City of Vaughan

Natural Heritage Network Study

Natural Heritage Network Study

Public Consultation Meeting #2

October 4th, 2012
Multi-purpose Room
Vaughan City Hall

Presented by - Brent Tegler

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North-South Environmental Inc.

Specialists in Sustainable Landscape Planning

Natural Heritage Network Goal

Use a science-based approach to identify a NHN consisting of core areas, ecological linkages and enhancement areas that collectively create a robust system providing long-term ecological integrity to protect native biodiversity

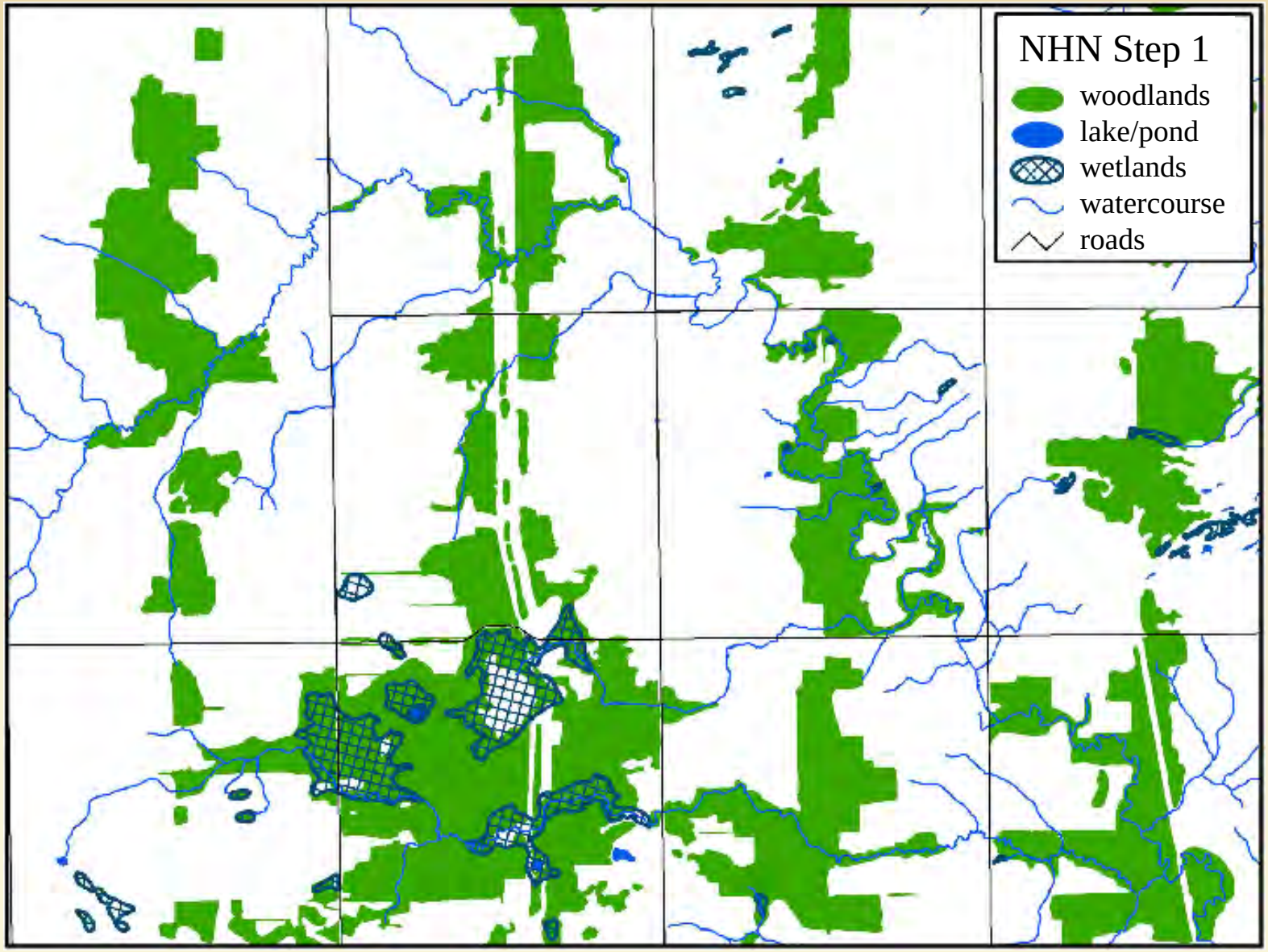
Conservation Biology "Systems Approach"

Conservation Biology Principles:

- ***protect the remaining significant natural features***
- ***protect and restore areas to enhance ecological integrity***
- ***protect and restore functional ecological linkages***

