Agricultural Advisory Committee
Agenda
December 6th, 2023
Location: Tarbutt Council Chambers
27 Barr Road South
Time: 7:00 p.m.

A. Routine Matters:

1. **Call to order 7:00 p.m.**
2. **Declaration of conflict/pecuniary interest**
3. **Approval of minutes (not applicable)**
4. **Staff/Members reports**

B. Old Business:

C. New Business:

1. **Terms of Reference**
2. **Prime Agriculture and Rural Development – Edith Orr**
3. **Expected Outcomes from the Committee**
4. **Draft Land Evaluation Study**

D. Information:

1. **OMAFRA - Agricultural System Mapping Method - 2018**

E. Seminars/Meetings:

F. Newsletters/Bulletins:

G. Adjournment:

Item C.1

Desbarats to Echo Bay Planning Board

27 Barr Road South, Desbarats, ON, P0R 1E0

Agricultural Advisory Committee for the Development of the Desbarats to Echo Bay Planning Board Official Plan

TERMS OF REFERENCE

1. PURPOSE

The Agricultural Advisory Committee is an Advisory Committee established to identify, review, discuss and make recommendations on agricultural designations to the Desbarats to Echo Bay Planning Board (Planning Board) for its Joint Official Plan. Committee members bound by these Terms of Reference are ultimately responsible to the Desbarats to Echo Bay Planning Board.

2. MANDATE

The Mandate of the Advisory Committee of the Planning Board is to:

a) Be engaged, consulted, and comment on as one common voice of an Advisory Committee of the Planning Board on the proposed Joint Official Plan for the Planning Board that relate to the agricultural community and lands and provide a professional and expert agricultural community perspective;

b) Represent as many of the following groups as possible but not limited to:

- Algoma Federation of Agriculture
- Algoma Cattlemen's Association
- Algoma Community Pastures Association
- Algoma Dairy Farmers Association/ Dairy Farmers
- Algoma Feeder Cooperative Inc.
- Algoma Horse Association
- Algoma Maple Syrup Producers
- Algoma Sheep Producers Association/ Sheep Producers
- Christian Federation of Farmers of Ontario
- Organic Farming
- National Farmers Union
- Rural Agri-Innovation Network
- Young Farmers; and

c) Assist the Planning Board in developing and implementing the Planning Board's Joint Official Plan on agricultural land designation within the Land Evaluation Assessment Review (LEAR) study to the Planning Board; and

d) Consult with other community groups and committees on issues of mutual interest.

3. ACCOUNTABILITY

Where appropriate, the Agricultural Advisory Committee will provide the Planning Board with recommendations on an as needed basis through reports to the Planning Board.

4. MEMBERSHIP/VOTING

The Agricultural Committee composition shall consist of:

a) Four (4) members of the Planning Board (one member from each municipality to include one member being appointed as Chair and one member as Deputy Chair)
b) Four (4) members of the public at large (one member from each member municipality)
c) A Total of eight (8) members

Where the Chair is not available to attend a meeting, the Deputy Chair shall assume the role of Chair for that specific meeting. Openings for the public at large memberships shall be chosen by the respective member municipality. Openings for members of the Planning Board shall be chosen by the Planning Board.

Non-Voting Members:

a) Executive Assistant to Committees of the Planning Board shall be the Secretary-Treasurer of the Desbarats to Echo Bay Planning Board.

Voting Members (as in members of the public at large) will:

a) At all times of their membership on the Agricultural Advisory Committee the member shall be an eligible voter for one or more of the member municipalities; and

b) Be personally and actively involved in at least one (1) agricultural industry located in the Planning Board area and possess relevant farm experience, technical training in agriculture-based field, and/or current involvement in agricultural activities; and

c) Commit to active and respectful participation in scheduled meetings that may include evening-time meetings; and

d) Commit to significant preparation for meetings via agenda review including previous minutes and all documentation; and,

e) Be prepared to meet with the Planning Board, and/or attend Planning Board meetings upon the Planning Board's request.

5. QUORUM

Quorum for the Agricultural Advisory Committee, per the standards of the Municipal Act, 2001, is five (5) voting members which must include at least one (1) Planning Board representative in the capacity of Chair, regardless of the total number of members in attendance.

Approved: September 26th, 2023

6. CLOSED SESSION

A Closed Session shall not be considered an option available to the Agricultural Advisory Committee

7. SUB-COMMITTEES

The establishment of Sub-Committees shall not be considered an option available to the Agricultural Advisory Committee.

8. REMUNERATION

No compensation shall be provided to members of the Agricultural Advisory Committee for their participation.

9. MEETING DETAILS, AGENDA, MINUTES & PROCEDURE

Meeting Frequency and Scheduling:

The Agricultural Advisory Committee will meet in person or virtually (where requested) as required at a time that is to be determined and scheduled at the Committee's first official meeting and will be in place until the completion of the Joint Official Plan for the Desbarats to Echo Bay Planning Board.

Additional meetings of the Agricultural Advisory Committee may be called by the Chair, with a minimum of five (5) business days' notice, to address urgent matters. The determination of a matter being deemed urgent will be at the discretion of the Chair.

The Executive Assistant to the Committees of the Planning Board shall send out meeting invites to all Agricultural Advisory Committee members and post notice of the meeting to the Planning Board's webpage.

Meeting Agendas and Quorum Deadlines:

The Call for Agenda Items will be circulated with the meeting invitation. Agenda items shall be set by the Committee Chair, in consultation with and under approval of the Executive Assistant to the Committees of the Planning Board. Members who wish to include an item on the Agenda shall contact the Chair for consideration.

If quorum is not obtained 15 minutes after the scheduled start of the meeting, the meeting shall be cancelled & rescheduled.

Meeting Location:

Meetings will be held in person and virtually (where requested) and the Agenda and Minutes are available on the Planning Boards Webpage. All meetings are open to the public. The location of the Meetings shall be:

Tarbutt Township Council Chambers
27 Barr Road South, Desbarats, Ontario

Procedure:

All meetings shall be conducted in accordance with the Planning Boards Establishing By-law 98-01, As Amended.

Approved: September 26th, 2023

Meeting Minutes:

Minutes shall be approved by the Agricultural Advisory Committee within ten (10) business days by email, or by motion at the subsequent Agricultural Advisory Committee meeting. Minutes will be kept by the Executive Assistant to the Committees of the Planning Board who will distribute the minutes to all of the Planning Board in accordance with Planning Board practice.

Terms of Reference:

The Terms of Reference is a living document and will be reviewed by the Desbarats to Echo Bay Planning Board from time to time and/or upon completion of the Desbarats to Echo Bay Planning Board Official Plan.

10. TERM OF THE AGRICULTURAL ADVISORY COMMITTEE

The Agricultural Advisory Committee will be in effect until the completion of the Joint Official Plan for the Desbarats to Echo Bay Planning Board.

11. RELATED POLICIES AND TRAINING REQUIREMENTS

Accessibility for Ontarians with Disabilities Act, 2005, S.O. 2005, c.11

Municipal Conflict of Interest Act, R.S.O. 1990

Municipal Freedom of Information and Protection of Privacy Act, R.S.O 1990

Establishing By-law (98-01) As Amended

Code of Conduct Policies for Council or Local Boards (for respective members of each municipality)

Any applicable Policies or By-laws in place for each respective municipality (for respective members of each municipality)

Item D.1.

Agricultural System Mapping Method

Ontario Ministry of Agriculture, Food and Rural Affairs

Technical Document – January 2018

1. Context

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) prepared this Agricultural System Mapping Method to document the technical methods used in mapping the *Agricultural System* in the area of the Greater Golden Horseshoe (GGH).

