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b) CV

Lead Applicant experience and expertise - (Max 150 words. Please briefly describe your research experience and expertise as it relates to this project.)
My career maintains a balance between academia and professional practice. Much of my career has been spent working in a municipal planning office. My research is also very practically based and focused on rural, environmental, and agricultural topics. My publications are oriented towards the planning profession and frequently published in the Ontario Planning Journal, Plan Canada, and Municipal World. I am constantly in touch with communities through speaking and research opportunities. I am regularly in touch with the profession through various leadership roles, having recently served as President of the Ontario Professional Planners Institute and as Chair of the 2010 OPPI Symposium. In addition, I provide training to the profession and recently developed training workshops on public consultation, local rural development, and agricultural planning. Two of my most recent books focus on Community Economic Development and Farmland Preservation.

Note: The Lead Applicant CV is appended to the end of this document.

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3. Research Team Members

Name (Email)	Organization	Expertise and responsibilities related to project	Role in Project (FTE Dedicated to this Project)	Affiliation
Dr. Wayne Caldwell (waynecaldwell@hurontel.on.ca)	University of Guelph		Lead Applicant (0.20)	U of G
Ms. Sara Epp (sepp@uoguelph.ca)	University of Guelph	Previous experience collecting and analyzing data regarding conflict between agricultural and residential land.	UofG Graduate Student (0.50)	Academia/Research Institute
Ms. TBA TBA (tba@uoguelph.ca)	University of Guelph	Case studies, interviews and official plan analysis	UofG Graduate Student (0.50)	Academia/Research Institute
Mr. Bryce Sharpe (bsharpe@uoguelph.ca)	University of Guelph	Jurisdictional scan across Canada	UofG Graduate Student (0.50)	Academia/Research Institute

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4. Research Theme(s) Addressed:

Theme	%
Agricultural and Rural Policy	100

Research Themes Priorities:

Theme	Priority
Agricultural and Rural Policy	

Priority Details from the Call Documents:

5. Project Duration (Max 36 Months)

36 Months

6. Key words

Agriculture, farmland, land use planing

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7. Abstract (200 words)

This proposal seeks to evaluate the current state of Ontario's farmland in terms of the land available and policies regarding land conservation. The goal of this study is to develop a methodology that can be replicated across communities throughout Ontario that will measure both the availability of farmland and amount lost,. The methodology will include a review of regional and local official plan amendments, key informant interviews, provincial plans and other base data including census and other local documents to determine what land has been lost and what land is in production. Furthermore, the methodology will determine how agricultural land is classified and land availability is quantified by region to streamline and synthesize this data across Ontario. A land use policy jurisdictional review will also be conducted to determine key practices supportive of farmland protection from across the country. This project will be complimented by a socio-economic analysis of agriculture in Ontario and through coordinated research efforts with the Dr. Fox's research team. Together, these aspects will provide a better understanding of the state of Ontario's farmland, including a more accurate classification system and representation of farmland availability.

8. Benefits For each Research Theme: Describe the benefits of the research to Ontario's agri-food and rural sectors. Identify who will gain from the research and how they will gain. (Max 350 words per theme)

Theme 1 - Agricultural and Rural Policy

The future sustainability of agriculture in Ontario is dependent on a stable land base and precise understanding of the availability of farmland. In order to ensure that farmland is available, it is necessary to measure the existing land base and determine the quantity of land being lost to development. Currently, there is no systematic approach or methodology to accurately measure farmland loss. This research will establish a methodology to enable communities and the province to determine the supply of farmland and the amount of land lost.

The following stakeholders will benefit:

Ontario's Agricultural Sector
The agricultural sector will benefit the most from this research project through a clearer understanding of the status of the Ontario land base. A clear representation of land

availability and classification will determine the need for land-use preservation policies that support the farming industry and active utilization of agricultural land. Furthermore, an understanding of how socio-economic factors impact agricultural land and land use activities will enable the agricultural sector to better understand how farmland and the farming industry are impacted by land ownership, including non-farm rural residents and land cost.

Rural Ontario
The development pressures on rural municipalities for the use of their land base continue to mount. The economics of land use make decisions about the utilization of the land base critical to rural municipal economic health. This research will provide concrete data as well as a methodology for rural areas to utilize to make more informed decisions on land use planning.

Decision Makers/Municipalities/Planners/Community Economic Developers
These diverse stakeholders will benefit from this research as an accurate measure of farmland availability and loss provides a clearer understanding of the effectiveness of provincial and local policies oriented towards farmland preservation in Ontario (PPS/Greenbelt Plan).

