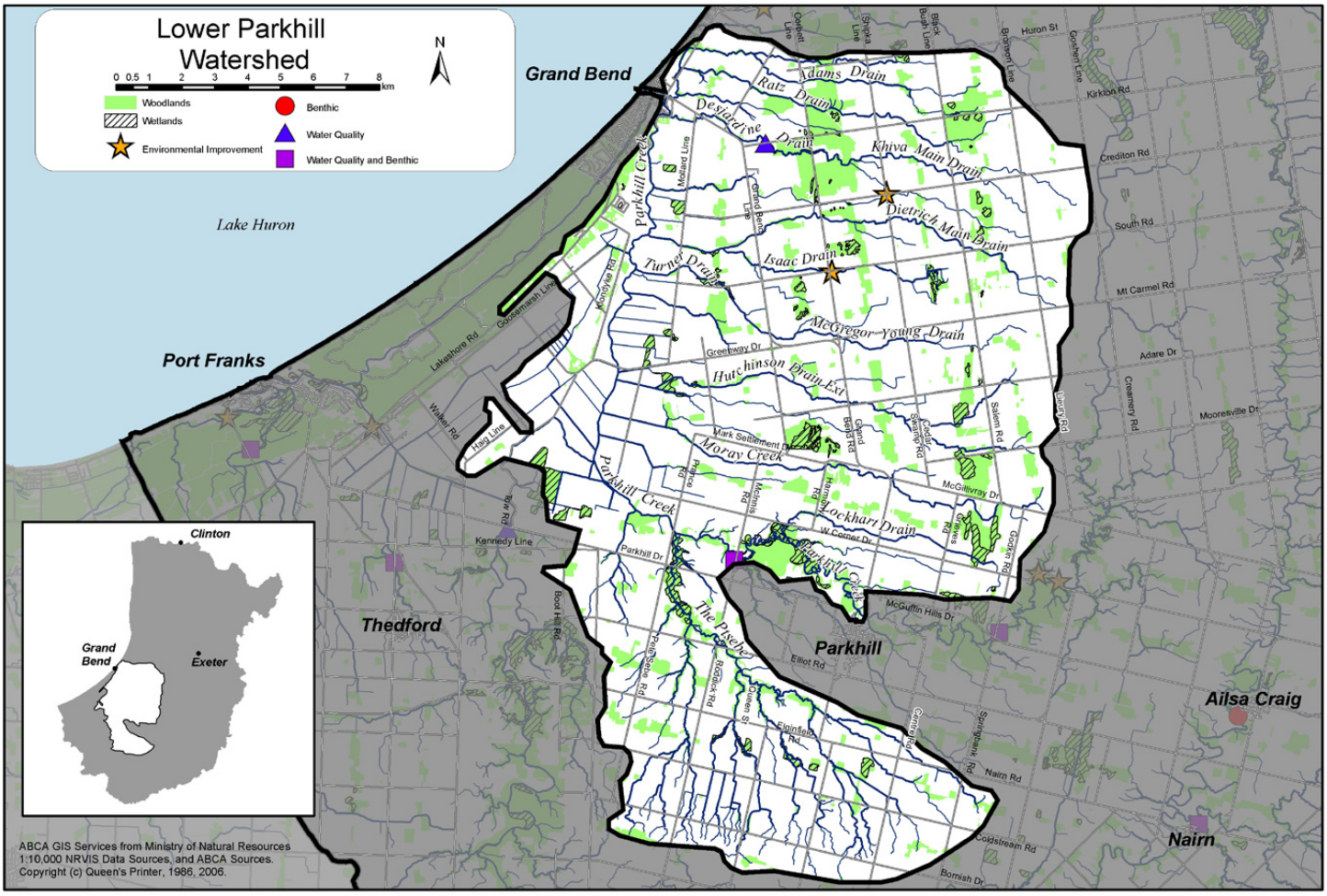
Lower Parkhill
Watershed Report Card

Grades:	
Forest Conditions	C
Surface Water Quality	C

This report card summarizes water quality and forestry information for the Lower Parkhill 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 Lower Parkhill Watershed

Enhance: Expand natural areas from Parkhill Reservoir to Ausable River Valley and Dunes.

