Barriers to Effective Conservation
by Emily Roberson

Plants are neglected in U.S. conservation. The Federal Endangered Species Act (FESA), for example, provides almost no protection to most federally listed plants, among the nation’s most imperiled species. FESA protects federally listed animals wherever they live. However, it allows nearly unlimited destruction of listed plants and their habitats outside of federal lands. This arcane exception from protection - dating to mediaeval England - is codified in Section 9 of the FESA.

Staffing, funding and training for plant conservation have also traditionally lagged behind animals. A 2002 Native Plant Conservation Campaign report found, for example, that the U.S. Forest Service employed only 68 botanists to manage plants on its 264 million acres. Recovery plans – mandated for all listed species - for listed animals were funded at 25 times those for listed plants (Roberson, 2002).

FESA has been a superb conservation tool in the 43 years since President Nixon signed it into law. Unfortunately, studies also agree that plants are still very much second class conservation citizens, continuing to receive vastly inferior resources and attention compared to other species.

A comprehensive 2016 Ecological Society of America review of FESA effectiveness found that although plants make up more than 50 percent of all listed taxa - far more than any other taxonomic group - plants accounted for less than 12 percent of federal listed species funding from 1998 to 2012. In 2012, in fact, only 3.3% of federal spending for listed species was allocated to plants. Only invertebrates and amphibians received less funding (Evans et al., 2016).

A 2014 examination of annual FESA expenditures for plant conservation (Negron-Ortiz, 2014) similarly showed that plants received the least federal funding per species of any taxonomic group. Listed mammals were allotted more than 25 times the funds allocated to plants. Plants also received only 0.1% of the total state spending for listed species recovery. On average, each plant species only received about half the annual funds allocated to clams.

Defenders of Wildlife recently examined implementation of Section 7 of the FESA. Section 7 requires the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service to ensure that no federal project, such as road or dam construction, logging, or development, would place a listed species at risk of extinction or destroy its designated critical habitat. Section 7 requires federal agencies to “consult” with FWS to meet these requirements. Because of the exemption of plants from Section 9 protection, Section 7 offers one of the few plant conservation opportunities under FESA.

A review of 88,290 Section 7 consultations conducted since 2008 (Malcom and Li, 2015) found that listed plants are not receiving the full benefit of the provision.
Although plants make up more than 47% of species eligible for consultation, only 12.8% of consultations actually included plants. By contrast, mammals make up only 6.3% of listed species but were evaluated in fully 21.3% of consultations – three times more than should be expected. Only snails and corals were less likely than plants to receive Section 7 review (see http://www.defenders.org/section-seven).

This pattern is disturbing. Plants are primary producers and the foundations of ecosystems. One third of U.S. plants (~6,000 species) are considered threatened by NatureServe (Negron-Ortiz, 2014, Havens et al., 2014). Plants make up more than half of federally listed species. Common sense should dictate that staffing, funding and conservation laws should reflect species’ numbers and imperilment, rather than expediency, politics, or popularity.

More important, over the past two decades, studies have increasingly confirmed that native plant diversity is critical to ecosystem function and to the sustainable supply of ecosystem services such as water purification, pollinator habitat, flood and storm control, and soil fertility (Isbell et al., 2011; Quijas et al., 2012). Diverse native plant communities are also essential bulwarks of resilience against climate change (Isbell et al., 2015).

All of this is made even more troubling by a growing shortage of botanists in the U.S., as well as a sharp decline in resources for botanical research and education (Kramer et al., 2010). In 1988, 72% of the top 50 US universities offered advanced degree programs in botany (Havens et al., 2014). By 2009, more than one-half of these had been eliminated. Without trained botanists, we are ill equipped to confront the challenges of the 21st century including climate change and threats to the quality and sustainability of food and water supplies.

The native plant conservation community, the botanic community, and the broader scientific and environmental communities must demand that adequate resources be provided for plant science and conservation, equal to those allotted to other species. Without healthy, diverse native plant communities, and laws and experts to protect them, we will continue to endanger the future of this planet.

References


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