

## 4.0 Soils of the Niagara Region

The soils information collected through the Natural Areas Inventory was limited to in-situ soil texture and moisture levels as they pertain to Ecological Land Classification protocol.

Ontario Ministry of Agriculture and Food in 1989 produced a report entitled The Soils of The Regional Municipality of Niagara in which detailed classification of soils within the study area were documented. This report accurately represents the soils of the study area and therefore the NAI utilized this data.

The following provides general information from the 1989 report.

“Soils in the Niagara Region have developed in soil parent materials ranging in texture from heavy clays to coarse gravels. Most soil differences are related to these textural differences. Variations in drainage also cause differences between soils developed on the same parent materials. Other soil forming factors such as topography, time, climate and vegetation have also contributed to soil differences”. (OMAF, 1989, p.17)

“Most of the original soil parent materials in the Niagara Region are highly calcareous and alkaline. The soils developed on such materials are less calcareous because of the leaching action of water on soil bases, especially calcium. The leaching action, along with associated soil weathering, causes the development of soil horizons near the soil surface. These horizons differ from each other on properties such as colour, texture, thickness, structure and consistency”. (OMAF, 1989, p. 17)

Explanation of soil horizons (OMAF, 1989, p. 17-18)

The soil descriptions can be found in the report between pages 23-40. The descriptions are arranged in alphabetical order and include information on soil moisture characteristics, general soil characteristics, soil variability, and land use and management. (OMAF, 1989, p.23-40)

Figure illustrating the important geological and physiographical features in the region (OMAF, 1989, p. 9)

Chart depicting correlation of soils with surficial geology and physiography in the region (OMAF, 1989, p. 10-12)

Chart of drainage conditions and names on similar parent material (OMAF, 1989, p.15)

### References

Kingston, M. S., Presant, E. W., Canada, Land Resource Research Centre, & Ontario  
Institute of Pedology. (1989). *The soils of the Regional Municipality of Niagara*.  
Guelph, Ontario: Ontario, Ministry of Agriculture and Food.