

Bulletin

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DRAMATIC PROGRAM OF NORTHERN DEVELOPMENT

A sweeping federal program to accelerate both development and conservation in Canada's North has been outlined by Indian Affairs and Northern Development Minister Jean Chrétien.

Aimed at a balanced approach to the development and conservation of natural resources in the Far North, the program embodies northern land-use regulations, arctic land-use research (ALUR) a task force on conservation, and comprehensive trials of tracked vehicles specially designed for operating over tundra. Mr. Chrétien noted that this four-point program was in addition to the Northern Inland Waters Bill and the Arctic Seas Pollution Prevention Bill, which he recently introduced in Parliament.

REGULATIONS FOR LAND USE

Northern land-use regulations, designed to give

protection from unnecessary damage to the unique and often fragile northern environment, will be implemented under the authority of proposed amendments to the Territorial Lands Act, which Mr. Chrétien will be presenting to Parliament in the next few weeks.

The new rules require that individuals or companies wishing to carry out land-use operations on public terrain in the North must comply with conditions relating to operating techniques, the method and timing of operations, types of equipment that may be used, and so on. Specific operating guide-lines to apply in "land management" zones will be laid down, and persons or companies will be required to acquire a land-use permit to conduct operations within these zones, as well as pay fees for the use of land at a standard rate an acre affected in the course of their operations.

A working group representing the oil and gas and mining industries and national and northern conservation organizations has been directly involved in framing the regulations.

ARCTIC LAND-USE RESEARCH

In the course of developing the land-use regulations, the need for Arctic land-use research became apparent. To obtain information about the short- and long-term effects of man-made disturbance of the northern environment, several Canadian universities were asked by the Department of Indian Affairs and Northern Development in March 1969 to take part in a study aimed at developing a land-use research program for the Yukon and the Northwest Territories.

The researchers were given a list of problems and subsequently made recommendations to the Minister for the most suitable research methods and techniques for solving these problems. These studies and recommendations have developed into the Arctic Land-Use Research (ALUR) Program.

The aims of the 1970-71 ALUR program, which

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has a budget of some \$500,000, will be to investigate environmental problems associated with northern resource development and land-use operations; provide information on undisturbed northern areas; devise and test alternative resource exploration and development procedures, where it is found that present methods result in unacceptable levels of damage; make recommendations to the Department on the basis of data obtained from the research program, and to publish and disseminate information to industry, interested government departments, universities and the scientific community.

Mr. Chrétien emphasized that the ALUR program is not another source of government grants for university-based research, but will be financed on a contractual basis. Industry, (particularly mining and oil) is providing financial and logistic support to the program as well as representation on the advisory committee to the ALUR program.

CONSERVATION TASK FORCE

The third project announced by Mr. Chrétien is the formation of a task force on conservation to visit the region of the Mackenzie Delta this month. The group of conservationists and scientists will investigate current environmental problems associated with resource development in the region; suggest measures for inclusion in land-use regulations; establish priorities on problems for which long-term research is required under the ALUR program, and make a written report to the Minister.

The final point in the program is the carrying out this summer of field trials to assess the performance of modern tracked vehicles in a northern environment. The suggestion to conduct summer trials was made earlier this year by the vehicle industry in view of the Department's land-use regulations program.

It was therefore proposed, Mr. Chrétien said, to co-operate with the tracked-vehicle manufacturing and petroleum industries in trials in the area around Tuktoyaktuk during July and August. The Department will pay for the preparation of the test track, but the expenses of the trials will be borne by industry.

WATER POLLUTION

In describing measures already taken by his Department to protect the northern environment and promote its orderly development, Mr. Chrétien reviewed two primary programs to prevent pollution in waters of the Far North.

To ensure that northern waters are adequately protected, legislation now before Parliament in the form of the Northern Inland Waters Bill, C-187, and the Arctic Seas Pollution Prevention Act, C-202, provides for the comprehensive management of northern fresh-water resources, and stringent regulations governing ship design, construction, navigational procedures and aids, and pollution liability applicable to all commercial shipping operating within a specified control zone.

