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TO:	CHAIR AND MEMBERS PLANNING COMMITTEE
FROM:	R. W. PANZER GENERAL MANAGER OF PLANNING AND DEVELOPMENT
SUBJECT:	ENVIRONMENTAL REVIEW LANDS STUDY FINAL REPORT MEETING ON NOVEMBER 10, 2008

RECOMMENDATION

That, on the recommendation of the General Manager of Planning and Development, the following report **BE RECEIVED AND CIRCULATED** for review and comment, with comments forwarded by December 19, 2008.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- August 11, 2008 Planning Committee report directing the City Solicitor's office take all necessary steps to respond to the Motion to the Ontario Superior Court of Justice, Divisional Court, commenced by London Development Institute and others, for an order for leave to appeal a Decision of the Ontario Municipal Board – file PL061036 – regarding a new Official Plan Policy 15.4.5.1 that establishes a threshold of significance for woodlands in London.
- August 11, 2008 Planning Committee report for information with respect to the July 24, 2008 decision of the Ontario Municipal Board supporting a new Official Plan Policy 15.4.5.1 that establishes a threshold of significance for woodlands in London of 1 High or 5 Medium scores.
- September 11, 2006 Planning Committee report introducing a by-law to amend the Official Plan to include a new policy for the Threshold of Significance of a woodland evaluated using the Guideline Document for the Evaluation of Ecologically Significant Woodlands March 2006.
- June 19, 2006 Planning Committee report recommending the adoption of the revised Guideline Document for the Evaluation of Ecologically Significant Woodlands March 2006.
- October 29, 2003 Planning Committee report outlining the scope of work and hiring North South Environmental to carry out the Environmental Review Lands Study.
- June 3 1999 Decision Order 1048 made by the Ontario Municipal Board which introduced a new Official Plan Policy 8B.3 iii) directing the City of London to undertake an environmental study of the Environmental Review Lands outside of the Urban Growth Area during the first ten years of the planning period (1996-2006). Lands not determined to be significant in accordance with the criteria for determining significance in Section 15.4 will be re-designated as Agriculture.

BACKGROUND

The City of London Subwatershed Planning Studies were completed in 1995 and adopted by Municipal Council as a guideline document to assist with the implementation of environmental and water resource aspects of the Official Plan. They were approved by the Ontario Municipal Board Order No. 2314 on December 23, 1999 as part of the OPA-88 appeals. One of the goals of the Subwatershed Studies was to identify key environmental features, develop a framework for a Natural Heritage System, map the system, and to develop a strategy, establish targets and provide the context for further studies as planning proceeds.



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The Subwatershed Studies identified the Natural Heritage System of the study area based on general landscape criteria such as the percent vegetation cover in the planning area, size of vegetation patches, and existing information on rare species populations and critical habitat. Within the landscape context of London and Middlesex County where woodlands cover 5% to 15% of the land, an initial cut-off size of 4 ha was determined to be a minimal size for functional woodland (Riley & Mohr 1994; OMNR 1999). While 4 ha was the nominal cut-off size for patches, smaller patches < 4 ha were mapped only if they were within 100 m of another patch, not separated by permanent cultural barriers, and the total size of the two patches was > 4 ha. All patches were assigned a number; the first two digits corresponding to the numerical code assigned each of the 13 subwatersheds. The initial selection and identification of these key woodlands was based on a minimum vegetation patch size of 4 ha. Remaining patches less than 4 ha sizes were not included in the mapping or considered to be components of the Natural Heritage System at that time. Recently, Council requested that these smaller patches be identified and potentially added to the OP mapping.

As part of the resolution of appeals to OPA-88, all identified key woodlands were placed in the Environmental Review (ER) designation (rather than Open Space) for further study. Woodlands are one of many features that make up the City's Natural Heritage System and have been identified as ER on Land Use Schedule 'A' and Vegetation Patches on Schedule 'B' of the Official Plan. It was intended that the interim use of ER designated lands shall be directed toward the following objective: protect natural features and ecological functions until their significance is determined through detailed environmental studies. Policy 8.B.3 iii) of Section 8 of the City's Official Plan requires that the City carry out a study of all lands designated ER outside the Urban Growth Boundary to provide a degree of certainty to land owners in the annexed area regarding the significance of environmental features on their lands. This policy was also added by the OMB through OPA-88.

