

Existing resources to support stewardship on the south-east shores of Lake Huron

A Report to the Ontario Ministry of Agriculture, Food and Rural Affairs
to support efforts of the Healthy Lake Huron Initiative and the Canadian
Agricultural Partnership for Stewardship Clusters

Stewardship Clusters Project #2018-010(a)

Activity 1

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February 13, 2020



Introduction

There are numerous organizations working to promote or implement soil health and water quality improvement projects along the southeast shore of Lake Huron. The purpose of this report is to identify the organizations involved in this work, identify gaps in their approaches and opportunities to improve the way these organizations work.

Summary of Existing Resources

Along the south east shore of Lake Huron, there are different organizations that can support agricultural producers with decisions regarding land management. The following is a summary of the most relevant agencies.

Ausable Bayfield Conservation (ABCA)

Ausable Bayfield Conservation Authority (ABCA) jurisdiction is a 2,440 square kilometer watershed along the shores of Lake Huron, which includes the Bayfield and Ausable Rivers. ABCA regulates natural features such as wetlands and watercourses through the Conservation Authorities Act. ABCA also promotes stewardship work through outreach activities such as workshops, one-on-one technical advice, grant allocation and demonstration sites. Since January of 2017, ABCA has hosted six workshops on BMPs and soil health, with a focus on cover crops. Furthermore, ABCA has conducted three tours for a variety of audiences, beyond agricultural producers, such as local beach managers and Ontario Ministry of the Food and Rural Affairs staff. Lastly, has participated in several miscellaneous events such as the Bayfield Fall Fair and a soil health presentation to ABCA's Board of Directors.

Bruce County Soil and Crop Improvement Association

The Bruce County Soil and Crop Improvement Association (BCSCIA) is a farmer-led organization that operates under the banner of the Ontario Soil and Crop Improvement Association (OSCIA).

Certified Crop Advisors

Certified Crop Advisors (CCAs) are a trusted source of agronomy advice for farmers in the HLH watersheds. CCAs must pass a certification process that consists of two exams and demonstrated work experience in the field. This helps to ensure that all CCAs meet a level of standards and have adequate knowledge in agronomy. CCAs may specialize on certain aspects of agronomy, but must demonstrate adequate understanding on several topics to become certified. These topics are nutrient management, soil and water quality, integrated pest management and crop management. As such, CCAs are often a farmer's most-trusted source of information on these topics. For example, a CCA could provide recommendations for nutrient applications to a farmer. This has an inherent relation to soil health, BMPs and water quality. CCAs may be independent or employed by a fertilizer/seed dealer. Independent CCAs may be more trusted by farmers due to a lack of conflict-of-interest with their employers.

Ecological Farmers Association of Ontario (EFAO)

The Ecological Farmers Association of Ontario is a farmer membership organization that promotes ecological agricultural practices. The EFAO supports farmer-led research and education on a variety of topics including soil health, BMPs and farm economics. The EFAO typically hosts several workshops and

a conference every year on these topics; farmer-led research is also presented at these events. EFAO membership is more inclined towards smaller-scale farmers, but they have members of all farm sizes.

Equipment Dealers

There are many different equipment dealers operating within the HLH watersheds. Typically, equipment dealers will advise farmers on equipment options for a variety of farm practices such as tillage and planting. Equipment dealers may sometimes have an adverse impact on soil health if they are promoting heavy tillage products. Conversely, they may promote soil health and certain BMPs through the sales of certain products, such as strip tillage implements and/or planter modifications. Equipment dealers can be a vital source of information for some producers looking to implement land management BMPs, such as no-till or strip tillage. They can recommend “on-the-ground” advice for modifications or products that will implement a BMP or help bridge the gap towards BMP implementation. They may be more trusted than other organizations for BMP advice due to their on-the-ground experience with land management BMPs. Alternatively, some farmers may not trust their advice because they are just “trying to sell a product”.

