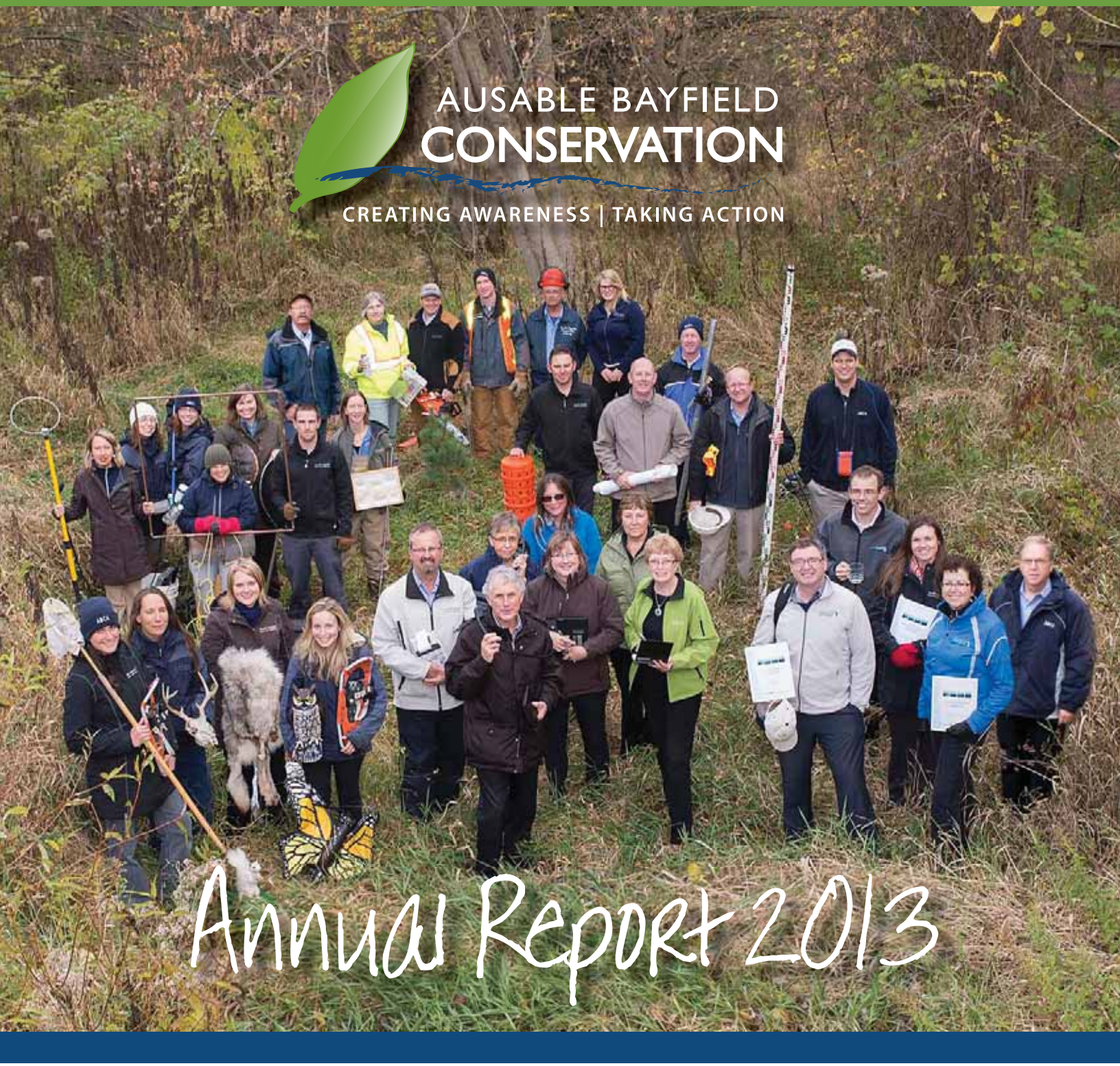

AUSABLE BAYFIELD
CONSERVATION

CREATING AWARENESS | TAKING ACTION

Annual Report 2013

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AUSABLE BAYFIELD CONSERVATION
CREATING AWARENESS | TAKING ACTION

Mission
Protect, improve, conserve, and restore the watershed in partnership with the community

Vision
Healthy watersheds where our needs and the needs of the natural environment are in balance

FRONT COVER PHOTO: The front cover photo is the last official staff photo taken with Tom Prout, who announced his retirement as General Manager and Secretary-Treasurer in 2013. The photo shows Ausable Bayfield Conservation Authority (ABCA) personnel. Staff members are grouped by department. This is to show some of the different programs and services they provide, in partnership with the community, to protect life and property and create healthier watersheds.

Photo by Daniel Holm Photography

Creating awareness, taking positive action is what we do, in partnership with you

By David Frayne, Chairman, 2013 Board of Directors

David Frayne

Chairman's Message

Conservation – What does it mean to you?

I see conservation of our local watershed resources as a key and integral part of our watershed communities, from the perspective of the economy, watershed health, and human health.

"Creating Awareness and Taking Action" isn't just our new motto. It is what we do at the Ausable Bayfield Conservation Authority (ABCA).

The Ausable Bayfield Conservation Authority leverages local dollars several times over, making great things possible and making your levy dollar work like four for this community.

The additional funding we are able to attract helps achieve the community's vision for Ausable Bayfield watersheds, helps watershed landowners in their work as stewards of the land, and allows the delivery of many services to educate and inform watershed residents.

On behalf of the Board of Directors, and the twelve participating municipalities, I want to thank Tom Prout for his 32 years of service and dedication to Ausable Bayfield Conservation and this watershed. He has helped deliver many worthwhile projects during his tenure and he leaves Ausable Bayfield Conservation with a great team of staff and a strong working relationship with the member municipalities. I would also like to acknowledge his contribution to conservation at the provincial level.

I also congratulate Brian Horner, who has been named as the new General Manager and Secretary Treasurer, as of January 6, 2014. I am pleased to announce his appointment and I know he will assist the board in carrying on the success of this watershed-based organization.

I have enjoyed my two years as Chairman of the ABCA. It is a great Board of Directors, of which to be a member, as the staff are very loyal to conservation and provide the Board with good information on which it can make sound decisions.

2013 Board of Directors

Joe Steffler
Huron East

Ute Stumpf
Adelaide Metcalfe and Middlesex Centre

Janisse Zimmerman
Bluewater

Burkhard Metzger
Central Huron

Dave Frayne
South Huron and Perth South

Don Shipway
North Middlesex

Mike Tam
West Perth

Paul Hodgins
Lucan Biddulph

Lorie Scott
Lambton Shores and Warwick

Board of Directors provides direction for future

Last year I talked about the different ways the Board of Directors provides leadership and direction at Ausable Bayfield Conservation Authority (ABCA).

I would like to thank the Board of Directors for its clear direction and the freedom to create networks and manage the watershed resources with many partners in the community, throughout the Province of Ontario, and beyond.

The board's leadership and direction continues as the board names a new General Manager and Secretary-Treasurer to take over on January 6, 2014.

This decision will set the direction of the organization for years to come and determine the working relationship with member municipalities. The Board of Directors was pleased to announce that Brian Horner, Financial Services Supervisor of the ABCA, will be the new General Manager.

Board of Directors

Board of Directors leads us forward.

I am confident the board, and the new General Manager, will continue their positive work in partnership with the watershed community.

– Tom Prout, Ausable Bayfield Conservation General Manager and Secretary Treasurer

Retiring general manager reflects on career in conservation

By Tom Prout, General Manager and Secretary Treasurer

I look back on a fulfilling career of forty years, eight with different conservation authorities and thirty-two with the Ausable Bayfield Conservation Authority.

Tom Prout

My career was sparked in 1964 by a one-week experience at the Camp Sylvan outdoor program offered by ABCA.

I have had the pleasure of working with many amazing people across Ontario. They are people dedicated to making the environment healthier through their ability to collaborate, improve the science, and transfer the knowledge for the benefit of past, present, and future generations.

Many people have asked me what my legacy will be and, to their surprise, the answer is not one of bricks and mortar. Based on my understanding, and a review of a few different dictionaries, a legacy is "something handed down from a predecessor."

General Manager's Report

Nowhere does it talk about monuments, statues, or buildings.

I have had the pleasure of helping many local watershed communities work towards a vision of a healthier environment. What that meant to them is what really matters. At the end of the day my legacy will be whatever you think it is or want it to be. For me it is a happy, respectful, efficient, and effective workplace where individuals succeed and where the organization's objectives, and the watershed community's vision, are met.

I believe that the future for conservation authorities is unlimited and the opportunities will be abundant. The continued success of conservation authorities will be limited only by their willingness to work together, both internally and externally, by the level of energy and effort they put forth in dealing with environmental challenges, and their ability to adapt and find new solutions to old problems.

Thank you, to each and every one of you, for your contribution to my enjoyable career.

Learning how to measure, report outputs and outcomes

Staff Report

Staying current requires attendance at forums, workshops, being certified, taking courses, and learning how to measure and report on the outputs and outcomes of our efforts.

Ausable Bayfield Conservation staff members do a great job of keeping up-to-date in their respective discipline. A new challenge for them is to consider how to measure and report outputs and outcomes in their annual reports.

We need to show people the benefits of planting trees, building grassed waterways, and keeping development out of flood plains, to achieve healthier watershed environments. We need to report on our outcomes to do this and staff may need new knowledge of sociology and psychology and other disciplines.

The Board of Directors is pleased to support staff training and development because the positive growth, development, and success, of staff members, mean a positive workplace culture and a successful organization.

– Tom Prout, Ausable Bayfield Conservation General Manager and Secretary Treasurer


Kevin Worthington


Barb Alber


Connor Devereaux


Rachael Scholten


Melissa Prout

Ausable Bayfield Conservation welcomes new staff

Ausable Bayfield Conservation would like to acknowledge those who joined the organization in 2013 and thank them for their contributions.

Rachael Scholten first worked as Watershed Stewardship Technician and has more recently served as Planning and Regulations Assistant.

Melissa Prout has joined ABCA as Conservation Education Assistant.

Connor Devereaux served in the summer position of Assistant Water Resources Technician.

Kevin Worthington served as Web Developer with support of the Government of Canada's Career Focus program.

Barb Alber served as Junior Conservationist, a summer position funded by the Ausable Bayfield Conservation Foundation. We thank them all for their many positive contributions.

Staff members share their work provincially, internationally

Ausable Bayfield Conservation's *Human Resources Planning Framework* encourages personnel to share their expertise. Staff members were invited to share their knowledge at the provincial and international levels in 2013.

Several staff members presented at the Latornell Conservation Symposium in Alliston.

Tom Prout presented at the Soil and Water Conservation Society symposium in Nevada and the Green Economy Road Map conference in Vaughan.

Davin Heinbuck presented to Ontario Society of Professional Engineers OSPE Drainage Committee in Guelph.

Kate Monk spoke at Conservation Ontario Stewardship and Ecological Restoration Workshop; Carolinian Canada Coalition Ecosystem Recovery Forum; and Conservation Ontario Great Lakes – St. Lawrence River communication workshop.

