTON

BACKGROUND **REPORT**

SOURCE PROTECTION PLAN IMPLEMENTATION

ELGIN COUNTY

Date:

September 2017

Prepared for:

Elgin County

Prepared by:
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Our File 1491B

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APPENDIX F: Draft General Water Resources Policy Framework

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2. Municipality of West Elgin
3. Town of Aylmer
4. Township of Southwold

1.0
INTRODUCTION

MHBC Planning has been retained by Elgin County to assist in the implementation of Source Protection Plan (SPP) policies through the preparation of new policy text that will form the basis of future amendments to the County Official Plan and to the Official Plans and Zoning By-laws of lower-tier municipalities that have municipal drinking water systems that are regulated by a Source Protection Plan. As part of this undertaking, mapping to implement the policies of the Source Protection Plans applicable to the County and relevant local municipalities will be prepared. Zoning regulations and mapping will also be prepared for relevant local municipalities to implement the SPP and related Official Plan policy frameworks.

The following four (4) Source Protection Plans apply within Elgin County:

- Kettle Creek Source Protection Plan;
- Long Point Region Source Protection Plan;
- Thames, Sydenham & Region Source Protection Plan; and
- Catfish Creek Source Protection Plan.

There are three (3) municipal drinking water systems regulated by a Source Protection Plan located within Elgin County as follows:

Central Elgin	Belmond (2 wells)
	Lake Erie Intake
Bayham	Richmond (2 wells)

These municipal drinking water systems are owned and operated by the local municipalities and are regulated by either the Kettle Creek or Long Point Region Source Protection Plan.

The WHPA-C associated with the Richmond well and the WHPA-C associated with the Belmont well extends into the Township of Malahide. Malahide therefore has two WHPA-Cs associated with municipal wells located outside their municipal boundary. Each WHPA is regulated by a different SPP.

The Thames, Sydenham and Region and Catfish Creek Source Protection Plans do not regulate any drinking water systems within the County.

The preparation of a general water resources policy framework is also included as part of this work to ensure Official Plans of all lower-tier municipalities contain a broad policy approach for the protection, restoration and maintenance of water resources consistent with the Provincial Policy Statement, 2014.

The County will be undertaking SPP implementation in conjunction with its upcoming 5-year Official Plan Review required under Section 26 of the *Planning Act*. Lower-tier municipalities will be implementing new SPP and general water resources policies through either their upcoming Official Plan Reviews or as stand-alone amendments. As such, the purpose of this Background Report is to provide:

- a general overview of Source Protection Planning;
- the Source Protection Plan policies to be implemented through Official Plan policy, and subsequent Zoning By-laws (where applicable);
- a review of existing water resource/source water protection policies in the Official Plans of the County and lower-tier municipalities;
- a comparative analysis of Source Protection Plan and Official Plan policies;
- a comparative analysis of existing water resource policies in lower-tier municipal Official Plans;
- policy implementation options and recommendations for the source water policy framework of the County and lower-tier municipal Official Plans, taking into consideration requirements under the *Clean Water Act,* the applicable Source Protection Plans and the scope of the County Official Plan in comparison to local municipal Official Plans;
- zoning implementation options and recommendations for the Zoning By-laws of Central Elgin, Bayham and Malahide, based on the Official Plan policy implementation options; and
- a recommended general water resource policy framework for inclusion in all lower-tier municipal Official Plans.

The recommendations contained in this report will form the basis of the draft Source Water Protection policy framework of the Elgin County, Central Elgin, Bayham and Malahide Official Plans, draft text of the Central Elgin, Bayham and Malahide Zoning By-laws, and also as a general water resources policy framework for inclusion in the Official Plans of all local municipalities.

2.0

LEGISLATIVE & PROVINCIAL POLICY FRAMEWORK

2.1 The Clean Water Act, 2006 & Purpose of Source Protection Plans

The *Clean Water Act, 2006* (the *"Act")* came into effect on July 3, 2007 and is intended to ensure the protection of municipal drinking water sources from rivers, lakes and groundwater, and subsequently human health and the environment. The *Act* sets out a risk-based process, on a watershed basis, to identify vulnerable areas and associated drinking water threats and issues though the preparation of Assessment reports, and the subsequent development of policies and programs to eliminate or reduce the risks posed by identified drinking water threats through the preparation of Source Protection Plans. This process is implemented on a watershed basis and involves a risk-based assessment approach to identify vulnerable areas and associated drinking water threats through the preparation of Assessment Reports. Assessment Reports form the scientific and technical foundation for the development of policies and programs to eliminate or reduce the risks posed by identified drinking water threats through the preparation of Source Protection Plans.

The *Act* divides southern Ontario and parts of Northern Ontario into 19 Source Protection Regions, which are further divided into 38 Source Protection Areas for the purposes of preparing Assessment Reports and Source Protection Plans. As shown in the table below, Elgin County is located within two Source Protection Regions, five Source Protection Areas and subject to four Source Protection Plans.

Source Protection Region	Source Protection Area	Source Protection Plan
Lake Erie	Kettle Creek Source Protection Area	Kettle Creek
	Long Point Region Source Protection Area	Long Point Region
	Catfish Creek Source Protection Area	Catfish Creek
Thames - Sydenham	Lower Thames Valley Source Protection Area	Thames Sydenham and Region
	Upper Thames River Source Protection Area	

Source Protection Plan areas in Elgin County are illustrated in **Figure 1**.

The overall objective of Source Protection Plans under Section 22(2) of the *Act* is to ensure that, for every area identified in an Assessment Report as an area where an activity is or would be a significant drinking water threat; the activity never becomes a significant drinking water threat. In the event the activity is occurring when the Source Protection Plan takes effect, policies of the Source Protection plan ensure that the activity ceases to be a significant drinking water threat. Drinking water threats are an activity or condition that adversely affects, or has the potential to adversely affect the quality or quantity of any water that is, or may be used, as a source of drinking water. Drinking water threats are prescribed by Regulations under the *Act*. Assessment Reports identify those drinking water threats that pose, or have the potential to pose, a significant threat to drinking water sources.

Drinking water threats may only be significant in *vulnerable areas*, which are defined by O.Reg 287/07 of the *Act* as follows:

- **Wellhead Protection Area (WHPA):** an area that is related to a wellhead and within which it is desirable to regulate and monitor drinking water threats.
- **Intake Protection Zone (IPZ):** in reference to a surface water intake protection zone. A surface water intake protection zone means and area that is related to surface water intake and within which it is desirable to regulation or monitor drinking water threats.
- **Highly Vulnerable Aquifer (HVA):** an aquifer on which external sources have or are likely to have a significant adverse effect, and include the land above the aquifer.
- **Significant Groundwater Recharge Area (SGRA):** an area within which it is desirable to regulate or monitor drinking water threats that may affect the recharge of an aquifer.

Vulnerable areas are identified through the preparation of Assessment Reports.

With respect to land use planning, the *Act* provides direction on planning decisions within Source Protection areas where a Source Protection Plan has taken effect. Under Section 39(1), a decision under the *Planning Act* or the *Condominium Act, 1998* shall conform to the significant threat policies and designated Great Lakes policies set out in the Source Protection Plan and have regard to other policies set out in the Source Protection Plan. In the case of conflict between the policies of the Source Protection Plan and Official Plans and Zoning By-laws, Source Protection Plan policies shall prevail as per Section 39(2) of the *Act*. In the case of conflict between the policies of the Source Protection Plan and those of a policy statement issued under Section 3 of the *Planning Act,* the policy that provides the greatest protection to the quality and quantity of any water that is or may be used as a source of drinking water prevails.

Sections 40 and 42 of the *Act* require the council of a municipality or municipal planning authority to amend its Official Plan and Zoning By-law to conform to the significant threat policies and designated Great Lakes policies set out in the Source Protection Plan. As such, **amending Official Plans and Zoning By-laws to conform to Source Protection Plan significant threat policies is not voluntary under the *Clean Water Act, 2006*.**

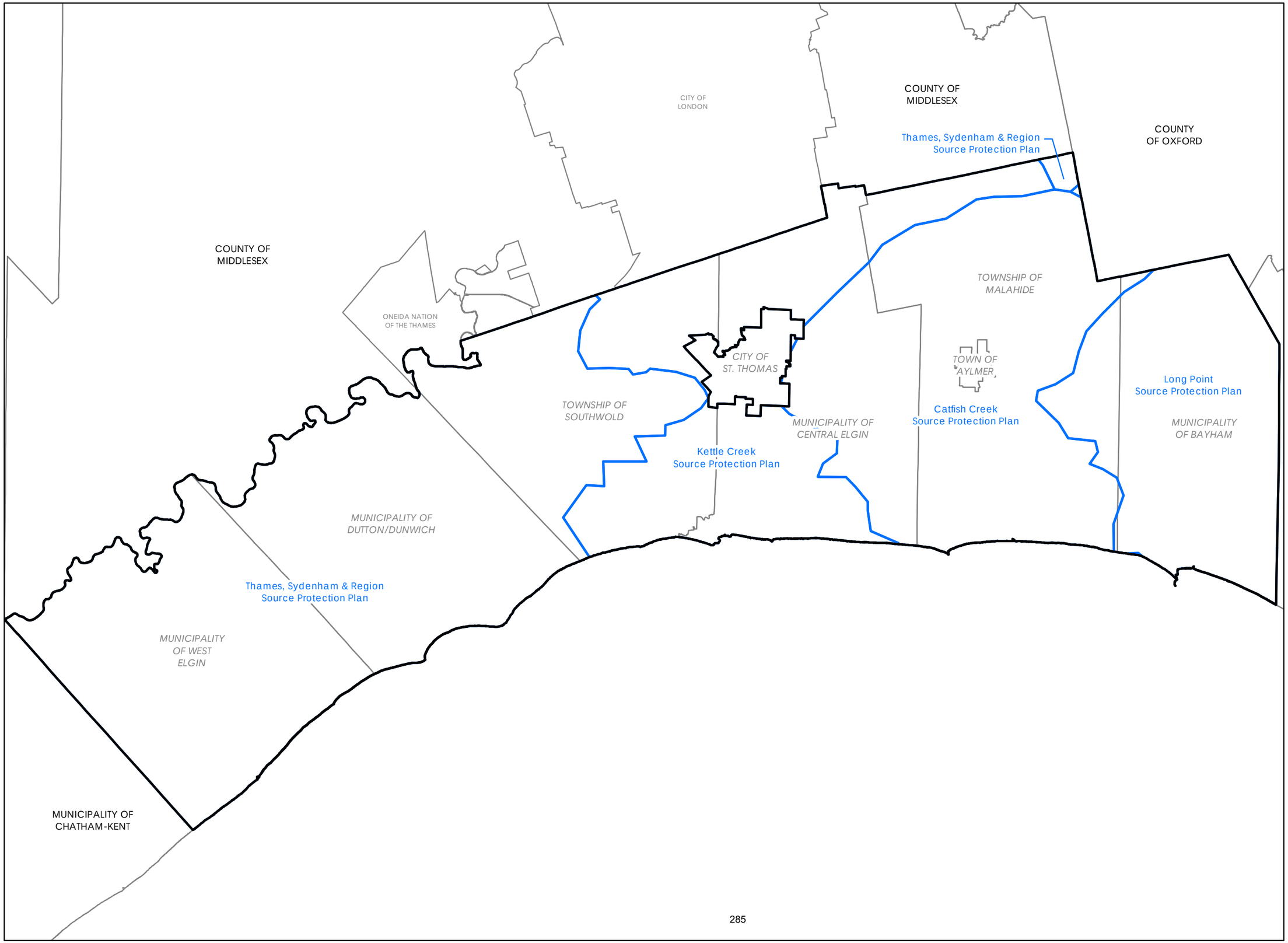

Figure 1

Source Protection Plan Areas -

Elgin County

Legend

- County of Elgin
- Source Water Protection Plan

Source: GRCA - Oct. 2011

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2.2 Provincial Policy Statement, 2014

Vulnerable areas identified in Assessment Reports and as defined in the *Clean Water Act* are *designated vulnerable areas* as defined in the Provincial Policy Statement, 2014 (PPS). Policy 2.2.1 of the PPS states the following:

> *2.2.1 Planning authorities shall protect, improve or restore the* quality and quantity of water *by:*
>
> *…e. implementing necessary restrictions on* development *and* site alteration *to:*
>
> *1. protect all municipal drinking water supplies and* designated vulnerable areas*; and*
>
> *2. protect, improve, restore* vulnerable *surface and groundwater*, sensitive surface water features*, and* sensitive groundwater features, *and their* hydrologic functions;…

To be consistent with the PPS, planning decisions, such as the implementation of Source Protection Plans through amendments to municipal Official Plans and Zoning By-laws, should take into consideration information from the local Assessment Report. While a planning decision to protect drinking water sources could still be appealed to the Ontario Municipal Board, the Assessment Report can be used to support decisions to restrict new uses in vulnerable areas. Section 39(1) of the *Clean Water Act* also requires decisions of the Ontario Municipal Board to conform to the policies of the Source Protection Plan.

The Provincial Policy Statement, 2014 gives municipalities the authority to protect, improve and restore the quality and quantity of water resources.

3.0

UNDERSTANDING SOURCE PROTECTION PLANS

The County and the local municipalities of Central Elgin, Bayham and Malahide are subject to policies of the Kettle Creek Source Protection Plan ("Kettle Creek SPP"), the Long Point Region Source Protection Plan ("Long Point SPP") and the Thames Sydenham and Region Source Protection Plan ("TSR SPP"). Municipal drinking water sources in the County that are regulated by Source Protection Plans include Wellhead Protection Areas (WHPAs) and Intake Protection Zones (IPZs) for the following systems:

- **Kettle Creek SPP:** Belmont WHPA (Central Elgin)
  Lake Erie IPZ (Central Elgin)
- **Long Point SPP:** Richmond WHPA (Bayham)

While drinking water systems within Malahide are not regulated by an SPP, the WHPA-C associated with the Richmond Well and the WHPA-C associated with the Belmont Well extend into the Township of Malahide. The Township therefore has a portion of two WHPAs associated with municipal wells located outside their municipal boundary. Each WHPA is regulated by a different SPP as noted above.

The TSR maps Highly Vulnerable Aquifers (HVAs) and portions of Significant Groundwater Recharge Areas (SGRAs) that are located within the County. The Kettle Creek and Long Point Region SPPs do not map these specific vulnerable areas.

3.1 Vulnerable Areas in Elgin

3.1.1 WHPA Delineation and Vulnerability

A Wellhead Protection Area is an area that is related to a wellhead and within which land use activities have the potential to affect the quality and quantity of groundwater that flows into the well. Generally, WHPAs are modelled based on two factors – the time related capture zones of each well and the vulnerability of the aquifer. The time related capture zones for wells located within the County include the following:

- a 100-metre radius surrounding the well (WHPA-A);
- a 2 year travel time for water to enter the well (WHPA-B);
- a 5 year travel time for water to enter the well (WHPA-C); and
- a 25 year travel time for water to enter the well (WHPA-D).

The "travel time" relates to the time it takes a particle of water already in the aquifer to reach the well.

The vulnerability of a WHPA is defined by the "vulnerability score", with vulnerability being related to how easily a source of water can become contaminated. The vulnerability score is a function of the surficial geology underlying the WHPA. The vulnerability score of a WHPA can range from 1 to 10, with 10 being the most vulnerable. WHPAs that are considered to be the most vulnerable to certain land uses and activities are assigned a vulnerability score of 8 to 10, with the degree of vulnerability generally decreasing the further away from the wellhead. WHPA-As are the most vulnerable areas surrounding a well and are always assigned a vulnerability score of 10. The vulnerability score is used, together with the Table of Drinking Water Threats published by the Ministry of Environment and Climate Change, to determine whether a drinking water threat is significant, moderate or low.

Figure 2 illustrates the extent and vulnerability of WHPAs identified in the Kettle Creek and Long Point Region SPPs.

WHPA-D areas are not mapped in Source Protection Plans as there are no significant drinking water threats that can occur in WHPA-D areas, based on the their low vulnerability.

3.1.2 Intake Protection Zones (IPZs)

IPZs are the area around a municipal surface water intake within which a spill or leak may enter the intake too quickly prior to implementing measures to prevent pollutants from entering the municipal water system.

Similar to WHPAs, the vulnerability of an IPZ is also defined by a vulnerability score. IPZs that are considered to be the most vulnerable are assigned a vulnerability score of 8 to 10. The vulnerability score is used, together with the Table of Drinking Water Threats published by the Ministry of Environment and Climate Change, to determine whether a drinking water threat is significant, moderate or low.

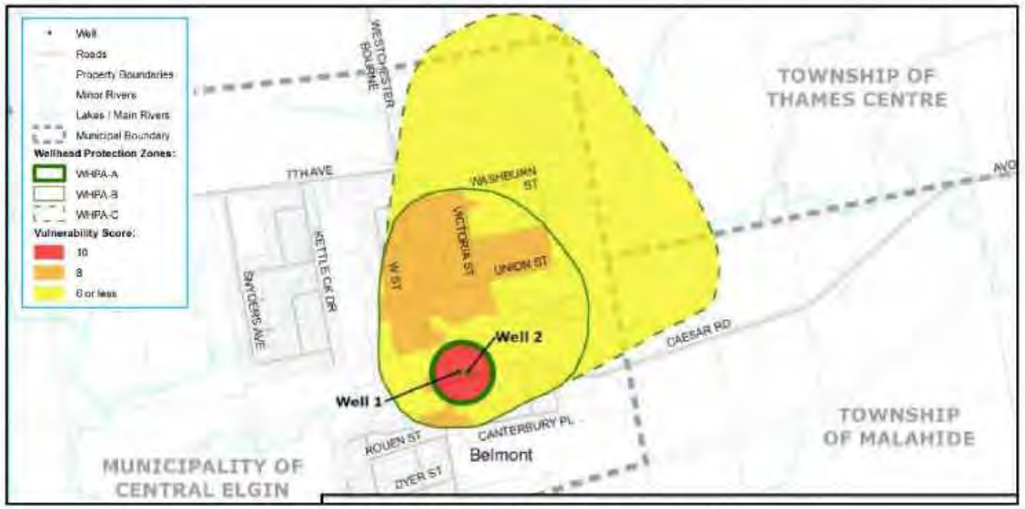
Figure 3 illustrates the extent of the Elgin Primary Intake Protection Zone identified in the Kettle Creek SPP.

3.1.3 Highly Vulnerable Aquifers (HVAs) and Significant Groundwater Recharge Areas (SGRAs)

HVAs are an aquifer upon which external sources have or are likely to have a significant adverse effect, and include the land above the aquifer. SGRAs are a specific type of vulnerable area, which have a hydrologic connection to a surface body of water or an aquifer that is a source for a municipal drinking water system.

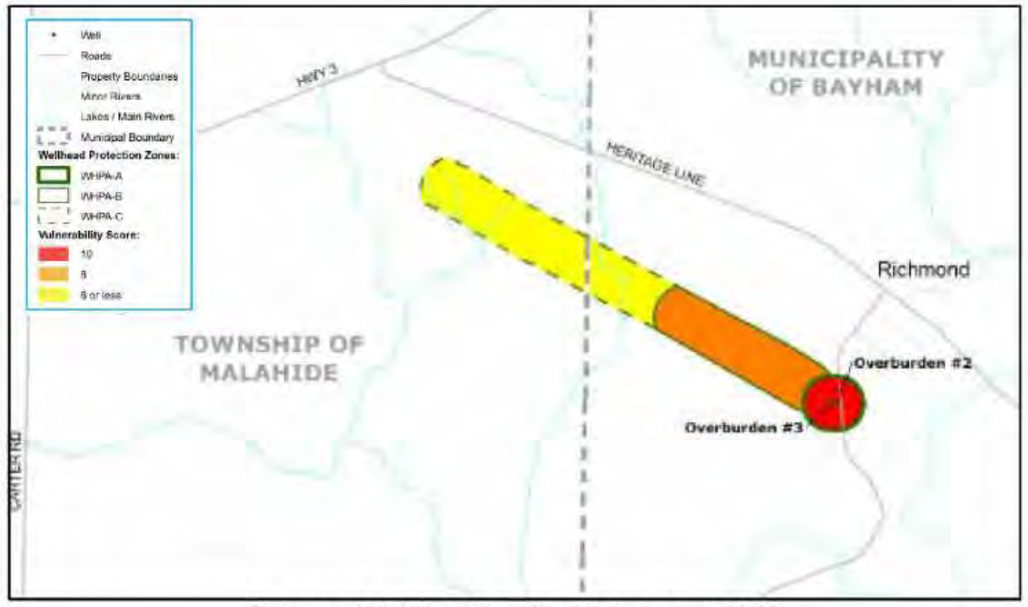
Similar to WHPAs, the vulnerability of an HVA or SGRA is defined by a vulnerability score, with vulnerability being related to how easily the source of water can become contaminated with a hazardous material. Under the Technical Rules prescribed by the *Clean Water Act*, HVAs located outside of WHPAs are assigned a vulnerability score of 6 (moderate vulnerability). SGRAs that overlay with HVAs are assigned a vulnerability score of 6 under the Technical Rules. All remaining SGRAs are assigned a vulnerability of 2 or 4 (low vulnerability).

HVAs and SGRAs cannot be classified as highly vulnerable areas under the *Clean Water Act*.



Belmont WHPA as Identified in Kettle Creek SPP

The Belmont WHPA contains two wells and is located within the Village of Belmont. Community and Emergency Service uses (i.e. Belmont Community Park and Central Elgin Fire Station No. 4) are located within the WHPA-A. Commercial and residential uses are located within the WHPA-B. The WHPA-C area extends into the Township of Malahide as well as the Township of Thames Centre, which is located in Middlesex County. The WHPA-C outside of Central Elgin is characterized by agricultural uses.



Richmond WHPA as Identified in Long Point SPP

The Richmond WHPA is comprised of two wells and is located on the southern edge of the Village of Richmond. The WHPA is generally compact and is characterized primarily by agricultural uses. The WHPA-C extends into the Township of Malahide. Malahide therefore contains a portion of the WHPA-C areas associated with both the Richmond and Belmont well.

Figure 2

Wellhead Protection Areas

Elgin County

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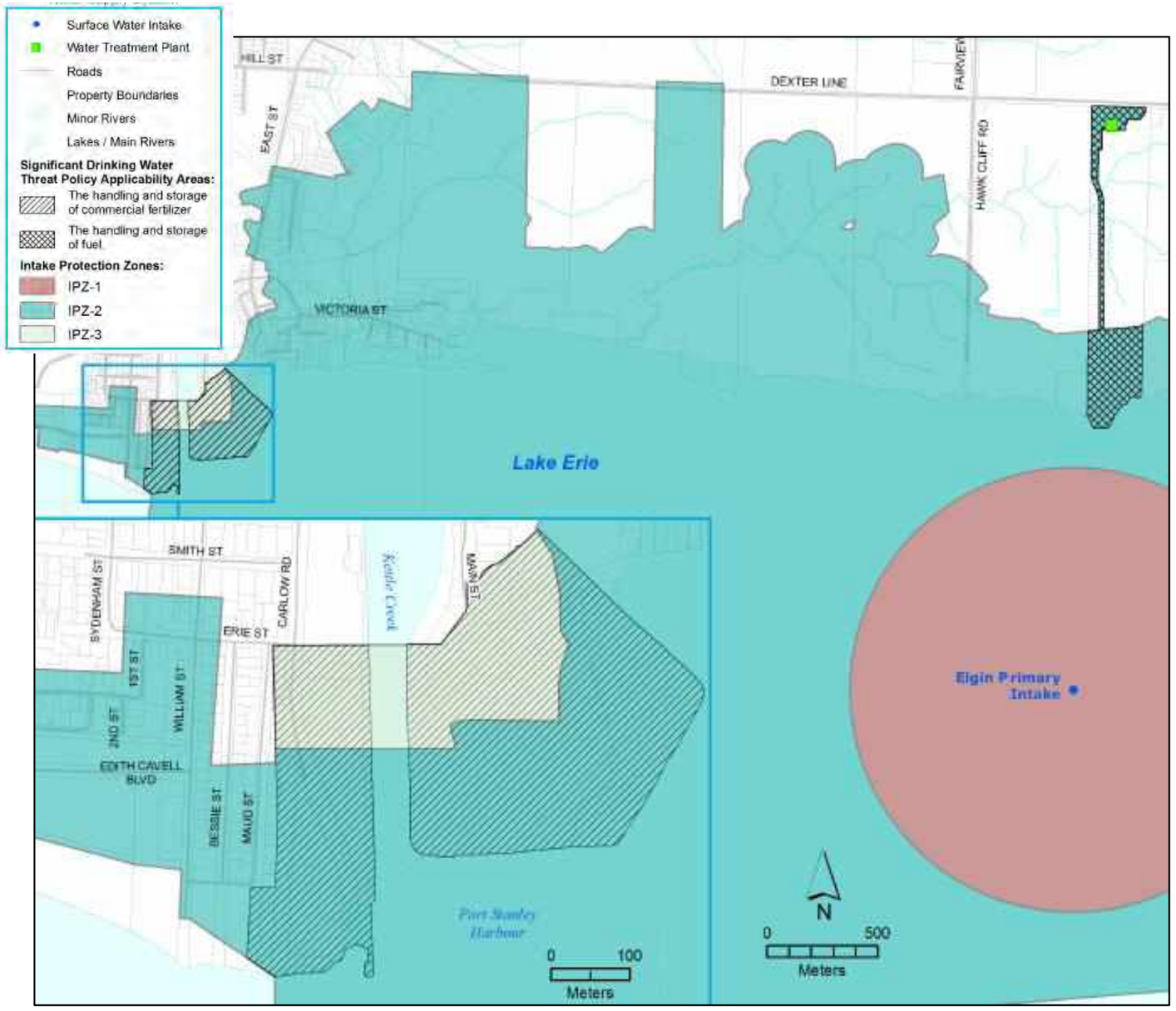

Elgin Area Primary (Lake Erie) Intake as Identified in Kettle Creek SPP

The Elgin Area Primary Intake is located in Lake Erie, 1,200 metres offshore. The IPZ-1 is defined as the 1000 metre radius centred on the crib of the intake and in the case of the Elgin Area IPZ, does not reach the shoreline. The Kettle Creek Assessment Report determined the vulnerability of the IPZ-1 is moderate given the depth of the intake, its removed location from the shoreline, and few water quality concerns were identified at the intake. The IPZ-2 was assigned a low vulnerability in the Assessment Report. The handling and storage of significant amounts of commercial fertilizer and fuel (5,000 cubic metres and 6,000 litres, respectively) is prohibited within certain areas of the IPZ-2 and shoreline of Kettle Creek near Port Stanley Harbour.

Figure 3

Intake Protection Zones

Elgin County

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Similar to WHPAs, HVAs and SGRAs are initially mapped and evaluated in the Assessment Report. The TSR SPP maps HVAs and SGRAs with a vulnerability of 6 in Elgin County as illustrated in **Figure 4.** HVAs and SGRAs are located in all lower-tier municipalities, not just those with municipal drinking water systems.

The Kettle Creek and Long Point Region SPPs do not map HVAs and SGRAs.

3.2 Prescribed Drinking Water Threat Activities & Significance

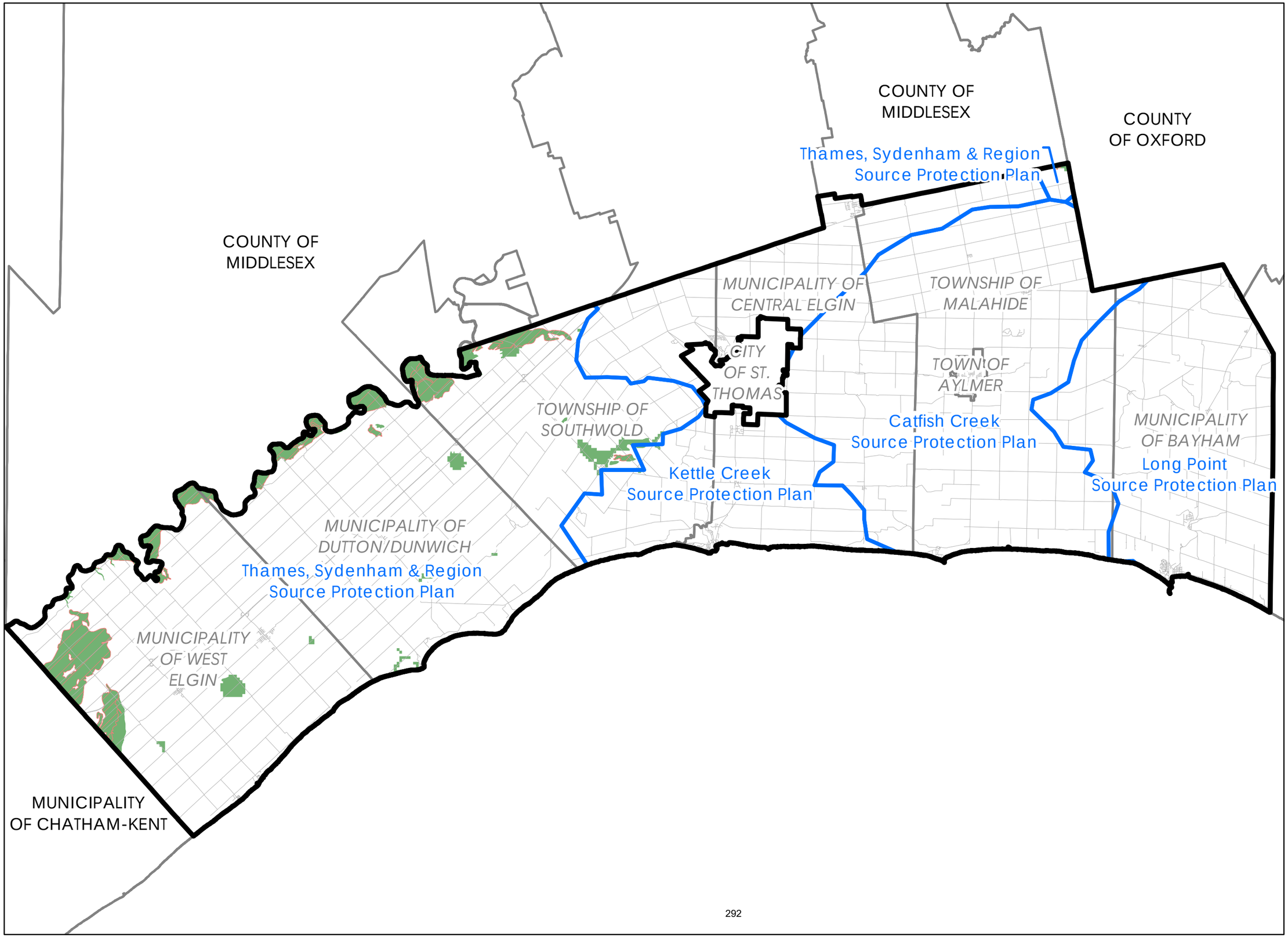
Land use activities which may pose a drinking water threat to municipal water supplies are defined by the *Clean Water Act* as an activity or condition that adversely affects, or has the potential to adversely affect, the quality and quantity of any water that is or may be used as a source or drinking water. Drinking water threat activities are prescribed by Ontario Regulation 287/07 of the *Clean Water Act* and include the following:

1. Waste disposal sites within the meaning of Part V of the Environmental Protection Act.
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material.
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.
11. The handling and storage of pesticide.
12. The application of road salt.
13. The handling and storage of road salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid (DNAPL).
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard.

Threats 1 to 18 and 21 are threats to water *quality,* whereas threats 19 and 20 relate to water *quantity.* The significance of a prescribed drinking water threat activity listed above depends on the characteristics of the activity and where the activity is occurring within a vulnerable area (i.e. WHPA or IPZ). The vulnerability score is used, together with a Table of Drinking Water Threats published by the Ministry of

Figure 4

HVAs and SGRAs in the Thames Syndenham and Region Source Protection Plan



Legend

- Elgin County
- Source Water Protection Plan
- SGRAs
- HVAs

Note:

The HVAs and SGRAs as identified in this figure are referred to as "Moderate and Low Threat Policy Applicability Area" in the Source Protection Plan

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Environment and Climate Change, to determine whether a drinking water threat is either significant, moderate, or low. Significant drinking water threat activities most often occur closest to the wellhead (i.e. in WHPA-A and –B areas) or intake, with the highest vulnerability (i.e. vulnerability score of 8 to 10).

Drinking water threat activities cannot be classified as significant in HVAs or SGRAs and instead may only be classified as moderate or low threats.

3.3 Source Protection Plan Policies

With respect to WHPAs, the Long Point Region and Kettle Creek SPPs employ a range of policy tools enabled under the *Clean Water Act* to protect municipal drinking water systems. Given these policy tools have varying levels of restriction, they can be categorized as Regulatory or Non-Regulatory. The policies in the SPPs apply to prescribed activities that are deemed significant drinking water threats through the preparation of Assessment Reports.

The SPPs generally have the same conformity requirements and require municipalities to amend Official Plans and Zoning By-laws to:

- Identify the vulnerable areas in which a significant drinking water threat can occur;
- Identify the *significant* drinking water threats and require that any use or activity that is, or would be, a significant drinking water threat, conform to all applicable Source Protection Plan policies and, as such, may be prohibited, restricted or otherwise regulated by the policies contained in the Source Protection Plan; and
- Incorporate any other amendments required to conform to the threat-specific *land use* policies identified in the SPP.

Considering the conformity requirements of the *Clean Water Act, 2006,* and applicable SPPs, amendments to municipal Official Plans and Zoning By-laws to implement Source Protection policies are generally concerned with the following **regulatory** policies of the Source Protection Plans:

- **Section 57 (Prohibition) Policies:** under Part IV of the *Clean Water Act,* these policies prohibit existing and future activities that pose a significant threat to drinking water sources.
- **Section 58 (Risk Management Plan) Policies:** under Part IV of the *Clean Water Act,* these policies regulate existing and future activities through a Risk Management Plan. Risk Management Plans are to be negotiated between a Risk Management Official and a land owner. A Risk Management Plan may be imposed by a Risk Management Official where an agreement cannot be reached. Risk Management Plans are used to ensure that threats to drinking water sources do not become significant.
- **Section 59 (Restricted Land Uses) Policies:** under Part IV of the *Clean Water Act,* this policy tool is intended to function as a screening tool in order to ensure that activities do not occur within a specified area that have the potential to result in a significant drinking water threat.
- **Land Use Planning Approval Policies:** land use planning tools issued under the *Planning Act* and *Condominium Act* can be used to prohibit or regulate land uses. Land use planning policies of a Source Protection Plan must be implemented through Official Plans and in some cases, Zoning By-laws, as specified by the Source Protection Plan.

Source Protection Plans also use Prescribed Instrument policies, which are regulatory, as well as Specify Action policies, which can be regulatory. Furthermore, 'Education and Outreach', 'Incentive', and 'Monitoring' policies are the non-regulatory policies included in Source Protection Plans to address significant drinking water threats. The non-regulatory policies are not mandatory for inclusion in the Official Plan under the *Clean Water Act, 2006*.

The TSR SPP also includes "Moderate and Low" threat policies that apply to HVAs and SGRAs. These policies are only recommendations and do not have any legal effect under the *Clean Water Act* requiring municipalities, property owners and other implementing bodies to comply. However, when included in an SPP, implementing bodies, such as municipalities, should have regard for Moderate and Low threat policies. Moderate and Low threat policies are not required for inclusion in Official Plans or Zoning By-laws.

3.4 Purpose of Official Plan & Zoning By-law Amendments

Elgin County is a two-tier municipality with in-effect Official Plans at the County and local municipal levels. The Elgin County Official Plan establishes a broad upper-tier land use policy framework that provides guidance to local municipalities in the preparation of local Official Plans and Zoning By-laws. As such, the County Official Plan does not duplicate the policies of the lower-tier Official Plan. Local Official Plans therefore implement the policy guidance of the County Official Plan by providing more detailed strategies, policies and land use designations for planning and development at the local level.

Considering the role and function of the County and local Official Plans, the requirements of the *Clean Water Act*, and the relevant policies of the Long Point and Kettle Creek SPPs, the policy of the draft Official Plan Amendments to implement Source Protection Plans **will need to address** the following:

For the County –

- Include mapping that identifies Source Protection Plan areas that apply within the County;
- Provide a general policy framework related to source water protection; and
- Provide the direction for amendments to local municipal officials plans to implement SPP significant threat policies.

For Central Elgin, Bayham and Malahide Official Plans –

- Include mapping that identifies the vulnerable areas (WHPAs and IPZs) where the prescribed drinking water threats would be significant;
- Conformity to the significant threat policies of the Source Protection Plans, including an indication that within vulnerable areas, any use or activity that is, or would be, a significant drinking water threat is required to conform to all applicable Source Protection Plan policies and, as such, may be prohibited, restricted, or otherwise regulated by those policies.

Consideration will also be given to the moderate and low threat policies of the TSR SPP given HVAs and SGRAs are included in the definition of "vulnerable areas" under the Provincial Policy Statement, 2014.

Based on the above, the implementing Official Plan Amendment policy frameworks for the lower-tier municipalities will primarily address the significant threat policies of the SPPs described in Section 3.3 of this Report, whereas the amendment to the County Official Plan will contain general or 'directive' policies that outline how lower-tier Official Plans shall be amended to implement Source Protection Plan policies.

Amendments to the local municipal Zoning By-laws will implement the Official Plan Amendments to meet the conformity requirements of the SPPs.

Each Source Protection Plan identifies timelines in which Official Plans and Zoning By-laws must be amended to conform to the significant threat policies of that SPP. The timelines for amendments to implement the SPPs applicable to Elgin County are as follows:

SPP	Municipality	OP Conformity	ZBL Conformity
Kettle Creek (effective 01/01/15)	Central Elgin	5 years from effective date or next OP Review (01/01/20)	5 years from effective date or next conformity exercise (01/01/20)
	Malahide		
Long Point Region (effective 07/01/16)	Bayham	5 years from effective date or next OP review (07/01/21)	3 years from passing of implementing OPA/OP
	Malahide		
Thames, Sydenham & Region (effective 12/31/15)	Does not regulate any drinking water systems	3 years from effective date or next OP Review, whichever is first (12/31/18)	3 years from passing of implementing OPA/OP
Catfish Creek (effective 01/01/15)	Does not regulate any drinking water systems	5 years from effective date or next OP review (01/01/20)	2 years from passing of OP conformity amendment

4.0

ANALYIS & OPTIONS FOR THE OPA FRAMEWORKS

The policy structure and framework for the Official Plan amendments will need to consider the *Clean Water* Act Section 57, 58 and 59 and land use policies of both Source Protection Plans, the current policies of the Official Plan that is being amended, and the function of the Official Plan document (County Official Plan vs. Local Official Plan). Consideration is also given to moderate and low threat policies of the TSR SPP as HVAs and SGRAs are identified as "vulnerable areas" in the Provincial Policy Statement, 2014.

The following provides a review of the relevant policies of the SPPs, County and Local Municipal Official Plans, and an analysis of available policy implementation options that form the basis of the policy recommendations in Section 6 of this report.

4.1 Section 57 and 58 Policies

The Kettle Creek and Long Point Region SPPs identify those existing and future uses and activities that are either prohibited or regulated (require Risk Management Plans) based on the degree of vulnerability of WHPAs within the County. Only future threat policies were reviewed as these are the only policies that can be regulated and/or managed through land use planning tools such as the Official Plan. The charts contained in **Appendix A** illustrate the application of the Section 57 and 58 policies (and other regulatory tools) in the Kettle Creek and Long Point Region SPPs for future threats by vulnerable area to which they apply (i.e. WHPA-A, WHPA-B v.10, WHPA-B v.8, etc.). The following conclusions were drawn from the Section 57 and 58 policy analysis:

- The greatest range of threats regulated by Section 57 or 58 are in WHPA-A, which is the most vulnerable area in the Source Protection Plan.
- There are differences in Section 57 (Prohibit) applications to significant threats in WHPA-A between the two SPPS, with some prohibitions relying on prescribed instruments.
- For some threats, one SPP prohibits the activity while the other requires a risk management plan or other form of management (i.e. pesticide application, livestock grazing/pasturing, storage/handling of road salt, septic systems).
- The Kettle Creek SPP applies Section 57 or 58 to majority of threats in WHPA-A, whereas the Long Point SPP does not.
- A limited number of threats are regulated by Section 57 or 58 in the less vulnerable areas (i.e. WHPA-B v.8 and v.6, WHPA-C).

- There is a difference in the application of Section 57 and 58 with respect to DNAPLs in WHPA-C between the Kettle Creek and Long Point Region SPPs.

Where the comparison is important is for the Township of Malahide, which has WHPA-C v.6 areas for two wells, each of which are regulated by a different SPP. As noted in the WHPA-C v.6 table in **Appendix A**, the storage and handling of DNAPLs is prohibited in WHPA-C areas under the Kettle Creek SPP, whereas the activity only requires an RMP in the same vulnerable area under the Long Point Region SPP.

Section 57 and 58 policies must be implemented through Official Plans and Zoning By-laws.

4.2 Section 59 Policy

Each SPP contains a *Restricted Land Uses (RLU)* that applies within vulnerable areas and requires the issuance of a written Notice from the Risk Management Official prior to approval of any Building Permit, *Planning Act*, or *Condominium Act* application. The policy is intended to function as a screening tool in order to ensure that activities do not occur within a specified area that have the potential to result in a significant threat, allowing for development applications to be reviewed by a Risk Management Official prior to being approved by the planning or building authority. As such a Section 59 Notice is required from the Risk Management Official before a planning or building application can be approved. The RLU Policy was developed to integrate the issuance of the Section 59 Notice with the existing review functions of a municipal planning or building department.

The Restricted Land Use Policy of the Long Point Region SPP excludes residential uses from requiring a Section 59 Notice. In contrast, the Kettle Creek RLU policy designates all land uses as Restricted Land Uses and requires a Section 59 Notice prior to any building permit or *Planning Act* approval. This distinction between the Kettle Creek and Long Point Region SPPs will need to be addressed in the Malahide Official Plan.

The Section 59 Policy does not apply to HVAs and SGRAs. **The Section 59 Policy must be implemented through Official Plans and Zoning By-laws.**

4.3 Land Use Planning Policies

There are three (3) land use policies that apply within the County from the applicable SPPs. These policies are contained in the Long Point Region SPP and apply to WHPA-A areas involve septic systems and the storage/handling of road salt. These policies are as follows:

EC-MC-3.2 To ensure that any replacement or new septic system and/or holding tank, with a design flow of less than or equal to 10,000 Litres per day and subject to approval under the *Ontario Building Code Act* or the *Ontario Water Resources Act*, never becomes a significant drinking water threat, the Municipality shall amend their Official Plan and Zoning By-law to direct land uses relying on these activities to a location on the same property where these activities would not be a significant drinking water threat.

EC-MC-3.4: To ensure that the establishment of a new septic system and/or holding tank with a design flow of greater than 10,000 Litres per day and regulated under the *Ontario Water Resources Act*, never becomes a significant drinking water threat, where this activity would be a significant drinking water threat, the Municipality shall amend their Official

Plan and Zoning By-law to prohibit new development which relies on this type of on-site sewage system.

EC-MC-11.1: To ensure that the future handling and storage of road salt never becomes a significant drinking water threat, where such activities would be significant drinking water threats, future road salt storage facilities, where permitted by the Official Plan and Zoning By-law, will only be permitted if the road salt is contained in covered roof storage facilities and a salt impact assessment and/or salt management plan has been completed to the satisfaction of the Municipality.

The Kettle Creek SPP does not contain any Land Use Planning policies.

The Land Use Policies must be implemented through Official Plans and Zoning By-laws.

4.4 Discretionary and Moderate & Low Threat Policies

SPPs include non-regulatory (discretionary) policies related to education and outreach, incentives, specific actions and monitoring. These are discretionary policies that are part of the SPP but have no legal effect and are not required for implementation through Official Plans and Zoning By-laws. However, some discretionary policies may complement existing Official Plan policy frameworks and can be related to best management practices, specific land use matters and considerations, and stewardship efforts. These policies should be considered for inclusion in the Official Plans of lower-tier municipalities with municipal drinking water systems.

The Long Point Region SPP contains the following discretionary policies:

- **Policy EC-CW-1.5:** Municipality may develop and implement education and outreach programs directed at any, or all, significant drinking water threat activities where such programs are deemed necessary and/or appropriate.
- **Policy EC-NB-1.6:** In Bayham and Malahide, ensure that spill prevention plans, contingency plans and emergency response plans are updated for the purpose of protecting drinking water sources with respect to spills that occur within a wellhead protection area along highways, railway lines or shipping lanes.
- **Policy EC-NB-1.17:** Municipality is requested to support ongoing programs which encourage the decommissioning of abandoned wells where such activities could be a significant drinking water threat.
- **Policy EC-CW-3.1:** Municipality shall implement an on-site sewage system maintenance inspection program, as required under the *Building Code Act*.

The Kettle Creek SPP contains the following discretionary policies:

- **Policy KCSPA-NB-1.15:** Central Elgin, Thames Centre and Malahide should review and update Emergency Management Plans as necessary to identify vulnerable areas and include requirements to contain firefighting run off and responses to spills from septic haulage, highway accidents and railway derailments.

The TSR SPP also includes moderate and low threat policies. These policies address activities that have been identified as moderate or low threats within vulnerable areas, including HVAs and SGRAs. These

policies are optional for inclusion in Source Protection Plans under the *Clean Water Act,* and are not required for implementation through amendments to Official Plans and Zoning By-laws. However, if moderate and low threat policies are included in a Source Protection Plan, implementing bodies should have regard to these policies.

Like discretionary policies, some moderate and low threat policies may complement existing Official Plan policy frameworks and can be related to best management practices, specific land use matters and considerations, and stewardship efforts, and could be considered for inclusion in the Official Plans of lower-tier municipalities with municipal drinking water systems.

The TSR SPP contains moderate and low threat policies related to the following:

- Under the authority of the Ontario Building Code, the local approval agency of septic systems should consider including these systems as part of the discretionary sewage system maintenance inspection program, with priority given to areas where septic systems are known to fail and where older systems predominate (Policy 3.01).
- The Ministry of Environment should consider reviewing and, if necessary, amending Pesticide Permits under the *Pesticides Act*, to incorporate conditions to address the protection of municipal drinking water sources where the application of pesticides is or would be a low or moderate drinking water threat (Policy 3.02).
- To reduce the risk to municipal drinking water sources from new activities that would be subject to one or more Prescribed Instruments [i.e. Nutrient Management Plan, Pesticide Permit, Environmental Compliance Approval, etc.] in an area where the activity would be a moderate or low drinking water threat, the province should consider incorporating terms and conditions that, when implemented, should manage the activity such that is does not become a significant drinking water threat (Policy 3.03).

The discretionary and moderate and low threat policies apply to a range of significant drinking water threats and utilize a variety of tools available under the *Clean Water Act*, such as monitoring and prescribed instruments (ECAs). It is important to note the difference in the responsible implementing body between the two sets of policies – municipalities are generally the implementing body for the discretionary policies, whereas the majority of the moderate and low threat policies are to be implemented by provincial ministries and *not* the municipality. This will be considered in the policy implementation analysis contained in Section 4.6 of this Report.

4.5 Upper and Lower-Tier Official Plans

4.5.1 County of Elgin Official Plan

Generally, the purpose of the County of Elgin Official Plan is to establish an upper-tier policy framework that provides guidance to the preparation of local municipal Official Plans and Zoning By-laws. Section D2.2 of the Official Plan contains the policy framework related to the improvement, protection and restoration of water resources within the County. These policies reflect those of Section 2.2 of the Provincial Policy Statement, 2014 and require local municipalities protect, improve or restore the quality and quantity of water through a variety of means, including:

- Minimizing potential negative impacts on water resources;

- Identifying water features and functions and maintaining linkages between them;
- Promoting efficient and sustainable use of water resources; and
- Utilizing stormwater management best practices, and low impact development stormwater strategies and practices.

Section D2.3 restricts development and site alteration in or near sensitive surface and groundwater features to protect their hydrologic function, and requires the use of mitigative measures as needed to protect, improve or restore water resources. The preparation of Source Protection Plans is noted in Section D2, indicating that relevant policies and mapping of Source protection Plans will be implemented by a future amendment to the Official Plan.

Other related policies in the County Official Plan include the following:

- Section E4 – Sanitary Sewers and Water: contains high-level policies regarding the improvement of existing systems, accommodating development on full services, monitoring and maintenance of private sewage systems, water conservation measures, correction of failed systems.
- Glossary – '*groundwater', 'hydrologic functions',* and *'surface water features'* are defined terms in the Official Plan.

4.5.2 Official Plan of the Municipality of Central Elgin

Section 3.3.3 of the Municipality of Central Elgin Official Plan provides the policy framework for source water protection. The policies of this section generally describe the following:

- the Source Protection planning process;
- vulnerable areas within the municipality, being the Belmont WHPA and Lake Erie IPZ; and
- the need to amend the Official Plan when Source Protection Plans are completed.

Section 3.3.3 also contains an interim policy that requires the submission of a disclosure report, hydrogeological report and spill prevention and contingency plan in WHPA and IPZ areas where a proposed development includes activities identified by the Ministry of Environment and Climate Change as a potential drinking water threat. Schedules SW1 and SW2 show the limits of the Belmont WHPA and Lake Erie IPZ as mapped in the Kettle Creek Assessment Report.

The remaining policies of Section 3.3 Water Resources include policy goals related to the protection of water resources from contamination and degradation associated with certain land use activities and general policies regarding the preparation of watershed and subwatershed study preparation and stormwater management.

Section 2.8.1 provides the policy framework for Water and Wastewater Systems and describes the Belmont and Port Stanley (Lake Erie Intake) drinking water systems. Policy 2.8.1.4.1 applies to communal septic systems and holding tanks. Communal servicing and holding tanks are generally not permitted for new development by this policy and instead will only be considered as a 'last resort' alternative to solve a deficient on-site system.

4.5.3 Municipality of Bayham Official Plan

Section 2.3 provides the policy framework related to water resources in the Official Plan of the Municipality of Bayham. The policies in this section generally reflect the water policies of Section 2.2 of the Provincial Policy Statement, 2014 and generally:

- encourage the designation of surface and groundwater features;
- encourage efficient and sustainable use of water resources;
- discourage development in or adjacent to surface and groundwater features;
- identify the use of *Planning Act* tools, including conditions of subdivision approval and consent, site plan approval processes, and zoning by-laws to protect, improve and/or restore the quantity and quality of water; Policies section (Section 2) of the Official Plan;
- do not permit development in *designated vulnerable areas*; and
- do not permit development adjacent to surface and groundwater features where development may have a negative impact on hydrologic functions.

The preamble to the water resource policies note that surface and groundwater features will be designated on Schedule A1 to the Official Plan when such information is made available.

It is noted that Policy 5.1.4.1 states that the hamlet of Richmond is serviced by individual on-site sewage systems and water services.

4.5.4 Township of Malahide Official Plan

Section 2.6 provides the policy framework related to water resources in the Official Plan of the Municipality of Bayham. The majority of policies in this section are the same as the water resource policies of the Bayham Official Plan. Additional policies include the following:

- reference to the 2004 Elgin-Middlesex Groundwater Study; and
- the requirement for an Environmental Impact Statement (EIS) for development or site alteration adjacent to designated surface and ground water resources.

The preamble to the water resource policies also note that surface and groundwater features will be designated on Schedule A1 to the Official Plan when such information is made available.

4.6 Policy Implementation Options

The policy implementation options presented below takes into consideration the requirements of the *Clean Water Act* and applicable SPPs; the existing policy framework of the County, Central Elgin, Bayham and Malahide Official Plans; and the best practices review of other municipalities that have implemented Source Protection Plan policies through amendments to their Official Plans as summarized in **Appendix B**.

4.6.1 Section 57, 58 and 59 Policies

As previously indicated, the Section 57 and 58 policies of the Kettle Creek and Long Point Region SPPs apply to the two WHPAs and IPZ within the County. There is an overlap of the Kettle Creek and Long Point Region SPPs within the Township of Malahide, which has WHPA-C areas for the Belmont and Richmond Wells. There are three approaches to implementing Section 57 and 58 policies. These approaches are as follows:

Option 1. Prohibit all *uses* associated with significant drinking water threat activities through the OP policy framework. This approach attempts to mimic the pre-SPP approach to regulating uses in WHPAs found in OP policy frameworks of municipalities such as the Region of Waterloo, County of Oxford, and County of Wellington, among others. This approach would involve specifically identifying prohibited uses in WHPAs and the IPZ and require the development of a comprehensive list of land uses that could involve a prescribed drinking water threat.

The challenge with preparing such a list is that some land uses will ultimately be missed. A notwithstanding clause would need to be included in the policy framework in the event a use associated with a prescribed drinking water threat is mistakenly excluded.

Another challenge is that a given land use may or may not be associated with a significant drinking water threat based on the nature of the use, the details of the operation, and the activities associated with the operation. For example, a car dealership with a service bay that provides a rust-proofing service could be considered a significant threat depending on its location within a WHPA and its associated vulnerability score. The car dealership and service bays (the use) may not be an issue however the activities within the use (i.e. rust proofing/handling and storage of organic solvents) may be a significant drinking water threat. Therefore, to prohibit a land use that may or may not be associated with a threat activity could be considered overly restrictive because the use is being prohibited whether or not a significant threat activity is being undertaken in a specific case.

The Best Practices review of other conformity amendments undertaken by other municipalities did not reveal any municipality that is taking this approach through their approved or draft Official Plan amendments for SPP implementation.

Option 2. Identify specific threat activities that are prohibited by Section 57, prohibited by prescribed instrument, or managed by vulnerable area (i.e. WHPA-A, B, C, IPZ) as prescribed by the relevant SPP. This approach involves identifying how individual threats are regulated by the SPP within each vulnerable area. The threats, regulatory approach (Section 57 or Section 58), and vulnerable area could be arranged in a quick reference table within the policy framework as follows:

WHPA-A v.10		
Section 57 Prohibit	**Prescribed Instrument Prohibit**	**Section 58 Risk Management Plan**
Storage/Handling of Commercial Fertilizer	Discharge of stormwater from a SWM facility	Application of Pesticide
Application of NASM	Sewage/Septic Systems – Storage of Sewage	Use of land as livestock grazing/pasturing land

**not a complete list*

This approach would allow readers to understand how individual threats are regulated without having to refer to the appropriate SPP. Official Plan policy could describe what each regulatory approach is and how it is applied. The WHPA-C application of Section 57 and 58 differs between the Long Point Region and Kettle Creek SPPs as they apply in Malahide and therefore would have to be distinguished in the reference table.