Fertilizer and Seed Suppliers

There are many different fertilizer and seed suppliers offering their services within the HLH watersheds. Although they may differ in terms of size and organizational structure, their main purpose is to supply farmers with fertilizers and seeds. These suppliers will typically have agronomists or CCAs on staff to provide recommendations to farmers. As such, many fertilizer and seed suppliers are a trusted source of agronomy information for farmers. Some fertilizer and seed suppliers have adopted the 4R Nutrient Stewardship Program, which is a voluntary certification program that encourages nutrient-based BMPs.

Freelance Ag Consultants

There are many different freelance agriculture consultants in Ontario that promote soil health and BMP adoption. These consultants have diverse backgrounds and can often provide a crucial link between farmers and other environmental organizations.

Grain Farmers of Ontario

The Grain Farmers of Ontario (GFO) is a large commodity organization that represents Ontario’s grain farmers (barley, corn, wheat, soybean and oats). The GFO provides many services to Ontario’s grain farmers such as marketing and production advice, research, education and lobbying. The GFO lobbies on behalf of Ontario’s grain farmers on various topics including international trade and government regulations. The GFO has been active in promoting sustainability programs in Ontario such as the Sustainable Agriculture Initiative, Canadian Field Print Initiative and the 4R Nutrient Stewardship Strategy. The GFO have partnered with Fertilizer Canada to build a demonstration farm network in Ontario to promote and demonstrate 4R nutrient stewardship.

Huron Soil and Crop Improvement Association

The Huron Soil and Crop Improvement Association (HSCIA) is a farmer-led organization that operates under the banner of the Ontario Soil and Crop Improvement Association (OSCIA). The HSCIA hosts an annual general meeting that typically features a keynote speaker promoting soil health or BMP concepts. Furthermore, the HSCIA maintains an active demonstration site called the “Huronview Demo

Farm” located outside Clinton, Ontario. The Huronview Demo Farm is used to showcase BMPs and innovative drainage projects such as controlled and contour subsurface drainage.

Huron County Water Protection Steering Committee

The Huron County Water Protection Steering Committee is a multi-stakeholder group that consists of members from government, local conservation authorities, citizen groups and local business/industry associations (including agriculture). The steering committee has quarterly meetings, which feature speakers on a variety of topics, including soil health, BMPs and water quality. The group partners with several local organizations to support research, education, outreach, planning initiatives and monitoring.

Huron Stewardship Council

The Huron Stewardship Council (HSC) is a non-profit organization that promotes environmental stewardship and protection in Huron County. The HSC conducts research on local species-at-risk and is very active in outreach/education activities. Furthermore, the HSC utilizes the expertise of its volunteers to provide one-on-one landowner support for stewardship projects.

Innovative Farmers Association of Ontario

The Innovative Farmers Association of Ontario (IFAO) is a non-profit organization that seeks to promote innovation in soil health practice, BMPs and farm economics. The organization provides support for farmers in Ontario that are innovating in these topics. The IFAO administers a recognition program called the “innovative farmer of the year” award. This award goes to farmers who have demonstrated progressive practices in soil health and BMP adoption. Many farmers who have received this award have “pushed the boundaries” on certain BMPs and agricultural stewardship, demonstrating their usefulness and economic importance in Ontario. The IFAO also typically hosts several workshops and an annual conference every year. These events feature experts from various fields – typically researchers and farmers with hands-on experience in soil health and BMP adoption.

Lake Huron Centre for Coastal Conservation

The Lake Huron Centre for Coastal Conservation (LHCCC) is a non-profit organization promoting water quality in Lake Huron, operating along the southeastern shores of the lake. They conduct outreach and education through their biennial conference and volunteer programs. Furthermore, they have worked with several other environmental organizations to develop a Coastal Action Plan for the southeastern shoreline of Lake Huron.

Lambton Soil and Crop Improvement Association

The Lambton Soil and Crop Improvement Association (LSCIA) is a farmer-led organization that operates under the banner of the Ontario Soil and Crop Improvement Association (OSCIA).

