

# PLANNING ADVISORY COMMITTEE OFFICIAL PLAN REVIEW

## Agenda:

- Planning Advisory Committee
- County Official Plan
- Discussion Topics
- Next Steps

19 January 2022



# PLANNING ADVISORY COMMITTEE

# PLANNING ADVISORY COMMITTEE

**MISSION** provide information, perspective and recommendations to Council on broad planning matters

**MANDATE** provide information, perspective and recommendations to Council on broad planning matters as required from time to time; to review the provisions of the County Official Plan and related policy, and recommend to Council general amendments thereto which would be in the best interests of the County and to advise Council on general land use planning issues of County significance

**OBJECTIVES** provide assistance, guidance and recommendations to Council in circumstances where the Committee's involvement can benefit Council deliberations and decisions with respect to policy issues directly related to land use planning

# PLANNING ADVISORY COMMITTEE

**MEETINGS** the Committee shall hold meetings as directed by the Warden

**PROCEDURE** meetings will be conducted in accordance with the County Procedural By-law and practices

**CONFLICTS OF INTEREST** members shall disclose any pecuniary interest to the Committee and remove themselves from meetings for the duration of discussion with respect to that matter



**CHAIR** of the Committee shall be elected at the first meeting of the Committee for the term of council



The background of the slide is a photograph of a landscape. In the foreground, there is a green field. In the middle ground, there is a dense line of trees. The sky is a clear, deep blue. On the left side, there is a dark, silhouetted tree branch that extends into the frame. The text "OFFICIAL PLAN" is centered in the upper half of the image.

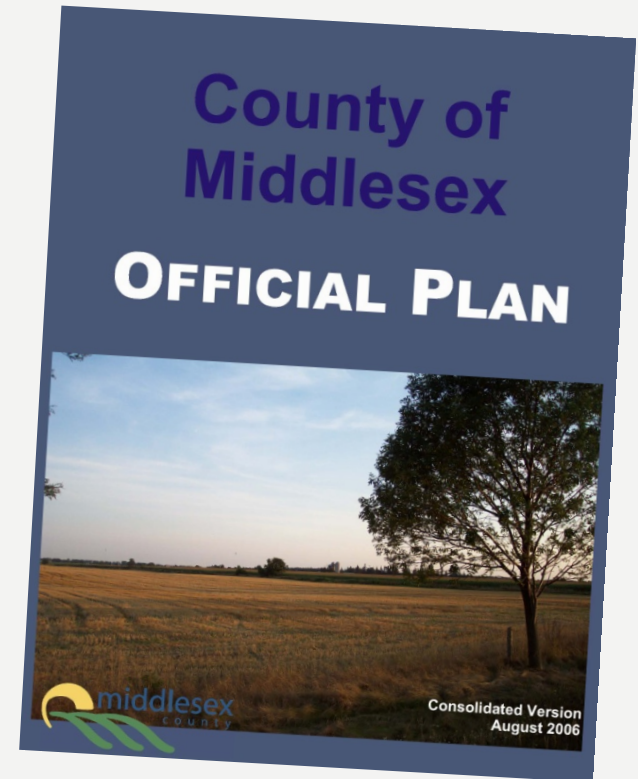
# **OFFICIAL PLAN**

# WHAT IS AN OFFICIAL PLAN?

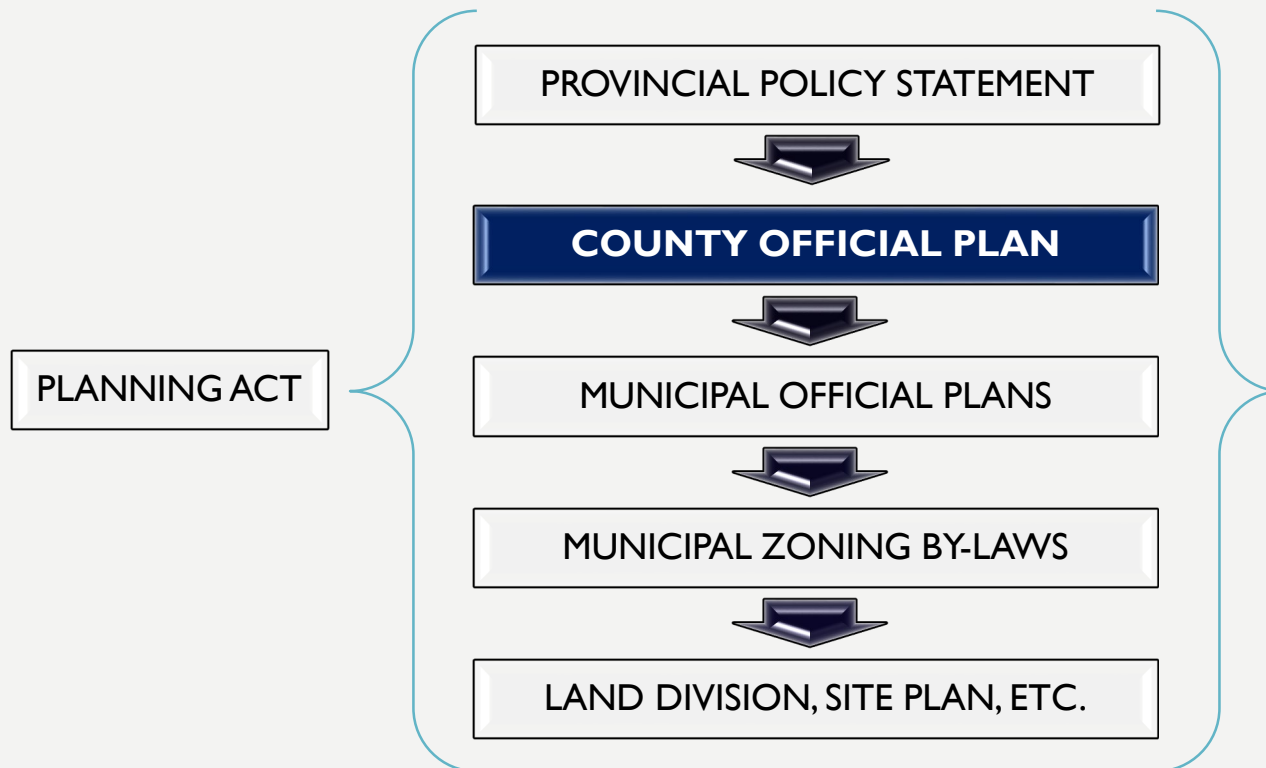
A municipal policy document created under the Planning Act that sets out a land use policy vision based on long-term goals and objectives

Council's primary tool for making land use decisions and managing physical change

The Planning Act states that no public work shall be undertaken and no by-law shall be passed that does not conform to the official plan



# PROVINCIAL FRAMEWORK



# COUNTY OFFICIAL PLAN

- Directs and guides land use policy and physical planning on a broad basis by primarily dealing with issues of Provincial and County interest
- Recognizes the planning powers and authorities vested in local municipalities and does not set out detailed local policies
- Provides a policy framework for issues such as Settlement Areas, Agricultural Areas, Resource Management, Growth Management, the Natural Environment and the provision of Physical Services
- Provides a way to evaluate and settle conflicting land uses while meeting local, County and Provincial interests



# OFFICIAL PLAN REVIEW

- The Official Plan is being reviewed and updated to ensure that policies stay current and reflect changing needs
- The Official Plan update is a multi-year process to:
  - > incorporate new Provincial legislation, regulations, and policies
  - > implement new County policy initiatives and plans
  - > guide growth over a 25-year period from 2021–2046
- The process has been started – and paused – but the timing is right to conclude in 2022 during this term of Council

# OFFICIAL PLAN REVIEW

- Significant background work has been undertaken and consolidated into a Draft Working Copy Official Plan Amendment:  
<https://www.middlesex.ca/departments/planning/official-plan-update>
- This background work and the outstanding matters have been summarized into ten review topics for consideration by PAC and County Council and for the purposes of consultation
- A Draft Official Plan Amendment will be created based on the feedback received related to the ten review topics

# REVIEW TOPICS

1. Provincial Change
2. Transportation
3. Agriculture
4. Population and Housing Forecasts
5. Drinking Source Water Protection
6. Natural Heritage
7. Economy
8. Development
9. Housing
10. Other Topics

The background of the slide is a photograph of a sunset over a grassy field. In the foreground, several horses are silhouetted against the bright, low sun on the left. The sky is filled with soft, orange and yellow clouds. A large, dark, wavy-edged shape, resembling a torn piece of paper or a stylized shadow, covers the left and central portions of the image. The title text is overlaid on this dark shape.

