

Evaluation of Significant Woodlands

The conservation and protection of woodlands has been identified a priority for some time and has more recently been an issue of increasing public attention and concern (Larson et. al. 1999; OMNR 1993a; Hilts 1977; Upper Thames Valley Conservation Report 1952). Particular focus has been directed on the state of southern Ontario's landscape, woodlands being one component of the natural heritage of southern Ontario that is recognized in Natural Heritage section 2.3 of the Provincial Policy Statement (1997). The criteria in the City of London Official Plan Section 15.4.5 recognize that significant Woodlands may be selected for ecological or socioeconomic benefits. This evaluation methodology focuses on ecological values that discriminate high quality woodlands. Ecological values include features and conditions that are associated with mature woodlands, processes and functions that generate and maintain biodiversity and ecological integrity.

ASSESSMENT FOR WOODLAND SIGNIFICANCE

A Woodland will be considered as a significant component of the Natural Heritage System based on the following categories:

- If three or more criteria meet the standard for High;
- If two criteria meet the standard for High and four or more criteria meet the standard for Medium;
- If one criterion meets the standard for High and six or more criteria meet the standard for Medium;
- If all seven criteria meet the standard for Medium.

WOODLAND DEFINITION

WOODLAND DEFINITION - The Provincial Policy Statement and the Official Plan policy definitions consider woodlands as areas containing trees. Thus, ***all vegetation patches containing treed areas may be defined as Woodlands***. Treed areas may include all communities with a tree cover of >10%. (ELC definition, Lee et. al. 1998)

Ecological Land Classification (ELC) Definitions

The Ontario Ministry of Natural Resources has developed a standardized classification system for vegetation communities across southern Ontario, entitled Ecological Land Classification for Southern Ontario - First Approximation and Its Application (Lee et. al. 1998). In this classification system, the term woodland has a specific definition based on percentage of treed cover and is thus not the only classification that meets the policy definition of a Woodland. In the ELC system, a treed area is any community with a tree cover >10%. Application of the ELC keys identifies the following ELC Community Classes and Series as Woodland:

FOREST - deciduous forest (FOD), mixed forest (FOM) or coniferous forest (FOC);

SWAMP - deciduous swamp (SWD), mixed swamp (SWM) or coniferous swamp (SWC);

BLUFF - treed bluffs (BLT);

TALLGRASS SAVANNA and WOODLAND - (TPS, TPW)

CULTURAL - cultural woodland (CUW), cultural savanna (CUS) or cultural plantation (CUP)