To assist with the interpretation and implementation of this policy, the City developed and approved a detailed scientific scoring system and comprehensive approach for determining the ecological significance of woodlands (Guideline Document for the Evaluation of Ecologically Significant Woodlands, October 4, 2000). North-South Environmental Inc. was hired to carry out the assessment of 140 terrestrial vegetation patches to determine their significance in accordance with Council approved policies and guidelines. Significant environmental features will be redesignated on Schedule 'A' from Environmental Review to Open Space.

As a result of North-South's testing of the City's Guideline Document for the Evaluation of Ecologically Significant Woodlands (October 2000), a technical update was recommended by the consultant and brought forward to Planning Committee through a public process for circulation and review. Comments were received and incorporated, where appropriate, and the revised Guideline Document for the Evaluation of Ecologically Significant Woodlands was adopted by Council and added to Section 19 of the Official Plan in 2006. There were no appeals to this process.

Similarly, the threshold at which a woodland is classified as "significant" in London was reviewed and updated through a public process to suit changes in the 2005 Provincial Policy Statement, to reflect Official Plan environmental strategies that speak to protecting and enhancing our natural heritage system and to respond to an increasing value that the community places on trees and woodlands in the Forest City. This policy was appealed by the London Development Institute and others to the OMB in October 2006 and the hearing took place in January 2008. On July 24, 2008 the OMB decision was received and the appeal was dismissed. On August 7, 2008, Barry Card, on behalf of the London Development Institute and others, filed a Notice of Motion for leave to Appeal this Decision of the Ontario Municipal Board – file PL061036. The motion is scheduled to be heard on November 28, 2008.

These lengthy planning processes came during the course of the ER Lands Study and caused delays in its completion.

The final report of the Environmental Review Lands Study was received September 19, 2008. The report used the revised March 2006 Guideline Document for the Evaluation of Ecologically Significant Woodlands and the Council approved threshold for significance, OP Policy 15.4.5.1 that was upheld by the OMB Decision of July 24, 2008:

- 15.4.5.1** The woodland would be considered "Significant" if it achieves a minimum of one high or five medium scores as determined by the application of the Guideline for the Determination of

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Ecologically Significant Woodlands (March 2006) as listed in section 19.2.2. A Significant Woodland will be designated as Open Space on Schedule A and delineated as a Significant Woodland on Schedule B.

RESULTS OF THE INVENTORY AND EVALUATION OF WOODLANDS - ENVIRONMENTAL REVIEW LANDS STUDY, CITY OF LONDON

Goals and Objectives

The primary goal of this study was to determine the ecological significance of 140 vegetation patches identified as Environmental Review (ER) lands on Schedule "A" of the City of London Official Plan. The study focussed on ER patches located outside the Urban Growth Boundary. Recommendations from the study are to be used to determine appropriate land use designations for ER patches on Schedules 'A' and 'B' on Official Plan mapping.

In order to simplify the development approval process, two secondary objectives of the project were:

- 1) to determine whether there are qualitative and/or quantitative correlations between landscape level significant woodland evaluation factors, measured using remote sensing techniques; and community and species evaluation factors measured in the field; and
- 2) to determine if landscape level criteria alone are sufficient to determine the significance of ER (i.e. without having to complete more detailed field studies necessary for community and species level criteria), or whether there are correlations between certain community or species factors that would demonstrate a rationale for simplifying field sampling to include only a few factors as the best indicators of significance.

Public Consultation

In consultation with the City of London, North-South Environmental Inc. prepared a *Woodlands Brochure* to inform the public of the intention to contact landowners with woodlands designated for ER and to provide an overview of the field program and objectives. An open house was held on February 12, 2004 to encourage public awareness and participation in the study and answer questions. A total of 53 people signed in at the open house. The overall response from landowners was very positive with most landowners granting permission to access their properties. In November of 2004 another letter was sent to landowners to summarize the field data collection results, indicate our intention to evaluate the vegetation patches based on Official Plan criteria and present a timeframe for next steps.

