An Evaluation of Minister's Zoning Orders and Environmental Land Use Planning: The Case of the Fallis West Lands, Town of Cavan Monaghan, Ontario

By: Vincent Wen

A Master's Report submitted to the School of Urban and Regional Planning in conformity with the requirements for the degree of Master of Urban and Regional Planning

School of Urban and Regional Planning

Department of Geography and Planning

Queen's University

Kingston, Ontario, Canada

May 2023

Supervisor: Dr. Graham Whitelaw

Acknowledgements

I would first like to give a big thank you to my supervisor Dr. Graham Whitelaw, for his continuous support and guidance throughout the entire report process. I am thankful for his efforts on providing valuable insight and his commitment to the report topic. I appreciate his generosity and availability with advice and feedback that have improved my research skills.

I would also like to thank the SURP faculty, staff, and my friends for all their support through this journey. Thank you for making the past two years so memorable.

Finally, thank you to my family for their love and support by encouraging all the hard work, dedication, and responsibility throughout my career.

Executive Summary

Minister's Zoning Orders (MZOs) are a provincial tool that bypasses the formal planning process to expedite priorities of the provincial government. The Fallis West property is a 49.2 hectare site, municipally known as 787 and 825 Fallis Line, in the Cavan Monaghan Township and is within the recharge and discharge area of the Baxter Creek watershed. The site is in proximity to the Oak Ridges Moraine (ORM) that contains ecological and hydrological assets such as significant mature woodlands, pine vegetation, springs, seeps, recharge areas, valley lands, cold headwater streams, open grasslands, and meadows. The property is currently subject to a Plan of Subdivision application with 696 residential units, consisting of 371 single detached dwellings, 125 townhouse dwellings, and 200 residential apartments through 14 proposed internal streets. O. Reg 250/22 is the MZO for the site which includes a range of residential, open space, and commercial zones as well as relief of various minimum setbacks and side yards.

This report investigates the powers of MZOs and is intended to make recommendations for more effective implementation of MZOs in consultation with local municipal governments and communities. The report was guided by the following four research objectives:

1. How does the current provincial planning process identify and protect significant ecological and hydrological features, such as woodlands, habitat, and waterways on the Fallis West lands and surrounding area?

2. What are the development application requirements in the Town of Cavan Monaghan and how do these relate to the natural environment?

3. How has the emergence of MZO processes influenced the current planning processes in Ontario and the Town of Cavan Monaghan?

4. Set out recommendations for best practices future research regarding the delivery of MZOs and local conservation planning.

Qualitative methods including a literature review and thematic analysis of provincial legislation, policies, and plans were used to answer the research questions. The literature review identified common themes related to environmental land use planning, environmentally

sensitive lands, planning theory, and information on MZOs. The thematic analysis model formulated key themes to interpret within the datasets. Based on the analysis, three theme groups and six study themes were formed to develop best practice recommendations related to the use of MZOs. The theme groups included policymaking, technical, and social. The study themes included long-range planning, environmental planning, environmental resources, environmental monitoring, public consultation, and community impacts.

Significant ecological and hydrological features on the Fallis West lands and surrounding area are protected by a range of provincial legislation and plans. This includes policy direction under the *Conservation Authorities Act* and the *Oak Ridges Moraine Conservation Act.* Development in the Town of Cavan Monaghan is regulated by the County of Peterborough and Town of Cavan Monaghan Official Plan, as well as Town of Cavan Monaghan Zoning By-law. Land use designations and zoning are key tools for development control. The emergence of MZOs have impacted Ontario planning processes by limiting the powers of conservation authorities (CAs) and input from other key stakeholders that reduce the necessary time to evaluate development applications.

Four recommendations were provided to set out best practices for the delivery of MZOs in southern Ontario with respect to local conservation planning:

1. Identify alternatives to MZOs;
2. Engage and collaborate with the local community;
3. Establish provincial-municipal partnerships; and
4. Formalize the MZO process.

Moving forward, conducting interviews, assessing additional MZO case studies, and comparing evaluations completed by CAs on MZO properties vs non-MZO properties should be carried out to further identify the impacts of the use of MZOs on environmental land use planning in southern Ontario.

Table of Contents

List of Figures

List of Tables

List of Acronyms

Acronym	Description
AIA	Agricultural Impact Assessment
BCWA	Baxter Creek Watershed Alliance
CA	Conservation Authority
CAMC	Conservation Authorities Moraine Coalition
CBM	Community-Based Monitoring
CIP	Community Improvement Plan
EA	Environmental Assessment
EBR	Environmental Bill of Rights
EIA	Environmental Impact Assessment
EIS	Environmental Impact Study
EMO	Environmental Movement Organization
ESA	Endangered Species Act
GGH	Greater Golden Horseshoe
GBP	Greenbelt Plan
GTA	Greater Toronto Area
MMAH	Ministry of Municipal Affairs and Housing
MNRF	Ministry of Natural Resources and Forestry
MZO	Minister's Zoning Order
MODM	Multi-Objective Decision Making
NGO	Non-Governmental Organization
OLT	Ontario Land Tribunal
OP	Official Plan
ORCA	Otonabee Region Conservation Authority
ORM	Oak Ridges Moraine
ORMCP	Oak Ridges Moraine Conservation Plan
PPS	Provincial Policy Statement
PSW	Provincially Significant Wetlands
SAR	Species at Risk
SPA	Special Policy Area
STORM	Save the Oak Ridges Moraine
TUMC	Trout Unlimited Millbrook Chapter
UPE	Urban Political Ideology
ZBL	Zoning By-law

1. Introduction

1.1 Research Context

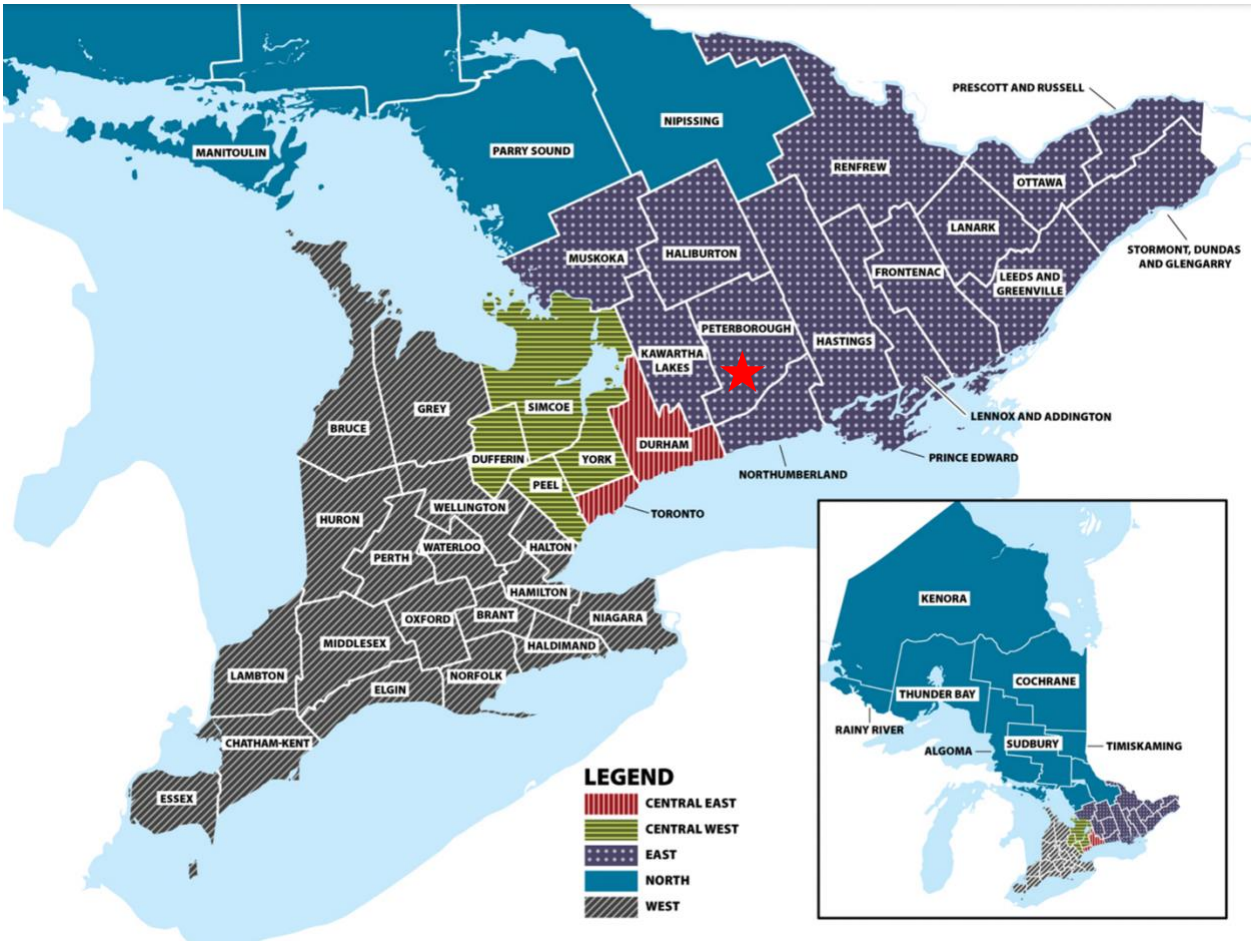
The following report examines the application of Minister's Zoning Orders (MZOs) on environmental land use planning in southern Ontario and specifically, a property in the Township of Cavan Monaghan known as the Fallis West property. Provincially Significant Wetlands (PSWs), cold-water creeks and other environmentally sensitive areas are addressed in the Provincial Policy Statement (PPS) under the natural heritage and water policy sections requiring protection through appropriate official plan (OP) designations and policies, zoning, and development restrictions (Ministry of Municipal Affairs and Housing, 2020b; Pearsell & Mulamoottil, 1994). Natural heritage lands and water resources undergo studies, review, and decision-making in a process that involves proponents, local governments, conservation authorities (CAs), and the public that potentially enables their protection. MZOs are a provincial tool that bypasses the formal planning process to expedite priorities of the Provincial government (CMD Group, 2020). The *Planning Act* authorizes the Minister of Municipal Affairs and Housing (MMAH) to implement MZOs for the management of land use planning in Ontario (Province of Ontario, 2021d). The MZO supersedes other regulations, such as official plans (OPs) and zoning by-laws (ZBLs). The formal planning process can extend development timelines through requirements such as due diligence studies, development review, and public consultation stages. The current Ontario Government considers the MZO process timely for the efficient and effective coordination of resources to address certain development including housing (Atkinson, 2020). MZOs can be requested by municipal councils or are initiated by the Ontario Government. Evidently, the Ontario Government is using MZOs to prioritize certain planning values and goals over others in a process that circumvents formal planning.

The Fallis West property is a 49.2 hectare site, municipally known as 787 and 825 Fallis Line, in the Cavan Monaghan Township and is within the recharge and discharge area of the Baxter Creek watershed (The Biglieri Group Ltd., 2021). The site is in proximity to the Oak Ridges Moraine (ORM) that contains ecological and hydrological assets such as significant mature

woodlands, pine vegetation, springs, seeps, recharge areas, valley lands, cold headwater streams, open grasslands, and meadows (Baxter Creek Watershed Alliance, 2021).

This report is an initial investigation into the powers of MZOs and is intended to make recommendations for additional research and more effective implementation of MZOs in consultation with local municipal governments and communities. The research is examining a new planning issue as the subject has not been addressed with no academic literature published specifically related to the subject of MZOs. The research included both an evaluation of Ontario government policies on land use planning and MZOs, along with a case study of the impacts of the MZO process on development planning for the Fallis West lands. The study explores some of the recent changes in environmental land use planning using MZOs resulting in increased provincial involvement. *Figure 1* is a location map of the Town of Cavan Monaghan in Ontario.

Figure 1. Location map indicating the Town of Cavan Monaghan relative to Ontario. The shades represent the general location of Regions and Counties. The Town of Cavan Monaghan is located in eastern Ontario. (Government of Ontario, 2018).



Rural communities like Millbrook in the Town of Cavan Monaghan close to the Greater Toronto Area (GTA) are experiencing development pressures including urban sprawl, which poses a threat to the quality and quantity of natural heritage. There is concern that the use of MZOs, for example, for the Fallis West lands may result in irreversible environmental damage and fragmentation to watercourses, woodlands, and species at risk. This research explored if this concern may potentially be an outcome for this development based on the use of the MZO process. *Figure 2* is a location map of the Fallis West lands in relation to the Town of Millbrook in the Township of Cavan Monaghan.

Figure 2. Location map of the Fallis West lands relative to the Town of Millbrook in the Township of Cavan Monaghan. The recent developments of Towerhill South and North (currently in the construction phase) are also identified (The Biglieri Group Ltd., 2021).

1.2 Research Objectives and Methods

The goal of this study was to evaluate the current MZO process in Ontario and how the process impacts environmental land use planning. The research was guided by the following research questions:

1. How does the current provincial planning process identify and protect significant ecological and hydrological features, such as woodlands, habitat, and waterways on the Fallis West lands and surrounding area?

2. What are the development application requirements in the Town of Cavan Monaghan and how do these relate to the natural environment?

3. How has the emergence of MZO processes influenced the current planning processes in Ontario and the Town of Cavan Monaghan?

4. Set out recommendations for best practices future research regarding the delivery of MZOs and local conservation planning.

To address the first research objective, an examination of provincial policy was undertaken to identify the scope of environmental policies and requirements administered by the MMAH. The second objective was addressed by focusing on planning policy documents related to the Township of Cavan Monaghan. The third research objective was addressed through examining the Fallis West lands MZO planning process and comments provided by various agencies and the public regarding the proposed Fallis West lands subdivision proposal. The last objective addressed recommendations for future research and to improve the application of MZOs related to environmental land use planning.

The report used a social science research approach including an academic literature review and document analysis (thematic analysis) of land use planning legislation and planning reports. The literature review covered academic papers in the following areas – relevant planning theory, land use planning in southern Ontario, and environmental planning including the role of CAs and MZOs. The document analysis of grey literature involved identifying themes relevant to the research on land use and environmental planning at the provincial level, municipal level (Cavan Monaghan), and site level (Fallis West property).

1.3 Report Structure

The report is structured as follows: Chapter 2 describes the methods used to deliver the research. This includes the literature review framework, case study approach, and thematic analysis. Chapter 3 presents the literature reviewed, including planning theory, as well as

academic literature on environmental and land use planning. Chapter 4 presents the results and discussion organized around the four research questions. Chapter 5 summarizes the findings, discusses limitations, and suggestions for future research.

2. Methodology

The two methods used in this research are qualitative methods. Qualitative research is defined as the analysis of non-numerical data to understand the formulation and assessment of policy (Silverman & Patterson, 2015). The report is based on the case study of the Fallis West lands in the Township of Cavan Monaghan, Ontario, which was explored with respect to the application of the MZO process. The information required to review MZO impacts on the Fallis West lands was obtained through a scan of academic literature on land use and environmental planning and grey literature, mainly government documents and planning comments.

The literature review provided background research for the report (Fink, 2014). Common themes were identified on key topics to inform the research related to environmental land use planning, environmentally sensitive lands, planning theory, and relevance to MZOs. The findings provided essential context to inform the analysis of the grey literature and to validate findings.

The second method used was the thematic analysis model, where key themes were interpreted within the datasets (Braun & Clarke, n.d.). These themes uncovered areas of interest within the research topic and assisted in answering the four research questions.

2.1 Literature Review

A literature review is one of the first steps in carrying out research. In this research, it was intended to identify common themes and provide background knowledge of key topics related to environmental land use planning and MZOs. The findings provided essential context to validate the report topic, and support the identification, examination, and interpretation of planning documents. The purpose of this literature review was to collect qualitative data on planning policies in Ontario, MZOs, and available planning tools which enable effective environmental planning.

The literature review used academic databases available through the Queen's University Library and Google Scholar. The following were the key words used in the academic search engines – Omni, Web of Science, Environment Complete, GreenFILE, and Google Scholar:

1. "Land use planning AND environmental"
2. "Coldwater Creek AND urbanization"
3. "Watershed planning AND land use"

4. “Environmental assessment AND planning”
5. “Oak Ridges Moraine AND land use”
6. “Greater Golden Horseshoe AND urbanization”
7. “Greenbelt AND urbanization”
8. “Place to Grow AND Ontario”
9. “Environmental planning AND public OR engagement”
10. “Conservation Authorities AND Ontario”

A total of 27 academic articles were reviewed. The literature was examined through four key categories: land use planning theory, environmental planning with a focus on southern Ontario and the Oak Ridges Moraine, watershed planning and conservation authorities in Ontario, as well as MZOs. Three planning theories were explored through the literature review: rational-comprehensive, communicative, and advocacy. These theories provided a means of evaluating the findings in terms of what planning process was in place (rational, advocative, and/or collaborative, or some combination), and how the MZO process has impacted these planning processes. Refer to **Appendix A** for a complete list of literature reviewed including theme category, article title, description, and author.

2.2 Case Study: Fallis West Lands

A case study approach on the Fallis West lands informed this study of MZOs on environmental land use planning. The case study approach is applicable to this research as it examines the contextual aspects of environmental planning (Hoon, 2013). Through the case study, applicable grey literature such as legislation, policies, and plans were analyzed. This approach was appropriate as it facilitated the examination of the MZO process at the local policy level.

