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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Five Plant Species From the Northwestern Hawaiian Islands, Hawaii; Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AH09

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Five Plant Species From the Northwestern Hawaiian Islands, Hawaii

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat pursuant to the Endangered Species Act of 1973, as amended (Act), for five of six plant species known historically from the Northwestern Hawaiian Islands. The five species are *Amaranthus brownii*, *Mariscus pennatiformis*, *Pritchardia remota*, *Schiedea verticillata*, and *Sesbania tomentosa.* A total of approximately 493 hectares (1,219 acres) of land on Nihoa, Necker, and Laysan Islands fall within the boundaries of the seven critical habitat units designated for the five species. This critical habitat designation requires the Service to consult under section 7 of the Act with regard to actions carried out, funded, or authorized by a Federal agency. Section 4 of the Act requires us to consider economic and other relevant impacts when specifying any particular area as critical habitat. We solicited data and comments from the public on all aspects of the proposed rule, including data on economic and other impacts of the designation.

DATES: This rule becomes effective on June 23, 2003.

ADDRESSES: Comments and materials received, as well as supporting documentation, used in the preparation of this final rule will be available for public inspection, by appointment, during normal business hours at U.S. Fish and Wildlife Service, Pacific Islands Office, 300 Ala Moana Blvd., Room 3–122, P.O. Box 50088, Honolulu, HI 96850–0001.

FOR FURTHER INFORMATION CONTACT: Paul Henson, Field Supervisor, Pacific Islands Office at the above address (telephone 808/541–3441; facsimile 808/541–3470).

SUPPLEMENTARY INFORMATION:

Background

In the List of Endangered and Threatened Plants (50 CFR 17.12(h)), there are six plant species that, at the time of listing, were reported from the Northwestern Hawaiian Islands (NWHI). *Amaranthus brownii*, *Pritchardia remota*, and *Schiedea verticillata* are endemic to the NWHI, while *Cenchrus agrimonioides*, *Mariscus pennatiformis*, and *Sesbania tomentosa* are reported from several other Hawaiian islands in addition to the NWHI (see Table 1).

TABLE 1.—SUMMARY OF ISLAND DISTRIBUTION OF SIX SPECIES FROM THE NWHI

Species	Island distribution						
	Kauai	Oahu	Molokai	Lanai	Maui	Hawaii	NWHI, Kahoolawe, Niihau
Amaranthus brownii (no common name)	.....	.....	.....	.....	.....	.....	Nihoa (C)
Cenchrus agrimonioides (kamanomano)	.....	C	.....	H	C	R	Kure (H*), Laysan (H), Midway (H)
Mariscus pennatiformis (no common name)	H	H	.....	.....	C	R	Laysan (C)
Pritchardia remota (loulu)	.....	.....	.....	.....	.....	.....	Nihoa (C), Laysan(**)
Schiedea verticillata (no common name)	.....	.....	.....	.....	.....	.....	Nihoa (C)
Sesbania tomentosa (ohai)	C	C	C	H	C	C	Niihau (H), Kahoolawe (C), Necker (C), Nihoa (C)

Key:
C (Current)—occurrence last observed within the past 30 years.
H (Historical)—occurrence not seen for more than 30 years.
R (Reported)—reported from undocumented observations.
* *Cenchrus agrimonioides* var. *laysanensis* was last observed 23 years ago.
** It has been suggested that *Pritchardia remota* was the species of *Pritchardia* once extant on Laysan; however, this is not known for certain.
NWHI include Kure Atoll, Midway Atoll, and Laysan, Necker, Nihoa islands.

Although we considered designating critical habitat on the NWHI for each of the six plant species, for the reasons described below, the final designation includes critical habitat for five of six plant species. Species that also occur on other islands may have critical habitat designated on other islands in previous or subsequent rulemakings.

The Northwestern Hawaiian Islands

The NWHI are a chain of islands that extend along a linear path for approximately 1,600 kilometers (km) (1,000 miles (mi)) in a northwestern direction from Nihoa Island to Kure Atoll and include the following: Nihoa Island, Necker Island, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Laysan Island, Lisianski Island, Pearl and Hermes Atoll, Midway Atoll, and Kure Atoll (Figure 1). They are remnants of once larger islands that have slowly eroded and subsided and that exist today as small land masses or coral atolls covering the remnants of volcanic islands (Department of Geography 1998; Service 1998).

