

## **Nova Scotia's Ecological Land Classification Revised Edition 2007**

Subsequent to the release of the first approximation of the provincial ELC in 2000, revisions have been made based on field work, staff input, and editing of the original data. These changes were incorporated into a revised 2005 edition of the ELC that was used by the Department of Natural Resources to complete an Ecological Landscape Analysis (ELA) for all 38 Ecodistricts. During this process the ELC was again reviewed, changes were made and the necessity for a 2007 revision, to compliment the ELA process, was produced. The following describes the most recent changes incorporated into the 2007 revised edition of the ELC.

### **Structural Changes**

New to the 2007 version of the ELC is a repurposing of the field "ELC\_ID". In earlier versions this field was used as a feature code for symbolization, containing either the ecodistrict number or the code '9003' for water. These feature code values have been moved to the "FCODE" field. Now "ELC\_ID" is an actual ID field with a unique number to identify each polygon.

### **Accuracy of Polygon Boundaries**

The process of delineating the biophysical features that were used in the development of the ELC started in 1984. Land units were interpreted from unrectified aerial photographs (1:63,560) and transferred to base maps (1:50,000) using the boundaries of existing waterbodies, shoreline, etc., for reference. This has created 'on the ground' errors in placement of the land units which is especially noticeable in areas with steep slopes, along river valleys and in drumlin areas. When these mapped boundaries were digitized the problems of spatial accuracy remained. This problem has become more apparent with the more recent availability of orthorectified aerial photography. As new digital mapping tools become available it is hoped that the ELC can be corrected to provide a more accurate mapping of the units. In the meantime users should be aware of this issue when overlaying other digital layers on the ELC.

### **Noteworthy Changes**

#### **Ecoregions/Ecodistricts**

As part of the ELA process each ecoregion and ecodistrict was reviewed. Forestry, Wildlife and Integrated Resource Management (IRM) staff contributed to the review and these comments and observations have been incorporated into the current edition.

#### **Cape Breton Taiga (100)**

While the boundaries of the ecoregion/ecodistrict remained the same the name "Taiga" implies a condition that by definition is not actually found in the area and therefore the Ecological Technical Committee (ETC) decided they needed a more accurate descriptor and renamed the unit "**Northern Plateau.**"

This is probably the least well understood and studied part of the province and it has been identified as a priority area for future ecological field work. By studying vegetation on both the zonal and edaphic conditions it can hopefully be determined if the Northern Plateau should remain as an ecoregion or be classified as an ecodistrict of the Cape Breton Highlands (200).

### **Cape Breton Highlands (210)**

When the ELC was first developed in 2000 there were discussions regarding what to do with the dissected slopes of the Cape Breton Highlands. At that time it was decided to include them as part of the Cape Breton Highlands ecoregion/ecodistrict. During the development of Nova Scotia's Forest Ecosystem Classification (FEC) it became apparent that these slopes are comprised and dominated by the "Acadian" species (sugar maple, beech, yellow birch, and hemlock), while the highland plateau is dominated by "Boreal" species (balsam fir, white spruce, black spruce). This suggests that the unit was including two different climatic zones which goes against the concept of ecoregions.

As a result, in this revision, the steep sided slopes of the plateau, (generally WMDS and WCDS) were removed from the Highlands and placed with the Cape Breton Hills (310) ecodistrict.

On the north east side of the ecodistrict there is a low-lying area (<150 m ASL) – roughly all area east of the Cabot Trail from Neils Harbour to South Harbour and much of the area east of the Mary Anne Falls road and continuing on in a similar direction to Neils Harbour. Similar to dissected slopes described above the forest is Acadian in nature. The Cape Breton Highland National Park (CBHNP) ELC (ca 1976) maps much of the area as a lowland unit. Field sampling has confirmed that this is not boreal forest. As a result the area (~5800 ha) was removed from the Highlands and added to the Victoria Lowlands. It is recognized that there is a narrow coastal zone along the Cabot Trail from Ingonish to Neils Harbour but it is too small to map and should be addressed in text when describing this ecodistrict.

The plateau on the top of Kelly's Mountain is dominated by "Boreal" species and resembles the forests of the Highland Plateau. As a result these gently rolling ecosections (~ 3600 ha) on the plateau were moved to the Cape Breton Highlands (210).

### **Victoria Lowlands (220)**

Addition of an area from the Cape Breton Highlands between Ingonish and South Harbour (see 210 above).

### **Cape Breton Hills (310)**

The addition of the dissected slopes of the Cape Breton Highlands (see 210 above).

The removal of the rolling plateau on the top of Kelly's Mountain to the Cape Breton Highlands (see 210 above).

### **Inverness Lowlands (320)**

A few isolated ecosections were added or removed from this ecodistrict based on the revisions being done for the Cape Breton Highlands (210) and Hills (310).

### **Cobequid Hills (340)**

On the western end of the ecodistrict (340) in the area from Yorke Settlement to Parrsboro, a little more than 3100 ha, was moved into the Parrsboro Shore Ecodistrict (910).

Also in 340 the upper end of the river valley of the West Branch River Phillip, south of

Collingwood Corner, 365 ha, was moved into the Cumberland Hills (540).

### **Eastern Drumlins (420)**

During the ELA process an analysis of the three disjunct areas that make up this ecodistrict suggested that in many ways it was no different than the larger Eastern Ecodistrict (440) that surrounds it. Further, the differences that exist are more at the ecosection level and while this district represented areas with dense clusters of drumlins there are significant populations of drumlins throughout 440. As a result it was decided to combine this ecodistrict into the larger Eastern Ecodistrict (440).

### **Eastern (440)**

See 420 above.

### **Cumberland Hills (540)**

The addition of the river valley of the West Branch River Phillip from the Cobequid Hills (see 340 above).

### **Parrsboro Shore (910)**

The addition of over 3100 ha from the Cobequid Hills (see 340 above).

## **Ecosections**

Field checks, re-examination of the original data, and incorporation of new data has been used to revise a few (less than 30) individual ecosections across the province.

Coding of some 'unique' ecosections was modified to make the coding of the ECOSECTION attribute more consistent. This resulted in **WTLD (wetlands)**, a new ecosection from 2005, being changed to **POSM (Poor, Organic, Smooth)**. In the same manor, **DKLD (dykelands)** became **XXDK. (Not Applicable, Not Applicable, Dykeland)**.

Future work will look into separating the floodplains, areas annually or periodically flooded and enriched by sediment, from the larger, topographically smooth (**SM**), ecosections along streams and rivers.

## **Ecosite**

The ecosite level delineates soil moisture and soil nutrient regimes and there have been attempts to produce a map of this smallest unit of the ELC but results have not achieved an acceptable accuracy. The major difficulty has been the assignment of soil nutrient values at the scale required for mapping ecosites at 1:10,000 or finer. However, with improved LIDAR-based digital elevation models (DEM) and new digital layers becoming available work continues towards this goal. The ecosite level is also described in the Forest Ecosystem Classification.