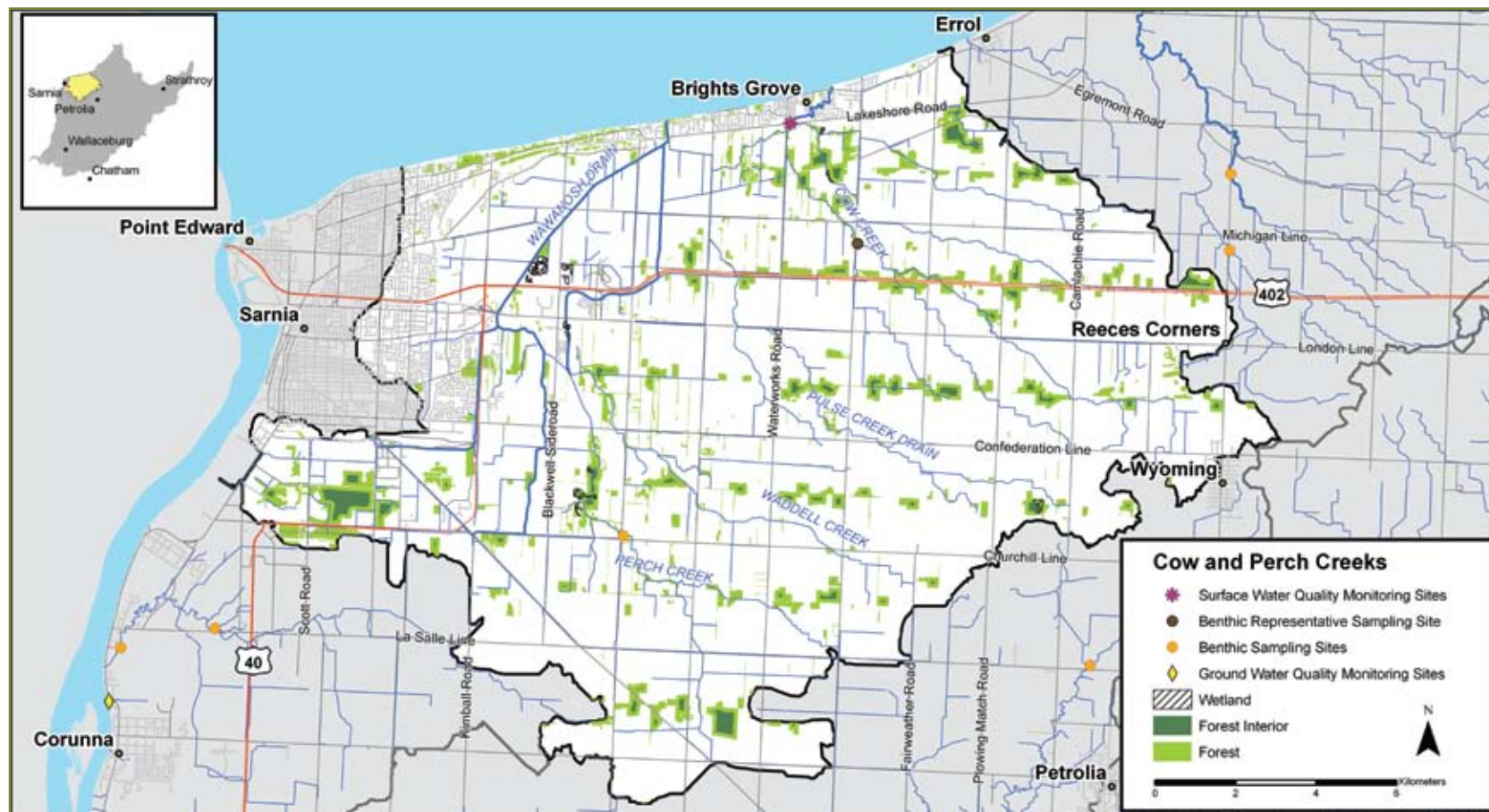




Cow and Perch Creeks

Watershed Report Card



This report card summarizes water quality and forest conditions for the Cow and Perch Creek watersheds within the St. Clair Region Conservation Authority jurisdiction. The summary is intended to provide landowners, groups, municipalities and agencies with information to protect, enhance and improve natural features of the watershed. The ongoing monitoring will be reported on a five-year cycle which will help local people manage their natural features.

This report card is part of a larger report entitled The St. Clair Region Conservation Authority Watershed Report Card available at: www.scrca.on.ca. Further information, including methodology, comparisons to the other 13 St. Clair Region watersheds, and references are also found in the report.