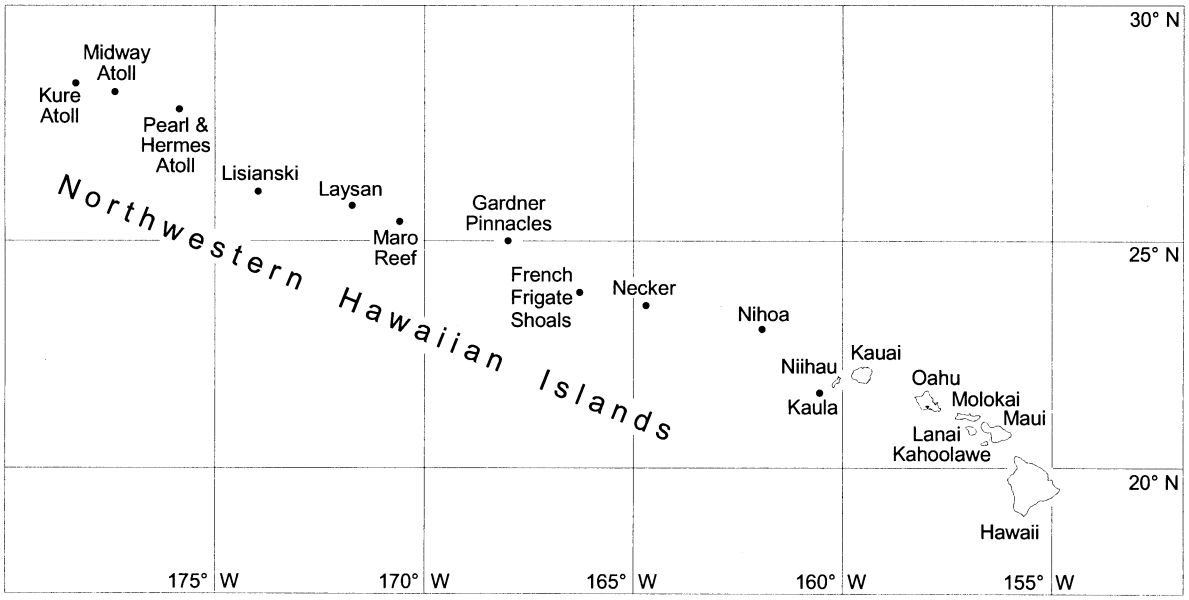


Figure 1. Northwestern Hawaiian Islands

Nihoa rises approximately 274 meters (m) (900 feet (ft)) above sea level and has an area of approximately 69 hectares (ha) (171 acres (ac)). Its steep topography and crater shape reveal its volcanic origin. Necker Island, less than 92 m (300 ft) in elevation and 19 ha (46 ac) in area, consists of thin-layered, weathered lava flows. La Perouse Pinnacles at French Frigate Shoals and Gardner Pinnacles are the last exposed volcanic remnants in the archipelago. French Frigate Shoals is a crescent-shaped atoll nearly 29 km (18 mi) across. More than a dozen small sandy islands dot the fringes of this atoll. Maro Reef is a largely submerged area marked by breakers and a few pieces of coral that intermittently protrude above the waterline. Laysan Island is approximately 405 ha (1,002 ac) in size and fringed by a reef. In the center of the island is a 52 ha (129 ac) hypersaline lagoon. Lisianski Island is 147 ha (364 ac) in size and bounded to the north by an extensive reef system. The central lagoon once found on this island has filled with sand. Pearl and Hermes Reef, an inundated atoll, includes nearly 40,469 ha (100,000 ac) of submerged reef and seven small sandy islets totaling less than 34 ha (85 ac). Midway Atoll is approximately 8 km (5 mi) in diameter and includes three islands: Sand, Eastern, and Spit. Both Sand and Eastern Islands have been highly altered by man. Kure Atoll is the northernmost exposed land in the Hawaiian archipelago. Two islands, Green and Sand, are found on the southern edge of the atoll and are included in the Hawaii State Seabird Sanctuary System. Green Island was altered considerably in the past and today suffers from enormous nonnative species problems (Elizabeth Flint, Service, pers. comm., 2000).

One of the six listed plants was historically known from Kure Atoll (*Cenchrus agrimonioides* var. *laysanensis*), two were known from Laysan (*C. agrimonioides* var. *laysanensis* and *Mariscus pennatiformis* ssp. *bryanii*), one from Midway (*C. agrimonioides* var. *laysanensis*), four from Nihoa (*Amaranthus brownii*, *Pritchardia remota*, *Schiedea verticillata*, and *Sesbania tomentosa*), and one from Necker (*Sesbania tomentosa*) (see Table 1 above).

Nihoa (209 km (140 mi) from Niihau) and Necker (an additional 290 km (180 mi) northwest of Nihoa) are the islands in the northwestern group that are closest to the main Hawaiian Islands. Both are small, residual fragments of volcanoes that formed approximately 7.2 and 10.3 million years ago, respectively (Service 1986). Although both of these islands were uninhabited at the time of their modern discovery in the late eighteenth century, there is an extensive heiau (indigenous place of worship or shrine) complex on Necker, and agricultural terraces and other Hawaiian archaeological features can be found on Nihoa (Cleghorn 1984; Department of Geography 1998; Service 1986).

In 1892, a guano mining business began operation on Laysan and flourished until 1904. During this time, rabbits were introduced to Laysan for a rabbit canning industry, and the rabbits were allowed to reproduce and roam freely (Morin and Conant 1998; Tomich 1986). This failed as a profitable business, and no attempt was made to control the number of rabbits on the island. The rabbits were finally eradicated from Laysan Island in the early 1920s, although not before the vegetation had been thoroughly devastated. Since then, the vegetation of Laysan has recovered to a remarkable degree, although some species, like the native palms (*Pritchardia* sp.) (lolou), are no longer naturally extant on the island (Tomich 1986; E. Flint, pers. comm., 2000).

Midway Atoll was discovered and named Middlebrook Islands in 1859 by Captain Nick Brooks. The atoll was taken into possession by the United States in 1867, and in 1903, President Theodore Roosevelt placed the atoll under the control of the U.S. Navy. In 1935, Pan American World Airways set up an airbase for the weekly Trans-Pacific Flying Clipper Seaplane service. In 1941, the Japanese attacked Midway Atoll on their return from the attack on Pearl Harbor. In 1942, the United States defeated the Japanese Fleet north of the atoll, turning the tide of World War II in the Pacific. In 1988, the atoll was added to the National Wildlife Refuge (NWR) system, and in 1996, the jurisdiction of Midway Atoll was transferred from the U.S. Navy to the Department of the Interior (Service 2000). Despite this evidence of human use, these islands continue to support an assemblage of endemic plants and animals not found elsewhere in the archipelago (Department of Geography 1998).

Kure Atoll was discovered and named in 1827 by the captain of a Russian vessel. Between 1876 and 1936, Australian Copra & Guano Ltd. mined guano from Green Island and Sand Island, the two islands that make up Kure Atoll. Military bases were built on the islands during World War II, and a Loran C station with two 158 m (518 ft) high masts was operated until 1998. The towers are no longer on the islands. The airstrip built on Green Island is no longer usable, and landing is only possible by boat (Service 1998a).

Hawaiian Islands National Wildlife Refuge

The reefs and islets of the Northwestern Hawaiian chain from Nihoa Island through Pearl and Hermes Atoll are protected as the Hawaiian Islands National Wildlife Refuge (HINWR). The HINWR was established in 1909 to protect the large colonies of seabirds, which were being slaughtered for the millinery trade, and a variety of other marine organisms, including sea turtles and the critically endangered Hawaiian monk seal (*Monachus schauinslandi*), as well as to address the commercial exploitation of wildlife resources (Executive Order 1019). Within the refuge's boundaries are eight islands and atolls: Nihoa, Necker, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Laysan, Lisianski, and Pearl and Hermes Atoll. There is no public or recreational use allowed at HINWR. Access is strictly regulated through a permit system because of the sensitivity of the organisms on these islands to human disturbance and the high risk of importation of nonnative plant and invertebrate species. For those who do access the refuge, strict quarantine procedures are in effect. Other than the refuge staff, only individuals conducting scientific research or undertaking natural history film recording have been granted official permission to visit the HINWR (E. Flint, pers. comm., 2002).

Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve

On December 4, 2000, President Clinton issued an Executive Order establishing the 33,993,594 ha (84 million ac) Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. This reserve includes the marine waters and submerged lands of the NWHI and covers an area approximately 2,222 km (1,200 nautical mi) long and 185 km (100 nautical mi) wide. The reserve is adjacent to State of Hawaii waters and submerged lands and the Midway Atoll NWR and includes the HINWR outside of State waters.

Discussion of Plant Taxa

Species Endemic to the Northwestern Hawaiian Islands

Amaranthus brownii (No Common Name (NCN))

Amaranthus brownii, a member of the amaranth family (Amaranthaceae), is an herbaceous annual with leafy upright or ascending stems, 30 to 90 centimeters (cm) (1 to 3 ft) in length. The slightly hairy, alternate leaves are long, narrow, and more or less folded in half lengthwise. The species is monoecious, with male and female flowers being found on the same plant. *Amaranthus brownii* can be distinguished from other Hawaiian members of the genus by its spineless leaf axils (the points between the stem and a leaf branch), linear leaves, and indehiscent (remaining closed at maturity) fruits (Wagner *et al.,* 1999).

