DRAFT TERRESTRIAL METHODOLOGY

Oxford Natural Heritage Study

March 2005

OUTLINE OF DESKTOP METHODOLOGY

Step 1: Define Terrestrial Heritage System

Step 2: Describe Oxford Landscape

Step 3: Determine Significance

STEP 1: DEFINE TERRESTRIAL HERITAGE SYSTEM

Components of terrestrial system:

- woodlands
- wetlands
- riparian areas
- prairies

STEP 1: DEFINE TERRESTRIAL HERITAGE SYSTEM

- Approximately 13.5 % of Oxford County is in forest cover.
- This forest cover is made up of:
  - woodlands
  - wetlands
  - riparian habitat
- To define the system, we have to sort out these habitat types from the 13.5% forest cover.

STEP 1: DEFINE TERRESTRIAL HERITAGE SYSTEM

Separate wetland and upland woodland areas:

- overlay a series of digital maps to separate lowlands from uplands.
- this overlay method is consistent with the GRCA.
- site visits and flights over the County will confirm wetland areas.

STEP 1: DEFINE TERRESTRIAL HERITAGE SYSTEM

Digital information includes:

- SOLARIS: forest cover types, pasture lands, plantations
- CA reports (historic): top tree species
- Soil maps: texture class
- Physiography and surficial geology: landform
- 6CA project: discharge areas
- Color IR: identify wet areas

STEP 1: DEFINE TERRESTRIAL HERITAGE SYSTEM

- False color satellite: identify wet areas
- Evaluated wetland layer: known wetlands and potential complexing
- Digital Elevation Model: contours
- Tree planting sites: CA and MNR records
- NHIC data: locations of facultative wetland and upland species

Note: minimum size of a woodland and wetland is 0.5 acres (0.2ha).

STEP 1: DEFINE TERRESTRIAL HERITAGE SYSTEM

Riparian habitat (vegetation 30m and 50m from streams and drains):

- Stream layer: single line for watercourses
- Drainage classification: identify drains
- SOLARIS: forest cover types, pasture lands, plantations

Note: minimum size of riparian habitat is 0.5 acres (0.2ha).

STEP 1: DEFINE TERRESTRIAL HERITAGE SYSTEM

Prairie habitat:

- Tall grass Ontario mapped and inventoried all remnant prairie locations in S.W. Ontario

Note: no minimum size for prairie

STEP 2: DESCRIBE OXFORD LANDSCAPE

- Approximately 13.5 % of Oxford County is in forest cover. This cover is comprised of woodlands, wetlands and riparian habitat.
- Scientific research supports a 20 – 30% forest cover threshold for persistence of birds, plants and other wildlife species.
- At 13.5 % forest cover, every wooded area is important to the County.

STEP 2: DESCRIBE OXFORD LANDSCAPE

- Step 1 will produce a map showing size, linkage and type of forest cover (*i.e.* woodland, wetland, riparian).

- Using information from Step 1, a description of the terrestrial components of Oxford County will emerge.

STEP 2: DESCRIBE OXFORD LANDSCAPE

- Descriptors of the terrestrial heritage system will include:
  - Size and shape of terrestrial components
  - Distance to nearest terrestrial component
  - Percent of terrestrial components in Big Picture Corridor
  - Historical analysis of wetland and woodland cover using soil and CA records
  - Percent of wetland and woodland cover in headwater areas, discharge/recharge areas, floodplains, permeable soils, along streams
  - Locations of rare plants and animals

STEP 3: DETERMINE SIGNIFICANCE

- Once the Oxford landscape has been described, current scientific principals and information from previous studies (e.g. OCTES) will be used to determine criteria for identifying significant natural areas.
- Criteria will be applied equally to all components of the terrestrial system in the County.
- Criteria will be measurable.
- Areas of County interest can be identified by the values (cumulative or otherwise) of the criteria.

STEP 3: DETERMINE SIGNIFICANCE

Potential criteria for <u>woodlands:</u>

- Woodland size
- Woodlands with 100m and 200m interior
- Woodlands with interior where edge to area ratio is < 0.5
- Woodlands within 2 km of another woodland
- Woodlands in the Big Picture corridor
- Woodlands located in appropriate areas according to historical records and drainage
- Woodlands within 100m of fen, marsh and swamp or within catchment of bog

STEP 3: DETERMINE SIGNIFICANCE

Potential criteria for <u>wetlands:</u>

- Wetlands located in areas similar to historical records and drainage.
- Wetlands that are swamps and marshes (easier to rehabilitate).
- Wetlands in headwater and discharge/recharge areas as well as flood plains on 2nd and 3rd order streams.
- Wetlands that will complement the historical distribution of size and interior if rehabilitated.

STEP 3: DETERMINE SIGNIFICANCE

Potential criteria for <u>riparian areas:</u>

- Habitat within 30m and 50m of 1st to 3rd order streams on permeable soils / surface.
- Habitat within 30m and 50m of streams identified by the aquatic team as being significant.

STEP 3: DETERMINE SIGNIFICANCE

Potential criteria for <u>prairie habitat:</u>

- All remnant prairie features identified by Tallgrass Ontario

TIMELINES

- Landscape Analysis Step 1 (January – June 2005)
- Landscape Analysis Step 2 (July – October 2005)
- Landscape Analysis Step 3 (November – April 2006)
- Draft report (April - June 2006)
- Final report and implementation (August 2006)