2003 ERA Field Survey
Wildlife Dietary Items

As part of the ecological risk assessment (ERA), a selection of food items eaten by local wildlife was collected, along with samples of surrounding soils. The purpose was to determine metal levels in identified food sources, as compared with metal levels in nearby soils.

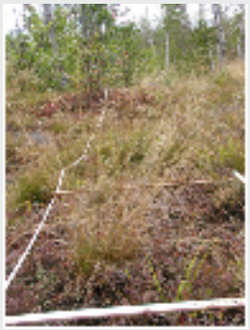
Where did we sample?

17 sites throughout the Greater Sudbury Area (see map below). These sites were located in areas where metals have been detected at various levels (low, medium or high).

What was analyzed?

Grasshoppers, grass roots, grass shoots and soil (0-5 cm depth) were analyzed for metal levels.

Soil samples were also analyzed for physical and chemical characteristics.



Typical field site

Grasshopper collected at field site

Summary of results

The results revealed a range of metal levels throughout the field sites. This means that there were some sites with elevated metal levels, some with medium metal levels, and some with low metal levels.

What do these results mean?

The pH was low at all the sites (ranged from 3.89 – 4.70), meaning that the soils at the sites were acidic. This finding was expected, as the soils in northern Ontario are known to have a naturally low pH.

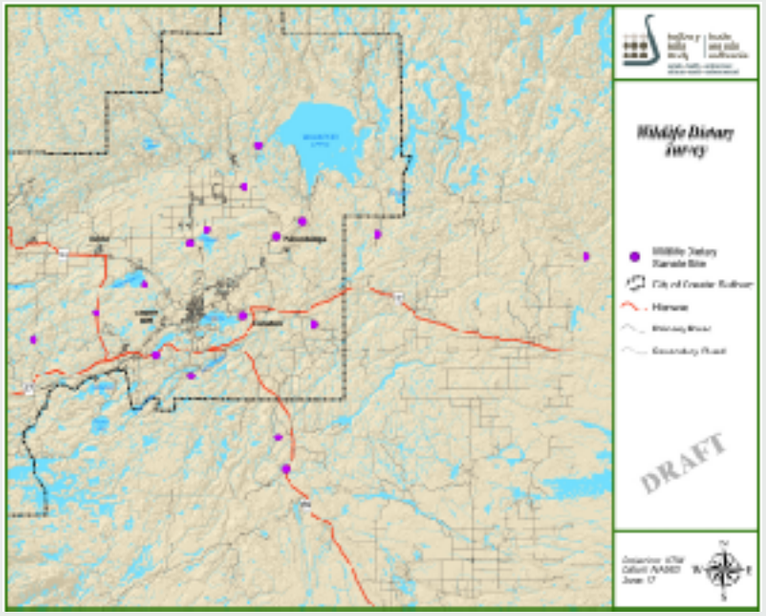
Many grass samples had roots which accumulated metals in levels higher than detected in surrounding soil. Results of tests on the grass revealed that metals levels in the roots are directly related to metals in surrounding soil. We can conclude that the metals in the roots came directly from the soil.

Results of tests on grasshoppers revealed that their metal levels are directly related to metal levels in the grass on which they feed. This means that although grasshoppers do not eat soil, they can give us a clear picture of the availability of certain metals in the environment.

How will these results be used in the ERA?

These results are currently being used in developing Sudbury-specific models which will be used to predict the level of metals in the diet of Valued Ecosystem Components (VECs). It will also help SARA determine how these metals move from soil into vegetation and insects.

2003 ERA Sampling Locations



Community Information Session 2005

Sudbury Soils Study | Étude des sols sudburois

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