# **PROVINCIAL CHANGE**

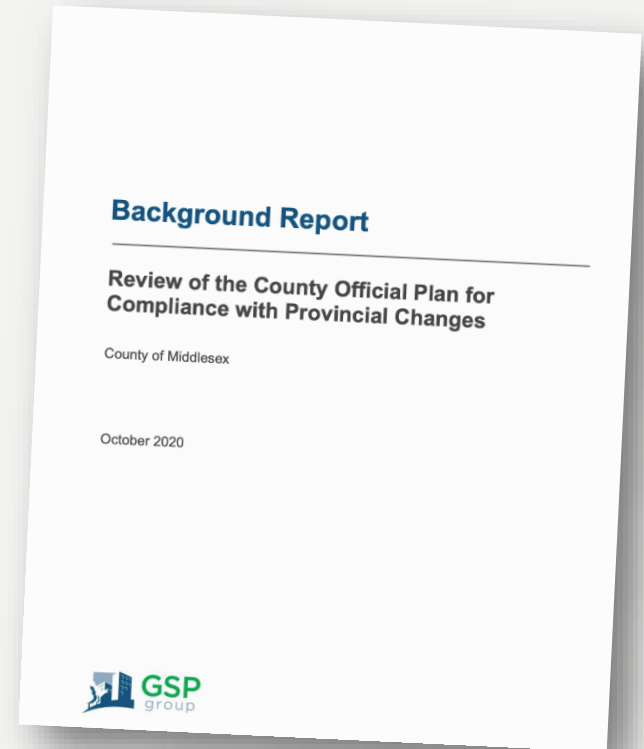
# PROVINCIAL CHANGE

- The County Plan acts as a 'bridge' between Provincial Policy and local municipal official plans by providing guidance to local plans but at a level of detail reflective of upper tier policies
- Changes must be undertaken to ensure legislative requirements are met but without otherwise disrupting the function of the Official Plan
- GSP Planning were engaged to undertake a 'Review of the Official Plan for Compliance with Provincial Changes'



# PROVINCIAL CHANGE

- Background Report completed summarizing the changes based on thematic areas:
  - Agricultural
  - Housing
  - Employment Areas
  - Growth / Density
  - Natural Heritage / Resources
  - General
- 'Fact Sheets' completed for each legislative change to inform local official plan updates



# PROVINCIAL CHANGE

Planning and  
Conservation Land  
Statute Law  
Amendment Act

Green Energy and  
Green Economy  
Act

Strong  
Communities  
through Affordable  
Housing Act

Guidelines for New  
Development in  
Proximity to  
Railway Operations

Smart Growth for  
Our Communities  
Act

Promoting  
Affordable Housing  
Act

Guidelines on  
Permitted Uses in  
Ontario's Prime  
Agricultural Areas

Minimum Distance  
Separation (MDS)  
Document

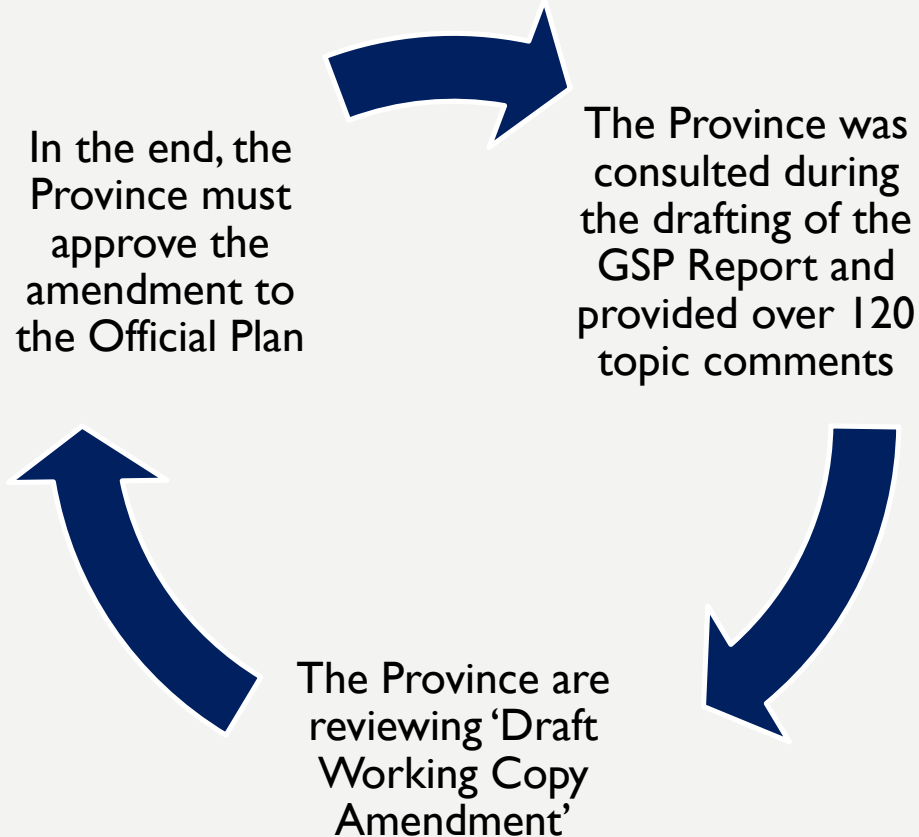
Aggregate  
Resources and  
Mining  
Modernization Act

Building Better  
Communities and  
Conserving  
Watersheds Act

More Homes, More  
Choice Act

Provincial Policy  
Statement

# PROVINCIAL CHANGE





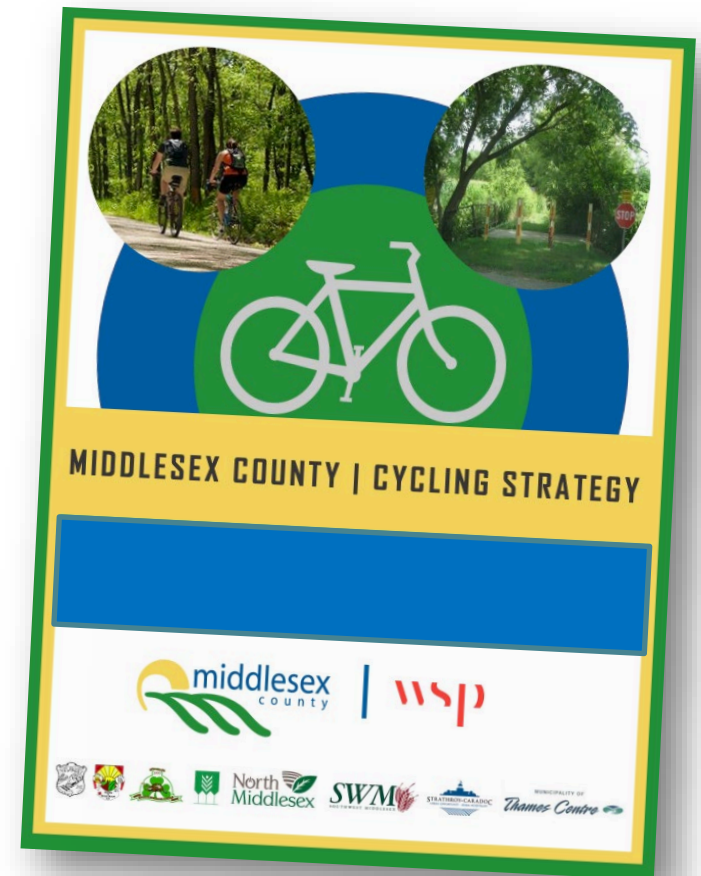
# TRANSPORTATION

# TRANSPORTATION

A strong and efficient Transportation System has been a key long-term priority of Middlesex County and therefore represents an important component of the Official Plan

A review of the Transportation System policies found in Section 2.4.2 was undertaken and recommendations were endorsed by County Council

Cycling Strategy was undertaken and recommendations were endorsed by County Council





# TRANSPORTATION

active transportation

walking and cycling

healthy communities

coordination between  
municipalities and other  
levels of government

promote land use  
compatibility for lands  
adjacent to planned and  
existing corridors

