Ecological Land Classification (ELC)

The Ecological Land Classification provides tools and techniques for consistent description, identification, classification and mapping of community types. The ELC is now becoming a standard method across Ontario to meet the needs of ecosystem management and land-use planning. It helps identify changes in land use. Credit Valley Conservation’s ELC work indicates that urbanization in our watershed increased from 15% in 1988 to 21% by 1996. A huge change, beyond our original forecast!

In the 1950s work began across Canada to develop a classification system for recurring ecological communities. The goal was to reduce complex natural variation to meaningful ecosystem units. In Ontario, the terminology and descriptions developed in the nation-wide effort are being built upon at regional and site-level scales. The eventual goal in Ontario is to set a standard approach for ecosystem description, inventory and interpretation to improve our ability to manage natural resources.

The ELC was first tested in the Credit River watershed by Credit Valley Conservation Authority staff. The information gathered will strengthen protection, restoration and management efforts in land-use planning and private land stewardship. The map on the left is a simplified version of the ELC for the Credit River watershed. The inset is a complex “Communities Series” level map of ELC southwest of the Village of Alton within the Credit River watershed.
## Forested Habitats

### Upland Forested Habitats:

<table>
<thead>
<tr>
<th>Habitat</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deciduous Forest (FOD)</td>
<td>A natural community with greater than 60% canopy cover and greater than 75% deciduous composition.</td>
</tr>
<tr>
<td>Coniferous Forest (FOC)</td>
<td>A natural community with greater than 60% canopy cover and greater than 75% coniferous composition.</td>
</tr>
<tr>
<td>Mixed Forest (FOM)</td>
<td>A natural community with greater than 60% canopy cover, where neither the deciduous nor the coniferous composition of the community is less than 25%.</td>
</tr>
</tbody>
</table>

### Lowland Forested Habitats:

<table>
<thead>
<tr>
<th>Habitat</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deciduous Swamp (SWD)</td>
<td>A wetland community where tree cover is greater than 25%, and the deciduous content is greater than 25% coverage.</td>
</tr>
<tr>
<td>Coniferous Swamp (SWC)</td>
<td>Wetland communities where tree cover is greater than 25%, and where both deciduous and coniferous composition of the community is greater than 25%.</td>
</tr>
<tr>
<td>Mixed Swamp (SWM)</td>
<td>Wetland communities where tree cover is greater than 25%, and where both deciduous and coniferous composition of the community is greater than 25%.</td>
</tr>
</tbody>
</table>

### Cultural Forested Habitats:

<table>
<thead>
<tr>
<th>Habitat</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deciduous Plantation (PLD)</td>
<td>A cultivated community with greater than 75% deciduous tree composition.</td>
</tr>
<tr>
<td>Coniferous Plantation (PLC)</td>
<td>A cultivated community with greater than 75% coniferous tree composition.</td>
</tr>
<tr>
<td>Mixed Plantation (PLM)</td>
<td>A cultivated community where deciduous and coniferous composition of the community is greater than 25%.</td>
</tr>
</tbody>
</table>
NON-FORESTED HABITATS

Cultural Habitats:
(Communities resulting from or maintained by human activity)

Cultural Meadow (CUM):
A community where tree and shrub cover is less than or equal to 25% as a result of human disturbance. Grasses and herbs dominate the area.

Cultural Savannah (CS):
A community where tree cover is between 25% and 35%. Vegetation is stratified with scattered or patches of open grown trees, groundcover dominated by grasses and herbs.

Cultural Woodland (CW):
Communities where tree cover is between 35% and 60%. Vegetation is stratified with scattered or patches of open grown trees, groundcover dominated by grasses and herbs.

Non-Intensive Agriculture (NAG):
Field dominated with herbaceous vegetation and grasses with an understory of similar material in a state of decay. Includes pasture and grazing areas. Weedy hay and/or pasture cover more than 50% of the area. Associated with extensive or unconfined grazing of livestock. There is minimal evidence of recent cultivation.

Intensive Agriculture (IAG):
Cultivated fields producing crops in varying degrees (e.g. corn and wheat). This includes specialty agriculture that consists of orchards, market gardens, Christmas tree plantations, and nurseries.

Natural Lowland Habitats:

Wet Meadow (WM):
Lands that are periodically "soaked" or "wet", and are currently being used for agricultural purposes (i.e. grazing). These lands, by definition under the Ontario Wetland Evaluation System, are not considered to be wetlands.

Marsh (MA):
Wetland areas where water depth is less than 2 metres and tree and shrub cover is less than 25%. These areas are characterized by emergent vegetation such as cattails, bull rushes and arrowheads.

Bog/Fen (BO/FE):
Peatlands where the water is at or near the surface. Surface layers consist of poorly decomposed peat. A mat of Sphagnum moss and low shrubs including leatherleaf and Labrador tea characterize bogs. Bogs are often raised and, nutrient poor and acidic. Sedges, mosses, shrubs and sometimes trees characterize fens. Fens have low oxygen saturation and nutrient rich.

Thicket Swamp (SWT):
Wetland communities where tree cover is less than 25%, and the shrub species cover is greater than 25%, including dogwoods, alders and willows.
Aquatic Habitats

Lacustrine Shoreline:
Lacustrine: aquatic environment associated with the waters of a lake or pond. Shoreline: the area marking the points of contact between land and the body of water, such as a lake.

Lake/Pond:
Lake (L): an extensive body of water lying in a depression that is 2 ha. in size or greater. A lake can be completely enclosed by land or can have either or both an in-flowing and out-flowing stream. Interrupting the flow of a watercourse with a dam can also create a lake. Pond (P): an area of still water between 0.5 and 2 ha. in size lying in a natural or man-made depression. Can be completely enclosed by land or can have either or both an in-flowing or out-flowing stream. Interrupting the normal flow of a watercourse with a dam can also create a pond. Includes beaver ponds.

Riparian:
Riparian: areas immediately adjacent to permanent watercourses and the surrounding ecotonal vegetation on the banks of rivers and streams. Characterized by periodic flooding and/or high groundwater.

River /Stream:
River (R): a large, permanent watercourse with at least some permanent tributary streams.

Vernal Pool:
Seasonally flooded areas created by surface runoff/meltwater, occurring in the spring. They play an important part in amphibian reproduction.

Photos courtesy of D. Bradley, J.L. Riley and H. Lee in Lee et al. 1998.