

to this, we became aware of a new taxonomic treatment for the species and plan to publish a notice of taxonomic change to formalize this change after publication of this final rule.

Individuals of *Mariscus pennatiformis* on Laysan Island were closely monitored for 10 years, but the only flowering observed was of one individual from November to December, coinciding with record high rainfall (Service 1999). Little else is known about this plant's flowering cycles, pollination vectors, seed dispersal agents, longevity, specific environmental requirements, or limiting factors (Service 1999).

Historically, *Mariscus pennatiformis* was found on Kauai, Oahu, Maui, Hawaii, and Laysan Island. Currently, *M. pennatiformis* ssp. *pennatiformis* is found on Maui while *M. pennatiformis* ssp. *bryanii* is known only from Laysan Island. This subspecies, *M. pennatiformis* ssp. *bryanii*, was found until recently on the southeast end of the central lagoon and the west and northeast sides of Laysan (HINHP Database 2000; Koyama 1990). Numbers have fluctuated from as many as 200 to only 1 individual over the past 10 years. Currently, a single occurrence of about 200 individuals of *M. pennatiformis* ssp. *bryanii* remains on the southeast end of the lagoon (Service 1999).

Mariscus pennatiformis ssp. *bryanii* is found on coastal sandy substrate at an elevation of 5 m (16 ft). Associated native species include *Cyperus laevigatus* (makaloa), *Eragrostis variabilis*, and *Ipomoea* sp. (HINHP Database 2000; Koyama 1990).

The threats to *Mariscus pennatiformis* ssp. *bryanii* on the island of Laysan include seed predation by the endangered Laysan finch (*Telespiza cantans*) and burrowing activities of nesting seabirds. The native plant *Ipomoea pes-caprae* (beach morning glory) is another possible threat since it periodically overgrows *Mariscus* individuals (Service 1999). In addition, native *Sicyos* spp. (anunu) vines, *Eragrostis variabilis*, and *Boerhavia repens* (alena) appear to impede natural dispersal of *M. pennatiformis* ssp. *bryanii* into other suitable locations (Schultz 2000).

Sesbania tomentosa (ohai)

Sesbania tomentosa, a member of the legume family (Fabaceae), is typically a sprawling short-lived perennial shrub to small tree. Each compound leaf consists of 18 to 38 oblong to elliptic leaflets that are usually sparsely to densely covered

with silky hairs. The flowers are salmon-colored tinged with yellow, orange-red, scarlet, or, rarely, pure yellow. *Sesbania tomentosa* is the only endemic Hawaiian species in the genus, differing from the naturalized *Sesbania sesban* in flower color, petal and calyx length, and the number of seeds per pod (Geesink *et al.* 1999).

The pollination biology of *Sesbania tomentosa* has been studied by Dr. David Hopper as part of his dissertation research conducted at the University of Hawaii. His findings suggest that although many insects visit *Sesbania* flowers, the majority of successful pollination is accomplished by native bees of the genus *Hylaeus* and that colonies at Kaena Point on Oahu are probably pollinator-limited. Flowering at Kaena Point is highest during the winter-spring rains and gradually declines throughout the rest of the year. Other aspects of this plant's life history are unknown (Service 1999).

Currently, *Sesbania tomentosa* occurs on six of the eight main Hawaiian Islands (Kauai, Oahu, Molokai, Kahoolawe, Maui, and Hawaii) and on Nihoa and Necker. Although once found on Niihau and Lanai, it is no longer extant on those islands (Geographic Decision Systems International (GDSI) 2000; HINHP Database 2000; Service 1999; 54 FR 56333). On Nihoa, this species has been described as relatively common in some areas, with one population consisting of several thousand plants. On Necker Island, *S. tomentosa* is known from the tops of all hills of the main island. A few individuals are found on the Northwest Cape as well (Service 1999).

Sesbania tomentosa is found in shallow soil on sandy beaches and dunes in *Chenopodium oahuense* coastal dry shrubland or mixed coastal dry cliffs at elevations up to 84 m (276 ft) (HINHP Database 2000). Associated plant species include *Pritchardia remota*, *Scaevola sericea*, *Sida fallax*, and *Solanum nelsonii* (Geesink *et al.* 1999; HINHP Database 2000; Service 1999).

The primary threats to *Sesbania tomentosa* on Nihoa and Necker include competition with various nonnative plant species, lack of adequate pollination, potential introduction of rats and mice, predation by nonnative insects, and fire (Service 1999).

Previous Federal Action

Federal action on these plants began as a result of section 12 of the Endangered Species Act of 1973, as

amended (Act) (16 U.S.C. 1531 *et seq.*), which directed the Secretary of the Smithsonian Institution to prepare a report on plants considered to be endangered, threatened, or extinct in the United States. This report, designated as House Document No. 94–51, was presented to Congress on January 9, 1975. In that document *Pritchardia remota* and *Sesbania tomentosa* (as *S. hobdyi* and *S. tomentosa* var. *tomentosa*) were considered endangered. On July 1, 1975, we published a notice in the **Federal Register** (40 FR 27823) of our acceptance of the Smithsonian report as a petition within the context of section 4(c)(2) (now section 4(b)(3)) of the Act, and we gave notice of our intention to review the status of the plant taxa named therein. As a result of that review, on June 16, 1976, we published a proposed rule in the **Federal Register** (41 FR 24523) to determine endangered status pursuant to section 4 of the Act for approximately 1,700 vascular plant taxa, including *Amaranthus brownii*, *Cenchrus agrimonoides* var. *laysanensis*, and *Sesbania tomentosa*. The list of 1,700 plant taxa was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94–51 and the July 1, 1975, **Federal Register** publication (40 FR 27823).

General comments received in response to the 1976 proposal were summarized in an April 26, 1978, **Federal Register** publication (43 FR 17909). In 1978, amendments to the Act required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to proposals already over 2 years old. On December 10, 1979, we published a notice in the **Federal Register** (44 FR 70796) withdrawing the portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired. The Service published updated Notices of Review for plants on December 15, 1980 (45 FR 82479), September 27, 1985 (50 FR 39525), February 21, 1990 (55 FR 6183), and September 30, 1993 (58 FR 51144). We listed *Amaranthus brownii*, *Cenchrus agrimonoides*, *Mariscus pennatiformis*, *Pritchardia remota*, *Schiedea verticillata*, and *Sesbania tomentosa* as endangered between 1994 and 1996. A summary of the listing actions can be found in Table 2, and a summary of the critical habitat actions can be found in Table 3.