

# Bulletin

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## FEDERAL SUPPORT FOR SUMMER YOUTH PROGRAMS

The Prime Minister has announced that the Federal Government will spend \$57.8 million to provide work and travel opportunities for some 990,000 high-school and university students who will be seeking jobs this summer. This program, the product of consultation with the provinces and with private organizations, will be co-ordinated by the Secretary of State, Mr. Gérard Pelletier.

### RANGE OF ACTIVITIES

An amount of \$15 million has been allocated to voluntary organizations and citizens to finance "Opportunities for Youth", a plan intended to prompt communities to suggest and operate useful and imaginative projects of community research, urban redevelopment, and clean-up and anti-pollution campaigns.

To assist young travellers, the Government has allocated \$1,153,000 to a program for transient youth, which will provide up to 200,000 bed-nights in a coast-to-coast network of hostels. The Department of Secretary of State, in co-operation with provincial

and municipal governments and local organizations, will establish some 50 roadside kiosks to serve as information centres and safe hitch-hiking depots for youthful travellers. Financial and technical assistance to community initiatives in order to assure local participation will be given by the Federal Government.

### TRAVEL AND LANGUAGE TRAINING

Another \$3,775,000 has been set aside to support four organized group-travel programs involving about 35,000 students. This represents a substantial increase over funds spent on similar programs last year. Two of the projects involve travel in Canada and two involve international travel.

The "Young Voyageurs" program, a joint federal-provincial operation, expects to send about 4,200 Grade 11 and 12 students on interprovincial visits. Under the second program, funds have been created to assist voluntary organizations and youth groups to hold seminars, study groups, and exchange projects involving interprovincial travel. These grants, given mainly to defray transportation costs, will make it possible for 25,000 young people to travel under this program.

Two international travel programs have been established that will involve about 5,500 students. One will provide financial assistance to voluntary groups organizing travel and exchange programs; the other is directed principally to French-speaking students for study in France.

The Government is allocating \$1.5 million for language training, which will give some 2,500 students an opportunity to follow summer courses in French or English, an increase of about 1,400 over those taking part in similar studies last summer.

### EDUCATION AND HEALTH

A \$1-million plan of educational grants to Canadian student-athletes is part of a National Health and

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Welfare Department program to employ or otherwise involve in activities an estimated 2,000 students at a cost of about \$3 million. Individual awards will range up to \$2,000 in value.

Over 600 young Canadians are expected to benefit from the educational-grant program; another 700 will be involved in studies and surveys related to drug abuse; and the remaining students will work on various health and welfare programs across Canada.

It is also proposed to hold a clinic for student-athletes in the Atlantic Provinces, which would provide concentrated training in several sports over a period of four to six weeks. Participants will receive living and travel allowances and an educational grant.

Some 150 students will be involved in a facility-study under the Fitness and Amateur Sport Directorate. This would begin one of the major recommendations of the Task Force Report on Sport For Canadians. A total of \$220,000 has been allocated for the study this year.

For the first time in Canadian history, the facility-study, will examine such things as the quality of existing facilities, how much they are being used and by whom, non-use and leadership availability. An attempt will be made to determine what is happening with available facilities, analyze it in relation to what should be happening, and thereby learn how the gap and consequent level of dissatisfaction might be narrowed.

In consideration of the 1976 Montreal Olympics, the study will give priority to looking at facilities related to Olympic sports.

A drug-abuse program will involve 700 students, some of whom will be used as interviewers in sociological survey work related to the drug-addiction problem. Others will be active in education and information programs related to the non-medical use of drugs. The main objective is to provide a system of information from youth during the summer, as a basis for ongoing programs throughout the year. It is estimated that this part of the Department's program will cost \$980,000.

#### MILITIA TRAINING

Militia training and work projects at Canadian Forces bases will be provided by the Department of National Defence. Between 6,000 and 8,000 young people will be accepted for special militia training and another 3,000 to 4,000 will be hired for a range of civilian employment. In addition to the special militia training, 7,000 soldiers involved in the normal militia program will attend summer camps.

This year's special summer militia program will consist of two types of course. In one seven-week course, young men between 16 and 24 years of age will be accepted. Three weeks of general military training will be followed by three weeks of a modified infantry program at local armouries. The course will

conclude with one week at a summer militia camp for weapons-training and simple field exercises.

The other course is designed for those who took basic training under last year's plan, and serving militia soldiers who are in the same age bracket. The seven weeks of training, to be conducted at training centres and bases, will consist of a leadership course based on junior non-commissioned-officer standards followed by adventure training.

