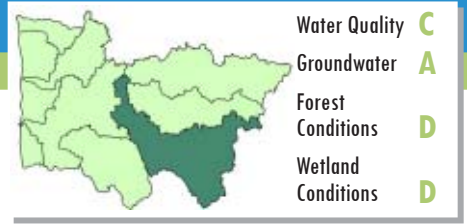


Middle Maitland River Sub-basin

WATERSHED

Report Card 2013

This report describes the conditions of the river, forests, wetlands and groundwater in the Middle Maitland River watershed. It is one component of the Maitland Valley Conservation Authority's (MVCA) overall watershed report card that assesses the same indicators. The Middle Maitland River is one of seven major sub-basins that comprise the Maitland watershed.



Watershed Description

The Middle Maitland River sub-basin is a large watershed containing several meandering branches of the river. Headwater areas are located along the western edge of the Township of Mapleton and the Township of Perth East. The sub-basin encompasses the communities of Listowel, Milverton, Atwood, Newry, Ethel, Cranbrook and Brussels. The MVCA maintains a small recreational dam at the site of the historic Logan Mill in Brusels. From Brussels the Middle Maitland River flows north and meets the Little Maitland River south of Wingham.

The land in this sub-basin is well suited to agriculture. The eastern section of the sub-basin features clay soils and is very flat with a high drainage density. Tree cover in the southeast is very low. The amount of forest cover does increase in the northwest section of the watershed.

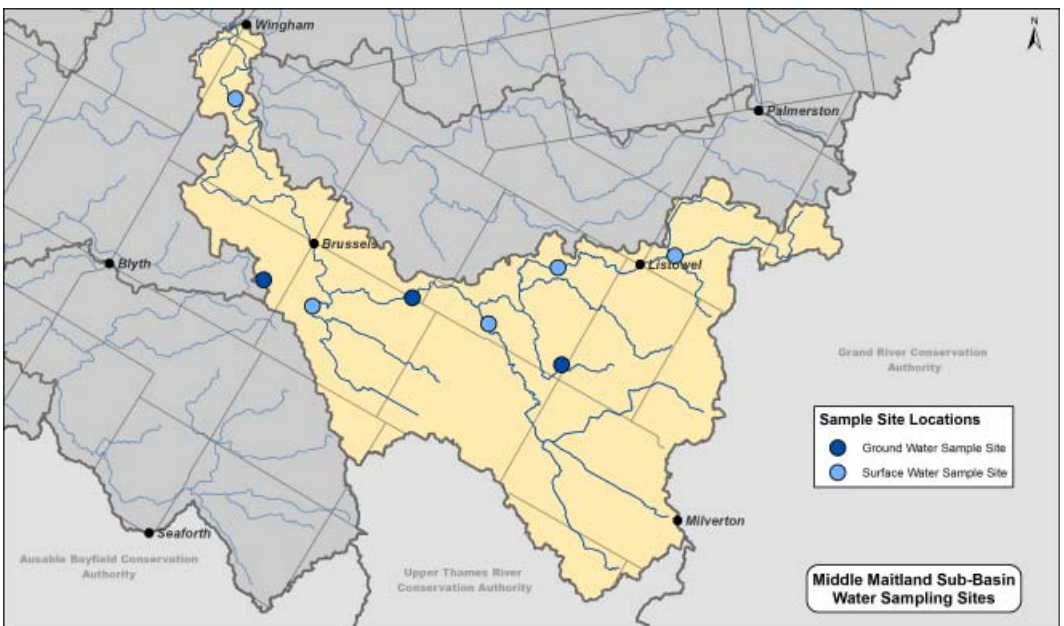
The river is quite shallow and the intense drainage modifications have led to problems with low flows. At times this contributes to water quality problems because contaminants are not effectively diluted and the shallow water becomes warm which lowers the oxygen content.

