THE CANADIAN BOTANICAL ASSOCIATION

BULLETIN

L'ASSOCIATION BOTANIQUE DU CANADA

Oct. 1971 Volume 4 Number 4 Waterloo

FROM THE EXECUTIVE COMMITTEE MINUTES
Meeting at Waterloo, October 2, 1971.

1. **Committee to Draft Terms of Reference for Resolutions**
A letter from J.B. Phipps, Chairman of this Committee, was read, circulated, and discussed at some length.

The President and Secretary are to draft a By-Law concerning Resolutions for submission to the Executive committee, – based on the recommendations of Dr. Phipps' Committee.

The Secretary is to call for Resolutions in the January issue of the Bulletin. Such Resolutions are to be submitted by members of the CBA/ABC to the Secretary, at least 10 weeks before the Annual Business Meeting.

It was moved by Shay, seconded by Stewart, that the Secretary express the thanks of the Executive Committee to Dr. Phipps and the members of his Committee for this report. Carried

2. **Dalhousie Meeting**
Dr Hicks presented a tentative "Programme of Events" for the Joint Meetings of the CBA/ABC – CSPP to be held at Dalhousie in June, 1972.

The time for the meetings of the various Sections of CBA/ABC will be 5:00 p.m. on Monday, June 19, 1972.

It was suggested that the Annual Business Meetings of the CBA/ABC and of the CSPP be held at 1:45 p.m. on Tuesday June 20th.

3. **Resolutions passed at the Annual Business Meeting**
The Secretary reported that twenty-nine letters containing Resolutions had been mailed in July to the heads of various government agencies, and that the receipt of each of these letters had been acknowledged. The letters and acknowledgements were circulated amongst the members of the Executive Committee.

4. **S.C.I.T.E.C.**
President Eydt discussed S.C.I.T.E.C. and the role of CBA/ABC in the deliberations of this organization. It was suggested that the continued membership of CBA/ABC in S.C.I.T.E.C. should be considered at the next meeting of The Executive Committee.

5. **Treasurer's Report**
The Treasurer reported that the CBA/ABC has 443 members in good standing, – 361 full members, and 82 student members.

6. **Invitation from the University of Western Ontario - June, 1973**
President Eydt reported that the CBA/ABC has been invited to meet at the University of Western Ontario in June of 1973. He stated also that the Entomological Society of Canada will be invited to meet with the CBA/ABC at that time.

7. **Phycology Section of CBA/ABC**
President Eydt distributed copies of revised statutes for a proposed Phycology Section of the CBA/ABC. These statutes were discussed and several sections were corrected.
It was agreed that the creation of a Section of Phycology be approved, and that their Statutes (after specified corrections have been made) be accepted.

8. **NRC Support of Botanical Gardens and Museums**
The President read a letter from Dr. Leslie Laking, Director of the Royal Botanical Gardens, concerning the support of research by individual staff members in botanical gardens and museums in Canada.
It was agreed that the Executive Committee of CBA/ABC requests the B.C.C. to recommend that the NRC re-examine its policy of funding research activities at appropriate non-university institutions, such as botanical gardens and museums.
It was agreed that the Secretary serve as an official delegate of the CBA/ABC at the October Symposium "A National Botanical Gardens System for Canada", Royal Botanical Gardens, Hamilton, Ontario, October 22-24, 1971, and that Dr. Laking be informed of this action.

GUIDELINES FOR CONSULTANTS

At its meeting of July 20, 1971, the C.B.A. Executive requested that Consultants be cautioned about the problems which may arise from their work. Dr. Hugh Dale has supplied the following note.

It is encouraging that botanists, particularly ecologists, are being used to conduct surveys and as consultants by policy makers in industry and in government agencies. In almost all cases the arrangement is of benefit to all parties and frequently any scientific data is released for publication after a lag period. Unfortunately there have been cases when the advice and the findings of the consultant have not been released for consideration because the findings do not support a policy decision. Also there have been reports released stating only that a specific consultant has been employed but with the implication that he agreed to the recommendations within the report. In fact the consultant may know that the recommendation is the worst choice, or the better of two choices, or the best choice that can be made in a bad situation etc. Scientists agreeing to accept a fee for consultant work should be aware that they may be putting their reputation in jeopardy unless they make some provision for the release of the data.

