

HALIBURTON HIGHLANDS LAND TRUST

Turtle Road Mortality Mitigation Project Newsletter

November 2016

Final Report Submitted for the HHLT Turtle Road Mortality Mitigation Project

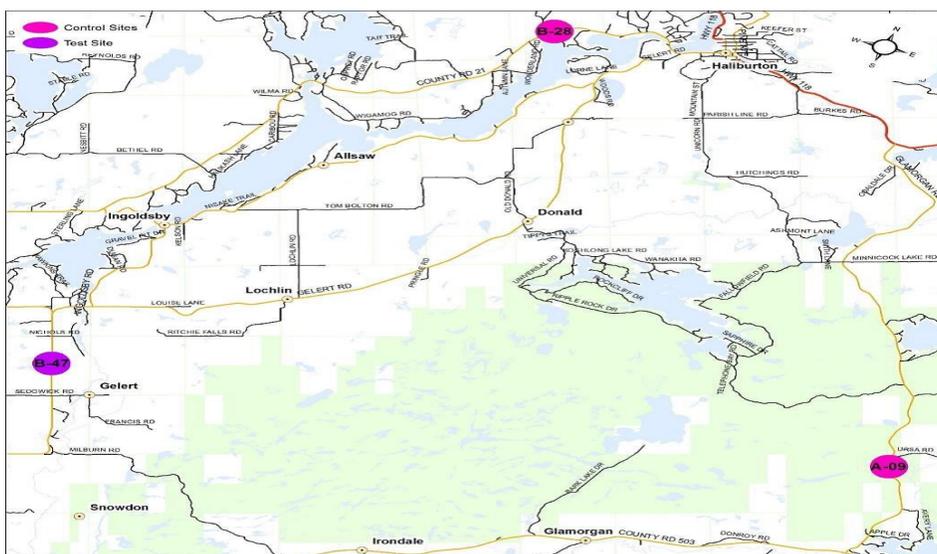
Many of Ontario's turtles are currently at risk and categorized as either *Endangered*, *Threatened* or *Species of Special Concern*. Five out of six turtle species resident in Haliburton County are at risk, including the Blanding's Turtle.

The Haliburton Highlands Land Trust (HHLT) has just completed the third and final year of a special project designed to address the issue of how to mitigate turtle road mortality. Although a number of different approaches have been tried over the years, this study examined the use of a standard road culvert to serve as a road underpass and an associated barrier wall designed to guide the turtles into and through the culvert.

With funding from the Ontario Species at Risk Stewardship Fund, the study began in the Spring of 2014 with the monitoring of potential sites for both mitigation and control. In the Fall of 2014, two sites were selected for project control monitoring and one site was selected as the test site where the barrier wall was constructed (see map below).

All sites were monitored over the following Two years to assess the effectiveness of the mitigation technique.

The HHLT would like to thank all those who helped to make this study a success. Special thanks go to: Paul Heaven of Glenside Ecological Services who was the principal investigator on the project; U-Links Centre for Community based Research; Armtec, Fowlers Construction Ltd., Canadian Tire, County of Haliburton, OMNR and NHIC, and the many local volunteers who contributed their time and effort.



Control and Test Site Locations for the Project

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2014 Monitoring Results Prior to Construction at the Gelert Road Test Site

Test Site Selection and Construction of the Barrier Wall

In the Spring of 2014 candidate sites were monitored to identify and track species and number of turtles crossing the roads during the peak May / June turtle migration period. Two “control” sites and the “Test” site were selected following the monitoring period.

In the Fall of 2014, the barrier wall was constructed adjacent to the existing road culvert underpass at the Gelert Road Test Site.

The barrier wall was designed to prevent the turtles from entering the roadway and to funnel the turtles into the culvert for safe passage under the roadway.

Test Site Monitoring: 2014

The Test Site is located along the Gelert Road which is maintained by the County of Haliburton and is a two lane paved road with a speed limit of 80 km/hr. Traffic along the road is moderate with 66 vehicles per hour.

The picture above shows the results of the May / June turtle monitoring program at the test site where construction of the barrier wall adjacent to and existing culvert underpass was to be carried out in the Fall of 2014.

A total of 97 turtles were observed *adjacent to* the roadway, while a total of 53 turtles were observed *on* the roadway. Blanding’s, snapping and painted turtles were among the most prevalently observed species.

In subsequent years, monitoring results would be used to assess two key issues:

- the effectiveness of the culvert underpass and barrier wall in reducing the number of turtles on the roadway
- how turtle movement patterns are affected by the culvert underpass and barrier wall

To assist with the monitoring, cameras were installed at either end of the culvert underpass and at the ends of the barrier wall. The cameras were set to begin capturing photographs at 5:00AM and stop at 9:00PM. Over 350,000 photographs were collected in each of 2015 and 2016.



Our Volunteers

The HHLT recruited community volunteers for the project. The volunteers were drawn from our membership as well as through a strong media campaign.

