

## Aggregate Program Activities

### *G. Prime*

The primary function of the Aggregate Program at Nova Scotia Department of Natural Resources is the evaluation of the surficial and bedrock aggregate deposits in Nova Scotia. This includes glacially-derived sand and gravel, and bedrock which can be quarried for crushed stone. Although a significant aggregate resource still exists, there are reasons for concern regarding its future. Issues such as the tightening of construction materials standards, land use problems and the difficulty of replacing depleting stone reserves are becoming problematic. Examples include the following: (1) the decline of gravel deposits and reserves in some regions because of market demands, (2) the dwindling availability of high quality sand deposits, (3) the requirement of quarried stone for some major uses of aggregate, and (4) the sterilization of the resource land through human encroachment and environmental issues. The loss of the resource could mean getting the stone products from elsewhere (i.e. farther from the populated centres or outside of the Province entirely), but the reality is that long haul transportation of such widely used bulk materials would have major socioeconomic and environmental implications. From the perspective of the Geological Services Division this outcome is unacceptable and should be avoided if possible. As a result, the long term strategy of the Aggregate Program is to identify the aggregate resources, evaluate their potential and promote their wise use and protection for future needs.

The research is primarily done through fieldwork, air photo interpretation and the collection of samples for aggregate testing. The success of this effort is strongly dependent on the bedrock and surficial geology maps of others. This important information is fundamental to the examination of the aggregate resource in the Province. Because it is primarily field-based research, the studies also provide the opportunity to examine the geology for other stone products such as armourstone, dimension stone, decorative stone, flagstone and clay deposits. Finally, in addition to the collection of the resource data, other geoscientific research is being documented because of the value that it may have in the future. For example the collection of descriptive data and photos from operating sand and gravel pits.

Activities in 2007 included project studies and providing assistance to a variety of clients. The project studies are: (1) the Nova Scotia bedrock aggregate study which is looking at high quality bedrock deposits throughout the Province from a detailed geoscientific perspective, and (2) the Annapolis Valley aggregate study which is documenting the stone resource (bedrock and surficial) from Hants to Yarmouth counties. This year the Nova Scotia study consisted of fieldwork with Chris White focusing on igneous rocks in Shelburne County, Guysborough County, the Cobequid Uplands and the Cape Breton Uplands. This project work overlapped with the Annapolis Valley study where newly discovered bedrock potential in Hants, Kings and Annapolis Counties was examined during the summer. Although the gathering of field data for the Annapolis Valley study is essentially complete, fieldwork continued in order to tie the resource observations and data together in terms of geological explanations which can be used as aggregate exploration tools in the future.

The client based work focused on providing information and field assistance to government agencies and industry regarding bedrock aggregate and other stone applications. This included several client queries regarding potential sources of dimension stone and specialty stone. The requests were based on an interest in unusually coloured and textured stone for a variety of rock products. Several sites were identified to the clients so that they could conduct further investigation. The assistance to government agencies primarily focused on the examination of strategically located, high quality bedrock aggregate sources which can be used in the future.