



# Bulletin

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## NATIONAL RESEARCH COUNCIL AND EXTERNAL RELATIONS

Since the National Research Council has a very broad mandate in the field of science and technology in Canada, it maintains close contact with the scientific and technological community both in Canada and abroad. This contact is assured through a wide variety of mechanisms, both formal and informal, at different levels within the organization.

The Council itself, whose membership is drawn from a variety of disciplines, geographic regions, and economic sectors, forms one very important formal mechanism for interaction at the policy-making level. At the other end of the spectrum, the day-to-day work of both the scientists and engineers in the laboratories, and the personnel charged with the administration of the extramural activities of the National Research Council, brings them into contact with a wide representation from the scientific and technological community.

### ASSOCIATE COMMITTEES

Since 1917, the National Research Council of Canada has used its associate committees as instru-

ments for studying, co-ordinating, and promoting research on problems of national concern, and for Canadian participation in international scientific programs, such as the International Geophysical year 1957, International Hydrological Decade, and International Biological Program.

The term "associate committee" was used to indicate a close relation with the National Research Council of Canada itself. Committee members are drawn from the university, industrial and governmental sectors of the national scientific community, and are chosen, by virtue of their knowledge and experience, for the contribution they can make to the particular work assigned to the committee.

A committee may concern itself with an immediate or short-term problem, or it may have a continuing responsibility in a particular area of science or engineering. Many of the problems assigned to committees are interdisciplinary in nature requiring the contribution of experts in a number of scientific disciplines.

During 1969-70, four associate committees reported that their purposes had been fulfilled, and accordingly were terminated. These included the Committees on Radiation Biology, Biophysics, High Polymer Research, and Gearing Research. The forums that were provided by these committees now are supported in the form of conferences or seminars by the National Research Council and by scientific and professional organizations.

Another group of committees which had long historical connections with NRC was transferred to the Canada Department of Agriculture on April 1, 1969. The progenitors of these committees (Grain Research, Plant Breeding, Plant Diseases and Animal Nutrition) were amongst the earliest established by the Council, which at one time, were known as Joint Committees of the National Research Council of Canada and the Department of Agriculture.

While some committees are terminated, having achieved their purposes, and others are handed over to more appropriate organizations, the definition of

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new problems or new needs brought on by the evolution of science and technology and their role in the social and economic life of Canada, leads to proposals for new associate committees. One, which was authorized in 1968-69, on Instructional Technology, held its inaugural meeting during 1969.

#### COMMITTEE ON ENVIRONMENTAL QUALITY

A proposal for an associate committee to collate and publish an integrated set of scientific criteria for environmental quality was formulated in 1969-70. This committee will replace the Associate Committee on Water Pollution Research, formed in 1965, whose terms of reference and activities were no longer adequate or appropriate in view of a rapid evolution in the field of environmental quality.

The new committee will not be involved in the setting of standards for pollutant emissions or for the enforcement of such standards. These will continue to be the functions of those departments of federal, provincial or municipal governments having the appropriate legislative powers. What the committee will do, is to provide a scientific reference base for those who must set and enforce standards. This reference base will take the form of an integrated set of quantitative criteria, based on the most up-to-date scientific evidence, which will make possible an evaluation and prescription of the quality of the environment with respect to different pollutants and for all uses of the environment. It will include not only those pollutants which have a direct effect on man, but also those which have an indirect effect through their influence on plant or animal life.

The organization and procedures to be adopted for this purpose are based on those used for the publication of the National Building Code. It is felt that the task of this committee is of great importance, and will be a continuing one. As was the case with the National Building Code, it will no doubt take several years for the associate committee to produce a reasonably comprehensive set of criteria, and these will have to be revised and updated regularly as new knowledge becomes available.

As an additional aid to the work of the committee and its secretariat, as well as to fulfill a growing need in Canada, a documentation and information centre on the scientific and technological aspects of environmental quality will be established within the framework of the scientific and technological information dissemination activities of the National Research Council.

#### INTERNATIONAL RELATIONS

At the international level, the National Research Council serves the Canadian scientific community and the Canadian Government with respect to international scientific activities in three different areas. These are: (i) scientific exchanges with foreign countries; (ii) Canadian participation in international

scientific unions and organizations; and (iii) scientific organizations of intergovernmental organizations.

Currently the Council administers formal scientific exchange agreements with a number of other countries: the Soviet Union, France, Czechoslovakia and Brazil. In general, these provide for two categories of exchanges: (a) visits of up to one month by eminent scientists to give lectures and conduct seminars, and in turn, to learn of research being done in the scientific institutions visited; and (b) visits by research workers for periods of up to one year for the purpose of conducting research in a scientific establishment of the receiving country. Selection of candidates from among interested applicants for these exchanges is made each year by a committee of eminent Canadian scientists. The International Relations Office makes the necessary arrangements for accommodation and internal travel for foreign scientists coming to Canada under these exchange agreements.