Woodland Patch Assessment Score Sheet			
Ecological Values	Priority Ranking		
	High	Med	Low
1. Criterion 15.4.5 (i) The Woodland contains natural features and ecological functions that are important to the environmental quality and integrity of the Natural Heritage System.			
1.1 Site Protection			
a Proximity to hydrological features. Includes groundwater recharge areas, headwater/first-order watercourses, river or stream corridors, wetlands (OMNR 1993b), shallow aquifers or discharge/seepage areas. As identified by the subwatershed studies and/or mapped on Schedule B and/or verified through technical studies.			
one or more hydrological features/functions located within the woodland patch		Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)
one or more hydrological features located within 50 m of the woodland patch (PPS and OPA trigger distance for an EIS)	Diagonal lines (top-left to bottom-right)		Diagonal lines (top-right to bottom-left)
one or more hydrological features located > 50 m from the woodland patch	Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)	
b Erosion and slope protection. Protection of runoff processes and ground stability (erosion potential) for slopes > 10%. As mapped in the Slope Stability Mapping Project (UTRCA 1996) and digital topographic layers (City of London GIS) for slopes, and based on soil textures and type as described in ELC manual based on OIP (1985) and Canadian Soil Classification System (1978).			
woodland present on steep slopes >15% on any soil type		Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)
woodland present on moderate slopes >10 - 15% with erodible soils (Silty Loam, Sandy Loam and Loam, Fine to Coarse Sands)	Diagonal lines (top-left to bottom-right)		Diagonal lines (top-right to bottom-left)
woodland present on moderate slopes >10 - 15% with less erodible soils (Heavy Clay and Clay, Silty Clay) or gentle slopes <10% with any soil type	Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)	
<i>Score for Criterion 1.1 (based on the highest standard achieved for any one of the two categories)</i>			
1.2 Landscape Integrity			
a Local Woodland Cover. Percentage cover of woodlands within 2 km radius circle from patch centroid. Native plant richness and flora quality are significantly related to local forest cover (UTRCA 1997; Bowles and Bergsma 1999)			
>25% woodland cover		Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)
10-25 % woodland cover	Diagonal lines (top-left to bottom-right)		Diagonal lines (top-right to bottom-left)
< 10% woodland cover	Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)	
b Linkages Between Patches. Woodlands are considered to be continuous even if intersected by standard roads, 21 m wide (OMNR 1999) = secondary collector or local roads in the City of London.			
patches directly connected by natural corridors		Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)
patches indirectly connected by cultural corridors; or have the potential to be connected by potential naturalization areas and upland corridors (as identified on Schedule B) unless separated by permanent cultural barrier (see glossary)	Diagonal lines (top-left to bottom-right)		Diagonal lines (top-right to bottom-left)
patches separated by active agricultural lands or urban development with permanent cultural barriers	Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)	
c Distance Between Patches (nearest neighbour) not separated by urban development or permanent cultural barriers (Larson et.al. 1999).			
< 100 m to next patch > 4ha		Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)
100 -250 m to next patch > 4h	Diagonal lines (top-left to bottom-right)		Diagonal lines (top-right to bottom-left)
> 250 m to next patch > 4 ha	Diagonal lines (top-left to bottom-right)	Diagonal lines (top-right to bottom-left)	
<i>Score for Criterion 1.2 (based on the highest standard achieved for any one of the three categories)</i>			

Woodland Patch Assessment Score Sheet			
Ecological Values	Priority Ranking		
	High	Med	Low
Criterion 15.4.5.(ii) The Woodland provides important ecological functions and has an age, size, site quality, diversity of biological communities and associated species that is uncommon for the planning area.			
2.1 Age and Site Quality			
a Woodland community age. Based on definitions in the Canadian (Strong et. al. 1990) and provincial (Lee et. al. 1998) classification systems			
patch contains one or more mature or old growth woodland community types		/	/
patch contains one or more mid-aged woodland community types	/		/
patch contains only pioneer to young woodland community types	/	/	
b Mean Coefficient of Conservatism (MCC) of Woodland Communities or Patch. Based on Floristic Quality Assessment System for Southern Ontario (Oldham et. al. 1995) and analysis of distribution in the London Subwatershed area (Bowles & Bergsma 1999)			
one or more woodland communities with a MCC > 4.6; or MCC of patch > 4.5		/	/
one or more woodland communities with a MCC 4.2 - 4.5; or MCC of patch ≥4.0-4.5	/		/
all woodland communities with a MCC < 4.2; or MCC of patch < 4.0	/	/	
c Disturbance related to Human Activity. Based on ELC disturbance rating data sheet (Lee et.al. 1998)			
few disturbances mostly light and local		/	/
disturbances mostly moderate to light and local	/		/
disturbances mostly moderate to heavy and widespread throughout the patch	/	/	
<i>Score for Criterion 2.1 (based on the highest standard achieved for any one of the three categories)</i>			
2.2 Size and Shape			
a Woodland size. Based MNR Natural Heritage Reference Manual for Policy 2.3 of the PPS (OMNR 1999)			
patch contains > 4 ha of upland woodland (Natural Heritage Reference Manual MNR 1999)		/	/
patch contains 2- 4 ha of upland woodland	/		/
patch contains < 2 ha of upland woodland	/	/	
b Patch Shape/Interior . The proportion of interior to total area based on a 100 m interior edge zone. Based on analysis of subwatershed study patches (Bowles and Bergsma 1999)			
> 4 % of the total patch area is more than 100 m from the edge		/	/
2-4 % of the total patch area is more than 100 m from the edge	/		/
< 2 % of the total patch area is more than 100 m from the edge	/	/	
c Conservative Bird Species - species with high Jurisdictional Responsibility, Preservation Responsibility and/or Area Sensitivity Scores for Middlesex County. Based on Southern Ontario Conservation Priorities (Couturier 1999)			
Possible breeding of one or more species at Level 1 or two or more at Level 2 or > five at Levels 2 - 4 in the patch		/	/
Possible breeding of one species at Level 2 or two or more at Level 3 or four to five at Levels 3 - 4 in the patch	/		/
Possible breeding of one to three species in Level 3 - 4 in the patch	/	/	
<i>Score for Criterion 2.2 (based on the highest standard achieved for any one of the three categories)</i>			

