

Lambton Shores Tributaries – Outreach and Education
Project Support Process



Report to: Environment Canada
Ontario Ministry of Environment

Date: March 8, 2013

Completed by: Jessica Van Zwol, Healthy Watershed Specialist,
Muriel Andreae, Senior Biologist

St. Clair Region Conservation Authority



1) Summary of Project Activities and Accomplishments

To improve the nearshore and tributary water quality of the Lambton Shores Tributaries Watershed, one of the five priority subwatersheds of Lake Huron, the St. Clair Region Conservation Authority (SCRCA) has been focusing on engaging landowners and providing outreach and education whenever possible. The SCRCA is also assisting with the implementation of Best Management Practices projects with landowners in the region. To engage landowners and provide outreach, the overarching goals of the SCRCA is to:

1. To approach at least **thirty** Lambton Shores landowners regarding water quality concerns
2. To complete at least **three** educational events and/or have at least **100** people attend an educational event, regarding water quality concerns in Lambton Shores.
3. To complete at least **two** Best Management Practices projects in Lambton Shores.

Funding support from Environment Canada has assisted the SCRCA in achieving some of these annual goals.

Last summer, to address priority issues identified in Lake Huron, we initiated a Walk the Watershed project where staff walked the properties along almost the entire length of the 12.7 km Duffus Creek. The subwatershed of Duffus Creek is a priority area within the Lambton Shores Tributaries watershed. The purpose of conducting this project was three-fold. First, walking the entire length of a creek provided the SCRCA knowledge of the physical aspects of a small watershed within our jurisdiction. This knowledge can deepen the understanding of fluvial responses of the land surface to hydrological inputs of precipitation, the movement of potential pollutants, and the existing conditions in the watershed, thereby contributing to a better understanding of ecosystem function. Staff was able to record erosion and sedimentation concerns and loss of riparian buffer, all of which can impact fish and wildlife habitat of Lake Huron and its tributaries. Data collection of plants, animals, and fish inhabiting the reaches of Duffus Creek provided important biological information such as the prevalence of invasive/non-native species along the watercourse.

The region of Lambton Shores that falls under SCRCA jurisdiction only became so seven years ago. Prior to 2006, citizens of the southern end of Lambton Shores had no official Conservation Authority representing them. While it was advantageous to gain greater understanding of the natural processes occurring in this region, it was equally as important to engage the community as many landowners in this region are unaware of the SCRCA presence in Lambton Shores. Community engagement defined the second purpose of this Walk the Watershed project. The SCRCA hoped to connect with landowners and raise awareness of our presence in Lambton Shores for the purpose of (among others) improving water quality. By interacting with landowners in a rural setting, gaining permission to walk their land and discussing water quality concerns with them, such as soil erosion, the SCRCA is building rapport with local citizens and connecting landowners with resources to improve best management practices on their properties. Finally, the program identified areas along Duffus in need of environmental improvement and we've been following up with landowners on ways to address the erosion issues.

The Walk the Watershed project accomplished the following community engagement opportunities. **Nineteen landowners** gave permission to walk their property; therefore 23 of 29 properties along Duffus Creek were walked. Five properties were observed from a road easement or a neighbouring property because the landowner could not be reached and under the advisement of the Ontario Ministry of Natural Resources, First Nations land was not accessed. We are currently following up with **3 landowners** who have erosion concerns. Landowners were sent packages following the project, outlining the outcome of walking Duffus Creek, ways to participate, and funds available for

potential projects (Figure 1).

For complete details of methods and findings of the Duffus/Ipperwash Drain Walk the Watershed Project, please see the attached report titled, *Walk the Watershed Duffus Creek – Summer 2012 (Appendix A)*.

In addition to the Walk the Watershed Program, SCRCA staff accomplished another community engagement project through its hosting of a Cover Crop Workshop in November 2012. **Eight farmers** from Petrolia to Thedford attended and Anne Verhallen from Ontario Ministry of Agriculture, Food, and Rural Affairs spoke on the advantages of planting cover crops and the different types available. Ms. Verhallen presented a slide show and brought a number of live examples for the farmers to view (Figure 2). **Two local seed dealers** attended the event and offered information about the cover crop types available and answered questions of the farmers. Attendees heard about and were given information on the Lambton Shores Clean Water Cost-Share Program to offset the costs of implementing BMPs on their properties (Figure 3). Farmers were asked to complete a questionnaire that would help SCRCA staff determine what conservation topics were of interest and whether they would be interested in implementing a BMP on their property (Figure 4).

Three farmers were interested in participating in Ms. Verhallen's trial cover crop plots in the coming year. **One farmer within the Lambton Shores Subwatershed** indicated interest in pursuing funding for improvements to his manure storage in the coming year. We are currently working with this farmer to implement a clean water diversion project that came out of discussion about his manure facility (Figure 5). **Three farmers** (2 within Ausable Bayfield Conservation Authority boundaries, and 1 outside Lambton Shores but within SCRCA boundaries) are now interested in pursuing BMP funds for projects on their properties.

To ensure that as many farmers in Lambton Shores knew about the workshop, SCRCA staff advertised with notices in the Forest Standard (**readership ~2600**), Today's Farmer (**readership ~15,500** covering Essex, Kent, Lambton, Middlesex, Elgin and Huron Counties, Figure 6), SCRCA website, the Forest Agri-Services email listerv (**~150 email addresses**), mail outs to **12 farmers** involved with Walk the Watershed, local community centres and grocery stores (Figure 7), and the SCRCA Conservation Update Newsletter (October 2012, Figure 8).

In order to widen the impact of the workshop, we provided a **news release** to the Forest Standard that outlined the purpose of the workshop and informed readers of the importance of cover crops in keeping soil on the land and not eroding into watercourses (Figure 9).

The interest of the farmers at the cover crop workshop in November encouraged us to host another cover crop workshop in March 2013, a time of the year that we have learned is better suited for ensuring farmer attendance.

2) Project Outcomes (based on submitted Workplan)

This project with funds obtained from Environment Canada initiated and established relationships with landowners along the Duffus/Ipperwash Drain sub-watershed of Lambton Shores through our Walk the Watershed Project. This project also engaged the local farming and residential community through a number of workshops, presentations, and literature (with additional funding partners). By walking the watershed, we obtained a good understanding of the layout of the land, raised community awareness of the presence of SCRCA in Lambton Shores, and gained an understanding of where Best Management Practices may be best implemented. Through community engagement,

we enhanced local support and understanding of the ecological functions and values of the Lambton Shores Tributaries watershed.