Livestock Organizations

There are several different livestock groups that represent various livestock sectors in Ontario. Examples of such livestock organizations include the Dairy Farmers of Ontario, the Ontario Pork Council and the Chicken Farmers of Ontario. These organizations typically offer programs for livestock farmers and lobby to government on their behalf. Furthermore, many livestock organizations conduct research alongside academic institutions to improve production and sustainability in their sectors.

Maitland Conservation (MVCA)

Maitland Valley Conservation Authority jurisdiction is 3282 square km watershed, which includes the Maitland, Nine Mile and Eighteen Mile Rivers. MVCA regulates natural features such as wetlands and watercourses through the Conservation Authorities Act. MVCA also promotes stewardship work through outreach activities such as workshops, one-on-one technical advice, grant allocation and demonstration sites. Since January of 2017, MVCA has hosted 1 workshop on BMPs and soil health, which focused on bio-strip tillage cover crops. Furthermore, MVCA participates in an annual shoreline cleanup in Goderich, Ontario alongside other environmental organizations. One of MVCA's most successful recent education/outreach events was the tent they co-hosted with ABCA at the 2017 International Plowing Match in Walton, Ontario. Over 14,000 attendees passed through the conservation tent, which had cover crop displays and information on stewardship grants.

Ontario Ministry of the Environment, Conservation and Parks (OMECP)

The Ontario Ministry of the Environmental, Conservation and Parks (OMECP) is an Ontario government ministry that is responsible for addressing environmental and conservation concerns as well as administration of provincial parks. OMECP administers many different programs relating to environmental quality, such as the Multi-Watershed Nutrient Study and Provincial Water Quality Monitoring Network.

Nature Conservancy Canada

Nature Conservancy Canada (NCC) is a non-profit organization that is focused on land conservation throughout Canada. To achieve their goals, the NCC typically purchases properties with natural heritage that may be at risk. NCC protects these properties from development pressures and alterations. Furthermore, NCC routinely hosts volunteer events at these properties to help combat invasive species.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) is an Ontario government ministry that is responsible for agriculture, food and rural affairs. As such, OMAFRA promotes the development of the agri-food sector and works to support rural economies. Since 2017, OMAFRA has held a soil research day and a cover crop grazing workshop.

Ontario Soil Network

The Ontario Soil Network is a network of farmers and researchers advocating for soil health and BMP adoption through workshops and educational events. One core aspect of the network is to assist innovative farmers in improving their presentation and public-speaking skills so that they can spread their knowledge on the practices they use on their farms. The network also uses social media to promote soil health and BMPs, one such example is their "online crop tour" which showcases farmer members and the efforts they are taking to adopt BMPs and improve soil health on their farms.

Pine River Watershed Initiative Network

The Pine River Watershed Initiative Network (PRWIN) is a non-profit organization seeking to improve water quality within the Pine River Watershed. To accomplish this goal, PRWIN helps source funding for stewardship projects and BMP adoption. Furthermore, PRWIN also hosts annual educational programs for local youth.

Saugeen Valley Conservation (SVCA)

Saugeen Valley Conservation Authority jurisdiction is 4,632 square km watershed, which includes the Saugeen, Penetangore and Pine Rivers. SVCA regulates natural features such as wetlands and watercourses through the Conservation Authorities Act. SVCA also promotes stewardship work through outreach activities such as workshops, one-on-one technical advice, grant allocation and demonstration sites. Since January of 2017, SVCA has hosted 18 workshops on BMPs and soil health. Furthermore, SVCA hosted a public meeting on water quality and co-hosted a conference with MVCA called “The Dirt on Phosphorus”. Lastly, SVCA presented on soil health at the Bruce Christian Farmers Federation annual general meeting.

St. Clair Region Conservation (SCRCA)

St. Clair Region Conservation Authority (SCRCA) jurisdiction is 4,100 square km watershed, which includes the St. Clair and Sydenham Rivers. SCRCA regulates natural features such as wetlands and watercourses through the Conservation Authorities Act. SCRCA also promotes stewardship work through outreach activities such as workshops, one-on-one technical advice, grant allocation and demonstration sites. Since January of 2017, SCRCA has hosted 5 workshops on BMPs and soil health. Furthermore, SCRCA hosted a soil health conference in 2018 and several annual shoreline clean ups.