Grades:
Forest Conditions - D
Surface Water Quality - B





Cow and Perch Creeks

Watershed Features

Area	266 sq km or 65 800 acres or 103 square miles
Municipalities	Sarnia, Plympton-Wyoming, St. Clair, Enniskillen
First Nations	Aamjiwnaang
Watercourses	Cow Creek, Pulse Creek Drain, Waddell Creek, Perch Creek, Wawanosh Drain
Land Use	79% agriculture; 14% urban/industrial; 6% woodlot; 1% other (OMAFRA 1983)
Geology	84% bevelled till plains; 6% peat and muck; 5% sand plains; 4% till plains; 1% beaches and shorecliffs (GIS derived from physiographic maps) (Chapman and Putnam 1984)
Soils	91% silt and clay; 3% sand loams; 3% silt and clay loams; 1% bottom land and beach; 1% organic; 1% loam
Streamside Cover	14% of the 15 metre area on both sides of open stream is vegetated (SOLRIS Woodlands OMNR 2005, SCRCA 2007)
Wetlands	0% (SOLRIS Wetlands OMNR 2005)
Groundwater	There is a shallow overburden aquifer along the lakefront in the sand plain east of Sarnia, which is of reasonable quality and quantity. Farther inland the only aquifer is deep, has high sodium and chloride and is of limited quantity. Most of the residents are supplied by municipal water which is piped from Lake Huron.
Natural Areas	Provincially Significant Wetlands: Wawanosh Conservation Area Wetlands Locally Significant Wetlands: Perch Creek Wetland Significant Natural Areas: Highway 402 Woods, Brights Grove Lagoons, Reeces Corners Gravel Pits, Camlachie Woods, Jackson Drive Woods, Deptford Pink Woods, Mandaumin Nature Reserve, Blackwell Prairie/Howard Watson Nature Trail, Logans Pond, Saredeca Woods, Suncor Natureway, Perch Creek Wildlife Management Area and Wetland, Dennis Rupert Prairie
Fishes	Warm water fish communities with 17 species including Yellow Perch and sunfish
Waste Water Treatment Plants	Brights Grove Lagoons
Species at Risk Sources: NHIC, 2007; SCRCA, 2007	Vegetation: Colicroot, Dense Blazingstar, Riddell's Goldenrod, Willow Aster, Bird's-foot Violet Reptiles: Blanding's Turtle, Butler's Gartersnake Birds: None known at this time Fishes: None known at this time Mussels: None known at this time Mammals: None known at this time



Cow and Perch Creeks

Forest Condition and Water Quality

Indicator and Description

FOREST CONDITIONS	Cow & Perch Creeks Result Grade	SCRCA Area Result Grade
<p>Forest Cover is the percentage of the watershed that is forested. Environment Canada recommends 30% of a watershed should be in forest cover.</p>	8.9% D	11.5% D
<p>Forest Interior is the area inside a woodlot that some bird species need for breeding. Environment Canada recommends 10% of a watershed should be in forest cover that is at least 100 m from the forest edge.</p>	0.9% F	1.8% D

SURFACE WATER QUALITY	Cow & Perch Creeks Result Grade	SCRCA Area Result Grade
<p>Total Phosphorus is an element that enhances plant growth and contributes to excess algae and low oxygen in streams and lakes. The Ministry of the Environment has established an environmental health objective concentration of 0.03 mg/L.</p>	0.15 mg/l C	0.14 mg/l C
<p>E. coli (Escherichia coli) are bacteria found in human and animal waste. Their presence in water indicates the potential for water to have other disease-causing organisms. The Ministry of Health has established a guideline of 100 cfu (colony forming units)/100 mL in recreational waters.</p>	No Data	181 cfu C
<p>Benthic Invertebrates are small animals without backbones that live in stream or lake sediments. The Family Biotic Index (FBI) summarizes the information about the numbers and types of these animals in a sediment sample. FBI values provide stream health information and values range from 1 (healthy) to 10 (degraded).</p>	5.7 FBI B	6.1 FBI C

Data collected 2001 - 2005, printed 2008

Cow and Perch Creeks

Local Solutions



Local Solutions to Improve Forest Conditions:

- Natural vegetation cover can be increased in urban areas by naturalizing manicured public parks and open spaces
- Increase forest interior by “bulking up” woodlots to make them larger and rounder, by planting native trees and shrubs around existing woodlots or allowing the edges to naturalize on their own (i.e. retire land near woodlot edges)
- Conserve woodlands and wetlands through designations in Official Plans, enforcement of tree bylaws and landowner incentives and education

Local Solutions to Improve Water Quality:

- Both municipality and private landowners should follow OMAFRA recommendations along open watercourses for:
 - Buffer strips to stabilize the banks
 - Drop-tube inlets or chute spillways for sediment retention
 - Sediment control basins for surface water flow
 - Erosion protection for all tile outlets
 - Regular inspection of drain water quality for colour, odour and foaming
- Implement environmental practices on golf courses (e.g. Audubon Cooperative Sanctuary Program)
- Plant buffers (trees, grasses) along open watercourses to provide shade and filter pollutants

Thumbs Up!

- All those landowners who have Environmental Farm Plans
- Members of Lambton Wildlife who have become certified seed collectors, so they can collect genetically adapted tree seeds for this area
- Lambton Wildlife Inc. and Sarnia Urban Wildlife members for collecting native seeds and planting them at Perch Creek Management Area to diversify the plantations
- City of Sarnia for naturalizing 32 hectares of agricultural land beside Perch Creek Management Area
- Urban Wildlife Committee for undertaking a Natural Heritage Study for Sarnia
- Suncor Energy Foundation for financing naturalization and trail development along the Suncor Nature Way



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