The Best Practices review did not reveal any municipality that is taking this approach through their approved or draft OPAs for SPP implementation.

Option 3. Establish a general policy that defers determination as to whether a land use is restricted or prohibited to the Risk Management Official and establish 'notwithstanding' policies and defer/refer directly to relevant SPP. This approach involves listing the prescribed significant drinking water threat activities and outlining the process requirements for the RMP review and its relationship to the planning application process. The Section 59 Notice could be identified as a requirement prior to an application being deemed complete or required prior to the approval of an application. This option would capture the inclusion of the Restricted Land Use Policy in the OP framework.

Based on our review of other jurisdictions, the Town of Innisfil and Town of Midland have taken this approach in their OP policy frameworks.

The notwithstanding policy could address both prohibited and restricted uses. An additional policy statement would direct plan readers to the appropriate SPP based on geographic location (such as through an Official Plan Schedule) in Malahide. Notwithstanding policies could read as follows:

"Notwithstanding the land use activities permitted by the underlying land use designations, land use activities which have been identified by a Source Protection Plan as being prohibited within vulnerable areas shall not be permitted." (Prohibited Uses)

"Notwithstanding the uses permitted by the underlying land use designations, uses/activities may only be permitted within vulnerable areas if the applicant demonstrates to the satisfaction of the lower tier municipality that the proposed use/activity is in conformity with the policies contained within the relevant Source Protection Plan." (Restricted/RMP uses)

This approach is taken in the County of Lennox & Addington and Wellington County Official Plans. Lennox & Addington is an upper-tier municipality that is subject to three different SPPs, whereas Wellington, also an upper-tier municipality, is subject to five SPPs. This approach is also taken in the Norfolk County draft OPA. Norfolk County is a single-tier municipality.

Recommendation:
In our opinion, Option 3 may be the most desirable option for addressing the Section 57 and 58 policies of the individual SPPs at the Official Plan level. This opinion considers the complexity of Options 1 and 2 and the responsibility of the local municipalities under the *Clean Water Act* with respect to the amending of Official Plans and Zoning By-laws to conform to SPPs. Option 3 also appropriately addresses the Malahide situation of having WHPAs regulated by different Source Protection Plans.

The **Section 59** policies can be built into the Section 57 and 58 policy implementation approach, requiring the issuance of a Notice to Proceed from the Risk Management Official prior to an application under the *Planning Act* being deemed complete by the local municipalities. A Schedule to the Malahide Official Plan would be required to identify the boundaries of the Kettle Creek and Long Point Region Source Protection Plans to reference the appropriate Section 59 policy.

4.6.2 Land Use Planning Policies

There are three (3) land use planning policies from the Long Point Region SPP to be implemented in Official Plans and Zoning By-laws. Given that these land use policies apply to WHPA-A areas only, these land use policies will be included only in the Official Plan and Zoning By-law of the Municipality of Bayham.

4.6.3 Discretionary Policies

There are a number of discretionary policies in the Long Point Region and Kettle Creek SPPs that relate to education and outreach, updating of emergency management/response plans, decommissioning of abandoned wells, and implementing on-site sewage system maintenance inspection programs. The policies differ somewhat between the SPPs.

Option 1. **Include discretionary policies of each SPP in the Official Plan policy framework for each respective municipality.** This approach involves including the following discretionary policies for each respective local municipality:

- Malahide: Long Point SPP and Kettle Creek SPP
- Bayham: Long Point SPP
- Central Elgin: Kettle Creek SPP

The discretionary policies are not onerous on the municipality or landowner and represent best practices that could be undertaken for the protection and improvement of drinking water sources.

A number of municipalities included in the best practices review included some discretionary policies of SPPs in the OP frameworks.

Option 2. **Include discretionary policies of each SPP in the Official plan policy framework for the municipalities of Central Elgin and Bayham, and the Township of Malahide.** Generally, the discretionary policies between the two Source Protection Plans only overlap with respect to education and outreach and emergency response plans. There are policies in the Long Point Region SPP related to the decommissioning of abandoned wells and other matters that could also be extended to the Central Elgin in the interest of best practices for source water protection. The policies are not restrictive and encourage actions to further protect drinking water resources and water resources in a general sense.

Option 3. **Do not include discretionary policies in the Official Plan framework.** The discretionary policies are non-regulatory and municipalities are not required to include them in Official Plans under the *Clean Water Act*.

Recommendation:

Whether the discretionary policies of the SPPs are implemented in the Official Plan should be left to the discretion of the municipality. Under the *Clean Water Act*, municipalities shall have regard to the discretionary policies of the Source Protection Plan in their decision-making processes. Furthermore, the discretionary policies discussed in Section 4.4 of this Report relate to other municipal and legislative processes that are not necessarily addressed by Official Plans.

4.6.3 Highly Vulnerable Aquifers (HVAs) and Significant Groundwater Recharge Areas (SGRAs) and Associated Moderate and Low Threat Policies

The TSR SPP maps HVAs and SGRAs and includes moderate and low threat policies for these areas. As discussed previously, SPPs do not include significant threat policies for HVAs and SGRAs and Section 40 of the *Clean Water Act* requires that Official Plans and Zoning By-laws be amended to conform only to the significant threat policies set out the SPP. The province has not provided any direction, policy or otherwise, on how to implement or use the HVA and SGRA mapping outside of the applicable policy of the PPS. However, municipalities shall have regard to any moderate and low threat policies that are included in an individual SPP, whether or not they are included in the Official Plan.

Option 1. **Map HVAs and SGRAs at the County level only, with a placeholder policy in the event SPPs are amended in the future to include significant threat policies for these areas. This could be applied at the local municipal level as well.** This approach would involve including the HVA and SGRA mapping from the TSR SPP, Kettle Creek and Long Point Assessment Reports. A 'placeholder' policy can be included within the Official Plan that states the County and local Official Plans will be amended when policies specific to these vulnerable areas are added to Source Protection Plans. General policies based on the policy framework of Section 2.2 of the PPS could also be included. This approach would require additional mapping and directive policies in the County Official Plan.

The Township of Huron Kinloss has taken this approach to HVAs and SGRAs in their Official Plan.

Option 2. **Include the moderate and low threat policies of the TSR SPP for HVAs and SGRAs in local municipal plans.** This approach would be combined with Option 1 and apply only to the local municipalities of Dutton-Dunwich, Southwold, and West Elgin, as TSR SPP does not apply to Central Elgin, Malahide or Bayham and HVAs and SGRAs are not mapped in any other SPP that applies to the County.

Option 3. **Map HVAs and SGRAs at the County level for information purposes only. Local municipal plans could also include this mapping.** This approach is similar to Option 1 but would not involve the inclusion of a placeholder policy. The Schedule would be referenced in Official Plan text only.

Bluewater and Innisfil take this approach in their Official Plan frameworks.

Option 4. **Do not include HVA/SGRA mapping.** The purpose of amending the Official Plan is to ensure conformity with the significant threat policies and mapping of Source Protection Plans. The inclusion of HVAs and SGRAs are not required under the *Clean Water Act* as there are no 'significant threat' policies associated with these vulnerable areas.

Recommendation:

It is recommended that HVA/SGRA mapping not be included at this time. In addition to the reasons for excluding HVA/SGRA mapping provided above, the inclusion of these vulnerable areas is more representative of a conformity exercise with the PPS. As such, if the intent is to implement SPP policy through a stand-alone SPP conformity Official Plan Amendment, then the HVA/SGRA mapping does not need to be included to meet the minimum requirements of the *Clean Water Act*. If SPP implementation is to occur through a 5-year review of the Official Plan, then the review process also constitutes a

conformity exercise under the PPS and as such the Ministry of Municipal Affairs and Housing may require the inclusion of these vulnerable areas in the new Official Plan. If this does occur, the respective municipality can re-evaluate the implementation options presented above.

4.6.3 Considerations from Existing Official Plan Policy Frameworks

The Central Elgin Official Plan contains existing policies related to source water protection. Some of the existing policies in this Official Plan are similar to those in other municipalities that have implemented SPP policies through Official Plan amendments (although these existing policies will require modification) and represent a best practice approach that goes beyond the requirements of the *Clean Water Act*. As such some of these policies could be considered for implementation in the Bayham, Malahide, and Elgin County Official Plans and include the following:

Option 1. **Retain existing Official Plan policies regarding the need for the submission of a Disclosure Report.** Requiring the submission of a Disclosure Report as part of a complete application for development or site alteration within WHPAs and IPZ would provide detailed information to the RMO and local municipality in evaluating proposals within these vulnerable areas. Requirements for Disclosure Reports are already established in the Central Elgin Official Plan. Many other municipalities in their SPP implementation policy frameworks include requirements for Disclosure Reports, such as County of Wellington, Norfolk County, Barrie and Niagara Region. The submission of a Disclosure Report could be considered a best practice approach to implement in applicable local municipalities.

The need to submit a Disclosure Report in WHPAs and the IPZ in Central Elgin could remain in the policy framework or be deleted. A requirement for Disclosure Reports could also be extended to Bayham and Malahide.

Option 2. **Include within the policy framework a description of WHPAs, vulnerability scores, source water protection and SPPs, assessment reports, etc. in policy text.** SPPs are science based and difficult to read/interpret for the average person. Conversely, the Official Plan is a much more reader-friendly document that is referenced by a wide range of people including professionals, politicians and members of the public, among others and is the most-referenced document with respect to land use planning. The Official Plan therefore provides an opportunity to explain in simple terms the role of SPPs, their effect on land use and their relation to development and site alteration regulated by the Official Plan and familiarize the process for Plan readers and users.

Recommendation:

Implementing both options identified above are recommended at this time. The requirement for a Disclosure Report is already established in the Central Elgin Official Plan, can easily be adopted by Bayham and Malahide, and is a best management practice used by many other municipalities. The submission of a Disclosure Report would also assist the Risk Management Official in their responsibilities of issuing Section 59 Notices and preparing Risk Management Plans. Including a plain language description of Source Protection planning in Official Plans and defining key terms assists in framing Source Protection Plan policies, providing background information as to their effect and purpose and increases understanding of the overall process.

4.6.3 SPP Implementation at County vs. Local Municipal Level

Generally, applicable SPPs require amendments to local municipal Official Plans and Zoning By-laws to conform to Source Protection Plan policy. However, the function of the County Official Plan as a policy guidance document and the function of local municipal Official Plans as containing detailed land use policies must also be considered. As such, two general options are presented with respect to SPP implementation at the County level:

Option 1. **Minimal policy framework at the County level, and include the mapping of Source Protection Plan Areas and WHPAs.** This approach involves limiting the policy framework of the Elgin County Official Plan to including general policies related to Source Protection planning and providing direction with respect to establishing detailed SPP implementation policies at the local Official Plan level. New schedules would be introduced that map the Source Protection Plan Area boundaries as they apply to the County and existing WHPAs primarily for information purposes.

Option 2. **Policy framework at the County level to include a detailed implementation of relevant SPP policies.** This approach involves establishing the detailed policy framework at the County level to implement Source Protection Plans. Local municipal Official Plans would include schedules/mapping identifying WHPA and IPZ area(s) within their boundaries and refer to appropriate section(s) and policies of the County Official Plan.

Recommendation:

To maintain consistency with the format of the existing County Official Plan framework, Option 1 is recommended. Mapping the boundaries of SPP areas within the County will assist in navigating what SPP(s) are applicable within which lower-tier municipalities, as this consolidated mapping can be difficult to find on provincial and conservation authority websites given the information is usually fragmented.

4.6.3 Official Plan Schedules

New Schedules to Official Plans will be required to meet the implementation requirements of the SPPs and serve as a reference for the new policy framework. Considering the policy implementation options presented above, these schedules should:

- **For Elgin County, identify the boundaries of the Long Point Region, Thames-Sydenham & Region, Kettle Creek, and Catfish Creek Source Protection Plans as they apply to the County and the location and extent of WHPAs and the IPZ within Central Elgin, Bayham and Malahide.**
- **For Central Elgin, Bayham and Malahide, identify the vulnerable areas (WHPAs and IPZ) as delineated in the SPPs and their associated vulnerability scores.**
- **For Central Elgin, Bayham and Malahide, identify the boundaries of the applicable Source Protection Plan Areas.** Including a reference schedule that identifies what Source Protection Plan applies to certain areas of the municipality will assist in referring Plan users to the appropriate Source Protection Plan and implementing the SPP-specific land use policies through the Official Plan. This is especially important for Malahide, which contains WHPAs regulated by two different SPPs with differing policies related to WHPA-C areas.

5.0

ANALYSIS & CONSIDERATIONS FOR THE ZBA FRAMEWORKS

The Zoning By-laws for Central Elgin, Bayham and Malahide do not contain any zoning schedules, regulations or appendices related to groundwater or source water protection and as such, new regulations and schedules will need to be added to each Zoning By-law. This 'clean slate' starting point allows for a consistent approach to zoning implementation.

A best practices review has been undertaken of zoning implementation approaches being employed by lower-tier municipalities in the implementation of SPP policies and is enclosed as **Appendix C**. Most examples reviewed are still in a draft stage. Some municipal Zoning By-laws have been reviewed that currently implement the former approach to groundwater protection, pre-Source Protection Plan. The specific nature of the regulations included in the zoning frameworks that were reviewed reflects the structure and content of the Official Plan Amendment policy framework. The following were common characteristics between the zoning frameworks reviewed:

- A zoning overlay is established to identify WHPAs, either in the Schedule A zoning maps or as a separate schedule to the Zoning By-law; and
- The regulatory framework that applies to the overlay is located in the General Provisions Section of the Zoning By-law.

Unique characteristics between the zoning frameworks reviewed include:

- Listing of the significant drinking water threats and deeming any non-residential use that involves a significant drinking water threat as prohibited until it is demonstrated to the Risk Management Official that the use does not represent a significant threat to drinking water;
- Requirement of a Disclosure Report prior to the issuance of a Building Permit
- Regulations provide that any application under the *Planning Act* cannot be made within WHPAs until the issuance of a Section 59 Notice to Proceed; and
- Applying a Holding Provision to uses and activities associated with the significant drinking water threats on lands within a WHPA, to be lifted following confirmation from the Risk Management Official that the use does not represent a significant threat to drinking water.

Generally, specific regulations are implementations of the Official Plan policy framework and as such are unique to individual municipalities.

The zoning overlay approach is currently being used by all municipalities included in the best practices review. It is noted that the Source Protection Plan is intended to be a restrictive policy document that regulates uses and activities within vulnerable areas in the interest of protecting drinking water sources. Zoning By-laws are also considered restrictive planning documents. The degree to which the implementing Zoning By-law regulations are restrictive can be addressed in the structure of the regulatory framework and is ultimately determined by the structure of the Official Plan Amendment. Our opinion is that the zoning overlay approach is a well-used approach in other municipalities and as such it is recommended as the most appropriate option to implement the new Official Plan Source Protection policies within the Zoning By-laws for Central Elgin, Bayham and Malahide.

The more 'unique' characteristics of individual zoning frameworks listed above also present options for SPP implementation in the Zoning By-laws. Generally, the regulatory frameworks of the Zoning By-law Amendments will need to conform to the requirements of the Long Point Region and Kettle Creek SPPs, meaning the amendments will need to:

- Identify the vulnerable areas in which a significant drinking water threat can occur;
- Identify the *significant* drinking water threats and require that any use or activity that is, or would be, a significant drinking water threat, conform to all applicable Source Protection Plan policies and, as such, may be prohibited, restricted or otherwise regulated by the policies contained in the Source Protection Plan; and
- Incorporate any other amendments required to conform to the threat-specific *land use* policies identified in the SPP.

The Zoning By-law Amendments will therefore have to include the Section 57, 58 and 59 policies of the Long Point Region and Kettle Creek SPPs and the land use policies of the Long Point Region SPP, at a minimum, in addition to carrying forward the mapping of WHPAs and the IPZ within the three municipalities.

It is not recommended that the holding provision approach employed in the Township of Tiny be considered as a zoning implementation option for Central Elgin, Bayham or Malahide given:

- The added process to remove the holding provision once a Section 59 Notice is issued;
- The potential for appeal;
- Zoning regulations can be structured to achieve the same outcome with requiring the need for a holding provision if so desired and/or required by the Source Protection Plan; and
- Challenges of removing a hold on a property that may have multiple significant drinking water threats over time.

6.0

RECOMMENDED POLICY FRAMEWORK & SCHEDULES

The Official Plan is the land use policy document that landowners, businesses, professionals, and other members of the public are most familiar with when trying to determine the policies governing the use of particular piece of land within the County. A policy framework that both properly implements the policies of the SPP and provides general information on Source Protection planning in the County will generate greater awareness about Source Protection and vulnerable areas while also conforming to the requirements of the *Clean Water Act* and the Long Point Region and Kettle Creek SPPs.

Considering that planning decisions must conform with the significant threat policies of the Source Protection Plan, and the Source Protection Plan prevails in the case of conflict with Official Plans and Zoning By-laws, there is no need to duplicate Source Protection policies, or process, through the Official Plan policy framework beyond what is required by the *Clean Water Act, 2006* and the individual SPPs. Instead, the Official Plan primarily becomes a policy document that directs readers to the appropriate Source Protection Plan(s) and defers to the policies of the SPP as required.

A meeting was held with the County's Manager of Planning and the Risk Management Official for Central Elgin in the afternoon of Friday, January 13th, 2017 to discuss the analysis and recommended policy options contained in this report. The primary purpose of this meeting was to obtain input from those staff members that are primarily responsible for the implementation of Source Protection Plans and Official Plans on the recommended policy implementation options and comments on the general proposed approach to the preparation of the draft Official Plan Amendments.

The range of policy options, mapping considerations and zoning approaches were presented and discussed with staff and general agreement was expressed, with a few exceptions, for the recommendations outlined in Section 4.6 and 5.0 of this this report. As such, the preferred approach for the Official Plan and Zoning Amendment frameworks were determined to be as follows:

- The County Official Plan will contain a general policy framework related to Source Protection planning and groundwater protection, with Source Protection Plans being implemented through the Central Elgin, Bayham and Malahide Official Plans.
- To implement Section 57 and 58 policies in the Official Plan, the policy framework will defer to the Risk Management Official to determine whether a land use is prohibited or restricted and refer directly to the applicable Source Protection Plan(s).
- A Section 59 policy will be implemented in Official Plan frameworks as written in the respective Source Protection Plans as this is required by the *Clean Water Act, 2006*. The Official Plan for

Malahide will contain the Section 59 policy of both the Kettle Creek and Long Point Region Source Protection Plans, and will reference an Official Plan Schedule to identify which Section 59 policy would apply.

- The land use policies of the Long Point Region Source Protection Plan will be incorporated into the Official Plan and Zoning By-law of Bayham.
- Discretionary policies of the Source Protection Plans will not be included in Official Plan Policy.
- Significant Groundwater Recharge Areas and Highly Vulnerable Aquifers will not be mapped in Official Plans.
- Existing source water protection/groundwater policies in Official Plans will be retained to the greatest extent possible. 'Best Practice' policy with respect to water resource protection, conservation and enhancement will be extended through the policy framework of all Official Plans.
- Generally, the Official Plan policy frameworks will address the requirements of Section 2.2 of the Provincial Policy Statement, 2014.
- Official Plans will contain new and/or revised schedules to identify the applicable Source Protection Plans that apply within their jurisdiction.
- Zoning By-law Amendments will reflect the draft Official Plan Amendments and be limited to Section 57, 58, 59 and land use planning policies of the respective Source Protection Plans.
- A zoning overlay approach will be used to identify WHPAs and the IPZ and implement new regulations in municipal Zoning By-laws.

7.0

DRAFT OFFICIAL PLAN POLICY & ZONING BY-LAW TEXT

Based on the analysis of the policies of the applicable Source Protection Plans, the requirements for amending Official Plans and Zoning By-laws under the *Clean Water Act*, the content of existing Official Plan policies, and the feedback received from the January 2017 meeting with senior planning staff and the Risk Management Official for Central Elgin, proposed first drafts of the Source Protection Plan implementing Official Plan and Zoning By-law Amendments were prepared for Elgin County, Central Elgin, Bayham and Malahide Official Plans. A new 'Source Water Protection' regulatory framework for the Zoning By-laws of Central Elgin, Bayham and Malahide was also prepared. A workshop was held with the Manager of Planning for Elgin County, planning staff for Central Elgin and the Risk Management Official for Central Elgin on February 23, 2017. The primary purpose of the workshop was to obtain input from staff on the first draft of amendments and comments on the proposed policy and regulatory frameworks. Comments on the draft amendments were minor and were limited to word changes and definitions contained in the proposed policy and regulatory text. Following the workshop, comments on the first drafts were received from the planning consultants undertaking the Official Plan Review for the Municipality of Bayham.

Following the February Workshop, the draft policy and zoning texts were refined and finalized, taking into consideration the input received from County and municipal staff. A Preamble for each future Official Plan Amendment was also prepared. The draft amendments were then circulated to the relevant Conservation Authorities for review and comment. Comments were received from the Kettle Creek Conservation Authority and Long Point Region Conservation Authority and were generally minor in nature. The draft amendments have been revised in response to the comments received and resulted in a refinement of the proposed policy and regulatory text. It is intended that the finalized Official Plan and Zoning By-law texts, which are enclosed herein as **Appendices D** and **E** respectively, will serve as the basis of consultation with the public, relevant agencies, neighbouring municipalities (as required) and applicable Source Protection Authorities, when these amendments are brought forward for inclusion in their respective Official Plans and Zoning By-laws.

The applicable schedules of the respective Source Protection Plans have been included herein with the proposed Official Plan and Zoning By-law texts in lieu of formal schedules for reference purposes when reviewing the draft amendments. When amendments are brought forward by local municipalities,

schedules to the amendments will need to be prepared that conform to the mapping of the applicable Source Protection Plan by identifying and are properly titled as per the reference in the amendment text.

Details of each proposed policy text and direction related to the preparation of amendment schedules are discussed in the following subsections.

7.1 Elgin County

Based on the recommended policy option approaches and input from County planning staff, the proposed implementing Official Plan Policy text will:

- Add a policy statement to the beginning of Section D2 'Water Resources' that describes the importance of protecting and managing water resources in the County;
- Revise Policy D2.2 d) to reference Source Water Protection Policy conformity;
- Incorporate Policy D2.3 regarding restricting development and site alteration in or near sensitive surface and groundwater features into Policy D2.2;
- Delete reference to the ongoing preparation of Source Protection Plans in Policy D2.2;
- Rename Policy D2.3 to 'Source Water Protection' and new policies that:
    - Describe the role of the *Clean Water Act, 2006* and the process of Source Protection planning;
    - Identify the Source Protection Plans that apply to the County;
    - Identify the location of municipal drinking water systems in the County that are regulated by a Source Protection Plan; and
    - Provide guidance to local municipalities in amending their Official Plans to promote the efficient use of water resources, encourage sustainable stormwater management practices, restrict development and site alteration to protect municipal drinking water supplies, identify vulnerable areas (Wellhead Protection Areas and Intake Protection Zones), conform to the significant drinking water threat policies and threat-specific land use policies as required by applicable Source Protection Plan(s); and encourage agricultural practices that protect water resources.
- Add the following terms to Schedule 'A' – Defined Terms:
    - Assessment Report
    - Drinking Water Threat
    - Highly Vulnerable Aquifer
    - Intake Protection Zone
    - Section 59 Notice
    - Significant Drinking Water Threat
    - Significant Groundwater Recharge Area
    - Source Protection Plan
    - Vulnerable Area
    - Wellhead Protection Area

- Add a new Schedule D – Source Protection Plan Areas, which identifies the limits of the four Source Protection Plan Areas within the County to facilitate Source Protection Plan reference within the Official Plan policy text. **Figure 1** of this report should be used as the basis for the preparation of Schedule D.

The Official Plan policy text for Elgin County is enclosed as **Appendix D1**.

7.2 Municipality of Central Elgin

Based on the recommended policy option approaches and input from County planning staff and the Risk Management Official, the **proposed implementing Official Plan Amendment will**:

- Modify Section 3.3 Water Resources to:
    - Identify the municipal drinking water supply systems in the Municipality; and
    - Expand policy goals to address sustainable use of water resources and protecting surface and groundwater quality through restricting and influencing land uses and activities.
- Modify the policies of Section 3.3.3 to:
    - Describe the role of the *Clean Water Act, 2006* and the process of Source Protection planning;
    - Identify the Source Protection Plans that apply to the Municipality;
    - Describe vulnerable areas (WHPAs and IPZ) and associated vulnerability scores;
    - List the prescribed drinking water threats;
    - Defer direction to the relevant Source Protection Plan where applicable through the use of a 'notwithstanding' policy, describe determination of prohibited and restricted uses to the Risk Management Official, and include the Section 59 policy of the Kettle Creek Source Protection Plan; and
    - Require the submission of a Disclosure report as part of a complete application under the *Planning Act* within WHPAs and the IPZ, at the discretion of the Municipality.

The following terms will be italicized in the policy framework, with reference to be made to the Elgin County Official Plan for definitions:

- Activity
- Assessment Report
- Drinking Water Threat
- Intake Protection Zone
- Highly Vulnerable Aquifer
- Section 59 Notice
- Septic System
- Significant Drinking Water Threat
- Significant Groundwater Recharge Area
- Source Protection Plan
- Vulnerable Area

- Wellhead Protection Area

The following schedules will need to be prepared to accompany the amendment:

- Add a new Schedule SW – Source Protection Plan Areas, which identifies the limits of the Kettle Creek and Catfish Creek Source Protection Plan Areas to facilitate Source Protection Plan reference within the Official Plan policy text.
- Modify Schedules SW1 and SW2 as follows:
  - Schedule SW1 – Community of Belmont Wellhead Protection Area to be revised to illustrate and conform to the limits of the WHPA-A, B and C areas and associated vulnerability scores as per *'Schedule A - Municipality of Central Elgin, Village of Belmont Water Supply'* of the Kettle Creek Source Protection Plan;
  - Schedule SW2 – Community of Port Stanley to be revised to illustrate and conform to the limits of the IPZ and associated vulnerability scores as per *'Schedule B – Municipality of Central Elgin, Elgin Area Primary Water Supply System'* of the Kettle Creek Source Protection Plan.

The Official Plan policy text for Central Elgin is enclosed as **Appendix D2**. Given revisions were required to expand the policy goals of Section 3.3 and identify the municipal drinking water systems in the County, the full revised text of Section 3.3 has been included in the Appendix. Schedules A and B of the Kettle Creek Source Protection Plan are included with the amendment text for reference purposes.

The Village of Belmont, Village of Port Stanley and Township of Yarmouth Zoning By-laws will need to be amended to implement the applicable policies of the Kettle Creek Source Protection Plan. **The proposed text for the Village of Belmont Zoning By-law** will establish a new Section (Section 4.19) in the General Regulations that:

- Identifies and describes the Belmont WHPA and the associated vulnerability score;
- Lists the prescribed drinking water threats;
- Prohibits any land use that involves a significant drinking water threat within a vulnerable area until it is determined by the Risk Management Official that the use does not represent a significant drinking water threat or a Section 59 Notice has been issued; and
- Adds the following terms to Section 2 - Definitions:
  - Drinking Water Threat
  - Section 59 Notice
  - Significant Drinking Water Threat

Schedule A mapping will need to be revised to include an overlay that illustrates and conforms to the limits of the WHPA-A, B and C areas and associated vulnerability scores as per *'Schedule A - Municipality of Central Elgin, Village of Belmont Water Supply'* of the Kettle Creek Source Protection Plan.

The Zoning By-law for the Village of Belmont is enclosed as **Appendix E1**. Schedule A of the Kettle Creek Source Protection Plan is included with the amendment text for reference purposes.

The proposed text for the Village of Port Stanley Zoning By-law will establish a new Section (Section 4.29) in the General Regulations that:

- Identifies and describes the Lake Erie Primary Intake; and
- Prohibits any land use that involves the handling and storage of commercial fertilizer in an amount greater than 5,000 cubic metres or the handling and storage of fuel greater than 6,000 litres in accordance with the Kettle Creek Source Protection Plan; and
- Adds the following term to Section 2 - Definitions:
    - Significant Drinking Water Threat

Schedule A mapping will need to be revised to include an overlay that illustrates and conforms to the limits of the Intake Protection Zone and associated vulnerability scores as per *'Schedule B – Municipality of Central Elgin, Elgin Area Primary Water Supply System'* of the Kettle Creek Source Protection Plan.

The Zoning By-law text for the Village of Port Stanley is enclosed as **Appendix E2**. Schedule B of the Kettle Creek Source Protection Plan is included with the amendment text for reference purposes.

The proposed text for the Township of Yarmouth Zoning By-law will establish a new Section (Section 7.1.2.7) in the General Regulations that:

- Identifies and describes the Lake Erie Primary Intake; and
- Prohibits any land use that involves the handling and storage of commercial fertilizer in an amount greater than 5,000 cubic metres or the handling and storage of fuel greater than 6,000 litres in accordance with the Kettle Creek Source Protection Plan; and
- Adds the following term to Section 2 - Definitions:
    - Significant Drinking Water Threat

Schedule A mapping will need to be revised to include an overlay that illustrates and conforms to the limits of the Intake Protection Zone and associated vulnerability scores as per *'Schedule B – Municipality of Central Elgin, Elgin Area Primary Water Supply System'* of the Kettle Creek Source Protection Plan.

The Zoning By-law text for the Township of Yarmouth is enclosed as **Appendix E3**. Schedule B of the Kettle Creek Source Protection Plan is included with the amendment text for reference purposes.

7.3 Municipality of Bayham

Based on the recommended policy option approaches and input from planning staff and the Risk Management Official, the **proposed implementing Official Plan Amendment will:**

- Modify Section 2.3 Water Resources to:
    - Expand the preamble to the policy section to include additional policy wording from Section 2.2 of the Provincial Policy Statement, 2014 to address the implementation of necessary restrictions on development and site alteration to protect municipal drinking water supplies.
    - Add general water resource policies to Section 2.3.1 regarding the maintenance and enhancement of water resources and the protection of vulnerable areas.
    - Establish a new Source Water Protection Policy Framework to:

- Describe the role of the *Clean Water Act, 2006* and the process of Source Protection planning;
- Identify the Source Protection Plans that apply to the Municipality;
- Describe vulnerable areas (WHPAs and IPZ) and associated vulnerability scores;
- List the prescribed drinking water threats;
- Defer direction to the Long Point Region Source Protection Plan through the use of a 'notwithstanding' policy, describe determination of prohibited and restricted uses to the Risk Management Official, and include the Section 59 policy of the Long Point Region Source Protection Plan;
- Include the land use policies of the Long Point Region Source Protection Plan related to septic systems and holding tanks and the storage of road salt and apply to the Richmond WHPA; and
- Define the terms: 'septic system and/or holding tank', 'small on-site septic system or holding tank', and 'large on-site septic system or holding tank' in the policy text.

The following terms will be italicized in the policy framework, with reference to be made to the Elgin County Official Plan for definitions:

- Activity
- Assessment Report
- Drinking Water Threat
- Highly Vulnerable Aquifer
- Section 59 Notice
- Significant Drinking Water Threat
- Significant Groundwater Recharge Area
- Source Protection Plan
- Vulnerable Area
- Wellhead Protection Area

The following schedules will need to be prepared to accompany the amendment:

- Add a new Schedule E – Source Protection Plan Areas, which identifies the limits of the Long Point Region and Catfish Creek Source Protection Plan Areas to facilitate Source Protection Plan reference within the Official Plan policy text.
- Add a new Schedule E1 – Richmond Wellhead Protection Area, which illustrates and conforms to the limits of the WHPA-A, B and C areas and associated vulnerability scores as per *'Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)* of the Long Point Region Source Protection Plan.

The Official Plan policy text for Bayham is enclosed as **Appendix D3**. Schedule A of the Long Point Region Source Protection Plan is included with the amendment text for reference purposes.

The **proposed Zoning By-law Amendment** will establish new Sourcewater Protection Provisions (Section 4.58) that:

- Identifies and describes the vulnerable area (Richmond WHPA) within the municipality and the associated vulnerability score;
- Lists the prescribed drinking water threats;
- Prohibits any land use that involves a significant drinking water threat within a vulnerable area until it is determined by the Risk Management Official that the use does not represent a significant drinking water threat or a Section 59 Notice has been issued
- Implements the septic system/holding tank and road salt storage facility land use policies of the Long Point Region Source Protection Plan
- Adds the following terms to the Definitions:
    - Drinking Water Threat
    - Large On-Site Septic System and/or Holding Tank
    - Section 59 Notice
    - Significant Drinking Water Threat
    - Small On-Site Sewage System and/or Holding Tank

Schedule A mapping will need to be revised to include an overlay that illustrates and conforms to the limits of the WHPA-A, B and C areas and associated vulnerability scores as per *'Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)* of the Long Point Region Source Protection Plan.

The Zoning By-law text for Bayham is enclosed as **Appendix E4**. Schedule A of the Long Point Region Source Protection Plan is included with the amendment text for reference purposes.

7.4 Township of Malahide

Based on the recommended policy option approaches and input from planning staff and the Risk Management Official, the **proposed implementing Official Plan Amendment will:**

- Modify Section 2.6 Water Resources to:
    - Expand the preamble to the policy section to include additional policy wording from Section 2.2 of the Provincial Policy Statement, 2014 to address the implementation of necessary restrictions on development and site alteration to protection municipal drinking water supplies.
    - Add general water resource policies to Section 2.6.1 regarding the maintenance and enhancement of water resources and the protection of vulnerable areas.
    - Establish a new Source Water Protection Policy Framework (Section 2.6.2) to:
        - Describe the role of the *Clean Water Act, 2006* and the process of Source Protection planning;
        - Identify the Source Protection Plans that apply to the Municipality;
        - Describe vulnerable areas (WHPAs), associated vulnerability scores and note they address drinking water systems in neighbouring municipalities;
        - List the prescribed drinking water threats;

- Defer direction to the applicable Source Protection Plan through the use of a 'notwithstanding' policy, describe determination of prohibited and restricted uses to the Risk Management Official, and reference the Section 59 policy of the applicable Source Protection Plan;

- The following terms will be italicized in the policy framework, with reference to be made to the Elgin County Official Plan for definitions:
    - Activity
    - Assessment Report
    - Drinking Water Threat
    - Highly Vulnerable Aquifer
    - Section 59 Notice
    - Septic System
    - Significant Drinking Water Threat
    - Significant Groundwater Recharge Area
    - Source Protection Plan
    - Vulnerable Area
    - Wellhead Protection Area

The following schedules will need to be prepared to accompany the amendment:

- Add new Schedule D – Source Protection Plan Areas, which identifies the limits of the Source Protection Plans applicable to the Township, to facilitate Source Protection Plan reference within the Official Plan policy text.
- Add new Schedule D1 – Richmond WHPA, which illustrates and conforms to the limits of the WHPA- C area and associated vulnerability score as per *'Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)* of the Long Point Region Source Protection Plan.
- Add new Schedule D2 – Belmont WHPA, which illustrates and conforms to the limits of the WHPA-C area and associated vulnerability score as per *'Schedule A: Municipality of Central Elgin, Village of Belmont Water Supply'* of the Kettle Creek Source Protection Plan.

The Official Plan policy text for the Township of Malahide is enclosed as **Appendix D3**. Schedule A of the Long Point Region Source Protection Plan and Schedule A of the Kettle Creek Source Protection Plan have been included within the amendment text for reference purposes.

The **proposed Zoning By-law Amendment** will establish new Sourcewater Protection Provisions (Section 4.47) that:

- Identifies and describes the vulnerable area (WHPAs) within the municipality and the associated vulnerability score, and identifies the municipal drinking water wells as being located outside of the Township;
- Identifies Dense Non-Aqueous Liquids (DNAPLs) as the only prescribed drinking water threat;
- Implements the Restricted Land Use Policy of both the Kettle Creek and Long Point Region Source Protection Plans, prohibiting land uses that involve the handling and storage of DNAPLs

until it is determined by the Risk Management Official that the use does not represent a significant drinking water threat or a Section 59 Notice has been issued; and

- Adds the following terms to Section 2 - Definitions:
    - Drinking Water Threat
    - Section 59 Notice
    - Significant Drinking Water Threat
- Schedule A mapping ill need to be revised to include an overlay that illustrates and conforms to the limits of the WHPA-C areas and associated vulnerability scores as per *'Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)* of the Long Point Region Source Protection Plan and *'Schedule A: Municipality of Central Elgin, Village of Belmont Water Supply'* of the Kettle Creek Source Protection Plan.

The Zoning By-law text for Malahide is enclosed as **Appendix E5**. Schedule A of the Long Point Region Source Protection Plan and Schedule A of the Kettle Creek Source Protection Plan have been included within the amendment text for reference purposes.

8.0

GENERAL WATER RESOURCES POLICY FRAMEWORK

As part of our review and implementation of the applicable SPP policies in Elgin County, we have also assessed the general water resources policy framework for all municipalities within the County to ensure a consistent policy framework between those municipalities that do and do not have municipal drinking water systems that are regulated by a Source Protection Plan. The following municipalities within Elgin County do not have municipal drinking water systems that are regulated by a Source Protection Plan:

- Municipality of Dutton-Dunwich
- Municipality of West Elgin
- Town of Aylmer
- Township of Southwold

Section 2.2 of the Provincial Policy Statement provides the policy guidance for water resource policies of municipal Official Plans and states:

2.2.1 Planning authorities shall protect, improve or restore the quality and quantity of water by:

a) using the watershed as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development;

b) minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;

c) identifying water resource systems consisting of ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas, which are necessary for the ecological and hydrological integrity of the watershed;

d) maintaining linkages and related functions among ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas;

e) implementing necessary restrictions on development and site alteration to:

1. *protect all municipal drinking water supplies and designated vulnerable areas; and*
2. *protect, improve or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features, and their hydrologic functions;*

f) planning for efficient and sustainable use of water resources, through practices for water conservation and sustaining water quality;

g) ensuring consideration of environmental lake capacity, where applicable; and

h) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.

2.2.2 Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored. Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.

The purpose of the general water resources policy framework is to ensure that the Official Plans of all local municipalities conform to Section 2.2 of the Provincial Policy Statement, 2014. The following was undertaken to prepare draft amendments for the above-noted local municipalities to implement a general water resources policy framework:

1. Review of existing water/groundwater/water resource policies
2. Development of a 'list' of general water resource policies, based on the 'Water' policy framework of the Provincial Policy Statement, best practices review and existing policies of local municipal Official Plans; and
3. The preparation of draft amendments to implement the general water resource policies 'list' in local municipalities, and modify/delete irrelevant or outdated policies

The following subsections outline the approach to the preparation of the general water resources policy framework and draft Official Plan Amendments for those municipalities that do not have municipal drinking water systems regulated by a Source Protection Plan within Elgin County.

8.1 Existing Water Resource Policies

The existing water resource policies of West Elgin, Aylmer and Southwold range with respect to breadth and depth in individual Official Plans and are compared in the chart enclosed as **Table 1**. Currently, the Official Plan of Dutton-Dunwich does not have a water resources policy framework. Generally, the Official Plan policy frameworks can be described as:

- Referencing source water protection/source water protection planning under the *Clean Water Act, 2006* (West Elgin, Southwold);
- Promoting cooperation with local conservation authorities (Southwold, West Elgin)
- Implementing some water resources policies of the Provincial Policy Statement, 2014 (West Elgin); and
- Containing minimal policies regarding Water Resources (Aylmer), or no water resources policies at all (Dutton-Dunwich).

8.2 General Water Resource Policies

Based on the existing water resource policy frameworks described in Section 7.1 above, the best practices review summarized in **Appendix B** and the policy framework of Section 2.2 of the Provincial

Table 1. Existing Water Resource Policies of Official Plans of Other Local Municipalities

West Elgin

3.4 WATER RESOURCES The water resources of West Elgin include the Thames River which bounds the Municipality on the north and Lake Erie which bounds the Municipality on the south as well as numerous streams and creeks which flow into these respective water bodies. Also included are groundwater resources on which a large part of the 'Rural Area' depends as a source of water. Measures and practices are necessary to reduce or eliminate the potential for impairment of the **quality and quantity** of the Municipality's surface and groundwater resources

3.4.1 Source Water Protection Plan The Municipality shall actively participate in the preparation and implementation of a source water protection plan in accordance with the Clean Water Act and led by the conservation authorities designated for these purposes.

3.4.2 Adverse Impacts Where development is being proposed that may have an adverse impact on the Municipality's water resources, the proponent shall be required to submit a report prepared by a person or persons qualified in this field to identify and evaluate such impacts and the measures which are feasible to mitigate these impacts.

3.4.3 Sustainable Use The Municipality shall **promote efficient and sustainable use of its water resources** by adopting water conservation measures and sustaining water quality through such measures as maintaining appropriate sewage rates in areas served by municipal treatment plants, the preparation and implementation of nutrient management plans for livestock operations, requiring stormwater management plans for new development and promoting appropriate use and maintenance of individual and communal waste disposal systems and the use of low nitrate generating systems.

3.4.4 Partnerships The Municipality shall co-operate with the Lower Thames Valley Conservation Authority and other interested groups to identify and implement cost effective measures for protecting, **improving and restoring the quality and quantity** of the water resources of West Elgin.

3.4.5 Stormwater Management Studies may be required for undeveloped areas prior to development to minimize stormwater runoff and contaminant loads as well as to maintain or enhance **vegetative and pervious surfaces**. Such studies shall be prepared, where appropriate to do so, on a sub-watershed basis as opposed to a land ownership basis. Stormwater Management facilities shall not be permitted in provincially significant wetlands. In the preparation and evaluation of such studies, the Lower Thames Valley Conservation Authority shall be consulted. All design parameters for stormwater management shall be approved by the Municipality, the Ministry of Environment and the Lower Thames Valley Conservation Authority. A certificate of approval shall be required from the Ministry prior to construction.

3.4.6 Watershed Boundaries Rodney and West Lorne are situated partially within the watershed of the Thames River and partially within the watershed of Lake Erie. Within these settlements, there are a number of sub-watersheds stemming from a series of drains. In the case of Rodney, these include the Milton Drain and the Wismer Drain while in the case of West Lorne, they include the Trigger Drain and the Wilton Outlet Drain. Modifications to the boundaries of sub-watersheds may be required as a result of minor re-grading to facilitate development. Such modifications shall be subject to the approval of the Municipality and the Lower Thames Valley Conservation Authority.

Aylmer

(1) Stormwater Management Studies Prior to development being allowed to proceed, and if required by the policies of this Plan, the Catfish Creek Conservation Authority and/or the Ministry of the Environment, the developer shall undertake a stormwater management study to determine the effect of increased run-off due to development of the site, and to identify stormwater management measures as necessary to control any increases in flows in downstream watercourses, up to and including the 1:100 year design storm. This Plan requires the preparation of a stormwater management study for any new development consisting of more than five residential lots or for commercial or industrial developments with large amounts of impervious area. The study shall identify practices that will minimize stormwater volumes and contaminant loads and determine the appropriate stormwater facilities for the development to achieve these objectives. The developer shall install the stormwater management measures identified in the study as part of the development of the site, to the satisfaction of the Town and the Conservation Authority. In addition to the Catfish Creek Conservation Authority, the Ministry of Environment and the Ministry of Transportation shall be consulted on stormwater management studies in situations where statutory approvals are necessary under the Ontario Water Resources Act and/or in situations where development is proposed adjacent to a Provincial Highway.
Stormwater management studies will be considered in light of the Ministry of the Environment's current Stormwater Management Practices Planning and Design Manual

(2) Groundwater Studies This Plan acknowledges that studies are being undertaken by the Conservation Authority to identify sensitive groundwater resource areas in the Catfish Creek watershed. Amendments may be required to this

Plan to incorporate policies and designations for protecting these groundwater resources as may be recommended by the study.

Southwold

2.5 WATER RESOURCES
The Township contains watercourses draining to Lake Erie and the Thames River. Among other resources, wetlands, the lake, river and streams support the natural environment and the existing community. The following will be the policy of the Township:
a) The Township will work cooperatively with the Kettle Creek and Lower Thames Valley Conservation Authorities in dealing with land management issues within the subwatersheds draining to Lake Erie, including those that extend beyond the municipal boundaries
b) The Township will encourage the preparation of watershed and subwatershed management plans and regional stormwater quality/quantity management facilities to assist in water resource and land use planning on an ecosystem basis. To the extent feasible, the Township will support the Conservation Authorities in the preparation and implementation of watershed and subwatershed plans.
c) The Township will encourage the protection and restoration of Natural Heritage Features to **improve water quality and quantity.**
d) Planning applications that propose to make use of a private water source will be required to submit a detailed hydrogeological study to determine the suitability of the lands for groundwater extraction. The hydrogeological study will be prepared to the satisfaction of the Township and the affected Conservation Authority.
e) The Township will require the use of stormwater management facilities downstream of new developments, where appropriate, to mitigate development impacts on stormwater quantity and quality. The Township will promote naturalized and unfenced stormwater management facilities, constructed with gentle slopes. Applications for development will be required to be supported by a stormwater quality/quantity management study. The planning and design of stormwater facilities should be undertaken in accordance with the Ministry of the Environment's Stormwater Management Planning and Design Manual.
f) A Permit To Take Water (PTTW), in accordance with the Ontario Water Resources Act is required from the Ministry of Environment where more than 50,000 litres a day of groundwater/surface water will be drawn.
g) Environmental Assessment and Certificate of Approval may be required from the Ministry of Environment in connection with stormwater management facilities and permits to take water.
h) In cooperation with the private sector and the community, the Township will encourage the reduction of water consumption levels through the promotion of the **efficient use of water** and may specify appropriate water conservation measures within existing and new development.

2.6 AQUIFER AND GROUNDWATER PROTECTION The protection, conservation and careful management of groundwater resources is necessary to meet both the present and future needs of residents, businesses and the natural environment. The Township supports initiatives of the Province and the Conservation Authorities, agencies, including the implementation of a Source Water Protection Plan and the Permit to take Water Program to protect groundwater resources. Assurance that groundwater **quality and quantity** will not be negatively impacted will be required for approval of applications for development. The Township will require groundwater impact assessments for development proposals as appropriate according to the level of susceptibility and potential groundwater contaminants.

2.6.1 SOURCE WATER PROTECTION In accordance with the Clean Water Act, 2006 and Provincial Policy, the Township will take measures to protect, improve or restore the quantity and quality of groundwater sources to secure long-term hydrologic stability, healthy aquatic habitat and safe drinking water supply. **Drinking Water Supply:** The Township's drinking water is supplied from the Elgin Area Primary Water Supply Treatment Plant located in Central Elgin Township. **The intake for the Water:** Treatment Plant is in Lake Erie. At this time, there are no Intake Protection Zones in Southwold Township according to the draft Kettle Creek Water Assessment Report. There are no Wellhead Protection Areas in Southwold Township according to both the draft Lower Thames and Kettle Creek Source Water Protection Assessment Reports. **Aquifers and Groundwater Recharge Areas:** Aquifers and Significant Groundwater Recharge Areas have been identified in Source Water Protection Area Assessment Reports as being vulnerable to contaminants. **Development Proposals:** Development Proposals or changes in use in these areas will require determination of their potential negative impact on the groundwater and appropriate mitigating measures imposed as a condition of approval. **Livestock and Poultry Farms:** In the interest of protecting the quality of ground and surface waters, new or expanding livestock and poultry operations will satisfy the policies of Section 4.1 Agriculture. **Potential for Intake Protection Zone:** There may be an Intake Protection Zone in the Township, depending on the outcome of the Source Water Protection Plan process. **Intent to Update Mapping and Incorporate:** The aquifers and groundwater recharge areas have been mapped by the Source Water Protection Committees. New information may result in a change in the geographic extent of existing aquifers and groundwater recharge areas or possibly an Intake Protection Zone. Changes to the extent of aquifers and groundwater recharge areas or an Intake Protection Zone will be reflected on Source Water Protection Schedules to be incorporated as part of the Official Plan when Source Water Protection Plans are approved and in effect. An Amendment to this Plan may be required to incorporate the outcome of the Source Water Protection processes.

Note the Dutton-Dunwich Official Plan does not contain an existing water resource policy framework and as such has not been included in the chart

Policy Statement, 2014, a generic water resources policy framework was developed to incorporate into the individual Official Plans. The draft generic policy framework is as follows:

Water Resources

Surface water resources, including streams, lakes, ponds and wetlands are normally protected through their inclusion within the Natural Heritage System. Groundwater sources occur throughout the Town and are an essential resource for residents and businesses. It is the intent of this Plan that all development shall be subject to the following policies to ensure that water quality and quantity are not adversely affected. Specifically, it is the Town's intent that the development of public and private uses will not significantly alter groundwater recharge or discharge; impair groundwater or surface water quality, or negatively impact municipal groundwater supply. The Town recognizes a relationship between groundwater and surface water in terms of recharge and discharge functions. The policies of this Plan are intended to address both ground water and surface water protection.

With respect to water resources, the Municipality shall endeavour to:

(1) Ensure land use decisions advance water conservation efforts and support the efficient use of water resources.

(2) Promote efficient and sustainable use of water resources that maintain and enhance water quantity and quality through the retention of vegetation or through re-naturalization.

(3) Encourage agricultural practices that protect water resources.

(4) Promote sustainable stormwater management practices that protect for, or where feasible, enhance water quality and water quantity control.

(5) Identify water resource systems consisting of groundwater features, hydrologic functions, natural heritage features and areas, and surface water features, which are necessary for the ecological and hydrological integrity of the watershed.

(6) Maintain linkages and related functions among groundwater features, hydrologic functions, natural heritage features and areas, and surface water features.

(7) Protect or enhance the function of sensitive groundwater recharge areas, discharge areas, aquifers and headwaters.

(8) Work cooperatively with Conservation Authorities and Provincial Ministries regarding land management issues within the watersheds of the Municipality.

(9) Ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic systems on an integrated watershed management basis.

(10) Ensure that development meets provincial water quality objectives;

(11) Ensure levels of wastewater treatment that are appropriate for the size, location and scale of development anticipated.

(12) Protect wetlands and areas that make significant contributions to groundwater recharge.

(13) Ensure the base flow needed to protect streams, fisheries and wetlands are maintained.

(14) Support sustainable stormwater management practices that protect, or where feasible, enhance water quantity and quality control.

(15) Implement necessary restrictions on development and site alteration to protect municipal drinking water supplies, vulnerable areas, and sensitive surface and groundwater features.

(16) Improve or restore sensitive surface and groundwater features through low impact development approaches and restrictions on development and site alteration, where necessary.

How the generic water resource policy framework is incorporated into the individual Official Plans of Dutton-Dunwich, West Elgin, Aylmer and Southwold is dependent on the structure of the existing water policy frameworks in these documents. A new water resource policy framework was developed for each of these municipal Official Plan using the generic policy framework provided above and taking into consideration existing policy texts of each Plan. Proposed new water resource policy frameworks for each municipality are enclosed as **Appendix F**.

It is noted that the generic water resource policy framework was incorporated, as appropriate, into the new Source Protection policy frameworks for the Central Elgin, Bayham and Malahide Official Plans to ensure a degree of consistency in water resource policy between all local municipal Official Plans in Elgin County.

9.0

SUMMARY & NEXT STEPS

The proposed new Source Protection Official Plan policy frameworks and Zoning By-law texts and associated Schedules for Elgin County, Central Elgin, Bayham and Malahide are included in Appendices D and E and reflect the policy text and Schedule revisions outlined in Section 7.0 of this Report.

The County and local municipalities will be undertaking their Official Plan and Zoning By-law Source Protection Plan conformity exercises either through stand-alone Official Plan Amendments or upcoming Official Plan Reviews, within the timeframes prescribed by the Long Point Region and Kettle Creek Source Protection Plans. The draft Official Plan and Zoning By-law texts will be used as the basis for the preparation of formal Amendments to individual Official Plans and Zoning By-laws. Schedules for both the Official Plan and Zoning By-law Amendments, as described in Section 7 of this Report, will need to be prepared by the County and the local municipalities in order to finalize the Amendments. Once prepared, the Amendments will be circulated to the public, stakeholders, agencies, Conservation Authorities and Source Protection Authorities for review and comment. All comments received on individual Amendments will be recorded and considered in the preparation of the final Amendment(s), to be brought to applicable Committees and Councils for adoption.

With respect to the water resources policy frameworks developed for the remaining local municipalities within the County and enclosed herein as Appendix F, it is anticipated that the policy text will be further refined and incorporated into Official Plans through future Official Plan Reviews or housekeeping Amendments. At that time, the public, agencies and other stakeholders will have the opportunity to review and comment on the proposed water resources policies framework for each local municipality.

We believe the proposed Official Plan and Zoning By-law Amendment text enclosed herein for Elgin County and local municipalities appropriately implements and considers the applicable Source Protection Plans and are consistent with the Provincial Policy Statement, 2014.

