



Rural Stormwater Management Model Project



Overview

Technical Workshop July 18, 2013
Alec M. Scott – Ausable Bayfield Conservation Authority





What?

**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION



Rural Stormwater Management Model Project

- The Healthy Lake Huron: Clean Water, Clean Beaches Initiative was created to reduce contamination along the southeast shores of Lake Huron
- This project is to create a new Rural Stormwater Management Model that will allow us to better **understand** and manage rural stormwater and **limit impact of runoff** on water quality



Why?



**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION



Effective

- There is currently no model with the **detail** needed about stormwater movement and management in a **rural** context
- Stewardship funding is limited – this model will allow us to **prioritize** the kinds of stewardship **projects** that will have the most benefit in the **areas** that will have the greatest ability to reduce impacts on Lake Huron watersheds



Projected Benefits



- Preserve topsoil and limit erosion
- Reduce flooding and storm runoff
- Address nearshore water quality issues
- Reduce impacts on lakes and rivers
- Reduce risks to health



Where?



**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION



Lake Huron Southeast Shores

healthylakehuron.ca

- Sarnia to Tobermory



**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION



Five Priority Watersheds

healthylakehuron.ca

- Pine River
- North Shore (Garvey Creek and Glenn Drain)
- Bayfield North (Gullies)
- Main Bayfield
- Lambton Shores

Healthy Lake Huron
Clean Water. Clean Beaches

AUSABLE BAYFIELD CONSERVATION
CREATING AWARENESS | TAKING ACTION



sauford_shore_3_watersheds_v1



When?

**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION



Timeline

- Funding announced in December of 2011
- Funding agreement signed February 2012
- Model terms of reference summer of 2012
- Increased monitoring starting in summer of 2012
- Consultant selected fall of 2012
- Project complete by March 2014



Who?



**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION



Rural Stormwater Management Model Project

Ausable Bayfield Conservation Authority (ABCA)
is taking the lead in this partnership project,
on behalf of the Healthy Lake Huron
Executive Steering Committee
(Lake Huron Southeast Shores)

**Healthy
Lake Huron**
Clean Water, Clean Beaches



Project Team Partnership

- Healthy Lake Huron: Clean Water, Clean Beaches (Lake Huron Southeast Shores)
Executive Steering Committee (22 members)
- Province of Ontario (MOE, OMAFRA, MMAH, MNR)
- Canada (Environment Canada, Fisheries and Oceans Canada, Parks Canada)
 - First Nations
- Counties and health units – Huron, Bruce, Lambton
 - Environmental agencies
- Ausable Bayfield Conservation Authority (lead)
 - Maitland Valley Conservation Authority
 - St. Clair Region Conservation Authority
 - Saugeen Valley Conservation Authority
 - Grey-Sauble Conservation Authority



Other Partners

- Farmers and other landowners
 - Watershed communities
 - Universities and/or consultants
- Other agencies and community groups



Technical Committee

- Alec Scott – ABCA
- Steve Jackson – MVCA
- Girish Sankar – SCRCA
- JoAnne Harbinson - SVCA
- Kevin McKague – OMAFRA
- Scott Abernethy – MOE London
- Pradeep Goel – MOE Toronto



Budget

- Total budget ~ **\$900,000**
- This project has received funding support from the Province of Ontario's Showcasing Water Innovation Program (SWI).
 - Such support does not indicate endorsement by the Government of Ontario of the contents of this material.



Project Consultants

- Emmons & Olivier Resources Inc.



A collaborative group of environmental and design professionals passionate about protecting our waters, restoring healthy ecosystems, and enhancing our community's unique sense of place.

- Computational Hydraulics International



Dedicated to promoting healthier ecosystems and communities by providing the software, resources and guidance to simplify advanced water management and design.

**Healthy
Lake Huron**
Clean Water, Clean Beaches



How?



**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION



Activities

- Develop specific software for a rural stormwater management model
 - Model base will be PCSWMM
 - Agricultural best management practices (BMPs) will be integrated into the software





Activities

- Ongoing monitoring of priority (sentinel) watersheds including new stations
- Develop communications plan for knowledge transfer (draft completed)
- Showcase to landowners + stakeholders locally, nationally, internationally





Monitoring



- Three new permanent water quality / quantity stations
- Two existing water quantity stations upgraded for water quality
- Five new water quantity and limited water quality stations for the project period
- Five new meteorological monitoring stations



Projected Outcomes

- Demonstration of positive impact of collaboration, integrated watershed management
- Development of commitments past end of project
- Development of specific software for rural stormwater management model
- Field-testing of model for the benefit of more effective, strategic stewardship projects
- Model shared for the benefit of others
- Transferrable new technology created



Projected Outcomes

- Climate change adaptation
 - Better understanding of rural flow systems
 - Better understanding of BMP impacts
 - More community / landowner awareness of issues
 - Tools to build more resilient watersheds



Questions?



**Healthy
Lake Huron**
Clean Water, Clean Beaches

 **AUSABLE BAYFIELD
CONSERVATION**
CREATING AWARENESS | TAKING ACTION