The growing season for *Amaranthus brownii* extends from December to June or July. Conant (1985) reported finding plants in an early flowering stage in February and collected seed from dead plants during June. Phenology may vary somewhat from year to year, depending on rainfall and climatic factors. Pollination vectors, seed dispersal agents, specific environmental requirements, and limiting factors for this species are unknown (Service 1998d).

Amaranthus brownii is currently the rarest native plant on Nihoa (Conant 1985). When it was first collected in 1923, it was ''most common on the ridge leading to Miller's Peak, but abundant also on the ridges to the east'' (Herbst 1977). In 1983, the two known groups of colonies were separated by a distance of 0.4 km (0.25 mi) and contained a total of approximately 35 plants: one occurrence of about 23 plants near Miller's Peak and a second occurrence of approximately a dozen plants in three small groups in Middle Valley. No plants have been seen at either location since 1983, even though Service staff have surveyed for the species annually (Service 1998d). None of the surveys conducted since 1983 have been conducted in the winter months when this annual species is easiest to find and identify. Access to the island is particularly limited during the winter due to difficult and dangerous landing conditions (Cindy Rehkemper, Service, pers. comm., 2001).

Amaranthus brownii typically grows in shallow soil on rocky outcrops. It is found in fully exposed locations at elevations between 30 and 242 m (100 and 800 ft). Associated native plant taxa include *Chenopodium oahuense* (aheahea), *Eragrostis variabilis* (kawelu), *Ipomoea indica* (koali awa), *Ipomoea pes-caprae* ssp. *brasiliensis* (pohuehue), *Panicum torridum* (kakonakona), *Scaevola sericea* (naupaka), *Schiedea verticillata* (NCN), *Sicyos pachycarpus* (kupala), *Sida fallax* (ilima), and *Solanum nelsonii* (akia) (Hawaii Natural Heritage Program (HINHP) Database 2000).

The threats to *Amaranthus brownii* on Nihoa include competition with the nonnative plant *Portulaca oleracea* (pigweed), alteration of substrate, fire, potential introduction of rats and mice, human disturbances, a risk of extinction from naturally occurring events (such as hurricanes), and reduced reproductive vigor due to the small number of extant individuals (Service 1998d).

Pritchardia remota (loulu)

Pritchardia remota, a member of the palm family (Arecaceae), is a tree 4 to 5 m (13 to 16 ft) tall with a ringed, wavy trunk about 15 cm (5.9 in) in diameter. The rather ruffled, fan-shaped leaves are approximately 80 cm (31 in) in diameter and somewhat waxy to pale green with a few tiny scales on the lower surface. The flowering stalks, which can be up to 30 cm (12 in) in length, are branched, and the flowers are arranged spirally along the hairless stalks. *Pritchardia remota* is the only species of *Pritchardia* on Nihoa and can be distinguished from other species in the genus by its wavy leaves; short, hairless inflorescences; and small, round fruits (Read and Hodel 1999; 61 FR 43178).

Pritchardia remota is a long-lived perennial, and populations on Nihoa have remained stable for several years. Conant (1985) reported finding plants with fruit and flowers in the spring and summer. Phenology may vary somewhat from year to year, depending on rainfall and climatic factors. Pollination vectors, seed dispersal agents, specific environmental requirements, and limiting factors for this species are unknown (Service 1998d).

Pritchardia remota occurs on Nihoa at elevations between 15 and 151 m (50 and 500 ft) and may have historically occurred on Laysan Island as well (Beccari and Rock 1921). Currently, *Pritchardia remota* is known from four colonies on Nihoa that are found along 0.2 km (0.1 mi) of the length of two valleys on opposite sides of the island, approximately 0.6 km (0.4 mi) apart. More than 680 plants, including seedlings, are found in West Palm Valley and at least 392 plants are found in East Palm Valley (HINHP Database 2000). A few individuals are also found at the bases of basalt cliffs on the steep outer slopes of each of the two valleys

(HINHP Database 2000). *Pritchardia remota* is also present in a shadehouse on Laysan Island as seedlings, from seeds collected at Nihoa for outplanting on Laysan as part of identified recovery efforts for this species (Service 1998d).

Pritchardia remota is one of the few Hawaiian members of the genus that occurs in relatively dry climates like that found on Nihoa. Its distribution on Nihoa, however, may be related to availability of water since many individuals are found in valleys and near freshwater seeps (Service 1998d). In the *Pritchardia remota* coastal forest community, this species assumes complete dominance, creating a closed canopy and understory of thick layers of fallen fronds (Gagne and Cuddihy 1999). Native plants which occur nearby include *Chenopodium oahuense, Sesbania tomentosa* (ohai), *Sida fallax,* and *Solanum nelsonii,* (Service 1998d).

The threats to *Pritchardia remota* on Nihoa include competition with nonnative plants, potential introduction of rats and mice, possible herbivory by nonnative insect species, fire, human disturbances, a risk of extinction from naturally occurring events (such as landslides), and reduced reproductive vigor due to the small number of extant individuals (Service 1998d).

Schiedea verticillata (NCN)

Schiedea verticillata, a member of the pink family (Caryophyllaceae), is a perennial herbaceous species, which dies back to an enlarged root during the dry season. Stems, which can reach 0.4 to 0.6 m (1.3 to 2 ft) in length, are both upright or pendant (drooping). The stalkless leaves are fleshy, broad, and pale green and are usually arranged in threes. *Schiedea verticillata,* the only member of its genus to grow in the NWHI, is distinguished from other species in the genus by its exceptionally large sepals and (usually) three leaves per node (Wagner *et al.,* 1999).

Schiedea verticillata is a short-lived perennial. Dr. Steve Weller, University of California at Irvine, found that *Schiedea verticillata* produces more seeds and more nectar than any other species in its genus. It also has the highest degree of genetic diversity among individuals of any species in the genus (Service 1998d). This species' reproductive cycle may not be seasonal, since Conant (1985) has found many life stages simultaneously throughout the year. Her observations also indicate that individual plants flower, set seed, and disperse seed in a relatively short period of time. Pollination vectors, seed dispersal agents, specific environmental requirements, and limiting factors for this species are unknown (Service 1998d).

