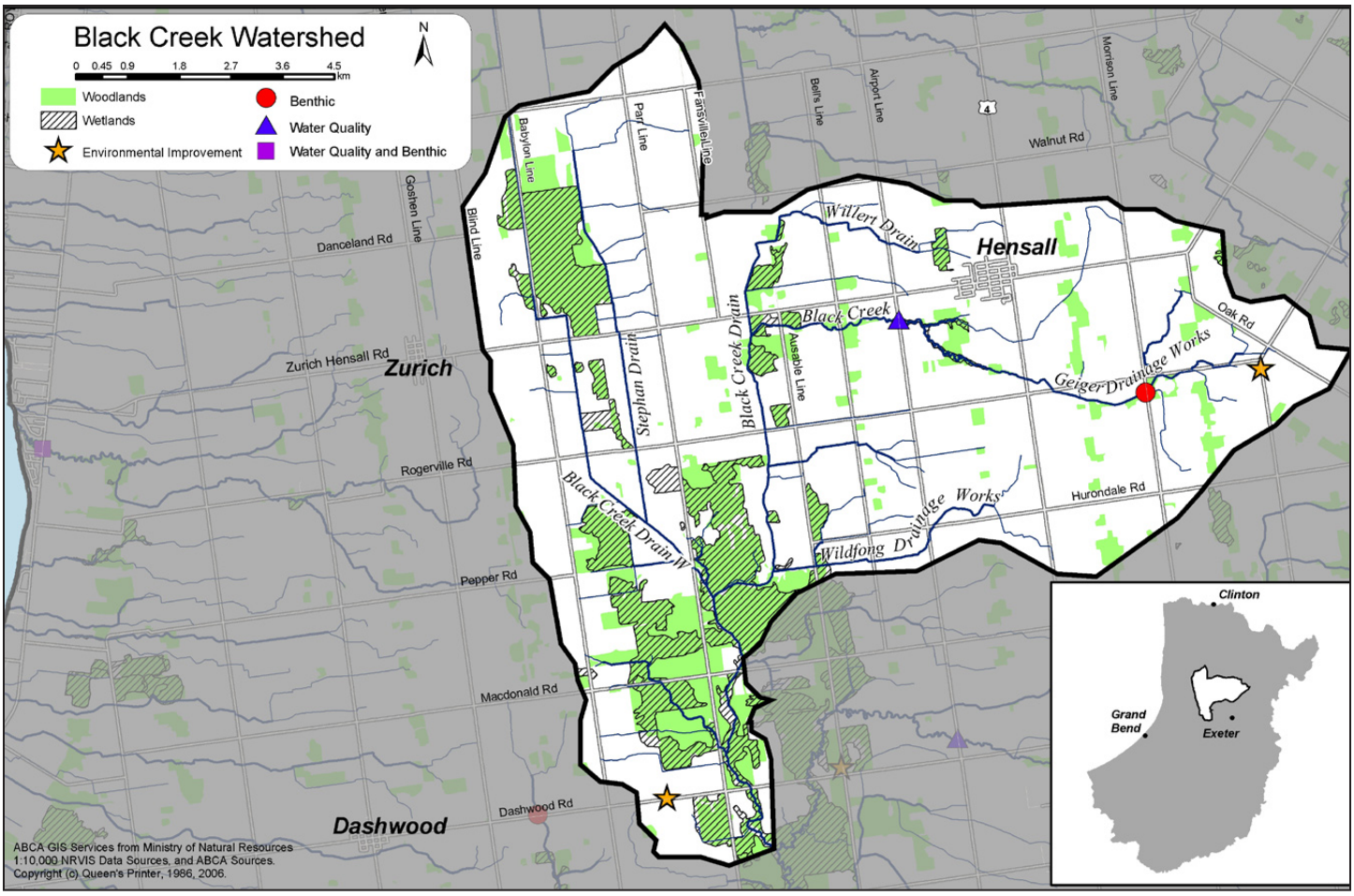
Black Creek
Watershed Report Card

Grades:	
Forest Conditions	B
Surface Water Quality	C

This report card summarizes water quality and forestry information for the Black Creek watershed (*the highlighted area on the map below*). This map also shows water quality stations and example environmental improvement locations. For consistency across watersheds, Conservation Ontario has recommended the use of specific water quality and forestry indicators that are described in the following tables. 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 Ausable Bayfield Conservation Authority Watershed Report Card** available at: **www.abca.on.ca**. Further information, including methodology, comparisons to the other 15 Ausable Bayfield watersheds and references are also found in the report.



Priority Strategy for Black Creek Watershed

Enhance: Monitor point sources for effects on fisheries and water quality.

