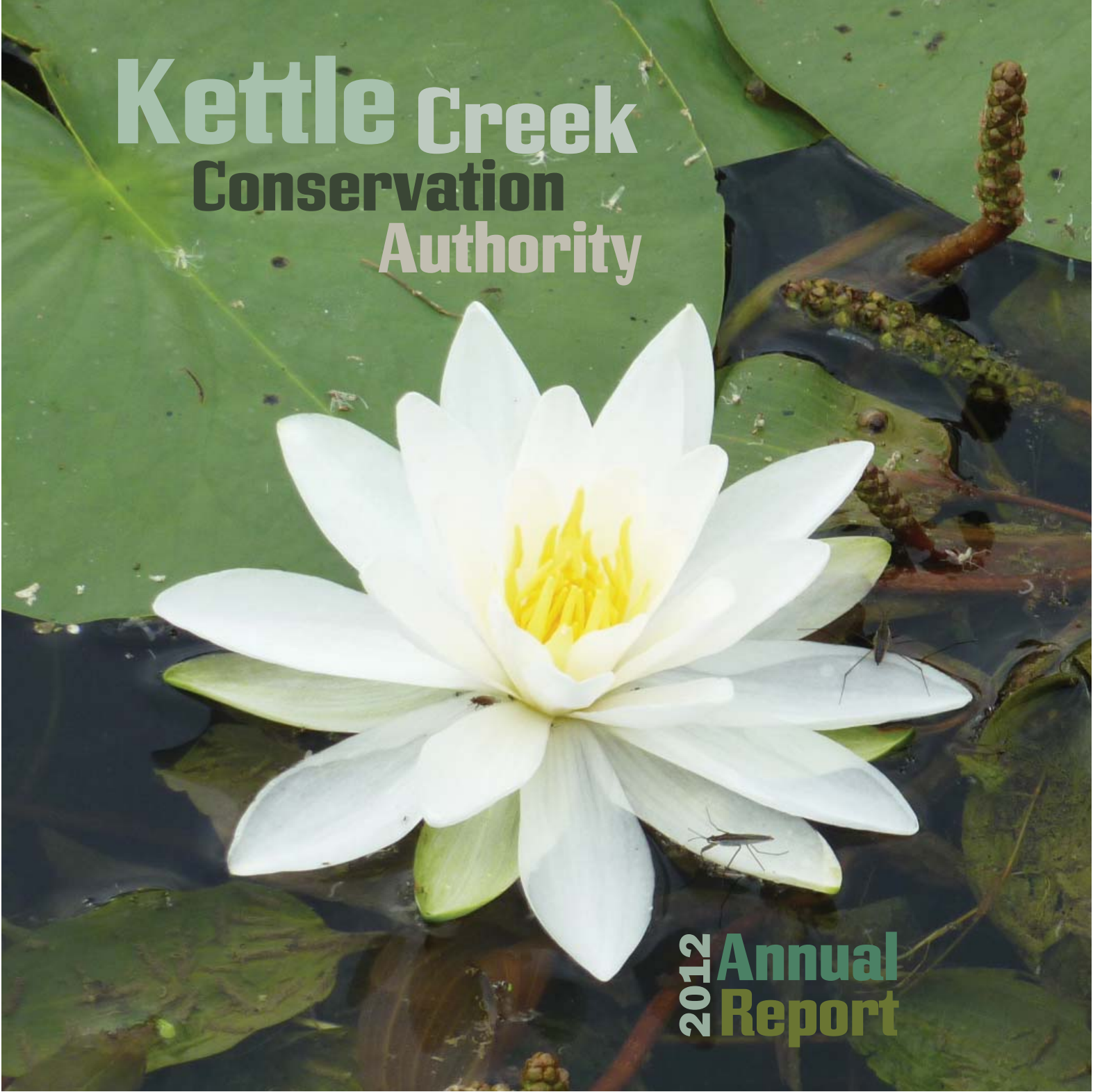




Kettle Creek Conservation Authority

2012 Annual
Report



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flood forecasting and low water response

In early 2012, conservation authorities introduced new flood message terminology to ensure that flood messages issued to the public are consistent with weather terminology used by Environment Canada, The Weather Network and other agencies. Kettle Creek Conservation Authority (KCCA) issues three types of messages: Watershed Condition Statement (Water Safety or Flood Outlook), Flood Watch, and Flood Warning. The messages are transmitted through the local media and immediately to watershed residents who have connected with KCCA socially on Twitter and Facebook. Residents can also sign up for an e-mail bulletin on KCCA's web site.