BYLAW 6B OF CBA/ABC CONSTITUTION

Some members of CBA/ABC have interpreted the second paragraph of Bylaw 6b to mean that all fees for CBA/ABC must be determined by mail ballot. This was not the intent in this bylaw and the first paragraph of Bylaw 6b is the primary one which states that fees are set by the Executive Committee and ratified at the Annual General Meeting. You will note that the second paragraph gives the Executive Committee power to amend these fees if B.C.C. changes its rates, but it does not allow the Exeuctive Commitee to change fees between the Annual General Meeting without a mail ballot.

I will raise the apparent ambiguity in this Bylaw at the next meeting of the Executive Committee and hopefully we can amend it so that the original intent is clear, as I trust this note of explanation will be clear to all members.

H.R.N. Eydt, President

THE DALHOUSIE MEETING – CALL FOR PAPERS

The CBA and CSPP will be holding a joint-annual meeting at Dalhousie University, Halifax, Nova Scotia on June 19, 20,21 and 22, 1972. Serving on the local Committee are: Drs. J. Craigie, M.J. Harvey, G.S. Hicks, W.C. Kimmins, K.E. vonMaltzahn and A.C. Neish.

Contributed papers for this meeting are invited. Abstracts should be sent to Dr. J.E. Cruise, Secretary C.B.A./A.B.C., Dept. of Botany, University of Toronto, Toronto 181, Ontario. **Deadline for receipt of abstracts is Feb. 1, 1972.**

PROJECT BIOTECH

WASHINGTON, D.C., 15 June -- Dr. John R. Olive, Director of the American Institute of Biological Sciences announced one of the most socially, economically and educationally significant programs that the AIBS has ever attempted.

Project BIOTECH will develop teaching materials and a core curriculum for the training of technicians in all jobs having to do with the life sciences, including such work as industrial and agricultural biotechnology, waste water and pollution abatement technology, and others "in support of" biology, oceanology, food and health-related sciences.

Project BIOTECH is based on two concepts. One, the "Teaching Module," which is a very small task-related set of teaching materials, of whatever kinds appropriate to the particular task at hand. Two, the practicality of segregating sets of these modules, one of which will teach those tasks that from the common Core small skills of all life science technician jobs. These teaching modules will be used in on-the-job training, formal academic instruction, and in some cases for individual "self-teaching." Modules will free the teacher from the routine of skill-teaching, and will permit him to concentrate on the thing that good teachers do best, affecting the attitudes and motivations of students. attitudes and motivations of students.

Funded by the National Science Foundation and under the direction of John H. Busser the project will be housed within AIBS headquarters at 3900 Wisconsin Avenue, N.W., Washington, D.C. 20016.

REPORT ON SCITEC MEETINGS – JUNE 28, 29, 1971

I attended the 3rd Annual SCITEC meetings in Ottawa on June 28 and 29th, 1971, as the delegate from CBA/ABC. The Executive of SCITEC is very enthusiastic and believes that it will play a significant role in advising the Science Secretariat and the Privy Council on matters affecting general science policy for Canada. Many organizations belong to SCITEC including such powerful ones as the Canadian Medical Association, the Chemical Institute of Canada, and several professional engineering associations.

A series of reports were presented and several discussion groups were established to further out interest as professional scientists in this country. I was interested to hear that delegates from some of the large, and I would have thought powerful, organizations thought that they, until this time, had no influence on Federal policies and doubt was raised in conversation as to whether SCITEC indeed could be or become a powerful lobby.

The Biological Council of Canada is a member of this organization, thus, through it, as well as directly, we are members of SCITEC. A point for discussion at our next annual general meeting should be, I believe as to whether the Botanists of this country wish to be represented directly on this multi-disciplinary group, or whether we are content to be represented by the BCC.

Until I attend the next meetings I am ambivalent towards SCITEC. This does not mean that the potential is not there but rather I am skeptical that Scientists and Technicians can speak with one voice to the Federal Government because of their many and varied interests. For example, I would think that biologists with their concern for the environment would frequently sit in opposition to the engineers with industrial interests, and I feel that this dichotomy of interests is pronounced enough that SCITEC will not be able to speak with "one voice".

H.R.N. Eydt

MAN AND THE BIOSPHERE

The MAB program is a series of proposed research themes designed to develop the rational use and conservation of the natural environment and its resources. The list of proposed themes was widely circulated among the scientific community earlier this year and comment invited. A meeting concerning Canadian participation was held in Ottawa on June 24, 1971, and consisted of a workshop discussion attended by 46 interested persons and a meeting of the steering committee. The steering committee of 6 consists of representatives from Government, Universities and Industry and is charged with preparing guidelines for the Canadian Committee for MAB (CCMAB), nominate such committee and develop plans for funding Canadian participation. The International Coordinating Council for MAB, which consists of representatives from 25 countries including Canada, meets in November 1971 to receive input from the various National Committees and to establish priorities and a program of action. The program that will be developed is not intended to become operational before the United Nations Conference on the Human Environment to be held in Stockholm in 1972.

