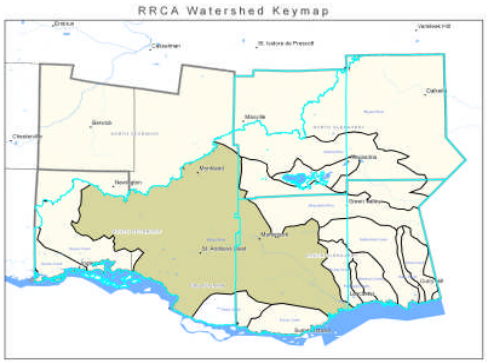
Watershed Raisin River Report Card

Grades:

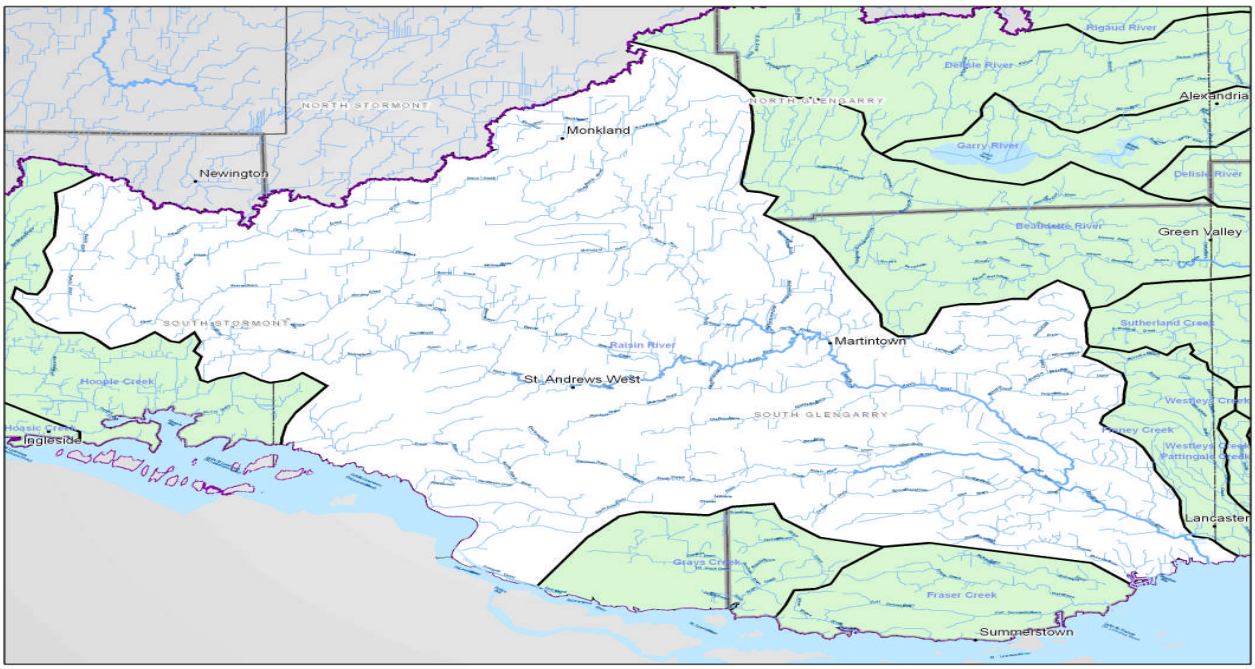
C+ Forest Conditions

C Wetland Conditions

C+ Surface Water Quality



This Watershed Report Card outlines the environmental information for the Raisin River watershed as of 2006. The information provides a description of forest, wetland and water parameters and ideas for local action to assist agency staff, municipalities and interested parties working for the protection of local forest, wetland and water resources.