The Kettle Creek watershed experienced only a few minor high water events in 2012. This was due mainly to the lack of spring run-off from the unusually dry winter as well as the very low water conditions experienced throughout the watershed for most of the summer and fall. KCCA issued a Level 1 Low Water Condition on May 23, 2012 and a Level 2 Low Water Condition on August 3, 2012. This was the earliest declaration of a Level 1 Low Water Condition since the Ontario Low Water Response program began in 2000. The watershed did not return to normal conditions until the end of October.

The “big story that wasn’t” was the remnants of slow moving Hurricane Sandy that hit Southern Ontario at the end of October. Environment Canada and other weather agencies forecasted 150mm of rain over a 72-hour period and strong gale force winds (80-150km/hr). However, the rainfall expected for the Kettle Creek watershed never materialized.

In 2012, KCCA's largest dam, the Dalewood Dam, received safety upgrades and improvements to the perimeter fence and signage through a Water Erosion Control and Infrastructure Grant. In addition, erosion repairs were made to the upstream earthen embankments and to the downstream training wall. Ensuring the integrity of the dam's fencing is integral to public safety. Fencing keeps the public, especially curious children from gaining access to the dam deck, the lifting equipment and the dam's embankments.



Upper Kettle Creek at Level Two Low Water

planning and regulations

Extensive damage to shore properties along the Lake Erie shoreline occurs annually as a result of associated shoreline coastal hazards. Historical erosion rates along the Lake Erie shoreline within the Kettle Creek watershed are recorded as high as 4.2m per year on average. In 1989, KCCA commissioned a Shoreline Management Plan in partnership with its member municipalities. The purpose of the plan was to balance the options of shoreline prevention, protection, environmental impact, monitoring, emergency response and public education in an overall management plan of the shoreline resources.

KCCA's Shoreline Management Plan is one of many tools utilized within its Planning and Regulations program to ensure that the loss of life and property is reduced or prevented as a result of development activity upon shore properties. Lakeshore residents and prospective buyers are encouraged to contact KCCA for technical advice on lakeshore erosion and slope stability problems associated with living along the Lake Erie shoreline.

In 2012, regulation and development reviews continued to provide substantial input into land use planning and development applications. Staff provided comments on over 100 planning and development applications. As well, 30 permits were issued under Ontario Regulation 181/06 while only one Notice of Violation was issued.



Lake Erie shoreline erosion



Belmont Santa Claus Parade

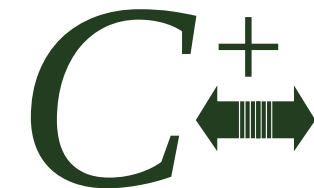
awareness and education

In 2012, KCCA joined the global community of Twitter and Facebook. KCCA's ever growing social community made it possible to reach 10,000 users within minutes of Tweeting a flood watch warning. At year end @KettleCreekCA Twitter account had 245 followers and KCCA had 121 active Facebook followers.

KCCA also reconnected with the local community in more traditional ways. Staff and their families participated in a variety of special community events. KCCA sponsored a Birds of Prey show at the Belmont Fun Day and entered a float showcasing the Authority's two campgrounds in the Belmont Santa Claus Parade.

The Carolinian Forest Festival was held for the fifth year, teaching 1,500 grades 6 and 7 students the importance of our local forest resources. The Festival showcased 35 hands-on activity stations linked to the Ontario Curriculum in ways that helped students achieve the desired expectations in Science and Technology, Social Studies and Geography. Two new activities were added to this year's Festival with great success. The new activity 'How Sweet It Is' taught students about maple syrup and honey available in the Carolinian Life Zone. 'Turtles in Trouble' was a new live animal exhibit led by Scales Nature Park, where students were able to get a closer look at and learn about a variety of Ontario turtle species.

Kari Huras was awarded the Elgin County/Kettle Creek Agricultural Conservation Scholarship. The \$500 scholarship is awarded each year to a student pursuing agriculturally-related studies with an emphasis on compatibility with the natural environment at a post-secondary institution. KCCA, Elgin County Junior Farmers Alumni and the Elgin Federation of Agriculture continue to fundraise to ensure the scholarship can be awarded in perpetuity.



The result of the 2012 Watershed Report Card Annual Update is consistent with the past update indicating the status quo grade of C+. Health trends upward or downward will be confirmed in the next full Watershed Report Card that will be released in 2013, which will analyze the past five years of data.

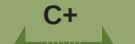
environmental monitoring

KCCA focused their 2012 environmental monitoring activities on Lake Whittaker, which is an 11-hectare groundwater-fed kettle lake and the headwaters of Kettle Creek. It is considered the jewel of the Lake Whittaker Conservation Area Campground and a local draw for many recreational activities including swimming and fishing.

In order to better understand the water quality issues in Lake Whittaker (summertime low oxygen levels, high phosphorus and the potential for blue-green algae blooms and fish kills), KCCA contracted an environmental consulting company to conduct a comprehensive lake study. The purpose of the study was to assess the current (baseline) physical, chemical and biological conditions of Lake Whittaker and to determine how conditions are changing with time.

Results of the study were positive. The lake has a thriving and sustainable warm water fishery. However, the lake has very high levels of phosphorus which can lead to excessive plant and algae growth, blue-green algae blooms and low oxygen levels. Water and sediment chemistry analyses indicate that there is a very large anoxic (no oxygen) layer at the bottom of the lake which would not support life.

While Lake Whittaker is currently healthy, the baseline data will assist KCCA staff to proactively manage the lake in the future to help reduce phosphorus levels and increase dissolved oxygen levels. KCCA's ultimate goal is to ensure that this valuable resource continues to be a healthy ecosystem that can support a vibrant fishery and recreational use.

2012 Watershed Report Card Annual Update	Dodd Creek			Upper Kettle Creek			Lower Kettle Creek		
Condition Description	Subwatershed Grade	Health Trend	Overall Subwatershed Grade	Subwatershed Grade	Health Trend	Overall Subwatershed Grade	Subwatershed Grade	Health Trend	Overall Subwatershed Grade
Surface Water Conditions Surface water indicators relate to the quantity and quality of the water throughout the watershed. The surface water environment consists of all watercourses, (permanent, seasonal and intermittent) lakes, reservoirs and ponds that drain into Lake Erie at Port Stanley. Surface water is recharged through precipitation, surface runoff, snowmelt and in some cases through groundwater. Several indicators of surface water quantity and quality are studied in the watershed reporting process including: stream flow, nutrient levels (phosphorus), bacteria (<i>E. coli</i>) concentrations and benthic invertebrates.	C-			C			C+		
Groundwater Conditions Groundwater is the water found below the earth's surface in the soil, wells, porous rocks and aquifers. Although groundwater tends to be better protected from the influences of industrial and agricultural land use, there is still the potential for the quality and quantity of groundwater to be compromised. KCCA uses monitoring wells to detect any changes in the levels of bacteria (<i>E. coli</i>), chloride (salts), nutrients, and aquifer water levels within the watershed.	A			A			A		
Terrestrial Conditions Over the last decade, KCCA has planted over 900,000 trees to help combat the constant pressure of urban development and agricultural expansion. KCCA's primary focus in reforestation is enhancing forest interior, connecting woodlots, creating habitat corridors and stream buffers. KCCA is found entirely within the Carolinian Life Zone which makes up less than one percent of all the eco-regions in Canada. It has the highest diversity of species and is the most threatened ecological region in Ontario.	C			C			C		
Climate Conditions Average annual temperatures in Southern Ontario have increased by 0.5°C over the last century and are expected to rise by an additional 3.5 to 4°C over the next 100 years. KCCA collects data on the Air Quality Index (smog advisory days), the number of days with temperatures greater than 30°C (hot days) and the number of drought and extreme precipitation events to monitor the climate conditions within the watershed. Climate change monitoring and reporting is becoming a very important topic of discussion at all levels of government and with local landowners.	B			B			B		
Health Trend Legend  improving  steady  declining									

forestry

For the seventh straight year KCCA planted a total of 100,000 seedlings in the watershed. In 2012, twenty-two varieties of native and Carolinian trees and shrubs were planted on over 70 properties.

These seedlings were planted as part of a contract with Ontario Power Generation (OPG) to establish new forest blocks, windbreaks and stream buffers throughout the watershed. Together with the community and its member municipalities, KCCA will celebrate the planting of the the one millionth tree under this contract in 2013.