This document outlines the detailed technical methods used for mapping the *Agricultural System*. It further details the summary of methods provided in the Agricultural System Implementation Procedures. The Agricultural System Mapping Method does not prescribe any additional requirements of *Agricultural System* policies.

2. Desired Mapping Outcomes

OMAFRA developed this mapping method based on provincial plan policies, the Provincial Policy Statement 2014, OMAFRA guidance, a survey of LEAR practitioners, and pre-consultation with various organizations, and was refined based on input received during preparation of the Agricultural System. The broader purpose, outcomes and principles of the Agricultural System approach are outlined in the Agricultural System Implementation Procedures.

In December 2015, the Coordinated Plan Review Advisory Panel presented its report, called Planning for Health, Prosperity and Growth in the Greater Golden Horseshoe: 2015-2041. That report made the following recommendation:

“Recommendation 28: Building on the Agricultural System approach in the current Greenbelt Plan, work with municipalities, the agriculture sector and other stakeholders to provide policy direction and guidance toward the consistent identification, mapping and protection of an integrated agricultural system across the GGH”.

Further to Recommendation 28, the updated provincial plans provide definitions for the *Agricultural System* and *agri-food network*. The advisory panel recommendation and policy definitions were foundational to the Agricultural System Mapping Method.

3. Technical Input

3.1 Early input

Before designing the Greater Golden Horseshoe Land Evaluation and Area Review (GGH LEAR), OMAFRA sought technical input from stakeholders and practitioners. The input provided was essential in the development of the *Agricultural System* concept and methods. Different options were discussed with experts and feedback was incorporated

into the mapping method. OMAFRA surveyed LEAR practitioners from across the province to learn from their experiences. Most LEAR practitioners indicated that, in general, LEAR methods are helpful for:

- identifying the highest quality agricultural areas using a consistent, transparent approach that decision-makers and the public could understand
- allowing local input and considerations into the assessment process
- systematically accounting for multiple complex factors including natural heritage features and
- providing a supportable basis for land use designations.

LEAR practitioners also shared a number of lessons learned through previous LEAR studies, including the importance of surveying areas in question to compare results to landscape features and adjusting methods based on their validity, the need to keep the methodology as simple as possible, and the need to include agricultural stakeholders in decision-making. The LEAR practitioner survey informed OMAFRA's selection of factors, datasets, and weightings.

Another source of early information was the Agricultural System Sounding Board, a group of agri-food, environment and planning sector representatives invited by OMAFRA to help test ideas at key stages. This group provided important feedback throughout the mapping process.

Based on feedback, OMAFRA designed the LEAR to recognize all lands in agricultural production, not just *prime agricultural lands*. This aligns with the general approach in the provincial plans to give consideration to the entire agricultural land base, including areas beyond *prime agricultural areas*.

3.2 Input on Agricultural Land Base

In 2017, OMAFRA released a draft map of the agricultural land base showing specialty crop areas and inclusive prime agricultural areas and candidate areas.

Throughout 2017, OMAFRA met with Indigenous communities, municipal planners, technical experts, and a number of organizations (e.g. Regional Planning Commissioners of Ontario, Greater Golden Horseshoe Food and Farming Alliance, Ontario Homebuilders Association, environmental organizations).

While there was broad support for more consistent protection of prime agricultural areas, municipalities had a mixed reaction to draft agricultural land base mapping. Some expressed concern that the draft map included some non-agricultural uses and other lands that were not in agricultural production.

As a result OMAFRA made several changes to the map of the agricultural land base for the GGH by:

- addressing any large inaccuracies in *settlement area* boundaries and areas already designated by municipalities as *prime agricultural areas* (see section 5.1.)
- removing large provincially *significant wetlands* and provincially significant *life science areas of natural and scientific interest* as well as all Escarpment Natural Areas identified in the Niagara Escarpment Plan (see section 5.1.)
- slightly adjusting the GGH LEAR threshold score to better align with existing designated *prime agricultural areas* (see section 4.10) and
- addressing mapping inaccuracies identified through municipal change requests that met OMAFRA's criteria (see Appendix D).

3.3 Input on Agricultural System Portal

During public consultations, there was broad support for the Agricultural System Portal as a way to visualize elements of the *agri-food network* and improve understanding of functional connections within the *Agricultural System*. OMAFRA heard a number of ideas from stakeholders related to improving mapping in the Agricultural System Portal, including:

- Ongoing collaboration with municipalities and the agri-food sector to generate relevant, current data
- Making the Agricultural System Portal easier to use
- Providing instructions and examples of how to make the best use of the Portal
- Referencing more economic data from Statistics Canada
- Providing options to visually compare data sets in different key time periods
- Providing simple analytical tools (e.g. measuring area, identifying objects) and
- Streamlining Portal services with other web-based portals, where appropriate.

OMAFRA is engaged in continuous improvement of the Agricultural System Portal to address these recommendations.

4. Identifying the Agricultural Land Base

4.1 Land Evaluation and Area Review Overview

Broadly speaking, land evaluation is the process of estimating the potential of land for alternative kinds of use (Dent and Young, 1981). In the process of making decisions about how land could or should be used, planners around the world use land evaluation methods to weigh multiple criteria at the same time, such as soil types, land uses, vegetation, or topography.

Land evaluation methods vary widely depending on their intended application. Globally, best practices in land evaluation methods consider biophysical data and land use context, and involve multi-disciplinary stakeholder involvement, the critical evaluation of how and when decisions are made in terms of social equity, and consideration of the long-term sustainability of non-renewable resources such as soil (FAO, 2007).

In the United States, Land Evaluation and Site Assessment (LESA) has become the leading tool for agricultural land evaluation (SWCS, 2003). LESA has been used continuously and improved in various versions by the United States Department of Agriculture (USDA) beginning in the late 1970s. LESA provides a consistent, defensible basis for comparing different areas of land. Some of the improvements to LESA over time have included engaging local agricultural stakeholders, using a smaller number of quantitative factors in a consistent, rigorous way, and practical considerations such as using readily available data.

Beginning in the mid-1990s, OMAFRA adapted the LESA tool to the Ontario context with the draft Land Evaluation and Area Review (LEAR) Methodology Manual. Since that time, a number of Ontario municipalities have used the LEAR approach to identify *prime agricultural areas*. These include the following upper- and single-tier municipalities in the GGH: the Region of Halton, the Region of York, the City of Hamilton, and the Region of Peel. OMAFRA's draft LEAR Methodology Manual is periodically updated based on best practices.

4.2 LEAR method and principles in the Greater Golden Horseshoe

LEAR methods calculate a quantitative score for each unit of land that reflects the land's relative potential for agriculture, based on biophysical (e.g. soils) and other non-biophysical factors. LEAR is intended to generate relative scores on a large landscape scale such as, in this case, the area of four provincial plans in effect for the GGH. LEAR is not intended to be used to assess small parcels of land on a case-by-case basis for individual development applications because using LEAR analysis at that scale would encounter issues with appropriate scale of data interpretation and lack of consistency and appropriate relative comparisons across planning areas.

There are two main parts to a LEAR evaluation:

1. Land Evaluation (LE) measures the significance of an area's land resources in terms of their use for agriculture. The LE component assesses inherent soil and climatic conditions for agriculture.

2. Area Review (AR) identifies other important factors affecting the viability of agriculture such as existing land uses that affect the suitability of the lands for agricultural activities.

The LE and AR components are combined to provide an overall LEAR score for each evaluation unit in the study area. The scoring of the evaluation units becomes the basis for determining the significance of the study area for agriculture. Areas with high evaluation unit scores indicate that the area has high agricultural potential and suitability for long-term agricultural activities.

