

## Natural Environment Fieldwork

### FIELDWORK

Information presented in this fact sheet describes the types of fieldwork undertaken with respect to the natural environment during an EA study. Fieldwork is a necessary component of an EA. It is the collection of data based on first hand observations made by natural environment specialists in the field i.e. primary data. The need for field studies is based on the level of existing information, accessibility of the study area and sensitivity of the environmental community being considered. Information presented in this fact sheet describes types of fieldwork undertaken with respect to the natural environment during an EA study. Field mapping and inventories are necessary to adequately describe significant/sensitive environments, potential impacts and appropriate mitigation measures.

### PERMISSION TO ENTER PRIVATE PROPERTY

A component of the 407 East Environmental Assessment (EA) is the assessment of the lands contained within the study area for rare flora and fauna species, significant vegetation units, fish habitat and wetlands. In order to conduct the required surveys, including ecological land classifications and aquatic habitat assessments, access to private properties is required. Written permission to enter was first obtained from landowners or tenants, prior to undertaking site investigations. About 800 properties were visited for the purpose of acquiring permission to enter and to conduct field investigations.

### VEGETATION

The goal of conducting an inventory of vegetation communities is to sample, describe, classify and map natural vegetation units. Vegetation community boundaries are delineated first on field maps through the interpretation of recent aerial photographs. Field investigations are then conducted to more precisely define vegetation units and their boundaries. Vegetation communities are mapped and described following the standardized format known as the Ecological Land Classification (ELC) system. A list of encountered plant species is compiled for each ELC unit and is screened for local or provincial significance.

### HABITAT SENSITIVITY

Breeding birds and amphibians are used to determine the significance and sensitivity of wildlife occurring in a given area. Wildlife attributes for birds and amphibians are relatively easy to survey compared to other wildlife groups, their habitat requirements are well understood and they provide reliable indicators of habitat quality, function and landscape connectivity.



*A terrestrial ecologist taking a soil sample.*

### Birds

Breeding bird surveys are typically conducted between May and July in the early morning when adult birds are most vocal. Survey protocol is modelled after the Ontario Breeding Bird Atlas' field program. Following this protocol, natural areas are walked by a trained biologist who listens for territorial bird calls.

### Amphibians

Field surveys for frogs are conducted by trained biologists, after dark

during suitably warm evenings (at least 5 °C) in early and late spring, when amphibian calling is most abundant. Potential amphibian breeding sites are identified from air photographs. At these breeding sites, the numbers of each calling species is recorded, as adapted from the Canadian Wildlife Service Marsh Monitoring Program<sup>2</sup>. Generally two surveys are conducted at each potential breeding site to document the presence of early and late breeding species. This survey method provides an indication of amphibian abundance during the breeding season.

### **Fisheries and Aquatic Habitat**

Habitat assessments are undertaken in order to characterize and assess the quality of a watercourse from a fisheries perspective. Prior to field investigation for amphibians, sites are identified through interpretation of recent aerial photographs prior to in-field investigation. Fish habitat data collected in the field includes general physical measurements such as water temperature, channel dimensions, permanence of flow and bottom features. Evidence of groundwater seepage, presence of specialized fish habitat attributes and biological features such as aquatic and riparian vegetation are also recorded. This documented information is used to describe the characteristics and relative quality of fish habitat for each and between watercourses.

### **Mammals**

Incidental observations of mammals collected during field investigations are commonly used to characterize mammal communities. Observations noted include direct observation of mammals, and indirect observation such as the presence of scat, tracks, nest/den sites and food storage sites. This information provides an estimate of species composition and general use of particular habitats by mammal species. Mammal observations are often used to supplement data obtained through formal bird and amphibian surveys to provide a more comprehensive understanding of overall habitat significance and sensitivity.

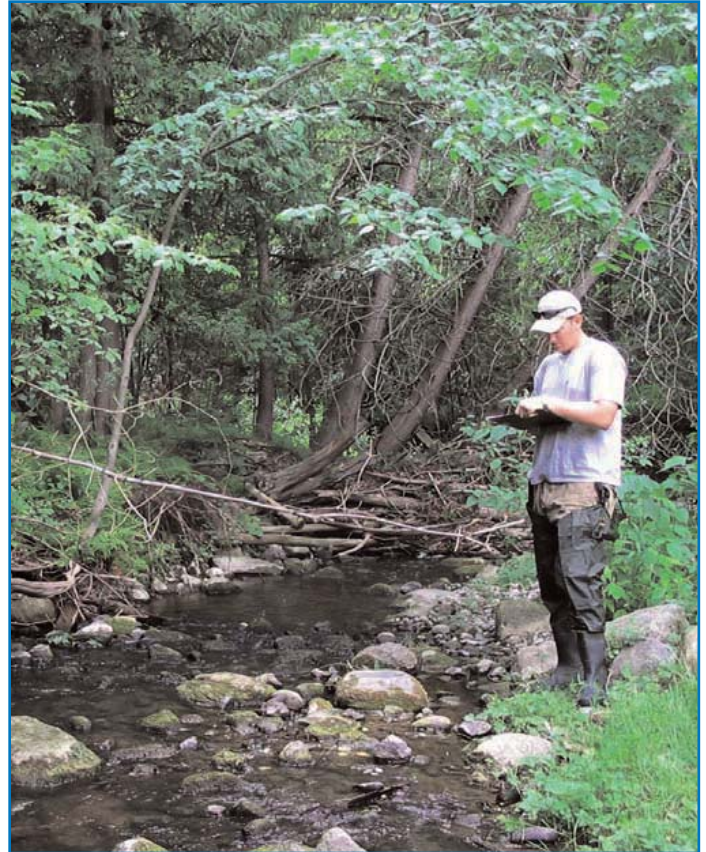
#### *References for Fieldwork Fact Sheet*

1 Ontario Breeding Bird Atlas

<http://www.birdsontario.org/atlas/atlasmain.html>

2 Canadian Wildlife Service Marsh Monitoring Program

<http://www.bsc-eoc.org/mmpfrogs.html>



*An aquatic ecologist conducting a stream habitat assessment.*

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