

# APPENDIX I

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## CHARTER OF THE CONSORTIUM FOR ENVIRONMENTAL FORESTRY STUDIES

The great wave of concern about the human environment, now sweeping across the Nation, relates in part, as it has historically, to forest values in both rural and urban America.

Various public agencies and private groups are studying bits and pieces of the complex influences, interactions, and contributions of forest resources to the human environment. Many Universities and State Agricultural Experiment Stations are studying how forests and their components are affected by man's actions and, in turn, how they affect man itself. Similarly, the Forest Service, U.S. Department of Agriculture, is conducting studies in this field.

The challenge to these research agencies to find means of obtaining the optimum contribution from forest resources in and around densely-populated areas is both large and complex. And the challenge of a cohesive, coordinated research effort is too large for a single university or agency, but, through local complexity, poorly suited to a national institute. It is best attacked through a concerted effort by a regional association of agencies and institutions capable of conducting significant investigations on a coordinated basis.

The Pinchot Institute of Environmental Forestry Research, a multifunctional division of the Northeastern Forest Experiment Station, was created by the Forest Service to meet these challenges in northeastern United States. The Institute serves as a catalyst and a focal point for the scientific capabilities of a consortium of interested universities and the Forest Service brought together to solve environmental forestry-research problems of the urban-forest interface in and around the eastern Megalopolis. The Institute is the vehicle through which substantial Forest Service research grants are made to universities cooperating within the framework of the university-Forest Service Consortium.

The Consortium is organized to coordinate research activities of participating members. It will develop the knowledge and technology

needed to solve problems of policy formulation, regional planning, and land management related to environmental forestry in and around eastern population centers. It will provide for dissemination of research results in a coordinated program designed to acquaint people throughout the area with the role of forests in maintaining and improving the quality of human environment. And it will serve to attract other sources of cooperation, participation, and funds.

The Charter, which follows, will guide the operations of the Consortium.

### ARTICLE I. *Name and Location*

The name of this consortium shall be CONSORTIUM FOR ENVIRONMENTAL FORESTRY STUDIES. The principal office shall be at the Forest Service, U.S. Department of Agriculture, Northeastern Forest Experiment Station, Upper Darby, Pennsylvania.

### ARTICLE II. *Purpose*

This nonprofit Consortium is formed to initiate, support, and carry out programs of research and associated graduate education relating to the urban-forest interface in the Megalopolis of the northeastern United States; to establish, maintain, and operate such facilities as may be needed to carry out these missions; to publish and otherwise disseminate the results of research; and to carry out other activities as needed in furthering these endeavors.

Research will include, but is not limited to, the following general areas:

1. Improving decision making and planning models involving social, economic, biological, and ecological analysis of forest resources in areas of constantly increasing human pressures.
2. Increasing the amenities provided by forest resources.

3. Improving the management of forested municipal watersheds for urban water supplies, recreation, and other uses.
4. Genetic improvement of intensively used forest vegetation.
5. Site requirements for landscape tending.
6. Improving wildlife habitat for spectator enjoyment, with emphasis on nongame species.
7. Improving the social wellbeing of urban people through recreation and aesthetics in a forest environment.
8. Improving the management of urban-forest ecological systems.
9. Improving the protection of high-value forest vegetation from destructive actions of man and other agents.
10. Improving urban highways and intersections with forest vegetation.
11. Improving urban man's understanding of his interrelationships with, and determining his needs for, urban forest environments.
12. Improving social institutions and arrangements for using forest resources to improve the urban environment.

#### ARTICLE III. *Membership*

The Consortium for Environmental Forestry Studies shall be composed of the Northeastern Forest Experiment Station, Forest Service, U.S. Department of Agriculture, and selected educational institutions within the eastern Megalopolis and the territory of the Northeastern Forest Experiment Station which have programs directly related to environmental forestry. The charter educational institutions are: University of New Hampshire, Durham, New Hampshire; Massachusetts Agricultural Experiment Station, Amherst, Massachusetts; University of Connecticut, Storrs, Connecticut; Yale University, New Haven, Connecticut; State University College of Forestry, Syracuse, New York; The Cornell University Agricultural Experiment Station, Ithaca, New York; Princeton University, Princeton, New Jersey; Rutgers University, New Brunswick, New Jersey; and Pennsylvania State University, University Park, Pennsylvania. Additional educational institutions may be invited

to join the Consortium following procedures established in the bylaws.

No fee shall be required for institutional membership in the Consortium.

An institutional member may resign at any time by giving 90 days written notice to the Consortium. Forest Service membership shall continue as long as the companion Cooperative Agreement between the Forest Service and the Consortium remains in force.