Project Approach/Workplan for Lambton Shores Tributaries Outreach and Education:

- Developed and executed a Walk the Watershed program in the Lambton Shores Tributaries watershed by:
 - Creating route of properties to walk along the Duffus/Ipperwash Drain subwatershed;
 - Compiling a list of contact information of landowners along the drain;
 - Discussing either on phone or in person the purpose of the walk, natural features of their property, the possibility of implementing BMPs, and any barriers that impede implementing BMPs;
 - Recording biological and physical information relating to the Duffus/Ipperwash Drain and taking relevant photographs
 - Compiling a report of the findings including photographs of properties and sites that are potential candidates for sediment and erosion control, riparian buffer establishment or enhancement, wetland establishment, nutrient management or similar projects of conservation benefit to the watershed
- Created and delivered a short survey for landowners to share thoughts on BMPs, implementing BMPs, and barriers at the Cover Crop workshop
- Hosted a Cover Crop workshop where local farm owners can view conservation farm equipment and discuss soil and nutrient conservation practices
- Created informational packages that were handed out to landowners along the Duffus/Ipperwash Drain and to attendees of the Cover Crop workshop

Schedule of Activities:

Include date estimates with details of the project specific activities

<i>Dates can be by quarter or monthly</i>	<i>Anticipated Outcome</i>	<i>Completed Deliverable</i>
<i>July-October 2012</i>	Initiate and establish relationships with landowners along the Duffus/Ipperwash Drain sub-watershed of Lambton Shores through the Walk the Watershed Project	<ul style="list-style-type: none"> ▪ Created a route of properties to walk along the Duffus/Ipperwash Drain watershed ▪ Compiled contact information of landowners along the route ▪ Obtained permission to walk 23 of 29 properties either by phone or in person and met with one landowner on site to discuss natural features of their properties, possibility of implementing BMPs, and any barriers that impede implementing BMPs ▪ Create a short survey that would provide a platform for landowners to share thoughts on BMPs,

		implementing BMPs, and barriers
<i>November-December 2012</i>	<ul style="list-style-type: none"> ▪ Engage the local farming and residential communities through a number of workshops, presentations and literature ▪ Draft report of Walk the Watershed project findings including photographs of properties and sites that are potential candidates for sediment and erosion control, riparian buffer establishment or enhancement, wetland establishment, nutrient management or similar projects of conservation benefit to the watershed ▪ Host a Driveshed Day on a relevant environmental topic 	<ul style="list-style-type: none"> ▪ Record biological and physical information relating to the Duffus/Ipperwash Drain and take relevant photographs of culverts, signs of erosion/bank slumping, and locations where BMPs could impact water quality ▪ Completed Walk the Watershed Report (See Appendix 1) ▪ Hosted a Cover Crop workshop at the Forest Fairgrounds ▪ Prepared information that was handed out/mailed to landowners along the Duffus/Ipperwash Drain and to attendees of the Driveshed Day

3) Changes and Challenges

Please list changes and challenges that were faced during the life-cycle of the Project and solutions that were implemented to overcome these obstacles.

-Unfortunately, we were unable to secure a location where farm equipment could be present for the driveshed day, but we were able to have our speakers bring in examples of live cover crops to display.

-Although farmers registered for the workshop, the weather the day of the workshop proved excellent for completing the last of the harvest and we have learned to host future workshops later in the year or early spring before crops go in. From our November experience, we have coordinated a second workshop in March 2013

-We spent less on mileage than was expected because we were able to economize our trips to Lambton Shores and complete the task of walking multiple properties within the same trip.

-We originally underestimated how much time it would take to complete the deliverables of this grant. It took longer than previously expected to obtain permission from landowners, write up the Walk the Watershed and final report, and prepare and host the cover crop workshop.

4) Project Budget and Financing

Total Project Funds

Contributor	Expected		Actual		Total
	Cash	In-Kind	Cash	In-Kind	
Environment Canada	\$8,500.00		\$8,500.00		\$8,500.00
St. Clair Region Conservation Authority		\$10,900.00		\$10,900.00	\$10,900.00
Ontario Ministry of Environment	\$50,000.00		\$50,000.00		\$50,000.00
Ontario Ministry of Environment-Showcasing Water Innovation Fund	\$37,845.00		\$37,845.00		\$37,845.00
Sobey's Community Environment Fund	\$2,500.00		-		-
Total	\$98,845.00	\$10,900.00	\$96,345.00	\$10,900.00	\$107,245.00

Total Project Costs

Expenditure Type	Expected		Actual	
	Cash	In-Kind	Cash	In-Kind
Salaries and Wages - Healthy Watershed Project Staff salary & office support; Technical, Admin & Communications staff support (editing, mapping, admin, meetings, etc.)	\$30,770.00		\$32,415.00	
Travel - Mileage for landowner meetings, site visits, walking Duffus/Ipperwash Drain; development and delivery of Cover Crop workshop	\$2,625.00		\$1,095.00	
Material and supplies expenditures - water quality & quantity equipment; workshop venue rental, food, coffee, literature, & advertising	\$32,650.00		\$32,535.00	
Management and professional service expenditures - water quality, water flow and quantity analysis and reporting; GIS and Admin support for same	\$17,800.00	\$10,900.00	\$17,800.00	\$10,900.00
Other expenditures - Implementing agricultural best management practices (eg. Riparian buffers, clean water diversion, tree planting, etc.)	\$12,500.00		\$12,500.00	
Sub-total	\$96,345.00	\$10,900.00	\$96,345.00	\$10,900.00
Total		\$107,245.00		\$107,245.00

Use of Environment Canada Funding

Expenditure Type	Proposed		Actual	
	J,A,S	O,N,D	J,A,S	O,N,D
Salaries and Wages - Healthy Watershed project staff days spent driving to, from and walking the watershed; contacting landowners and obtaining permission to walk their property; writing up the Walk the Watershed report; creating workshop participant survey; meeting with landowners and community members; advertising in local community centres; creating advertisement for workshop; securing venue, food, seed dealers, and speaker for workshop; preparing literature for the workshop; writing final report for Environment Canada grant; \$30/hr for 240 hrs	\$5,025.00	\$500.00	\$6,520.00	\$650.00
Travel - driving to/from watershed for the Walk the Watershed project and the workshop (105 km x \$0.55/km x 19 trips)	\$2,475.00	\$150.00	\$1,032.00	\$63.00
Materials and supplies expenditures - speaker (SCRCA blanket), farm honourarium (NA), food (\$100), advertising (121+tax) and venue (free with food order), printing and mailing of advertisements		\$350.00		\$235.00
Total	\$7,500.00	\$1,000.00	\$7,552.00	\$948.00

5) Lessons Learned from the Project

What have you learned from this project that would help other community groups undertake similar projects?

