Nova Scotia Department of Natural Resources
Minerals and Energy Branch

Open File Map ME 2001-2

Map of Land Use Constraints in the Halifax-Dartmouth Metropolitan Area

Nova Scotia

Compiled by G. Prime

Scale 1: 100 000

2 0 2 4 6 8 10 kilometres

2 0 2 4 miles

Recommended Citation

Prime, G. (compiler) 2001: Map of land use constraints in the Halifax-Dartmouth metropolitan area, Nova Scotia; Nova Scotia Department of Natural Resources, Minerals and Energy Branch, Open File Map ME 2001-2, scale 1:100 000.

NOVA SCOTIA
Natural Resources
Halifax, Nova Scotia
2001

Map Notes

Universal Transverse Mercator (UTM) Projection, Zone 20, Central Meridian 63°00' West.

North American Datum (NAD) 1927.

Digital map compilation, database development, and map production by the Nova Scotia Department of Natural Resources.

Printed copies of this map are available from the Nova Scotia Department of Natural Resources.

A digital version of this map may be downloaded from the Nova Scotia Department of Natural Resources, Minerals and Energy Branch web site at: http://www.gov.ns.ca/natr/meb.

Disclaimer

The information on this map may have come from a variety of government and non-government sources. DNR accepts no liability for any errors or deficiencies on this map. This map should not be used for legal purposes.

This map is intended for use at the published scale of 1:100 000.

This map and legend were printed using dye based inks which are subject to fading. It is recommended that you store out of direct light when not in use to lengthen life of product.

Sources of Information

[1] Hopper, D.B., Bonner, F.J. and Fisher B.E. (compilers) 2000: Land designation and ownership in Nova Scotia; Nova Scotia Department of Natural Resources, Minerals and Energy Branch, Open File Map ME 2000-1, scale 1:500 000.

[2] Hopper, D.B., Bonner, F.J., Fisher B.E., and Murphy, A.N. (compilers) 2000: Mineral resources land use (MRLU) map series; Nova Scotia Department of Natural Resources, Minerals and Energy Branch, Open File Map ME 2000-4, scale 1:50 000.

[3] Nova Scotia Department of Natural Resources, 2001: The Nova Scotia Department of Natural Resources restricted and limited use land database, version 1; Nova Scotia Department of Natural Resources, Digital Product DNR 002. (http://www.gov.ns.ca/natr/meb/download/nsdnr002.htm)

[4] Nova Scotia Department of Natural Resources, 2001: The Nova Scotia Department of Natural Resources Wetlands Inventory.

[5] Prime, G. (compiler) 2001: Map of bedrock aggregate potential in the Halifax-Dartmouth metropolitan area, Nova Scotia; Nova Scotia Department of Natural Resources, Minerals and Energy Branch, Open File Map ME 2001-1, scale 1:100 000.

Descriptive Notes

Land use issues are an integral component in the determination of aggregate resource potential in an urban setting. A variety of legislative regulations, zoning restrictions and land use designations, imposed by all levels of government, affect where and how aggregate quarries can operate. The best aggregate deposit in the region may be impossible to develop if a conflicting land use overlies or occurs in proximity to the site.