Successful applicants will be enrolled as privates and will get \$7 a day while on basic training and \$7.50 a day after completing the basic training. They will have the same status as other members of the militia, with the opportunity to serve after summer training if they wish.

In addition, the Department will hire young men, aged 17 to 24, for range-clearance projects at several Canadian Forces bases for at least eight weeks.

In a new scheme this year, the Defence Department will provide an opportunity for some 2,000 young people between 16 and 24 years of age to receive six weeks of instruction at Mobile Command bases across Canada, in first aid, hunter safety, bush survival, search and rescue, water safety, watermanship, citizenship, adventure training, leadership and instructional techniques.

Prime Minister Trudeau, in announcing the summer activities to the House of Commons last month, summarized as follows the Government's views on summer youth programs to be implemented this year:

"The Government expects a valuable return on the resources it will allocate this summer, and it believes that other governments, private organizations and businesses hold out the same expectation. There is work to be done; there are tasks to be performed; there are experiences to be gained. There is a whole country to be explored. There is a generation desirous of improving the world in which it finds itself. This summer will challenge us all to accomplish these ends."

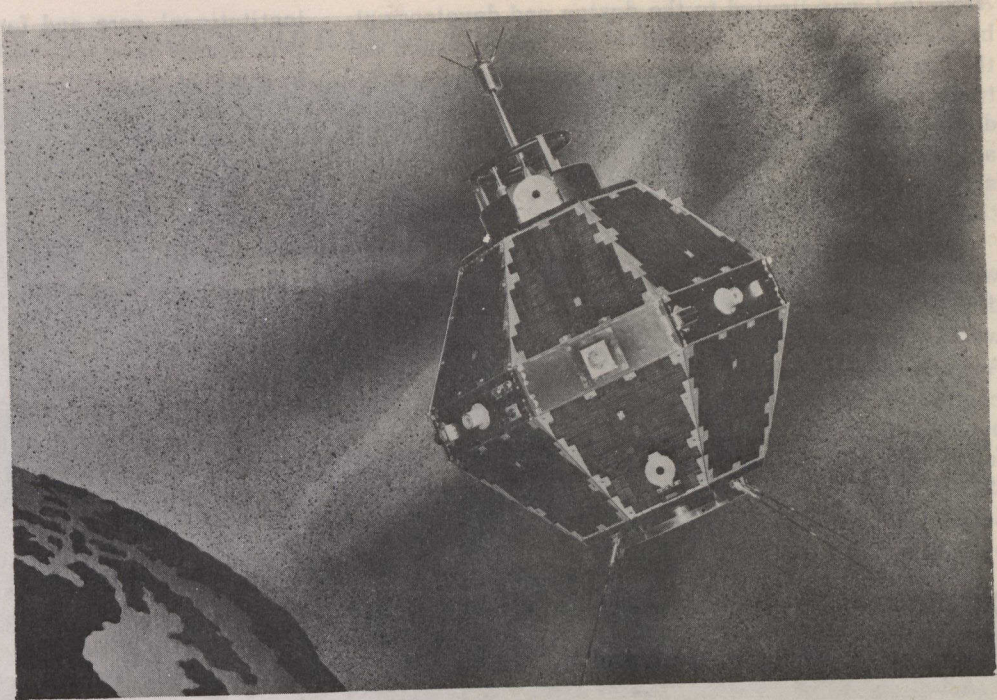
#### DENTAL ASSOCIATION GRANT

A national health grant of \$13,000 for the Canadian Dental Association was announced recently by Mr. John Munro, Minister of National Health and Welfare, to continue and conclude a survey of dental practice in Canada.

Background information on the training and employment of dentists, the incomes of dental personnel, dentists' expenses and fees, the implications of group practice dentistry, factors influencing the recent graduate's selection of the location of a practice and the cost of dental education and establishment of a practice will be analyzed.

The results of the survey will help governments and health agencies plan the provision and distribution of dental services.

CANADA'S  
FOURTH  
SATELLITE  
ALOFT



Canada's ISIS-II satellite

The Minister of Communications, Mr. Eric Kierans, and a Canadian delegation of Parliamentarians and senior civil servants, were present at the launching of Canada's fourth satellite, *ISIS-II*, on March 31. The 582-pound satellite, designed and built in Canada was launched from the Western Test Range of the National Aeronautical and Space Administration (NASA) in California.