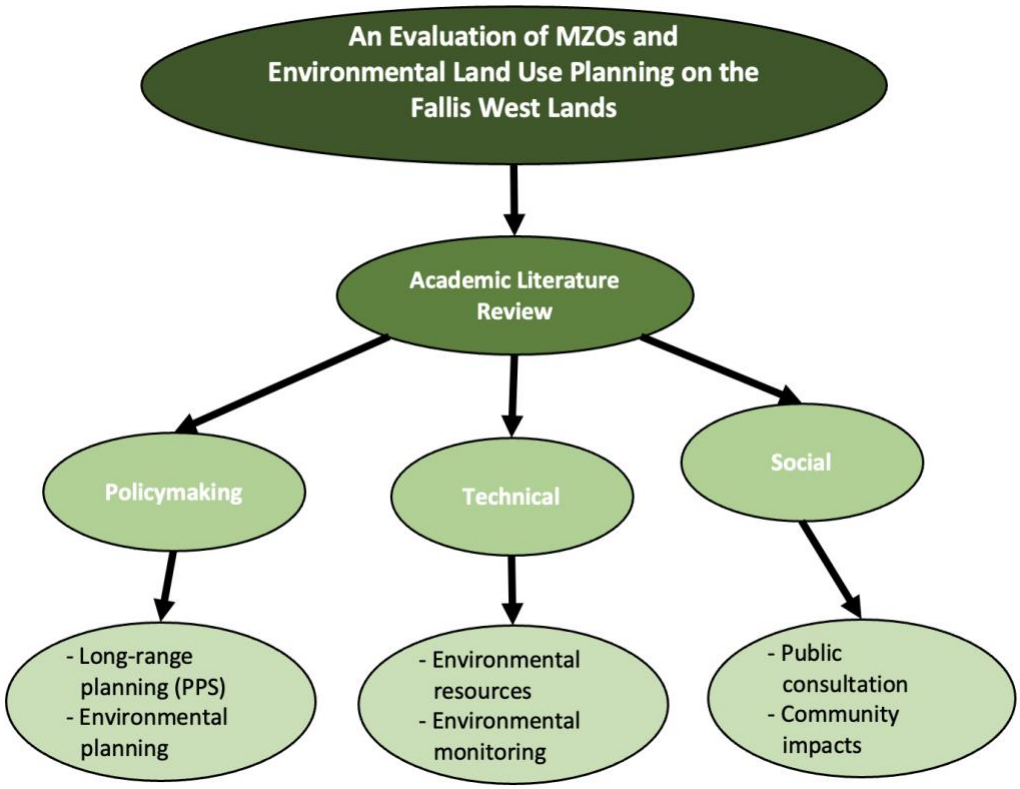
2.3 Thematic Analysis

The second method used was thematic analysis. Thematic analysis is a method of qualitative research used to examine patterns and interpretations through datasets (Braun & Clarke, n.d.). The intent of thematic analysis is to formulate patterns through identifying key themes in datasets with the goal of addressing research questions (Morgan, 2022). *Figure 3* illustrates the key phases of using thematic analysis.

Figure 3. Phases of thematic analysis for qualitative data research (Braun & Clarke, 2006).

These six key phases provide guidance on the development of themes within the qualitative data. The first phase involves interpreting the data and identifying preliminary topics. The second phase filters data into components that are relevant to the topic and generates initial codes for analysis uncovering common areas of interest in the research topic based on the guiding research questions. The third phase involves generating themes based on codes that will connect the data into key themes. The key themes were then explored using a thematic map in the fourth phase (*Figure 4*). The thematic map identifies key themes based on findings from the academic literature review. The key themes were further categorized into study themes that will helped address the research questions.

Figure 4. Thematic map beginning from academic literature review through identifying study themes.



The fifth phase refines the themes and generates definitions within the themes. Lastly, an analysis of the results is completed to answer the research questions and presented in a report (Chapter 4). *Table 1* represents the application of the thematic analysis approach to the research topic of Minister's Zoning Orders (MZOs) and specifically the Fallis West lands case.

Table 1. Thematic analysis application for the research on the application of MZOs to the Fallis West lands. The six phases of thematic analysis are examined into themes in preparation for the literature review.

Phase	Themes
1. Familiarizing yourself with your data	• Planning theory models (Rational-comprehensive, communicative, advocacy) • Document evaluation: academic and grey literature

2. Generating initial codes	• Academic literature on:
	  • Environmental land use planning with a focus on southern Ontario and the Oak Ridges Moraine
	  • Watershed planning and conservation authorities in southern Ontario
	  • Minister's Zoning Orders

3. Searching for themes	• Policymaking • Technical • Social

4. Reviewing themes	• Refer to *Figure 4*.
5. Defining and naming themes	• Long-range planning (PPS) • Environmental planning • Environmental resources • Environmental monitoring • Public consultation • Community impacts
6. Producing the report	• This report: An Evaluation of Minister's Zoning Orders and Environmental Land Use Planning: The Case of the Fallis West Lands, Town of Cavan Monaghan, Ontario

Refer to **Appendix B** for a complete list of grey literature examined including, legislation, industry papers, plans, and government documents. These documents provide the foundation and understanding of planning regulations applicable to the study and site context.

3. Literature Review

The intent of the literature review was to identify key themes in evaluating MZOs and environmental land use planning. The literature review consisted of a planning theory overview, as well as a select review of academic literature on environmental planning, and the use of MZOs in southern Ontario. The review of the literature led to:

- The formulation of background information on planning theory and its relevance to land use planning processes;
- Comprehension of select past research on environmental land use planning with a focus on southern Ontario and the Oak Ridges Moraine (ORM);
- Understanding the role of CAs in southern Ontario land use planning;
- The emerging use of MZOs in southern Ontario to circumvent formal planning processes; and
- Identification of essential features for successful environmental land use planning. These features will help guide best practices and recommendations towards the improved delivery of MZOs and local community planning.

3.1 Planning Theory

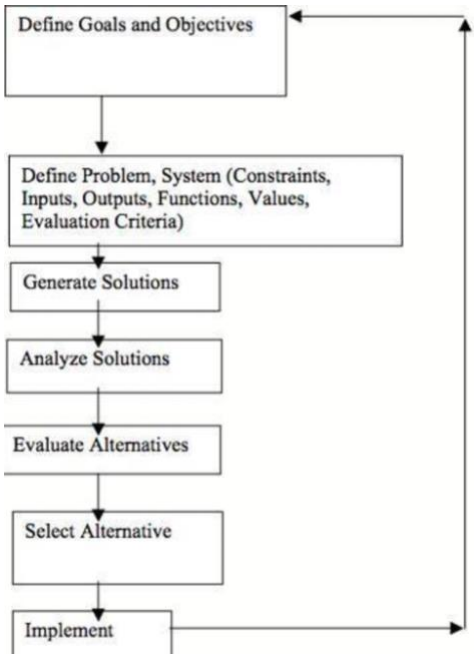
Several articles were examined on planning theory models to assess how they shape environmental land use planning. The planning theory models explored include the rational-comprehensive, communicative, and advocacy planning. Planning theory is important in identifying processes in the case study and the impacts that MZOs may have had on the local planning processes.

3.1.1 Rational-Comprehensive Planning Theory

The rational-comprehensive planning model is the planning method where rational actions and steps are undertaken. It is centered around decision-making principles based on logic and scientific evidence (Fainstein, 2014). Planners learn from experiences for appropriate methods and procedures as problem-solving strategies. Faludi (1973) describes rational-comprehensive planning as the application of scientific methods to policy making. Planners are known as the expert that provide technical advice based on evidence (Faludi, 1973). The primary steps consist of goal setting, evaluating interventions, identifying alternatives, and

implementation. *Figure 5* represents the stages of the rational-comprehensive planning model where goals and objectives are set and processed for implementation (Faludi, 1973).

Figure 5. Rational-comprehensive planning model flow chart illustrating a cycle for implementation (Faludi, 1973).



This diagram illustrates key phases in the rational-comprehensive planning model that are applied in solving community problems related to land use. Rational decision-making aims to be logical and flow from problem identification to solution. Altshuler (1965) critiqued the rational-comprehensive planning model as the baseline for planning legitimacy. Planning for the public interest cannot fit into a singular perspective and thus planners need to reflect multiple public perspectives (Altshuler, 1965). The rational model struggled to identify the public interest and lacks democratic participation. Nevertheless, the rational-comprehensive model continues to be influential and controversial as it relies on technical expertise and thus raises concerns regarding representation through public participation (Innes & Booher, 2004). The role of MZOs in "rational planning" is of interest in this research in terms of both the use of technical information and their impact on governmental and stakeholder involvement.

3.1.2 Communicative Planning Theory

The communicative planning theory model can be applied as a critique of rational-comprehensive planning. Innes (1995) states that "the communicative action theorists find out

what planning is by finding out what planners do, rather than postulating what planning ought to be" (p.184). Planning is highlighted by communication and that shared power is promoted in a "civil society" process, where stakeholder interests are collective. The communicative planning theory model made public participation integral to the planning process. In addition, it provides guidance on safeguarding the public interest and long-range community planning (Klosterman, 1978). This includes formulation of goals and objectives, examining alternatives, prediction of consequences, comparison of consequences, selection of alternatives, implementation and monitoring and evaluation of results with integrating public participation.

To address the criticism of the rational-comprehensive model, collaborative debate and decision-making was introduced to shape planning decisions (Forester, 1982). Communicative planning theory developed a new epistemology and redefined the role of planning by consensus building (Lane, 2005). Communicative planning shifted the depiction of planners from experts for the public interest towards experts in expediting the public interest by consensus decision-making. Therefore, communicative planning theory focused on planning decisions through public decision-making over the legitimacy of planners as experts. This process re-evaluates the role of rationality and expertise. Huxley and Yiftachel (2000) argue that the "communicative turn" has fostered community empowerment and recognition of difference, diversity, and disadvantage. The importance of communicative planning is to enable its ability to contribute debate, discussion, and deliberation on future outcomes (Huxley & Yiftachel, 2000). The impact of MZOs on collaborative land use planning processes in southern Ontario is explored through the case study of the Fallis West property.

3.1.3 Advocacy Planning Theory

The advocacy planning model highlights the involvement of citizen participation in decision-making processes. It strives to enhance the quality of life for all citizens. Stakeholder engagement is essential for collaborative decisions and involves negotiation, knowledge integration, and building trust (Huxley & Yiftachel, 2000). This model integrates discussion and deliberation into planning processes. Davidoff (1965) discusses the importance of democracy in planning and public policy. He indicates that advocacy planning is a tool for "the justice of the present social allocation of wealth, knowledge, skill, and other social goods" (p.331). In addition,

he states that “the right course of action is always a matter of choice, never of fact” (p.332). Thus, advocacy planning aims to critically define choices through value-driven processes.

The planner assumes the role of advocate for the mission of planning to bridge the gap between citizens and the government. This relationship provides a connection for communicating comprehensive plans. Advocacy planning comes from the perspective that the planning process is developed based on the operations of the planning institution and background knowledge of the planner for what they advocate (Krumholz, 1982). This assumes that planning is focused around the basic unit of people as the objective for outcomes. Davidoff (1965) argues that planners are responsible for reaching objectives with citizen engagement as an active component.

Furthermore, citizen participation is an important component of advocacy planning. Arnstein (1969) describes citizen participation as “a categorical term for citizen power. It is the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future” (p.216). Arnstein argues that the type of participation available is important. This includes where voice, vote, and decision-making powers are allocated (Arnstein, 1969).

Krumholz (1982) indicates that the profession of a planner is to achieve a more just and accessible city for citizens. The planner is a key contributor to improving the welfare of the city for its citizens (Krumholz, 1982). This perspective advocates for fair and inclusive cities where political relations should be balanced and where the role of the planner sits. The advocacy planning theory model demonstrates planning as a process to develop solutions to problems that pertain to the welfare of citizens. The model incorporates local knowledge as a method of inclusion. Citizens are an active actor to validate actions and reinforce them through participation. The impact of MZOs on advocacy planning was explored in terms of citizens and group involvement in the Fallis West property development.

Table 2 summarizes the characteristics of each planning theory model discussed: rational-comprehensive, communicative, and advocacy planning. The intent of this table is to compare the role of the planner, role of citizens, outcome delivery, and ideology within each theory model. Rational-comprehensive planning distributes powers to planners to emphasize them as experts.

Communicative planning facilitates the relationship between planners and citizens for the public interest. Advocacy planning aims to represents groups of all kinds for participation.

Table 2. Summary comparison of rational-comprehensive, communicative, and advocacy planning theory models by role of planner, role of citizens, outcome delivery, and ideology (Faludi, 1973; Innes, 1995; Davidoff, 1965).

Theory Model	Role of Planner	Role of Citizens	Outcome Delivery	Ideology
Rational-Comprehensive	Planners as experts	Passive participation	Educate and satisfy citizens	Expert-driven
Communicative	Facilitate formal and informal input in decision-making	Active participation	Balance formal and informal knowledge in decision-making	Distribution of power
Advocacy	Promote justifiable participation	More direct participation	Ensure participation is equitable	Distribution by clusters

3.2 Environmental Land Use Planning with a Focus on Southern Ontario and the Oak Ridges Moraine

Environmental land use planning can be defined as the process of carrying out land development with consideration to the natural environment, social, political, economic, and governance factors that aim to achieve sustainable outcomes (Beatley, 1995). A key component of environmental land use planning is the conservation and protection of undeveloped land with environmental resources. Natural heritage systems planning as defined by Wise et al. (2014) is about "maintaining, restoring and enhancing ecologically sustainable and resilient landscapes" (p.1). This approach seeks to address biodiversity loss, land use change and climate change uncertainties for present and future generations. The 2020 Provincial Policy Statement (PPS) (Ministry of Municipal Affairs and Housing, 2020b) includes in their definition of a natural heritage system "…natural heritage features and areas that support hydrologic functions, and working landscapes that enable ecological functions to continue" (p.47). The definition of environmental land use planning and planning for natural heritage are important for understanding the objectives in place for conserving and protecting natural features in Ontario.

The select environmental planning literature covered for this review included a variety of themes and topics, many of which involved case studies of the Greenbelt, ORM, and Niagara

Escarpment. The paper *Rethinking urban political ecology from the outside in: greenbelts and boundaries in the post-suburban city* (Keil & Macdonald, 2016) examines greenbelts and urban expansion through the lens of urban political ecology (UPE). The study focuses on the Greater Golden Horseshoe (GGH) greenbelt and *Greenbelt Act* and how these governance processes regulate urban expansion in southern Ontario. UPE explores the "socio-nature" relationship within urban environments (Keil & Macdonald, 2016). The GGH greenbelt faces pressures from suburbanizing regions. The study describes greenbelts as a distinct boundary between the city and countryside, however, it has become a spatial threshold where facilitation and negotiation occur for suburban boundaries. The greenbelt is an instrument that is challenged by the multi-faceted negotiation between varied interests from conservation through development (Keil & Macdonald, 2016).

The report *Sustainability and suburban housing in the Toronto region: the case of the Oak Ridges Moraine Conservation Plan* (Webber & Hanna, 2014) highlights the relationship between housing and sustainable development in Toronto's suburbs. The study found that the incorporation of sustainability in land use planning practice requires a clear definition and framework (Webber & Hanna, 2014). The Oak Ridges Moraine Conservation Plan (ORMCP) resulted in limited developable land supply and emphasized the inclusion of sustainability in future growth outcomes. The article argues for preserving place values for their environmental qualities. Planners are knowledge providers and facilitators that integrate sustainability into land use decisions. The ORMCP is important for practicing conservation-based planning in urban and suburban scenarios. An integrated regional approach is important for incorporating sustainable development objectives in planning for housing supply. These two studies highlight the extensive thought that has gone into environmental land use planning in southern Ontario, and the various interests and conflicts at play.

The paper *Roles of environmental movement organisations in land-use planning: case studies of the Niagara Escarpment and Oak Ridges Moraine, Ontario, Canada* (Whitelaw et al., 2008) examined the role of environmental movement organizations (EMOs) in land use planning which includes domain creation and regime change. Both the Niagara Escarpment and ORM were used as case studies to reveal EMO involvement in environmental land use planning in southern

Ontario. In the case of the Niagara Escarpment and ORM, domain creation identified new or modified landscape planning boundaries. Regime change implements or modifies legal and planning regulations, and this was achieved in both the Niagara Escarpment and ORM cases (Whitelaw et al., 2008).

The creation of the Bruce trail within the Niagara Escarpment was instrumental to creating the domain. The appreciation of beauty, biological value, and sensitivity was recognized by the public. This widespread attention led to government studies. For example, the "Niagara Escarpment Conservation and Recreation Report" (also known as the Gertler Report) prepared by the Niagara Escarpment Group (1968) and ultimately government processes through the passage of the *Niagara Escarpment Planning and Development Act* (Whitelaw et al., 2008). The development of the ORM planning domains emerged from EMO coalitions concerned about subdivision development in the Ganraska watershed. Save the Oak Ridges Moraine (STORM) established the need for studies to examine the natural heritage system to determine what was worth protecting. The evident legitimacy of the STORM coalition aided in the provisions of the *Oak Ridges Moraine Conservation Act* and Plan. The study revealed that EMOs in land use planning systems can build planning domains using agenda setting techniques, identify value and vision, inform the public and agencies, and aim to maintain and modify objectives. In addition, collaborative processes through agenda setting and monitoring can enhance the effectiveness of EMOs. Through collaboration and advocacy planning, environmental concerns were legitimized by EMOs (Whitelaw et al., 2008). The paper is informative demonstrating the value placed on southern Ontario landscapes such as the Niagara Escarpment and ORM by citizens and environmental groups.

The paper *Planning for Long, Wide Conservation Corridors on Private Lands in the Oak Ridges Moraine, Ontario, Canada* (Whitelaw & Eagles, 2007) explored the role of conservation biology in natural heritage systems planning. This includes the study of conservation corridors with linkages to the ORM. Core areas and conservation corridors are contributors to the natural heritage system and contain rich biodiversity and ecological function. Provisions like conducting an environmental impact study (EIS) and conservation plans are vital to gaining environmental protection. The translation of conservation biology into planning practice enabled the domain

for environmental movements. Additionally, maps of natural heritage systems within the ORM shaped decisions and recommendations around it at local and provincial hearings. The result of designating long, wide conservation corridors on private lands has set precedent for environmental land use processes. This study concluded with four lessons (Whitelaw & Eagles, 2007):

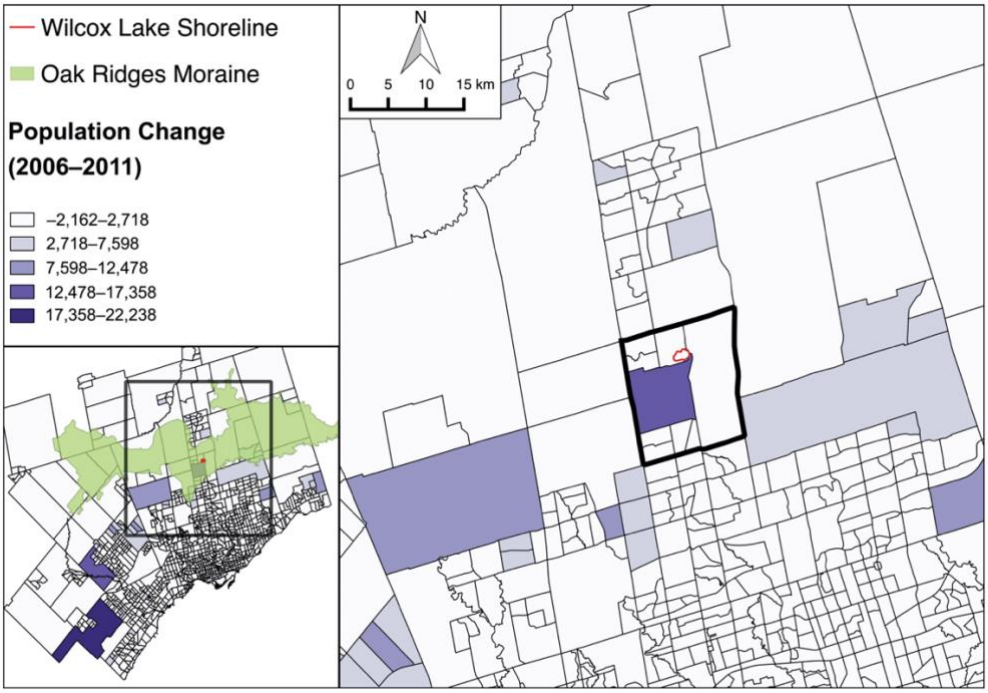
1. Domain creation played an important role in delineating the ORM as a significant landscape to agencies and the public;
2. Modifications to regimes are most successful when they build on precedent cases;
3. Collaborative efforts between governments, environmental movements, and the private sector can result in agreements on significant environmental protection; and
4. A mixture of collaboration and advocacy resulted in effective outcomes.

This paper is informative for the Fallis West case in terms of the importance of natural heritage and how citizens and groups are attempting to influence the process.

The paper *Incremental planning and land-use conflict in the Toronto region's Oak Ridges Moraine* (Hanna & Webber, 2010) discussed the use of incremental policies in mediating land use conservation legislation for development on the ORM. The ORM abuts a northern section of the GTA where development pressures have triggered rapid growth and sprawl. Weak regional conservation and planning efforts struggled to address growth management issues (Hanna & Webber, 2010). The development of the ORMCP significantly impacted green space preservation policies, including responsibilities for municipal governments. It shaped regional and local planning interests, while conforming with provincial interests. Conservation planning was advanced through media, incremental planning, the formulation of a conservation movement, and the emergence of key leadership traits. These drivers of change continue to persist and are influential across the ORM and in the Fallis West property case.

The paper *the Effects and Implications of Urbanization on the Environmental Integrity of the Oak Ridges Moraine in Ontario, Canada* (Baker et al., 2017) examined the effects of population growth and urbanization specifically in the Oak Ridges Community in Richmond Hill. The study analyzes population change through census tracts and ORM mapping (*Figure 6)*.

Figure 6. Population change by census tract from the 2011 Canadian Census in the Greater Toronto Area including an overlay of the Oak Ridges Moraine (Baker et al., 2017).



The article identifies the ecological and hydrological importance of the ORM through aquifers and rich levels of biodiversity. Development pressures have led to advocacy for responsible residential growth by understanding the significance of the ORM and ecologically sensitive areas. The study also evaluates the political context, such as the Oak Ridges Moraine Conservation Plan (ORMCP) and the identification of suitable land use designations within the region (Baker et al., 2017). The Oak Ridges Moraine Land Trust, for example, advocates the importance of water recharge and discharge in watersheds that provide drinking water. Further, the ORMCP enables Moraine-area municipalities to establish regulations and provide clarity on the management of the ORM (Baker et al., 2017). The article highlights the ongoing tension between urbanization and ecological integrity, a tension once again emerging and creating conflict.

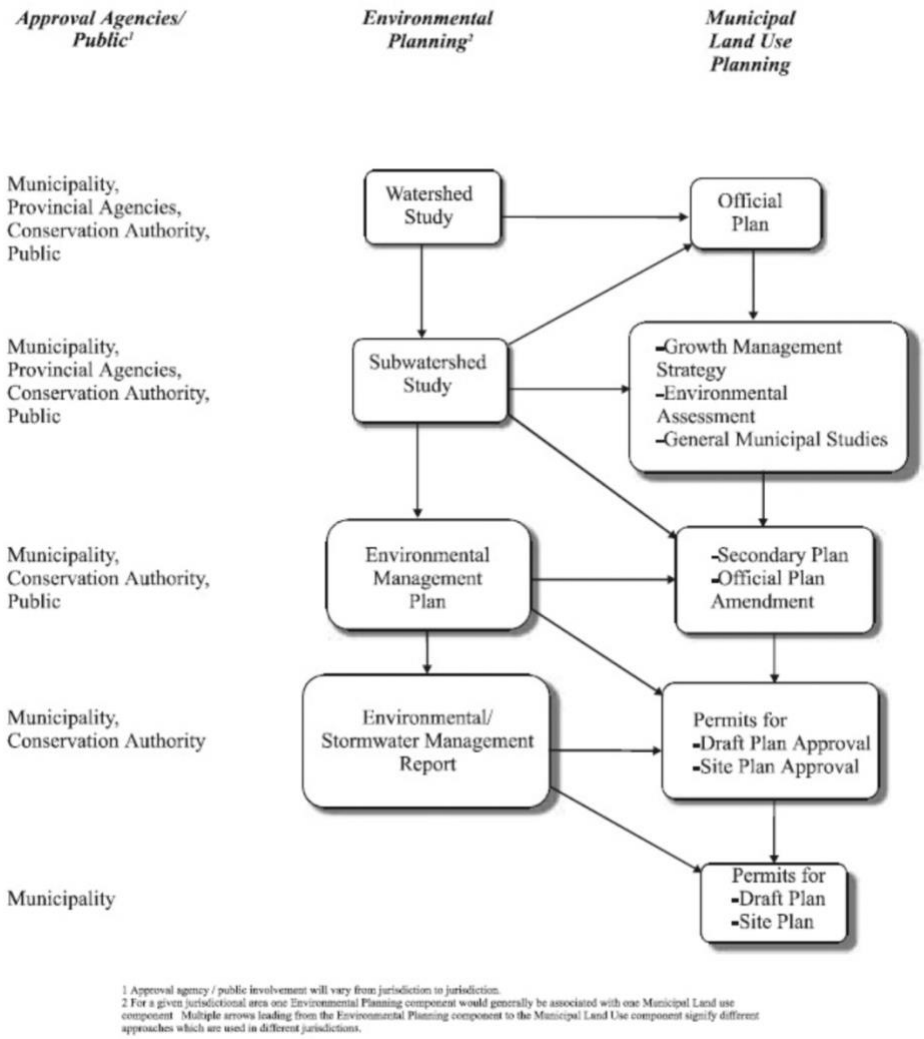
The intent of this section was to set out the role of environmental planning and to explore some of the tensions that are relevant to the Fallis West property.

3.3 Watershed Planning and Conservation Authorities in Southern Ontario

Watershed planning is known as the study of watershed characteristics and developing and implementing plans, programs, and policies towards enhancing the functions within a

watershed boundary (Lubell et al., 2002). Watershed characteristics can include the quantity and quality of water, runoff, and drainage. Watershed planning in Ontario has been embedded in the municipal land use planning process (Ministry of the Environment Conservation and Parks, 2019). *Figure 7* represents a diagram illustrating the involvement of watershed planning in both environmental and municipal land use planning. Successful watershed and subwatershed planning involves clearly defined goals and objectives, as well as a monitoring plan to evaluate them (Ministry of the Environment Conservation and Parks, 2019).

Figure 7. Relationship between environmental planning and municipal land use planning with consideration to watershed planning (Ministry of the Environment Conservation and Parks, 2019).



Successful watershed planning involves review processes with agencies, consultants, and the public at various planning stages. A variety of stakeholders are involved in the early stages,

where broad issues are discussed. Once a consensus has been reached, specific agencies are selected for reviewing studies and plans (Ministry of the Environment Conservation and Parks, 2019). Watershed planning is essential for addressing environmental issues resulting from land use practices, e.g. agriculture, urban development, aggregate resource extraction where watershed resources may be impacted. Watershed management plans identify the relationship between land use change, planning, and impacts on water quality, and the steps for mitigation and improvement (Hanson et al., 2022). Critical to the process, watershed planning identifies the characteristics within a defined watershed area and evaluates development through the land use planning process with the purpose of protecting environmental resources.

The paper *A conceptual framework of agricultural land use planning with BMP for integrated watershed management* (Qi & Altinakar, 2011) examines an environmental land use planning methodology to optimize land allocations. The article describes the watershed management issues related to agriculture and water, and the ecological integrity of watersheds. A Multi-Objective Decision Making (MODM) framework using a problem-solving environment was developed for multiple watershed management decision-making scenarios (Qi & Altinakar, 2011). The model consists of:

1. Developing an integrated simulation modeling system to assist MODM;
2. Developing an MODM environment to construct objective functions and constraints by different levels of stakeholders; and
3. Applying an effective heuristic optimization method for problem solving and performance evaluation.

Through quantitative metrics in modelling, objectives and constraints can be formulated to guide integrated watershed management. The case study of Goodwin Creek watershed in northern Mississippi illustrates the optimal land use scenario through a decision-making process that is participatory. Social and economic constraints are optimized through the MODM framework. The paper illustrates the role of watershed planning in relation to agriculture, one of the main uses within watershed both in the United States and Canada.

The paper *Effects of urbanization and land use on fish communities in Valley Creek watershed, Chester County, Pennsylvania* (Steffy & Kilham, 2006) studied the impacts on fish

communities from urbanization in the Valley Creek watershed in Chester County, Pennsylvania. The coldwater creek is known for their Brown Trout habitat and is losing its "exceptional value" through runoff by urbanization and land use changes (Steffy & Kilham, 2006). The system is impacted through increased water temperatures and degrading water quality, in which displacement species like the Creek Chub and White Suckers become predominant (Steffy & Kilham, 2006). The result of poor habitat for the Brown Trout population demonstrates the problems of runoff and increased stream temperatures from urbanization. This study concludes that the Valley Creek watershed has suffered in its state of health due to urbanization conditions and suggests that a watershed-scale approach be completed when working in urban stream environments. This includes using multiple sampling stations throughout the watershed. This study is informative as trout including Brown Trout are currently under threat from urban development across the ORM.

Ontario Conservation Authorities Act

In 1946, the *Conservation Authorities Act* was passed through provincial legislation that formed conservation authorities (CAs) in Ontario (Shrubsole, 1996). CAs represent a comprehensive approach on municipal-provincial partnerships with a watershed basis. CAs were intended to provide a catchment or watershed approach through services and programs to mitigate flood and erosion risks in land management (Mitchell et al., 2021). Public participation and stakeholder involvement are emphasized by CAs through ecosystem-based planning approaches. In addition, subwatershed planning has influenced development through the *Planning Act* by:

1. Informing by best available data and analysis;
2. Considering surface and subsurface water;
3. Guiding by extensive public participation;
4. Addressing both ecological and human requirements; and
5. Targeting focus on watersheds which:
    i. Require increased levels of management; and
    ii. Offers an appropriate geographic scale (Shrubsole, 1996).

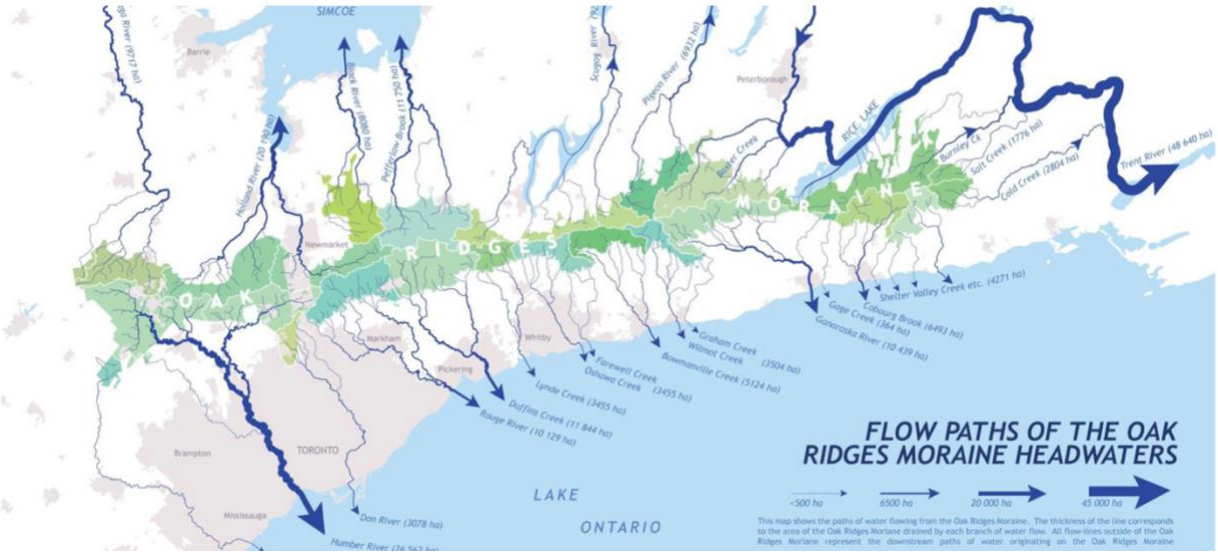
CAs have evolved since 1946 through partnerships between the OMNRF, MMAH, municipalities, and others including information sharing and consensus decision-making (Shrubsole, 1996). As of 2021, 36 CAs are in existence in Ontario (Mitchell et al., 2021). *Figure 8* is a map of CAs across Ontario.

Figure 8. A map illustrating conservation authorities in Ontario (Mitchell et al., 2021).

The Oak Ridges Moraine (ORM) is a significant hydrogeologic feature in southern Ontario (Greenwood & Buttle, 2018). The ORM contains nine CAs including Nottawasaga Valley, Credit Valley, Toronto and Region, Lake Simcoe Region, Central Lake Ontario, Kawartha, Ganaraska Region, Otonabee, and Lower Trent (Greenbelt Foundation, 2020). *Figure 9* is a map illustrating the span of the ORM, including headwater locations. CAs across the ORM aim to manage water resources on a watershed basis (Murphy-Mills et al., 2019). For example, community-based

monitoring (CBM) is an educational initiative including water quality, monitoring, ecosystem assessment, restoration, and policy monitoring. The results demonstrate the need for monitoring efforts by CAs across the ORM for community members, non-governmental organizations (NGOs), and government agencies (Murphy-Mills et al., 2019).

Figure 9. Map of Oak Ridges Moraine headwaters (Greenbelt Foundation, 2020).



The Otonabee Region Conservation Authority (ORCA) is responsible for the counties of Peterborough, Northcumberland, as well as the cities of Peterborough and Kawartha Lakes (Otonabee Region Conservation Authority, 2012).

CAs have proven to be successful in developing partnerships to address environmental issues. The precautionary principle has been endorsed by CAs in efforts to deliver stronger and more informed resource management in Ontario. However, recent changes to CAs in Ontario have led to four potential impacts on resource governance and land use planning (Mitchell et al., 2021). The first changes to the *Conservation Authorities Act,* where CA powers have been significantly limited with objectives related to housing developments. The next change involves a "standardized" approach being prompted by the provincial government towards CAs emphasizing economic priorities over environmental and social aspects (Mitchell et al., 2021). The third change highlights requirements to engage with Indigenous peoples to obtain views on a range of issues, opportunities, and challenges. The last change involves the redefinition of CA roles including a more constrained and limited role. Evidently, the role of CAs in Ontario

associated with land use planning and application of watershed-based approach is threatened by on-going changes in legislation with priorities towards rapid development (Mitchell et al., 2021).

3.4 Minister's Zoning Orders (MZOs)

A search through the Queen's University Library shows that there are limited peer-reviewed journal articles on MZOs. One paper *Assessing policy robustness under the COVID-19 crisis: an empirical study of the environmental policymaking system in Ontario, Canada* (Mirnasl et al., 2022) examined the environmental policymaking system during the COVID-19 pandemic. The number of development proposals and number of MZOs indicate a statistically significant increase in MZOs that demonstrate the failure of functional reliability in policymaking systems (Mirnasl et al., 2022). Additionally, the number of public comments on environmental notices dropped dramatically during the pandemic. Public comments are a critical component to the provincial environmental policymaking system as part of public participation domains. The results indicate that provincial mandates for the protection of natural resources in Ontario are not being met and that the policymaking system fails to be robust.

The paper *Ontario conservation authorities – end, evolve, interlude or epiphany?* (Mitchell et al., 2021) discussed impacts on Ontario CAs from changes in legislation by the provincial government. This includes reducing the power of CAs by allowing the Ministry of Natural Resources and Forestry (MNRF) and MMAH to issue MZOs that override decision-making authority (Mitchell et al., 2021). Developers can appeal decisions made by CAs directly to the Minister, who can overturn the decision. Additionally, CAs lose their ability to appeal municipal planning decisions outside of natural hazard risks (Mitchell et al., 2021). CAs across Ontario are being impacted by new legislation introduced by the provincial government, specifically in their involvement in evaluating environmental impacts on development projects. This results in reduced local municipal involvement in the decision-making process, including public consultation. Bill 229, *Protect, Support and Recover from COVID-19 Act, 2020* has amended the *Conservation Authorities Act* where watershed planning and ecosystem-based approaches would be sidelined while entrenching and legitimizing MZOs under the *Planning Act* (Mitchell et al., 2021). This amendment will limit the evidence-based evaluation and permitting processes that CAs have undertaken for decades.

The paper *The City of Ottawa's Smart Growth Challenge: What Can We Expect from the New Official Plan?* (Kipper, 2021) examined growth management and urban sprawl issues in consideration of the City of Ottawa's new Official Plan. MZOs were discussed for impacts to the Local Planning Appeal Tribunal (LPAT) decision-making process (Kipper, 2021). LPAT decisions challenged urban sustainability objectives as no requirements are in place to consider factors on sustainability. Concerns were raised about the significant increase in MZOs issued with some being requested by the municipalities themselves (Kipper, 2021). The MZOs reduce the essential time for consultation and can neglect important planning considerations. An example by the Ontario Federation of Agriculture (2020) argued that Agricultural Impact Assessments (AIAs) were not evaluated in MZO decision-making (Kipper, 2021). This paper emphasizes the threats MZOs have on smart growth principles in terms of adequate time and requirements for decision-making.

Several news articles on MZOs have been published. The first being published by CMD Group (2020) that discussed the impacts of Bill 197, the *COVID-19 Economic Recovery Act*, that enhances MZO authority. This covered powers outside the Greenbelt, addressed site plan matters, impacts on public consultation, inclusionary zoning and the community benefits charges update that requires development charges on long-term care, parks and recreation, library, and public health facilities (CMD Group, 2020). This article illustrates the extensive scope of MZOs and their objectives.

McNair (2020) published an article with two MZO cases in Simcoe County. The first being the McLean Farm subdivision, where a suburban sprawl subdivision would have been developed on Barrie's eastern border. The MZO was endorsed by the Township and County, however the City of Barrie was not consulted and opposed the project. The City raised concerns for the lack of an environmental study report that is needed for the site design and treatment capacity of wastewater and drinking water. This results in premature design and limits the proposed and future development population (City of Barrie, 2020). 133 acres of prime agricultural land would have been lost as a result of the MZO (McNair, 2020). The second case is for a proposed waste processing facility within a County forest in the Township of Springwater. There were concerns raised during the appeal process regarding the environmental studies. A local environmental

group, the Friends of Simcoe Forest, believed the forest is home to endangered species. They believe that the County has not adequately demonstrated that there would be no impact to the "significant woodland" and four types of significant wildlife habitat existing on the property (Javed, 2020). The concern was raised to Minister Steve Clark and resulted in the appeal continuing and working more with local communities in the future (McNair, 2020). These case studies demonstrate the potential negative environmental impacts MZOs have at the local level.