Steps in Building a NHN

Step 1 – Identify Natural Heritage Features



Steps in Building Vaughan's NHN

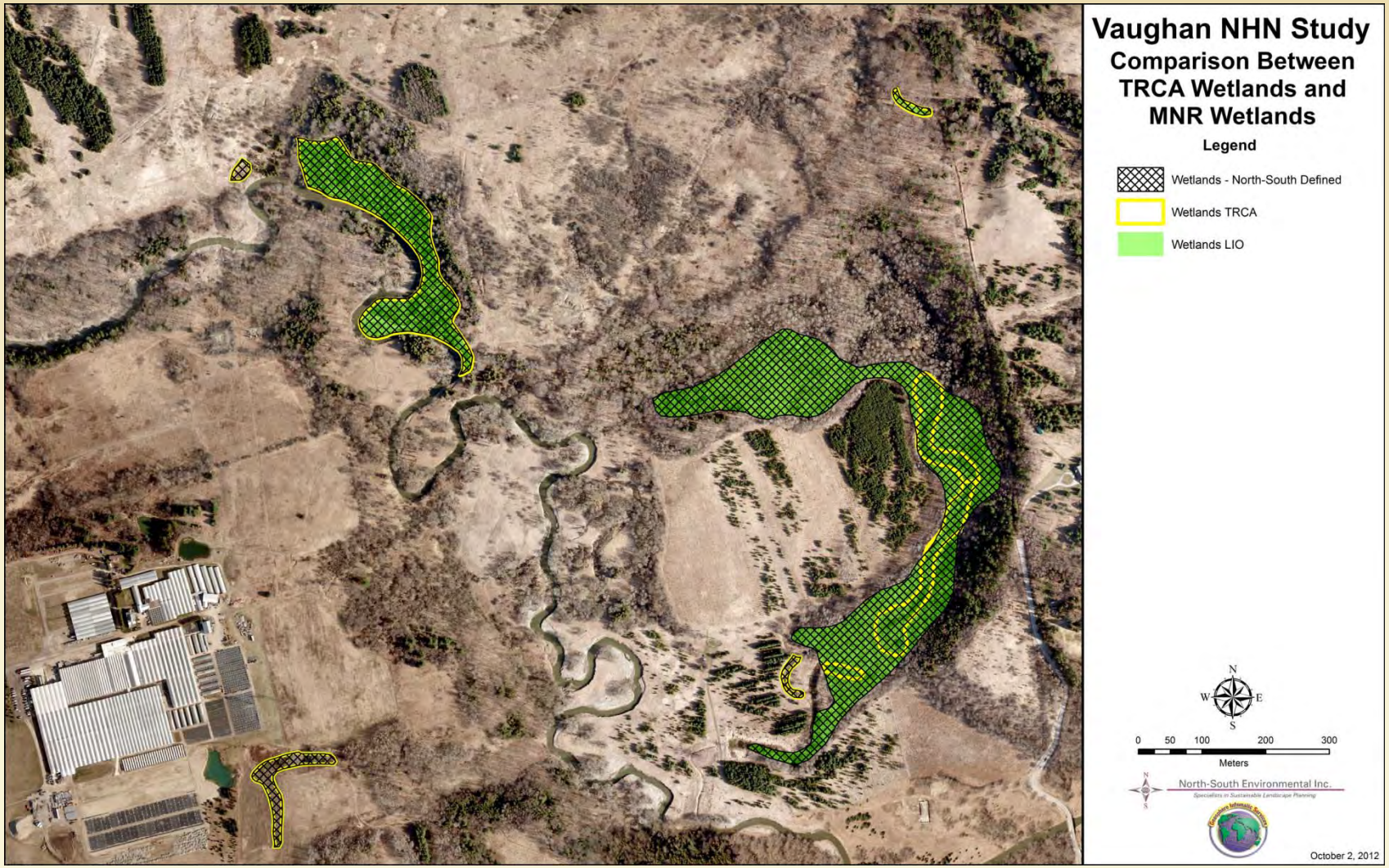
Step 1 – Identify Natural Heritage Features

Assembling Data in a Digital Database - Woodlands

Steps in Building Vaughan's NHN

Step 1 – Identify Natural Heritage Features

Assembling Data in a Digital Database - Wetlands



Steps in Building Vaughan's NHN
Step 1 – Identify Natural Heritage Features

Natural Heritage Features in Digital Database:

- ***Woodlands***
- ***Wetlands***
- ***Watercourses***
- ***Waterbodies***
- ***Meadowlands***