Respectfully submitted,

MHBC

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APPENDIX A

Summary Chart: Section 57 and 58 Policies of the Kettle Creek and Long Point Region Source Protection Plans

PROHIBITIONS & RMP BY VULNERABLE AREA ELGIN		
File 1491B December 2016		

WHPA - A		
Threat	**Kettle**	**Long Point**
Waste Disposal Site NOT subject to ECA	Prohibit	-
Waste Disposal Site subject to ECA	PI Prohibit	PI Prohibit
Storage, treatment and discharge of tailings from mines	PI Prohibit	-
Application of untreated Septage to Land	PI Prohibit	-
Sewage/Septic Systems - Septics	PI Prohibit	LU Prohibit[1]
Sewage/Septic Systems - Storage of Sewage, Sewage Treatment Plant Effluent Discharges, Sewage Treatment Plant Effluent Discharge By-pass to Surface Water	PI Prohibit	PI Prohibit[2]
Sewage/Septic Systems - Sanitary Sewers & Related Pipes	RMP	-
Sewage/Septic Systems - Septic System Holding Tank	-	-
Sewage/Septic Systems - Industrial Effluent Discharge & Combined Sewer Discharge	-	-
Discharge of Stormwater from a Stormwater Management Facility	PI Prohibit	-
Application of ASM	Prohibit	Prohibit
Storage/Handling of ASM	Prohibit	Prohibit
Application of NASM	Prohibit	PI Prohibit
Storage/Handling of NASM	Prohibit	Prohibit
Application of Commercial Fertilizer	-	RMP
Storage/Handling of Commercial Fertilizer	Prohibit	Prohibit[3]
Application of Pesticide	Prohibit	RMP
Storage/Handling of Pesticide	Prohibit	Prohibit
Application of Road Salt	-	-
Storage/Handling of Road Salt	Prohibit	LU Manage
Storage of Snow	Prohibit	Prohibit
Storage/Handling of Fuel	Prohibit	Prohibit
Storage/Handling of DNAPLs	Prohibit	Prohibit
Storage/Handling of Organic Solvents	Prohibit	Prohibit
Management of Runoff – Aircraft De-Icing Chemicals	-	-
Use of Land as Livestock Grazing/Pasturing Land, Outdoor Confinement Area or Farm Animal Yard	Prohibit	RMP[4] Prohibit[5]
	[1]Where a Prescribed Instrument is not required	[1] design flow greater than 10,000 L
		[2] storage of sewage or treatment plant effluent discharge
		[3] greater than 2,500 kg
		[4] future livestock grazing/pasturing
		[5] new farm animal yard/outdoor confinement area

WHPA - B v.8		
Threat	**Kettle Creek**	**Long Point**
Waste Disposal Site subject to ECA	PI Prohibit[1]	-
Waste Disposal Site not subject to ECA	-	-
Sewage/Septic Systems - Septics	-	-
Sewage/Septic Systems - Storage of Sewage, Sewage Treatment Plan Effluent Discharges, Sewage Treatment Plant Discharge By-pass to Surface Water	PI Prohibit[2]	-
Sewage/Septic Systems -Sanitary Sewers & Related Pipes	-	-
Sewage/Septic Systems - Industrial Effluent Discharge & Combined Sewer Discharge	-	-
Discharge of Stormwater from a Stormwater Management Facility	-	-
Application of ASM	-	-
Storage/Handling of ASM	-	-
Application of NASM	-	-
Storage/Handling of NASM	-	-
Application of Commercial Fertilizer	-	-
Storage/Handling of Commercial Fertilizer	-	-
Application of Pesticide	-	-
Storage/Handling of Pesticide	-	-
Application of Road Salt	-	-
Storage/Handling of Road Salt	-	-
Storage/Handling of Snow	-	-
Storage/Handling of Fuel	-	-
Storage/Handling of DNAPLs	Prohibit	RMP[1]
Storage/Handling of Organic Solvents	-	-
Management of Runoff – Aircraft De-Icing Chemicals	-	-
Use of Land as Livestock Grazing/Pasturing Land, Outdoor Confinement Area or Farm Animal Yard	-	-
	[1] only applies to landfilling of municipal waste and solid non-hazardous industrial or commercial waste, liquid waste injection into a well	[1] for industrial, commercial, institutional and agricultural purposes
	[2] storage of sewage only	

WHPA - B v.6		
Threat	**Kettle Creek**	**Long Point**
Waste Disposal Site subject to ECA	-	-
Waste Disposal Site not subject to ECA	-	-
Sewage/Septic Systems - Septics	-	-
Sewage/Septic Systems - Storage of Sewage, Sewage Treatment Plan Effluent Discharges, Sewage Treatment Plant Discharge By-pass to Surface Water	-	-
Sewage/Septic Systems -Sanitary Sewers & Related Pipes	-	-
Sewage/Septic Systems - Industrial Effluent Discharge & Combined Sewer Discharge	-	-
Discharge of Stormwater from a Stormwater Management Facility	-	-
Application of ASM	-	-
Storage/Handling of ASM	-	-
Application of NASM	-	-
Storage/Handling of NASM	-	-
Application of Commercial Fertilizer	-	-
Storage/Handling of Commercial Fertilizer	-	-
Application of Pesticide	-	-
Storage/Handling of Pesticide	-	-
Application of Road Salt	-	-
Storage/Handling of Road Salt	-	-
Storage/Handling of Snow	-	-
Storage/Handling of Fuel	-	-
Storage/Handling of DNAPLs	Prohibit	RMP[1]
Storage/Handling of Organic Solvents	-	-
Management of Runoff – Aircraft De-Icing Chemicals	-	-
Use of Land as Livestock Grazing/Pasturing Land, Outdoor Confinement Area or Farm Animal Yard	-	-
		[1] for industrial, commercial, institutional and agricultural purposes

WHPA - C		
Threat	**Kettle Creek**	**Long Point**
Waste Disposal Site subject to ECA	-	-
Waste Disposal Site not subject to ECA	-	-
Sewage/Septic Systems - Septics	-	-
Sewage/Septic Systems -Storage of Sewage, Sewage Treatment Plan Effluent Discharges, Sewage Treatment Plant Discharge By-pass to Surface Water	-	-
Sewage/Septic Systems - Sanitary Sewers & Related Pipes	-	-
Sewage/Septic Systems -Industrial Effluent Discharge & Combined Sewer Discharge	-	-
Discharge of Stormwater from a Stormwater Management Facility	-	-
Application of ASM	-	-
Storage/Handling of ASM	-	-
Application of NASM	-	-
Storage/Handling of NASM	-	-
Application of Commercial Fertilizer	-	-
Storage/Handling of Commercial Fertilizer	-	-
Application of Pesticide	-	-
Storage/Handling of Pesticide	-	-
Application of Road Salt	-	-
Storage/Handling of Road Salt	-	-
Storage/Handling of Snow	-	-
Storage/Handling of Fuel	-	-
Storage/Handling of DNAPLs	Prohibit	RMP[1]
Storage/Handling of Organic Solvents	-	-
Management of Runoff – Aircraft De-Icing Chemicals	-	-
Use of Land as Livestock Grazing/Pasturing Land, Outdoor Confinement Area or Farm Animal Yard	-	-
		1 for industrial, commercial, institutional and agricultural purposes

IPZ		
Threat	**Kettle Creek**	**Long Point**
Waste Disposal Site subject to ECA	-	N/A
Waste Disposal Site not subject to ECA	-	N/A
Sewage/Septic Systems - Septics	-	N/A
Sewage/Septic Systems - Storage of Sewage, Sewage Treatment Plan Effluent Discharges, Sewage Treatment Plant Discharge By-pass to Surface Water	-	N/A
Sewage/Septic Systems - Sanitary Sewers & Related Pipes	-	N/A
Sewage/Septic Systems - Industrial Effluent Discharge & Combined Sewer Discharge	-	N/A
Discharge of Stormwater from a Stormwater Management Facility	-	N/A
Application of ASM	-	N/A
Storage/Handling of ASM	-	N/A
Application of NASM	-	N/A
Storage/Handling of NASM	-	N/A
Application of Commercial Fertilizer	-	N/A
Storage/Handling of Commercial Fertilizer	Prohibit[1]	N/A
Application of Pesticide		N/A
Storage/Handling of Pesticide		N/A
Application of Road Salt		N/A
Storage/Handling of Road Salt		N/A
Storage/Handling of Snow		N/A
Storage/Handling of Fuel	Prohibit[2]	N/A
Storage/Handling of DNAPLs		N/A
Storage/Handling of Organic Solvents		N/A
Management of Runoff – Aircraft De-Icing Chemicals		N/A
Use of Land as Livestock Grazing/Pasturing Land, Outdoor Confinement Area or Farm Animal Yard		N/A
	1 greater than 5,000 m3	
	2 greater than 6,000 L	

APPENDIX B

Best Practices Review Summary
Official Plans

Best Practices – Official Plans

The municipal implementation of Source Protection Plans is growing but continues to be relatively limited to date in Ontario despite all Source Protection Plans receiving final approval from the Ministry of Environment and Climate Change. However, some municipalities have adopted an implementing Official Plan Amendment, or incorporated Source Protection policies through recent Official Plan Reviews.

The following sections provide examples of policies and policy frameworks in place or proposed in other jurisdictions currently implementing Source Protection policies.

City of Barrie

The City of Barrie is implementing the Source Protection Plan in two phases. The first phase, undertaken in 2013, involved updating the mapping and policies of the Official Plan based on the information contained in the approved Assessment Report. The City is in the process of preparing a draft Official Plan Amendment to implement applicable Source Protection Plan policies.

The policies reviewed below are associated with the amendment resulting from the first phase of implementation.

The Official Plan currently contains policies related to the protection of Wellhead Protection Areas (WHPAs), and utilizes a Schedule overlay to delineate those areas where drinking water sources are vulnerable. Relevant policies within Section 3.5.2.3.5.1(b) require that:

- Development or site alteration that involves the storage or manufacturing of pathogens, chemicals or dense aqueous phase liquids are prohibited in vulnerable areas where they would be a significant threat;
- The expansion, alteration or redevelopment of existing uses in an area where an activity is or would be a significant threat may be permitted if the Risk Management Official (RMO) is satisfied that the threat ceases to be significant;
- A Threats and Issues Assessment (Water Quality) study is required when it is necessary to determine if a proposed development or use would be a significant threat within a vulnerable area; and
- The Zoning By-law shall prohibit or restrict land uses that involve a significant threat.

Further to the above policies, the City's Official Plan also includes policies related to the application and development process within WHPAs. Key concepts include:

- Any development, site alteration, or Planning Act proposal within a vulnerable area must include a Source Water Information Form
- A Threats and Issues Assessment – Water Quality study is required when it is necessary to determine whether a proposal would be a significant drinking water threat
- The City will seek opportunities through conditions of planning applications, development plans, community improvement plans, or other means to acquire lands, register easements or apply other methods to control activities within lands identified as WHPA-A.

- All industrial, commercial, institutional, open space and high density residential areas within vulnerable areas are subject to Site Plan Control.

Town of Innisfil

The draft new Official Plan for the Town of Innisfil includes a new policy section "Source Water Protection" to implement and conform to the South Georgian Bay Lake Simcoe Source Protection Plan. The proposed Source Water Protection policies of the new Official Plan:

- Identify and describe the vulnerable areas (WHPAs and IPZs) within the Town, and map these areas in an Appendix to an Official Plan;
- List the prescribed drinking water threats that would be prohibited in a vulnerable area where they would be a significant drinking water threat (Policy 15.4.1);
- Require preconsultation with the Risk Management Official to determine whether a proposed development or site alteration would involve a significant drinking water threat (Policy 15.4.2);
- Require the issuance of a Notice to Proceed (Section 59 Notice) in order for an application to be deemed complete;
- Implement the applicable land use planning policies of the South Georgian Bay Lake Simcoe Source Protection Plan; and
- Direct that the implementing zoning by-law shall contain an overlay zone to identify vulnerable areas.

The Innisfil approach to implementing Section 57 and 58 policies (Policy 15.4.1) is an example of a more 'flexible' approach. The requirement to preconsult with the Risk Management Official prior to the issuance of a Section 59 Notice (Policy 15.4.2) is a unique approach among the other municipalities reviewed and provides an example of implementing Section 59 policies, the link to complete application requirements, and how Risk Management Plans can be integrated into the process.

Niagara Region

The Niagara Peninsula Source Protection Plan was approved by the Ministry of the Environment with an effective date of October 1, 2014. Niagara Region brought forward a final recommendation report for Regional Official Plan Amendment 5 (ROPA 5) regarding source water protection policies and it was adopted by Regional Council on April 22, 2015.

Niagara Region draws its drinking water from surface water sources and as such the policy framework is limited to intake protection zones. The amendment will create a new section in the "Natural Environment' chapter of the Official Plan. Existing policies related to water resources remain unchanged.

The majority of the policy is worded similarly as those of the Source Protection Plan and therefore represent a direct implementation of the Source Protection Plan document. The policies are organized by intake protection zone (i.e. water treatment plant) similar to the Source Protection Plan and include prohibition and restriction policies for significant drinking water threats. Some of the prohibition policies reference the specific tables of circumstances where the activity or use is considered a significant drinking water threat such as policy 7.F.1.3 (DeCew Falls Water Treatment Plant):

Policy 7.F.1.3 *The discharge from wastewater treatment plants or combined sewer overflows, or discharge of industrial effluent is considered a significant threat as defined under the applicable circumstances in table 22 and table 48 in Appendix C of the Assessment Report (2013). Future*

combined sewers, wastewater treatment facilities, and industrial effluent systems which meet these criteria are not permitted within the DeCew Falls Intake Protection Zone 1.

This approach is not taken for uses and activities requiring Risk Management Plans.

The amendment also includes an annual reporting/monitoring policy, which outlines the content to be contained in the annual report, as well as new definitions to the definitions section. Included in the amendment are the definitions of the significant drinking water threats identified in the policies of the amendment, to be read in conjunction with the policy framework.

The Niagara Peninsula Assessment Report contained the applicable Tables of Circumstances in an Appendix to the Report.

Niagara Region's approach to prohibition represents another manner in which to address prohibited uses in the Source Protection Plan by incorporating the applicable Tables of Circumstances. Defining threats in the policy framework provides an understanding of the nature of prohibited uses and activities without the need to consult the Source Protection Plan or Assessment Report. The County may want to consider this approach as a means to provide 'lay' information to the public through a document (the Official Plan) that is most often used by the public.

Town of Midland

The South Georgian Bay Lake Simcoe Source Protection Plan was approved in 2014 and came into effect July 1, 2015. Prior to the in effect date, the Town of Midland prepared official plan and zoning by-law amendments to implement relevant SPP policies which were approved by Council on November 24, 2014. Prior to the amendment, the Official Plan contained a policy section related to groundwater resources and addressed groundwater source protection, wellhead protection areas, groundwater discharge areas and water takings. The amendment involved replacing the majority of the policies in this section with policies from the Town of Midland Source Protection Plan. Generally, the policies:

- Provide a text description of vulnerable areas and delineate wellhead protection areas on the Land Use Plan;
- List the drinking water threats regulated through the *Clean Water Act* and require the Risk Management Official to determine whether uses and activities would be a significant drinking water threat and should be prohibited or require a Risk Management Plan;
- Update existing general policies to include source protection considerations;
- Modify community design policies to address specific SPP policies;
- Add a number of on-site sewage system and stormwater management-related policies that are specific to the Town of Midland SPP;
- Incorporate a Restricted Land Use policy under Section 59 of the *Clean Water Act*, which reads as follows:

  No Planning Act Application may be made and no Building Permit or Change of Use Permit under the Ontario Building Code may be issued to establish the following uses:

  - *Application of agricultural source material to land*
  - *Handling and storage of agricultural source material*
  - *Application of non-agricultural source material*
  - *Handling and storage of non-agricultural source material*

- *Application of commercial fertilizer to land*
- *Handling and storage of commercial fertilizer*
- *Application of pesticide to land*
- *Handling and storage of pesticide*
- *Application of road salt*
- *Handling and storage of road salt*
- *Storage of snow*
- *Handling and storage of fuel*
- *Handling and storage of DNAPLs*
- *Handling and storage of organic solvents*
- *Use of land for livestock grazing, pasturing land, an outdoor confinement, or farm animal yard,*

unless a Risk Management Official has issued written notice under Subsection 59(2) of the Clean Water Act and the planning approval authority or building official is satisfied that:

a) The application complied with circumstances specified in the written notice from the Risk Management Official; and

b) The applicant has demonstrated that a significant drinking water threat activity designated for the purposes of Section 57 or 58 will not be engaged in, or will not be affected by the application.

- Establishes the following policies in their Implementation and Administration section:
  - Requirements for a site plan control agreement where a use or activity may be a significant drinking water threat;
  - Education and outreach policies for individual threats grouped by broader categories (i.e. agriculture-related, chemical-related, weather-related and infrastructure-related threats)

It is noted that in the Midland approach to the implementation of SPP policies, the drinking water threats are referred to as 'uses' and the policy framework does not expressly prohibit uses that may be associated with prescribed drinking water threats in vulnerable areas. Instead, the policy leaves the determination of whether a use should be prohibited or requires a Risk Management Plan to the Risk Management Official. An example of the policy language with respect to prohibited uses is as follows:

7.3.2.3 The following uses and activities are prohibited in accordance with Section 57 and Section 59 of the Clean Water Act, where they are or would be a significant threat to drinking water as determined by the Risk Management Official, or another professional duly qualified through the Clean Water Act…If the Risk Management Official or another person duly qualified through the Clean Water Act determines that there is no significant risk, then a use listed above may be permitted without the need for an amendment to this Plan where such use would otherwise be permitted.

7.3.2.4 The following existing uses and activities are designated for the purpose of Section 58 of the Clean Water Act, and require a risk management plan there they are a significant drinking water threat, as determined by the Risk Management Official, or another professional duly qualified through the Clean Water Act...

The Midland policy approach provides another implementation option with respect to prohibited uses and uses requiring a Risk Management Plan that could be considered as an approach for new Source Protection policies in the County and local municipal Official Plans.

County of Lennox & Addington

The first draft of the County's Official Plan was released in November 2014; it was approved by County Council on September 30, 2015 and approved by the Ministry of Municipal Affairs and Housing with modifications on March 9, 2016. The effective date of the Official Plan is April 5, 2016.

The Official Plan contained policies for Water Resources. Contained in the Plan are policies that apply restrictions to development and site alteration in Source Protection Areas.

The Development and Site Alteration policies in Section D2.2 state the following:

a) *Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored.*

b) *Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.*

With respect to Source Protection Plans, proposed policy D2.3.2 directs readers of the Official Plan to the relevant Source Protection Plan(s) for specific policies that may *"restrict or prohibit certain existing and future land uses or activities."*

Section D2.3.3 provides policies for the protection of WHPAs and IPZs and relies on 'notwithstanding' policies to indicate that uses may be prohibited or restricted. These policies read as follows:

a) *Notwithstanding the land use activities permitted by the underlying land use designations, shown on the Schedules to this Plan, land use activities which have been identified by a Source Protection Plan as being prohibited within SPP Policy Applicable Areas shall not be permitted.*

b) *Notwithstanding the uses permitted by the underlying land use designations shown on the Schedules to this Plan, uses/activities may only be permitted within the SPP Policy Applicable Area if the applicant demonstrates to the satisfaction of the lower tier municipality that the proposed use/activity is in conformity with the policies contained within the relevant Source Protection Plans.*

The policy framework of Section D2.3.3 also addresses existing uses as follows:

c) *Legally existing uses that are located within a SPP Policy Applicable Area, but which are regulated by the provisions of a Source Protection Plan policy and/or are incompatible with the provisions of this section of the Official Plan may be permitted to expand subject to the policies of this Official Plan and the relevant Source Protection Plan. Such uses shall be required to undertake measures that would protect municipal drinking water sources in the SPP Policy Applicable Area.*

This policy approach represents the simplest and most straightforward implementation of relevant source protection policies through the Official Plan.

Township of Huron-Kinloss

The Township of Huron-Kinloss adopted a new Official Plan in 2016. The Source Protection policy framework of the new Plan implements the relevant policies of the Maitland Valley and Saugeen, Grey Sauble, Northern Bruce Peninsula Source Protection Plans and includes the following:

- An overview of Source Protection Planning;
- The identification of vulnerable areas in the Township, including the mapping of Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas for information purposes only (i.e. no policies are provided for these vulnerable areas);
- The list of prescribed drinking water threats;
- The Section 59 and land use policies of the relevant Source Protection Plans;
- Includes the discretionary policies of the Source Protection Plans; and
- Incorporates the Zoning By-law conformity policy of the Source Protection Plans and provides guidance for the development of the implementing Zoning By-law Amendment.

Unique to other examples reviewed, the Huron-Kinloss Official Plan maps highly vulnerable aquifers (HVAs) and significant groundwater recharge areas (SGRAs) consistent with the 'vulnerable areas' definition of the Provincial Policy Statement, 2014. It is noted that Source Protection Plan conformity was undertaken as part as an Official Plan Review under the Planning Act as opposed to a stand-alone conformity amendment.

Municipality of Callander

The North Bay-Mattawa Source Protection Area Source Protection Plan was approved by the Minister of the Environment and Climate Change on March 5, 2015 and came into effect on July 1, 2015. Shortly after the plan came into effect, the Municipality of Callander approved Official Plan and Zoning By-law Amendments implementing the policies of the Source Protection Plan.

The Official Plan Amendment included establishing long term protection of drinking water through prohibitive policies where a threat was identified and the addition of a new schedule. New sections were added to the Official Plan which introduced policies relating to vulnerable areas within the municipality: Source Water Protection Zone One (SW IPZ-1), Source Water Intake Protection Zone One and Two (SW IPZ-1 and -2) and the Source Water Callander Issue Contributing Area (SW ICA). In addition to the policies, two accompanying Schedules were also introduced.

The new policy framework for the source water intake protection zones provides that:

4.21.5 *On the lands identified as hatched on Schedule "C" as Source Water Intake Protection Zone One (SW IPZ-1) the Municipality shall prohibit the future establishment of a land use that involves facilities for the storage of pesticides including the retail sale, manufacturing, processing and wholesaling thereof where the threat from the storage of pesticides is significant. Further the Municipality shall prohibit the future establishment of a salt storage facility greater than 5,000 tonnes where is stored in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt, as the threat from the open storage of road salt and, as a snow storage facility or snow dump (areas where snow is likely to be transported from offsite) where the threat from their establishment could be significant..*

4.21.6 *On the lands identified as cross-hatched on Schedule "C" as Source Water Intake Protection Zone One and Two (SW IPZ-1 and -2) the Municipality shall prohibit the future uses specifically including facilities for the storage of agricultural source material, facilities for the storage or handling of non-agricultural source material, facilities for the storage or handling of commercial fertilizer, and, the use of land as livestock grazing or pasturing land, an outdoor confinement area or farm – animal yard, as the threat from such uses would be significant.*

Furthermore, a policy with respect to Callander's issue contributing area was also added:

4.21.7 On the lands identified as hatched on Schedule "C1" as Source Water Callander Issue Contributing Area (SW ICA), the Municipality shall prohibit the future use of land as storage of tailings from a mine or mine tailings pond, only if related to a circumstance containing phosphorus.

The policy framework represents a direct implementation of the relevant Source Protection Plan policies.

County of Wellington

The County is a unique area with regards to source water protection as it is governed by a number of source water protection plans including Grand River; Credit Valley, Toronto and Region and Central Lake Ontario (CTC); Saugeen, Grey Sauble, Northern Bruce Peninsula; Halton Region-Hamilton Region; and Maitland Valley Source Protection Plans. In addition to ensuring that Official Plan policies conform to the applicable significant threats and land use policies set out in the individual source protection plans, the Official Plan Amendment for the County of Wellington also established a new "Communal Well Policy Area" to protect and maintain existing communal wells in the Township of Puslinch, as these wells were not assessed or addressed through Source Protection planning.

A number of new Official Plan policies were introduced as part of the amendment which was adopted by County Council on May 26, 2016. The amendment identified the vulnerable areas located in the County including Wellhead Protection Areas (WHPAs), Surface Water Intake Protection Zones (IPZs) and Issue Contributing Areas (ICAs). The amendment also provided the list of prescribed drinking water threats from the *Clean Water Act, 2006*. Applications within vulnerable areas are to be deferred to the Risk Management Official and a Section 59 Notice is required as part of a complete application.

The Amendment also incorporated the applicable land use planning policies of the five Source Protection Plans. An Appendix to the Official Plan was used to refer users to the appropriate Source Protection Plan Area within the County and therefore the appropriate land use policies of a specific Plan.

Furthermore, a number of sections of the existing County Official Plan were modified or deleted by the amendment including policies related to large-scale development on private communal or individual on-site sewage services, small scale residential development on individual on-site sewage services within WHPAs, mineral aggregate resources, communal well policies and implementation. General water resource policies were expanded to address Source Protection and matters addressed by Section 2.2 Water of the Provincial Policy Statement, 2014.

Local municipalities will be responsible for amending their respective Zoning By-laws in accordance with the applicable source protection plans.

The County of Wellington implementing Official Plan Amendment is one of the more recent examples of Source Protection Plan implementation under the Clean Water Act, 2006, having been reviewed by the Ministry of Municipal Affairs and Housing and ultimately adopted by County Council.

Town of Carleton Place

The Mississippi-Rideau Source Protection Plan was approved on August 27, 2014 and came into effect on January 1, 2015. The Source Protection Plan conformity amendment added policies regarding the Town's Intake Protection Zone (IPZ) and included the following:

4.3.13 a. *All development in the IPZ 10 area designated on Schedule A must be connected to municipal services.*

b. *Lands shown as Intake Protection Zone on Schedule A are areas where Planning Act and Building Code Act applications shall require a clearance notice from the Risk Management Official.*

8. *By January 1, 2016, Council shall initiate an education and outreach program for residents within the IPZ areas to raise awareness about drinking water sources and good stewardship practises. This education program shall be ongoing.*

This policy approach is a straight forward implementation of applicable Source Protection Plan policies under the Clean Water Act, 2006, and also implements a discretionary policy of the Source Protection Plan.

Municipality of Bluewater

The Municipality of Bluewater is subject to the Ausable Bayfield Source Protection Plan, which was approved by the Ministry of the Environment and Climate Change on January 19, 2015 and came into effect on April 1, 2015. As part of its Official Plan Review, the municipality incorporated new policies with respect to source water protection through a new section in the Official Plan.

The policies reference that there are four types of vulnerable areas within Huron County including Wellhead Protection Areas, Intake Protection Zones, Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas. The policies pledge to protect, improve and restore municipal drinking water resources and the components of the municipality's strategy will include the following:

- Education and Outreach;
- Prohibiting activities that are hazardous to the drinking water supply (OCWA Section 57);
- Developing and Implementing Risk Management Plans (OCWA Section 58);
- Restricted Land Use Notices (OCWA Section 59); and
- Addressing the 21 Drinking Water Threats identified in the OCWA.

The amendment also included policies with respect to private septic systems and municipal sanitary servicing on those properties located within wellhead protection areas and the vulnerability score is 10, which is a direct implementation of the land use planning policies of the Source Protection Plan.

In addition to implementing the significant threat policies of the relevant Source Protection Plan under the Clean Water Act, 2006, the Bluewater Amendment also recognizes the discretionary policies of the Ausable-Bayfield Source Protection Plan and identifies Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas in Official Plan mapping as 'vulnerable areas' under the Planning Act.

York Region

The South Georgian Bay Lake Simcoe Source Protection Plan came into effect on July 1, 2015 and the Credit Valley, Toronto and Region Central Lake Ontario Drinking Water Source Protection Plan came into effect on December 31, 2015. York Region is subject to the policies contained in both source protection plans.

In anticipation of the approved Assessment Reports and Source Protection Plans, placeholder policies were included in the ROP in 2010. As early as 2005, the York Regional Official Plan included wellhead

protection policies and mapping to be consistent with the Oak Ridges Moraine Conservation Act and the Greenbelt Act. In 2005, the policies were restricted to wellhead protection areas located on the Oak Ridges Moraine but in 2010, the policies and mapping in the ROP encompassed all wellhead protection areas to protect all municipal drinking water supplies. These were temporary measures until the Assessment Reports and subsequently the Source Protection Plans were complete.

In 2013 and in advance of the source protection plans coming into effect, staff proposed a draft amendment to the York Region Official Plan (ROP) 2010, Regional Official Plan Amendment 5, to update the mapping and policies in a number of areas. Policy amendments were required to ensure that policies implemented the mapping information found in the Assessment Reports and to improve policy wording that better reflected the intent of the Clean Water Act. In addition to the changes to the existing mapping, ROPA 5 also introduced two new maps which identified Significant Groundwater Recharge Areas and Highly Vulnerable Aquifers which were not previously identified on existing mapping.

Now that the source protection plans have been approved, a second ROPA will be required to bring the ROP into conformity with the Source Protection Plans. This Amendment has not yet been initiated.

Norfolk County

Norfolk County is a single-tier municipality and is subject to the Long Point Region Source Protection Plan. Draft amendments to the County's Official Plan and Zoning By-law have been prepared as part of the County's Source Protection Plan conformity exercise to incorporate the significant threat policies of the Long Point Region Source Protection Plan.

The draft Official Plan Amendment will update the County's existing Source Protection/Water Resource policy framework that:

- Identifies the vulnerable areas (WHPAs, IPZs and ICAs) within the County and maps each vulnerable area on a separate schedule to the Official Plan;
- Identifies the prescribed drinking water threat activities and defers the determination of whether a land use activity is a significant drinking water threat to the Risk Management Official;
- Implements the land use planning policies of the Long Point Region Source Protection Plan;
- Updates existing water resource policies with the discretionary policies of the Source Protection Plan (i.e. education and outreach, monitoring); and
- How the Official Plan is to be amended when the Source Protection Plan is reviewed and updated.

The draft Official Plan Amendment has many similar characteristics to those of other municipalities that have implemented Source Protection Plans within their jurisdiction. The Norfolk is somewhat unique in that the policy framework will implement some of the discretionary policies of the Long Point Region Source Protection Plan. It is noted that the Norfolk Official Plan contained policies regarding education and outreach and monitoring in its water resource policy section prior to undertaking the Source Protection Plan conformity exercise.

Township of Tiny

The Township of Tiny's Source Protection conformity Amendment takes a similar approach to that of the Town of Midland and expressly prohibits uses and activities involving the prescribed drinking water threats where they are or would be a significant threat to drinking water under Section 57 and 59 of the Clean Water Act. Similarly, the prescribed drinking water threats are again listed in the Official Plan policy

framework, and applied to the requirement of Risk Management Plans under Section 58 of the Clean Water Act. Determination as to whether a land use or activity is a significant drinking water threat is deferred to the Risk Management Official, or "another professional duly qualified through the *Clean Water Act*" (Policy C4.1.2 and C4.1.4). The policy framework implements the applicable significant threat and land use planning policies of the South Georgian Bay Lake Simcoe Source Protection Plan, as well as a number of discretionary policies related to education and outreach, incentives, and specific actions.

Vulnerable Areas (WHPAs) and Issue Contributing Areas (ICAs) are mapped as a policy overlay on existing Official Plan Schedules. The full extent of WHPAs, including WHPA-D areas, are mapped in the Official Plan, despite there being no significant threat policies associated with these areas.

Summary of Best Practices

Municipal approaches to the preparation of Official Plan policy frameworks to implement Source Protection Plan policies under the *Clean Water Act, 2006* varies between municipalities and is dependent on the structure of existing official plan policy and the significant threat policies of the applicable Source Protection Plan(s). With respect to specific policy approaches, the following is noted from the best practices review:

- Some municipalities take a more restrictive approach to significant drinking water threats by prohibiting or restricting specific uses in vulnerable areas, whereas others take a more permissive approach by deferring to the Risk Management Official or to the relevant Source Protection Plan in the policy framework;
- In some cases, individual significant drinking water threats are defined within the source protection policy framework or glossary of the Official Plan, whereas in others the prescribed drinking water threats are simply listed without further definition in the Official Plan;
- Land use planning policies of the relevant Source Protection Plan(s) are directly implemented through Official Plan policy text;
- A schedule is included in the Official Plan where multiple Source Protection Plans apply and is referenced in the policy text to appropriately apply different policies of multiple Source Protection Plans within one municipality;
- Some municipalities map WHPA-D areas even though there are no significant threat policies for these areas contained in Source Protection Plans;
- Vulnerable Areas (WHPAs, IPZs) are either mapped in Official Plans on dedicated Schedules or as policy overlays on existing Official Plan Schedules;
- Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas are mapped for information purposes only in Official Plans where Source Protection Plan conformity amendments are undertaken as part of an Official Plan Review;
- Required studies related to source water protection in vulnerable areas are defined or described within the framework of the Official Plan; and
- The Tables of Circumstances are cited in Official Plan policy, such as in the case of Niagara Region.

APPENDIX C

Best Practices Review Summary
Zoning By-laws

Best Practices – Zoning By-laws

Only a few best practice examples of Source Protection Plan conformity Zoning By- law Amendments are currently available. As such, these examples, as well as some zoning regulations that implement existing source water protection Official Plan policies (which were established pre-*Clean Water Act*), were examined to understand what, if any, innovative regulatory approaches exist to implement source protection Official Plan policies in a general sense. Existing By-laws that took a two-tier approach to regulating uses in WHPAs were the focus of the review. The following provides examples of how new zoning regulations to implement Source Protection Plan policies could be structured and therefore inform the preparation of Source Protection conformity Zoning By-law Amendments for local municipal Zoning By-laws.

Township of Zorra

The Township of Zorra has provisions within Section 5.1.2 of Zoning By-law 35-99 related to the protection of Groundwater Recharge Areas. Through these provisions (as associated mapping of such recharge areas on their Zoning Schedules), the Township uses a two-tiered approach to protect such areas. First, permitted uses are outlined as those uses that existed as of the date of the passing of the By-law. Furthermore, all uses permitted within the underlying zone are also permitted, with the exception of a list of uses that are deemed a threat to groundwater resources.

Those uses that are restricted by the By-law, when permitted in an underlying zone, require a Disclosure Report and/or Contingency Report prior to issuing a building permit, and also require the proponent to enter into a Site Plan Control agreement.

The Zoning By-law currently implements the water resource policies of the County of Oxford, which were established pre-*Clean Water Act*.

Town of Midland

The Town of Midland has prepared a draft Zoning By-law Amendment to implement the draft policies of the new Official Plan with respect to source water protection under their respective Source Protection Plan. The amendment involves establishing a Wellhead Protection Area Overlay Zone and a regulatory framework that restricts non-residential uses or activities associated with non-residential uses that involve any of the significant drinking water threats identified in the *Clean Water Act* until it is demonstrated to the satisfaction of the Risk Management Official, or other qualified professional, that the use does not represent a significant threat to drinking water within the overlay zone.

The amendment also establishes a Wellhead Protection Area *Quantity* Overlay Zone that prohibits non-residential uses that have the potential to impact the supply of water by removing water from an aquifer without returning it to the same aquifer unless it has been demonstrated to the satisfaction of the Risk Management Official, or other qualified professional, that the use does not represent a significant threat to drinking water within the overlay zone.

The Amendment implements the Section 57, 58 and 59 policies of the Source Protection Plan, as well as applicable land use planning policies.

Town of Innisfil

Section 3.53.1 of the Town of Innisfil Zoning By-law 080-13 contains provisions that prohibit uses in wellhead protection areas and intake protection zones that are identified in the current policy framework of the Official Plan. Wellhead protection areas and intake protection zones are shown on all zoning maps that form Schedule A to the By-law as opposed to being provided on a separate schedule to the Zoning By-law.

Section 3 is the General Provisions section of the Zoning By-law.

Township of Tiny

The Township of Tiny had approved a draft Zoning By-law Amendment for comment that implements the source protection policies of the South Georgian Bay Lake Simcoe Source Protection Plan and proposed source water policies of the Township's Official Plan. A new section is to be added to the Zoning By-law through the proposed amendment that regulates or prohibits uses in source protection areas. The By-law uses an overlay zone approach to identify water quality and water quantity WHPAs and establishes a holding zone for uses involving the prescribed drinking water threats, which are listed in the amendment. The holding zone is only to be lifted upon confirmation from the Risk Management Official, or other duly qualified professional, that the use does not represent a significant drinking water threat. The same approach to the holding provision is used for drinking water quantity threats.

The overlay zone does not distinguish individual limits of WHPA-A, -B or –C areas, or associated vulnerability scores. New regulations are contained in the General Provisions section of the Zoning By-law.

Norfolk County

A draft Zoning By-law Amendment has been prepared for Norfolk County to implement the proposed Source Protection Plan conformity Official Plan Amendment and meet the statutory requirements of the *Clean Water Act, 2006*. The draft Amendment replaces the existing Wellhead Protection (Section 3.35) regulations of the By-law (note existing regulations based on the current source protection policy framework of the Official Plan, which was established pre-*Clean Water Act*, and includes the following from the draft Official Plan Amendment:

- Identifies vulnerable areas and describes vulnerability scores;
- Incorporates the Section 59 policy
- Uses the notwithstanding provision to prohibit any land use that may involve a prescribed drinking water threat until it is determined that the use does not represent a significant drinking water threat or a Section 59 Notice has been issued
- Incorporates the land use planning Source Protection Plan policies related to large and small septic systems and holding tanks.

The existing Wellhead Protection Schedule series to the Zoning By-law (Schedule B) will be replaced through the draft amendment with the mapping of vulnerable areas from the Source Protection Plan. Different line types/thicknesses are used to identify the limits of WHPA-A, B and C areas as well as IPZs. Various shades of grey tones are used to identify the vulnerability scores of the WHPAs and IPZ. WHPA limits and vulnerability scores are included in the Schedule mapping to assist in the interpretation of the proposed zoning regulations, mainly the direct implementation of land use planning policies from the Long Point Region SPP.

Source Protection regulations are contained in the General Provisions section of the Zoning By-law.

Summary

The zoning approach is generally consistent between all reviewed municipal zoning by-laws – an overlay is established, either in individual zoning maps or as a separate schedule to the By-law, and the regulatory framework applying to the overlay is contained in the General Provision section of the Zoning By-law.

The specific regulations are implementations of the Official Plan policy framework and as such are unique to individual municipalities.

The Township of Tiny takes a unique approach by establishing a holding provision on lands within vulnerable areas associated with the prescribed drinking water threats. The use of a holding provision is not recommended as it:

- Continuously requires amendments to the Zoning By-law to remove the holding provision for uses associated with prescribed drinking water threats where they do not constitute a *significant* drinking water threat, resulting in an overlap of process where such overlap is not required; and
- Puts the decision-making power to Council or Committee with respect to permitting the use, through the lifting of the holding provision, where the Risk Management Official is to determine whether the use is permitted subject to the *Clean Water Act* and applicable Source Protection Plan, provide the use is permitted by the underlying land use designation/zoning category.

Regulatory examples from the reviewed Zoning By-laws-noted By-laws that could be applied to the Zoning By-laws of local municipalities within the County include:

- The listing of the prescribed drinking water threats and deferring determination of whether use/activity is permitted to the Risk Management Official (Town of Midland and Norfolk County example);
- Direct implementation of Source Protection Plan land use planning policies; and
- Requirement of a Disclosure Report prior to the issuance of a Building Permit (Zorra example).

The recommended framework for the implementing Zoning By-law Amendment to be undertaken by local municipalities will be further assessed as the structure and content of individual Official Plan Amendments are prepared and refined in consultation with County and municipal staff.

APPENDIX D

Draft Official Plan Policy Text
Source Protection Plan Implementation

1. Elgin County
2. Municipality of Central Elgin
3. Municipality of Bayham
4. Township of Malahide

THE PREAMBLE

PURPOSE
The purpose of the proposed amendment is to establish a policy framework in the Elgin County Official Plan that provides direction to local area municipalities in amending their Official Plans to establish policies to protect water resources and conform to applicable Source Protection Plans that regulate municipal drinking water sources.

BASIS
Elgin County is subject to four Source Protection Plans, including the Kettle Creek Source Protection Plan, the Long Point Region Source Protection Plan, the Catfish Creek Source Protection Plan, and the Thames, Sydenham and Region Source Protection Plan.

Section 40 of the *Clean Water Act* requires municipalities to amend their Official Plans to conform with the relevant significant threat and designated Great Lakes policies and map schedules set out in those Source Protection Plans that regulate their municipal drinking water systems. The Municipalities of Central Elgin and Bayham have municipal drinking water systems that are regulated by the Kettle Creek and the Long Point Region Source Protection Plans, respectively. The Township of Malahide does not have any municipal drinking water systems regulated by a Source Protection Plan, but a portion of the Wellhead Protection Areas associated with drinking water systems in the Municipalities of Central Elgin and Bayham are located within the Township of Malahide and as such the Township Official Plan must also be amended to conform with the Kettle Creek and Long Point Source Protection Plans that regulate these systems.

Remaining municipalities within Elgin County – being the Town of Aylmer, Municipality of Dutton-Dunwich, the Township of Southwold and the Municipality of West Elgin – do not have municipal drinking water systems that are regulated by a Source Protection Plan. However, the extent of existing policies related to the protection of water resources varies between the Official Plans of these municipalities. Providing direction to these municipalities for the establishment of a standard water resources policy framework ensures that water resources are afforded the same level of protection across all municipalities within the County whether or not their drinking water systems are regulated by a Source Protection Plan.

This Amendment includes a new Schedule to the County Official Plan, which identifies the Source Protection Plan Area boundaries of the Kettle Creek, Long Point Region, Catfish Creek and Thames, Sydenham and Region Source Protection Plans as they apply to Elgin County.

LOCATION
The Amendment affects all municipalities within Elgin County.

BACKGROUND
Section 2.2 of the Provincial Policy Statement, 2014 (PPS) establishes a policy framework that provides direction to municipalities in the protection, improvement and restoration of water quality and quantity to which Official Plans must conform. Vulnerable areas related to municipal drinking water resources that are delineated through the Source Protection Planning process under the *Clean Water Act, 2006* meet the definition of *designated vulnerable areas* under the PPS. Policy 2.2.1 of the PPS gives municipalities the authority to protect, improve and restore the quality and quantity of water by implementing necessary restrictions on development and site alteration.

A Background Report was prepared to document the development of the draft policy framework of this

Amendment. The Background Report provides a review of the mapping and policies of the relevant Source Protection Plans that are to be implemented through the Official Plan, a best practices review of approaches to Source Protection conformity Amendments undertaken by other municipalities and an analysis of the existing policy framework of the Elgin County Official Plan. Based on the findings of this work, a range of Source Protection Plan policy implement options and considerations for the draft Amendment were presented to County planning staff and the Risk Management Official in January 2017. The recommended implementation options were then carried forward to form the basis of the drafting of the proposed Amendment. The draft Amendment was further refined with County staff and the Risk Management Official in February 2017 in a Municipal Workshop format prior to being circulated for public and agency comment.

THE POLICIES

D2 WATER RESOURCES

Surface and groundwater sources occur throughout the County and are an essential resource for urban and rural water supplies, agricultural production and the maintenance of the natural heritage system. Surface water sources, including streams, lakes, ponds and wetlands are normally protected through their inclusion within the natural heritage system. Maintaining a sustainable groundwater supply is a priority to meet the needs of current and future residents. The following policies will provide guidance with respect to the protection and management of water resources in the County.

D2.1 Watercourses

All of the watercourses in the County are considered to be environmentally *significant* since they:

a) store storm and melt waters;

b) contain fish and *wildlife habitat* areas;

c) function as corridors for migrating *wildlife habitat* movement and vegetation dispersal;

d) serve to maintain the *quality and quantity of water* (surface and ground water resources); and,

e) assist in the improvement of air quality.

It is the intent of this Plan to protect all watercourses from incompatible *development* to minimize the impacts of such *development* on their function.

D2.2 Improving, Protecting and Restoring

The County and local municipalities shall protect, improve or restore the quality and quantity of water by:

a) using a watershed as the ecologically meaningful scale for planning;

b) minimizing potential negative impacts, including cross- jurisdictional and cross-watershed impacts;

c) identifying surface water features, ground water features, hydrologic functions and natural heritage features and areas that are necessary for the ecological and hydrological integrity of the watershed;

d) implementing necessary restrictions on development and site alteration to conform with the Source Water Protection Policies of this Plan;

e) maintaining linkages and related functions among surface water features, ground water features, hydrologic functions and natural heritage features and areas;

f) promoting efficient and sustainable use of water resources, including practices for water conservation and sustaining water quality;

g) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces;

h) promoting the use of sustainable and low impact development stormwater strategies and practices;

i) restricting development and site alteration in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored; and

j) employing mitigative measures and/or alternative development approaches, where required, to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.

D2.3 Source Water Protection

The Clean Water Act, 2006 ensures the protection of municipal drinking water supplies by outlining a risk-based process on a watershed basis to identify vulnerable areas (i.e. wellhead protection areas) and associated drinking water threats through the preparation of Assessment Reports, and develop policies and programs to eliminate or reduce the risks posed by identified drinking water threats through the preparation of Source Protection Plans. This process is otherwise known as Source Protection Planning.

The science-based Assessment Report is the technical basis upon which a Source Protection Plan is prepared. The Source Protection Plan contains policies to address the drinking water threats identified in the Assessment Report. There are four Source Protection Plans that apply within the County of Elgin: the Catfish Creek Source Protection Plan, the Kettle Creek Source Protection Plan, the Long Point Region Source Protection Plan; and the Thames, Sydenham & Region Source Protection Plan. The boundaries of these Source Protection Plans as they apply to the County are identified in Schedule D to this Plan.

The Municipalities of Central Elgin and Bayham have drinking water systems that are regulated by one or more Source Protection Plans. To implement Source Protection Plan policies and ensure the protection, improvement and restoration of the quality and quantity of groundwater resources, local municipalities shall amend their official plans, and where required, zoning by-laws to:

a) promote water conservation practices, including the efficient and sustainable use of water resources;

b) encourage stormwater management practices that minimize stormwater volumes and contaminant loads in order to enhance water quality and quantity control;

c) implement restrictions on development and site alteration to protect all municipal drinking water supplies and sensitive groundwater features;

d) encourage agricultural practices that protect water resources;

e) identify the vulnerable areas in which a significant drinking water threat could occur as specified in the applicable Source Protection Plan(s); and

f) conform to significant drinking water threat policies and threat-specific land use policies as required by applicable Source Protection Plan(s).

The following terms are to be added to Appendix 'A' Defined Terms:

Activity

Means one or a series of related processes that occurs within a geographical area and may be related to a particular land use.

Assessment Report

Means a scientific-based document that forms the basis of the Source Protection Plan, by identifying vulnerable areas, assessing vulnerability, identifying source water quality issues, identifying threats to the drinking water, and assessing the risk due to threats.

Drinking Water Threat

Means an *activity* or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water, and includes an activity or condition that is prescribed by the regulations as a drinking water threat. (Clean Water Act, 2006)

Highly Vulnerable Aquifer

Means an aquifer on which external sources have or are likely to have a significant adverse effect, and includes the land above the aquifer. (Ontario Regulation 287/07 under the Clean Water Act, 2006)

Section 59 Notice

Refers to the requirements under Section 59 of the Clean Water Act, which requires issuance of a notice from the Municipality's Risk Management Official before permitting an *activity* that is considered a restricted land use as identified in the *Source Protection Plan*.

Significant Drinking Water Threat

Means a *drinking water threat* that, according to a risk assessment, poses or has the potential to pose a significant risk. (Clean Water Act, 2006)

Significant Groundwater Recharge Area

Means an area within which it is desirable to regulate or monitor drinking water threats that may affect the recharge of an aquifer. (Ontario Regulation 287/07 under the Clean Water Act, 2006)

Source Protection Plan

Means a drinking water source protection plan prepared under the Clean Water Act, 2006. A Source Protection Plan contains policies to reduce the threats (identified in the *Assessment Report*) to drinking water sources.

Surface Water Intake Protection Zone

Means an area that is related to a surface water intake and within which it is desirable to regulate or monitor drinking water threats (Ontario Regulation 287/07 under the Clean Water Act, 2006).

Vulnerable Area

Means a *significant groundwater recharge area*, a *highly vulnerable aquifer*, surface *intake protection zone*, or a *wellhead protection area.* (Clean Water Act, 2006)

Wellhead Protection Area

Means an area that is related to a wellhead and within which it is desirable to regulate to monitor drinking water threats. (Ontario Regulation 287/07 under the Clean Water Act, 2006)

THE PREAMBLE

PURPOSE

In accordance with Section 40 of the *Clean Water Act, 2006,* the purpose of the proposed amendment is to bring the Municipal Official Plan into conformity with the relevant policies and map schedules of the Kettle Creek Source Protection Plan as it applies to the Municipality of Central Elgin. Specifically, the Municipal Official Plan is required to conform to the applicable significant threat and land use policies set out in the Kettle Creek Source Protection Plan. It is noted that the Municipality of Central Elgin is also located within boundary of the Catfish Creek Source Protection Plan Area; however the Source Protection Plan does not contain policies for any municipal drinking water systems within the Municipality.

This Amendment includes revised Schedules to the Municipal Official Plan, which identify a Wellhead Protection Area (WHPA) for the Belmont municipal water supply source and a Surface Water Intake Protection Zone (IPZ) for the Elgin Area Primary intake municipal water supply source, as mapped in the Kettle Creek Source Protection Plan. A new Schedule to the Municipal Official Plan, which identifies the Source Protection Plan Area boundaries of the Kettle Creek and Catfish Creek Source Protection Plans, as they apply to the Municipality, is also included.

LOCATION

The Wellhead Protection Area and Surface Water Intake Protection Zone are identified on Schedule A and affect the Belmont Wellhead and Elgin Area Primary intake, two municipal drinking water supply sources in the Municipality.

BACKGROUND

The *Clean Water Act, 2006* introduced a new level of protection for Ontario's drinking water resources and establishes requirements for protecting vulnerable drinking water resources at-source. The Act establishes roles and responsibilities for the Province, municipalities, and landowners in protecting drinking water resources for current and future generations. The process identified in the *Clean Water Act, 2006* is commonly referred to as 'Source Protection Planning'.

Municipalities are a key partner in Source Protection Planning and are represented on Source Protection Committees. Source Protection Committees lead the process of implementing the *Clean Water Act, 2006* through the preparation of Assessment Reports and Source Protection Plans for the areas they represent.

The preparation of Assessment Reports is required under the *Clean Water Act, 2006*, and form the scientific basis for the preparation of Source Protection Plans. Source Protection Plans contain the policies to address the drinking water threats identified in the Assessment Report. The two main objectives of Source Protection Plans are:

1. To protect existing and future drinking water sources in the source protection area; and

2. To ensure that, for every vulnerable area identified in an Assessment Report as an area where an activity is or would be a significant drinking water threat, the activity never becomes a significant drinking water threat, or if the activity is occurring when the source protection plan takes effect, the activity ceases to be a significant drinking water threat.

Vulnerable areas related to municipal drinking water resources that are delineated in Assessment Reports (i.e. Wellhead Protection Areas and Surface Water Intake Protection Zones) meet the definition of *designated vulnerable areas* under the Provincial Policy Statement, 2014 (PPS). Policy 2.2.1 of the PPS gives municipalities the authority to protect, improve and restore the quality and quantity of water by

implementing necessary restrictions on development and site alteration.

Numerous public information sessions and open houses were held by individual Source Protection Committees when preparing the Assessment Reports and subsequent Source Protection Plans that apply to the Municipality of Central Elgin. Sessions were also held to present and receive feedback on the proposed Source Protection Plan policies prior to final approval by the Ministry of Environment and Climate Change. Individual property owners within vulnerable areas were also notified directly by the respective Source Protection Authorities throughout the approval process of the Assessment Reports and Source Protection Plans. Additional property owner contact is conducted through the threat activity verification process and/or Risk Management planning process, as required.

THE POLICIES

3.3 WATER RESOURCES

Central Elgin contains several creeks and streams, draining to Lake Erie. The two major watershed systems include the Kettle Creek watershed and the Catfish Creek Watershed Area. Both watersheds support a diverse, predominantly warm water fishery.

The Community of Belmont and the majority of the rural population rely on municipal groundwater systems or private groundwater wells for residential, agricultural and some commercial/industrial uses. The remaining Urban Settlement Areas of Central Elgin rely on the Lake Erie Primary Supply System, a surface water intake within Lake Erie, as the source for domestic water use. The Municipality recognizes and supports the need to protect ground and surface water sources of drinking water.

Reference shall be made to the Elgin County Official Plan for the definition of those terms italicized in this policy section.

Goals

- To protect water resources from contamination and degradation associated with certain land uses and activities and encourage agricultural practices that protect water resources.
- To sustain and enhance the surface and ground water resources of the Municipality for the benefit of its current and future residents.
- To ensure that land use decisions advance water conservation efforts and support the efficient use of water resources.
- To encourage the reduction of water consumption levels through the promotion of the efficient use of water.
- To protect, improve or restore the quality and quantity of water.
- To protect surface and groundwater quality through the use of regulatory and voluntary means of prohibiting, restricting or influencing land uses and activities within vulnerable areas, and overlying vulnerable aquifers.
- To identify surface water features, ground water features, hydrologic functions and natural heritage features and areas which are necessary for the ecological and hydrological integrity of the watershed
- To maintain linkages and related functions among surface water features, ground water features, hydrologic functions and natural heritage features and areas.
- To recognize the important role of water resources in sustaining a healthy and diverse fishery.

3.3.1 Watershed and Subwatershed Studies

Central Elgin recognizes the watershed as an ecologically meaningful scale for planning and supports subwatershed planning as an important tool in promoting the efficient and sustainable use of water resources. The following policies shall apply:

a) Central Elgin supports the preparation of subwatershed management plans and the use of regional stormwater quality/quantity management facilities to assist in water resource and land use planning

on an ecosystem basis. Central Elgin will work cooperatively with adjacent municipalities, the Conservation Authorities and affected/benefitting landowners as required in the preparation and implementation of watershed and subwatershed plans. Subwatershed studies are required prior to new development outside of the built area in all urban settlement areas.

b) Subwatershed plans will generally be scoped as to their content prior to study commencement. The Plan shall comprise a program of management strategies, measures and actions designed to protect, enhance and sustain the subwatershed's natural features and ecological functions, restore those features and functions that have been degraded and guide future development to ensure the long term health of the environment is maintained and/or enhanced as the lands are urbanized. The following is provided as general guidance for the preparation of these studies when required:

   1. A description of the location, spatial extent, present status, significance and sensitivity of the natural environment within the subwatershed including;
      - quantity and quality of surface water and ground water;
      - aquatic and terrestrial habitat;
      - fisheries and wildlife communities;
      - soils and geomorphology;
      - their linkages.
   2. The goals and objectives for management of the subwatershed;
   3. Identification of natural features/areas and hazard lands and the recommendation of appropriate environmental management strategies;
   4. Identification of lands where development should not be permitted and where development may be permitted subject to site-specific environmental studies to identify measures to mitigate the potential impacts of development;
   5. Identification of Stormwater Best Management Practices for the subwatershed including options for regional facilities;
   6. Establishment of a subwatershed management strategy and plan for implementing the selected environmental and development practices; and
   7. Identification of implementation mechanisms involving official plan policies, zoning, plans of subdivision, etc.

c) Where development and/or site alteration is proposed in an area where a subwatershed study has been prepared:

   1. Central Elgin shall determine:
      (i) in consultation with the appropriate agencies, if the subwatershed study is consistent with policy statements issued under the authority if the Planning Act, and therefore meets Provincial interest, and
      (ii) if the subwatershed study meets with the policies of this Plan, or
      (iii) if an update or addendum to the study is required.
   2. Proposed development shall not proceed until any required update/addendum is completed to the satisfaction of the Municipality in consultation with the appropriate agencies.
   3. Development and/or site alteration shall comply with the recommendations and strategies of the subwatershed study and/or its update/addendum.

4. Area specific recommendations from the existing subwatershed study may be found in Subsection 4.7 - Individual Community Land Use Plans to this plan.