The LEAR method for the GGH was developed using the following principles:

1. Alignment with provincial objectives, plans and policies.
2. Use of the most recent and robust data available for the entire study area;
3. Factors are mutually exclusive to avoid double counting.
4. The number of factors is limited to avoid diffusing the importance of each factor.
5. Factors are well-reasoned and understandable to the public, agricultural stakeholders and decision makers.
6. The method addresses differences between municipalities.
7. A balanced approach is used where agriculture and natural heritage overlap.

4.3 LEAR study area and exclusions

The GGH LEAR study area is the Greater Golden Horseshoe, including the Greenbelt Plan, Growth Plan for the Greater Golden Horseshoe, Oak Ridges Moraine Conservation Plan and portions of the Niagara Escarpment Plan.

The following areas were excluded from the development of raw scores for the GGH LEAR analysis (further areas were removed at the stage of mapping the agricultural land base):

- Upper/single-tier *settlement area* boundaries approved by the planning authority as of July 1, 2017[1] and
- Large waterbodies excluded by the Ontario Soil Survey Complex.

[1] *Settlement area* boundaries generally reflect information provided by the relevant municipality. For precise boundaries and locations of Settlement Areas the appropriate municipalities should be consulted. All matters currently before the OMB are deferred to municipal comprehensive review refinement.

4.4 Evaluation Unit

Each evaluation unit is 100 metres long by 100 metres wide (10,000 m^2), which equals one hectare. These evaluation units form a consistent grid across the study area.

In the context of this LEAR, the method of using a grid of consistently sized evaluation units was selected as the best option because the grid method is both rigorous and adaptable to a wide variety of geographic contexts and survey patterns. The grid method increases the ability of scores to reflect complex landscape features. Please see Figure 1 for an illustration.

4.5 Evaluation Area

The identification of *prime agricultural areas* is intended to protect large, contiguous areas for agricultural uses. In order to identify large, contiguous areas, the LEAR scored each evaluation unit based on the characteristics of the evaluation unit plus its surrounding evaluation area. The evaluation area can be described as a buffer, drawn at a distance of 750 metres around each evaluation unit (see Figure 2).

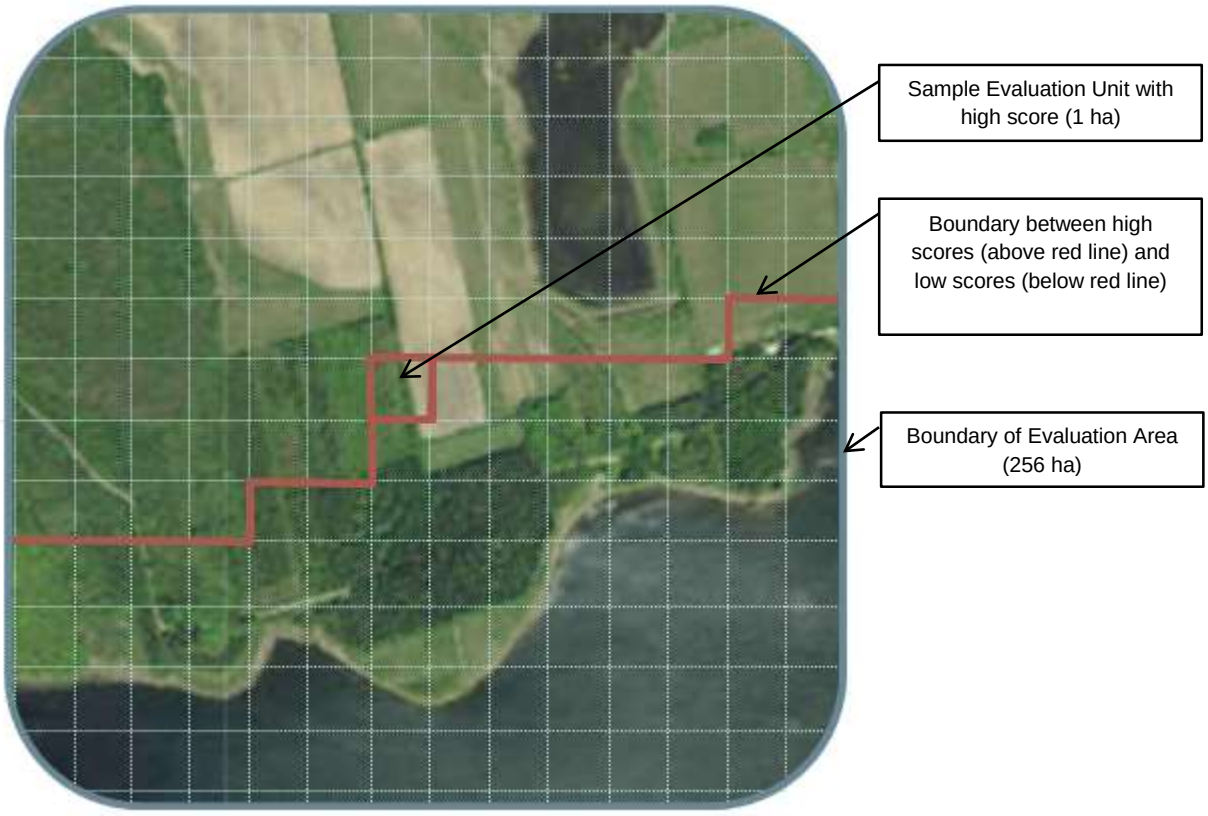

Figure 1: Sample Evaluation Unit for Illustration

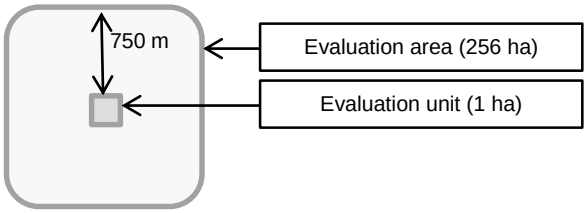

Figure 2: Depiction of Evaluation Unit and Evaluation Area

A 750 metre radius was selected because it generates an area large enough to reflect the agricultural character of an area. It is an area of 256 ha (633 acres), including the evaluation unit. This area is well aligned with the 250 hectare area recommended for agricultural land evaluation in Ontario beginning in the 1970s (MacLaren, 1976). It is important that the evaluation area is large enough to reflect the agricultural character of a landscape by encompassing a number of average sized farm parcels surrounding each evaluation unit. The 256 ha evaluation area is also large enough to allow for consideration of non-agricultural land uses in the area (e.g. rural residential, aggregate extraction, natural heritage). The distance of 750 metres encompasses a large enough area for meaningful interpretation of Canada Land Inventory (CLI) classifications. CLI classifications are not intended for interpretation in small areas (e.g. small individual parcels). Figure 1 illustrates the relative size of the evaluation unit and evaluation area.

A larger radius of 1000 metres was also considered, but found to be less sensitive to natural heritage features and other non-agricultural land uses. A larger evaluation area had a dilution effect that would reduce the ability of the LEAR scores to differentiate between higher and lower quality areas. Conversely, areas smaller than 256 ha may be appropriate in some areas of the province, but for the GGH areas smaller than 256 ha had the effect of overemphasizing site-specific uses such as aggregate operations.

4.6 LE:AR Weighting Ratio

OMAFRA has consistently recommended weighting the LE component as, at minimum, 50 per cent of the total LEAR score. It is appropriate to weight the LE score more heavily because provincial policies emphasize the importance of land capability for agriculture when defining *prime agricultural areas* (e.g. the definition of *prime agricultural areas* focuses on areas where *prime agricultural lands* predominate). For the above reasons, the GGH LEAR is based on an LE:AR ratio of 60 (LE) to 40 (AR). For comparison, all upper- and single-tier LEAR studies in the GGH have chosen a LE weighting of at least 60% (with the exception of the Region of Peel, which used 50%).