As was previously mentioned in the Changes and Challenges, when working with the agricultural industry, weather and time of the year significantly influence attendance of workshops/events. Consulting with employees from organizations such as Ontario Ministry of Agriculture and Food about timing for events will help coordinate the best time for the workshop. Unfortunately, even the best timed event can be influenced by the weather of the particular day. In our case, we had funds from another organization that allowed us to host the event again at a different time of the year, which should have greater success.

6) Supporting Documents

Please see the following figures and Appendix for relevant photos, a news article, advertisements for the workshop, and the Walk the Watershed final report.

7) Feedback on Process

This template clearly outlined what was expected by the reviewer and made the process of filling out the report quite streamlined.

Figure 1: Follow-up landowner letter mailed to landowners who provided permission to walk the portion of Duffus Creek that crossed their property through the Walk the Watershed project (also on next page).



St. Clair Region Conservation Authority
205 Mill Pond Cr., Strathroy, ON, N7G 3P9
(519) 245-3710 (519) 245-3348 FAX
E-Mail stclair@scrca.on.ca
Website www.scrca.on.ca

October 17, 2012

Member Municipalities

Township of Adelaide-Metcalfe

Township of Brooke-Arvinston

Municipality of Chatham-Kent

Township of Dawn-Euphemia

Township of Enniskillen

Municipality of Lambton Shores

Municipality of Middlesex Centre

Village of Newbury

Village of Oil Springs

Town of Petrolia

Town of Plympton-Wyoming

Village of Point Edward

City of Sarnia

Municipality of Southwest Middlesex

Township of St. Clair

Municipality of Strathroy-Caradoc

Township of Warwick

Dear

This past summer, I was granted access to walk the length of Duffus Creek that crossed your property. Thank you for your assistance in this project! Walking Duffus Creek was in part an effort to understand the physical and biological characteristics of this creek from its headwaters in agricultural land to the sandy shores of Lake Huron. It was a fascinating experience observing the transition in geography over such a short distance!

While walking the creek, I also tried to determine if there were ways to reduce erosion as some landowners I spoke with voiced concerns about trees falling in the creek blocking flow, bank undercutting and/or slumping, heavy spring flows, and drain cleanouts.

Duffus Creek is both a municipal drain and natural watercourse. This has implications in the way water moves through the system during storm events and what actions can be taken to mitigate erosion. St. Clair Conservation can help landowners address these issues. Construction of berms and wetlands in the headlands are some ways to retain or slow the flow of waters upstream so that downstream stretches of Duffus receive the water at slower velocities, thereby reducing bank erosion. Establishing erosion control measures at tile outlets such as rip rap spillways can also contribute to reduced erosion. Naturalized stream channels and permanent, wide vegetated buffers are beneficial along the entire length of the creek.

St. Clair Conservation offers grants for eligible projects as a means to improve water quality and reduce erosion along Duffus Creek. The goal of the grants is to offset some of the costs associated with implementing erosion control methods and/or retiring fragile land. Eligible projects include the following:

- Protecting and enhancing wetlands
- Erosion control - e.g., grassed waterways, culvert protection & ditch bank seeding
- Clean water diversion
- Planting native trees and shrubs for wind breaks and bank stabilization
- Naturalization of land

These grants and other funding opportunities (see other side) are focused on Duffus Creek properties, but are available to all other properties in the Lambton Shores area that fall under SCRCA jurisdiction (see map).

If you are interested in receiving a grant for a project on your property or would like more information about our grants, feel free to contact me (519-245-3710 ex 241, jvanzwol@scrca.on.ca). Please visit our website (www.scrca.on.ca) for factsheets on eligibility requirements for projects.

All the best,

Jessica Van Zwol *Healthy Watershed Specialist* - Lambton Shores

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Conservation
Ontario

"working together for a better environment"

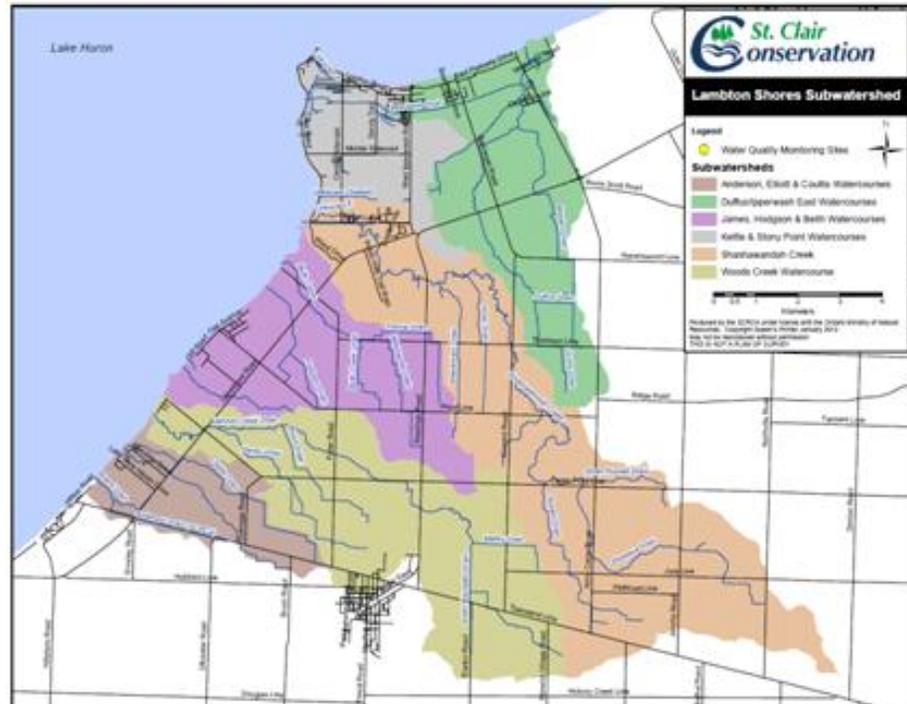
Member Municipalities

- Township of Adelaide-Metcalfe
- Township of Brook-Elvinston
- Municipality of Chatham-Kent
- Township of Dawn-Euphemis
- Township of Enniskillen
- Municipality of Lambton Shores
- Municipality of Middlesex Centre
- Village of Newbury
- Village of Oil Springs
- Town of Petrolia
- Town of Plympton-Wyoming
- Village of Port Edward
- City of Sarnia
- Municipality of Southwest Middlesex
- Township of St. Clair
- Municipality of Strathroy-Carleton Place
- Township of Waverly