Further consultation with landowners was sent by letter on July 16, 2006, wherein we explained the delay of the study completion due to changes in the Provincial Policy Statement, requiring some technical updates and the acceptance by Council of a revised guideline document to be used in the evaluation of significant woodlands. We also shared City Council's request that the "Threshold of Significance" be changed to reflect current provincial policy and that this threshold be included in Policy 15.4.5 of the Official Plan as an amendment. Landowners were invited to participate at the Planning Committee scheduled for September 11, 2006, where they could voice their concerns or support for the amendment.

Public consultation for this study exceeded all mandatory requirements under the Planning Act.

Steering Committee Meetings

A number of meetings (five) were held throughout the course of this study to discuss technical and science related aspects of the study, such as: criteria for site selection for field work, preparation for the open house, data collection methodology and highlights of the field component, boundary review, landowner packages for distribution, identification and mapping of patches, patches that span city and county boundaries, changes to the assessment criteria.

Members of the Steering Committee included the Upper Thames River Conservation Authority, Kettle Creek Conservation Authority, independent ecological consultants, Environmental and Ecological Planning Advisory Committee, ecological consultants representing the London Development Industry, McIlwraith Field Naturalists and the Agricultural Advisory Committee.



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General Methodology

To satisfy the intent of OP policy 8.B.3 iii), the ER Lands Study included both the essential technical assessments and planning procedures to comply with statutory requirements:

- Letters to all affected landowners to explain the project and to provide updates
- A public meeting to launch the study
- Presentations to LDI and the Urban league regarding the purpose of the Study
- A presentation to the City's Agricultural Advisory Committee about the project
- Aerial photograph interpretation
- Site visits to all vegetation patches
- Detailed 3-season ecological inventories of a subset of patches (55)
- Full data base summaries of the ecological features of the patches
- Summaries of ecological functions of patches based on physical attributes (e.g. hydrological features, remnant valley slopes, etc.), the presence and significance of flora and fauna, and the distribution and connectivity of patches within the landscape.
- Refinement of the limits of vegetation patches as a result of site visits and revised rules for boundary delineation
- A comparison of original (2000) and revised (2006) Guideline Document for the Evaluation of Ecologically Significant Woodlands
- Recommendations to update the Guideline Document for the Evaluation of Ecologically Significant Woodlands to reflect their practical application
- Rerunning the broad "landscape level" assessment of those new patches
- Patch assessment at the more detailed "community and species levels"
- Draft mapping of patch significance.

Data collection for all or portions of the 55 woodland patches was based on the information required to evaluate these patches using the Guideline Document for the Evaluation of Ecologically Significant Woodlands (2006) and the City of London Data Collection Standards (1996).

Field Study Methodology

Flora

Sites were visited twice, once in late spring/early summer, and once in late summer. The procedure followed the protocols developed for the Ecological Land Classification System (ELC) in southern Ontario (Lee et al. 1998), with some modifications to the data sheet providing for more data than the standard sheet shown in the ELC manual.

Fauna

Information was collected on fauna opportunistically during all field visits. However, dedicated surveys for fauna over numerous days were conducted for Ambystomatid (mole) salamanders within larger patches with wetlands present, breeding frogs conducted in mild weather with little or no precipitation and little wind, as recommended by Canadian Wildlife Service amphibian monitoring protocols (CWS 2005), and breeding birds as described by Canadian Wildlife Service Forest Monitoring protocols (CWS 2005).

Study Results

Main Goal - Ecological Significance of vegetation patches

Almost all of the key woodland patches identified through the sub-watershed planning process were found to be significant through this more detailed study. Outside the City of London Urban Growth Boundary, 132 ER patches (originally 140 patches - some were collapsed or joined) were assessed using the available data to evaluate landscape criteria and 55 of these ER patches were further assessed using field data to evaluate community and species level criteria. Of the 132 ER patches, 125 ER patches were determined to be Significant Woodlands. For the seven ER patches that did not meet the Significant Woodland criteria, only landscape level data was used in their assessment. As such, a final determination of significance of the 7 ER patches should be made when field studies are completed to provide the information needed to fully assess community and species level criteria.

Some ER patches may qualify for Environmentally Significant Area designation based on their proximity to existing ESA and that the ESA boundary guidelines should be applied to make a final determination.

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Secondary Objectives

Summary of Landscape and Community/Species Level Criteria Correlation Analysis

An analysis of the landscape and community/species level criteria scores was carried out to examine trends in data that determine ER patch significance, and to determine if significance at the landscape level is predictive of significance at community and species scales. The results for the analysis determined that for the 55 ER patches for which both landscape and community/species level criteria were available, no one set of criteria (landscape or community/species) consistently determines significance 100% of the time, but that all ER patches that were evaluated using landscape and community/species level criteria met the criteria for Significant Woodlands.