The factors and weightings selected for the GGH LEAR are outlined in Figure 3. The LE factor selected for the GGH LEAR is Factor 1: Land capability for agriculture (allocated 60 points of the overall score of 100). The AR factors selected are Factor 2: Agricultural production (30 points) and Factor 3: Parcel fragmentation (10 points).

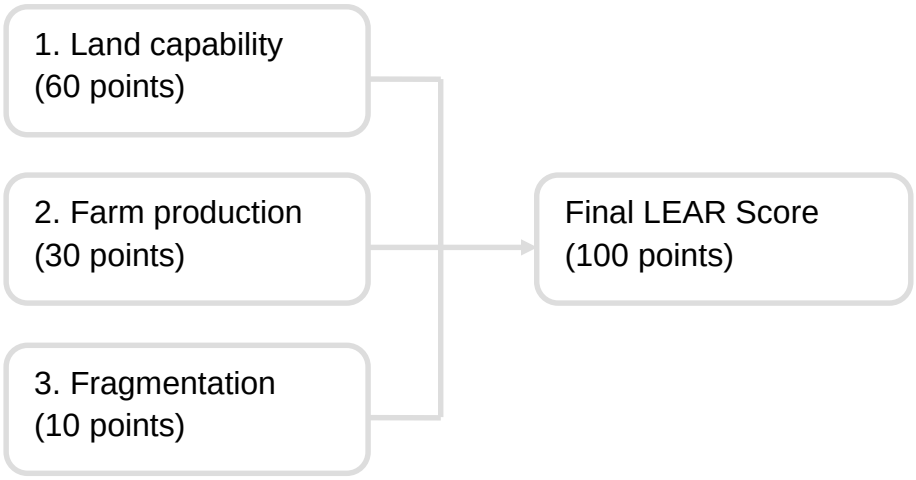

Figure 3: Factors and weightings for the GGH LEAR

4.7 Land Evaluation (LE)

4.7.1 Factor 1: Canada Land Inventory Land Capability for Agriculture (60 points)

In order to apply a numerical LE score based on land capability it is necessary to use a numerical land capability index that reflects provincial policies. The Factor 1 score for each evaluation unit is based the differing land capabilities of the surrounding evaluation area (calculated based on the percentage of the evaluation area that is comprised of each CLI classification). The CLI data are used for Factor 1, using the updated Ontario Soil Survey Complex available on Land Information Ontario. The CLI reflects soil, climate and topography characteristics of land in a given area.

The definition of *prime agricultural areas* focuses on areas where *prime agricultural lands* predominate. As a result, an overall potential of 60 points is allocated to Factor 1 to reflect this fact and allow land capability to have the greatest impact on final scores relative to other factors.

Provincial policies for *prime agricultural areas* place a high priority on the protection of *prime agricultural lands*, which are CLI Class 1, 2 and 3 lands, in that order of priority. At the same time, the policy definition of *prime agricultural areas* includes associated CLI Class 4 through 7 lands. Accordingly, the index values in Table 1 provide higher scores for *prime agricultural lands*, while also providing a degree of weight to Class 4 through 7 lands. Because there is a provincial policy distinction between *prime agricultural lands* and non-prime agricultural lands, Table 1 includes a higher point increase between Class 4 and Class 3 lands than between other classes.

The use of land capability indices (e.g. Hoffman, 1971) has changed over time, as reflected in the indices used in different LEAR studies across the province. Over recent

decades, crop varieties and agricultural practices have changed substantially. Although there is no doubt that different land classifications would still have differing yields, the quantitative differences in the older indexes cannot be assumed to be applicable to modern crop varieties and practices. Nevertheless, the concept of differing priorities for different land classifications is important to retain. In particular, the index value for Class 4 land has been given a higher weight than some previous LEARs to reflect important advances in agricultural management practices that have allowed Class 4 land to achieve yields comparable to higher CLI classes, as emphasized by agricultural producers. Overall, the accuracy of the exact quantum of differences in weightings between land classifications is important but there are larger moderating effects from other factors and the threshold scores used in the GGH LEAR 2017 method.

Table 1: Values for each CLI land classification

CLI Land classification*	**Values**
Class 1	1.0
Class 2	0.9
Class 3	0.8
Class 4	0.6
Class 5	0.5
Class 6	0.4
Class 7	0.0

* Based on dominant and subdominant CLI classifications

As outlined in Table 1, points are allocated for each land classification, with 1 point given to the highest capability soils and 0 points to soils with the lowest capability. In many areas of the province, more than one land classification might apply to a given soil formation. For this reason, there can be dominant and subdominant CLI classifications for different soil formations. For example: an area identified on a CLI map as Class $1^{6}3^{4}$ means that approximately 60 per cent of the land in the soil formation comprise Class 1, and approximately 40 per cent of the soils in the soil formation comprise Class 3. To calculate the LE score of each evaluation unit, consideration has to be given for how much of the evaluation area is occupied by the dominant and subdominant CLI classifications (e.g. $1^{6}3^{4}$). For example, one could imagine an evaluation unit where 70 per cent of the evaluation area comprises soils with a rating of Class $1^{6}3^{4}$, and 30 per cent comprises soils with a rating of Class $3^{6}5^{4}$. In this example, the evaluation unit would be assigned an LE score of 51 out of 60 possible points, as follows:

$51 = 60\{0.7 \times [(0.6 \times 1.0) + (0.4 \times 0.8)]\} + \{0.3 \times [(0.6 \times 0.8) + (0.4 \times 0.5)]\}$.

Some organic (muck) soils are in agricultural production and some are in natural heritage features. Organic soils are different from mineral soils in terms of content,

structure and capability to produce crops. While organic soils are not classified by CLI into a capability class for common field crops, contemporary land classification systems such as the Land Suitability Rating System (AAFC, 2007) do rate organic soils for specific crop types. Organic soils have high potential to support the production of certain types of crops such as vegetables, depending on the age, depth and origins of the organic soils. Given this high potential, organic soils were assigned a relatively high score of 0.9 for land use planning purposes. The score of 0.9 was chosen because organic soils tend to have high potential for a number of specialized crops, but do have limitations such as excess moisture. Organic soils within wetlands are addressed in section 5.OMAFRA recognizes the importance of updating land capability information and continues to make improvements in this area. In the GGH LEAR, OMAFRA's approach was to use OMAFRA's official CLI mapping.

4.8 Area Review (AR)

Area Review factors are intended to assess characteristics of the area that may affect agricultural capability in the long-term. These factors play an important role in determining whether an area exhibits characteristics of ongoing agriculture. Area Review factors are often complex and difficult to measure; a degree of professional judgment is needed in selecting factors and numerical values.

4.8.1 Factor 2: Percentage of land in agriculture (30 points)

The definition of *prime agricultural areas* includes areas where there is a local concentration of farms which exhibit characteristics of ongoing agriculture. The area of land that is actually in agricultural production is an excellent indicator of agricultural potential. Stakeholders have emphasized that lands in agricultural production should be prioritized by the province. For this reason, Factor 2 was given a relatively high weighting of 30 points.

The AAFC National Annual Crop Inventory provides spatial data outlining areas in agricultural use. AAFC classifies land uses into a number of different crop categories based on a decision tree methodology applied to optical (Landsat-5, AWiFS, DMC) and radar (Radarsat-2) based satellite images. AAFC states that this mapping has an overall accuracy of at least 85% at a final spatial resolution of 30 metres (AAFC, 2015). For the purpose of the GGH LEAR, the AAFC Inventory has a number of advantages over other land use inventories, including its consistency across the province of Ontario; the transparent method used by AAFC; and the ability to differentiate between crop and non-crop land uses at a high degree of spatial resolution. Additional discussion of the interpretation and limitations of this data set are available on the AAFC website. The GGH LEAR uses the 2015 AAFC Inventory data.

