

Kettle Creek Conservation Authority



Watershed
Report Card 2008

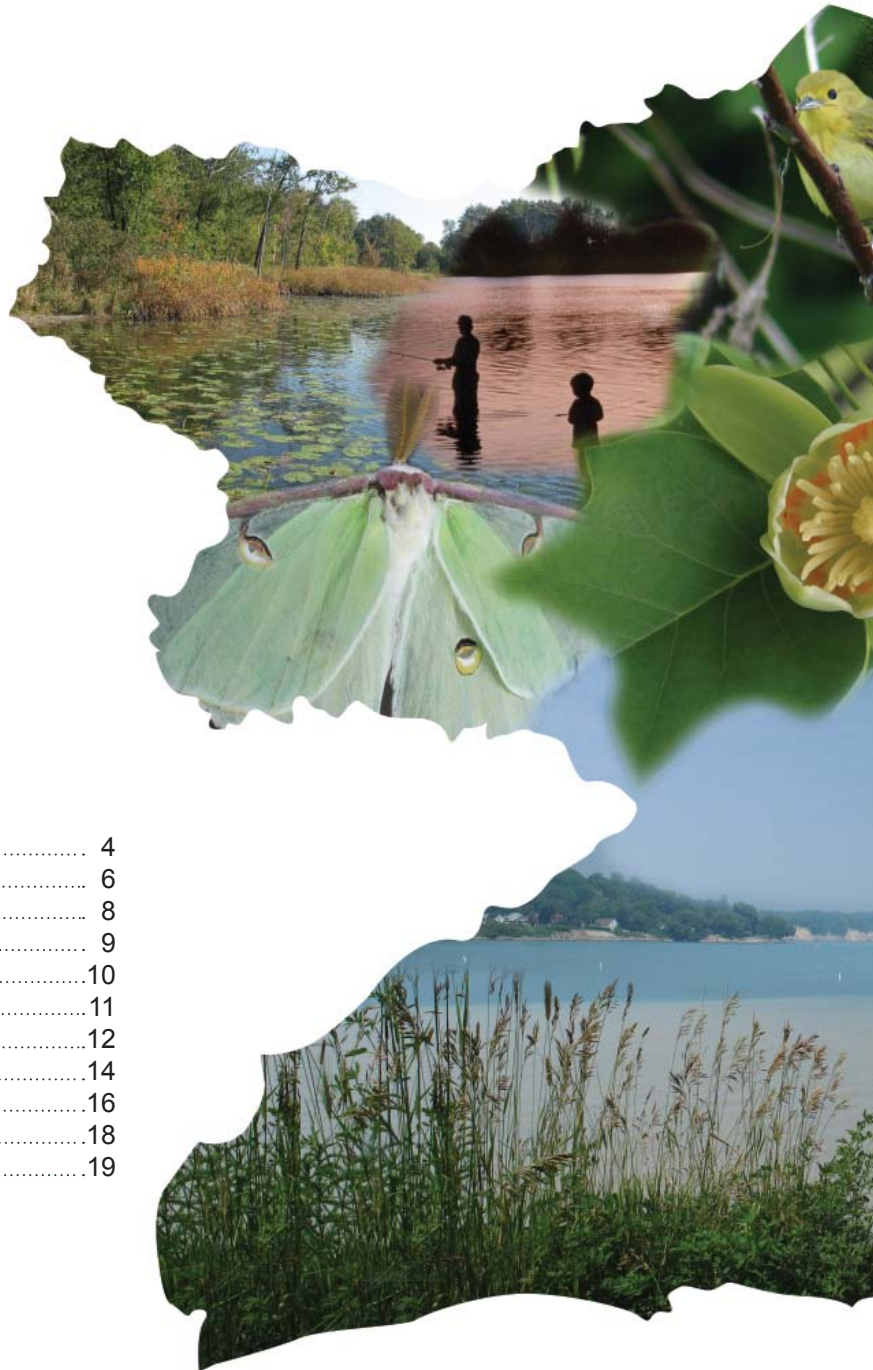
OVERALL WATERSHED GRADE

C-

The Kettle Creek watershed received an overall “C-” average, based on surface water, groundwater, terrestrial and forest conditions. The following pages show how the watershed report card grade was determined.

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CAROLINIAN LIFE ZONE

The Carolinian Life Zone makes up less than one percent of all the eco-regions in Canada and has the highest diversity of species.