The Ottawa meeting was chaired by Dr. A. Desmarais of the Secretariat for Science Policy and Technology. In the workshop discussion the following major projects were discussed:–

(a) a grasslands ecosystem study, based on the IBP "Matador" project;
(b) effects of human activities on the Ottawa R.;
(c) alternatives to monocultures;
(d) ecological evaluation of forestry practices in B.C.;
(e) study of the Great Lakes – St. Lawrence system;
(f) study of forest harvesting;
(g) effects of hydro-electric development;
(h) effect of mining in the tundra;
(i) disposal of animal wastes;
(j) management of pesticides to minimize the effects of non-target species;
(k) methods of measuring long-distance transport of insecticides;
(l) effects of pollution of plant productivity;
(m) possible use of thermal discharges of heat agricultural lands;
(n) impact of industrialization and urbanization on northern ecosystems (e.g. northern Manitoba).

The proposed guidelines for the Canadian Committee for MAB developed by the steering committee contained the following points. The major emphasis in the Canadian MAB program should be on integrated, interdisciplinary projects. Projects submitted to the committee should have a "responsible agent", defined as any federal, provincial, university or other entity assuming responsibility for operating a core program. The core program must be sufficiently funded to ensure a continuing focus on the goals and the maintainance of facilities necessary to permit the participation of scientists with relevant activities. New research in important areas which have received insufficient attention should be encouraged, as well as recognizing relevant existing programs and proposals.

Requests for further information should be directed to:– Dr. W.J. Turnock, Secretariat for Science and Technology, Privy Council Office, East Block, Ottawa. KIA OA3.

H.C. Duthie.

A NATIONAL BOTANICAL GARDENS SYSTEM FOR CANADA

A symposium on the concept of "A National Botanical Garden System for Canada" was held October 22-24, 1971, at the Royal Botanical Gardens, Hamilton, Ontario, as part of the Gardens' 25th Anniversary celebrations. At the joint Canadian Botanical Association – American Institute of Biological Sciences meetings at the University of Alberta earlier in 1971, a group of interested persons representing several existing botanical gardens in Canada had met to discuss this concept. A resolution prepared by this group and passed by the C.B.A. endorsed the concept of a National Botanical Gardens, and urged the federal government to formulate and implement a policy for the establishment of such a system of gardens. The R.B.G. symposium was organized to promote further discussion of this concept among plant scientists and other interested persons in Canada, and to present, through the proceedings of the symposium, a strong and clear statement of the potential benefit of a National Botanical Garden System for Canada.

The symposium was opened by Leslie Laking, Director of the Royal Botanical Gardens, who presented a brief history of the host institution and pointed out the present lack of federal support either for the operation of such institutions or for specific research projects. The keynote speaker, Roy L. Taylor, Director of the University of British Columbia Botanical Garden, began his address with a discussion of the potential benefit of a national system of botanical gardens to Canada. Canadians, he said, were poorly informed about the plants around them and about their environment generally. Botanical gardens could stimulate "people-interest" in plants, as well as promote research in botany, provide university-level training, and establish plant collections. Thus there could be developed in Canada a better understanding of this country's vegetational resources, which is necessary for sound long-range planning for the 1970's and beyond.

Dr. Taylor emphasized the desirability of a system of botanical gardens in the various regions of Canada, rather than the single national botanical garden which had been proposed in the past. He pointed out that regional botanical gardens would provide public services and stimulate "people-interest" more effectively than a single institution. Regional gardens would also permit cooperative educational programs with more universities. Other advantages pointed out by Dr. Taylor included the stimulation of regional studies of native vegetation; the development of ornamental plant material and landscaping recommendations appropriate for the diverse regions in Canada: and the training of horticultural technicians familiar with conditions and problems in each region.

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Past attempts to establish a national botanical garden or gardens in Canada were summarized as "a history of failures" by Allan P. Chan, Director of the Plant Research Institute, Ottawa. Dr. Chan noted that as early as the 1920's both the federal government and the Canadian botanical profession had considered the concept of a National Botanical Garden. From 1929 to 1950, emphasis was on a national "Botanical Service" which would include a National Botanical Garden. The Massey Commission on National Development in the Arts, Letters and Science recommended the creation of a system of botanical gardens, in the various climatic regions of Canada as well as in Ottawa, in its report in 1950. Various approaches to the federal government based on this report came to naught. In dealing with recent developments, Dr. Chan noted that support for this concept had greatly increased as a result of the 1970 report of the federal Science Secretariat which called for increased research in the basic biological sciences in Canada.

