

nucleus of scientists interested in northern matters. In 1974, about \$300,000 was granted to 14 Institutes and Committees for Northern Studies at 14 Canadian universities. The studies supported covered most disciplines. The specified grants program, which serves the same ministerial responsibility as the research training grants program, is designed to encourage research into specified northern problems identified by the Department. As in the case of the training grants, these grants are made to institutions and not to individuals. A Departmental Committee evaluates research proposals for this program and in 1974 about \$100,000 in specified grants was awarded by the Committee. Among the projects supported by this program in 1974 were: an analysis of the teaching and research programs sponsored by Canadian universities in the North; a study of the principal factors affecting diver performance under arctic conditions; a study of problems of demography and human ecology in the North; and a project to assist the Eskimo community of Nain, Labrador, in defining and responding to problems of social change; and a study of the effects of television on northern children.

As part of the Minister's responsibility for fostering research in the North, the Division also operates a general purpose scientific laboratory in Inuvik, NWT, to support a variety of research projects in the Mackenzie Delta area. The laboratory, opened in 1963, includes a cosmic-ray measurement annex, low-temperature rooms, photographic dark room, library seminar room, offices and general or support laboratories. In 1974, the laboratory supported about 400 investigators and 300 scientific projects undertaken by government, universities and industry. In response to the need for similar facilities elsewhere in the Arctic, the Division began construction of an eastern Arctic laboratory in Igloodik, NWT, in 1973; much of the construction was completed in 1974. The laboratory, which will serve the Foxe Basin area, is located on the coast, an area of geographical, climatic and topographical diversity, and in an area where renewable resources are exceptionally rich. The laboratory will be opened in the summer of 1975. During 1974, preliminary planning took place for the construction of a third Arctic laboratory in Whitehorse to serve the Yukon area.

Northern Natural Resources and Environment Branch. The Arctic Lands Use Research Program (ALUR) of the Water, Lands, Forests and Environment Division is intended to provide research support for the Department's management of northern resources. The 1974-75 program was largely a continuation or conclusion of work begun in previous years. There were four major areas of work and a number of smaller topics.

The first major area is the Land Use Information Mapping Series. These maps, which are at a scale of 1:250,000, are compiled for ALUR by the Lands Directorate, Department of the Environment and summarize the most recent, available information on renewable resources and related human activities. Maps have previously been published for the Mackenzie River Valley and part of the Yukon Territory. In 1974-75 a further 17 map sheets were published to complete coverage of the Yukon. Also, field work and literature reviews were completed for 24 map sheets in the western portion of the Mackenzie District, NWT, and these sheets will be published in the summer of 1975.

A second major mapping project is the production of photomosaics depicting the sensitivity of terrain to disturbance. The mosaics are at a scale of 1:60,000 and are based on photo-interpretation of surface materials, ground ice conditions, bedrock, local topography and erosion. Mosaics for Bathurst Island and adjacent islands, Eglinton Island, southwest Ellesmere Island, west Melville Island and Prince Patrick Island were completed in 1974-75. Complementary, more detailed field studies of terrain disturbance are being carried out on the Fosheim Peninsula of Ellesmere Island and on King Christian Island. At the former site a predictive, micro-meteorological model of disturbance effects is being developed.

A third major group of studies is concerned with fire ecology, particularly plant succession following burning on the tundra, in the taiga and in the northern boreal forest zones. Studies to elucidate fire recurrence intervals, to identify fire-prone localities and the relationships between lightning-caused fires and weather patterns of air mass movement are under way in the Mackenzie Valley and the Caribou Range.

The fourth major group of projects is a study of land-based oil spills — their spread and behaviour, their effects on plants, on soil micro-organisms, and on aquatic plants and microfauna when the oil flows into waterbodies. Both field and laboratory studies are in progress. The work was undertaken on behalf of the Environmental-Social Program, Northern