#### ARTICLE IV. *Obligations of Member Institutions*

A. Northeastern Forest Experiment Station, Forest Service, U.S. Department of Agriculture, agrees to:

1. Provide funding as permitted by Congress and appropriate budget authorities for the purpose of undertaking research described in Article II within the framework of the Pinchot Institute for Environmental Forestry Research. The Forest Service will, furthermore, undertake with its own staff and facilities, research conceived to meet the objectives of research described in Article II in the amount in value of approximately one-half of the funds allocated to the Institute for research. The other half of the funds allocated to the Institute shall be made available under separate agreements supporting research proposed by member educational institutions or by other educational institutions and which meet the objectives of the Consortium described in Article II.
2. Furnish annually to the Executive Committee of the Consortium, as early in the fiscal year as reasonable assurance can be given, the approximate amount of funds that will be available that year for research grants that meet the objectives of the Consortium.
3. Designate a representative to serve full time on the Executive Committee of the Consortium for continuing liaison and coordination of the entire research program of the Pinchot Institute for Environmental Forestry Research.

4. Provide logistical support in the form of secretarial and office services and supplies to the Consortium within the limits imposed by the funds and personnel administratively determined to be available for this purpose.
5. Participate fully with members of the Consortium in research problem identification and selection and research program formulation for both university and in-house research.
6. Share the cost of Consortium publications as appropriate and mutually agreed in each case.
7. Serve, participate, and contribute to all Consortium activities as mutually agreed upon by the Consortium as a whole, and to the extent permitted by Federal laws and regulations.

B. Each member Educational Institution agrees to:

1. Participate fully within the Consortium in research problem formulation for both university and Forest Service in-house research.
2. Serve and participate in all Consortium activities as mutually agreed upon by the Consortium as a whole.
3. Fund the cost of sending representatives to the annual technical and committee meetings agreed to by the Consortium. Travel policies of each institution shall control its official representative or alternate; each institution shall pay only for its own representative.
4. Publish or arrange for publishing appropriate results of the research sponsored through the Consortium and conducted by a member of the institution, according to the policies and practices of the educational institution concerned and giving due credit to the Pinchot Institute for Environmental Forestry Research for funding any grants it provides that are involved in the research reported.
5. Share the cost of general Consortium publications as appropriate and mutually agreed in each case.

## ARTICLE V. *Organization*

A. *Consortium:*

Each member institution, including the Northeastern Forest Experiment Station, shall designate one official representative and one alternate representative to the Consortium. The alternate representative shall vote only in the absence of the official representative. An institution is not obliged to cause its alternate to attend any meeting unless its official representative does not attend. The alternate, however, is permitted to attend.

B. *Officers:*

The official representatives to the Consortium shall elect annually from their membership a president, a president-elect, a vice-president for research, and a secretary-treasurer. The Forest Service representative shall not be eligible to serve as an officer.

The President shall be empowered to ratify decisions of the Executive Committee by executing instruments and other papers in the name of the Consortium. Other responsibilities and authorities of the officers not otherwise described in the Charter shall be proposed by the Executive Committee and become effective when adopted by amendment to the Charter or the bylaws.

C. *Executive Committee:*

The Executive Committee of the Consortium shall consist of the above four officers plus a member of the Forest Service appointed by the Director of the Northeastern Forest Experiment Station plus a non-voting recording secretary provided by the Forest Service.

The Executive Committee shall be empowered to handle the business and affairs of the Consortium and to appoint and assign duties to such standing and ad hoc committees as may be advisable. The Executive Committee is not empowered to bind any institution to make any payment of funds or render any services to the Consortium or any third party. Actions of the Executive Committee shall be consistent with this Charter and the votes of its members. A four-fifths majority of the Executive Committee is required to initiate any action.

## ARTICLE VI. *Funding*

It is expected that the principal source of funds to support research planned by the Consortium will be Federal appropriations to the Forest Service, U.S. Department of Agriculture, available for this purpose. In addition, the Consortium will accept funds from other appropriate organizations, agencies, and foundations. All proposals for funds sought in the name of the Consortium will be reviewed by the Consortium Executive Committee, which will approve or disapprove them. Member institutions may seek funds individually, without review by the Executive Committee, if such funds are not sought in the name of the Consortium.