'transportation system'  
approach

road widening may be  
taken from both  
'severed' and 'retained'  
parcels

efficient corridor  
management controls

encourage development  
patterns that are safe  
and that facilitate both  
physical activity and  
social interaction

encourage the  
consideration of safety  
for all road users in road  
design

roundabouts

Guidelines for New  
Development in  
Proximity to Railway  
Operations

# TRANSPORTATION

## Discussion – Challenges

- Ensuring transportation policies both promote healthy economic growth and preserve the needs of agricultural economy
- Impact of large urban centre (City of London) contributing high volumes of traffic through the region
- Managing expectations / impact of more urban residents moving to a County setting and experiencing a rural transportation network vs urban (subdivision) streets

**Discussion** 

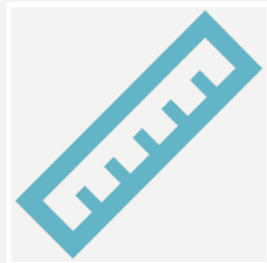
A green John Deere tractor is positioned on the left side of the frame, facing right. To its right, a yellow harrow is actively working in a field, creating a cloud of dust or chaff. In the foreground, a large, round hay bale is partially visible on the right. The background shows a line of trees under a grey, overcast sky. The word "AGRICULTURE" is superimposed in large, white, bold, sans-serif capital letters across the center of the image.

# AGRICULTURE

# AGRICULTURE

“The decisions made today will fundamentally affect options available to future generations. The ability to produce food, to regulate the system of production to reflect the values of society, to maintain the important economic contributions of agriculture, and to retain the important role that farmers play in managing the countryside is dependent on retaining farmers and the lands essential to their livelihood”

(Caldwell et al., 2017, p. 61).



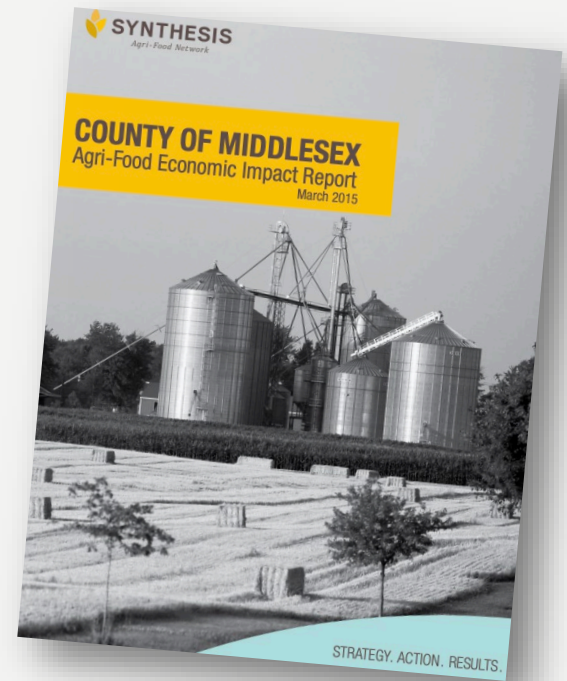
**Minimum Farm  
Size**



**Surplus Dwellings**

# AGRICULTURE

- The predominant land use within the County and an important component of the economy and culture:
  - 1.2 billion economic impact
  - 7,800 jobs (290 million wages and salaries)
- Important locally and provincially: favorable climate and soils, accessibility to Canadian and US markets, and a diverse agricultural system (operations, supporting business, processing, etc)





# AGRICULTURE MINIMUM FARM SIZE



- A key component of managing the agricultural resource is the general discouragement of lot creation to avoid the unwarranted fragmentation of agricultural land
- The Official Plan limits the creation of new farm parcels to 'about 40 hectares' (100 acres)
- The planning policies that seek to limit smaller farm parcel creation are an attempt to ensure that viable agricultural parcels are available to support current and future farming practices

# AGRICULTURE MINIMUM FARM SIZE

- It is argued that farming practices are supported by larger farm parcels:
  - operationally more efficient (tile drainage, large farm equipment, etc)
  - maintain greater flexibility
  - more suitable for livestock
  - less expensive on a per-hectare basis
  - less likely to face non-farmer ownership competition
- In contrast, it is argued that smaller farm parcels:
  - less expensive to purchase
  - support young farmers
  - support speciality farm operations
  - support local food initiatives
  - support value added agricultural

**Discussion**



# AGRICULTURE MINIMUM FARM SIZE

## **Provincial Policy Statement** (Policy 2.3.4.1a)

“Lot creation in prime agricultural areas is discouraged and may only be permitted for: agricultural uses, provided that the lots are of a size appropriate for the type of agricultural use(s) common in the area and are sufficiently large to maintain flexibility for future changes in the type or size of agricultural operations”

The PPS does not specify a minimum farm parcel size however it has been the position of the Province that 40 ha is the minimum farm size unless otherwise demonstrated

# AGRICULTURE MINIMUM FARM SIZE

## Provincial Guideline Document

“In general, the larger the farm parcel, the more adaptable it is to changing conditions and more efficient it is to run the farm. Keeping farms large enough to maintain flexibility is key to agricultural viability and to achieving the PPS requirement of protecting prime agricultural areas for long-term use in agriculture. Lot size may vary depending on the agricultural use. For traditional field crops, large lots are optimal. Higher-value specialty crops tend to be located on smaller parcels. In all cases, lots must still be large enough to maintain flexibility for future changes in the type or size of the agricultural operation.”

# AGRICULTURE MINIMUM FARM SIZE

## **County Official Plan** (policy 4.5.3.4b)

“consents for new farm lots shall generally not be considered where the result is the creation of a farm lot less than a typical township lot of about 40 hectares. Consents for the creation of new farm lots shall be considered where both the size of the lands being severed and the lands being retained are appropriate to:

1. the type of agriculture being engaged in or proposed to be engaged in; and
2. the type of agricultural activity and farm lot size common in the area.

In general, farm lot size shall be sufficiently large to create large contiguous farming blocks and to maintain flexibility to adapt to future changes in agriculture and to avoid the unwarranted fragmentation of farmland. A minimum farm lot size shall be established in the Zoning By-laws of the local municipalities”

# AGRICULTURE MINIMUM FARM SIZE

- Most nearby official plans contain a 40 ha minimum size however:
  - Oxford 30 ha,
  - Chatham-Kent 20 ha, and
  - Lambton 30 ha or 38 ha depending on the local municipality.
- Lambton also has an allowance for further study:

“a different minimum farm parcel size for local municipalities may be considered through an amendment to this Plan provided that a study is carried out by the local municipality with the guidance and assistance of the Province, to demonstrate that the different farm parcel size is appropriate for the type of agricultural uses common in the local area, yet is sufficiently large enough to maintain flexibility for future changes to the type or size of agricultural operations”



# AGRICULTURE MINIMUM FARM SIZE

- Stovel and Associates Inc. undertook an Agricultural Parcel Size Analysis
  - Professional Planner and Agrologist with extensive experience on agricultural issues including AIAs and MDS Assessments.
  - Experience on this topic including at the Ontario Land Tribunal (Lambton County vs Province)
- County provided base mapping (parcels, soils, photography) and MPAC data
- An iterative process that included review of assessment data, statistical analysis, review of aerial photography and zoning assessments.