3.3.2 Stormwater Management

a) Central Elgin will require stormwater quality and quantity management control for all proposed developments in accordance with the Ministry of the Environment's Stormwater Planning and Design Manual and the Central Elgin Infrastructure Design Guidelines and Construction Standards, as may be revised from time to time. A Certificate of Approval under the Ontario Water Resources Act may be required prior to the implementation of proposed stormwater management works.

b) Stormwater management facilities shall be located and designed on the basis of recommendations identified in a subwatershed study or master drainage plan. Where a subwatershed study or master drainage plan has not been completed, Central Elgin shall require that a Stormwater Management Concept Plan be completed to the satisfaction of the Municipality in consultation with the appropriate agencies. The Stormwater Management Concept Plan shall include:

   1. Provisions to mitigate the impact of proposed development on the environment and on existing overland stormwater flow;
   2. Provisions to control erosion, sedimentation, and pollution likely to result from development projects;
   3. Provisions to reduce on-site and downstream surface ponding and flooding;
   4. Provisions to protect and enhance water quality and base flow in receiving watercourses;
   5. Provisions to protect groundwater recharge/discharge areas;
   6. Provisions to ensure that the discharge from stormwater management facilities shall not become a *significant drinking water threat* in accordance with the Kettle Creek Source Protection Plan.
   7. Provisions to reduce the total cost of a stormwater drainage system and its related works; and
   8. Any other criteria or guidelines which may be required to regulate development in order to achieve effective stormwater management in the subcatchment or tributary.

c) Central Elgin shall encourage minimizing the number of stormwater management facilities, and will encourage the use of regional stormwater management facilities where feasible.

d) A proponent of development and/or site alteration may be required to submit a Stormwater Management Functional Report to demonstrate how the recommendations of the Subwatershed Study, Master Drainage Plan or Stormwater Management Concept Plan will be implemented. The Stormwater Management Functional Report shall contain any or all of the following information:

   1. An assessment of how the proposed development will address the stormwater management issues, best management practices, development criteria and stormwater targets identified in the applicable Subwatershed Study, Master Drainage Plan or Concept Plan, if such exists;
   2. A plan for the provision of site-specific stormwater drainage facilities to accommodate the proposed development;
   3. A plan for the control of erosion and sedimentation to minimize the impact of the proposed development on any watercourse; and
   4. A grading plan for the proposed development.

e) A Stormwater Management Plan and/or Report shall be reviewed and approved by the Ministry of Transportation (MTO) for those developments located adjacent to or in the vicinity of a Provincial Highway whose drainage may impact a highway.

3.3.3 Source Water Protection

Central Elgin is highly dependent on ground and surface water for its domestic water requirements. The Clean Water Act, 2006, is intended to ensure the protection of municipal drinking water supplies by setting out a risk-based process to identify *vulnerable areas* and associated *drinking water threats* and issues through the preparation *of Assessment Reports*, and develop policies and programs to eliminate or reduce the risks posed by identified *drinking water threats* through the preparation of *Source Protection Plans*. This process is otherwise known as Source Protection Planning.

The science-based *Assessment Report* is the technical basis upon which a *Source Protection Plan* is prepared. The *Source Protection Plan* contains policies to address the *drinking water threats* identified in the *Assessment Report.* There are two *Source Protection Plans* that apply within the Municipality - the Kettle Creek Source Protection Plan and the Catfish Creek Source Protection Plan. The boundaries of these Source Protection Plans as they apply to the Municipality of Central Elgin are identified on Schedule SW to this Plan.

Identified *vulnerable areas* in the Municipality include the *Wellhead Protection Area* (WHPA) surrounding the Belmont wellhead and the *Surface Water Intake Protection Zone* (IPZ) surrounding the Elgin Primary Water Supply Intake within Lake Erie. Schedules SW1 and SW2 identify the *vulnerable areas* for these municipal water supply systems.

A *Wellhead Protection Area* is an area related to a wellhead and within which it is desirable to regulate or monitor drinking water threats because land use activities in these areas have the potential to affect the quality or quantity of water that flows into the well. WHPAs associated with water quality are identified on Schedule SW1 to this Plan as *Wellhead Protection Areas* A, B, and C. WHPA-Ds are not identified on Schedule SW1 as there are no *significant drinking water threat* policies identified in the Kettle Creek Source Protection Plan for WHPA-D areas. The time related capture zones associated with the WHPA include the following:

- WHPA-A: 100m radius surrounding the well
- WHPA-B: 2 year travel time for water to enter the well
- WHPA-C: 5 year travel time for water to enter the well.
- WHPA-D: 25 year travel time for water to enter the well

The 'vulnerability score' for the WHPA illustrated in Schedule SW1 identifies the degree to which the WHPA is vulnerable to contamination. The vulnerability score of a WHPA can range from 1 to 10, with 10 being the most vulnerable. The vulnerability score is used, together with a table of *drinking water threats* published by the Ministry of Environment and Climate Change, to determine whether a drinking water threat is significant, moderate or low.

The WHPA-C associated with the Belmont well extends into the Township of Malahide, as well as the Municipality of Thames Centre in Middlesex County. Protection of this WHPA-C within neighbouring municipalities will be governed by the Kettle Creek Source Protection Plan and neighbouring municipal Official Plans.

A *Surface Water Intake Protection Zone* (IPZ) applies to municipal surface water supply sources and are areas within which a spill or leak may enter the intake too quickly prior to implementing measures to

prevent pollutants from entering the municipal water system. The *Surface Water Intake Protection Zone* surrounding the Elgin Primary Intake is identified on Schedule SW2 to this Plan.

Land use activities which may pose a drinking water threat to municipal water supplies are defined by the Clean Water Act, 2006 as an *activity* or condition that adversely affects, or has the potential to adversely affect, the quality and quantity of any water that is or may be used as a source of drinking water. *Drinking water threats* include the following as prescribed by Ontario Regulation 287/07 of the Clean Water Act, 2006, and further defined by the circumstances outlined in the table of drinking water threats, as may be amended:

1. Waste disposal sites within the meaning of Part V of the Environmental Protection Act.
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material.
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.
11. The handling and storage of pesticide.
12. The application of road salt.
13. The handling and storage of road salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid (DNAPL).
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard.

Significant drinking water threats within *vulnerable areas* are either prohibited or regulated by the Kettle Creek Source Protection Plan. The significance of a prescribed *drinking water threat* depends on the characteristics of the activity and where the activity is occurring with the *vulnerable area*.

Notwithstanding the land use permitted by the underlying land use designation in this Plan:

(a) Permitted land uses that involve a *significant drinking water threat* within a WHPA identified in Schedules SW1 and SW2 to this Plan may be either prohibited or regulated by the Kettle Creek Source Protection Plan.

(b) An application for development, redevelopment or site alteration for any land use within the WHPA or IPZ that may involve a *significant drinking water threat* shall only be deemed complete under the

Planning Act if the Municipality's Risk Management Official has issued a *Section 59 Notice* in accordance with the Clean Water Act, 2006.

(c) The Risk Management Official shall determine whether a new land use or *activity* is, or involves, a *significant drinking water threat* in accordance with the Clean Water Act, 2006 and whether the use or *activity* is prohibited, or regulated in accordance with the Kettle Creek Source Protection Plan.

(d) The Risk Management Official may provide guidance to assist the Municipality in screening applications for development, redevelopment or site alteration.

(e) Where a proposed development includes a prescribed *drinking water threat* within a WHPA or IPZ, the proponent may be required to prepare, in addition to any other supporting documentation required to ensure a complete application as per Subsection 5.4 of this Plan and at the discretion of the Municipality and/or the Risk Management Official, the following:

1. Disclosure Report

   This report shall detail the nature, activities and operations of the proposed development/use, including:

   - the nature of the proposed use;
   - its associated required services and facilities;
   - the activities and operations to be conducted on-site; and
   - the substances and their quantities to be used or stored on-site.

2) Detailed Hydrogeological Study (within WHPAs only)

   This study shall be in the form of a technical report prepared by a qualified professional (e.g. hydrogeologist) using protocols acceptable to the Ontario Ministry of the Environment. The study shall:

   - predict the net groundwater and/or surface water quality impacts likely to occur on the subject property, on down-gradient properties and on the municipal well;
   - address cumulative impacts of development in the Wellhead Protection Area; and
   - include mitigating measures for the design, construction and post-construction monitoring of the proposed use.

3) Spill Prevention and Contingency Plan

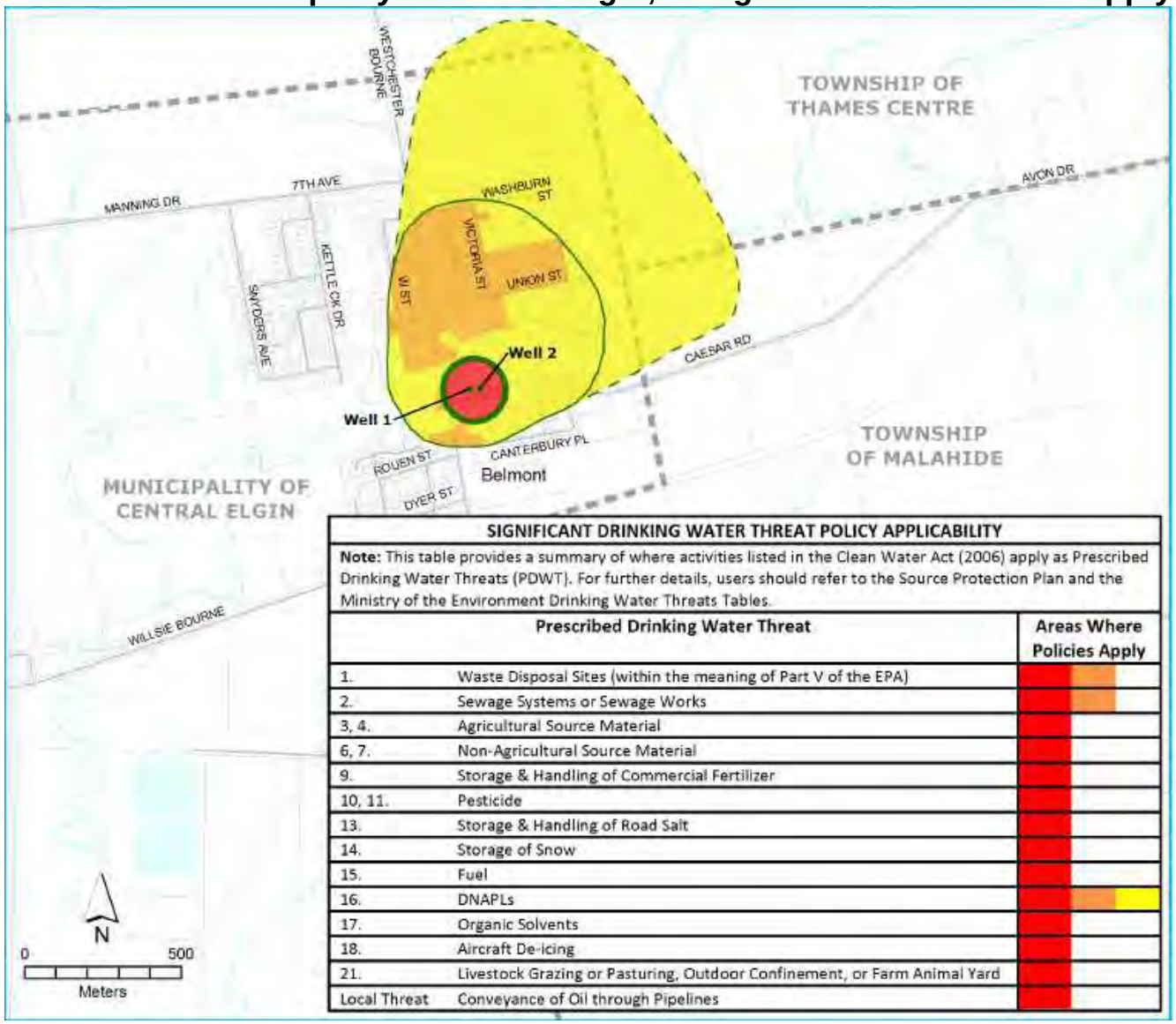
   This plan should outline design measures, facilities and procedures to avoid and mitigate the effects of spillage of any contaminants.

The following terms are italicized in the draft policy text and reference the Elgin County Official Plan for definitions:

- Activity
- Assessment Report
- Drinking Water Threat

- Highly Vulnerable Aquifer
- Section 59 Notice
- Significant Drinking Water Threat
- Significant Groundwater Recharge Area
- Source Protection Plan
- Surface Water Intake Protection Zone
- Vulnerable Area
- Wellhead Protection Area

Schedule A: Municipality of Central Elgin, Village of Belmont Water Supply



SIGNIFICANT DRINKING WATER THREAT POLICY APPLICABILITY

Note: This table provides a summary of where activities listed in the Clean Water Act (2006) apply as Prescribed Drinking Water Threats (PDWT). For further details, users should refer to the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.

	Prescribed Drinking Water Threat	Areas Where Policies Apply
1.	Waste Disposal Sites (within the meaning of Part V of the EPA)	
2.	Sewage Systems or Sewage Works	
3, 4.	Agricultural Source Material	
6, 7.	Non-Agricultural Source Material	
9.	Storage & Handling of Commercial Fertilizer	
10, 11.	Pesticide	
13.	Storage & Handling of Road Salt	
14.	Storage of Snow	
15.	Fuel	
16.	DNAPLs	
17.	Organic Solvents	
18.	Aircraft De-icing	
21.	Livestock Grazing or Pasturing, Outdoor Confinement, or Farm Animal Yard	
Local Threat	Conveyance of Oil through Pipelines	

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability Map

Elgin County:
Municipality of Central Elgin
Village of Belmont Water Supply

- Well
- Roads
- Property Boundaries
- Minor Rivers
- Lakes / Main Rivers
- Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Vulnerability Score:
- 10
- 8
- 6 or less

Lake Erie Source Protection Region
www.sourcewater.ca

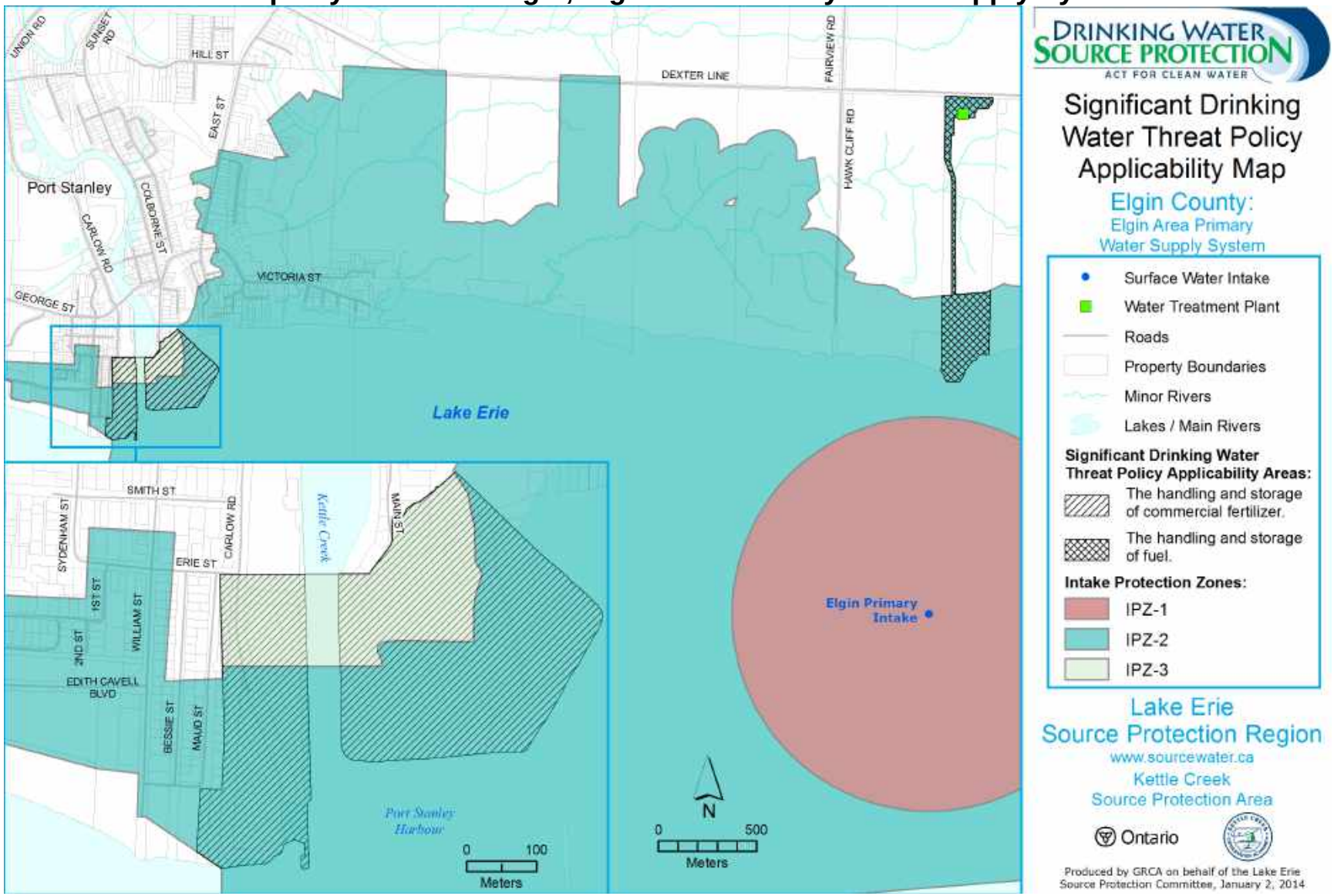
Kettle Creek Source Protection Area

Ontario

Produced by GRCA on behalf of the Lake Erie Source Protection Committee, January 2, 2014

To be used as basis for modifications to Schedule SW1

Schedule B: Municipality of Central Elgin, Elgin Area Primary Water Supply System



To be used as basis for modifications to Schedule SW2

THE PREAMBLE

PURPOSE

In accordance with Section 40 of the *Clean Water Act, 2006*, the purpose of the proposed amendment is to bring the Municipal Official Plan into conformity with the relevant policies and map schedules of the Long Point Region Source Protection Plan as it applies to the Municipality of Bayham. Specifically, the Municipal Official Plan is required to conform to the applicable significant threat and land use policies set out in the Long Point Region Source Protection Plan. It is noted that the Municipality of Bayham is also located within the boundary of the Catfish Creek Source Protection Plan Area; however the Catfish Creek Source Protection Plan does not contain policies for any municipal drinking water systems within the Municipality of Bayham.

This Amendment includes new Schedules to the Municipal Official Plan, which identify the Source Protection Plan Area boundaries of the Long Point Region and Catfish Creek Source Protection Plans as they apply to the Municipality and the Wellhead Protection Areas (WHPAs) for the Richmond municipal water supply.

LOCATION

The Wellhead Protection Area identified on Schedule A affects the Richmond Wellhead, a municipal drinking water supply source in the Municipality.

BACKGROUND

The *Clean Water Act, 2006* introduced a new level of protection for Ontario's drinking water resources and establishes requirements for protecting vulnerable drinking water resources at-source. The Act establishes roles and responsibilities for the Province, municipalities, and landowners in protecting drinking water resources for current and future generations. The process identified in the *Clean Water Act, 2006* is commonly referred to as 'Source Protection Planning'.

Municipalities are a key partner in Source Protection Planning and are represented on Source Protection Committees. Source Protection Committees lead the process of implementing the *Clean Water Act, 2006* through the preparation of Assessment Reports and Source Protection Plans for the areas they represent.

The preparation of Assessment Reports is required under the *Clean Water Act, 2006*, and form the scientific basis for the preparation of Source Protection Plans. Source Protection Plans contain the policies to address the drinking water threats identified in the Assessment Report. The two main objectives of Source Protection Plans are:

1. To protect existing and future drinking water sources in the source protection area; and

2. To ensure that, for every vulnerable area identified in an Assessment Report as an area where an activity is or would be a significant drinking water threat, the activity never becomes a significant drinking water threat, or if the activity is occurring when the source protection plan takes effect, the activity ceases to be a significant drinking water threat.

Vulnerable areas related to municipal drinking water resources that are delineated in Assessment Reports (i.e. Wellhead Protection Areas) meet the definition of *designated vulnerable areas* under the Provincial Policy Statement, 2014 (PPS). Policy 2.2.1 of the PPS gives municipalities the authority to protect, improve and restore the quality and quantity of water by implementing necessary restrictions on development and site alteration.

Numerous public information sessions and open houses were held by the Source Protection Committee when preparing the Assessment Reports and subsequent Source Protection Plans that apply to the Municipality of Bayham. Sessions were also held to present and receive feedback on the proposed Source Protection Plan policies prior to final approval by the Ministry of Environment and Climate Change. Individual property owners within vulnerable areas were also notified directly by the respective Source Protection Authorities throughout the approval process of the Assessment Reports and Source Protection Plans. Additional property owner contact is conducted through the threat activity verification process and/or Risk Management planning process, as required.

THE POLICIES

2.3 WATER RESOURCES

Ground and surface water sources occur throughout the Municipality. Groundwater sources need to be protected to promote public health and as an essential resource for urban and rural water supplies, agricultural production and the maintenance of natural heritage features. In accordance with the policies of Section 2.2 of the Provincial Policy Statement, this Plan shall endeavour to recognize the *surface water features*, *ground water features*, *hydrologic functions*, and *natural heritage features and areas* which are necessary for the ecological and hydrological integrity of the *watershed* and implement necessary restrictions on *development* and *site alteration* to protect all municipal drinking water supplies and designated *vulnerable areas* and to protect, improve or restore *vulnerable* surface and ground water, *sensitive surface water features* and *sensitive ground water features*, and their *hydrologic functions*.

Reference shall be made to the Elgin County Official Plan for the definition of those terms that are italicized in the following policies.

2.3.1 Water Resource Policies

2.3.1.1 The Municipality shall adopt and implement the terms of Section 2.2 of the Provincial Policy Statement.

2.3.1.2 The Municipality shall encourage the designation of *surface water features* and *ground water features* in order to protect, improve, and restore the quality and quantity of water throughout the Municipality.

2.3.1.3 The Municipality shall encourage efficient and sustainable use of water resources including water conservation, sustaining water quality, and encouraging stormwater management practices which minimize water volume and contaminant loads while using increased vegetation and pervious surface materials.

2.3.1.4 The Municipality shall encourage agricultural practices that protect water resources.

2.3.1.5 The Municipality shall ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic systems on an integrated watershed management basis.

2.3.1.6 The Municipality shall discourage *development* and *site alteration* on or adjacent to *surface water features* and *ground water features*.

2.3.1.7 The Municipality shall protect surface and groundwater quality through the use of regulatory and voluntary means of prohibiting, restricting, or influencing land uses and activities within *vulnerable areas*.

2.3.1.8 Pursuant to the Beds of Navigable Waters Act, the waterbed of navigable waterways is claimed as Provincial Crown Lands. Any alterations to navigable waterways which alter the alignment or shape of the channel cross section shall be approved by the Conservation Authority and the Ministry of Natural Resources.

2.3.2 Source Water Protection

The Clean Water Act, 2006 is intended to ensure the protection of municipal drinking water supplies by setting out a risk-based process on a watershed basis to identify *vulnerable areas* and associated *drinking water threats* and issues through the preparation of *Assessment Reports*; and develop policies and programs to eliminate or reduce the risks posed by identified drinking water threats through the preparation *of Source Protection Plans*. This process is otherwise known as Source Protection Planning.

The science-based *Assessment Report* is the technical basis upon which a *Source Protection Plan* is prepared. The *Source Protection Plan* contains policies to address the *drinking water threats* identified in the *Assessment Report*. There are two Source Protection Plans that apply within the Municipality of Bayham. The boundaries of these Source Protection Plans as they apply to the Municipality are identified on Schedule 'E' of this Plan.

Identified *vulnerable areas* within the Municipality include the *Wellhead Protection Areas* (WHPAs) surrounding the municipal drinking water supply system servicing the Hamlet of Richmond. These municipal water supply systems must be protected from contamination associated with certain land uses and activities in order to secure a long-term potable water supply for residents and businesses and for future growth in the Municipality. Schedule E-1 identifies the *vulnerable area* for the Richmond municipal water supply wells.

A *Wellhead Protection Area* is an area that is related to a wellhead and within which is it desirable to regulate or monitor land use activities, because they have the potential to affect the quality or quantity of water that flows into the well. WHPAs associated with water quality are identified in Schedule E-1 to this Plan as Wellhead Protection Areas A, B, and C. WHPA-Ds are not identified on Schedule E-1 as there are no significant drinking water threat policies identified in the Long Point Region Source Protection Plan for these WHPAs. The time related capture zones associated with each WHPA include the following:

a) WHPA-A: 100 metre radius surrounding the well
b) WHPA-B: 2 year travel time for water to enter the well
c) WHPA-C: 5 year travel time for water to enter the well
d) WHPA-D: 25 year travel time for water to enter the well

The 'vulnerability score' for each WHPA illustrated on Schedule E-1 identifies the degree to which a WHPA in the Municipality is vulnerable to contamination. The vulnerability score of a WHPA can range from 2 to 10, with 10 being the most vulnerable. The vulnerability score is used, together with a table of drinking water threats published by the Ministry of Environment and Climate Change, to determine whether a drinking water threat is either significant, moderate, or low.

Land use activities which may pose a *drinking water threat* to municipal water supplies are defined by the Clean Water Act, 2006 as an *activity* or condition that adversely affects, or has the potential to adversely affect, the quality and quantity of any water that is or may be used as a source of drinking water. *Drinking water threats* include the following as prescribed by Ontario Regulation 287/07 of the Clean Water Act, 2006 and further defined by the circumstances outlined in the table of drinking water threats, as may be amended:

1. Waste disposal sites within the meaning of Part V of the Environmental Protection Act.
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material.
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.
11. The handling and storage of pesticide.
12. The application of *road* salt.
13. The handling and storage of *road* salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid (DNAPL).
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or surface water body without returning the water to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard.

Significant drinking water threats within the WHPA are either prohibited or regulated by the Long Point Region Source Protection Plan. The significance of a prescribed *drinking water threat* depends on the characteristics of the activity and where the activity is occurring within the WHPA.

Notwithstanding the land uses permitted by the underlying land use designation in this Plan:

2.3.2.1 Permitted land uses that involve a *significant drinking water threat* within the WHPA identified in Schedule E1 to this Plan may be either prohibited or regulated by the Long Point Region Source Protection Plan.

2.3.2.2 An application for *development, redevelopment*, or *site alteration* for any land use, except solely residential uses, within a WHPA that may involve a *significant drinking water threat* shall only be deemed complete under the Planning Act if submitted with a *Section 59 Notice* issued by the Municipality's Risk Management Official, in accordance with the Clean Water Act, 2006 and the Long Point Region Source Protection Plan.

2.3.2.3 The Municipality's Risk Management Official shall determine whether a new land use or *activity* is, or involves, a *significant drinking water threat* in accordance with the Clean Water Act, 2006 and whether the land use or *activity* is prohibited or regulated through a Risk Management Plan in accordance with Long Point Region Source Protection Plan. Policy 2.3.2.2 shall not apply if the applicant can demonstrate, to the satisfaction of the Risk Management Official, that a *significant drinking water threat* will not be engaged in.

2.3.2.4 The Risk Management Official may provide guidance to assist the Municipality in screening applications for *development, redevelopment or site alteration.*

2.3.2.5 New and replacement small on-site septic systems and/or holding tanks shall be located on the same property as the land use relying on the system but where possible sited outside the limits of a WHPA with a vulnerability score of 10 as identified on Schedule E1 to this Plan while remaining in compliance with the Building Code.

2.3.2.6 New development that relies on a large on-site septic system and/or holding tank shall be prohibited within a WHPA with a vulnerability score of 10 as identified on Schedule E1 to this Plan.

2.3.2.7 Road salt storage facilities, where permitted by this Plan and/or the Zoning By-law, will only be permitted in a WHPA with a vulnerability score of 10 if the road salt is contained in covered roof storage facilities and a salt impact assessment and/or salt management plan has been completed to the satisfaction of the Municipality.

2.3.2.8 For the purposes of Policy 2.3.2.5 and Policy 2.3.2.6, the following definitions shall apply:

i. Septic system and/or holding tank: systems that store and/or treat human waste on-site and shall include, but not be limited to, greywater systems, cesspools, leaching bed systems and associated treatment units, and holding tanks, and shall not include sewage treatment plants.

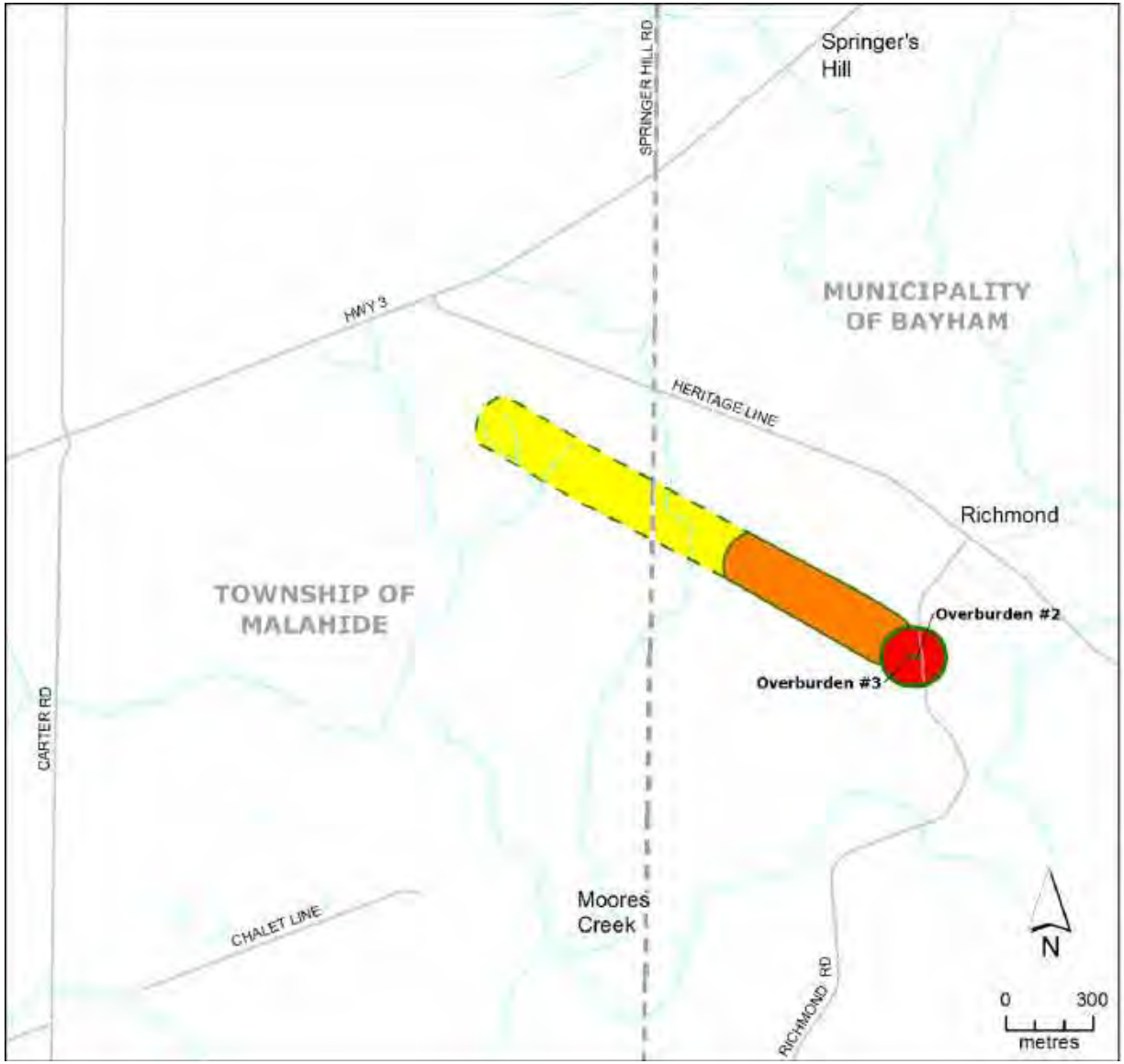
ii. Small on-site septic system or holding tank: a system with a design flow of less than or equal to 10,000 litres per day and subject to approval under the Building Code Act or the Ontario Water Resources Act. These systems are primarily located on rural residential properties or un-serviced settlement areas.

iii. Large on-site septic system or holding tank: a system with a design flow of greater than 10,000 litres per day and regulated under the Ontario Water Resources Act. These systems may be located at a school, campground or larger business property.

The following terms are italicized in the proposed policy text and reference the Elgin County Official Plan for definitions:

- Activity
- Assessment Report
- Drinking Water Threat
- Highly Vulnerable Aquifer
- Section 59 Notice
- Significant Drinking Water Threat
- Significant Groundwater Recharge Area
- Source Protection Plan
- Surface Water Intake Protection Zone
- Vulnerable Area
- Wellhead Protection Area

6.6 Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

	Significant Drinking Water Threat Policy Categories	Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
- Road
- Minor River
- Lake / Main River
- Lower Tier Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Ontario

Grand River Conservation Authority

1. Updated January 27, 2015
2. Larger scale mapping of some map layers, including roads and vulnerability scores, is available at www.sourcewater.ca.
3. This map is for illustrative purposes only. Information contained hereon is not a substitute for professional review or a site survey and is subject to change without notice. The Grand River Conservation Authority takes no responsibility for, nor guarantees, the accuracy of the information contained on this map. Any interpretations or conclusions drawn from this map are the sole responsibility of the user.

To be used as basis for preparation of Schedule E1

THE PREAMBLE

PURPOSE

In accordance with Section 40 of the *Clean Water Act*, the purpose of the proposed amendment is to bring the Township Official Plan into conformity with the relevant policies and map schedules of the Kettle Creek; Long Point Region; Thames, Sydenham and Region; and Catfish Creek Source Protection Plans as they apply to the Township of Malahide. Specifically, the Township Official Plan is required to \ the applicable significant threat and land use policies set out in the Kettle Creek and Long Point Region Source Protection Plans. It is noted that the Township of Malahide is also located within the Thames, Sydenham and Region and Catfish Creek and Source Protection Plan Areas, however these Source Protection Plans do not contain policies for any municipal drinking water systems within the Township of Malahide.

This Amendment includes new Schedules to the Township Official Plan, which identifies Wellhead Protection Areas (WHPAs) that extend into the Township from adjacent municipalities and include the WHPA for the Belmont municipal water supply source located in the Municipality of Central Elgin and the WHPA for the Richmond municipal water supply source located in the Municipality of Bayham, as mapped in the Kettle Creek Source Protection Plan and Long Point Region Source Protection Plan, respectively. A Schedule to the Township Official Plan, which identifies the Source Protection Plan Area boundaries of all applicable Source Protection Plans within the Township, is also included.

There are no municipal drinking water systems within the Township of Malahide that are regulated by a Source Protection Plan.

LOCATION

Wellhead Protection Areas are identified on Schedule A and include the portion of the Belmont and Richmond WHPAs that extend into the Township from adjacent municipalities.

BACKGROUND

The *Clean Water Act, 2006* introduced a new level of protection for Ontario's drinking water resources and establishes requirements for protecting vulnerable drinking water resources at-source. The Act establishes roles and responsibilities for the Province, municipalities, and landowners in protecting drinking water resources for current and future generations. The process identified in the *Clean Water Act, 2006* is commonly referred to as 'Source Protection Planning'.

Municipalities are a key partner in Source Protection Planning and are represented on Source Protection Committees. Source Protection Committees lead the process of implementing the *Clean Water Act, 2006* through the preparation of Assessment Reports and Source Protection Plans for the areas they represent.

The preparation of Assessment Reports is required under the *Clean Water Act, 2006*, and form the scientific basis for the preparation of Source Protection Plans. Source Protection Plans contain the policies to address the drinking water threats identified in the Assessment Report. The two main objectives of Source Protection Plans are:

1. To protect existing and future drinking water sources in the source protection area; and

2. To ensure that, for every vulnerable area identified in an Assessment Report as an area where an activity is or would be a significant drinking water threat, the activity never becomes a significant drinking water threat, or if the activity is occurring when the source protection plan takes effect, the activity ceases to be a significant drinking water threat.

Vulnerable areas related to municipal drinking water resources that are delineated in Assessment Reports (i.e. Wellhead Protection Areas and Intake Protection Zones) meet the definition of *designated vulnerable areas* under the Provincial Policy Statement, 2014 (PPS). Policy 2.2.1 of the PPS gives municipalities the authority to protect, improve and restore the quality and quantity of water by implementing necessary restrictions on development and site alteration.

Numerous public information sessions and open houses were held by individual Source Protection Committees when preparing the Assessment Reports and subsequent Source Protection Plans that apply to vulnerable areas in the Township of Malahide. Sessions were also held to present and receive feedback on the proposed Source Protection Plan policies prior to final approval by the Ministry of Environment and Climate Change. Individual property owners within vulnerable areas were also notified directly by the respective Source Protection Authorities throughout the approval process of the Assessment Reports and Source Protection Plans. Additional property owner contact is conducted through the threat activity verification process and/or Risk Management planning process, as required.

THE POLICIES

2.6 Water Resources

Ground and surface water sources occur throughout the Township. Groundwater sources need to be protected to promote public health and as an essential resource for urban and rural water supplies, agricultural production and the maintenance of natural heritage features. In accordance with the policies of Section 2.2 of the Provincial Policy Statement, this Plan shall recognize the *surface water features*, *ground water features*, *hydrologic functions*, and *natural heritage features and areas* which are necessary for the ecological and hydrological integrity of the *watershed*, and implement necessary restrictions on *development* and *site alteration* to protect all municipal drinking water supplies and designated *vulnerable areas* and to protect, improve or restore *vulnerable* surface and ground water, *sensitive surface water features* and *sensitive ground water features*, and their *hydrologic functions*. Reference shall be made to the Elgin County Official Plan for the definition of those terms that are italicized in this policy section.

2.6.1 Water Resource Policies

2.6.1.1 The Township shall adopt and implement the terms of Section 2.2 of the Provincial Policy Statement.

2.6.1.2 The Township shall designate *surface water features* and *ground water features* in order to protect, improve, and restore the quality and quantity of water throughout the Township.

2.6.1.3 The Township shall encourage efficient and sustainable use of water resources including water conservation, sustaining water quality, and encouraging stormwater management practices which minimize stormwater volume and contaminant loads while using increased vegetation and pervious surface materials.

2.6.1.4 The Township shall encourage agricultural practices that protect water resources.

2.6.1.5 The Township shall ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic systems on an integrated watershed management basis.

2.6.1.6 The Township shall discourage *development* and *site alteration* on or adjacent to *surface water features* and *ground water features*.

2.6.1.7 The Township shall protect surface and ground water quality through the use of regulatory and voluntary means of prohibiting, restricting, or influencing land uses and activities within *vulnerable areas.*

2.6.2 Source Water Protection

The Clean Water Act, 2006 is intended to ensure the protection of municipal drinking water supplies by setting out a risk-based process on a watershed basis to identify *vulnerable areas* and associated *drinking water threats* and issues through the preparation

of *Assessment Reports*; and develop policies and programs to eliminate or reduce the risks posed by identified *drinking water threats* through the preparation of *Source Protection Plans*. This process is otherwise known as Source Protection Planning.

The science-based *Assessment Report* is the technical basis upon which a *Source Protection Plan* is prepared. The *Source Protection Plan* contains policies to address the drinking water threats identified in the *Assessment Report*. There are two *Source Protection Plans* that apply to vulnerable areas within the Township of Malahide – the Long Point Region Source Protection Plan and the Kettle Creek Source Protection Plan. The boundaries of these *Source Protection Plans* as they apply to the Township are identified on Schedule 'D' to this Plan.

Identified *vulnerable areas* in the Township include the *Wellhead Protection Areas* (WHPAs) surrounding the municipal drinking water supply systems of Belmont in the Municipality of Central Elgin and Richmond in the Municipality of Bayham. These municipal drinking water systems must be protected from contamination associated with certain land uses and activities in order to secure a long-term potable water supply for residents and businesses, and for future growth in these municipalities. The Township of Malahide does not contain any municipal drinking water systems that are regulated by a *Source Protection Plan*. Schedules D1 and D2 to this Plan identify the vulnerable areas for the Belmont and Richmond municipal water supply wells.

A Wellhead Protection Area is an area that is related to a wellhead and within which it is desirable to regulate or monitor land use activities, because they have the potential to affect the quality or quantity of water that flows into the well. WHPAs associated with water quality are identified on Schedules D1 and D2 to the Plan as Wellhead Protection Area C. WHPA-Ds are not identified on Schedule E-1 as there are no *significant drinking water threat* policies identified in the Kettle Creek or Long Point Region *Source Protection Plans* for these WHPAs. The time related capture zones associated with each WHPA include the following:

- WHPA-C: 5 year travel time for water to enter the well
- WHPA-D: 25 year travel time for water to enter the well

The 'vulnerability score' for each WHPA illustrated in Schedules D1 and D2 identify the degree to which a WHPA in the Municipality is vulnerable to contamination. The vulnerability score of a WHPA can range from 2 to 10, with 10 being the most vulnerable. The vulnerability score is used, together with a table of drinking water threats published by the Ministry of Environment and Climate Change, to determine whether a *drinking water threat* is either significant, moderate, or low.

Land use activities which may pose a drinking water threat to municipal water supplies are defined by the Clean Water Act, 2006 as an *activity* or condition that adversely affects, or has the potential to adversely affect, the quality and quantity of any water that is or may be used as a source of drinking water. *Drinking water threats* include the following as prescribed by Ontario Regulation 287/07 of the Clean Water Act, 2006, and further defined by the circumstances outlined in the table of drinking water threats, as may be amended:

1. Waste disposal sites within the meaning of Part V of the Environmental Protection Act.

2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material.
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.
11. The handling and storage of pesticide.
12. The application of *road* salt.
13. The handling and storage of *road* salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid (DNAPL).
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or surface water body without returning the water to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard.

Significant drinking water threats within the WHPA are either prohibited or regulated by the applicable *Source Protection Plan*. The significance of a prescribed drinking water threat depends on the characteristics of the activity and where the activity is occurring within the WHPA.

Notwithstanding the land use permitted by the underlying land use designation in this Plan:

2.6.2.1 Permitted land uses that involve the handling and storage of a dense non-aqueous phase liquid (DNAPL) *significant drinking water threat* within a WHPA identified in Schedules E-1 and E-2 to this Plan may be either prohibited or regulated by the applicable *Source Protection Plan.*

2.6.2.2 Within the Kettle Creek Source Protection Area, an application for *development, redevelopment*, or *site alteration* for any land use within a Wellhead Protection Area that may involve the handling and storage of a dense non-aqueous phase liquid (DNAPL) *significant drinking water threat* shall only be deemed complete under the Planning Act if submitted with a Section 59 Notice issued by the Risk Management Official, in accordance with the Clean Water Act, 2006 and the Kettle Creek Source Protection Plan.

2.2.6.3 Within the Long Point Region Source Protection Area, an application for *development*, *redevelopment*, or *site alteration* for any land use, except solely residential uses, within a WHPA that may involve the handling and storage of a dense non-aqueous phase liquid (DNAPL) *significant drinking water threat* shall only be deemed complete under the Planning Act if submitted with a Section 59 Notice issued by the Risk Management Official, in accordance with the Clean Water Act, 2006 and the Long Point Region Source Protection Plan.

2.2.6.4 The Risk Management Official of the Municipality of Central Elgin or the Municipality of Bayham, as applicable, shall determine whether a new land use or *activity* is, or involves, the handling and storage of a dense non-aqueous phase liquid (DNAPL) *significant drinking water threat* in accordance with the Clean Water Act, 2006 and whether the land use or *activity* is prohibited or regulated through a Risk Management Plan in accordance with the applicable *Source Protection Plan.* Policy 2.2.6.2 and Policy 2.2.6.3 shall not apply if the applicant can demonstrate, to the satisfaction of the Risk Management Official, that a significant drinking water threat will not be engaged in.

2.2.6.5 The Risk Management Official may provide guidance to assist the Township in screening applications for *development*, *redevelopment* or *site alteration*.

The following terms are italicized in the proposed policy text and reference the Elgin County Official Plan for definitions:

- Activity
- Assessment Report
- Drinking Water Threat
- Highly Vulnerable Aquifer
- Intake Protection Zone
- Section 59 Notice
- Significant Drinking Water Threat
- Significant Groundwater Recharge Area
- Source Protection Plan
- Vulnerable Area
- Wellhead Protection Area

THE SCHEDULES

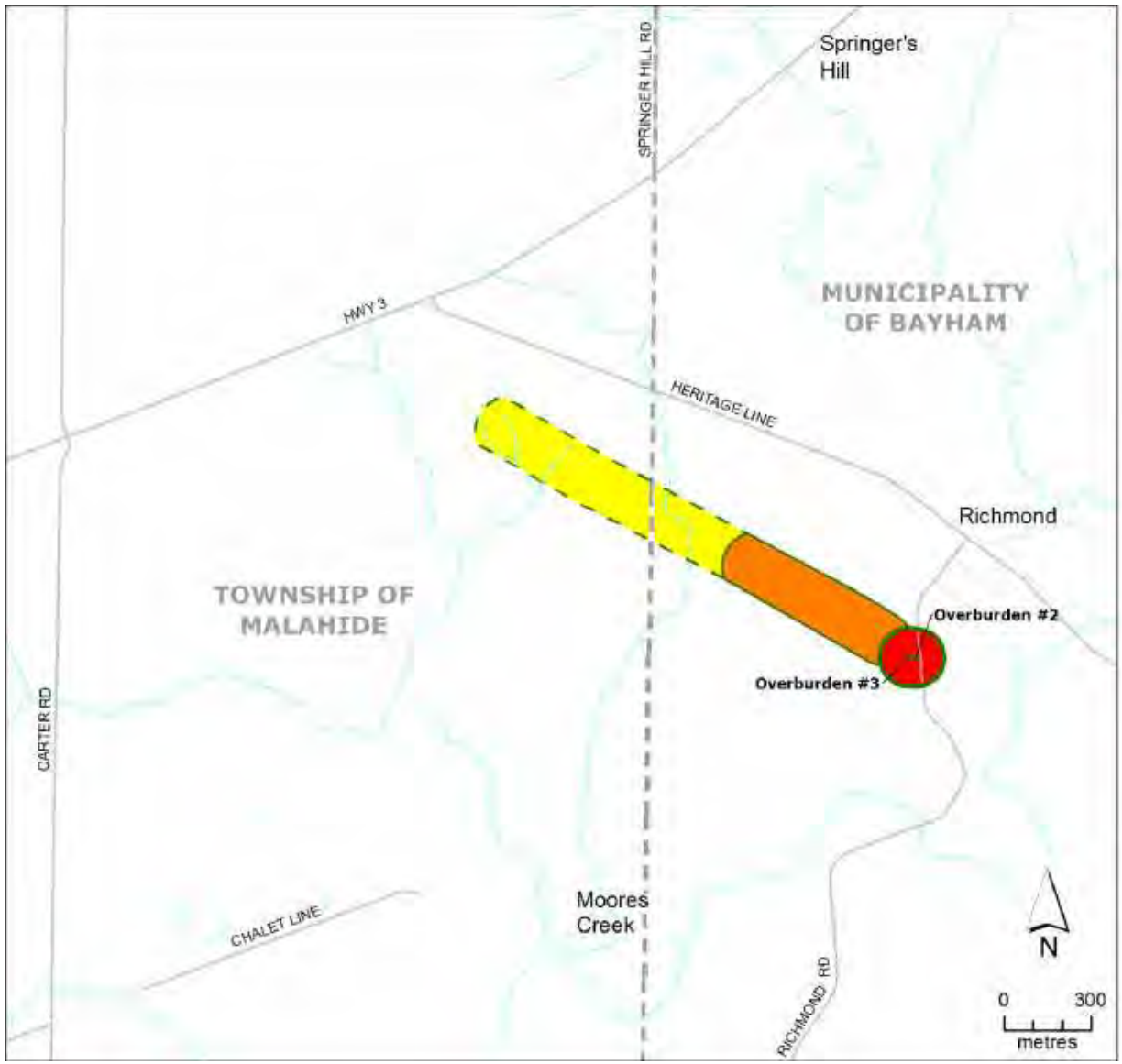
The following Schedule additions to the Official Plan are required:

Schedule D – Source Protection Plan Areas

Schedule D1 – Schedule is to identify the WHPA-C limits for the Richmond WHPA and associated vulnerability scores as mapped in the Long Point Region Source Protection Plan.

Schedule D2 – Schedule is to identify WHPA-C limits of the Belmont WHPA and associated vulnerability scores as mapped in the Kettle Creek Source Protection Plan.

6.6 Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

	Significant Drinking Water Threat Policy Categories	Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
- Road
- Minor River
- Lake / Main River
- Lower Tier Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

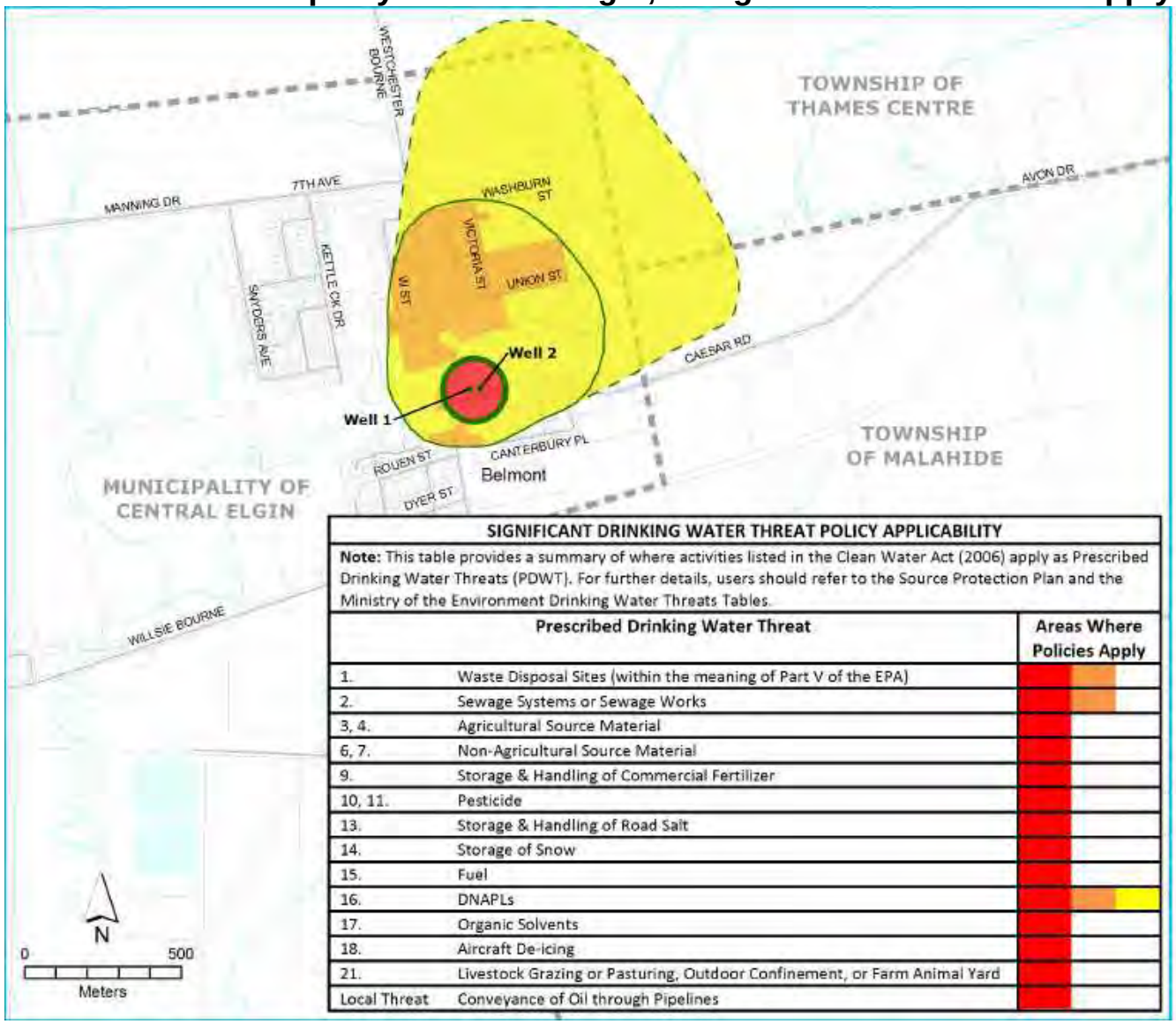
Ontario

Grand River Conservation Authority

1. Updated January 27, 2015
2. Larger scale mapping of some map layers, including roads and vulnerability scores, is available at www.sourcewater.ca.
3. This map is for illustrative purposes only. Information contained hereon is not a substitute for professional review or a site survey and is subject to change without notice. The Grand River Conservation Authority takes no responsibility for, nor guarantees, the accuracy of the information contained on this map. Any interpretations or conclusions drawn from this map are the sole responsibility of the user.

To be used as basis for preparation of Schedule D1

Schedule A: Municipality of Central Elgin, Village of Belmont Water Supply



SIGNIFICANT DRINKING WATER THREAT POLICY APPLICABILITY

Note: This table provides a summary of where activities listed in the Clean Water Act (2006) apply as Prescribed Drinking Water Threats (PDWT). For further details, users should refer to the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.

	Prescribed Drinking Water Threat	Areas Where Policies Apply
1.	Waste Disposal Sites (within the meaning of Part V of the EPA)	
2.	Sewage Systems or Sewage Works	
3, 4.	Agricultural Source Material	
6, 7.	Non-Agricultural Source Material	
9.	Storage & Handling of Commercial Fertilizer	
10, 11.	Pesticide	
13.	Storage & Handling of Road Salt	
14.	Storage of Snow	
15.	Fuel	
16.	DNAPLs	
17.	Organic Solvents	
18.	Aircraft De-icing	
21.	Livestock Grazing or Pasturing, Outdoor Confinement, or Farm Animal Yard	
Local Threat	Conveyance of Oil through Pipelines	

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability Map

Elgin County:
Municipality of Central Elgin
Village of Belmont Water Supply

- Well
- Roads
- Property Boundaries
- Minor Rivers
- Lakes / Main Rivers
- Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Vulnerability Score:
- 10
- 8
- 6 or less

Lake Erie Source Protection Region
www.sourcewater.ca
Kettle Creek Source Protection Area

Ontario

Produced by GRCA on behalf of the Lake Erie Source Protection Committee, January 2, 2014

To be used as basis for preparation of Schedule D2

APPENDIX E

Draft Zoning By-law Text
Source Protection Plan Implementation

1. Municipality of Central Elgin
2. Municipality of Bayham
3. Township of Malahide

4.19 SOURCEWATER PROTECTION

4.19.1 Identification of Vulnerable Areas

Vulnerable Areas shown on Schedule A to this By-law represent the Wellhead Protection Area and the associated level of vulnerability for the municipal water source serving the Village of Belmont. A WHPA illustrates three time-related capture zones including a 100-metre radius surrounding the well (WHPA-A), 2 year travel time for water to enter the well (WHPA-B), and 5 year travel time for water to enter the well (WHPA-C).