The Factor 2 score is based on the percentage area in agriculture, calculated by the following equation:

Area in agricultural production * 100 = % area in agriculture
Evaluation area (256 ha)

The area in agricultural production is calculated by tallying the amount of land in production within the evaluation area (a comprehensive list of production categories included is provided in Appendix A).

The percentage of the area in agriculture is then multiplied by the weight of Factor 2 (30 points). For example, 50% area in agriculture multiplied by 30 points would give a Factor 2 score of 15 points.

4.8.2 Factor 3: Fragmentation (10 points)

Provincial policies discourage lot creation in *prime agricultural areas*. Reducing fragmentation, preventing conflicting uses and retaining larger agricultural parcel sizes are all important to retain flexibility for agriculture in the long-term. At a broader landscape scale, fragmentation of the agricultural land base into smaller parcels increases the risk of conversion of agricultural land to non-agricultural uses and may result in less affordable land values per acre for agricultural land and conflicting uses. The ability of agricultural operations to farm large, contiguous parcels of land is often key to maintaining competitiveness in a global marketplace. At the same time, existing small parcels in agriculture can still contribute to agricultural diversity, prosperity and growth in Ontario and suit certain types of agriculture

Fragmentation is also correlated to some degree with another factor frequently used in LEARs: proximity to conflicting land uses. Because fragmentation is also an indicator of potentially conflicting uses, the GGH LEAR did not use another AR factor for conflicting land uses as this would risk double-counting.

Fragmentation accounts for parcel size differences, while looking at a larger landscape for more holistic area evaluation. Assessing fragmentation at a landscape scale avoids the problem of overly discounting small parcels which are otherwise surrounded by a more intact agricultural landscape. This method also avoids making assumptions about the agricultural viability of any individual parcel based on its size.

Fragmentation was assessed by counting the number of parcel centroids within the evaluation area surrounding each evaluation unit. Each centroid is located at the centre of each parcel. The distribution of scores was then converted to percentiles and multiplied by the weight of the factor (10 points) to contribute to the final score. The weight of 10 points was assigned to provide a small but adequate weight to tip the balance between whether the evaluation unit might qualify as a high, medium or low score, given that fragmentation can be an indication of more mixed landscapes.

4.9 Calculating the final score

The final score for each evaluation unit was calculated by adding up the points for each of the three factors, to get a total score out of 100. The score for each evaluation unit usually varies slightly from neighbouring evaluation units, because the coverage of the evaluation area changes for each evaluation unit.

Factor 1 (Land Classification) has the highest impact on the score (60 out of 100 points). Factor 2 (percentage of area in production) is highly weighted as well (30 out of 100 points). Both are balanced by Factor 3 (Parcel fragmentation), which can tip the balance by up to 10 points of the total possible score of 100 to reduce or increase the evaluation unit's score category (High, Medium or Low).

4.10 Threshold scores

Threshold scores are selected to help categorize final GGH LEAR scores into categories so that areas with higher agricultural potential can be protected within the policy framework of the agricultural land base. Areas with a majority of high threshold scores indicate high potential that the surrounding area is a *prime agricultural area*. Areas with a majority of medium scores indicate medium potential that the surrounding area is a *prime agricultural area*. Areas with a majority of low scores indicate low potential that surrounding area is a *prime agricultural area.* The threshold score is the primary lever that can be adjusted to delineate *prime agricultural areas* based on LEAR scores. The threshold score is based on sensitivity analysis and stakeholder consultations.

Sensitivity analysis was used to evaluate GGH LEAR outcomes based on several different factors, including:

- the area of *prime agricultural land* included vs. excluded
- the area of land in agricultural production included vs. excluded
- the area of municipal agricultural designations included vs. excluded
- comparison of outcomes in landscape samples across the GGH
- aerial imagery review and other datasets.

In setting the threshold score for the LEAR, existing municipal designations were considered as an important yardstick for LEAR outcomes. Municipalities have used an array of methods to generate *prime agricultural area* designations. While these methods varied across the GGH, the resulting agricultural designations do provide a reference point for the types of areas that have tended to qualify as *prime agricultural areas* under previous policy frameworks and provincial approvals.

Multiple threshold scores were tested to reduce misalignment with existing municipal designations while applying the LEAR principles. Optimization based on multiple

threshold and weighting scenarios was necessary because of the advantages and disadvantages of increasing or decreasing threshold scores. The higher the threshold score, the smaller the area of agricultural land protected. Conversely, a lower threshold score means that a larger area of agricultural land would be protected. If the threshold score is too low, it will include a large number of broad areas that are clearly not *prime agricultural areas*. If the threshold score is too high, it will exclude large areas that are already designated as *prime agricultural areas* in municipal Official Plans. Given that varying municipal methods were used over the preceding decades, some degree of misalignment with existing municipal agricultural designations is unavoidable when using a consistent LEAR method across the GGH. The threshold value of 70[2] points was the optimal threshold at which no significant gains in alignment with municipal Official Plans could be achieved without the exclusion of increasingly large contiguous agricultural areas. The threshold score of 70 points also equals the median value for the full range of final GGH LEAR scores. For the purpose of establishing a threshold value, other statistical methods were tested (different quantiles and Jenks natural breaks methods). Other statistical methods did not provide more meaningful differentiation between *prime agricultural areas*, nor were they more aligned with the principles outlined for the Agricultural System Mapping Method. Therefore, evaluation units were classified as high scores if they were equal to or above 70 points.

Evaluation units were classified as medium scores if they were equal to or above 60 points and below 70 points. Given the broad and inclusive definition of *prime agricultural areas*, it is possible that areas below the threshold score of 70 may qualify as *prime agricultural areas*. For illustration, consider a hypothetical evaluation unit, Unit A: Unit A is surrounded entirely by class 3 land, with half of the surrounding landscape in agricultural production and no parcel fragmentation. Unit A will receive a medium score (61 points). The area around Unit A technically meets the definition of *prime agricultural area* because it is predominantly *prime agricultural lands*; but there is only medium certainty about the appropriate designation of the lands given that there is an equal mix of agricultural production compared to land in other uses (or under natural cover). Unit A would need to have at least 80% of the surrounding area in agricultural production before it would qualify as a high score (i.e. 70 points). As another example, consider hypothetical evaluation Unit B: Unit B is entirely surrounded by class 4 lands. At best, Unit B would classify as a medium score if at least 87 percent of the surrounding area was in agricultural production with no fragmentation (Unit B will receive a score of 60 points). The only way Unit B would be able to receive a high score is if the surrounding

[2] This number was adjusted following public consultations in 2017. As a result of more up-to-date data provided by Simcoe County, Wellington County, Peterborough County, and Northumberland County, the area of agricultural designations in official plans was reduced. As a result, the threshold score was increased to reduce the total area of *prime agricultural areas* to achieve alignment with those smaller areas.

landscape actually contained a significant portion of *prime agricultural lands*, thus increasing the score past 70 points. This is in keeping with the definition of *prime agricultural areas*, because only lower capability lands that are associated with *prime agricultural lands* would qualify as being high scores (i.e. high certainty of being within *prime agricultural areas*).

Through the preceding illustrations, it can be seen that some areas with medium scores may qualify as *prime agricultural areas*, but additional considerations may be needed in areas of medium scores to determine the appropriate designation with confidence. It is important to use a medium score classification within a LEAR study to reflect the broad and inclusive definition of *prime agricultural areas*, with the possibility for appropriately balancing other planning considerations in areas that are predominantly medium scores.