# AGRICULTURE MINIMUM FARM SIZE

- Observations
  - Diverse and healthy agricultural system
  - Local farmers use all arable land available and parcel size is not a deterrent to cash crop or livestock farming
  - The County has high quality soils and climate, cultivated for a variety of crops
  - Variations in existing farm sizes can be attributed mainly to past and present agricultural trends and fragmenting factors such as railways, highways, and rivers (especially in certain locations)
  - Averages heavily influenced by numbers of small often non-farm parcels

# AGRICULTURE MINIMUM FARM SIZE

Overview of Parcel Size for Each Municipality

Municipality	Total # Parcels	Mean ~Acres	Mean ~Acres (remove 5-acre parcels)
Thames Centre	1412	64	68
Lucan Biddulph	575	67	76
North Middlesex	1806	75	79
Adelaide Metcalfe	1049	74	78
Southwest Middlesex (includes Newbury)	1468	64	70
Strathroy-Caradoc	1712	35	57
Middlesex Centre	1833	71	73
<b>County</b>	<b>9855</b>	<b>64</b>	<b>72</b>

# AGRICULTURE MINIMUM FARM SIZE

Overview of Parcel Size for Each Municipality with Agricultural Structures

Municipality	Total # Parcels	Mean ~Acres	Mean ~Acres (remove 5-acre parcels)
Thames Centre	457	81	82
Lucan Biddulph	138	85	85
North Middlesex	486	92	93
Adelaide Metcalfe	278	87	95
Southwest Middlesex (includes Newbury)	331	83	83
Strathroy-Caradoc	289	74	75
Middlesex Centre	431	87	88
<b>County</b>	<b>2410</b>	<b>84</b>	<b>86</b>

# AGRICULTURE MINIMUM FARM SIZE

- Observations
  - In terms of the word ‘common’, the County has a range of farm parcel sizes and all arable parcels regardless of size are cultivated
  - Flexibility is typically related to field size with larger parcels being more efficient to farm than smaller parcels
  - Also, larger parcels are easier to manage manure and situate a livestock barn or manure storage facility, but this isn’t as significant of a constraint since the Nutrient Management Act and the use of manure brokers - basically, these provisions provide flexibility

# AGRICULTURE MINIMUM FARM SIZE

- Observations, in general:
  - 5 of 7 municipalities in the range of 38 (94 ac) to 41 ha (100 ac)
  - 2 of 7 municipalities in the range of 30 ha (74 ac)
  - A 38 ha (94 acre) minimum is sufficient to provide opportunity to establish new livestock operations

**Discussion**





# AGRICULTURE SURPLUS DWELLINGS



- In order to protect agricultural land for long-term agricultural use and to avoid land use conflicts, new residential lots are prohibited within the agricultural area with one exception - **Residence Surplus to a Farming Operation**
- Farm operations have increased in size (greater than 250 acres average) and decreased in numbers (3,162 in 1991 - 2,335 in 2016) resulting in farmers acquiring multiple farm dwellings
- Intent of policy is to facilitate the severance of farm dwellings where they are not needed for an expanding farming operation

# AGRICULTURE SURPLUS DWELLINGS

## **Provincial Policy Statement** (Policy 2.3.4.1.c)(Definition)

- Lot creation in prime agricultural areas is discouraged and may only be permitted for: a residence surplus to a farming operation as a result of farm consolidation, provided that: 1. the new lot will be limited to a minimum size needed to accommodate the use and appropriate sewage and water services; and 2. the planning authority ensures that new residential dwellings are prohibited on any remnant parcel of farmland created by the severance. The approach used to ensure that no new residential dwellings are permitted on the remnant parcel may be recommended by the Province, or based on municipal approaches which achieve the same objective
- Residence surplus to a farming operation: means an existing habitable farm residence that is rendered surplus as a result of farm consolidation (the acquisition of additional farm parcels to be operated as one farm operation)

# AGRICULTURE SURPLUS DWELLINGS

## County Official Plan (Policy 4.5.3.4.a)(Definition)

- Consent to sever a residence surplus to a farming operation as a result of farm consolidation may be permitted, provided the residence was built prior to January 1, 1999, and provided that new residential dwellings are prohibited on any vacant remnant parcel of farmland created by the severance
- Residence Surplus to a Farming Operation: means a farm residence that is rendered surplus as a result of farm consolidation (the acquisition of additional farm parcels to be operated as one farm operation).

# AGRICULTURE SURPLUS DWELLINGS

- The Official Plan **must** at a minimum be updated to reflect the PPS:
  - that the surplus dwelling lot be “limited to a minimum size needed to accommodate the use and appropriate sewage and water services” and that the dwelling be “habitable”
- The Official Plan **should** be updated to advance the 1999 cut off date
- There are other areas where the Official Plan **could** be updated, or those matters could be left to local official plans

# AGRICULTURE SURPLUS DWELLINGS

## Cut-Off Date

- The Official Plan requires a surplus dwelling be built prior to 1999
- This date was put in place as a result of a settlement before the (at the time) Ontario Municipal Board - essentially allowing those dwellings in place prior to the changed policies to be eligible to be severed
- The concern was (and remains) that without a date someone could build a new farm dwelling, then shortly cause farm consolidation to occur, thereby 'manufacturing' a surplus dwelling for non-agricultural use
- As time has passed, 1999 is increasingly seen as an unreasonably long time

# AGRICULTURE SURPLUS DWELLINGS

## Cut-Off Date

- It would appear that there are four primary options:
  1. No Date: remove the date and use PPS wording
  2. Status Quo: maintain the 1999 date
  3. Establish a New Date: with the year to be determined
  4. Sliding Scale Date: that a dwelling must be at least X years old

**Discussion**



# AGRICULTURE SURPLUS DWELLINGS

## **Barns / Size of Severed Lot**

- The PPS requires that the new lot be limited to a minimum size needed to accommodate the use and appropriate sewage and water services
- Generally, barns are not included with the severed surplus dwelling but there is pressure to maintain well constructed non-livestock (or decommissioned livestock) buildings associated with surplus dwellings
- This is generally discouraged to limit the loss of agricultural land, given that the surplus dwelling property is no longer an agricultural use, and related to concerns for future non-residential uses within such structures



# AGRICULTURE SURPLUS DWELLINGS

## Barns / Size of Severed Lot

- Ontario Barn Preservation organization wrote to municipalities discouraging the demolition of heritage barns for reasons including:
  - historic landmarks on countryside
  - potential to reuse / repurpose
  - cultural value that conveys a sentiment / image of farm community
- Their opinions are not completely aligned with the PPS or the Official Plan; for example the keeping of livestock on surplus dwelling lots and discounting MDS
- Municipalities have generally been hesitant to designate barns under heritage legislation as this impacts owner's ability to alter such structures

**Discussion** 

# AGRICULTURE SURPLUS DWELLINGS

## Other Considerations

- There is sometimes debate as to what a qualifying 'farming operation' is and if there must be a 'home farm' in order to sever a surplus dwelling
- The Official Plan could further describe what a farming operation is or that could be left to local official plans
- There may be other areas to be considered

