

## Ridgeway Drain Water Quality Improvement Project



Prepared for the Bluewater Shoreline Residents' Association (BSRA)

by  
Hope Brock and Mari Veliz  
Ausable Bayfield Conservation Authority (ABCA)  
71108 Morrison Line, R.R. #3, Exeter, Ontario, N0M 1S5

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## Project Summary

This project focuses on an area with ‘natural’ boundaries – the Ridgeway Drain watershed (also called the Kading Drain) (Figure 1). This predominantly agricultural watershed is essentially the area just east of the town of Dashwood west to the Lake, where the drain outlets between the Ridgeway and Norman Heights subdivisions (approximately 9km<sup>2</sup>). It is important to work on a drainage basin in order to identify potential issues that may influence the drain.

This area was chosen because there has been ongoing interest by members in the community to improve water quality, and the drain has historical water quality information. It is important to understand that water quality issues are sometimes related to many small, seemingly unimportant events. Working at the watershed scale helps to identify minor issues and solutions.

The overall goal of the Ridgeway Project is to improve water quality in this area. To meet this goal a number of approaches have been used which include stewardship, communication and assessment. The most important approach, stewardship, refers to the actions taken “on the ground” that prevent pollutants from entering the water system. These stewardship actions will vary depending on location, soil type, land use practice, etc. Communication with the landowners in the Ridgeway Drain watershed is important to identify potential pollution sources and to begin to undertake beneficial management practices (BMPs). Assessment (water quality monitoring) will be used to determine how effective the stewardship activities are.

