

ELC - Ecological Land Classification

Type: ARC/POLY

Description/Source

This layer contains the ecological land classification polygons and arcs.

Land Systems mapped at 1:50,000 from the Nova Scotia Biophysical Land Classification were used to define the physical attributes of the smallest mapped unit of the ELC - the Ecosection (1:50,000). Infrared aerial photography (1:63,560) flown in 1976 and used to determine the Land Systems was also used to re-check Ecosection boundaries. In addition the following were used to assist in the delineation of Ecosections, Ecodistricts and Ecoregions:

- Provincial soils maps - 1:50,000; 1:63,000; 1:126,000
- Surficial geology maps - 1:500,000; 1:100,000
- National topographic series - 1:50,000
- Forestry mapping - 1:10,000
- Geology - 1:640,000
- Radarsat 3D imagery
- The Climate for Agriculture in Canada (1985)
- The Natural History of Nova Scotia (1996)
- Geological Background and Physiography of Nova Scotia (1982)
- A National Ecological Framework for Canada (1995)
- Ecoregions and Ecodistricts of Nova Scotia (1999)
- Natural Landscapes of Nova Scotia (1997)

Comments

All polygons have been given a ecodistrict number including inland waters. This will allow for ECODISTRICT statistics and shading including the water areas in each. To shade ecodistrict polygons including water use the ECODISTRICT item, to shade ecodistricts excluding the water use the ELC-ID item (id values of 9003 should be added to any look up tables).

For ecoregion statistics using the ECOREGION item will include water, to remove the water the ELC-ID's of 9003 will have to be removed. To shade ecoregions including the water use the ECOREGION item, to shade without the water remove the ELC-ID of 9003.

All polygons have been given a ecosection value with the following additional values for areas that do not fall into the ecosection coding. They will also not fall within the drainage, texture and topography coding.

- XXWA inland water
- XXMS salt marsh
- XXCB coastal beach
- XXUR urban area

All arcs have been given both an id value and a fcode value. The id value is the true feature code value i.e. lakes coded as 301. The fcode value is set to the ecoregion, ecodistrict or ecosection arc code value with the exception of coastline which will remain as a 300 line code. The fcode value can be used to outline the ecoregions ecodistricts or ecosections while the id can be used to show the original coding. For example to show all the ecodistrict boundaries only use fcode values of 300, 510 & 511

All 310 segments have been given an fcode value of 300 the id will remain as 310.

An fcode value of 0 is given for any arcs that do not form a ecoregion, ecodistrict or ecosection boundary, most of these are lake-river segments.

To show:

Ecoregion boundaries - use fcodes of 300 and 510

Ecodistrict Boundaries - use fcodes of 300, 510 and 511

Ecosection Boundaries - use fcodes of 300, 510, 511 and 512

To show all boundaries use the elc-id values.

Info Files

ELC.PAT

ECOREGION	Ecoregion code - first number of the ecodistrict code	1 I
ECODISTRICT	Ecodistrict number	3 I
ECOSECTION	Ecosection code	4 C
NDR	Natural Disturbance Regime	15 C
DRAINAGE	Drainage classification	1 C
TEXTURE	Texture classification	1 C
TOPOGRAPHY	Topography classification	2 C
ELC	Ecodistrict/Ecoregion combination	7 C

ELC.AAT

FCODE	Redefinition of the elc-id values to determine the lake and river boundaries which make up the ecoregion, ecodistrict and ecosection outlines.	4 I
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Id Codes

Arc Feature Codes (elc-id, fcode)

Elc-id		fcode
101	County boundary	
300	Ocean shoreline - mean high water level	300
301	Lake shoreline	0, 510, 511, 512 depending on surrounding polygon attributes
302	Double line river	0, 510, 511, 512 depending on surrounding polygon attributes
310	Ocean/river segment	0, 510, 511, 512 depending on surrounding polygon attributes
311	Lake/river segment	0, 510, 511, 512 depending on surrounding polygon attributes
312	Canal/river segment	0, 510, 511, 512 depending on surrounding polygon attributes
510	Ecological region boundary	0, 510, 511, 512 depending on surrounding polygon attributes
511	Ecological district boundary	511
512	Ecological section boundary	512
-999999999	Neatline/shell boundary coded for library usage	