Municipalities: Municipalities of North and South Glengarry, North and South Stormont and City of Cornwall

Watercourses: Raisin River main branch, South branch and North branch

Forest Conditions

Grade C+

Overall, forest conditions in the Raisin River watershed rank a C+ grade. The Remedial Action Plan delisting criteria is 30% forest cover in the Area of Concern tributary watershed to maintain ecosystem function. Based on 1991 data, there are 4 old growth stands covering .04% of the sub-watershed which falls short of the Remedial Action Plan criteria of 5%.

The Remedial Action Plan delisting criteria is 5% forest interior habitat in the Area of Concern tributary watershed. Forest interior habitat consists of forest cover in which the forest extends 200 metres from forest edge and has a minimum core area size of 40 hectares.

Indicators	Raisin River Results		Raisin Region Watershed Average		Indicator Description
Forest Cover	40%	B	36%	B	**Forest cover is the percentage of the watershed that is forested. It is believed there should be at least 25-30% natural cover to sustain native plants and animals.**
Forest Interior	5%	C	4%	D	**Forest interior refers to the protected area inside a woodlot that some species require to survive. The outer 200 metre perimeter is 'edge' habitat and prone to stresses from predators, alien species and the elements.**

Local Actions Needed for Improvement:

- Protection of all woodlands and Locally Significant Wetlands at the municipal planning level is a very important and effective method of preserving local forest cover.
- Forest interior can be increased by "bulking up" woodlots to make them larger and rounder by planting native trees and shrubs around existing woodlots or allowing the edges to naturalize on their own (eg. Retire land near woodlot edges).
- Connections can be made between woodlots and other habitat types by planting hedgerows or windbreaks along fields, waterways and roads.
- To improve the health of individual woodlots, owners should prepare and follow Woodlot Management Plans.

Wetland Conditions

Grade C

Overall, wetland conditions in the Raisin River watershed rank a C grade. The Remedial Action Plan delisting criteria is 10% wetland cover in the Area of Concern tributary watershed to maintain ecosystem function.

Wetlands are an important source of habitat for fish and wildlife species. Wetlands serve as flood control areas by holding water and reducing flow. Wetlands act as holding areas for the local water table and play a very important role in water quality improvement.

Indicators	Raisin River Results		Raisin Region Watershed Average		Indicator Description
Wetland Cover	10%	C	8%	C	**Wetland cover is the percentage of the watershed that is wetland (swamp and/or marsh). It is believed there should be at least 10% natural wetland cover to sustain biodiversity and wetland functioning.**

Local Actions Needed for Improvement:

- Protection of all Provincially and Locally Significant Wetlands at the municipal planning level is a very important and effective method of preserving wetland cover.
- Wetland biodiversity can be increased by planting native trees and shrubs around existing wetlands or allowing the edges to naturalize on their own (eg. Retire land near wetlands edges). This will provide essential habitat for many wetland species.
- Connections can be made between wetlands and other habitat types, such as forests, by planting hedgerows or windbreaks along fields, waterways and roads to support the movement of native species.
- To improve the health of individual wetlands (swamp), owners should prepare and follow Woodlot Management Plans and fence out any live stock.
- To create or improve the size of individual wetlands, owners should contact the Conservation Authority for assistance in designing a wetland project.

Surface Water Quality

Grade C+

The Raisin River sub-watershed ranks a C+ with respect to overall water quality based on benthic, phosphorus and bacteria scores.

A Hilsenhoff Index score of higher than 5.00 indicates that organic pollution is likely and water quality deteriorates.

Indicators	Raisin River Results		Raisin Region Watershed Average		Provincial Guideline	Indicator Description
Benthic Score (H.I)	5.36	D	6.30	F	5.00	**Benthic organisms are the aquatic invertebrates that live in stream sediments and are a good indicator of water quality and stream health. The Hilsenhoff Index assigns a weighting for each taxon of invertebrate based on its tolerance of organic pollution. The sum of the weighted scores gives an indication of the degree of organic pollution in the stream.**
Phosphorus (mg/L)	0.058	C	0.134	F	0.03	**Phosphorus is found in such products as soaps, detergents, fertilizers and pesticides and contributes to excess algae and low oxygen in streams and lakes.**
Bacteria (per 100 ml)	21	A	180	F	100	**E. Coli bacteria are found in human and animal waste and their presence in water indicates fecal contamination. E. Coli bacteria are a strong indicator for the potential to have other disease-causing organisms in the water**