Black Creek
Watershed Features

Area: 107 km^2 **Municipalities:** Bluewater, Huron East, South Huron, West Perth

Geology	37% Till Plains (Undrumlinized); 37% Spillways; 26% Till Moraines (GIS derived with physiographic maps) (Chapman and Putnam 1984)
Soils	59% Clay Loam; 29% Landy Loam: 8% Organic; 3% Bottomland: 1% Silty Loam (County Soils Maps 1951-1991)
Land Use	**78% agriculture; 18% woodlot; 3% urban; 1% other (OMAFRA 1983)**
Streamside Cover	19% of the 15 metre area on both sides of open streams is vegetated (OMNR 1986, ABCA 1999)
Wetlands	Existing: 12% (OMNR 2003, ABCA 2004); Potential: 31% (ABCA 2005)
Natural Areas	Dashwood Area Earth Science (Area of Natural and Scientific Interest); Hay Swamp (Provincially Significant Wetland); Hay Environmentally Significant Areas 2 to 4; Tuckersmith Environmentally Significant Area 11; Dinsmore Management Area, Adams-Klopp Tract
Groundwater	Both shallow (Wyoming Moraine Aquifer) and bedrock aquifers are found in this watershed. The bedrock aquifer is the most common source of drinking water and is part of a large aquifer system in southwestern Ontario. The Wyoming Moraine Aquifer is possibly the source of drinking water for dug or bored wells in the area and is also the main source of the flow in the Main Tributary of Black Creek. Both aquifers have been sampled indicating that nitrate and chloride concentrations are below provincial drinking water standards, with some elevations in fluoride in the bedrock aquifer and nitrate in the Wyoming Moraine Aquifer. The Wyoming Moraine Aquifer is likely the source of the water found in the expansive Hay Swamp, which is drained by Black Creek, contributing to baseflow, improved water quality and fisheries.
Fishes	Warm water fishery in the main channel; cold water fishery in tributaries

Species at Risk

(As determined by the Committee on the Status of Endangered Wildlife in Canada)

(SOURCE: Natural Heritage Information Centre, 2006)

Vegetation:	None identified at this time.
Reptiles:	None identified at this time.
Birds:	None identified at this time.
Fishes:	None identified at this time.
Mussels:	None identified at this time.
Mammals:	None identified at this time.

Wastewater Treatment Plants Hensall

Black Creek
Forest Cover, Surface Water Quality

	Indicator and Description	Black Creek		Ausable Bayfield Area	
		Result	Grade	Result	Grade
Forest Conditions	**Forest Cover** is the percentage of the watershed that is forested. Environment Canada recommends **30%** of a watershed should be in forest cover.	18.4%	C	12.6%	C
Forest Conditions	**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.	7.1%	B	2.8%	D
Water Quality	**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**.	0.09	B	0.08	B
Water Quality	**E. coli** (*Escherichia coli)* are bacteria found in human and animal waste. Their presence in water indicates the potential for the 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.	933	C	233	C
Water Quality	**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)**.	5.9	D	5.6	C

Grade	Explanation
A	Indicates excellent ecosystem conditions and protection may be required. Some areas may require enhancement.
B	Indicates good ecosystem conditions. Some areas may require enhancement.
C	Indicates ecosystem conditions that need to be enhanced.
D	Indicates poor ecosystem conditions that need to be improved.
F	Indicates degraded ecosystem conditions that need considerable improvement.

Black Creek
Next Steps and Local Successes

To improve forest conditions ...

- Sandy soils along Black Creek need grass, shrubs, trees or increased crop residue in agricultural areas.
- Streamside plantings and erosion control projects should also be considered to enhance cold water features.

To improve water quality ...

- Protect all wetlands. Drainage works should be reviewed to ensure that base flow will not be diverted, storage in the wetland will not be reduced and channelization will not reduce habitat features.
- Determine the impact of the leachate from the Hensall landfill station on the aquatic environment.
- Continue to monitor high nitrate concentrations in Black Creek and shallow aquifer wells and determine potential sources.
- Upgrade Hensall wastewater treatment plant.
- Plant windbreaks and practise conservation tillage on erosion-prone soils (Programs available through ABCA).
- Fix faulty septic systems and establish a septic maintenance plan.
- Decommission abandoned wells and upgrade existing wells to prevent groundwater contamination.
- Manure Management:
  - Apply manure at rates and times to optimize crop uptake of nutrients and prevent runoff.
  - Monitor tile outlets for contaminants during and following manure application and implement spill contingency plans if necessary.
  - Ensure manure storage facilities are adequate and properly functioning.
  - Keep records; develop a nutrient management plan (Environmental Farm Plan funding may be available).

Other recommendations

- A water budget to determine the number of users should be considered during low water conditions.
- Continue to support the province's natural heritage policies through local official plans and zoning by-laws (i.e., storm water management, tree cutting bylaw).
- Complete Environmental Action Plans (Farmers see Environmental Farm Plan; Lakeshore residents see Lakeshore Stewardship Manual). A stewardship manual for rural non-farm landowners should be completed by 2007. Contact the ABCA for more information.

Thumbs up!

Landowners have maintained private woodlots throughout Hay Swamp.

This is just one example in the watershed – give us a call and tell us about your project.

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