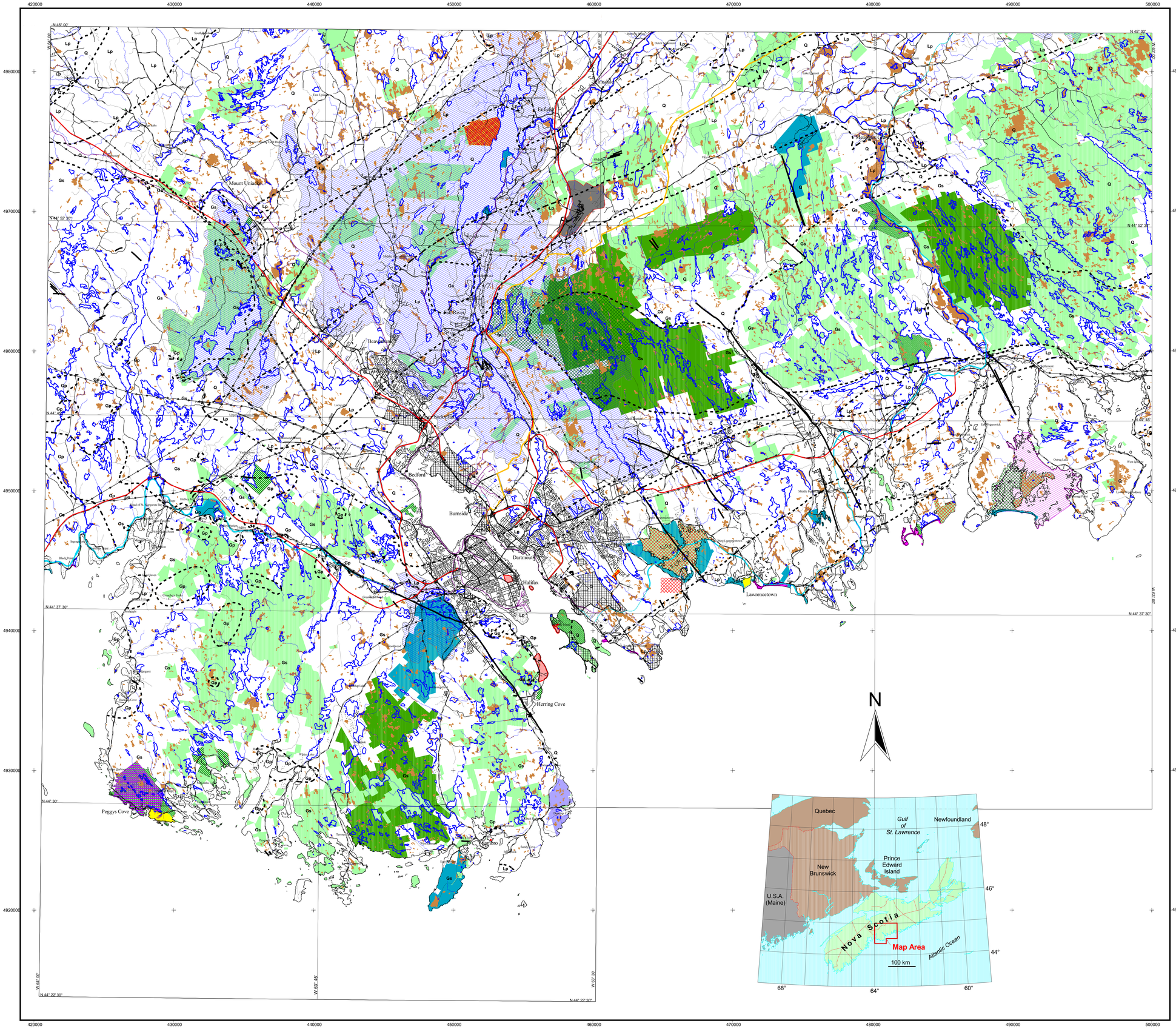
This map is a compilation of land use constraints that may have an impact on aggregate resource development in the Metro area. Its purpose is to help narrow the search when looking for a quarry site. By comparing this map with the aggregate resource map, much of the area can be eliminated as aggregate potential. No attempt has been made to rank the land use categories in terms of their impact on the aggregate resource because of the subjective nature of such a ranking. It is commonly impossible to determine what effect most land uses will have on a proposed development site prior to the scrutiny of an environmental assessment. Areas such as parks and ecological sites are obviously off limits for development without exception. However, one can also expect public resistance to quarrying near the perimeter of many of these areas. The author cautions that bedrock aggregate exploration should be kept at a "reasonable" distance from ecologically/recreationally sensitive areas due to a significantly reduced probability of getting permit approvals.

Some of the land uses included here are not necessarily constraints; however, they may present significant technical challenges or opportunities for quarry development. One hundred series highways, for example, have restricted access. Although an excellent aggregate deposit may occur near one of these major highways, delivery of the stone to the market may require a costly circuitous route or access may not be possible (e.g. if the only haulage route is through a populated centre). Conversely, the author suggests that such a location may present an opportunity to have dedicated access to a major highway if a connector system could be approved and constructed. Direct access to highways designed to handle such commercial traffic could be a major benefit to receiving permitting approval. Similarly, rail lines would generally be seen as obstacles to certain quarrying situations; however, a spur line to a quarry may possibly provide unique access to the Metro area and other potential markets.

