## SEMINAR

TIME: VENUE: TUESDAY 26 MARCH 1991, 4.00 P.M.

DEPARTMENT OF CONSERVATION & LAND MANAGEMENT, TRAINING CENTER,

STATE HEADQUARTERS, HAYMAN ROAD, COMO.

# INTEGRATED STRATEGIES FOR CONSERVING PLANT GENETIC DIVERSITY

### Donald A. Falk

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Nationally-coordinated conservation programs offer an effective and viable means of conserving plant diversity. The development of such programs, and their subsequent linkage into international networks, places within the objective of slowing - and eventually halting altogether - the current mass anthropogenic extinction of species.

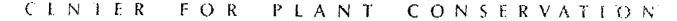
National programs offer integration of conservation efforts across several important dimensions: geography, taxonomy, prioritisation, standard and methods. Organisation at a national scale permits conservation efforts in various geographic regions to be coordinated and balanced; with sufficient development, the system can ensure that the conservation needs of species in any region can be addressed. Second, whereas individual institutions may concentrate only on particular taxonomic groups, national programs can and should address the endangerment of all plants. This function can help ensure that important conservation needs are not overlooked, including protection of intraspecific diversity at the population and ecotypic levels. Third, a national view of the endangerment status of native species can transcend local and regional perspectives, which frequently assign conservation priority to plants that are locally rare but widespread elsewhere. This activity is closely related to the maintenance of national plant databases, which are an integral function of national programs and one of their most important contributions.

Among the most useful services of national plant programs are their roles in developing and promulgating policies and standards for conservation work. This can include development of guidelines for genetic sampling, maintenance of collections, procedures and policies for species reintroductions, and many other areas. Finally, national programs are ideally situated to develop and implement integrated conservation strategies combining onsite and offsite conservation methods to best effect. Research, reintroduction and restoration programs all require close coordination among multiple agencies, each contributing its own resources towards a common goal; national programs are the ideal providers of that coordinating function.

The experience of the Center for Plant Conservation in the United States will be discussed as an application of these principles. Since its founding in 1984, the Center's National Collection of Endangered Plants has grown to include nearly 400 rare North American taxa, maintained in a network of 20 member gardens. In addition to establishing permanent collections, the Center strongly emphasizes integrated conservation approaches to solving endangerment problems at the species level. While particular characteristics of the Center's model are undoubtedly unique to the US, many other aspects of the Center's experience may prove useful to conservationists in other countries beginning to design and carry out their own national program models.

**ENOUIRIES:** 

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CURRICULUM VITAE: DONALD A. FALK

03/02/90

#### CURRENTLY:

Executive Director and Co-founder, Center for Plant Conservation
Adjunct Assistant Professor, Tufts University, Department of Urban and
Environmental Policy
Arboretum Associate, Arnold Arboretum, Harvard University
Member, Plant Conservation Committee, American Association of Botanic Gardens
and Arboreta (AABGA)
Advisor, U.S. Department of Agriculture, National Plant Germplasm System
Operations Committee
Board of Directors, Society for Ecological Restoration

#### **EDUCATION:**

M.A. 1980, Tufts University, Environmental Policy B.A. 1972, Oberlin College

#### INTERESTS:

Integrated conservation strategies, environmental and land use planning, organizational development

## OTHER PROFESSIONAL EXPERIENCE:

Teaching: Conservation Biology, Environmental Policy, Political Economy, Environmental Planning and Design, Biological Diversity and Conservation Strategies

Writing: Author of over 40 articles, chapters, and reviews on environment and conservation published by Oxford University Press (Falk & Holsinger, in press), Annals of the Missouri Botanical Garden, Arnoldia, Choice, Diversity, Forest Diversity, Natural Areas Journal, and Restoration and Management Notes. Book chapters include Fiedler & Jain (Chapman & Hall, in press), Berger (Island Press, in press), Natural Areas Association (State University of New York Press, in press), Elias (California Native Plant Society, 1987), Bramwell et al. (Academic Press, 1987).

Press coverage: Audubon, BioScience, Boston Globe, Christian Science Monitor, National Public Radio, New York Times, Science, Smithsonian, Time, Trends in Ecology & Evolutionary Biology, U.S. News & World Report, Washington Post.

Lectures and testimony to: American Association of Botanical Gardens and Arboreta, American Horticultural Society, Botanic Gardens Conservation Secretariat, Center for Plant Conservation (Conference on the Genetics and Conservation of Rare Plants), Commonwealth of Massachusetts (Joint Committee on Natural Resources), Ecological Society of America, Garden Club of America, Institut de la Vie, International Union for Conservation of Nature, Missouri Botanical Garden (Annual Systematics Symposium), National Science Foundation, Natural Areas Association, New York Botanical Garden (Paley Seminar), Society for Ecological Restoration, The Nature Conservancy, U.S. Department of Agriculture, U.S. House of Representatives (Committee on Science, Space, and Technology), Yale University Schools of Management and Forestry, and botanic gardens, native plant societies, and symposia in the United States, Canada, People's Republic of China, Costa Rica, France, and the Canary Islands.



# CENTER FOR PLANT CONSERVATION

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The Center for Plant Conservation was created in 1984 to develop and maintain a national network of programs at leading botanic gardens, dedicated to the preservation and study of all endangered American plants.

Our goal is to create a systematic, comprehensive national program of plant conservation, research, and education within existing institutions, as a needed supplement and reinforcement to the preservation of genetic diversity through habitat protection. Our central resource is the U.S. National Collection of Endangered Plants—a living collection of all the endangered native flora of the United States, maintained under permanent protective cultivation in the open air at nineteen regional conservator gardens from Massachusetts to Hawaii. The National Collection is backed—up by a cryogenic seedbank, maintained as part of the National Plant Germplasm System of the U.S. Department of Agriculture, as well as in several of the regional gardens.

The Center is an independent non-profit [501(c)(3)] corporation registered in the Commonwealth of Massachusetts. The national office provides coordination and support services, while the regional gardens implement the program and special projects. The Center works closely with national botanic garden, conservation and other scientific organizations, both in developing its overall strategy and in implementing particular projects.

The primary objectives of the Center are:

- 1. To develop, maintain and co-ordinate the National Collection and its associated conservation, research and education programs.
- 2. To develop and maintain a comprehensive and broadly accessible data management system concerning the biology, horticulture, and status both in the Collection and in the wild, of all nationally endangered native plants of the United States.
- 3. To work with colleague organizations on integrated conservation projects focusing on the protection and enhancement of endangered plant populations in the wild.
- To assist botanic gardens nationally in developing endangeredplant programs, especially for purposes of public education.
- To develop programs of research into the needs and uses of endangered native plants of the United States.

The Center is funded by private donations, corporate and foundation grants, federal grants and contracts, and service fees, and is developing endowment funds for the National Collection and for institutional support.