



<b>Internal use</b> 945832
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# Application for a Grant

<b>Identification</b>						
This page will be made available to selection committee members and external assessors.						
Funding opportunity <b>Insight Grants</b>				Funding Stream <b>B (\$100,001 to \$400,000)</b>		
Joint or special initiative						
Application title <b>Collaborative Water Services Between First Nations and Municipalities in Ontario</b>						
Applicant family name <b>Deaton</b>			Applicant given name <b>Brady James</b>		Initials <b>BJD</b>	
Org. code <b>1350311</b>	Full name of applicant's organization and department <b>University of Guelph Food, Agricultural and Resource Economics (FARE)</b>					
Org. code <b>1350311</b>	Full name of administrative organization and department <b>University of Guelph Food, Agricultural and Resource Economics (FARE)</b>					
				Preferred Adjudication Committee <b>435-23</b>		
Does your proposal involve Aboriginal Research as defined by SSHRC? Yes <input checked="" type="radio"/> No <input type="radio"/>						
Does your proposal involve human beings as research subjects? If "Yes", consult the <i>Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans</i> and submit your proposal to your organization's Research Ethics Board. Yes <input checked="" type="radio"/> No <input type="radio"/>						
Does any phase of the proposed research or research-related activity:						
A. Constitute a physical activity carried out on federal lands in Canada, as defined in sub-section 2(1), in relation to a physical work and that is not a designated project;				Yes	<input type="radio"/>	No <input checked="" type="radio"/>
B. Constitute a physical activity carried out outside of Canada in relation to a physical work and that is not a designated project;				Yes	<input type="radio"/>	No <input checked="" type="radio"/>
C. (i) Permit a designated project (listed in the CEAA 2012 Regulations Designating Physical Activities (RDPA)) to be carried out in whole or in part;				Yes	<input type="radio"/>	No <input checked="" type="radio"/>
C. (ii) Depend on a designated project (listed in the RDPA) that is, or will be, carried out by a third party?				Yes	<input type="radio"/>	No <input checked="" type="radio"/>
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total funds requested from SSHRC	<u>97,000</u>	<u>98,000</u>	<u>87,430</u>	<u>94,370</u>	<u>13,500</u>	<u>390,300</u>



Family name, Given name  
Deaton, Brady James

### Participants

List names of your team members (co-applicants and collaborators) who will take part in the intellectual direction of the research. Do not include assistants, students or consultants.

Role

Co-applicant

Collaborator

Family name  
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Collaborator

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Full organization name

Department/Division name

Role

Co-applicant

Collaborator

Family name

Given name

Initials

Org. code

Full organization name

Department/Division name



### Research Activity

The information provided in this section refers to your research proposal.

### Keywords

List keywords that best describe your proposed research or research activity. Separate keywords with a semicolon.

First Nations; Municipalities; Water Service; Water Quality; Boil Water Advisories; Water Sharing; Inter-Local Servicing Agreements

### Disciplines - Indicate and rank up to 3 disciplines that best correspond to your activity.

Rank	Code	Discipline	If "Other", specify
1	61024	Urban, Rural and Regional Economics	
2	62810	Municipal and Local Government Politics	
3	61402	Community Development	

### Areas of Research

Indicate and rank up to 3 areas of research related to your proposal.

Rank	Code	Area
1	240	Indigenous peoples
2	131	Economic and Regional Development
3	320	Politics and government

### Temporal Periods

If applicable, indicate up to 2 historical periods covered by your proposal.

From	To
<p>Year</p> <p>BC AD</p> <p>_____ ○ ○</p> <p>_____ ○ ○</p>	<p>Year</p> <p>BC AD</p> <p>_____ ○ ○</p> <p>_____ ○ ○</p>



Family name, Given name  
Deaton, Brady James

**Research Activity (cont'd)**

**Geographical Regions**

If applicable, indicate and rank up to 3 geographical regions covered by or related to your proposal. Duplicate entries are not permitted.

Rank	Code	Region
1	1000	North America
2	1120	Central Canada
3		

**Countries**

If applicable, indicate and rank up to 5 countries covered by or related to your proposal. Duplicate entries are not permitted.

Rank	Code	Country	Prov./ State
1	1100	CANADA	ON
2			
3			
4			
5			



Family name, Given name

Deaton, Brady James

### Summary of Proposal

The summary of your research proposal should indicate clearly the problem or issue to be addressed, the potential contribution of the research both in terms of the advancement of knowledge and of the wider social benefit, etc.

This research sets out to explore water sharing between First Nations and municipalities in Ontario as one possible solution to address water access and quality issues on reserves. On many First Nations' reserves across Canada, drinking water is a persistent concern. In 2011, the first and only national survey of drinking water systems on Canadian First Nations' reserves found that 34% of systems failed to meet the Canadian Guidelines for Drinking Water Quality (CGDWQ); additionally, the survey found that 27% of First Nation communities were under a Boil Water Advisory (BWA) (Neeagan Burnside 2011). According to the United Nations (2009) First Nations' households are ninety times more likely to be without access to piped water. Under the leadership of Prime Minister Trudeau, the Canadian liberal government has promised to lead an effort to end BWAs on First Nation reserves, a commitment that will require a portfolio of approaches to account for diverse challenges and needs across communities.

