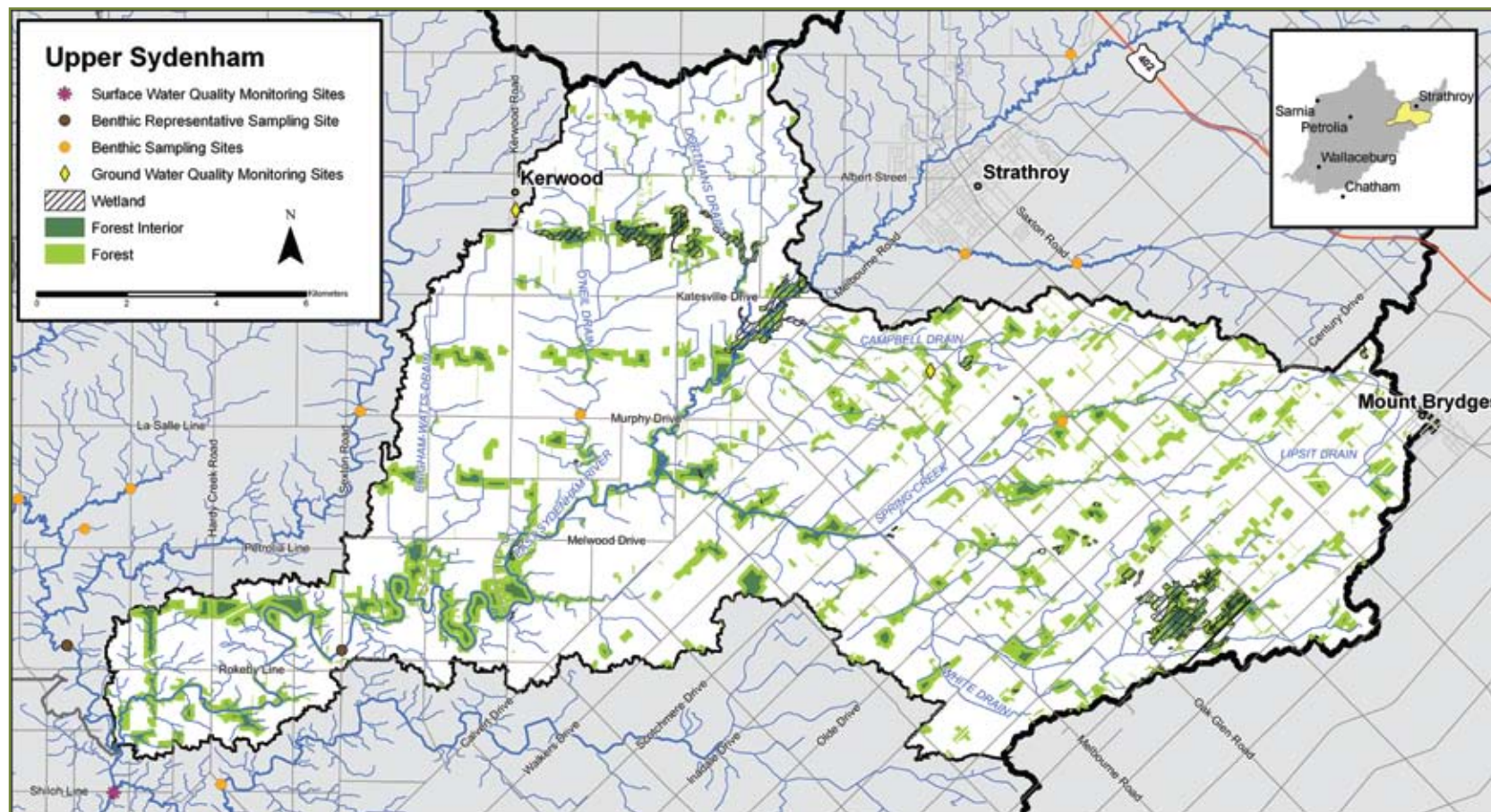




# Upper Sydenham River Watershed Report Card



This report card summarizes water quality and forest conditions for the Upper Sydenham River 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](http://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 - C**