Stewardship Grey Bruce

Stewardship Grey Bruce is a non-profit organization that promotes soil health, BMP and general stewardship in Grey and Bruce Counties. In 2018 and 2019, Stewardship Grey Bruce delivered the Soil & Water Stewardship Program, whereby participants were incentivized to attend or host social-education events. The program was targeted towards farmers and they received a grant for cover crop seeds by participating. Stewardship Grey Bruce has also helped develop demonstration sites to promote the concept of alternative land use systems in agriculture.

Other Organizations

This section is to acknowledge the many other organizations that may have a role in promoting soil health, BMPs or water quality. For the purposes of this report, it was decided to focus on organizations should have a direct connection to agriculture in Ontario, with respect to soil health, BMPs and water quality.

Gaps in Priorities/Focus of Existing Resources

A gap analysis was conducted to identify areas where organizations overlapped in terms of their coverage (location and target audience), and approach (type of outreach, themes and BMP focus). Organizations were classified as being either: Watershed Based Stewardship, Local SCIA, Ag Retailers Dealers, Advisory Services, Ag Producer Associations, Provincial Ministries, County Based Stewardship Groups, or Environmental Groups. Tables 1-4 summarize the findings of this analysis and key findings are discussed below.

Location/Coverage

Coverage was classified as one of the following: National, Provincial, Lake Huron, Watershed Based, County, Local, or Varied.

Thirty three organizations were identified in the Healthy Lake Huron area. The coverage of these organizations varies from local/county level, to national (Appendix A). It is clear from this analysis that there is large number of organizations involved in promoting soil health and water quality. With numerous organizations involved, there is a risk of inconsistent messaging reaching farmers. For example, a farmer in the MVCA watershed may be targeted by up to 18 organizations. Although the coverage areas of these organizations often overlap, the target audience, type of outreach, themes and BMP focus vary. It does appear that no two organizations are doing the exact same job in the same coverage area.

Target Audience

The Target Audience was classified as Farmer, Local Public, General Public, Ag Service Provider, Ag Service Supplier, Env. Agencies, and Government.

There are approximately 26 organizations targeting farmers to promote BMPs. The target audience for most organizations is primarily Farmers and Ag service providers. There seems to be a trend that if one is targeting environmental agencies or the general public, they are then unlikely to target agriculture service providers or suppliers. This demonstrates a gap in targeting and a potential opportunity to expand the target audience of these organizations. There are a few exceptions to this trend, such as freelance agriculture consultants and the Ecological Farmers Association of Ontario. Although organizations may be targeting farmers, the coverage area, type of outreach, themes and BMP focus vary.

Table 1 Target Audience (Y=Yes, M=Mixed, N=No)

Organization	Target Audience						
	Farmer s	Local Public	General Public	Ag. Service Providers	Ag. Supplier s	Env. Agencies	Gov.
Watershed Based Stewardship	Y	Y	M	M	M	M	M
Local SCIA	Y	N	N	Y	Y	N	N
Ag Retailers Dealers	Y	N	N	Y	Y	N	N
Advisory Services	Y	M	N	Y	Y	M	M
Ag Producer Associations	Y	N	M	Y	Y	M	Y
Provincial Ministries	Y	N	Y	M	M	M	Y
County Based Stewardship Groups	M	M	N	M	M	M	M
Environmental Groups	M	M	M	N	N	M	Y

Type of Outreach

Many organizations are offering educational events, demonstrations, while fewer participate in research or offer one-on-one advice. However, even at the local level, there are multiple organizations offering one-on-one support. For example, in MVCA watershed, there are approximately 10 organizations/groups providing one-on-one support. The organizations offering one-on-one support still vary in their area of expertise and approaches.