In discussing the potential role of botanical gardens in botanical research, Warren H. Wagner, Jr., former Director of the Matthaei Botanical Garden and currently Professor of Botany at the University of Michigan, urged gardens to concentrate on types of research which could only be done with the facilities available at these institutions. Without a research program, he said, a botanical garden is only a kind of park. Ecological research, especially in the area of autecology, was selected for special emphasis. Such research could include studies of growth responses to various environmental factors, including photoperiod and edaphic conditions. Evolutionary botany, including studies of chromosomes and breeding systems, were also recommended. He stressed that such studies required living material as well as herbarium specimens.

Among the facilities for botanical research which botanical gardens are uniquely able to provide, Dr. Wagner listed controlled environments permitting the cultivation of species which could not be grown elsewhere, and field plots and greenhouse space for long-term research projects. He also noted that botanical gardens could maintain endangered species in cultivation for future studies.

As a former director of a botanical garden, Dr. Wagner noted that problems were presented because of the several different and potentially conflicting functions of a botanical garden, which include research, education, and recreation. He also stated that communication among botanical gardens was important but, at present, inadequate. A national system, he felt, would alleviate this problem.

The opinion that botanical gardens should concentrate on research which can best or exclusively be done at such institutions was also voiced by Robert J. Hilton, Director of the University of Guelph Arboretum, who spoke on research in the applied plant sciences. Development of new horticultural material through selection and breeding was especially recommended. Botanical gardens, Dr. Hilton pointed out, can and should accumulate and preserve appropriate parental material for use in such programs. Other areas in which he advocated research at botanical gardens included plant propagation and "plant managment" – the handling of plants in nurseries, parks, home grounds, and other settings. Studies of relationships between plants and the conditions created by modern methods of building and road construction were considered especially important.

Dr. Hilton noted that, because of the diversity of conditions in the various regions of Canada, each region had its own special needs in horticultural research and education, which would best be met by a system of regional botanical gardens.

John K. Morton, of the University of Waterloo, in discussing the role of botanical gardens in conserving plant species and genetic resources, said that the preservation of natural habitats should be the first consideration. He pointed out, however, that natural vegetation was being destroyed at such a rate that such measures, by themselves, would be inadequate. Botanical gardens, therefore, should assume the responsibility of preserving endangered species in cultivation as well as in natural reserves. Dr. Morton also emphasized that the preservation of species was not enough; intraspecific gene pools must also be preserved.

Three major needs were listed by Dr. Morton. One was the compilation of "red books" on endangered plant species. This would require much plant exploration and taxonomic research, since many endangered species remain completely unknown to science. Also, he stated, botanical gardens should increase in number and should be better supported financially. His third recommendation was for the distribution of seeds of endangered species to appropriate institutions.

The potential role of botanical gardens in university education, especially at the graduate level, was discussed by Walter H. Lewis, Director of the Herbarium at the Missouri Botanical Garden and Professor of Botany at Washington University. Dr. Lewis emphasized that a cooperative program with a botanical garden enabled university students to study living plants in their natural habitats and in horticultural situations, liberating the students from the limitations of laboratory and herbarium studies of botany. With specialized courses being taught by scientists at botanical gardens, universities were able to enrich their curricula without increasing their staff or adding to the teaching loads of present staff members. Botanical Gardens staff members benefited through gaining teaching experience and access to university facilities.

The federal Ministry of State for Science and Technology was represented by Andre DesMarais, Assistant Secretary for National Affairs, Dr. DesMarais explained that the functions of the newly organized Ministry were to advise the government on matters of policy in sciences and technology; to coordinate science policy with other governmental policies and activities; to promote cooperation in scientific matters between the federal government and the provinces, private agencies, and other countries; and to conduct research on the effects and effectiveness of science and technology in Canadian society. He emphasized that the responsibilities of the Ministry were in advising and coordination; the Ministry would not operate laboratories of its own. He expressed his support for the prompt development of the proposed National Botanical Gardens System.