Staff members also spoke to rural landowners at events including the conservation authority tent at the International Plowing Match held in Mitchell.

Empowering youth to take positive local actions

By Julie Stellingwerff, Conservation Education Specialist

Julie Stellingwerff

Ausable Bayfield Conservation education staff members provide active learning programs and experiences to schools, non-profit organizations, and the community through field trips, presentations, projects, and special events. Engaging instruction and content help grow the stewards of tomorrow.

Staff members build relationships between participants and their natural world. These positive experiences empower those taking part to develop positive habits and behaviours and this leads to actions that protect soil, water, and living things.

Here are a few of the exciting initiatives and action projects in which we were involved in 2013:

- **Spring Water Awareness Program (SWAP)** – Students learn valuable lessons during these presentations delivered to watershed schools about winter and spring dangers from high, fast-flowing water and thin ice. Lives are protected through this important safety messaging program.
- **Tree planting and ecosystem restoration projects** – These partnership projects are extremely effective, as watershed participants see and experience first-hand the effects of their positive interaction with nature, and how it aids in the community's goal of healthy watersheds.
- **Conservation education programs in local schoolyards** – A goal this year was to increase the environmental literacy of watershed students. They explored and saw how diverse species are in both big and small ecosystems in their schoolyards. Education enabled students to connect the delicate balance of nature with human activity, empowering students to make positive decisions about their daily actions.
- **Bannockburn Annual Fall Hike** – ***40th Anniversary*** – Local watershed residents have come to this unique conservation area for the past four decades to participate in an autumn walk, and speak with staff, volunteers, and partners along the trail. They learned the important roles and functions of the conservation authority and the work of the watershed community. This year, this event was held in partnership to unveil the new ***Main Bayfield Watershed Plan***.

Conservation Education

Children make positive changes after Summer Nature Day Camps

By Denise Iszczuk, Conservation Education Technician

Denise Iszczuk

Summer Nature Day Camps proved to be successful in 2013 based on the high number of children who attended the camps and surveys, of parents and guardians, that demonstrated that the campers adopted new, sustainable values and conservation behaviours after attending the camps.

Parents were asked to complete a post-camp survey and the results indicate that there is a definite change in a child's behaviour after attending day camp. Here are a few highlights:

- Eighty per cent of campers now have a greater appreciation of the natural world and they share interesting nature facts with their family.
- Sixty-seven per cent of campers now go out of their way to protect a living thing and want to hike outside.
- Fifty-three per cent have a better understanding of the world around them and are able to safely handle living things.

This year, the camps' focus was to clear up common misconceptions about the living things in their watershed. Many children improved their knowledge of commonly confused animals like fish and tadpoles, or insects and spiders.

The young people did active exploration and discovered the differences and importance of ecosystems like fields, forests, and rivers.

Children were eager to weigh their waste from lunches and snacks. This is one active way they learned about waste and reducing garbage. They were able to reduce the amount of waste from lunches and snacks down to almost no waste by the end of the week.

Urban children learn about nature by visiting Camp Sylvan through Weston Family Environmental Leaders of Tomorrow Program

By Melissa Prout, Conservation Education Assistant

The Weston Family Environmental Leaders of Tomorrow (WFELT) Program continued in 2013. The program empowers urban students through this chance to experience nature and make positive changes that address environmental challenges.

Phase Two of the program immerses students in a 2.5-day experience through the Sylvan Conservation Program at Camp Sylvan. Curriculum-based activities introduce ecological concepts, engage students in understanding environmental problems, and show students how they can take action.

We can really see the success of this program in the Phase Three visit when Ausable Bayfield Conservation staff members visit the school to help students plan a Schoolyard Biodiversity Enhancement Project. These visits to the school exponentially increase the program's impact on the rest of the school community. This year, student projects included native plant gardens for pollinators, large and small stock tree planting, hedgerow planting, and development of outdoor reading spaces.

Toronto Region Conservation Authority (TRCA) was the original provider of the Weston Family Environmental Leaders of Tomorrow program. The success of the program prompted The W. Garfield Weston Foundation to expand funding to more outdoor education centres across Ontario. The program expanded to Ausable Bayfield Conservation, and Camp Sylvan, in 2012.

There were 353 urban students who had this outdoor nature education opportunity in 2013 and there were 225 students who took part in 2012, thanks to the support of the The W. Garfield Weston Foundation.

2013 – ***Year at a Glance*** – Conservation Education Department Programs and Events

Program Type	Description	Total Students	Total Adults	Total Participants	Total Program Type
School programs	Winter	353	50	**403**	**17 programs**
	Spring	2,795	681	**3,476**	**122 programs**
	Autumn	1,018	131	**1,149**	**43 programs**
Sylvan Conservation Program and Weston Family Environmental Leaders of Tomorrow (WFELT) Program	Junior Leader Camp Volunteers	50	0	**50**	**N/A**
	Watershed school visits to Camp Sylvan (Spring)	259	49	**308**	**Nine classes**
	Weston Family Environmental Leaders of Tomorrow (WFELT) Program school visits to Camp Sylvan (Spring)	131	19	**150**	**Seven classes**
	WFELT Program post-Sylvan staff visits to classrooms (Spring)	133	12	**145**	**Six classes**
	WFELT Program school visits to Camp Sylvan (Autumn)	206	27	**233**	**Nine classes**
	WFELT Program post-Sylvan staff visits to classrooms (Autumn)	220	24	**244**	**Eight classes**
Spring Water Awareness Program (SWAP)	In-school presentations	1,634	121	**1,755**	**11 schools; 36 presentations**
Partnership special events	Aquafest – Grand Bend	85	30	**115**	**One event**
	Huron Perth Agriculture and Water Festival	432	52	**484**	**18 classes; Two days**
	Huron Perth Envirothon	7	3	**10**	**One event**
	International Plowing Match	20	50	**70**	**One day**
Special events led by Ausable Bayfield Conservation	Bannockburn Fall Hike	30	90	**120**	**One event**
	Frog Watch Night	3	12	**15**	**One event**
	Owl Prowl	37	107	**144**	**Three sessions; One event**
Other education programs	Nature Day Camps	48	0	**48**	**15 days**
	Non-profit community programs	729	252	**981**	**23 programs**
	Presentations as guest speakers	78	26	**104**	**Seven presentations**
Projects funded externally, by partners, or by Ausable Bayfield Conservation	Earth Day tree planting – Dublin Lions Park and St. Joseph's School Wetland	327	24	**351**	**Two events; Eight groups**
	BEAN Biodiversity Day – Rock Glen Conservation Area	54	14	**68**	**Four programs**
	Wetland workshop for teachers – St. Joseph's School Wetland	2	12	**14**	**One workshop**
	Huronview Wetland Program	75	8	**83**	**One event**
	Marram grass planting – Port Franks	40	3	**43**	**One event; Two classes**
	TOTALS:	8,766	1,797	**10,563**	

Groundwater levels consistent in ABCA watersheds

By Davin Heinbuck, Lands and Water Technologist

Groundwater-level data show that annual cycles in groundwater levels in this watershed are consistent and data highlight the critical annual recharge periods of autumn and spring.

The groundwater monitoring data are collected through the Provincial Groundwater Monitoring Network (PGMN) initiative, a partnership between the Ontario Ministry of the Environment (MOE) and conservation authorities in Ontario.

No significant trends in water level are apparent across the Ausable Bayfield watershed, based on the program's short period of record, but some individual wells have shown an increase in levels over the period of record, while other wells have shown a decrease. Groundwater levels generally increased in 2013 from their 2012 levels.

Ausable Bayfield Conservation Authority (ABCA) currently has 16 wells throughout the watershed: five bedrock wells and 11 overburden wells. Hourly groundwater-level data have been logged for more than ten years in most of these wells. Where practical, telemetry has been upgraded to GOES satellite enabling access to current water level information through web-based software.

Provincial Groundwater Monitoring Network

Davin Heinbuck

Water Quality Sampling is another critical component of the PGMN and ABCA has groundwater-quality data available for each well from 2003 to 2013. Water quality is analyzed for nutrients, metals, general chemistry, and bacteria. The testing of these indicators matches the core program requirements province-wide. Where groundwater quality does not meet the provincial guidelines, landowners and municipalities, on whose property the well is located, are notified of these results through Exceedence Reports. Numerous exceedence notices have been issued to date but, with few exceptions, most were for Sodium (aesthetic drinking water objective) and Fluoride, which occurs naturally in elevated levels throughout much of Southwestern Ontario.

The Trick's Creek Overburden well was upgraded in 2013 with GOES satellite telemetry. This upgrade will provide near-real-time monitoring and, in addition to PGMN, will support Ontario Low Water Response. The Province of Ontario selected this site for that purpose.

Partnership between Ontario MOE, conservation authorities provides valuable groundwater monitoring data

An ongoing partnership between conservation authorities and the Ontario Ministry of the Environment maintains a network of groundwater monitoring wells across the province. The Provincial Groundwater Monitoring Network (PGMN) initiative has led to the development of more than 400 monitoring wells since 2001.

All PGMN data collected, in this watershed, through 2012, have been reviewed by ABCA staff and corrected as necessary. Water quality and quantity data have been uploaded to MOE's public website. Through an interactive map, water level and quality information is available free at:

http://www.ene.gov.on.ca/environment/en/mapping/index.htm

PGMN data also support both the Flood Forecasting and Warning and Ontario Low Water Response Program.

Level 1 Low Water Condition lifted after wet April

By Alec Scott, P. Eng., Water and Planning Manager

Alec Scott

Ausable Bayfield Conservation Authority (ABCA) continued to be involved, in 2013, in the Ontario Low Water Response (OLWR) Program.

The OLWR program was created after parts of the Province of Ontario experienced extreme dry conditions in 1999.

The OLWR Plan is used as a guiding document for how municipal and provincial agencies should react during periods of water shortages.

The plan also defines levels of response to low water conditions:

- Level I – Where a 10 per cent voluntary reduction in water use is requested
- Level II – Where a 20 per cent voluntary reduction in water use is requested; and
- Level III – Where mandatory water use restrictions may be put in place.

The Ausable Bayfield Conservation Authority's Low Water Response Team (WRT) is made up of municipal and provincial agency representatives as well as representatives from the ABCA; Ontario Stone and Sand and Gravel Association; Golf Course Owners Association; Alliance of Ontario Food Processors; Thedford-Grand Bend Vegetable Growers; Ontario Greenhouse Vegetable Growers; Huron County Federation of Agriculture; and the Ontario Federation of Anglers and Hunters.

During the year, the WRT held one meeting and seven e-conferences.

Low Water Response

Levels of Response

- **Level 1** – Voluntary Reduction 10%
- **Level 2** – Voluntary Reduction 20%
- **Level 3** – Mandatory Water Use Restrictions

A Level I Low Water Condition was in place at the start of 2013, due to dry conditions in the autumn of 2012. April was much wetter than normal and the Low Water Advisory was removed in early May.

There were no further Low Water Advisories issued in 2013.

