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**Grade: Low C**

**Residents' Experiences and Reactions to the December 2013 Ice Storm**

submitted to

**GGR277**

by

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Urban forests are essential, so it is essential to understand residents thoughts about urban trees to protect them. A survey will be used to understand opinions about urban trees, support for municipal plans, damage, and collect demographic information. The written survey will be mailed to 400 selected households in the five neighbourhoods in the Greater Toronto Area. Results from the survey will be studied with demographic information to examine whether demographics effect thoughts and support for urban tree management. Some limitations include potentially low response rates.

(86 words)

## **Introduction**

My research project will look at the people's perceptions of urban trees and develop management plans on how to protect trees in the future. The study is in several neighborhoods in Toronto Area in order to gather more information.

Urban trees perform lots of ecosystem services, including storm water mangment and improving air quality (Hostetler et al 2013). It is important to understand how to increase the urban forest by understanding perceptions towards trees and by creating municipal policies that are supported by residents.

## **Literature Review**

The ice storm that occurred in December 2013 in Southern Ontario left a 30 mm layer of ice on all surfaces causing catastrophic damage to the urban forest (Armenakis and Nirupama 2014). There has been less research on peoples opinions of urban trees and there thoughts on possible municipal actions to prevent damage. Since most of the urban forest is in private properties (McPherson 1998), it is important to understand residents thoughts of the urban forest and their support for municipal tree care, since they are responsible for taking care of the most of the urban forest.

## **Design and Methods**

I chose to use surveys as my research method because they allow the researcher to access many households at once and gather more data. My surveys will include questions asking about what benefits and risks they think urban trees have, ask about about how they would fix their trees after a storm and what they thoughts about the municipal government manging future trees. The survey will ask them to rank their benefits and risks by trees, then ask whether their tree

maintenance plans changed as a result of the storm, and finally ask if support different municipal tree management actions.

A letter explaining the information about my research project will be sent to all households first. The written surveys will be sent after the letter. All surveys will be given a unique ID to provide anonymity.

I plan to answer my research question by sending a survey with homeowners in neighbourhoods in the GTA. What are residents' perceptions of urban trees, and do they change after a major storm has caused damage to their trees? What do they think about municipal tree management plans? I plan to send surveys to five neighbourhoods across the GTA so I can reach more households.

Participant responses will be put into software to see if there are any relationships between certain survey responses. I also plan to focus on whether a group of people will be more likely to respond with certain answers in the survey, like if people with higher education are more likely to support municipal tree management.

### **Positionality**

In terms of my positionality I'm both an insider and outsider. I live in the GTA, and was present during the December 2013 ice storm, and saw some bad effects of the storm. However I am also an outsider because I'm not a homeowner, do not live and am not the primary caretaker of the trees in the back or front yard. I will also not have to talk with my subjects. I don't think that my identity will affect the research at all. Finally, after researching of this topic I may write questions and scenarios that are hard to understand for those who did not do the same

research. I will fix this by making sure that the questions in the study are easy to understand and makes sense to everyone by asking people to edit and complete samples of the survey.

### **Ethical Considerations**

Respect for persons is the most relevant for my proposed research. As I have learned in class and tutorial, it is important to get informed consent when you are doing research. In order, I'll make sure that all respondents know all the details about my research project before they agree to participate in the study. The invitation letter will provide a summary of the research, contact information so that I can be contacted, and to answer any questions. Participants can withdraw, copies of their personal information and responses will be destroyed. each respondent will be given a code for anonymity. Finally, all physical and electronic data containing personal information will be kept in a safe, and destroyed years after the research has been completed.

### **Limitations**

Since I chose to send surveys, it's possible that I will not receive many responses. I will also not be able to obtain any additional information outside of the survey responses, only the questions that I ask will be answered so I'll have to make sure that I am asking all the correct questions before I send the survey out. Finally, all of the information that we collect only represent the people who filled out the survey, and not the entire area as a whole. This is of particular concern the people who don't fill the survey out will be a different demographic that may not have time to manage their urban forests.

## **References**

Armenakis, C., Nirupama, N. (2014). Urban impacts of ice storms: Toronto December 2013. *Natural Hazards*, 7(2): 1291-1298.

McPherson, E. G. (1998). Structure and sustainability of Sacramento's urban forest. *Journal of Arboriculture*, 24(4):174-190.

**Sample Ice Storm Survey**

*Please answer the following questions. All responses will be kept confidential and anonymous.*

1. List the benefits associated with urban trees from most important to least important.
2. List the risks associated with urban trees from most important to least important.
3. Did the December 2013 ice storm cause damage to any of the trees on your property? If so how did you manage your yard after the event?

4. Please indicate your level of support for the tree management scenarios below.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The municipality should plant fewer street trees					
The municipality should prune street trees more					
The municipality should continue with their current management plan					
The municipality should plant more street trees,					

*Please provide the following demographic information:*

1. What is your age? \_\_\_\_\_
2. What is your gender? \_\_\_\_\_
3. How long have you lived at your current address?
4. Where is your place of birth?
5. What is your highest level of education that you have attained?
6. What is your annual household income?

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*Thank you for completing the survey.*