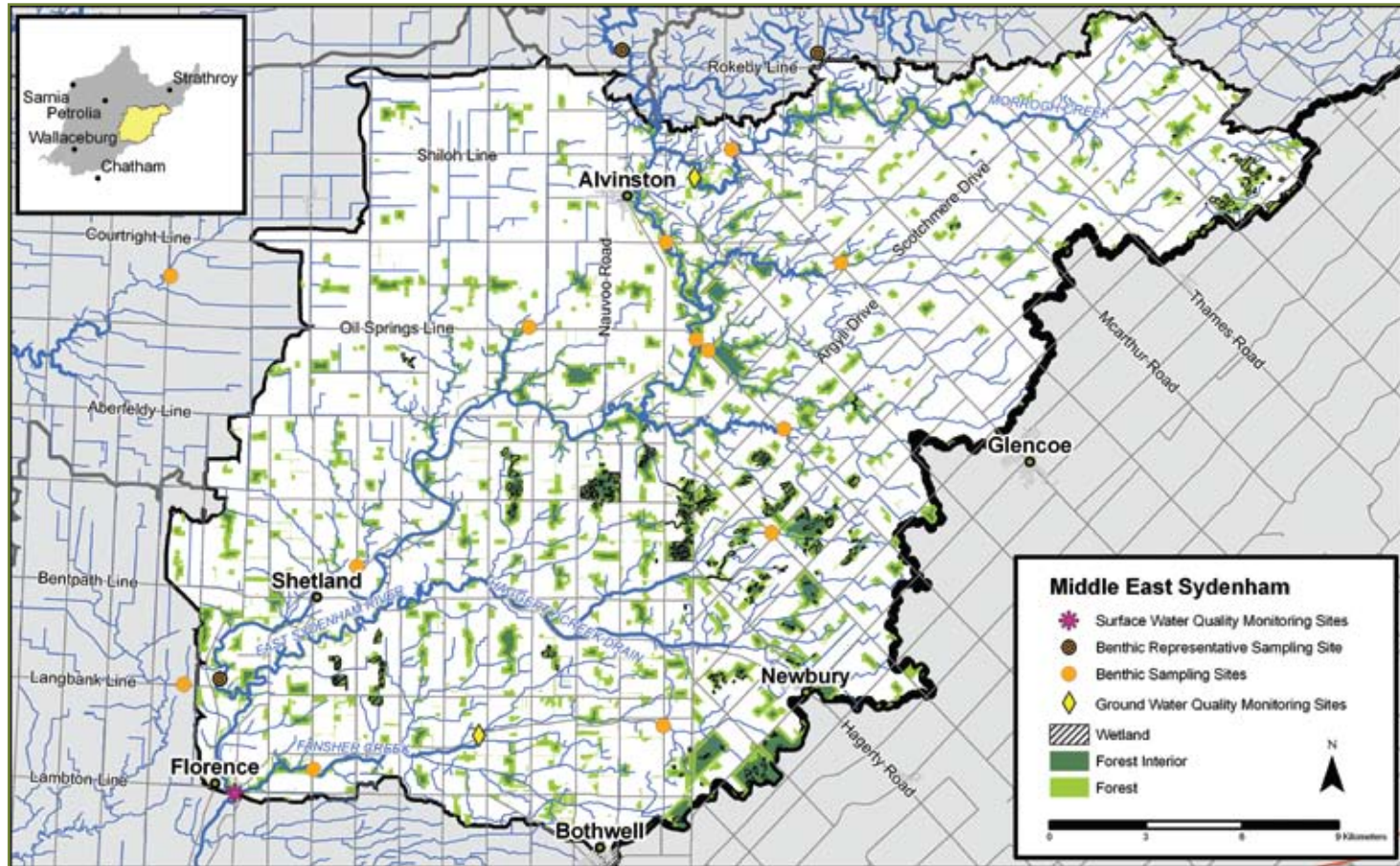




Middle East Sydenham Watershed Report Card



This report card summarizes water quality and forest conditions for the Middle East Sydenham watershed 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 - C
Surface Water Quality - C