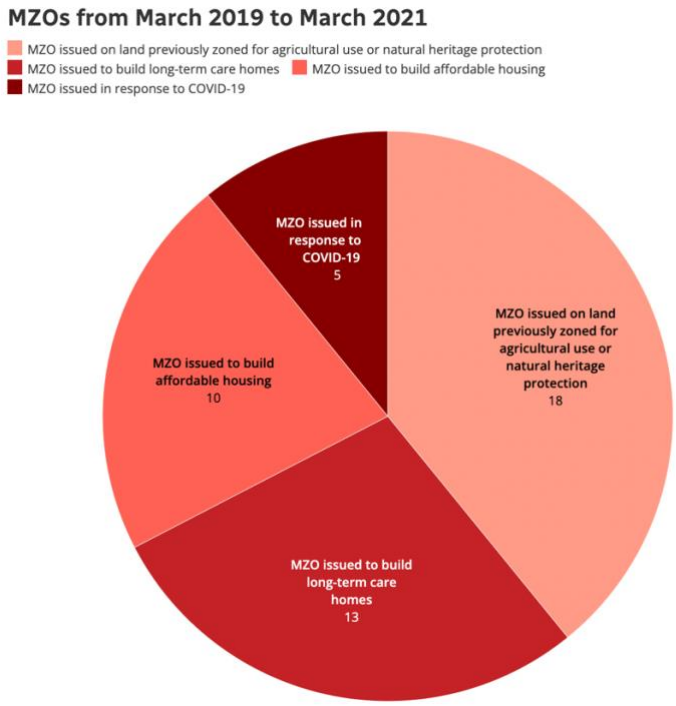
Furthermore, an article by Atkinson (2020) describes some of the risks associated with MZOs and the agriculture sector. The article refers to a Markham and Whitchurch-Stouffville example where 60 hectares of farmland would be zoned to build homes and a retirement community. Steve Clark, the Minister for the MMAH, argued that the government has established an Agricultural System within the Greater Golden Horseshoe (GGH) with guidance from municipalities, to protect significant agricultural areas, such as speciality crop areas (Atkinson, 2020). This is done by identifying Provincially Significant Employment Zones that reflect the significance of farmland location and their contributions to the local agricultural system. Lastly, this article mentions a denied MZO application opposed by Durham Region for the development of a community on farmland adjacent to creek headwaters north of Ajax and Pickering.

A CBC News article by Hristova (2022) highlights the findings from the Office of the Auditor General of Ontario's audit on MZOs under the Ford government. From March 2019 to March 2021, 44 MZOs have been issued and prior to that an MZO was issued about once a year (Hristova, 2022). The audit indicated that "…the recent rise in the use of and lack of transparency in issuing MZOs is inconsistent with good land-use planning principles… this approach treats the land-use planning process as a hurdle" (Hristova, 2022). *Figure 10* illustrates the distribution of MZOs issued from March 2019 to March 2021, with the majority being issued on land previously zoned for agricultural use or natural heritage protection. In general, the Auditor General made four recommendations (Hristova, 2022):

- Work with municipalities to make land-use planning more efficient while still following rules under the *Planning Act;*
- Creating a formal review process for MZOs;
- Incorporating and documenting consultation with municipalities; and

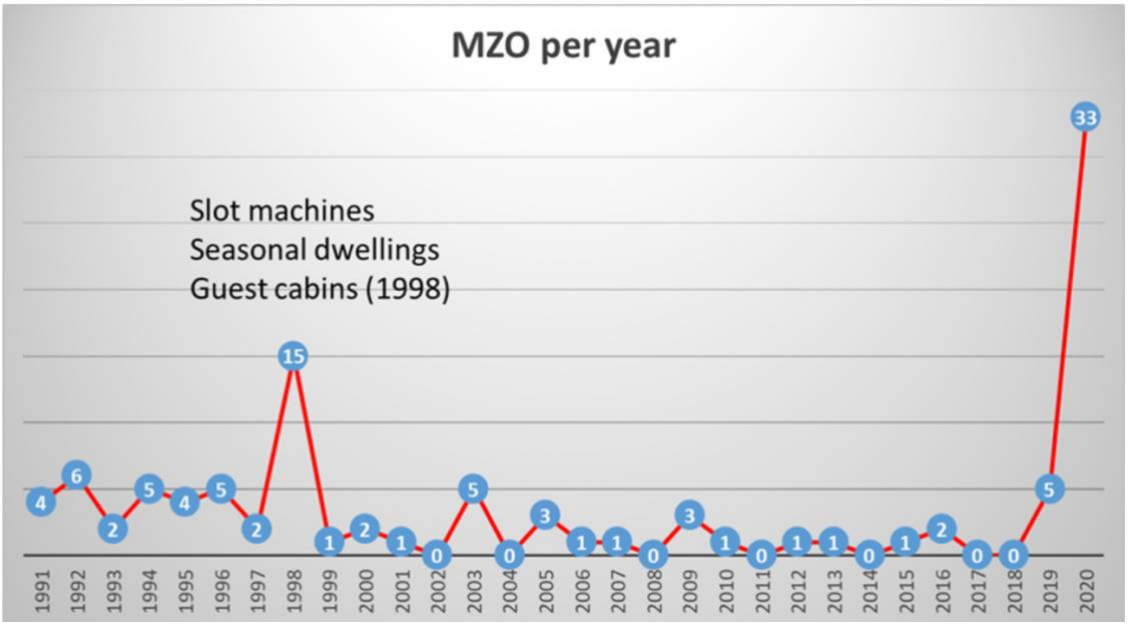
- Publicly stating if an MZO is consistent with the Provincial Policy Statement and, if not, how the province will mitigate negative impacts.

Figure 10. A chart illustrating the number and types of MZOs issued between March 2019 and March 2021 (Hristova, 2022).



An article by Gray (2020) discusses the significant rise in MZOs issued from 1991 to 2020. MZOs were traditionally used for emergencies or to address initiatives by the provincial government. In 2020, 33 new MZOs were issued by the Minister as shown in *Figure 11*.

Figure 11. Number of MZOs issued per year from 1991 to 2020, with 2020 being the highest of 33 issued (Gray, 2020).



The article also discusses a case by Dorsay Developments, where a new town was proposed within the Carruthers Creek headwaters and bordered by the Greenbelt (Gray, 2020). The Toronto and Region Conservation Authority conducted a watershed impact study and raised concerns on downstream water quality and quantity. The pressures from the community and environmental organizations resulted in the Region of Durham opposing the MZO and the Minister confirming that the MZO would not be issued (Gray, 2020).

Overall, this brief review indicates that there has been limited research on the application of MZOs on environmental land use planning and the need for further studies on evaluating the perspectives of provincial power and understanding of the underlying impacts of development pressures and the use of MZOs. The articles outline case studies of MZOs that demonstrate community opposition and emphasize the need for adequate planning processes to take place, justifying this research project.

4. Results and Discussion

The thematic analysis provided insights into the four research questions identified in Chapter 1:

1. How does the current provincial planning process identify and protect significant ecological and hydrological features, such as woodlands, habitat, and waterways on the Fallis West lands and surrounding area?

2. What are the development application requirements in the Town of Cavan Monaghan and how do these relate to the natural environment?

3. How has the emergence of MZO processes influenced the current planning processes in Ontario and the Town of Cavan Monaghan?

4. Set out recommendations for best practices future research regarding the delivery of MZOs and local conservation planning.

This was achieved through the analysis of 19 grey literature documents (**Appendix B**). Three theme groups and six study themes emerged (*Table 3*) discussed in the following section 4.1. The information from the study themes were then applied to answering each of the four research questions and to develop best practice recommendations related to the use of MZOs. Refer to **Appendix C** for a detailed table on the thematic groupings.

Table 3. Description of three theme groups and six study themes used to evaluate grey literature.

Theme Group	Description	Study Themes
Policymaking	• How the existing Provincial policy framework is applied through existing regulations, policies and plans, and how MZOs impact these processes? • What policy components can be improved upon to mitigate MZO impacts?	• Long-range planning • Environmental planning
Technical	• How environmental land use planning is designed to apply at the local level and how MZOs impact these processes? • What resources are at risk as a result of MZOs?	• Environmental resources • Environmental monitoring

Social	• How have existing public consultation requirements been impacted by the use of MZOs?	• Public consultation • Community impacts

4.1 Theme Groups and Study Themes

4.1.1 Policymaking Theme Group

Policymaking emerged as important for determining community objectives, as well as setting regulations to guide land use planning (Bengston & Youn, 2006). For instance, provincial and local growth management policies provide guidance on strategies for development to occur (Hanna & Webber, 2010). This theme group included the study themes of **long-range planning** and **environmental planning**. They informed on the key considerations in environmental land use planning and how MZOs were impacting these existing planning processes.

Environmental planning should be directed towards planning for sustainable and resilient communities. Natural heritage preservation and ecosystem services are components for greenbelt policies that mitigate development pressures on environmentally sensitive lands (Bengston & Youn, 2006). The PPS addresses environmental planning in the areas of natural heritage and water (Ministry of Municipal Affairs and Housing, 2020b). The development of the ORMCP was a major factor in environmental planning application by demonstrating provincial interest in natural heritage conservation (Hanna & Webber, 2010; Ministry of Municipal Affairs and Housing, 2017b). Moreover, environmental planning should incorporate threatened and endangered species habitat (Schulte-Hostedde et al., 2007). The policymaking theme group analysis contributed to answering research questions 1 and 2.

4.1.2 Technical Theme Group

The technical aspect of environmental land use planning considers the evaluation of **environmental resources** and how these are addressed in planning processes that result in development approvals through, for example, official plans (OPs) and zoning by-laws (ZBLs). Environmental resources focus on environmental features, core areas, linkage areas, water resources, and large-scale biodiversity processes and values potentially impacted by development. Characteristics to consider involve the irreplaceability of vegetation types, wildlife suitability, and habitat transformation and degradation (Pierce et al., 2005). Environmental

resources are key in shaping planning strategies by identifying significant resources for protection. The classification and characterization of elements ensure that resources are identified and align with long-range planning objectives. Likewise, identifying corridors within a natural heritage system promotes rich biodiversity and ecological function. The protection of these resources can be regulated through conservation plans and environmental impact studies (Whitelaw & Eagles, 2007).

Environmental monitoring is a critical element in the environmental land use planning process. Monitoring can provide scientific data for inclusion into policy goals and objectives. An integrated regional approach for conservation-based planning that includes monitoring aids in implementing sustainable development objectives (Webber & Hanna, 2014). Watershed planning that includes monitoring is one component that ensures adaptive plan development (Wood & Becker, 2005).

4.1.3 Social Theme Group

The social theme group considers the public values in environmental land use planning. It is important to understand how public values are considered in local community planning. The primary question addressed by this theme is the role of public consultation and how MZOs influence these processes and ultimately community impacts. **Public consultation**, one of the study themes in this group, is a critical component of planning as it aids in community visioning and input that should influence decision-making (Bosch et al., 2012). Consultation with the public is a key tool for consensus building for addressing planning issues. Participatory processes play a significant role in stakeholder engagement. Public consultation processes if designed properly should give voice to community members (Metzger et al., 2017). Environmental land use planning is influenced by **public consultation** because it shapes community decision-making through desired outcomes.

The second study theme, **community impacts** should be addressed through public consultation to ensure that community interests are met. Development pressures that impact communities can be mitigated through consultation processes that are designed to give voice to communities (Ali, 2008). Review processes should also be carried out by organizations such as

conservation authorities to address environmental land use planning issues and potential **community impacts**.

4.2 How does the current provincial planning process identify and protect significant ecological and hydrological features, such as woodlands, habitat, and waterways on the Fallis West lands and surrounding area?

The Province of Ontario provides legislation and plans that prescribe the protection of significant ecological and hydrological features. This includes the *Planning Act*, *Places to Grow Act*, *Conservation Authorities Act*, *Oak Ridges Moraine Act,* and Provincial Policy Statement (PPS). Additionally, provincial plans include the Greenbelt Plan (GBP), Oak Ridges Moraine Conservation Plan (ORMCP), and Growth Plan for the Greater Golden Horseshoe. *Table 4* is a list of legislation and plans that identify and protect significant ecological and hydrological features on the Fallis West lands and surrounding area.

Table 4. Summary of provincial planning legislation and plans that identify and protect significant ecological and hydrological features on the Fallis West lands and surrounding area.

Document	Applicability
Planning Act (1990)	Delivery of land use planning systems in Ontario.
Places to Grow Act (2005)	Growth management and protection of resources in the Greater Golden Horseshoe (GGH).
Conservation Authorities Act (1990)	Framework for the delivery of programs and services that promote the conservation, restoration, development, and management of natural resources in Ontario's watersheds.
Oak Ridges Moraine Conservation Act (2001)	Protection of ecological and hydrological integrity of the Oak Ridges Moraine (ORM) area.
Provincial Policy Statement, 2020	Provincial policy direction for local municipalities, including the protection of the natural environment.
Greenbelt Plan (2017)	Enables the protection of agricultural lands, water resources, and natural areas within the Niagara Escarpment Plan and Oak Ridges Moraine Conservation Plan (ORMCP).
Oak Ridges Moraine Conservation Plan (2017)	Land use and resource management direction for the Oak Ridges Moraine (ORM) area.

Growth Plan for the Greater Golden Horseshoe (2020)	Growth strategy for the Greater Golden Horseshoe (GGH), including a framework for environmental protection.

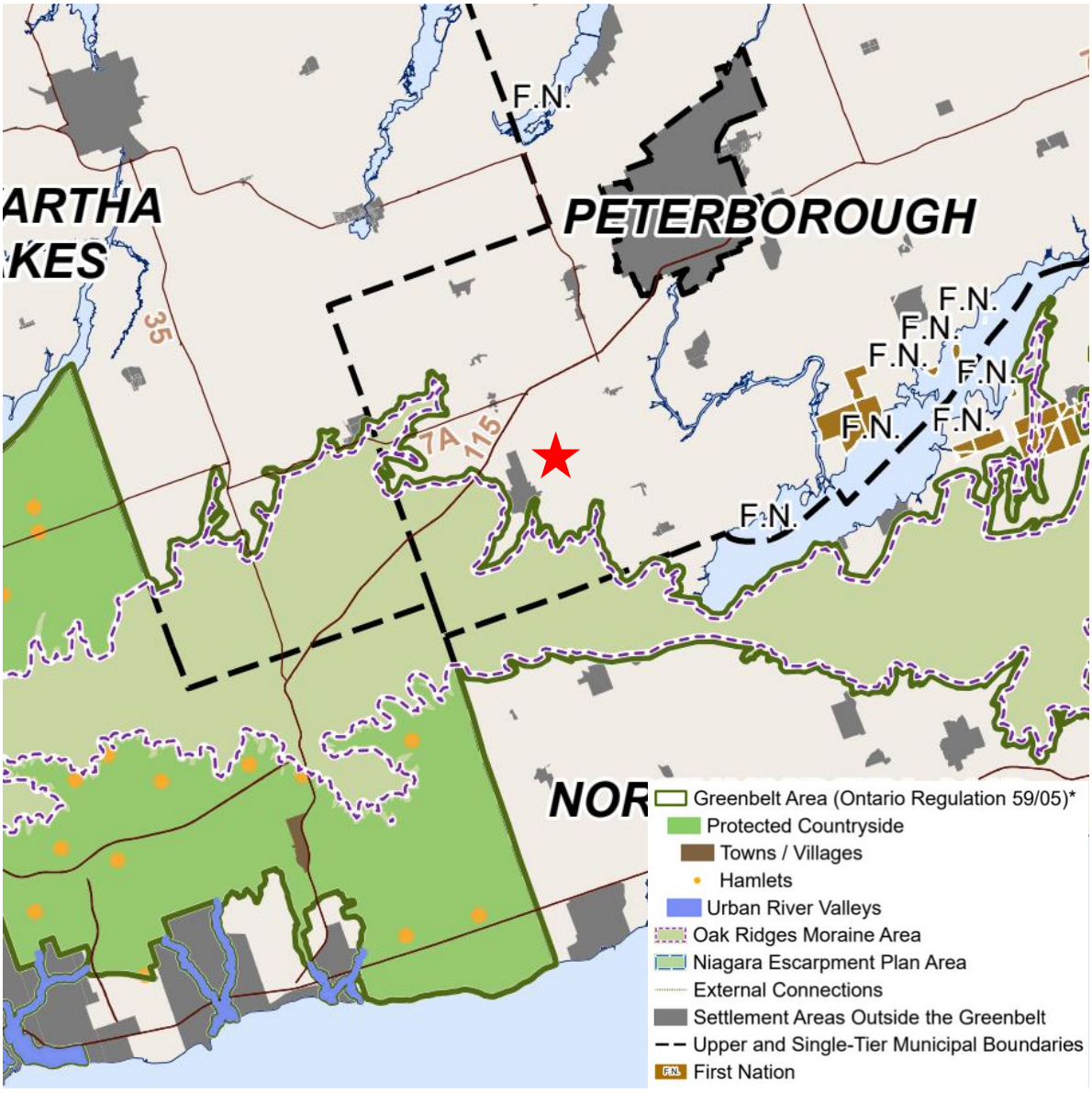
The *Planning Act (1990)* sets the foundation for land use planning in Ontario and authorizes planning authority to municipalities. Section 2 indicates matters of provincial interest including the protection of ecological systems, like natural areas, features, and functions (Province of Ontario, 2021d). The *Planning Act* addresses **long-range planning** and **environmental planning** by demonstrating provincial interest in the protection of ecological systems, including natural areas, features and functions (Province of Ontario, 2021d).