An analysis utilizing a Pearson Correlation Matrix does show there are several landscape criteria that are more important than others in determining ER patch significance. Also, these same landscape criteria are more often associated with a sub-set of community/species level criteria that determine significance. For ER patches not determined to be significant using only landscape factors, a sub-set of the many community/species criteria could be selectively used first, to collect field data to assist in the determination for ER patch significance.

Several of the evaluation criteria were more frequently ranked "high" and are therefore more often related to the designation of an ER patch as a Significant Woodland. The following four criteria scored High most frequently (i.e. 58 to 75% of the ER patches):

- 1.1a Presence of Hydrological Features (landscape level criterion);
- 2.3c Amphibian Diversity and Habitat (species level criterion);
- 2.2a Patch Size (landscape level criterion); and
- 4.1d Basal Area (species level criterion)

A second group that also ranked "high" frequently (i.e. 40 to 47% of ER patches) include:

- 1.2a Landscape Richness (landscape level criterion);
- 2.2b Patch Shape and Presence of Interior (landscape level criterion); and
- 2.3b Community and Topographic Diversity (community level criterion).

Summary of Vegetation Communities and Plants described within ER patches surveyed

The Ecological Land Classification (Lee *et al.* 1998) for Southwestern Ontario was used to define vegetation communities within the 55 ER patches that were field surveyed. The results indicated that 75% of patches contained upland deciduous forest (FOD), while 25% were conifer forest (FOC) or cultural plantation (CUP). Mixed forests (FOM) were rare at less than 5%. Wetland communities were represented by 31% shallow marsh (MAS) or meadow marsh (MAM), 33% submerged shallow aquatic (SAS), floating-leaved shallow aquatic (SAF), or open water (OAO); and 42% with deciduous swamp (SWD) or swamp thicket (SWT) communities. Early successional and cultural communities represented 40% of the patches and include cultural savannah (CUS), cultural thicket (CUT) or cultural meadow (CUM).

Within the ER patch vegetation communities, locally, provincially and nationally rare plant species were discovered.

Provincially Significant Vegetation Communities

Of the 14 wetland community types identified within ER patches, two wetland community types are considered rare (S3S4) in Ontario. Of the 30 terrestrial plant community types identified within the ER patches six communities are considered rare (S3S4) in Ontario.

Significant Plants

During field inventories in 2004 a total 639 plant species were recorded; nine of these plants are considered rare based on having a species rank (S-rank) of S1, S2, or S3 in the Province of Ontario. Some of the rare plants are also plants that are designated as Endangered (END), Threatened (THR) or a species of Special Concern (SC) nationally by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) and provincially by COSSARO (Committee on the Status of Species at Risk in Ontario). COSSARO species are regulated by the Endangered Species Act for Ontario. In addition to the 9 provincially rare plant species, 38 plant species were recorded that are native to southwestern Ontario but are rare in Middlesex County and the London area. In general, these locally rare plant species have very specific habitat requirements or are not well represented within Middlesex County and are only identified through the completion of detailed field surveys.



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Summary of Fauna described within ER patches surveyed

The diversity of fauna within the study area is considered high with 127 animal species recorded. Based on the observation the most diverse group was birds with 103 bird species recorded. In addition there were 10 amphibian, 3 reptile and 11 mammal species recorded. The number of animal species recorded in a patch was highly variable ranging from one species in smaller more isolated patches to 70 species in larger patches with greater connectivity and plant community diversity.

With the detailed study of ER patches, locally, provincially, and nationally significant and species were found.

Amphibians

Ten amphibian species were recorded within the ER patches surveyed. The most common species for which breeding habitat was found during the early spring roadside survey of ER patches (which included an additional 82 ER patches that could be surveyed from roadsides) was spring peeper. Gray treefrog was the second-most common amphibian species recorded. Western chorus frogs and wood frogs were relatively rare within the study area. Green frogs were recorded incidentally as they call later than other frog species. All other species noted were occasional records of species that do not aggregate during breeding (e.g. red-backed salamander) or species whose life cycle is not conducive to broad-scale surveys (e.g. red-spotted newt), and species that were otherwise cryptic and easily overlooked. The least common amphibian breeding species observed was spotted (mole) salamander.