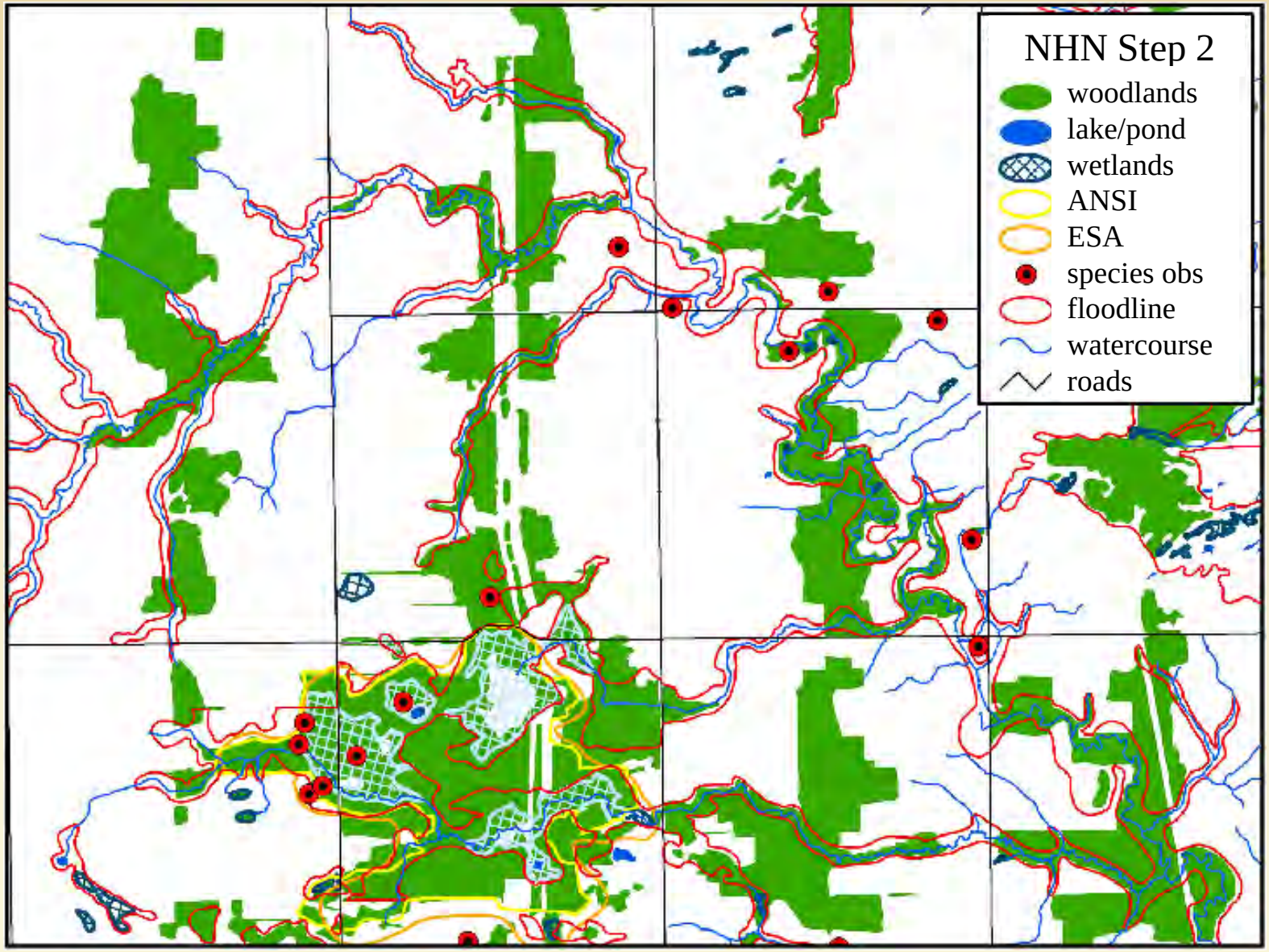
Steps in Building Vaughan's NHN

Step 1 – Identify Natural Heritage Features

Switch to ArcGIS to see Natural Heritage Features in Vaughan Digital Database

Steps in Building a NHN

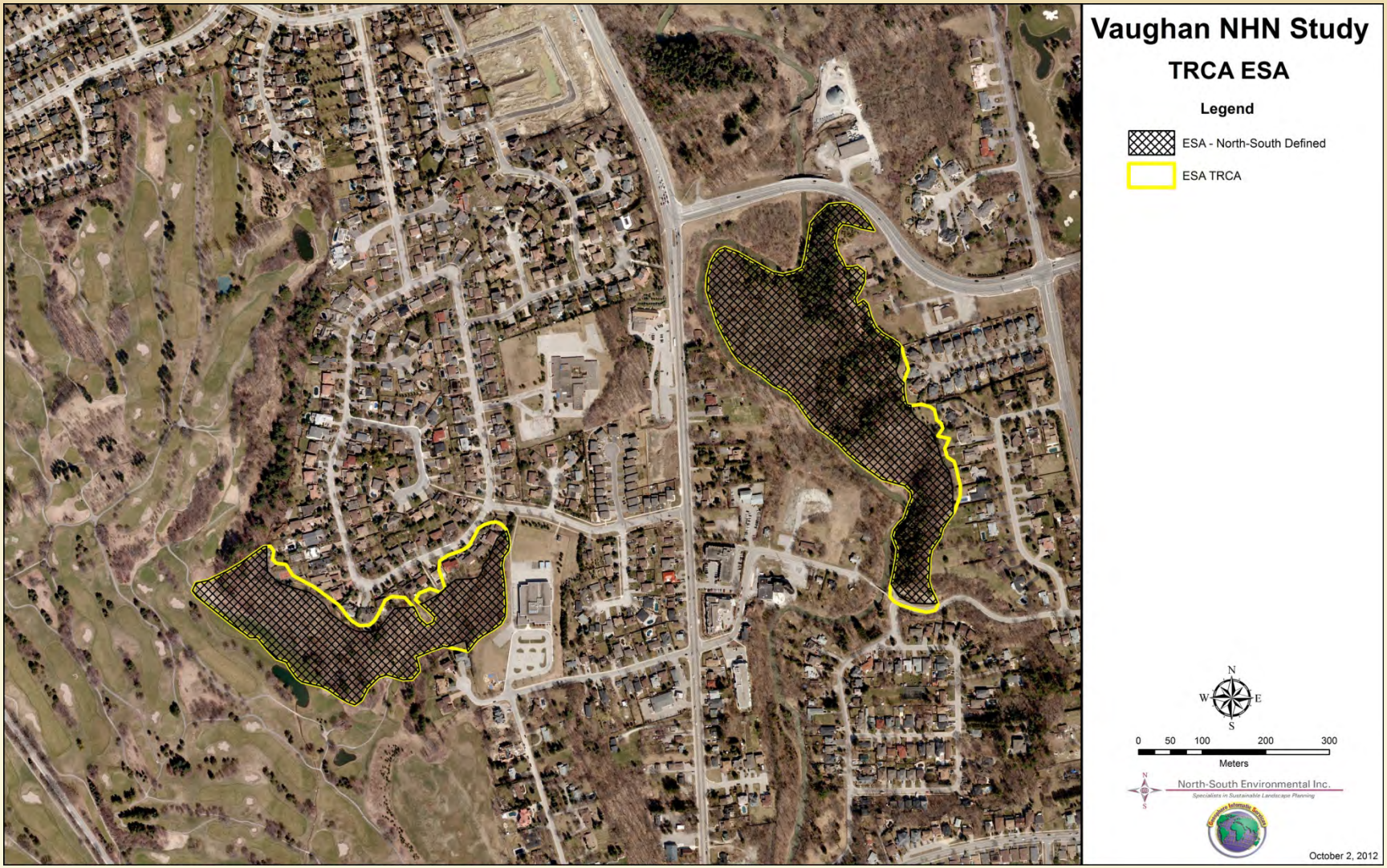
Step 2 – Identify Designated Natural Areas & Species



Steps in Building Vaughan's NHN

Step 2 – Identify Designated Natural Areas & Species

Assembling Data in Digital Database – ESA's



Steps in Building Vaughan's NHN
Step 2 – Identify Designated Natural Areas & Species

Designated Natural Areas & Species in Digital Database:

- ***Environmentally Significant Areas***
- ***Areas of Natural and Scientific Interest***
- ***Species Locations (e.g. Bobolink, Eastern Meadowlark)***
- ***Engineered and Estimated Floodlines***
- ***Crest of Slope***
- ***York Greenlands***
- ***Oak Ridges Moraine Core and Linkage Areas***
- ***Greenbelt Natural Heritage System***