4.11 Consideration of alternative factors

The factors used in this LEAR (Canada Land Inventory classification, land use, and fragmentation) are common to the majority of LEAR studies in the GGH. The weightings for LE also reflect the majority of LEAR studies in the GGH. The GGH LEAR used factors and weightings based on modern, enhanced data sets and technological capabilities. As a result there are improvements to the assessment and there are differences between the GGH LEAR and municipal LEARs.

The GGH LEAR method was designed to use a small number of factors to provide a consistent evaluation across the area of the GGH. Based on practitioner feedback and experience with land evaluation, a small number of factors are effective in characterizing agricultural landscapes, rather than diluting analysis with small weightings for a larger number of factors. Maintaining a small number of factors was important in maintaining the simplicity of the method. The law of parsimony applies, in the sense that assumptions and extra factors were minimized to generate an efficient model that appropriately delineates landscapes with the characteristics of *prime agricultural areas*.

4.12 Other considerations related to the LEAR method

A number of other technical considerations shaped the GGH LEAR method.

4.12.1 Natural heritage

For the purpose of informing whether or not a broader area is a *prime agricultural area*, natural heritage features are not automatically excluded from the LEAR study area. Areas with a large proportion of natural heritage features tended to receive low LEAR scores because of lower agricultural production in natural heritage features.

In preparing the agricultural land base mapping, provincial ministries worked to align mapping methods to the extent possible, while reflecting different objectives (e.g. the *Natural Heritage System* has different objectives than the *Agricultural System*). Provincial methods use provincially available data, have the objectives of transparency and replicability, and evaluate large landscapes for appropriate landscape-scale planning.

An important difference is that the Natural Heritage System is intended to function as an overlay that applies overtop of other land use designations including PAA. By comparison, the agricultural land base will result in delineation of *prime agricultural areas*, with implications for municipal designations, permitted uses, lot creation, and so on. As a result, OMAFRA carefully considered a wide array of existing designations, such as *employment areas* and environmental protection areas, to determine appropriate approaches where these areas overlap with *prime agricultural areas*. Please see the Agricultural System Implementation Procedures for more information about mapping the agricultural land base in relation to the *Natural Heritage System*.

4.12.2 Settlement areas

Settlement areas are outside of the GGH LEAR study area. The LEAR is designed to ensure that the proximity of a settlement area has a neutral effect on quantitative results. This aligns with provincial policies that support local food and near-urban agriculture and seek to direct urban growth to lower priority agricultural areas. It is the intention of provincial policies that agriculture will continue adjacent to settlement area boundaries. It would be inappropriate for the proximity of settlement areas to have a negative effect on LEAR results because provincial policies do not define *prime agricultural areas* based on whether lands are subject to urban growth pressure.

4.12.3 Updates to the Ontario Soil Survey Complex

Soil types and CLI classifications are periodically reviewed by OMAFRA in priority areas across Ontario. The resulting updates are uploaded to the Ontario Soil Survey Complex data set, which is publicly available on Land Information Ontario.

The GGH LEAR uses OMAFRA's most current, official CLI soil capability for agriculture mapping available as of the date of analysis in 2015. Soils and CLI mapping updates are likely to continue in various areas of Ontario. New CLI soil capability ratings can be incorporated in future land evaluation studies.

5. Mapping the Agricultural Land Base

The definition of *prime agricultural areas* in provincial plans and policies is designed to be inclusive. The definition includes areas where *prime agricultural lands* predominate and associated Canada Land Inventory Class 4 through 7 lands, and additional areas

with a local concentration of farms. In any landscape where agriculture is occurring, there is potential for *prime agricultural areas* to be identified because the definition includes areas that are actively farmed. *Prime agricultural areas* consist of large, contiguous landscapes. As a result, *prime agricultural areas* make up the majority of the geographic area of the four provincial plans in the GGH.

To identify *prime agricultural areas* in a consistent and transparent way, OMAFRA used the scores produced by the GGH LEAR, along with other analysis outlined below.

5.1 Mapping Prime Agricultural Areas

5.1.1 Clustering High and Medium scores

Each evaluation unit is categorized as a high, medium or low score. The rationale for this categorization is outlined in section 4. High scores are equal to or above the threshold score of 70 points; Medium scores are between 60 points and 70 points; and Low scores are below 60 points.

The protection of large, contiguous *prime agricultural areas* is important to ensuring the functional sustainability of agriculture. Planning in Ontario has long recognized that many farm-related functions are more viable in landscapes with a large mass of active farms (MacLaren, 1976). For example, practices such as moving large equipment, buying or selling land to achieve efficiencies, or activities that create noise, dust, or odours, all benefit from landscapes where farming is the predominant land use and competing or conflicting non-agricultural uses are prevented and buffered appropriately by large protected areas. These large clusters of agricultural uses are also important to sustain the range of complex services and socio-economic community factors that support the agri-food network. Many farm services depend on spatial proximity for cost-effectiveness. Farmland protection continues to be more effective in supporting agricultural investments when large contiguous areas are protected, providing certainty that non-agricultural uses will not generate conflicts (Caldwell, 2016).

Accordingly, a clustering method was used to identify large, contiguous *prime agricultural areas*. For the purpose of this evaluation, ‘contiguous’ means abutting or sharing a corner. Areas of greater than or equal to 250 ha of contiguous high scores were identified as ‘High score clusters’. Areas of greater than or equal to 250 ha of contiguous medium scores were identified as being ‘Medium score clusters’. Areas of 250 ha of contiguous Low scores were identified as ‘Low score clusters’ and considered not to be *prime agricultural areas*. Remaining areas that were less than 250 ha were automatically allocated to contiguous Low, Medium or High score clusters, based on their longest shared boundary with a cluster.

5.1.2 Extension to identifiable boundaries

All assessment parcels that contained a majority of evaluation units in a High score cluster were identified as being part of a *prime agricultural area*. All assessment parcels that were potentially part of a *prime agricultural area* were grouped together as polygons. A similar process was used for the remaining Candidate areas, with the addition of lands in agricultural production. In this way, assessment parcel boundaries form the bulk of the identifiable boundaries for the map of the agricultural land base.

5.1.3 Inclusion of Municipal Prime Agricultural Area Designations

OMAFRA obtained a dataset of municipal data, collected by the Ministry of Municipal Affairs, showing areas designated as *prime agricultural areas* in upper/single-tier official plans. These designations were typically labelled “Agricultural” or a similar name and are treated as *prime agricultural areas* in policy, based on municipal official plan updates and provincial approval. These existing designations were included as *prime agricultural areas* in the map of the agricultural land base, subject to the same exclusions outlined in the following section.

5.1.4 Exclusions

The specific areas excluded in section 5.1.4 are based on data compiled from various sources. Data sources include municipalities, the Ministry of Municipal Affairs, the Ministry of Natural Resources and Forestry and OMAFRA. While every effort has been made to accurately depict the information, the resulting map should not be relied on as being a precise indicator of locations of features or roads nor as a guide to navigation. Designation boundaries generally reflect information provided by the relevant municipality. For precise boundaries and locations of *settlement areas* and *employment areas* the appropriate municipalities and provincial plans should be consulted.

5.1.4.1 Exclusions by type

The following areas are excluded from the agricultural land base (in addition to settlement areas and large water bodies as noted in section 4):

- Ontario Provincial Parks and Conservation reserves[3]
- Federally regulated portions of aerodromes[4]
- First Nation reserve lands[5]

[3] Conservation reserves and provincial parks are crown lands regulated with management plans prepared by the province that are typically entirely in natural cover: https://www.ontario.ca/page/ontarios-parks-and-protected-areas.

[4] Aerodromes are further described in the metadata on Land Information Ontario: www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=da913f85-0f95-493c-81b7-d552a52ea73b

[5] The First Nations reserve lands layer is further described in the metadata on Land Information Ontario: www.sse.gov.on.ca/sites/MNR-PublicDocs/EN/CMID/Indian%20Reserve%20-%20Data%20Description.pdf

- Other areas not under provincial planning jurisdiction (e.g. Federal correction facilities, CFB Borden parcel)[6] and
- Nanticoke and Darlington provincial power generation parcels.

5.1.4.2 Natural areas

Natural areas and agriculture co-exist within the broader rural landscape. It is a provincial priority to protect both agricultural land and natural areas. Because of the overlap between *prime agricultural areas* and natural areas, certain large natural features were initially identified as *prime agricultural areas*. It was necessary to use an additional, ecologically-based evaluation area and method for determining whether certain large, provincially significant natural features qualified as *prime agricultural areas*.

The province identifies provincially *significant wetlands* (PSWs) and provincially significant *life science Areas of Natural and Scientific Interest* (PSLSANSIs) through an ongoing program of evaluation. Current mapping of these features is made available by the province, based on rigorous, scientific criteria (e.g. the Ontario Wetland Evaluation System). In order to determine whether these features qualified as *prime agricultural areas*, they were considered based on the unique boundaries of the features as identified by the province. Where these features were larger than 250 ha, and were not predominantly *prime agricultural lands* or exhibiting characteristics of ongoing agriculture, OMAFRA determined that they did not meet key requirements of the definition of *prime agricultural areas*.

Regionally and locally significant natural heritage features larger than 250 hectares were not separately evaluated in a similar way because they are either not provincially significant, or consistent provincial mapping of these features was not available. All features smaller than 250 ha were not separately evaluated to determine whether they are *prime agricultural areas* because non-provincially significant features less than 250 ha are considered to be included within surrounding *prime agricultural areas* to achieve a continuous, integrated agricultural land base (while remaining subject to provincial plan policies.

As a result, areas greater than or equal to 250ha of continuous PSLSANSIs and continuous PSWs are shown using the ‘Natural Areas’ colour on the agricultural land base map.

The “Escarpment Natural” designation of the Niagara Escarpment Plan was also evaluated to determine if it qualified as a *prime agricultural area*, in and of itself. The NEP Escarpment Natural designation is a provincial land use designation comprised

[6] No additional land extensive federal military bases are known in the GGH area.

solely of connected natural features totalling 47,061 ha in the GGH. Very little of the "Escarpment Natural" designation receives High scores in the GGH LEAR. Evaluated on its own, very little of the "Escarpment Natural" designation is classified as *prime agricultural lands* and even less is in agricultural production. As a result, OMAFRA determined that the "Escarpment Natural" designation did not meet key requirements of the definition of *prime agricultural areas.*

The analysis carried out in this section is appropriate for large, provincially significant natural features. It would not be desirable to separately exclude smaller areas of natural features for exclusion from *prime agricultural areas* because this would unduly fragment the resulting *prime agricultural areas*.

5.1.4.3 Employment Areas

Four *employment areas* recognized in the Growth Plan 2017 Schedule 8 were removed from the agricultural land base. Otherwise, municipally designated *employment areas*[7] are shown with a hatching overlay in the provincial map of the agricultural land base and are not automatically excluded.

5.1.4.4 Technical adjustments

Following inclusion of agricultural designations from municipal official plans, it was necessary to take several minor steps to achieve identifiable boundaries where possible. Slivers of *prime agricultural area* that were less than one hectare were excluded. Very narrow ribbons of roads or other infrastructure leading out of *prime agricultural areas* were excluded (i.e. these areas did not serve a connecting function within or between *prime agricultural areas*). Small isolated pieces of land completely surrounded by settlement area boundaries were excluded. Note that fingers of *prime agricultural areas* extending alongside settlement boundaries are found in a number of places where the natural heritage system has been protected from settlement area boundary expansion. These areas are intentionally retained where they remain connected to broader *prime agricultural areas* and reflect ongoing agricultural production in the area.

5.2 Specialty Crop Areas in the Agricultural Land Base

Specialty crop areas are *prime agricultural areas* by definition and are automatically included in the agricultural land base.

The boundaries of *specialty crop areas* (the Niagara Tender Fruit and Grape Lands and the Holland Marsh) were delineated in preparation for the Greenbelt Plan 2005 and are shown in the Greenbelt Plan 2017 schedules.

[7] Based on data layer collected by the Ministry of Municipal Affairs and Housing showing *Employment Areas* designated in Official Plans approved as of June 16, 2006.

Specialty crop areas support a continuous agricultural land base; they do not fragment *prime agricultural areas*. Accordingly, the land within *specialty crop areas* was assigned GGH LEAR scores for the purpose of evaluating the broader landscape adjacent to *specialty crop areas*. This allows areas adjacent to a *specialty crop area* to be included in the agricultural land base as part of a broader continuous *prime agricultural area*. Note that the GGH LEAR scores within *specialty crop areas* are not appropriate for determining *specialty crop area* status. *Specialty crop area* evaluation would typically include additional factors such as microclimate, specialized skills of producers and capital investments.

The *specialty crop area* in Niagara and Hamilton continues beneath the Niagara Escarpment Plan, for the same reasons that were used in the evaluation of the Niagara Tender Fruit and Grape Lands in the Greenbelt Plan (e.g. microclimate). This *specialty crop area* is already designated in the relevant local official plan schedules. Note that where the Niagara Escarpment Plan Natural Area designation and Urban Area designations have already been approved by the province, these areas were not shown as *specialty crop areas*. Settlement area boundary expansions are not permitted into *specialty crop areas* and therefore the mapping continues to show other provincially significant natural features as being *specialty crop areas*, for their continued mutual protection. Similarly, outlines for *employment areas* that may currently be designated are not shown in *specialty crop area mapping*, as provincial policies do not allow municipal refinement of *specialty crop area* boundaries.

For clarity, none of the above constitutes changes to the mapping of Tender Fruit and Grape Lands boundaries already identified in the Greenbelt Plan 2017.

5.3 Key Agricultural Land Base Mapping Results

Based on OMAFRA analysis described above, the total area of prime agricultural areas in the provincial map of the agricultural land base is approximately 1.57 million ha. The revised agricultural land base map adds approximately 269,000 hectares of prime agricultural areas to the areas already protected by existing municipal official plans in the GGH.

6. Agri-food Network Mapping Information

In order to support municipalities and other stakeholders, OMAFRA developed a web-based Agricultural System Portal. This mapping portal allows users to display a range of economic and land use information. For example, users may be interested in displaying the location of the beverage sector supply chain, such as areas of fruit production, and the location of wineries, cideries and breweries; the density of livestock types in different areas and the location of meat processors and distributors; or key infrastructure that

supports the agri-food network such as international ports, border crossings, railways and highways.

The following principles were used in the identification of information to help illustrate the agri-food network in the Agricultural System Portal:

- providing easy access to information about the agri-food network
- selecting information that helps to support integration of planning and economic development and
- respecting privacy and data sharing.

Information was drawn from OMAFRA data as well as data gathered through the Golden Horseshoe Food and Farming Alliance (GHFFA) Agri-food Asset Mapping project. Data sets include business directories, Census of Agriculture, commodity group lists and local food directories. A detailed list of data and sources in the Agricultural System Portal is provided in Appendix B. Additional mapping layers may be added as they become available.

A significant portion of the data is assigned a code based on the North American Industry Classification System (NAICS). Detailed descriptions for all NAICS codes are available online at www.naics.com . The NAICS codes captured in the GHFFA Agri-Food Asset Mapping project are listed in Appendix C.