Table 2 Type of Outreach (Y=Yes, M=Mixed, N=No)

Organization	Location / Reach	Type of Outreach			
		One-on-one (technical support)	Educational Events (Workshops/Tours)	Demonstration Sites	Research
Watershed Based Stewardship	Watershed	Y	Y	Y	M
Local SCIA	County	N	Y	M	M
Ag Retailers Dealers	Local	Y	Y	Y	N
Advisory Services	Mixed	M	Y	Y	M
Ag Producer Associations	Provincial	M	M	M	Y
Provincial Ministries	Provincial	Y	Y	Y	Y
County Based Stewardship Groups	County	M	M	M	M
Environmental Groups	Mixed	M	Y	M	Y

Outreach Theme and BMP Focus

Outreach Themes were classified as the following: Agricultural Production, Soil Health, BMPs, Water Quality, Economic.

BMP Focus areas were classified as one of the following: Build Soil Health, Controlling Water Within or at Edge of the Field, and Riparian Management. Collectively these BMP focus categories are considered to cover the full suite of BMPs available to producers as related to soil health and water quality.

No single organization has expertise in all five outreach themes or BMP focus areas. This means that the knowledge of the full suite of BMPs is available locally, but an individual would likely need support from various organizations in order to implement the full suite. No organization would be considered an expert on all BMPs or soil health practices.

Table 3 Outreach Themes (Y=Yes, M=Mixed, N=No)

Organization	Outreach Themes				
	Agricultural Production	Soil Health	BMPs	Water Quality	Economic
Watershed Based Stewardship	N	M	Y	Y	N
Local SCIA	Y	Y	Y	M	Y
Ag Retailers Dealers	Y	Y	Y	N	Y
Advisory Services	Y	Y	Y	M	Y
Ag Producer Associations	Y	Y	Y	M	Y
Provincial Ministries	Y	M	Y	Y	M
County Based Stewardship Groups	M	M	Y	M	M
Environmental Groups	N	N	Y	M	N

Table 4 BMP Focus (Y=Yes, M=Mixed, N=No)

Organization	BMP Focus		
	Build Soil Health	Control Water Within or Edge of Field	Riparian Management
Watershed Based Stewardship	M	Y	Y
Local SCIA	Y	M	N
Ag Retailers Dealers	Y	N	N
Advisory Services	Y	M	N
Ag Producer Associations	Y	M	M
Provincial Ministries	M	Y	M
County Based Stewardship Groups	M	M	M
Environmental Groups	N	N	Y

Gaps Summary

This analysis identified overlap among organizations in terms of coverage, target audience, type of outreach, and their themes and focus. However, a closer comparison between organizations that appear to overlap, easily reveals distinct differences which make the organizations unique. Thus, the overlap identified here highlights who should be working together, rather than where efforts are being duplicated. An important gap identified was that no single organization was considered an expert in all BMPs, thus producers would likely require support from multiple organizations if they were to implement the full suite of BMPs.

Strengths and Successes of Existing Resources

The organizations involved have different strengths ranging from program design, administrative, promotion, to on-the-ground technical advice. It should be noted that no single organization excels in all of these areas.

The approaches believed to be successful were:

- Providing strong technical advice.
- Providing opportunities for farmers to learn from farmers.
- Partnering with other organizations to share resources and reach a wider audience.
- Using a variety of educational events (e.g., small tailgate meetings vs conferences)

Future Promotion Work

After considering the analysis of gaps and overlap between organizations within the HLH watershed area, the key recommendation to improve future promotion of soil health, BMPs and water quality is to build a “Community of Practice” for all organizations involved. The purpose of the Community of Practice would be to increase awareness of the strengths and priorities of other organizations. This will increase collaboration between organizations and would result in stronger outreach. The proposed objectives for the community of practice are as follows:

Build Consistent Messaging

Organizations should make the effort to learn from other organizations and incorporate these new ideas into their own messaging. There may be successes or challenges that an organization has already discovered, that would be useful for other organizations to be aware of. This is especially relevant with respect to technical advice on BMPs and soil health practices. Members of the community of practice must recognize that producers received mixed messages from trusted experts, and they should work to clarify the messaging.

