Upper Parkhill
Watershed Report Card

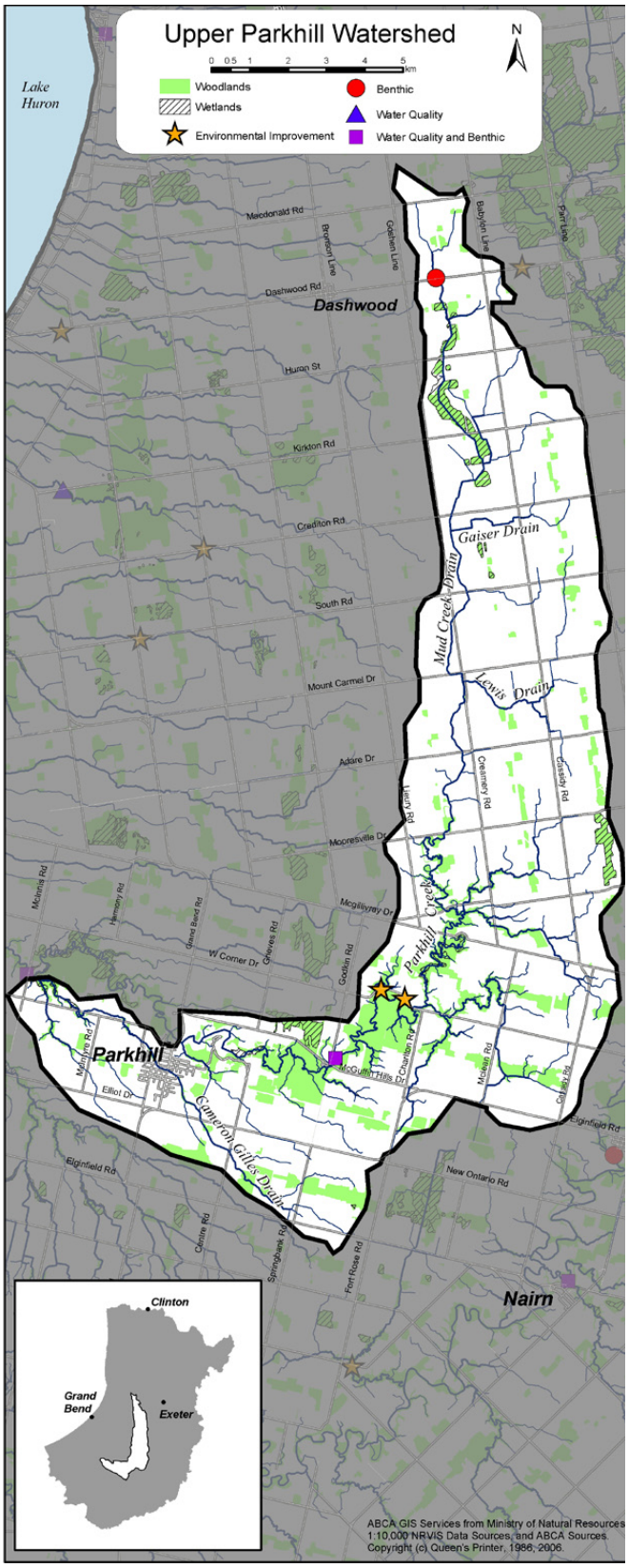
Grades:	
Forest Conditions	C
Surface Water Quality	C

This report card summarizes water quality and forestry information for the Upper Parkhill watershed (*the highlighted area on the map at right*). 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 Upper Parkhill Watershed

Enhance:

Consider soil erosion control projects on sloped lands upstream of the Parkhill Reservoir.



Upper Parkhill Watershed Features

Area: 147 km^2 **Municipalities:** Bluewater, North Middlesex, South Huron

Geology	82% Till Moraines; 12% Bevelled Till Plains; 4% Sand Plains; 1% Water; 1% Beaches and Shorecliffs (GIS derived with physiographic maps) (Chapman and Putnam 1984)
Soils	46% Silty Loam; 25% Clay Loam; 8% Loam; 7% Sandy Loam; 7% Silty Loam; 5% Organic: 1% Silty Clay; 1% Loamy Sand (County Soils Maps 1951-1991)
Land Use	**82% agriculture; 13% woodlot; 2% urban; 3% other (OMAFRA 1983)**
Streamside Cover	40% of the 15 metre area on both sides of open streams is vegetated (OMNR 1986, ABCA 1999)
Wetlands	Existing: 2% (OMNR 2003, ABCA 2004); Potential: 13% (ABCA 2005)
Natural Areas	Dashwood Area Earth Science (Area of Natural and Scientific Interest), Parkhill Creek Complex (Provincially Significant Wetland); McGillivray Environmentally Significant Areas 5, 7, 8 and 11; Stanley Environmentally Significant Areas 4 and 5; Parkhill Conservation Area
Groundwater	Bedrock aquifers are the only significant source of groundwater in this watershed. Although minor, less extensive shallow aquifers are possibly the source of drinking water for dug or bored wells in the area, the bedrock aquifer is the most common source of drinking water, and is part of a large aquifer system in southwestern Ontario. The bedrock aquifer in this area is known to have elevated levels of sulphate. A thick sequence of mostly fine-grained glacial sediment separates Parkhill Creek from the bedrock aquifer in this area.
Fishes	Warm water fishery in the main channel; baitfish 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: Drooping Trillium, False Rue-anemone, Riddell's Goldenrod
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 None in area.

Upper Parkhill
Forest Cover, Surface Water Quality

	Indicator and Description	Upper Parkhill		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.	13.3%	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.	2.6%	D	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**.	0.11	C	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.	171	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)**.	5.0	B	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.

Upper Parkhill
Next Steps and Local Actions

To improve forest conditions ...

- Actively restore woodlots that have been affected by Hickory Bark Beetle and other pests.

To improve water quality ...

- Protect all wetlands.
- Keeping water on the land can help to improve water quality by filtering sediment and nutrients (i.e., a wetland). In the spring, take note of where the wet areas persist; grants may be available to help you to enhance these features.
- 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).
- Plant windbreaks and practise conservation tillage on erosion-prone soils, particularly on cropped, sloped lands upstream of the Parkhill Reservoir (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.

Other recommendations

- 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 along the main Parkhill Creek have retired some rolling valley lands which help to prevent soil erosion and improve water quality.

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

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