Although science is not supposed to have national boundaries, cultural and political impediments do exist. The system of scientific exchanges has done much to overcome these and to foster better understanding between countries. Canadian science has benefited in many ways through exchange of information, personal contacts, and opportunities to engage in research at the working level.

#### RESEARCH ASSOCIATES

The Council also is responsible for the administration of a program of research associateships funded by the Canadian International Development Agency. This is a program under which scientists from developing countries who previously studied in Canadian research centres, spend three months each year for a period of three years, doing research in Canada in a field of work which can be of particular benefit to their own country. An applicant must meet several conditions, one of which is the assurance given by the sending country that between his stays in Canada he will be employed in an institution where he can put to value the result of his research in Canada. Up to 25 associateships may be active at the same time. Initiated in 1969, 11 CIDA-NRC research associateships were awarded up to January 1970. They are designed to help overcome the isolation felt by researchers and to help reduce the "brain drain" from developing countries, as well as assisting them in establishing relevant and viable indigenous research activity.

The National Research Council is the national body adhering to international scientific unions in many scientific disciplines. For that purpose, it has created a number of national committees for international scientific unions which are responsible for advising Council of the desirable degree of Canadian participation in the activities of their respective international union. The committees also recommend the official Canadian representation to international

# NEW UNIFORMS FOR CANADIAN ARMED FORCES



The new green uniform for women of the Canadian Armed Forces. Shown above is the dress of a lieutenant in the navy.



Left to right: an air force sergeant, an army captain and a leading seaman wearing the new uniform of the Canadian Armed Forces.

Some 20,000 Canadian servicemen have received their new green uniform since outfitting began last summer. Conversion from the old-style uniform should be completed early in 1972.

Soldiers and airmen serving in Germany with Canada's NATO contingent — a mechanized brigade and an air division — started to receive their new uniforms this summer, and it is expected that all Canadian servicemen in Europe will have been re-outfitted by October.

Nineteen units stationed in Eastern Canada, including those in the Ottawa area, will make the change during the autumn and winter of next year.

Former uniforms of the three services (left to right): an able seaman in the Royal Canadian Navy, a lance corporal in the Women's Army Corps, a leading aircraftman in the Royal Canadian Air Force, an able seaman in the Women's Royal Canadian Naval Service, a lance corporal in the Royal Canadian Army and a leading airwoman in the RCAF.



## MACKENZIE DELTA TASK FORCE REPORT

Some of the key recommendations of the Mackenzie Delta task force on conservation are already being implemented, the Minister of Indian Affairs and Northern Development, Mr. Jean Chrétien, said recently. The report, as presented to the Department, was released by the Minister at the end of June.

The ten-man task force, composed of conservation, university and industry representatives, was commissioned by the Minister to report on the possibility of environmental disturbances arising from industrial development in the North — especially from oil and gas geophysical and drilling operations.

Compiled after a five-day inspection tour of the Northwest Territories region last month, the report indicates that "development and conservation interests need not be diametrically opposed to each other but can work together to their mutual benefit and to the benefit of all Canadians".

The group reported some damage to the environment but concluded tentatively that it was slight. Further inspection trips will be needed to study the environment at different seasons. The group did report, however, that the representatives of oil companies in the area were aware of the need to consider environmental aspects, and opined that "frank dialogue" with industry would go a long way toward solving problems.

Mr. Chrétien said that field organizations were already being developed to administer and enforce proposed land-use regulations in areas of industrial activity. The regulations, to be made in accordance with amendments to the Territorial Lands Act, will be promulgated as soon as possible, he added. As the task force suggests, the regulations will be continually under review, "and will be subject to change in the light of information received from the task force...or from other sources".

The Department's land-use staff also will take on the job of identifying and protecting "special reserve" areas which have particular ecological, biological, archeological, geographical, geological or historical importance that should be left undisturbed.

### SECOND TRIP SOON

The task force report stated that the timing of the trip was such that a follow-up inspection trip would be necessary this summer to observe the effect of winter operations on the land after the ground surface had thawed.

Mr. Chrétien agreed, and said that departmental officials were preparing for another trip and that the "willing participation of natural scientists in the task force has served to demonstrate to industry the very real assistance they can obtain from this group in the execution of their own economically-oriented endeavours".

In announcing the programs for the maintenance of the environment, Mr. Chrétien said development of

the North "must not leave behind it a trail of unsightly scars". He stressed that regulations to protect the environment "would not be so stringent as to discourage industry and developers in the North". And, according to the task force report, the oil companies are making "considerable efforts in adapting their operations to Northern conditions in the interests of good conservation practices".

Formation of the Mackenzie Delta task force was announced by Mr. Chrétien in May, as part of a four-point program on Northern conservation which includes: a \$500,000-Arctic Land Use Research (ALUR) Program; Northern Land Use Regulations; and Summer Trials of Track Vehicles.

## SYMPOSIUM ON DRUG USERS

National Health and Welfare Minister John Munro has announced approval of a \$15,000-Federal Government grant to the Canadian Hospital Association to support a national symposium on hospital handling of drug-users.

"The proposal...to hold this symposium has considerable merit and is most timely," Mr. Munro said. The Department of National Health and Welfare is pleased to assist the Association in this endeavour.

"I should hope the symposium would try to examine the problems of drug users within the total context of the situation, and that health agencies outside the hospital field be invited to participate in the program."

The problems faced by hospitals trying to deal with cases of drug intoxication and addiction will be examined in papers and group studies. It is hoped that hospital policies, methods and routines for understanding, handling and treating drug addicts — particularly the youth group users — will be established.

The place and date of the symposium have not yet been announced.

## AGRICULTURE POLICY

Canadian agriculture has six basic policy alternatives or combinations of alternatives to choose from, says Dr. Glenn Purnell, Director General of the Canada Department of Agriculture's Economics Branch.

These are: to balance resources within agriculture and to balance total agricultural resources with the rest of the economy; to stabilize farm family income; to equalize income within agriculture; to provide a safe, adequate supply of wholesome, high-quality food to meet the total demand of the domestic and foreign market and foreign aid commitments of Canada; to withdraw controls at all levels and allow a free market economy to operate in agriculture; and to include agriculture in the general policy fight against inflation.

## CARIBBEAN SUGAR MISSION

The Secretary of State for External Affairs, Mr. Mitchell Sharp, recently announced that Senator Paul Martin had agreed to undertake a special mission to the Commonwealth Caribbean on behalf of the Government of Canada. The intention of the Government to send a mission to the region was transmitted to the Commonwealth Caribbean on June 23 by Prime Minister Trudeau in a message to the Caribbean Free Trade Association (CARIFTA) Council of Ministers meeting in Georgetown, Guyana. The message also expressed the willingness of the Canadian Government to extend for the calendar year 1970 the rebate to the region of the 29 cents a hundred pounds tariff collected by Canada on raw sugar imported from the Commonwealth Caribbean. The purpose of the mission is to consult the various countries on the extension of the rebate, the introduction of a special \$5-million regional agricultural development fund and other matters of bilateral concern.

The timing of the mission and its schedule of visits will be the subject of consultation with the various governments concerned.

## LESS NOXIOUS CIGARETTES?

A reduction in the tar and nicotine levels of many cigarettes is recorded in the latest report of the Department of National Health and Welfare, released recently by the Minister, John Munro.

"Lower levels in many of 91 types tested were noted among the non-filter as well as filter cigarettes of various sizes," Mr. Munro said, comparing the latest report with those made in May and December 1969. "Some types show progressive reductions over the period covered by the three tests. Results indicate that tar and nicotine reductions are feasible."

Seventeen types of Canadian cigarette showed reductions in tar levels of three or more milligrams. Some cigarettes introduced recently were found to have moderately low levels of tar and nicotine.

The Minister again observed that lower levels of tar and nicotine were found most consistently among filter cigarettes of shorter length - regular and compact size.

"However, we know of no safe cigarette and it is my Department's position that by far the best measure is to stop smoking completely," Mr. Munro said.

The Department cautions smokers to watch their daily consumption of cigarettes if they switch to low-tar brands. If they smoke more they may increase rather than decrease their exposure to smoke contents.

The tar-nicotine studies are carried out by Dr. W.F. Forbes and Dr. J.C. Robinson of the University of Waterloo. Cigarette samples were collected across Canada during last February and March.

## IMMIGRANT OCCUPATION STUDY

A pilot survey of selected occupations now being conducted by the Department of Manpower and Immigration will pinpoint the extent to which various provincial licensing bodies have accepted foreign qualifications, Manpower and Immigration Minister Allan J. MacEachen announced recently. A report on Ontario's requirements for entry into various professions and trades will be published this autumn with similar results for Quebec expected in 1971. The study will eventually be extended to all provinces.

It is expected to show that, while some immigrants have little difficulty in meeting Canadian requirements, others must return to school or take on-the-job training.

Ten occupational groups have been chosen for the study - accountants, architects, registered nurses, professional engineers, elementary school teachers, auto-mechanics, electricians, plumbers, machinists and bricklayers. These are among the most common occupations for immigrants.

Profiles describing educational apprenticeship and technical requirements of occupations in Britain, France, Greece and India, distributed to licensing officials in Ontario and Quebec, should assist in developing more dependable licensing examinations for immigrant workers.

