Introduction: Wildland Shrub and Arid Land Restoration

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This publication is the eighth in a series of symposia proceedings on the biology and management of wildland shrubs, sponsored by the Shrub Research Consortium (see inside front cover) and published by the Intermountain Research Station. Other cosponsors of the symposium on wildland shrub and arid land restoration included the University of Nevada, Las Vegas, the National Park Service and Fish and Wildlife Service, both in the U.S. Department of the Interior and The Nature Conservancy. Contributions range from broad perspectives on restoration of arid lands to specific studies of arid land plant ecology and improvement. The proceedings emphasizes the use of revegetation to rehabilitate arid to semiarid lands for a variety of objectives. The symposium consisted of oral presentations including a plenary session, posters, and field trips. For convenience, we have divided these entries into six sections: Overview, Restoration and Revegetation, Ecology, Genetic Integrity, Management Options, and Field Trip. This volume includes 62 of the 82 papers and posters presented at the symposium (Shrub Research Consortium 1993) and one of the three field trips. The Nevada Test Site field trip is written up in these proceedings. The Viceroy Gold's Castle Mountain Gold Mine field trip featured a tour of a greenhouse used to propagate Mojave Desert plants from seed and tissue culture and a demonstration of salvaging topsoil and plants for Mojave Desert restoration. The Lower Colorado River and Mojave Desert Spring Restoration field trip featured problems with an alluvial desert river and riparian ecosystems and various attempts to restore health and function to them. The symposium also included workshops on Large-Scale Rangeland Revegetation and on Revegetation Contracting and Practice.

This symposium proceedings reflects the growing interest in and the development of the science and practice of restoration ecology. See for instance, Baldwin and others (1993); Berger (1990); Cairns (1988a,b); Harker and others (1993); Hobbs and Saunders (1993); Jackson (1992); Jordan and others (1987); Morrison (1987); Wali (1992a,b). The variety of disturbances, ecological consequences of disturbances, and site and organism-specific successional responses on wildlands throughout the world prohibit simple, generalized restoration procedures. The science of ecology has provided the framework within which restoration approaches can be developed. However, these approaches must be based on an understanding of the biology of the organisms and the ecology of the specific sites of interest. To be successful, restoration ecologists must leave the generalities and learn specifically the effects of particular disturbances on ecosystem attributes and the biological characteristics of the appropriate restoration organisms (Aronson and others 1993a,b). Such specific scientific knowledge has lagged far behind the demand for restoration efforts. Im- portant contributions of this symposium proceedings include not only information on wildland ecology and biology, but also case examples of applied revegetation practices that work. The mix of science and practice in the symposium proceedings should give readers a picture of the challenge and potential for wildland restoration.

The Ninth Wildland Shrub Symposium, "Shrub Ecosystem Dynamics in a Changing Environment" will be held in Las Cruces, NM, from May 23 to 25, 1995. The previous seven symposia covered a wide range of shrubland biology and management issues (Clary and others 1992; McArthur and others 1990; McArthur and Welch 1986; Provenza and others 1987; Tiedemann and Johnson 1983; Tiedemann and others 1984; Wallace and others 1989).

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