All but one of the historic colonies of *Schiedea verticillata* are known to be extant on Nihoa. Colony locations and plant numbers appear to shift, but total numbers islandwide have remained relatively stable for several years. Seven colonies, containing a total of 497 individuals, were documented between 1980 and 1983 (HINHP Database 2000). In 1992, Service staff counted between 170 and 190 plants in 6 colonies. In 1996, a total of 359 plants, distributed in 10 colonies primarily on the western half of the island, were identified, with an occurrence of 13 plants on the east spur of the island near Tunnel Cave. Two previously unobserved colonies of 2 and 99 plants were located on the north cliffs above Miller's Valley. Other colonies included 24 plants at Dog's Head, 37 plants at Devil's Slide, 10 plants near Miller's Peak, a previously unknown occurrence of 62 plants on the ridge separating West and West Palm valleys, 80 plants near lower West Valley, 28 individuals near Pinnacle Peak, and 4 plants northeast of Pinnacle Peak (Service 1998).

Schiedea verticillata typically grows in rocky scree, soil pockets, and cracks in coastal cliff faces and in *Pritchardia remota* coastal mesic forest at elevations between 30 and 242 m (100 and 800 ft). Associated native plant taxa include *Eragrostis variabilis, Rumex albescens* (huahuako), *Tribulus cistoides* (nohu), and lichens (HINHP Database 2000).

The threats to *Schiedea verticillata* on Nihoa include competition with nonnative plant species, possible herbivory by nonnative insect species, potential introduction of rats and mice, human disturbances, a risk of extinction from naturally occurring events (such as rockslides), and reduced reproductive vigor due to the small number of individuals (Conant 1985; Service 1998d).

Multi-Island Species

*Cenchrus agrimonioides (*kamanomano*)*

Cenchrus agrimonioides, a short-lived perennial member of the grass family (Poaceae), has leaf blades that are flat or folded and a prominent midrib. The species is distinguished from others in the genus by a cylindrical to lance-shaped bur and the arrangement and position of the bristles on the bur (O'Connor 1999; Wagner *et al.,* 1999). The two varieties, *C. agrimonioides* var. *laysanensis* and *C. agrimonioides* var. *agrimonioides,* differ from each other in that *C. agrimonioides* var. *laysanensis* has smaller burs, shorter stems, and narrower leaves.

Little is known about the life history of *Cenchrus agrimonioides.* It has been observed to produce fruit year round (Service 1999), but other information about its flowering, pollination vectors, seed dispersal agents, longevity, specific environmental requirements, and limiting factors is generally unknown.

Historically, *Cenchrus agrimonioides* var. *agrimonioides* was known from Oahu, Lanai, Maui, and (in an undocumented report) the island of Hawaii (61 FR 53108; 65 FR 79192). *Cenchrus agrimonioides* var. *laysanensis* was historically known from Laysan and Midway Islands and Kure Atoll in the NWHI but has not been seen there since about 1980 (HINHP Database 2000; O'Connor 1999). It occurred on coastal sandy substrate in *Scaevola sericea-Eragrostis variabilis* scrub at an elevation of 5 m (16 ft). Morin and Conant (1998) report that *C. agrimonioides* var. *laysanensis* disappeared from Laysan before 1923, from Midway Atoll sometime shortly after 1902, and was last seen on Green Island (Kure Atoll) in about 1980. *Cenchrus agrimonioides* var. *laysanensis* has not been relocated during periodic monitoring on Laysan for more than 20 years and has not been seen on Midway during recent surveys in 1995 and 1999. It has not been seen on Kure Atoll for over 20 years, in spite of DOFAW's annual seabird surveys and a botanical survey conducted there as recently as 2001. In addition, no viable genetic material of this variety is known to exist. We believe that it is extremely unlikely that individual plants will be rediscovered on these three islands and atolls.

Mariscus pennatiformis (NCN)

Mariscus pennatiformis is a member of the sedge family (Cyperaceae). It is a short-lived perennial with a woody root system covered with brown scales. The stout, three-angled stems are between 0.4 and 1.2 m (1.3 and 4 ft) tall. This species differs from other members of the genus by its slightly concave, smooth stems; the length and number of spikelets (elongated flower-clusters); leaf width; and the length and diameter of stems. The two subspecies, *M. pennatiformis* ssp. *bryanii* and *M. pennatiformis* ssp. *pennatiformis,* are distinguished by the length and width of the spikelets; shape and length of the fruit; and color, length, and width of the glumes (scaly floral bracts) (Koyama 1990).

At the time *Mariscus pennatiformis* was listed in 1994 (59 FR 94559), we followed the taxonomic treatments in the *Manual of the Flowering Plants of Hawaii* (Wagner *et al.* 1990). Subsequent

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 agrimonioides* 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 agrimonioides, 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.

TABLE 2.—SUMMARY OF LISTING ACTIONS FOR SIX PLANT SPECIES FROM THE NWHI

Species	Federal status	Proposed rule		Final rule	
		Date	Federal Register	Date	Federal Register
Amaranthus brownii	Endangered	03/24/93	58 FR 15828	08/21/96	61 FR 43178
Cenchrus agrimonioides	Endangered	10/2/95	60 FR 51417	10/10/96	61 FR 53108
Mariscus pennatiformis	Endangered	09/14/93	58 FR 48012	11/10/94	59 FR 56333
Pritchardia remota	Endangered	03/24/93	58 FR 15828	08/21/96	61 FR 43178
Schiedea verticillata	Endangered	03/24/93	58 FR 15828	08/21/96	61 FR 43178
Sesbania tomentosa	Endangered	09/14/93	58 FR 48012	11/10/94	59 FR 56333

TABLE 3.—SUMMARY OF CRITICAL HABITAT ACTIONS, TO DATE, FOR SIX PLANT SPECIES FROM THE NORTHWESTERN HAWAIIAN ISLANDS

Species	Proposed critical habitat designations or nondesignations		Final critical habitat	
	Date(s)	Federal Register	Date(s)	Federal Register
Amaranthus brownii	05/14/02	67 FR 34522	(1)	This final rule.
Cenchrus agrimonioides	12/18/00	65 FR 79192	05/14/03	68 FR 25934.
	04/03/02	67 FR 15856		
	03/04/02	67 FR 9806		
Mariscus pennatiformis	12/18/00	65 FR 79192	02/27/03	68 FR 9116.
	01/28/02	67 FR 3940	05/15/03	68 FR 25934.
	04/03/02	67 FR 15856		
	05/14/02	67 FR 34522		
	05/28/02	67 FR 15856		
	05/28/02	67 FR 36968		
Pritchardia remota	05/14/02	67 FR 34522	(1)	This final rule.
Schiedea verticillata	05/14/02	67 FR 34522	(1)	This final rule.
Sesbania tomentosa	11/07/00	65 FR 66808	02/27/03	68 FR 9116.
	12/18/00	65 FR 79192	03/18/03	68 FR 12982.
	12/29/00	65 FR 83158	05/14/03	68 FR 25934.
	01/28/02	67 FR 3940	(1)	This final rule.
	04/03/02	67 FR 15856		
	03/04/02	67 FR 9806		
	04/05/02	67 FR 16492		
	05/14/02	67 FR 34522		
	05/28/02	67 FR 37108		
	05/28/02	67 FR 36968		

[1] See **DATES** section of this rule.