Note: an FCODE of 0 means the arc is not an ecoregion, ecodistrict or ecosection boundary

Polygon Feature Codes

ecodistrict number	see listings
9003	Inland water body

Valid Codes and Descriptions

ECOREGION	NAME	SHADE COLOR
1	Cape Breton Taiga	(magenta)
2	Cape Breton Highlands	(brown)
3	Nova Scotia Uplands	(green)
4	Eastern	(purple)
5	Northumberland/Bras D'or	(orange)
6	Valley and Central Lowlands	(red)
7	Western	(yellow)
8	Atlantic Coastal	(blue)
9	Fundy Shore	(gray)

NDR	NAME
Open seral	Ecosystems where site conditions restrict or limit tree growth. Some of these site limitations are a result of repeated disturbances such as fire. Other limitations are a result of natural processes such as extreme exposure to wind and seasonal flooding. Also in this class are wetlands where excessive moisture, thick peat layers and heavy ericaceous vegetation restrict tree growth.
Frequent	Disturbances which result in the rapid mortality of an existing stand and the establishment of a new stand of relatively even age. The interval between stand initiating events is normally shorter than the average longevity of the dominant species.
Gap	Stands of this disturbance regime are seldom exposed to stand initiating disturbances. They are characterized by gap and small patch mortality, followed by understory recruitment, resulting in stands with multiple age classes.
Infrequent	Stand initiating events are characteristics in the development of these stands, but the interval between events is normally understory recruitment to evolve and become evident.
Unclassified	

ECODISTRICT

100 C.B. Taiga
210 C.B. Highlands
220 Victoria Lowlands
310 Cape Breton Hills
320 Inverness Lowlands
330 Pictou Antigonish Highlands
340 Cobequid Hills
350 Cobequid Slopes
360 Mulgrave Plateau
370 St. Mary's River
380 Central Uplands
410 Rawdon \ Wittenburg Hills
420 Eastern Drumlins
430 Eastern Granite Uplands
440 Eastern Interior
450 Govenor Lake

510 Bras D'or Lowlands 520 St. George's Bay 530 Northumberland Lowlands 540 Cumberland Hills 550 Cumberland Marshes 560 Chignecto Ridges
610 Annapolis Valley 620 Minas Lowlands 630 Central Lowlands
710 Valley Slope 720 South Mountain 730 Clare 740 Lahave Drumlins 750 Rossignol 760 Sable 770 Western Barrens
780 St. Margaret's Bay
810 C.B. Coastal 820 Eastern Shore 830 South Shore 840 Tusket Islands 850 Sable Island
910 Parrsboro Shore 920 North Mountain

DRAINAGE / TEXTURE / TOPOGRAPHY

At present three attributes, that describe the enduring features, i.e. physical environment, are assigned to each ecosection - soil drainage, soil texture and topographic pattern/landform. Two other biological attributes will be assigned at a later date - potential climax forest and natural disturbance regime.

Soil drainage

- P Poorly drained
- I Imperfectly drained
- W Well drained
- X Not applicable

Soil texture

- C Course textured - sands and loamy sands
- M Medium textured - sandy loams, loams, and silt loams
- F Fine textured - sandy clay loams, clay loams, and clay
- X Not applicable

Topographic pattern/landform

there are six patterns that are used to describe this attribute.

- SM Smooth is land showing no particular pattern with a smooth topography.
- HO Hummocky is a series of small rounded hills having their height less than 1.5 times their base with a relief amplitude up to 15 m
- KK Hills include knobs (small rounded hills having their height greater than 1.5 times their base with a relief amplitude up to 45 m) and knolls (hills having their height less than 1.5 times their base with a relief amplitude from 15 to 60 m.)
- DM Drumlins and flutes are caused by glacial ice movement and are recognized in patterns of elongated smooth streamlined hills (drumlins) and shallow straight parallel troughs (flutes).
- DS Dissections are narrow canyons flowing from hilly or mountainous topography or steep slope
- RD Ridged is a pattern of linear or curvilinear ridges associated with the underlying geomorphology (bedrock).