Several shorter papers and comments from the floor followed the major presentations. Peter F. Rice, of the Royal Botanical Gardens, presented a paper by a group of four Canadian plant scientists on the potential contribution of urban forestry to the programmes of a national system of botanical gardens. Mrs. James Gardner, representing the Metropolitan Toronto and Region Conservation Authority, advocated consideration of support for certain functions of Ontario's Conservation Authorities through the proposed national system of gardens. James B. Phipps, of the University of Western Ontario, discussed research in systematic botany at Canadian universities in relation to botanical gardens. C.J. Mackenzie, Secretary-General of the National Museums of Canada, expressed the interest of the Museums' Board of Directors in the proposal. He suggested that botanical gardens might come within the concept of "affiliated museums" currently under consideration, and therefore become eligible for support through the Secretary of State's proposed Central Culture Fund.

A progress report on the establishment of a botanical garden at Sault Ste. Marie was presented by Walter Stanek, of the Canadian Forestry Service, and developments at Sudbury were reported in correspondence from David Richardson of Laurentian University. Earlier, in responding to a question, Andre Champagne, recently appointed Director of the Jardin Botanique de Montreal, spoke on new developments at his institution. Of particular interest was the formation of an ecological research unit, under the direction of Pierre Dansereau, involving l'Universite de Montreal and l'Universite de Quebec, in cooperation with the Jardin Botanique. The following morning, a tour of the Royal Botanical Gardens acquainted the participants with the facilities and programmes of the host institution.

At the close of the symposium, an Organizational Committee was elected to carry on work toward the establishment of the proposed National Botanical Gardens System. This committee consisted of: Roy L. Taylor, University of British Columbia Botanical Garden, Chairman; Leslie Laking, Royal Botanical Gardens, Secretary; Andre Champagne, Jardin Botanique de Montreal; Leo A. Dionne, University of New Brunswick; John K. Morton, University of Waterloo; Patrick Seymour, University of Alberta Botanical Garden. A resolution passed by those present approved in principle the concept of "A National Botanical Garden System for Canada," and called upon the Organizational Committee to prepare a brief for submission to the Minister of State for Science and Technology. This brief would express the group's endorsement of the concept; provide evidence of active support from Canadian and foreign botanical gardens, professional and amateur associations, plant scientists, and other interested persons; request that the Ministry convene a hearing to determine the most appropriate method for establishing the National Botanical Garden System; and recommend that a Board or Council of Trustees or Advisors be established to direct System policy when the proposal is authorized.

Proceedings of the symposium, including full texts of the papers presented, will be published as Royal Botanical Gardens' Technical Bulletin No. 6. Copies will be available after January 1, 1972, from the Royal Botanical Gardens, Box 399, Postal Station A, Hamilton 20, Ontario.

James S. Pringle

B.C.C. MEETING

The Biological Council of Canada met on October 25 and 26, 1971 in Ottawa and discussed a long agenda of items affecting Biologists.

The highlight of the meeting was a dinner held at the University Club which was attended by the Minister for Science and Technology and his Deputy. At that time we all had the opportunity of talking with them and reporting our opinions about aspects of biology. In particular we relayed to the Minister our concern that Biologists, in our opinion, are under represented on the National Research Council.

Dr. P.D. McTaggart-Cowan, the Executive Director for the Science Council of Canada came to the B.C.C. meetings and spoke to us on the role of the Science Council and on the input which he would expect B.C.C. to give to the Council. You will shortly receive a Bulletin from B.C.C. informing you of some of the decisions taken by it.

In summary I wish to report that I found the meetings of the B.C.C. the most productive I have yet attended and I hold a high opinion of its role in the Canadian Scientific sense.

H.R.N. Eydt
CBA Representative

INTERNATIONAL ORGANIZATION FOR CHEMOSYSTEMATICS

The rapid expansion of the chemical approach to systematic problems in biology has brought about a number of specialized problems unique to chemosystematics which could be greatly aided through international cooperation. As a result, a joint International Union of Pure and Applied Chemistry (IUPAC)-- International Association for Plant Taxonomy (IAPT) ad hoc Committee on Chemotaxonomy has been formed to look into all aspects of the establishment of an International Organization for Chemosystematics. The Committee consists of Dr. W.F. Grant (IAPT)-- Chairman, Dr. T. Swain (IUPAC)--Secretary, Dr. J. B. Harborne (IUPAC), Dr. A. Love (IAPT), Dr. T. J. Mabry (IUPAC) and Dr. B.L. Turner (IAPT).