Stretching from Toronto to Windsor, the Carolinian Life Zone is the most threatened ecological region in Ontario. This biologically diverse region is home to one-third of Canada's rare and endangered plants and animals. Over 125 species have been declared at risk and more than 400 others are considered to be rare. In addition, these species are struggling for a place to live as the Carolinian Life Zone is home to 25% of Canada's population. This zone boasts the warmest average annual temperatures and is sometimes called the "Banana Belt" of Ontario.

WHAT IS A WATERSHED?

A watershed or drainage basin is an area of land that drains into a river or a lake. The boundary of a watershed is based on the elevation (natural contours) of a landscape. A drop of water that lands anywhere inside this boundary will eventually end up draining into Kettle Creek, before emptying into Lake Erie. This determination of boundaries is based on the natural shape of the land and therefore the watershed can fall across many municipal boundaries.

THE KETTLE CREEK WATERSHED

Situated entirely within the Carolinian Life Zone, the Kettle Creek watershed drains 520 square kilometres of agricultural, urban, and naturally vegetated lands to 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.

WHAT IS A WATERSHED REPORT CARD?

A watershed report card is a key component of watershed management. Measuring and reporting on watershed health allows for program goal setting and evaluation, targets program funding for best results and demonstrates conservation authority accountability. A watershed report card evaluates key indicators of watershed health, using provincial standards and distributes those findings to local residents, private landowners and stakeholders who are concerned about the health of their watershed.

REPORT CARD PROCESS

Kettle Creek Conservation Authority (KCCA) has established a four-step process to guide the development of the watershed report card. The process involves monitoring the conditions of the watershed, analyzing the data collected, setting goals and objectives and finally creating the report card. Based on the findings of the report card, a management plan for the Kettle Creek watershed can be established. In addition, goals and objectives can be re-evaluated yearly to reflect changes in the watershed over time.

The 2008 watershed report card utilizes data gathered between 2003 and 2007. In some cases, historical data was used where information gaps occurred. For the purposes of the report card, the Kettle Creek watershed was divided into three subwatersheds: Dodd Creek, Upper Kettle Creek and Lower Kettle Creek. Each subwatershed has unique features relative to their land base and land use that affect the grading of the watershed report card.

Each subwatershed was assessed using four environmental components, each made up of at least one indicator of quality and quantity to provide an overall evaluation of watershed conditions. The four environmental components are:

Surface Water Conditions
Groundwater Conditions
Terrestrial Conditions
Climate Conditions

This is the first watershed report card for the Kettle Creek watershed. In future editions, one of the most important features of the report card will be to show trends (i.e. a positive or negative change over time) or if a particular indicator has remained stable. This will allow KCCA to target areas of interest for management and stewardship initiatives.