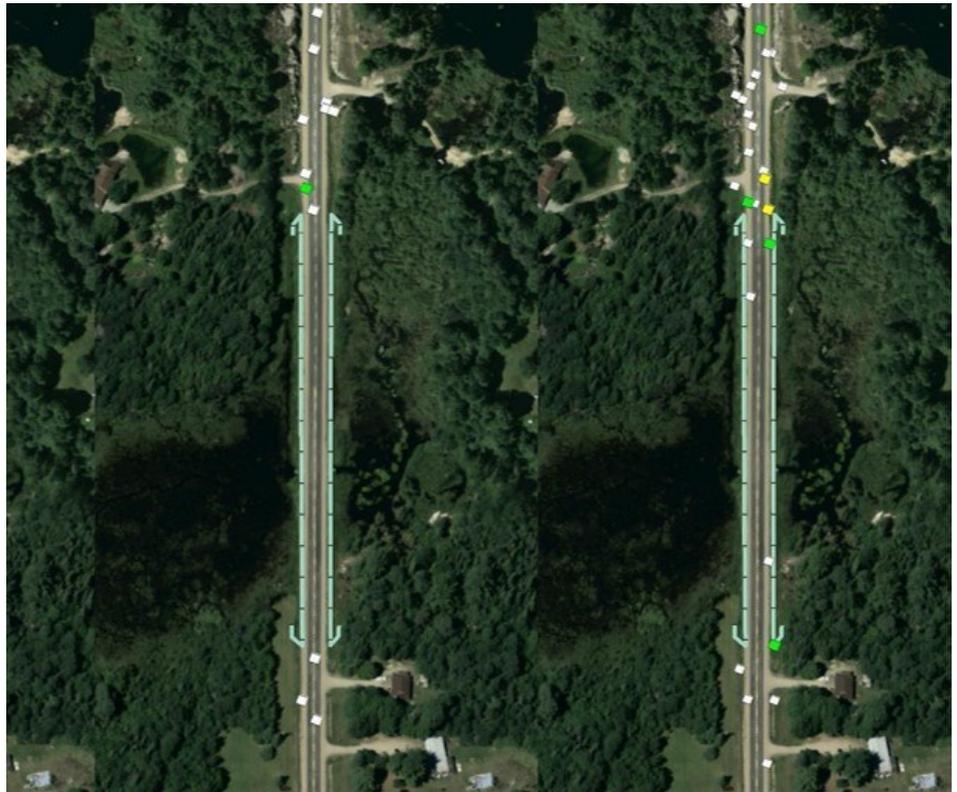
U-Links provided student interns and volunteers through advertising at several post-secondary schools including Trent University, University of Guelph and Fleming College.

Formal turtle monitoring training was provided at



the Haliburton Highlands Outdoors Association near Scales Nature Park. Training focused on Turtle monitoring protocols, introduction / review of monitoring equipment and data sheets, and turtle identification, sexing and handling.

Over the course of the project student volunteers, interns and community volunteers committed a total of 5,556 hours to ensure the success of the program. An amazing effort!!



Monitoring Results 2015 and 2016 at the Gelert Road Test Site

Test Site Monitoring: 2015 / 2016

Results of the monitoring program over the past two years have been very encouraging. Statistical analysis carried out on the data demonstrated that within the area of the barrier wall and the culvert underpass, very few turtles were able to access the roadway and the number of turtles on the road beyond the barrier wall did not increase from 2014 (see picture above).

Further, with no alternative, turtles were utilizing the existing standard culvert measuring only 1.2 meters across. Sixty turtles were documented making successful passages through the culvert underpass.

Through yearly inspections, it was also determined that the barrier wall as constructed was able to sustain the environmental stresses and was not compromised in the two years of monitoring.

Conclusions

Based on the results of the study, the project team has concluded that the barrier wall as it was installed, together with the culvert underpass, is an effective mitigation technique for reducing turtle road mortality.



Snapping Turtle Emerges from the Culvert Underpass

What Others are Saying

"I live in North Dunfries...we are trying to get the Region and the Township to install Turtle barriers along the Roseville Road...they installed plastic barriers and nets but neither worked effectively...we are hoping you can send us some photos of the system and your research so we can pass it along to the Region of Waterloo..." *Julie Reid, Citizen, Region of Waterloo*

"This is part of a bigger picture and the Land Trust should be invited to present this important information to the Rural Ontario Municipal Association"
Carol Moffat, Reeve, Algonquin Highlands

Next Steps

Although the study has demonstrated the effectiveness of the technique for mitigating turtle mortality on roadways, further investigations are being considered.

The HHLT has applied to the Ontario Species at Risk Stewardship Fund for additional support in order to examine the effectiveness of installing curved ends midway along the barrier wall to further deter turtles from accessing the roadway. This activity would be carried out in collaboration with Haliburton County, a strong supporter of the turtle road mortality mitigation project.



Contact Us

For more information about the Turtle Road Mortality Mitigation Project, or about the Haliburton Highlands Land Trust and our other activities please contact us at:

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FUNDING



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