

Bedrock Aggregate Development Potential in Western Halifax Regional Municipality

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Abstract

The Halifax-Dartmouth metropolitan area (Metro) is the largest aggregate market in Atlantic Canada, consuming more than 3 Mt of crushed stone from local bedrock quarries annually. Although the aggregate industry is currently thriving, a recent study by Nova Scotia Department of Natural Resources (NSDNR) concluded that access to Metro's aggregate resources will progressively become more difficult in the future. Concerns centre around decades of population growth and urban sprawl which have encroached on the resource land, rendering much of it inaccessible for extractive use. At the same time that local aggregate reserves are shrinking, attempts to obtain permits for new quarries near Metro have been largely unsuccessful. If present trends continue, the resource potential will disappear from the region, leaving the area with expensive choices for meeting its aggregate needs.

In an attempt to meet this challenge, the Mineral Resources Branch of NSDNR has re-examined the aggregate potential in the region to determine if new quarry development is possible. The focus of the research was the identification of high quality stone in strategic locations where impacts to the environment and communities would be minimal. By comparing resource and land use maps with the property ownership database, an area immediately to the west of Upper Tantallon, Halifax County, was determined to have optimal conditions for future aggregate development. The fine- to medium-grained granitic rocks of the South Mountain Batholith, found in this area, not only exhibit the characteristics of high quality construction aggregate, but the deposits are located near a growing suburb which will require large amounts of stone well into the future. The concern of future human encroachment and development, which normally threaten the resource, should be minimized in this area because this property is owned by a large forest product company committed to resource management of their land holdings. Transport of the aggregate materials from the potential quarry operation to Route 103 could only be achieved by construction of an overpass connector. This would permit a quarry development site potentially as close as 7 km from Exit 5 on Highway 103 at Upper Tantallon. If direct access to a major highway is feasible, the site would also allow new resource development with minimal disturbance to the community. The socioeconomic and environmental benefits of maintaining access to local sources of stone could be significant for the region in the future.