Watershed Report Card



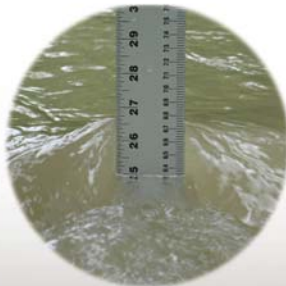
Goals and Objectives



Monitoring



WATERSHED MANAGEMENT



Data Analysis

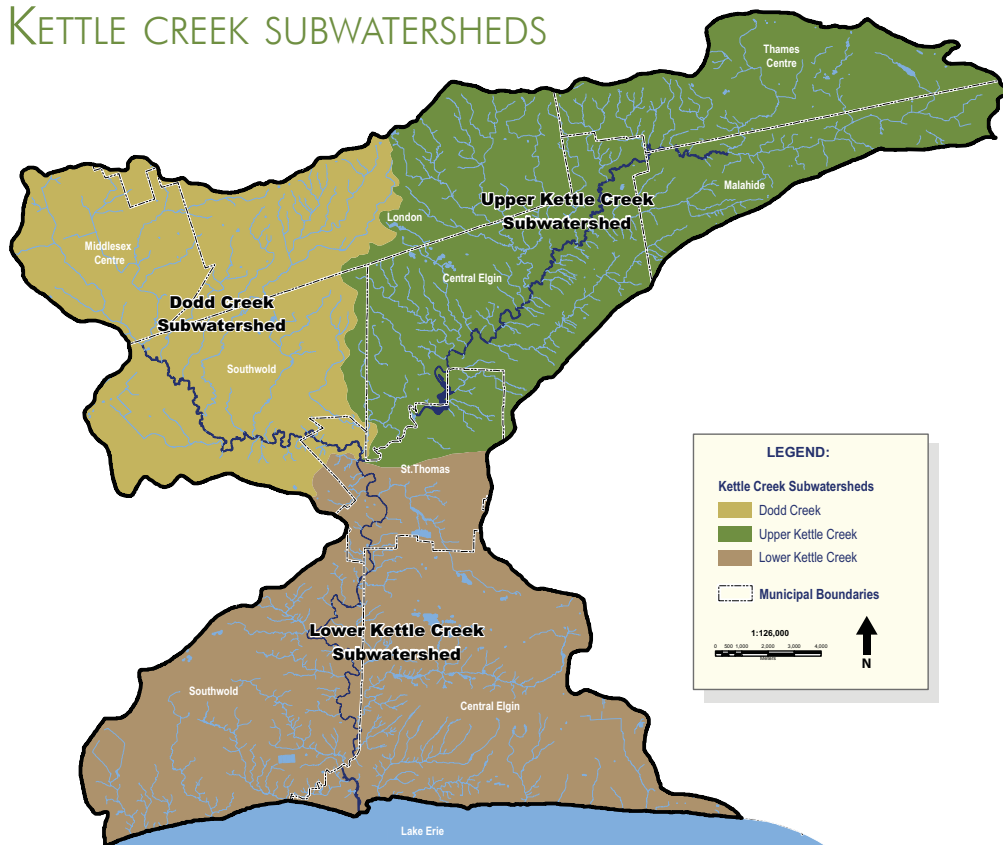


Fatmucket Mussels

← It is KCCA's intent to produce a watershed report card that can be an effective management tool with which KCCA can evaluate how the goals and objectives are being met over time. This process allows KCCA to continually monitor and assess the health of the watershed.



KETTLE CREEK SUBWATERSHEDS



Green Frog



Electrofishing

Grade Descriptions

A	Very healthy watershed conditions. Protection may be required to maintain conditions and some enhancement may be necessary.
B	Healthy watershed conditions where some enhancement may be required.
C	Watershed conditions that require general improvement.
D	Poor watershed conditions where overall improvement is necessary.
F	Degraded watershed conditions that need considerable improvement.

SURFACE WATER CONDITIONS

The Kettle Creek watershed's surface water is located in all of the creeks, streams, reservoirs and ponds that drain into Lake Erie at Port Stanley. Surface water is recharged through precipitation, surface runoff, snow melt and in some cases through groundwater - although there is very little groundwater recharge within the Kettle Creek watershed. There are nine surface water quality monitoring stations throughout the watershed. KCCA partners with the Ministry of the Environment through the Provincial Water Quality Monitoring Network (PWQMN) to sample four sites. In 2006, five additional Source Water Protection sites were added to the monitoring program to increase the water quality sampling coverage throughout the watershed. Several indicators of surface water quantity and quality are studied including: streamflow, nutrients, bacteria and benthic invertebrates.

		Dodd Creek		Upper Kettle Creek		Lower Kettle Creek	
Indicator and Description		Result	Grade	Result	Grade	Result	Grade
Surface Water Conditions	Low Flow Days is the average number of days where the flow in the creek is below the Level 1 Low Water threshold. Low water affects water taking permits throughout the watershed and can have an effect on aquatic organisms.	141 days	F	141 days	F	141 days	F
	High Flow Events occur when the water level in the watercourse approaches or exceeds the bankful width. Flood events can cause damage to property and can pose a health risk to the general population.	10.6 events	C	7.2 events	C	5.4 events	C
	Percent Precipitation as Discharge is a measure of the recharge capabilities of precipitation throughout the watershed. There is very little groundwater recharge in the watershed making precipitation recharge very important.	36.06%	D	34.66%	C	46.61%	D
	Summer Dawn Dissolved Oxygen (DO) is the amount of oxygen available in the water to be used by aquatic life. DO concentrations decrease when the water temperature increases. Certain organisms, such as Rainbow Trout, require high levels of DO to survive.	6.93 mg/L	A	7.59 mg/L	A	7.63 mg/L	A
	Total Phosphorus is a nutrient that binds to soil particles and thus is an indicator of sedimentation, erosion and contaminants that are carried to the stream through surface runoff. High concentrations of phosphorus can lead to low oxygen levels, excessive algae blooms and impaired aesthetics.	0.764 mg/L	F	0.112 mg/L	C	0.282 mg/L	D
	Summer Conductivity indicates water's ability to conduct electrical current and reflects the amount of dissolved ions present in the water body. High conductivity often indicates contaminants entering the system (ie. from a faulty septic system or a sewage lagoon).	1341 µs/cm	C	594 µs/cm	A	736 µs/cm	B
	Benthic Invertebrates are excellent indicators of water and sediment quality. Benthos are easily collected, are sedentary in nature and live in a variety of habitats. The BioMAP index summarizes the species and quantities of benthics in a sample.	5.9	F	7.0	D	11.8	B
	Turbidity is often associated with an aesthetic element to water quality. Turbidity can also have an effect on light penetration into a waterbody preventing plant growth, covering fish nursery areas and clogging gills.	32.19 FTU	C	25.15 FTU	C	75.80 FTU	F
	E. coli bacteria are found in human and animal waste. E. coli found in a water sample is an indication that other fecal contamination and disease causing bacteria may be present. The Provincial Water Quality Objective (PWQO) for recreational water use is 100 CFU/100ml.	432 CFU/100ml	C	345 CFU/100ml	C	482 CFU/100ml	C
	Overall Grade	D+		C+		C-	

