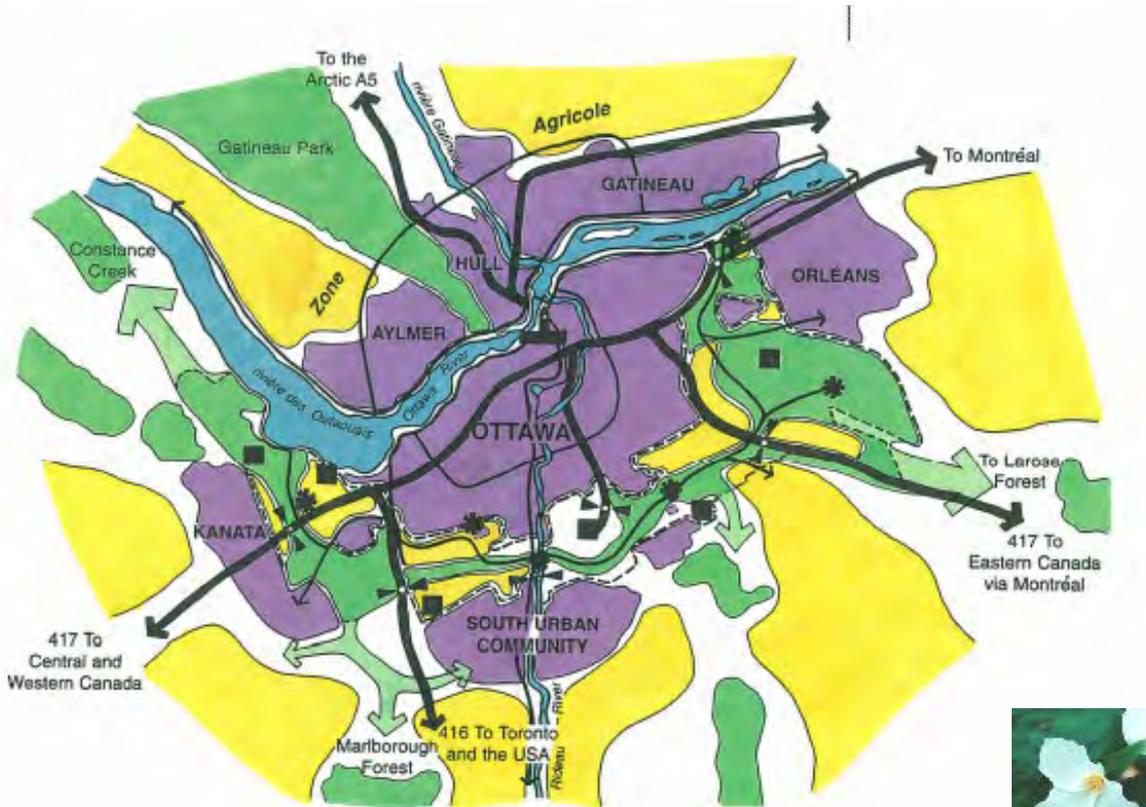


# Natural Linkages



## Provincial and City Policies

Presentation at the Natural Linkages Panel Discussion

June 8, 2013  
Erwin Dreessen  
Greenspace Alliance

Image by NCC

<http://www.canadascapital.gc.ca/sites/default/files/pubs/NCC-Greenbelt-Master-Plan-Purpose-Roles-Concept-1996.pdf>

# Planning Act

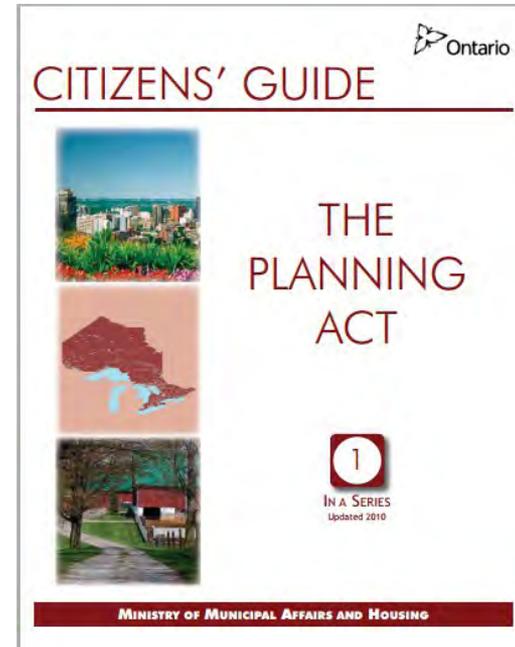
## Provincial Interest

2. The minister, the council of a municipality, a local board, a planning board and the Municipal Board, in carrying out their responsibilities under this Act, shall have regard to, among other matters, matters of provincial interest such as,

(a) The protection of ecological systems, including natural areas, features and functions;

....