KCCA branched out to other partners as well. Approximately 20,000 trees were planted through Trees Ontario's 50 Million Tree Program and KCCA contributed 9,000 trees to the City of London's one million tree challenge.

Further, KCCA assisted the Municipality of Central Elgin with the administration of the Greening Central Elgin tree planting program. This program provides an opportunity for landowners within Central Elgin to purchase small quantities of larger stock native seedlings at an affordable rate. Greening Central Elgin specifically targets those landowners who do not have enough area to plant trees through KCCA's reforestation program but still wish to improve environmental conditions on their property. In 2012, almost 900 trees were sold through the program, with landowners requesting the program be continued in 2013.

Finally, in cooperation with Trees Ontario and other local planting agencies, KCCA hosted a free landowner tree planting workshop. Landowners received information about tree planting subsidies, climate change, forest management and technical tree planting expertise. It was just another example of how KCCA works with its partners to add value to its forestry services.



White Pine Seedling



Wetland creation project

stewardship

In 2012 staff focused on finding funding dollars to support on-the-ground stewardship projects to address some of the environmental concerns identified in the three comprehensive community-based watershed strategies that have been completed for the Kettle Creek watershed. Staff were rewarded, raising \$352,000, leading to the creation of three new initiatives: the Kettle Creek Clean Water Initiative; the Elgin Clean Water Program and the London/Middlesex County Clean Water Program.

Kettle Creek Clean Water Initiative

Through a funding grant from the Kettle Creek Conservation Trust and internal reserves, KCCA committed \$12,000 to stewardship work within the Kettle Creek watershed. The Elgin Area Primary Water Supply Board also showed its support of the initiative by committing an additional \$20,000 for works that specifically improve water quality and/or the risk of contamination including erosion control and wetland and riparian habitat restoration projects.

In its inaugural year the program provided funding for 11 projects including: three erosion control, two wellhead protection, five well decommissioning and one wetland creation. KCCA would like to thank Elizabeth VanHooren, KCCA (Chair); Dave Richards, MNR; Ralph Winfield, KCCA Board member; Rudy Zuyderhoff, KCCA Board member; and Steve Walsh, EFA for being members of the Steering Committee. This initiative will continue in 2013.

Elgin Clean Water Program

KCCA in partnership with Elgin County Conservation Authorities was successful in attaining a grant from the RBC Blue Water Project to support the Elgin Clean Water Program. This program is an Elgin County-wide program created to provide financial assistance to landowners who wish to undertake stewardship projects that will benefit the local water quality and quantity. The Steering Committee has already supported 12 projects including four for erosion control, one well management, one clean water diversion, four wetland creations and two other projects. KCCA wishes to thank Steering Committee members, Long Point Region Conservation Authority, Catfish Creek Conservation Authority and Lower Thames Valley Conservation Authority staff and board members for their support in developing, for the first time ever, a comprehensive Elgin County-wide stewardship program. This program is accepting applications from landowners throughout 2013.

London/Middlesex County Clean Water Program

London Community Foundation supported the London/Middlesex County Clean Water Program with a financial contribution of \$200,000. As part of a collaborative of Middlesex County Conservation Authorities, in 2013 KCCA will be able to provide stewardship grants for landowners within London and Middlesex County for the following types of projects: native grass establishment; wetland restoration; clean water diversions; riparian and streambank restoration; livestock fencing, alternate watering facilities and crossings; invasive species control; species at risk enhancement; and aquatic habitat enhancement.

KCCA continues to “Strive for an A” in watershed stewardship. The above-noted stewardship initiatives are truly game changing because they represent collaboratives between conservation authorities providing watershed and county-wide programs that can focus action and track progress through the conservation authorities’ science-based Watershed Report Cards. These stewardship programs will have measurable improvements to local water quality and inevitably Lake Erie, a source of drinking water, and a recreational and economic focal point of our communities.