Water Quality Results

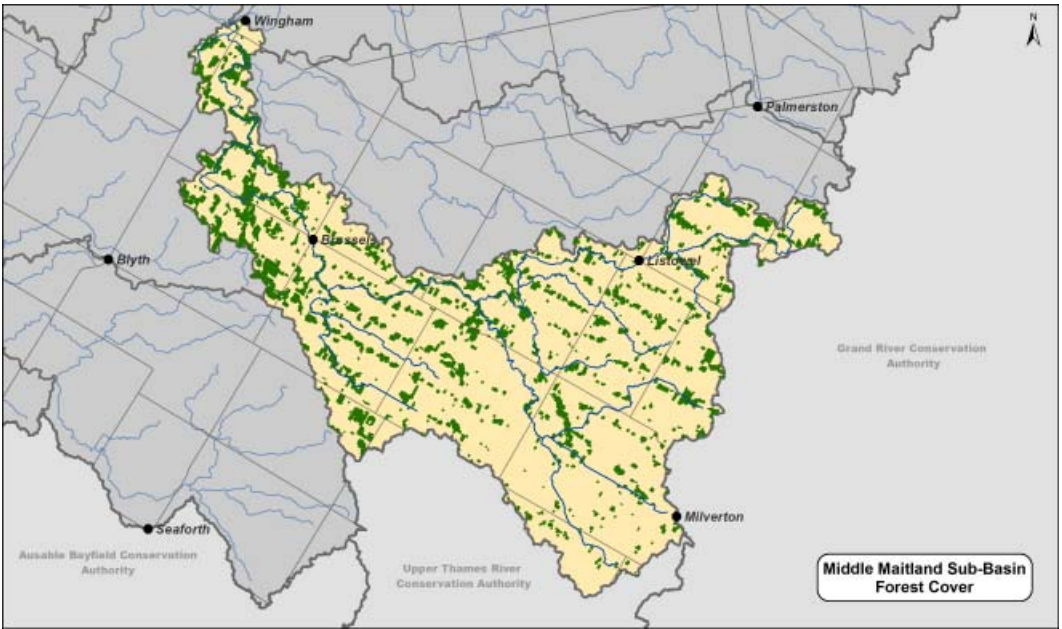
| Surface Water Indicators | Middle Maitland 2007-2011 Results | Middle Maitland Grades 2007-2011 | Overall MVCA Grades 2007-2011 |
|--------------------------|-----------------------------------|----------------------------------|-------------------------------|
| Phosphorus | .038 mg/L | C | B |
| Benthics | 6.69 | D | B |
| E.coli | 77,035 cfu/100ml | B | C |

| Groundwater Indicators | Middle Maitland 2007-2011 Grades | Overall MVCA Grade 2007-2011 |
|------------------------|----------------------------------|------------------------------|
| Nitrate + Nitrite | A | A |
| Chlorid | A | A |

Groundwater sampling sites are located in different aquifers. For specific sampling results please email the MVCA at maitland@mvca.on.ca.



Forest and Wetland Results



| Forest Condition Indicators | Middle Maitland 2007-2011 Results | Middle Maitland Grades 2007-2011 | Overall MVCA Grades 2007-2011 |
|-----------------------------|-----------------------------------|----------------------------------|-------------------------------|
| Forest Cover | 11.5 % | D | C |
| Forest Interior | 1.66 % | F | D |
| Riparian Cover | 19.18 % | D | C |

| Wetland Indicator | Middle Maitland Grade 2007-2011 | Overall MVCA Grade 2007-2011 |
|---------------------------------|---------------------------------|------------------------------|
| % of area identified as wetland | D | C |

Sub-basins are Unique

There are several sub-basin characteristics that have an impact on the health of a given area. These include:

- Geology and landform - permeability of the soil, slope, geology below soil, elevation
- Drainage modifications
- Land use/land management - activities occurring on the land
- Sensitive areas - areas with highly erodible soils, steep slopes, high water tables are more likely to contribute sediments and nutrients to watercourses

There are significant differences between the sub-basins that make up the Maitland watershed. The unique nature of each sub-basin means that comparing report card results is not particularly useful. Instead the focus of the MVCA's report card process is on monitoring trends over time to determine if conditions within the sub-basin are improving

Improving Watershed Health

The health of the Middle Maitland watershed will be improved by:

- Creating more natural infrastructure including forested areas, buffer strips, windbreaks and wetlands to protect the land from extremes of heat, wind and runoff. Low water levels are a concern in this watershed. Increasing natural infrastructure, particularly wetlands, may help improve flow rates and benthic scores.
- Planting trees. Forest cover is extremely low and this sub-basin has a failing grade for forest interior. Given the extent of highly productive farmland in the area it makes sense to focus on extending forest edges to create more interior, planting windbreaks and buffer strips and the retirement of marginal land to trees or permanent pasture.
- Protecting existing forest cover and wetlands. Wetlands are regulated areas. Landowners should contact the MVCA before undertaking any projects near a wetland or watercourse.

Notes on Report Card Scores

Due to financial and staffing constraints comprehensive sampling is not done for every indicator in every sub-basin. In some cases only base information is collected. As a result the indicators and grades generalize watershed conditions. Local conditions may be worse or better than the grades suggest. There are some regional concerns that are not factored into the report card including:

- High nitrate and nitrite levels in surface water
- Algal fouling of beaches
- Poorly managed forests
- Soil erosion

The report card information gives us a glimpse of current watershed conditions. The real value of the report cards will come in the future as we look for trends in indicator scores. This information will help the MVCA to target services in priority areas and be more proactive in addressing emerging trends. The next edition of the report card will cover the period from 2012 to 2016 and it will be released in 2017.

More information on the report card sampling and data analysis is available on the MVCA website



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