At the time each of the six plants were listed, we determined that designation of critical habitat was not prudent because it would not benefit the plant or would increase the degree of threat to the species. The not prudent determinations for these species, along with others, were challenged in *Conservation Council for Hawaii* v. *Babbitt,* 2 F. Supp. 2d 1280 (D. Haw. 1998). On March 9, 1998, the United States District Court for the District of Hawaii directed us to review the prudency determinations for 245 listed plant species in Hawaii, including *Amaranthus brownii, Cenchrus agrimonioides, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata,* and *Sesbania tomentosa.* Among other things, the court held that in most cases we did not sufficiently demonstrate that the species are threatened by human activity or that such threats would increase with the designation of critical habitat. The court also held that we failed to balance any risks of designating critical habitat against any benefits (*id.* at 1283–85).

On August 10, 1998, the court ordered us to publish proposed critical habitat designations or nondesignations for at least 100 species by November 30, 2000, and to publish proposed designations or nondesignations for the remaining 145 species by April 30, 2002 (*Conservation Council for Hawaii* v. *Babbitt,* 24 F. Supp. 2d 1074 (D. Haw., 1998)).

On November 30, 1998, we published a notice in the **Federal Register** requesting public comments on our reevaluation of whether designation of critical habitat is prudent for the 245 Hawaiian plants at issue (63 FR 65805). The comment period closed on March 1, 1999, and was reopened from March 24, 1999, to May 24, 1999 (64 FR 14209). We received more than 100 responses from individuals, nonprofit organizations, county governments, the State's Division of Forestry and Wildlife (DOFAW), and Federal agencies (U.S. Department of Defense—Army, Navy, Air Force). Only a few responses offered information on the status of individual plant species or on current management actions for one or more of the 245 Hawaiian plants. While some of the respondents expressed support for the designation of critical habitat for 245 Hawaiian plants, more than 80 percent opposed the designation of critical habitat for these plants. In general, these respondents opposed designation because they believed it would cause economic hardship, chill cooperative projects, polarize relationships with hunters, or potentially increase trespass or vandalism on private lands. In addition, commenters also cited a lack of information on the biological and ecological needs of these plants, which, they suggested, may lead to designation based on guesswork. The respondents who supported the designation of critical habitat cited that designation

would provide a uniform protection plan for the Hawaiian Islands, promote funding for management of these plants, educate the public and State government, and protect partnerships with landowners and build trust.

On November 7, 2000, we published the first of the court-ordered proposed critical habitat designations or nondesignations for Kauai and Niihau plants (65 FR 66808). The proposed critical habitat designations or nondesignations for Maui and Kahoolawe plants were published on December 18, 2000 (65 FR 79192), for Lanai plants on December 27, 2000 (65 FR 82086), and for Molokai plants on December 29, 2000 (65 FR 83158). All of these proposed rules had been sent to the **Federal Register** by, or on, November 30, 2000, as required by the court's order. In those proposals, we proposed that critical habitat was prudent for three of the NWHI species (*Cenchrus agrimonioides, Mariscus pennatiformis,* and *Sesbania tomentosa*) that are reported from Kauai and/or Niihau, as well as from Maui and Molokai. Critical habitat was proposed for *Cenchrus agrimonioides* and *Mariscus pennatiformis* on Maui, and for *Sesbania tomentosa* on Kauai, Maui, and Molokai.

On October 3, 2001, we submitted a joint stipulation with Earthjustice to the U.S. District Court requesting extension of the court order for the final rules to designate critical habitat for plants from Kauai and Niihau (July 30, 2002), Maui and Kahoolawe (August 23, 2002), Lanai (September 16, 2002), and Molokai (October 16, 2002), citing the need to revise the proposals to incorporate or address new information and comments received during the comment periods. The joint stipulation was approved and ordered by the court on October 5, 2001.

On January 28, 2002, we published revised proposed critical habitat designations or nondesignations for plant species from Kauai and Niihau (67 FR 3940), for plant species from Lanai on March 4, 2002 (67 FR 9806), for plant species from Maui and Kahoolawe on April 3, 2002 (67 FR 15856), and for plant species from Molokai on April 5, 2002 (67 FR 16492); these proposals included critical habitat on one or more islands for three of the NWHI species: *Cenchrus agrimonioides, Mariscus pennatiformis,* and *Sesbania tomentosa.*

On May 14, 2002, we published the proposed critical habitat designations or nondesignations for plant species from the NWHI (67 FR 34522), for Hawaii Island plants on May 28, 2002 (67 FR 36968), and for Oahu plants on May 28, 2002 (67 FR 37108). These proposed rules were sent to the **Federal Register** by April 30, 2002, as required by the 1998 court order.

In the May 14, 2002, proposal, critical habitat was proposed for 493 ha (1,219 ac) on Nihoa, Necker, and Laysan Islands. In that proposed rule, we indicated that critical habitat was prudent, and we proposed critical habitat, for *Amaranthus brownii, Pritchardia remota,* and *Schiedea verticillata.* We also proposed critical habitat for *Mariscus pennatiformis* and *Sesbania tomentosa.* Critical habitat was not proposed for *Cenchrus agrimonioides* in the NWHI because the only variety of that species that occurs there, *C. a* var. *laysanensis,* has not been seen in the wild for over 20 years and no genetic material of this variety is known to exist. Publication of the proposed rule opened a 60-day public comment period.

On July 11, 2002, we submitted joint stipulations with Earthjustice to the U.S. District Court requesting extension of the court orders for the final rules to designate critical habitat for plants from Lanai (December 30, 2002), Kauai and Niihau (January 31, 2003), Molokai (February 28, 2003), Maui and Kahoolawe (April 18, 2003), the Northwestern Hawaiian Islands (April 30, 2003), Oahu (April 30, 2003), and the island of Hawaii (May 30, 2003), citing the need to conduct additional review of the proposals, address comments received during the public comment periods, and to conduct a series of public workshops on the proposals. The joint stipulations were approved and ordered by the court on July 12, 2002.

On September 12, 2002, we published a notice announcing the availability of the draft economic analysis on the proposed critical habitat for NWHI (67 FR 57784). We accepted comments on the draft analysis until the comment period closed on October 15, 2002.