The *Places to Grow Act (2005)* identifies where and how growth should occur in the Greater Golden Horseshoe (GGH). Section 6 highlights growth management measures such as population projections and allocations, identifying growth areas, growth strategies, as well as a range of policies, goals, and preserving natural resources (Province of Ontario, 2021c). The *Places to Grow Act* addresses **long-range planning** by enabling regional growth plans in the GGH (Province of Ontario, 2021c). Growth plans identify population projections, growth areas and strategies, as well as a range of policies and goals. The *Conservation Authorities Act (1990)* authorizes conservation authorities (CAs) to deliver programs and services that promote the conservation, restoration, development, and management of natural resources in Ontario's watersheds (Province of Ontario, 2021a). The CA's ability to regulate development applications through the permitting process is a key factor in managing **environmental planning** and **monitoring**. Requirements for monitoring and compliance can be incorporated for long-term evaluation. The *Oak Ridges Moraine Conservation Act (2001)* (Province of Ontario, 2021b) was passed to a) protect the ecological and hydrological integrity of the ORM area, b) permit land and resource uses that maintain, improve or restore the ecological and hydrological functions, c) maintain, improve or restore elements that contribute to ecological and hydrological functions, d) ensuring that a continuous natural land form is maintained for present and future generations, e) provide land use resources that are compatible with other Plan objectives, f) provide continued development compatible between existing urban and rural settlements, g) provide an accessible continuous recreational trail, h) provide other public recreational access, as well as i) achieve other prescribed objectives. In addition, the *Act* establishes land use designations that regulate,

restrict, or prohibit certain uses for the protection of resources. The integrity of ecological and hydrological components in the ORM are protected through the *Oak Ridges Moraine Conservation Act* (Province of Ontario, 2021b). The Fallis West property is in proximity to the ORM (*Figure 13*).

Section 1 of the Provincial Policy Statement (PPS) indicates provincial interest in environmental planning, and protection through natural heritage systems (Ministry of Municipal Affairs and Housing, 2020b). This includes encouraging the conservation of biodiversity in land development (Section 1.1.1h) through natural heritage preservation for discharge areas and headwater recharge (Ministry of Municipal Affairs and Housing, 2020b). Section 2 of the PPS addresses wise use and management of resources through conserving biodiversity, protecting natural heritage, and stream headwaters (Ministry of Municipal Affairs and Housing, 2020b). The Greenbelt Plan (2017) consists of the Niagara Escarpment Plan, ORMCP, and other prime agricultural areas (Ministry of Municipal Affairs and Housing, 2017a). It is a plan to protect significant agricultural lands, water resources, and natural areas through controlled urbanization. *Figure 12* represents the Greenbelt area land use designation map. The Fallis West property falls in proximity to the Greenbelt area.

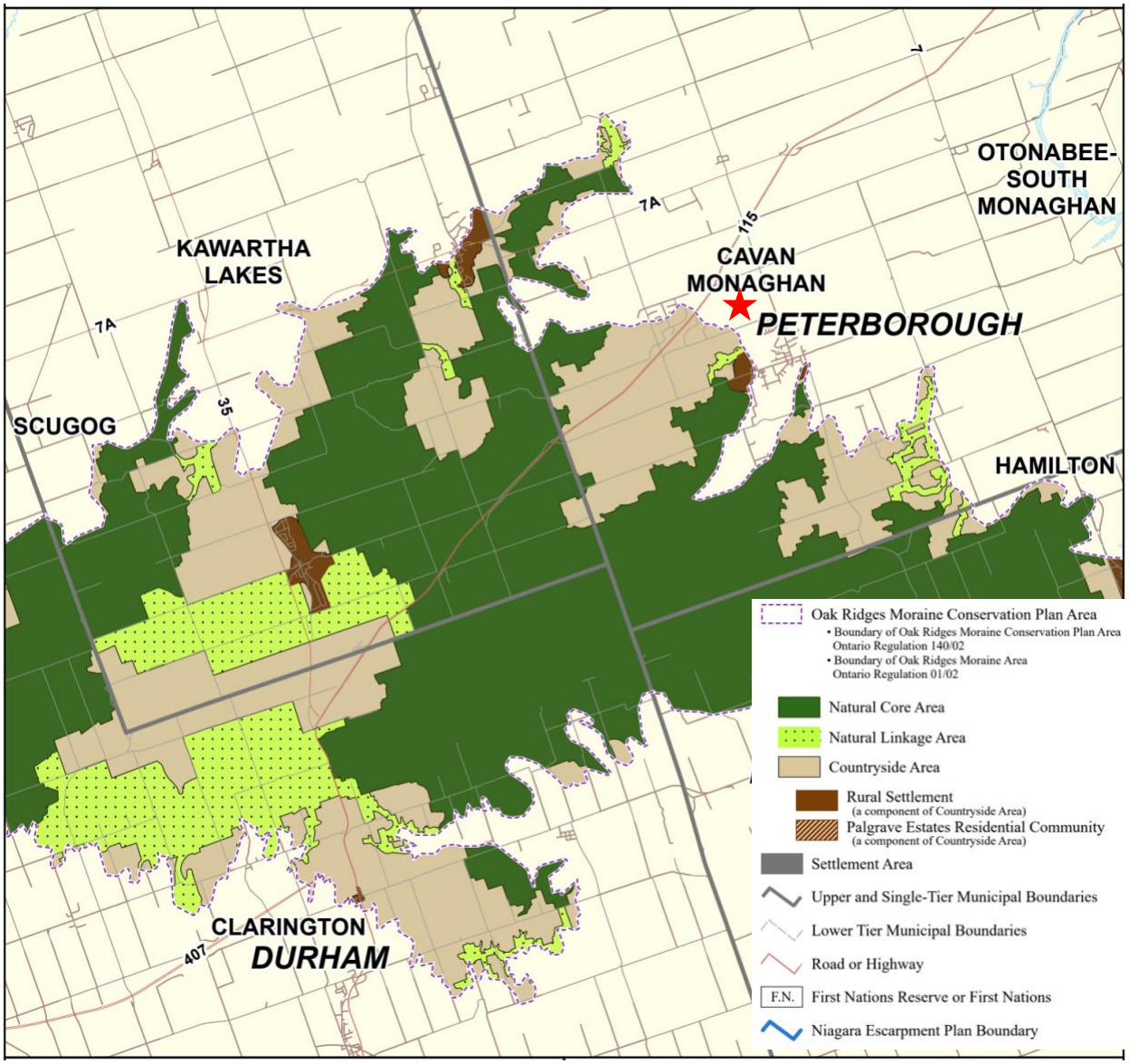
Figure 12. Greenbelt Plan land use designation map in reference to the Fallis West property (approximate location) (Ministry of Municipal Affairs and Housing, 2017a).



The Oak Ridges Moraine Conservation Plan (ORMCP) (2017) provides policy direction for the management and protection of ecological and hydrological features and functions within the ORM (Ministry of Municipal Affairs and Housing, 2017b). *Figure 13* represents the ORMCP land use designation map relative to the approximate location of the Fallis West property. The land use designations in proximity include “Countryside Area”, “Rural Settlement”, “Natural Linkage Area”, and “Natural Core Area.” These land use designations ensure that the existing ecological and hydrological functions are maintained, restored or improved, providing compatible

development, and maintaining a continuous natural landform for present and future generations (Ministry of Municipal Affairs and Housing, 2017b). The ORMCP provides technical guidance for **environmental planning** by addressing increasing development pressures across the ORM. The Fallis West property is adjacent to ORMCP lands and has a cold water trout creek that originates on the property and flows through the adjacent ORMCP lands. This is the reason for interest in the ORMCP and GBP.

Figure 13. Oak Ridges Moraine Conservation Plan (ORMCP) (2017) land use designation map relative to the approximate location of the Fallis West property (Ministry of Municipal Affairs and Housing, 2017b).



The Growth Plan for the Greater Golden Horseshoe (2020) provides a growth strategy for environmental protection (Ministry of Municipal Affairs and Housing, 2020a). The plan highlights the goal of a healthy natural environment, as well as the protection of natural areas and agricultural lands. This plan emphasizes **long-range planning** for recognizing appropriate growth and density, while setting a framework for environmental protection (Ministry of Municipal Affairs and Housing, 2020a).

4.3 What are the development application requirements in the Town of Cavan Monaghan and how do these relate to the natural environment?

The development application process for the Fallis West property includes a review of municipal planning documents (County of Peterborough, 2022a; Township of Cavan Monaghan, 2013; Town of Cavan Monaghan, 2018) as well as a review of a planning rationale report for the Official Plan Amendment, Zoning By-law Amendment, and Draft Plan of Subdivision applications (The Biglieri Group Ltd., 2021), agricultural impact assessment (AIA; Clark Consulting Services Ltd., 2021), and environmental impact study (EIS; GHD Limited, 2021). Planning in the Town of Cavan Monaghan is governed by the County of Peterborough Official Plan 2022-47, Official Plan for Township of Cavan Monaghan, and Town of Cavan Monaghan Zoning By-law 2018-58. *Table 5* is a list of municipal documents used in the review for development applications in the Town of Cavan Monaghan.

Table 5. Summary of municipal planning documents for development applications in the Town of Cavan Monaghan.

Document	Applicability
County of Peterborough Official Plan 2022-47	Land use planning framework to guide local official plan decision-making.
Official Plan for Township of Cavan Monaghan	Policy framework for community visions and goals in the Township's Zoning By-law.
Town of Cavan Monaghan Zoning By-law 2018-58	Regulates how development can occur with the objectives and policies stated in the Township Official Plan.

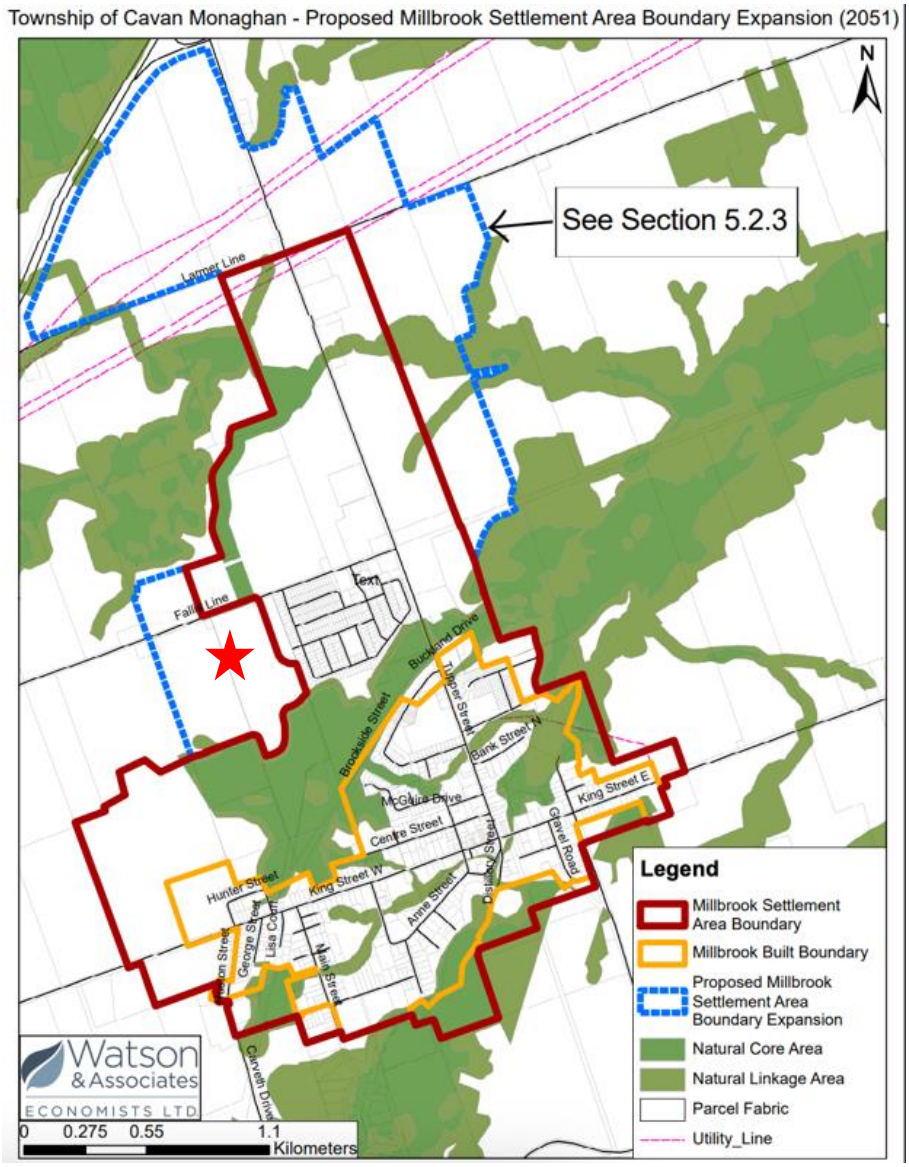
The County of Peterborough Official Plan 2022-47 (draft) was adopted by County Council on June 29, 2022 and discusses watershed-based strategic approaches (County of Peterborough, 2022a). The Cavan Monaghan Schedule indicates that the Fallis West property is adjacent to the Millbrook Settlement Area Boundary (County of Peterborough, 2022a). Additionally, the property

is within the Proposed Millbrook Settlement Area Boundary Expansion (2051) (*Figure 14*). This boundary is intended to meet the County's intensification goals. The property is adjacent to the Natural Core Area and Natural Linkage Area land use designations to the south. Section 5.3.1 discusses the County's intensification goals that include a minimum target of 215 residential units by 2051 within Millbrook's serviced settlement area (County of Peterborough, 2022a). This will be achieved through the conversion of non-residential uses to residential, infilling, additional residential units, and redevelopment. The County of Peterborough OP discusses the County's goals related to built up-areas and intensification targets (County of Peterborough, 2022a). The Township of Cavan Monaghan OP identifies growth management towards 2031, ensuring that provincial, regional, and local interests are met (Township of Cavan Monaghan, 2013). The Township of Cavan Monaghan Growth Management Strategy 2020 found that development pressures are on the rise due to the Town's proximity to the GTA, and that significant housing development is forecasted from the expected rise in population from 2019 to 2041 (Watson & Associates Economists Ltd., 2020).

The ORCA published the document *Watershed Planning & Regulations Policy Manual* on May 17, 2012 and last updated December 4, 2015. Section 2.3.1 of the document discusses a natural heritage systems approach to watershed management on the ORM and Township of Cavan Monaghan (Otonabee Region Conservation Authority, 2012). Additionally, the Millbrook Special Policy Area (SPA) in the Township of Cavan Monaghan was identified for development challenges from the Baxter Creek floodplain. The ORCA has set specific regulations in the SPA regarding floodplain management. Collaboration is a key component to the evolution of conservation across the ORM. The ORM conservation initiative provided a thorough understanding of the ecological background and engaged provincial ministries, regional municipalities, CAs, and interest groups (McCarthy et al., 2014). The Conservation Authorities Moraine Coalition (CAMC) was formed in 2000, consisting of the nine CAs in the ORM to advocate for the protection of ecological features, functions, and form (McCarthy et al., 2014). The CAMC endorsed the use of scientific watershed studies to support a policy framework to guide land use and achieve a "green corridor" vision across the ORM. The ORMCP establishes regulations and policy on the management of the ORM (Baker et al., 2017). Appropriate land use designations

within the ORM are key in understanding the significance in ecologically sensitive areas. Development pressures from residential growth have created tensions between urbanization and ecological integrity across the ORM.

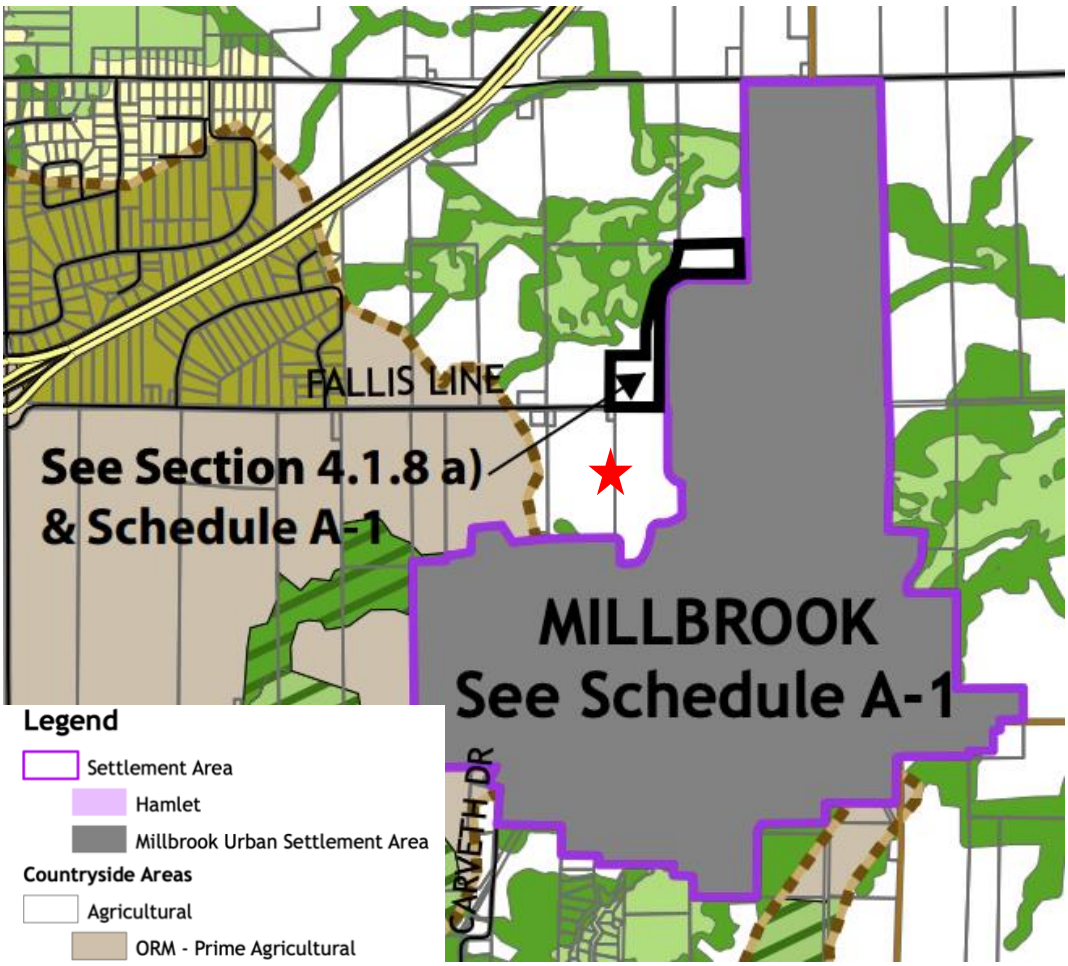
Figure 14. Peterborough County Official Plan – Cavan Monaghan Schedule. The Fallis West property is within the Proposed Millbrook Settlement Area Boundary Expansion (County of Peterborough, 2022a).



The Official Plan (OP) for the Township of Cavan Monaghan sets the framework for growth management towards 2031 (Township of Cavan Monaghan, 2013). The OP is prepared in accordance with the County OP and follows provincial, regional, and local interests on land uses. The OP identifies natural heritage and resource management with respect to the ORM (Township

of Cavan Monaghan, 2013). The Fallis West lands are designated Agricultural under Schedule "A" Land Use (*Figure 15*).

Figure 15. Township of Cavan Monaghan Official Plan – Schedule 'A' Land Use (Township of Cavan Monaghan, 2013).