Collaboration to deliver one-on-one advice

Learn the strengths of others. Once organizations in the community of practice understand the strengths of others, they will be better able to direct producers to, or call on, other organizations for technical advice. For example, if equipment dealers were aware of grants that the Conservation Authority, or Ontario Soil and Crop delivered, they would be in a better position to direct a customer to the right agency. The equipment dealer may also identify other projects that a CA could assist with. In another example, a farmer expresses interest in switching to no-till to CA staff, if the CA staff is aware of other organizations or dealers that truly specialize in the area, they could direct the farmer to that resource. This is already apparent through the Ontario Soil Network, whereby farmers interested in a certain BMP or soil health practice will be guided towards a farmer well-versed in that practice. A recommendation would be for each organization to share its knowledge pool and for greater collaboration on technical knowledge between organizations.

Collaboration on Events

There are a number of organizations promoting soil health, BMPs and water quality to farmers locally. Organizations should collaborate more and host fewer events of a higher quality. This would make

better use of resources, provide consistent messaging and help individual organizations reach new audiences. This is already common practice for many organizations, for example events held jointly by local soil and crop improvement associations and conservation authorities. This allows organizations to leverage each other's typical audience pools and have greater attendance as a result. Furthermore, it is recommended that organizations provide more blended outreach themes to reach a wider audience. For example, by combining the themes of agricultural economics and soil health, an organization may reach audiences that would typically only attend economically-focused events.

Collaboration on Demonstrations and Research.

Organizations should collaborate on demonstration sites and research projects. This would provide an opportunity to influence research questions, share financial resources to increase likelihood of long-term funding for such activities. It would also help the results reach a wider audience. For example, certain organizations may have a wider reach or be a trusted source of information for farmers. If research results can be shared through their networks it would reach a wider audience. The Ontario Farm Applied Research and Monitoring program (ONFARM), which has recently been announced, has potential to deliver on some of these recommendations. ONFARM will establish applied research and monitoring sites to facilitate peer-to-peer knowledge transfer and capacity-building among industry professionals and aim to involve many stakeholders across the agricultural sector.

Collaboration on Evaluation of Approaches.

These organizations may benefit from a collective effort to evaluate promotional efforts in a consistent way. In order to evaluate and compare the effectiveness of their outreach, organizations should work to standardize their evaluations. For example, are organizations asking similar follow-up questions after events or are there gaps? Additionally, are evaluations or results being shared between organizations? It may be that certain organizations are more successful in their outreach, and an opportunity exists to improve the outreach effectiveness of other organizations. A collaborative effort would ultimately result in more successful outreach for all participating organizations.

Conclusion

In conclusion, there are several organizations within the HLH watersheds that are promoting BMPs, soil health and water quality. Although there is overlap, there is a significant difference among organizations in their types of outreach, outreach themes and target audiences. Therefore, it is the authors opinion that this presents a great opportunity, and a need, for organizations involve to collaborate to strengthen messaging and make efficient use of resources.

Organizations identified in this report would benefit from developing a community of practice to leverage each other's strengths and overcome any gaps that exist. As a result, different types of outreach would likely be more effective and reach a wider audience.

Initial steps to developing a community of practice would be to pilot the creation of smaller clusters. For example, CA's could make a consistent effort to share their expertise with other experts, such as CCAs. CAs could offer help to CCAs demystify grant programs that they are involved with. This simple step would build CCA's understanding of the role CAs in promoting BMPs. It would open the line of

communication between CAs and another local resource farmers rely on. If that pilot is successful, CCAs and CAs would be encouraged to continue to expand their network and knowledge of other resources.

Soil Health and Water Quality challenges are complex and require a systems approach to properly address. The numerous local expert resources should make a stronger effort to understand each other's messaging, and each other's role so that they themselves can provide better advice to their audience.