GROUNDWATER CONDITIONS

Groundwater is the water found below the earth's surface in the soil, wells, porous rocks and aquifers. Seven monitoring wells have been established in the KCCA watershed. Water samples are collected each spring and fall and are tested for a variety of parameters including: nutrients, metals and bacteria. KCCA first collected groundwater data from the monitoring wells in 2003 in partnership with the MOE's Provincial Groundwater Monitoring Network (PGMN). The groundwater monitoring program must continue sampling for several years to collect enough data to make a meaningful conclusion regarding the status of groundwater quality. However, preliminary results are excellent across all three subwatersheds. Chloride (salt) levels are well below the Environment

Canada toxicity level of 210 mg/L in all subwatersheds and there have been no *Escherichia coli* (E. coli) bacteria found in any of the monitoring wells. The Provincial Water Quality Objective for E. coli is zero CFU/100ml for drinking water.

It is important to note that the grades are only a reflection of the water quality measured within each well and cannot be used to assess groundwater quality beyond the actual well. KCCA needs to add additional monitoring wells to both the Dodd Creek and Lower Kettle Creek subwatersheds to expand the monitoring program and gain a better understanding of the groundwater conditions within the watershed.



Monitoring Well

		Dodd Creek		Upper Kettle Creek		Lower Kettle Creek	
Indicator and Description		Result	Grade	Result	Grade	Result	Grade
Groundwater Conditions	Water Table Height measures the net change in the static water level within the well casing and reflects the water level within the aquifer.	0 m	A	0.17 m	A	0.45 m	A
	Nitrates and Nitrites are forms of nitrogen that can enter groundwater from land use activities. Sources include: sewage effluent, industrial wastewaters, faulty septic systems, landfill effluent, and industrial and agricultural runoff. High concentrations of nitrates and nitrites in groundwater can make it unsafe for human consumption.	0.025 mg/L	A	0.028 mg/L	A	0.050 mg/L	A
	Chloride (salt) found in high concentrations in the groundwater can be an indication of human impact on the aquifer. Road salt, water softeners and fertilizers can be significant sources of chloride entering the groundwater.	48.00 mg/L	A	6.29 mg/L	A	5.97 mg/L	A
	E. coli bacteria are found in human and animal waste. E. coli found in a water sample is an indication that other fecal contamination and disease causing bacteria may be present. The PWQO for drinking water is 0 CFU/100ml.	0 CFU/100ml	A	0 CFU/100ml	A	0 CFU/100ml	A
	Overall Grade	A		A		A	

TERRESTRIAL CONDITIONS

Over the last decade, KCCA has planted over 700,000 trees throughout the watershed. However, forest cover is under constant pressure from urban development and the expansion of agricultural lands. The bulk of KCCA's forest cover is generally found on lands that are unsuitable for agriculture or development, and are located in small fragmented pockets throughout the watershed. KCCA's primary focus in reforestation is enhancing forest interior, connecting woodlots, creating habitat corridors and stream buffers.



