

ECOLOGICAL INVENTORY FOR THE DORCHESTER URBAN AREA OF THE TOWNSHIP OF THAMES CENTRE

This draft report is provided to the Municipality of Thames Centre for Discussion.

Purpose

To identify areas subject to development constraints and assist the Township of Thames Centre in evaluating natural heritage features and functions at the local (municipal) and county (watershed) level for the future planning of these lands.

Sampling Methodology

An inventory of the woodland areas that are found within the Dorchester urban boundary which do not meet one of the criteria developed in the Middlesex Natural Heritage Study and are outside the flood, fill and steep slope areas was conducted in the fall of 2002. Woodlands that have been significantly altered into “parklands” (*i.e.* understorey mowed, planting of showy non-natives, *etc.*) were not surveyed in this study. Landowner contact was undertaken to secure permission for inventory work in these woodland patches.

Permission was granted for five of the seven woodland areas identified for inventory (see Map 1). Site specific analysis for these four woodland patches was conducted on foot and included a list of the top four species by presence for each vegetation layer (canopy, sub-canopy, shrub and herbaceous), prism sweeps to determine tree density by species, evaluation of the disturbance regime and descriptions of the soil profile for each community. No formal quantitative analysis of the vegetation was performed during this survey and no sampling quadrats or measured transects were taken. A detailed assessment of the ground cover vegetation was not possible at this time due to the survey being conducted in late fall. Further, the ability to detect significant avian, reptile and amphibian diversity is reduced at this time of year since most of these species have stopped calling and breeding, having either migrated south or begun their quiescent period. Instead, wildlife species were noted opportunistically during the vegetative surveys and significant breeding areas for birds, amphibians and reptiles were presumed but not confirmed in this study. From this field information, boundaries of key ecological features were identified using April 2000 ortho rectified air photography. Community boundaries are distinguished by the type of vegetation cover that characterizes the community and are recognizable on air photos.

As well as the site specific analysis conducted on these four woodland areas, a landscape analysis of all woodland patches in Middlesex County was conducted for the Middlesex Natural Heritage Study. Results of the Middlesex Natural Heritage Study for the woodland areas within the Dorchester urban boundary are also included to provide regional context (Map 2). Landowners will be provided with a summary of the findings for their woodland area which will assist them in understanding the health of their woodland area, its significance within the municipality and within the broader county context and why the woodland area does or does not pose constraints to development.

Woodland Descriptions

With the possible exception of Patch F, the five woodland patches that were inventoried are scattered and isolated within the urban landscape with no forested corridors or linkages between them. All five of the woodland patches are at a pioneer to young successional age and all are less than 4 ha. According to the Ontario Tree Marking Guide (OMNR 2001), all of these woodland patches had an abundance of small diameter trees, and very few (if any) larger trees. The following is a brief summary of the site surveyed characteristics of the woodland patches:

Patch A (total size of patch = 2.8 ha): Community 1

- Conifer Plantation of White Pine and Black Walnut
- Owned by UTRCA
- Basal Area of 60m² / ha for polewood
- Total Basal Area is 60m² / ha
- Notes: adjacent to a meandering river and within a park

Patch A (total size of patch = 2.8 ha) : Community 2

- Mixed Plantation of White Pine, Ash, Sugar Maple, Black Cherry and Apple
- Owned by UTRCA
- Basal area of 34m² / ha for polewood, 12m² / ha for small wood, 2m²/ ha for medium wood
- Total Basal area is 48m² / ha
- Notes: adjacent to a meandering river and within a park

Patch B (total size of patch = 0.9 ha) :

- Landowner permission to inventory Patch B was not secured because it is unknown who owns the property

Patch C (total size of patch = 0.6 ha) :

- Deciduous Forest (Ash, Elm and Cottonwood) containing a very small isolated wetland pocket with tamarack and yellow birch
- Owned by Pittao Holdings
- Basal area of 13m² / ha for polewood, 2m² / ha for small wood, 1m²/ ha for medium wood, 1m²/ ha for large wood and 1m²/ ha for extra large wood
- Total Basal area is 18m² / ha
- Notes: presence of a couple of large trees (one black cherry and one sugar maple)

Patch D (total size of patch = 0.4 ha) :

- Conifer tree farm adjacent to a permanent pond and swamp with willows, elm, cottonwoods.
- Owned by Mr. Zachert
- Basal area of 10m² / ha for polewood, 6m² / ha for small wood, 2m²/ ha for medium wood and 6m²/ ha for large wood
- Total Basal area is 24m² / ha
- Notes: maintenance of pond habitat is recommended

Patch E (total size of patch = 0.5 ha) :

- Landowner permission to inventory Patch E was not secured

Patch F (total size of patch = 1.5ha) :

