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Northeastern Ontario

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A guide to translate northeastern Ontario ecosites into "Ecosites of Ontario"

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Ecosystem classifications provide a means to organize vegetation and soil into standard ecological units across regions. These tools are particularly useful for natural resource managers, allowing them to make sound silvicultural and resource management decisions.

Over the last 15 years, four regional ecosystem classifications have been produced in Ontario. These classifications have been well received by users and applied to a broad range of research studies and management activities.

These ecosystem classifications include keys and charts that are easily navigated and implemented by collecting and describing several specific soils and vegetation attributes. However, through the application of these four existing regional classifications several shortcomings were recognized. This resulted in the development of a single comprehensive provincial ecosystem classification (OMNR, 2009), which includes the *Ecosites of Ontario*. *Ecosites of Ontario* is nested within an Ecological Land Classifications (ELC) system for Ontario that addresses increased interest in conservation of ecosystems previously not represented (i.e., non-treed landscapes such as meadows, rock barrens and sand dunes) and some challenges facing resource managers, such as the identification of hydric substrates.

Substantial data has been collected over the last decade using the original *A Field Guide to Forest Ecosystems of Northeastern Ontario* (Taylor *et al*. 2000), and the *Ecosites of Ontario* has been operationally applied since 2009 to collect additional or new data. Recognizing these past investments, the ELC Working Group has developed an ecosite conversion chart as a support tool that will aid in the translation of existing information, models and reports to the new provincial ELC ecosite definitions.

Procedure

Regional experts, familiar with both the northeastern Ontario and the new provincial ecosite classifications, compared ecosites represented by the two classifications. The criteria used for the comparison included stand composition, vegetation structure (hardwood or conifer), moisture regime, soil depth and texture. Available ELC plot data were individually reclassified and assigned to provincial ecosites to identify potential relationships as this conversion chart was produced.

The two classifications systems differ by approach and scope in four areas. The northeastern Ontario ecosite classification:

1) Identifies very shallow soils as having soil depths less than 30 cm. *Ecosites of Ontario* recognized very shallow as less than 15 cm. Northeastern Ontario ecosites that contain SS 1 to SS 2 soil types have been allocated to the very shallow provincial ecosites and SS 3 and SS 4 soil types were allocated to the same provincial ecosite if depths were less than 15 cm.

2) Amalgamates the texture families of fine loamy and clayey. Within the *Ecosites of Ontario*, clayey is separated from texture family fine loamy.

3) Recognizes a texture family of medium loamy and amalgamates this with the texture family silty. *Ecosites of Ontario* groups medium loamy textures recognized in the northeastern Ontario system into the coarse loamy or silty texture families.

4) Does not address non-forested ecosites such as: bluffs, beaches, dunes, cliffs, talus slopes, rock barrens, fields, shrublands, anthropogenic, coastal, tidal and/or non-treed wetlands. These ecosites are identified in the *Ecosites of Ontario*.

Results

The northeastern Ontario conversion chart (sample in Figure 1) allows users to compare and convert northeastern Ontario ecosite concepts to the corresponding new provincial ecosites. To use this chart, start by selecting an ecosite in either classification, follow that column or row until shading is encountered and then read the correlated ecosite.

Three levels of correlation were identified: best fit, good fit and poor fit. In general they can be interpreted as follows:

Best Fit: The northeastern Ontario ecosite core concept is well described by the criteria within a corresponding provincial ecosite. There is close agreement in stand composition, vegetation structure, moisture regime, soil depth and texture. Variability in lead and associated species may occur. More than one best fit is possible.

Good Fit: The northeastern Ontario ecosite core concept is partially described by the criteria within a corresponding provincial ecosite. There is agreement on some but not all of the stand composition, vegetation structure, moisture regime, soil depth and texture. Variability in lead and associated species may occur. More than one good fit is possible.

Poor Fit: The northeastern Ontario ecosite core concept is not well described by the criteria within a corresponding provincial ecosite. There is little agreement on the stand composition, vegetation structure, moisture regime, soil depth and texture. Variability in lead and associated species are common. Typically poor fits represent ecosite conditions that were often lumped into broader classes of the northeastern Ontario ecosite typology (i.e. ecosites were not well represented on finer textured soils).

In some cases the original northeastern Ontario ecosites were quite broad in terms of the vegetation and soil conditions that were included, and they represented several contrasting conditions that were placed in a generalized ecosite. These old concepts were reassigned to several different new provincial ecosites. Sometimes a best fit was not possible and only good or poor fits could be established.