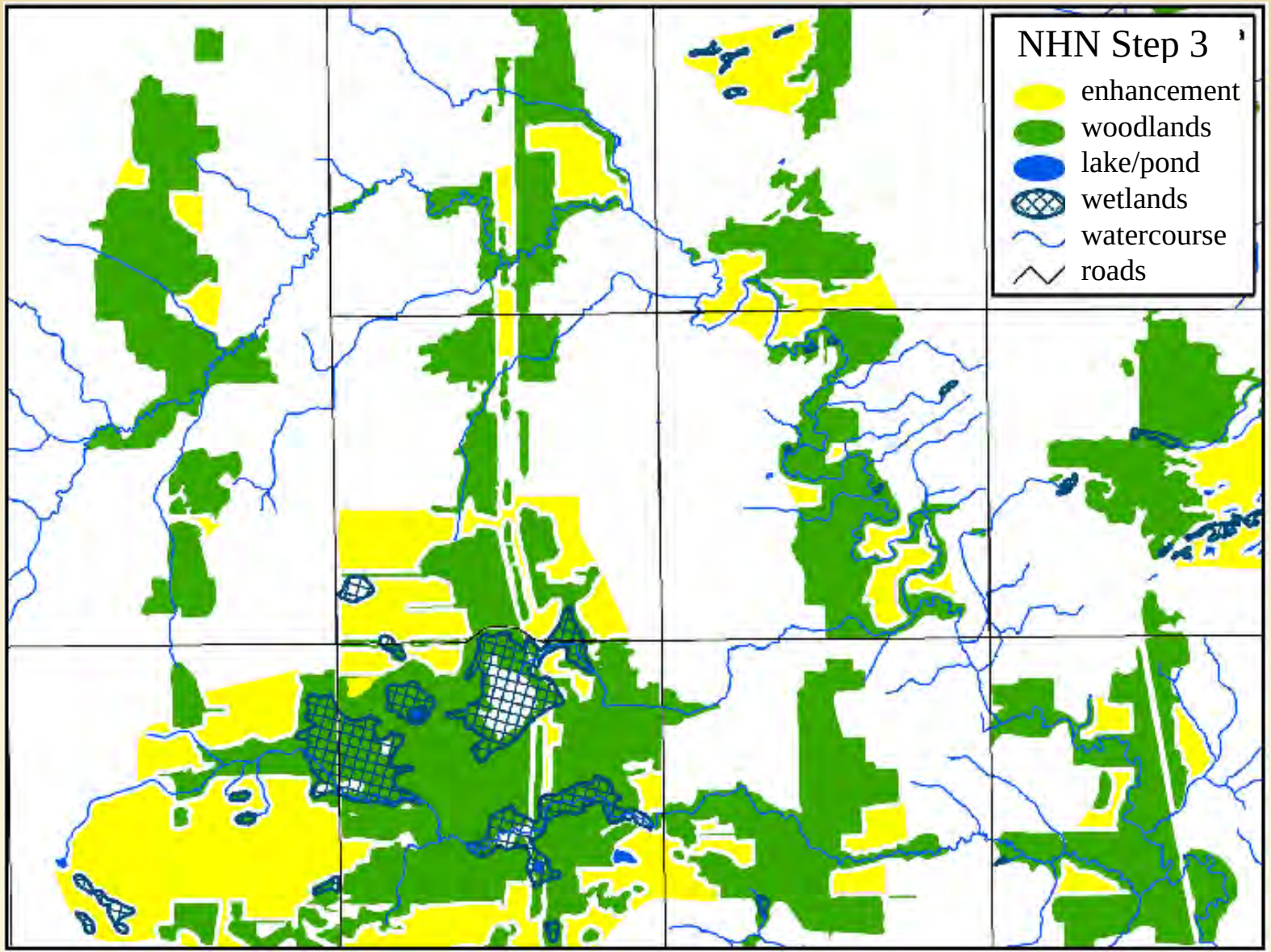
Steps in Building Vaughan's NHN

Step 2 – Identify Designated Natural Areas & Species

Switch to ArcGIS to see Designated Natural Areas & Species in Vaughan Digital Database