Local Actions Needed for Improvement:

- Plant buffers (grassed or treed) along creeks, rivers and open drains to filter runoff and provide shade.
- Implement protection of identified groundwater infiltration zones and conduct groundwater research and monitoring.
- Target soil erosion measures to areas of high erodibility.
- Encourage landowners to repair or replace faulty septic systems.
- Encourage agricultural Best Management Practices in the areas of manure storage and spreading, soil conservation practices, fertilizer and pesticide application, milkhouse washwater disposal and cattle access restriction.
- Promote the completion of Environmental Farm Plans and Nutrient Management Plans
- Protection of Provincially and locally significant wetlands in Official Plan

Raisin River Watershed Features

Area	**The total area of Raisin River sub-watershed is 57,982 ha.**
Land Use	**The major land use in the Raisin River sub-watershed is agriculture.**
Soil Type	**Soil along the main branch is mostly clay loam (poor drainage) and loam (good drainage) with some silt loams, fine sandy loams, and muck interspersed. Although the North branch does have some clay loam and sandy loam it is mostly divided between loam with good drainage and muck with very poor drainage. The South branch is a variety of loams: silt, sandy, clay, very fine sandy loam all with poor drainage, and one instance of loam with good drainage.**
Stream Flow	**The Raisin is a sixth order stream system with 83% of the waterway classified as first through third order (headwater) streams. The Raisin River has a main branch, a north branch, and a south branch totaling 809 km of streams (< 20 m width), of which 19 km (2.3 %) flow through public lands. The mean annual discharge of Raisin River near Williamstown is 5.09 m^3/s.**
Fishery Resources	**Warm water fishery of 43 species. One cool water site has been identified with Mottled Sculpins as a observed species. River Redhorse and Bridle shiner are classified as special concern by SARA and COSEWIC.**
Woodlot Size	**Of the 1577 stands in the Raisin River sub-watershed, the largest is 1441 ha in size. The average size is 16.1 ha.**
Riparian Forest	**68.4% of stream lengths on public land have riparian cover and 33.5% on private land.**
Rare Species	**Fish – River Redhorse, Cutlips Minnow,** Bridle Shiners were reported by DFO **Birds – Yellow Palm Warbler** **Plants – Ram's-Head Lady Slipper, Prickly Bog Sedge, Rhodora, Bog Fern** ***Invertebrates* – Bog Elfin**
Significant Natural Sites	**Provincially Significant Wetlands – Shuylers (Schulers) Swamp, Summerstown Swamp, Raisin River N. Branch, Newington Bog, Charlottenburg Marsh, Black River Swamp, Beaudette River Swamp** **Locally Significant Wetlands - Archies Swamp, Bloomington Swamp, Bunker Hill Swamp, Concession 7 Swamp, Concession 8E Swamp, Dominionville Swamp, East Bonville Swamp, East & West Guindon Swamp, East Werely Swamp, Four Corners Swamp, Glenbrook Swamp, Gravel Hill Swamp, Lake View Marsh, Lefebvre Br. Swamp, Lunenburg Swamp, Monkland and W. Monkland Swamp, Palen Creek Swamp, Post Road Swamp, Power Dam Swamp, Raisin River S. Branch, Stoney Creek, Strathmore Swamp,** **Significant Natural Areas - None** **Areas of Natural and Scientific Interest – Newington Bog**

Raisin Region Conservation Authority

P.O Box 429, 18045 County Rd 2

Cornwall, Ontario K6H 5T2

Phone: (613) 938-3611 Fax: (613) 938-3221

Info@rrca.on.ca

Web Site: www.rrca.on.ca

May, 2007