Dalewood reservoir

conservation areas

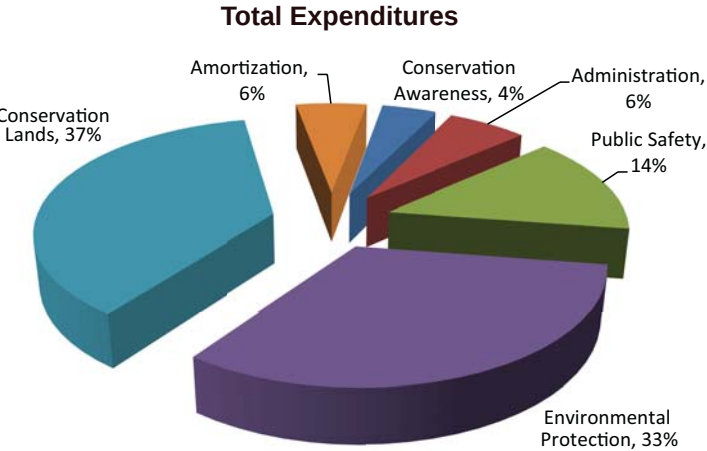
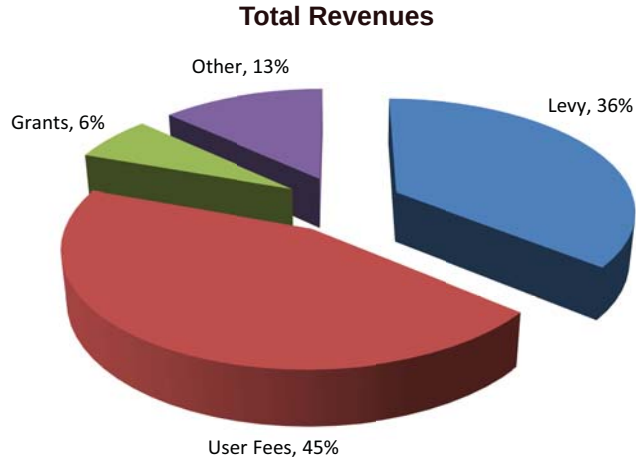
Dalewood and Lake Whittaker Conservation Areas continue to prove to be the destination of choice for vacations close to home. With over 2,300 reservations in the 2012 camping season, 90% were from St. Thomas, London, Aylmer and Springfield. The popularity of these campgrounds continues to grow, booking to capacity on long holiday weekends.

KCCA introduced a campground Information Guide in 2012. The guide included information on fees, services, campground maps and information on day trips within the vicinity of both Lake Whittaker and Dalewood. Meant as a one-stop resource for campground users, the expense of the guide was subsidized by selling advertisements to local business owners. It is just another example of how KCCA is working with its community.

The campground communities of Lake Whittaker and Dalewood have made a concerted effort to raise money for natural playground structures in Dalewood, Dan Patterson and Lake Whittaker Conservation Areas. The structures are made of round cedar logs that blend with the natural surroundings. At a cost of \$13,000 for the hardware the structures are cost effective. With roughly \$6,000 raised between the two campgrounds in 2012 the goal is achievable in the near future.

Infrastructure upgrades continued at Lake Whittaker Conservation Area in 2012. Electrical and water upgrades were performed on 26 sites to increase the number of 30-amp sites available to campers. In addition, preliminary work began on the redesign of the Dalewood campground entrance with an overall goal to build a new Dalewood gatehouse in 2014.

financial summary



Full financial statements are available at www.kettlecreekconservation.on.ca



The Kettle Creek Watershed
Situating entirely within the Carolinian Life Zone, the Kettle Creek watershed drains 520 square kilometres of agricultural, urban, and naturally vegetated lands along the north shore of Lake Erie at Port Stanley. Kettle Creek drops approximately 141 metres over its 80 kilometre length. The steep drop in elevation can cause flash flooding, fluctuating base flows and a high degree of erosion. The watershed is hourglass in shape and is made up of three subwatersheds: Dodd Creek, Upper Kettle Creek and Lower Kettle Creek. The main branch of Kettle Creek originates at Lake Whittaker, an 11 hectare groundwater-fed kettle lake. The physical geography of the Kettle Creek watershed is dominated by clay plain in the north and sand plain in the south. There are seven member municipalities associated with the Kettle Creek watershed: Middlesex Centre, London, Thames Centre, Malahide, Central Elgin, Southwold and St. Thomas.

Bucke field

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Our Partners/Donors List

Thank you to the following for their financial and in-kind donations to Kettle Creek Conservation Authority in 2012:

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(please notify our office of any errors or omissions)

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