(q)



Available at:

<http://www.mah.gov.on.ca/AssetFactory.aspx?did=5920>

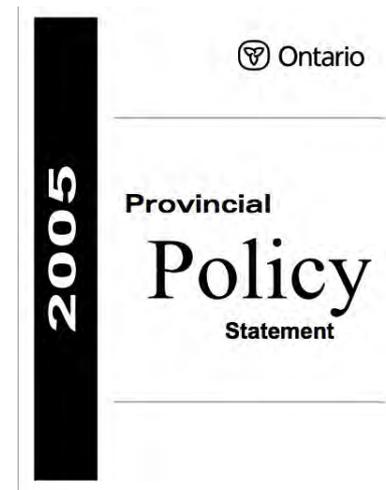
# Provincial Policy Statement 2005

## Provincial Policy Statement 2005

“

2.1.2 The diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, **recognizing linkages between and among *natural heritage features and areas*, surface water features and ground water features.**”

(Unchanged in the September 2012 draft)



Available at:  
<http://www.mah.gov.on.ca/Asset1421.aspx>

# Provincial Policy Statement 2005

## Natural heritage features and areas - definition

“

Means features and areas, including significant wetland, significant coastal wetlands, fish habitat, significant woodlands south and east of the Canadian Shield, significant valleyland south and east of the Canadian Shield, significant habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social value as a legacy of the natural landscape of an area. ”

(Some additional words in the September 2012 draft)



Image by Greenspace Alliance

# Provincial Policy Statement 2005

## Natural heritage **system** - definition

“ Natural heritage system: means a system made up of *natural heritage features and areas*, **linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems**. These systems can include lands that have been restored and areas with the potential to be restored to a natural state. ”

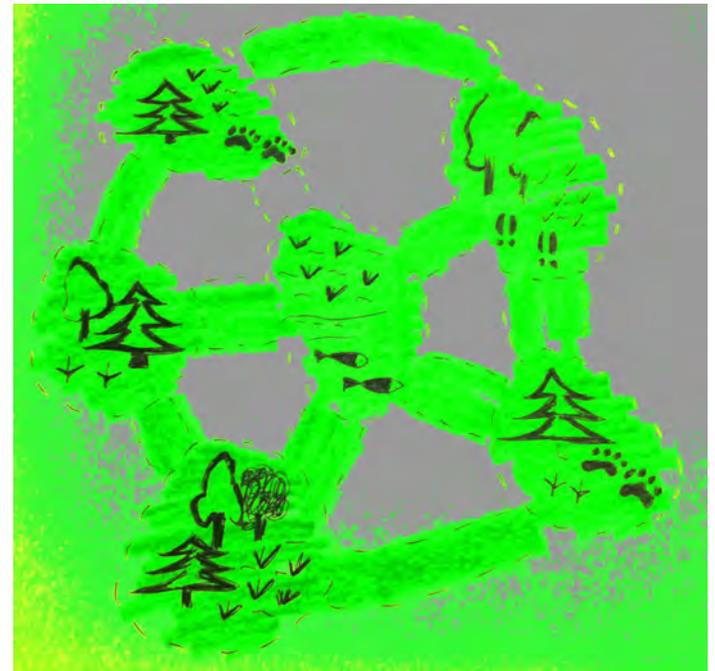


Image by Greenspace Alliance

(Unchanged in the September 2012 draft)

## Linkage/corridor - definition

“ A linear area intended to **provide connectivity** (at the regional or site level), supporting a complete range of community and ecosystem processes, enabling plants and smaller animals to move between core areas and other larger areas of habitat over a period of generations. The terms are used interchangeably for planning purposes but may need to be distinguished for ecological or biological reasons. ”

(Adapted from Hess and Fisher, 2001).



Available at:

<http://www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@lueps/documents/document/289522.pdf>

Over and beyond the protective policies regarding species at risk, wetlands, woodlands, valleylands, wildlife habitat and ANSIs, and regarding lands adjacent to such features, the Manual notes:

“ By definition, the featured covered in policies 2.1.3, 2.1.4 and 2.1.5 of the PPS are included, but **are not necessarily the only** features and areas that could be considered important for their environmental and social value. Thus, a natural heritage system may also contain features that are considered significant at watershed, regional or local scales. ”

Quite specifically:

“ In identifying a natural heritage system, linkages that are **ecologically functional** should be incorporated. This means that a linkage should be of sufficient width, especially in proportion to length, and composed of appropriate habitat or potential for restored habitat to allow the movement of wildlife and dispersal of flora. ”