The degree of vulnerability of a WHPA is represented in Schedule A by a vulnerability score. The vulnerability score can range from 1 to 10, with 10 being the most vulnerable. WHPAs that are considered to be the most vulnerable to surface activities are assigned a vulnerability score of 8 to 10, with the degree of vulnerability generally decreasing the further away from the well.

4.19.2 Use Prohibitions and Regulations within Vulnerable Areas

Notwithstanding the land uses permitted by the underlying zone category in this By-law, any land use that involves one of the following significant drinking water threat activities within vulnerable areas identified on Schedule A to this By-law shall be prohibited until a Section 59 Notice has been issued by the Municipality's Risk Management Official in accordance with the Clean Water Act, 2006, or the Risk Management Official is satisfied that a significant drinking water threat will not be engaged in:

i. Waste disposal sites within the meaning of Part V of the Environmental Protection Act.

ii. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.

iii. The application of agricultural source material to land.

iv. The storage of agricultural source material.

v. The management of agricultural source material.

vi. The application of non-agricultural source material to land.

vii. The handling and storage of non-agricultural source material.

viii. The application of commercial fertilizer to land.

ix. The handling and storage of commercial fertilizer.

x. The application of pesticide to land.

xi. The handling and storage of pesticide.

xii. The application of road salt.

xiii. The handling and storage of road salt.

xiv. The storage of snow.

xv. The handling and storage of fuel.

xvi. The handling and storage of a dense non-aqueous phase liquid.

xvii. The handling and storage of an organic solvent.

xviii. The management of runoff that contains chemicals used in the de-icing of aircraft.

xix. The use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard.

xx. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.

xxi. An activity that reduces the recharge of an aquifer.

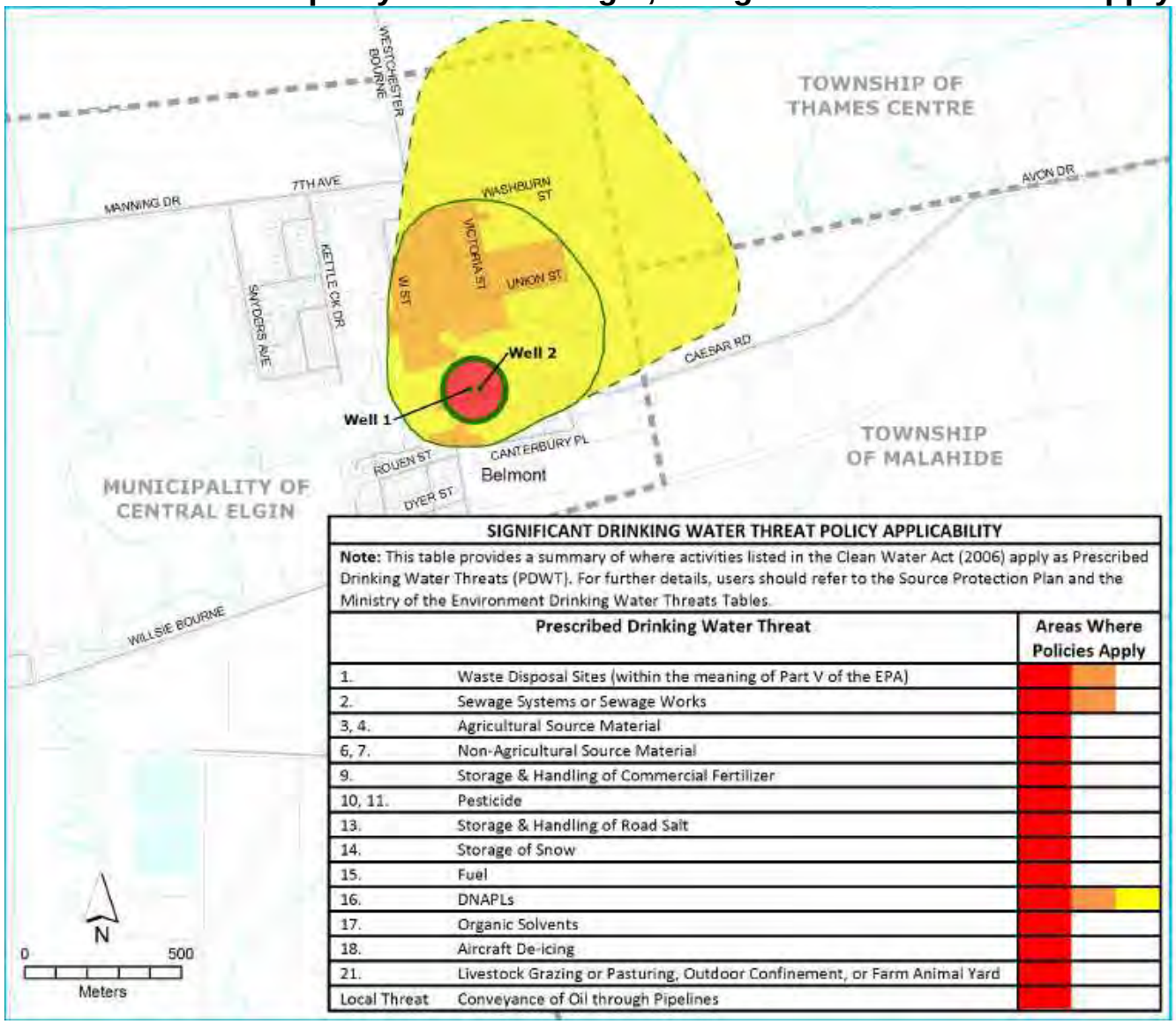
The following terms and definitions are to be added to Section 2 - Definitions of the Zoning By-law:

SECTION 59 NOTICE, refers to the requirements under Section 59 of the Clean Water Act, which requires issuance of a notice from the Municipality's Risk Management Official before permitting an activity that is considered a restricted land use as identified in the Thames Sydenham & Region or Kettle Creek Source Protection Plan, whichever is applicable.

DRINKING WATER THREAT, means an activity or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water, and includes an activity or condition that is prescribed by the Regulations under the Clean Water Act, 2006 as a drinking water threat. (Source: Clean Water Act, 2006)

SIGNIFICANT DRINKING WATER THREAT, means a drinking water threat that, according to a risk assessment, poses or has the potential to pose a significant risk. (Source: Clean Water Act, 2006).

Schedule A: Municipality of Central Elgin, Village of Belmont Water Supply



SIGNIFICANT DRINKING WATER THREAT POLICY APPLICABILITY

Note: This table provides a summary of where activities listed in the Clean Water Act (2006) apply as Prescribed Drinking Water Threats (PDWT). For further details, users should refer to the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.

	Prescribed Drinking Water Threat	Areas Where Policies Apply
1.	Waste Disposal Sites (within the meaning of Part V of the EPA)	
2.	Sewage Systems or Sewage Works	
3, 4.	Agricultural Source Material	
6, 7.	Non-Agricultural Source Material	
9.	Storage & Handling of Commercial Fertilizer	
10, 11.	Pesticide	
13.	Storage & Handling of Road Salt	
14.	Storage of Snow	
15.	Fuel	
16.	DNAPLs	
17.	Organic Solvents	
18.	Aircraft De-icing	
21.	Livestock Grazing or Pasturing, Outdoor Confinement, or Farm Animal Yard	
Local Threat	Conveyance of Oil through Pipelines	

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability Map

Elgin County:
Municipality of Central Elgin
Village of Belmont Water Supply

- Well
- Roads
- Property Boundaries
- Minor Rivers
- Lakes / Main Rivers
- Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Vulnerability Score:
- 10
- 8
- 6 or less

Lake Erie Source Protection Region
www.sourcewater.ca
Kettle Creek Source Protection Area

Ontario

Produced by GRCA on behalf of the Lake Erie Source Protection Committee, January 2, 2014

To be used as basis for revisions to Schedule A

NEW ZONING TEXT

4.29 SOURCEWATER PROTECTION

4.29.1 Vulnerable Areas shown on Schedule A to this By-law represent the Intake Protection Zone (IPZ) and the associated level of vulnerability for the Elgin Area Primary Water Supply System serving numerous communities within the Municipality of Central Elgin.

4.29.2 Notwithstanding the land uses permitted by the underlying zone category in this By-law, any land use that involves one of the following significant drinking water threat activities within the Intake Protection Zone identified on Schedule A shall be prohibited:

a) The handling and storage of commercial fertilizer in an amount greater than 5,000 cubic metres; and

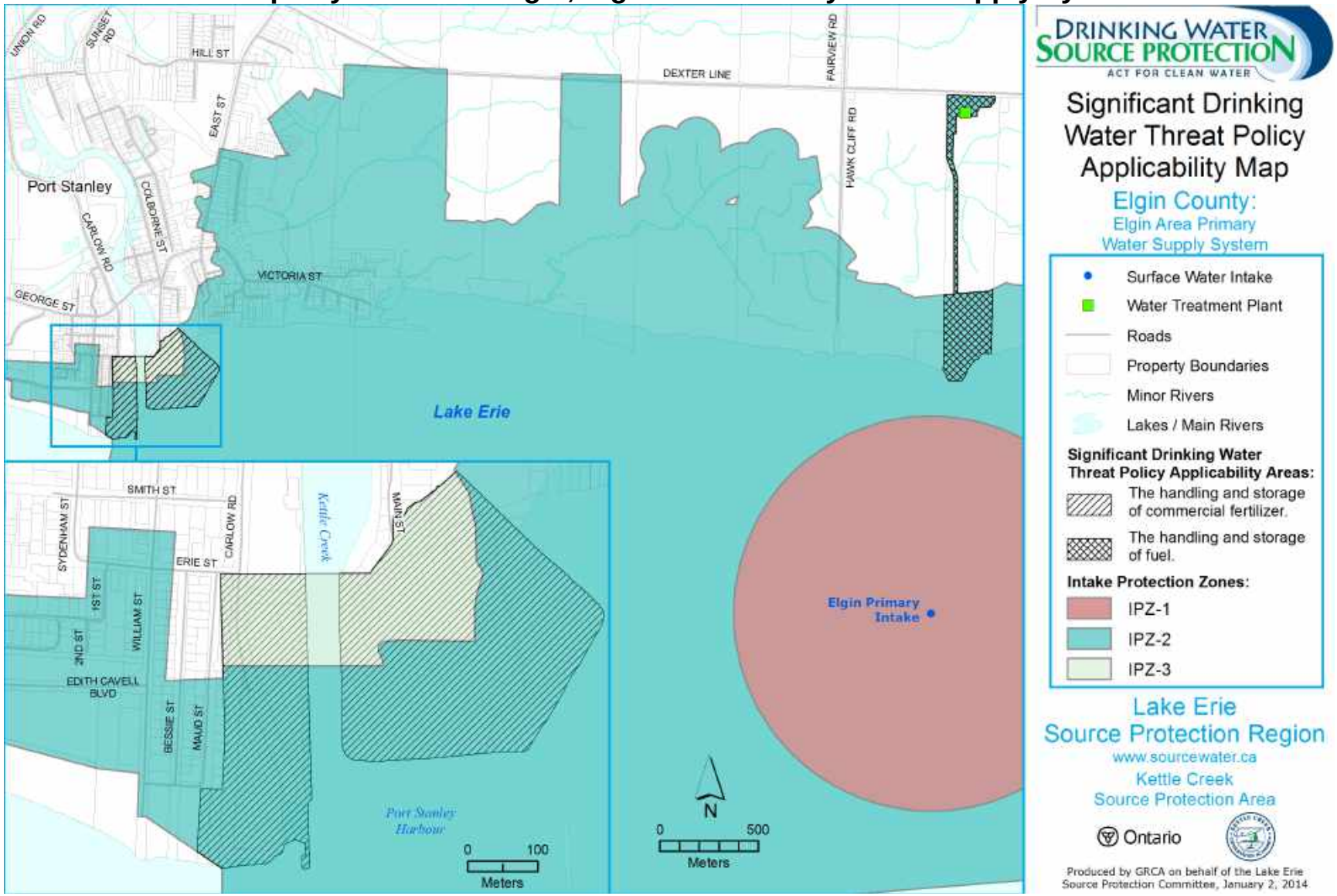
b) The handling and storage of fuel greater than 6,000 litres.

The following terms and definitions to be added to Section 2 - Definitions of the Zoning By-law:

DRINKING WATER THREAT, means an activity or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water, and includes an activity or condition that is prescribed by the Regulations under the Clean Water Act, 2006 as a drinking water threat. (Source: Clean Water Act, 2006)

SIGNIFICANT DRINKING WATER THREAT, means a drinking water threat that, according to a risk assessment, poses or has the potential to pose a significant risk. (Source: Clean Water Act, 2006).

Schedule B: Municipality of Central Elgin, Elgin Area Primary Water Supply System



To be used as basis for revisions to Schedule A

NEW ZONING TEXT

7.1.27 SOURCEWATER PROTECTION

7.1.27.1 Vulnerable Areas shown on Schedule X to this By-law represent the Intake Protection Zone (IPZ) and the associated level of vulnerability for the Elgin Area Primary Water Supply System serving numerous communities within the Municipality of Central Elgin.

7.1.27.2 Notwithstanding the land uses permitted by the underlying zone category in this By-law, any land use that involves one of the following significant drinking water threat activities within the Intake Protection Zone identified on Schedule A shall be prohibited:

a) The handling and storage of commercial fertilizer in an amount greater than 5,000 cubic metres; and

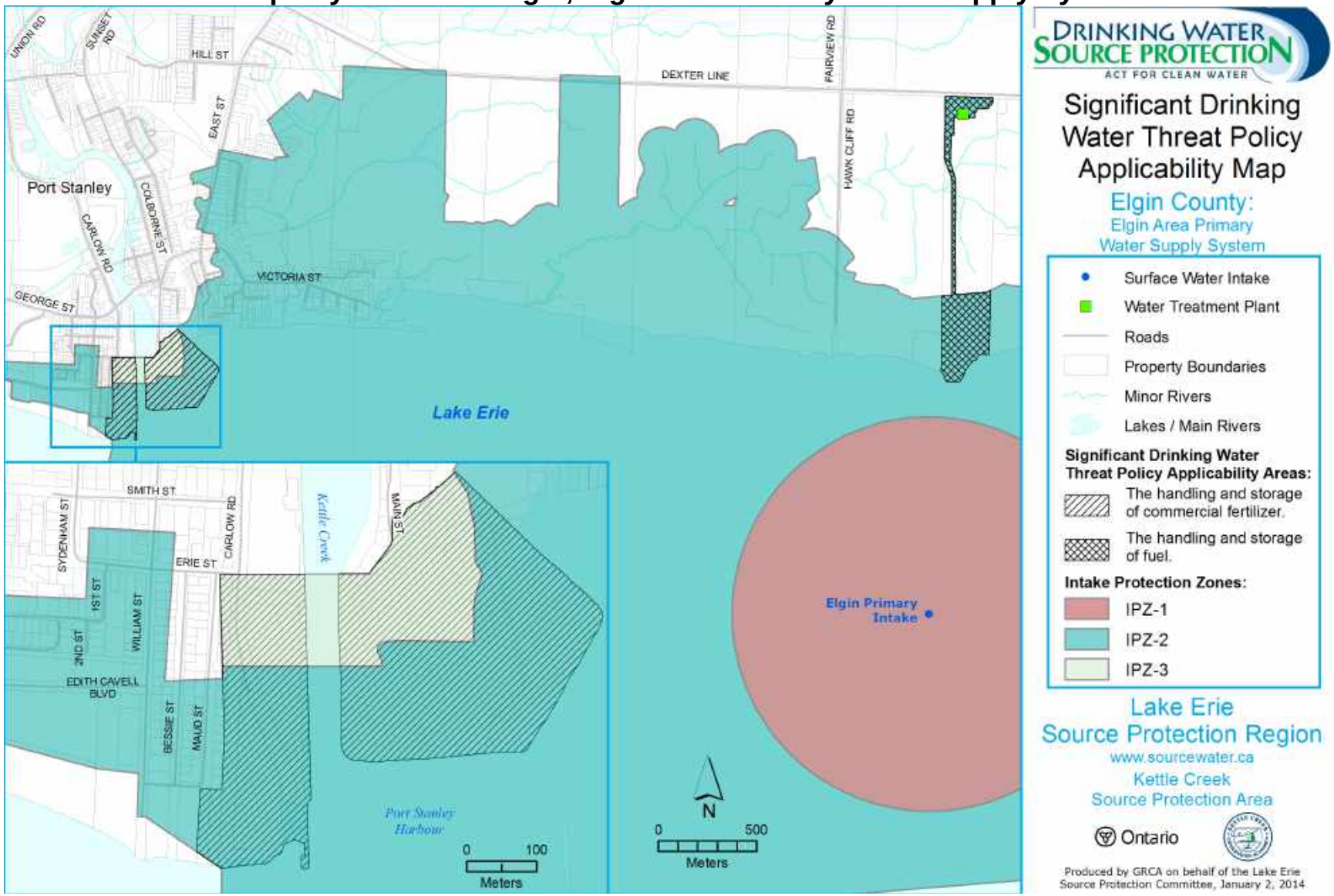
b) The handling and storage of fuel greater than 6,000 litres.

The following terms and definitions to be added to Section 2 - Definitions of the Zoning By-law:

DRINKING WATER THREAT means an activity or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water, and includes an activity or condition that is prescribed by the Regulations under the Clean Water Act, 2006 as a drinking water threat. (Source: Clean Water Act, 2006)

SIGNIFICANT DRINKING WATER THREAT means a drinking water threat that, according to a risk assessment, poses or has the potential to pose a significant risk. (Source: Clean Water Act, 2006).

Schedule B: Municipality of Central Elgin, Elgin Area Primary Water Supply System



To be used as basis for revisions to Schedule A

4.58 Sourcewater Protection

4.58.1 Identification of Vulnerable Areas

a) Vulnerable Areas shown on Schedules A and E to this By-law represent Wellhead Protection Areas (WHPAs) and the associated level of vulnerability for municipal water sources serving the Municipality.

b) A WHPA illustrates three time-related capture zones including a 100-metre radius surrounding the well (WHPA-A), 2 year travel time for water to enter the well (WHPA-B), and 5 year travel time for water to enter the well (WHPA-C).

c) The degree of vulnerability of a WHPA is represented in Schedules A and E by a vulnerability score. The vulnerability score can range from 1 to 10, with 10 being the most vulnerable.

4.58.2 Use Prohibitions and Regulations within Vulnerable Areas

a) Notwithstanding the land uses permitted by the underlying zone category in this By-law, any land use, except a solely residential land use, that involves one of the following significant drinking water threat activities within a vulnerable area identified on Schedules A and E shall be prohibited until a Section 59 Notice has been issued by the Municipality's Risk Management Official in accordance with the Clean Water Act, 2006, or the Risk Management Official is satisfied that a significant drinking water threat will not be engaged in:

i. Waste disposal sites within the meaning of Part IV of the Environmental Protection Act.

ii. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.

iii. The application of agricultural source material to land.

iv. The storage of agricultural source material.

v. The management of agricultural source material.

vi. The application of non-agricultural source material to land.

vii. The handling and storage of non-agricultural source material.

viii. The application of commercial fertilizer to land.

ix. The handling and storage of commercial fertilizer.

x. The application of pesticide to land.

xi. The handling and storage of pesticide.

xii. The application of road salt.

xiii. The handling and storage of road salt.

xiv. The storage of snow.

xv. The handling and storage of fuel.

xvi. The handling and storage of a dense non-aqueous phase liquid (excluding incidental volumes for personal/domestic use).

xvii. The handling and storage of an organic solvent.

xviii. The management of runoff that contains chemicals used in the de-icing of aircraft.

xix. The use of land as livestock grazing or pasturing land, an outdoor confinement area or farm-animal yard.

xx. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.

xxi. An activity that reduces the recharge of an aquifer.

4.58.3 Sewage Systems and Holding Tanks within Vulnerable Areas

a) Notwithstanding any other provision of this By-law to the contrary, the following shall apply to WHPAs with a vulnerability score of 10 as identified on Schedules A and E:

i. A new or replacement *small on-site septic system and/or holding tank* shall be located on the same property but where possible sited outside the limits of the WHPA with a vulnerability score of 10 as identified on Schedules A and E.

ii. New development relying on a *large on-site septic system and/or holding tank* shall be prohibited.

4.58.4 Road Salt Storage Facilities in Vulnerable Areas

a) Notwithstanding any other provision of this By-law to the contrary, the following shall apply to WHPAs with a vulnerability score of 10 as identified on Schedules A and E:

i. Where permitted in the underlying zone category, road salt storage facilities are only permitted where a salt impact assessment and/or a salt management plan has been completed to the satisfaction of the Municipality and the road salt storage facilities are covered by a roof.

The following terms and definitions are to be added to Section 2.0 Definitions:

"SMALL ON-SITE SEPTIC SYSTEM AND/OR HOLDING TANK" *shall mean a system that stores and/or treats human waste on-site with a design flow of less than or equal to 10,000 litres per day and subject to approval under the Building Code Act or the Ontario Water Resources Act. These systems shall include, but not be limited to, greywater systems, cesspools, leaching bed systems and associated treatment units, and holding tanks, and shall not include sewage treatment plants.*

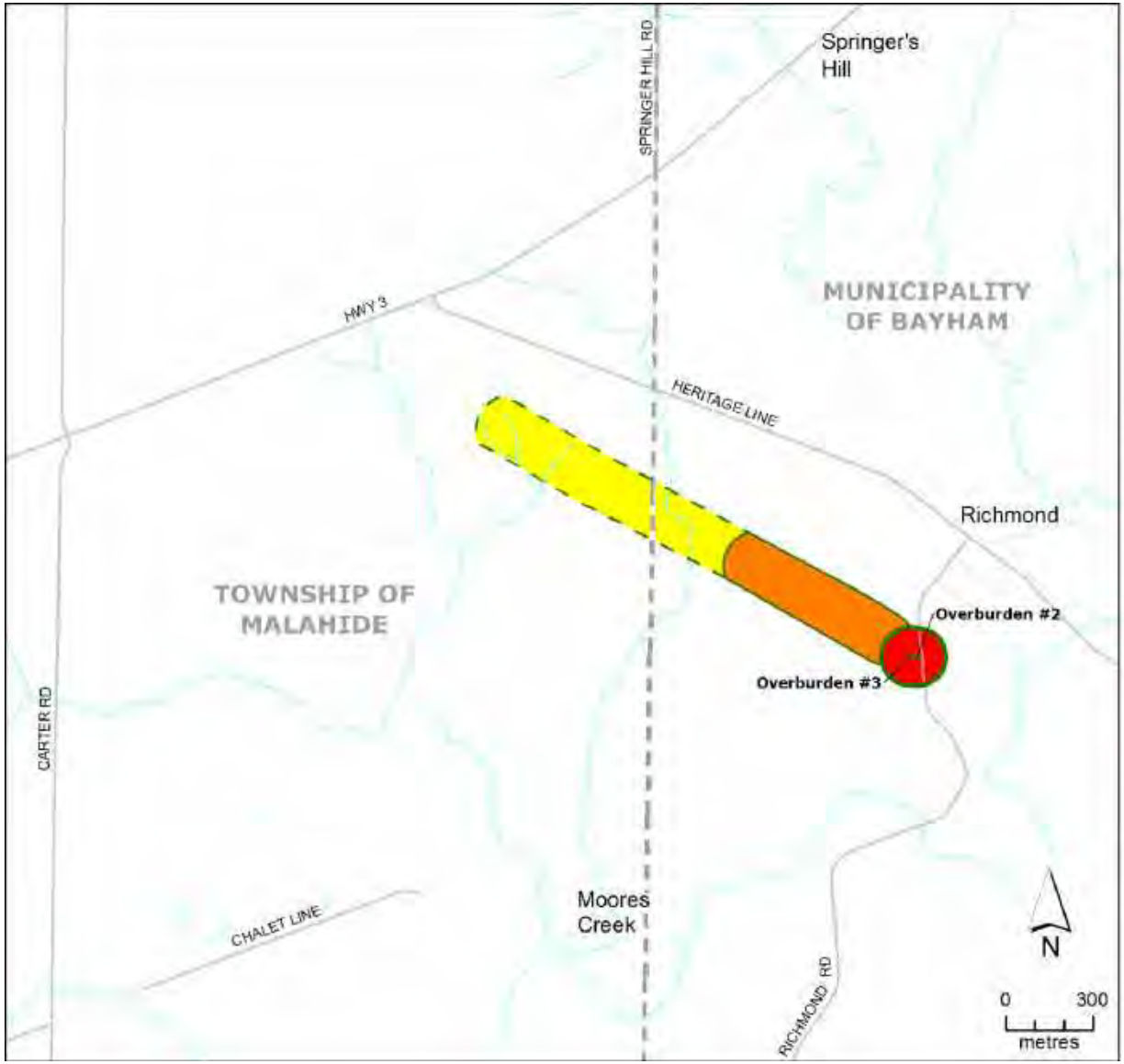
"LARGE ON-SITE SEPTIC SYSTEM AND/OR HOLDING TANK" *shall mean a system that stores and/or treats human waste on-site with a design flow of greater than 10,000 litres per day and regulated under the Ontario Water Resources Act. These systems shall include, but not be limited to, greywater systems, cesspools, leaching bed systems and associated treatment units, and holding tanks, and shall not include sewage treatment plants.*

"SECTION 59 NOTICE" *refers to the requirements under Section 59 of the Clean Water Act, which requires issuance of a notice from the County's Risk Management Official before permitting an activity that is considered a restricted land use as identified in the Long Point Region Source Protection Plan.*

"DRINKING WATER THREAT" *means an activity or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water, and includes an activity or condition that is prescribed by the regulations as a drinking water threat (Source: Clean Water Act)*

"SIGNIFICANT DRINKING WATER THREAT" *means a drinking water threat that, according to a risk assessment, poses or has the potential to pose a significant risk (Source: Clean Water Act)*

6.6 Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)



DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability

	Significant Drinking Water Threat Policy Categories	Vulnerability Scores on Map		
		10	8	2,4,6
1.	Waste Disposal			
2.	Sewage Systems			
3, 4.	Agricultural Source Material			
6, 7.	Non-Agricultural Source Material*			
8, 9.	Commercial Fertilizer*			
10, 11.	Pesticide			
12, 13.	Road Salt*			
14.	Storage of Snow			
15.	Fuel			
16.	DNAPLs			
17.	Organic Solvents			
18.	Aircraft De-icing			
21.	Livestock Area			
Local Threat	Oil Pipelines			

Note: This table provides a summary of the activities listed in the Clean Water Act (2006) that apply as Prescribed Drinking Water Threats (PDWT) within the Non-GUDI Wellhead Protection Zones shown on this map. For details refer to the text of the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.
*Application of Commercial Fertilizer, Non-Agricultural Source Material, and Road Salt may not be a significant drinking water threat in some areas due to the % managed land, livestock density, and/or % impervious surface calculations for these areas. See the text of the plan for further details.

- Well
- Road
- Minor River
- Lake / Main River
- Lower Tier Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Ontario

Grand River Conservation Authority

1. Updated January 27, 2015
2. Larger scale mapping of some map layers, including roads and vulnerability scores, is available at www.sourcewater.ca.
3. This map is for illustrative purposes only. Information contained hereon is not a substitute for professional review or a site survey and is subject to change without notice. The Grand River Conservation Authority takes no responsibility for, nor guarantees, the accuracy of the information contained on this map. Any interpretations or conclusions drawn from this map are the sole responsibility of the user.

To be used as basis for revisions to Schedule A

4.47 Sourcewater Protection

4.47.1 Identification of Vulnerable Areas

a) Vulnerable Areas shown on Schedule A represent Wellhead Protection Areas (WHPAs) and the associated level of vulnerability for municipal water sources serving the neighbouring Municipalities of Central Elgin and Bayham.

b) A WHPA illustrates three time-related capture zones including a 100-metre radius surrounding the well (WHPA-A), 2 year travel time for water to enter the well (WHPA-B), and 5 year travel time for water to enter the well (WHPA-C). WHPA-C areas associated with wellheads in the Municipalities of Central Elgin and Bayham are located within the Township.

c) The degree of vulnerability of a WHPA is represented in Schedule A by a vulnerability score. The vulnerability score can range from 1 to 10, with 10 being the most vulnerable.

4.47.2 Use Prohibitions and Regulations within Vulnerable Areas

a) Notwithstanding the land uses permitted by the underlying zone category in this By-law, any land use that involves one of the following significant drinking water threat activities shall be prohibited within the vulnerable areas identified on Schedule A to this By-law until a Section 59 Notice has been issued by the Municipality's Risk Management Official in accordance with the Clean Water Act, 2006, or if the Risk Management Official is satisfied that a significant drinking water threat activity will not be engaged in:

   i. The handling and storage of a dense non-aqueous phase liquid

b) 4.47.2 a) shall not apply to a solely residential land use in the Long Point Region Source Protection Plan Area.

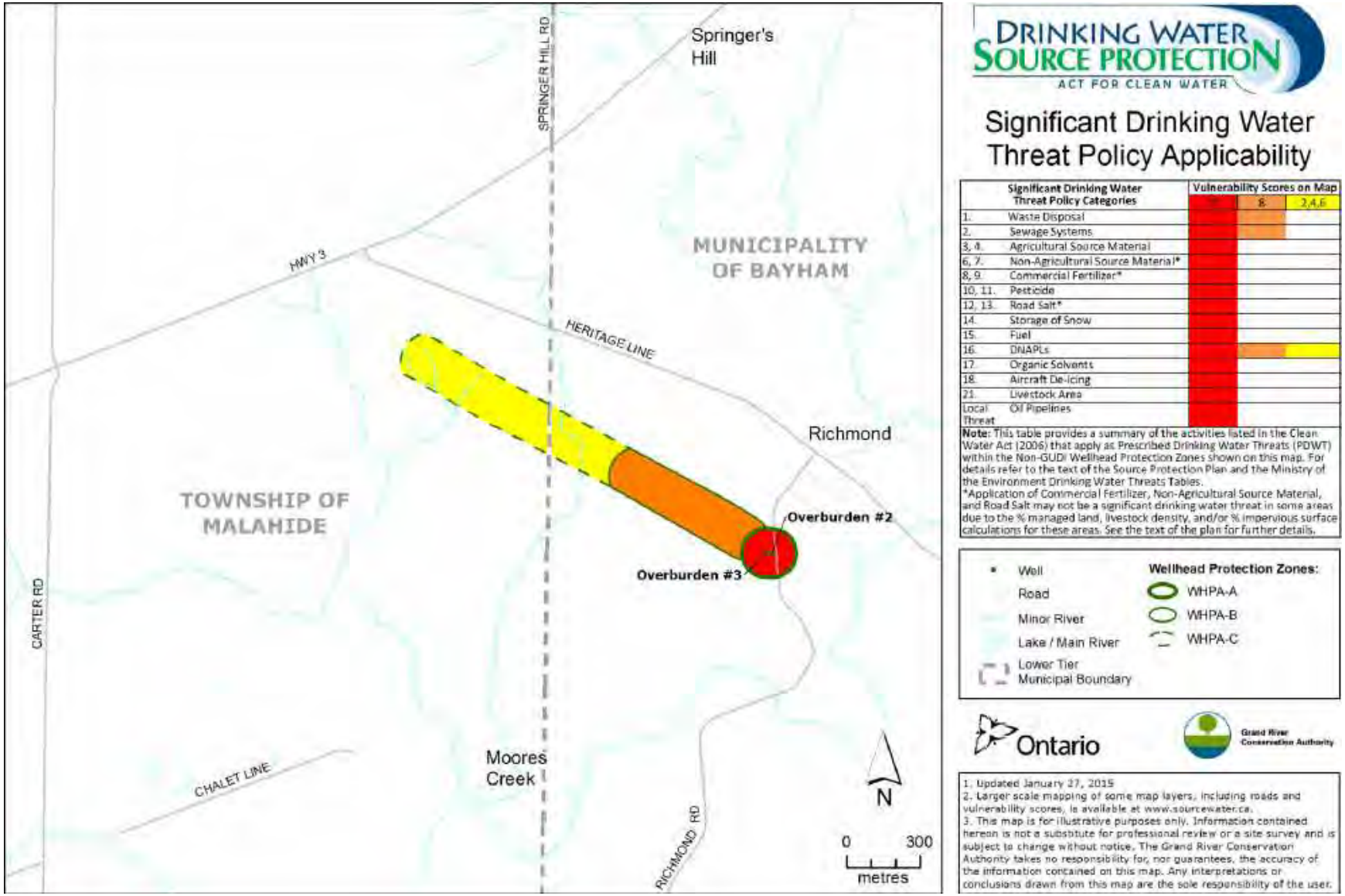
The following terms and definitions are to be added to Section 2 – Definitions:

DRINKING WATER THREAT, shall mean an activity or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source or drinking water, and includes an activity or condition that is prescribed by the Regulations under the Clean Water Act as a drinking water threat. (Source: Clean Water Act)

SECTION 59 NOTICE, shall refer to the requirements under Section 59 of the Clean Water Act, which requires issuance of a notice from the Municipal Risk Management Official before permitting an activity that is considered a restricted land use in the Long Point Region or Kettle Creek Source Protection Plan.

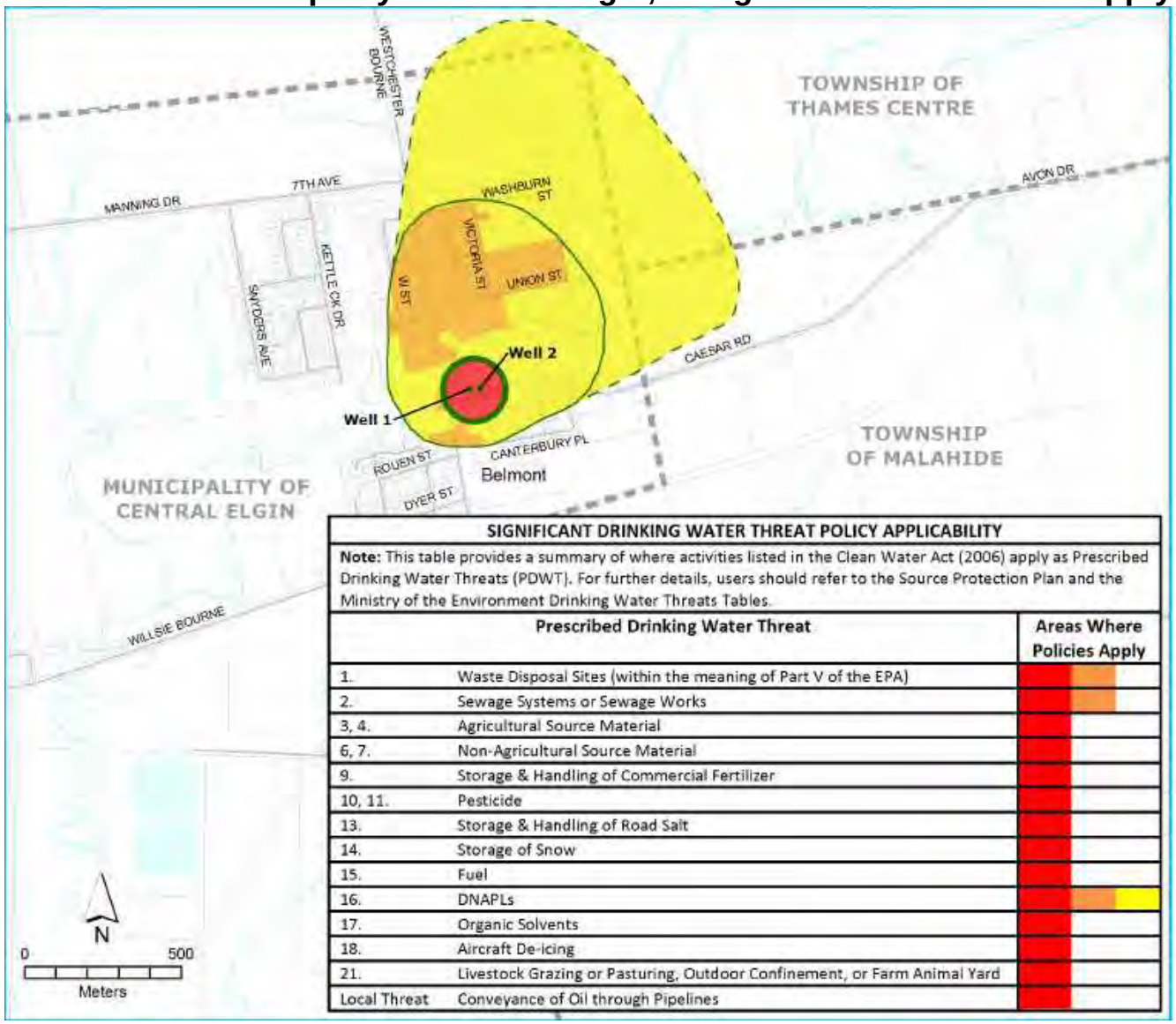
SIGNIFICANT DRINKING WATER THREAT, shall mean a drinking water threat that, according to a risk assessment, poses or has the potential to pose a significant risk. (Source: Clean Water Act)

6.6 Schedule A: Municipality of Bayham: Village of Richmond Water Supply (Groundwater Wells)



To be used as basis for revisions to Schedule A

Schedule A: Municipality of Central Elgin, Village of Belmont Water Supply



SIGNIFICANT DRINKING WATER THREAT POLICY APPLICABILITY

Note: This table provides a summary of where activities listed in the Clean Water Act (2006) apply as Prescribed Drinking Water Threats (PDWT). For further details, users should refer to the Source Protection Plan and the Ministry of the Environment Drinking Water Threats Tables.

	Prescribed Drinking Water Threat	Areas Where Policies Apply
1.	Waste Disposal Sites (within the meaning of Part V of the EPA)	
2.	Sewage Systems or Sewage Works	
3, 4.	Agricultural Source Material	
6, 7.	Non-Agricultural Source Material	
9.	Storage & Handling of Commercial Fertilizer	
10, 11.	Pesticide	
13.	Storage & Handling of Road Salt	
14.	Storage of Snow	
15.	Fuel	
16.	DNAPLs	
17.	Organic Solvents	
18.	Aircraft De-icing	
21.	Livestock Grazing or Pasturing, Outdoor Confinement, or Farm Animal Yard	
Local Threat	Conveyance of Oil through Pipelines	

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Significant Drinking Water Threat Policy Applicability Map

Elgin County:
Municipality of Central Elgin
Village of Belmont Water Supply

- Well
- Roads
- Property Boundaries
- Minor Rivers
- Lakes / Main Rivers
- Municipal Boundary

Wellhead Protection Zones:
- WHPA-A
- WHPA-B
- WHPA-C

Vulnerability Score:
- 10
- 8
- 6 or less

Lake Erie Source Protection Region
www.sourcewater.ca
Kettle Creek Source Protection Area

Ontario

Produced by GRCA on behalf of the Lake Erie Source Protection Committee, January 2, 2014

To be used as basis for revisions to Schedule A

APPENDIX F

Draft General Water Resources Policy Framework

1. Municipality of Dutton-Dunwich
2. Municipality of West Elgin
3. Town of Aylmer
4. Township of Southwold

8.0 WATER RESOURCES

8.1 Surface water sources, including streams, lakes, ponds and wetlands are normally protected through their inclusion within the Natural Heritage System. Groundwater sources occur throughout the Municipality and are an essential resource for urban and rural water supplies, agricultural production and the maintenance of the natural heritage system. It is the intent of this Plan that all development shall be subject to the following policies to ensure that water quality and quantity are not adversely affected. Specifically, it is the Municipality's intent that the development of public and private uses will not significantly alter groundwater recharge or discharge; impair groundwater or surface water quality; or negatively impact municipal groundwater supply.

8.2 Maintaining a sustainable groundwater supply is a priority to meet the needs of current and future residents. The Municipality recognizes a relationship between groundwater and surface water in terms of recharge and discharge functions. The policies of this Plan are intended to address both ground water and surface water protection.

8.3 With respect to water resources, the Municipality shall endeavour to:

a) Ensure land use decisions advance water conservation efforts and support the efficient use of water resources.

b) Promote efficient and sustainable use of water resources that maintain and enhance water quantity and quality through the retention of vegetation or through re-naturalization.

c) Encourage agricultural practices that protect water resources.

d) Promote sustainable stormwater management practices that protect for, or where feasible, enhance water quality and water quantity control.

e) Identify water resource systems consisting of groundwater features, hydrologic functions, natural heritage features and areas, and surface water features, which are necessary for the ecological and hydrological integrity of the watershed.

f) Maintain linkages and related functions among groundwater features, hydrologic functions, natural heritage features and areas, and surface water features.

g) Protect or enhance the function of sensitive groundwater recharge areas, discharge areas, aquifers and headwaters.

h) Work cooperatively with Conservation Authorities and Provincial Ministries regarding land management issues within the watersheds of the Municipality.

i) Ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic systems on an integrated watershed management basis.

j) Ensure that development meets provincial water quality objectives.

k) Ensure levels of wastewater treatment that are appropriate for the size, location and scale of development anticipated.

l) Protect wetlands and areas that make significant contributions to groundwater recharge.

m) Ensure the base flow needed to protect streams, fisheries and wetlands are maintained.

n) Support sustainable stormwater management practices that protect, or where feasible, enhance water quantity and quality control.

o) Implement necessary restrictions on development and site alteration to protect municipal drinking water supplies, vulnerable areas and sensitive surface and groundwater features.

p) Improve or restore sensitive surface and groundwater features through low impact development approaches and restrictions on development and site alteration, where necessary.

3.4 WATER RESOURCES

The water resources of West Elgin include the Thames River which bounds the Municipality on the north and Lake Erie which bounds the Municipality on the south as well as numerous streams and creeks which flow into these respective water bodies. Also included are groundwater resources on which a large part of the 'Rural Area' depends as a source of water for residential, business and agricultural purposes. Measures and practices are necessary to reduce or eliminate the potential for impairment of the quality and quantity of the Municipality's surface and groundwater resources. It is the intent of this Plan that all development shall be subject to the following policies to ensure that water quality and quantity are not adversely affected. Specifically, development of public and private uses shall not significantly alter groundwater recharge or discharge, impair groundwater or surface water quality, or negatively impact municipal groundwater supply.

Maintaining a sustainable groundwater supply and protecting surface water sources is a priority to meet the needs of current and future residents. The Municipality recognizes a relationship between groundwater and surface water in terms of recharge and discharge functions. The policies of this Plan are intended to address both ground water and surface water protection.

3.4.1 Adverse Impacts

Where development is being proposed that may have an adverse impact on the Municipality's water resources, the proponent shall be required to submit a report prepared by a person or persons qualified in this field to identify and evaluate such impacts and the measures which are feasible to mitigate these impacts.

3.4.2 Sustainable Use

The Municipality shall promote efficient and sustainable use of its water resources by promoting the retention of vegetation and renaturalization to enhance water quantity and quality, encouraging agricultural practices that protect water resources, and ensuring land use decisions advance water conservation efforts and support the efficient use of water resources. The Municipality will also endeavor to adopt water conservation measures and sustain water quality through such measures as maintaining appropriate sewage rates in areas served by municipal treatment plants, the preparation and implementation of nutrient management plans for livestock operations, and promoting appropriate use and maintenance of individual and communal waste disposal systems and the use of low nitrate generating systems, ultimately ensuring that levels of wastewater treatment are

appropriate for the size, location and scale of development anticipated.

3.4.3 Partnerships

The Municipality shall co-operate with the Lower Thames Valley Conservation Authority and other interested groups regarding land management issues within the watersheds of the Municipality and to identify and implement cost effective measures for protecting, improving and restoring the quality and quantity of the water resources of West Elgin.

3.4.4 Stormwater Management

The Municipality shall require stormwater management plans for new development and promote sustainable stormwater management practices that protect for, or where feasible, enhance water quality and quantity control.

Studies may be required for undeveloped areas prior to development to minimize stormwater runoff and contaminant loads as well as to maintain or enhance vegetative and pervious surfaces. Such studies shall be prepared, where appropriate to do so, on a sub-watershed basis as opposed to a land ownership basis. Stormwater Management facilities shall not be permitted in provincially significant wetlands. In the preparation and evaluation of such studies, the Lower Thames Valley Conservation Authority shall be consulted. All design parameters for stormwater management shall be approved by the Municipality, the Ministry of Environment and the Lower Thames Valley Conservation Authority. A certificate of approval shall be required from the Ministry prior to construction.

3.4.5 Systems and Functions

With respect to water resource systems and related functions, the Municipality shall endeavor to:

a) Identify water resource systems consisting of groundwater features, hydrologic functions, natural heritage features and areas, and surface water features.

b) Maintain linkages and related functions among groundwater features, hydrologic functions, natural heritage features and areas, and surface water features.

c) Protect or enhance the function of sensitive groundwater recharge areas, discharge areas, aquifers and headwaters.

d) Protect wetlands and areas that make significant contributions to groundwater recharge.

e) Ensure the base flow needed to protect streams, fisheries and wetlands are maintained.

f) Ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic systems on an integrated watershed management basis.

g) Implement necessary restrictions on development and site alteration to protect municipal drinking water supplies, vulnerable areas and sensitive surface and groundwater features.

h) Improve or restore sensitive surface and groundwater features through low impact development approaches and restrictions on development and site alteration, where necessary.

3.4.6 Watershed Boundaries

Rodney and West Lorne are situated partially within the watershed of the Thames River and partially within the watershed of Lake Erie. Within these settlements, there are a number of sub-watersheds stemming from a series of drains. In the case of Rodney, these include the Milton Drain and the Wismer Drain while in the case of West Lorne, they include the Trigger Drain and the Wilton Outlet Drain. Modifications to the boundaries of sub-watersheds may be required as a result of minor re-grading to facilitate development. Such modifications shall be subject to the approval of the Municipality and the Lower Thames Valley Conservation Authority.

2.2.11 WATER RESOURCES

Surface water resources, including streams, lakes, ponds and wetlands are normally protected through their inclusion within the Natural Heritage System. Groundwater sources occur throughout the Town and are an essential resource for residents and businesses. It is the intent of this Plan that all development shall be subject to the following policies to ensure that water quality and quantity are not adversely affected. Specifically, it is the Town's intent that the development of public and private uses will not significantly alter groundwater recharge or discharge; impair groundwater or surface water quality, or negatively impact municipal groundwater supply. The Town recognizes a relationship between groundwater and surface water in terms of recharge and discharge functions. The policies of this Plan are intended toa ddress both ground water and surface water protection.

With respect to water resources, the Town shall endeavour to:

(1) Ensure land use decisions advance water conservation efforts and support the efficient use of water resources.

(2) Promote efficient and sustainable use of water resources that maintain and enhance water quantity and quality through the retention of vegetation or through re-naturalization.

(3) Encourage agricultural practices that protect water resources.

(4) Promote sustainable stormwater management practices that protect for, or where feasible, enhance water quality and water quantity control.

(5) Identify water resource systems consisting of groundwater features, hydrologic functions, natural heritage features and areas, and surface water features, which are necessary for the ecological and hydrological integrity of the watershed.

(6) Maintain linkages and related functions among groundwater features, hydrologic functions, natural heritage features and areas, and surface water features.

(7) Protect or enhance the function of sensitive groundwater recharge areas, discharge areas, aquifers and headwaters.

(8) Work cooperatively with Conservation Authorities and Provincial Ministries regarding land management issues within the watersheds of the Municipality.

(9) Ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic systems on an integrated watershed management basis.

(10) Ensure that development meets provincial water quality objectives;

(11) Ensure levels of wastewater treatment that are appropriate for the size, location and scale of development anticipated.

(12) Protect wetlands and areas that make significant contributions to groundwater recharge.

(13) Ensure the base flow needed to protect streams, fisheries and wetlands are maintained.

(14) Support sustainable stormwater management practices that protect, or where feasible, enhance water quantity and quality control.

(15) Implement necessary restrictions on development and site alteration to protect municipal drinking water supplies, vulnerable areas, and sensitive surface and groundwater features.

(16) Improve or restore sensitive surface and groundwater features through low impact development approaches and restrictions on development and site alteration, where necessary.

3.1.6 STORMWATER MANAGEMENT POLICY

(1) Stormwater Management Studies

Prior to development being allowed to proceed, and if required by the policies of this Plan, the Catfish Creek Conservation Authority and/or the Ministry of the Environment, the developer shall undertake a stormwater management study to determine the effect of increased run-off due to development of the site, and to identify stormwater management measures as necessary to control any increases in flows in downstream watercourses, up to and including the 1:100 year design storm. This Plan requires the preparation of a stormwater management study for any new development consisting of more than five residential lots or for commercial or industrial developments with large amounts of impervious area. The study shall identify practices that will minimize stormwater volumes and contaminant loads and determine the appropriate stormwater facilities for the development to achieve these objectives. The developer shall install the stormwater management measures identified in the study as part of the development of the site, to the satisfaction of the Town and the Conservation Authority. In addition to the Catfish Creek Conservation Authority, the Ministry of Environment and the Ministry of Transportation shall be consulted on stormwater management studies in situations where statutory approvals are necessary under the Ontario Water Resources Act and/or in situations where development is proposed adjacent to a Provincial Highway. Stormwater management studies will be considered in light of the Ministry of the Environment's current Stomwater Management Practices Planning and Design Manual.

2.4 WATER RESOURCES

The Township contains watercourses draining to Lake Erie and the Thames River. Among other resources, wetlands, the lake, river and streams support the natural environment and the existing community.

Groundwater resources also occur throughout the Township and are an essential resource for urban and rural water supplies, agricultural production and the maintenance of the natural heritage systems. The protection, conservation and careful management of groundwater resources is necessary to meet both the present and future needs of residents, businesses and the natural environment. It is the intent of this Plan that all development shall be subject to the following policies to ensure that water quality and quantity are not adversely affected. Specifically, it is the Township's intent that the development of public and private uses will not significantly alter groundwater recharge or discharge, impair groundwater or surface water quality, or negatively impact municipal groundwater supply. The policies of this Plan are intended to address both groundwater and surface water protection.

The following will be the policy of the Township:

a) The Township will work cooperatively with the Kettle Creek and Lower Thames Valley Conservation Authorities in dealing with land management issues within the subwatersheds draining to Lake Erie, including those that extend beyond the municipal boundaries.

b) The Township will encourage the preparation of watershed and subwatershed management plans and regional stormwater quality/quantity management facilities to assist in water resource and land use planning on an ecosystem basis. To the extent feasible, the Township will support the Conservation Authorities in the preparation and implementation of watershed and subwatershed plans.

c) The Township will encourage the protection and restoration of Natural Heritage Features, such as wetlands, to improve water quality and quantity and maintain groundwater recharge.

d) The Township shall endeavor to identify water resource systems consisting of groundwater features, hydrologic functions, natural heritage features and areas, and surface water features, which are necessary for the ecological and hydrologic integrity of the watershed.

e) The Township will maintain linkages and related functions among groundwater features, hydrologic functions, natural heritage features and areas, and surface water features. The function of sensitive groundwater recharge areas, aquifers and headwaters will be protected or enhanced.

f) The Township will ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic systems on an integrated watershed management basis, and that development meets provincial water quality objectives.

g) Planning applications that propose to make use of a private water source will be required to submit a detailed hydrogeological study to determine the suitability of the lands for groundwater extraction. The hydrogeological study will be prepared to the satisfaction of the Township and the affected Conservation Authority.

h) Levels of wastewater treatment shall be appropriate for the size, location and scale of development anticipated.

i) The Township will require groundwater impact assessments for development proposals as appropriate according to the level of susceptibility and potential groundwater contaminants. Assurance that groundwater quality and quantity will not be negatively impacted will be required for approval of applications for development.

j) The Township will require the use of stormwater management facilities downstream of new developments, where appropriate, to mitigate development impacts on stormwater quantity and quality. The Township will promote sustainable stormwater management practices that protect for, or where feasible, enhance water quality and water quantity control and are characterized by naturalized and unfenced stormwater management facilities, constructed with gentle slopes. Applications for development will be required to be supported by a stormwater quality/quantity management study. The planning and design of stormwater facilities should be undertaken in accordance with the Ministry of the Environment's Stormwater Management Planning and Design Manual.

k) A Permit To Take Water (PTTW), in accordance with the *Ontario Water Resources Act* is required from the Ministry of Environment where more than 50,000 litres a day of groundwater/surface water will be drawn.

l) Environmental Assessment and Certificate of Approval may be required from the Ministry of Environment in connection with stormwater management facilities and permits to take water.

m) In cooperation with the private sector and the community, the Township will encourage the reduction of water consumption levels through the promotion of the efficient use of water and ensure land use decisions advance water conservation efforts and support the efficient use of water resources.

n) The Township will promote efficient and sustainable use of water resources that maintain and enhance water quantity and quality through the retention of vegetation or through re-naturalization.

o) The Township will encourage agricultural practices that protect water resources.

p) The Township shall implement necessary restrictions on development and site alteration to protect municipal drinking water supplies, vulnerable areas and sensitive surface and groundwater features.

q) The Township shall improve or restore sensitive surface and groundwater features through low impact development approaches and restrictions on development and site alteration where necessary.

q) In the interest of protecting the quality of ground and surface waters, new or expanding livestock operations will satisfy the policies of Section 4.1 Agriculture.

REPORT TO COUNTY COUNCIL

FROM: Nicholas Loeb, Senior Counsel

DATE: September 7, 2021

SUBJECT: Central Elgin Antennas Licence Agreement, County Administration Building

RECOMMENDATIONS:

It is recommended that:

1. The within Report to Council, dated September 7, 2021, and entitled “Central Elgin Antennas Licence Agreement, County Administration Building” be received and filed; and,

2. County Council approve and authorize the Warden and Chief Administrative Officer to execute a proposed Antennas Licence Agreement as between Elgin (County) and The Corporation of the Municipality of Central Elgin in the form and of the content attached.