Potential Cost-Share Projects -Potential grant rates & caps for water quality & habitat improvement projects as of 2012	Grant Rate	Maximum Grant*
Clean Water Diversion	50%	\$3,000
Decommissioning Unused Wells	50%	\$500
Erosion Control Structures	50%	\$3,000
Fertilizer, Chemical and Fuel Storage or Handling	50%	\$500
Fragile Land Retirement	50%	\$2,000
Livestock Access Restriction to Watercourses	50% or 100%**	\$5,000
Manure Storage & Application Equipment Modification	50%	\$5,000
Milkhouse Washwater Disposal	50%	\$2,000
Septic System Upgrades	50%	\$4,000
Wellhead Protection	50%	\$500
Wetlands Conservation / Enhancement	50%	\$2,000
Woodlands Conservation / Enhancement	50%	\$2,000

*Grant values are conditional upon CA external funding

**50% of cost of an installed fence or 100% of cost of materials for a self-installed fence



member of
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 Ontario**

"working together for a better environment"

Figure 2: a. Anne Verhallen, OMAFRA, introducing the benefits of cover crops, b. SCRCA booth providing information about stewardship projects and Best Management Practices grant factsheets, and c. farmers discussing cover crops over lunch.

a.



b.



c.



Figure 3: Fact sheet of potential Best Management Practices Projects with associated grants, handed out at the Cover Crop Driveshed Day, November 8, 2012.



POTENTIAL PROJECTS

Important Information for Landowners

This factsheet provides potential grant rates and caps for water quality and habitat improvement projects as of 2012.

St. Clair Region Conservation Authority
205 Mill Pond Crescent
Strathroy, ON N7G 3P9

Phone: 519-245-3710 x 241
Fax: 519-245-3348
jvanzwol@scrca.on.ca

Contact SCRCA staff for more information on eligibility criteria and technical assistance.

St. Clair Region Conservation Authority is offering technical and financial assistance* to improve and protect water quality on your farm.

*financial assistance conditional on CA external funding.

Potential Cost-Share Projects	Grant Rate	Maximum Grant
Clean Water Diversion	50%	\$3,000
Decommissioning Unused Wells	50%	\$500
Erosion Control Structures	50%	\$3,000
Fertilizer, Chemical & Fuel Storage or Handling	50%	\$500
Fragile Land Retirement	50%	\$2,000
Livestock Access Restriction to Watercourses *50% of the cost of an installed fence or 100% of the cost of materials for a self-installed fence	50% or 100%*	\$5,000
Manure Storage & Application Equipment Modification	50%	\$5,000
Milkhouse Washwater Disposal	50%	\$2,000
Septic System Upgrades	50%	\$4,000
Wellhead Protection	50%	\$500
Wetlands Conservation / Enhancement	50%	\$2,000
Woodlands Conservation / Enhancement	50%	\$2,000

Limited funding available for 2012. Get on the waiting list to help us apply for further grants!

How to apply for grants:

- Contact St. Clair Region Conservation Authority to determine if your project meets the eligibility criteria requirements of the program. Please note that an on-site consultation with SCRCA staff may be required to determine eligibility.
- Projects that will result in the best benefits to water quality will be prioritized for funding.
- Once your project has been approved, SCRCA staff will provide you with a funding application, and if needed, assistance in completing the application.

We encourage landowners to combine grants with other cost-share programs.

Figure 4: Questionnaire given to participants of the Cover Crop Workshop for feedback of the current workshop and ideas for future workshops.

Cover Crop Workshop Questionnaire
Thursday November 8, 2012

A. Contact Information (completing this section is optional)

Name _____

Address _____

Contact Information (phone, e-mail etc.) _____

B. General Comments

1. If we were to hold this workshop again, how could we improve the workshop?
2. Future information sessions may include woodlot workshops, wetland naturalization, care and maintenance of septic systems and groundwater wells, species at risk, etc. Please tell us what topics would be of interest to you.
3. Please feel free to give us helpful opinions and comments.

C. Comments and Feedback

1. In what form would information on cover crops be useful to you? Please circle.
fact sheets hand books videos newsletter

site visits workshops internet
2. Tell us what you thought about the workshop? Please circle one.
satisfactory informative very informative

D. Best Management Practices

If you are a landowner in Lambton Shores:

1. Would you be interested in more information about implementing Best Management Practices on your property?
Yes No
 2. Would you be interested in our cost-share program to help offset costs associated with implementing BMPs?
Yes No
 3. What kind of projects would be of interest? (Please circle)
 - Planting native trees
 - Septic system upgrades
 - Naturalization of land
 - Fencing live stock from streams
 - Protecting and enhancing wetlands
 - Erosion control (e.g., grassed waterways, tile drainage)
 4. If interested in implementing BMPs, would you be willing in setting up a site visit with a Watershed Specialist to discuss possible projects and available grants?
Yes No
2. Any other comments?

Figure 5: Site location for a clean water diversion project in Lambton Shores.



Figure 6: Cover Crop Workshop advertisement posted in Today's Farmer October 30, 2012. Readership of Today's Farmer is approximately 15,500 covering Essex, Kent, Lambton, Middlesex, Elgin and Huron Counties.

Scientists challenge controversial GMO study

France's six scientific academies have come out with a statement rejecting a study that claimed to find increased tumor rates and early mortality of rats

fed genetically modified corn, an article on the AgProfessional web site says.

The academies say that the study doesn't justify the conclusions that were drawn. "Given the

numerous gaps in methods and interpretation, the data presented in this article cannot challenge previous studies, which have concluded that NK603 is harmless from the health point of view,

as are, more generally, genetically modified plants that have been authorized for consumption by animals and humans," the academies said.

The article also mentions that more than 700

scientists and academics have signed a petition urging the study's author to release research data behind the controversial study. So far the researcher has not responded, the article adds.

NEWS BRIEF

Ottawa offers nothing new for distressed hog farmers

The federal government has announced its plans to help hog farmers weather their worst financial crisis in decades, and there's no new money or programs.