The Committee solicits comments from interested persons in all fields of biological sciences as well as those in biochemistry, and chemistry, and the pharmaceutical sciences. These may be sent to:

Dr. W.F. Grant,Chairman
Joint IUPAC--IAPT Committee on
Chemotaxonomy,
Genetics Laboratory,
Macdonald Campus of
McGill University,
Ste. Anne de Bellevue 800,
Quebec, Canada.

GRADUATE STUDY IN BOTANY

A third edition of the Guide to Graduate Study in Botany, published by the Botanical Society of America, has been compiled. It includes information on the degrees offered, number of graduate students, fields of specialization, and detailed information about the individual faculty members for 106 departments in the United States and 19 in Canada where one can earn a Ph.D. in plant sciences.

This edition can be obtained fro $3.00 from the Secretary of the Society. Dr. Barbara F. Palser, Department of Botany, University Heights, Rutgers University, New Brunswick, N.J. 08903, U.S.A. Checks should be made payable to the Botanical Society of America, Inc.

CHEMISTRY IN EVOLUTION AND SYSTEMATICS
I.U.P.A.C. International Symposium
Strasbourg, France, 3-8 July 1972

Symposium Committee:
Professor A. Kjaer (Demark) (Chairman)
Professor G. Ourisson (France), Professor C. Mathis (France), Dr. R. Wolff (France), Dr. T. Swain (U.K.), and Dr. J.B. Harborne (U.K.) (Secretary).

There will be ten Plenary lectures to be given by internationally distinguished scientists. These lectures, which will be published under I. U.P.A.C. auspices, will cover the following topics:

1. Insect-Plant Co-evolution
2. Chemistry of Geographical Races
3. Comparative aspects of Biosynthetic Pathways
4. Molecular Evolution
5. Fossil Chemistry

The Scientific Committee will consider papers on any aspect of Chemosystematics but preference will be given to those related to the topics of the Plenary lecturers.

Those wishing to present a paper at the Symposium are required to submit an abstract and to complete the application form to be distributed with Circular 2. The Scientific Committee reserve the right to decide in what form contributed papers will be presented at the Meeting.

Correspondence relating to the meeting should be addressed to:
Dr. J. B. Harborne
Secretary "Chemistry in Evolution" I.U.P.A.C. Symposium
Phytochemical Unit, Botany Department
The University
Reading RG1 5AQ, U.K.

PRIORITY TO ECOLOGICAL FACTORS

Adoption of ecological control as the top priority of the Manitoba government is recommended in a report of the province's Economic Development Advisory Board to the Legislature's Standing Committee on Economic Development. It stresses that the province's relatively unpolluted environment was one of its greatest resources and its protection should be considered in all plans for economic development. Because of its relatively clean environment and central geographic location, a high priority should be given "to the systematic encouragement of tourism and reaction" as a calculated development instrument. This would entail certain parklands development, particularly in the north; incentives to ensure an adequate supply of doctors, dentists, lawyers and other professional and service workers to serve growing northern communities; and consideration of a special Northern Development Fund to allocate scarce capital. The report advocates an "optimum" rather than a "maximum" tempo of economic growth.

From "Resources" 8:7.

PICCARD FOUNDATION

Dr. Jacques Piccard will form an international foundation to investigate and suggest solutions to the problems of pollution and ecology. The Piccard Foundation for the Study and Preservation of the Environment, will be headquartered at 625 Washington Bldg., Washington, D.C. Immediate objective will be to recruit and sent out teams of scientists and other specialists to environmental trouble spots around the world.

From "Resources" 8:7.

PUBLICATIONS

Papers from the August 18-21, 1970 symposium on Trees and Forests in an Urbanizing Environment have recently been published. Contents include four sections: introductory presentations; social values of trees and forests; management of trees and forests; implementing environment al forestry. Papers in the Monograph review current knowledge on the role and function of trees in contributing to a quality environment in densely populated areas. Social values of trees and forests were considered in papers dealing with their effects on modifying microclimate; on reducing air, noise, and waste pollution; and on improving landscape aesthetics, water relations, recreation, and wildlife enjoyment. Management aspects of handling trees and wooded areas were discussed, as were the attitudes and constraints the public may have toward management. The Monograph concludes with papers on implementing environmental forestry with regard to design, social and political relationships and needed research. This Monograph is for sale at $3.00 per copy from Cooperative Extension Service, Room 204, Holdsworth Hall, University of Massachusetts, Amherst, Massachusetts 01002.

From "Resources" 8:7.

JANUARY BULLETIN

The January issue of the Bulletin will be devoted to graduate studies in botany in Canada.