Adjacent land use designations include Residential and Natural Linkage Area. Section 2 of the OP refers to strategic direction including a residential growth target of 65 residential units per year for the Millbrook urban serviced area (2.1.1b). Section 2.1.1.c ensures that development in the urban area is (Township of Cavan Monaghan, 2013):

i. Sequential and phased to provide for the continuous and orderly development of the community;
ii. Developed to a density that will make economical use of existing infrastructure and services;
iii. Supports intensification and integrates with existing residential areas; and,

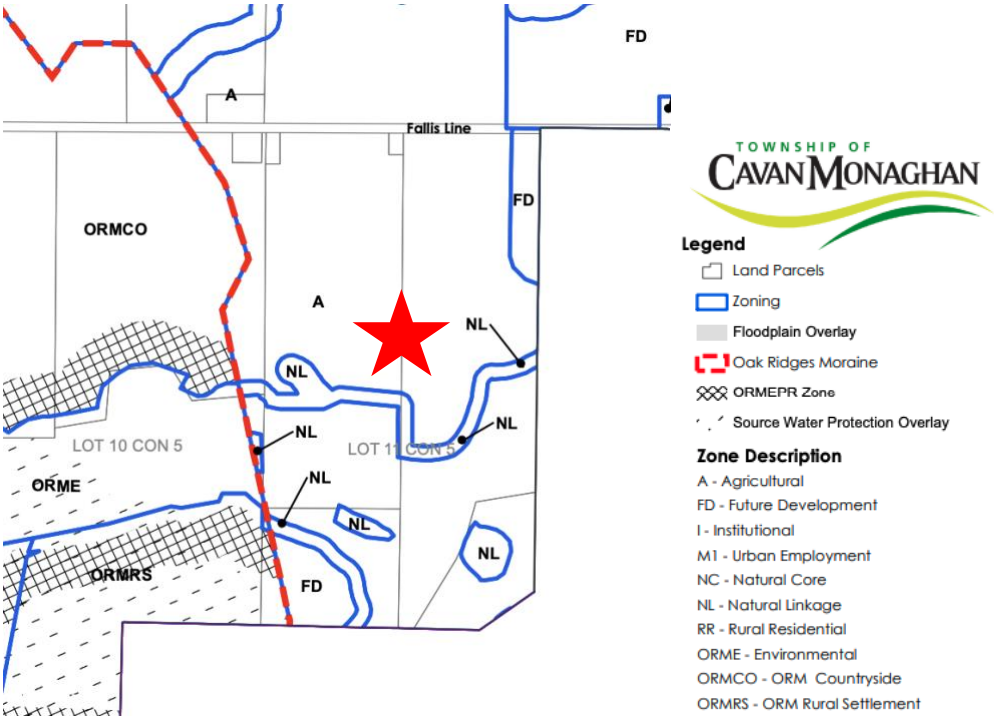
iv. Will not have an adverse effect on the Township's financial situation.

Section 2.2 refers to natural heritage and resource management, specifically 2.2.1 speaks to Natural Heritage (Township of Cavan Monaghan, 2013):

a) Protecting the Oak Ridges Moraine for its unique landform characteristics, its significant function of groundwater recharge and discharge, its significant natural heritage features and their ecological functions;
b) Identifying a continuous natural heritage system throughout the Township. This system will provide for the preservation of important ecological functions and features;
c) Protecting groundwater resources as they are a vital component of the ecosystem and a source of drinking water. Land use related decisions of Council will maintain and enhance surface and groundwater resources in sufficient quality and quantity to meet existing and future uses on a sustainable basis, promote water conservation and support the efficient use of water resources on a watershed and subwatershed basis;
d) Protecting public health and public safety from water related hazards such as flooding and erosion;
e) Permitting commercial logging of woodlands only in accordance with sustainable forestry practices; and,
f) Encouraging the wise use and protection of the Township's aggregate resources while balancing this with the Township's responsibility to protect the ecological integrity of the natural heritage system, rural landscapes and the quality of life for its residents.

The Town of Cavan Monaghan Zoning By-law 2018-58 regulates how land may be used, the location of structures, as well as various dimensions, requirements, and setbacks (Town of Cavan Monaghan, 2018). The Fallis West property is zoned Agricultural (A), Future Development (FD), and Natural Linkage (NL). The adjacent lands are zoned Oak Ridges Moraine Countryside (ORMCO), Oak Ridges Moraine Environmental (ORME), Oak Ridges Moraine Rural Settlement (ORMRS), as well as a range of Urban Residential (UR) zones (Town of Cavan Monaghan, 2018). The adjacent lands also contain an overlay "Oak Ridges Moraine Environmental Plan Review Zone" (ORMEPR). *Figure 16* represents a zoning map from Schedule A Map E-2 of the Zoning By-law.

Figure 16. Site zoning map from Schedule A Map E-2 of the Township of Cavan Monaghan Zoning By-law 2018-58. The Fallis West property is zoned Agricultural (A), Future Development (FD), and Natural Linkage (NL). The property also abuts the Oak Ridges Moraine boundary (Town of Cavan Monaghan, 2018).



The Agricultural zone permits agriculture related uses such as a farm produce sales outlet, farm greenhouse, farm business, agri-tourism, and more. Additionally, other permitted uses include wayside pits and quarries, low intensity recreational uses, home business and industry, accessory apartments, and single detached dwellings (Town of Cavan Monaghan, 2018). The Future Development (FD) zone permits existing agriculture uses, community gardens, conservation uses, existing single detached dwellings, emergency service facilities, forest management, existing low intensity recreational uses, and public uses. The Natural Linkage (NL) zone permits development where an environmental impact study (EIS) or confirmation from the CA has been accepted by the Township. An EIS is required within (Town of Cavan Monaghan, 2018):

a) 120 metres of key natural heritage features and key hydrologic features as referenced in Section 6.3 of the Township of Cavan Monaghan Official Plan; or
b) 50 metres of earth science areas of natural and scientific interest.

Overall, these municipal planning documents address **long-range planning** and **environmental planning** by identifying intensification objectives, areas for growth, as well as land use designations and zoning.

The Fallis West property has been subject to a Plan of Subdivision (15T-21007) through the County of Peterborough. The Plan of Subdivision on 49.2 hectares of land proposes 696 residential units, consisting of 371 single detached dwellings, 125 townhouse dwellings, and 200 residential apartments through 14 proposed internal streets (County of Peterborough, 2022b). *Table 6* is a selective list of supporting planning documents submitted to the County of Peterborough for the Plan of Subdivision application.

Table 6. Selective list of supporting planning documents for the Plan of Subdivision application consisting of a planning rationale report, agricultural impact assessment, environmental impact study, and comments.

Supporting Document	Applicability
Planning Rationale Report (July, 2021)	Review and analyze development proposal with planning policy framework.
Agricultural Impact Assessment (May, 2021)	Evaluates the potential impacts of non-agricultural development on agricultural operations.
Environmental Impact Study (May 28, 2021)	Evaluate biological constraints due to the presence of natural heritage features and system policies.
Minister's Zoning Order and application comments	Information on the MZO process and application comments from agencies and the Baxter Creek Watershed Alliance.

The Planning Rationale Report prepared by the Biglieri Group Ltd. reviews the development proposal with respect to the planning policy framework. The studies submitted determine that there will be no negative impacts to the community and that any impacts will be mitigated (The Biglieri Group Ltd., 2021). The Report determines that the proposal is consistent with and conforms to the planning policy framework because (The Biglieri Group Ltd., 2021):

- The proposed built-form is an opportunity to animate a greenfield area and provide connection to existing master planned communities;
- The Draft Plan of Subdivision includes a range of residential uses from single-detached and townhouse dwellings;

- The proposed lot styles and zoning standards are relatively consistent with approved subdivisions in the area;
- The submitted Environmental Impact Study (EIS) states there will be no negative impact on the environmentally protected lands;
- The proposed residential uses will support the projected growth and demand for housing supply as indicated in the 2020 Cavan Monaghan Growth Management Study;
- Site servicing can be adequately demonstrated;
- The proposal supports the existing parkland and trail system while providing linkage to Natural linkage and Natural Core area lands; and
- The proposed expansion of the Millbrook Settlement Area meets the objectives set out in Section 2.2.8.5 and 2.2.8.6 of the Growth Plan for the Greater Holden Horseshoe.

Furthermore, the Agricultural Impact Assessment (AIA) prepared by Clark Consulting Services Ltd. evaluates the potential impacts of non-agricultural development on agricultural operations and provides avoidance and/or mitigation measures (Clark Consulting Services Ltd., 2021). The AIA concludes that the conversion of the subject lands to residential uses will have minimal impacts. The presence of non-agricultural uses on the subject lands demonstrates an urban area land use transition (Clark Consulting Services Ltd., 2021). The lack of intensive agricultural uses and livestock facilities on adjacent lands indicate that mitigation design measures can facilitate urban land uses.

Lastly, the environmental impact study (EIS) prepared by GHD Limited examined potential ecological constraints as the site is in proximity to significant woodlands within the Natural Core Area and Natural Linkage Area, a watercourse, and potential Species at Risk (SAR) (GHD Limited, 2021). The property consists of agricultural fields, with the southern portion containing significant woodlands. A tributary to the Baxter Creek exists on the southern limit. A 30 metre buffer was recommended adjacent to the significant woodlands and wetlands as they are identified as natural heritage constraints (GHD Limited, 2021). The buffer is also intended to protect the identified watercourse and seepage areas. *Table 7* provides a summary of the EIS and recommendations. **Environmental monitoring** was discussed regarding surface water quality for construction and post construction monitoring. Water quality parameters were collected and will

be used to ensure parameters are maintained and within an acceptable range. Value-driven processes are evident by the identification of ecological and hydrological features as well as recommendations for mitigation. The EIS indicates that the **environmental planning** aspects of the development are sufficient.

Table 7. Summary of EIS and recommendations based on identified on-site features and functions (GHD Limited, 2021).

Feature or Function	Impact to Feature or Function	Mitigation	Residual Effect
Significant Woodland	No impact anticipated	30-meter buffer from the contiguous woodland (Community 3); allow buffer to naturally regenerate in native species, install silt fencing along the east side of the development envelope	None
Significant Wildlife Habitat – Seeps and Spring	No impact anticipated	30-meter buffer from communities where these features were found	None
Significant Wildlife Habitat – Area Sensitive Bird Breeding Habitat	No impact anticipated	30-meter buffer from communities where these species were identified and where potential breeding is occurring.	None
Natural Heritage System	No impact anticipated	30-meter buffer from Natural Heritage System (Core area) to be implemented.	None
Fish and Aquatic Habitat (Habitat Zones 1 to 3)	Potential of disturbance of fish habitat due to SWM facility and road crossing.	-30 m vegetated buffer from high water mark. No development within the buffer with the exception of the road crossing. -Construction sediment and erosion control measures to be incorporated into development (Section 7.0). Sediment and erosion control plan to be reviewed by professional biologist. -Development must comply with *DFO Measures to Protect Fish and Fish Habitat*. -Final design to be assessed by professional biologist.	Low
Stormwater Management Facilities	Stormwater management, change to water quality	-Stormwater ponds to remain outside of the 30 m buffer from the watercourses. -No in-water works -Stormwater management should have a multiple treatment approach and include low impact development features -Stormwater pond outlet should have finishing treatment though a bioswale feature -Features to minimize thermal pollution and reduce the temperature of discharged waters to the watercourses. -Final design to be assessed by a professional biologist and comply with the *Fisheries Act*.	Low

4.4. How has the emergence of MZO processes influenced the current planning processes in Ontario and the Town of Cavan Monaghan?

The emergence of MZO processes have impacted the planning process both at the provincial and local level. Over the COVID-19 pandemic, MZOs have significantly increased in numbers (Mirnasl et al., 2022). Section 47(1)(a) of the *Planning Act* permits the exercise of powers for a zoning order that regulates the use of land, the erection, location, and use of any building or structure on the land (Province of Ontario, 2021d). Ontario Regulation 250/22 by the Minister of Municipal Affairs and Housing (MMAH) (Province of Ontario, 2022) is a Ministerial Zoning Order for the Fallis West property that indicates zone changes to Urban Residential One (UR1), Urban Residential Two (UR2), Open Space (OS), as well as Community Commercial (C5) zones. The MZO quashes the Township's Zoning By-law by deviating from minimum lot area and setback requirements for front, rear, exterior, and interior side yards. In addition, the public consultation process is not required from Part II of the *Environmental Bill of Rights Act, 1993* (EBR) (Province of Ontario, 2021d).

Section 28 of the *Planning Act* describes the roles, responsibilities, and powers of Ontario conservation authorities (CAs). This includes their ability to approve, deny or attach conditions in the permitting process. Additionally, Section 28.0.1 (1) authorizes permission for development under an order made by the MMAH under Section 34.1 or 47 of the *Planning Act,* outside the Greenbelt Area (b) and meeting any other prescribed requirements (c) (Province of Ontario, 2021d). CAs are important for their watershed-based rational and comprehensive model approaches (Shrubsole, 1996). Changes to the *Conservation Authorities Act* have significantly limit CA powers because of provincial objectives prioritizing housing developments over environmental planning. Tensions appear to be present due to potential conflicts between the environmental mandate of CAs and expressed policy direction of the Province prioritizing housing over environmental resources (Mitchell et al., 2021; McNair, 2020).

The Office of the Auditor General of Ontario published a document: *Value-for-Money Audit: Land-Use Planning in the Greater Golden* Horseshoe that evaluates entities involved in the land use planning process (Office of the Auditor General of Ontario, 2021). This includes the Ministry of Municipal Affairs and Housing (MMAH), other provincial ministries, the Ontario Land

Tribunal (OLT), municipalities, and CAs. The document highlights key issues in land use planning, such as the loss of agricultural land and natural spaces, degradation of air and water quality as well as infrastructure demand. Policy instabilities, limited information, and insufficient guidance are outcomes of the lack of transparency in MZO processes (Office of the Auditor General of Ontario, 2021). The following is a list of key findings from the Audit:

- Limited information exists on the outcomes of Growth Plan policies;
- Many municipalities are not reaching 2006 Growth Plan targets;
- The lack of consistent and timely data has restricted the Ministry's ability to monitor certain Growth Plan targets;
- Instability in the land use planning process has resulted from numerous changes in policies;
- Guidance is insufficient from the Ministry on how municipalities should implement policies in provincial plans;
- There are better opportunities to coordinate infrastructure planning with land use planning;
- Provincial input is limited on select municipal planning policies;
- Conservation authorities have lost their powers to mandate;
- MZOs are used to fast track development and circumvent traditional planning processes;
- Conflict of interest and unfairness has resulted in the lack of transparency in issuing MZOs;
- MZOs interfere with other planning processes; and
- "Enhanced" MZOs can surpass municipal site plan control and other provincial land use policies (Office of the Auditor General of Ontario, 2021).

The Plan of Subdivision for the Fallis West property was deemed a complete application by the County of Peterborough on June 27th, 2022. The consultant, the Biglieri Group Ltd., prepared a consolidated response to agency comments dated February 2, 2022. The Otonabee Region Conservation Authority's Planning department (ORCA) indicated that:

- Steep slopes, floodplains, wetlands, watercourses, significant woodlands, and significant wildlife habitat are present on portions of the property and adjacent lands;

- The PPS directs development outside of hazardous lands and prohibits development within a floodway;
- ORCA recommendation that development and/or site alteration not be permitted within 30 metres of the boundary of a non-provincially significant and be zoned appropriately to limit development; and
- The noted features/hazards must be satisfactorily addressed in order for the ORCA to be in a position to issue a permit (The Biglieri Group Ltd., 2022a).
    - It is important to note that the proponent is committed to review and satisfy typical conditions of development approval from appropriate agencies and stakeholders, such as the ORCA (The Biglieri Group Ltd., 2022b).

The ORCA's Ecology department commented that:

- Brook and brown trout, significant wildlife, and threatened and/or endangered species exist on portions of the property and adjacent lands; and
- Known occurrences of two threatened grassland birds: Bobolink and Eastern Meadowlark as well as one special concern reptile: Snapping Turtle traverse the area. The threatened bird species and habitat are protected under the Endangered Species Act (ESA) (The Biglieri Group Ltd., 2022a).

The ORCA's Engineering department commented that:

- The south pond and the proposed wastewater treatment plant is located on steep slopes associated with Baxter Creek. A combined slope stability study and erosion hazard limit for the south pond and wastewater treatment plant is needed (The Biglieri Group Ltd., 2022a).

The Township's Parks and Trails department commented that:

- The Township is supportive of including the trails and parkland dedication, but most are hazard lands in the Natural Heritage buffer. Identification of additional parkland should be within the Plan of Subdivision (The Biglieri Group Ltd., 2022a).

The local watershed group in the Town of Cavan Monaghan, the Baxter Creek Watershed Alliance (BCWA), commented that:

- The Jail Creek is a recognized coldwater stream and significant Brown Trout nursery stream;
- The Trout Unlimited Millbrook Chapter (TMMC) indicates that sedimentation is currently the greatest threat to Brown Trout populations in the mid reaches of Jail Creek;
- Increasing sediment loadings over the years suggests that the Lindsay railbed crossing of Jail Creek upstream of Station Trail is a potential cause of erosion and source of sediment;
- Concerns that the design for runoff from proposed stormwater ponds will not properly protect the coldwater fish community in the Jail Creek with suggestions for design improvements following designs used in other jurisdictions (e.g. Etobicoke);
- Concerns for the proposed micro sewage treatment plant with effluents that will be directed down the Jail Creek. Additional flow will change temperatures in the Jail Creek and negatively impact the trout habitat;
- Asked for a supplemental Floodplain Analysis report to be completed to assess the increased flood potential on and off site as the area downstream along Jail Creek has existing housing just outside the flood line as mapped by the CA; and
- Potential for the stormwater pond to interface the water table, in addition to the increased impervious surface on site (Baxter Creek Watershed Alliance, 2022).