Ausable Bayfield Conservation maintains groundwater stations

Ausable Bayfield Conservation Authority, in cooperation with Ontario Ministry of Natural Resources (MNR) and Environment Canada, maintains and operates a data collection network within its watershed area to provide watershed municipalities and residents with advance warning of flood events in the watershed.

This monitoring network also provides information on low water conditions, surface-water and groundwater interactions, and the relationship of stream flow to aquatic health.

The data collection network allows staff to monitor watershed conditions including water levels and precipitation on the major channels of the Ausable River, Bayfield River, and Parkhill Creek watersheds. Computerized monitoring systems, in the field, transmit information by telephone directly to the office in Exeter. With funding support from MNR, maintenance of the stream flow monitoring stations is shared by ABCA and Environment Canada staff. In addition, a Volunteer Rain Gauge Network (VRGN) was established in 2005. About 25 volunteers provide valuable precipitation data, through a web-based entry system, to support Ontario Low Water Response, Flood Forecasting, and other conservation authority programs.

Water Level and Stream Flow Monitoring

Through an agreement with Ontario Ministry of the Environment, ABCA is responsible for maintenance of groundwater monitoring stations located in some of the watershed's significant groundwater aquifers. (See *Groundwater Studies*).

Flooding in watershed limited to flood plain in 2013

By Davin Heinbuck, Lands and Water Technologist

The year 2013 was a busy one for flood forecasting but, despite the recurring potential for flooding, no major events were recorded.

Several snow melts occurred through late winter but, overall, cooler weather lingered through March. Although the final freshet occurred in March, it was a heavy rainfall event in early April that contributed the highest stream flows of the year. Flooding was minor in nature and limited to flood-plain areas. Overall, the watershed experienced a wetter and cooler than normal year. Sustained high stream flows occurred from September right through December. Monthly average flows for October were some of the highest on record.

Flood Forecasting and Warning

There was potential for flooding throughout 2013 but actual flood impacts were classed as minimal. Above photo shows Ausable River at Sylvan bridge.

In total, Ausable Bayfield Conservation Authority issued 10 Watershed Conditions Statements – Flood Outlook / Water Safety messages; and three Flood Watch messages.

Municipalities take part in flood emergency planning workshop

The annual Flood Emergency Planning meeting was held at the Masonic Hall in Exeter on March 5, 2013. Ausable Bayfield Conservation Authority (ABCA) member municipalities and various stakeholders were invited to attend and participate in the meeting.

There were 24 attendees, including representatives from six municipalities as well as staff members and/or Emergency Management Coordinators from all four counties. The media and Emergency Management Ontario were also present at the meeting.

The 2013 meeting was highlighted by a feature presentation from Christel Ivanyshyn, Perth County Community Emergency Management Coordinator (CEMC) on the Severe Weather Emergency Exercise Perth (SWEEP) exercise. The chosen exercise was based on a scenario imagining that an F-3 tornado, like the one that hit Goderich and Benmiller in 2011, had hit The Town of St. Marys.

The exercise pointed out that both situational awareness and communication between responders and the public was essential.

As a complement to Christel's presentation, Steve Cooke, Fire Chief and CEMC for Central Huron provided a recap of some of the experiences in Huron County as it related to the Goderich-area tornado.

ABCA staff also discussed roles and responsibilities in flooding emergencies, changes to the flood messaging terminology, PRISM Test for flood messaging within Huron County, and current watershed conditions.

Flood Emergency Planning

Ausable Bayfield Conservation Chairman Dave Frayne speaks (photo, above) at Flood Emergency Planning Workshop in March of 2013. In photo below, Steve Cooke, Central Huron Fire Chief and Community Emergency Management Coordinator, speaks at the workshop.

Staff inspect, maintain water, erosion control structures

By Alec Scott, P. Eng., Water and Planning Manager

Ausable Bayfield Conservation Authority (ABCA) inspected and performed maintenance on water and erosion control structures owned or constructed by the conservation authority, as part of the ABCA mandate and agreements with watershed municipalities. These structures include Parkhill Dam, Morrison Dam, a number of flood control channels, and erosion control structures in various parts of the watershed.

Most of the inspection and actual maintenance work is carried out by conservation authority staff members unless it is determined that it would be more efficient to contract the work out to local companies.

Structures, Operations, and Maintenance

As a result of the inspections, minor repairs were completed on a number of structures by conservation authority staff. Work included vegetation control around structures and general minor repairs to prevent larger maintenance problems in the future.

The above photo shows the 2013 cleanout of sediment in the bottom of the Cameron-Gillies Diversion Channel located in the Municipality of North Middlesex.

Above photo shows 2013 repair work on the control structure for the Cameron-Gillies Diversion Channel. The structure's repair reduces flooding risk in the town of Parkhill.

Flood, erosion control projects funded through WECI in 2013

The Ontario Ministry of Natural Resources Water and Erosion Control Infrastructure (WECI) funding program has been available, since 2003, to fund major maintenance work on conservation authority flood and erosion control projects.

Ausable Bayfield Conservation Authority (ABCA) can apply for 50 per cent grant funding, for major maintenance projects, through this program.

Two WECI projects, involving the Cameron-Gillies Diversion Channel, were completed in 2013.

The Cameron-Gillies Diversion Channel was constructed as a component of the Parkhill Dam project to reduce the risk of flooding in downtown Parkhill, by diverting higher flows out of the Cameron-Gillies Drain directly to Parkhill Reservoir before they reach the town limits.

Cameron-Gillies Diversion Channel Cleanout

The Cameron-Gillies Diversion Channel Cleanout project involved removal of sediment from the bottom of the diversion channel to ensure that capacity was maintained to be able to divert high flows to the reservoir.

Water and Erosion Control

This was the first cleanout of the channel since the original construction in 1969.

Cameron-Gillies Diversion Emergency Repair

After very high flows in April, inspections revealed that the culverts in the control structure for the diversion had failed and caused erosion of the control structure embankment. Complete failure of the structure would greatly increase the risk of flooding in downtown Parkhill during high flows.

The two projects were combined into one tender. The emergency repair and the channel cleanout (except for leveling of spoil material and seeding) were completed in the autumn of 2013. The leveling of the spoil material and seeding was to be completed early in the summer of 2014.

Monitoring data to be used in rural stormwater model

Water quality and quantity monitoring, and meteorological monitoring, continued, in 2013, in the five sentinel watersheds, priority areas established by the Healthy Lake Huron partnership.

This information will be used in development and calibration of a new Rural Stormwater Management Model (RSWMM). These and other data were collected and transferred to the consulting team. The team will use this information to build the models for each watershed and to modify the existing PCSWMM modelling software to add the capability to incorporate a number of agricultural best management practices into the use of the model.

The Rural Stormwater Management Model aims to benefit water quality along Lake Huron's southeast shores and help create a rural focus for stormwater management that can be applied across the province and beyond, when completed.

Ausable Bayfield Conservation Authority (ABCA) is leading the Rural Stormwater Management Model water-quality project in partnership with Maitland Valley, St. Clair Region, Saugeen Valley, and Grey Sauble conservation authorities and other partners of the Healthy Lake Huron: Clean Water, Clean Beaches initiative. Project partners include provincial and federal ministries in Canada, county departments, environmental and public health agencies, and participating landowners and community groups.

The project to create a Rural Stormwater Management Model is designed to help to better manage the impact of runoff from storm events, along Lake Huron's southeast shores, in a rural part of Ontario stretching from Sarnia to Tobermory.

The project is improving water and weather monitoring, creating a powerful new software tool, and using more precise and detailed data. Detailed modelling of stormwater impacts already exists for urban environments. This model, when complete in 2014, will create more understanding about how drainage works in a rural context.

This increased understanding will help to effectively reduce and manage run-off by strategically investing limited stewardship dollars on the right projects in the right places. It will help stewardship practitioners, in partnership with landowners, to implement effective runoff and erosion control projects and other best management practices. The model will help people to know which projects work best to protect water quality, the best places to locate the projects, and the ideal size for the projects.

Other Water Management Studies

Rural Stormwater Management Model Project

The Rural Stormwater Management Model project received funding from the Ontario Ministry of the Environment's Showcasing Water Innovation Program and contributions from other partners in the Healthy Lake Huron initiative.

Videos were released in 2013 to inform people about rural stormwater management.

Landowners share stories in stormwater videos

Healthy Lake Huron has released three online videos to share some of the good work local groups, farmers and other landowners, community partners, and students are doing in a largely rural area that stretches from Sarnia to Tobermory. The local people in the videos are working together, along the shoreline, to better manage runoff during storm events and to keep sediment out of creeks, rivers, and Lake Huron.

The videos were produced as part of the Rural Stormwater Management Model Project and can be viewed at **ruralstormwater.com** and by clicking on 'Videos' or by going to this link: **http://www.ruralstormwater.com/page.php?page=videos**

Providing information about natural hazard areas

By Geoffrey Cade, Supervisor of Water and Planning

Ausable Bayfield Conservation Authority (ABCA) provided more than 100 formal letters in 2013. The conservation authority also responded to many inquiries from residents prior to their purchase of a property.

Geoffrey Cade

Ausable Bayfield Conservation Authority provides this service to help inform residents of concerns where a property or development is located in close proximity to a natural hazard feature such as the Lake Huron bluff or the Ausable River's flood plain. This helps these residents to better understand hazard concerns, often prompting further inquiries, enabling them to make informed property decisions in advance of their purchase.

Ausable Bayfield Conservation Authority also provides comments on land use planning proposals, as part of the conservation authority's delegated responsibility as provincial lead for natural hazard matters. The conservation authority helps direct new development away from naturally hazardous areas, through this program, and ABCA staff members work with proponents to amend their proposal to address hazard concerns, thereby limiting future risk to life and property. Ausable Bayfield Conservation Authority formally commented on 72 proposals, in 2013, and advised informally on many more.

Land Use Planning Input and Review

As a result of changes to the *Fisheries Act*, the conservation authority's Fish Habitat Management Agreement with the federal Department of Fisheries and Oceans (DFO) was terminated. ABCA had been helping watershed residents, on how to protect fish habitat in the area and by providing project review and advice on behalf of DFO, since 1998. This conservation authority will continue to explore opportunities to help residents address fisheries concerns and protect natural heritage in the area.

GIS and IT tools improve quality of information, make it quicker for staff to find information needed to support watershed work

By Tracey McPherson, GISP, GIS/IT Coordinator

Geographic Information Systems (GIS) and information technology (IT) services, at Ausable Bayfield Conservation, have improved the detail and accuracy of information staff members have as they support stewardship efforts by rural landowners or make planning and regulation decisions to protect life and property.