Urban/Peri-urban Areas
This research will help create a methodology that will assist in the utilization decisions around land that can be communicated to urban planners, developers and residences that will help decrease the pressures and conflict around land use planning. By providing a clear methodology for land use utilization a greater understanding around land use planning will develop, decreasing pressures and conflict.

9. Rationale for the research. (Max 500 words. Explain why the research is needed and the research priority(ies) being met e.g. the problem the research will tackle, or the gap in current knowledge that will be addressed)

@Rationale@

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10. Objectives (Max 150 words. Describe the purpose/ main goals of the research project - what the research is intended to accomplish)

This research has four main objectives:

1-Develop a methodology for analyzing the current state of Ontario's farmland that is understandable, achievable, replicable and user-friendly.
This methodology will be applied to cases to determine the amount of farmland available and lost.

2-A jurisdictional scan of agricultural land use policies both within Ontario and across Canada will identify best practices that can be adopted in Ontario and will inform the SSHRC project of Ontario's land management perspective.

3-An analysis of the socio-economic factors that impact the availability of agricultural land in Ontario.

4-Provide best practices regarding land use policies to better protect the future availability of agricultural land in Ontario.

11. Literature Review: Provide a summary literature review describing background and supporting rationale for the proposed research. (2 pages maximum)

The current state of agricultural land in Ontario is unknown as the amount of arable land has not been accurately quantified, classification systems vary by locality and non-agricultural land uses continue to consume agricultural land. Furthermore, socio-economic factors, such as the restructuring of the agricultural industry and rural communities have significantly impacted both the land base and practice of farming. It is important to note that only 6.8 percent of the land in Ontario is suitable for agriculture (Caldwell and Hilts, 2005) and the majority of that land is within 100 kilometres of Toronto, Canada's largest, and fastest growing metropolitan area (Troughton, 2007). Considering these pressures to agricultural land, understanding the current state of land in Ontario, including measures of farmland availability and loss are necessary.

The agricultural land base is impacted by the restructuring of rural communities. Communities have distinct relationships to landscapes and the locales in which they perform their day-to-day activities. As such, rural communities share values, concerns and hopes for the development of their landscape, which are reflected in how they utilize and protect these spaces (Ruiz and Domon, 2012). Rural communities also influence the sustainability of agriculture as they impact farming activities, the production of goods and consumption of

the landscape. These impacts can be positive when they are supportive of the industry and destructive when they conflict or alter the nature of agriculture (Wiebe and Wipf, 2011).

Of particular importance is the changing demographics of rural communities, as urban sprawl and exurban migration result in a population boom for many agricultural towns (MacDonald and Keil, 2012). This increased migration is often at the expense of agricultural land as land is consumed for residential development, rural estate lots or creation of hobby farms (Francis et al., 2012). In many instances, agricultural land is taken out of production and fields become parcelized and separated by non-farm land uses. Such development has been referred to as “death by a thousand cuts,” as agricultural land is slowly divided into parcels that reduce efficiency, cause conflicts between land uses and, in some instances, completely eliminate the agricultural industry (Cadieux et al., 2013; Gayler, 2010a; Gayler 2010b; Caldwell and Dodds-Weir, 2007; Sharp and Smith, 2003). The conversion of agricultural land to non-agricultural purposes significantly impacts local economies as the far-reaching economic benefits of agriculture are lost (Armstrong and Taylor, 2000). Francis et al. (2012), note that while residential development or other urban land uses may provide short term economic stimulus, every dollar earned by agriculture is actually tripled through direct and indirect economic activities. Without a stable land base, however, the economic benefits of agriculture are quickly diminished.

While farmland preservation policies, such as the Greenbelt Act and Places to Grow have protected prime agricultural land in Southern Ontario (MacDonald and Keil, 2012; Caldwell et al., 2007), such policies have not fully eliminated the conversion of agricultural land to non-agricultural land uses. Furthermore, communities outside of the greenbelt area are not restricted by such policies and agricultural land is constantly under threat of development. In order to determine the necessity of preservation policies across Ontario, accurate data regarding the current state of agricultural land is necessary. Given the variation in classification schemes, prominence of planning amendments and threat of development, it is necessary to create a replicable methodology for quantify land availability. It is only through a concise understanding of the current state of agriculture, that the socio-economic factors impact land loss can be considered and best practices for protecting and maintaining current stocks of agricultural land can be proposed.

Sources

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Cadieux, K.V., Taylor, L.E. and Bunce, M.F. (2013). "Landscape ideology in the Greater Golden Horseshoe Greenbelt Plan: Negotiating material landscapes and abstract ideals in the city’s countryside." Journal of Rural Studies. 32: 307-319.

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Gayler, H. (2010b). "Ontario's Greenbelt and places to grow legislation: Impacts on the future of the countryside and the rural economy." In G. Halseth, S. Markey, & D. Bruce (Eds.), The Next Rural Economies: Constructing Rural Place in Global Economies. Cambridge, MA: CABI Publishing, 75-88.

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Ruiz, J. and Domon, G. (2012). "Relationships between rural inhabitants and their landscapes in areas of intensive agricultural use: A case study in Quebec (Canada)." Journal of Rural Studies. 28, 590-602.

Sharp, J. and Smith, M. (2003). "Social capital and farming at the rural-urban interface: The importance of nonfarmer and farmer relations." Agricultural Systems. 76 (3), 913-927.

Troughton, M. (2007). "Canadian farmland - A fluctuating commodity." In W. Caldwell, S. Hilts, & B. Wilton (Eds.), Farmland Preservation: Land for Future Generations.

Guelph, Ontario: University of Guelph, 33-57.

Wiebe, N. and Wipf, K. (2011). "Nurturing food sovereignty in Canada." In Whittman, H, Desmarais, A.A. and Wiebe, N. (eds.) Food Sovereignty in Canada: Creating Just and Sustainable Food Systems. Fernwood Publishing: Halifax.

12. Methodology For each Research Theme: Describe your experimental plan for accomplishing the research objectives. (Max 750 words per theme).

Theme 1 - Agricultural and Rural Policy
@Methodology - Theme 1@

13. Deliverables (Max 100 words. Give tangible and measurable outcomes expected from your project such as a new product, methodology or process).

@Deliverables@

14. Funding Sources

Project Number	Funding Source	Funding Value	Term of Funding

15. Milestones

Milestone	Description of Activities	Completion Date
Establish and meet		

with advisory committeey committee	An advisory committee consisting a stakeholders from government agencies (OMAF/MRA), agricultural organizations (OFA, CFFO) and the research community, including the Glen Fox research team, will be established. The advisory committee will meet bi-monthly after this initial meeting through the duration of the project.	2014-06-02
Literature review	A literature review regarding land use planning, the agricultural industry and agricultural policies in Ontario will be conducted.	2014-08-01
Jurisdictional scan	Other jurisdictions across Canada will be compared to Ontario to better gauge land use policies and agricultural preservation initiatives outside of Ontario. This research will be compared to the Ontario literature review in an effort to identify best practices and innovative initiatives utilized across Canada that can potentially be applied in Ontario. This research will be completed with funding from a SSHRC grant.	2014-09-02
Selection of pilot case study and creation of methodology	Working with the advisory committee, the pilot case study will be selected and the methodology for measuring the availability of agricultural land will be determined. The committee will determine what criteria are used to define agricultural land and what factors impact the availability of farmland.	2014-11-03
Pilot case study	On the advice of the advisory committee, the first pilot case study will be undertaken. One graduate student will work closely with the region selected and review all planning amendments that removed agricultural land from production. Furthermore, the student will document how agricultural land is classified, as, for example, whether roadways are included in the calculation of agricultural land. The PhD student will analyze this data and qualify it by determining what socio-economic factors impact the availability of agricultural land in this region. All data will be quantified to determine the current state of agricultural land for this pilot case study.	2015-04-01
Review of pilot case study	The results of the pilot case study will be reviewed in consultation with the advisory committee. Challenges to the initial methodology will be discussed and recommendations for streamlining and improving efficiencies and ease of replication will be identified.	2015-07-02
Application of methodology to multiple case studies	Once the methodology has been finalized, it will be applied to approximately 5-7 additional counties/regional municipalities. These case will be selected in consultation with the advisory committee.	2016-06-01

