



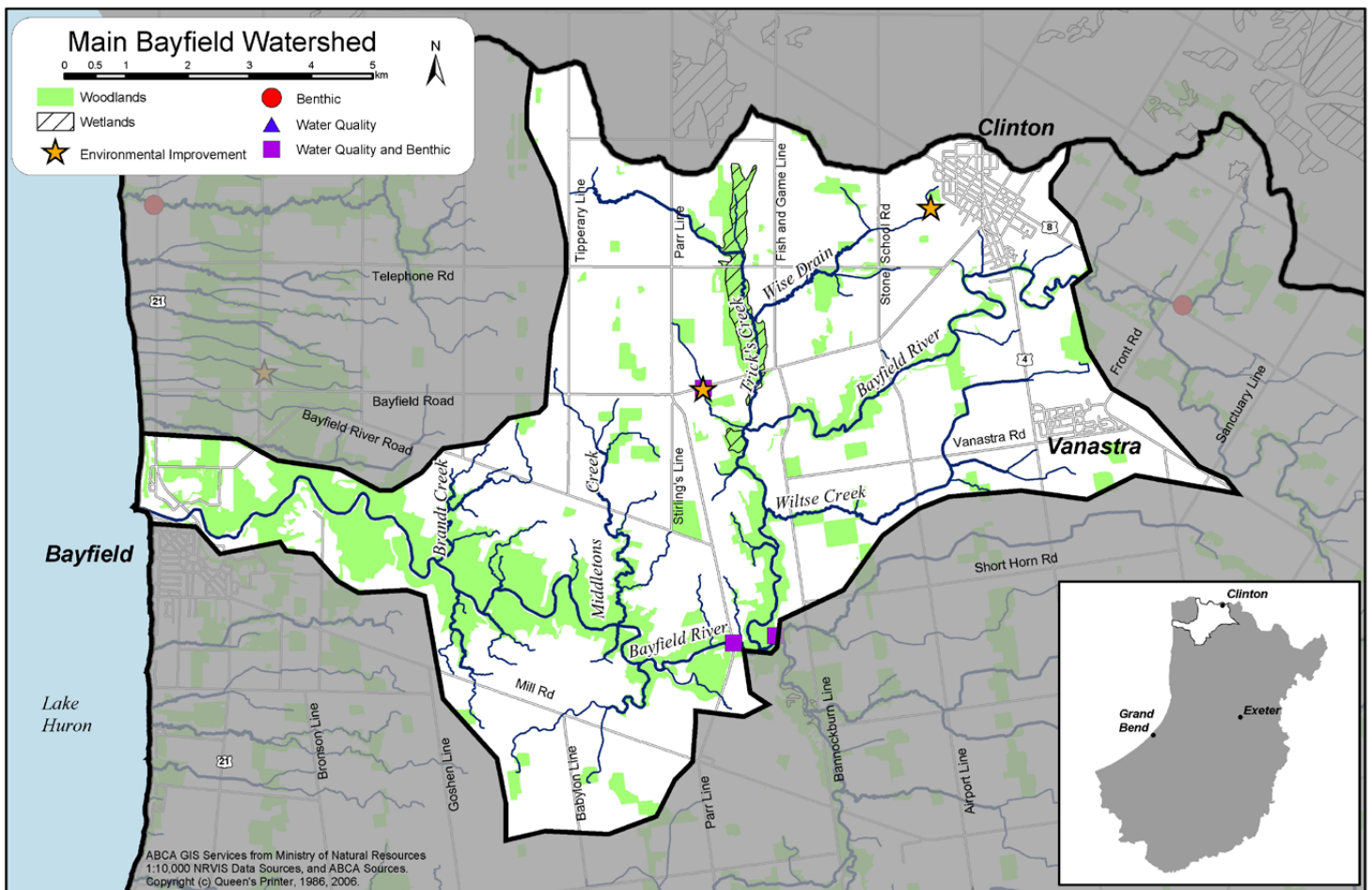
Main Bayfield Watershed Report Card

Grades:

Forest Conditions **B**

Surface Water Quality **C**

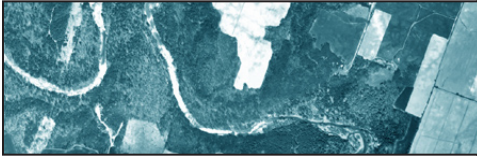
This report card summarizes water quality and forestry information for the Main Bayfield watershed (*the highlighted area on the map below*). This map also shows water quality stations and example environmental improvement locations. For consistency across watersheds, Conservation Ontario has recommended 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 Main Bayfield Watershed

Protect:

The main channel between Parr Line and Bayfield is an ecosystem that needs to be protected.



Main Bayfield Watershed Features



Area: 89 km² **Municipalities:** Bluewater, Central Huron, Huron East

Geology 53% Till Moraines; 20% Till Plains (Undrumlined); 16% Spillways; 3% Kame Moraines; 3% Sand Plains; 3% Bevelled Till Plains; 1% Water; 1% Beaches and Shorecliffs (GIS derived with physiographic maps) (Chapman and Putnam 1984)

Soils 44% Clay Loam; 27% Silty Loam; 18% Loam; 11% Bottomland (County Soils Maps 1951-1991)

Land Use 70% agriculture; 20% woodlot; 5% urban; 5% other (OMAFRA 1983)

Streamside Cover 43% of 15 metre area on both sides of open streams is vegetated (OMNR 1986, ABCA 1999)

Wetlands Existing: 6% (OMNR 2003, ABCA 2004); Potential: 8% (ABCA 2005)

Natural Areas Bayfield River (Area of Natural and Scientific Interest); Trick's Creek (Provincially Significant Wetland); Goderich Environmentally Significant Areas 1 to 4; Tuckersmith Environmentally Significant Areas 1 and 2; Clinton Conservation Area

Groundwater Both shallow (Holmesville Aquifer) and bedrock aquifers are found here. The bedrock aquifer is the most common source of drinking water and is part of a large aquifer system in southwestern Ontario. The Holmesville 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 Trick's Creek. Both aquifers have been sampled and nitrate, chloride and fluoride concentrations are well below provincial drinking water standard maximums. Due to the local geology there is cold, constant water flow in some tributaries, contributing to the base-flow, improved water quality and fisheries in the Bayfield River.

Fishes Migratory trout fishery in the main channel; cold water fishery in the 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: Rainbow
Mammals: None identified at this time.

Wastewater Treatment Plants

Clinton, Bayfield, Vanastra



Main Bayfield Forest Cover, Surface Water Quality

	Indicator and Description	Main Bayfield		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.	19.9%	B	12.6%	C
	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.	4.4%	C	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 .	0.05	B	0.08	B
	E. coli (<i>Escherichia coli</i>) 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.	236	C	233	C
	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) .	5.5	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.



Main Bayfield Next Steps and Local Successes



To improve forest conditions ...

- Connect small woodlots to the main Bayfield River Valley Forest.
- Forest interior values can be increased by planting native trees and shrubs around existing woodlots or by retiring land near woodlot edges.

To improve water quality ...

- 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, establish grassed waterways on

closed drains and practise conservation tillage on erosion-prone soils, particularly along the Bayfield River (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.
- Protect existing cold water tributaries and wetlands.
- Further assessment of the Trick's Creek watershed is required to identify wetland and stream restoration projects.

Other recommendations

- Investigate costs and benefits associated with a Bayfield River Trail from Parr Line to Bayfield.
- 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.
- A detailed investigation into the rainbow trout distribution, abundance and local spawning requirements might help to promote these attributes throughout the sub-basin.
- 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).



Thumbs up!

Landowners in the Bayfield River Valley from Trick's Creek to Bayfield are frequently engaged in conservation projects that enhance the river, such as the project recently undertaken on the Steenstra Drain.

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



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