Tracey McPherson

Here is some of the work we did in 2013:

- Updated Natural Heritage and watercourse GIS layer using 2010 images
- Created high-resolution digital elevation models (DEM) for the Main Bayfield Watershed, the Garvey Creek and Glenn Drain Watershed (MVCA), and Municipality of Lambton Shores
- Completed mapping and data requests for staff, consultants, and partners

GIS Mapping Report

- Improved the Education, Benthics, and Planning databases and created a Risk Management Official (RMO) database
- Made use of the Government of Canada's Career Focus program to create a web-based planning tool using GeoPortal Web Mapping Application
- Purchased new physical server
- Added new mail system
- Set up remote access for two contract staff
- Tested tablet technologies for data collection in the field

Here are some of the results from these activities:

- Completed environmental projects through cooperation with partners
- Created efficiencies – Reduced time spent on records input and retrieval

2013 was year of adaptation in regulations program

By Andrew Bicknell, P. Eng., Regulations Coordinator

Andrew Bicknell

Regulations Report

Regulations staff members were busy in 2013, working with watershed residents to manage new development in areas susceptible to natural hazards such as shoreline areas, flood-plain areas, and areas susceptible to slope stability and erosion hazards. This was accomplished under the authority of *Regulation 147/06* which is Ausable Bayfield Conservation Authority's *Regulation of Development, Interference with Wetlands and Alteration to Shorelines and Watercourses* regulation.

It became evident, in early 2013, that as a result of relative low lake levels, there would be a high demand for dredging activity, most specifically in the river-mouth areas of Bayfield, Grand Bend, and Port Franks. The conservation authority saw a significant increase in the number of permit applications received for dredging. ABCA staff worked with numerous applicants, so permits could be issued, finding a balance in order to meet the needs of the community while still addressing important issues such as the preservation of fish habitat and having regard for species at risk.

Conservation authority staff worked closely in 2013 with wind power authorities on many commercial wind power development projects in the watershed. In addition to the installation of the turbine, the development of a turbine site typically includes additional activities such as the construction of access roads and installation of electrical collection and distribution lines many of which include watercourse crossings.

Staff worked with the proponents to direct the infrastructure outside of the regulation limit and to address the hazards associated with the installation of infrastructure in locations susceptible to flooding, erosion or slope instability. Given the size of the project areas, staff faced challenges in regard to managing the large quantity of permit applications while striving to meet the needs of the proponents in regard to scheduling and construction timelines. As such, a modified application submission process was developed in consultation with the proponents. This process focused on a high degree of pre-consultation, coordination of the required supporting plans and studies and data management. Through this, conservation authority staff were better positioned to manage efficiently the extraordinary quantity of permit applications which were received.

Statistics for 2013

- 100 applications for permission
- 120 minor work permits
- 21 drain reports reviewed
- 82 letters of advice (and/or drain authorizations) issued (under agreement with Department of Fisheries and Oceans)

IMAGE SOURCE: Joseph R. Tomelleri

Protecting life and property by keeping development out of hazard areas

Ausable Bayfield Conservation continues to direct new development away from hazardous areas, through the flood-plain management programs detailed in this section of the *Annual Report*.

The ongoing maintenance of existing flood and erosion control structures will continue to protect existing development with hazard areas.

Continued monitoring of precipitation and water quantity within the watershed will give us early indications of any potential flooding or low water conditions, which we can then communicate to municipalities and the public.

Area people help to reduce risk to drinking water sources

By Jenna Allain, Program Supervisor, Ausable Bayfield Maitland Valley Source Protection Region

Water is critical to all aspects of our lives. It is vital we ensure there is a safe and reliable source of water now and in the future. A local source protection committee (SPC) was established, through the Ontario *Clean Water Act, 2006*, to develop source protection plans to protect municipal sources of drinking water.

Jenna Allain

The committee developed plan policies in consultation with the local community. The policies apply in wellhead protection areas, around municipal wells, where significant threats to drinking water may be present.

Source protection plan policies range from softer approaches (such as encouraging best management practices through a public education program), to more regulatory approaches (such as requiring risk management plans) and, in specific cases, particular activities may be prohibited within wellhead protection areas. Some final revisions were made to the proposed source protection plans in 2013, and our region has been working closely with municipalities and the public, as we prepare for the implementation of source protection plans, including education and outreach to property owners and establishing a risk management office.

It is gratifying to see the continued commitment to protection of drinking water sources demonstrated by the Province of Ontario, municipalities, property owners, and residents. It is also gratifying to see so many practical actions that have already begun to reduce risk to drinking water. The level of protection will increase yet again as municipalities work cooperatively with source protection authorities to implement source protection plans.

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

Ausable Bayfield Maitland Valley Source Protection Region

Drinking Water Source Protection

Activities

The Ontario Ministry of the Environment (MOE) provided feedback on proposed drinking water source protection plans to the local source protection committee (SPC). The SPC then revised the plans accordingly and began public consultation, on the revisions, until January 21, 2014. The plans were then to be re-submitted to MOE for final approval. Provincial approval of plans is expected in 2014.

The Ausable Bayfield Maitland Valley (ABMV) Source Protection Committee has worked tirelessly to produce effective plans in partnership with local stakeholders. Plan policies will help protect our high-quality municipal drinking water for generations.

Conservation authority staff worked in 2013 to confirm the number of landowners who will be required to comply with plan policies. Results were shared with municipalities, and other bodies responsible for implementing source protection plan policies in this source protection region.

It was announced in 2013 that local municipalities in the source protection region were to receive more than $727,000 in provincial funding for small rural municipalities. This supports their work to implement local source protection plans. Counties in the region were to receive more than $305,000 for their role.

Results

Seven municipalities in the Ausable Bayfield Maitland Valley Source Protection Region had indicated, by year end, their intent to participate in Ausable Bayfield Conservation Authority's regional risk management office. This regional approach to implementation of Part IV policies will allow for consistent interpretation of Ausable Bayfield and Maitland Valley source protection plans, and the potential for cost savings and efficiencies.

The results of the threat verification work have been essential in understanding the implementation workload and responsibilities of municipalities and other implementing bodies in the region.

The Ontario Drinking Water Stewardship Program (ODWSP) is a companion program to drinking water source protection planning under the Ontario *Clean Water Act, 2006*. The ODWSP has offered financial incentives for landowners living close to municipal drinking water supplies. Public participation in the voluntary stewardship program was expected to decline in 2013, after seven years of promoting the program, but property owners near municipal wells did a number of new projects in 2013. More than $200,000 in 2013 stewardship funds went to projects that protect local municipal drinking water supplies.

Monitoring helps up evaluate health of watershed

By Mari Veliz, Healthy Watersheds Coordinator

An important goal for the Ausable Bayfield community is to reduce nutrients, sediment, and bacteria in local creeks, rivers, and Lake Huron. This can improve the health of the watershed and the people and species who live here.

Mari Veliz

Many seemingly small sources of contamination can limit the uses of water for humans and the ecological health of the Ausable and Bayfield rivers and Lake Huron's near shore.

Watershed Communities Taking Action

Community-based watershed planning can help individuals to identify the link between erosion, runoff, and non-point sources of pollution with the conditions and quality of water downstream. It can also provide people with actions they can take to reduce erosion, preserve topsoil, and limit their impacts on downstream creeks, rivers, or the lake.

Staff members, on our Healthy Watersheds team, have two main roles:

1) To monitor water quality, fish, and other aquatic animals; and

2) To work with community groups to improve local waterways.

The aquatic monitoring program helps to evaluate our collective efforts to improve and protect watershed health. Monitoring data are summarized every five years for the ***Watershed Report Card***. Other research and monitoring programs at Ausable Bayfield Conservation address important questions about species at risk and assessing the effectiveness of different rural best management practices.

The number of monitoring stations is shown in *Table 1*. Measuring improvements in water quality and aquatic animals are priorities. Watch for water quality and biological results online at **abca.on.ca**.

Community outreach is also important. We typically see more conservation actions taken when there is financial and technical support for individuals. Healthy Watersheds staff members help community conservation groups and stakeholders with their activities (for example, events and monitoring). However, the involvement of the wider community in conservation is important to achieving broader goals. That is why Ausable Bayfield Conservation has helped interested communities develop and implement watershed plans and strategies. Key considerations for community outreach include the number of community groups assisted, community events supported, and communities developing watershed actions (*Table 2*).

These monitoring and community programs, in part, depend on the support of higher levels of government. The number of stations and outreach activities reflect funding commitments from year to year. Please read on for 2013 highlights of community and monitoring projects.

Table 1: 2013 ABCA Water Quality and Biomonitoring Stations

Type of station	Number of stations
Water Quality	
Dry weather	58
Wet weather	12
Best Management Practices verification	2
Biomonitoring	
Benthic macroinvertebrates	28
Fish	7
Reptiles (turtles)	4
Freshwater mussels	1

Table 2: 2013 Community Outreach by ABCA Healthy Watersheds Team

Community Outreach	Number
Community events	21
Community group partnerships	6
Watershed Communities in Action*	6

** Ausable; Bayfield North (watersheds north of Bayfield); Grand Bend; Little Ausable; Main Bayfield; Port Franks*

Monitoring shows improvements in two watersheds

By Brynn Upsdell Wright, Water Quality Technician

Ausable Bayfield Conservation monitored 64 stations for water quality in 2013.

A total of 1,331 samples were analyzed. This monitoring was made possible by partnerships with three community groups, two municipalities, three provincial ministries, and two federal departments.

Brynn Upsdell Wright

Two watersheds – Gully Creek and Main Bayfield – were intensively monitored this year under both dry and wet weather conditions, contributing to baseline data that will help to detect future changes in water quality.

Benthic macroinvertebrates were collected from 28 stations in October 2013 to complement water chemistry monitoring. Benthic macroinvertebrates are animals (for example, aquatic insects, worms) that live on the bottom of watercourses. The numbers and types of these animals indicate water quality conditions.

Water Quality Monitoring

A highlight of the year 2013 was the completion of the second ***Watershed Report Card***. It was released in March 2013 and can be found online at **abca.on.ca**.

Water quality and benthic monitoring data indicated that most environmental indicators remained steady since the 2007 ***Report Card***, but the Bannockburn and Main Bayfield watersheds showed improvements.

Healthy Watersheds staff members met with local and regional community groups and agencies to share the findings of the 2013 ***Report Card***. The document makes it easy for people and communities to find and understand our monitoring data. This can help them to take actions that protect and improve their local watershed environment.

BMP evaluation shows positive impact at site, watershed scales

By Abigail Gutteridge, Healthy Watersheds Technician

The year 2013 marked completion of a three-year watershed-based best management practice evaluation (WBBE) project in the watersheds north of Bayfield.

Abigail Gutteridge

More than 30 landowners took part in this project, called Crops and Creeks Huron. More than 30 best management practices (BMPs) were implemented. The project's end does not mark the end of Ausable Bayfield Conservation efforts in this area, however.

Monitoring at both watershed and site scales continues through the Rural Stormwater Management Model project and Ontario Ministry of Agriculture and Food's New Directions program. Also, landowners are still implementing best management practices as time and funding allows. Ten berms, two small wetlands, and three cover crops were established in 2013, for example.

The study report can be found at **abca.on.ca**.

Here are some of the study's findings:

1) Intermittent channels across the land contribute to poor water quality during storm events. Thus, watersheds need to be managed for storm events.

2) Best management practices can be effective at the site and watershed scales (location and timing are important).

3) Landowner involvement is critical.

Crops and Creeks Huron
(Watershed-Based Best Management Practices Evaluation / WBBE)

Monitoring efforts in the Bayfield North Watersheds have generated local and international interest in 2013. These unique monitoring sites have been featured on tours for various Healthy Lake Huron stakeholders, provincial agencies, and researchers and project modellers from the United States. Monitoring and stewardship efforts in the Bayfield North Watersheds will continue in 2014.

