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Species Preservation

In 1973 Congress passed the Endangered Species Act to ensure that the well-being of endangered species will not be jeopardized by the activities of federal agencies or departments. The recent publication of an official list of threatened and endangered plant and species* represents a first step toward attaining this goal. To prevent harm through habitat destruction, further federal effort is being made to designate habitat requirements of endangered species. In the private sector, industry is preparing environmental impact statements (EIS's) to assess, among other things, whether proposed projects represent threats to endangered species.

There are compelling justifications for preventing needless extirpation of species†. We have a common evolutionary heritage with other organisms, and find inspiration and beauty in many of them; thus, in some sense we are impoverished by the elimination of other species. More pragmatically, species are genetic and chemical resources that are useful in plant breeding, pest control, and biomedical research. Clearly, loss of species reduces this resource base.

Present efforts in the public and private sectors are a welcome beginning, but may be insufficient to guarantee long-term preservation. They are essentially negative in their concern not with preservation, but with preventing decimation of species. Further, in the case of plants and many inconspicuous animals, few of the field personnel working on EIS's have the training and experience required to recognize these species in the field.

A longer-term, more positive approach seems essential. The only sensible basis for protection of endangered species is preservation of sufficient suitable habitat. If such habitats were carefully chosen on a regional basis, they could, in addition to harboring endangered species, represent prime examples of natural communities. The search for endangered species and analysis of their habitat requirements would have to be carried out by trained field taxonomists and ecologists. It might be best to begin by systematically screening public lands. Such habitats as might be found could be set aside to be managed, if necessary, specifically for preservation of endangered species.

Such an extensive search and study effort would take many years of fieldwork, and it would be costly. Yet, only through such efforts can we know which species really need special attention for their preservation. In addition, this approach could reduce the cost of EIS's in several ways. Substantial sums of money are now being spent to determine whether endangered species reside on sites proposed for construction. The approach outlined here could eliminate the need for this aspect of EIS's, which could have the additional benefit of allowing EIS writers to focus directly on the more complex aspects of assessing potential impact. Further savings should result from an improved efficiency of locating sites acceptable for new construction. Once the locations of preserved habitats have been made public, it could be determined at the outset whether a particular site is unacceptable in terms of risk to endangered species, instead of discovering this after an impact assessment study is completed. Finally, preserved natural habitats would provide a standard for judging the quality of habitats to be destroyed or significantly altered by a particular project.

In the long run, it would seem prudent to approach the problem of species preservation as part of the broader problem of regional habitat preservation.—P. A. HARCOMBE, *Department of Biology, Rice University, Houston, Texas 77001*; and P. L. MARKS, *Ecology and Systematics, Cornell University, Ithaca, New York 14853*

*"Threatened or endangered fauna or flora," *Federal Register*, vol. 40, No. 127, part V, July 1975. †N. Myers, "An expanded approach to the problem of disappearing species," *Science*, vol. 193 (1976), page 198.