# Linkages/Corridors Attributes

## a. General

- The nature of a linkage will depend on the ecological function that the linkage is intended to perform.
- Factors that may affect the ecological function of a linkage include its length and width (generally, a wider linkage is better, and the width of a linkage should increase relative to its length), composition, orientation and configuration
- The significance and relative importance of these factors vary with the needs of different species.
- Some linkages may serve to connect habitat for particular species to complete their life cycles (e.g., linkages between wetlands and upland areas to allow for reptiles and amphibians to move between breeding and summer/winter habitat).
- The ecological appropriateness of a corridor should be considered when identifying linkages.
- Corridors should be assessed as to whether there is a natural relationship between the core areas or features being connected, especially when identifying linkages that should be restored or established in fragmented landscapes.
- Alternative or multiple linkages in a natural heritage system can assist in maintaining its ecological functions, as well as its overall ecological integrity.
- Smaller patches of natural cover that are closely spaced can serve as stepping stones for species movement, and thus be identified as a linkage.

## b. Habitat

- a. The habitat needs of the species type that will move through a corridor should be taken into account when establishing it.

## c. Shape

- An important consideration for the shape of corridors is the dispersal patterns (e.g., directional vs. random) of the species that will be using them.
- To increase the probability that animals will locate corridors, they should be designed to have a funnel shape at either end, to maximize the contact surface between the core and the corridor.

## d. Length

- If an individual cannot travel through a corridor within one activity period, the corridor should provide appropriate habitat for the foraging requirements of the species, and in some cases for breeding or hibernating requirements as well.

## e. Width

- Recommendations for corridor width depend on the landscape matrix and species context.
- Approaches for determining appropriate corridor widths can include the following:
  - **Noss (1992) suggests that long corridors (more than 16 kilometres [km]) should be at least 1.6 km wide and that shorter corridors be at least three times the measurable “edge effects.” Using Noss’s criterion, this translates into 300 metre (m) wide corridors.**
  - Environment Canada et al. (1998) suggest corridor widths from 50 m for generalist species (i.e., white-tailed deer, raccoon) up to 500 m in rural areas for species that require interior forest habitat.

# Natural Linkages

The Sewell Commission report (1993) had stated:

“ In decisions regarding development, every opportunity will be taken to: improve the quality of air, land, water, and biota; maintain and enhance biodiversity compatible with indigenous natural systems; **and protect, restore and establish natural links and corridors.** ”

and accordingly:

“ ...the Ministry of Municipal Affairs (now MMAH) released the Comprehensive Set of Policy Statements (1994), which **included a policy to “protect natural links and corridors” and encouraged their improvement and enhancement.** These policies were the basis for the 1997 Provincial Policy Statement and the first edition of the Natural Heritage Reference Manual, which described “the natural heritage system approach.” ”



Image by:  
<http://www.johnsewell.org/bio/>



# City of Ottawa 2009 Official Plan (as amended)

+ brings the Official Plan in conformity with the 2005 PPS

+ a revamped **section 2.4.2** defines Ottawa's Natural Heritage System (NHS):

“ The natural heritage system in Ottawa is identified and protected by:

- watershed and other environmental plans;
- land-use designations, in Schedules A and B;
- the Natural Heritage System Overlay (Schedules L1, L2 and L3);
- policies that govern how land is used to ensure that development does not result in negative impacts on natural features or their functions.

In this regard, the diversity and connectivity of natural features and the long-term ecological function and biodiversity of the City's natural heritage systems shall be maintained, restored, or where possible, improved, **recognizing linkages between and among natural heritage features and areas, surface water features and ground water feature.** ”

[Amendment #76, OMB File #PL100206, Ministerial Modification # 11. April 26, 2012]

[Amendment #109, November 29, 2012]

# City of Ottawa 2009 Official Plan (as amended)

## Section 2.4.2 Policies

“ 1. The natural heritage system in Ottawa comprises the following significant features and the natural functions they perform:

(a)

...

(j) Forest remnants and natural corridors such as floodplains **that are identified** through planning or environmental studies such as watershed or subwatershed plans, environmental management plans, community design plans, environmental impact statements or tree conservation reports as linkages between the significant features defined above, but may not meet the criteria for significance in their own right;

...