One understudied approach involves water sharing between First Nations and municipalities. Water sharing is common between localities throughout North America and globally as a means of providing a variety of community services, including water and sewer. Water sharing arrangements can take on a variety of forms, including: bi-lateral contracts, regional networks, shared infrastructure and shared water system governance. As of 2011, 143 of the over 800 water systems on reserves across Canada were receiving water from a municipality through some form of water sharing (Neeagan Burnside 2011). In past research, we found a significant relationship between this water sharing and water quality outcomes on reserves. Specifically, reserves serviced through these types of water sharing agreements with municipalities were approximately 11% less likely to be under a boil water advisory, and 18% less likely to fail the health guidelines of the Canadian Guidelines for Drinking Water Quality (Lipka and Deaton 2015). We also determined that, based on geographic proximity alone, there are many more First Nations in a position to share water with their neighbours than are currently engaged in these exchanges.

We aim to explore the potential for water sharing among First Nations and municipalities in Ontario, and assess the potential for water sharing as a solution in the portfolio of solutions needed to address drinking water issues on reserves. To the extent that it is not a likely solution, we want to better understand why this is the case. We aim to quantitatively identify the potential scope for water sharing between First Nations and municipalities in the province, as well as factors that influence communities - both First Nation and municipal - to choose to engage, or not engage, in these exchanges. We also aim to explore through qualitative case study analyses community openness to, and attitudes regarding, water sharing and inter-local cooperation in specific contexts. Each case explored will be a community in proximity to a potential municipal water sharing partner, that has also had - or is currently experiencing - water quality challenges.

## DETAILED DESCRIPTION

### Introduction and Objectives:

The provision of safe potable water in First Nation communities is a persistent and significant challenge. As of the time of this writing, there are 80 active boil water advisories in Ontario – 71 of which qualify as long-term advisories, having been in place for over twelve months (Government of Canada 2017). In 2011, the Ministry of Aboriginal Affairs and Northern Development Canada (AANCD) commissioned the first and only nation-wide survey of water systems on First Nation lands, to be carried out by the engineering firm Neegan Burnside. The results of this survey revealed 27% of water systems surveyed were under an active boil water advisory, 34% failed the Canadian Guidelines for Drinking Water Quality (CGDWQ), and 39% could be classified as “high risk” (meaning unequipped to deal with the infiltration of a pollutant) (Neegan Burnside 2011). The federal government has made a commitment to ending boil water advisories on First Nation reserves. This will require a portfolio of solutions and options that recognize the diversity of challenges and needs faced by First Nations across Canada. This research focuses on one potential means of enhancing water quality outcomes: *water sharing arrangements*. Defined broadly, a water sharing arrangement refers to a contract to supply and/or receive potable water between two entities that differ in their form of government (e.g., between a First Nation and a municipality, two municipalities, etc.).

In previous research, we found that water sharing arrangements between First Nations and municipalities had a measurable effect on reducing the likelihood of boil water advisory (Lipka and Deaton 2015). *The goal of this proposed research is to better understand the reasons why water sharing arrangements emerge, or fail to emerge, between First Nations and municipalities in Ontario. Our objectives for achieving this goal are as follows:*

1. To empirically assess the extent to which First Nations and municipalities differ in their use of water-sharing arrangements. To achieve this objective we aim to:
  - a. Empirically estimate and statistically assess whether or not First Nations are less likely than municipalities to engage in water sharing, after controlling for key factors like remoteness.
  - b. Empirically estimate and statistically assess the influence of water sharing on water quality outcomes for First Nations and municipalities.
  - c. Identify differences in institutions governing water sharing for First Nations and municipalities.
2. To qualitatively assess the opinions, attitudes, and experiences of First Nation and municipal agents towards water sharing through in-depth interviews. To achieve this objective we aim to:
  - a. Identify key factors influencing why First Nations may, or may not, support water sharing with municipalities.
  - b. Identify key factors influencing why municipalities may, or may not, support water sharing with First Nations.
  - c. Develop a better understanding of the contemporary institutions that govern the present delivery of water on First Nations and municipalities, from the perspective of First Nation and municipal agents.

### Context:

Our research draws on the general study of institutions and institutional change to assess the specific issue of water sharing arrangements between First Nations and Canadian municipalities. The assessment of institutional variation and institutional change is a long-standing academic endeavour (Coase 1960, Alchian & Demsetz 1973, North 1990, Demsetz 1967). A key insight from Coase (1960) is that

transaction costs – i.e., the costs of information and securing expectations that surround any exchange – explain both the character of present institutional arrangements and the absence of alternative institutional arrangements. For some time, research has set out to understand the role of key institutions, institutional change, and the consequences thereof. For example, in the context of U.S. Indian Reservations, Anderson and Lueck (1992) provide empirical evidence to support their argument that variation in land tenure patterns explains variation in agricultural productivity. More recently, Aragón (2015) empirically identifies a positive relationship between modern treaties that clarify resource rights for First Nations and an improvement in income of around 13%. A great deal of theoretical and empirical work sets out to understand why institutional change emerges in some settings but not in others (see Acemoglu and Robinson (2012) book – *Why Nations Fail* – for a historical assessment of this issue). In the context of Canadian First Nations, this issue has also been studied. For example, Doidge, Deaton and Woods (2013) empirically examine factors that explain why some First Nations adopt the First Nations Land Management Act (FNLMA) and others do not. One reason given by First Nation leaders for FNLMA adoption is that it will allow them to opt out of portions of the Indian Act, and thereby avoid the transaction costs that are presently associated with securing federal approval of changes in land use.

This proposed study will provide an analysis of the emergence of water sharing arrangements and the socio-economic consequences of these arrangements. Specifically, it aims to investigate why water sharing arrangements emerge in some situations, and not others. It expands on two key previous studies authored by the grant applicants. First, Lipka and Deaton (2015) find that water systems on First Nations' reserves that receive water from a municipality are approximately 11% less likely to experience a boil water advisory, and approximately 18% less likely to fail the Canadian Health Guidelines for Drinking Water Quality (CGDWQ). Second, Alcantara and Nelles (2016) argue that indigenous-local intergovernmental servicing arrangements in Canada are largely understudied, despite having increased in prevalence at an accelerated rate since the year 2000 (with a four-fold increase in formal agreements between 2000 and 2013, compared to the previous decade). Alcantara and Nelles (2016) suggest that a range of factors – spanning a continuum between capacity, and willingness – seem to have a powerful effect on the type of intergovernmental relationship that is likely to emerge between Indigenous governments and municipalities in Canada. These factors include: institutions, financial and human resources, actions taken by senior levels of governments, history and polarizing events, a sense of imperative, and community capital.

Our proposed research will address a number of questions not addressed in these previous studies, including developing analysis that allows for a more in depth comparison between inter-municipal water sharing arrangements and First Nation—municipal water sharing arrangements. For example, Lipka and Deaton (2015) are not able to empirically assess the extent to which Ontario municipalities and First Nations differ in their use of water-sharing arrangements. Moreover, we aim to conduct in-depth interviews to better understand perspectives on water sharing arrangements from the standpoint of individuals from both First Nations and municipalities. Our findings are expected to support future research on institutions and institutional change with respect to First Nations. In addition, we expect the findings to enrich present policy approaches to addressing water quality issues in Canada.

### **Methodology:**

We will use quantitative and qualitative approaches to achieve our research objective: *to better understand reasons why water sharing arrangements emerge, or fail to emerge, between First Nations and municipalities in Ontario*. The following discussion outlines this mixed quantitative and qualitative approach.

Using regression analysis, and controlling for other factors (e.g., remoteness, population size, proximity to nearby population centers, income, etc.), we will quantitatively assess whether or not First Nations and municipalities are equally likely to engage in water sharing. We also aim to assess whether

or not water sharing arrangements have a similar effect on water quality outcomes for First Nations and municipalities. Thus, when specifying our regression approach, we will pay important attention to the need to both estimate the likelihood of water sharing, and develop a model that links water sharing to water quality outcomes. We will also assess factors that influence both water sharing and water quality outcomes, and the extent to which these differ between First Nations and municipalities. The regression analysis will be carried out using the statistical software program STATA.

The proposed quantitative approach requires the development of a detailed dataset characterizing water services on First Nations' reserves and in municipalities in Ontario. This data will be derived primarily from three key sources. The first is the 2011 Neegan Burnside Report "National Assessment of First Nations Water and Wastewater Systems", which contains extensive data on all water systems on First Nations' reserves in Canada (which includes water system data for 99% (120 of 121) of Ontario First Nations, and is the most recent comprehensive data set available on First Nation water systems). Site visits for this survey took place between 2009 and 2010, and "water systems", for the purpose of this survey, were defined as any infrastructure receiving funding from the federal government. This data includes detailed characteristics of each water system surveyed, including an indication of whether water sharing is taking place. It also includes measures of water system performance, including safety indicators such as whether a boil water advisory was active, and whether the system was achieving Canadian Guidelines for Drinking Water Quality (CGDWQ).

The second key data source is the "Chief Drinking Water Inspector Report" from the Ministry of the Environment and Climate Change (MOECC). We use the report from a period corresponding to the Neegan Burnside survey (i.e. 2009-2010). The appendix of this report details system information for all water systems in Ontario reporting to the MOECC: 693 systems in total. The report includes ownership and location information, as well as two indicators of water system performance: the MOECC inspection rating, and a measure of the percentage of water quality tests meeting provincial standards (which are based on the CGDWQ). Third, we will supplement this data from the MOECC with individually gathered annual municipal water system reports for each water system contained in the Chief Drinking Water Inspector report. These annual municipal water system reports will provide us with more detailed information on municipal system operations, including whether any water sharing is taking place. In addition to these key sources characterizing First Nation and municipal water systems, the data set will be further developed using other supplementary sources to characterize First Nations and municipalities. This will include the use of census community profiles and GIS derived measures. For example, we define community 'remoteness' as the distance to the closest neighbouring census-defined population centre, which we will calculate for each First Nation and municipality using GIS software, census boundary files, and reserve boundary files.

The empirical findings of this proposed research will identify some key social and economic drivers behind the emergence (or lack thereof) of water sharing arrangements. However, it will not be able to account for many factors that have been identified in previous qualitative research. This previous research has raised awareness of issues like the importance of history, polarizing events, and aspects of community capital that may presently shape whether or not water sharing arrangements exist, and the likelihood that they will emerge. We believe an understanding of these types of issues will benefit from a case-study approach that allows for in depth interviews. Hence, we propose to conduct three case studies:

1. The City of London, Ontario and its relationship with the Chippewas of the Thames River First Nation, Oneida First Nation, and Munsee-Delaware Nation;
2. The Township of Scugog (Port Perry, ON) and its relationship with the Mississaugas of Scugog Island First Nation; and
3. The Township of Selwyn (Lakefield, Ontario) and its relationship with Curve Lake First Nation.

These cases are chosen based on preliminary quantitative analysis conducted by the Principal Investigator. Despite being located within a geographically feasible distance for water sharing (defined as less than the mean distance for existing First Nation-municipal arrangements in our current empirical dataset), these communities have not yet chosen to enter into water sharing arrangements. Moreover, all of the Indigenous communities listed have experienced water quality challenges, and have faced – or are currently facing – boil water advisories. The selected communities vary in important ways, such as size and governance structure. This is true especially with respect to the Indigenous governments that range from municipal-style band councils, to more highly complex governance structures obtained through certain provisions of the Indian Act or through opt-in/opt-out federal legislation such as the First Nations Land Management Act (that allow communities to take on more land management responsibilities and jurisdiction). These differences will enable us to investigate the effect of institutional variation and specific government interventions on agreements between Indigenous and local governments. By focusing on communities only in Ontario, this research design controls for institutional context within one province.

A comparative case study approach allows us to draw conclusions about factors that affect cooperation across a variety of cases. Using this approach, we can control for the characteristics of the issue and explore potentially important variation, such as: governance structures, economies, cultures, geographies and relationships between the cases. A qualitative approach that relies on open-ended, semi-structured interviews with key informants is an effective way for exploring the various processes, events and actors that have shaped the presence or lack of cooperation on water services in each of the areas. The researchers will visit each of the regions and interview Indigenous and municipal politicians, Band and municipal staff, special purpose body officials, and any other individuals who might have some role in water service provision in the regions of interest. The number of interviews will differ from case to case, but we expect to conduct approximately 10-15 interviews for each region. The list of interviewees will be based on the researchers' own knowledge of the regions, and on an initial examination of the documentary evidence. Interviewees will also be asked if they can suggest other people to interview. If permission can be obtained from the interviewees, the interviews will be recorded and transcribed. Prior to conducting the interviews, applications will be submitted to the research ethics review boards at each of the researchers' home institutions, and letters of approval will be sought out from each of the participating Indigenous communities.

We will employ semi-structured and open-ended interviews because as Indigenous scholars like Linda Smith (1999), Peter Cole (2002) and Margaret Kovach (2009) emphasize, respectful listening and cultural sensitivity are crucial to engaging with Indigenous communities. They and others suggest that interviews should not be structured so that the interviewers control the questioning. Rather, the Indigenous interviewees should have an active role in the direction of the interview. To confirm the validity of our interview data, we will employ triangulation methods (e.g. by confirming our findings with other interviewees, and by examining primary and secondary sources). Data will be analyzed using qualitative data analysis software, such as NVivo, and/or by hand to code, tag and map out how interview responses and other primary research data fit with the concepts and variables identified in the theoretical framework. Greater analytical weight will be given to data that is provided by multiple and/or authoritative sources. Indigenous participants will also help the researchers assess which kinds of data are crucial for explaining the presence or lack of a water servicing arrangement between communities. The dependent variable for this part of the project is the presence or lack of a water servicing arrangement between Indigenous and municipal governments. The independent variables are those listed in our theoretical framework. While our focus is primarily on the factors that encourage or inhibit cooperation with respect to water servicing agreements, we are also interested in exploring the effects of these agreements (or lack thereof) on outcomes such as water quality and intergovernmental relations.

To further investigate these dynamics, we will also examine the relationship between these three municipalities and their neighbouring local governments. With respect to the City of London, for

instance, we will examine its water sharing relationship with the municipality of Thames Centre. For the Township of Scugog, we will look at its relationship with the Township of Uxbridge. Finally, we will look at the Township of Selwyn's relationship with the city of Peterborough. These case studies will supplement the quantitative work by investigating the potential causal mechanisms for the lack of water-serving arrangements between these communities. They will also help us assess whether there are any factors that are specific to Indigenous-municipal partnerships, or whether the factors that generate such partnerships are independent of the Indigenous and non-Indigenous identities of the communities. To that end, we have begun consultations with Indigenous leaders and community members regarding this project, partnering with them to help design the project themes and research questions.

### **Conclusion and Contributions:**

Water quality issues on Canadian First Nations' reserves are longstanding and systemic, and eliminating these issues will require a diverse portfolio of adaptive solutions. We propose to explore the feasibility of one such potential solution – water sharing with municipalities – as well as community attitudes toward that potential solution. Our findings will have important implications in either identifying or eliminating water sharing as a potential solution to water quality issues on reserves, information that will benefit First Nations, municipal leaders, and policy makers. The knowledge generated by this research will allow communities to make better informed decisions about their water provision choices, including whether to pursue water sharing as a solution to community water provision or quality issues. It will also help to identify potential barriers that First Nations face when contracting with municipalities. As such, it will help policymakers to remove those barriers through the implementation of legislative change or improvements that enhance First Nation autonomy and remove barriers to exchange.

In addition to helping to address the broader question of how to improve water quality on reserves, this research will also make important scholarly contributions. Our findings will address the gap in knowledge regarding the extent and nature of water sharing in Ontario, and provide an extensive dataset for future researchers to use to explore this issue further.

## LIST OF REFERENCES

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**Nelles, J. and C. Alcantara. 2011.** Strengthening the ties that bind? An analysis of aboriginal-municipal inter-governmental agreements in British Columbia. *Canadian Public Administration*, 54(3): 315-334.

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## KNOWLEDGE MOBILIZATION PLAN

Knowledge mobilization activities have been incorporated into every stage of the proposed research, to ensure effective engagement with relevant audiences. Our knowledge mobilization activities are primarily focused on respectful engagement with the First Nations and municipalities participating in case study research. However, our knowledge mobilization plan also includes activities that we hope will connect other key audiences to our research as well. This includes other First Nation and non-First Nation local and regional government stakeholders, who may benefit from, or have an interest in, our findings. Our knowledge mobilization plan also includes activities aimed at engaging our colleagues within academia, and obtaining critical feedback at important stages of the research.

At the midpoint of the research project (beginning of year three), meetings will take place in each participating First Nation community to present preliminary findings from both the quantitative analysis and case study analysis, for discussion and feedback. In addition to providing participating communities with preliminary findings, these meetings will play an important role in informing the direction of the project in the final two years, as the feedback received will help to refine both the quantitative and qualitative approaches. Print outputs provided to meeting participants will be translated into relevant Indigenous languages. At the end of the project (beginning of year five), a larger meeting will be held at a conference venue in proximity to all participating communities (location to be determined) to present and discuss findings. All project stakeholders and relevant audiences will be invited to participate (i.e. leaders from participating First Nations and municipalities, Chiefs of Ontario, Canadian Federation of Municipalities, etc.), in addition to interested academics and students. As with the project midpoint meetings, print outputs provided to First Nations participants will be translated into relevant languages.

All co-applicants plan to attend academic conferences to receive critical feedback on preliminary findings, and disseminate final findings. The Primary Investigator aims to attend one domestic and two international conferences in years three and four, to present preliminary and final results, respectively. The co-applicants aim to attend one domestic conference, along with their Graduate students (one Masters, one PhD), in each of years three and four. This is to gain feedback on the case studies in year three, and to present findings in year four. It is anticipated that four peer-reviewed publications will result from this project, and open access fees for each have been included in the budget. A book is also expected to result from the case study analyses. Finally, the data gathered for the quantitative analysis will be made publically available through the University of Guelph library website within two years of project completion. This will provide a novel contribution to publically available data characterizing the nature of water services and water sharing in the Province of Ontario, for the use of future researchers.

To disseminate our research results more broadly, our knowledge mobilization plan includes a number of activities that will create outputs that are accessible to the general public. These outputs are aimed at fostering a broader dialogue around the issue of water access and watery quality on First Nations' reserves. The Primary Investigator of the project plans to release a podcast through the University of Guelph website toward the end of the project in which findings are discussed, as part of his existing podcast series "FAREtalk". Additionally, it is the intention of the Primary Investigator to author an op-ed detailing the research findings in a popular newspaper. Finally, plain language case study reports and publically accessible data "stories" (interactive websites linking different data visualizations to form a project narrative) will be generated from the research findings in year four of the project.

A website connecting all knowledge mobilization activities throughout the life of the project will be hosted by the University of Guelph through the Primary Investigator's faculty website. This website will provide information on ongoing research developments to the general public, and will serve as a central repository of information for the project. Project outputs discussed above will be shared through this website as they are generated, in a publically accessible manner, as well as information on how to access project data (when it becomes available). This website will continue to be maintained after the project concludes.



Family name, Given name  
Deaton, Brady James

**Expected Outcomes**

Elaborate on the potential benefits and/or outcomes of your proposed research and/or related activities.

**Scholarly Benefits**

Indicate and rank up to 3 scholarly benefits relevant to your proposal.

Rank	Benefit	If "Other", specify
1	Knowledge creation/intellectual outcomes	
2	Enhanced research collaboration	
3	Student training/skill development	

**Social Benefits**

Indicate and rank up to 3 social benefits relevant to your proposal.

Rank	Benefit	If "Other", specify
1	Enhanced policy	
2	New or enhanced partnerships	
3	Social outcomes	

**Audiences**

Indicate and rank up to 5 potential target audiences relevant to your proposal.

Rank	Audience	If "Other", specify
1	Aboriginal Peoples	
2	Municipal government	
3	Federal government	
4	Academic sector/peers, including scholarly associations	
5	Students	



Family name, Given name

Deaton, Brady James

### Expected Outcomes Summary

Describe the potential benefits/outcomes (e.g., evolution, effects, potential learning, implications) that could emerge from the proposed research and/or other partnership activities.

Municipalities throughout Canada voluntarily enter into mutually beneficial contracts with each other for the provision of drinking water and other community services. First Nations also engage in these types of partnerships, but there appear to be many unexploited opportunities for water sharing agreements between First Nations and municipalities. Our research question is: why do water sharing arrangements emerge in some cases, but not in others? The expected outcomes of our proposed research will answer this question in a manner that provides scholarly and social benefits to a number of audiences.

This research will generate numerous expected outcomes that will contribute to the realm of scholarly knowledge in this area. By determining key factors that influence whether or not water sharing arrangements emerge, we will provide a clearer understanding of the extent to which First Nations differ from municipalities with respect to the likelihood that they will engage in water sharing. This knowledge will support future research into the specific factors we will identify. Second, we will develop a dataset characterizing the extent and nature of water sharing in Ontario for both First Nations and municipalities. This data will be made publically available for future researchers to expand on, in order to assess a variety of novel issues -- including the influence of water sharing arrangements on water quality outcomes. Finally, our multi-disciplinary, mix-methods approach will be of interest to the academic community, and support future inter-disciplinary work.

There are a number of social benefits associated with our research. First, our qualitative approach will strengthen the relationship between researchers and participating communities, and provide a strengthened mode of outreach to those communities with respect to our findings. Our results will provide First Nations and municipalities with a better understanding of community attitudes toward water sharing. For example, if we find that there are specific practices (e.g. meeting protocols) that act as a barrier to cooperation, this information can be made available for consideration to communities throughout Canada. Alternatively, if we were to identify concerns regarding community autonomy over water resources, policy makers may want to assess alternative institutional forms of water sharing arrangements that enhance autonomy.

Students will receive a great deal of valuable experience from their involvement in this research, in the form of hands-on training from co-applicants during every stage of the project. The research expertise gained from their involvement in the data collection, analysis, synthesis, and dissemination stages of the research will provide students with crucial transferable skills that are relevant both within and outside of academic work settings. Students will also receive valuable training and guidance on how to engage communities and conduct qualitative research in collaboration with First Nations. Demand for individuals with these kinds of experiences and skill sets is growing in both the public and private sector.

The results of this research will further highlight the importance of issues surrounding potable water in Ontario First Nation communities, and increase the public dialogue needed to address these issues. Our knowledge mobilization plan includes the authoring of op-eds, podcasts, and other media outreach. Our findings will also be made available to the general public through web-based resources and reports. One expected outcome is enhanced policymaking with regard to First Nation water provision, and First Nations' perception of the relationship between infrastructure and their autonomy and agency.

## RESEARCH TEAM, STUDENT TRAINING, PREVIOUS OUTPUT

### A. Description of the Research Team

The research team will consist of the Principal Investigator (Professor Brady Deaton), two Co-Applicants (Professors Christopher Alcantara and Sheri Longboat), a Project Coordinator, one Ph.D. student, two MA students, and five Community Research Assistants (CRAs) living in the First Nation communities examined in the case studies. SSHRC funding is necessary to support the Project Coordinator, Graduate students, and CRAs. The Principal Investigator and Co-Applicants bring together the qualitative and quantitative expertise necessary to effectively assess water sharing arrangements between First Nations and municipalities. In addition, they are well positioned to support the training and development of the required student researchers and CRAs.

#### **Professor Brady Deaton**

As the Principal Investigator, Brady Deaton will dedicate approximately 50% of his time to the proposed research in relation to other projects. The allocated time will primarily involve supporting the overall direction of the research, and leading the quantitative portion of the proposed grant. This will include supervising the Project Coordinator (at 20 hours per week), gathering and analyzing quantitative data, providing leadership to knowledge integration and mobilization, developing journal articles, and presenting findings in appropriate settings (to participating communities, First Nation and government stakeholders, academic audiences, etc.). The Project Coordinator will work under the direction of the PI to coordinate communication between co-applicants, manage day-to-day financial and administrative tasks, support the integration of the quantitative and qualitative analyses, and support data collection and analysis. Additionally, under the supervision of the PI, the Project Coordinator will help to facilitate the development of key knowledge mobilization activities and outputs, including: developing a system to store and share project data publically; organizing community and stakeholder meetings; organizing a large end of grant meeting; and developing publically available print, media and web-based outputs.

The PI is well positioned to provide leadership to this project. He has published separate articles that have quantitatively analyzed water issues in both First Nation communities and Ontario municipalities (a more in-depth discussion of this research will be developed below in the description of previous research). Moreover, for the last six years he has maintained a long-standing relationship with members of Six Nations of the Grand River. On average during this time, he has presented research to community members at Six Nations annually. Recently, he coordinated a visit by Six Nations' Chief Hill to the University of Guelph, for a guest presentation on Six Nations land issues. In addition, he has worked with other First Nation leaders to effectively provide outreach on important issues of land reform. See, for example, a podcast with Chief Louie (Westbank First Nation) of the First Nations Lands Advisory Board: <https://www.uoguelph.ca/fare/FARE-talk/page2.html#first>.

#### **Professor Sheri Longboat**

Dr. Longboat is an emerging Indigenous scholar who brings to the project 20 years of experience working with Anishinaabe (Ojibway) and Haudenosaunee (Six Nations) communities in Canada in land and resource management, and community-based education and customized training. She is a Mohawk member of the Six Nations of the Grand River, who works with First Nations elected Band Councils on co-engaged research. She also advises the Six Nations hereditary government (Haudenosaunee Confederacy Chiefs Council) on water policy issues within the treaty territory, and implementation of joint-stewardship agreements with the City of Hamilton. She has trained dozens of First Nations community members (directors, youth, Elders) in geographic information systems, project design and

management, field methods, and data collection, to support community-driven projects around traditional values and land use, historical and treaty mapping, forestry and watershed management, and community planning and asset inventory. Community-engagement, capacity-building, and knowledge dissemination are all integral components of this work. Her faculty profile can be viewed here:

<https://www.uoguelph.ca/sedrd/people/sheri-longboat>.

