Watershed Westley Creek Report Card

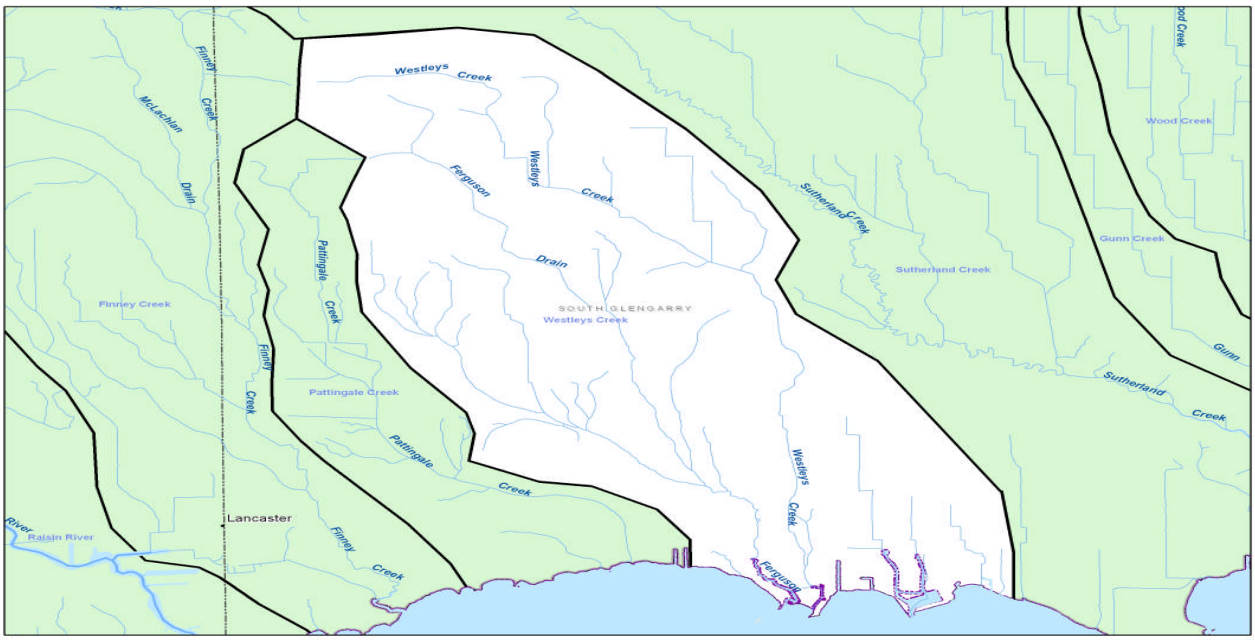
Grades:

F **Forest Conditions**

F **Wetland Conditions**

F **Surface Water Quality**

This Watershed Report Card outlines the environmental information for the Westley Creek 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: Municipality of South Glengarry

Watercourses: Westley Creek, Pattingale Creek, Ferguson Drain

Forest Conditions

Grade F

Overall, forest conditions in the Westley Creek watershed rank an F grade. The amount of forest cover (3.3%) is not considered high enough to sustain native plants and animals. There is no forest interior present meaning the existing woodlots are not large and wide enough to support sensitive species that need to live in large protective forests.

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	Westley Creek Results		Raisin Region Watershed Average		Indicator Description
Forest Cover	3%	F	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	0%	F	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 F

Overall, wetland conditions in the Westley Creek watershed rank an F grade. There is 18 ha of wetland cover, which represents 0.5% of the sub-watershed area. The wetland cover for the Westley Creek sub-watershed falls short of the the Remedial Action Plan (RAP) delisting criteria, that highlights that sub-watersheds should contain 7-10 % wetland cover.

RAP delisting criteria states that there should be no reduction in the number of total area of coastal wetlands.

Although the form and function of Westley Marsh has not been compromised, wetland loss has occurred in the centre of the wetland along the shore and along the boundary of the submergent marsh that extends into Lake St. Francis. Loss of wetland due to either development or to discrepancies in mapping evaluations has only begun since 1995 with a total loss of 9.1 ha.

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	Westley Creek Results		Raisin Region Watershed Average		Indicator Description
Wetland Cover	0.5%	F	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 woodlot 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.
- 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 F

The Westley Creek watershed ranks a F 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	Westley Creek Results		Raisin Region Watershed Average		Provincial Guideline	Indicator Description
Benthic Score (H.I)	6.57	F	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)	0.207	F	0.134	D	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)	296	F	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

Watershed Westley Creek Features

Area	**The total area of Westley Creek sub-watershed 3175 ha (1.9% of Raisin Region Watershed).**
Land Use	**The major land uses within Westley Creek sub-watershed are agricultural in nature.**
Soil Type	**Soils throughout Westley Creek range from silt loams and fine sandy loams with poor drainage to several pockets of loams with good**
Stream Flow	**The Westley Creek is a fourth order stream system totaling 58 km (<20 m width). Ninety five percent of the streams are classified as first to third order streams or headwater streams.**
Fishery Resources	**Warm water forage and sport-fish community. A total of 15 species were identified, one of which, the pugnose minnow (*Opsopoeodus emiliae*), is provincially vulnerable.**
Woodlot Size	**Westley Creek sub-watershed has 55 stands with an average size of 7.4 ha. The largest stand is 93.4 ha.**
Riparian Forest	**Westley Creek has 58 km of streams (< 20m width) located entirely on private land. Nine km (15.5 %) of the watercourse has riparian vegetation.**
Rare Species	**Fish – Pugnose Minnow**
Significant Natural Sites	**Provincially Significant Wetlands –Westley Creek Marsh, Bainsville Bay Marsh** **Locally Significant Wetlands - None** **Significant Natural Areas - None** **Areas of Natural and Scientific Interest – None**

RAISIN REGION CONSERVATION AUTHORITY

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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

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