## ARTICLE VII. *Operations*

### A. *Internal Administration*

1. *Annual Meeting.* The Consortium shall meet at least once a year at a time and place decided by the Executive Committee to discuss research program direction and progress, research funding, and other matters as appropriate.
2. *Special Meetings.* Special meetings of the Consortium will be called by the President as needed. Committees will meet as required to carry out their responsibilities.
3. *Voting.* Each member institution shall have one vote in the Consortium.
4. *Quorum.* Official or alternate representatives from two-thirds of the member institutions shall constitute a quorum for conducting the business of the Consortium. When a quorum is present, a two-thirds majority of the representatives or their alternates present and voting shall be required for initiation or approval of any action, unless otherwise specified in the Charter.

### B. *Research*

The Consortium will:

1. Identify and select specific research problems to be pursued under the Consortium program of Environmental Forestry Studies. It may determine and set the objectives, priorities, and guidelines for studies, based on its interpretation of public need, funds available, capabilities

of institutions and persons, and other work under way within or outside the Consortium.

2. Solicit and entertain proposals for conducting the research from both member institutions and non-member institutions which desire to participate and which have the capability to contribute appropriately to the solution of the research problems selected for study.
3. Evaluate all research proposals submitted to it for which grant funds are requested and select those deemed most appropriate and feasible for contributing to solution of the research problems and priorities it has set.
4. Forward the grant proposals it has selected for Forest Service financing (within the limits of funds expected to be available) to the Director of the Northeastern Forest Experiment Station together with its recommendations, by priorities, for their financing through Forest Service research agreements. Such grants will be subject to usual Forest Service review procedures and legal restrictions.
5. Allocate non-Forest Service funds that may be available. Such funds shall be used to finance additional research proposals, or for other purposes; but the allocation shall be for the purposes intended by the contributor of the funds.
6. Review and evaluate periodically the accomplishments of the research conducted under its aegis.

### C. *Information Exchange*

The Consortium will:

1. Arrange for printing and distributing such publications and reports as it deems appropriate. Costs will be shared equally among member institutions unless otherwise unanimously agreed, or paid from Consortium funds that may be available for this purpose.
2. Sponsor seminars, conferences, symposia, and other meetings from time to time to coordinate research in Environmental Forestry, to instruct and educate, and to disseminate results of the research. Costs of such meetings will be

shared equally among Consortium members, unless otherwise unanimously agreed, paid for from Consortium funds, or otherwise discharged as appropriate in each instance. Forest Service contribution to such costs is subject to Federal laws and regulations.

3. Seek to gain public understanding and support for the role of Environmental Forestry and Environmental Forestry Research and their influences through social and ecological relationships in attaining an improved human environment.

**ARTICLE VIII.**

*Adoption and Amendment  
of Charter and Bylaws*

- A. *Adoption of Charter.* The Consortium shall take effect February 1, 1971 and continue until dissolved by a majority vote of its members at the time. Institutions shall become members on the date the Charter is signed below by their authorizing official.
- B. *Charter Amendments.* Each proposed revision or amendment of this charter must be sponsored by at least three members of the

Consortium and submitted to the Executive Committee two months in advance of any Consortium meeting (annual or special) at which the proposal is to be discussed. The Executive Committee will send a copy of the proposal to each member institution at least 30 days in advance of the meeting at which discussion will be held on the proposal, together with notification of the time and place of the meeting. After discussion of the proposal at the meeting, member institutions will vote on the proposal by mail ballot. Approval by two-thirds of the member institutions will be necessary for adoption.

- C. *Bylaws.* As the need arises, Bylaws of the Consortium, and their revisions and amendments, will be developed by the Executive Committee, which will submit them to the official representatives of the member institutions in the Consortium for approval or disapproval. Such Bylaws, revisions, or amendments shall be consistent with the Charter and will become effective 30 days following the date of submission unless one-third of the Consortium members disapprove in writing before that time.
- D. *Signatures.*

*Institutional Member*

*Authorizing Official*

Northeastern Forest Experiment  
Station

by: \_\_\_\_\_  
(Name)

Forest Service, USDA

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

University of New Hampshire  
Durham, New Hampshire

by: \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)



Princeton University  
Princeton, New Jersey

by: \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

Rutgers University  
New Brunswick, New Jersey

by: \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

Pennsylvania State University  
University Park,  
Pennsylvania

by: \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

## APPENDIX II

### DEFINITIONS OF TERMS

#### SERVICES

Human problems are much more complicated today than when man was a hunter-gatherer. The basic problems of survival remain, but they are overlain with a fabric of refinement that creates multiple interrelated problems. These problems are often difficult to perceive in anything approaching totality, whereas single problems were more easily brought into focus. To deal with modern complexity of human existence and focus on understandable entities, society recognizes broadly needed services. These are the vehicle for specifying human problems.

*Physical infrastructure.*—Those services requiring the creation of physical structures.