Wood Frog

	Indicator and Description	Dodd Creek		Upper Kettle Creek		Lower Kettle Creek	
		Result	Grade	Result	Grade	Result	Grade
Terrestrial Conditions	Forest Cover is the percentage of the watershed that is forested. Environment Canada recommends 26% forest cover in a watershed to support wildlife species.	8.0%	D	11.8%	D	17.9%	C
	Forest Interior is the protected core area found inside a woodlot that some bird species need for breeding. Ideally, a watershed should contain at least 10% forest interior habitat.	0.80%	F	0.95%	F	1.70%	F
	Fauna Indicator Species are animals that by their presence or absence indicate the condition of the environment. Many of these species are indicative of the Carolinian Life Zone.	21	A	22	A	23	A
	Overall Grade	C-		C-		C	



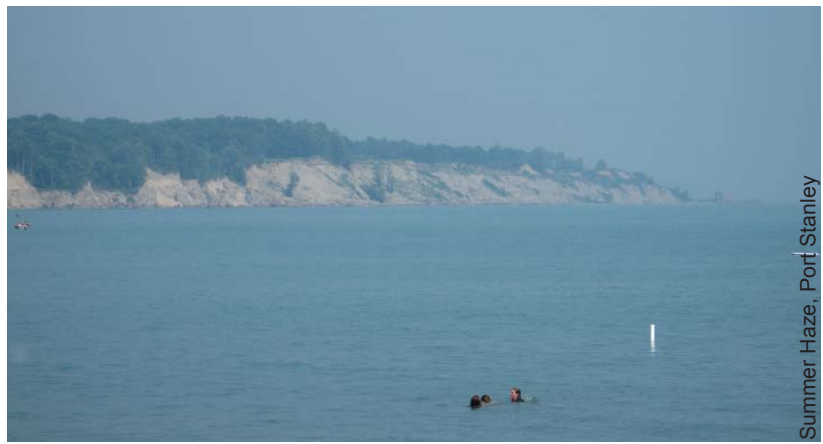
Eastern Meadowlark



Eastern Milksnake

CLIMATE CONDITIONS

Average annual temperatures in Southern Ontario have increased by 0.5°C over the past century and are expected to rise by an additional 3.5 - 4°C over the next 100 years. KCCA monitors streamflow levels throughout the watershed to assist with flood forecasting and warning and for issuing low water advisories. Increased winter streamflows and decreased minimum summer flows suggest that the historical streamflow patterns are changing for the entire Kettle Creek watershed. All aspects of watershed health will undoubtedly be affected by climate change.



Summer Haze, Port Stanley

Indicator and Description		Dodd Creek		Upper Kettle Creek		Lower Kettle Creek	
		Result	Grade	Result	Grade	Result	Grade
Climate Conditions	Extreme Precipitation Events occur when 5 cm of rain falls in a period of 2 hours or less. This amount of precipitation will result in overbank flooding.	2 events	A	2 events	A	2 events	A
	Drought Duration is a measure of the number of days with less than 7.6 mm of rain after a two-week period.	16.2 days	C	16.2 days	C	16.2 days	C
	Hot Days occur when the maximum daily temperature is greater than 30°C.	14.5 days	D	14.5 days	D	14.5 days	D
	Air Quality Index is the average number of recorded "Smog Advisory Days".	24 smog days	C	24 smog days	C	24 smog days	C
	Overall Grade	C-		C-		C-	



Ice Jam, Port Stanley



Spring Flood, Dalewood Dam

WATERSHED MONITORING SITES



LEGEND:

-  Benthic Sites
-  Stream Level Gauges
-  Surface Water Monitoring Sites
-  Groundwater Monitoring Wells
-  Kettle Creek Watershed Area
-  Woodlots
-  Watercourses
-  Roadways
-  Municipal Boundaries
-  Urban Areas

Scale= 1:60,000

0 0.5 1 2 3 4
Kilometers

↑
N

DODD CREEK SUBWATERSHED



C-



Dodd Creek is Kettle Creek’s largest tributary, with a drainage area of 133 km². The subwatershed is characterized by high runoff and very little groundwater recharge, which contributes to the low water levels and baseflow.

In 2004, residents of the Dodd Creek subwatershed worked together with KCCA and a technical advisory group to develop the *Dodd Creek Community Based Watershed Strategy*. This strategy prioritized the environmental issues and restoration needs of the subwatershed. Due to the high proportion of agricultural land use of the subwatershed, combined with the predominantly clay soils, the priority issues centred on drainage, erosion and “keeping the water on the land”. The vast network of municipal drains that crisscross the subwatershed cause surface water to be immediately washed away, leading to increased sedimentation and erosion and negatively impacting groundwater recharge.