After striking a hog industry task force and holding meetings for more than a month, Agriculture Minister Gerry Ritz is simply pointing to existing programs and inviting hog farmers to tap into that money.

That includes AgriInvest accounts, where hog farmers have \$31 million available, interim payments from AgriStability and cash advances of up to \$400,000 per farm.

In addition to the crippling-high feed costs that impact all hog farmers across North America, Canadians face additional price-depressing pressure from the United States' Country-of-Origin Labeling regulations and a Canadian dollar that's above par with the United States.

Jean-Guy Vincent, chairman of the Canadian Pork Council, said "the work of the Hog Industry Task Team will continue as it explores ways to increase sector competitiveness in the mid to long term."

The federal government and the Canadian Pork Council are wary of government subsidies that could trigger a severe reaction from U.S. producers who have, in the past, several times persuaded the U.S. government to impose crippling countervailing duties.

The damage to Canadian hog farmers was done before those countervailing duties were overturned.

Cover Crop Workshop

WHEN: Thursday November 8, 2012
10:30 am - 1 pm

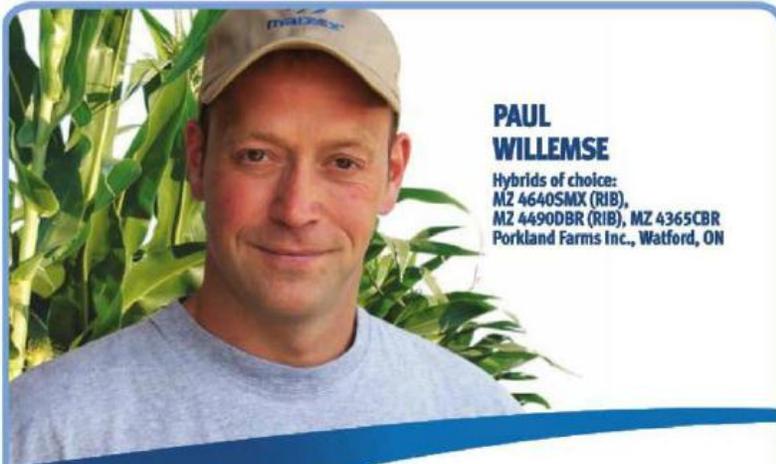
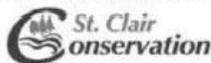
WHERE: Forest Fairgrounds, Forest, ON
(fair entrance at the corner of Jefferson St. W. & Argyle St.)

WHAT: A discussion on the use of cover crops

Anne Verhallen from OMAFRA, will discuss different crop types that exist for reducing soil erosion, recycling nutrients to improve soil quality and providing an economic crop production.

Coffee & a cold lunch will be provided
RSVP is requested!

For more information or to RSVP, please call
Jessica Van Zwol, (519) 248-3710 x 241



PAUL WILLEMSE

Hybrids of choice:
MZ 4640SMX (RIB),
MZ 4490DBR (RIB), MZ 4365CBR
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Willemse's choice of hybrids, hard work and ability to manage risk are part of his recipe for success. At Maizex, we understand this. And that's why we provide only the most advanced genetic testing, hybrid technologies and agronomic support.

Put us to work for you. Call 1-877-682-1720 or visit maizex.com



Figure 7: Advertisement for the Cover Crop Workshop posted in local grocery stores and community centres and mailed out to farmers involved with the Walk the Watershed Program.

Cover Crop Workshop

A discussion on the use of cover crops

Thursday November 8, 2012
Free!

Come out and learn more about the benefits of growing cover crops at our **Cover Crop Workshop** at the Forest Fairgrounds.



Anne Verhallen, Soil Management Specialist, from OMAFRA will discuss the different crop types that exist for reducing soil erosion, recycling nutrients to improve soil quality and providing an economic crop production.



WHEN: Thursday, November 8, 2012
10:30 am – 1 pm

WHERE: Forest Fairgrounds, Forest, ON
(fair entrance at the corner of Jefferson St W. and Argyle St.)

Coffee and cold lunch will be provided!
RSVP is requested

For more information, call Jessica Van Zwol,
(519) 245-3710 x 241



OMAFRA

OMAFRA

Figure 8: Advertising for the Cover Crop Workshop in the Conservation Update Newsletter (October 2012).

Chatham-Kent & Lambton Children's Water Festival a Great Success

The 6th Annual Chatham-Kent & Lambton Water Festival was a great success with 1,350 grade 4 students participating in hands-on activities. Students learned how they could make a difference in saving our precious water and natural resources while visiting the C. M. Wilson Conservation Area. Approximately 50 adults volunteered to lead Activity Centres and help with tasks during the Festival. In addition, 300 High School students provided leadership at the activity centres.

The Friends of the St. Clair River sponsored the cost of bussing for schools within the St. Clair Region watershed. As a result, 3 schools from our region were able to attend this worthwhile event. For more information on the Water Festival visit ckwaterfest.com.

RBC Blue Water Project Donates to Conservation Education

RBC, through the Blue Water Project, donated \$5,000 to support conservation education in the St. Clair region. The funds will be used to purchase equipment and supplies to improve the student's experience while learning about conservation.

Authority Collecting Tree Seeds

Foresters understand that it is important to select the proper species for the site conditions where the tree is to be planted. Not only that, but a tree should be planted from a seed that evolved in the same geographical location.

The Conservation Authority is collecting local seeds throughout the watershed. The seeds are supplied to Somerville Nursery who will grow local tree stock for planting. Seeds collected in 2012 will be used in our tree planting program in 2014 - 2016. Seeds collected this fall include red oak, burr oak, swamp white oak, black walnut and shagbark hickory. Seeds are also supplied to Lambton College as part of our partnership with them for use in their greenhouse.

McKenzie and Blundy Memorial Forest Celebrates 25th Anniversary

This year's dedication service, held on September 16, marked the 25th anniversary of planting trees in memory of loved ones through the McKenzie and Blundy Funeral Home. Over 6,000 trees have been dedicated in memory at the Wawanosh Wetlands Conservation Area and the Perch Creek Habitat Management Area since 1987.

The Conservation Authority and Foundation wishes to thank Grant and Cheryl McKenzie and the rest of the Funeral Home staff for sharing our vision of creating forests as a place for nature and a place to remember and honour our loved ones.