Reptiles

Three records of reptile species were obtained during field work, despite searches of woody debris and other reptile habitat where encountered. The reptile species recorded were: Eastern garter snake, Common snapping turtle and Midland painted turtle. Reptile species are typically elusive, remaining silent and hidden and are therefore easily overlooked. More comprehensive surveys that increase the probability of detecting their presence are labour-intensive. Therefore, it is assumed ER patches likely provide habitat for a greater abundance of reptile species. Other species that would likely be found in the study area include common species such as red-bellied snake, Dekay's brownsnake and eastern smooth greensnake, as well as provincially and nationally significant species such as eastern milksnake eastern hognose snake and queen snake.

Breeding Birds

A total of 103 breeding bird species were recorded within the ER patches studied. The number of bird species recorded within a single ER patch was highly variable, with an average of 19 bird species per patch, with a standard deviation of 14 among all patches. Most of the bird species noted in the study area were generalists, capable of nesting in a wide variety of habitats. This may indicate that in the London area, the presence of significant bird species (a community/species level criterion) may not be predictable from significant landscape criteria. Many significant species are habitat-specific.

CONCLUSIONS from the PLANNING PROCESS and ER LANDS STUDY

1. With advice from North South Environmental and input from stakeholders, the Guideline Document for the Evaluation of Ecologically Significant Woodlands (2006) was updated to more accurately evaluate woodlands within the City of London.
2. The Guideline Document for the Evaluation of Ecologically Significant Woodlands is one of the most detailed, science-based evaluation documents in the Province and has been endorsed by the OMB.
3. Of the 132 ER patches, 125 ER patches were determined to be Significant Woodlands. For the seven ER patches that did not meet the Significant Woodland criteria, only landscape level data was used in the assessment. As such, a final determination of significance of the 7 ER patches will be made when field studies are completed that provide the information needed to assess community and species level criteria.
4. Within the ER patch vegetation communities, locally, provincially and nationally rare plant species were discovered.
5. With the detailed study of ER patches, locally, provincially, and nationally significant animal species were found.

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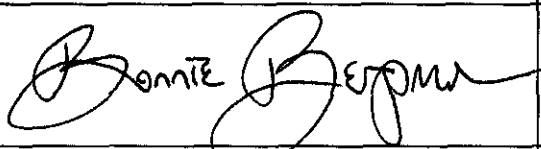

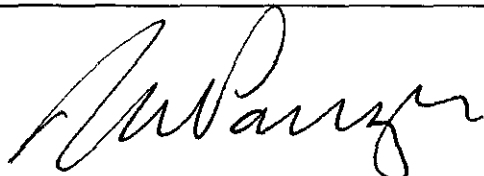
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6. For ER patches not determined to be significant using only landscape factors, a sub-set of the many community/species criteria could be selectively used first, to collect field data to assist in the determination of ER patch significance.
7. The results of the ER lands study support the findings of the original sub-watershed studies recommending the protection and enhancement of our existing Natural Heritage System.
8. Given the limited amount of forest cover in London and area, the study determined that almost all remaining vegetation patches should be considered significant and protected.
9. Protection of these significant woodlands supports Official Plan Goals and Strategies of protecting and enhancing our Natural Heritage System and reflects Londoner's desires to protect our remaining natural features.
10. A good portion of these patches are owned privately, primarily by farmers outside the Urban Growth Boundary and the City should assist these Londoners in their continued protection and managed use of these woodlands.

NEXT STEPS

Further communication with the affected landowners will take place to ensure that they are appraised of and understand the technical findings of the ER Lands Study, and what it means to the designation of their lands in the Official Plan. Following circulation of the Study and receipt of comments, stakeholder meetings may be required to discuss and resolve outstanding issues.

Along with the appropriate mapping updates, the final report and recommendations for the redesignation of ER lands to reflect the findings of the Report will be brought forward to Planning Committee through the required public notification process for approval. It may be possible to combine this process with the final adoption of the 5-Year OP review process, but this is subject to the Study review, circulation and public input processes to take place in early 2009.

PREPARED BY:	SUBMITTED BY:
	
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October 21, 2008