**Discussion**





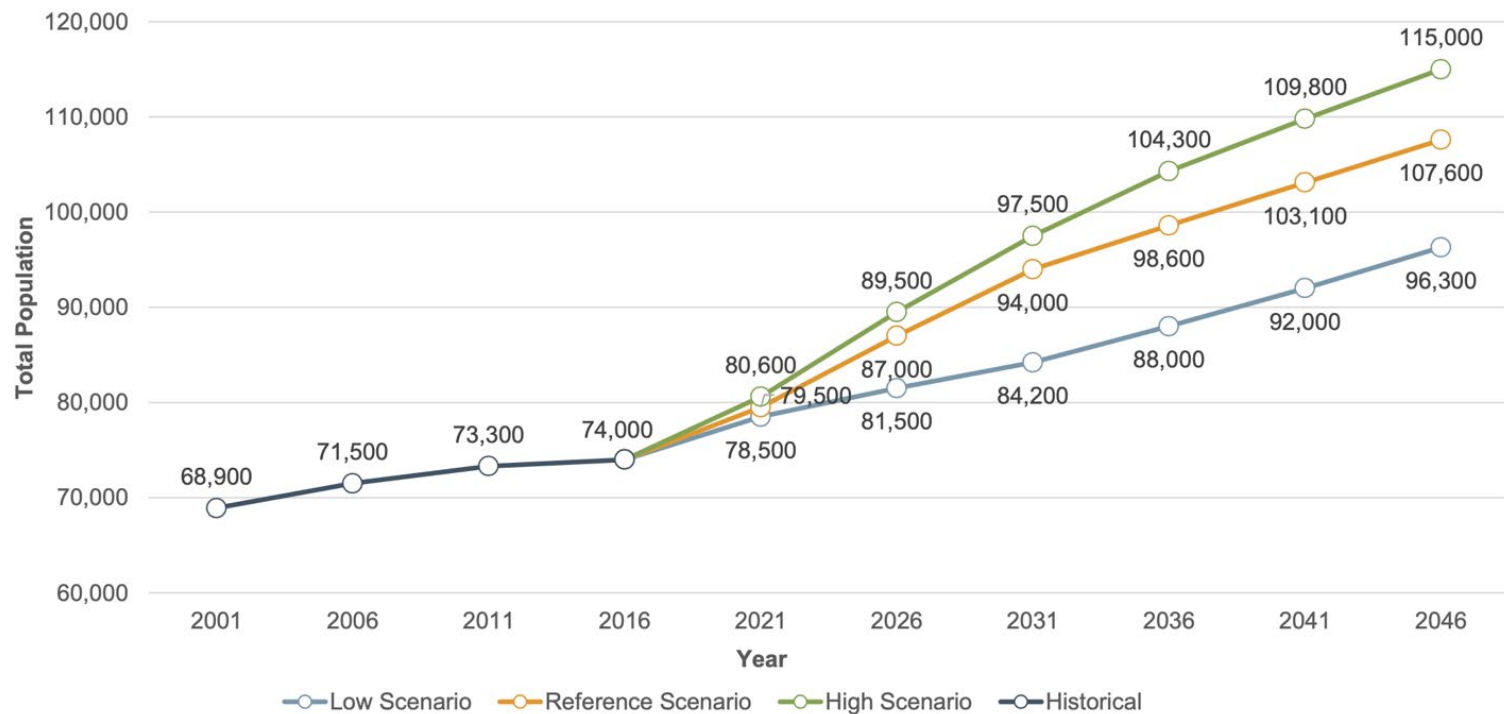
# POPULATION & HOUSING FORECASTS

# POPULATION & HOUSING FORECASTS

- Population & Housing Projections are included within the Official Plan and are intended to be used by the County and local municipalities to assist in managing growth and development
- Watson & Associates Economists were engaged to undertake Growth Forecasts to reflect a 25-year planning horizon, Provincial projections, and the rapid development that is occurring within the County as best can be captured
- Council endorsed the growth scenarios as most likely to occur over the 25-year planning horizon

# POPULATION & HOUSING FORECASTS

Figure 2  
Middlesex County  
Population Forecast Scenarios, 2016 to 2046



# POPULATION & HOUSING FORECASTS

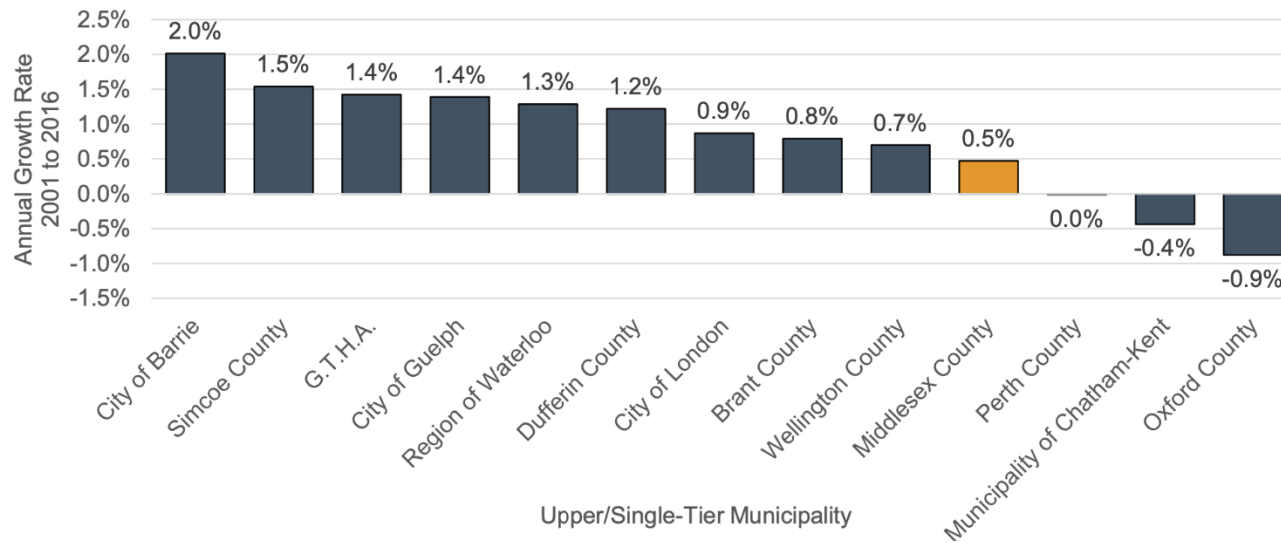
Growth Scenario	2046 Population	Annual Population Growth	Annual Housing Growth
High	115,000	1.5%	1.9%
Reference	107,600	1.3%	1.7%
Low	96,300	0.9%	1.3%

*In comparison Middlesex experienced an annual population growth of 0.5% between 2001 and 2016*

# POPULATION & HOUSING FORECASTS

## Regional Context

### Annual Population Growth Rate by Selected Area, 2001 to 2016



Source: Derived from Statistics Canada Demography Division data by Watson & Associates Economists Ltd., 2021.  
Note: Population includes net Census undercount.

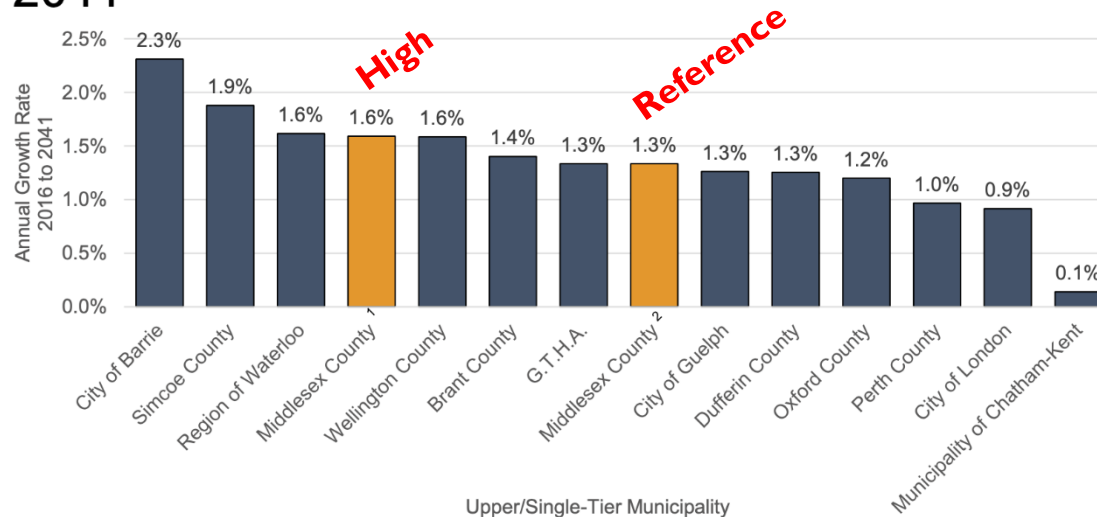
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# POPULATION & HOUSING FORECASTS

## Regional Context

### Annual Population Growth Rate by Selected Area, 2016 to 2041



Source: Based on A Place to Grow, Growth Plan for the Greater Golden Horseshoe Office Consolidation, 2020, Schedule 3, by Watson & Associates Economists Ltd., 2021. Oxford County forecast based upon Oxford County Phase One Comprehensive Review: Population, Housing and Employment Forecast, (2019) by Hemson Consulting. Perth County, City of London, Municipality of Chatham-Kent based on forecasts prepared by Watson & Associates Economists Ltd., 2021.

Note: Population includes net Census undercount.