Cover Crop Workshop on November 8

The Conservation Authority is hosting a workshop on the benefits of growing cover crops. Anne Verhallen, Soil Management Specialist from OMAFRA, will discuss the different crop types that exist for reducing soil erosion, recycling nutrients to improve soil quality and providing an economic crop production.

The Workshop will be held at the Forest Fairgrounds on Thursday, November 8 from 10:30 am - 1:00 pm. For more information contact Jessica at 519 245-3710 ext. 241.

Figure 4: News release covering the Cover Crop Workshop at the Forest Fairgrounds, November 8, 2012.



Appendix A: Walk the Watershed Report

Walk the Watershed

Duffus Creek – Summer 2012

November 2012

St. Clair Region Conservation Authority

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Introduction

Duffus Creek is warm water intermittent stream located within the Municipality of Lambton Shores, in southwestern Ontario. The Duffus Creek watershed is under the jurisdiction of the St. Clair Region Conservation Authority (SCRCA, Appendix A). The majority of the watershed is used for agriculture, but Duffus Creek also flows alongside lakeshore cottages and through The Chippewa Kettle and Stony Point First Nation land before emptying into Lake Huron at the east side of Ipperwash Beach. Reaches of the Creek fall under the *Drainage Act* and therefore, the Municipality of Lambton Shores is responsible for maintenance in those areas, with the associated costs assessed to the neighbouring landowners.

Knowledge of the topography, physiography, geology, and bathymetrics can deepen our understanding of fluvial responses of the land surface to hydrological inputs of precipitation, the movements of potential pollutants, and the existing conditions in the watershed. Duffus Creek, along with the Lusby Drain that empties into it, is a total of 12.7 km from its headwaters along Thompson Road to the sandy shores of Lake Huron. In the headwaters, the soil type is clay and as Duffus nears Lake Huron, the substrate becomes increasingly sandy. The elevation profile depicts a drop of 40 m over the 12.7 km, suggesting a very flat terrain (0.3% change in elevation).

Purpose

The purpose of this project was two-fold. First, walking the entire length of a creek provided the SCRCA with knowledge on the aforementioned physical aspects of a small watershed within our jurisdiction. Data collection of plants, animals and fish inhabiting the reaches of Duffus provides important biological information. The region of Lambton Shores that falls under SCRCA jurisdiction only became so six years ago thus, it is advantageous to gain greater understanding of the natural processes occurring in this region. Prior to 2006, citizens of the southern end of Lambton Shores had no Conservation Authority representing them. Thus, many landowners in this region are unaware of the SCRCA presence in Lambton Shores, which led to the second purpose of this project. The SCRCA hoped to connect with landowners and raise awareness of our presence in Lambton Shores for the purpose of (among others) improving water quality. By interacting with landowners in a rural setting, gaining permission to walk their land and discussing water quality concerns with them, such as soil erosion, the SCRCA is building rapport with local citizens and connecting landowners with resources to improve best management practices on their properties.

Both objectives of the project contributed to our understanding of the needs surrounding Duffus Creek with respect to what efforts are necessary to reduce erosion and improve water quality.

Information Collection

To accomplish the objectives, SCRCA staff created watershed maps delineating the Duffus Creek and property boundaries of properties that touched Duffus Creek. Using GIS, landowner names were ascribed with specific properties. Jessica Van Zwol, Healthy Watershed Specialist, obtained permission to walk from 23 of 29 properties that touched Duffus Creek by making phone calls to each landowner (See Appendix B for outline used to introduce program). Five properties were observed from a road easement or a neighbouring property as Van Zwol was unable to contact these landowners. Only one landowner refused access to their property and under the advisement of the Ontario Ministry of Natural Resources, First Nations land was not accessed.

Although there are a number of drains that empty into Duffus Creek, only the main channel of Duffus Creek and Lusby Drain were walked in the summer of 2012 (Appendix A). Maitland Valley Conservation Authority staff conducted a Walk the Watershed program in spring 2011 and SCRCA staff used their recording methods when making observations in the field. Staff carried a clip board with pre-made field sheets (Appendix C) and air photos. Observations were recorded on the field sheet and areas where photos were taken were marked on the air photo with a corresponding number and description on the field sheet. Each photo is geo-referenced as the camera used for the project had GPS capabilities.

For each property, the following information was collected:

- Average channel dimensions including bank height, creek bed width, and top of bank buffer
- Bank conditions including steepness and amount and type of vegetation growing
- General substrate and geomorphic processes (undercutting, bank carving, and erosion)
- Top of bank buffer vegetation
- Channelization and presence/absence of meanders
- If culverts, crossings or tile drains were observed, the location and condition were recorded with a photo.
- Crop direction and type

From these observations, general recommendations applicable to Duffus Creek on a whole and at a smaller scale (ie. in the headwaters or nearshore) were drawn. Suggestions are provided for environmental projects that could improve the water quality and soil erosion concerns along the entire length of Duffus Creek. Follow up letters were mailed out to landowners who gave permission to walk their property (Appendix E). These letters outlined some projects that landowners could partake to reduce erosion and improve water quality in the Duffus watershed. Information about the Lambton Shores Clean Water Cost-Share Program outlining specific projects and grant dollars available were also included in the letter.

Landowner response

In general, landowners were open to the idea of SCRCA staff walking their portion of Duffus Creek. In some cases, there was some hesitation to allow access of their property to a staff member, with the common thought being that the information gathered would hinder their landowner rights in the future or that staff would find something on their property to fine them with or lead to future regulations in the area. All landowners were given the opportunity to walk with Van Zwol, but only one took up the offer. This landowner wished to walk the length of his property with Van Zwol to see what information was being collected and to provide insight into the history of the drain on his and neighbouring properties. Some landowners were excited that staff were walking their property and had questions about the landscape and biota that they had witnessed on their property. Others were interested in seeing a final report of the watershed study.

As a result of this program, **two** landowners are currently pursuing funds through our Cost-Share Program for erosion control projects on their property (one is interested in a project on a property outside the Duffus watershed, but still within Lambton Shores).