1. Water supply and waste disposal: the supply of water for various requirements of man and the disposal of water-borne wastes.
2. Energy: the provision of all forms of utilizable energy in required amounts.
3. Transportation: movement of people, goods, energy, and services.
4. Housing: provision for the shelter of individuals or families.
5. Flood control: the protection of human life and property from flood damage.
6. Recreational facilities: that recreation requiring development. Recreational activities described are part of the social infrastructure, and therefore are included as separate service item number 10.

*Social infrastructure.*—Those services required by man in his existence in the context of society. While their provision may or may not require physical structures, they are classified in the sense of providing man's social needs.

7. Education: the imparting or acquisition of knowledge, skill, or culture through instruction, training, or study.
8. Employment: the exchange of labor, either physical or mental, for value consideration.
9. Health and welfare: satisfactory conditions of physical and mental health, including

- the nourishment, medical supplies and services, and economic requirements of man.
10. Recreational activities: activities for the physical and mental recreation of man.

#### LOCALES

Locales include any location or place where the services just described are needed or provided. In this system the locale is categorized as follows:

1. Urban: the most heavily developed portion of a city, characterized by high human density, multi-storied buildings, high density of buildings, and scarcity of open space.
2. Suburban: the outlying part of a city or town or adjacent smaller community characterized by moderate human density, single or low-numbered multifamily dwelling, lower building density, and presence of open space around buildings—usually yards.
3. Exurban: those areas around a city, usually beyond the suburbs, characterized by low human density, single-family dwellings, very low building density, and presence of large amounts of open space, often in the form of fields and forests, but not as the dominant landscape character.
4. Rural: those areas that are not part of a city, usually beyond suburbs and exurbs, characterized by low human density, single-family dwellings and outbuildings, with expanses of fields and forests as the dominant landscape character.

#### DEVELOPMENTS

Man applies his energies in an engineering fashion to produce constructs with which he satisfies his needs for services. We have called these developments. These developments are defined as follows:

1. Heavy industry: that industry that utilizes large amounts of energy and raw material in the more primary stages of raw material conversion, or in the production of large volumes of finished products. These industries

usually cover large acreages and are potentially heavy polluters. Examples include pulp and paper mills, chemical plants, metallurgical plants, and steel plants.

2. Light industry: that industry that is usually labor-intensive and provides secondary or tertiary manufacture. These industries usually cover smaller acreages and are not high-volume polluters. Examples are wholesale and retail outlets, electronics firms, and design and consulting firms.
3. Power: those structures that provide for the direct production (excluding extraction) or conversion of energy. Examples are power dams, power plants, oil refineries, and gas plants.
4. Residences: includes all dwelling places for man—houses, apartments, hotels, and dormitories.
5. Transportation system: includes the structures necessary for transportation of people, goods, and services. Examples are roads, railroads, subways, waterways, sidewalks, pipe lines, power lines, telephone and telegraph lines, and airports.
6. Cultural and institutional structures: includes all structures concerned with development of intellectual and moral faculties by education; provision of facilities for the development or exercise of aesthetic and intellectual appreciation; provision of facilities for man's health and welfare. Examples include schools, churches, hospitals, and museums.
7. Forestry: the husbandry and manipulation of forests. Examples include timber harvesting, timber-stand improvement, tree planting, and habitat manipulation for wildlife.
8. Agriculture: the husbandry and manipulation of nonforested land to produce crops and/or livestock. Examples include farming, dairy farms, sheep grazing, and beef production.

9. Mining: the extraction of minerals (nonrenewable resources) for utilization by man. Examples include oil, gas, coal, gravel, and metallic minerals.

### **ENVIRONMENTAL EFFECTS**

In his efforts to provide needed services in appropriate locales through developments, man often causes changes in various aspects of the environment. The following are environmental effects that may result from any course of action:

1. Air quality: deals primarily with impurities added or deleted from air including gaseous, particulate, and radioactive matter.
2. Water: includes quality, which deals with the addition or deletion of impurities from water, including both organic and inorganic materials and considering temperature and quantity, which in turn deals with flow duration and amount.
3. Soil: the change of one or more soil characteristics such as through addition of effluents, alteration or disturbance by engineering works, or changes in groundwater table level.
4. Temperature and humidity: changes in ambient temperature and humidity. They are considered together because of the magnitude of interdependence. Initial trials indicated that resultant packages were almost identical when temperature and humidity were considered separately.
5. Noise: changes in amount, type, or quality of sound perceived by the human ear.
6. Flora and fauna: changes or effects on plant and/or animal communities. Fauna was combined with flora because fauna is dependent on the habitat provided by flora. Initial trials indicated that the resultant packages were almost identical when flora and fauna were considered separately.