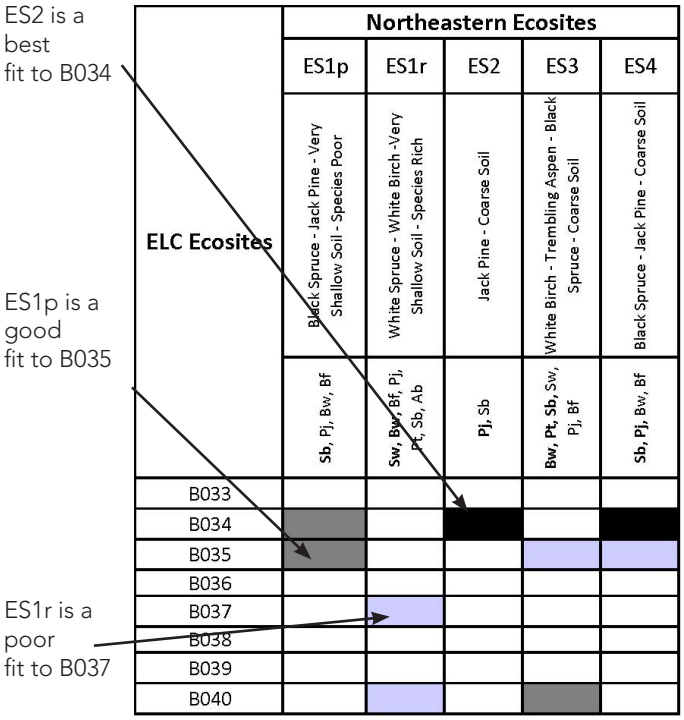

Figure 1: A portion of the northeastern conversion chart showing the best, good and poor fit relationships between the northeastern Ontario and provincial ecosites (adapted from Pokharel *et al.* 2012).

The ecosite conversion chart is one of a series of tools provided by the ELC Working Group to help practitioners incorporate and effectively use the *Ecosites of Ontario*. A quick reference guide (Table 1) translates the northeastern Ontario ecosites to the provincial system.

The conversion chart and guide in this document are tools to help in the translation of ecosites. It is advisable to take actual plot data or information and to reallocate each plot to a new ecosite.

Mineral Rich Conifer Swamp (B224) with a canopy consisting of eastern white cedar and an understory of balsam fir south of Timmins, Ontario. Photo: Rachelle Lalonde, Ministry of Natural Resources.

Table 1: Northeastern Ontario ecosite reference guide illustrating the membership of provincial ecosites to northeastern ecosites

Northeastern Ecosites	Corresponding Provincial Ecosites
ES1p	**B012**, B034, B035, (B024, B049, B050)
ES1r	**B014, B016**, (B037, B040, B052, B055, B101, B104)
ES2	**B034, B049**
ES3	**B055**, B040, B050, (B035, B065, B070)
ES4	**B034, B049**, B065, (B035, B050)
ES5f	**B082, B098**, B083, B099, B114
ES5m	**B098, B114**, B049, B050, B065, B099
ES6f	**B083**, B088, B099, B104, B114, B119
ES6m	**B104**, (B050, B055, B065, B070, B099, B114, B119)
ES6c	**B040, B055**, (B035, B050, B065, B070)
ES7f	**B088**, B085, B101, B104, B116, B119
ES7m	**B104**, B085, B119, (B052, B055, B067, B070, B101, B116)
ES7c	**B055**, B040, B070, (B037, B052, B067)
ES8	**B222**, B065, B114, B223
ES9p	**B223**, B065, B114, B224
ES9r	**B224**, B066, B115, B116, B223, (B067, B130)
ES10	**B130**, B070, B071, B119, B120, (B065, B114, B223)
ES11	**B127**, (B128)
ES12	**B128**, B127
ES13p	**B129**, B128
ES13r	**B129**
ES14	**B137**, B136, (B126)
ES15	**B058, B107**, B055, B104, (B018, B042, B070, B074, B119, B123)
ES16	**B055, B104**, B058, B119, (B016, B070, B107)
ES17	**B058, B107**
ES18	**B033, B048**, B011, (B012, B035, B050)
ES19	**B039**, B054, (B033, B040, B048, B055)
ES20	**B054, B103**, B055, B104, (B039, B040, B069, B070, B118, B119)
ES21	**B054**, B048, B055, (B011, B015, B016, B064, B069, B070, B097, B103, B104)

Coding Structure: **B#** - Ecosite is a best fit; B# - Ecosite is a good fit; (B#) - Ecosite is a poor fit.

For more information or to request a digital copy of the complete northeastern Ontario conversion chart, please contact:

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A guide to translate northwestern Ontario ecosites into "Ecosites of Ontario"

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A guide to translate central Ontario ecosites into "Ecosites of Ontario"

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Conifer canopy consisting mostly of jack pine and black spruce with some balsam fir and poplar (B049) adjacent to the Tatachikapika River in northeastern Ontario. Photo: Rachelle Lalonde, Ministry of Natural Resources.

References

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Pokharel, B., J.P. Dech and P. Uhlig. 2012. A tool for converting forest ecosystem classifications for permanent or temporary growth plots into the new provincial Ecological Land Classification (ELC) system in the boreal regions of Ontario. For. Chron. 88(1): 49-59.

Taylor, K.C., R.W. Arnup, B.G. Merchant, W.J. Parton and J. Nieppola. 2000. A field guide to forest ecosystems of northeastern Ontario. Ont. Min. Natur. Resour., Northeast Sci.& Technol. Field Guide FG-001.

Poor Graminoid Fen (B139) close to Wenebegon Lake in northeastern Ontario. Photo: Rachelle Lalonde, Ministry of Natural Resources.

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