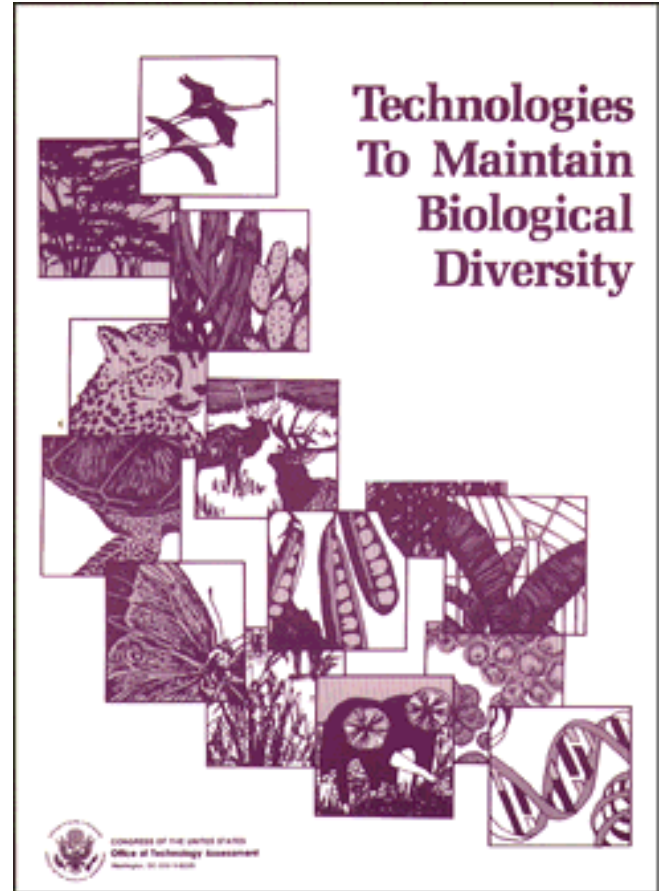


*Technologies To Maintain Biological
Diversity*

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Foreword

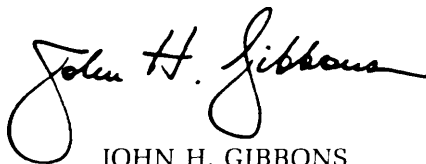
The reduction of the Earth's biological diversity has emerged as a public policy issue in the last several years. Growing awareness of this planetary problem has prompted increased study of the subject and has led to calls to increase public and private initiatives to address the problem. This interest in maintaining biological diversity has created a common ground for a variety of groups concerned with implications of a reduction or ultimate loss of the planet's genetic, species, or ecosystem diversity.

One major concern is that loss of plant, animal, and microbial resources may impair future options to develop new important products and processes in agriculture, medicine, and industry. Concerns also exist that loss of diversity undermines the potential of populations and species to respond or adapt to changing environmental conditions. Because humans ultimately depend on environmental support functions, special caution should be taken to ensure that diversity losses do not disrupt these functions. Finally, esthetic and ethical motivation to avoid the irreversible loss of unique life forms has played an increasingly major role in promoting public and private programs to conserve particular species or habitats.

The broad implications of loss of biological diversity are also reflected in the different concerns and jurisdictions of congressional committees that requested or supported this study. Requesters include the House Committee on Science, Space, and Technology; Senate Committee on Foreign Relations; and Senate Committee on Agriculture, Nutrition, and Forestry. The House Committee on Foreign Affairs; House Committee on Agriculture; and House Committee on Merchant Marine and Fisheries endorsed the requested study.

The task presented to OTA by these committees was to clarify for Congress the nature of the problems of reduction of the Earth's biological diversity and to set forth a range of policy options available to Congress to respond to various concerns. The principal aim of this report is to identify and assess the technological and institutional opportunities and constraints to maintaining biological diversity in the United States and worldwide. Two background papers (*Grassroots Conservation of Biological Diversity in the United States* and *Maintaining Biological Diversity in the United States: Data Considerations*) and a staff paper (*The Role of U.S. Development Assistance in Maintaining Biological Diversity in Developing Countries*) were also prepared in conjunction with this study.

OTA is grateful for the valuable assistance of the study's advisory panel, workgroups, workshop participants, authors of background papers, and the many other reviewers from the public and private sectors who provided advice and information throughout the course of this assessment. As with all OTA studies, the content of this report is the sole responsibility of OTA.



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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

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¹Through January 1986,

²Through August 1985,

³Summer 1985.

⁴Through August 1986.

⁵After August 1986,

⁶Through July 1985,

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⁸From October 15, 1986,