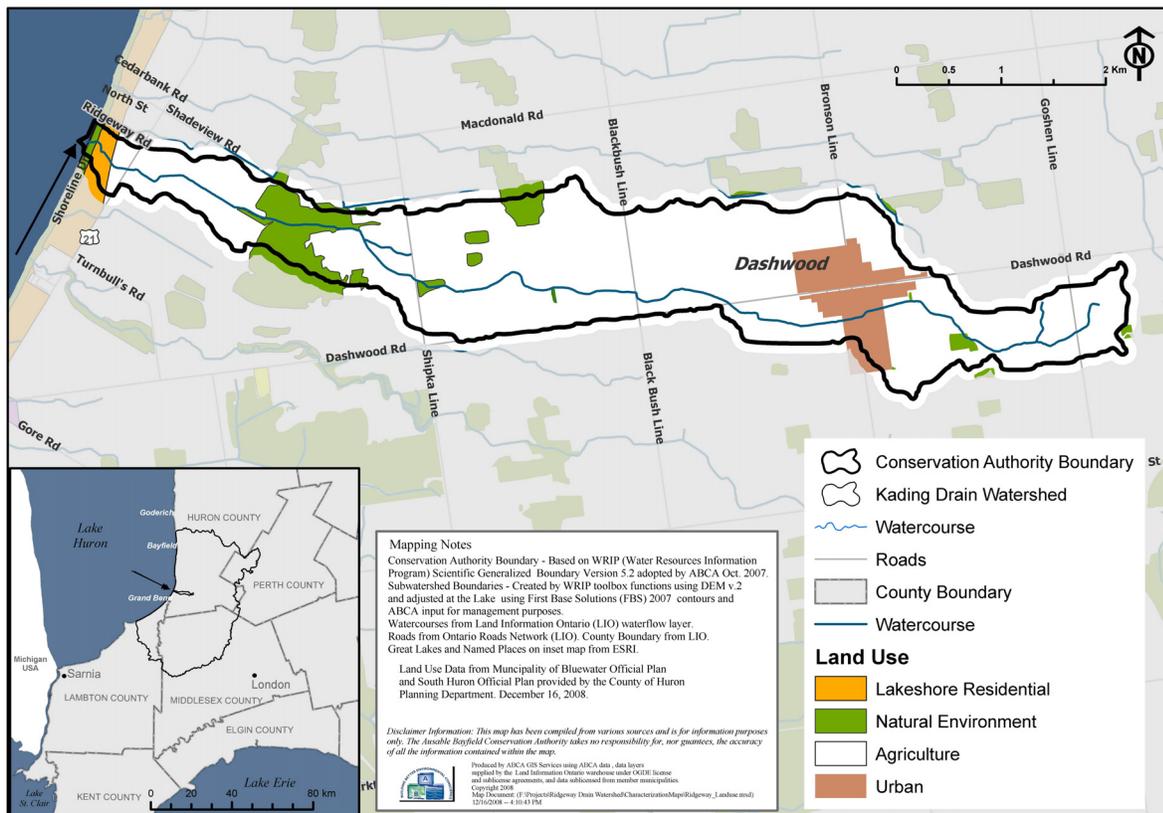


Figure 1: Location of Ridgeway (Kading) Drain and current land use.

## Results to Date

### Outreach & Stewardship

Communication to landowners within the Ridgeway Drain began with the formation of an advisory committee consisting of both lakeshore and inland landowners. This committee, which has met three times since its inception in the fall of 2009, has helped to guide the project process of contacting watershed landowners. It was decided that in addition to a letter sent out by the Ausable Bayfield Conservation Authority (ABCA) explaining the project, watershed landowners would be contacted by citizen ambassadors. These ambassadors would talk to landowners about the project, why it was being initiated, and would ask them if they were interested in having a stewardship visit by ABCA staff. Citizen ambassadors would then provide the names of landowners who were wanting a stewardship visit to ABCA staff for them to contact. Approximately half of the watershed landowners have been contacted by citizen ambassadors, and these visits are continuing. In addition to this community outreach, a presentation about the project was made to a local Rotary organization, and a link to the project was created on the ABCA website. A water quality monitoring demonstration was also held in September for local high school students in honour of World Water Monitoring day.

Approximately 43% of the landowners visited by the citizen ambassadors thus far were interested in having a stewardship visit. Three stewardship visits have been made to watershed landowners, with one environmental monitoring project identified, and three beneficial management projects identified. These include two tree planting projects and an erosion control project.

### Assessment

Water quality monitoring, which has occurred 19 times since March 2010, has provided baseline data and will also help to determine the effectiveness of implemented BMPs. Currently, this data (March until end of September) demonstrates that the Ridgeway watershed has a geometric mean *E. coli* concentration of 821 cfu/100mL. Not only does this concentration exceed the recreational guideline of 100 cfu/100mL (MOEE 1994), but it also exceeds the overall ABCA watershed concentration of 233 cfu/100mL (Veliz et al. 2006).

Nutrients, both nitrates and phosphates, also exceed the recommended guidelines, with the median nitrate concentration (8.2 mg/L) being almost three times higher than the 3 mg/L guideline for protecting aquatic life (CCME 2007). Nitrate concentrations throughout the ABCA watershed tend to range between 4.4-6.6 mg/L (Luinstra Earth Science et al. 2007). The median total phosphorus concentration for the Ridgeway watershed is 0.13 mg/L, which exceeds the Provincial Water Quality Objective of 0.03 mg/L (MOE 1994), and is almost twice as high as the concentration typically observed throughout the ABCA watershed (0.08 mg/L) (Veliz et al. 2006).

### Project Costs

Item	Cost Breakdown	Cost
human resources – community engagement	\$30hr x 165 hours	\$4950.00
human resources – sampling	\$30hr x 115 hours	\$3450.00
vehicle use	\$0.45/km x 505km	\$227.25
shipping		\$381.85
sample analysis		\$846.56
<b>Total</b>		<b>\$9855.66</b>

### **Next Steps**

Next steps for the Ridgeway project include continuing with stewardship visits with watershed landowners, and beginning to implement identified beneficial management practices. A funding proposal to evaluate the economic and environmental benefits associated with implementing BMPs has been successful. This funding will help landowners implement beneficial management practices identified through the stewardship visits.

As part of this funding, water quality monitoring will continue throughout the winter season, and will run for at least the next two years.

### **Acknowledgements**

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