Woodland Patch Assessment Score Sheet			
Ecological Values	Priority Ranking		
	High	Med	Low
2.3 Diversity of Natural Communities and Associated Species			
a ELC Community Diversity. Applied at the patch level; excluding cultural communities. Based on ELC Community Tables (Lee et.al. 1998)			
patch containing 3 or more Ecosites in 1 Community Series; or 4 or more Community Series		/	/
patch containing 2 or more Ecosites in 1 Community Series; or 2-3 Community Series	/		/
patch relatively homogeneous; 1 Ecosite in 1 Community Series	/	/	
b ELC Vegetation Type and Topographic diversity (variation and heterogeneity). Applied to woodland communities; excluding cultural communities. Based on ELC Community Table (Lee et.al. 1998)			
woodland represented by four or more Vegetation Types, or by two or more Vegetation Types on two or more different topographic features (e.g. tableland, rolling upland, valley slope, terrace)		/	/
woodland represented by three Vegetation Types on one topographic feature, or by one Vegetation Type with inclusions or complexes	/		/
woodland represented by one to two Vegetation Type on one topographic feature	/	/	
c Diversity (species and individuals) and Critical Habitat Components for Amphibians; including 1) unpolluted shallow water that remains wet for the breeding season; 2) emergent and submergent aquatic vegetation; 3) logs and shoreline shrubs; 4) closed canopy offering a shaded moist understorey environment; 5) abundance of downed woody debris. Amphibians are indicators of healthy woodlands with well functioning processes (OMNR, 1999, 2000)			
4 or more species of amphibians present in the woodland patch; or 1 species of amphibian that is abundant in one or more communities; or 3 or more critical habitat components present in the woodland patch		/	/
2-3 species of amphibians present in the woodland patch; or 1 species of amphibian that is occasional in one or more communities; or 2 critical habitat components present in the woodland patch	/		/
1 species of amphibian present in the woodland patch; or 1 critical habitat component present in the woodland patch	/	/	
d Presence of Conifer Cover . Important for providing winter food and shelter for a variety of wildlife species (OMNR 1999, 2000)			
Patch contains naturalized vegetation communities with > 25% indigenous conifer canopy cover		/	/
Patch contains plantations of indigenous conifer species	/		/
Patch contains no coniferous communities; or plantations of non-native conifer species	/	/	
<i>Score for Criterion 2.3 (based on the highest standard achieved for any two of the four categories)</i>			

Woodland Patch Assessment Score Sheet			
Ecological Values	Priority Ranking		
	High	Med	Low
Criterion 15.4.5.(iv) The Woodland provides significant habitat for endangered or threatened species.			
3 Note: refer to Policy 15.4.4. re: Endangered and Threatened Species (TE Habitat)			
Identification, evaluation and listing of provincially endangered or threatened species is the responsibility of the MNR. Planning Authorities may wish to have assessments of the significant portions of the habitat of threatened species reviewed by the MNR. The MNR and Planning Authorities may take a co-operative approach on identification of the extent of habitat, with differing roles depending on whether the species is threatened or endangered and if there is a recovery plan or not (OMNR 1999).			
	Priority Ranking		
	High	Med	Low
The presence of TE habitat will add one HIGH score to this assessment		//	//

