

AGGREGATE POTENTIAL OF CUMBERLAND AND COLCHESTER COUNTIES, NOVA SCOTIA

by

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ABSTRACT

Three distinct categories of aggregate have been identified in Cumberland and Colchester Counties: (1) granular aggregate, (2) bedrock aggregate, and (3) slag. The primary source of materials in the region is the sand and gravel component of the granular aggregate. Bedrock and slag represent a minor fraction of the annual aggregate budget.

The major sources of the granular aggregate in the region are glacial sediments comprising ice contact stratified drift and proglacial outwash deposits. Both types of deposits are found in most parts of the region and vary in quality according to their clast composition. The proglacial outwash deposits are best in the area along the Minas Basin between Kemptown and Five Islands, Colchester County. The ice contact deposits are generally superior in quality near or on the Cobequid Highlands or other igneous-metamorphic terrane. The area to the north of the Cobequids between Apple River to the west and Tatamagouche to the east is largely barren of any type of sand and gravel.

Other granular aggregate materials which are found in the region include residuum, colluvium and modern stream deposits. Residuum and colluvium generally produce low quality materials, however in some areas they are the only source of aggregate available. The modern stream deposits comprise braided stream and alluvial fan deposits. Although both types of deposit can produce excellent materials, deposit size and environmental regulations limit their potential.

Bedrock aggregate is produced intermittently from several quarries in the region, however only one quarry, at Folly Lake, is presently active on a seasonal basis. As the granular aggregate reserves become depleted in the region the alternative will be bedrock, the reasons being that it is the only option known in the region capable of providing the quality and quantity of materials to satisfy market needs. The two major divisions of bedrock in the region are the unmetamorphosed sedimentary rock and the igneous-metamorphic rock. In general, the unmetamorphosed sedimentary rock produces low quality materials due primarily to poor durability. The igneous-metamorphic rocks offer much better potential, especially in rock types such as volcanics, granitoids and quartzites.

The slag component of the aggregate budget is found as a waste dump at Londonderry, Colchester County. It was formed in an air cooled state as a byproduct of iron and steelmaking at the turn of the Century. Properties of the slag which are of interest are its low density and good drainage capabilities. It is suitable for certain aggregate applications, however this does not include asphalt or exposed concrete. Slag represents a very minor component of the total resource in northern Nova Scotia.