Mr. Chrétien also described the steps taken in two other trial areas of transportation.

Under its northern roads program, the Department has completed construction of 1,200 miles of roads in the North during the past nine years. The long-term objective is to bring roads to within 200 miles of all potential areas of resource development.

In co-operation with the Ministry of Transport, the Department of Indian Affairs and Northern Development is also engaged in a plan for the construction of ten airports in the Yukon and Northwest Territories to provide year-round contact with southern communities and amenities.

In referring to transportation problems resulting from large oil discoveries in the North, Mr. Chrétien spoke of one proposed alternative to the Arctic tanker - a pipeline route along the Mackenzie Valley to markets of the north and central United States - and said that in July last year a consortium of six companies was formed to investigate the engineering, ecological and economic feasibility of constructing a 48-inch pipeline along that route.

The study, which could take up to three years to complete and is expected to cost about \$3 million, includes a pipeline-testing operation at Inuvik.

WORLD FOOD OFFICER

Frank Shefrin of Ottawa, director of the International Liaison Service for the Canada Department of Agriculture, has been elected first vice-chairman of the Intergovernmental Committee of the World Food Program.

Mr. Shefrin headed the Canadian delegation to the meeting in New York recently of the Intergovernmental Committee, consisting of 24 nations, 12 appointed by the United Nations, 12 by the Food and Agriculture Organization.

During the meeting, Mr. Shefrin also presided over a work planning committee that conducted a general review of the WFP projects and approved 29 projects representing a total cost of \$126,603,700.

These projects use food aid to promote the development of human resources, public health programs, improved housing and public amenities, transportation and communications, agriculture and industry.

The Committee also approved a report on multi-lateral food aid, prepared in answer to a request from the United Nations General Assembly, which will be submitted to the Economic and Social Council at its forty-ninth session to be held in Geneva in July. Mr. Shefrin was a member of the seven-man team which drafted the report for the Intergovernmental Committee.

At the last pledging conference, held in New York early this year, member nations pledged about \$300 million to the WFP for 1971-72. Canada, the second largest contributor to the WFP, pledged \$30 million in food and cash.

FEDERAL FUNDS FOR NEW BRUNSWICK AND NEWFOUNDLAND

Regional Economic Expansion Minister Jean Marchand has announced the signing of economic-development agreements with the governments of New Brunswick and Newfoundland, which provide for "100 percent federal financing of a wide range of infrastructure projects" which the two provinces cannot afford to carry out themselves. These include water and sewer systems, industrial parks, the servicing of residential land, schools and roads. Federal grants will also be provided for "the construction of important sections of provincial highways".

In his statement to the House of Commons, Mr. Marchand said:

In the case of Newfoundland, the federal funds committed for the current fiscal year are \$41.2 million, of which \$31 million is in grants and \$10.2 million in loans. The projects covered by the agreements are all to be started this year, but much of the work will be continuing next year. The ceiling for total federal expenditures on the projects is \$82 million.

In the case of New Brunswick, the funds committed for the present fiscal year total \$32.5 million, of which \$22.7 million is in grants and \$9.8 million

in loans. The ceiling for federal expenditures to complete the projects is \$62 million.

I should point out that these are not my Department's only expenditures in the two provinces. In both provinces there is the ARDA program, and in Newfoundland there is also our assistance to the resettlement program. Our industrial incentives are available in both provinces but are at present more heavily utilized in New Brunswick than in Newfoundland. Also, we have in New Brunswick the two FRED plans. Thus the totals of my Department's expenditures in the two provinces in the fiscal year will be very similar.

It should be said that these agreements are very different from, say, ARDA or FRED agreements. They are not concerned just with the principles of programs, leaving projects to be worked out later. The agreements themselves list the projects in some detail, so that work can be undertaken promptly...

It can be said that never before has federal development assistance been provided on such a scale. I believe it will make an important contribution to the improvement of employment and earnings opportunities and to the lessening of regional inequalities in Canada.

HILL CEREMONIES TAKE SHAPE

The Changing of the Guard ceremonies held annually in Ottawa will begin this year on June 29 and will continue daily to Labour Day, September 7.

No regular soldiers will take part in the ceremonies this summer, all 120 guardsmen being drawn from two military units — the Governor-General's Foot Guards and the Grenadier Guards.

Last summer for the first time, reserve soldiers, mainly university students specially recruited for duty on Parliament Hill, successfully supplemented regulars. About two-thirds of the guard was militia.

The regulars were from the 2nd battalion of the Canadian Guards which, in July, will become the 3rd battalion of the Royal Canadian Regiment. The reserves will take over the entire public duty themselves, assisted by a small training staff of regular force soldiers.

Both the Governor-General's Foot Guards and the Grenadier Guards have recruited a full complement of reservists, including backup — about 90 for each unit. Again, most are university students, but this year there will be no high-school students. The majority of last year's university students will again be on duty.

The reserve soldiers started a month's training at Canadian Forces Base Petawawa on May 19. On June 15 they will move to CFB Uplands to concentrate on practice for the Parliament Hill ceremony with the National Band of the Canadian Armed Forces.

TIME FOR A CHANGE

A radio announcement familiar to most Canadians has a new format.

"The Dominion Observatory official time-signal" — first broadcast in 1923 — has become "The National Research Council official time-signal." This 1 p.m. EST official time signal — broadcast daily by the English and French networks of the Canadian Broadcasting Corporation is used to set timepieces in tens of thousands of Canadian homes and is used widely in business and industry.

The change took place with the merger recently of the Time Service of Canada of the Astronomy Division of the Dominion Observatory with NRC. Canada's time service now is the responsibility of the new Time and Frequency Section of NRC's Division of Physics.

The merger was also accompanied by the consolidation under NRC of federal research in astronomy.

The Time and Frequency Section now houses and maintains all Canada's time and frequency standards. The section is responsible for the operation of three short-wave transmitters which broadcast Canada's official time signal to all parts of the world. The stations make an English and French voice announcement of the time every minute on the minute.

The merging of the two laboratories into the new section with increased staff and facilities will form a solid base for improving Canada's time service.

ALEXANDER MACKENZIE STAMP

The Canada Post Office will issue a six-cent commemorative stamp on June 25 honouring Sir Alexander MacKenzie, the fur trader and explorer who, in 1793, was the first to cross the North American continent north of Mexico.

Born in the Outer Hebrides in 1764, MacKenzie emigrated to North America with his father in 1774. He entered the service of a fur-trading company in Montreal in 1779. When the firm was later absorbed by the North West Company in 1787, MacKenzie became a partner in the larger concern and was stationed in Athabasca.

It was during his employ there that MacKenzie embarked on his now famous explorations toward the Pacific Ocean. The first of his two journeys, which began on June 3, 1789, took him by way of the Slave River and Great Slave Lake to the Arctic Ocean and the mouth of the river that now bears his name. His second journey began at the forks of the Peace and Smoky rivers on May 9, 1793. Following a route along the rivers now known as the Peace, Parsnip, Fraser, Blackwater and Bella Coola, MacKenzie reached the tidewaters of the Pacific in July. There, on a large rock in Dean Channel, he left an inscription reading: "Alex MacKenzie from Canada by land 22^d July 1793".

The design for the MacKenzie stamp was taken from a Government Archives photo of the rock bearing this inscription. The brown, steel-engraved stamp measures 24 mm. by 40 mm. Thirty-four million stamps will be issued, printed by the Canadian Bank Note Company Limited of Ottawa.

NATIVE CULTURAL MAGAZINE

A Cree word, *Tawow*, meaning welcome, is the name of a new quarterly publication produced by the Department of Indian Affairs and Northern Development as a forum for Indian writers and poets.

In announcing the appearance of the first issue of the magazine, Indian Affairs Minister Jean Chrétien said that the Indian people now had an opportunity to express themselves through the creation of *Tawow*. Few people of Indian ancestry were acclaimed as authors, he said, and there was need to give these people a medium to express their ideas and share some of their cultural background with their fellow Canadians.

The publication is expected to help uncover the work of many talented native Canadians, to promote it and, at the same time, bring to all Canadians glimpses of Indian culture, both past and present.

In the first issue, there are articles of interest to Indian women, contributions by well known artists and by many young people. The articles cover such varied subjects as the origin of Indian place names in Cape Breton, Tahahsheena rugs in Sioux country, a dance troupe in Paris and Indian children in Ontario.

STAR-STUDY GRANT

A grant of \$538,600 has been awarded to the University of British Columbia by the National Research Council of Canada to help finance the university's newly-formed Interdepartmental Institute of Astronomy and Space Science to initiate a major research program in astronomy and astrophysics.

Subject to the availability of funds, the Vancouver institution will receive \$315,800 in 1970-71, \$144,800 in 1971-72 and \$78,000 in 1972-73. The funds will be made available under NRC's program of negotiated development grants, a type of assistance initiated by the Council in 1967 to assist universities in developing new or interdisciplinary research centers, particularly in fields relevant to the scientific, economic and resource development of Canada.

UBC scientists will work in close collaboration with the Astrophysics Branch of NRC's Radio and Electrical Engineering Division. This Branch was made responsible for the operation of the Dominion Astrophysical Observatory, Penticton, B.C., two of the major astronomical installations in Canada.

It is expected that, at the end of the three-year grant period, the funds will have provided the impetus to make the Institute a center of an integrated program of research in astrophysics and astronomy. The funds will be used primarily to engage additional research scientists and to buy special equipment.

ALBERTA ON THE MAP

The Atlas of Alberta, a joint project of the Government of Alberta and the University of Alberta, is now available after five years of preparation. The publication was designated a Canadian centennial project by the two organizations in 1967, but work was of such magnitude that it was recognized that it would not be completed that year.

The new atlas, 13 inches by 17 inches, is no mere collection of maps and is not limited to the courses of rivers, the locations of lakes and the heights of mountains. It covers natural history to meteorology, sociological considerations to natural resources inventories and industries and services to agriculture and administrative patterns.

There are 158 pages of maps - 582 single maps, 188 graphs and diagrams and eight profiles.

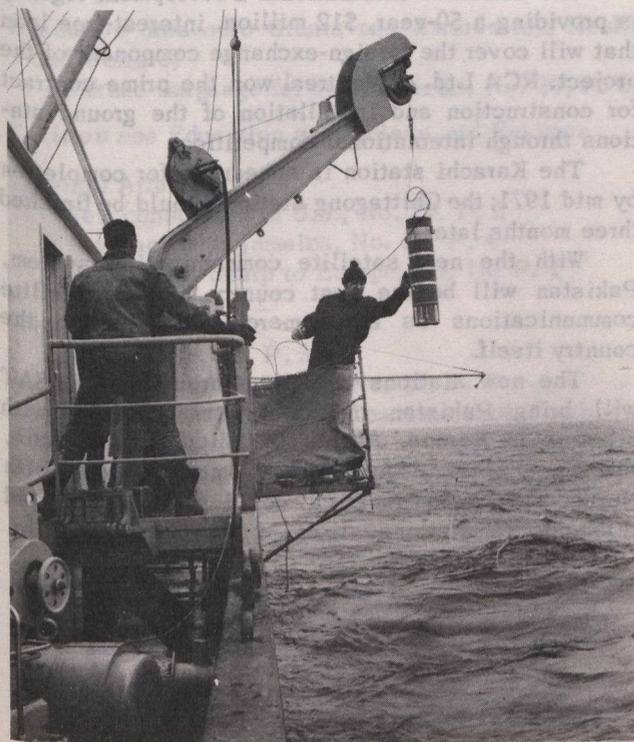
SCIENTIFIC PROTECTION OF NORTH AMERICA'S FRESH WATER

A group of Canadian Government scientists have been pursuing vital business in the waters of the Great Lakes imperilled by pollution. The men and women on the staff of the Canada Centre for Inland Waters at Burlington, Ontario, all experts in such disciplines as limnogeology and water quality, have been brought together for a vigorous campaign to arrest the misuse of fresh water, one of Canada's priceless resources.

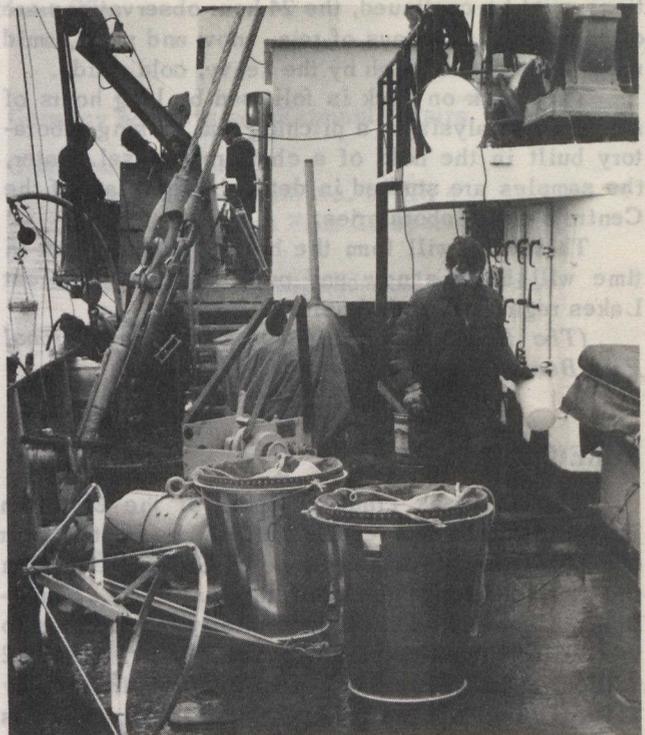
Their task is to study the physical, biological and chemical properties of fresh water, as well as its economic and engineering aspects. The effects of flood and drought are also under study, as are practical solutions to existing problems of pollution. All these avenues of research are being explored with the help of many governmental, academic and industrial agencies and institutions.

NEW HQ AND EXTRA STAFF

The staff of 150, soon to increase to 300, will number 1,000 after its move into a new \$23.5-million building complex later this year. The Centre's offices and laboratories are housed at present in a park of interconnected trailers situated in the shadow of the Burlington Skyway's centre span. Three federal departments — Energy, Mines and Resources, National Health and Welfare, and the Fisheries Research Board — have provided personnel for the Centre. Universities, industry and other groups are also involved.



Water-quality monitor is lowered into the depths of Lake Ontario during winter science cruise.



Scene on deck of M.V. Martin Karlsen at one of the scientific stations in the middle of Lake Ontario.

The choice of Burlington as the Centre's headquarters has placed this unique research group in the geographical middle of the largest body of fresh water in the world. The Great Lakes (shared by Canada and the United States as part of a common boundary and a waterway for shipping, fisheries and recreation) contain enough water to cover Canada's ten provinces and two territories — almost four million square miles — to a depth of eight feet. Depending on this enormous volume of water are many great cities and agricultural lands containing 40 million people. This industrial area may, eventually become part of a megapolis stretching from Duluth, Minnesota, past Chicago, Detroit, Toronto, Montreal to Quebec City — 1,000 miles of dense population dependant on plentiful fresh water.

The Canada Centre for Inland Waters also carries out research in other inland waters and is engaged on limnological research across the nation to British Columbia.

YEAR-ROUND PROBE

The big current inquiry, however, is in the Great Lakes, as research ships from Burlington continue their task of collecting scientific data all year round. They make regular visits to predetermined areas, taking water samples, specimens of the lake-bottom, cores of the underlying lake-bed and the organic materials floating in the water, and make a variety of other probes into the properties of the lake.

In summer, much of the work is carried out under pleasant conditions, but in winter, when the observations must be continued, the 24-hour observations are often made during days of rain, snow and sleet, amid rough seas pushed high by the heavy, cold winds.

This work on deck is followed by long hours of scientific analysis in a pitching and tossing laboratory built in the hold of a chartered vessel. Later, the samples are studied in detail by the staff of the Centre's many laboratories.

This work will form the basis of action that in time will bring a new and purer era for the Great Lakes region of North America.

(The foregoing article was based on National Film Board Photostory No. 505.)

FOREIGN TRADE

The External Trade Division of the Dominion Bureau of Statistics reports that, in the first quarter of 1970, Canada's exports rose by \$335 million from the final quarter of the previous year to \$4,217 million, seasonally adjusted at quarterly rates. Sales to the United States declined by \$74 million, to \$2,742 million in the quarter, while those to Britain rose by \$109 million, to \$368 million, and to other countries by \$300 million, to \$1,107 million.

In contrast, seasonally-adjusted imports in the first quarter of the year declined by \$49 million, to \$3,594 million, compared to those in the fourth quarter of 1969. This decline was more than accounted for by a decrease in purchases from the U.S. of \$84 million, to \$2,583 million. Imports from Britain rose marginally to \$185 million and from other countries by \$32 million, to \$826 million. As a result the favourable trade balance as a whole increased by \$384 million to \$623 million in the first quarter of 1970.

The strong showing in the first quarter of 1970 was attributable largely to countries other than the U.S., where Canada's balance of trade rose only marginally, by some \$10 million to \$159 million. The surplus with Britain rose by \$106 million, to \$183 million, and that with all other countries rose to \$281 million from \$13 million.

Divergent trends appeared among commodity groups entering into Canada's foreign trade. The most striking developments in domestic exports were the sharp increases in wheat, crude petroleum and lumber; wood pulp, newsprint and aircraft engines and parts also showed quarter-to-quarter gains. Pre-

liminary indications suggest that automobiles - Canada's largest single export to the U.S. - declined substantially in the first quarter of 1970. As a whole, the automotive industry showed a fall in exports of \$182 to \$324 million.

Among the traditional imports, the declines were widespread. Fabricated steel, non-ferrous alloys, industrial machinery, tractors, communication equipment and office machinery all showed declines in the quarter. Automotive products also declined substantially by \$147 million to \$572 million.

SATELLITES FOR PAKISTAN

Canada will finance the building of earth-satellite ground-receiving stations near Chittagong, East Pakistan and Karachi, West Pakistan. The two stations will transmit and receive communications through the new International Telecommunications Satellite Consortium (INTELSAT) satellite, which is in geosynchronous orbit over the Indian Ocean. They will be able to receive simultaneous multi-message communications from ten countries and will also improve communications between East and West Pakistan. At present, the telegraph and telephone services between the two parts of the country are conducted by high-frequency radio systems operating from Chittagong and Dacca in the east to Karachi and Rawalpindi in the west. Thus the ground stations-to-satellite system will help overcome a major communications bottleneck.

The Canadian International Development Agency is providing a 50-year, \$12 million, interest-free loan that will cover the foreign-exchange component of the project. RCA Ltd. of Montreal won the prime contract for construction and installation of the ground stations through international competition.

The Karachi station is scheduled for completion by mid 1971; the Chittagong station should be finished three months later.

With the new satellite communication system, Pakistan will be the first country to use satellite communications as a commercial link within the country itself.

The new stations operating through INTELSAT will bring Pakistan in direct communication with stations in Europe, Africa, the Middle East, Asia, the Far East and Australia. Communications with North and South America could also be relayed through other stations.

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