

The Oxford Natural Heritage Study

Spring 2005



Wood ducks nest in tree cavities in swamps.

A study is underway to look at the health of Oxford County's woodlands, wetlands, streams and rivers and to develop strategies for their long term protection and rehabilitation. The Oxford Natural Heritage Study (ONHS) will:

- increase our understanding of the County's natural heritage features and how they depend on each other,
- recommend ways to maintain and enhance these important local natural resources,
- build on private stewardship activities that are already underway, and
- encourage community awareness, involvement and action.

The County of Oxford is the study proponent. The Upper Thames River Conservation Authority is coordinating the ONHS, which extends from March 2005 to September 2006.

Healthy Environment, Healthy Community

A healthy environment benefits everyone. When we protect and enhance our natural areas and waterways, we safeguard our drinking water, help our agricultural community and local economy, create recreational opportunities, and make our woodlots, wetlands and streams healthier.

Woodlands and other natural areas provide a wide range of functions including reducing soil erosion from wind, filtering runoff, absorbing and holding precipitation, protecting



The smallmouth bass is a common gamefish in Oxford County.

groundwater, filtering the air, and providing habitat for wildlife, recreational opportunities and income for landowners.

While there are many healthy and productive natural areas and waterways in the County, the loss and degradation of woodlands, wetlands and waterways is a serious environmental concern. The best available information suggests that 20-30% natural cover is needed to sustain species and protect soil, water and air quality. Forest cover across Oxford County is currently estimated at 13% (the study will verify and update this figure).

Rivers and streams are natural corridors for wildlife and provide habitat for a wide range of aquatic and semi-aquatic animals and invertebrates. They are also of great benefit to humans as they can provide water for irrigation and offer recreational opportunities such as fishing, canoeing and swimming. Many streams and rivers in the County have poor water quality and aquatic habitat, which stresses fish and other aquatic species. Waterways can be degraded by drainage, channelization and hard surfacing (pavement), as well as by pollution from urban and rural runoff.



The ONHS will assess both aquatic and terrestrial habitat.

The ONHS

The ONHS will assess both terrestrial and aquatic communities. The terrestrial component of the ONHS will use updated vegetation mapping based on 2000 aerial photography and GIS technology, along with some field work, to characterize and quantify the natural areas on the landscape. Aquatic systems will be mapped and characterized using information from the recent Municipal Drain Classification Project as well as existing fish and benthic data. Additional fisheries and benthic monitoring will be carried out to fill any gaps in the data across the County.

An implementation committee involving local stakeholders will review the findings and consider options for maintaining and enhancing Oxford's important natural heritage features.

The study's products will include:

- natural heritage systems mapping
- criteria for determining significant woodland and aquatic/watercourse habitat at the County level, based on existing scientific knowledge and local information
- County-wide fish and benthic monitoring of selected watercourses to provide an established baseline for water quality and aquatic habitat
- plans for project implementation including tools such as stewardship, education, demonstrations, incentives and regulatory measures (land use planning policy and tree cutting bylaws, etc.)
- possible sites for future restoration and rehabilitation projects

Oxford County Facts

Oxford County is approximately 2050 square kilometres in area and lies within the watersheds of four Conservation Authority. All of the river systems drain into Lake Erie, either directly or, in the case of the Thames River, via Lake St. Clair.

Watershed	Conservation Authority	% of County
Thames River	Upper Thames River	55
Big Otter Creek	Long Point Region	22
Nith River	Grand River	21
Catfish Creek	Catfish Creek	2

Oxford County contains a significant proportion of southwestern Ontario's remnant trout streams and is home to several rare fish and mussel species. Despite intense agriculture and urban development, some very productive and diverse fish communities remain.

The County is in the transition zone between the Great Lakes - St. Lawrence Forest Region to the north and the Carolinian Zone of the Deciduous Forest Region to the south. The area is biologically rich, with plant and animal species of both southern and northern affinity.



Monitoring benthic invertebrates (the small organisms that live in stream bottoms) provides an indication of aquatic health.



The greenside darter is a species at risk that is fairly abundant in Oxford County.

The ONHS partners include:

- Oxford County
- Carolinian Canada
- County Conservation Authorities
- County Municipalities
- Ducks Unlimited Canada
- Ministry of Natural Resources
- Oxford County Federation of Agriculture
- Stewardship Oxford

It is anticipated that the project will include the input of other stakeholders, such as:

- Christian Farms
- Ingersoll Field Naturalists
- Land trusts
- Landowners and groups
- National Farmers Union
- Natural Heritage Committees/Coalitions
- Ontario Federation of Anglers and Hunters
- Oxford County Woodlot Owners Association
- Trout Unlimited
- Woodstock Field Naturalists

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The scarlet tanager nests in large woodlots.

Authorities, the Ministry of Natural Resources and the Federation of Agriculture.

Contact

Cathy Quinlan, Project Manager
 Upper Thames River Conservation Authority
 1424 Clarke Road, London, Ontario N5V 5B9
 Phone: (519) 451-2800 ext. 234

Fax: (519) 451-1188

Web site: www.thamesriver.on.ca/onhs/onhs.htm

E-Mail: quinlanc@thamesriver.on.ca