<sup>1</sup> Refers to High Scenario

<sup>2</sup> Refers to Reference Scenario

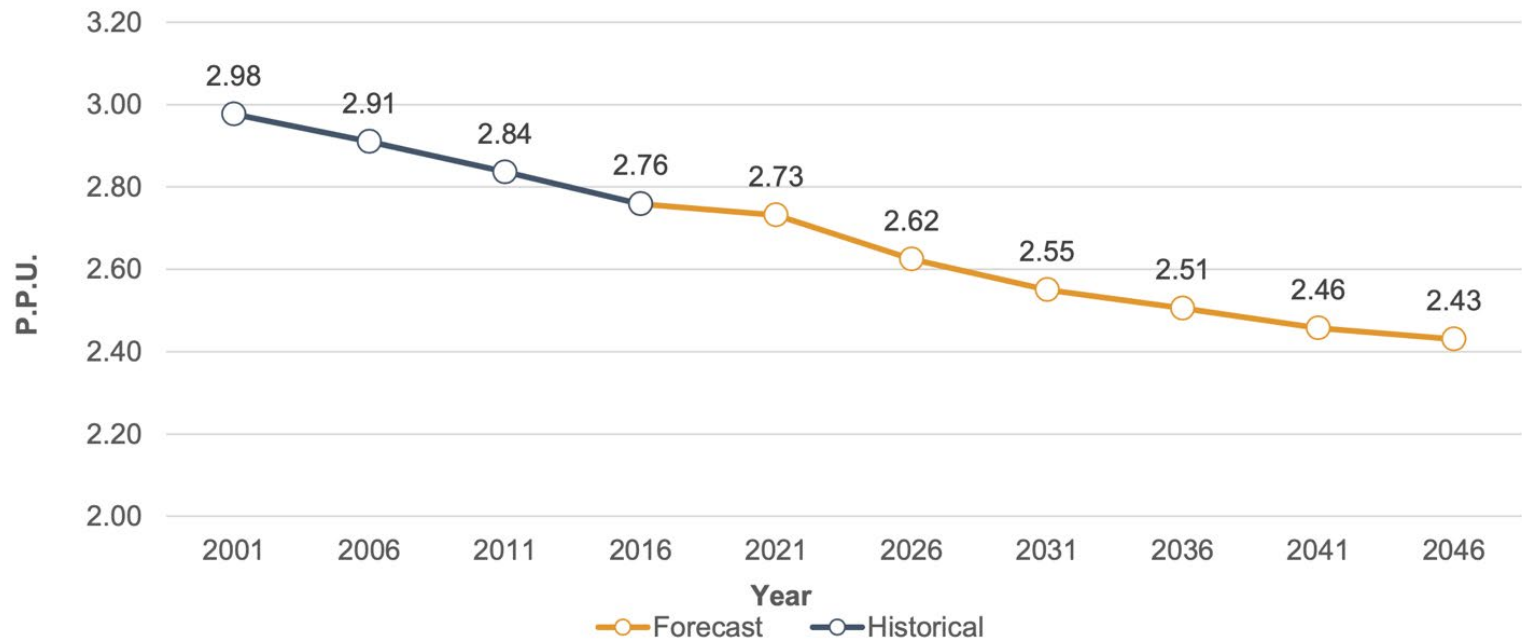


# POPULATION & HOUSING FORECASTS

- The Provincial Policy Statement requires the County Official Plan to identify and allocate population and housing projections based on local municipalities
- The County Plan does not however constrain municipalities from realizing growth at a faster or slower rate than the projections
- It is not the intention of the County Official Plan to limit well planned housing and the Official Plan is flexible in this regard
- A ranged projection approach allows local municipalities the flexibility to select projections that suit local purposes

# POPULATION & HOUSING FORECASTS

Figure 6  
Middlesex County  
Persons Per Unit (P.P.U.) Forecast, 2001 to 2046



# POPULATION & HOUSING FORECASTS

## Discussion – Persons Per Unit

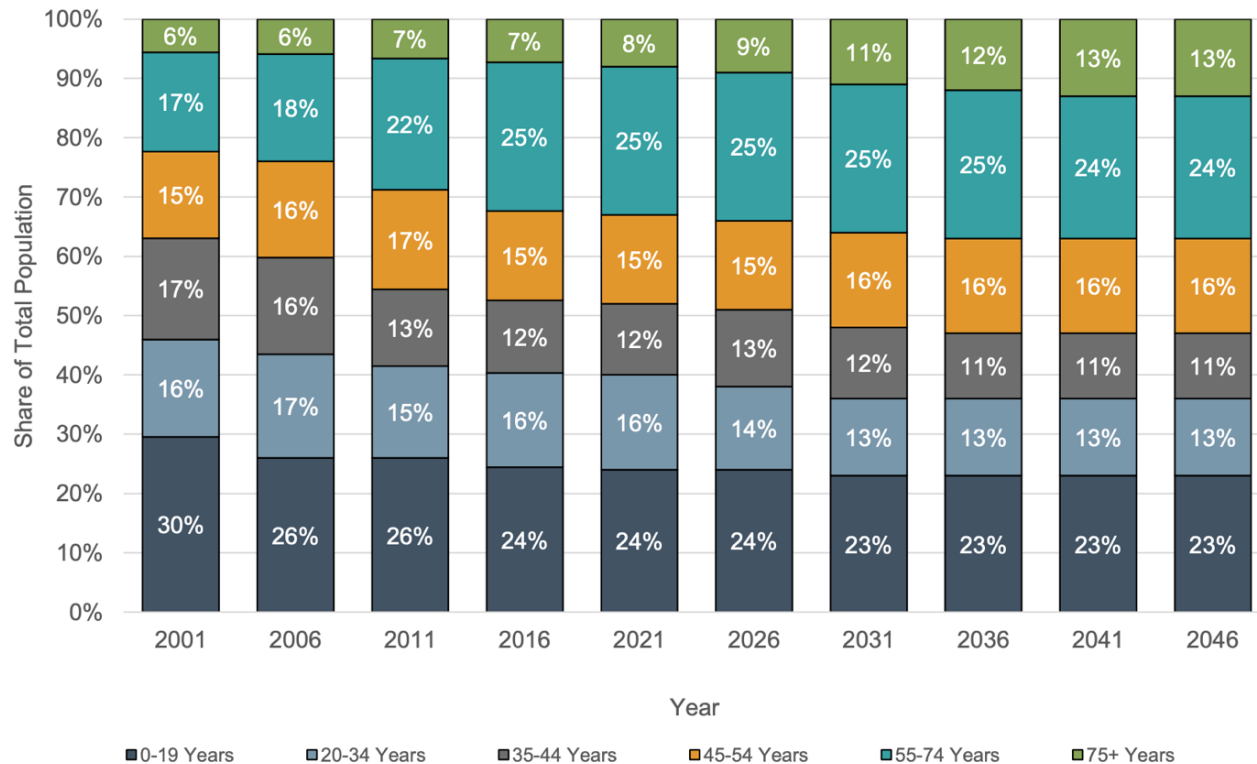
- The average PPU has steadily declined over the 15-year historical period, falling from 2.98 in 2001 to 2.76 in 2016
- This can largely be attributed to the aging of the County's population and overall household composition trends of less children per household and more single-person households

**What does that mean for Middlesex**



# POPULATION & HOUSING FORECASTS

Figure 1  
Middlesex County  
Population Forecast by Age Group



# POPULATION & HOUSING FORECASTS

## Discussion – Baby Boomers

- The average age in the County is getting older primarily due to the large concentration of Baby Boomers
- As the Baby Boom population continues to age, the percentage of seniors, particularly older 75+ seniors, is forecast to almost double, from 7% to 13%
- On average, seniors (especially 75+) have less mobility, less disposable income and have increased health care needs

**What does that mean for Middlesex**



# POPULATION & HOUSING FORECASTS

## Discussion – Millennials and Generation Z

- The majority of the County's existing and future labour supply
- A number of economic and socio-economic variables: relative housing costs, local and regional employment opportunities, technological disruption and advancement, fuel costs, lifestyle preferences, local amenities, community services, and perceived quality of life
- Retaining and attracting new skilled working residents to the County is necessary to ensure that economic growth is not constrained by future labour shortages

**What does that mean for Middlesex**

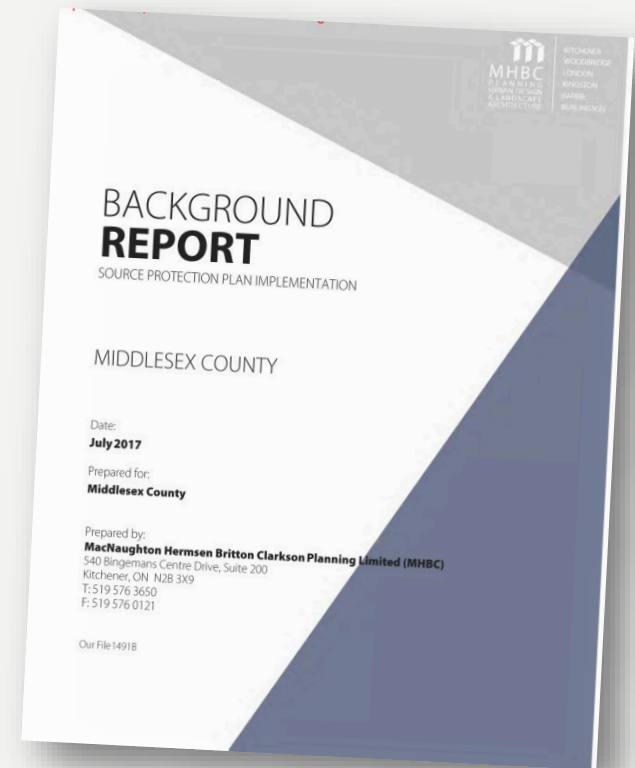


# **DRINKING SOURCEWATER PROTECTION**



# DRINKING SOURCE WATER PROTECTION

- The Clean Water Act is intended to ensure the protection of municipal drinking water sources and subsequently human health and the environment
- The Act sets out a risk-based process, on a watershed basis, to identify vulnerable areas and associated drinking water threats and issues through the preparation of Assessment Reports and Source Protection Plans