- wetland area in the center with marsh attributes surrounded by thicket, mixed plantation and woodland (poplar, soft maple and elm). Scotch pine, cedar, white pine, tamarack and poplar in subcanopy
- Owned by Pittao Holdings
- no prism sweep because most of the area is a thicket
- Notes: water tracks and cattails indicate permanent watercourse.
woodland patch within complexing distance of a Provincially Significant Wetland (PSW)
diversity of species within this small area

Patch G (total size of patch = 0.2 ha) :

- Conifer plantation of white pine and black walnut
- Owned by Mr. Silverton
- Basal area of 42m² / ha for polewood
- Total Basal area is 42m² / ha
- Notes: very small and isolated woodland patch along main street and fragmented by residential housing

Recommendations

Recognizing that urban areas tend to have limited woodland cover, it is recommended that socio-economic and aesthetic values be considered when planning for development in order that woodlands remain for recreational purposes as well as for natural heritage functions. In Middlesex County, a set of six landscape criteria were developed to identify candidate woodland patches for significance. A woodland patch only had to meet one of the following six criteria to be recommended as a candidate for significance in the context of the Provincial Policy Statement 2.3. Map 2 shows the results of this analysis for the woodlands within the urban growth boundary of the Municipality of Thames Centre. The approach used in developing criteria for Middlesex County incorporated key ecological principles from conservation biology and landscape ecology and recognized that all woodland patches have some value in that they contribute towards ecological health.

The six landscape criteria used in the Middlesex Natural Heritage Study to evaluate the woodland patches are:

1. Any woodland patch where 50% of the area is within 750 m of a recognized Natural Heritage Feature (*i.e.* ANSI, ESA, PSW, LSW).
- 2a. Any woodland patch greater than 10 ha in area.
- 2b. Any woodland patch less than 10 ha that contains forest interior (defined as treed habitat more than 100 m from the patch edge).

3. Any woodland patch within 100 m of a woodland patch greater than or equal to 10 ha.
4. Any woodland patch in a recognized corridor.
- 5a. Any woodland patch containing a watercourse.
- 5b. Any woodland patch within 50 m on either side of a watercourse but not containing a watercourse.
6. Any woodland patch on porous soils that may have sensitive groundwater recharge / discharge resources.

Seven woodland patches within the urban boundary of the Township of Thames Centre did not meet any one of the criteria developed in the Middlesex Natural Heritage Study and were outside the flood, fill and steep slope areas was conducted in the fall of 2002. However, all woodland patches in Middlesex County, even those that do not meet any one of the six criteria, are still important to the entire system and their protection should be advocated. Five of these seven woodland patches were inventoried to assist the Township of Thames Centre in evaluating whether there were any constraints to development. The following is a brief summary of recommendations for the five inventoried woodland patches:

Patch A is currently recognized as a park area managed by the UTRCA. It is recommended that this type of land use should continue for this property, especially given its proximity to a stream course, a school and wetland area.

Patch F is within complexing distance of North Dorchester Swamp, a Provincially Significant Wetland (PSW). Patch F may provide very important habitat or linkage functions for the locally significant mammals and provincially significant birds recorded in the North Dorchester Swamp. Water tracks leading through Patch F appear to connect to the PSW, indicating that there might be some development constraints in Patch F. Given the time of year of the survey, a full wetland evaluation was not possible. However, it is recommended that before any development occurs within this patch, that accredited wetland evaluators delineate the wetland communities in this patch and determine whether it should be complexed to North Dorchester Swamp according to the Ontario Wetland Evaluation System Southern Manual (Ontario Ministry of Natural Resources 1994).

Patches C, D and G do not contain any natural features or functions that would constrain development in these areas. However, local woodlands in urban areas provide a number of social benefits, including the opportunity for a local “woodland” experience that may reduce the pressure for development activity. This in turn may have a significant impact on the larger woodlands, where preservation of ecological functions that may be sensitive to disturbance are more important. It is recommended that the municipality take actions to protect these patches for their local community significance.

Patches B and E must be inventoried and evaluated through a Development Assessment Report before any development is approved in these areas.

References

Ontario Ministry of Natural Resources (OMNR). 1994. Ontario Wetland Evaluation System Southern Manual. 3rd Edition. Ontario Ministry of Natural Resources. 177p.

Ontario Ministry of Natural Resources (OMNR). 2001. Ontario Tree Marking Guide Technical Series. Version 1.1. Queen's Printer for Ontario. Toronto. 231p.

MAP 2
Middlesex Natural Heritage Study
Number of Criteria Met for Dorchester
Urban Area










200 100 0 200 400 600 Meters

Legend

 Urban Growth Area

Woodland Boundary

Criteria Met

-  0
-  1
-  2
-  3
-  4
-  5
-  6

NOTE:
Woodland information is based on an updated woodland layer used for the Middlesex Natural Heritage Study. The woodland layer was updated using year 2000 digital aerial photography. Woodland boundaries may not match exactly with boundaries used to complete the Ecological Inventory.