INTRODUCTION:

The purpose of this Report to Council is to seek approval and authorization for execution of a proposed Antennas Licence Agreement (“Licence Agreement”) between Elgin (County) and The Corporation of the Municipality of Central Elgin (“Central Elgin”) with regard to antennas affixed to the roof of the Elgin County Administration Building (“CAB”).

BACKGROUND AND DISCUSSION:

Elgin (County) and Central Elgin have entered into a lease agreement with regard to the occupancy of certain offices and facilities within the CAB that takes effect on January 1, 2022.

During the negotiations regarding the new lease agreement, the parties identified that Central Elgin has certain antennas affixed to the roof of the CAB for their operational purposes, namely fire communications, roads communications, a point-to-point with White Station, and, SCADA. Because these antennas are affixed to the roof and therefore separate and apart from the leased premises defined in the lease agreement,

the parties agree that the terms and conditions the affixed antennas should be dealt with in a separate licence agreement.

The appended Licence Agreement sets out the terms and conditions for the antennas. The Licence Agreement clarifies the rights, responsibilities and obligations of the parties with regard to access, maintenance, repair, insurance, liability and potential removal and/or termination of the Licence Agreement. The Licence Agreement requires that Central Elgin insure and indemnify Elgin with regard to liability associated with the antennas.

There is currently no licence agreement setting out the terms and conditions with regard to the antennas in force and effect and therefore the Licence Agreement is proposed to take effect as of the date of execution.

The annual fee set out in the Licence Agreement is nominal, reflecting that the antennas are part of Central Elgin's municipal operations that were contemplated as part of the lease agreement negotiations. Therefore the lease agreement annual fee adequately covers the licence for the antennas.

FINANCIAL IMPLICATIONS:

The antennas are already affixed to the roof of CAB and as noted earlier in this report, the annual fee is nominal, with the lease agreement annual fee designed to cover off the need for the antennas. There are therefore no financial implications.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Serving Elgin	Growing Elgin	Investing in Elgin
☒ **Ensuring alignment of current programs and services with community need.** ☒ **Exploring different ways of addressing community need.** ☒ **Engaging with our community and other stakeholders.**	☐ **Planning for and facilitating commercial, industrial, residential, and agricultural growth.** ☐ **Fostering a healthy environment.** ☒ **Enhancing quality of place.**	☒ **Ensuring we have the necessary tools, resources, and infrastructure to deliver programs and services now and in the future.** ☒ **Delivering mandated programs and services efficiently and effectively.**

Additional Comments: None

LOCAL MUNICIPAL PARTNER IMPACT:

The Licence Agreement was negotiated with the CAO of Central Elgin, who has had the opportunity to review the draft Licence Agreement and concurs with its content. The Licence Agreement clarifies the rights, responsibilities and obligations of Central Elgin with regard to antennas that are important to its municipal operations.

COMMUNICATION REQUIREMENTS:

None

CONCLUSION:

Staff presents a Licence Agreement that serves both Elgin and Central Elgin in delivering municipal services to their respective residents. The terms and conditions of the Licence Agreement clarify the rights, responsibilities and obligations of both parties and allow Central Elgin to operate, access, maintain and repair antennas that are important for its operations and ensures the County is protected with regard to liability associated with the antennas.

All of which is Respectfully Submitted

Nicholas Loeb,
Senior Counsel

Approved for Submission

Julie Gonyou
Chief Administrative Officer

THIS LICENCE AGREEMENT is effective as of the day of , 2021.

BETWEEN:

CORPORATION OF THE COUNTY OF ELGIN
Hereinafter called the “Licensor”

of the FIRST PART;

- and -

THE CORPORATION OF THE MUNICIPALITY OF CENTRAL ELGIN
Hereinafter called the “Licensee”

of the SECOND PART;

WHEREAS:

(A) The Licensor is the owner of lands and premises known municipally as the Elgin County Administration Building at 450 Sunset Drive, St. Thomas, Ontario (“Building”);

(B) The Licensee is a current tenant within the Building, and from its leased premises the administration of the Municipality is operated pursuant to the terms and conditions of a Lease Agreement;

(C) The Licensee, in order to properly run its operations, requires certain communication antennas to be affixed to the roof of the Building, which roof is not part of the rental area governed by the terms and conditions of the Lease Agreement, for the purpose of receiving and transmitting electronic, radio frequency or other wave transmissions related to Firefighting communications, Roads communications, SCADA and a wireless point-to-point with its operations at White Station;

(D) The Licensor and Licensee have reached a consensus for the terms and conditions of a licence permitting the affixing and operating of the Antennas;

(E) The Licensor and Licensee wish to reduce the terms of the said consensus to writing;

NOW THEREFORE this Agreement witnesses that, in consideration of the payment of the sum of ONE DOLLAR ($1.00) by the Licensee to the Licensor and performance of the other covenants hereinafter set forth and for other good and valuable consideration, the sufficiency of which is acknowledged by the parties, the Licensor and Licensee agree as follows:

1. Definitions

“Agreement” means this licence agreement and all the terms and conditions stated within it and its Schedules.

“Antennas” means the four (4) antennas affixed to the Licensed Premises of the Building pursuant to the grant of licence contained in this Agreement and any further such antenna(s) that may be permitted by the Licensor from time to time.

“Applicable Laws” means all statutes, laws, by-laws, regulations, ordinances, codes, orders, safety standards and requirements of Canada, Ontario, or Elgin.

“Building” means the premises known as the Elgin County Administration Building and located at 450 Sunset Drive, St. Thomas, Ontario.

“Commencement Date” has the meaning and is specified as set forth in section 4 herein.

“Lease Agreement” means the Lease Agreement entered into by the Parties governing the terms and conditions of the Licensee’s tenancy that may be in force from time to time.

“Licence Fee” means the amount payable by the Licensee to the Licensor in consideration for the grant of licence contemplated herein.

“Licensed Premises” means the portion of the roof of the Building where the Antennas are affixed, encompassing approximately 10 square feet and depicted on the sketch per the red dots described in the legend, with the sketch being attached as Schedule “A” hereto, which forms part of this Agreement.

“Licensee” means The Corporation of the Municipality of Central Elgin.

“Licensor” means the Corporation of the County of Elgin.

“Parties” means the Licensor and Licensee and “Party” shall mean any one of them, as context may require.

“Representatives” means employees, servants, agents, consultants, clients, contractors and invitees of the Licensee.

“Use” means the purposes for which the Licensed Premises are utilized by the Licensee during the effective period of this Licence and, for the purposes of clarity, is limited to utilization for accessing, affixing, operation and maintenance of certain Antennas as herein described.

2. Grant of Licence

The Licensor hereby grants to the Licensee a revocable and non-exclusive licence and privilege to enter upon, occupy, make use of and utilize the Licensed Premises for the purposes of the Use. The Licence includes:

a. The right to affix, operate and maintain the Antennas as necessary for the administration and operations of the Licensee;

b. The right to bring Representatives, materials and equipment reasonably required in connection with the foregoing purpose onto Building's roof and the Licensed Premises. The licensee shall not use the Licensed Premises for any purpose other than for the Use; and,

c. The right to access the roof at any reasonable time between the hours of 8:30a.m. and 4:30p.m. from Monday through Friday inclusive excepting statutory holidays for the purpose of maintaining the Antennas. If necessary, the Licensor shall facilitate access to the roof for the Licensee and its Representatives provided that the Licensee has given the Licensor reasonable notice requesting such access. The Licensee is solely responsible at its own cost for ensuring that its Representatives adhere to all Applicable Laws and safety requirements when accessing or performing any work or activity on the Building's roof.

3. Licence Fee

The Licensee hereby agrees to pay to the Licensor an annual fee of TWO DOLLARS ($2.00).

4. Term

This Agreement is effective on the date that it is executed by the Parties as noted at the top of this Agreement. The Licence shall remain in effect until December 31, 2026, subject to the early termination clause(s) set out in section 5 of this Agreement.

5. Early Termination

(a) This Agreement shall terminate without notice upon the termination, for any reason, of the Lease Agreement between the Parties.

(b) The Licensor may terminate this Agreement at any time, for any reason in its sole and absolute discretion, upon providing ninety (90) days' notice to the Licensee.

(c) This Agreement may be terminated without notice by the Licensor in any of the following circumstances:

i. The Licensor receive any order, direction or decision from a competent authority requiring the removal of the Antennas from the building;

ii. If the Licensor deems, in its sole and absolute discretion, that the existence of the Antennas and their operation interferes in any manner with the operations or administration of the Licensor including but not limited to the operation of the Building;

iii. The Licensee is in material default of any provision of this Agreement; or,

iv. The Licensee removes the Antennas from the Licensed Premises.

6. Licensee's Covenants

The Licensee hereby covenants with the Licensor to:

(a) Pay the Licence Fee;

(b) Use the Licensed Premises only for the Use and not to erect any new Antenna(s), structures or other fixtures on the Licensed Premises or the Building's roof without written permission from the Licensor;

(c) Maintain and keep the Antennas and any other permitted fixtures on the Licensed Premises in a state of good repair at its own cost and expense;

(d) Repair, at its own cost and expense, any Antennas or other permitted fixtures on the Licensed Premises upon written notice from the Licensor;

(e) Allow facility or maintenance staff of the Licensor, or any agent, representative or designate of the Licensor to enter the Licensed Premises to undertake any inspection, assessment, maintenance, repair or other activity that may be reasonably required by the Licensor;

(f) Reimburse the Licensor for the cost of any repair to the Licensed Premises or any other portion of the Building and associated lands incurred by the Licensor and resulting from the Licensee's use and occupation of the Licensed Premises;

(g) Not undertake any construction activities within the Licensed Premises including any improvements with respect to fixtures, installations, alterations and additions without the written consent of the Licensor;

(h) Act in a prudent, expeditious and reasonable manner so as to avoid, to the extent reasonably possible, interference with the existing and continued use and operation of the Building, its tenants, agents, managers, service providers and employees;

(i) Not commit, cause or permit, and to cause its Representatives not to commit, cause or permit any nuisance or any waste, injury or damage to the Licensed Premises or the Building. Without limiting the generality of the foregoing, the Licensee shall not use or permit the use of any portion of the Licensed Premises

(j) Immediately notify the Licensor upon discovering any damage or potential damage to the Licensed Premises, whether or not caused by the Licensee, its Representatives, or those for whom at law the Licensee is responsible. The Licensee shall not have the right to repair any damage to the Licensed Premises, save and except its own Antennas, without prior written permission of the Licensor;

(k) Remove the Antennas and any other permitted fixtures in the Licensed Premises upon termination of this Agreement at its sole cost and expense; and,

(l) In the event of termination of this Agreement and removal of the Antennas and any other permitted fixtures, to restore the Licensed Premises to the same condition that existed prior to the affixing of the Antennas to the Licensed Premises.

7. Licensor's Covenants

The Licensor hereby covenants with the Licensee to:

(a) Provide reasonable access to the roof of the Building to the Licensee during regular business hours as set out in section 2(c) of this Agreement and in the event of an emergency to make best efforts to provide access to the roof in a timely manner to the Licensee even if outside of the hours described in section 2(c) of this Agreement;

(b) Provide reasonable notice to the Licensee of any maintenance or repair of the Building and/or its roof that may interfere with or otherwise affect the operation of the Antennas; and,

(c) Not unreasonably withhold its consent for the addition of any new Antenna(s) or fixture reasonably required by the Licensee for its municipal operations. If any new Antenna(s) are approved then the Parties hereby agree to update Schedule "A" to reflect the addition of the new Antenna(s).

8. Insurance

The Licensee shall, at its sole cost and expense, take out and maintain in full force and effect, at all times throughout the Term of this Agreement an insurance policy, including public liability and property damage insurance coverage, in an amount not less than FIVE MILLION DOLLARS ($5,000,000) per occurrence, which insurance shall name the Licensor as an additional insured. The Licensee shall provide evidence reasonably satisfactory to the Licensor that such insurance coverage is in force, and the policy shall require notification to the Licensor in advance of any material adverse change or cancellation of such policy.

9. Indemnity

The Licensee shall indemnify and save harmless the Licensor against all actions, suits, claims, damages, costs and liabilities arising out of or as a result of:

(a) Any breach, violation, or non-performance of the terms, covenants and obligations on the part of the Licensee, including its Representatives, councilors, staff, employees, servants, agents and contractors and others for whom it is at law responsible, as set out in this Agreement;

(b) Any damage to the Licensor's Property occasioned by the use of the Licensed Premises by the Licensee, and its Representatives, councilors, staff, employees, servants, agents, and contractors and others for whom it is in law responsible; and,

(c) Any injury (including death) to any person resulting from the use of the Licensed Premises by the Licensee, the use of the Building's roof for the purpose of accessing the Licensed Premises, and its Representatives, councilors, staff, employees, servants, agents, and contractors and others for whom it is in law responsible.

10. Responsibility and Release

The Licensee shall use the Licensed Premises and access to the Building's roof at its sole risk, and the Licensor shall not be liable for any loss, injury or damage caused to persons using the Licensed Premises, accessing the Building's roof for the purpose of accessing the Licensed Premises, or to their property, the responsibility for insuring against any such loss, injury or damage being that of the Licensee, who hereby waives, on behalf of himself and its insurers, any rights of subrogation against the Licensor. In addition, and without limitation, the Licensee agrees that the Licensor shall not be liable for and hereby releases the Licensor from:

(a) Any and all claims, actions, causes of action, damages, demands for damages and other liabilities for or related to:

i. Any bodily injury, personal injury, illness or discomfort to or death of the Licensee or any of its Representatives, councilors staff, employees, servants, agents, and contractors or others for whom it is in law responsible, in or about the Licensed Premises or the Building's roof; and

ii. Any loss or damage to all property in or about the Licensed Premises owned by the Licensee or any of its Representatives, councilors, staff, employees, servants, agents, and contractors and others for whom it is in law responsible;

(b) Any act or omission on the part of any Representative or contractor from time to time employed by the Licensor to perform any maintenance or other work in or about the Building; and

(c) Any indirect or consequential damages;

Save and except for losses arising from or caused or contributed to by negligence on the part of the Licensor and including its servants, agents, employees, or contractors, as the case may be.

11. General

(a) The Licensor may enter upon the Licensed Premises at any reasonable time but in exercising its right of entry shall endeavor to provide the Licensee with reasonable Notice of its intention to enter;

(b) No waiver by any party of any breach by the other party of any of its covenants, agreements or obligations contained in this Agreement shall be construed or deemed to be a waiver of any subsequent breach thereof or the breach of any other covenants, agreements or obligations;

(c) Any Notices required under this Agreement shall be in writing and may be delivered personally or sent by regular mail to:

Licensee
The Corporation of the Municipality of Central Elgin
450 Sunset Drive, St. Thomas, Ontario, N5R 5V1

Licensor
Corporation of the County of Elgin
450 Sunset Drive, St. Thomas, Ontario, N5R 5V1

Any Notice sent by regular mail shall be deemed to arrive five (5) business days after being sent.

(d) Headings in this Agreement are for convenience of reference only, and shall not affect the construction or interpretation of this Agreement.

(e) If any section or part of a section in this Agreement is or is held to be illegal or unenforceable, it or they shall be considered separate and severable from the Agreement and the remaining provisions of this Agreement shall remain in full force and effect and shall be binding on the Parties as though such section or part of a section had never been included in this Agreement.

(f) There are no covenants, representations, warranties, agreements or other conditions expressed or implied, collateral or otherwise, forming part of or in any way affecting or relating to this Agreement, save as expressly set out or incorporated by reference herein, and this Agreement constitutes the entire agreement duly executed by the Parties, and no amendment, variation or change to this Agreement shall be binding unless the same shall be in writing and signed by the parties.

(g) The rights and liabilities of the parties shall enure to the benefit of their respective successors and assigns, subject to any requirement for consent by the Licensor hereunder.

(h) This Agreement may be amended in writing by the Parties.

(i) This Agreement may not be assigned by the Licensee without the express written consent of the Licensor, which may be withheld at its sole and absolute discretion.

IN WITNESS WHEREOF the parties have duly executed this Lease at Central Elgin, Ontario, on the date first noted above:

CORPORATION OF THE COUNTY OF ELGIN

Date: _____

_____
Tom Marks, Warden

_____
Julie Gonyou, CAO

We have authority to bind the Corporation

THE CORPORATION OF THE
MUNICIPALITY OF CENTRAL ELGIN

Date: _____

_____
Sally Martin, Mayor

_____
Paul Shipway, CAO

We have authority to bind the Corporation

SCHEDULE A

PENTHOUSE / ROOF PLAN

SCALE: N.T.S.

MUNICIPALITY OF CENTRAL ELGIN

ANTENNAS TAKE UP APPROXIMATELY 10 S.F. OF ROOF SPACE

ADMINISTRATION BUILDING
450 SUNSET DRIVE
ST. THOMAS, ONTARIO
N5R 5V1

REPORT TO COUNTY COUNCIL

FROM: Stephen Gibson, County Solicitor

Brian Lima, General Manager – Engineering, Planning, and Enterprise / Deputy CAO

DATE: September 17, 2021

SUBJECT: Antenna Lease Agreement – Whites Station – QuaeNet Canada Inc. / Elgin (County)

RECOMMENDATIONS:

It is recommended that:

1. The within Report to Council, dated September 17, 2021, and entitled "Antenna Lease Agreement – Whites Station – QuaeNet Canada Inc. / Elgin (County)" be received and filed.

2. County Council approve the draft Antenna Lease Agreement between QuaeNet Canada Inc. and the Corporation of the County of Elgin in relation to wireless antenna installations at Whites Station, Central Elgin, a photocopy of which draft Lease Agreement is attached as Schedule "A" hereto.

3. County Council further authorize execution of the said draft Antenna Lease Agreement as described in Recommendation 2 above by the Warden and Chief Administrative Officer on behalf of Elgin County.

INTRODUCTION:

The purpose of the within Report is to inform Council as to a proposed draft Antenna Lease Agreement between Elgin (County) ("Elgin") and QuaeNet Canada Inc. ("QuaeNet"), as successor to Turris Communications Ltd., and relating to existing installations attaching to a rooftop tower at the Whites Station facility and, further thereto, to seek Council approval and authorization for execution of the said draft Agreement on behalf of Elgin.

BACKGROUND AND DISCUSSION:

Background

Originally erected in connection with Roads Department communications, Elgin (County) maintains a rooftop wireless communication tower at the Whites Station facility and, through written agreements, grants third-party users permission to attach communication equipment to the said tower to facilitate, amongst others, wireless services within Elgin County.

One such third party user was Turris Communications Ltd. ("Turris"), a telecommunications firm providing wireless service to Elgin home and business users. In 2016, Turris executed a new 5-year lease with respect to attachment of four antenna and one satellite dish to the said Tower, which lease expired on June 30, 2021. Negotiations for a replacement Lease Agreement began prior to the date of expiration of the former Lease Agreement and consensus for terms of a succeeding, replacement 5-year lease has now been reached. During the course of such negotiations, it was confirmed that QuaeNet Canada Inc. is now the corporate successor to Turris with respect to the relevant services and is therefore the proper lessee under the proposed new Lease Agreement.

Discussion

To facilitate continued use of existing wireless services to the benefit of local residents, staff has negotiated and recommends approval and authorization for execution of a new antenna lease based upon the terms of the previous, now-expired Lease Agreement, which proposed Agreement more specifically includes but is not limited to the following provisions:

1. Five-year Term, without renewal rights;

2. Exclusive of applicable taxes, rent of $2000.00 for each lease year, representing an increase of $500.00 per lease year over the rent provided for in the previous Lease Agreement.

3. Non-exclusive use of the rooftop communications tower for attachment of wireless service equipment.

4. QuaeNet covenants to non-interference with other telecommunication systems and equipment installed or which might be installed upon the tower structure.

5. QuaeNet to be responsible for all maintenance of its antenna and related equipment.

6. Indemnification of Elgin, as Landlord, by QuaeNet, including as to performance of obligations pursuant to Lease Agreement and negligence.

7. QuaeNet to secure and maintain general liability insurance of no less than $5,000,000.00 per occurrence and under which Elgin (County) is named as an additional insured.

8. As a revision to the provisions in the now-expired Lease Agreement, specification of termination rights, including,

   (a) by QuaeNet, at its convenience upon 30 days notice without refund of any prepaid annual rent; and,

   (b) by Elgin,

   (i) upon 30 days notice (or longer as may be reasonably required for remediation) for breach of contractual covenant pursuant to the Lease Agreement; and/or,
   (ii) in the event of destruction or damage to or deterioration of the condition of the premises under which QuaeNet is unable to access or maintain its equipment.

FINANCIAL IMPLICATIONS:

1. Continued but increased rental income of $2000.00 per annum in return for non-exclusive use of the rooftop tower structure.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Serving Elgin	Growing Elgin	Investing in Elgin
☐ **Ensuring alignment of current programs and services with community need.** ☒ **Exploring different ways of addressing community need.** ☒ **Engaging with our community and other stakeholders.**	☒ **Planning for and facilitating commercial, industrial, residential, and agricultural growth.** ☐ **Fostering a healthy environment.** ☒ **Enhancing quality of place.**	☒ **Ensuring we have the necessary tools, resources, and infrastructure to deliver programs and services now and in the future.** ☐ **Delivering mandated programs and services efficiently and effectively.**

Additional Comments: None

LOCAL MUNICIPAL PARTNER IMPACT:

None

COMMUNICATION REQUIREMENTS:

Central Elgin, as tenant of the Whites Station facility, should be advised of the nature of the new lease arrangement, including QuaeNet rooftop access entitlements.

CONCLUSION:

Staff is pleased to advise and recommend a new lease arrangement with QuaeNet, as successor to previous lessee Turris, for continued, non-exclusive use of the rooftop Tower at Whites Station facility, permitting attachment and operation of wireless service antenna and equipment serving unspecified local Elgin customers.

All of which is Respectfully Submitted

Stephen Gibson
County Solicitor

Brian Lima
General Manager – Engineering, Planning, and Enterprise / Deputy Chief Administrative Officer

Approved for Submission

Julie Gonyou
Chief Administrative Officer

SCHEDULE "A"

This Equipment Lease Agreement made Effective this 1st day of July , 2021.

BETWEEN:

CORPORATION OF THE COUNTY OFELGIN
(hereinafter referred to as the "Landlord")

OF THE FIRST PART

AND

QUAENET CANADA INC.
(hereinafter referred to as "QuaeNet")

OF THE SECOND PART

WHEREAS:

1. QuaeNet has requested permission from the Landlord to install, attach, operate, maintain, and repair telecommunications equipment attached to a tower owned by the Landlord upon the lands and premises known municipally owned by the Landlord;

2. The Landlord is prepared to grant such permission to QuaeNet, subject to and on specified terms, covenants, and conditions, which terms, covenants, and conditions are acceptable to QuaeNet;

3. The Landlord and QuaeNet wish to reduce the terms, covenants, and conditions of their consensus to writing.

NOW THEREFORE, IN CONSIDERATION of payment of the sum of ONE DOLLAR ($1.00) by QuaeNet to the Landlord and the mutual covenants and commitments contained in this Agreement, the sufficiency of which consideration is hereby irrevocably acknowledged, the parties hereto agree as follows:

1. The Landlord grants permission to QuaeNet and QuaeNet shall have the right:

   a) to attach, install, construct, operate, maintain, and repair, at its own expense, the equipment, antennas and associated electronics listed in Schedule "A" (the "Equipment"), or their subsequent replacement upon those lands and premises known municipally as the White's Station Operation Centre at Lot 2, Concession 4, Municipality of Central Elgin, County of Elgin and known municipally as 42343 Fruit Ridge Line, Central Elgin, Ontario;

   b) to cause to be installed such electrical and transmission lines as may be necessary for the operation of the Equipment; and

   c) to enter the building at the site at all reasonable times as may be necessary for the purpose of the attachment, installation, operation, maintenance, and repair of the Equipment.

2. The term of this Agreement shall be five (5) years commencing from and including July 1, 2021, and ending on June 30, 2026.

3. QuaeNet shall pay to the Landlord an annual rent of $ 2,000.00, plus all applicable taxes (including but not limited to HST), to be paid, in advance, on July 1st of each year of the term of this lease, commencing July 1, 2021.

4. QuaeNet covenants and agrees with the Landlord as follows:

   a) that the Equipment shall be used by QuaeNet and its clients for the purpose of telecommunications transmission and reception and any other purpose incidental thereto;

   b) that QuaeNet shall not assign or sublet this Lease Agreement without the written consent of the Landlord being first had and obtained, such consent not to be unreasonably withheld;

   c) that the installation, attachment, operation, maintenance, and repair of the Equipment shall cause no material inconvenience to the Landlord;

d) that all installation, attachment, operation, maintenance, and repair of the Equipment will be carried out by QuaeNet or its employees, contractors or agents at its own expense and that upon termination or expiry of this Lease Agreement, QuaeNet shall remove the Equipment at its own expense and return the Premises and related fixtures and structures, including but not limited to the tower to which the Equipment had been attached, to its condition before the commencement of this Lease Agreement, subject to reasonable wear and tear of and any changes or alterations made to the Premises by others than QuaeNet or its employees or agents;

e) that QuaeNet shall pay for the costs associated with the supply, installation, and maintenance of a separate meter to measure utility costs associated with the operation of the Equipment and the required electrical connections for the Equipment as well as the cost of such utility used to power the said Equipment;

f) that QuaeNet, at all times during the course of its attendances at the lands and within the premises described above for purposes of the exercise of rights and permissions as contemplated by this Lease Agreement, shall maintain the Premises in a clean and orderly condition;

g) that QuaeNet shall indemnify and save harmless the Landlord against all actions, suits, claims, damages, costs and liability arising out of or as a result of:

   i) any breach, violation, or non-performance of the terms, covenants or obligations on the part of QuaeNet or its employees or agents set out in this Lease Agreement;

   ii) any damage to property occasioned by the negligent use of the Premises by QuaeNet or its employees or agents, or by the structural failure of any or all of the Equipment; and,

   iii) any injury or death of any person resulting from the negligent use of the Premises by QuaeNet or its employees or agents.

h) that the Landlord shall not be responsible for damage to the Equipment, howsoever arising, save and except for damage caused by the direct negligence of the Landlord, its agents, servants, or employees;

i) that QuaeNet shall at all times be responsible for damage caused to the property of the Landlord or any Tenant thereof as resulting from the installation, attachment, operation, maintenance, and repair of the Equipment upon the lands and premises described above, including but not limited to damage caused by its servants, agents, and employees exercising any right of access granted herein;

j) that the within Lease Agreement and the rights and entitlements granted hereunder are non-exclusive, that the lands and premises, including but not limited to the tower structure as described above and to which the subject antennas are attached, can be leased to other persons or corporations without the consent of QuaeNet, including but not necessarily limited to a lease to the Corporation of the Municipality of Central Elgin for use as a municipal garage facility, and, furthermore, that the operation of the Equipment by QuaeNet shall not interfere with the telecommunication systems and equipment otherwise installed, attached, operated, maintained and repaired by any such further and other Lessee.

5. The Landlord covenants and agrees with QuaeNet as follows:

a) the Landlord is the owner of the lands and premises described above and has authority to enter into this Lease Agreement;

b) the Equipment shall remain the property of QuaeNet and may be removed within eight (8) week(s) after expiration of the Term or any earlier termination of this Lease Agreement;

c) the Landlord shall pay all taxes and rates, municipal, provincial, federal or otherwise levied against the lands and premises or the Landlord on account of the use of the Premises; and,

d) the Landlord shall provide to QuaeNet or its employees or agents one set of keys to the premises and main lobby access of the building.

6. In the event that the premises are destroyed or damaged or otherwise deteriorate in such a manner that or to a condition under which it would not be possible for QuaeNet to maintain the Equipment on the premises or as otherwise prompting the Landlord, in its unfettered discretion, to abandon, close, or otherwise demolish all or any part of the premises as necessitating denial of access to the Equipment by QuaeNet, the Landlord may terminate this Lease Agreement forthwith thereafter upon such written notice to QuaeNet as the circumstances may reasonably permit and which notice shall not be less than thirty (30) days. In such event, the Landlord shall not be responsible for any damage or loss which may be incurred by QuaeNet by reason of such termination. In such circumstances, the annual rent paid in relation to the then current lease year shall be prorated to the date of termination and refunded accordingly by the Landlord to QuaeNet.

7. The Parties hereto further agree that:

a) QuaeNet may terminate this Agreement for any reason upon thirty (30) days written notice to the Landlord, in respect of which termination there shall be no refund of any annual rent paid in relation to the then current lease year; and,

b) Landlord may terminate this Agreement for cause, including breach of any covenant as set forth herein for a period exceeding ten (10) days following notice thereof, upon thirty (30) days' written notice to QuaeNet (or such longer time period as the nature of the breach requires for correction and as is otherwise agreed to by the Parties), in respect of which termination the annual rent paid in relation to the then current lease year shall be pro-rated to the date of such termination and, in the absence of monies otherwise owing by QuaeNet to the Landlord as arising from this Agreement, shall be refunded accordingly by the Landlord to QuaeNet.

8. The Landlord shall not be liable to QuaeNet for any interference or inconvenience caused by activities upon, in or in the vicinity of the lands or premises, damage to any part of the lands or premises or by repairs, alterations, improvements, or construction thereon or by failure or interruption in the supply of electricity or other utility, including the provision of appropriate levels of heating and cooling.

9. Throughout the term of this Lease Agreement, QuaeNet shall secure and maintain in full force and effect for the benefit of the Landlord and any Tenant of the lands and premises, general liability insurance in an amount of not less than $5,000,000.00 per occurrence in respect of injury to or death of any person or damage to property. The said policy shall name the Corporation of the County of Elgin and The Corporation of the Municipality of Central Elgin as additional insureds. QuaeNet, upon request by the Landlord, shall furnish copies of insurance policies or other evidence of such insurance and any renewals thereof to the Landlord. If QuaeNet fails to insure as required under this Lease Agreement or fails to furnish to the Landlord satisfactory evidence of such insurance, or of the renewal of any policy before expiration, the Landlord may secure such insurance as set forth above, including for the benefit of QuaeNet, for a period not exceeding one year, and any premium paid by the Landlord shall be recoverable from QuaeNet on demand as additional rent.

10. The parties hereto agree that the preamble statements set forth above shall be deemed as and form part of this Lease Agreement.

11. The parties hereto agree that any Schedule hereto shall be deemed as and form part of this Lease Agreement.

12. Any notice under this Lease Agreement shall be given by registered letter addressed as follows:

a) in the case of notice to the Landlord at:

Corporation of the County of Elgin
450 Sunset Drive
St. Thomas, Ontario
N5R 5V1

b) in the case of notice to QuaeNet at:

QuaeNet Canada Inc.
70 Todd Road
Georgetown, Ontario
L7G 4R7

13. Nothing in this Agreement shall relieve the parties from compliance with all applicable municipal by-laws, laws, and/or regulations having jurisdiction over any matter relevant to this Agreement.

14. This Agreement, including any Schedule annexed hereto and forming a part hereof, sets forth all the covenants, promises, agreements, conditions, and understandings between the parties hereto and there are no other covenants, promises, agreements, conditions, or understandings, either oral or in writing, between them with respect to the matters herein addressed other than as set forth herein. Except as herein otherwise provided, no subsequent alteration, amendment, change, or addition to this Agreement shall be binding upon the parties hereto unless reduced to writing and signed by all of them. It is further understood and agreed that all of the agreements and provisions contained in this Agreement are to be construed as covenants on the part of all parties hereto.

15. The failure of any party at any time to require performance by another party in respect of any matter addressed in this Agreement shall in no way affect its right thereafter to enforce that or any other obligation nor shall the waiver by any party or the performance of any obligation hereunder by any party hereto be taken or be held to be a waiver of the performance of the same or any other obligation hereunder at a later time. Both parties hereto retain their respective rights at law to enforce this Agreement.

16. Time shall be of the essence of this Agreement. Any time limit specified in this Agreement may be extended with the consent in writing of both parties hereto, but no such extension of time shall operate or be deemed to operate as an extension of any other time limit, and time shall remain of the essence of this Agreement notwithstanding any extension of any time limit.

17. This Agreement shall be interpreted under and be governed by the laws of the Province of Ontario and Dominion of Canada, as applicable.

18. The headings, subheadings, and section, subsection, clause and paragraph numbers are inserted for convenience and reference only and shall not affect the construction or interpretation of this Agreement.

19. This Agreement shall be construed with all changes in number and gender as may be required by the context.

20. All obligations herein contained, although not expressed to be covenants, shall be deemed to be covenants.

21. The parties agree that all covenants and conditions contained in this Agreement shall be severable and that, should any covenant or condition of this Agreement be declared invalid or unenforceable by a court of competent jurisdiction, the remaining conditions and covenants and the remainder of the Agreement shall remain valid and not terminate thereby.

22. This Lease Agreement shall be binding upon and shall enure to the benefit of the parties and their respective successors and assigns.

23. At the full expense of QuaeNet, this Lease Agreement or Notice thereof may be registered against title to the lands described above and the Landlord agrees to provide its reasonable co-operation in order to facilitate such registration.

(Balance of Page Left Blank Intentionally)

24. This Agreement may be signed in paper form, by facsimile signature, or by electronic signature in accordance with Section 11 of the Electronic Commerce Act, 2000, S.O. 2000, c. 17, as amended. It may also be signed in one or more counterparts and, once signed, can be delivered personally, by facsimile, or by email of the signing page in Adobe Portable Document Format (PDF). Each counterpart shall be considered binding on the signatory thereto and when combined shall constitute a single instrument.

IN WITNESS WHEREOF the parties hereto have signed and affixed their corporate seals under the hands of their proper officers duly authorized in that behalf on the date and at the location set forth below.

SIGNED, SEALED, AND DELIVERED)
)
)
)Corporation of the County of Elgin
)
Date:_____)Per:_____
)Name: Tom Marks
Location:_____)Position: Warden
)
)Per:_____
)Name: Julie Gonyou
)Position: Chief Administrative Officer
)
) We have authority to bind the Corporation
)
)
)QuaeNet Canada Inc.
)
Date:_____)Per:_____
)Name: JOHN WANDA
Location:_____)Position: C.E.O
)
) I have authority to bind the Corporation

SCHEDULE "A"
EQUIPMENT

1. One VHF Antenna on a crossarm mount at the 210' level.
2. One 900 Mhz Antenna on a crossarm mount at the 210' level.
3. One UHF Antenna at the 150' level.
4. One Satellite Dish and GPS Antenna at the 20' level.
5. Equipment Shelter at Tower Base (approximately 50 sq. ft.).

CORPORATION OF THE
COUNTY OF ELGIN

- and –

QUAENET CANADA INC.

LEASE

Stephen H. Gibson
450 Sunset Drive
St. Thomas, ON N5R 5V1
County Solicitor

REPORT TO COUNTY COUNCIL

FROM: Julie Gonyou, Chief Administrative Officer

DATE: September 22, 2021

SUBJECT: Elgin County Council Strategic Plan – Staff Action Plan Update – September 2021

RECOMMENDATION:

THAT the Elgin County Council Strategic Plan – Staff Action Plan Update – September 2021 report from the Chief Administrative Officer, dated September 22, 2021, be received and filed.

INTRODUCTION:

The purpose of this report is to provide Council with an updated Action Plan originally developed by staff in February/March 2020 and most recently updated and presented to Council on May 25, 2021. The actions contained within this Plan support Elgin County Council's Strategic Plan 2020-2022.

BACKGROUND:

The Staff Action Plan is presented to Council quarterly to provide a summary of the implementation of strategic actions to-date and make Council aware of any challenges or risks as they arise.

The action items contained in the Strategic Plan – Staff Action Plan were developed by the Elgin County Leadership Team in alignment with the strategic priorities set out by Council in its 2020-2022 Strategic Plan (Serving Elgin, Growing Elgin and Investing in Elgin). The County's CAO oversees the implementation of the Staff Action Plan. Leads are assigned to each action to ensure clear accountability.

Many items on this list have been completed or are nearing completion and the Chief Administrative Officer and Leadership Team continue to make meaningful progress towards achieving outstanding items. Some delays were experienced as a result of the pandemic; however, advancing these action items remains a top priority.

Since the last update in May 2021, staff have made progress on a number of these initiatives including partnerships and shared services with Elgin's LMPs, Public and internal engagement initiatives, and the Official Plan Review process.

The Leadership Team will meet in October to evaluate ongoing action items and additions to this list for 2022. The new list will be presented to Council at a meeting in late 2021 or early 2022.

CONCLUSION:

Staff presented an Action Plan update in May of 2021. Since this time, progress has been made on a number of the initiatives contained within the Action Plan. An updated Staff Action Plan is attached for Council's review.

All of which is Respectfully Submitted

Julie Gonyou
Chief Administrative Officer

Elgin County Administration 2020 Operational Plan – Updated November 1, 2020

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
Serving Elgin *To re-design how we respond to community need in a creative, sustainable way.*	Ensuring alignment of current programs and services with community need	Conduct a municipal service delivery review (part I) and draft an action plan (part II)	Administrative Services	Final report submitted to MMAH November 30, 2020. Ongoing	Through the 2021 Budget, Elgin County Council committed $300,000 to exploring and implementing priority improvements as identified in the SDR. NEXT STEPS: Staff will continue to implement and/or explore selected initiatives prioritized by Council for 2021.	
		Review the organizational structure	Human Resources	Ongoing - December 31, 2021	Departmental priorities include: Administration (Planning/Land Division), Engineering/Facilities Services and Economic Development. Succession planning will be ongoing throughout 2021. • A new Director of Information Technology Services has been hired. • An Engineering Design and Construction Technologist has been hired for in-house design. • The County has recruited a Planning Technician to take on the role of Secretary/Treasurer of Land Division Committee and to assist in day to day planning.	Departments currently with Organizational Review underway: Facilities / Engineering Services, Planning, Information Technology Services, Community & Cultural Services, Economic Development & Tourism, and Homes and Seniors Services.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					• Titles adjusted in Engineering Services to reflect roles and responsibilities • Director of Engineering Services became General Manager of Engineering, Planning & Enterprise/Deputy CAO. • Planning and Economic Development became part of Deputy CAOs portfolio • Digital Services Librarian replaced program coordinator position to reflect increased use of virtual programming and materials. • Senior Legal Counsel hired in July, 2021. NEXT STEPS: Continue to consider recommendations in the SDR for an improved Organizational Design.	
		Identify opportunities to improve the customer experience (i.e. Land Division Committee application process)	Management Team	December 31, 2020 Ongoing	Several Improvements have been made in an effort to improve customer service. - Improved communications with the Committee – regular process improvement discussions at the start of every LDC meeting - Location maps added to circulations - Planning point of contact with public (me) to provide feedback on inquiries/potential applications - Improved circulation and process with local municipalities - County & Malahide GIS working collaboratively to update parcel fabric to	Link: Corporate Communications and Engagement Plans (ongoing)

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					further improve accuracy of circulation process. - Continued improvement through regular feedback and dialogue $10,000 for software subscriptions was included in the 2021 budget to support a stream-lined process for submitting LD forms. Planning staff are working with IT to develop online forms for LD applications. NEXT STEPS: Improve the processes, technology, training, staffing, and skills development of the Land Division Committee (ongoing).	
	Exploring different ways of addressing community need	Work collaboratively with local municipal partners and stakeholders to address community need (i.e. shared multi-year accessibility plan, emergency management plan, County-wide infrastructure design standards)	Management Team	December 31, 2020	Priorities: Ensure successful delivery of Fire Training/CEMC resource, Accessibility, Museums of Elgin Database, Engineering/Transportation Services (i.e. Phragmites), Healthy Communities Partnership, MTAG assessment review, etc. The County of Elgin has entered into a Shared Service Agreement with the Township of Southwold, the Municipality of West Elgin, and the Municipality of Dutton Dunwich for the provision of Community Emergency Management Services. Elgin is providing temporary CEMC Services to the Township of Malahide The County's application to operate a regional fire training centre was accepted by the province in June 2021. Have implemented fire training with several courses (Fire Instructor Level 1, Level 2, General Rescuer, Fire	Work on the County-wide joint Accessibility Plan was delayed while recruitment for a new Accessibility Coordinator was ongoing. This work has now resumed.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					Officer Level 1, Pump Ops, Flashover Recognition) being completed in 2021. A course calendar of 30-40 courses is planned for 2022.	
		Review best practices as per the service delivery review results	Management Team	December 31, 2020	Focus on "modernization" of services – assess scalability of global innovative models of service from within and outside of the public sector. Research in this area continues and the best-practices analysis included in the Service Delivery Review will inform Elgin's modernization initiatives.	
		Explore shared services and other opportunities to partner with neighbouring/ regional municipalities (i.e. libraries, museums)	Management Team	December 31, 2020 Ongoing	Work together with neighbours, Western Ontario Wardens Caucus and beyond municipal borders to leverage resources and work collaboratively to find efficiencies and opportunities for shared services. Discussions with neighbouring municipalities including Chatham-Kent, Middlesex County and the City of St. Thomas for shared service opportunities is ongoing and will continue into 2021. Council decided to rejoin the South-Central Ontario Economic Region Economic Development Corporation in 2021 on a one-year trial basis. Elgin will work with other SCOR municipalities to advocate for transportation (rail), workforce development, and industrial development in our region. NEXT STEPS: Council prioritized a number of shared services opportunities with local and neighbouring municipalities:	Elgin confirmed municipal partner interest in the joint-Integrity Commissioner/Closed Meeting Investigator position. Contract for service renewed. The County facilitated the recruitment and on-boarding of a temporary Planner for West Elgin and Southwold. The County HR department facilitated the recruitment and hiring process for Bayham's new CAO|Clerk and the Township of Malahide CAO.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					• Discussion with LMPs and development of an hourly HR consulting rate to be considered by Council in July/Aug 2021 (work is ongoing. Next steps include the approval of a draft agreement by interested LMPs and approval of agreement by Council). • Work with St. Thomas Public Library to identify opportunities for partnerships and joint procurement (work has begun and a report to Council will be presented at a future meeting) • Investigate the possibility of a joint Economic Development Corporation with the City of St. Thomas (investigation is in process and Council is expected to receive a report at the September 28, 2021 meeting) • Investigate joint procurement in 2021 for possible implementation in 2022.	
	Engaging with our community and other stakeholders	Improve corporate communications and engagement (*); develop a community engagement strategy and corporate communication plan.	Administrative Services	December 31, 2020 Ongoing	Key priorities include: • develop, coordinate, deliver and evaluate corporate communications and public relations strategies that advance the goals, priorities and policies of Elgin County Council and County services. • Engage Local Municipal Partners and staff by assessing pitfalls and opportunities as they pertain to internal/external communications. • Creating a clear avenue for public feedback, involvement in public information sessions,	

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					and project-specific communications including construction/Community Safety and Well-Being and Economic Development/Tourism and Planning. The County meets weekly with the CAOs of its Local Municipal Partners to ensure a coordinated approach to COVID-19 response and engage in two-way communication on a number of issues. Work has begun on developing and implementing project specific communications plans (Terrace Lodge Redevelopment, Transportation Master Plan, Budget Process, Official Plan Review, Service Delivery Review Progress, Strategic Plan Progress, CSWB etc.) Work has begun to integrate public and stakeholder feedback into as many processes as possible (Connectivity Survey, Internet Service Provider Survey, Budget Survey, Official Plan Review Survey, CSWB Survey, Community Grant Program Survey). Increased use of social media, website, media release, and video content (CSWB, Budget Process, Strategic Plan, Community Grant Program) has been implemented to engage the public virtually during a time when in-person meetings are not possible. Since March 2020, the CAO has sent a weekly COVID-19/Corporate Update to all users across the corporation in order to provide enhanced internal communication during the pandemic.	

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					A corporate Intranet has been developed and rolled out within the Management Team. Staff are currently undergoing training and are testing the platform before a corporate wide roll out in Q4. The Bang the Table engagement platform was launched on June 1, 2021 and has been used so far to engage in two-way communication with the public regarding the OP Review, Transportation Master Plan, Terrace Lodge Redevelopment, 2022 Budget Process and Connectivity Committee. NEXT STEPS: Staff continues to consider avenues for enhanced public consultation and engagement.	
		Provide input into and participate in current provincial modernization initiatives (i.e. Elgin Ontario Health Team, Emergency Health Services, Public Health modernization, Part III transfer)	Administrative Services, Financial Services	December 31, 2020	Be leaders in the Provincial Offences Administration – Part III transfers (Spring 2020); NEXT STEPS: Subject to the approval of the County Solicitor as to final terms and conditions thereof, Council approved a proposed Part III and IX of the Provincial Offences Act (Ontario) Interim Transfer Agreement (February 9, 2020). Ontario Health Team application was submitted in December 2020. Participate in local, regional and provincial-led conversations re: Municipal Modernization Initiatives.	Following a suspension of activities during a 6-month period of the pandemic, Ontario Health Team work resumed in early September 2020 and has involved the Chief Administrative Officer and Director of Homes and Senior Services.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
Growing Elgin *To be the place where people want to live, work, and play.*	Planning for and facilitating commercial, industrial, residential, and agricultural growth	Develop a workforce strategy for existing staff that includes: a. Employee engagement and wellness strategy b. Robust Health and Safety Program c. Leadership Training d. Management Team Development	Human Resources	August 31, 2020 Ongoing	Develop current complement of staff. Corporate wellness initiatives and staff engagement has been a focus during the pandemic and will continue into 2021. Staff development opportunities have shifted to online forums and have been limited as a result of the pandemic. The Social and Events Committee successfully organized the Warden's Charity Golf Tournament on September 2, 2021 which raised $20,000 for the Elgin Middlesex United Way.	Link: Corporate Communications and Engagement
		e. Health human resources strategy, with a focus on recruitment and retention	Human Resources, Homes, Economic Development	December 31, 2020	Focus on Long Term Care Homes recruitment and retention strategies, claims management, provide Council with options regarding benefits provider. NEXT STEPS: Following an intense period of HR COVID-19 response efforts, planning to support recruitment and retention strategies has recently resumed. Next Steps: HR, Director of Homes and Seniors Services and Administrators meeting monthly effective September 2020. Application submitted to Personal Support Worker ROS initiative ($5000 grant for new hires – successful in obtaining 1 per Home). RecruitRight software implementation November 2020; additional contact with Colleges/Universities – increase in onsite student placements; staff education underway to improve culture, communication and teamwork at all 3 Homes – initiated October 2020 and will continue into 2021.	Plan for leadership vacancies (cross-training). Succession planning and planning for back-up positions to support key leadership positions is ongoing. Currently exploring video to promote working at 3 LTCHs; updates to website; job posting enhancements (branding); and exploring a Grow Your Own PSW program.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
		f. Local labour/workforce gap analysis	Economic Development	September 30, 2020 (ongoing)	Supplement existing workforce data with information obtained from the business community and Community Improvement Plan recipients to assess recruitment challenges in Elgin County. Staff sit on the Workforce Development Board and are working with the group to develop unique and diverse solutions to workforce gaps including a rapid training partnership with Fanshawe college. Workforce supply remains a challenge as a result of the pandemic. A bi-monthly business newsletter has been reestablished to promote the local business community and share funding and development opportunities.	
		g. Develop new community and professional partners and allies (i.e. involvement in Low German Networking Committee)	Community Services	December 31, 2020 This work was delayed as a result of COVID-19	Provide County Council with a list of current community and professional partners and allies. Staff have developed a list of community contacts (Business Associations, Local Service Clubs, Support Services, Faith Based Groups, Local Media Contacts etc.) that is used for public engagement purposes. NEXT STEPS: The abovementioned list is continuously being updated for accuracy and completeness.	
		Work with local municipal partners to identify serviceable	Management Team	December 31, 2020 Ongoing	Staff in Economic Development are working with LMPs to create a vacant land inventory through GIS programming. Economic Development and	

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
		industrial land and opportunities to facilitate and promote development (i.e. Ford property, St. Thomas airport, job site challenge)			Planning staff are visiting each LMP to meet with Mayors and CAOs to identify opportunities. Staff are working with the Township of Southwold to facilitate the redevelopment of the former Ford Assembly Plant in Talbotville by Broccolini Real Estate Group. This work has included the streamlining of planning processes to ensure that Elgin County provides responsive engineering services to support the aggressive development timelines. NEXT STEPS: Continue to support the efforts of the Connectivity Committee. Explore opportunities for Local Municipal Partners to leverage the County's capacity for debt/loan program.	Connectivity Committee meets bi-weekly.
		Explore how to link agri-business producers and buyers	Economic Development	November 30, 2020 Timeline revised to 2021/2022	The County of Elgin is participating in a Field to Forks Campaign with CTV. This campaign will run for 6 weeks starting in October 2021 to promote food produced and harvested in Elgin including dairy, beef, produce and maple syrup. NEXT STEPS: Launch an "Elgin Made" Campaign in 2022 to promote industry and agriculture in Elgin.	
		Complete a five-year review of the Official Plan	Administrative Services	Ongoing	Manager of Planning provided Council with an overview of legislative requirements and proposed timeline. The 2021 budget approved funds to hire a consultant to undertake updated population	Council has recommended that the RIPA Committee review an engagement plan for the Official Plan Review Process.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					projections, employment information and land needs A Special Public Meeting of Council to begin the OP Review process and solicit public comments regarding OP Priorities was held on February 25, 2021. A comprehensive public engagement strategy was recommended by the RIPA Committee and approved by Council in April 2021. A survey regarding priorities surrounding the OP Review was issued and gathered 327 unique responses. A "What We Heard" updates summarizing survey results and consultations to-date was approved by the RIPA and Council in May 2021. RIPA and Council have approved a "What We Heard 2" report and discussion papers on Servicing and Development and the PPS. RIPA has approved a discussion paper on the NHSS for consideration by Council in September. Approved discussion papers and reports have been circulated to interested stakeholders, shared on the engagement website and promoted through social media. Preliminary planning for in-person/virtual community engagement meetings to receive public feedback on the NHSS is in process.	

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					NEXT STEPS: All recommended policy discussion papers, possible policy changes and next steps will be summarized as part of the What We Heard Report #3.	
		Evaluate the Community Improvement Program (CIP) and present options to Council	Economic Development	November 30, 2020 Timeline revised to Q4 2021.	Council directed staff to proceed with status quo Elgincentives funding for 2021. NEXT STEPS: Staff are working to thoroughly review all aspects of the Elgincentives program and are considering feedback from LMPs and past funding recipients. Recommendations for adjustments to the program will be presented to Council at a future meeting.	Council directed staff to proceed with the Elgincentives program for 2021. Council will be required to provide direction, including whether there will be continued investment in this program in advance of the 2022 budget deliberations.
	Fostering a healthy environment	Create a staff working group to develop an annual plan that identifies ways to reduce the County's environmental footprint	Management Team	June 1, 2020 Committee efforts are ongoing.	Council directed that a Council Committee be established. In January 2020, Council approved 2021 priorities for the Committee. NEXT STEPS: Staff support provided to Council's Environmental Committee on an ongoing basis.	Elgin County Council established an Environmental Committee in August 2020.
		Review the Woodlands conservation by-law	Administrative Services (Tree Commissioner)	May 30, 2020 Q1 2021	Woodlands Conservation By-Law Housekeeping Amendments were approved by Council on May 11, 2021.	Renew agreement for back-up with Middlesex County and review agreement with Kettle Creek Conservation Authority. (By Year End).

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
						Opportunities for community engagement will be considered as part of the Official Plan Review and recommendations will be presented to Council.
		Assess roadside environments	Engineering Services	March 30, 2020	Evaluation of Road Maintenance Agreement regarding roadsides. Deliver a phragmites program. Report presented to County Council in April 2020. NEXT STEPS: All other work in this area is on-going. Continued annual program to be administered by County staff in collaboration with municipal partners.	
		Develop a Community Safety and Well-Being (CSWB) Plan	Administrative Services	December 31, 2020 July 2021	Lead the CSWB development process on behalf of Elgin, Local Municipal Partners and the City of St. Thomas. NEXT STEPS: On June 8, 2021 Council adopted the Aylmer-Elgin-St. Thomas Community Safety and Well Being Plan. This Plan was then adopted by Elgin's LMPs and submitted to the province. The CSWB Plan identified 5 priority areas which will all be led by action tables: • Education and Skills Development • Housing Security	Timelines for completion were extended to July 2021 as a result of COVID-19.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					• Mental Health and Well-Being • Public Safety • Substance Use and Addiction These action tables will be represented at a centralized integration table tasked with ensuring a coordinated approach.	
		Update the Cycling Master Plan	Engineering Services	Ongoing	NEXT STEPS: work is ongoing, preliminary report presented to County Council in April 2020. The completion of County Transportation Master Plan in 2021 will also include a focus on updating the County's Cycle Master Plan.	Using OTM Cycling Manual
	Enhancing quality of place	Work with local municipal partners and local businesses to identify opportunities to enhance the overall Elgin experience	Economic Development	December 31, 2020 Ongoing	Rural Initiatives and Planning Advisory Committee (RIPA Committee) revised the Community Grant Program (launched September 2020) based on feedback received from grant applicants. The Community Grant Program intake period for 2022 opened on September 1, 2021. Staff continue to collect final reports from 2020 grant recipients and 2022 applications. NEXT STEPS: The RIPA Committee will receive 2020 final reports at a meeting in November as well as consider 2022 grant requests.	The RIPA Committee has already received a few requests for adjusted event timelines as a result of the COVID-19 pandemic and associated restrictions.
		Support local municipal partners in their efforts to create affordable housing	Administrative Services	December 31, 2020	The County has recently switched its focus back to affordable housing and in conjunction with St. Thomas Social Services, the Housing Table (CSWB), and the Town of Aylmer is tentatively planning a housing summit later this fall.	Link to County Official Plan (Possible Affordable Housing Study in 2022) review and Economic Development Dept.