# DRINKING SOURCE WATER PROTECTION

- Objectives of Source Protection Planning
  - Science-based Assessment Reports identify risks to municipal drinking water sources
  - Source Protection Plans put policies in place to protect municipal drinking water sources of
- Objectives of Source Protection Plans
  - Protect existing and future drinking water sources
  - Ensure that where an activity is or would be a significant drinking water threat that the activity never becomes a significant drinking water threat, or ceases to be a significant drinking water threat



# DRINKING SOURCE WATER PROTECTION

- Three Source Protection Plans:
  - Thames-Sydenham and Region Source Protection Plan
  - Lake Erie Source Protection Plan
  - Ausable Bayfield Source Protection Plan
- Four Municipal Drinking Source Water Systems / Wellhead Protection Areas:
  - Thames Centre (Thorndale and Dorchester)
  - Middlesex Centre (Birr and Melrose)
  - Plus one within Central Elgin (Belmont) that extends geographically into Middlesex County

# DRINKING SOURCE WATER PROTECTION

- Proposed changes to Official Plan include reference to the Clean Water Act, Source Protection Assessment Reports and Plans, direction for local municipal official plans and zoning by-laws, updated definitions, and a mapping schedule
- The detailed policies and mapping occurs within local municipal official plans and is regulated by local zoning by-laws



# **NATURAL HERITAGE**

# NATURAL HERITAGE

- The Natural Heritage system, made up of features such as woodlands, wetlands, valley lands, and watercourses, provides important environmental, social and economic benefits:
  - plant and animal habitat
  - recreation and enjoyment of nature
  - filtering pollution and sediment from air and water
  - reducing storm water run-off, flooding and erosion
  - reducing greenhouse gas emissions by storing carbon
  - contributing to the economy (forestry, maple syrup and tourism)
  - supporting agriculture by improving soil health and growing conditions
  - assisting with climate change / climate resiliency

# PROVINCIAL POLICY

- The existing Official Plan contains strong natural heritage protection policies but with a focus on the protection of individual woodlands and wetlands
- The Provincial Policy Statement requires a move from the protection of natural heritage features to the protection of the natural heritage system
- PPS definition can be summarized as:

Natural Heritage System is made up of natural heritage features and areas, and linkages intended to provide connectivity and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems

# NATURAL HERITAGE SYSTEM STUDY

- Middlesex Natural Heritage System Study (MNHSS) undertaken to provide a scientifically based analysis of the Middlesex County landscape
- The study to be implemented through various means including the official plan update
- It is noted that the County has undertaken other initiatives that enhance the natural heritage system including:
  - County Forest stewardship
  - Woodlands Conservation By-law

# COUNTY FOREST

- The County owns and manages the County Forest which consists of 1040 hectares (2500 acres) within 27 tracts in three areas: the Dorchester Swamp, the Big Swamp, and the Skunk's Misery / Bothwell Forest Complex
- The largest component is within the Skunk's Misery / Bothwell Forest Complex which is one of the largest and most significant forest blocks in south-western Ontario
- Council has established a Vision for the County Forest:

“The Middlesex County Forest will be managed to ensure the ecological sustainability of the Middlesex County Forest and their associated natural heritage features and social and economic values through the utilization of an integrated ecosystem-based approach to management.”



# WOODLANDS CONSERVATION BY-LAW

- Woodlands Conservation By-law passed under the Municipal Act to ‘prohibit or regulate the destruction or injuring of trees’ on private property unless it is a selective cutting / commercial timber harvest or as a result of an ‘exemption’
- County Council has established a policy of ‘no net loss’ when considering ‘Council Exemptions’ and the enforcement of the By-law
- Any money realized as a result of enforcement of the By-law is paid into the Tree Bank Fund which Council has used to fund the Clean Water Program
- Clean Water Program is a rural water quality initiative providing technical assistance and financial incentives to improve and protect water quality on farms through landowner grants and stewardship activities often related to the establishment or enhancement of natural heritage features

# NATURAL HERITAGE SYSTEM STUDY

- The five conservation authorities, with the Upper Thames River as the lead, completed the MNHSS on behalf of the County
- Project guided by a Steering Committee and a Technical Committee through workshops with expertise in ecology, biology, mapping and planning
- Peer Review of the science by a third-party consultant (hired by the County) built into the project

UPPER THAMES RIVER  
CONSERVATION AUTHORITY

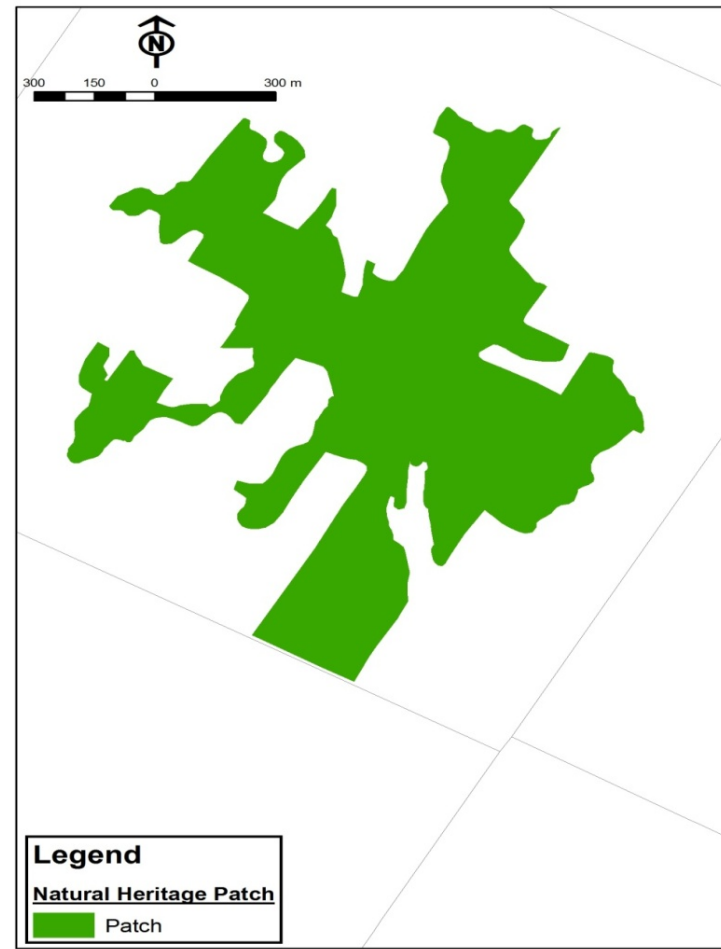
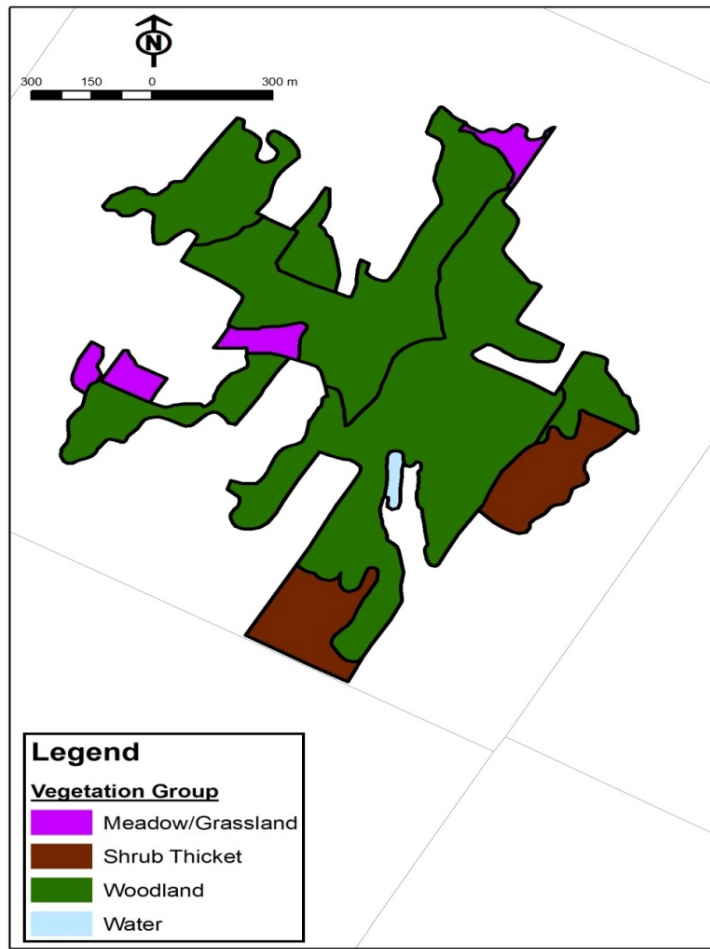