Woodland Patch Assessment Score Sheet			
Ecological Values	Priority Ranking		
	High	Med	Low
Criterion 15.4.5.(v) The Woodland contains distinctive, unusual or high quality natural communities or landforms.			
4.1 Distinctive, Unusual or High Quality Natural Communities. Applied at the patch level.			
a ELC Community SRANK . Based on Bakowsky (1996) and current status from NHIC web page (http://www.mnr.gov.on.ca/MNR/nhic/veg/lists/commlist.html)			
one or more communities with an SRANK of S3/S4 or higher		/	/
no communities with an SRANK higher than S4	/		/
no communities with an SRANK higher than S5	/	/	
b Specialized or rare species presence/absence. See glossary for definitions and lists of species.			
patch contains one or more rare tree/shrub species; or one or more rare herbaceous species; or >2 northern and specialized habitat tree/shrub species; or >5 Carolinian tree/shrub species; or >3 species that are regionally rare		/	/
patch contains 2 northern and specialized habitat tree/shrub species; or 3-5 Carolinian tree/shrub species; or 1-3 species which are regionally rare	/		/
patch contains 1 northern and specialized habitat tree/shrub species; or 1-2 Carolinian tree/shrub species; or common tree and tree/shrub/herbaceous species	/	/	
c Age, Size and Distribution of Large Trees			
trees > 50 cm dbh occasional to abundant in more than one community		/	/
trees > 50 cm dbh occasional in one community	/		/
trees > 50 cm dbh present, but rare in patch (one to few widely scattered)	/	/	
<i>Score for Criterion 4.1 (based on the highest standard achieved for any one of the three categories)</i>			
4.2 Distinctive, Unusual or High Quality Landforms			
a Distinctive landforms. As identified by the Slope Stability Mapping Project (UTRCA 1996) and City of London Glacial Geomorphology mapping (City of London GIS layer).			
woodland patch located on remnant valley slopes associated with the Arva, Ingersoll and Westminster Moraines or glacial melt water channels or lakes or on Beach Ridge or Sand Plain physiographic landform unit		/	/
woodland patch located on other slopes associated with glacial deposits or lake shorelines or the Till Moraine physiographic landform unit	/		/
woodland patch not located on significant slopes and or is located on Till Plain or Spillway physiographic landform unit	/	/	
<i>Score for Criterion 4.2 (based on the highest standard achieved)</i>			

Criterion 15.4.5(iii) The Woodland is important for the balanced distribution of open space amenities and passive recreational activities across the urban area.

Note: refer to Guidelines for Priority Ranking of Woodlands for Public Acquisition for Application of this Criterion

Assessment for Woodland Significance :










A woodland will be considered as a significant component of the Natural Heritage System and designated as open space based on the following categories:

If three or more criteria meet the standard for High;

If two criteria meet the standard for High and four or more criteria meet the standard for Medium;

If one criterion meets the standard for High and six or more criteria meet the standard for Medium;

If seven criteria meet the standard for Medium.

CRITERION	SCORE			
CRITERION 1.1 Site Protection				
CRITERION 1.2 Landscape Integrity				
CRITERION 2.1 Age and Site Quality				
CRITERION 2.2 Size and Shape				
CRITERION 2.3 Diversity of Natural Communities and Associated Species				
CRITERION 3 Endangered and Threatened Species (TE Habitat)				
CRITERION 4.1 Distinctive, Unusual or High Quality Natural Communities				
CRITERION 4.2 Distinctive, Unusual or High Quality Landforms				
<p align="center">SUMMARY OF SIGNIFICANCE OF EIGHT ECOLOGICAL CRITERIA (Including TE habitat if present)</p>	Number of High			
	Number of Medium			
	Number of Low			

Patch Number:	Subwatershed:
Woodland is a Significant Component of the Natural Heritage System	<i>YES / NO</i>
Completed By:	Date: