

Of all who followed the explorers – whalers, prospectors, missionaries, pioneer settlers and detachments of what are now the Royal Canadian Mounted Police – the fur traders had the most early impact upon the native peoples' traditional ways of life. Whites did intermarry with the Indians, though scarcely ever with the Eskimos, and their descendants now comprise the Métis. Small settlements developed along the main waterways and a new way of life began to evolve in the Canadian North.

Today the combined population of the Yukon and Northwest Territories is 50,000, including about 10,000 Indians (most of them concentrated in the Yukon and the subarctic Mackenzie River Basin) and about 11,000 Eskimos (who are scattered in the Arctic regions where living can be very severe).

The allure of the North

The North has always fired the imagination of the adventurous and the romantic alike. Both have had their impact on the way of life in the North in the past. But today the dominant impact comes from the growing economic activity spreading its influence through the area. Particularly during the 1960s, this growth has been marked by increased exploration for and development of natural resources, minerals, oil and gas especially. At the start of the sixties, total mineral production in the two territories was valued at \$30 million annually and some \$10 million annually was being spent on oil and gas exploration, mainly in the southern regions of the North. Today mineral production is estimated at more than \$200 million annually and spending on the search for oil and gas in the vicinity of \$175 million, with prospects of a steady increase during the next decade.

The activity which has currently caught the imagination and interest of many people, and one which could have significant impact on the northern environment, is the preparation for the construction of oil-gas pipelines from the Arctic Coast to markets in the south, in Canada and the United States. This potential impact has aroused opposition from some conservationists. They are worried about the possible effects of pipeline construction on northern wildlife and fish, and on the traditional lifestyle of the native peoples.

Both the Canadian Government and the huge companies planning the pipelines have shown an unprecedented concern for these worries. It is perhaps no exaggeration to say that the approach being taken to pipeline construction in the Canadian North is as concerned with the human as with the economic values at stake. Writing about the challenge to the traditional way of life in the North raised by the intensive industrial utilization of its natural-resource base, an official of Canada's Northern Development Department, Mr. John K. Naysmith, invoked the famous essay on "Transhumanism" by British biologist Julian Huxley.

An inescapable destiny

The new understanding of the universe acquired through the new knowledge amassed during the last hundred years, Huxley wrote, has confronted man inescapably with the primary responsibility for the direction of evolution on the earth. This, argued Huxley, is man's "inescapable destiny." Certainly there is evidence that this human responsibility has been recognized in planning to build pipelines across Canada's North to an unusual, if not unique, degree.

A background paper prepared by the Northern Development Department explains this concern by pointing out that the Yukon and Northwest Territories comprise one of the last wilderness areas in North America. "Moreover, much of the natural environment of this vast region is of a uniquely fragile nature and is particularly vulnerable to serious side effects resulting from man-made disturbances," the paper noted. Another factor in this concern by government and industry alike has been the changing public attitude toward northern development, an attitude now very much concerned with the non-economic effects.

In a statement of Canadian Government policy on northern development, made by the Northern Development Minister, Mr. Jean Chrétien, in March 1972, the role of man was clearly recognized. The statement rejected as inaccurate the view of some critics that the North is currently being exploited primarily for the advantage of people in the South, while the native peoples were largely spectators, wards of a paternalistic government. "It is a vision rejected by the native peoples, who are just beginning to voice their grievances and claims in an organized way," Mr. Chrétien said.

What the government wanted in northern development was to maintain the ecological balance. But this did not mean its policy must stand against change or development. "Maintenance of the ecological balance requires recognition of the total relationship of all the elements of nature," the statement said. "Man is included in this totality and his activities must be measured and in some instances regulated to ensure that the probability of imbalance is minimized."

"No challenge in the North today is more pressing," the statement said at another point, "than the need to create employment opportunities for native Northerners."

With the aim of providing a scientific base for administering northern development, the government initiated the Arctic Land Use Research Program (ALUR) in 1970. Most of the research is being done by scientists from Canadian universities. Their reports are made public as they become available and they have been used to develop a series of northern land use regulations which came into effect in November 1971.

The range of knowledge about northern ecology is still spreading as this research continues. But the reports have already helped to identify environmental sensitivities on a section-by-section basis, to obtain

baseline data so that actual impact on the environment can be measured, and to enable the drawing of maps which show what and where these sensitivities are located in the Mackenzie valley and northern Yukon where pipeline construction is most likely to take place.

Government ready

In March of this year, Mr. Chrétien indicated that the government is ready to evaluate applications for the right to build pipelines in the North. There was no suggestion that scientists and technicians yet have all the information they would like to have; that could take ten years. But the government is confident that the research already done is sufficient to ensure that the impact on the ecology of the North, including the place of man in that ecology, now can be assessed within reasonable limits.

The government-backed research has covered a wide variety of subjects, including examinations of wildlife habitat, wildlife distribution and inventory, aquatic ecology, vegetation, terrain analysis, containment of mine wastes, effect of oil and gas exploration on the tundra environment, revegetation of disturbed areas and problems of erosion resulting from removal of forest cover in the boreal forest region. Research still going on includes how to handle Arctic oil spills and to dispose of waste from construction camps.

The government's social and environmental research program is now in its third year, at an expenditure rate of about \$5 million a year. But the companies that want to build the pipelines have also been active in this research area for several years. Their total spending on ecological and environmental research is expected to total up to \$20 million. Dozens of reports have already been issued, adding to the knowledge of the Arctic ecology, and at least 50 more are in progress.

Canadian Arctic Gas Study Ltd. is a consortium of 25 companies that hopes to build a gas pipeline out of the Arctic at an anticipated cost of \$5 billion. The chairman and chief executive officer, Mr. William Wilder, recently told a reporter that Canadian Arctic Gas learned from the experience of companies which have, up to this writing, failed to win permission to build an oil pipeline across Alaska from Prudhoe Bay. Environmentalists have obtained court orders in the U.S. that have stalled the Alaska proposal for some two years.

Environmental homework

When Canadian Arctic Gas applies for pipeline-building permission, Mr. Wilder said, "we'll have done much more work in terms of environmental studies. I think we'll have a good case against environmental criticism." The consortium has already spent several million dollars on ecology and environment research. This year 55 biologists and their technical assistants will continue collecting data on