The final plans for the Fallis West property are not yet finalized. The following comments can be made based on the process and submissions to date:

i. Traditionally, a zoning by-law amendment is required for developments that deviate from regulations in the zoning by-law. This would have been the case for this property. The process would require specific plans, studies, and reports for circulation to approval agencies and consultation with the public (Blonder, 2022). Then, revisions may be required prior to a council decision. This process was by-passed with the MZO. Despite this MZO by-pass of formal planning, comments were provided by an array of agencies and stakeholders, however it appears that public consultation and comments were potentially constrained due to the removal of the requirement for posting on the EBR.

ii. The proposed development appears to locate all development outside the natural heritage features on the property. This suggests that the natural heritage mapping and values present on the property were addressed appropriately in the proposal by the developer (*Figure 17*).

iii. The CA provided comments through the process. It is important to note that granting of an MZO is not the final step in the development approval process nor the public process (The Biglieri Group Ltd., 2022b). A development agreement will be entered to ensure that appropriate studies and consultations are completed prior to granting development approval as indicated in the Township Council meeting minutes on February 22, 2022 (Township of Cavan Monaghan, 2022). The proponents "CSU Developments Inc.", "Vargas Properties Inc.", and "Vargas P Inc." agreed to provide the following commitments to the Township of Cavan Monaghan Council:

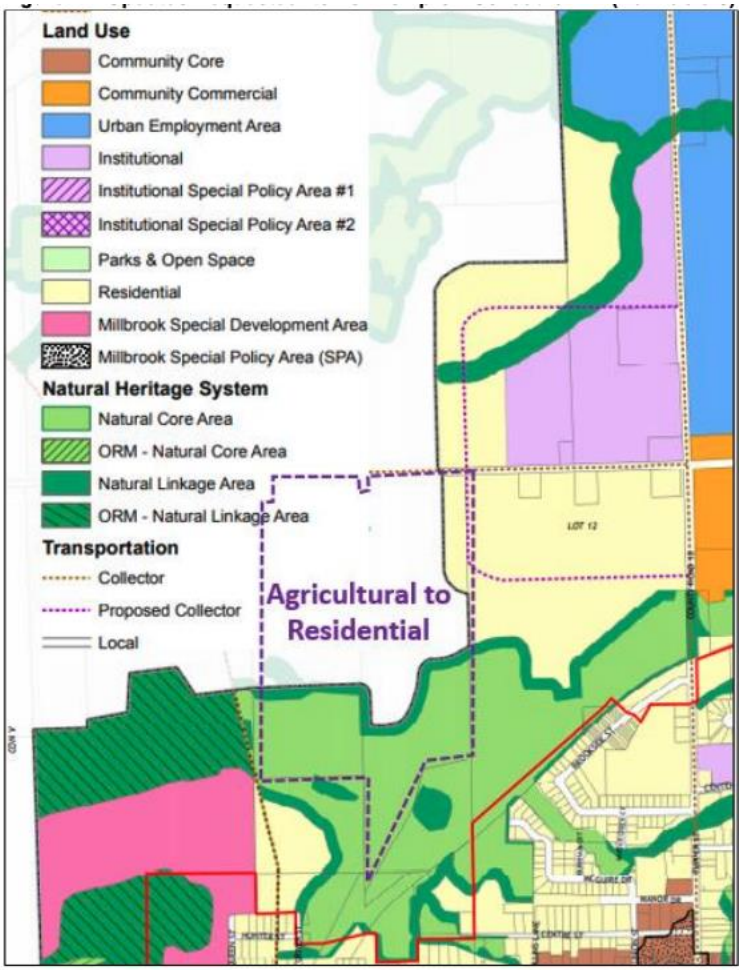
- Commitment to participating in the County's and Town's ongoing growth and development planning and servicing studies, including but not limited to, the Growth Management Study and Master Servicing Study;
- Commitment to payment of any and all costs and fees typical of development, and inclusive of CSU Developments Inc., Vargas Properties Inc., and Vargas P Inc.'s proportionate share of infrastructure and servicing costs to support the proposed development (Growth pays for Growth concept);
- Commitment to obtain all necessary Planning Act approvals to implement the proposed development including Draft Plan of Subdivision and Site Plan Approval as necessary;
- Commitment to review and satisfy typical Town and County conditions of development approval applied to subdivisions and non-residential development;
- Commitment to review and satisfy typical conditions of development approval from appropriate agencies and stakeholders, including but not limited to, ORCA, OMAFRA and First Nations; and

- Commitment to provision of community benefits, including approximately 80 apartment dwellings / affordable units (~10% of units) and community parks/trails as per the Planning Act requirements (The Biglieri Group Ltd., 2022b).

An interesting question arises - did the MZO process influence the CA comments and potentially limit collaborative planning between the proponent, CA, and municipality? This should be investigated further through future research. Interviews with CA staff might provide insights, along with comparisons between similar non-MZO proposals with MZO proposals across and adjacent to the ORMCP area.

iv. Of interest are the detailed comments of technical nature provided by the local BCWA. This suggests local citizens taking on an advocacy planning role. An interesting future research question would be - has the MZO process increased the interest of local community groups and watershed associations to participate in planning processes that are being subjected to the MZO process?

Figure 17. Requested updates to the Township of Cavan Monaghan Official Plan Schedule A-1. The existing Agricultural is proposed to be converted to Residential and maintains the existing Natural Core Area and Natural Linkage Area Land Use Designations (The Biglieri Group Ltd., 2021).



The BCWA comments express interest for monitoring on the Jail Creek because of increased sediment runoff from stormwater ponds and facilities that threaten significant habitat like Brown Trout (Baxter Creek Watershed Alliance, 2022). Designing a monitoring project with the community would be a way to increase the impact of **public consultation** with the community, stakeholder groups, and nations. This would identify community values in addition to the technical components identified in the development application.

4.5 Set out MZO best practices and recommendations for future research on MZOs and local conservation planning

The results of this research indicate a range of potential impacts from the emergence of MZO use in southern Ontario. Recommendations for future practice on the delivery of MZOs

and future research were shaped by the findings of the literature review and thematic analysis of documents relevant to MZOs and the use of the MZO in the Fallis West property proposal. The following recommendations are provided:

1. Identify alternatives to MZOs

MZOs are a powerful tool to influence planning, however should not be seen as the first option for development on environmentally sensitive lands. Firstly, considerations for an MZO should examine alternative approaches to avoid or reduce planning impacts on local communities. Alternative approaches should identify strategies in line with formal land use planning processes set out by the province. A MZO study by the Province explaining why no alternatives are feasible should be circulated for consultation and review. For example, one alternative approach that might be prompted is a community improvement plan (CIP) where municipalities provide financial incentives and policy initiatives towards development in certain areas of communities. This strategy is intended to encourage and stimulate development in a defined CIP area.

2. Engage and collaborate with the local community

Municipalities should engage with local stakeholders prior to requesting an MZO. Furthermore, if an MZO is approved, the municipality should actively encourage public consultation through public meetings and commenting to fill gaps that might result from reduced CA involvement.

One progressive approach would be to initiate community monitoring to encourage local involvement and help address MZO concerns. This might include the design of a monitoring program to evaluate the success or failure of environmental land use planning practice using MZOs. Monitoring at established intervals ensures that an MZO is achieving provincial ecological and hydrological objectives. A monitoring agreement might be reached between the MZO proponent and the municipal government that involves the local community. The agreement should detail the scope, timeframe, and frequency of monitoring to be completed (Savan & Gore, 2015). Monitoring can be delivered by community members, agencies such as conservation authorities or consultants in the environmental field. With the fast pace of MZOs being delivered,

monitoring should be performed annually. Mitigation measures should be required if objectives are not met (Wood & Becker, 2005).

3. Establish provincial-municipal partnerships

Building on recommendation 1, establishing individual agreements between the province and municipal governments where MZOs are being used will help address gaps in planning processes that have emerged between the Province and municipalities and respect local community values. These agreements should consider local growth targets and community values such as natural heritage.

4. Formalize the MZO process

The provincial government should develop and adopt a policy to formalize the MZO process to ensure better transparency. The process might consider the above recommendations to guide the policy to increase collaborative planning, local engagement, and establishing partnerships. The policy might consider applying the extensive mapping available at the Provincial level to inform on MZO use and ensure consistency with other provincial policies, such as the PPS, *Places to Grow Act, Conservation Authorities Act,* and *Oak Ridges Moraine Conservation Act.* Such as policy would address the limited and inconsistent information available on MZOs and provide guidance on their use (Office of the Auditor General of Ontario, 2021).

4.6 Future Research

There are numerous possibilities for future research on MZOs that emerged from this research.

i. Carry out additional research on other MZOs across the Province and in particular associated with or adjacent to the Greenbelt (ORMCP, Niagara Escarpment Plan) to further explore the impacts on planning processes, impacts on natural heritage, and communities.
ii. Research on evaluating the impact MZOs have had on the role of CAs and how natural heritage and water resources are being impacted based on changes to their permitting and commenting roles.
iii. The use of MZOs appear to have increased the interest and participation of local community groups and watershed associations. Research into the role of civil society in

environmental land use planning would be helpful to address what and where gaps in the planning process are being filled by local involvement in the planning process.

Further research in these areas would aid in the rigor of research on MZOs and raise awareness of the local impacts on environmental land use planning practice.

5. Conclusion

5.1 Limitations

There were several challenges and limitations in the research for this report. Firstly, the time to prepare the proposal, conduct research and write the report was limited to six months as part of the broader SURP program. Primary data collection such as interviews with municipal staff, conservation authorities, consultants, residents, and other experts, stakeholders, or parties would bring further insight to supplement the information gathered from the document analysis process. Another challenge encountered was the lack of academic literature on MZOs. As a result, the scope of the literature review was broadened to news articles containing case studies and opinion pieces. While this provided a broader scope of information, it made it difficult to draw conclusions between the literature and study themes. Lastly, there are limitations based on the fast evolving legislation, policies, and plans reviewed. While the document analysis identified relevant documents concerning MZO applications, it should not be seen as comprehensive. Ongoing updates to legislation (e.g. *Bill 23, More Homes Built Faster Act, 2022)* continue to impact the use of MZOs in terms of local agency powers and opportunities for commenting.

5.2 Final Thoughts

The rise of the use of MZOs in southern Ontario has raised concerns associated with the provincial government prioritizing certain planning values and goals (e.g. housing), over others such as environmental values through a process that circumvents formal planning. The Fallis West property MZO case study examined in this project, illustrates possible tensions between expedited development and potential impacts on ecological and hydrological values. However, the case study also suggests that natural heritage values were properly addressed by the developer (e.g. protection of natural heritage values on the Fallis West property). Other matters remain to be addressed including impacts on the stream that originates on the property and potential flooding impacts downstream (Baxter Creek Watershed Alliance, 2022). The case study indicates that powers of CAs are potentially being reduced by changes in provincial legislation and that consultation with stakeholders may be limited due to changes in the formal planning process and the removal of the EBR posting requirements. Furthermore, formal planning processes that change zoning do not guarantee project approval (Gray, 2020). This aspect of

formal planning is an important potential outcome that drives better planning, one that is circumvented by the MZO process. Although more research is necessary, it appears there is a lack of transparency and more limited community engagement resulting from the use of MZOs and fast-tracked development.

The rise of MZOs in land use planning has placed several limitations on natural heritage protection, including inconsistencies with provincial plans as well as reduced decision-making authority at the local level. Provincial plans such as the Greenbelt Plan and Oak Ridges Moraine Conservation Plan identify natural heritage protection as a result of rising development pressures (Ministry of Municipal Affairs and Housing, 2017a). The MZO experience has limited the powers of CAs and input from key stakeholders that reduce the necessary time to evaluate development applications. The emergence of MZOs has disregarded the significance of key stakeholder input that provides technical advice in the formal planning process (Office of the Auditor General of Ontario, 2021). The case study demonstrated that traditional land use planning tools are circumvented and neglect the importance for natural heritage protection.

References

Ali, A. K. (2008). Greenbelts to Contain Urban Growth in Ontario, Canada: Promises and Prospects. *Planning, practice & research*, *23*(4), 533-548. https://doi.org/10.1080/02697450802522889

Altshuler, A. (1965). THE GOALS OF COMPREHENSIVE PLANNING. *Journal of the American Institute of Planners*, *31*(3), 186-195. https://doi.org/10.1080/01944366508978165

Arnstein, S. R. (1969). A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*, *35*(4), 216-224. https://doi.org/10.1080/01944366908977225

Atkinson, S. (2020). Zoning orders have become a minister's new best friend; MZO are being used to speed the recovery and reduce red tape but not at the expense of the ag sector, minister says. *Ontario farmer (1994)*, A.8.

Baker, M. J. E., Gillies, M. B., Liu, R. M., Maynard, K. M., Williams, S. D., & Yee, E. K. (2017). The Effects and Implications of Urbanization on the Environmental Integrity of the Oak Ridges Moraine in Ontario, Canada. *Cartographica*, *52*(2), 132-141. https://doi.org/10.3138/cart.52.2.5104

Baxter Creek Watershed Alliance. (2021). A Vision for Conserving the Former Millbrook Jail Landss. *Baxter Creek Watershed Alliance 5.3*. https://img1.wsimg.com/blobby/go/6f3cf339-fe96-4ec4-8bf9-7e5529b4e3fb/downloads/KLT-MillbrookJailLandsVision-15-05-2022%20v5.4.pdf?ver=1661620694784

Baxter Creek Watershed Alliance. (2022). Re: Minister's Zoning Order (MZO) Environmental Registry of Ontario (ERO) Number 019-5329 and Peterborough County File No. 15T-21007 (OPA-03-21). *Baxter Creek Watershed Alliance*.

Beatley, T. (1995). Planning and Sustainability: The Elements of a New (Improved?) Paradigm. *Journal of planning literature*, *9*(4), 383-395. https://doi.org/10.1177/088541229500900405

Bengston, D. N., & Youn, Y.-C. (2006). Urban Containment Policies and the Protection of Natural Areas: The Case of Seoul's Greenbelt. *Ecology and society*, *11*(1), 3. https://doi.org/10.5751/ES-01504-110103

Blonder, N. (2022). Minister's Zoning Orders vs. community engagement. *Design, Policy and Canadian Cities*.

Bosch, D., Pease, J., Wolfe, M. L., Zobel, C., Osorio, J., Cobb, T. D., & Evanylo, G. (2012). Community DECISIONS: Stakeholder focused watershed planning. *Journal of environmental management*, *112*, 226-232. https://doi.org/10.1016/j.jenvman.2012.07.031

Braun, V., & Clarke, V. (n.d.). *Thematic Analysis* https://www.thematicanalysis.net/

City of Barrie. (2020). Status of McLean MZO Request - Oro-Medonte *Development Services Department Memorandum* https://view.publitas.com/on-nature/200622-status-of-mclean-mzo-request-oro-medonte/page/1

Clark Consulting Services Ltd. (2021). Agricultural Impact Assessment Fallis Line Residential Development. *Clark Consulting Services Ltd.*

CMD Group. (2020). Clark defends expansion of Zoning Orders at conference. *Daily Commercial News*, *93*(162), 1-2.

County of Peterborough. (2022a). County of Peterborough Official Plan 2022-47. *County of Peterborough*.

County of Peterborough. (2022b). Notice of Complete Application for Plan of Subdivision. *County of Peterborough*. https://www.ptbocounty.ca/Modules/News/index.aspx?page=3&newsId=ef86f420-51cb-4ce2-935b-8daf28d633ec

Fainstein, S. S. (2014). The just city. *International Journal of Urban Sciences*, *18*(1), 1-18. https://doi.org/10.1080/12265934.2013.834643

Faludi, A. (1973). *A reader in planning theory*. Pergamon Press.

Fink, A. (2014). *Conducting research literature reviews : from the internet to paper* (Fourth edition. ed.). SAGE Publications, Inc.

Forester, J. (1982). Planning in the Face of Power. *Journal of the American Planning Association*, *48*(1), 67-80. https://doi.org/10.1080/01944368208976167

GHD Limited. (2021). Environmental Impact Study Plan of Subdivision, 787 Fallis Line, Part of Lot 11, Concession 4, Township of Cavan-Monaghan, County of Peterborough *GHD Limited*.

Government of Ontario. (2018). Achived - Regions and offices. *King's Printer for Ontario, 2012-23*. https://www.ontario.ca/document/occupational-health-and-safety-enforcement-april-2016-march-2017/regions-and-offices

Gray, T. (2020). *You may have never heard of a Minister's Zoning Order and that used to be ok – but not anymore*. Environmental Defence. https://environmentaldefence.ca/2020/08/28/may-never-heard-ministers-zoning-order-used-ok-not-anymore/

Greenbelt Foundation. (2020). Highlighting Ontario's Natural Wonder: the Oak Ridges Moraine! https://www.greenbelt.ca/oak_ridges_blog

Greenwood, W. J., & Buttle, J. M. (2018). Land cover controls on depression-focused recharge on the Oak Ridges Moraine, southern Ontario, Canada. *Hydrological processes*, *32*(12), 1909-1926. https://doi.org/10.1002/hyp.13130

Hanna, K., & Webber, S. (2010). Incremental planning and land-use conflict in the Toronto region's Oak Ridges Moraine. *Local environment*, *15*(2), 169-183. https://doi.org/10.1080/13549830903530625

Hanson, R., Hammond Rowan, J., & Green, M. (2022). An assessment of 2 watershed models to meet watershed planning needs. *Lake and reservoir management*, *38*(1), 16-27. https://doi.org/10.1080/10402381.2021.2007181

Hoon, C. (2013). Meta-Synthesis of Qualitative Case Studies: An Approach to Theory Building. *Organizational research methods*, *16*(4), 522-556. https://doi.org/10.1177/1094428113484969

Hristova, B. (2022). *MZOs have been a trump card for the Ford government — here's why it's a serious Ontario election issue*. CBC/Radio-Canada. https://www.cbc.ca/news/canada/hamilton/mzo-election-2022-1.6399276

Huxley, M., & Yiftachel, O. (2000). New Paradigm or Old Myopia? Unsettling the Communicative Turn in Planning Theory. *Journal of planning education and research*, *19*(4), 333-342. https://doi.org/10.1177/0739456X0001900402

Innes, J. E., & Booher, D. E. (2004). Reframing public participation: strategies for the 21st century. *Planning theory & practice*, *5*(4), 419-436. https://doi.org/10.1080/1464935042000293170

Javed, N. (2020). They've fought plans for a waste facility in a Simcoe forest for years. The government is now using a 'bulldozer of planning' to override their opposition. *Toronto Star Newspapers Ltd.* https://www.thestar.com/news/gta/2020/06/07/theyve-fought-plans-for-a-waste-facility-in-a-simcoe-forest-for-years-the-government-is-now-using-a-bulldozer-of-planning-to-override-their-opposition.html

Keil, R., & Macdonald, S. (2016). Rethinking urban political ecology from the outside in: greenbelts and boundaries in the post-suburban city. *Local environment*, *21*(12), 1516-1533. https://doi.org/10.1080/13549839.2016.1145642

Kipper, K. (2021). The City of Ottawa's Smart Growth Challenge: What Can We Expect from the New Official Plan? *Carleton Perspectives on Public Policy*, *7*, 93–119. https://doi.org/https://doi.org/10.22215/cpopp.v7i.3181

Klosterman, R. E. (1978). Foundations for Normative Planning. *Journal of the American Institute of Planners*, *44*(1), 37-46. https://doi.org/10.1080/01944367808976875

Krumholz, N. (1982). A Retrospective View of Equity Planning Cleveland 1969-1979. *Journal of the American Planning Association*, *48*(2), 163-174. https://doi.org/10.1080/01944368208976535

Lane, M. B. (2005). Public Participation in Planning: an intellectual history. *Australian geographer*, *36*(3), 283-299. https://doi.org/10.1080/00049180500325694

Lubell, M., Schneider, M., Scholz, J. T., & Mete, M. (2002). Watershed Partnerships and the Emergence of Collective Action Institutions. *American journal of political science*, *46*(1), 148-163. https://doi.org/10.2307/3088419

McCarthy, D. D. P., Whitelaw, G. S., Westley, F. R., Crandall, D. D., & Burnett, D. (2014). The Oak Ridges Moraine as a Social Innovation: Strategic Vision as a Social-Ecological Interaction. *Ecology and society*, *19*(1), 48-12. https://doi.org/10.5751/ES-06212-190148

McNair, A. (2020). *Minister's Zoning Orders – The Little-known Tool for Controlling Urban Sprawl is now Being Used to Expedite Land Development – Blog*. Ontario Nature. https://ontarionature.org/mzo-blog/

Metzger, J., Soneryd, L., & Linke, S. (2017). The legitimization of concern: A flexible framework for investigating the enactment of stakeholders in environmental planning and governance processes. *Environment and planning. A*, *49*(11), 2517-2535. https://doi.org/10.1177/0308518X17727284

Ministry of Municipal Affairs and Housing. (2017a). Greenbelt Plan. *Queen's Printer for Ontario, 2017*.