Additional topography codes added for areas that were not part of the ecosection coding

WA - water, MS - salty marsh, UR - urban, CB - coastal beach

The above biophysical attributes were clumped together to describe the enduring features of the ecosections of Nova Scotia. Ecosections repeat across ecodistricts and can be used to assist in the delineation of ecodistricts. Similar ecosections in adjoining ecodistricts may have similar biological attributes but ecosections in different ecoregions could be considered different due to major differences in climate and the biological process affecting ecosystem processes.

ECOSECTION

ICDM	Imperfectly drained, coarse textured soils on drumlins or flutes
ICDS	Imperfectly drained, coarse textured soils on steep slopes or canyons
ICHO	Imperfectly drained, coarse textured soils on hummocky terrain
ICKK	Imperfectly drained, coarse textured soils on hilly terrain
ICRD	Imperfectly drained, coarse textured soils on ridged topography
ICSM	Imperfectly drained, coarse textured soils on a smooth or flat terrain
IFDM	Imperfectly drained, fine textured soils on drumlins or flutes
IFDS	Imperfectly drained, fine textured soils on steep slopes or canyons
IFHO	Imperfectly drained, fine textured soils on hummocky terrain
IFKK	Imperfectly drained, fine textured soils on hilly terrain
IFRD	Imperfectly drained, fine textured soils on ridged topography
IFSM	Imperfectly drained, fine textured soils on a smooth or flat terrain
IMDM	Imperfectly drained, medium textured soils on drumlins or flutes
IMDS	Imperfectly drained, medium textured soils on steep slopes or canyons
IMHO	Imperfectly drained, medium textured soils on hummocky terrain
IMKK	Imperfectly drained, medium textured soils on hilly terrain
IMRD	Imperfectly drained, medium textured soils on ridged topography
IMSM	Imperfectly drained, medium textured soils on a smooth or flat terrain
PCDM	Poorly drained, coarse textured soils on drumlins or flutes
PCDS	Poorly drained, coarse textured soils on steep slopes or canyons
PCHO	Poorly drained, coarse textured soils on hummocky terrain
PCKK	Poorly drained, coarse textured soils on hilly terrain
PCRD	Poorly drained, coarse textured soils on ridged topography
PFDM	Poorly drained, fine textured soils on drumlins or flutes
PFDS	Poorly drained, fine textured soil on steep slopes or canyons

PFHO	Poorly drained, fine textured soil on hummocky terrain
PFKK	Poorly drained, fine textured soil on hilly terrain
PFRD	Poorly drained, fine textured soil on ridged topography
PMDM	Poorly drained, medium textured soil on drumlins or flutes
PMDS	Poorly drained, medium textured soil on steep slopes or canyons
PMHO	Poorly drained, medium textured soil on hummocky terrain
PMKK	Poorly drained, medium textured soil on hilly terrain
PMRD	Poorly drained, medium textured soil on ridged topography
WCDM	Well drained, coarse textured soil on drumlins or flutes
WCDS	Well drained, coarse textured soil on steep slopes or canyons
WCHO	Well drained, coarse textured soil on hummocky terrain
WCKK	Well drained, coarse textured soil on hilly terrain
WCRD	Well drained, coarse textured soil on ridged topography
WCSM	Well drained, coarse textured soil on a smooth or flat terrain
WFDM	Well drained, fine textured soil on drumlins or flutes
WFDS	Well drained, fine textured soil on steep slopes or canyons
WFHO	Well drained, fine textured soil on hummocky terrain
WFKK	Well drained, fine textured soil on hilly terrain
WFRD	Well drained, fine textured soil on ridged topography
WFSM	Well drained, fine textured soil on a smooth or flat terrain
WMDM	Well drained, medium textured soil on drumlins or flutes
WMDS	Well drained, medium textured soil on steep slopes or canyons
WMHO	Well drained, medium textured soil on hummocky terrain
WMKK	Well drained, medium textured soil on hilly terrain
WMRD	Well drained, medium textured soil on ridged topography
WMSM	Well drained, medium textured soil on a smooth or flat terrain
WTLD	Poorly drained, organic soils on a smooth or flat terrain
DKLD	Dyke land
XXWA	Inland water
XXMS	Salt marsh
XXCB	Coastal beach
XXUR	Urban

Annotation

LEVEL	SIZE	SYM.	DESCRIPTION	EXAMPLE
1	2500	5	District codes to plot province	910
2	600	5	District codes to plot each county	910