Summary of Comments and Recommendations

In the proposed rule published on May 14, 2002 (67 FR 34522), we requested that all interested parties submit written comments on the proposed designation or nondesignation of critical habitat for six plant species from the NWHI. We also contacted all appropriate Federal, State, and local agencies, scientific organizations, and other interested parties and invited them to comment. No request for a public hearing was received. We received individually written letters from 13 parties, including 4 of the 13 designated peer reviewers, 2 State agencies, 2 branches of the military, and 5 private organizations or individuals. The majority of commenters supported the designation of critical habitat for the NWHI, and no commenters were expressly opposed to the designation.

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited independent opinions from 13 knowledgeable individuals with expertise in one or several fields, including familiarity with the species, the geographic region that the species occurs in, and knowledge of the principles of island conservation biology. We received comments from four of these individuals who generally supported our methods and conclusion and who provided additional information. Comments received from peer reviewers are summarized in the following section and were considered in the development of the final rule.

All comments received were reviewed for substantive issues, notation of errors, and new information regarding critical habitat for *Amaranthus brownii, Cenchrus agrimonioides, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata,* and *Sesbania tomentosa.* Similar comments received were grouped into four general issues and are addressed in the following summary.

Issue 1: Biological Justification and Methodology

(1) *Comment:* One peer reviewer questioned the Service for considering all three critical habitat units (Nihoa, Necker, and Laysan Islands) to be critical habitat for *Amaranthus brownii, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata,* and *Sesbania tomentosa* as there is no record that any of these species occurred on all three islands and as at least one species (*i.e.*, *Mariscus pennatiformis* ssp. *bryanii*) is a single-island endemic.

Our Response: All three islands are not considered to be critical habitat for all five of the species. On Nihoa Island, critical habitat is designated for *Amaranthus brownii, Pritchardia remota, Schiedea verticillata,* and *Sesbania tomentosa.* On Necker Island, critical habitat is designated for *Sesbania tomentosa,* and on Laysan Island critical habitat is designated for *Mariscus pennatiformis* and *Pritchardia remota* (as a recovery population). The critical habitat units on each island are designated for species within extant or historic range or within areas identified in the recovery plans for conservation of the species.

Issue 2: Effects of Critical Habitat Designation

(2) *Comment:* One peer reviewer noted that while the designation of critical habitat is unlikely to have a major impact on the future of NWHI plant species, it would increase awareness of the unique biological attributes of these islands and ultimately increase the likelihood that these species will persist. Another reviewer supported the designation of critical habitat stating that such designation would provide an added, and much needed, layer of protection for plant habitat insofar as: (1) The Departments of the Interior and Commerce disagree on the seaward boundaries of the HINWR; (2) the State of Hawaii has overlapping jurisdiction with the HINWR; (3) a public process is currently in motion to establish a National Marine Sanctuary in the NWHI, which could create an increased commercial interest in eco-tourism in the area; and (4) the native Hawaiian community has expressed a desire for access to Nihoa and Necker Islands for ceremonial purposes. A final reviewer stated that, although the protection afforded by the designation of critical habitat is unclear, such designation has advocacy value because the courts are more likely to find violations of the Act for listed species within such habitat.

Our Response: Critical habitat is one of a number of conservation tools established in the Act.

(3) *Comment:* One reviewer commented that the Service should consider unoccupied, historic habitat that falls outside of the HINWR (*i.e.*, Kure Atoll) for designation as critical habitat as some plant species may need to be re-introduced into such habitat to avoid extinction. Another reviewer expressed concern that the Service was restricting the designation of critical habitat to areas within the HINWR in order to avoid public controversy.

Our Response: We recognize that the long-term conservation of the NWHI species is dependent upon the protection of existing populations and the establishment and protection of additional populations within the historic range (*i.e.,* unoccupied habitat) of each species or within areas identified in the recovery plans for conservation of the species. As such, we examined the current and historically occupied habitat, and areas identified in the recovery plans for conservation of the species. For *Amaranthus brownii, Pritchardia remota,* and *Schiedea verticillata,* species known only from the islands within the NWHI, we were able to locate sites within the HINWR that: (1) Contain the primary constituent elements that are essential to the conservation of one or more of the species; (2) are within the historical range or are identified in the recovery plans for conservation of one or more of the species; and (3) are sufficient to meet our overall recovery goals for these species. For *Mariscus pennatiformis,* the only subspecies known from the NWHI is *M. p.* ssp. *bryanii.* Critical habitat also is designated for this taxon on Laysan Island. Critical habitat also was designated for *M. p.* ssp. *pennatiformis* on Kauai and Maui (68 FR 9116, 68 FR 25934, May 14, 2003) and is proposed on Oahu (67 FR 37108). Critical habitat was designated on Nihoa and Necker for *Sesbania tomentosa* as well as Kauai, Molokai, and Maui (68 FR 9116, 68 FR 12982, 68 FR 25934, May 14, 2003) and is proposed on Oahu and the island of Hawaii (67 FR 37108, 67 FR 36968).

We are not designating critical habitat for *Cenchrus agrimonioides* at this time for the following reasons: *C. a.* var. *laysanensis,* the only variety of this species known from the NWHI, is historically known from Laysan, Midway, and Kure Atoll. This plant has not been reported on Laysan and Midway for over 70 and 100 years, respectively. A permanent year-round camp on Laysan, staffed by paid employees and volunteers, conducts periodic monitoring of both native and nonnative plant species, and *C. a.* var. *laysanensis* has not been seen during these monitoring efforts. On Midway, *C. a.* var. *laysanensis* was not seen during the most recent botanical surveys of 1995 and 1999. *Cenchrus agrimonioides* var. *laysanensis* has not been seen on Kure Atoll for over 20 years though the State DOFAW conducts annual seabird surveys and a botanical survey was conducted there as recently as 2001. In addition, no viable genetic material of this variety is known to exist (see D. *Criteria Used to Identify Critical Habitat*). The rediscovery of currently unknown individual plants on these three islands and atolls is believed to be extremely unlikely.

(4) *Comment:* The Office of Hawaiian Affairs, a State agency, commented that critical habitat must allow traditional cultural gathering rights of Native Hawaiians as reflected in Article XII of the State constitution and upheld by the Hawaii Supreme Court in the Public Access Shoreline Hawaii and Ka Pa akai o Ka Aina decisions.

