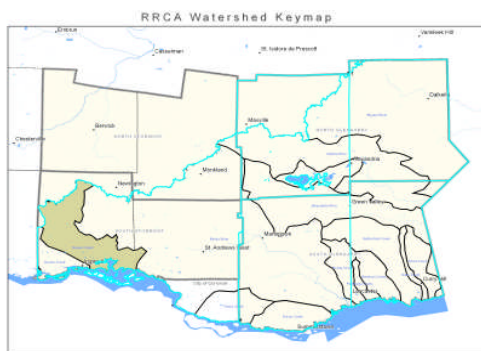


Watershed Report Card

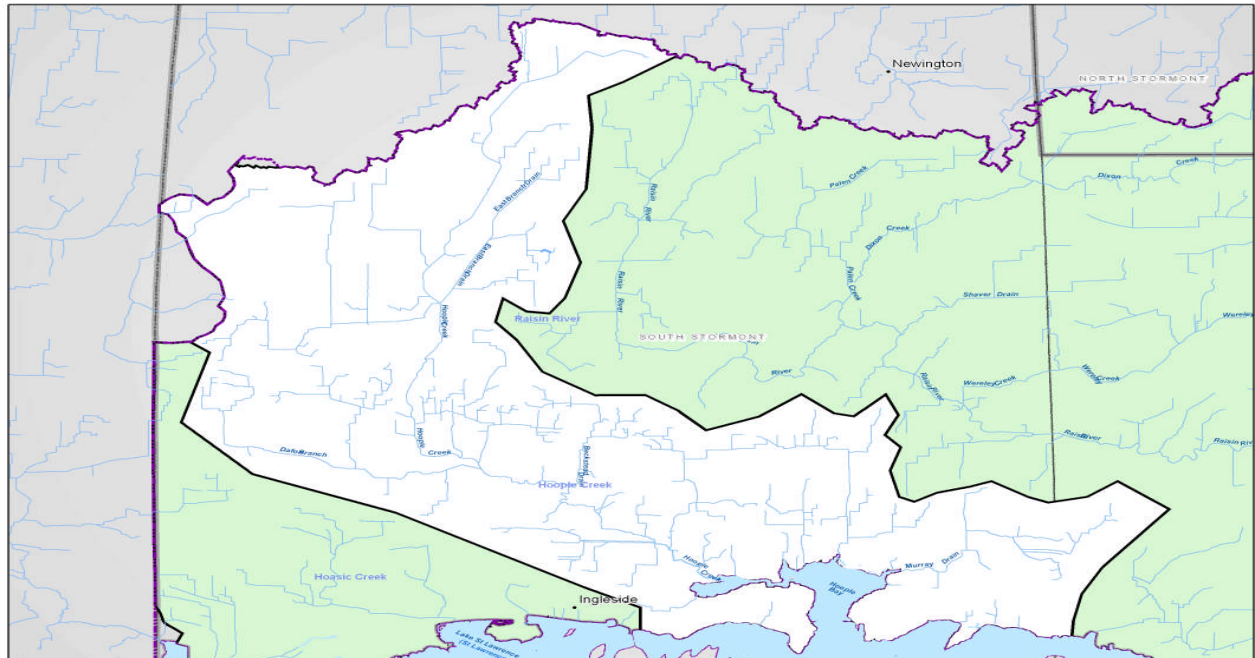
Hoople Creek

Grades:

- C** Forest Conditions
- A** Wetland Conditions
- B-** Surface Water Quality



This Watershed Report Card outlines the environmental information for the Hoople 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 Stormont

Watercourses: Hoopie Creek



Forest Conditions

Grade C

Overall, forest conditions in the Hoople Creek watershed rank a C grade. The amount of forest cover (37%) is quite high and above the average for the RRCA watershed. The Remedial Action Plan delisting criteria is 30% forest cover in the Area of Concern tributary watershed to maintain ecosystem functioning. There is little forest interior present, meaning the existing woodlots are too small and/or narrow 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 meters from forest edge and has a minimum core area size of 40 hectares.

| Indicators | Hoople Creek Results | | Raisin Region Watershed Average | | Indicator Description |
|------------------------|----------------------|---|---------------------------------|---|---|
| Forest Cover | 37% | 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 | 2% | D | 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 A

Overall, wetland conditions in the Hoople Creek watershed rank a A grade. The amount of wetland cover (15%) is high and above the average for the RRCA watershed. The Remedial Action Plan delisting criteria is 10% wetland cover in the Area of Concern tributary watershed to maintain ecosystem function. Historically, there was approximately 30% wetland cover within the Hoople Creek watershed prior to settlement.

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 | Hoople Creek Results | | Raisin Region Watershed Average | | Indicator Description |
|----------------------|----------------------|---|---------------------------------|---|--|
| Wetland Cover | 15% | A | 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 wetland 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 livestock.
- 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 **B-**

The Hoople Creek sub-watershed ranks a B- 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 | Hoople Creek Results | | Raisin Region Watershed Average | | Provincial Guideline | Indicator Description |
|------------------------------|----------------------|---|---------------------------------|---|----------------------|---|
| Benthic Score (H.I) | 5.40 | 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) | .034 | B | 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) | 39 | 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





Watershed

Hoople Creek

Features

| | |
|----------------------------------|---|
| Area | The total area of the Hoople Creek sub-watershed is 9 714 ha (5.8% of Raisin Region Watershed). |
| Land Use | The major land uses for Hoople Creek are residential and agricultural. Land use classification of 68.4% agriculture, 37.0% wooded, 31.6% urban, and 15.2% water |
| Soil Type | Overall, soil type is variable throughout Hoople Creek and includes various clay and sandy loams and muck. The three most prominent soil types include muck with poor drainage, clay loam with imperfect drainage and loam with good drainage (mainly southern portions of Hoople Creek along the St. Lawrence River). |
| Stream Flow | Hoople Creek is a 5th order stream system with 88% of its stream length classified as first to third order streams or headwater streams. The flow of the creek is generally south and east, discharging into Lake St. Lawrence just east of the village of Ingleside. Overall stream length of Hoople Creek is 172 km, of which 14 km flow through public lands, while 158 km flow through private lands. |
| Fishery Resources | Warm water fish community of 18 species. Johnny Darter, Creek Chub, Central Mudminnow and White Sucker found throughout watershed. Significant Walleye spawning, White Sucker spawning, Smallmouth Bass and Northern Pike is found in lower portion, Fathead Minnow and Brook Stickleback in upper portion. |
| Woodlot Size | Of the 351 forest stands in the sub-watershed, the largest is 301 ha in size. The average stand size is 10.2 ha. |
| Riparian Forest | 23% of riparian habitat on private land is vegetated, 43% on public land is vegetated. |
| Rare Species | Fish – Greater Redhorse Birds – Yellow Palm Warbler Plants – Grass-leaved Water Plantain |
| Significant Natural Sites | Provincially Significant Wetlands – Hoasic Creek Wetland Locally Significant Wetlands – Hoople Creek Wetland, Ingleside Swamp, Dafoe Branch Swamp, Bunker Hill Swamp Significant Natural Areas – Hoople Creek Provincial Wildlife Area Areas of Natural and Scientific Interest - Hoople Creek Wetland, Hoasic Creek Wetland |



May, 2007

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