The project partners (Huron County Federation of Agriculture, Ontario Ministries of Agriculture and Food and Rural Affairs, Ontario Ministry of the Environment, Environment Canada, University of Guelph Watershed Evaluation Group, and Ausable Bayfield Conservation) thank the residents who live near Bayfield for helping us with this evaluation.

Species at risk found in Ausable River, Old Ausable Channel

By Kari Jean, Aquatic Biologist


Kari Jean

The Ausable River Watershed supports freshwater mussels and fishes that are species at risk (SAR).

Healthy Watersheds staff monitored species at risk in 2013 and hosted three events in Grand Bend and Ailsa Craig to encourage landowners to implement stewardship actions that improve SAR aquatic habitat. This work was done with the support of Fisheries and Oceans Canada and the Ontario Ministry of Natural Resources.

Freshwater mussels help improve water quality through filtering. A freshwater mussel inventory was conducted at one location in the Ausable River. The survey at this location yielded 67 endangered Snuffbox mussels compared with 44 in 2008.

Freshwater mussels depend on certain fish species for completion of their life cycle so fish sampling was completed at seven freshwater mussel monitoring index stations in the Ausable River in 2013. Monitoring freshwater mussels and fishes helps Ausable Bayfield Conservation to evaluate the success of recovery efforts and quality of habitat over the long term.

The Old Ausable Channel (OAC) ecosystem in Grand Bend provides habitat for three fish species at risk. Those species are the Pugnose Shiner, Lake Chubsucker, and Grass Pickerel.

Ausable River Recovery Strategy

The Old Ausable Channel is cut off from the Ausable River and is no longer a flowing river. The OAC is, therefore, undergoing natural succession: It is becoming less aquatic and more terrestrial.

The decomposition of dense aquatic vegetation results in decreased dissolved oxygen, leading to winter fish kills* in the OAC in recent years. Previous data have shown degraded water quality conditions in some areas.

Healthy Watersheds staff members conducted SAR habitat monitoring at six locations in the OAC in 2013. Two of the sites were undergoing treatment to reduce aquatic plant growth. Nutrient concentrations, dissolved oxygen concentrations, water levels, and aquatic vegetation data were collected to evaluate the status of SAR habitat. This program will continue in 2014 and this long-term monitoring will help guide management actions for this important ecosystem.

** A fish kill (die-off, or mortality) is when fish are found dead at a specific location as a result of natural causes or environmental factors such as reduced oxygen, increases in water temperature, algal blooms, disease, or contaminants in the water.*

Volunteers play major role in monitoring, protecting turtles

By Hope Brock, Healthy Watersheds Technician


Hope Brock

The year 2013 was an exciting one for turtles and the community turtle monitoring program. Community members reported more than 150 sightings. We recorded each of the seven species that are present in the Port Franks area. This program is supported by the Ontario Ministry of Natural Resources, Environment Canada, and the Ausable Bayfield Conservation Foundation. The great work of all the volunteers helps us to better understand the turtles and the habitats they use.

An adult Snapping Turtle, badly injured by a vehicle while crossing a road, was discovered and transported by a volunteer to Heaven's Wildlife Rescue in Oil Springs. From here, the turtle was air-lifted by a volunteer pilot with Pilots N Paws Canada, to the Kawartha Turtle Trauma Centre. The turtle received critical medical care at the centre. This turtle, named 'Porter,' gained national attention with this flight. Porter is to be returned to the Port Franks area in the spring of 2014.

Community-Based Turtle Monitoring

Equally exciting was the documented habitat use of a Blanding's Turtle in an area previously treated for the invasive *Phragmites australis*, as well as the successful nesting of a Blanding's Turtle. Eleven hatchlings from this nest were safely released, with the help of volunteers, into a nearby wetland.

Main Bayfield community releases watershed plan

By Hope Brock, Healthy Watersheds Technician

The Main Bayfield community has been active, since 2011, in developing a watershed plan for the Main Bayfield Watershed. This watershed includes the main stem of the Bayfield River, from Clinton to the mouth of the river in Bayfield.

We extend many thanks to all the landowners, community groups, and advisory committee members for helping to develop the plan. The community advisory committee officially launched the plan at the fortieth annual Bannockburn Fall Hike in October of 2013.

We gratefully acknowledge funding, for the community's plan, from the Fred A. and Barbara M. Erb Family Foundation, Environment Canada, and the Ontario Ministry of the Environment.

The Main Bayfield community will now look at how they can implement the plan's recommendations.

Watershed Planning for Main Bayfield Watershed

These ideas were developed in consultation with landowners and community groups. The plan aims to achieve the goals of reducing total phosphorus and *Escherichia coli* (E. coli) in the water and to increase forest cover, wetlands, and streamside cover.

The community's recommendations will provide practical tools for landowners and community groups to take action. Twenty-two projects have been completed and another 30 are ongoing. Some of those projects are slated for completion in 2014.

The Main Bayfield Watershed Plan can be found at **abca.on.ca**. Simply type 'Main Bayfield' into the search box at the top of the home page, and press 'Search' or 'Enter' to find the Main Bayfield page.

Increased wetland cover needed in Ausable, Bayfield watersheds

By Angela Van Niekerk, Healthy Watersheds Technician

Approximately two per cent of the Ausable Bayfield landscape is covered in wetlands (areas that are seasonally or permanently wet with poorly draining soils and hydric plants). A key wetland function is water storage. Stored water helps to provide moisture during times of drought, to enhance crop production, and to reduce downstream flooding. Wetlands also improve water quality by filtering pollutants. It is important to increase wetland cover in strategic areas in the Ausable and Bayfield watersheds.

Angela Van Niekerk

One wetland was created in 2013. This restored five acres near the village of Arkona.

Wetlands

Two sediment basins were created in a two-and-a-half-acre grass field north of Bayfield next to a shoreline tributary. The basins collect sediment and keep it on the fields and out of the creek and Lake Huron. The sediment basins also hold back water and reduce flooding downstream.

Technical advice and financial assistance are available to complete sediment basins or wetland projects on your property. We thank all of the landowners who have protected or restored wetlands on their property. We continue to look for interested landowners who have flooding and soil erosion issues.

Summary: Your work is helping to improve water quality, fisheries

Watershed health may not be something you think of very often but it has a direct impact on the air you breathe and the water you use.

Can an individual make a difference? Yes. Landowners in many local watersheds have done tree planting and site-specific projects that have improved fisheries and water quality in this area. It is these individual efforts that come together to have a positive cumulative effect.

Are you a community member interested in protecting soil, water, and living things? Please let us know how we can support your work to improve the health of your watershed.

First prescribed burn takes place to deal with *Phragmites*

By Kate Monk, Supervisor of Stewardship and Conservation Lands

Kate Monk

Ausable Bayfield Conservation Authority (ABCA) owns nearly 10,000 acres of land throughout the watershed. The majority of these properties are Environmentally Significant Areas (ESAs) or Areas of Natural and Scientific Interest (ANSIs).

The outcome of keeping these lands is long-term protection of the land from development and the conservation of flood plains and forests, soils, water, and wildlife resources for current and future generations.

These islands of nature contribute to watershed health throughout the region. Flood plains store floodwaters to reduce downstream flooding. During this process, these lands filter out sediment and pollutants. Within the forests, snow and rain water filter through the soil to recharge the water table. Snow cover in forests melts later in the spring, thus reducing peak flows during the spring runoff. Timber is harvested to improve forest health and create rich wildlife habitat and biodiversity.

The first-ever prescribed burn was held on ABCA property in Port Franks along the Ausable River and on the river islands in March to reduce the biomass of the invasive European Common Reed plant called *Phragmites australis*. Rural Lambton Stewardship Network was contracted for the project.

The burn was combined with herbicide treatment to control *Phragmites* and allow native vegetation to re-establish as well as habitat for Species at Risk turtles. The Great Lakes Guardian Community Fund and the ABCA project levy supported this project.

Conservation Land Management

The year 2013 saw the first-ever prescribed burn on Ausable Bayfield Conservation property in Port Franks along the Ausable River and on the river islands in March. This was done to reduce the biomass of the invasive European Common Reed plant called *Phragmites australis*.

The introduction of invasive species into a landscape can threaten the integrity and stability of natural communities. Ausable Bayfield Conservation adopted an invasive species strategy in 2013 which will guide staff in managing invasive species. Prevention, management, monitoring, and outreach and education are four strategy components. ABCA properties with species at risk are the first priority for action.

ABCA forests can demonstrate best management practices

By Ian Jean, Forestry and Land Stewardship Specialist

Management of Ausable Bayfield Conservation Authority forests offers a chance to demonstrate best management practices to the community.

The conservation authority plays an important role in promoting sustainable practices that enable economic returns while protecting and conserving natural heritage values. This is especially important due to the low amount of forest cover (12 to 13 per cent) in the watershed. That forest cover is mainly privately owned and managed.

Forest Management on Ausable Bayfield Conservation Authority Lands

The invasive Emerald Ash Borer continues to be the primary factor influencing forest management in the watershed. This non-native beetle continues to migrate from southwest to northeast across the watershed. Some infestation in areas of South Huron and Hay Swamp became apparent in 2013.

Continued on next page

ABCA properties first in Canada for biological control project

By Ian Jean, Forestry and Land Stewardship Specialist

Research is becoming increasingly important as we face a variety of watershed stresses ranging from climate change to exotic pests.

Ausable Bayfield Conservation Authority (ABCA) continues to support forestry-related research primarily by acting as a host by providing access to authority-owned forests for a number scientific research projects.

In 2013, two Ausable Bayfield properties at Hay Swamp near Exeter became the first sites in Canada to be chosen for new research into biological control of the Emerald Ash Borer, an invasive non-native beetle that is killing Ash trees.

Gene Jones and Dr. Barry Lyons, of the Canadian Forest Service, are Canadian researchers studying biological control of Emerald Ash Borer. The study will look at the effect of introducing a parasitic insect (or parasitoid) called *Tetrastichus planipennisi*.

Tetrastichus planipennisi is a larval parasitoid of Emerald Ash Borer. It attacks and parasitizes up to 50 per cent of EAB larvae in some areas. The female parasitoid lays eggs inside Emerald Ash Borer larvae where the parasitoid larvae grow and eventually kill their host.

An American/Chinese research partnership that began in 2003 identified three candidate parasitoids for further study. These were released at five sites in Michigan in 2007. A Biological Control Production Facility was established by the United States Department of Agriculture in Brighton, Michigan in 2009 to produce the Asian parasitoids. Since then, more than 440,000 EAB parasitoids have been released in at least 12 states. The *Tetrastichus planipennisi* parasitoids used for the Canadian research are reared at the Michigan facility and transported to Canada in small 'bolts' of wood about four inches long.

Tetrastichus planipennisi were released at the Hay Swamp study sites in June, August and September. Biological control does not offer a quick fix but may be part of a long-term strategy for management of the EAB population and recovery of Ash trees in North America. The American biological control studies have shown some promise. According to reports, a Michigan study has found that the number of Emerald Ash Borer beetles that were 'parasitized' grew from 1.2 per cent in the year when wasps were first released (2007) to 21.2 per cent in 2012.

Forestry Research on Ausable Bayfield Conservation Authority Lands

Forestry inventory done in Hay Swamp, Morrison Dam CA

Continued from previous page

Ian Jean

Salvaging Ash timber, infested with the Emerald Ash Borer, is the main activity this year as well as inventory and assessment of stands containing a high proportion of Ash. Timber was marked at ABCA Sharrow Tract in South Huron (located on the southeast corner of Kirkton Road and Corbett Line). A total of 485 trees were marked for selective harvest in an area of about 60 acres on the 75-acre property. Ash comprised all but five of the trees (478). Non-Ash trees were retained in order to retain stand density or basal area, growing stock for future timber harvests, seed sources for forest regeneration and wildlife habitat.

Miller Wood Products, of Exeter, was the winning bid in the amount of $16,000.

Hodgins Brothers Logging, of Fullarton, started the harvest operation in September but they had to pull out at the end of the month due to the wet weather and ground conditions. The firm expected to be back to complete the operation in January 2014 once the ground was frozen.

Forest Inventory was completed at Ratz Tract, in Stephen Township, in portions of Hay Swamp and at Morrison Dam Conservation Area. Ratz Tract had the lowest proportion of Ash (<20%) with a variety of other species showing good to excellent growth and vigour. Parts of Hay Swamp and Morrison Dam Conservation Area have from 30 per cent up to 50 per cent Ash trees.

These areas will be targeted for forest management activities over the next two years.

Landowners, staff plant tens of thousands of trees

By Ian Jean, Forestry and Land Stewardship Specialist

Watershed residents continue their commitment to improve and restore the watershed by planting trees.

More than 200 landowners purchased trees through the spring and fall planting programs which resulted in more than 57,000 trees being planted. There were 55,400 trees distributed through the Spring Tree Program and more than 2,000 through the Fall Tree Program. The high level of participation in the tree planting program demonstrates that a large portion of the community is engaged directly in activities to improve the watershed.

Ausable Bayfield Conservation facilitates tree planting in collaboration with the watershed community in order to implement projects that protect, improve, conserve, and restore the watershed. Trees are planted to establish windbreaks, as watercourse buffers to reduce erosion on steep slopes and banks, and to create or enlarge forests.

During this past year Ausable Bayfield Conservation staff members planted 18 windbreaks which will reduce wind erosion and water erosion of the soil. Erosion can be a cost for landowners who lose valuable topsoil. Erosion can also have a negative effect on water quality.

Treed buffers were installed along 10 stream reaches that will filter runoff and provide a physical barrier between water and human activities.

Staff members planted 12 projects to create or enlarge forests that will contribute to improving forest cover, biodiversity, and forest health. The trees planted by watershed residents, and not captured above, are used for similar projects across the watershed.

An important component of the tree program is to engage schools and community groups in making positive improvements to the watershed. Ausable Bayfield Conservation Authority (ABCA) stewardship staff worked with ABCA education staff to deliver a number of tree planting events with related education.

A collaborative effort with the Dublin Lions Club, St Patrick's Catholic School, and St. Columban Catholic School resulted in students planting 90 trees in the Dublin Lions Park. All five Clinton schools participated again in May of 2013 in planting more than 100 trees as part of their ongoing wetland naturalization project. In October of 2013, students from St. Joseph's School were involved in extending the treed buffer around the Huronview wetland complex by planting more than 240 trees and shrubs.

One of the important roles of conservation authority staff is to pursue cost-share funding in order to provide incentives for landowners to undertake beneficial projects. Funding for tree planting was secured from a variety of federal, provincial, county, and municipal programs. These beneficial programs include the Government of Canada's Habitat Stewardship Program for Species at Risk; Huron County Clean Water Project; London Community Foundation to support the Middlesex Clean Water Project; Middlesex Stewardship Council; Ontario Ministry of Transportation; and Trees Ontario.

Tree Planting Program

Joanne Scott is one of the landowners, in Ausable Bayfield watersheds, who is preserving topsoil, limiting wind and soil erosion, and helping to keep creeks, rivers, and Lake Huron clean. Scott has owned a farm east of Kippen since 1990 when she moved from her family farm near Ailsa Craig. Scott has completed about five different tree-planting projects since acquiring her property.

Local stewardship projects have positive outcomes

By Kate Monk, Supervisor of Stewardship and Conservation Lands

Private Land Stewardship Program

On-the-ground stewardship projects have a number of positive environmental outcomes.

Stewardship can be a one-time project, such as a streamside buffer, or ongoing, daily methods of conserving soil and water resources through nutrient management.

Staff members provide technical assistance and link landowners to financial incentive programs to help with upfront costs of implementing an average of 100 best management practices each year. Areas of expertise include reforestation, erosion control, watercourse livestock fencing, barn eavestroughs, and yard runoff control, manure storage decommissioning, wetland creation, wellhead protection, and well decommissioning. Projects are focused on soil and water conservation, but projects have other secondary environmental outcomes and improved agricultural production and human health.

The following are examples of stewardship project outcomes:

- Decommissioning unused wells and upgrading well casings prevents surface water and associated pollutants from contaminating groundwater.
- Installing eavestroughs on an average-sized cattle barn with a 12,000-square-foot roof prevents more than 7,000 gallons of rainwater from being contaminated with manure based on the average watershed annual rainfall of 2.6'.
- Creating wetlands slows down the movement of water through the watershed and reduces sedimentation and peak flows in downstream areas. Wetlands also have an important secondary benefit of creating wildlife habitat.
- Upgrading a faulty septic system eliminates the daily contamination of nearby surface water and shallow wells.

Stewardship Projects Receiving Funding through Programs Delivered by Ausable Bayfield Conservation Authority (ABCA)

Municipality	Number of Projects	Grants
Adelaide Metcalfe	5	$31,180.00
Bluewater	15	$12,197.26
Central Huron	17	$98,046.95
Huron East	12	$17,589.55
Lambton Shores	3	$18,600.00
Lucan Biddulph	8	$20,967.09
Middlesex Centre	2	$1,468.00
North Middlesex	8	$38,960.50
South Huron	15	$18,325.13
West Perth	3	$1,500.00
TOTALS	**88**	**$258,834.48**

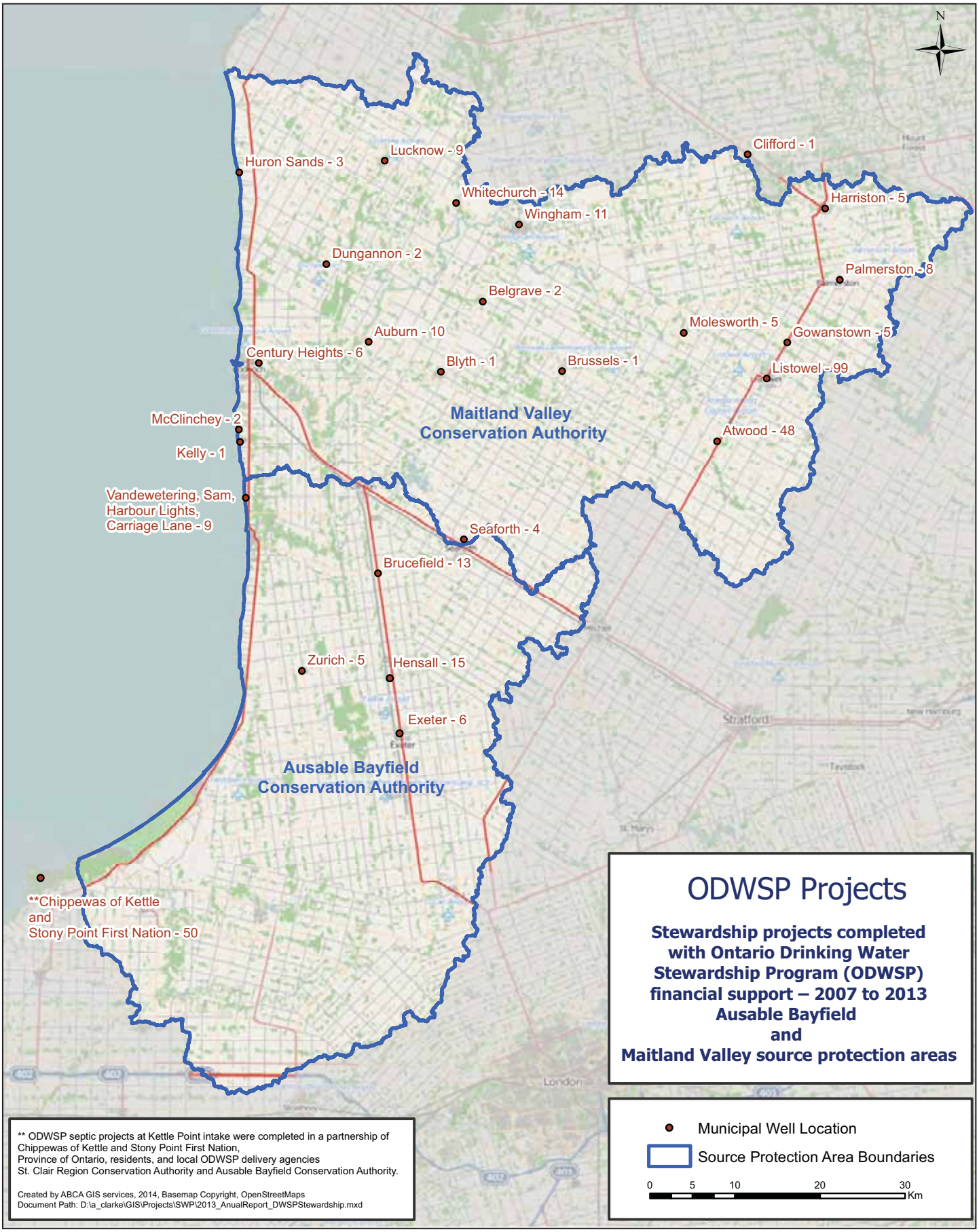
NOTE: Totals do not include funding from programs delivered by Ontario Soil and Crop Improvement Association (OSCIA) that did not receive assistance from Ausable Bayfield Conservation staff members.

Owners of homes, farms, businesses take on stewardship projects that help to keep contaminants out of local water

Ontario Drinking Water Stewardship Program

Ausable Bayfield Conservation Authority is an important local delivery agency for ministries and agencies and contributes to their goals for environmental improvements. Of special note in 2013 was the completion of the multi-year Ontario Drinking Water Stewardship Program (ODWSP) of the Ontario Ministry of the Environment.

More than $1 million has been spent at homes, businesses, farms, and other properties near municipal wells, in the Ausable Bayfield and Maitland Valley source protection areas, to protect sources of drinking water. ABCA worked in a successful partnership with the Province of Ontario, Maitland Valley Conservation Authority, St. Clair Region Conservation Authority, Chippewas of Kettle and Stony Point First Nation, residents and property owners, and other partners. Please go to the map on the next page for the number of projects completed with financial incentives from the ODWSP program.


N
Huron Sands - 3
Lucknow - 9
Clifford - 1
Whitechurch - 14
Harriston - 5
Wingham - 11
Dungannon - 2
Palmerston - 18
Belgrave - 2
Molesworth - 5
Gowanstown - 5
Auburn - 10
Century Heights - 6
Blyth - 1
Brussels - 1
Listowel - 99
Maitland Valley
Conservation Authority
McClinchey - 2
Kelly - 1
Atwood - 48
Vandewetering, Sam,
Harbour Lights,
Carriage Lane - 9
Seaforth - 4
Brucefield - 13
Zurich - 5
Hensall - 15
Exeter - 6
Ausable Bayfield
Conservation Authority
**Chippewas of Kettle
and
Stony Point First Nation - 50
Stratford
London
ODWSP Projects
Stewardship projects completed with Ontario Drinking Water Stewardship Program (ODWSP) financial support – 2007 to 2013
Ausable Bayfield
and
Maitland Valley source protection areas
Municipal Well Location
Source Protection Area Boundaries
0 5 10 20 30
Km
** ODWSP septic projects at Kettle Point intake were completed in a partnership of Chippewas of Kettle and Stony Point First Nation, Province of Ontario, residents, and local ODWSP delivery agencies St. Clair Region Conservation Authority and Ausable Bayfield Conservation Authority.
Created by ABCA GIS services, 2014, Basemap Copyright, OpenStreetMaps
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Peter Darbishire named Conservationist of the Year

Ausable Bayfield Conservation recognized Peter Darbishire, a tireless worker for conservation as a volunteer and landowner, with the Conservationist of the Year Award in 2013.

The Exeter-area man has contributed his time, land, and talent to his community for more than 25 years.

A Conservationist of the Year is someone who has contributed to the work of conservation over many years. The winner honoured in 2013 has made long-term benefits for the natural environment and for society. Peter exemplifies this long record of service as a landowner who was an early supporter of the community dream of building the MacNaughton-Morrison Section of the South Huron Trail, which was set to celebrate its tenth anniversary in 2014.

Peter has supported the South Huron Trail wearing many hats. He has contributed to environmental education through his successful and tireless leadership of the Woodland Reflection Shelter construction and fundraising campaign; his service on the Conservation Dinner committee; and as a director of the Ausable Bayfield Conservation Foundation (where he has served for a quarter of a century – since 1988). His work for these community conservation efforts has supported accessible trails, conservation areas, nature and recreation opportunities for youth, and conservation education.

Peter has planted trees on his land, and donated access to his land for a section of the South Huron Trail, without which the trail would not have been able to link the Morrison Dam Conservation Area and the MacNaughton-Morrison Section.

Before there was a trail, and winters saw more sustained periods of snow, he donated access to his land for the use of cross-country skiers.

His work with generous community businesses and volunteers led to the realization of a dream to build the Woodland Reflection Shelter pavilion, somewhere to appreciate nature, reflect on our local environment, and remember loved ones at the Commemorative Woods site at Morrison Dam Conservation Area, east of Exeter.

The growth of this commemorative woods site, maintained by Ausable Bayfield Conservation Foundation, will improve forest conditions and create reforested areas to link to existing natural areas protected in this watershed.

Peter would be the first to say none of these accomplishments would have been possible without the tireless work of his fellow volunteers, committee members, directors, and the generosity of community donors and businesses – but great things seem to happen when there is a committed group of people and also someone who leads by example. Peter Darbishire is that kind of community leader.

Peter Darbishire (centre), of RR 3 Exeter, received a framed, limited-edition conservation print of the Latornell Tree, by Bonna Rouse, one of 310 made for a special edition by Conservation Ontario, as prize recognizing him as Conservationist of the Year. Ausable Bayfield Conservation Authority will also make a donation towards a tree and plaque at a Commemorative Woods site. ABCA Board of Directors Vice Chairman Mike Tam (far left) and Chairman Dave Frayne (far right) presented.

The Shelter may never have happened if it wasn't for Peter. He received donations from building suppliers, recruited a great team of volunteer builders, launched a community fundraising campaign, and gave of his time and talent to coordinate the building's construction but also 'got his hands dirty' and helped to build the pavilion, along with other volunteers.

Without Peter Darbishire, the Woodland Reflection Shelter would still be just an idea and not a completed project. This building is now a unique place to recognize the names of people remembered through the planting of memorial trees; a place where friends and family can visit, reflect and remember; a place for hikers and walkers along the South Huron Trail to sit, rest, and enjoy the living things in our local landscape – fostering a love of nature that can grow into action to protect our local watersheds.

Enabling each local levy dollar to work like four

By Brian Horner, CPA, Financial Services Supervisor

Ausable Bayfield Conservation Authority (ABCA) continues to be one of the leading conservation authorities in Ontario when it comes to making each local levy dollar work like several.

Brian Horner

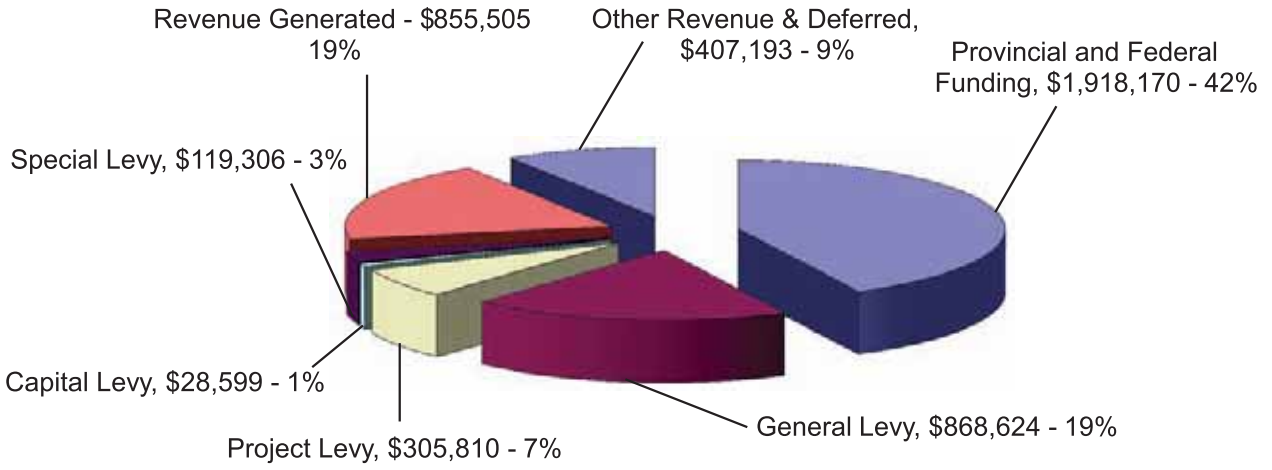
We have been able to bring in almost three dollars more, to support programs and services in this watershed, for every local dollar contributed through the municipal levy. This ratio compares to the provincial average of about two dollars of outside funding generated for each single dollar of levy funding. We are able to stretch the local dollar farther by building upon it to earn third-party funding support. We are then able to take more positive actions, in partnership with the community.

Financial Summary

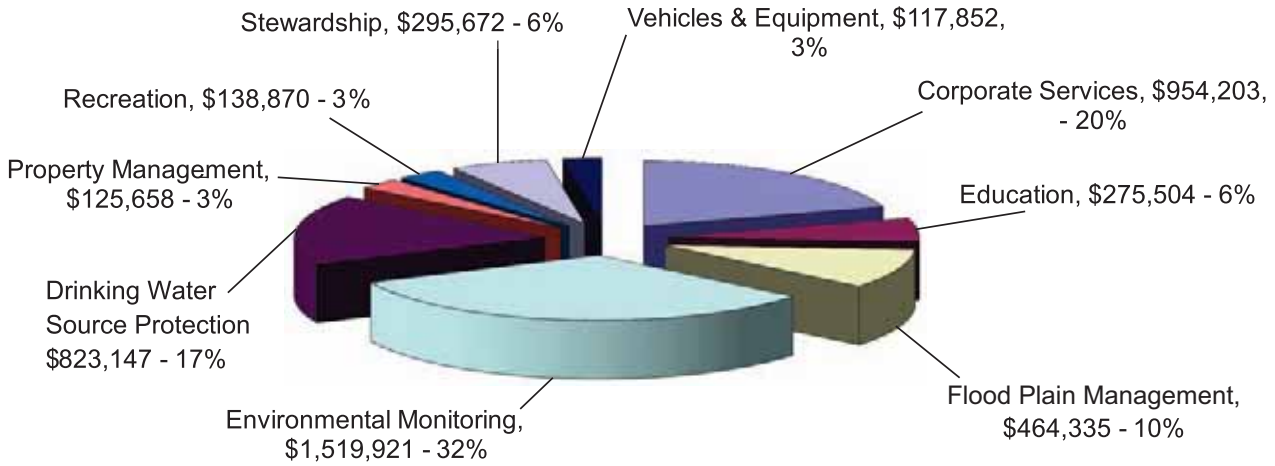
ABCA's 2013 deficit of $211,000 (unaudited at the time of *Annual Report* printing) includes amortization of $231,000. The figure is approximately $20,000 better than anticipated. These savings will be used towards future conservation projects.

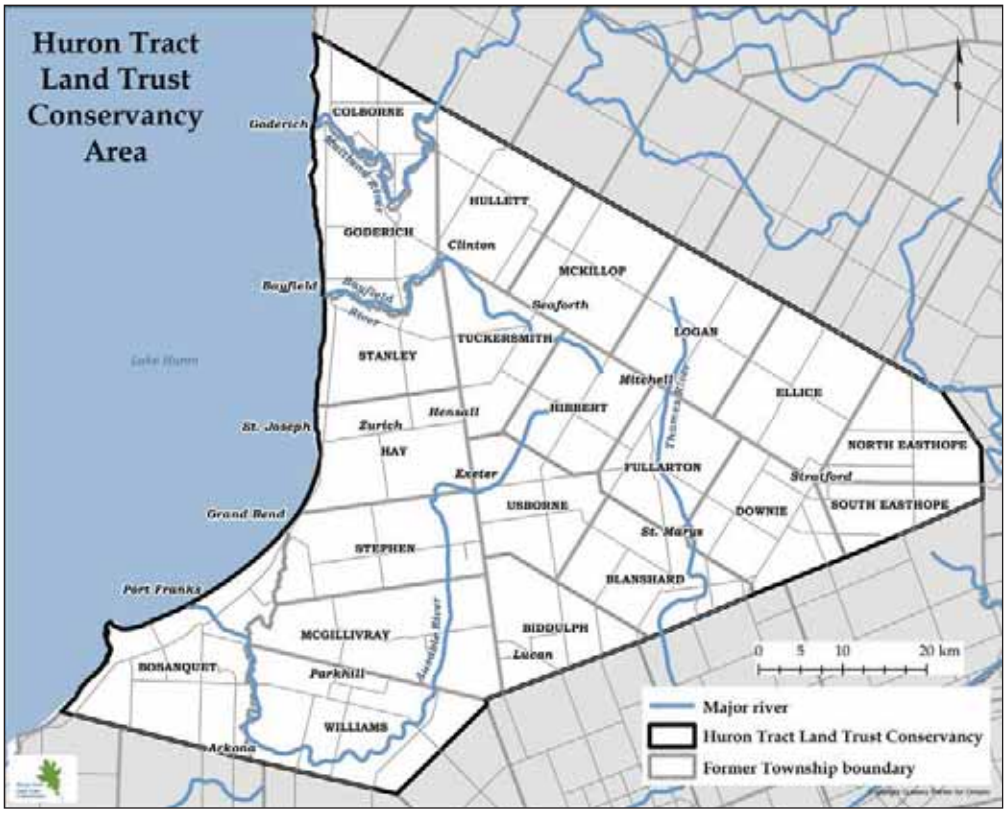
Member municipalities should be commended for their involvement and commitment to their local watershed. We will work closely with them in the coming year to continue to create value for their dollar.

2013 Sources of Revenue - Total Revenue $4,503,207 (Unaudited Figures)



2013 Department Expenses - Total Expenses $4,715,163 (Unaudited Figures)





Huron Tract Land Trust Conservancy working with you to protect natural environment

By Roger Lewington, Chairman, Huron Tract Land Trust Conservancy

The Huron Tract Land Trust Conservancy (HTLTC) was formed, in 2011, to protect the natural environment with help from landowners, community members, municipalities and other agencies.

The HTLTC Board of Directors knows that the historic Huron Tract was significant to the development and growth to this part of Ontario and the directors agree that it makes a perfect geographic basis on which to protect the natural environment.

The year 2013 was a learning opportunity for the Huron Tract Land Trust Conservancy as it began work towards its first major project.

The Land Trust will encourage philanthropy in its own backyard. There is interest in protecting the remaining natural environment we have in Ontario and the Land Trust wants to connect with individuals who are interested in leaving a lasting local legacy.

The Huron Tract Land Trust Conservancy provides individuals with a trusted way to achieve their nature preservation goals and make a difference.

This local organization, formed to help preserve natural land in the historic area of the Huron Tract, has created its first electronic newsletter. You can see the first issue of the newsletter at this link:

http://eepurl.com/Bz6tz

The Huron Tract Land Trust Conservancy invites you to subscribe to the newsletter at this link:

http://eepurl.com/Bz7Nj

Visit **htltc.ca** for more information.

Huron Tract Land Trust Conservancy Board of Directors

Burkhard Metzger
Clinton

David Kemp
Staffa

Don Farwell
Stratford

Peter Twynstra
Ailsa Craig

Steve Boles
Exeter

Steve Bowers
Brussels

Philip Walden
Thedford

Tom McLaughlin
Lucan

Roger Lewington
(Chairman)
Bayfield

Foundation supports many projects, students in watershed community

By Bob Radtke, Chairman, Ausable Bayfield Conservation Foundation

The following are highlights of project areas Ausable Bayfield Conservation Foundation (ABCF) financially supported, during 2013, to conserve, preserve, and protect the unique natural landscapes of the Ausable, Bayfield, and Parkhill Creek watersheds:

Junior Conservationist

Barb Alber

Barb Alber was 2013 Junior Conservationist fulfilling a summer position with Ausable Bayfield Conservation Authority. The Foundation funds this position for a student pursuing a career in the environmental field.

Ryan Carlow, 2013 recipient of the Foundation's Student Environmental Award of $1,000, is congratulated by ABCF Chairman Bob Radtke.

Student Environmental Award

The ABCF created a $1,000 scholarship award for a graduating high school student residing in the watershed. Two applications were received for the award and Ryan Carlow was chosen as the recipient.

Conservation Education

- A contribution of $3,946 was made to the ABCA education programming as part of the Foundation's $1 per student commitment to subsidize those attending a school nature program.
- The Foundation contributed $500 to the education activities at Aquafest 2013 in Grand Bend.

Chairman's Report

Bob Robilliard, Dave Robilliard, Rob Snell, and Tom Prout were among the golfers taking part at the eighth annual Friends of the Trail tourney.

Accessible Trails and Conservation Areas Projects

- Partnered with Bayfield River Valley Trail Association to receive donations towards a phased development of a trail system along the Bayfield River.
- Coordinated the Eighth Annual Friends of South Huron Trail Golf Tournament in support of enhancements to the MacNaughton-Morrison Section of South Huron Trail.
- Provided funding for Morrison Dam Conservation Area boardwalk repairs and Rock Glen Conservation Area stairway upgrades.
- Received donations for upkeep of South Huron Trail Mobile and Arkona Lions Museum at Rock Glen Conservation Area.

Continued on next page

2013 Foundation Board of Directors

Bob Radtke (Chairman) Ailsa Craig

Gerry Cook Exeter

Anne Melady Dublin

Roger Lewington Bayfield

Peter Darbishire Exeter

Ted Jones Exeter

Bob Norris Staffa

Teresa Ondrejicka Exeter

Dave McClure Grand Bend

Community partnerships help improve watershed

Continued from previous page

Protection of Wetlands and Natural Heritage

- Supported the purchase of marram grass for planting on the beach in the Port Franks area by area students.
- The ABCF was a funding partner for the Port Franks turtle monitoring program.

Commemorative Woods Program

- Co-hosted the Twelfth Annual Klopp Commemorative Woods tree dedication service, with J.M. McBeath Funeral Home, on June 2, 2013 with 65 friends and family in attendance.
- Co-hosted the annual Commemorative Woods dedication service with Haskett Funeral Home on September 15, 2013 with 275 guests in attendance.
- Supported ongoing maintenance of tree groves and grounds within the five Commemorative Woods.

Shown at the 2013 Conservation Dinner are (left to right): Gerry Cooke, director with Ausable Bayfield Conservation Foundation; special guest Peter Smith, interim artistic director of the Blyth Festival; Bob Laye, Chairman of the Conservation Dinner Committee; Madeleine Roske, feature artist; and Bruce Hodge, President of the Exeter Lions Club.

Conservation Dinner

The Ausable Bayfield Conservation Foundation's major fundraising event is the annual Conservation Dinner, in cooperation with the Exeter Lions Club, community volunteers, donors, and patrons. The year 2013 was the 24th dinner auction event and it raised $53,000 in support of accessible nature trails, fishing derby, and conservation area enhancements at Rock Glen, Morrison Dam, and Bannockburn conservation areas.

Woodland Reflection Shelter

Donations were still being made in support of the new pavilion at the Morrison Dam Commemorative Woods. This Woodland Reflection Shelter, a place to reflect on nature and remember loved ones, is adjacent to the South Huron Trail and is greatly appreciated by walkers, visitors and school groups.

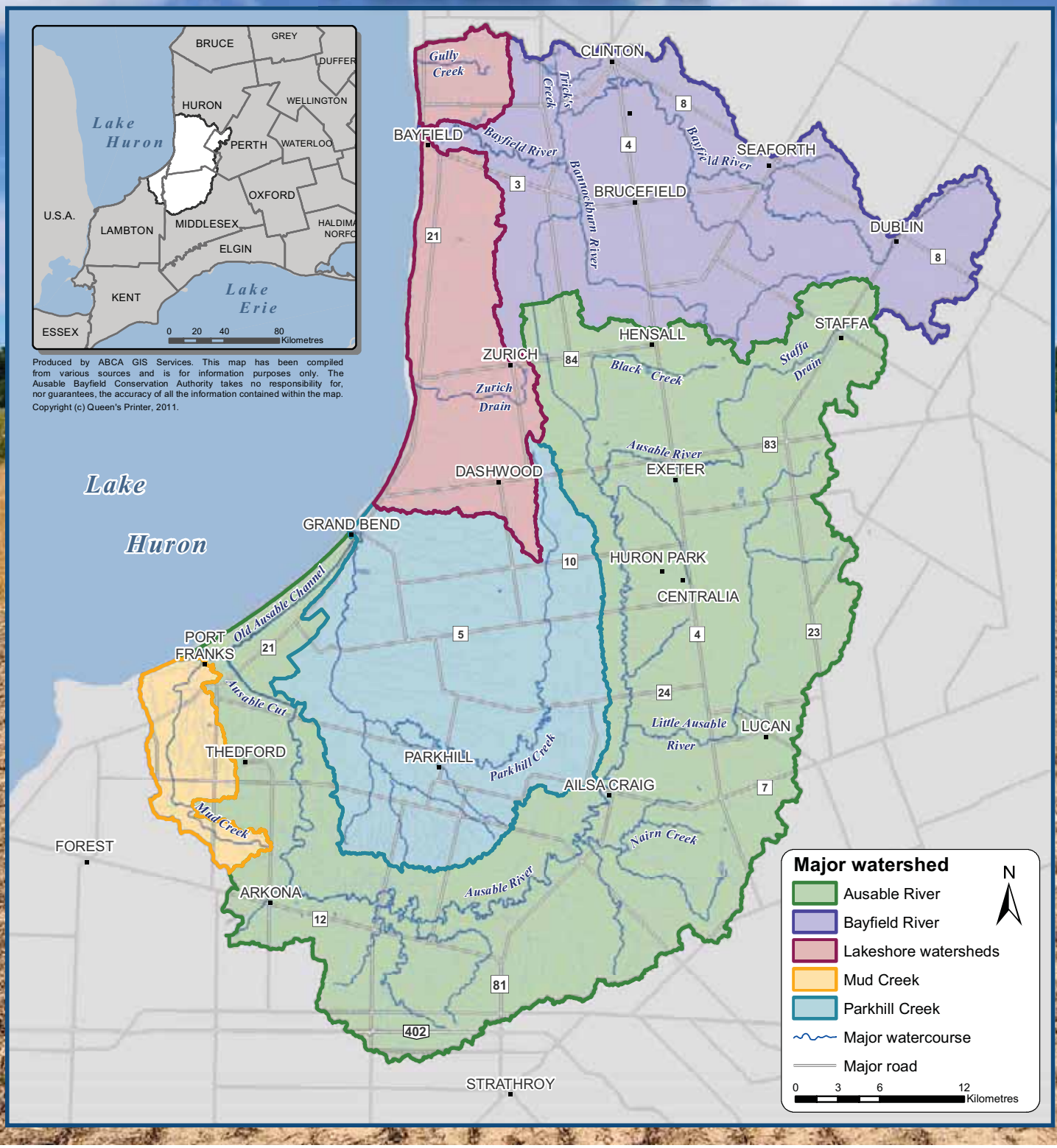
Paul Scott and Mike Hamather, of the Exeter Lions Club, stock Morrison Reservoir for the annual Family Fishing Derby. The event is supported by the Lions Club and Ausable Bayfield Conservation Foundation.

Morrison Dam Fishing Derby

Thanks to donations of $2,000 from Exeter Lions Club and Ausable Bayfield Conservation Foundation, more than 1,000 rainbow trout were stocked in the Morrison Dam Reservoir prior to the derby on the first Saturday of May. This was the 29th annual derby and boasted the best attendance, weather, and number of fish caught in quite a number of years.

AUSABLE BAYFIELD
CONSERVATION

CREATING AWARENESS | TAKING ACTION



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