Our Response: We understand and support the cultural significance of these islands to the Native Hawaiian people, and it is our policy to permit religious and ceremonial gatherings as long as they do not result in effects that are deleterious to habitat for listed species or biota of the islands or that could compromise human safety. Typically, access to Federal lands that are designated as critical habitat is not restricted unless access is determined to result in the destruction or adverse modification of the critical habitat. However, Nihoa, Necker, and Laysan Islands, and their surrounding reefs, are part of the HINWR, which we manage in accordance with the National Wildlife Refuge System Administration Act of 1966. There is no general public or recreational use allowed at HINWR. Access is strictly regulated through a permit system because of the sensitivity of the organisms on these islands to human disturbance and the high risk of importation of nonnative plant and invertebrate species. Other than the refuge staff, only individuals conducting scientific research or undertaking natural history film recording have been granted official permission to visit the HINWR, and these persons are required to apply for a Special Use Permit and abide by the terms and conditions set forth in this permit in order to ensure that the biological integrity, diversity, and environmental health of the refuge are maintained for the benefit of present and future generations of Americans (E. Flint, pers. comm., 2002). Examples of preventative measures put in place by the Special Use Permit program include quarantine protocols to prevent introduction of unwanted plants or insects, and a limitation on the number of people on the island(s) at any one time. In addition, through the Special Use Permit program, we are able to protect the cultural artifacts present on these islands.

Issue 3: Species-Specific Biological Comments

(5) *Comment:* One peer reviewer found it unlikely that the species of *Pritchardia* that once occurred on Laysan Island would have been *Pritchardia remota.* Species of this genus are single-island endemics, and no collections of *Pritchardia remota* are known from Laysan Island. This reviewer did feel that the introduction of Pritchardia remota to Laysan Island was ecologically appropriate given that there is suitable habitat for the species and that the species of *Pritchardia* that once occurred on Laysan Island is no longer extant.

Our Response: The now extinct species of *Pritchardia* that once occurred on Laysan Island was not clearly identified; however, the idea that *P. remota* did occur on Laysan was suggested by Joseph Rock in 1921. We have revised the text in the final rule to

reflect the uncertainty of the species that was once extant on Laysan. *Pritchardia remota* has been recommended as a replacement because it is believed to be closest to the species of *Pritchardia* that once was present on the island. The recovery plan prepared for three plant species on Nihoa Island, including *P. remota,* proposes establishing a population on Laysan Island as part of the recovery process for this species. HINWR staff are working with staff from our Ecological Services, Pacific Islands Office, in this effort. At one time, there were 11 palms outplanted on Laysan from seeds brought directly from Nihoa Island. These survived until they were flooded by high lake levels and died. HINWR staff now have approximately 400 seedlings (from seed gathered at Nihoa Island) in a shade house on Laysan Island. These will be outplanted to suitable habitat on Laysan (E. Flint, pers. comm., 2002).

(6) *Comment:* One peer reviewer commented that it is essential that surveys for *Amaranthus brownii* be conducted on Nihoa Island in the winter to maximize its detection. This reviewer feels that it is inappropriate to recommend protective measures for a plant whose population has not been assessed in 20 years.

Our Response: Amaranthus brownii was last seen on Nihoa Island in 1983 as two colonies that totaled 35 plants. We have surveyed Nihoa for this species for over 20 years. While we agree that the winter months are the optimal time to survey for this winter annual species, as it is more easily detected during this period, access to the island during this season is extremely limited. Landings during the winter months can be difficult and dangerous due to sea conditions that can change without warning, stranding visitors on an island with a limited source of fresh water and no regular food supply. Because *Amaranthus brownii* was detected on Nihoa Island in 1983 and habitat conditions are the same, we consider the species to be extant (as a seedbank) and have found it appropriate to designate critical habitat for this species on Nihoa Island.

(7) *Comment:* One peer reviewer requested that the Service use *Cyperus pennatiformis,* the currently accepted name for *Mariscus pennatiformis.* Concern was expressed, as the current nomenclature is what will be used in scientific and grey literature, that there could be confusion otherwise. The reviewer also noted that *Cyperus pennatiformis* ssp. *bryanii* occurs only on Laysan Island and that *C. p.* ssp. *pennatiformis* occurs on Kauai, Maui, Oahu, and Hawaii. As such, *C. p.* ssp. *bryanii* should be acknowledged as a distinct genetic population, even if the subspecies are not separately listed under the Act.

Our Response: We acknowledge that the current accepted nomenclature for this species has changed since the final rule listing *Mariscus pennatiformis* as endangered was published in 1994 (59 FR 94559). At that time, however, we followed the accepted taxonomic treatment in *The Manual of Flowering Plants of Hawaii* (Wagner *et al.* 1990). In the revised edition of the manual (Wagner *et al.* 1999), the species has been assigned to the genus *Cyperus,* and its subspecies are now varieties (Strong & Wagner 1997; Wagner *et al.* 1999). We plan to publish a notice revising the name for this species; however, this could not be accomplished prior to the completion of this final rule. The discussion of *Mariscus pennatiformis* in the section on Multi-Island Species under ''Discussion of Plant Taxa'' states that *M. p.* ssp. *bryanii* occurs only on Laysan Island. Listing as endangered at the species level provides protection for all varieties and subspecies of the species. Critical habitat is designated on Laysan Island for *M. p.* ssp. *bryanii.* Critical habitat was designated for *M. p.* ssp. *pennatiformis* on Kauai and Maui (68 FR 9116, 68 FR 25934, May 14, 2003) and is proposed on Oahu (67 FR 37108).

(8) *Comment:* One reviewer expressed concern regarding the Service's decision not to designate critical habitat for *Cenchrus agrimonioides* var. *laysanensis* because the taxon had not been seen in the wild for over 20 years and no viable genetic material is known to exist. The reviewer asserts that there have been no comprehensive botanical surveys of all of the islands where the taxon was known to exist, citing that the Service had made a similar decision for another plant species on Kauai, only to have it rediscovered.

Our Response: Critical habitat is not designated for *Cenchrus agrimonioides* var. *laysanensis,* the only variety of this species known from the NWHI, for the following reasons: *C. a.* var. *laysanensis* is historically known from Laysan, Midway, and Kure Atoll. This plant has not been reported on Laysan and Midway for over 70 and 100 years, respectively. A permanent year-round camp on Laysan, staffed by paid employees and volunteers, conducts periodic monitoring of both native and nonnative plant species, and *C. a.* var. *laysanensis* has not been seen during these monitoring efforts. On Midway, *C. a.* var. *laysanensis* was not seen during the most recent botanical surveys of 1995 and 1999. *Cenchrus agrimonioides* var. *laysanensis* has not been seen on Kure Atoll for over 20 years though the State DOFAW conducts annual seabird surveys and a botanical survey was conducted there as recently as 2001. In addition, no viable genetic material of this variety is known to exist. The rediscovery of currently unknown individual plants on these three islands and atolls is believed to be extremely unlikely (see D. *Criteria Used to Identify Critical Habitat*).

Issue 4: Nonnative Species

(9) *Comment:* One peer reviewer commented that the most important factor in maintaining biota on these remote islands is to have a vigorous and comprehensive quarantine system and a method to eliminate and investigate unauthorized landings. Additionally, the reviewer stressed the crucial nature of both an active and proactive eradication and management scheme for nonnative species.