# Upper Sydenham River

## Watershed Features

<b>Area</b>	229 sq km or 56 640 acres or 88 square miles
<b>Municipalities</b>	Strathroy-Caradoc, Adelaide-Metcalf, Southwest Middlesex, Brooke-Alvinston
<b>First Nations</b>	none
<b>Watercourses</b>	East Sydenham River (in part), Campbell Creek, Spring Creek, Brigham-Watts Drain, O'Neill Drain, Dortmans Creek.
<b>Land Use</b>	84% agriculture; 14% woodlot; 1% urban/industrial; 1% other (OMAFRA 1983)
<b>Geology</b>	56% clay plains, 43% sand plains, 1% till moraines (GIS derived from physiographic maps) (Chapman and Putnam 1984)
<b>Soils</b>	42% sand loams; 37% silt and clay; 10% loam; 8% bottom land and beach; 2% fine sand; 1% organic
<b>Streamside Cover</b>	26% of the 15 metre area on both sides of open streams is vegetated (SOLRIS Woodlands OMNR 2005, SCRCA 2007)
<b>Wetlands</b>	1.7% (SOLRIS Wetlands OMNR 2005)
<b>Groundwater</b>	The Caradoc Sand Plain Aquifer is extensive in the overburden layers of this area, and is generally of good quality and quantity. It is an unconfined aquifer, vulnerable to surface land uses and Mount Brydges has experienced elevated nitrates from agricultural land uses. The groundwater which occurs at the base of the overburden layer tends to have elevated sodium and chloride levels and high iron concentrations and low yield. Most residents rely on groundwater wells.
<b>Natural Areas</b>	<b>Provincially Significant Wetlands:</b> Longwoods Woods and Wetland, Sydenham River Wetlands (in part), Kerwood Swamp <b>Locally Significant Wetlands:</b> Melwood Wetland <b>Significant Natural Areas:</b> Brooke Township Sydenham Woods.
<b>Fishes</b>	Warm water fish community with 38 species including Northern Pike, Largemouth Bass, Rock Bass and sunfish. Important habitat for fish species at risk.
<b>Waste Water Treatment Plants</b>	none
<b>Species at Risk</b> Sources: NHIC, 2007; SCRCA, 2007	<b>Vegetation:</b> Green Dragon, American Chestnut, Blue Ash <b>Reptiles:</b> Spiny Softshell Turtle, Eastern Hognose Snake <b>Birds:</b> None known at this time <b>Fishes:</b> Greenside Darter <b>Mussels:</b> Snuffbox, Wavyrayed Lampmussel, Round Hickorynut, Round Pigtoe, Kidneyshell, Rayed Bean <b>Mammals:</b> None known at this time



# Upper Sydenham River

## Forest Condition and Water Quality

### Indicator and Description

FOREST CONDITIONS	Upper Sydenham River 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>	<b>15.5% C</b>	<b>11.5% D</b>
<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>	<b>1.5% F</b>	<b>1.8% D</b>
SURFACE WATER QUALITY	Upper Sydenham River 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>	<b>0.09 mg/1 B</b>	<b>0.14 mg/1 C</b>
<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>	<b>152 cfu C</b>	<b>181 cfu C</b>
<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>	<b>5.9 FBI C</b>	<b>6.1 FBI C</b>

Data collected 2001 - 2005, printed 2008



# Upper Sydenham River

## Local Solutions



### Local Solutions to Improve Forest Conditions:

- Encourage woodlot owners to prepare and to follow Woodlot Management Plans
- Plant trees to increase the size of existing woodlands
- Conserve woodlands through designations in Official Plans, supporting the woodlands and tree conservation bylaws and providing incentives and education for landowners

### Thumbs Up!

- Strathroy Caradoc for planting 21 hectares of trees around the municipal wellheads
- All those landowners who have Environmental Farm Plans
- Landowners who implement Forest Management Plans on their woodlands
- Clark Wright for donating 20 hectares for a public woodland and natural area

### Local Solutions to Improve Water Quality:

- Fix faulty septic systems and establish a septic maintenance plan
- Implement Environmental Farm Plans, particularly for fertilizer, pesticide and fuel storage and use; manure storage and spreading and livestock restriction from watercourses
- Encourage streamside buffers along at least one side of all watercourses, especially municipal drains



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