Selected geomorphological parameters are included on the map because they can have an impact on nearby aggregate resources. Lakes, streams and wetlands, for example, are indicated because quarrying adjacent to these features would be effectively prohibited due to environmental regulations. Coastal areas near Metro, although not highlighted on the map, should be viewed as low potential because they are becoming very sensitive to industrial development for a host of reasons.

Users of this map should note that not all of the development constraints are included on the map. Urban zoning, for example, is not indicated because the scale of the map prohibits such detail. However, a constraint such as residential zoning would have tremendous impact on where quarries can be located. Similarly, the location of residential dwellings in the study area is not indicated. Blasting guidelines effectively prohibit quarrying within an 800 m radius of any occupied dwelling. This constraint alone can remove as much as 2 square kilometres of resource land surrounding a house from potential use. To identify the areas with potential zoning conflicts in the map area, the author recommends contacting the Halifax Regional Municipality.

Finally, the author encourages the use of topographic maps to identify potential quarry sites or flag potential problems. Areas of positive relief may be beneficial for technical reasons associated with development, or possibly a constraint if perceived as a view plane concern. Contour maps can also be useful for quickly assessing a potential site for access and optimal quarry orientation. National Topographic Series maps at 1:50 000 scale, and 1:10 000 scale orthophoto maps can be obtained through Service Nova Scotia and Municipal Relations at the Halifax Land Information Centre.



Legend for Bedrock Aggregate Potential [5]*

Gp — Primary Granite Potential:
Fine- to medium-grained, Devono-Carboniferous granitic rocks consisting of leucogranite and leucomonzogranite; buff, orange, pink, red, light to medium grey, bluish-grey and white; may be equigranular, porphyritic (minor large phenocrysts) or slightly megacrystic (0-5% megacrysts); biotite (0-7%), muscovite (0-5%)

Gs — Secondary Granite Potential:
Coarse- to fine-grained Devono-Carboniferous granitic rocks consisting of monzogranite, leucomonzogranite and granodiorite; predominantly coarse grained and megacrystic; buff, light/medium/dark grey, bluish-grey, white-grey, pink, orange, white; may be equigranular, aplitic, pegmatitic, porphyritic, or megacrystic; megacrysts (5-50%); biotite (4-15%), muscovite (0-6%)

Q — Quartzite Potential:
Quartzite (formally termed 'metagreywacke') with varying amounts of interbedded siltstone and minor slate of the Cambro-Ordovician Goldenville Formation; green-grey to medium grey; slaty to schistose cleavage in the finer-grained rocks; scattered to locally abundant sulphide minerals (e.g. pyrite).

Lp — Low Potential:
Slate and schist of the Cambro-Ordovician Halifax Formation lack durability and commonly contain deleterious amounts of sulphide minerals. The mafic igneous body at Cape Sambro is unsuitable for quarrying because of its shoreline location.

Symbols

- Geologic Contacts [5]
- Faults [5]
- Lakes
- Streams

Roads
- 100 Series Highway
- Highway
- Road
- Unpaved Road
- Trail

- Utility

Rail
- Abandoned
- Active

* The number in square brackets refers to an entry in the list of Sources of Information

Land Designations

- Wetlands
- Areas under the Special Places Act [3]
- Pipeline Corridor [3]
- Non-Designated Rail Corridors [3]
- Protected Beaches [3]
- Non-Designated Water Supply Areas [3]
- Designated Water Supply Areas [3]
- Sites of Ecological Significance [3]
- Peggy's Cove Preservation Area [3]
- National Historic Sites and Parks [3]
- Designated Provincial Parks and Park Reserves [3]
- Operational Non-Designated Parks and Reserves [3]
- Provincial Game Sanctuaries [3]
- Wilderness Areas [3]
- Eastern Habitat Joint Venture Lands [3]
- Ramsar Wetland Sites [3]
- Indian Reserve Lands [4]
- National Defence Lands [1, 2]
- Major Airports [1, 2]
- Undesignated Crown Lands (2001)

Plot produced by Jeff Poole, March 6, 2002