Dr. Longboat will take the lead on research with Indigenous communities, including recruitment, management, and training of Research Assistants to analyze the data, present results in the communities, and assist with publication. With assistance from Dr. Alcantara, she will train and manage the CRAs and establish mechanisms to communicate, coordinate, and track activities that involve close relationships between the Graduate Research Assistants and CRAs. Overall, her contribution to this project will be 25%. Throughout the duration of the project, she will contribute 35% of her overall research time.

### **Professor Christopher Alcantara**

Besides working with the entire research team to oversee the overall direction of the project, Christopher Alcantara will provide advice to the PI on data collection, coding and analysis of the quantitative data. In terms of the qualitative component of the project, he will support Dr. Longboat as she takes the lead on research with the First Nation communities. This support will take the form of assisting with the recruitment, management and training of Research Assistants, analyzing the data, presenting results to the communities, and publishing the results. Dr. Alcantara will also lead the inter-municipal case studies, drawing upon Dr. Longboat for advice and support. Overall, his contribution to the project will be 25%. As a current holder (co-applicant) of a SSHRC Partnership Grant and an Ontario Early Researcher Award (PI), this project will encompass 35% of his research time over the duration of the grant.

Dr. Alcantara has written extensively about policy and service delivery cooperation between municipalities and Indigenous governments in Canada (Alcantara and Nelles 2016; Nelles and Alcantara 2014; Nelles and Alcantara 2011). He has also published several books and dozens of journal articles on other topics related to Indigenous governance and Indigenous-Settler politics in Canada. He has worked with many Indigenous communities in Canada, ranging from First Nations communities in Yukon, British Columbia, Alberta and Ontario, to Inuit communities in the Northwest Territories and Labrador. Knowledge dissemination has become an important part of his research, and he has written or produced columns in national and regional newspapers, short summaries in English and Indigenous languages, blog postings, animated videos, and community presentations to share his research findings with research participants and the general public. Finally, he has hired and trained dozens of Graduate and Undergraduate Research Assistants and one Community Research Assistant from Akwesasne to gather and analyze data, conduct fieldwork, and co-author scholarly papers. He has also supervised one Ontario Early Researcher Award and two SSHRC post-doctoral fellows over the last three years.

### **Summary of research team responsibilities**

<i>Researcher</i>	<i>Dates</i>	<i>Method/Project</i>	<i>Research Area</i>	<i>Main Location</i>
Primary Investigator Brady Deaton	2018-22	a) Oversee overall direction of proposed research; lead quantitative analysis b) Development of dataset/analysis of secondary data c) Supervise Project Coordinator d) Support/coordinate grant outreach e) Author conference papers, refereed journal articles, and other publically accessible outputs from research	First Nations located in Ontario and Ontario Municipalities	Guelph

Co-Applicant Chris Alcantara	2018-22	<ul style="list-style-type: none"> <li>a) Collect and analyze data from three Ontario Municipalities</li> <li>b) Supervise 1 Graduate student; assist Dr. Longboat with training and managing Community Research Assistants</li> <li>c) Support and undertake outreach</li> <li>d) Author conference papers, peer reviewed articles, and a book manuscript</li> </ul>	London, Township of Scugog, and Township of Selwyn	London
Co-Applicant Sheri Longboat	2018-22	<ul style="list-style-type: none"> <li>a) Develop collaborative relationships with First Nations, including protocols, agreements, and communication methods</li> <li>b) Collect and analyze data from 5 First Nation communities</li> <li>c) Supervise 1 Graduate student, train and manage Community Research Assistants</li> <li>d) Support and undertake outreach</li> <li>e) Author conference papers, peer reviewed articles, and a book manuscript</li> </ul>	5 First Nation Communities: Chippewas of the Thames First Nation, Oneida First Nation, Munsee-Delaware Nation, Mississauga of Scugog Island First Nation, and Curve Lake First Nation	Guelph
Project Coordinator	2018-22	<ul style="list-style-type: none"> <li>a) Day-to-day project management</li> <li>b) Support for data collection, analysis, storage, and publication</li> <li>c) Facilitation of communication between co-applicants, and with project participants and stakeholders</li> <li>d) Assist with knowledge mobilization (community meetings, end of grant meeting) and outputs (print, media, web)</li> </ul>	First Nations located in Ontario and Ontario Municipalities	Guelph
Ph.D. student	2018-22	<ul style="list-style-type: none"> <li>a) Collect and analyze data from three Ontario municipalities</li> <li>b) Support and undertake outreach (community presentations, plain-language summaries of results)</li> <li>c) Co-author conference papers and publications</li> </ul>	London, Township of Scugog, and Township of Selwyn	London or Guelph
MA student GRA 1	2018-20	<p>In their respective case study communities, each Graduate Research Assistant (GRA) will be responsible for:</p> <ul style="list-style-type: none"> <li>a) Collecting and analyzing data related to municipal-Indigenous water sharing arrangements.</li> <li>b) Supporting and undertaking outreach activities such as community presentations and summaries of research results</li> <li>c) Co-authoring conference papers and publications</li> </ul>	London, Oneida First Nation, Chippewas of the Thames First Nation, Munsee-Delaware Nation	Guelph
MA student GRA 2	2020-22		Port Perry, Mississaugas of Scugog Island First Nation; Lakefield, Curve Lake First Nation	Guelph