*ISIS-II*, the most advanced spacecraft yet developed for studying the ionosphere, is the third satellite in a joint program of the Canadian Department of Communications and the NASA of the United States. The total program, which envisaged up to four Canadian-built satellites, was begun by the Defence Research Board but was later transferred to the Department of Communications when it was created in 1969. The experiments in the satellites, and the orbits in which they operate, have been planned to complement one another; they will be compared in detail.

*ISIS II* carries 12 experiments to investigate the ionosphere — more than any flown by a single satellite in this program. Eight of the experiments were provided by the DOC's Communications Research Centre, the National Research Council and the Universities of Calgary, Western Ontario and York. The other four experiments were provided by the NASA Goddard Space Flight Centre and the University of Texas.

The Canadian satellite was launched by a three-stage, thrust-augmented *Delta* rocket into a circular, near-polar orbit 1,400 kilometers above the earth, at an inclination of 88.7 degrees, with a period of 114 minutes. The three earlier Canadian satellites, *Alouette I* and *Alouette II* and *ISIS I*, were placed in

near-polar orbits from the same launching-site and are still operating. *Alouette I*, launched in 1962, is the oldest operational satellite orbiting the earth.

The NASA world-wide STADAN tracking network will track *ISIS-II* as it has the earlier satellites. This support will be augmented by stations operated by Canada, Britain, France, Norway, Japan, India, Australia and New Zealand. Data obtained from the satellites is also related to ground-based scientific research carried on by these nations throughout the world.

#### NATURE OF THE IONOSPHERE

The ionized atmosphere extends upward from about 50 miles above the earth and is created largely by solar ultra-violet radiation that strikes the neutral air-molecule, causing them to split into electrically-charged ions and electrons. These charged particles form an electrical conductor capable of reflecting radiowaves, making possible radio-transmissions over long distances on the earth's surface. Canada is particularly dependent on the ionospheric reflection for short-wave radio communications in its northern regions. The electron density varies in altitude and amount of ionization with the time of day, the degree of solar activity, the season of the year and geographical location.

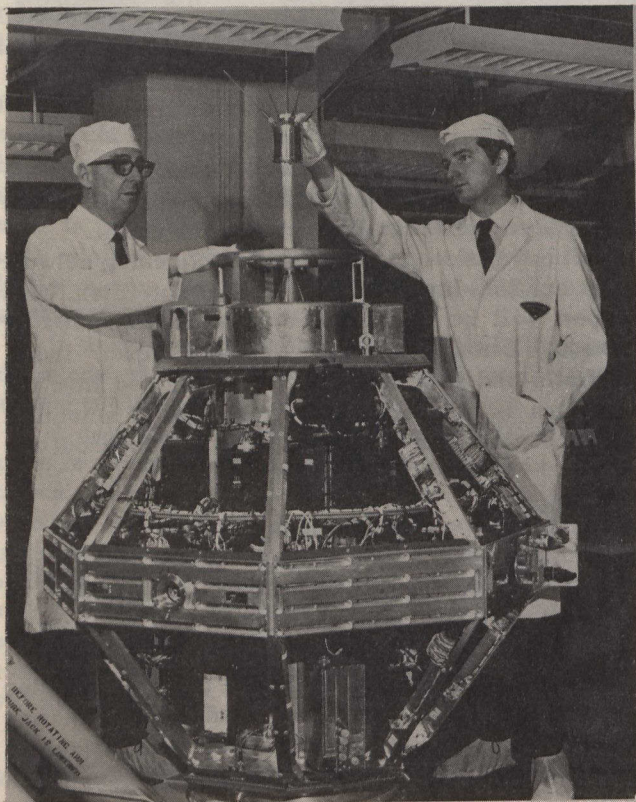
#### BENEFITS TO INDUSTRY

Apart from the immense scientific value of the *Alouette* and *ISIS* satellites, the Canadian program has been responsible for developing within the Canadian industry a base of knowledge in the design and manufacture of spacecraft and components.

Industrial participation in the construction of

*Alouette I* was limited to the design and development by Canadian industry of various components such as the extendible tubular antennae and the telemetry transmitters. The *Alouette II* program, however, was deliberately organized to transfer to industry as soon as possible the spacecraft design and management skills that had been acquired by Government scientists when they built *Alouette I*.

The success of this policy was demonstrated when, in 1964, a prime contract for the management, design, manufacture and test of the *ISIS I* spacecraft was awarded to RCA Limited of Montreal, with SPAR Aerospace Products of Toronto, named as associate contractor for work principally on the mechanical aspects of the design. *ISIS I* has operated successfully in orbit since its launch in January 1969. *ISIS-II* has also been built and tested at RCA, with several of the mechanical sub-systems being handled by SPAR.



*ISIS-II assembly*

### TREATMENT FACILITY EXPANDS

Mitchell House, the first family-development home for emotionally disturbed children, situated in the Town of Mount Royal, Quebec, has doubled its size with the opening of a new building after one year of successful operation.

Opening of the new section, a modern duplex adjoining the original building, marks completion of the pioneering project — a “halfway house” between

institutional care and family life, for children. The twin homes have both been purchased for the project by the St. Laurent-Mount Royal Rotary and completely furnished by the Jewish Junior Welfare League, for operation by Douglas Hospital, Children’s Services. William Murphy, Rotary president, and Mrs. Libby Shiller, president of the JJWL, presented the keys to Dr. H.B. Durost, Executive Director and Dr. S.J. Shamsie, Director of Children’s Services, Douglas Hospital, at a special luncheon recently.

Fifteen children have passed through the original house during the past year and have been placed in foster homes or with their own relatives. Many attended schools in the community and one adolescent obtained employment while living at Mitchell House.

The first section of Mitchell House will now be kept for children from eight to 13 years of age and the new section will house boys from 14 to 18. Each section has its own set of “house parents”. Dr. Shamsie says there is a great need for facilities like Mitchell House, particularly for adolescent boys, and these will be accepted from other hospital psychiatric units as well as from Douglas Hospital. After hospital treatment, emotionally disturbed youngsters require a period of adjustment, he said.

### MAPLE LEAF STAMPS

Twenty-six million copies of a stamp celebrating the maple-tree in spring, which will be issued on April 14, introduces the first issue of a series called “Maple Leaf in Four Seasons”. Designed by Alma Duncan of Galetta, Ontario, the six-cent stamp shows two of the maple’s winged seeds poised among blades of grass. The five-colour stamp measures 24 mm by 20 mm.

The maple leaf has been associated with Canada since the seventeenth century. Its formal recognition as an emblem began in 1968, when it appeared in the coats of arms granted by Queen Victoria to the new provinces of Quebec and Ontario. The Canadian coat of arms, authorized in 1921, included a similar sprig of leaves as a distinctly Canadian symbol. Today Canada’s national flag bears the stylized red maple leaf in the centre.

Maple syrup and sugar are manufactured from the sap of the maple which is grown only in North America. The production of maple-syrup, principally in the provinces of Nova Scotia, New Brunswick, Quebec and Ontario, has a yearly value of between \$10 to \$15 million.



## NEW BRIDGE COMMEMORATES PIERRE LAPORTE



*The new Pierre-Laporte Bridge, which spans the St. Lawrence between the municipalities at Bernières and Sainte Foy, Quebec, contrasts sharply with the old bridge 650 feet downstream.*

Quebec Film Bureau

A bridge that was opened last November at Quebec City, and was to be named after Count Frontenac, has been called the Pierre-Laporte Bridge by a decision of the Quebec government, in memory of the former Quebec Minister of Labour, Manpower and Immigration, who was assassinated in October by terrorists.

The new structure, with its clean lines and much wider roadway and access routes, presents a striking contrast to the ponderous steel cantilever bridge, 650 feet away, erected 53 years ago.

The new 2,190-foot suspended structure is the longest bridge in Canada. Its six lanes have a capacity of 90,000 vehicles a day, compared to 17,500 for the old bridge. It is one of the major links in Quebec city's network of roads, since it provides a direct and rapid connection between the two circular routes of the urban area. After the Lafontaine bridge-tunnel at Montreal and the bridge at Trois-Rivières, the Pierre-Laporte Bridge is the third roadway crossing the St. Lawrence to be built in the last three-and-a-half years.

The three structures cost \$200 million, of which some \$60 million was spent on the latest one.

This product of Quebec engineering includes a technical innovation: it is the first suspension bridge in Canada to use cables of parallel strands. The access routes on both shores consist of at least 23 structures and have a total length of nearly 2 miles. The lighting system of the north interchange is the only one of its kind in Canada. It consists of eight 100-foot towers, each topped with a 17-foot diameter circular roof and diffusing a uniform light. Light intensity is controlled by a photoelectric cell.