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
		Explore private partnerships, inter-municipal strategies, and other options for a county-wide transit solution	Administrative Services	December 31, 2020	Regional Transit Pilot (next steps) NEXT STEPS: CAO to request an update from City Manager. Explore options for funding/feasibility	Link to Economic Development Dept.
		Develop a business case with private providers to ensure wider access to reliable, affordable internet	Administrative Services	December 31, 2020 Ongoing	Connect with businesses to identify gaps in service and opportunities for joint ventures. Host Local Internet Summit – December 2020. Conducted a Survey regarding internet connectivity challenges in Elgin. Council has contracted IBI Group to provide consulting services related to internet connectivity and possible solutions in Elgin County. A final report is expected in late September 2021. NEXT STEPS: Continue to support Council's Connectivity Committee in their efforts to resolve Elgin's connectivity challenges. NEXT STEPS: Opportunities to advocate for additional funding and to support local telecommunication providers in their applications for government funding will be presented to County Council.	SWIFT investment Link to Economic Development Dept.
		Establish a local Economic Development Committee as a	Administrative Services	July 1, 2020 Q2/Q3 2021	NEXT STEPS: The County is currently exploring a joint Economic Development Corporation with the City of St. Thomas. The outcome of this investigation will affect the decision to establish an	

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
		committee of County Council			economic development committee. Staff will follow Council's direction.	
Investing in Elgin *To make responsible financial decisions.*		Terrace Lodge Redevelopment	Building Working Group	Summer 2020 Efforts are ongoing Breaking Ground and Campaign launch milestones tentatively scheduled for December 1, 2020. Construction on TL Redevelopment began the week of February 22, 2021. Ongoing	Link to Terrace Lodge Fundraising Committee. Supported Building Committee's event to "Break Ground" December 2020 and Fundraising Committee's campaign launch. Updated operational plan submission (October 2020) incorporating approved Infection Prevention and Control changes (enhanced dining, oxygen storage, negative pressure capabilities, locker rooms, etc.). Installed road sign for fundraising committee, continuous refinement of tool to track donations and pledges, developed process for collecting cash/cheque donations from Fundraising Committee. Construction Activity began at Terrace Lodge the week of February 22, 2021. Construction remains on schedule. NEXT STEPS: Continue to communicate with the public and media regarding the redevelopment through the Bang the Table platform. Support the Fundraising Committee's campaign efforts.	
		Undertake a corporate facility condition assessment	Engineering Services	December 31, 2020		

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
					Facility Condition Assessment / Asset Management Plan presented to and endorsed by Council in December 2020.	
		Implement GIS service provision to all County departments, with the opportunity to support local municipal partners and agencies	Engineering Services	April 30, 2020	May 2020 update: GIS Coordinator hired. County Engineer continues to explore opportunities to work collaboratively with local municipal partners with respect to GIS services. Phase 1 – Implementation of updated GIS Enterprise License ESRI software to be undertaken Q1 2021 in collaboration with Malahide staff and County IT. Phase 2 – Re-establishment of Elgin Mapping GIS Working Group in 2021 to seek interest in expanded service product provisions (i.e. asset inventory data collector, computerized maintenance management system, etc.)	
		Construct a new Port Bruce bridge	Engineering Services	December 31, 2020	Imperial Road Port Bruce Replacement construction was substantially completed by the end of 2020 and was reopened to the public on December 18, 2020.	
		Rehabilitate the King George VI lift bridge	Engineering Services	May 31, 2021	The rehabilitation project was completed in July 2021 and the bridge has reopened to the public. A short documentary about the bridge's history and a virtual ribbon cutting ceremony was created by Engineering Services, Archives and Museum and Admin Services.	

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
		Leverage technology to streamline and enhance service delivery, including: a. Explore the implementation of artificial intelligence facility management software	Management Team Engineering Services	December 31, 2020 April 30, 2021 Q3/Q4 - 2021	Consider: Agenda/meeting software; HR/Recruitment software; intranet, records management software, Artificial Intelligence. Facilities Management exploring potential phased implementation of Johnson Controls' Enterprise Management (JEM) equipment module cloud hosted software license, first as part of the TL Redevelopment Project. A Corporate Intranet has been developed and is being tested by Management Team. It is scheduled to be rolled out Corporation-wide in early October. Human Capital Management Software (HR, Scheduling, Payroll) has been successfully procured and implementation will go forward over the next 6 months.	
		b. Complete an information technology strategy	Financial Services	June 30, 2020	Equipment replacement schedule still outstanding. IT Team Goals have been mapped to Council Strategic Plan Objectives. Projects have been identified by IT and the management team to support the objectives. Preliminary prioritization of projects is currently in progress and will be finalized by the new Director of IT Services. NEXT STEPS: Prioritization of projects has been finalized and a formal strategy is in development by the Director of IT.	
		Plan for vacant space at 450 Sunset and	Administrative Services	September 1, 2020	Assess internal and partner needs for space (including storage)	Work has been completed

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
		other corporate facilities			Awaiting completion of Engineering Services / Planning office suite renovations to realize new third floor suite available for lease opportunity in 2021.	
		Conduct a corporate policy review	Administrative Services	December 31, 2020	Inventory and categorize all corporate/departmental policies. Develop a schedule for review. NEXT STEPS: Work has commenced and will be ongoing throughout 2021.	
		Seek sources of revenue and funding to support and enhance programs, services, and infrastructure	Management Team	December 31, 2020	NEXT STEPS: staff continue to focus on general sources of funding/revenue as well as any COVID-19 relief funding that is currently available or anticipated. Investigate alternative debt amortization schedules.	
		Modernize the budget process and financial reporting to enhance accountability and transparency	Administrative Services/Financial Services	June 30, 2020 (adjusted to August 2020) 2021 Budget approved on February 9, 2021.	Budget Committee feedback informed a new budget review process. Revisions include enhanced public engagement and general improvements to accountability and transparency. Adjust the budget documents as Council approves Service Delivery Review initiatives. The 2022 Budget process has commenced at the management and Committee level. A public opinion survey was conducted over the course of September to be presented to the Committee at a future meeting. NEXT STEPS: Continue to consult the Budget Committee throughout the 2022 budget process.	

Strategic Priorities and Goals	Objectives	2020 Actions	Departmental Lead	Timelines	Objectives & Deliverables	Notes
	Delivering mandated programs and services efficiently and effectively	Further develop and implement the Asset Management Plan	Engineering Services, Financial Services	December 31, 2020	Draft Facility Condition Assessment / Asset Management Plan was endorsed by Council in December 2020.	
		Implement opportunities for savings as identified in the service delivery review and other areas (i.e. employee benefits, claims management)	Management Team	June 1 to December 31, 2020 Ongoing.	Council selected priority Service Delivery Review recommendations to be investigated and/or implemented in 2021. Staff will follow Council's direction regarding recommendations.	
		Create a ten-year Master Plan for Emergency Medical Services	Administrative Services	November 1, 2020	NEXT STEPS: It is recommended that this be deferred for consideration in 2021 once Provincial Modernization Initiatives and consultation resume.	
		Implement best practice guidelines through the Best Practice Spotlight Organization (BPSO) at long-term care homes	Homes	March 31, 2020 and ongoing Revised to September 2020 to December 31, 2020.	Next Steps: BPSO project work monthly meetings resumed September 2020. Training of staff virtually continues: Best Practice Guidelines Coordinator highly supportive and understanding of COVID related challenges – gap analysis and policy work completed in preparation of rollout of project work.	

REPORT TO COUNTY COUNCIL

FROM: Michele Harris, Director of Homes and Seniors Services

DATE: September 21, 2021

SUBJECT: Meals on Wheels Agreement Elgin/VON

RECOMMENDATIONS:

THAT the report titled "Meals on Wheels Agreement Elgin/VON" dated September 21, 2021 from the Director of Homes and Seniors Services be received and filed; and,

THAT Council authorize the Warden and Chief Administrative Officer to execute the agreement between Elgin and Victorian Order of Nurses (VON) for the time period of October 1, 2021 to September 30, 2023.

INTRODUCTION:

The purpose of this report is to seek Council approval for execution of the Meals on Wheels Supply Agreement between Elgin (County) ("Elgin") and Victorian Order of Nurses for Canada – Ontario Branch ("VON").

BACKGROUND AND DISCUSSION:

On September 13, 2018, Elgin and VON executed a further Meals on Wheels Supply Agreement, for the Term commencing July 1, 2018 and ending June 30, 2020, for the supply of fresh hot meals from kitchen facilities at the Elgin Manor and Terrace Lodge Facilities.

Due to pandemic restrictions which frustrated performance of the said Agreement, Elgin and VON agreed to suspend the operation and Term of the said Meals on Wheels Supply Agreement and thereafter executed an Acknowledgement and Suspension Agreement, effective April 4, 2020, to evidence such consensual suspension.

Elgin and VON resumed the Meals on Wheels Supply Agreement as of May 25, 2021. The period of prior suspension extended the original Term of said Agreement to August 20, 2021; the Term was subsequently extended, on consent, to September 30, 2021, to allow the Parties to complete negotiations for a new Meals Supply Agreement.

In consultation with the County Solicitor, the Director of Homes and Seniors Services has reached consensus with representatives of VON for a new Meal Supply Agreement for the time period of October 1, 2021 to September 30, 2023. Within the Agreement, the following pricing changes are noted:

- Meal price increase from $6.75/meal to $7.00/meal effective October 1, 2021 – September 30, 2022
- Meal price increase from $7.00/meal to $7.15/meal effective October 1, 2022 – September 20, 2022
- Double portions price increase from $3.30/meal to $3.50/meal effective October 1, 2021 – September 30, 2023.

A photocopy of the draft new Meal Supply Agreement is attached as Schedule "A" to this Report.

FINANCIAL IMPLICATIONS:

Based upon a review of current and forecasted labour, food and packaging costs, the above price increase recommendations will support the costs associated with both preparing and providing meals on wheels services to seniors in Central and East Elgin communities. Additionally, modest net revenues to Elgin are anticipated for the term of the proposed agreement.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Serving Elgin	Growing Elgin	Investing in Elgin
☒ **Ensuring alignment of current programs and services with community need.** ☒ **Exploring different ways of addressing community need.** ☒ **Engaging with our community and other stakeholders.**	☐ **Planning for and facilitating commercial, industrial, residential, and agricultural growth.** ☒ **Fostering a healthy environment.** ☒ **Enhancing quality of place.**	☒ **Ensuring we have the necessary tools, resources, and infrastructure to deliver programs and services now and in the future.** ☐ **Delivering mandated programs and services efficiently and effectively.**

Additional Comments: None

LOCAL MUNICIPAL PARTNER IMPACT:

Providing nutritional meal service to community residents continues to be a valuable and needed service.

COMMUNICATION REQUIREMENTS:

VON will communicate price increases as applicable to community residents receiving meals on wheels services.

CONCLUSION:

Meals on Wheels Supply Agreement services were safely resumed within current pandemic restrictions in May of 2021. Staff is pleased to recommend an Agreement to Council to provide services with a minimal price increase to community residents; and, seeks approval and authorization to execute the agreement to do so.

All of which is Respectfully Submitted

Michele Harris,
Director of Homes and Seniors Services

Approved for Submission

Julie Gonyou
Chief Administrative Officer

MEALS ON WHEELS AGREEMENT

This Agreement is made as of the day of August 20, 2021.

BETWEEN

VICTORIAN ORDER OF NURSES FOR CANADA - ONTARIO BRANCH

("VON")

-and-

Corporation of the County of Elgin

("Elgin" or "**Supplier**")

RECITALS

A. VON is engaged in the provision of home and community based health care services within the territorial limits of Elgin County and Province of Ontario, including a charitable program that delivers meals to homebound individuals ("Meals on Wheels Program").

B. Elgin is the owner and operator of certain Long Term Care Homes, including but not limited to Terrace Lodge and Elgin Manor (hereinafter "Premises"), which Premises include kitchen facilities capable of preparation and supply of meals for the Meals on Wheels Program referenced above.

C. VON wishes to engage the Supplier to prepare the meals for the Meals on Wheels Program ("Meals", and includes any references herein to "Services"), upon the terms and conditions set out in this Agreement.

FOR VALUE RECEIVED, the parties agree as follows:

SECTION 1- DEFINITIONS

1.1 In this Agreement, unless the context otherwise requires, the following terms shall have the following meanings:

(1) *Agreement* means this agreement, including any recitals and schedules to this agreement, as amended, supplemented or restated from time to time.

(2) *Business Day* means a day on which banks are open for business in the Province of Ontario but does not include a Saturday, Sunday and any other day that is a legal holiday in the Province of Ontario.

(3) *Client* means any person who receives a Meal.

(4) *Client Information* means any and all material, data or any other information whatsoever, whether in verbal, written or any other form, relating to Clients, including information concerning dietary requirements or restrictions and any and all other personal health information and health data that VON previously delivered and/or shall hereafter deliver or caused or hereafter causes to be delivered to the Supplier for any purpose or purposes as contemplated by this Agreement.

(5) *Confidential Information* includes, without limitation, all documentation and information supplied or hereafter supplied by one party hereto to the other party hereto and including but not limited to, as applicable, all client and/or customer lists and personal information, marketing techniques, price lists, secrets, trade secrets, processes, materials, business plans, business forecasts, strategies, professional or expert opinions, bids, estimates, proposals, proprietary information, financial information, and any other information whatsoever, whether in verbal, written, or any other form, relating to all aspects of the business and activities of the parties hereto, whether or not otherwise designated as confidential.

(6) *HPPA* means the Health Protection and Promotion Act, R.S.O. 1990, c. H.7 and the regulations thereunder, as amended from time to time.

(7) *LTCHA* means the Long-Term Care Homes Act, 2007, S.O. 2007, c. 8, and the regulations thereunder, as amended from time to time.

(8) *Material Breach*, as relating to the within Agreement, means a performance failure that strikes so deeply at the essence of the Agreement that it renders the Agreement irrevocably broken and unable to be effectively performed.

(9) *PHIPA* means Personal Health Information Protection Act, 2004, S.O. 2004, c. 3, Sched. A and the regulations thereunder, as amended from time to time.

(10) *Specifications* mean VON's specifications and requirements for nutritional content and portion size for Meals as outlined in this Agreement.

(11) *Statutory Holidays* means the statutory holidays listed in Exhibit "A" to this Agreement.

SECTION 2 - TERM AND TERMINATION

2.1 The term of this Agreement shall commence October 1, 2021and shall terminate September 30, 2023 (the "Term"), unless sooner terminated in accordance with the provisions of this Agreement.

2.2 This Agreement may be extended upon such terms and conditions as may be reached by mutual agreement of the parties in writing not less than sixty (60) days before the expiration of the Term or any extension thereof. If the parties fail to reach agreement sixty (60) days prior to the expiration of the Term or any extension thereof, this Agreement shall terminate.

2.3 VON may terminate this Agreement at anytime on sixty (60) days' prior written notice to the Supplier.

2.4 The Supplier may terminate this Agreement at any time on sixty (60) days' prior written notice to VON.

2.5 VON may terminate this Agreement in the event of a material breach of the Agreement by the Supplier, such termination to be effective on the tenth (10th) day after the date of a notice from VON to the Supplier, unless the breach is cured before that day.

2.6 VON may terminate this Agreement immediately upon notice in writing to the Supplier if:

(1) the Supplier ceases to function as a going concern, a receiver is appointed for its assets, or any proceedings under any bankruptcy or insolvency law are brought by or against the Supplier;

(2) an order is made under the HPPA or other legislation or regulation from time to time applicable requiring the Supplier to close its premises or a part thereof; or

(3) the Supplier is convicted of an offence under the HPPA or other legislation or regulation from time to time applicable.

(4) the Supplier fails to meet the specific dietary needs or restrictions of Clients in accordance with the terms of this Agreement.

2.7 The expiration or sooner termination of this Agreement shall not relieve or release either party from making payments that might be owing under this Agreement or otherwise. VON shall not be liable to the Supplier for any loss or damage of any kind whatsoever, arising directly or indirectly from the termination of this Agreement.

SECTION 3 - COMPENSATION

3.1 For the period October 1, 2021, to September 30, 2022, VON shall pay the Supplier a fee in the amount of $7.00 per Meal, plus applicable taxes accruing thereto for which there is no full exemption then in effect. For the period October 1, 2022, to September 30, 2023, VON shall pay the Supplier a fee in the amount of $7.15 per Meal, plus applicable taxes accruing thereto for which there is no full exemption then in effect. During the combined time periods set forth above, VON may purchase double portions of such Meals from the Supplier at an additional fee of $3.50 for each such additional portion, plus applicable taxes as described above.

3.2 Without limiting the generality of the foregoing, the parties hereto acknowledge that, as of the date of execution of this Agreement and by exemption or exemptions applicable to both parties hereto, the fees chargeable by the Supplier for preparation of Meals as contemplated by this Agreement do not attract either Goods and Services Tax ("GST") or Harmonized Sales Tax ("HST"), a component of which latter tax is Provincial Sales Tax ("PST"). The parties therefore agree that, in the event that any such exemption is cancelled or otherwise lost by either or both parties hereto, whether in whole or in part, taxes may thereafter accrue to such fees as contemplated and chargeable hereunder and which taxes may be charged to and become payable by VON.

3.3 The Supplier shall invoice VON on a monthly basis for all Meals with payment due within thirty (30) days of the receipt of the invoice.

3.4 The Supplier shall keep accurate and systematic accounts in respect of the Meals and Services provided under this Agreement in accordance with generally accepted accounting principles.

3.5 VON shall have the right at any time and from time to time to inspect, audit and make copies of all corporate, financial and other books and records of the Supplier relating to this Agreement.

SECTION 4 - MENUS AND FOOD CHOICES

4.1 The Supplier will provide Low Sodium, Diabetic Friendly and Vegetarian Meals as per current practice. The Supplier will also provide special Meals to meet the specific dietary needs or restrictions of Clients including, without limitation, pureed, chopped, minced, as well as substitute Meals for Clients with food sensitivities or allergies. The Supplier will provide the following types of Meals:

(1) Diabetic;
(2) 1200 calorie; and
(3) Gluten Free.

4.2 VON will provide the Supplier with a list of all special Meals required and shall update as necessary to reflect changes in Clients or Client needs.

4.3 The Supplier will submit menus with an alternate menu for those Clients who have dietary restrictions as requested by VON. The Supplier will include recipes and ingredient breakdowns to VON, as requested, and will rotate menus on a twenty-eight (28) day cycle during the Term.

4.4 In addition to the preparation of fresh Meals as described above, the Supplier shall also prepare and maintain the supply of frozen Meals in accordance with and for the purposes of all applicable statutes and regulations, which frozen Meals, subject to inventory, shall be available to VON, upon request, for backup and/or emergency purposes.

4.5 The Supplier will prepare fresh Meals on a daily basis from Monday through Friday each week throughout the Term. The Supplier shall not be required to provide Meals on the Statutory Holidays.
The Supplier will provide a minimum of the following portion sizes:

4 oz cut of meat (8oz raw = 4 oz cooked);
4-6 oz of starch;
4-6 oz vegetable
4-6 oz soup or salad
4-6 oz dessert

4.6 The Meals will be ready for pick up by VON volunteers by no later than 11:30 a.m. daily during the Term.

4.7 The Supplier shall ensure that the VON volunteers have a safe and clean area in its premises in which to meet for assembly of Meals.

4.8 VON shall have the right to cancel the preparation of Meals on any day by notifying Supplier by no later than 9:30 a.m. on such day. ex: inclement weather, and there will be no charge for that day's Meals.

4.9 In addition to the Meals, the Supplier will also provide the condiments and all food containers required for Meals packaging. VON will supply insulated bags to be used for Meal delivery.

4.10 VON shall meet with the Supplier twice yearly to formally review program operations, and quality review/control to ensure communications exist for continuous programming improvements.

SECTION 5 - WARRANTIES AND REPRESENTATIONS

5.1 The Supplier hereby warrants and represents that:

(1) it has been duly incorporated and organized, is a valid and subsisting corporation under the laws of the Province of Ontario and has full corporate power and authority to execute and deliver this Agreement;

(2) this Agreement has been duly and validly executed and delivered by the Supplier, no other corporate proceedings on the part of the Supplier are necessary to authorize this Agreement and it constitutes a valid and binding obligation of the Supplier enforceable against the Supplier in accordance with its terms;

(3) in preparing and providing the Meals it will utilize only processes, food articles, ingredients, packaging and labelling that are, to the best of Supplier's knowledge acting diligently, in full compliance with all legislated and regulated standards from time to time applicable;

(4) all Meals shall be prepared, stored and readied for delivery in accordance with best practices for food preparation and safety and, as a minimum, in accordance with the requirements of any statute, law, regulation, enactment or ordinance from time to time applicable concerning, without limitation:

(a) food temperature control;

(b) protection of food from contamination;

(c) employee hygiene and hand washing;

(d) maintenance and sanitation of surfaces and equipment that come into contact with food;

(e) maintenance and sanitation of surfaces and equipment that do not come into contact with food;

(f) maintenance and sanitation of washrooms;

(g) storage and removal of waste; and

(h) pest control;

(5) all Meals shall be prepared in accordance with the Specifications;

(6) it shall keep such records in respect of the preparation, storage, handling and readying for delivery of the Meals as are prescribed by the HPPA or other statute, law or regulation from time to time applicable and shall keep the records in such form, with such detail and for such length of time as is prescribed by such statute, law or regulation;

(7) it holds and will continue to hold throughout the term of this Agreement all licenses, approvals and permits required to perform its obligations hereunder;

(8) it shall, as reasonably requested by VON, from time to time, supply information to VON with respect to the Meals and its compliance with this Agreement and VON, through its authorized representative shall have the right, upon reasonable prior notice to the Supplier, to perform quality control inspections from time to time during Supplier's regular business hours to determine if the Supplier is complying with the Specifications and with the standards and procedures set forth in this Agreement and agrees that such inspections shall not unreasonably interfere with the operations of the Supplier; and

(9) it shall at all times be registered with and report to the proper authorities and, subject to subsection 3.1 and 3.2 above, it shall remit all taxes, employment insurance contributions, Canada Pension Plan contributions, employer health tax, Goods and Services Tax, workers' compensation premiums or any other payments for which the Supplier may be liable at law in respect of the fees payable under this Agreement.

5.2 The representations and warranties of the Supplier contained in this Agreement shall survive the expiration or sooner termination of this Agreement.

5.3 The Supplier covenants and agrees to take all steps necessary to cause each of its representations and warranties to remain true and correct throughout the Term.

5.4 VON hereby warrants and represents that:

(1) it has been duly incorporated and/or organized, is a valid and subsisting corporation or entity under the laws of the Province of Ontario and has full power and authority to deliver this Agreement;

(2) this Agreement has been duly and validly executed and delivered by VON, no other proceedings on the part of VON are necessary to authorize this Agreement and it constitutes a valid and binding obligation of VON enforceable against VON in accordance with its terms;

(3) in seeking preparation and provision of Meals as contemplated by this Agreement, VON, including its servants, agents, and/or employees, is and shall at all times act in compliance with its authorized purposes in accordance with the duties and obligations of any applicable federal, provincial, or municipal statute, regulation, and/or by-law;

(4) VON, including its servants, agents, and/or employees, hold and will continue to hold throughout the Term of this Agreement all licenses, permissions, approvals, and permits required to order, deliver, and provide the Meals contemplated by this Agreement to its Clients;

(5) it shall, as reasonably requested by the Supplier and from time to time, provide information and/or documentation to the Supplier to allow the Supplier to perform its obligations as contemplated by this Agreement.

5.5 The representations and warranties of VON contained in this Agreement shall survive the expiration or sooner termination of this Agreement.

5.6 VON covenants and agrees to take all steps necessary to cause each of its representations and warranties to remain true and correct throughout the Term.

SECTION 6 - INSURANCE

6.1 The Supplier covenants that it has and shall maintain in full force and effect during the Term and any renewals thereof, at its own cost and expense, comprehensive general liability insurance including product liability coverage, which shall include, without limitation coverage for a limit of not less than Five Million Dollars ($5,000,000.00) per occurrence including personal injury, death or property damage and a cross liability clause, including naming VON as an additional insured.

6.2 VON covenants that it has and shall maintain in full force and effect during the Term and any renewals thereof, at its own cost and expense, comprehensive general liability insurance, professional liability insurance and property insurance, each of which shall include, without limitation coverage for a limit of not less than Five Million Dollars ($5,000,000.00) per occurrence including personal injury, death or property damage and pursuant to which insurance program and coverages thereunder the "Corporation of the County of Elgin" shall be named as an additional insured.

6.3 Each party shall deliver certificates of insurance to the other party within ten (10) days of the request of the other party at any time during the Term.

SECTION 7 - INDEMNITY

7.1 Each party for itself and for its successors and assigns:

(1) agrees to hold harmless and indemnify the other parties, and their officers, directors, employees and agents, from and against all claims, demands, actions, liabilities, costs and expenses arising as a result of any action or omission of the indemnifying party under this Agreement, other than such costs, charges or expenses as are occasioned by the neglect or wilful acts or omissions of the party seeking the indemnity or those for whom it is in law responsible, and

(2) agrees that the party seeking the indemnity shall give the indemnifying party prompt written notice of any claim to which it claims the indemnity in this Section applies and shall provide all such assistance as the indemnifying party may reasonably request with respect to the conduct of proceedings or settlement discussions.

SECTION 8 - CONFIDENTIAL INFORMATION AND INTELLECTUAL PROPERTY

8.1 The Supplier covenants and agrees that:

(1) It will not disclose or use any Confidential Information, or permit others to do so, at any time during or after the currency of this Agreement;

(2) It will take all reasonable precautions in dealing with Confidential Information so as to prevent its unauthorized use or disclosure;

(3) It will not reproduce, copy or duplicate any Confidential Information without the prior written consent of VON except as required to provide the Services; and

(4) Upon termination, for any reason, of this Agreement, or at any time prior to the termination upon the request of VON, it will return forthwith to VON every copy of any Confidential Information in its possession or under its control at that time; provided that, upon request by the Supplier and for purposes of response to any regulatory demand and/or in relation to defence of any legal proceeding commenced as against the Supplier, VON shall prepare and deliver a photocopy of any one or more of such returned Confidential Information to the Supplier.

8.2 VON covenants and agrees that:

(1) It will not disclose or use any Confidential Information, or permit others to do so, at any time during the currency of this agreement;

(2) It will take all reasonable precautions in dealing with Confidential Information so as to prevent its unauthorized use or disclosure;

(3) It will not reproduce, copy or duplicate any Confidential Information without the prior written consent of the Supplier except as required to satisfy its obligations hereunder;

(4) Upon termination, for any reason, of this Agreement, or any time prior to the termination upon the request of the Supplier, it will return forthwith to the Supplier every copy of any Confidential Information in its possession or under its control at that time; provided that, upon request by VON and for purposes of response to any regulatory demand and/or in relation to defence of any legal proceeding commenced as against VON, the Supplier shall prepare and deliver a photocopy of any one or more of such returned Confidential Information to VON.

8.3 The Supplier shall not include any VON trademarks or logos or any words or designations confusingly similar thereto in any name or trademark used by the Supplier. Nothing in this Agreement or the relationship of the parties under this Agreement shall confer upon the Supplier any interest in VON's trademarks or logos. The Supplier and its employees, servants, and/or agents agree to execute any documentation which may be necessary to give full force and effect to the obligations set forth in this subsection.

8.4 VON shall not include any trademarks or logos, or any words or designations confusingly similar thereto, as held by the Supplier within any name or trademark used by VON. Nothing in this Agreement or the relationship of the parties under this Agreement shall confer upon VON any interest in the trademarks or logos held by the Supplier. VON and its employees, servants, and/or agents agree to execute any documentation which may be necessary to give full force and effect to the obligations set forth in this subsection.

8.5 The parties hereto agree that the provisions of this section shall continue in force, notwithstanding the termination of this Agreement.

SECTION 9 - CLIENT INFORMATION AND CLIENT RECORDS

9.1 The Supplier covenants and agrees that:

(1) It will not use or disclose to any third party any Client Information except to the extent necessary to perform its obligations under this Agreement and with the consent of the Client, or where required by law;

(2) It will not disclose or use any Client Information, or permit others to do so, at any time during or after the currency of this Agreement;

(3) It will take all reasonable precautions in dealing with Client Information so as to prevent its unauthorized use or disclosure; and

(4) It will not reproduce, copy, destroy, dispose of or duplicate any Client Information or Client Records without the prior written consent of VON, except as required to provide the Services.

9.2 The Supplier shall establish and maintain a system for the storage and handling of Client Information that ensures that the security and confidentiality of Client information are maintained in accordance with all applicable laws and regulations.

9.3 Upon termination, for any reason, of this Agreement, or at any time prior to the termination upon the request of VON, the Supplier will deliver forthwith to VON all Client Information; provided that, at all times, the Supplier shall be permitted to keep one copy of any such record or document constituting Client Information to satisfy and comply with its statutory and regulatory obligations, including but not limited to those provided for in the LTCHA. HPPA, and PHIPA.

9.4 The Supplier and its employees or agents each agree to sign whatever documentation may be necessary to give full force and effect to the above paragraph.

9.5 In the event of any dispute, claim or litigation commenced on the part of or on behalf of any Client, VON will provide the Supplier with such access to the Client Information as it requires in order to prepare a legal defence.

9.6 The provisions of this section shall continue in force, notwithstanding the termination of this Agreement.

SECTION 10 -GENERAL MATTERS

10.1 The parties are independent corporations, organizations, entities, and/or contractors and nothing contained in this Agreement shall be deemed to constitute one party as agent, joint venturer or partner of the other party for any purpose. For greater certainty, nothing in this Agreement shall be construed as creating an employer-employee relationship in relation to the other party or its employees or personnel.

10.2 Each party shall from time to time promptly execute and deliver all further documents and take all further action reasonably necessary or appropriate to give effect to the provisions of this Agreement.

10.3 The division of this Agreement into sections and the insertion of headings are for convenience of reference only and are not to affect the construction or interpretation of this Agreement.

10.4 This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and each of the parties hereto hereby irrevocably attorns to the jurisdiction of the courts of the Province of Ontario for all matters arising herein.

10.5 Neither party hereto shall assign this Agreement or or otherwise transfer this Agreement as a result in change of ownership without the prior written consent of the other party hereto. This Agreement shall enure to the benefit of and be binding upon the parties and their respective successors, owners and assigns.

10.6 Any provision of this Agreement that is invalid or unenforceable shall not affect any other provision and shall be deemed to be severable.

10.7 No amendment, supplement or restatement of any term of this Agreement is binding unless it is in writing and signed by each party.

10.8 This Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered is an original but all of which taken together constitute one and the same instrument. To evidence the fact that it has executed this Agreement, a party may send a copy of its executed counterpart to the other party by facsimile transmission and the signature transmitted by facsimile shall be deemed to be the original signature for all purposes.

10.9 Time shall be of the essence of this Agreement.

10.10 This Agreement constitutes the entire agreement between the parties with respect to the subject matter of this Agreement and supersedes all prior negotiations and understandings.

10.11 Unless otherwise specified, words importing the singular number shall include the plural and vice versa, words importing gender shall include the masculine, feminine and neutral genders, and references to persons shall include individuals, trusts, fines and corporations. The term "including" means "including without limitation".

10.12 Manner of Giving Notices. Except as otherwise specified in this [Agreement], all notices, permissions, and approvals hereunder shall be in writing and shall be deemed to have been given upon: (i) personal delivery; (ii) the fifth business day after mailing; or (iii) the first business day after sending by email (provided email shall not be sufficient for notice of an indemnifiable claim, notice of material breach, or termination of the Services):

To VON: Victorian Order of Nurses
175 South Edgeware Rd
St. Thomas, ON N5P 3E3
Jill Ouimette
Jill.ouimette@von.ca
519-637-6408 ext 236

To Supplier: Corporation of the County of Elgin
450 Sunset Drive,
St. Thomas, Ontario N5R 5V1
Michele Harris
mharris@elgin.ca
519-631-1460 ext 191

[the remainder of this page is intentionally blank - signature page to follow]

IN WITNESS WHEREOF this Agreement has been executed by the parties as of the date first written above.

VICTORIAN ORDER OF NURSES FOR CANADA-ONTARIO BRANCH

Per: _____
Name: Debbie Taylor
Position: Senior Manager

I have authority to bind the Corporation.

Corporation of the County of Elgin

Per: _____
Name: Tom Marks
Position: Warden

Per: _____
Name: Julie Gonyou
Position: Chief Administrative Officer

We have authority to bind the Corporation .

EXHIBIT "A"

STATUTORY HOLIDAYS

- New Year's Day
- Family Day
- Good Friday
- Easter Monday
- Victoria Day
- Canada Day
- Civic Holiday
- Labour Day
- Thanksgiving Day
- Remembrance Day
- Christmas Day
- Boxing Day

REPORT TO COUNTY COUNCIL

FROM: Michele Harris, Director of Homes and Seniors Services

DATE: September 21, 2021

SUBJECT: Homes – Infection Control Policy 2.10 – Immunization – Staff COVID-19

RECOMMENDATIONS:

THAT the report titled "Homes – Infection Control Policy 2.10 – Immunization – Staff COVID-19" dated September 21, 2021 be received and filed; and,

THAT Council direct staff regarding the adoption of the Homes Draft Infection Control Policy 2.10 "Immunization – Staff COVID-19" policy changes.

INTRODUCTION:

Ministry of Long-Term Care directives provide direction related to COVID-19 immunization for staff, residents and essential caregivers within Long-Term Care Homes.

DISCUSSION:

COVID-19 is an acute respiratory illness caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It may be characterized by fever, cough, shortness of breath, and several other symptoms. Asymptomatic infection is also possible. The risk of severe disease increases with age but is not limited to the elderly and is elevated in those with underlying medical conditions.

Achieving high immunization rates in Ontario's long-term care homes (LTCHs) through vaccination is part of a range of measures and actions that can help prevent and limit the spread of COVID-19 in homes. Vaccination against COVID-19 helps reduce the number of new cases, and, most importantly, helps to reduce severe outcomes including hospitalizations and death due to COVID-19 in both residents and others who may be present in a long-term care home.

In June 2021, Council approved the Homes Infection Control policy 2.10 "Immunization – Staff COVID-19" which aligned with Ministry of Long-Term Care Directives; and, included the following requirements:

- All staff, students, and volunteers must:
  - Provide proof of full COVID-19 vaccination OR

- Provide proof of medical exemption and the effective time period for the medical reason OR
- Provide proof of completion of the mandatory education program
- All staff, students and volunteers that are not fully vaccinated will receive rapid antigen testing a minimum of three times/week
- New hires after July 1, 2021 must provide proof of full vaccination or provide proof or medical exemption and effective time period

Since June 2021, there have been a number of organizations (RNAO, AdvantAge Ontario, Canadian Medical Association, SEIU, Seniors Care Coalition, etc.) that have put forth position statements to the Ministry advocating for mandatory COVID-19 vaccinations for all health care workers.

Effective September 2, 2021 the following changes to the Minister's Immunization Policy Directive # 3 were communicated to LTCHs:

- Addition of section 2.6 and 2.7 which allows a LTC home to decide to remove the option of completion of a COVID-19 vaccination educational program as a reason for being unvaccinated and require all staff, students, and volunteers to either provide proof of vaccination or a medical reason.
  - Recognizing the importance of education, homes that choose this option are still required to make available an education program for those interested in obtaining more information prior to receiving a vaccine
- The Directive has been updated to allow for proof of vaccine for all vaccines approved by the World Health Organization and not just those approved by Health Canada.
- Directive #3 now aligns with hospital Directive #6 regarding the option of the education component

Thorough review of ministry directives, local and regional statistics, and sector partner mandatory policies was conducted by the Director of Homes and Seniors Services. Draft policy changes have been made for Council consideration that align with the September 2, 2021 ministry directive #3 updates – specifically, the option to remove the education program as an option for unvaccinated staff; making COVID-19 immunization mandatory except for medical and Human Rights approved exemption(s). For additional information regarding applicable Human Rights exemptions, see attached (as Schedule A) – "Ontario Human Rights Commission policy statement on COVID-19 vaccine mandates and proof of vaccine certificates".

FINANCIAL IMPLICATIONS:

While the current (June 2021) Homes COVID-19 policy provides for mandatory immunization of new hires, local and regional trends within the LTC sector have quickly moved towards mandatory immunization of existing staff, students and volunteers.

Mandatory immunization of existing staff, based on current staff immunization rates has a potential to impact both the Homes operating budget; and the quality of resident care and services in the County's three long-term care homes.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Serving Elgin	Growing Elgin	Investing in Elgin
☒ **Ensuring alignment of current programs and services with community need.** ☒ **Exploring different ways of addressing community need.** ☒ **Engaging with our community and other stakeholders.**	☐ **Planning for and facilitating commercial, industrial, residential, and agricultural growth.** ☒ **Fostering a healthy environment.** ☒ **Enhancing quality of place.**	☐ **Ensuring we have the necessary tools, resources, and infrastructure to deliver programs and services now and in the future.** ☒ **Delivering mandated programs and services efficiently and effectively.**

Additional Comments:

LOCAL MUNICIPAL PARTNER IMPACT:

To date, there have been communications received from residents and families indicating an urgent request to implement a mandatory vaccination policy for Homes staff.

COMMUNICATION REQUIREMENTS:

Should the updates to the Homes Infection Control Policy "2.10 – Immunization – Staff COVID-19" be approved, the policy will be placed on Surge learning for all staff and communicated to resident and family council.

CONCLUSION:

The Homes – Infection Control Policy 2.10 – Immunization – Staff COVID-19" policy updates align with September 2, 2021 ministry directive option(s) and increasing trends across the province in for profit, not-for-profit and municipal LTCHs across the province of Ontario.

Staff has attempted to identify and present applicable statistics, identification and analysis of potential risks and strategies to minimize identified risks should council

recommend adoption of the Homes – “Infection Control Policy 2.10 – Immunization – Staff COVID-19” policy changes.

All of which is Respectfully Submitted

Michele Harris
Director of Homes and Seniors Services

Approved for Submission

Julie Gonyou
Chief Administrative Officer

September 22, 2021

OHRC policy statement on COVID-19 vaccine mandates and proof of vaccine certificates

On September 1, 2021, the Ontario government announced that starting September 22, Ontarians will need to be fully vaccinated (two doses plus 14 days) and provide proof of vaccination along with photo ID to access certain public settings and facilities. By October 22, Ontario plans to develop and implement an enhanced digital vaccine certificate with unique QR (Quick Response) code that will verify vaccination status when scanned. A paper version of the certificate will be available for download or can be printed from the COVID-19 vaccination provincial portal.

The proof of vaccine regime currently applies to certain higher-risk indoor public settings where face coverings cannot always be worn. In addition to these settings, over the last few months many other organizations have begun to mandate vaccines for employees and service users.

Vaccination requirements generally permissible

While receiving a COVID-19 vaccine remains voluntary, the OHRC takes the position that mandating and requiring proof of vaccination to protect people at work or when receiving services is generally permissible under the *Human Rights Code* (*Code*) as long as protections are put in place to make sure people who are unable to be vaccinated for *Code*-related reasons are reasonably accommodated. This applies to all organizations.

Upholding individual human rights while trying to collectively protect the general public has been a challenge throughout the pandemic. Organizations must attempt to balance the rights of people who have not been vaccinated due to a *Code*-protected ground, such as disability, while ensuring individual and collective rights to health and safety.

Duty to accommodate for medical reasons

Some people are not able to receive the COVID-19 vaccine for medical or disability-related reasons. Under the *Code*, organizations have a duty to accommodate them, unless it would significantly interfere with people's health and safety.

Consistent with the duty to accommodate, the provincial proof of vaccine regime says that people who are unable to receive the vaccine must provide a written document, supplied by a physician (MD) or by a registered nurse extended class [RN(EC)] or nurse practitioner (NP) stating they are exempt for a medical reason from being fully vaccinated and how long this would apply. The OHRC's position is that exempting individuals with a documented medical inability to receive the vaccine is a reasonable accommodation within the meaning of the *Code*.

Organizations that are not included in the list of settings but wish to mandate vaccines are encouraged to use the provincial proof of vaccine certificate with the written documentation showing medical inability to receive the vaccine as their way of meeting the duty to accommodate where needed.

The OHRC also stresses the need to make sure digital proof of vaccine certificates are designed to be fully accessible to adaptive technology, including for smart phone users with disabilities, in accordance with Accessibility for *Ontarians with Disabilities Act* regulations.

COVID testing as an alternative to vaccine requirements

Many organizations are not included in the list of settings. Organizations with a proven need for COVID-related health and safety requirements might also put COVID testing in place as an alternative to mandatory vaccinations or as an option for accommodating people who are unable to receive a vaccine for medical reasons. Organizations should cover the costs of COVID testing as part of the duty to accommodate.

Time limited requirements, privacy protection

The provincial proof of vaccine regime does not propose to limit access to any services for people who are unable to be vaccinated for medical reasons.

Proof of vaccine and vaccine mandate policies, or any COVID testing alternatives that result in people being denied equal access to employment or services on *Code* grounds, should only be used for the shortest possible length of time. Such policies might only be justifiable during a pandemic. They should regularly be reviewed and updated to match the most current pandemic conditions, and to reflect up-to-date evidence and public health guidance.

Policies should also include rights-based legal safeguards for the appropriate use and handling of personal health information.

Barriers in accessing COVID vaccines and testing

While the vaccine may be readily available across Ontario, barriers persist in equitable vaccine access and COVID testing. Some examples of barriers to vaccine access may include:

- Language barriers or lack of access to a compatible phone or Internet connection make it harder for some *Code*-protected groups to find information about vaccination or testing
- Older people or people living with disabilities may have difficulty booking or going to their vaccine or testing appointment, or may need extra supports to be vaccinated or undergo testing (such as a caregiver, communication supports, etc.)
- Low-wage workers with multiple jobs and caregiving responsibilities may lack the time or resources to prioritize visiting a vaccination site or taking a COVID test
- Undocumented people and people experiencing homelessness face a variety of barriers relating to the lack of government-issued ID, fear of revealing immigration status, and mental health and addiction disabilities
- Individuals and groups who have faced discrimination or traumatic experiences while receiving health-care services may not trust vaccines or testing.

Ensuring access to vaccines and testing for vulnerable Ontarians is a necessary element of any vaccine mandate or proof of vaccination regime.

Enforcement

Under the provincial regime, organizations are responsible for making sure they meet the required proofs of identification and vaccination as outlined in the regulation. Service users must make sure any information they provide to the organization to show proof of vaccination (or proof of qualifying for an exemption like a doctor's note) and if identification is complete and accurate. There are fines for both individuals and organizations that fail to comply.

As with any regulatory regime requiring enforcement, providing law enforcement or any organization with discretionary powers to assess proof of identification and vaccination may result in disproportionate application and impact on members of marginalized and vulnerable communities. Any regime that requires service users to present government-issued documents may also create barriers for people experiencing homelessness or who are undocumented.

The OHRC urges governments and organizations to take proactive steps to make sure any enforcement of vaccine mandates or proof of vaccination policies does not disproportionately target or criminalize Indigenous peoples, Black and other racialized communities, people who are experiencing homelessness, or with mental health disabilities and/or addictions.

Personal preferences and singular beliefs not protected

The OHRC and relevant human rights laws recognize the importance of balancing people's right to non-discrimination and civil liberties with public health and safety, including the need to address evidence-based risks associated with COVID-19.

Receiving a COVID-19 vaccine is voluntary. At the same time, the OHRC's position is that a person who chooses not to be vaccinated based on personal preference does not have the right to accommodation under the *Code*. The OHRC is not aware of any tribunal or court decision that found a singular belief against vaccinations or masks amounted to a creed within the meaning of the *Code*.
While the *Code* prohibits discrimination based on creed, personal preferences or singular beliefs do not amount to a creed for the purposes of the *Code*.

Even if a person could show they were denied a service or employment because of a creed-based belief against vaccinations, the duty to accommodate does not necessarily require they be exempted from vaccine mandates, certification or COVID testing requirements. The duty to accommodate can be limited if it would significantly compromise health and safety amounting to undue hardship – such as during a pandemic.

Read the OHRCs *Policy on preventing discrimination based on creed* for full explanation of creed-based discrimination and the duty to accommodate.

POLICY & PROCEDURE NUMBER: 2.10

DEPARTMENT: *Infection Control* **SUBJECT:** *Immunization – Staff COVID-19*

APPROVAL DATE: June 2021 **REVISION DATE: September 2021**

PURPOSE:

The policy has been amended following its original version released June 2021.

The effective date of this policy is October 1, 2021.

The purpose of this policy is to outline Elgin County Homes expectations and requirements with regards to COVID-19 immunization of staff, student placements, and volunteers.

Employers across Canada have a legal obligation under occupational health and safety legislation to provide their employees with safe workplaces and to take all reasonable precautions to protect employees from getting a work-related illness.

COVID-19 is an acute respiratory illness caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It may be characterized by fever, cough, shortness of breath, and several other symptoms. Asymptomatic infection is also possible. The risk of severe disease increases with age but is not limited to the elderly and is elevated in those with underlying medical conditions.

Achieving high immunization rates in Ontario's long-term care homes through vaccination is part of a range of measures and actions that can help prevent and limit the spread of COVID-19 in homes. Vaccination against COVID-19 helps reduce the number of new cases, and, most importantly, helps to reduce severe outcomes including hospitalizations and death due to COVID-19 in both residents and others who may be present in a long-term care home.

High rates of vaccination in our Homes is important to protect all person(s) who live, work and visit our Homes to help reduce the risk of outbreaks and the need to isolate residents. Isolation impacts residents' access to in-person social interaction, activities, and communal dining. The effects of isolation may be greater for residents who have dementia and/or cognitive impairment.

Medical experts in Canada and throughout the world have concluded, overwhelmingly, about the outstanding effectiveness of the COVID-19 vaccines in preventing serious illness and hospitalization. There is mounting evidence that vaccines reduce transmission of the virus. Recent data has indicated that the vast majority of new COVID-19 cases are those who are unvaccinated and/or partially vaccinated. Advice from Public Health officials in Canada as well as federal and provincial governments has been to get vaccinated.

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Protection of our vulnerable residents is of paramount importance and the participation in COVID- 19 vaccination is strongly encouraged for our staff. Given the nature of our work with a vulnerable senior population and our responsibility to ensure a safe workplace for staff, students and volunteers, we have an obligation to ensure that we are protecting everyone in our Homes from COVID-19 infections and therefore are implementing a **mandatory COVID-19 policy** for anyone engaging in work (staff, students, volunteers) in our Homes.

Mandatory Vaccination

Contingent upon vaccine availability, effective November 30, 2021, all staff, student placements, and volunteers are required to be fully vaccinated against COVID-19, unless it is medically contraindicated and/or there is a valid Ontario Human Rights Code accommodation (submitted to and as approved by Human Resources).

In partnership with Southwestern Public Health, Elgin County Homes will provide support for COVID-19 vaccination to staff members as protection for residents and staff, and to ensure appropriate staffing availability for resident care.

APPLICATION OF THE POLICY:

Regardless of how often they are at the long-term care home and how much time they spend there, this policy applies to:

- workers (including employees, persons on contract (providing direct resident care and/or having direct resident interaction), and people employed by an employment agency or other third party)
- students on an educational placement at the home
- volunteers
- any corporate internal support department staff (e.g. Human Resources, IT, etc.) working in or providing services to the Long-Term Care Homes.

Elgin County Homes shall ensure that the policy provides up to 60 (sixty) calendar days, counted from the effective date of this policy revision, or by November 30, 2021 (whichever is longer), for existing staff, student placements, and volunteers to meet the mandatory vaccination requirements.

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For the purposes of this Policy, an individual is considered fully vaccinated two (2) weeks after having received the full series of a COVID-19 vaccine or combination of COVID-19 vaccines approved by the World Health Organization (WHO) (i.e. two doses of a two-dose vaccine series, or one dose of a single-dose vaccine series).

Please be advised that the definition of fully vaccinated will be amended to include the requirement for additional doses or booster shots as recommended and approved by Health Canada.

Notwithstanding that an individual is fully vaccinated, they are still required to adhere to applicable testing and personal protective equipment, or other such requirements mandated by ministry, public health authorities and/or County of Elgin Homes.

If, and when, new or amended government directives are issued or alternatives to vaccinations are developed and then approved for use by Health Canada as being effective to protect individuals against COVID-19 (e.g. oral antiviral medications, etc.) this policy shall be reviewed and revised/updated as appropriate.

PROCEDURE:

Mandatory COVID-19 Immunization Requirements – Existing Staff, Students and Volunteers

- It is important that all person(s) have the required information/education to make an informed decision about whether to receive a COVID-19 vaccine. In order to ensure that all person(s) subject to this policy are adequately educated about this policy, COVID-19 and the COVID-19 vaccine(s), educational materials/resources will be available and promoted within the Homes.

- All staff, students and volunteers are required to be fully vaccinated (subject only to legitimate established exemptions of a medical nature or a valid human rights exemption).

- All employees are required to be fully vaccinated against COVID-19 by a World Health Organization (WHO) approved vaccine by November 30, 2021.

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- All employees are required to complete vaccination and submit acceptable written proof of being fully vaccinated to the Manager of Resident Care. The Manager of Resident Care will update the Vaccination Status portal for all Home staff and forward any medical exemption requests (that include the effective time period for the medical exemption) or Human Rights exemption requests to Human Resources.

- The first dose of vaccine is required by October 20, 2021 with the second dose being completed by November 16, 2021 to allow 14 days to achieve "full vaccination" requirements.

- Notwithstanding that an employee is fully vaccinated, they are still required to adhere to applicable testing and personal protective equipment requirements mandated by Public Health, MLTC Directive #3 and in accordance with County of Elgin Homes policy.

- Where an existing staff member, student or volunteer cannot be vaccinated due to a legitimate established medical or Human Rights reason (as approved by the Human Resources department), County of Elgin Human Resources department and Homes management will work with the individual to accommodate pursuant to the organizational accommodation policy and procedure.
  To best meet the health and safety requirements of the individual, the exempt individual will be required to:
  - Wear appropriate personal protective equipment (PPE) – including, but not limited to, mask and face shield/protective eyewear even after such precautions are no longer mandated by applicable public health authorities; and,
  - Submit to daily (every shift) rapid antigen COVID-19 testing, even after such precautions are no longer mandated by applicable public health authorities
  - These precautions will be required until the employee provides evidence to the Manager of Resident Care that they are fully vaccinated.

- In accordance with Elgin County Homes and Human Resources policies, collective agreements and applicable legislation and directives, failure to meet the above mandated requirements by November 30, 2021 shall result in staff, student, volunteer access to the Home being removed and, staff to be placed on an unpaid leave, until such time as the mandated requirements are met.

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- Additionally, exempt persons who fail to adhere and/or comply with any of the measures outlined above will be placed on unpaid leave until they comply.

- The Home will reimburse the staff member for such expense incurred in obtaining and providing written proof of medical exemption by a physician and/or Registered Nurse in extended class. If the effective time period of a medical reason provided has expired, Elgin County Homes management shall ensure, within 10 days of the medical reason expiring, that the individual provides proof of vaccination.

- For individuals who have received the first dose of a two-dose COVID-19 vaccination series and have provided proof to Elgin County Homes, they shall:

    - Agree in writing that they will receive their second dose by a mutually agreed upon date and, provide proof of administration of the second dose by November 16, 2021,
    - Wear appropriate personal protective equipment (PPE) – mask and face shield/protective eyewear even after such precautions are no longer mandated by applicable public health authorities; and,
    - Submit to daily (every shift) rapid antigen COVID-19 testing, even after such precautions are no longer mandated by applicable public health authorities
    - Be required to wear the above PPE and submit to daily (every shift) rapid testing until such time as they provide evidence of full vaccination (within the agreed upon timeline)

- The Educational program is mandatory for all staff, students and volunteers that provide written proof of approved medical or valid Human Rights exemption for COVID-19 vaccination. The educational program will be available to all persons to support informed decision making related to COVID-19 vaccination and will include the following:

    a. How COVID-19 vaccines work
    b. Vaccine safety related to the development of the COVID-19 vaccines
    c. The benefits of vaccination against COVID-19
    d. Risks of not being vaccinated against COVID-19
    e. Possible side effects of COVID-19 vaccination

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- While we will respect staff, students and volunteer's decision about vaccination, we strongly encourage all person(s) working in, or otherwise attending, our Homes to help protect everyone by getting vaccinated.

- Elgin County Homes are committed to supporting access to vaccination. As such, on-site COVID-19 vaccination clinic(s), where sanctioned by the Homes Medical Director and/or Southwestern Public Health (Medial Officer of Health) through a signed medical directive, will be provided for staff members who have provided informed consent.

- The nurse giving the injections may administer the COVID-19 vaccine to eligible County of Elgin staff members according to the applicable manufacturer's instructions after performing a health assessment, reviewing contraindications and receiving informed consent. Adrenaline 1:1000 IU 1 ml will be available on the injection tray in case of adverse reaction. Registered staff to understand and be able to apply the medical directive for dosage of Adrenaline prior to vaccination.

- A list of immunized staff will be compiled in each Home by the Manager of Resident Care.

- Staff members who receive their vaccine at the Home will be recorded on the list of immunized staff members in each Home. A record of immunization will be provided by the Home.

<u>Mandatory Vaccination – New Hires, Student Placements and Volunteers</u>

- New student placements, volunteers, and staff members hired after July 1, 2021, will, prior to commencement of placement/work, be required to be provide proof of full COVID-19 vaccine administration, or provide written proof of a valid Human Rights exemption or medical reason, provided by either a physician or registered nurse in the extended class, that sets out:

    a. that the person cannot be vaccinated against COVID-19; and
    b. the effective time period for the medical reason; and they

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c. Must comply with all PPE and rapid antigen testing requirements as outlined above

COMPLIANCE

1. Employees who refuse to adhere and/or comply with any of the measures outlined above will be excluded from work without pay until they are able to fulfill the requirements of this policy.

2. New hires, students, volunteers, independent operators and individuals employed by an employment agency or third-party provider who refuse to adhere and/or comply with any of the measures outlined above will be denied further access to the Home and as applicable their placement will cease.

- This policy shall be communicated to all existing staff (including, but not limited to, Surge learning), student placements, and volunteers, and a copy of the policy shall be made available to residents and families.

- Elgin County Homes shall comply with all statistical information collection and disclose in aggregate form (without any identifying information) to Ministry of Long-Term Care as set out by the ministry.