Ministry of Municipal Affairs and Housing. (2017b). Oak Ridges Moraine Conservation Plan. *Oak Ridges Moraine Conservation Act, 2001*. https://files.ontario.ca/oak-ridges-moraine-conservation-plan-2017.pdf

Ministry of Municipal Affairs and Housing. (2020a). A Place to Grow Growth Plan for the Greater Golden Horseshoe *King's Printer for Ontario, 2012-23*.

Ministry of Municipal Affairs and Housing. (2020b). Provincial Policy Statement, 2020. *Lieutenant Governor in Council*. https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf

Ministry of the Environment Conservation and Parks. (2019). Environmental Planning. *Stormwater Management Planning and Design Manual* https://www.ontario.ca/document/stormwater-management-planning-and-design-manual/environmental-planning#:~:text=The%20plan%20provides%20details%20with,vary%20from%20municipality%20to%20municipality.

Mirnasl, N., Philpot, S., Akbari, A., & Hipel, K. W. (2022). Assessing policy robustness under the COVID-19 crisis: an empirical study of the environmental policymaking system in Ontario, Canada. *Journal of environmental policy & planning*, *ahead-of-print*(ahead-of-print), 1-15. https://doi.org/10.1080/1523908X.2022.2051454

Mitchell, B., Shrubsole, D., & Watson, N. (2021). Ontario conservation authorities - end, evolve, interlude or epiphany? *Canadian water resources journal*, *46*(3), 139-152. https://doi.org/10.1080/07011784.2021.1930585

Morgan, H. (2022). Conducting a Qualitative Document Analysis. *Qualitative report*, *27*(1), 64-77. https://doi.org/10.46743/2160-3715/2022.5044

Murphy-Mills, E., Whitelaw, G., Conrad, C., & McCarthy, D. (2019). Exploring the current status of water governance and outcomes of community-based monitoring across the Oak Ridges Moraine, Southern Ontario, Canada. *Local environment*, *24*(9), 861-882. https://doi.org/10.1080/13549839.2019.1652801

Office of the Auditor General of Ontario. (2021). Value-for-Money Audit: Land-Use Planning in the Greater Golden Horseshoe. . *Ministry of Municipal Affairs and Housing*. https://www.auditor.on.ca/en/content/annualreports/arreports/en21/AR_LandUse_en21.pdf

Otonabee Region Conservation Authority. (2012). Watershed Planning & Regulations Policy Manual https://www.otonabeeconservation.com/wp-content/uploads/2017/03/ORCA-Watershed-Planning-Regulation-Policy-Manual.pdf

Pierce, S. M., Cowling, R. M., Knight, A. T., Lombard, A. T., Rouget, M., & Wolf, T. (2005). Systematic conservation planning products for land-use planning: Interpretation for implementation. *Biological conservation*, *125*(4), 441-458. https://doi.org/10.1016/j.biocon.2005.04.019

Province of Ontario. (2021a). Conservation Authorities Act, R.S.O. 1990, c. C.27. . *Queen's Printer for Ontario, 2012-22*. https://www.ontario.ca/laws/statute/90c27

Province of Ontario. (2021b). Oak Ridges Moraine Conservation Act, 2001, S.O. 2001, c. 31. *King's Printer for Ontario, 2012-23*.

Province of Ontario. (2021c). Places to Grow Act, 2005, S.O. 2005, c. 13. *Queen's Printer for Ontario, 2012-22*. https://www.ontario.ca/laws/statute/05p13

Province of Ontario. (2021d). Planning Act, R.S.O. 1990, c. P.13. *Queen's Printer for Ontario, 2012-22*. https://www.ontario.ca/laws/statute/90p13

Province of Ontario. (2022). O. Reg. 250/22: ZONING ORDER - TOWNSHIP OF CAVAN MONAGHAN

. *King's Printer for Ontario, 2012-23*.

Qi, H., & Altinakar, M. S. (2011). A conceptual framework of agricultural land use planning with BMP for integrated watershed management. *Journal of environmental management*, *92*(1), 149-155. https://doi.org/10.1016/j.jenvman.2010.08.023

Savan, B., & Gore, C. (2015). Translating strong principles into effective practice: environmental assessment in Ontario, Canada. *Journal of environmental planning and management*, *58*(3), 404-422. https://doi.org/10.1080/09640568.2013.859572

Schulte-Hostedde, B., Walters, D., Powell, C., & Shrubsole, D. (2007). Wetland management: An analysis of past practice and recent policy changes in Ontario. *Journal of environmental management*, *82*(1), 83-94. https://doi.org/10.1016/j.jenvman.2005.12.007

Shrubsole, D. (1996). Ontario conservation authorities: principles, practice and challenges 50 years later. *Applied geography (Sevenoaks)*, *16*(4), 319-335. https://doi.org/10.1016/0143-6228(96)00017-3

Silverman, R. M., & Patterson, K. L. (2015). *Qualitative Research Methods for Community Development* (First edition. ed.). Routledge.

Steffy, L. Y., & Kilham, S. S. (2006). Effects of urbanization and land use on fish communities in Valley Creek watershed, Chester County, Pennsylvania. *Urban ecosystems*, *9*(2), 119-133. https://doi.org/10.1007/s11252-006-7901-5

The Biglieri Group Ltd. (2021). Planning Rationale Report 787 and 825 Fallis Line https://www.ptbocounty.ca/Modules/News/index.aspx?feedId=35fd0008-f4f4-4e83-bed9-13630bba55e3,b12bc3dc-18c1-4a30-999f-a6f1a53edcf6,29a3fecc-631e-49e2-998c-635bcda7fd55,1c04dcfc-a57a-42aa-9eb2-1139126d628b,44f0a250-8654-46c4-9bc0-a9ac716848f3,da498dd9-ee8f-4970-9cd7-70abb8182344&newsId=ef86f420-51cb-4ce2-935b-8daf28d633ec

The Biglieri Group Ltd. (2022a). CSU Development - 1st submission Response to Comments *County of Peterborough*. https://icreate7.esolutionsgroup.ca/230002_iCreate_NewsV2//Management/Attachment/Download/fca0e922-2375-43ca-9f5a-c209d6f36ef5

The Biglieri Group Ltd. (2022b). Request for Minister's Zoning Order ("MZO") – Bromont Homes CSU Developments Inc. CSU2 Developments Inc., Vargas Properties Inc., Vargas P Inc. TBG Project No.s: 20697, 20698, 20699. https://pub-cavanmonaghan.escribemeetings.com/filestream.ashx?DocumentId=1863

Town of Cavan Monaghan. (2018). By-law No. 2018-58. *Corporation of the Township of Cavan Monaghan*. https://www.cavanmonaghan.net/en/build-and-invest/resources/Documents/CM-Zoning-By-Law-2018-58-Office-Consolidation.pdf

Township of Cavan Monaghan. (2013). Official Plan for Township of Cavan Monaghan. *Corporation of the Township of Cavan Monaghan*. https://www.cavanmonaghan.net/en/build-and-invest/resources/Documents/Cavan-Monaghan-Official-Plan-Consolidated.pdf

Township of Cavan Monaghan. (2022). The Township of Cavan Monaghan Regular Council Meeting Monday Febraury 22, 2022 Minutes. https://calendar.cavanmonaghan.net/council/Detail/2022-02-22-1130-Regular-Council-Final-Budget/fc2a7396-b4f3-4293-b354-ae540100288a

Watson & Associates Economists Ltd. (2020). Growth Management Strategy 2020 Township of Cavan Monaghan. *Watson & Associates Economists Ltd.*

Webber, S., & Hanna, K. (2014). Sustainability and suburban housing in the Toronto region: the case of the Oak Ridges Moraine Conservation Plan. *Journal of urbanism*, *7*(3), 245-260. https://doi.org/10.1080/17549175.2014.882859

Whitelaw, G. S., & Eagles, P. F. J. (2007). Planning for Long, Wide Conservation Corridors on Private Lands in the Oak Ridges Moraine, Ontario, Canada. *Conservation biology*, *21*(3), 675-683. https://doi.org/10.1111/j.1523-1739.2007.00708.x

Whitelaw, G. S., Eagles, P. F. J., Gibson, R. B., & Seasons, M. L. (2008). Roles of environmental movement organisations in land-use planning: case studies of the Niagara Escarpment and Oak Ridges Moraine, Ontario, Canada. *Journal of environmental planning and management*, *51*(6), 801-816. https://doi.org/10.1080/09640560802423616 (Journal of Environmental Planning and Management)

Wood, G., & Becker, J. (2005). Discretionary Judgement in Local Planning Authority Decision Making: Screening Development Proposals for Environmental Impact Assessment. *Journal of environmental planning and management*, *48*(3), 349-371. https://doi.org/10.1080/09640560500067467 (Journal of Environmental Planning and Management)

Appendices

Appendix A: Literature Reviewed by Category

Category	Title	Description	Author
Environmental land use planning with a focus on southern Ontario and the Oak Ridges Moraine	*Planning and Sustainability: The Elements of a New (Improved?) Paradigm*	Study of sustainability in the policy realm of planning practice.	(Beatley, 1995)
	Rethinking urban political ecology from the outside in: greenbelts and boundaries in the post-suburban city	Urban Political Ecology and understanding of governances in suburbanisation and postsuburbanisation.	(Keil & Macdonald, 2016)
	Sustainability and suburban housing in the Toronto region: the case of the Oak Ridges Moraine Conservation Plan	Relationship between housing and sustainable development in Toronto, examined with Oak Ridges Moraine Conservation Plan and Ontario's Greenbelt Act and Growth Plan for the Greater Golden Horseshoe.	(Webber & Hanna, 2014)
	Roles of environmental movement organisations in land-use planning: case studies of the Niagara Escarpment and Oak Ridges Moraine, Ontario, Canada	Case study of Oak Ridges Moraine and Niagara Escarpment in domain creation and regime change using environmental movement organisations (EMOs).	(Whitelaw et al., 2008)
	Planning for Long, Wide Conservation Corridors on Private Lands in the Oak Ridges Moraine, Ontario, Canada	Examination of conservation biology on private lands of conservation corridors along the Oak Ridges Moraine.	(Whitelaw & Eagles, 2007)
	Incremental planning and land-use conflict in the Toronto region's Oak Ridges Moraine	Role of incremental policies leading to ecologically based planning legislation.	(Hanna & Webber, 2010)
	The Effects and Implications of Urbanization on the Environmental	Study of urbanization impacts throughout the Oak Ridges Moraine	(Baker et al., 2017)

	Integrity of the Oak Ridges Moraine in Ontario, Canada	(ORM), focusing on the municipality of Richmond Hill.	
Watershed Planning and Conservation Authorities in Southern Ontario	*Watershed Partnerships and the Emergence of Collective Action Institutions*	Examination of watershed partnerships associated with social, political, economic, and ecological features of watersheds.	(Lubell et al., 2002)
	An assessment of 2 watershed models to meet watershed planning needs	Study of watershed planning models regarding water quality improvement goals.	(Hanson et al., 2022)
	A conceptual framework of agricultural land use planning with BMP for integrated watershed management	Goodwin Creek example in Mississippi for integrated modeling system with optimization technique for agricultural land use planning.	(Qi & Altinakar, 2011)
	Effects of urbanization and land use on fish communities in Valley Creek watershed, Chester County	Effects on urbanization on coldwater species.	(Steffy & Kilham, 2006)
	Ontario conservation authorities: principles, practice and challenges 50 years later	Examination of the evolution of Ontario conservation authorities.	(Shrubsole, 1996)
	Ontario conservation authorities - end, evolve, interlude or epiphany?	Examination of key changes by the Ontario government towards the powers of conservation authorities.	(Mitchell et al., 2021)
	Land cover controls on depression-focused recharge on the Oak Ridges Moraine, southern Ontario, Canada	Study of hydrogeologic features within the Oak Ridges Moraine.	(Greenwood & Buttle, 2018)
	Exploring the current status of water governance and outcomes of community-based monitoring across the Oak Ridges Moraine, Southern Ontario, Canada	Study of community-based monitoring throughout the Oak Ridges Moraine, including the evolution of public interest in environmental management.	(Murphy-Mills et al., 2019)

	The Oak Ridges Moraine as a Social Innovation: Strategic Vision as a Social-Ecological Interaction	Examination of social innovation through initiatives and programs across the Oak Ridges Moraine.	(McCarthy et al., 2014)
	The Effects and Implications of Urbanization on the Environmental Integrity of the Oak Ridges Moraine in Ontario, Canada	Study of urbanization impacts throughout the Oak Ridges Moraine (ORM), focusing on the municipality of Richmond Hill.	(Baker et al., 2017)
Minister's Zoning Orders	*Assessing policy robustness under the COVID-19 crisis: an empirical study of the environmental policymaking system in Ontario, Canada*	COVID-19 policymaking successes and failures, including MZOs.	(Mirnasl, et al., 2021)
	Ontario conservation authorities - end, evolve, interlude or epiphany?	Examination of key changes by the Ontario government towards the powers of conservation authorities.	(Mitchell et al., 2021)
	The City of Ottawa's Smart Growth Challenge: What Can We Expect from the New Official Plan?	Study of smart growth principles in consideration for the City of Ottawa's new Official Plan.	(Kipper, 2021)
Other literature reviewed	*Planning without the planners: South Carolina's Section 319 local watershed planning process*	Watershed-based planning roles in water quality outcomes based on funding allocations.	(Dyckman, 2018)
	Community DECISIONS: Stakeholder focused watershed planning	Effective stakeholder engagement in watershed planning.	(Bosch et al., 2012)
	The legitimization of concern: A flexible framework for investigating the enactment of stakeholders in environmental planning and governance processes	Participatory process for stakeholders applicable in the range of environmental planning and governance.	(Metzger et al., 2017)
	Discretionary Judgement in Local Planning Authority Decision Making: Screening Development Proposals for Environmental Impact Assessment	Review of decision-making of Environmental Impact Assessment requirements in the England context.	(Wood & Becker, 2005)

	Greenbelts to Contain Urban Growth in Ontario, Canada: Promises and Prospects	Evaluation of Ontario's greenbelt policies: political will, public support, greenbelt planning, and enabling legislation.	(Ali, 2008)
	Wetland management: An analysis of past practice and recent policy changes in Ontario	Evaluation of Provincial Policy Statement (PPS) concerning wetland protection efforts.	(Schulte-Hostedde et al., 2007)
	Translating strong principles into effective practice: environmental assessment in Ontario, Canada	Challenges in the environmental assessment (EA) process at the provincial level – benefits and restrictions.	(Savan & Gore, 2015)
	Systematic conservation planning products for land-use planning: Interpretation for implementation	Systematic conservation assessment approaches using "STEP Mapbook."	(Pierce et al., 2005)
	Urban Containment Policies and the Protection of Natural Areas: The Case of Seoul's Greenbelt	Korean example of greenbelt policies on natural heritage and ecosystem services.	(Bengston & Youn, 2006)

Appendix B: Document Analysis List

Category	Title
Provincial Plans, Policies, and Documents (9)	*Planning Act*, R.S.O 1990, c. P.13 *Places to Grow Act*, 2005, S.O. 2005, c. 13 *Conservation Authorities Act*, R.S.O. 1990, c. C.27 *Oak Ridges Moraine Conservation Act*, 2001, S.O. 2001, c. 31 Provincial Policy Statement, 2020 Greenbelt Plan (2017) Oak Ridges Moraine Conservation Plan (2017) A Place to Grow: Growth Plan for the Greater Golden Horseshoe Value-for-Money Audit: Land-Use Planning in the Greater Golden Horseshoe
Municipal Plans, Policies, and Documents (4)	County of Peterborough Official Plan 2022-47 Official Plan for the Township of Cavan Monaghan Town of Cavan Monaghan Zoning By-law 2018-58 Township of Cavan Monaghan Growth Management Strategy 2020, prepared by Watson & Associates Economists Ltd.
Fallis West Lands Documents (6)	Fallis West Planning Rationale Report, prepared by the Biglieri Group Ltd. Agricultural Impact Assessment – Fallis Line Residential Development, prepared by Clark Consulting Services Ltd. Environmental Impact Study, prepared by GHD Limited Minister Zoning Order - Ontario Regulation 250/22 CSU Development – 1st Submission Response to Comments Re: Minister's Zoning Order (MZO) Environmental Registry of Ontario (ERO) Number 019-5329 and Peterborough County File No. 15T-21007 (OPA-03-21)

Appendix C: Thematic Groupings

Planning Theory	Theme Group	Study Theme	Detailed Description	Literature
• Rational-comprehensive • Communicative • Advocacy	Policymaking	• Long-range planning • Environmental planning	• How the existing Provincial policy framework is applied through existing regulations, policies and plans, and how MZOs impact these processes? • What policy components can be improved upon to mitigate MZO impacts?	(Baker et al., 2017) (Bengston & Youn, 2006) (Hanna & Weber, 2010) (Schulte-Hostedde et al., 2007) (Savan & Gore, 2015)
	Technical	• Environmental resources • Environmental monitoring	• How environmental land use planning is designed to apply at the local level and how MZOs impact these processes? • What resources are at risk as a result of MZOs?	(Pierce et al., 2005) (Whitelaw & Eagles, 2007) (Webber & Hanna, 2014) (Wood & Becker, 2005)
	Social	• Public consultation • Community impacts	• How have existing public consultation requirements been impacted by the use of MZOs?	(Ali, 2008) (Bosch et al., 2012) (Metzger et al., 2017)