Quebec Film Bureau

*The two towers resting on the river piers rise to a height of 402 feet.*

## STOL AIRCRAFT FOR FORCES

The federal Department of Supply and Services is purchasing eight light-transport aircraft valued at \$4.56 million, for the Department of National Defence. Delivery will start in May and will be completed in August.

The DHC-6 *Twin Otter* aircraft, manufactured by de Havilland Aircraft of Canada, Toronto, will be used primarily in the search-and-rescue and utility-transport roles and in support of the northern operations of the Canadian Forces.

Two of the new aircraft will be based at Canadian Forces Base Namao, Alberta and four at CFB Trenton, Ontario. Five will replace search-and-rescue *Dakotas*, while the sixth, based at Trenton, will be assigned to support United Nations operations replacing an existing *Caribou*. The two remaining *Twin Otter* planes will be based at Yellowknife, Northwest Territories in support of the newly-formed Northern Region headquarters.

The *Twin Otter* is a two-engined, light STOL (short take-off and landing) utility-transport aircraft capable of carrying up to 20 passengers or almost 5,000 pounds of cargo. It is powered by two PT6A-27 turboprop engines, designed and built by United Aircraft of Canada, Longueuil, Quebec. The *Twin Otter* can operate on wheels, skis or floats, as required.

## POLLUTED PRECIPITATION

Rain and snow in the area of the Great Lakes may have higher concentrations of certain heavy metals than is permitted by Canada's Raw Drinking Water Standards, according to the initial results of a new survey program being conducted by the Canada Centre for Inland Waters. In addition, atmospheric precipitation seems to be contributing 5 to 10 per cent of the total "nutrient input" of nitrogen and phosphorus to Lakes Erie and Ontario.

The program is part of a long-term effort to assess the contribution of rain, snow and dust to the pollution of the Great Lakes. Officials of the Centre emphasize that, because of wide fluctuations in the results from individual samples, it will be at least three years before a reliable assessment can be made and trends can be evaluated. Meanwhile, scientists say that the levels of heavy-metal concentration in the lakes are well below permissible levels.

## LEVELS OF CONTAMINATION

The metals under study are lead, copper, zinc, iron and cadmium, concentrations of which show wide variations, with high levels occasionally occurring. In the Toronto-Hamilton area, lead concentrations were higher than in the rest of the sampling area; a

sampling-station on Toronto Island averaged 65-70 parts in a billion (ppb), compared to the maximum of 50 ppb acceptable under the Raw Drinking Water Standards.

Cadmium concentrations average 18 ppb near Guelph, while the maximum permissible level is 10 ppb. Concentrations of the other heavy metals, however, were found to be well below the maximum permissible levels. Initial sampling of mercury in rain at Burlington indicated only very low levels of contamination.

Some of the metals in question – for example zinc – are essential nutrients in plants and animals, including humans, and in low concentrations in rain are probably an important source of nutrients for the "eco-system".

With regard, however, to heavy metals in general, if further sampling confirms the initial data the fact that they exceed, in all cases, the desirable levels of the Raw Drinking Water Standards could justify some concern. Officials stress the fact that ordinary drinking-water supplies are safe, though people who collect and drink rainwater may have reason for caution.

Commenting on the results of the CCIW survey Mr. Jack Davis, Minister of Fisheries and Forestry, said that the preliminary data indicated the importance of increasing programs to monitor all sources of pollution. Further studies will involve assessment of the sources of the nutrients and undesirable metals in precipitation.

"This is a very vivid illustration," Mr. Davis declared, "of the importance of having a close relation between air and water pollution research and control programs, which will be made possible by the Government's action to form the new Department of the Environment."

## CATTLE FOR BRAZIL

A group of leading Brazilian cattle-breeders on a recent two-week visit to Canada purchased two plane-loads – 80 head – of Holstein Friesian dairy cattle for \$200,000. As guests of the Department of Industry, Trade and Commerce, the dairy cattle mission visited farms in southwestern Ontario and the Royal Winter Fair, Toronto, where they bought \$25,000-worth of livestock. The cattle were to be flown from Toronto in DC8 jets.

The five-man mission came to Canada to see at first hand Canadian capabilities in the supplying of frozen semen as well as purebred cattle. The Brazilians hope that, by cross-breeding Holstein Friesians with their native Zebu cattle, a stock will be produced possessing as well as the milk-producing qualities of the Canadian cattle, the Zebu's resistance to tropical conditions.