# NATURAL HERITAGE SYSTEM STUDY

- Mapped vegetation polygons using ortho-imagery
- Landscape ecology analysis of existing vegetation inventories and vegetation information to develop landscape criteria
- Strong reliance on the landscape literature and past studies
- Used GIS to model patches that meet criteria



# VEGETATION PATCH



# RESULTS

- 20% of Middlesex is naturally vegetated
- Features that meet one landscape criteria are considered significant
- Woodlands are the largest component
- There are also significant amounts of meadows, often found along major watercourses where water and ice scour limit the regeneration of woodlands



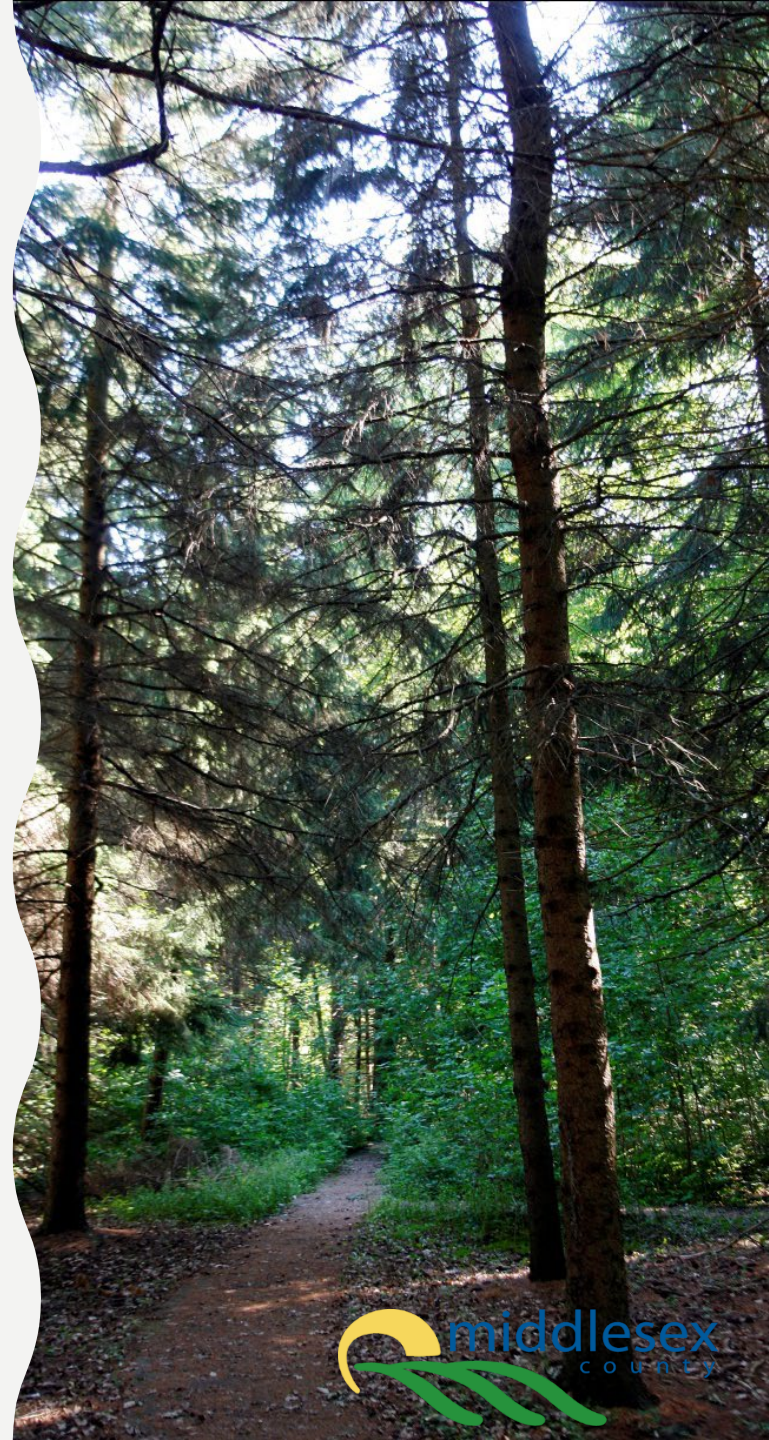
**Table One: Number and Area of the 18 Vegetation Community Types**

Vegetation Community	Number of Vegetation Communities	Area of Vegetation Communities (ha)	% Area of all Vegetation Communities (66,955 ha)	% Area of Middlesex Land Base (333,330 ha)
<b>Deciduous Woodland</b>	4928	38413	57.3	11.5
<b>Mixed Woodland</b>	622	3252	4.9	1.0
<b>Coniferous Woodland</b>	364	632	0.9	0.2
<b>Mature Plantation</b>	492	1326	2.0	0.4
<b>Deciduous Swamp</b>	1961	7843	11.7	2.4
<b>Mixed Swamp</b>	189	1299	1.9	0.4
<b>Coniferous Swamp</b>	17	47	0.1	0.0
<b>Plantation Swamp</b>	17	6	0.0	0.0
<b>Upland Thicket</b>	1182	2369	3.5	0.7
<b>Wetland Thicket</b>	175	333	0.5	0.1
<b>Young Plantation</b>	299	532	0.8	0.2
<b>Young Plantation Swamp</b>	3	1	0.0	0.0
<b>Upland Meadow</b>	3507	7727	11.5	2.3
<b>Meadow Marsh</b>	510	759	1.1	0.2
<b>Water Body</b>	535	1169	1.8	0.4
<b>Major Watercourse</b>	119	1150	1.8	0.3
<b>Connected Vegetation Feature</b>	125	97	0.1	0.0
<b>Watercourse Bluff and Depositional Areas *</b>	Not mapped	--	--	--
<b>TOTAL</b>	<b>15,045</b>	<b>66,955</b>	<b>100.0</b>	<b>20.1</b>



# CONSERVATION AUTHORITIES

- The conservation authorities are important local partners when dealing with natural heritage land use planning matters
- The Official Plan Amendment Draft Working Copy included proposed wording to incorporate the MNHSS
- The CAs recently reviewed and provided comments:
  - policies could be further strengthened
  - re-work the Natural Hazard policies
- Staff would propose to work with CAs based upon two core principles



# NATURAL HERITAGE AND AGRICULTURE

## Core Principle One

- Natural heritage planning is not intended to, and should not, impact the ability of agricultural uses to continue
- The MNHSS recognizes that agriculture is the dominant land use in the County and that working agricultural fields can provide linkages between natural heritage patches (agricultural activity does not eliminate system connectivity)
- This can be described as a 'porous' landscape where, for example, wildlife move through agricultural fields in different ways depending on cropping patterns or the time of year

**What does that mean for Middlesex**





# NATURAL HERITAGE AND DEVELOPMENT

## Core Principle Two

- It is at the time of a potential land use change (ie agricultural to urban) that the impact of the change on the natural heritage system should be considered
- As noted in the MNHSS, “...if agricultural land is proposed to be converted to urban development, the system linkages that would have been provided in the working agricultural landscape may be disrupted or eliminated by the post development urban landscape”
- The Official Plan requires the completion of a Development Assessment Report / Environmental Impact Statement in support of such development applications

**What does that mean for Middlesex**



A photograph of a forest floor in autumn. The ground is covered with a thick layer of yellow and brown fallen leaves. Several dark tree trunks stand vertically, and a few fallen logs lie horizontally across the foreground. The background is filled with more trees and foliage, creating a dense forest scene.

# NEXT STEPS