References/Resources:

- MLTC Minister's Directive: Long- Term Care Home COVID-19 Immunization Policy
- MLTC Resource Guide Minister's Directive: Long- Term Care Home COVID-19 Immunization Policy Version 5, September 2, 2021
- About COVID-19 Vaccines (Ontario Ministry of Health)
- COVID-19 Vaccine Information Sheet (Ontario Ministry of Health)
- ****bilingual****Building Confidence in Vaccines [English] and Accroître la confiance à l'égard des vaccins [French] (Public Health Ontario)
- Communicating effectively about immunization: Canadian Immunization Guide (Government of Canada)

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- ****multilingual**** Coronavirus disease (COVID-19): Awareness resources (Government of Canada)
- COVID-19 Info (Immunize Canada)
- ****bilingual**** COVID-19 vaccines and workplace health and safety: Learn how COVID-19covid 19 vaccines help protect you and make your workplace safer [English] and Les vaccins contre la COVID-19 et la santé et la sécurité au travail: Découvrez comment les vaccins contre la COVID-19covid 19 contribuent à vous protéger et à rendre votre lieu de travail plus sécuritaire [French] (Ontario Ministry of Labour, Training and Skills Development)
- COVID-19: Vaccines | Centre for Effective Practice - Digital Tools (Centre for Effective Practice)
- COVID-19 Vaccines Explained (World Health Organization)
- ****multilingual**** COVID-19: Vaccine Resources and in American Sign Language (City of Toronto)
- ****multilingual**** Documents multilingues sur la vaccination contre la COVID-19 (Alliance des communautés culturelles pour l'égalité dans la santé et les services sociaux)
- Gashkiwidoon toolkit: covid-19 vaccine implementation (Indigenous Primary Health Care Council)
- ****multilingual**** LTC COVID-19 Vaccine Promotion Toolkit (Ministry of Long-Term Care)
- Ontario's doctors answer COVID-19 vaccine questions (Ontario Medical Association)
- Tools to Boost Vaccine Confidence in LTC Teams (Ontario Centres for Learning, Research and Innovation in Long-Term Care)
- Updates on COVID-19 (National Collaborating Centre for Indigenous Health)

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Long-Term Care Home COVID-19 Immunization Policy

Elgin County Council

September 28, 2021

Elgin County

Progressive by Nature

Recommendations

Recommendations

- THAT the report titled “Homes – Infection Control Policy 2.10 – Immunization – Staff COVID-19” dated September 21, 2021 be received and filed; and,
- THAT Council direct staff regarding the adoption of the Homes Draft Infection Control Policy 2.10 “Immunization – Staff COVID-19” policy changes.

County of Elgin Homes Staff – COVID-19 Immunization Policy

- June 2021 Immunization policy highlights:
  - All staff, students, and volunteers must:
    - Provide proof of full COVID-19 vaccination **OR**
    - Provide proof of medical exemption and the effective time period for the medical reason **OR**
    - Provide proof of completion of the mandatory education program
    - All staff, students and volunteers that are not fully vaccinated will receive rapid antigen testing a **minimum** of three times/week
    - **New hires** after July 1, 2021 must provide proof of full vaccination or provide proof or medical exemption and effective time period

Current State

Staff Vaccination Rates by Home

- Bobier Villa
- Elgin Manor
- Terrace Lodge

Resident Vaccination Rates by Home

- Bobier Villa
- Elgin Manor
- Terrace Lodge

Ministry of Long-Term Care Directive #3 Updates

- Effective September 2, 2021 the following changes to the Minister's Immunization Policy Directive
  - Addition of section 2.6 and 2.7 which allows a LTC home to decide to remove the option of completion of a COVID-19 vaccination educational program as a reason for being unvaccinated and require all staff, students, and volunteers to either provide proof of vaccination or a medical reason.
    - Recognizing the importance of education, homes that choose this option are still required to make available an education program for those interested in obtaining more information prior to receiving a vaccine
  - The Directive has been updated to allow for proof of vaccine for all vaccines approved by the World Health Organization and not just those approved by Health Canada.
  - Directive #3 now aligns with hospital Directive #6 regarding the option of the education component

Health Care COVID-19 Statistics

- Canadian Institute for Health Information – June 15, 2021
  - Nearly 95,000 health care workers have contracted COVID-19 and 43 have died in Canada
- Ontario LTCH COVID-19 information January 15, 2020 – September 20, 2021
  - LTCH outbreaks -524
  - Resident Deaths -3811
  - Staff Deaths - 13

Position Statements – Mandatory Vaccinations for Health Care Workers

- Registered Nurses Association of Ontario
- Seniors Care Coalition
- AdvantAge Ontario, including recent Coalition
- SEIU
- Canadian Medical Association
- Public Health Unit Recommendations
- N. B. Almost all LTCHs and many other health care organizations have mandated vaccination for new hires and rehires

Coalitions – Seniors

- Seniors Care Coalition – many of Canada's largest operators of LTCHs (Chartwell, Responsive Group, Revera, Extendicare, Sienna Senior Living, Caressant Care) require their staff to be fully vaccinated against COVID-19 or staff face an unpaid leave of absence (effective October 12, 2021)
- AdvantAge Ontario Member Long-Term Care Coalition – September 15, 2021 – 15 not-for-profit and municipal LTCH's (TO, Stratford, Hamilton, Cambridge, Mitchell, New Hamburg, Waterloo, Scarborough, Napanee) announced that they will require their staff to be fully vaccinated against COVID-19 or staff face an unpaid leave of absence. Anticipated more not-for-profit and municipal LTCH's will follow
- Some not-for-profit and municipal Homes proceeded the AdvantAge Ontario Coalition announcement; and others elected to announce independent of the Coalition

Local and Regional Information

- Local Information: Elgin/St. Thomas LTCH's with mandatory vaccination policy in place:
  - Chartwell, Aylmer
  - Extendicare, Port Stanley
  - Caressant Care – Mary Bucke and Bonnie Place
  - Large % of OLTCA Homes across the province

- Regional municipal and not-for-profit LTCH's with mandatory vaccination policy in place:
  - Oxford County
  - City of London
  - County of Essex – Sun Parlour Home
  - Niagara Region, Simcoe County, Hastings County, and others

Current COVID-19 Statistics

- Ontario LTCH's currently in outbreak - 10
  - Update on Durham Home – 21 resident cases with 4 resident deaths, 11 staff cases
- Southwestern Public Health Vaccination Rates effective September 19, 2021
  - % of SWPH 12+ population with at least one dose – 84.5%
  - % of SWPH 12 + population with both doses – 78.8 %
- Province of Ontario Vaccination Rates
  - As of September 19, 2021, 85.1% have had at least one dose; and 79.1 % are fully vaccinated
- Vaccination rates after LTCH notice of mandatory vaccination policy – early data:
  - One Home – 88 % - 98.5 % (before mandated policy timeline)
  - Staff comments "just waiting until I had to make the decision"

Duty to Protect

The County of Elgin LTCH's have an obligation under Provincial legislation to take all necessary precautions reasonable in the circumstances to protect the Health and Safety of staff and residents within LTCHs (including from the hazards of COVID-19). Legislation includes, but is not limited to:

- Occupational Health and Safety Act
- Long-Term Care Homes Act, 2007
- Ontario Regulation 79/10

Statistics and Potential Risks

- A review of statistics and potential risks was conducted:
  - Statistic review
    - Homes staff and resident vaccination rates, locally
    - Outbreaks – LTCH's - locally and provincially
    - Community Transmission - locally
    - # of positive rapid antigen/PCR tests
  - Risk Review
    - Staffing considerations
    - Ability to maintain quality resident care
    - Accountability to health and safety of staff and residents– legislation
    - Outbreaks - increasing in LTC

Policy Development/Review

- Draft mandatory vaccination policy is in line with Directive #3 and supports the direction that vaccines provide a high level of protection against COVID-19 and related variants.
- Management Team carefully reviewed and considered vaccination policies adopted by other municipalities LTCH's.

Homes - COVID-19 Immunization Policy

- The draft policy presented to Council aims to achieve full vaccination amongst those to whom the policy applies in alignment with provincial directives and subject to limited exceptions in accordance with the Human Rights Code (Ontario).
- Vaccination, in combination with H&S and Infection and prevention and control precautions, have been identified by Public Health as the single most effective means of reducing the transmission of COVID-19 in the workplace and in our community.
- The Homes will maintain all current H&S and Infection Prevention and Control precautions in the workplace and make revisions as necessary.
- The County of Elgin Homes reserves the right to amend the policy as the County determines to be appropriate or required.

Homes - COVID-19 Immunization Policy

The Policy applies to anyone entering one of the County of Elgin LTC Homes:

- County of Elgin employees, including full-time, part-time, permanent, temporary, and casual staff;
- Staff of contractors or consultants (providing care to and/or interacting with residents) acting on behalf of the Corporation and performing work in County facilities and/or buildings;
- Volunteers; and
- Interns and students on placements.

Education Program

- An educational program that has been approved by and/or provided by the County of Elgin will continue to be available to exempt unvaccinated staff and for unvaccinated staff interested in obtaining more information prior to receiving a vaccine including:
  - How COVID-19 vaccines work
  - Vaccine safety related to the development of the COVID-19 vaccines
  - Benefits of vaccination against COVID-19
  - Risks of not being vaccinated against COVID-19
  - Possible side effects of COVID-19 vaccination
  - Vaccine myths, vaccine hesitancy

Homes - COVID-19 Immunization Policy

- Policy is indefinite in nature to address the risks and impacts of the COVID-19 pandemic, noting the duration of the pandemic is unknown.
- The policy will be reviewed on a regular basis and amended as required as new information, data, and Public Health and Ministry of Long-Term Care guidelines regarding the COVID-19 pandemic evolves.
- Management Team has developed an administrative procedure to support Policy implementation.
- Active screening will continue for all persons entering the LTC Homes as per ministry directives.
- Collection of Information and Privacy Considerations aligns with applicable legislation and reporting requirements.

Homes - COVID-19 Immunization Policy - OPTIONS

Those to whom the policy applies can select one of the following options:

1) Vaccination with proof of full vaccination by November 30, 2021

2) Not vaccinated, but in progress to complete vaccination **by October 20, 2021 (first dose)**:

- Mandatory Rapid Antigen Testing is required until proof of full vaccination is provided (County to provide test)

3) Not vaccinated due to an approved medical or Human Rights accommodation

- Mandatory Rapid Antigen Testing (County to provide test)
- Other accommodations as deemed appropriate (case by case basis)

4) **Effective November 30, 2021:** Not fully vaccinated or Decline to Disclose Vaccination Status

- Unpaid leave of absence

Homes - COVID-19 Immunization Policy

- Consequences of non-compliance with Policy:
  - Employees who fail to comply with this policy will be placed on unpaid leave of absence until such time as they meet the policy requirements

Recommendations

- THAT the report titled “Homes – Infection Control Policy 2.10 – Immunization – Staff COVID-19” dated September 21, 2021 be received and filed; and,
- THAT Council direct staff regarding the adoption of the Homes Draft Infection Control Policy 2.10 “Immunization – Staff COVID-19” policy changes.

Questions?

CORRESPONDENCE – September 28, 2021

Items for Consideration – (Attached)

1. Allison Adams, Manager of Legislative Services/Clerk, Township of Malahide with a resolution requesting a review of the Imperial Road and John Wise Line intersection.

87 John Street South
Aylmer ON N5H 2C3
Phone: 519-773-5344
Fax: 519-773-5334
www.malahide.ca

the TOWNSHIP of MALAHIDE
A proud tradition, a bright future.

September 20, 2021.

County of Elgin
450 Sunset Drive
St. Thomas, Ontario N5R 5V1

Attention: Brian Lima

RE: Imperial Road at John Wise Line - Road Safety Concerns

At its regular meeting held on September 16, 2021, the Malahide Township Council discussed various safety concerns at the intersection of John Wise Line and Imperial Road, and passed the following Resolution:

THAT Malahide Township Council request that the County of Elgin review the Imperial Road and John Wise Line intersection to determine what safety enhancements could be implemented; and this intersection be reviewed during the completion of the County of Elgin Transportation Masterplan.

The Township respectfully requests your co-operation with respect to this matter and thanks you for your consideration.

Please do not hesitate to contact this office if you require any further information or documentation.

Respectfully,

A Adams

Allison Adams
Manager of Legislative Services/Clerk
Township of Malahide
519-773-5344x222
aadams@malahide.ca

CORRESPONDENCE – September 28, 2021

Items for Information – (Attached)

1. Jeff Yurek, MPP, Elgin-Middlesex-London with a letter regarding drowning prevention in St. Thomas-Elgin.

2. SWIFT Monthly Project Update.

3. Diana Wilson, Deputy Clerk, Township of Malahide with a resolution requesting copies of County policies regarding facilitating internet projects.

Ontario
LEGISLATIVE
ASSEMBLY

Jeff Yurek, MPP

Elgin-Middlesex-London

Constituency Office
750 Talbot St., Suite 201, West Wing
St. Thomas, Ontario N5P 1E2

Tel. (519) 631-0666
Toll Free 1-800-265-7638
Fax: (519) 631-9478
E-mail: jeff.yurekco@pc.ola.org

Re: Drowning Prevention in St. Thomas-Elgin

September 10, 2021

Dear Partners,

I am writing in follow-up to a meeting I recently held with constituent Marykate Townsend, steering committee member of the Canadian Drowning Prevention Coalition and Co-Chair of the National Community Drowning Prevention Coalition. During our discussion, Marykate highlighted that our region is seeing a record number of drownings in 2021, indicating a need for proactive and coordinated public information regarding boating and swimming safety.

Marykate will be reaching out to you in the near future to discuss further opportunities to support this initiative. I hope that you will consider working with her to leverage your audience and help to prevent drowning tragedies in our communities.

Sincerely,

Jeff Yurek, MPP
Elgin-Middlesex-London

Subject: SWIFT Monthly Project Update - August 2021
Date: Monday, September 20, 2021 at 11:24:33 AM Eastern Daylight Time
From: Barry Field
To: DG-SWIFT Board, DG-WOWC CAOs, DG Contributing CAOs
CC: Jen Broos, Melissa O'Brien, Kate Burns Gallagher, Justin Bromberg
Attachments: image001.png, image002.png, image003.png, image004.png, image005.png, image006.png

SWIFT Board Members and CAOs,

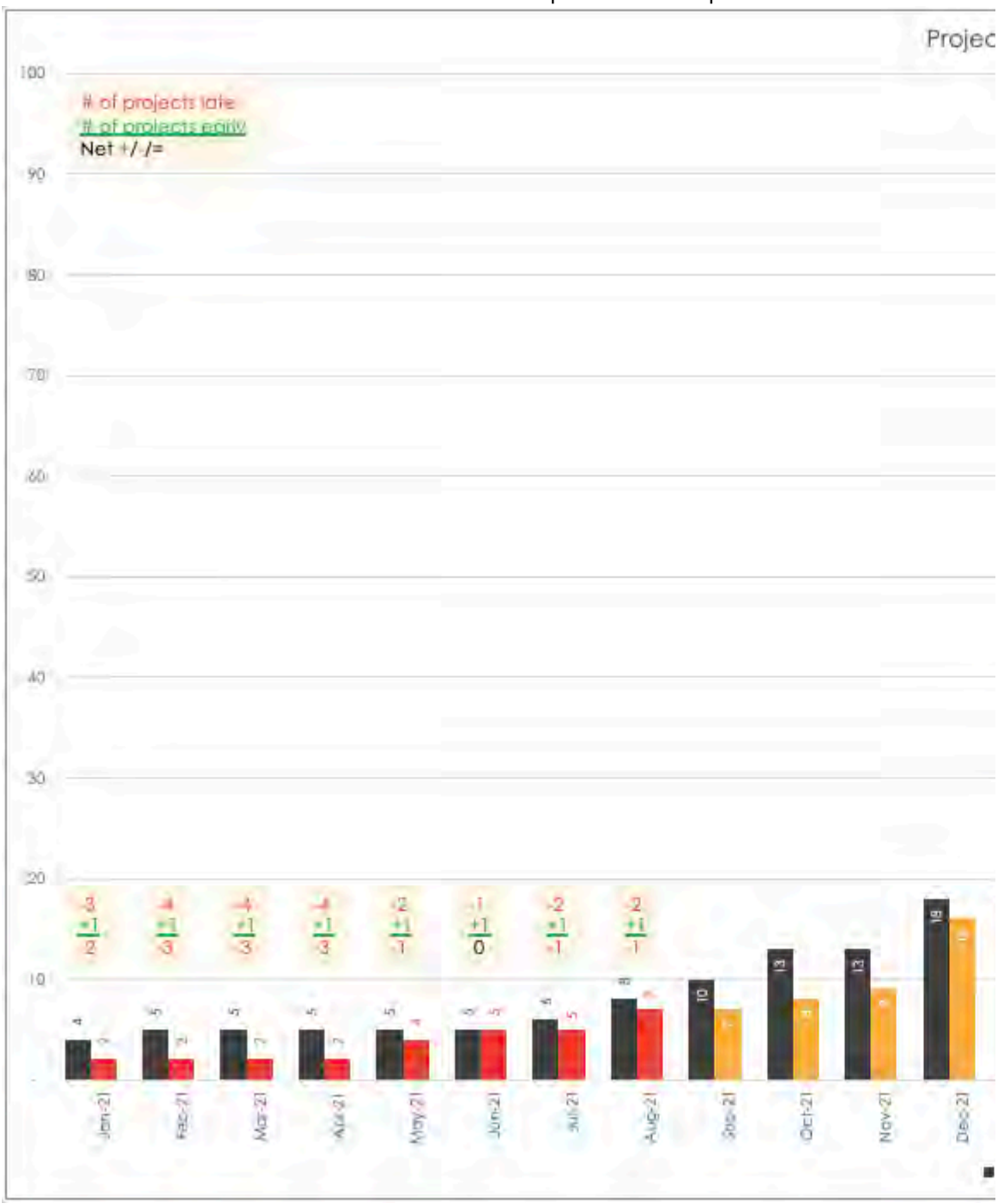
Please see the attached monthly project update for August 2021.

All report data is as at August 31, 2021

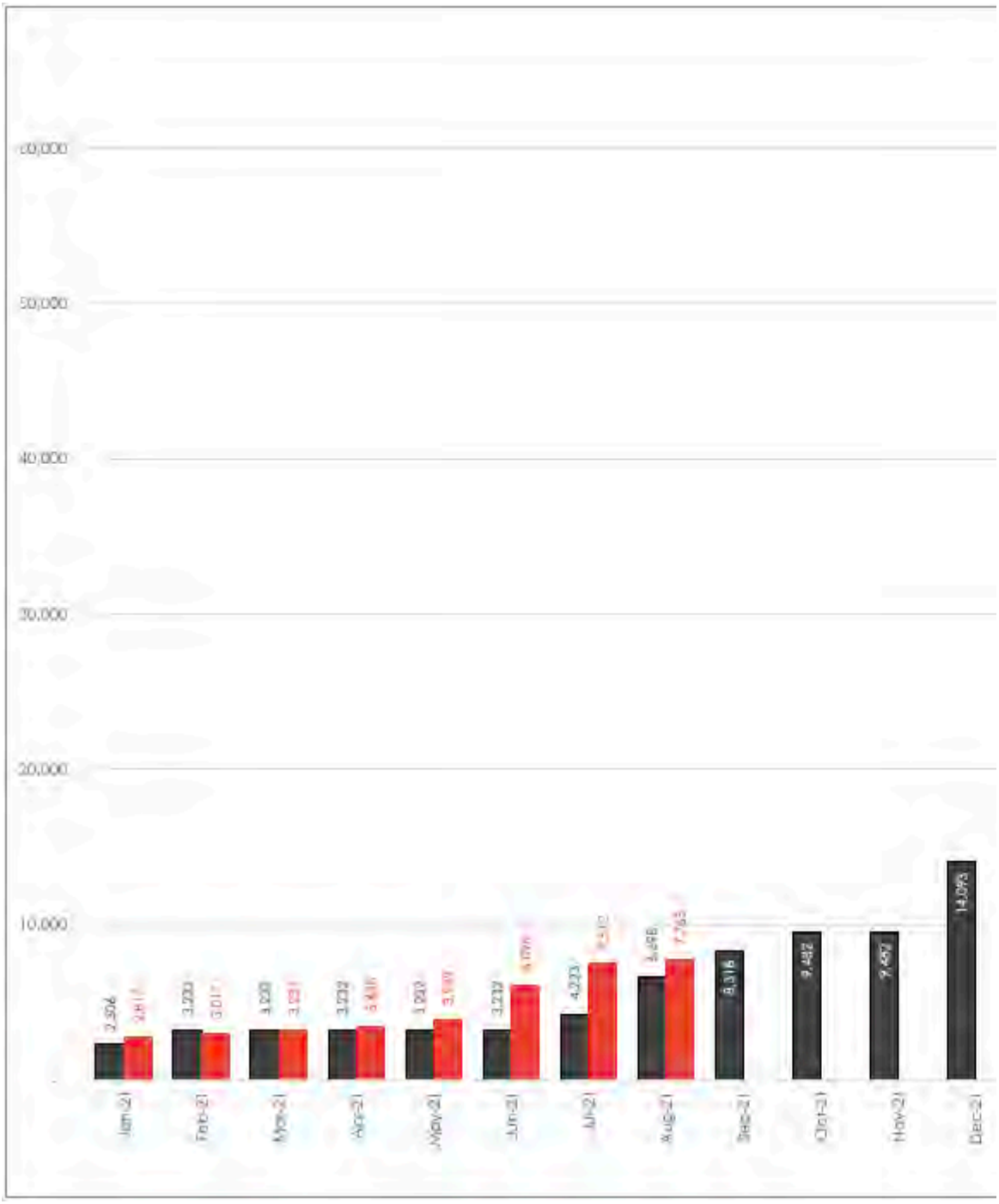
Status

- Procurement
  - All contracts executed (96), projects announced, and implementation underway.
- Implementation
  - Projects Completion Progress and Plan
    - Net 1 project behind schedule
    - Late (1)
      - NOR_06_EXEC (Long Point) – Significant delays due to environmental permits / Contingency plan in place to use microwave backhaul but will reduce prems passed
      - LAM_08_EXEC (Highland Glen) – All but 10 premises are complete and serviceable / remaining 10 premises are on a private road and require owner approval

- Early (1)
    - WEL_04_EHTEL (Ariss) – Project completed ahead of schedule in January 2021
- Note: Projects will not be marked as complete until SWIFT has completed inspection and issued final acceptance certificate. As such, projects may be physically complete and in service but will not be indicated as complete on this report.



- Premises Passed Progress and Plan
    - Net 1,065 premises ahead of schedule



- Significant Construction Completion Delays (3 months or greater delay in project in-service forecast)
  - CHK_02_TEKS - Construction delayed Hydro One aerial pole permits delays. (26% complete). Completion forecast moved from Oct-21 to Aug-22.
  - CHK_03_TEKS - Construction delayed due to MTO permit delays. (15% complete). Completion forecast moved from Dec-21 to Apr-22.
  - CHK_04_TEKS - Construction delayed Hydro One aerial pole permits delays. (5% complete). Completion forecast moved from Feb-22 to May-22.
  - ESX_17_TEKS - Construction delayed Hydro One aerial pole permits delays. (54% complete). Completion forecast moved from Oct-21 to May-22.
  - ESX_18_TEKS - Construction delayed Hydro One aerial pole permits delays. (22% complete). Completion forecast moved from Sep-21 to May-22.

- LAM_08_EXEC – Construction delayed due to issue with completing a private road. (90% complete). Completion forecast moved from Jul-21 to Nov-21.
- NOR_06_EXEC - Environmental permits hindering progress. (5% complete). Completion forecast moved from Feb-21 to Mar-22.

- Implementation Metrics (see attached monthly report for details)

Metric	Complete	Total	% Complete	Change from Last Month
Contracts Executed	96	96	100%	-
Design Complete	72	96	75%	+6
Construction Started	56	96	58%	+13
Construction Complete	7	96	7%	+1
In-Service	7	96	8%	+2
Premises Implemented	11,754	64,231	18%	+1,595
Premises Serviceable	7,763	64,231	12%	+251
KMs of Fibre	710	4,213	17%	+104

Issues and Risks

- COVID-19
  - COVID-19 remains a risk for the SWIFT project
  - Need to keep an eye on potential supply chain issues
- Utility locates delays
- Hydro One permit delays

Communications Update

A federal election has been called for September 20, 2021. During the election period, there is a blackout on all Government of Canada communications activities, this includes projects with federal funding, such as SWIFT. As a result, SWIFT will not be participating in communication activities during the election period. This blackout will remain in effect until the Ontario Ministry of Infrastructure provides further instruction.

Regards,

Barry Field
Executive Director
Southwestern Integrated Fibre Technology
T: 519.914.1308, ext.3 | C: 519.319.1112
789 Broadway Street, Wyoming, ON N0N 1TO
www.swiftruralbroadband.ca

SWIFT Project Dashboard
31-Aug-21

Projects	County	Area	Milestone 1 (Design)			M1 Cert.	Construction Start			Milestone 2 (Construction)			Inspection		M2 Cert.	Milestone 3 (In-Service)			M3 Cert.	% Complete	Project Value	Schedule	Issues	Reason for Delay
			Contract	Forecast	Actual	Issued	Contract	Forecast	Actual	Contract	Forecast	Actual	Forecast	Actual	Issued	Contract	Forecast	Actual	Issued					
BRA_05_XPLO	Brant	Brant	22-Oct-21	22-Oct-21			23-Oct-21	08-Sep-21	08-Sep-21	02-Jul-22	02-Jul-22					31-Aug-22	31-Aug-22			35.0%	$ 9,371,827			
BRU_01_WIGHT	Bruce	Formosa	31-May-21	03-May-21	03-May-21	06-May-21	01-Aug-21	25-May-21	25-May-21	31-Dec-21	31-Dec-21					31-Mar-22	31-Mar-22			30.0%	$ 1,070,192			
BRU_03_GBTEL	Bruce	Neyaashiingmiing	31-Mar-21	31-Mar-21	31-Mar-21	14-Apr-21	01-Apr-21	15-Oct-21		14-Dec-22	14-Dec-22					31-Dec-22	31-Dec-22			5.0%	$ 1,284,247			- Pending purchase agreement by Nawash after 7-year period
BRU_05_XPLO	Bruce	Sauble Beach	22-Aug-21	24-Aug-21	24-Aug-21	26-Aug-21	01-Aug-21	22-Sep-21		02-Apr-22	02-Apr-22					30-May-22	30-May-22			40.0%	$ 2,421,525			- Locate delays
BRU_06_XPLO	Bruce	Lion's Head	22-Aug-21	20-Sep-21			01-Aug-21	01-Nov-21		02-Apr-22	02-Apr-22					30-May-22	30-May-22			35.0%	$ 1,577,833			- Locate delays / contractor sourcing
BRU_08_XPLO	Bruce	Wiarton	22-Aug-21	04-Oct-21			01-Aug-21	01-Nov-21		02-Apr-22	02-Apr-22					30-May-22	30-May-22			35.0%	$ 2,426,393			- Locate delays / contractor sourcing
BRU_11_EHTEL	Bruce	Cargill	31-Mar-21	31-Mar-21	31-Mar-21	07-Apr-21	01-Jul-21	06-Aug-21	06-Aug-21	30-Nov-22	01-Dec-21					31-Dec-22	31-Dec-21			12.0%	$ 4,690,914			
BRU_12_HURON	Bruce	Langside	31-Mar-21	17-Mar-21	17-Mar-21	19-Mar-21	01-Apr-21	03-May-21	03-May-21	31-Dec-21	31-Dec-21					31-Mar-22	31-Mar-22			75.0%	$ 1,346,207			
BRU_13_GBTEL	Bruce	Skipness	15-Jan-21	24-Feb-21	24-Feb-21	26-Feb-21	16-Jan-21	23-Feb-21	23-Feb-21	30-Nov-22	30-Nov-22					31-Dec-22	31-Dec-22			12.0%	$ 1,500,081			- Construction pending G-Tel locates
CAL_02_VIAN	Caledon	North East Caledon	15-Jan-21	05-Feb-21	05-Feb-21	09-Feb-21	01-Dec-20	11-Jan-21	11-Jan-21	31-Oct-21	31-Oct-21					15-Dec-21	15-Dec-21			86.8%	$ 1,880,972			
CAL_03_VIAN	Caledon	Central Caledon	15-Jan-21	31-Mar-21	31-Mar-21	31-Mar-21	01-Dec-20	08-Dec-20	08-Dec-20	31-Jan-22	31-Jan-22					31-Mar-22	31-Mar-22			93.2%	$ 2,454,985			
CAL_06_NFTC	Caledon	The Grange	17-Nov-20	30-Nov-20	30-Nov-20	11-Dec-20	23-Nov-20	20-Sep-21		26-Nov-21	26-Nov-21					28-Feb-22	28-Feb-22			24.0%	$ 2,161,924			- Permits pending PUCC approval
CHK_00_TEKS	Chatham-	Moraviantown	17-Jul-20	17-Jul-20	17-Jul-20	06-Aug-20	24-Aug-20	28-Aug-20	28-Aug-20	09-Oct-20	06-Dec-20	06-Dec-20	12-Nov-20	12-Nov-21	05-Jan-21	16-Oct-20	22-Jan-21	22-Jan-21	26-Jan-21	100.0%	$ 692,871			
CHK_02_TEKS	Chatham-	Tupperville	19-Mar-21	12-Mar-21	12-Mar-21	15-Mar-21	22-Feb-21	05-Apr-21	05-Apr-21	15-Sep-21	05-Jul-22					30-Oct-21	05-Aug-22			26.0%	$ 2,335,640			- Delays in Hydro One aerial pole permits
CHK_03_TEKS	Chatham-	Mitchells' Bay	19-Feb-21	19-Feb-21	19-Feb-21	09-Mar-21	22-Feb-21	03-Aug-21	03-Aug-21	05-Nov-21	02-Mar-22					05-Dec-21	15-Apr-22			15.0%	$ 2,300,475			- MTO permit delay
CHK_04_TEKS	Chatham-	Duart	05-Mar-21	05-Mar-21	05-Mar-21	09-Mar-21	22-Feb-21	02-Aug-21	02-Aug-21	21-Jan-22	08-Apr-22					21-Feb-22	08-May-22			5.0%	$ 4,519,304			- Delays in Hydro One aerial pole permits
CHK_18_COG	Chatham-	Erie Beach	31-Oct-21	31-Oct-21			01-Nov-21	01-Nov-21		31-Mar-23	31-Mar-23					30-Apr-23	30-Apr-23			9.5%	$ 9,402,964			
DUF_01_ROG	Dufferin	Garafraxa Woods	29-Mar-21	29-Mar-21	29-Mar-21	30-Mar-21	29-Mar-21	30-Jun-21	30-Jun-21	16-Jul-21	21-Sep-21					22-Oct-21	12-Oct-21			95.0%	$ 687,804			- Construction start delayed / no impact to completion.
DUF_04_BELL	Dufferin	Mansfield	31-Dec-20	31-Dec-20	31-Dec-20	02-Feb-21	01-Jan-21	18-Jan-21	18-Jan-21	31-Dec-21	31-Dec-21					31-Mar-22	31-Mar-22			64.0%	$ 829,111			
DUF_10_COG	Dufferin	Marsville	28-Feb-21	28-Feb-21	28-Feb-21	04-Mar-21	01-Mar-21	30-Jun-21	30-Jun-21	28-Feb-22	28-Feb-22					31-Mar-22	31-Mar-22			63.6%	$ 866,636			
DUF_13_NFTC	Dufferin	Camilla	29-Nov-20	07-Dec-20	07-Dec-20	10-Dec-20	03-May-21	30-Aug-21	30-Aug-21	08-Dec-21	08-Dec-21					28-Feb-22	28-Feb-22			24.0%	$ 4,119,535			
DUF_15_EHTEL	Dufferin	Horning's Mills	31-Mar-22	31-Mar-22			01-Apr-22	01-Apr-22		30-Nov-22	01-Sep-22					31-Dec-22	01-Nov-22			1.0%	$ 3,948,048			
ELG_02_EXEC	Elgin	North Hall	30-Apr-22	30-Apr-22			01-May-22	01-May-22		31-Oct-22	31-Oct-22					31-Dec-22	31-Dec-22			0.0%	$ 1,020,456			
ELG_08_EHTEL	Elgin	Iona Station	31-Jan-22	31-Jan-22			01-Feb-22	01-Feb-22		31-Oct-22	31-Oct-22					31-Dec-22	31-Dec-22			0.0%	$ 3,210,132			
ELG_09_NFTC	Elgin	New Glasgow	15-Jul-21	15-Jul-21	15-Jul-21	26-Jul-21	16-Jul-21	22-Nov-21		15-Aug-22	15-Aug-22					30-Sep-22	30-Sep-22			8.0%	$ 1,873,897			- Material delays
ESX_03_COG	Essex	Marshfield	30-Apr-21	30-Aug-21	30-Aug-21	10-Sep-21	01-May-21	30-Nov-21		31-Aug-22	31-Aug-22					30-Sep-22	30-Sep-22			30.0%	$ 5,940,363			- Construction start delayed / no impact to completion.
ESX_05_COG	Essex	Mount Carmel	31-May-21	30-Sep-21			01-May-21	31-Oct-21		30-Sep-22	30-Sep-22					31-Oct-22	31-Oct-22			31.0%	$ 5,701,845			- Construction start delayed / no impact to completion.
ESX_06_COG	Essex	Point Pelee	30-Apr-21	30-Aug-21	30-Aug-21	09-Sep-21	01-May-21	30-Nov-21		31-May-22	31-May-22					30-Jun-22	30-Jun-22			30.2%	$ 1,635,538			- Construction start delayed / no impact to completion.
ESX_17_TEKS	Essex	Lighthouse Cove	30-Oct-20	30-Oct-20	30-Oct-20	02-Dec-20	02-Nov-20	01-Mar-21	01-Mar-21	10-Sep-21	05-May-22					05-Oct-21	13-May-22			54.0%	$ 2,074,628			- Hydro One aerial engineering drawing sign-off delays
ESX_18_TEKS	Essex	Stoney Point	13-Nov-20	13-Nov-20	13-Nov-20	25-Nov-20	16-Nov-20	23-Jun-21	23-Jun-21	27-Aug-21	18-Apr-22					21-Sep-21	18-May-22			22.0%	$ 3,713,981			- Hydro One aerial engineering drawing sign-off delays
GRY_02_EHTEL	Grey	Dromore	31-Mar-21	02-Nov-20	02-Nov-20	13-Nov-20	01-Apr-21	01-Dec-20	01-Dec-20	31-Dec-22	15-Nov-21					31-Dec-22	15-Dec-21			70.0%	$ 4,271,476			
GRY_03_EHTEL	Grey	Allan Park	31-Mar-21	22-Jan-21	22-Jan-21	29-Jan-21	01-Apr-21	01-Apr-21	01-Apr-21	31-Dec-22	01-Nov-21					31-Dec-22	01-Dec-21			80.0%	$ 3,787,389			
GRY_07_XPLO	Grey	Holland Centre	25-Aug-21	08-Sep-21			21-Jun-21	23-Oct-21		15-Mar-22	15-Mar-22					15-Jun-22	15-Jun-22			41.0%	$ 4,209,060			- Construction start delayed / no impact to completion.
GRY_08_XPLO	Grey	Cruickshank	09-Jul-21	09-Jul-21	09-Jul-21	30-Jul-21	03-May-21	23-Aug-21	23-Aug-21	15-Jan-22	15-Jan-22					15-Apr-22	15-Apr-22			47.0%	$ 1,621,005			- Locate delays
GRY_09_XPLO	Grey	Leith	09-Jul-21	09-Jul-21	09-Jul-21	30-Jul-21	03-May-21	23-Aug-21	23-Aug-21	15-Jan-22	15-Jan-22					15-Apr-22	15-Apr-22			45.0%	$ 1,846,319			- Locate delays
GRY_15_GBTEL	Grey	Bognor	28-Feb-21	28-Feb-21	28-Feb-21	25-Feb-21	01-Mar-21	02-Feb-21	02-Feb-21	15-Dec-22	15-Dec-22					31-Dec-22	31-Dec-22			72.0%	$ 176,845			
GRY_19_WIGHT	Grey	Hanover	31-May-21	14-Apr-21	14-Apr-21	21-Apr-21	01-Aug-21	25-May-21	25-May-21	31-Dec-21	31-Dec-21					31-Mar-22	31-Mar-22			65.0%	$ 941,672			
HUR_03_TCC	Huron	Porter's Hill	02-Aug-21	29-Jul-21	29-Jul-21	30-Jul-21	02-Aug-21	20-Jun-22		31-Dec-22	31-Dec-22					28-Feb-23	28-Feb-23			2.0%	$ 1,923,825			- Contractor schedule issues
HUR_04_TCC	Huron	Summerhill	02-Aug-21	29-Jul-21	29-Jul-21	30-Jul-21	02-Aug-21	04-Apr-22		31-Dec-22	31-Dec-22					28-Feb-23	28-Feb-23			2.0%	$ 1,118,941			- Contractor schedule issues
HUR_05_TCC	Huron	Roxboro	02-Aug-21	29-Jul-21	29-Jul-21	30-Jul-21	02-Aug-21	01-Nov-21		08-Jan-22	08-Jan-22					31-Mar-22	31-Mar-22			2.0%	$ 187,305			- Contractor schedule issues
HUR_06_TCC	Huron	Henfryn	30-Jun-21	30-Jun-21	30-Jun-21	30-Jun-21	01-Jul-21	01-Nov-21		28-Jan-22	28-Jan-22					28-Feb-22	28-Feb-22			2.0%	$ 248,123			- Contractor schedule issues
HUR_08_HURON	Huron	S. Blue Water Beach	31-Jul-21	29-Jul-21	29-Jul-21	11-Aug-21	01-Aug-21	29-Sep-22		01-Jun-23	01-Jun-23					30-Jun-23	30-Jun-23			15.0%	$ 1,615,906			- Contractor schedule issues
HUR_11_HURON	Huron	Hutton Heights	31-Jul-21	20-Jul-21	20-Jul-21	22-Jul-21	01-Aug-21	02-May-22		01-Jun-23	01-Jun-23					30-Jun-23	30-Jun-23			15.0%	$ 2,081,525			- Contractor schedule issues
HUR_18_HAY	Huron	Lumley	01-Jun-21	01-Jun-21	01-Jun-21	02-Jun-21	01-Jun-21	07-Jul-21	07-Jul-21	01-Jan-22	10-Feb-22					01-Feb-22	13-Mar-22			25.0%	$ 2,695,733			- Locate delays (minor delay to completion date)
HUR_19_HURON	Huron	South Benmiller	31-Oct-21	31-Oct-21			01-Nov-21	17-Oct-22		01-Jun-23	01-Jun-23					30-Jun-23	30-Jun-23			5.0%	$ 1,093,725			'- Contractor schedule issues
HUR_22_TCC	Huron	Sunshine	31-May-21	01-Jun-21	01-Jun-21	02-Jun-21	01-Jun-21	27-Sep-21		31-Jan-22	31-Jan-22					28-Feb-22	28-Feb-22			2.0%	$ 384,513			- Contractor schedule issues
HUR_23_WIGHT	Huron	Wroxeter	31-Aug-21	15-Oct-21			01-Sep-21	01-Nov-21		28-Feb-22	28-Feb-22					31-Mar-22	31-Mar-22			1.0%	$ 3,686,041			- Contractor schedule issues
LAM_03_BKTEL	Lambton	Petrolia	15-Oct-20	05-Nov-20	05-Nov-20	15-Dec-20	01-Apr-21	15-Apr-21	15-Apr-21	30-Nov-22	30-Nov-22					31-Dec-22	31-Dec-22			34.0%	$ 5,969,277			
LAM_07_COG	Lambton	St.Clair Township	31-Jul-20	15-Jan-21	15-Jan-21	15-Jan-21	01-Jan-21	21-Oct-20	21-Oct-20	30-Nov-21	30-Nov-21					31-Dec-21	31-Dec-21			71.4%	$ 5,002,264			
LAM_07A_COG	Lambton	Not Required	30-Nov-21	30-Nov-21			01-Dec-21	01-Dec-21		31-Jul-22	31-Jul-22					31-Aug-22	31-Aug-22			0.0%	$ 224,173			
LAM_08_EXEC	Lambton	Highland Glen	21-Dec-20	12-Nov-20	12-Nov-20	11-Nov-20	18-Jan-21	16-Nov-20	16-Nov-20	20-Jun-21	01-Nov-21					18-Jul-21	01-Nov-21			90.0%	$ 2,196,379			- 10 premises on private road (permission required)
LAM_09_EXEC	Lambton	Kettle Point	16-Mar-20	02-Sep-20	02-Sep-20	16-Sep-20	13-Apr-20	13-Jul-20	13-Jul-20	03-Dec-20	14-May-21	14-May-21	24-Jun-21	24-Jun-21	28-Jun-21	31-Dec-20	24-Jun-21	24-Jun-21	28-Jun-21	100.0%	$ 2,568,655			
LAM_10_EXEC	Lambton	Bosanquet	10-May-21	25-May-21	25-May-21	11-Aug-21	07-Jun-21	25-May-21	25-May-21	03-Dec-21	03-Dec-21					31-Dec-21	31-Dec-21			65.0%	$ 1,704,535			
LON_02_NFTC	London	London	30-Jun-21	30-Jun-21	30-Jun-21	05-Jul-21	01-Jul-21	04-Oct-21		31-Aug-22	31-Aug-22					30-Nov-22	30-Nov-22			17.0%	$ 2,719,311			- Permit approval delays
MID_03_EXEC	Middlesex	Napperton	28-Feb-22	28-Feb-22			01-Jul-22	01-Jul-22		30-Sep-22	30-Sep-22					31-Dec-22	31-Dec-22			0.0%	$ 922,397			
MID_04_EXEC	Middlesex	Melrose	30-Apr-22	30-Apr-22			01-Sep-22	01-Sep-22		28-Feb-23	28-Feb-23					31-May-23	31-May-23			0.0%	$ 193,405			
MID_08_START	Middlesex	Thorndale	30-Jun-21	08-Jul-21	08-Jul-21	20-Jul-21	01-May-21	17-May-21	17-May-21	15-Mar-22	15-Mar-22					15-Apr-22	15-Apr-22			71.8%	$ 1,723,730			
MID_09_NFTC	Middlesex	Wardsville	31-May-21	07-Jun-21	07-Jun-21	11-Jun-21	01-Jun-21	04-Oct-21		15-Feb-22	15-Feb-22					30-Mar-22	30-Mar-22			16.0%	$ 1,582,941			- Material delivery delays; locates delays
MID_23_QUAD	Middlesex	Ballymote	22-Feb-22	22-Feb-22			04-Aug-22	04-Aug-22		30-Nov-22	30-Nov-22					31-Dec-22	31-Dec-22			0.0%	$ 546,767			
MID_24_EHTEL	Middlesex	Melbourne	15-May-21	15-May-21	14-May-21	14-May-21	15-May-21	05-Jul-21	05-Jul-21	31-Oct-22	30-Sep-22					31-Dec-22	31-Oct-22			9.0%	$ 5,491,690			
MID_34_XPLO	Middlesex	Crampton	22-Nov-21	22-Nov-21	02-Sep-21	10-Sep-21	01-Sep-21	15-Sep-21	15-Sep-21	30-Jul-22	30-Jul-22					15-Sep-22	15-Sep-22			38.5%	$ 2,560,354			
NIA_02_COG	Niagara	Fulton	30-Jun-21	31-Aug-21	31-Aug-21	10-Sep-21	01-Jul-21	30-Nov-21		30-Nov-22	30-Nov-22					31-Dec-22	31-Dec-22			33.7%	$ 3,338,858			- Construction start delayed / no impact to completion.
NIA_09_BELL	Niagara	Niagara-on-the-	31-Jul-21	30-Jul-21	30-Jul-21	09-Aug-21	01-Aug-21	30-Jul-21	30-Jul-21	31-May-22	31-May-22					30-Jun-22	30-Jun-22			42.0%	$ 5,338,272			
NIA_24_NRBN	Niagara	Chantler	02-Jul-21	30-Jun-21	30-Jun-21	07-Jul-21	05-Jul-21	24-Aug-21	24-Aug-21	01-Dec-22	01-Dec-22					30-Dec-22	30-Dec-22			33.0%	$ 5,074,202			
NIA_28_BELL	Niagara	Wainfleet	31-Jul-21	30-Jul-21	30-Jul-21	09-Aug-21	01-Aug-21	12-May-21	12-May-21	31-May-22	31-May-22					30-Jun-22	30-Jun-22			43.0%	$ 7,467,113			
NOR_03_EXEC	Norfolk	Turkey Point	14-Jan-20	22-May-20	22-May-20	26-Jun-20	15-Jan-20	11-Feb-20	11-Feb-20	03-Dec-20	28-Feb-21	28-Feb-21	05-May-21	05-May-21	11-May-21	31-Dec-20	19-May-21	19-May-21	02-Jun-21	100.0%	$ 2,123,731			
NOR_06_EXEC	Norfolk	Long Point	23-Sep-20	01-Nov-21			21-Oct-20	07-Nov-21		31-Jan-21	15-Feb-22					28-Feb-21	22-Mar-22			5.0%	$ 1,952,894			- Environmental permit issues
NOR_12_ROG	Norfolk	Wilsonville	17-Oct-20	16-Oct-20	16-Oct-20	03-Dec-20	30-Jun-20	15-Jul-20	15-Jul-20	05-Jul-21	27-Aug-21	27-Aug-21	08-Sep-21	08-Sep-21	07-Sep-21	18-Aug-21	30-Aug-21	30-Aug-21	20-Sep-21	100.0%	$ 7,669,911			
OXF_01_ROG	Oxford	Drumbo	30-Mar-21	14-Apr-21	14-Apr-21	20-Apr-21	15-Apr-21	23-Aug-21	23-Aug-21	30-Dec-21	31-Jan-22					30-Mar-22	30-Mar-22			43.0%	$ 1,517,260			- Design revision from aerial to buried
OXF_02_QUAD	Oxford	Brooksdale	26-Mar-21	24-Mar-21	24-Mar-21	24-Mar-21	19-Apr-21	19-Apr-21	19-Apr-21	30-Nov-22	30-Nov-22					30-Dec-22	30-Dec-22			32.0%	$ 5,214,563			
OXF_11_EXEC	Oxford	Huntingford	28-May-22	28-May-22			29-May-22	29-May-22		23-Sep-22	23-Sep-22					30-Sep-22	30-Sep-22			0.0%	$ 761,071			
OXF_12_EXEC	Oxford	Kintore	30-Apr-22	30-Apr-22			01-May-22	01-May-22		23-Jun-22	23-Jun-22					30-Jun-22	30-Jun-22			0.0%	$ 406,534			
OXF_13_EXEC	Oxford	Salford	27-Aug-22	27-Aug-22			28-Aug-22	28-Aug-22		24-Dec-22	24-Dec-22					31-Dec-22	31-Dec-22			0.0%	$ 859,221			
OXF_14_EXEC	Oxford	Verschoyle	06-Aug-22	06-Aug-22			07-Aug-22	07-Aug-22		23-Sep-22	23-Sep-22					30-Sep-22	30-Sep-22			0.0%	$ 614,582			
OXF_15_EXEC	Oxford	Delmer	25-Jun-22	25-Jun-22			26-Jun-22	26-Jun-22		23-Sep-22	23-Sep-22					30-Sep-22	30-Sep-22			0.0%	$ 692,260			
PER_01_MORN	Perth	Amulree	31-Jul-21	28-Jul-21	28-Jul-21	29-Jul-21	01-Sep-21	14-Sep-21	14-Sep-21	01-Mar-22	01-Mar-22					31-Mar-22	31-Mar-22			20.0%	$ 1,361,850			- Slow locates
PER_05_TCC	Perth	Willow Grove	01-May-21	26-May-21	26-May-21	01-Jun-21	01-May-21	15-Jun-21	15-Jun-21	31-Dec-21	31-Dec-21					31-Mar-22	31-Mar-22			73.0%	$ 979,024			
PER_06_WIGHT	Perth	The Village Park	31-Jul-21	21-Jul-21	21-Jul-21	29-Jul-21	01-Aug-21	09-Aug-21	09-Aug-21	31-Dec-21	31-Dec-21					31-Mar-22	31-Mar-22			15.0%	$ 273,893			
PER_08_MORN	Perth	Donegal	31-Jul-21	30-Sep-21			01-Apr-22	01-Apr-22		01-Nov-22	01-Nov-22					31-Dec-22	31-Dec-22			8.0%	$ 1,924,026			
PER_32_MORN	Perth	Britton	31-Jul-21	31-Oct-21			01-Apr-22	01-Apr-22		01-Nov-22	01-Nov-22					31-Dec-22	31-Dec-22			8.0%	$ 2,025,041			
SIM_03_VIAN	Simcoe	Athlone	31-Mar-21	16-Apr-21	16-Apr-21	19-Apr-21	01-Apr-21	20-Nov-20	20-Nov-20	31-Jan-22	31-Jan-22					31-Mar-22	31-Mar-22			83.5%	$ 5,829,631			
SIM_09_BELL	Simcoe	Edgar	31-May-21	31-May-21	31-May-21	02-Jun-21	01-Jun-21	01-Jun-21	01-Jun-21	30-Apr-22	30-Apr-22					30-Jun-22	30-Jun-22			36.5%	$ 9,280,259			
SIM_10_BELL	Simcoe	Horseshoe Valley	31-May-21	31-May-21	31-May-21	02-Jun-21	01-Jun-21	01-Jun-21	01-Jun-21	30-Apr-22	30-Apr-22					30-Jun-22	30-Jun-22			39.0%	$ 9,684,250			
SIM_11_BELL	Simcoe	Wahnekewaning	31-May-21	31-May-21	31-May-21	14-Jun-21	01-Jun-21	01-Jun-21	01-Jun-21	30-Apr-22	30-Apr-22					30-Jun-22	30-Jun-22			43.0%	$ 13,091,489			
SIM_17_ROG	Simcoe	New Lowell	30-Jun-21	30-Jun-21	30-Jun-21	20-Jul-21	02-Jul-21	07-Jun-21	07-Jun-21	28-Feb-22	28-Feb-22					30-Mar-22	30-Mar-22			60.0%	$ 1,806,519			
SIM_24_COG	Simcoe	Severn Bridge	30-Jun-21	01-Sep-21	01-Sep-21	14-Sep-21	01-Jul-21	01-Nov-21		30-Nov-22	30-Nov-22					31-Dec-22	31-Dec-22			33.5%	$ 1,468,233			- Construction start delayed / no impact to completion.

SWIFT Project Dashboard
31-Aug-21

Projects	County	Area	Milestone 1 (Design)			M1 Cert.	Construction Start			Milestone 2 (Construction)			Inspection		M2 Cert.	Milestone 3 (In-Service)			M3 Cert.	% Complete	Project Value	Schedule	Issues	Reason for Delay
			Contract	Forecast	Actual	Issued	Contract	Forecast	Actual	Contract	Forecast	Actual	Forecast	Actual	Issued	Contract	Forecast	Actual	Issued					
WAT_04_NFTC	Waterloo	Maryhill	31-Mar-21	09-Apr-21	09-Apr-21	15-Apr-21	01-Apr-21	07-Jun-21	07-Jun-21	15-Mar-22	15-Mar-22					15-Apr-22	15-Apr-22			35.0%	$ 1,931,685			
WAT_05_EHTEL	Waterloo	Weissenburg	31-Mar-21	31-Mar-21	31-Mar-21	12-Apr-21	01-Apr-21	15-Oct-21		31-Dec-21	31-Dec-21					31-Mar-22	31-Mar-22			2.0%	$ 873,588			- Road Construction schedule conflict
WAT_11_ROG	Waterloo	Haysville	29-Oct-21	29-Oct-21			01-Aug-21	01-Aug-21	01-Aug-21	31-May-22	31-May-22					30-Jun-22	30-Jun-22			40.0%	$ 573,874			
WAT_14_BELL	Waterloo	Clyde	31-May-21	28-May-21	28-May-21	31-May-21	01-Jun-21	17-May-21	17-May-21	30-Apr-22	30-Apr-22					30-Jun-22	30-Jun-22			50.0%	$ 1,289,174			
WAT_15_NFTC	Waterloo	Bamberg	31-Mar-21	28-Jun-21	28-Jun-21	30-Jun-21	01-Apr-21	10-May-21	10-May-21	31-Jul-22	31-Jul-22					31-Aug-22	31-Aug-22			32.0%	$ 7,345,141			
WEL_01_COG	Wellington	Eden Mills	31-Jul-20	31-Aug-20	31-Aug-20	10-Dec-20	01-Jan-21	12-Jan-21	12-Jan-21	30-Jul-21	29-Jul-21	29-Jul-21	15-Aug-21	15-Aug-21	16-Aug-21	31-Aug-21	13-Aug-21	13-Aug-21	17-Aug-21	100.0%	$ 976,084			
WEL_03_COG	Wellington	Belwood	31-Jul-20	11-Sep-20	11-Sep-20	28-Jan-21	02-Feb-21	02-Feb-21	02-Feb-21	30-Nov-21	30-Nov-21					31-Dec-21	31-Dec-21			78.4%	$ 7,276,123			- Easement negotiations underway on GRCA land.
WEL_04_EHTEL	Wellington	Ariss	31-Mar-20	31-Mar-20	31-Mar-20	30-Apr-20	14-Apr-20	27-Apr-20	27-Apr-20	07-Sep-21	31-Dec-20	31-Dec-20	19-Jan-21	19-Jan-21	27-Jan-21	30-Sep-21	27-Jan-21	27-Jan-21	27-Jan-21	100.0%	$ 2,667,315			
WEL_08_NFTC	Wellington	Wallenstein	26-Feb-20	24-Mar-20	24-Mar-20	26-May-20	28-May-20	25-May-20	25-May-20	28-Sep-20	19-Apr-21	19-Apr-21	27-Apr-21	27-Apr-21	03-May-21	07-Dec-20	25-May-21	25-May-21	27-May-21	100.0%	$ 2,032,590			
WIN_02_COG	Windsor	Windsor	30-Jun-21	29-Jul-21	29-Jul-21	26-Aug-21	01-May-21	15-Apr-21	15-Apr-21	30-Jun-22	30-Jun-22					31-Jul-22	31-Jul-22			40.6%	$ 936,160			

Good afternoon,

On September 16, 2021, our Council directed staff to follow up with neighbouring municipalities regarding any policies you may have to facilitate internet projects in your municipality/county.

THAT the Municipal Staff be directed to review and align Township Policies regarding internet access with the County of Elgin and neighbouring municipalities policies to facilitate internet projects.

We would appreciate receiving a copy of any policy your municipality/county has regarding facilitating internet projects.

Thank you.

Diana

Diana Wilson
Deputy Clerk
519-773-5344 ext 227

Township of Malahide
87 John Steet South
Aylmer, ON, N5H 2C3
www.malahide.ca

CLOSED MEETING AGENDA

September 28, 2021

Staff Reports:

1) **Director of Homes & Seniors Services** – Municipal Act Section 239 (2) *(b) personal matters about an identifiable individual, including municipal or local board employees; (d) labour relations or employee negotiations* – Labour Relations