Lower Parkhill Watershed Features

Area: 310 km^2 **Municipalities:** Lambton Shores, North Middlesex, South Huron

Geology	35% Till Moraines; 25% Bevelled Till Plains; 23% Sand Plains; 10% Clay Plains; 4% Beaches and Shorecliffs; 3% Peat and Muck (GIS derived with physiographic maps) (Chapman and Putnam 1984)
Soils	27% Silty Clay Loam; 24% Clay Loam; 23% Sandy Loam; 11% Loam; 6% Silty Loam; 5% Clay; 2% Bottomland; 1% Sand (County Soils Maps 1951-1991)
Land Use	**83% agriculture; 14% woodlot; 1% urban; 2% other (OMAFRA 1983)**
Streamside Cover	27% 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: 22% (ABCA 2005)
Natural Areas	Parkhill Creek Complex (Provincially Significant Wetland); O'Brien Swamp Complex, McGillivray 4 (Locally Significant Wetland); Stanley Environmentally Significant Areas 6 to 17, McGillivray Environmentally Significant Areas 5 to 10, West William Environmentally Significant Areas 1, 2 and 5; Stephen Wildlife Management Area
Groundwater	Both shallow (former glacial Lakes Warren, Algonquin and Nippissing Shoreline aquifers) 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 shallow aquifers are possibly the source of drinking water for dug or bored wells in the area and are also a source of the flow in Parkhill Creek. The Bedrock aquifer is known to have elevated levels of sulphates and hardness, making it aesthetically unattractive as a potable water source. Very little information exists on water quality within the shallow aquifers.
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)

(SOURCES: Natural Heritage Information Centre, 2006; ABCA 2006)

Vegetation:	Heart-leaved Plantain
Reptiles:	Butler's Gartersnake, Eastern Hog-nosed Snake, Milksnake
Birds:	None identified at this time.
Fishes:	River Redhorse
Mussels:	None identified at this time.
Mammals:	None identified at this time.

Wastewater Treatment Plants Parkhill, Grand Bend

Lower Parkhill
Forest Cover, Surface Water Quality

	Indicator and Description	Lower 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.	14.0%	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.	3.4%	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**.	0.12	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.	168	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)**.	5.6	C	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.

Lower Parkhill
Next Steps and Local Successes

To improve forest conditions ...

- Reforestation efforts are critical in this area. Landowners might consider reestablishing back of farm woodlots.
- Maintain streamside trees, shrubs or grasses.

To improve water quality ...

- Protect all wetlands.
- Analyze water quality data for Desjardins Drain where there was significant uptake of agricultural BMPs.
- Do not dispose of garbage in watercourses
- On erosion-prone soils particularly along the Ptsebe Drain and tributaries to the Klondyke Marsh (Programs available through ABCA):
    - Plant windbreaks
    - Practise conservation tillage
    - Row crops should be planted across the slope of the land, not up and down the slope.
- Fix faulty septic systems and establish a septic maintenance plan.
- Decommission abandoned wells and upgrade existing wells to prevent groundwater contamination.
- Manure spills are frequently reported in this area:
    - 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

- Conduct fisheries surveys to investigate factors that limit fish community diversity in the Ptsebe Drain.
- Link the natural areas of the Ausable Gorge with The Pinery Provincial Park and Port Franks.
- Continue to support the province's natural heritage policies through local official plans and zoning by-laws (e.g., 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!

Some farmers near Parkhill are going beyond typical conservation practices. By going organic they receive financial benefits from environmentally-friendly agriculture.

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

Ausable Bayfield Conservation Authority
71108 Morrison Line, RR 3 Exeter, ON N0M 1S5
E-mail: info@abca.on.ca
Web site: www.abca.on.ca
Phone (519) 235-2610, 1-888-286-2610