(l)

”

# Waterways and Valleylands

Policies in regard to **waterways** and **valleylands** also support protection of linkages:

- PPS section 2.2.1
- Natural Heritage Reference Manual, Table 3-3 and pp. 76, 79
- Official Plan, section 2.4.2, Policy 1 (e)



Image available at:  
<http://www.davidcallan.ca/655river.html>



Image available at:  
[http://upload.wikimedia.org/wikipedia/commons/d/d1/Ottawa\\_Valley.jpg](http://upload.wikimedia.org/wikipedia/commons/d/d1/Ottawa_Valley.jpg)

# When should NHS components be protected?

“ Plans of subdivision and consent applications present **further** opportunities to address natural heritage features and areas but are not discussed in the manual. ”  
(NHRM, page 107, footnote 48)

The Manual advises, in its recommended "official plan approach":

“ Policies and depictions on land use schedules should respect working landscapes in rural and prime agricultural areas that are providing linkage functions between and among natural heritage features and areas, surface water features and groundwater features.. ”

and notes:

“ ...a natural heritage system approach can reduce the need for detailed natural heritage evaluations at the development application stage if municipalities choose to identify a natural heritage system, as part of an official plan or secondary plan process, where development and site alteration are restricted. ”

# Terms of Settlement with the Greenspace Alliance, January 2012

- 1.** The City of Ottawa acknowledges that, in principle, **natural heritage connectivity at multiple scales is an appropriate consideration in decisions regarding expansion of the urban boundary** in order for consistency with the Provincial Policy Statement 2005.
- 4.** The **City commits to an explicit consideration of impacts on the connectivity of the natural heritage system** at multiple scales during any future analyses and Official Plan Amendments regarding possible expansion of the urban boundary.
- 6.** Prior to the next comprehensive Official Plan Review in 2014, **the City will identify and map existing and conceptual natural heritage linkages at a City-wide scale**, including consideration of regional linkages outside the City boundaries. The City will carry out this work either in partnership with other organizations or agencies (e.g. the Nature Conservancy of Canada or the National Capital Commission) or on its own.

# Designated Growth Areas

The Manual specifically addresses the identification of the NHS in “Designated Growth Areas”:

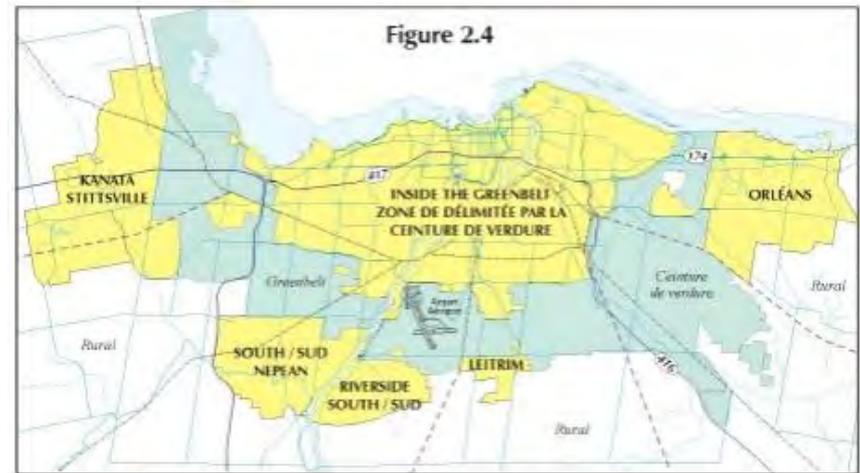


Image by City of Ottawa, available at:  
<http://ottawa.ca/en/official-plan-0/22-managing-growth>

“ As part of a comprehensive planning process, it is recommended that a preliminary **natural heritage system be identified before any other planning interests are considered**. This will allow an opportunity to assess the natural heritage features and ecological functions up front and to determine the best way to connect them. A preliminary natural heritage system may need to be refined later in the planning process to incorporate other planning objectives. ”

...

# Designated Growth Areas

...Continued

“ Beginning the planning process with a natural heritage system concept that is based on an understanding of the natural features and ecological functions brings a fuller understanding to such discussions and any future direction that may need to be contemplated.<sup>15</sup>

[footnote 15:]

In “designated growth areas” under the PPS, natural heritage systems being finalized for implementation in definitive ways in planning documents may be reduced (e.g., corridors and linkages may be narrowed) from the preliminary system to accommodate other planning interests.

”

...

# Designated Growth Areas

...Continued

“ Including adjacent lands that maintain ecological function when developing a natural heritage system in the designated growth area could satisfy the need to demonstrate “no negative impacts,” as required (as per policy 2.1.6 of the PPS) as part of a future proposed development adjacent to the protected natural heritage features and areas. Thus, the municipality would provide **greater certainty** about the extent of developable land earlier in the planning process, and the development proponent would not be required to complete an EIS or equivalent study to demonstrate no negative impacts... ”

# Questions for the Official Plan review:

- ? Is identifying natural linkages on Schedules L 1/2/3 enough protection?
- ? Should certain critical linkages receive protection by designation?  
Natural Environment Area, Rural/Urban Natural Feature,  
Major Open Space, Greenbelt Rural ... a new designation?
- ? Should Annex 15 be amended to recognize linkages as part of the NHS?  
"Urban Expansion Areas – Methodology for Determining and Evaluating  
Candidate Areas"