Summary of findings	The results of these cases will be summarized and discussed with the advisory committee. If resources permit, additional case studies will be completed	2016-09-01
Creation of draft report and identification of best practices	A draft report regarding the methodology utilized and results of the 5-7 cases will be presented in a report. This report will be disseminated among the advisory committee and will be revised pending recommendations from the reviewers	2017-01-02
Finalization of report	The report will be finalized and translated for presentation to OMAF/MRA policy officials, agricultural organizations and the farming community. Additionally, the findings will be presented at academic and non-academic conferences to ensure the results of this research are disseminated to a broad audience.	2017-02-01
Creation of a toolkit	Finally, a toolkit will be developed that outlines the methodology used. This toolkit will structure and deliver the methodology in a manner that is easily replicable for other communities across Ontario.	2017-03-01
Best practices manual	A manual identifying best practices for land use planning and preservation of agricultural land will also be created. This manual will utilize the literature review and jurisdictional scan to provide best practices for the Ontario situation.	2017-03-01
Knowledge exchange	The report, toolkit and manual will be presented at conferences, published in academic journals, planning periodicals and released through the media. Using a variety of platforms to disseminate the research findings will enable the exchange of knowledge to the broadest possible audience.	2017-05-01

16. Intellectual Property: Is any potential Intellectual Property expected to be developed from the proposed research?:
Applicants are encouraged to describe any potential IP that is expected to be developed from the proposed research. If there is a concern about disclosing sensitive IP, applicants are asked to work with the UofG's Business Development Office (BDO) to assess the validity of such concerns, and to determine the best course of action for protecting the potential IP. The BDO will provide advice on communicating the necessary and appropriate information in the application to allow for proper assessment of your proposal.

Questions concerning ownership of IP should be directed to either the UofG Business Development Office or the Office of Research. Applicants who are members of UGFA will be governed by the IP provisions found in article 52 of the UGFA-UG Collective Agreement. The OMAFRA-UG Agreement is recognized as an existing contract by the Collective Agreement, and as such, researchers are advised to familiarize themselves with the unique conditions of IP ownership. All other applicants will be governed by the applicable provisions under the OMAFRA/UofG agreement as well as all other relevant university policies.

This information will only be made visible to Program Administrators, RPDs and Review Committee members, all of who are bound by confidentiality agreements. It will be maintained securely against broader or public release.

@IP Info@

17. Knowledge Translation and Transfer Plan

KTT Type	Target Audiences	Involvement of Research Users in Project	Explain how users will benefit from the Research	KTT Methods
a2.consultations with stakeholder groups or government agencies	Agricultural communities, agricultural organizations, farmers	Advisory committee members	Research will provide clear data regarding the availability of farmland in Ontario and provide recommendations for best practices to maintain and	Involement on advisory committee throughout the research project. Communities selected for case studies will be involved in the data collection and review of reports regarding

			conserve this land.	findings.
a4.stakeholder or government agency meetings	OMAF/MRA and MMAH	Advisory committee members	Research will provide a replicable methodology to be utilized across Ontario for measuring the availability of agricultural land. No other methodology exists that will provide accurate and consistent results across Ontario.	Involvement in advisory committee from throughout the project. Will provide recommendations for case studies, creation of methodology and review of all reports.
a8.seminars beyond an academic audience	Agricultural community, agricultural organizations, farmers	Audience	Will present evidence regarding the availability of agricultural land and best practices to maintain and conserve farmland. Data at the detail we propose has never been collected and as such, this audience will benefit from clear, concise facts regarding the current state of farmland loss or preservation in Ontario.	Presentation of methodology, findings and reports
C----PRESENTATIONS AT SCIENTIFIC CONFERENCES	Researcher community	Audience	Inform the research community on the current state of agricultural land availability in Ontario and a methodology for collecting such	Research documentation

			data.	
D----COMMITTEES INCLUDING RESEARCH, ADVISORY AND EXPERT CAPACITY	Government agencies, agricultural community, agricultural organizations, researchers	Advisory committee members, audience	Informing stakeholders on the opportunities to protect and maintain existing agricultural land and the current status of land available in Ontario.	Involvement in advisory committee and research documentation including toolkit and best practices.
G----TRAINING MODULES DESIGNED OR PRESENTED	Government agencies, agricultural communities, agricultural organizations, farmers	Audience	The creation of a methodology for measuring the current availability of farmland and farmland loss will be designed and can be utilized by the target audience. This methodology is innovative and no similar tools for measuring the availability of agricultural land currently exist.	Research documentation, including toolkit and best practices
H----OTHER KTT ACTIVITY	Graduate students	Research team includes one PhD and two Master students.	Students will be exposed to the research process, including data collection and interpretation of findings. They will also participate in writing reports and presenting findings.	Research completion
	Agricultural communities,		Will publicize research and	