Municipal Drain, Dodd Creek

Feature	Description
Area	133 km ² , 25% of the Kettle Creek watershed
Municipalities	Southwold, Middlesex Centre, London, St. Thomas, Central Elgin
Significant Watercourses	Dodd Creek
Land Use	63% Row Crop, 16% Small Grain, 11% Wildlands, 5% Legume/Grasses, 3.5% Urban, 1% Other 0.5% Pasture
Geology	50% Clay Plains, 25% Till Plains, 20% Till Moraines, 5% Sand Plains
Soils	44% Clay Loam, 23% Loam, 10% Silty Loam, 5% Fine Sand Loam, 4% Bottom Land, 4% Valley Complex, 3% Loamy Sand, 2.5% Other, 2% Silty Clay Loam, 1% Clay, 1% Sandy Loam, 0.5% Very Fine Sandy Loam
Wetlands	0.1% of the subwatershed is classified as wetland
Groundwater	This subwatershed is characterized by shallow, intermediate, and deep overburden aquifers and a bedrock aquifer. The recharge rate in this region is slow due to the predominance of clay and compacted tills at ground surface.
Natural Areas	Locally Significant Wetland: Allan White Wetland (9.7 ha) Significant Natural Areas: Glanworth Complex (32 ha), Middlemarch Forest Complex (250 ha), Southwold Station Woodlot (34 ha)
Fish Community	A total of 30 warm water fish community species have been identified including Largemouth and Smallmouth Bass. The Common Carp, an invasive species, is found within this subwatershed.
Wastewater Treatment Plants	None
Species at Risk (Threatened/Endangered/S1/S2)	Vegetation: Brainerd’s Hawthorn, Crooked-stem Aster, False Rue Anemone, Forked Blue Curls, Shinners’ Three-awned Grass, Southern Tickseed, Sullivant’s Milkweed Reptiles: None known at this time Amphibians: None known at this time Birds: Acadian Flycatcher Fish: None known at this time Mussels: None known at this time Insects: Monarch Mammals: American Badger

Dodd Creek Subwatershed

UPPER KETTLE CREEK SUBWATERSHED

C



The Upper Kettle Creek subwatershed drains an area of 201 km² before it joins Dodd Creek at the City of St. Thomas. The main branch of Kettle Creek begins at Lake Whittaker, a kettle lake, in the northeast corner of the subwatershed. The Upper Kettle Creek subwatershed contains the largest water storage reservoir in the watershed, Dalewood Reservoir, which is used for flood control and baseflow regulation.

Based on the success of the process developed for the Dodd Creek subwatershed, the *Upper Kettle Creek Community Based Watershed Strategy* was initiated in 2005. Once again, local residents in partnership with KCCA worked together to develop a list of priority issues affecting the health of the Upper Kettle Creek subwatershed. Environmental issues and restoration needs for the subwatershed included: erosion prevention, protection and creation of wetlands, source water protection and reforestation.



Erosion, Upper Kettle Creek

Upper Kettle Creek Subwatershed

Feature	Description
Area	201 km ² , 39% of the Kettle Creek watershed
Municipalities	London, Malahide, Southwold, St. Thomas, Thames Centre, Central Elgin
Significant Watercourses	Upper Kettle Creek, Salt Creek, Spring Creek, Vessie Drain
Land Use	61% Row Crops, 17% Small Grains, 11% Wildlands, 5% Urban, 4% Legume/Grasses, 1.3% Other, 0.4% Water, 0.3% Pasture
Geology	45% Till Plains, 30% Till Moraines, 15% Clay Plains, 10% Other
Soils	37.5% Loam, 29.4% Clay Loam, 9.3% Silty Loam, 6.1% Valley Complex, 5.7% Silty Clay Loam, 5.0% Not Mapped, 4.2% Bottom Land, 1.2% Fine Sand Loam, 0.5% Other, 0.4% Organic, 0.3% Sand Loam, 0.3% Water, 0.1% Loamy Sand
Wetlands	0.8% of the subwatershed is classified as wetland
Groundwater	The recharge rate in this subwatershed is slow because of the tills and heavy soils that cover the ground. The depth of the groundwater limits the susceptibility of contamination within this region.
Natural Areas	Provincially Significant Wetlands: Pitcher Plant Bog (106 ha), Kettle Creek Woods (25 ha), Glanworth Complex (38 ha), Kirk Cousins (80 ha), Lake Whittaker Swamp (47 ha), Hearn's Wetland (10 ha) Locally Significant Wetlands: ESD-8 and 1-11 Wetlands (6 ha), MN4 and MN5 Wetlands (7 ha) Significant Natural Areas: Salt Creek Woods (36 ha), Avon Swamp (60 ha)
Fish Community	A total of 26 warm water fish community species have been identified including Largemouth and Smallmouth Bass. The Common Carp, an invasive species, is found within this subwatershed.
Wastewater Treatment Plants	Belmont Sewage Lagoons
Species at Risk (Threatened/Endangered/S1/S2)	Vegetation: Crooked-stem Aster, Erect Knotweed, Fall Witch Grass, Hill's Pondweed, Long-styled Canadian Snakeroot, Lowland Brittle Fern, Purple Love Grass, Stiff Gentian, Toadflax Reptiles: Blanding's Turtle, Eastern Hog-nosed Snake Amphibians: None known at this time Birds: Least Bittern, Loggerhead Shrike, Northern Bobwhite Fish: None known at this time Mussels: None known at this time Insects: Monarch, Pronghorn Clubtail Mammals: American Badger