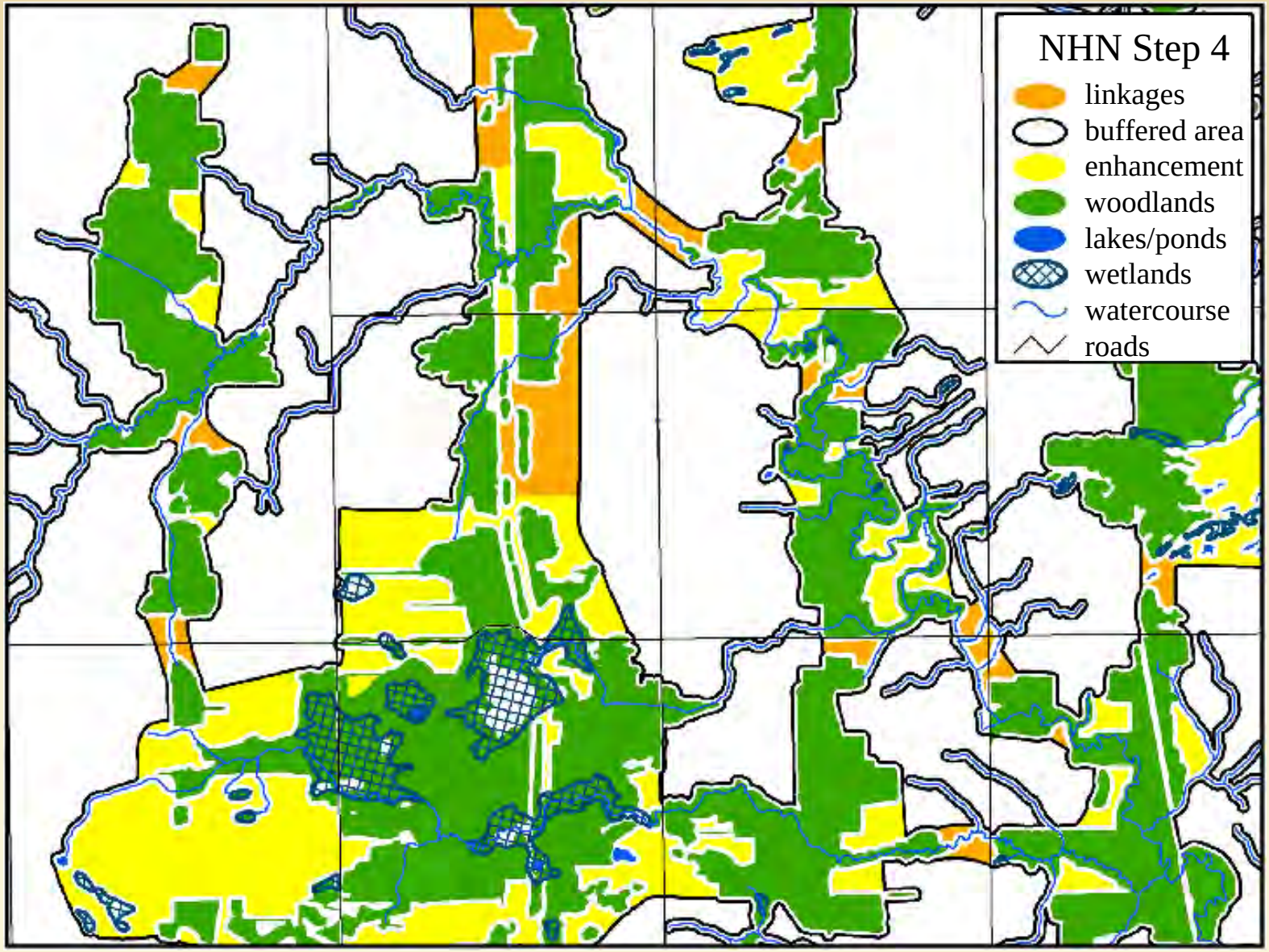
Steps in Building a NHN

Step 3 – Identify Core Areas & Core Area Clusters



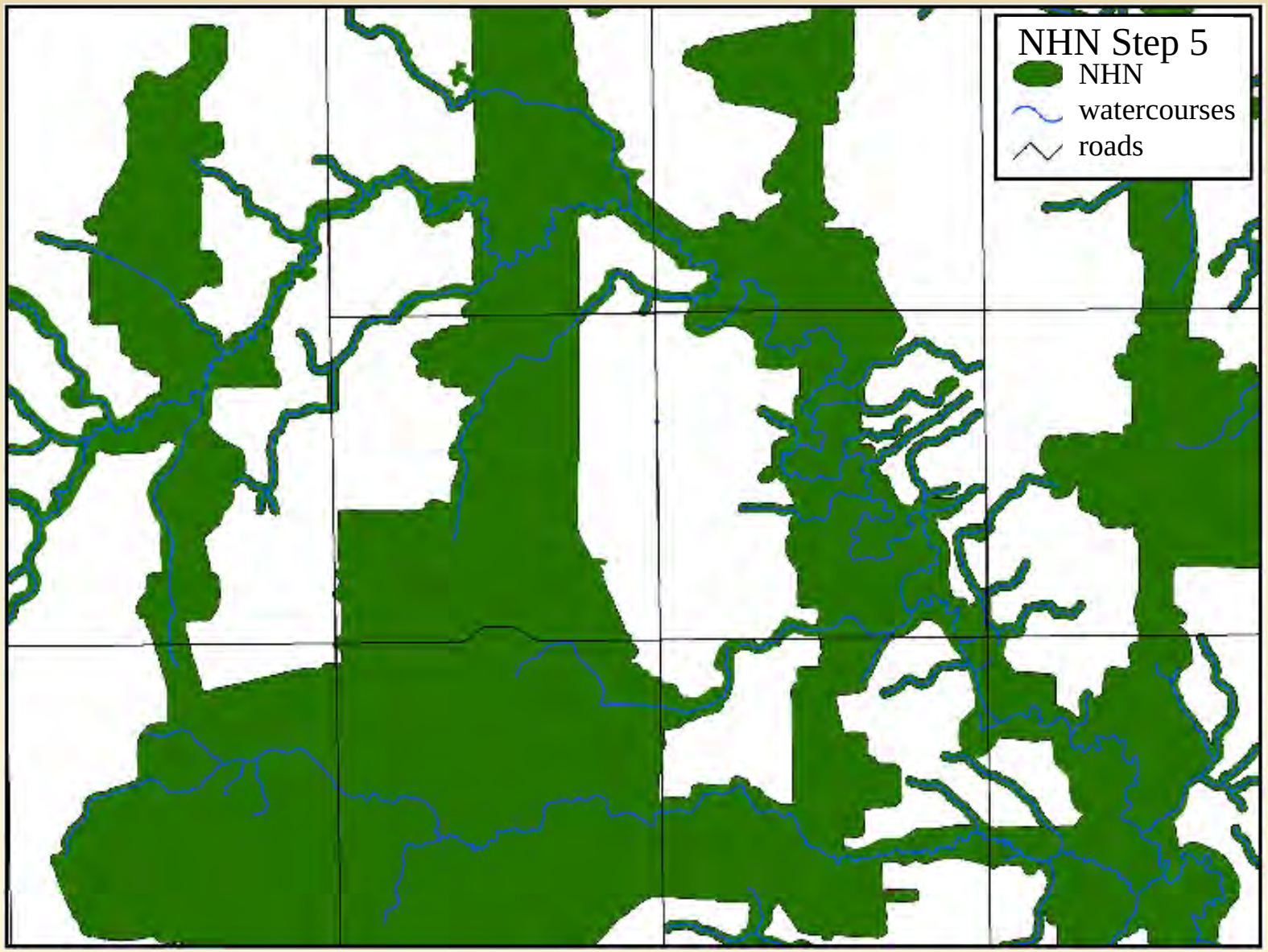
Steps in Building a NHN

Step 4 – Identify Ecological Linkages & Buffers



Steps in Building a NHN

Step 5 – Identify Natural Heritage Network



Building Vaughan's NHN

Currently Under Construction…..

