

CHAPTER VI

SOIL CONDITIONS

General

Parent materials are an essential factor in soil formation. The characteristics of such materials determine to a large degree the type of soil that is developed. Soils in this map area appear in part to have a relationship to the underlying bedrock. These rocks differ in their hardness, texture, and resistance to weathering. The nature and attitude of the rock formations also determine in part the nature of the relief and drainage of the area.

During the last glacial period this area, in common with most of Nova Scotia, was covered with a thick sheet of ice. Weathered material derived from the underlying rock was mixed and transported by the ice and glacial waters and later deposited as unsorted drift. These deposits are largely in the form of till ground moraine and form the basic material for the present soils. They have a clay loam appearance, are stony in part, compact, and are relatively plastic and impermeable.

DESCRIPTION OF SOIL IN MAP AREA

In part from the present survey but primarily from the results of a soil survey of Cape Breton Island by the Nova Scotia Department of Agriculture, the various soils in this area have been established with approximate boundaries. The following tabulation and accompanying map Number 3 describes and illustrates this soil coverage. Classification names were obtained from the Nova Scotia Department of Agriculture, Soil Division.

Diligence Series

Soils of the Diligence series, located in the vicinity of Port Hawkesbury, Whiteside, and on the islands in the Inhabitants Bay, cover about seventeen square miles of the map area. The parent material of this soil, which is a greyish-brown plastic clay loam till, is derived primarily from grey and black shales and siltstones. It is associated with a gently rolling to hilly topography. This soil is not usually stony, except where numerous sandstone beds are

interbedded with the shale in the underlying bedrock, and is characterized by having a slow internal drainage.

Queens Series

Soils of the Queens series have the largest coverage in the area, approximately thirty square miles, and are mostly confined to the central and eastern parts of the map area.

The parent material of this soil is a moderately plastic, reddish-brown clay loam glacial till, and varies considerably in stone content. It is slowly permeable to water and the texture becomes heavier with depth. This type of soil is chiefly associated with an undulating to rolling topography.

Kingsville Series

Soils of the Kingsville series cover about twenty square miles of the map area and are closely associated with the Queens soils but generally contain more stone. The parent material is a red-brown clay loam that appears to have been water-worked and laid down in shallow water. This soil is developed chiefly on a gently undulating to depressional topography. The water table in these soils is very near the surface and drainage is a major problem.

Woodbourne Series

The Woodbourne soils cover approximately twelve square miles of the map area and are mostly located on higher elevations of the lowland plains. This soil type is most prominent in the Sugar Camp area. The parent material is reddish-brown glacial till having a gravelly clay loam texture similar to the Queens but more gravel is present. It is associated with a rolling to hilly topography and usually found on steep slopes.

Shulie Series

Soils of the Shulie series cover about ten square miles of the map area on a gently undulating to hilly topography. The parent material is brown sandy loam till and has a relatively good internal drainage.

Thom Series

Soils of the Thom series are restricted to the southern portion of the Creignish Hills in this map area and cover

about seven square miles. The parent material is a greyish-brown sandy loam till derived largely from metamorphic sedimentary rocks. The soil is quite porous and occasionally very stony. It varies in thickness from a few inches to several feet and has very fast surface and internal drainage. This soil type is associated with hilly to mountainous topography.

Peat Series

Soils of the peat series in this area cover about five square miles and are generally less than three feet thick. The parent material is mostly a poorly-farmed sphagnum type moss usually found in black, mucky layers with a considerable amount of moisture content. There is no commercial value to the limited material in this area.

Mira Series

Approximately five square miles of the map area is covered by soils of the Mira series. This soil type is associated with long sloping to level topography. It is similar to the Thom soils but the nature of the topography and the attitude of the underlying bedrock restricts water movement and it is reflected in the soils by a mottled profile. Generally the Mira soils are extremely stony.

Hebert Series

Soils of the Hebert series cover about one square mile of the map area. They are located along a narrow belt from Proctor Cove, near the mouth of River Inhabitants, to Morrison Siding, northwest of Cleveland, along Northwest Arm Brook south of Sugar Camp, and along Lamey Brook east of Queensville. The parent material is coarse-textured, stratified gravel, sand, and clay, deposited by glacial waters. This soil is characterized by having an extreme range of coarseness of material and very good drainage. It is generally found on gently rolling to level topography. The Hebert series is very important as it is the only soil type in the area that contains commercial deposits of gravel, sand, and clay.

Coastal Beach Series

About one-half square mile of the map area is covered by Coastal Beach soils. Although this type has a relatively small areal extent, it is important as a source of construction aggregate materials. The parent material

is sand and gravel derived chiefly from granitic material. These soils have very rapid drainage and are confined to the coastal areas northwest of Port Hastings. Private construction companies are exploiting the Coastal Beach soils in this area.

Others

The remaining soil types cover about two square miles of the map area and are mostly confined to tidal marsh and swampy areas having little or no economic possibilities.