LOWER KETTLE CREEK SUBWATERSHED



C



The Lower Kettle Creek subwatershed drains an area of 186 km². Lower Kettle Creek begins at the confluence of Dodd Creek and Upper Kettle Creek at St. Thomas and flows into Lake Erie at Port Stanley. There are three main tributaries in the subwatershed, Mill Creek, Beaver Creek and Little Creek, all of which can support a cool water fishery.

Published in 2008, the *Lower Kettle Creek Community Based Watershed Strategy* was the last in the series of subwatershed strategies for the Kettle Creek watershed. Local landowners in partnership with KCCA prioritized the environmental issues and restoration needs of the subwatershed. Unlike portions of the northern reaches of the watershed, the Lower Kettle Creek subwatershed contains more sandy soils. These sandy soils allow for an increased capacity to absorb water, reducing surface water runoff. Similar to the Upper Kettle Creek subwatershed, the top environmental priorities for the subwatershed were erosion prevention, protection and creation of wetlands, source water protection and reforestation.



Illegal Dumping

Lower Kettle Creek Subwatershed

Feature	Description
Area	186 km ² , 36% of the Kettle Creek watershed
Municipalities	Central Elgin, Southwold, St. Thomas
Significant Watercourses	Lower Kettle Creek, Beaver Creek, Little Creek, Mill Creek
Land Use	53% Row Crops, 19% Wildlands, 11% Small Grains, 9% Urban, 4% Legume/Grass, 4% Other
Geology	50% Sand Plains, 35% Clay Plains, 10% Till Moraines, 5% Beaches/Shorecliffs
Soils	21.7% Loam, 14.1% Silty Loam, 11% Not Mapped, 8.6% Fine Sand Loam, 8.5% Fine Sand, 8.1% Bottom Land, 7.0% Sand Loam, 5.8% Valley Complex, 5.5% Other, 3.8% Loamy Fine Sand, 2.6% Clay Loam, 1.7% Clay, 1.6% Very Fine Sandy Loam
Wetlands	1% of the subwatershed is classified as wetland
Groundwater	Recharge in the northern and western region is slow because of the high levels of clay in the subsurface. The southern sections have fast recharge as the subsurface is comprised of sands and gravels.
Natural Areas (ANSI - Area of Natural and Scientific Interest)	Provincially Significant Wetlands: Beaver Creek Wetland Complex (90 ha), Salamander Woods (80 ha) Locally Significant Wetlands: ES-1 (5.3 ha), EY-9 (7.1 ha), EY-10 (3.6 ha), Moore Water Gardens (13.4 ha), EY-24 (3.9 ha) Significant Natural Areas: Barnum's Gully (43 ha), Hawk Cliff ANSI (142 ha), Port Stanley Till ANSI, Showy Orchids Hillside (60 ha), Sparta Raised Beaches ANSI (65 ha)
Fish Community	A total of 29 fish species have been identified including Largemouth and Smallmouth Bass and Rainbow Trout. Invasive species identified within this subwatershed are Round Goby, Common Carp and White Perch.
Wastewater Treatment Plants	St. Thomas Water Pollution Control Plant, Port Stanley Sewage Lagoons
Species at Risk (Threatened/Endangered/S1/S2)	Vegetation: American Ginseng, Butternut, Crooked-stem Aster, Eastern Few-fruited Sedge, Eastern Prickly Pear Cactus, Erect Knotweed, Frank's Sedge, Green Dragon, Lowland Brittle Fern, Slender Eight-flowered Fescue, Spoon-leaved Moss, Stiff Gentian, Wood-vetch Reptiles: Eastern Hog-nosed Snake, Spiny Softshell Turtle Amphibians: None known at this time Birds: Acadian Flycatcher, Bald Eagle, Northern Bobwhite Fish: Silver Chub Mussels: None known at this time Insects: Monarch, Painted Skimmer, Swamp Darner Mammals: None known at this time

WATERSHED SUCCESSES

Between 2003 - 2007, KCCA planted 340,000 Carolinian and native tree species focusing on those species that are drought resistant and native to the area.