Step 3 Identifying Core Areas & Core Area Clusters

Step 4 Identifying Ecological Linkages & Buffers

Step 5 Identifying a Natural Heritage Network

Switch to ArcGIS to view example of Steps 3 to 5

Building Vaughan's NHN

VAUGHAN NATURAL HERITAGE NETWORK TARGETS	
PROTECTION TARGETS	**DESCRIPTION**
1. ORM CORE AREAS & LINKAGE AREAS	***Key Natural Heritage Features (KNHF)*** • Wetlands; • Significant portions of the Habitat of Endangered, Rare and Threatened Species; • Fish Habit; • Areas of Natural and Scientific Interest – Life Science (ANSI); • Significant Valleylands; • Significant Woodlands; • Significant Wildlife Habitat; and • Sand Barrens, Savannahs, and Tallgrass Prairies. ***Hydrologically Sensitive Features (HSF)*** • Permanent and Intermittent Streams; • Wetlands; • Kettle Lakes; and • Seepage Areas and Springs.
2. GREENBELT NATURAL HERITAGE SYSTEM	***Key Natural Heritage Features (KNHF)*** • Significant Habitat of Endangered, Threatened and Special Concern Species; • Fish Habit; • Wetlands; • Areas of Natural and Scientific Interest – Life Science (ANSI); • Significant Valleylands; • Significant Woodlands; • Significant Wildlife Habitat; • Sand barrens, Savannahs, and Tallgrass Prairies; and • Alvars. ***Key Hydrologic Features (KHF)*** • Permanent and Intermittent Streams; • Lakes (and their littoral zones); • Seepage Areas and Springs; and • Wetlands.

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VAUGHAN NATURAL HERITAGE NETWORK TARGETS	
PROTECTION TARGETS	**DESCRIPTION**
3. YORK REGION GREENLANDS	***Key Natural Heritage Features (KNHF) & Key Hydrologic Features (KHF)*** • Significant Habitat of Endangered and Threatened Species; • Fish Habitat; • Wetlands; • Life Science Areas and Earth Science Areas of Natural and Scientific Interest; • Environmentally Significant Areas • Significant Valleylands; • Significant Woodlands; • Significant Wildlife Habitat; • Sand Barrens, Savannahs and Tallgrass Prairies; • Lakes and their Littoral Zones; • Permanent and Intermittent Streams; • Kettle Lakes; and • Seepage Areas and Springs deemed Vulnerable or Sensitive Surface Water Features.
4. WOODLANDS	• generally good woodland mapping available from MNR, TRCA and York Region • woodland significance may be evaluated using MNR and York Region criteria • in addition criteria for locally significant woodlands may be used
5. WETLANDS	• generally good wetland mapping available in Vaughan from MNR and TRCA • wetlands are evaluated using Ontario Wetland Evaluation System • wetlands protected through Oak Ridges Moraine, Greenbelt, York Region and TRCA policies and regulations
6. VALLEYLANDS	• based on crest of slope and natural features located within valleylands • where present will include areas within floodplain • TRCA valleylands as defined by stable top of bank
7. WATERCOURSES	• based on presence of permanent and intermittent water courses • corridor along watercourse defined in Oak Ridges Moraine, Greenbelt, and York Region Greenlands is minimum Vegetation Protection Zone (VPZ) which is 30 m on each side of watercourse) • corridor along watercourse defined by TRCA is stable top of slope, flood plain or meander belt plus 15 m on either side of the greater of these features (where present)

Building Vaughan's NHN

VAUGHAN NATURAL HERITAGE NETWORK TARGETS	
PROTECTION TARGETS	**DESCRIPTION**
8. Fish Habitat	• based on direct habitat of permanent water bodies and watercourses where fish present • based on direct and indirect habitat associated with intermittent headwater streams
9. Endangered & Threatened Species	• based on species listed under the Endangered Species Act • requires comprehensive field studies to identify significant habitat • red side dace is a regulated species for which significant habitat information is available • policy can stipulate that the habitat of Endangered and Threatened species is incorporated into the NHN where identified
10. Significant Wildlife Habitat	• based on MNR Significant Wildlife Habitat Technical Guidelines • requires comprehensive field studies to identify significant wildlife habitat and currently is not mapped in Vaughan • 2013 field work can focus on species of conservation concern to identify Significant Wildlife Habitat such as amphibian habitat particularly vernal pools, large (>20 ha) meadows, and other natural features not currently included within the NHN boundary • policy can stipulate that Significant Wildlife Habitat is incorporated into the NHN where identified
11. Areas of Natural and Scientific Interest	• based on MNR mapping of ANSIs in Vaughan • Provincial and Regional ANSIs
12. Environmentally Significant Areas	• based on mapping completed by TRCA ESAs