CRA 1	2018-20	In each respective First Nation community – with awareness and sensitivity to local culture, protocols, and systems – each Community Research Assistant (CRA) will: a) Act as a liaison and community guide b) Assist with field work c) Analyze data d) Organize public meetings and outreach e) Co-author results	Chippewas of the Thames First Nation
CRA 2	2018-20		Oneida First Nation
CRA 3	2018-20		Munsee-Delaware Nation
CRA 4	2020-22		Mississauga of Scugog Island First Nation
CRA 5	2020-22		Curve Lake First Nation

## B. Description of Previous and Ongoing Research

The proposed research builds on ideas and results from previous research by the PI and Co-Applicants. This previous research is identified below. Given space limitations, we identify one study from each of the applicants that exemplifies their research in this area. This research is directly related to First Nations’ water issues, intergovernmental partnerships, and water quality. Moreover, the publications make novel contributions to the research area that is the focus of this application. The first two publications provide empirical and case study assessments of inter-governmental relationships between First Nations and municipalities. The third study illustrates how an understanding of Indigenous worldviews, practices, and beliefs – along side community protocols, goals, and aspirations — will be critical to situating the proposed project within appropriate contextual, conceptual, and cultural lenses.

1. Lipka, B. & **B. James Deaton**. 2015. “Do water provision contracts with neighboring communities reduce drinking water risk on Canadian reserves” *Water Resource Economics*, 11: 22-32.
2. **C. Alcantara** and Jen Nelles. 2016. *A Quiet Evolution: The Emergence of Indigenous-Local Intergovernmental Partnerships in Canada*. Toronto: University of Toronto Press.
3. **Longboat, S.** 2015. “First Nations water security: Security for Mother Earth.” *Canadian Women’s Studies*, 30(2): 6-13.

## C. Proposed Student and CRA Training Strategies

Student training and development is a critical aspect of the proposed research. This project will engage the services of three Graduate Research Assistants (GRAs): 2 Masters (one for years 1 and 2, and one for years 3 and 4) and 1 PhD (throughout the life of the project). These students will be selected based on their knowledge of the relevant literature, experience working with municipalities and Indigenous communities, the ability to carry out fieldwork and conduct interviews, as well as other more general attributes (such as work ethic, judgment, presentation skills, and writing abilities). They will be enrolled at Western University and/or the University of Guelph, and will complete the requirements of their respective programs in part through their participation in the proposed research. They will fulfill the following roles and responsibilities, each of which is essential to their fulfillment of Graduate-level research requirements, as well as their professional development: 1) conduct literature reviews; 2) immerse themselves in the literature on ethics protocols, and obtain the TCPS 2 certificate; 3) conduct qualitative field work; 4) generate data from interviews; 5) analyze data using Excel and NVivo; and 6) co-author and present results in conference papers, academic journals, and other knowledge mobilization outputs.



Family name, Given name  
Deaton, Brady James

### Suggested Reviewers

List Canadian or foreign specialists whom SSHRC may ask to assess your proposal.  
List keywords that best describe the assessor's areas of research expertise. Please refer to the Suggested Assessors section of the detailed instructions for more information on conflicts of interest.

Family name <b>Dupont</b>		Given name <b>Diane</b>		Initials	Title <b>Dr.</b>
Org. code	Full organization name <b>Brock University</b>		Keywords <b>Environmental economics, natural resource economics; water economics; water policy; water governance</b>		
Department/Division name <b>Department of Economics</b>			Address <b>Plaza Building, room 441 Department of Economics 1812 Sir Isaac Brock Way</b>		
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Fax number		City/Municipality <b>St. Catharines</b>			
		Prov./State <b>ON</b>		Postal/Zip code <b>L2S3A1</b>	
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Family name <b>Anderson</b>		Given name <b>Kim</b>		Initials	Title <b>Dr.</b>
Org. code	Full organization name <b>University of Guelph</b>		Keywords <b>Indigenous health and social well-being; Indigenous traditional knowledge; Indigenous environmental knowledge</b>		
Department/Division name <b>Department of Family Relations and Applied Nutrition</b>			Address <b>Macdonald Institute, Room 227A Department of Family Relations and Appli 50 Stone Road East</b>		
Country code		Area code	Number	Extension	City/Municipality
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Fax number		City/Municipality <b>Guelph</b>			
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Country <b>CANADA</b>					
E-mail <b>kimberle@uoguelph.ca</b>					
Family name <b>Parlee</b>		Given name <b>Brenda</b>		Initials	Title <b>Dr.</b>
Org. code	Full organization name <b>University of Alberta</b>		Keywords <b>Health and well-being of Aboriginal communities; community-based monitoring and indicators; participatory and collaborative research</b>		
Department/Division name <b>Rural Economics and Environmental Sociology</b>			Address <b>507 General Services Building 116 Street and 85 Avenue</b>		
Country code		Area code	Number	Extension	City/Municipality
Telephone number		780	492	6825	
Fax number		City/Municipality <b>Edmonton</b>			
		Prov./State <b>AB</b>		Postal/Zip code <b>T6G2R3</b>	
Country <b>CANADA</b>					
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Personal information will be stored in the Personal Information Bank for the appropriate program.

Application WEB