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Appendix A: AAFC Annual Crop Inventory Categories of agricultural production

Greenhouses
General Ag
Pasture/Forages
Fallow
Barley
Other Grains
Millet
Oats
Rye
Triticale
Wheat
Corn
Ginseng
Canola/Rapeseed
Flaxseed
Safflower
Sunflower
Soybeans
Peas
Beans
Vegetables
Tomatoes
Potatoes
Sugarbeets
Other Vegetables
Berries
Cranberry
Orchards
Other Fruits
Vineyards
Hops
Sod
Herbs
Nursery
Buckwheat
Hemp
Other Crops

Does not include:

Shrubland and Grassland categories

Appendix B: Data and sources used in the Agricultural System Portal (subject to updates)

1. **Infrastructure**
    - 1.1. Transportation infrastructure (Land Information Ontario)
        - 1.1.1. Highways
        - 1.1.2. Rail
        - 1.1.3. Ports
        - 1.1.4. Airport
        - 1.1.5. Border crossings
    - 1.2. Drainage (OMAFRA)
        - 1.2.1. Drain DFO Classification
        - 1.2.2. Constructed Drains
        - 1.2.3. Agricultural Tile Drainage
        - 1.2.4. Drain Connection
        - 1.2.5. Controlled Drainage
2. **Agri-food Assets and Services**
    - 2.1. Beverage
        - 2.1.1. Breweries (Ontario Craft Brewers)
        - 2.1.2. Cideries (Ontario Craft Cider Association)
        - 2.1.3. Wineries (Wines of Canada)
    - 2.2. Farmers markets (Farmers' Markets Ontario)
    - 2.3. Farm markets and local food (www.greenbeltfresh.ca)
    - 2.4. Frozen food manufacturing (Golden Horseshoe Food and Farming Alliance)
    - 2.5. Grain elevators (Canadian Grain Commission)
    - 2.6. Refrigerated warehousing and storage (Golden Horseshoe Food and Farming Alliance)
    - 2.7. Livestock Assets and Services
        - 2.7.1. Livestock auctions (www.farms.com)
        - 2.7.2. Renderers (OMAFRA)
        - 2.7.3. Meat distribution (Golden Horseshoe Food and Farming Alliance)
        - 2.7.4. Provincially licensed meat plants (OMAFRA)
        - 2.7.5. Freestanding Meat Plants (OMAFRA)
        - 2.7.6. Abattoirs
            - 2.7.6.1. All abattoirs
            - 2.7.6.2. Further processing
        - 2.7.7. Red Meat
            - 2.7.7.1. Alpaca
            - 2.7.7.2. Beef
            - 2.7.7.3. Buffalo
            - 2.7.7.4. Deer, Elk

2.7.7.5. Emus, Ostrich, Rhea
2.7.7.6. Goats, Lamb, Sheep
2.7.7.7. Pigs
2.7.7.8. Veal, Light Calves
2.7.8. White meat
2.7.8.1. Chicken, Fowl
2.7.8.2. Ducks, Geese
2.7.8.3. Fancy Poultry
2.7.8.4. Rabbits
2.7.8.5. Turkey

3. Natural resources

3.1. Soil Survey Complex (OMAFRA)
3.2. Evaluated provincially significant wetlands (MNRF)

4. **Livestock Production**

4.1. Spatial Density of Beef Farms (Golden Horseshoe Food and Farming Alliance)
4.2. Spatial Density of Poultry Farms (Golden Horseshoe Food and Farming Alliance)
4.3. Spatial Density of Swine Farms (Golden Horseshoe Food and Farming Alliance)
4.4. Spatial Density of Sheep and Goat Farms (Golden Horseshoe Food and Farming Alliance)

5. Draft Agricultural Land Base

5.1. Prime Agricultural Areas
5.1.1. Specialty Crop Areas (Niagara Tender Fruit and Grape Lands and Holland Marsh)
5.1.2. Prime Agricultural Areas designated in municipal official plans and identified by OMAFRA
5.2. Candidate areas for the Agricultural Land Base (AAFC and OMAFRA)
5.3. Settlement areas (municipal official plans, 2015)
5.4. Rural lands outside of the agricultural land base (identified OMAFRA)

6. Crop Production

6.1. Crop Inventory, 2015 (AAFC)
6.2. Foods grown under cover (e.g. greenhouses) (GHFFA)
6.3. Spatial Density of Cereals (AAFC)
6.4. Spatial Density of Wheat (AAFC)
6.5. Spatial Density of Barley (AAFC)
6.6. Spatial Density of Canola (AAFC)
6.7. Spatial Density of Soybean (AAFC)
6.8. Spatial Density of Corn (AAFC)
6.9. Spatial Density of Fruit, 2015 (AAFC)
6.10. Spatial Density of Vegetable, 2015 (AAFC)

Appendix C: NAICS Codes for Components of the Agri-food Network

NAICS Code	Description
1111	Oilseed and Grain Farming
1112	Vegetable and melon farming
1113	Fruit and tree nut farming
1114	Greenhouse, nursery and floriculture production
1119	Other crop farming
1121	Cattle ranching and farming
1122	Hog and pig farming
1123	Poultry and egg production
1124	Sheep and goat farming
1125	Aquaculture
1129	Other animal production
1151	Support activities for crop production
1152	Support activities for animal production
3111	Animal food manufacturing
3112	Grain and oilseed milling
3113	Sugar and confectionery product manufacturing
3114	Fruit and vegetable preserving and specialty food manufacturing
3115	Dairy product manufacturing
3116	Meat product manufacturing
3118	Bakeries and tortilla manufacturing
3119	Other food manufacturing
3121	Beverage manufacturing
3122	Tobacco manufacturing
3253	Pesticide, fertilizer and other agricultural chemical manufacturing
3254	Pharmaceutical and medicine manufacturing
3331	Agricultural, construction and mining machinery manufacturing
4111	Farm product merchant wholesalers
4131	Food merchant wholesalers
4132	Beverage merchant wholesalers
4133	cigarette and tobacco product merchant wholesalers
4171	Farm, lawn and garden machinery and equipment merchant wholesalers
4183	Agricultural supplies merchant wholesalers
4442	Lawn and garden equipment and supplies stores

Appendix D: Review of Municipal Change Requests

During consultations, OMAFRA requested that municipalities submit requests to change any large mapping inaccuracies. Large inaccuracies were defined as either:

a) Updates to municipal official plan settlement area boundaries and agricultural designations since 2015 or
b) Large areas, typically greater than 250 ha, that are designated for non-agricultural use(s).

As a result OMAFRA received approximately 206 change requests.

Approximately 50 change requests were related to settlement area expansions. A portion of the areas were related to finer scale mapping that would be more appropriate during municipal refinement. Based on provincial review, a portion of the requests related to settlement area boundaries were confirmed as appropriate changes to the agricultural land base map.

The remaining 156 change requests were reviewed by OMAFRA using the following consistent, rigorous criteria.

An area was either removed from the Agricultural Land Base or classified as a Candidate Area if that area was greater than 250 ha, contiguously, and was affected entirely by one or more of the following conditions:

a. Non-agricultural and non-residential uses that are not likely to be rehabilitated to agriculture, meaning, contiguous approved municipal designations forming a cluster of uses that is not characteristic of a *prime agricultural area* (that is, commercial, industrial, institutional, cemeteries, golf courses, *mineral aggregate resources extraction* below the water table, built up areas along highways or water bodies, large impervious surfaces, and designated *employment areas*)

b. PSWs, PSLSANSIs, and “Escarpment Natural” designation and

c. Lands where more accurate data was available that would significantly lower LEAR scores, such that large numbers of evaluation units in the area would no longer receive high LEAR scores.

Twenty three areas met the above criteria. In some cases, there was not enough information to determine whether the above criteria were met. The criteria above were used for provincial-scale review only. Detailed criteria for further refinement are provided in the Agricultural System Implementation Procedures.