Middle East Sydenham

Watershed Features

Area	539 sq km or 133 070 acres or 208 square miles
Municipalities	Southwest Middlesex, Brooke-Alvinston, Dawn-Euphemia, Adelaide-Metcalf, Chatham-Kent, Newbury
First Nations	none
Watercourses	East Sydenham River (in part), Morrogh Creek, Haggerty Creek Drain, Fansher Creek.
Land Use	85% agriculture; 14% woodlot; 1% urban/industrial (OMAFRA 1983)
Geology	43% sand plains; 33% clay plains; 24% bevelled till plains(GIS derived from physiographic maps)(Chapman and Putnam 1984)
Soils	54% silt and clay; 35% sand loams; 5% bottom land and beach; 3% loam; 3% silt and clay loams
Streamside Cover	22% of the 15 metre area on both sides of open streams is vegetated (SOLRIS Woodlands OMNR 2005, SCRC 2007)
Wetlands	0.8% (SOLRIS Wetlands OMNR 2005)
Groundwater	The Bothwell Sand Plain Aquifer is in the overburden in the southern part of this area. It generally has good quality and quantity of groundwater although it is vulnerable to drought and to contamination from surface land uses. The northern area has a deeper aquifer at the interface between the overburden and the bedrock, known as the Fresh Water Aquifer, which is limited in quantity and has elevated chloride. Although the western half of this area is serviced by municipal piped water from the Great Lakes, the majority of residents still use private wells for domestic and agricultural purposes.
Natural Areas	Provincially Significant Wetlands: Skunks Misery, Bobcat Swamp, McCready Woods and Wetland, Grape Fern Woods and Wetland, Melbourne Marsh Locally Significant Wetlands: Dawn Euphemia Woods and Wetland, McPhail Woodland Tract and Wetland, Highway 79 – Euphemia Woods and Wetland, West Newbury Wetland, Euphemia Woodlot Significant Natural Areas: Skunks Misery Area of Natural and Scientific Interest and Carolinian Canada Site, Sydenham River Corridor Carolinian Canada Site, Shetland Heronry, Shetland Kentucky Coffee-tree Grove Carolinian Canada Site, Knapdale Woods, Newbury Woods, Cairo Woods, County Line Woods, Cottonwood Swamp, Fansher Creek Natural Area, Shields Woods, Campbell Conservation Area, Sinclair Management Area
Fishes	Warm water fish community with 63 species including Walleye, Northern Pike, Largemouth Bass, Rock Bass and sunfish. Important habitat for fish species at risk.
Waste Water Treatment Plants	Alvinston WWTP; Newbury WWTP
Species at Risk Sources: NHIC, 2007; SCRC, 2007	Vegetation: Green Dragon, American Chestnut, Butternut, Small White Lady's-slipper, Kentucky Coffee-tree, Blue Ash, Prairie Rose Reptiles: Spiny Softshell Turtle, Northern Map Turtle, Eastern Ratsnake, Milksnake, Common Musk Turtle, Blanding's Turtle, Butler's Gartersnake, Eastern Hognose Snake, Eastern Ribbonsnake Birds: Northern Bobwhite, Cerulean Warbler, Red-headed Woodpecker, Acadian Flycatcher, Prothonotary Warbler, Hooded Warbler Fishes: Eastern Sand Darter, Greenside Darter, Spotted Sucker Mussels: Northern Riffleshell, Snuffbox, Wavyrayed Lampmussel, Kidneyshell, Round Hickorynut, Rayed Bean, Round Pigtoe, Mudpuppy Mussel Mammals: American Badger



Middle East Sydenham

Forest Condition and Water Quality

Indicator and Description

FOREST CONDITIONS	Middle East Sydenham 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>	14.5% C	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>	2.3% D	1.8% D
SURFACE WATER QUALITY	Middle East Sydenham 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>	0.08 mg/l B	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>	101 cfu C	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>	6.4 FBI C	6.1 FBI C

Data collected 2001 - 2005, printed 2008



Middle East Sydenham

Local Solutions



Local Solutions to Improve Forest Conditions:

- Conserve woodlands and wetlands through designation in Official Plans, support the woodland and tree conservation bylaws and provide landowner incentives and education
- Use local resources, like the Lambton and Middlesex Woodlot Owners Associations, to help properly manage your private woodlot
- 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)

Local Solutions to Improve Water Quality:

- Control travel of wheeled recreational vehicles through the watercourses since this destroys aquatic habitat
- Encourage municipalities to follow Best Management Practices on municipal drains including buffer strips to stabilize the banks
- Complete and implement Environmental Farm Plans and Nutrient Management Plans, especially for fertilizer, pesticide and fuel storage; manure storage and spreading and livestock access restriction

Thumbs Up!

- Rural landowners who fenced their livestock away from the watercourse, and are planting former pasture into native forest
- Rural landowners who purchased pasture farms, and are putting personal time and effort into developing large healthy native forests on their whole property
- All those landowners who have Environmental Farm Plans
- Middlesex County for developing a Comprehensive Woodlands Management Plan for all their woodlands, and establishing a Woodlands Advisory Committee to provide feedback on all matters concerning woodlands management
- Fanny Gawne for donating a 40 hectare farm with a six hectare woodland for public conservation
- Naomi Sinclair and Dr. Douglas Sinclair for donating an 80 hectare property with 35 hectare woodland for public conservation



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