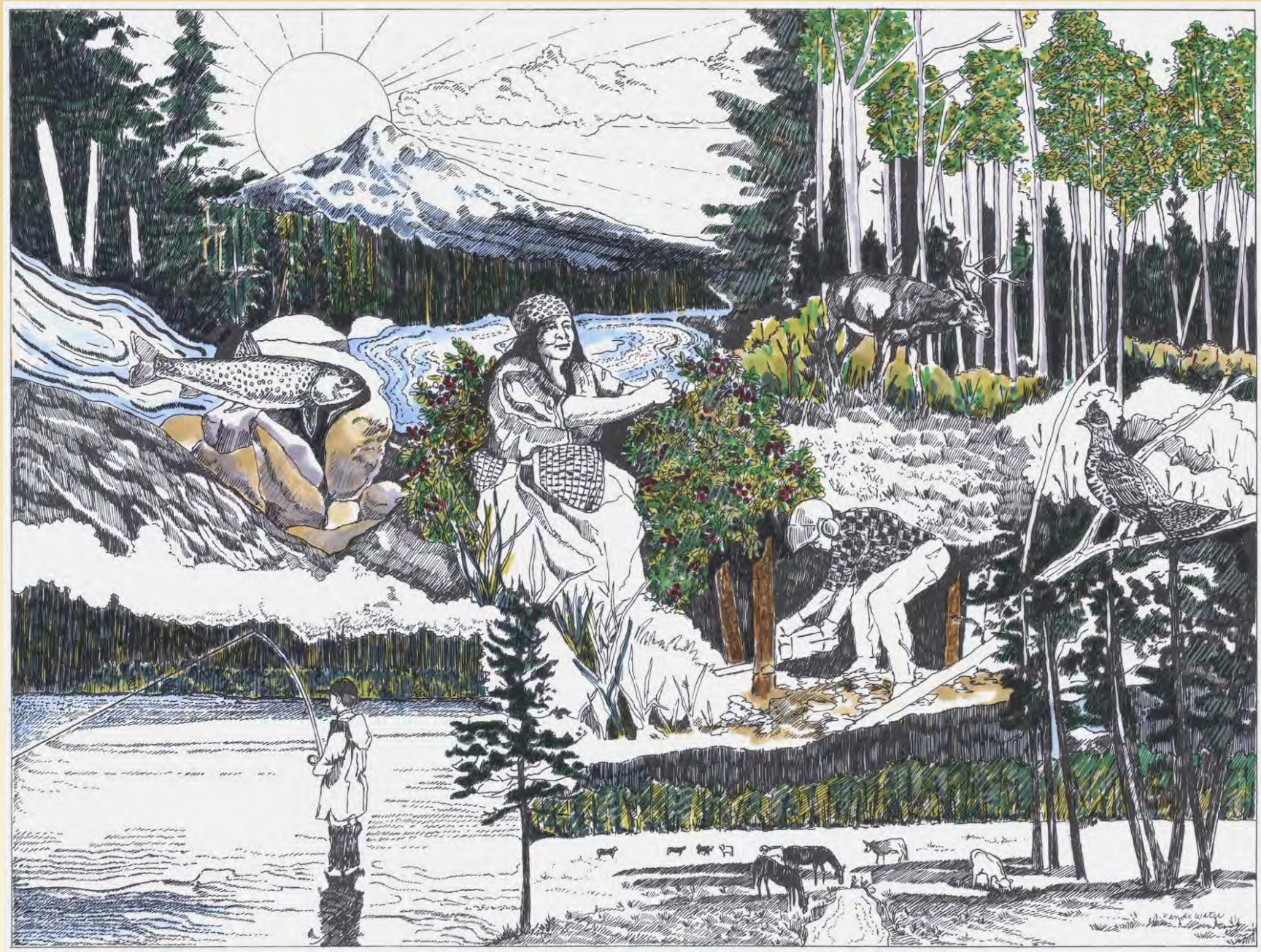
13. Enhancement Areas	• enhancement to create woodland interior
	• enhancement to create habitat mosaics of woodlands, wetlands, open habitat, watercourses, and water bodies as centres for biodiversity
	  • small scale clusters based on features in close proximity to one another
	  • large scale looking for clusters to provide eco-regional representation

14. Ecological Linkage	• regional ecological linkages within and beyond the City of Vaughan • local ecological linkages associated woodlands, wetlands, open habitat and watercourses • ecopassages where the NHN encounters barriers to wildlife movement (e.g. roads, railines)
15. Buffers	• provide protection of NHN features from impacts associated with adjacent land uses • Oak Ridges Moraine, Greenbelt and York Region Greenlands VPZ criteria (30 m) • TRCA criteria for wetlands (30 m), stable top of bank, floodplain, or meander belt (15 m)

Building Vaughan's NHN

Next Steps

- ***Complete draft revised NHN based on protection targets***
- ***Identify priorities for field work in 2013***
  - ***examine headwater streams***
  - ***investigate significant wildlife habitat***
- ***Prepare web-based mapping of NHN***
- ***Refine protection targets and prepare revised NHN***
- ***Develop NHN management strategy***



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