Between 2003 - 2007, KCCA in partnership with Presstran Industries, removed garbage from the watershed in the Annual Kettle Creek Cleanup.



KCCA published the *Dodd Creek Community Based Watershed Strategy*.

KCCA completed a *Watershed Characterization Report* and a *Water Quality Trends and Conditions Report*.

2003

2004

2005

2006

2007

Wetland creation project completed in the Dodd Creek subwatershed.

Wetland creation project completed in the Dodd Creek subwatershed.

KCCA was selected to take part in a binational watershed strategy project in partnership with the Lake Erie Binational Public Forum.

KCCA published the *Upper Kettle Creek Community Based Watershed Strategy*.



Wetland creation project completed in the Upper Kettle Creek subwatershed.



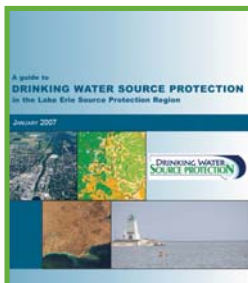
New generic regulation came into effect in 2006 to continue to protect residents from natural hazards (i.e. flooding and erosion).



Between 2004 - 2007, over \$250,000 of funding was raised for stewardship, tree planting, and education in addition to the \$300,000 in funding from Ontario Power Generation for tree planting.

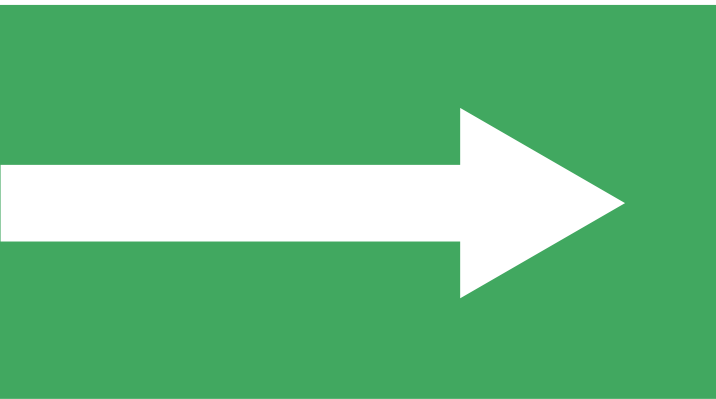


Two wetland creation projects completed, one in the Dodd Creek subwatershed and another in the Lower Kettle Creek subwatershed.



Lake Erie Source Protection Region was formed in 2007.

Kettle Creek Source Protection Authority was formed through the *Clean Water Act* in 2007.



In the spring of 2007, more than 700 students helped plant 30,000 trees in the Buckle Conservation Area.



Upper Kettle Creek Forest Restoration

This 33 acre property was reforested with native and Carolinian tree and shrub species in the spring of 2007 as a partnership between Kettle Creek Conservation Authority, Ontario Power Generation and Environment Canada's EcoAction Community Funding Program. This project is a prime example of how the Kettle Creek community is working together to enhance forest interior habitat and extend natural heritage corridors in the Kettle Creek watershed.

ONTARIO POWER
GENERATION

Environment Canada
Environnement Canada
EcoAction Community Funding Program

NEXT STEPS...

- Develop a comprehensive private lands stewardship program for the Kettle Creek watershed
- Implement action plans in the Dodd Creek, Upper Kettle Creek and Lower Kettle Creek Community Based Watershed Strategies
- Continue tree planting efforts to increase forest cover, forest interior and to create habitat corridors in the watershed
- Plant streamside buffers along watercourses, including municipal drains
- Conserve woodlands and wetlands through designations in Official Plans, enforcement of tree conservation bylaws and landowner education
- Continue efforts to locate and protect species at risk in the watershed
- Increase environmental awareness of the threats to surface and groundwater quality
- Decommission abandoned wells and upgrade existing wells to prevent groundwater contamination
- Repair or replace faulty septic systems and establish septic system maintenance plans
- Implement Best Management Practices (BMPs) to reduce sediment and nutrient loadings in the watershed

People in harmony with nature



Front cover:
The Least Bittern is a
provincially and nationally
threatened wading bird that nests
in the Kettle Creek watershed.
Photograph by: Benoît Jobin,
Canadian Wildlife Service

Back cover: Upper Kettle Creek
Photograph by: Jennifer Dow



Kettle Creek
Conservation Authority

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