### Land Use Planning, Agriculture and Climate Change

Climate Resilient Food Systems in the Greater Golden Horseshoe Region May 5, 2016 Wayne Caldwell, RPP, MCIP

#### Trends, Critical Events and Scenarios



Time







#### Implications for Agriculture...?



Projected changes in agricultural productivity: 2080

Cline, W. R. 2007. Global Warming and Agriculture: Impact Estimates by Country. Washington D.C., USA: Peterson Institute;



#### ...setting the context: Land Use Planning, Agriculture and Climate Change...

i.e. these things don't happen in a vacuum...

#### Are you up for a quiz?

### 5 simple <sup>(2)</sup> questions...



#### Question: The number of census farms DECREASED in Ontario between 2006 and 2011.



#### True or False...



#### True: between 2006 and 2011

# The number of census farms in Ontario dropped by 9.2% from 57,211 to 51,950.

(in Canada the numbers by 10.3% from 229,000 to 206,000).



#### Question: In 2011 the Ontario farm population was 5.3 % of Ontario's total population. True or False...





#### False...

The Ontario farm population has been declining steadily, dropping 2% since 2006 to 174,905. The proportion is now 1.4% of the total population.



it is now 2% of

population)



(in Canada

#### **Question:**

In 1973 the average value for an acre of farmland in Ontario was \$440. Compared to today the value of farmland has gone up 1000%

#### **True or False...**



#### FALSE

The value of farmland in Ontario has gone up by nearly 2000 %! Statistics Canada reported Ontario's average value per farm acre at \$8400 in 2013. In some parts of the province farmland sells for \$25,000 per acre or more (both within and outside the urban shadow).

Statistics Canada. *Table 002-0003 - Value per acre of farm land and buildings, at July 1, annual (dollars),* CANSIM (database).



#### **Question:**

Between 2000 - 2011 Canada saw how many hectares of class 1, 2 and 3 CLI land become settlement areas?

A) 693,000 Ha
B) 220,000 Ha
C) 128,000 Ha
D) 80,000 Ha



B) Over the 10 yr period Canada lost 220,000 (219,511) hectares of dependable agricultural land to settlement.

# More than half of that loss (128,000 Ha) is in the Windsor-Quebec city corridor.

In Ontario total farm area decreased by 8.7% between 1996 and 2011 to 12.7 million acres.

Statistics Canada. 2014. Human Activity and the Environment; Agriculture in Canada. 16-201-x.



### **Question:**

In 1951 53,000 acres of fruit (includes grape) were in production in the Niagara Region. Today there are how many acres?



A) 25, 900
B) 98, 700
C) 73, 000
D) 14, 500

Krueger, R. R. (1978). Urbanization of the Niagara Fruit Belt. The Canadian Geographer, 22(3), 179–194.



# A) 25,900 acres of fruit are left planted in the Niagara Region.

The Niagara region has been subject to some of the most intense urbanization pressures but also home to some of the Province's strictest urban growth boundaries since the 1980s.

Statistics Canada. Table 004-0214 - Census of Agriculture, fruits, berries and nuts, every 5 years, CANSIM (database)



How did you score and why are these types of questions important as it relates to climate change?











Agriculture Communities Environment

Ontario Agricultural College

# What kinds of policy responses do these documents generate?

- Action at the Municipal Level (within a nested policy regime)
- Anticipating impacts from flooding to infrastructure to community health

 Recognizing the relationship with other policies that help to create a more "resilient" system (from economic to environmental)



#### **Direction from the Provincial Policy Statement (2014)**

**Encouraging communities "resilient to climate change"** 

Freight Intensive land use

Active Transportation and Transit Design and orientation

Mix of employment and Housing

Naturalhazards



Compact form

Communitie Environmen

While the Greenbelt Plan (2005) does not specifically mention Climate Change it does address many of the following issues:



#### Planning for Health, Prosperity and Growth In the Greater Golden Horseshoe: 2015-2041

Recommendations of the Advisory Panel on the Coordinated Review of the Growth Plan for the Greater Golden Horseshoe, the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan And the future looks different: The recent report for the coordinated review of Provincial Plans includes 150 references to Climate Change

## Mainstream climate change throughout the four plans by:

- More aggressive intensification
- Align transportation planning and growth
- Transit and Active Transportation



#### Planning for Health, Prosperity and Growth Inthe Greater Golden Horseshoe: 2015-2041

Recommendations of the Advisory Panel on the Coordinated Review of the Growth Plan for the Greater Golden Horseshoe, the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan

- Stronger protection of natural systems and agricultural land
  - Upper and single tier response



#### **Rural Communities & Climate Change**

By Dr. Wayne Caldwell, RPP, MCIP University of Guelph



•Cha •He •De

Popul

RECOMMENDATIO

 Engage your community ( Educate elected officials ar

Promote benefits of planni
 Maintain an action oriente

Plan for mitigation and ad
 Ensure consideration for st

Smog & respiratory health

New diseases Need for highly trained

medical staff

**RECOMMENDATIONS FOR RURAL PLANNERS** 

- Engage your community (agriculture, business, residential, etc.)
- · Educate elected officials and the public at large
- Promote benefits of planning to public
- Maintain an action oriented focus and long term thinking
- Plan for mitigation and adaptation simultaneously
- Ensure consideration for sustainability in all plans and policies

Peak Oil and Climate Change A Rural Community Guide





URAL LANDOWNER STEWARDSHIP GUIDE

Healthy Rural Communities Tool Kit A Guide for Rural Municipalities



Second Edition

e J. Calidwell, Project Direct

Self-assessment for your environmental performance as a property owner

## PLANNING For Rural Resilience

COPING WITH CLIMATE CHANGE AND ENERGY FUTURES

EDITED BY WAYNE J. CALOWELL

A Locally Driven Collaborative Project funded by Public Health Ontario **One final thought...** 

Every year the planet loses an area the size of Scotland to erosion and urban sprawl...

And at the same time we add more than 80 million people to the planet's population (2015 - 84 million)

## One final story...