Some 2,000 immigrants in Ontario, and a similar number in Quebec, will be asked by questionnaire what problems they have faced, and the effect these experiences have had on their successful settlement in Canada. The sample survey is being carried out in co-operation with the two provinces and has obtained substantial support from provincial associations.

The final phase of the study will estimate the loss to the Canadian economy caused by undue delay, complete or partial non-recognition of qualifications of immigrant workers - factors which result in some newcomers returning to their country of origin.

## SPORTS HALL OF FAME FOR FORCES

The Canadian Forces Sports Hall of Fame, which was established recently, will be housed temporarily in the National War Museum in Ottawa. It is expected that a permanent home will be chosen within the next few years.

Six service athletes may be elected annually to the Hall, three from before 1939 and three from that year to the present day.

There are four areas of eligibility: serving or ex-service personnel who have won gold medals in Olympic, British or Pan-American games competition, who have won a world championship, who have brought fame to the Forces through athletic endeavour, or who have contributed to service sports as promoters, coaches or officials.

A service hockey team, the 1948 Olympic and world champion RCAF Flyers and Pan-American gymnast Sergeant Wilhem F. Weiler, a Forces physical education instructor, already hold gold medals. Weiler is still serving.

An Armed Forces recreation officer, Captain Ernie Thoms, the Hall's founder, says the biggest task lies ahead — finding names and records of service athletes prior to 1939.

A four-man committee of senior officers at Canadian Forces Headquarters will sit annually, in the autumn, to vote on nominees selected for the Hall.

## BOAT TRIALS TEST WATER SAFETY

The Ministry of Transport, in co-operation with the pleasure-boating trade associations of Canada and the United States, recently conducted at Picton, Ontario, the first international trials to establish criteria for the safe powering of motor craft of various sizes. The Ministry's Steamship Inspection Service has been conducting similar all-Canadian tests since 1957, but this was the first time the United States had taken part.

Professional drivers took the test boats at top speed through a series of extreme manoeuvres. The speed and stability of boats powered by motors of different sizes were checked by instruments and experienced observers. The programming encompassed some 40 craft, ranging from 12-foot outboard "cartoppers" to 20-foot inboard day cruisers. The speeds attained ranged from 20 to 60 miles an hour. Specially-designed electronic equipment was used to measure and record their operational characteristics during the violent manoeuvres.

The evaluation team of over 40 experts in the field included officials of the Departments of Transport and of Industry, Trade and Commerce, Allied Boating of Canada, the Boating Industry Association of the United States, and the United States Coast Guard.

The results will help the Steamship Inspection Service refine its "safe-horsepower" formula, which is used to establish recommended horsepower limits for Canadian outboard powered boats.

## MILITIA TRAINING FOR STUDENTS

The decision of the Federal Government to provide militia training for 7,000 students appears to be already a success.

Enrolled for seven weeks, the young men undergo training in general military subjects, including map-reading, drill, first aid and field manoeuvres. In the capital, the Cameron Highlanders of Ottawa are training 50 men, of whom 23 are already Camerons and 27 have been enrolled for the summer only under

the student employment program. The Governor General's Foot Guards are training 50; the 30th Field Regiment 75; 3 Signals Regiment 25; and the Ottawa Service Battalion 50.

All units in the Ottawa area report enthusiasm on the part of the students, whose ages range from 16 to 19 years.

Major Glenn Law, course commander of the Cameron Highlanders of Ottawa and a personnel administrator with the Dominion Bureau of Statistics, is happy about the entire project. "We are ahead of the training syllabus," he says, "and the lads are quite enthusiastic. If we had been allowed, we could have enrolled three times our allotment, the program has proved so popular."

His sentiments are echoed by the GGFGs' course commander, Major Howard Hill, who said that his unit "could easily have enrolled 100 boys". "They're so eager," he added, "they're willing to train in civilian clothes, while awaiting bush clothing, an item in short supply since regular force units no longer wear it."

There are actually two sections in the seven weeks — the student enrollee and the trained soldier who has been with his parent unit throughout the year. The latter studies more advanced subjects such as field engineering, transport operating and signals.

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scientific congresses. In some scientific areas, the functions of a national committee are served by an existing associate committee. Council pays travel expenses for meetings of the national committees when required, as well as the expenses of some official delegates to international scientific meetings. Council itself is the adhering Canadian body to the International Council of Scientific Unions. Many Canadian scientists have been named officers of the International Unions and, periodically, Canada is the host for particular international scientific conferences. Participation in international scientific activities has strengthened Canadian science and has provided the opportunity to engage in important international research programs, such as the IBP (International Biological Program) and the IHD (International Hydrological Decade).

NRC has provided Canadian representation to the Science Committee of NATO and to the Committee for Research Co-operation of the OECD (Organization for Economic Co-operation and Development). This involves close co-operation with government departments, universities and industries interested in some areas of the OECD and NATO scientific programs.