General Conclusions of the Duffus Creek Watershed

Positive characteristics of Duffus Creek:

- Entire reaches of the drain were completely tree covered/forested
- Some locations (mostly downstream of Lakeshore Road) had great natural meander and sufficient tree cover throughout the property
- Top of bank buffers in some areas were dense with woody vegetation that will reduce erosion and sedimentation of the creek

Projects that would be beneficial on a watershed scale:

- In general, water flow needs to slow down across the entire stream as undercutting of banks and tree root exposure were quite apparent.
- Construction of berms and wetlands in the headlands to retain or slow the velocity of waters upstream to alleviate erosion on the downstream, sandy reaches of the Duffus drain
- Establishing erosion control measures at tile outlets such as rip rap spillways can also contribute to reduced erosion.
- Naturalized stream channels and permanent, wide vegetated buffers are beneficial along the entire length of the creek.
- Conduct drain maintenance on Ravenswood Drain that empties into Duffus Creek north of Lakeshore Road
 - After speaking with Mr. Al Little, Municipality of Lambton Shores Drainage Superintendent, there apparently were two weirs to slow water down alongside Ipperwash Road that have since been removed

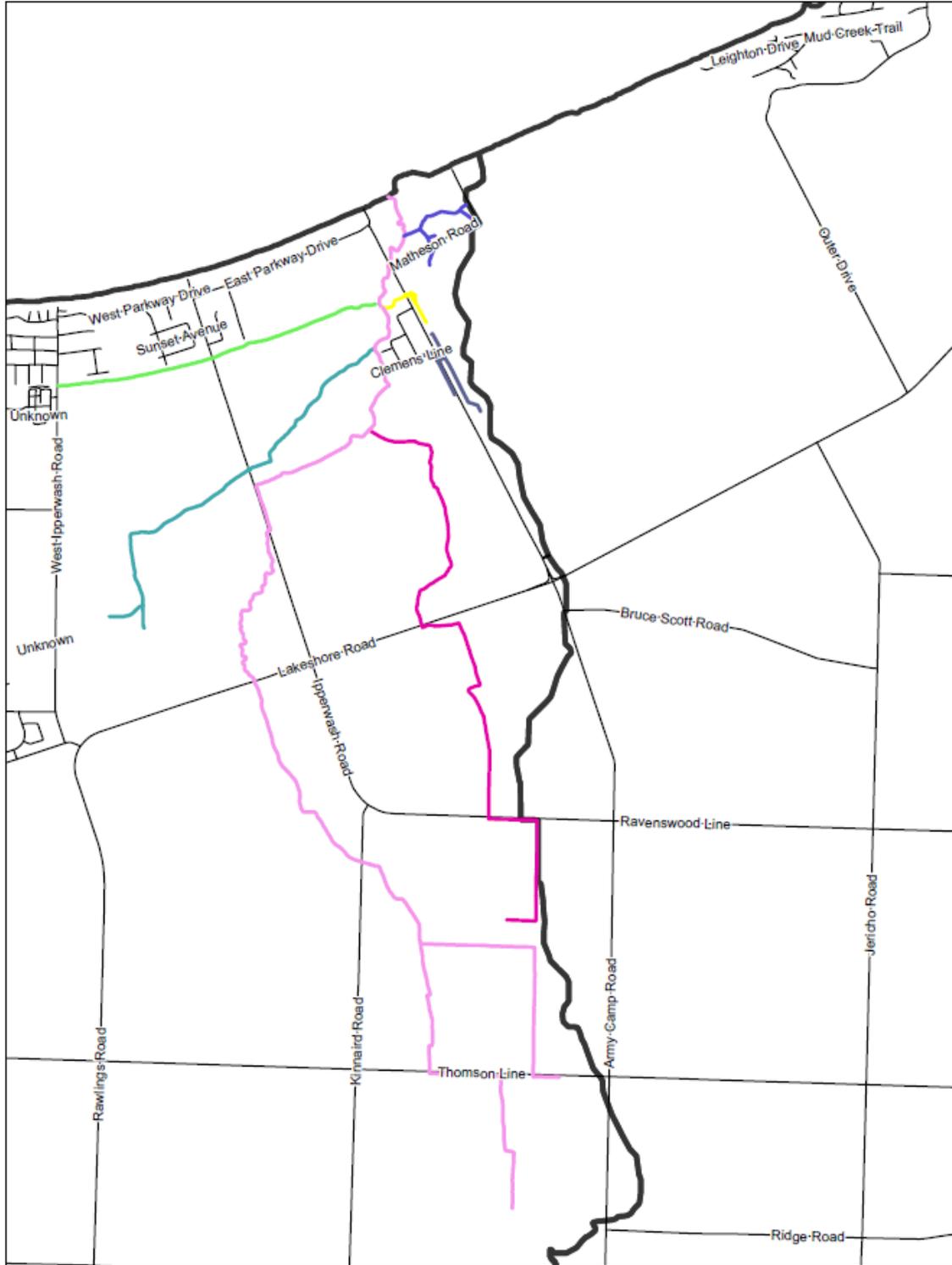
- Replacing these two weirs may relieve the strong erosion pressures on the stream bed connecting Ravenswood with Duffus.
- Currently, a large gully has formed below the culverts that exit under Ipperwash Road- this added water load is and will impact downstream banks.

General Recommendations suggested for individual properties:

- Consider a meander
- Create rock beds below tile outlets to prevent further erosion in agricultural reaches of the drain
- Consider installing a valve on the tile outlet to control flow throughout the year
- Remove much of the woody debris and fallen trees in the creek bed which are (or have the possibility of) blocking stream flow in higher flow seasons and can create eddies/pools upstream which can increase erosion issues
 - Natural or man-made dams across the creek channel have the potential to invoke much greater damage in the long-term.
 - Water will create new paths if the main channel is blocked – typically on either side of the dam, carving the banks on either side, which may carve into farm fields and yards.
- Consider increasing riparian (top of bank included) buffer, of at least a few metres, on both sides of the drain
 - Avoid mowing grass or planting crops right to the top of bank
 - Riparian buffers secure the bank and prevent slumping and soil erosion
- Consider adding woody vegetation and trees along banks in areas largely devoid of vegetation
 - Improves fish habitat, maintains lower water temperatures and stabilizes banks
- In some of the creek bends, erosion is strongly impacting the banks - erosion control measures would be beneficial as fast moving water has the potential to further carve the far banks, which could further erode farm fields
 - Use bioengineering techniques and possibly riprap and/or Gabian baskets
 - Ease the slope of the bank and/or plant willows
- Consider grading or sloping stream banks in areas as banks in some areas are quite steep (90 degrees) and providing vegetation to stabilize the bank to ensure that erosion doesn't cut away anymore of the bank
- Avoid cutting down healthy trees and woody vegetation – especially along extremely steep banks – this will improve bank stabilization
- Avoid installing fences/sheds/gardens at top of bank as these actions destabilize the bank and increase the risk of erosion
- Avoid installing retaining walls (or railway ties) in place of banks to increase usable land on property – this will not remain stable forever and will invoke erosion issues downstream
- Avoid fixing erosion issues without consulting a professional
 - Hire a professional contractor trained in bank stabilization as this will ensure that the banks are stable longer

