

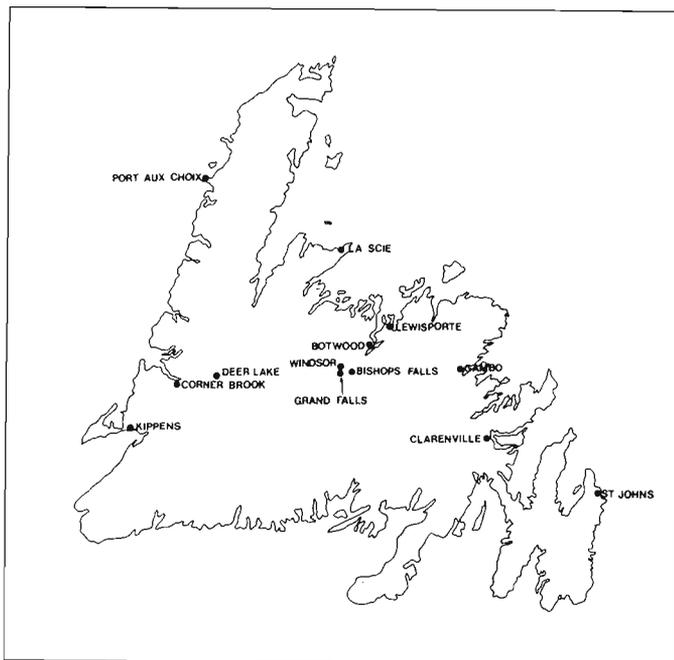
## DETAILED AGGREGATE ASSESSMENT PROJECT, INSULAR NEWFOUNDLAND

by

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### Introduction

This was the second year (Kirby, 1983) of the Detailed Aggregate Resources Mapping in Insular Newfoundland. Before the start of this project in 1982, detailed assessments of some areas were carried out under the Inventory of Aggregate Resources Program. These areas included Butts Pond (1979), Sandy Brook - Grand Falls (1979), and Gros Morne National Park (1981); a start had been made on the St. John's Urban Region Plan Area (1981). During the 1982 field program, aggregate resource assessments were done in 13 municipal planning areas throughout insular Newfoundland (Map I).



**Map I:** Detailed aggregate resources project; insular Newfoundland field areas, 1982.

### Objectives of Program

The main aim of the project is to identify areas of quality aggregate resources within municipal or other areas where the implementation of land use zoning might sterilize (remove from future produc-

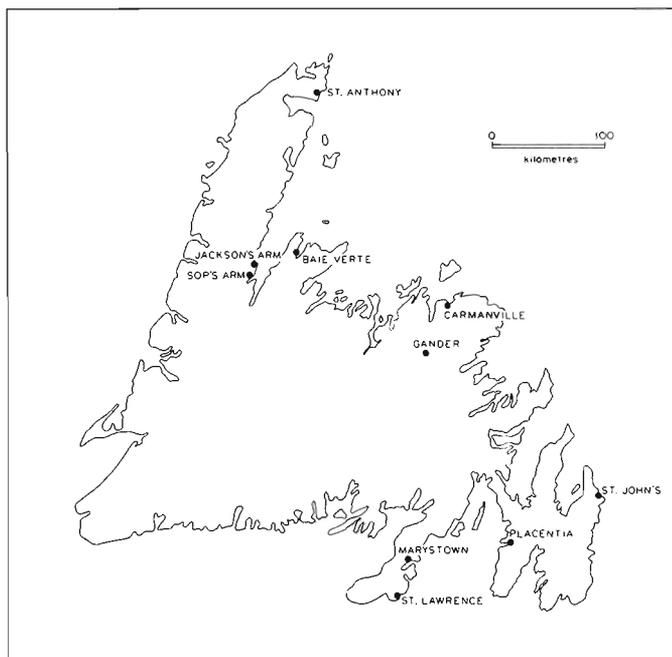
tion) areas of aggregate resources. The process involves locating and sampling in detail any aggregate reserves within the proposed development or plan areas. In areas lacking quality aggregates (i.e. gravels and sands), alternative sources such as silt/clay-free till and/or suitable bedrock are assessed for current and future needs. The inclusion of the aggregate resources in extraction areas within specific planning proposals (e.g. municipal plans) is suggested to ensure that the aggregates can be preserved to meet the future aggregate demand in these areas. This likewise ensures that the local domestic and commercial aggregate consumer has access to material at a reasonable cost.

### Field Program, 1983

Field work was started in early June and ended in late October. Municipal planning areas included St. Anthony, Sops Arm, Jacksons Arm, Baie Verte, Gander, Carmanville, Marystown and St. Lawrence. Backhoe test pitting conducted in the St. John's Urban Region Planning area (Map II), in October completed field work on that plan area.

Preliminary field work was conducted by vehicle along all roads and trails in the study areas. Where vehicular access was limited, foot traverses were conducted. Information obtained from this preliminary field work, combined with information obtained from surficial and aggregate resources maps and particle size data produced by the Inventory of Aggregate Resources Project, enabled us to identify the areas with the most aggregate potential.

In areas where it was determined that suitable aggregate reserves exist, foot traverses were conducted to determine accessibility and the general nature of the deposit. Where forest cover and general topography permitted, backhoe test pitting was used to determine more accurately the depth and quality of the deposit. In less accessible areas, shallow hand-dug pits were used to obtain samples of the underlying aggregate materials.



**Map II:** Detailed aggregate resources project, insular Newfoundland field areas, 1983.

Approximately 450 aggregate and rock samples were collected in 1983. All aggregate samples collected were field-sieved using a bank of four 30 cm diameter brass sieves (63 mm, 31.5 mm, 16 mm, 8 mm). Sample fractions retained on each sieve were weighed and the weights recorded. A 500 g split of the sample passing the 8 mm sieve was retained for further laboratory sieve analysis. A split of the -32 mm +16 mm pebble fraction was retained for lithologic and petrographic number analyses.

Preliminary field mapping in each area was conducted at 1:50,000 scale to supplement previous aggregate resource data (Kirby et al., 1983). Detailed sampling and backhoe test pitting were normally conducted at 1:12,500 scale using orthophotos or enlargements of 1:50,000 scale topographic mapping. Where available, larger scale municipal plans (supplied by the Department of Municipal Affairs) were used.

#### Fall/Winter Program, 1983

During the late fall of 1983, a series of 1:50,000 and 1:12,500 scale maps outlining the areas of aggregate potential for each area studied will be compiled. These maps will be forwarded to the Department of

Municipal Affairs for inclusion into their Municipal Plans.

During the winter of 1983-84, maps and sample analyses with accompanying reports will be compiled for open file release.

#### Plans

Detailed aggregate resource sampling and mapping within municipal planning areas and any major development areas will be continued until all areas have been surveyed.

There are more than three hundred municipalities in the province, over fifty of which have municipal plans in effect. The provincial Department of Municipal Affairs is completing municipal plans for many of the remaining areas as quickly as possible. To date, 26 municipal planning areas have been included in the survey.

#### Acknowledgements

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#### References

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