- Often times, amateur attempts to alleviate erosion issues contribute to greater erosion rates
- Remove concrete and rubble that has been dumped along the bank in a effort to reduce erosion, these efforts have the potential to exacerbate erosion by falling into the creek and creating dams
- Remove man-made structures that may have fallen in the creek
- Avoid creating ATV trails in the flood plain of the creek
- Avoid extending decks/walkways over the creek
- Remove non-native plants (such as loosestrife and burdock) as these species have the potential to outcompete native species adapted to stabilize stream banks

Appendix A: Duffus Creek Tributaries within the Lambton Shores Watershed. *Note: Only the reach marked in light pink (this includes Lusby Drain) was walked in the summer of 2012. The different colours represent different reaches of the Duffus drainage system. The thick black lines indicate Conservation Authority boundaries.



Appendix B: Phone introduction of Walk the Watershed project

Good day,

My name is Jessica Van Zwol and I'm calling from the St. Clair Conservation Authority. If you have a few minutes I was hoping to talk to you about a project our office is working on with Duffus Creek. We are starting a program called Walk the Watershed, in which the plan is that I'll be walking the length of Duffus Creek to get an idea of how the water flows over the landscape in Lambton Shores, which means I'm hoping to walk ALL the properties that touch Duffus before emptying into Lake Huron. The project is landowner-driven and is a way for us to work with landowners to address water issues they may have in the watershed (like improving stormwater management, for example). In order to do this, I was hoping that you would be comfortable in having me walk along the part of Duffus that crosses your property. If you wish to walk the length of it with me to see what I'm looking at or to discuss some of the concerns you may have about erosion or other issues, I'd welcome the company, but do not feel that it is necessary. I would be looking at the substrate, bank conditions, type of vegetation, does the drain meander, culverts, and major tile outlets. Is this something you would consider?

I've been in contact with some of your neighbours already and I'll be walking the length of their properties in the coming days as well.

Appendix D: Template of Recommendations created for an individual landowner reach of Duffus Creek, with sample notes provided. Note: This information was kept in-house unless specifically requested by the landowner.

Recommendations for Duffus Drain Walk the Watershed - Summer 2012

Property:

Owner:

Staff who surveyed property: Jessica Van Zwol

Date of site visit:

Notes:

- This reach of the drain has shallow wide banks and good meander
- Numerous sections of the North Bank that are slumping/gullyng. 3-4 areas have had 6" rock added to slow erosion of soil during large events. More than 3-4 additional areas are in need of erosion control measures
- South bank is in worse condition in parts – some areas lack any vegetation, just have bare soil exposed; consider widening the buffer with trees and vegetation
- Both banks would largely benefit from TOB buffer. Majority of areas on North bank have no TOB buffer before rows of wheat
- About 10 m south of South bank, all trees have been felled and bare soil exposed - probably converting area to agricultural land
- Should aim for 50-50 mix of sun and shade over the water's surface

Appendix E: Follow-up landowner letter mailed to landowners who provided permission to walk the portion of Duffus Creek that crossed their property.

October 17, 2012

Dear

This past summer, I was granted access to walk the length of Duffus Creek that crossed your property. Thank you for your assistance in this project! Walking Duffus Creek was in part an effort to understand the physical and biological characteristics of this creek from its headwaters in agricultural land to the sandy shores of Lake Huron. It was a fascinating experience observing the transition in geography over such a short distance!

While walking the creek, I also tried to determine if there were ways to reduce erosion as some landowners I spoke with voiced concerns about trees falling in the creek blocking flow, bank undercutting and/or slumping, heavy spring flows, and drain cleanouts.

Duffus Creek is both a municipal drain and natural watercourse. This has implications in the way water moves through the system during storm events and what actions can be taken to mitigate erosion. St. Clair Conservation can help landowners address these issues. Construction of berms and wetlands in the headlands are some ways to retain or slow the flow of waters upstream so that downstream stretches of Duffus receive the water at slower velocities, thereby reducing bank erosion. Establishing erosion control measures at tile outlets such as rip rap spillways can also contribute to reduced erosion. Naturalized stream channels and permanent, wide vegetated buffers are beneficial along the entire length of the creek.

St. Clair Conservation offers grants for eligible projects as a means to improve water quality and reduce erosion along Duffus Creek. The goal of the grants is to offset some of the costs associated with implementing erosion control methods and/or retiring fragile land. Eligible projects include the following:

- Protecting and enhancing wetlands
- Erosion control – e.g., grassed waterways, culvert protection & ditch bank seeding
- Clean water diversion
- Planting native trees and shrubs for wind breaks and bank stabilization
- Naturalization of land

These grants and other funding opportunities (see other side) are focused on Duffus Creek properties, but are available to all other properties in the Lambton Shores area that fall under SCRCA jurisdiction (see map).

If you are interested in receiving a grant for a project on your property or would like more information about our grants, feel free to contact me (519-245-3710 ex 241, jvanzwol@scrca.on.ca). Please visit our website (www.scrca.on.ca) for factsheets on eligibility requirements for projects.

All the best,

Jessica Van Zwol *Healthy Watershed Specialist* – Lambton Shores

Potential Cost-Share Projects -Potential grant rates & caps for water quality & habitat improvement projects as of 2012	Grant Rate	Maximum Grant*
Clean Water Diversion	50%	\$3,000
Decommissioning Unused Wells	50%	\$500
Erosion Control Structures	50%	\$3,000
Fertilizer, Chemical and Fuel Storage or Handling	50%	\$500
Fragile Land Retirement	50%	\$2,000
Livestock Access Restriction to Watercourses	50% or 100%**	\$5,000
Manure Storage & Application Equipment Modification	50%	\$5,000
Milkhouse Washwater Disposal	50%	\$2,000
Septic System Upgrades	50%	\$4,000
Wellhead Protection	50%	\$500
Wetlands Conservation / Enhancement	50%	\$2,000
Woodlands Conservation / Enhancement	50%	\$2,000

*Grant values are conditional upon CA external funding

**50% of cost of an installed fence or 100% of cost of materials for a self-installed fence