Our Response: We have in place quarantine procedures for the HINWR, which include very strict measures to prevent the introduction of invasive invertebrate and vertebrate species. On islands where invasive nonnative species have already been introduced, we are implementing measures targeted at their eradication. In those areas where such eradication efforts have not yet been initiated, we are gathering information on methods by which we can best control and eliminate invasive taxa. Text was also provided in the ''Discussion of Plant Taxa'' to make it clear that the presence of rats and mice on Nihoa, Necker, and Laysan was a potential threat as these nonnative species are not currently present.

Summary of Changes From the Proposed Rule

Based on a review of public comments received on the critical habitat proposal, we have included the following several changes in this final rule:

(1) Based upon more refined GIS analysis, we corrected the total land area, 498 ha (1,232 ac) proposed as critical habitat for *Pritchardia remota* and *Mariscus pennatiformis* on Laysan Island to 493 ha (1,219 ac) designated as critical habitat for *Pritchardia remota* and *Mariscus pennatiformis* on Laysan Island.

(2) At the time we listed *Mariscus pennatiformis* (59 FR 94559), we followed the taxonomic treatment in the widely used and accepted *Manual of the Flowering Plants of Hawaii* (Wagner *et al.*, 1990). Since that time, the species has been assigned to the genus *Cyperus*

(Wagner *et al.*, 1999). We plan to publish a notice of name change for *Mariscus pennatiformis* subsequent to publishing this final rule.

(3) We revised the text to reflect that the species of *Pritchardia* historically extant on Laysan Island is uncertain but that it had been suggested that the species may have been *P. remota* (Wagner *et al.*, 1999). We have also revised the primary constituent elements for *P. remota* on Laysan and Nihoa.

(4) We revised the list of excluded, manmade features in the ''*Criteria Used to Identify Critical Habitat*'' and section 17.99 ''*Critical Habitat-Plants*'' to delete from the final rule reference to roads, aqueducts, radar, missile launch sites, airports, paved areas, or rural landscaping because these features either do not exist on these islands or do not contain primary constituent elements for these plants on these islands.

Critical Habitat

Critical habitat is defined in section 3 of the Act as—(i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. ''Conservation,'' as defined by the Act, means the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which listing under the Act is no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 also requires conferences on Federal actions that are likely to result in the destruction or adverse modification of proposed critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as ''direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.'' The relationship between a species' survival and its recovery has been a source of confusion to some in the past. We believe that a species' ability to recover depends on its ability to survive into the future when its recovery can be achieved; thus, the concepts of long-term survival and recovery are intricately linked. However, in the March 15, 2001, decision of the United States Court of Appeals for the Fifth Circuit (*Sierra Club* v. *U.S. Fish and Wildlife Service et al.,* 245 F.3d 434) regarding a not prudent finding, the court found our definition of destruction or adverse modification as currently contained in 50 CFR 402.02 to be invalid. In response to this decision, we are reviewing the regulatory definition of adverse modification in relation to the conservation of the species.

In order to be included in a critical habitat designation, habitat in areas known to be occupied at the time of listing must contain physical or biological features essential to the conservation of the species and which may require special management considerations or protection. Outside the areas known to have been occupied at the time of listing, an area must be essential to the conservation of the species in order to qualify for designation. Thus, critical habitat designations identify, to the extent known, using the best scientific and commercial data available, habitat areas that provide essential life-cycle needs of the species (*i.e.*, areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Section 4 requires that we designate critical habitat for a species, to the extent such habitat is determinable, at the time of listing. When we designate critical habitat at the time of listing or under short court-ordered deadlines, we may not have sufficient information to identify all the areas essential for the conservation of the species. Nevertheless, we are required to designate those areas we believe to be critical habitat, using the best information available to us.

Our regulations state that ''The Secretary shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species' (50 CFR 424.12(e)). Accordingly, when the best available scientific and commercial data do not indicate that the conservation needs of the species require designation of critical habitat outside of occupied areas, we will not designate critical habitat in areas outside the geographic area occupied by the species.

Our Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), provides criteria, establishes procedures, and provides guidance to ensure that our decisions represent the best scientific and commercial data available. It requires our biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information should be the listing package for the species. Additional information may be obtained from recovery plans, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, and biological assessments or other unpublished materials.

It is important to clearly understand that critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) and to the regulatory protections afforded by the Act's 7(a)(2) jeopardy standard and section 9 prohibitions, as determined on the basis of the best available information at the time of the action. We specifically anticipate that federally funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species.

A. Prudency

The designation of critical habitat is not prudent when the species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species (50 CFR 424.12(a)(1)).

To determine whether critical habitat would be prudent for *Amaranthus brownii, Pritchardia remota,* and *Schiedea verticillata,* we analyzed the potential threats and benefits for each species in accordance with the court's order. Due to low numbers of individuals and populations and their inherent immobility, the three plants may be vulnerable to unrestricted collection, vandalism, or disturbance, though this is unlikely given their inaccessibility. Recently, we received information on the commercial trade in palms conducted through the Internet (Grant Canterbury, Service, *in litt.,* 2000). Several nurseries advertise and sell seedlings and young plants, including 13 species of Hawaiian *Pritchardia.* Seven of these species are federally protected, including *Pritchardia remota.* While we have determined that designation of critical habitat is not prudent for other species of *Pritchardia* because the benefits of designating critical habitat do not outweigh the potential increased threats from vandalism or collection (65 FR 66808, 65 FR 83158), we do not believe this species is threatened by these same activities because of its inaccessibility. Nihoa is more than 273 km (170 mi) from Lihue, Kauai, and more than 1,600 km (1,000 mi) from Midway. It is a part of the HINWR, and a permit is required for access to the island. Access to the island is further limited due to difficult and dangerous landing conditions. Passengers must be dropped off and the boat sent back out to sea, as there are no mooring docks or beaches. The boat must return later to pick up the passengers, when conditions allow. Sea conditions are apt to change without warning, stranding visitors on this inhospitable island that has no fresh water and no regular food supply (C. Rehkemper, pers. comm., 2001).

We examined the evidence available for *Amaranthus brownii* and *Schiedea verticillata* and have not, at this time, found specific evidence of taking, vandalism, collection, or trade of these taxa or of similar species. Therefore, consistent with applicable regulations (50 CFR 424.12(a)(1)(i)) and the court's discussion of these regulations, we do not believe that these three species are currently threatened by taking or other human activity, which would be exacerbated by the designation of critical habitat.

Therefore, we believe that designation of critical habitat is prudent for *Amaranthus brownii, Pritchardia remota,* and *Schiedea verticillata.* The reasons why we believe designation of critical habitat is prudent for *Sesbania tomentosa* and *Mariscus pennatiformis* are contained in the final rules published on January 9, 2003, and February 27, 2003, respectively (68 FR 1220 and 68 FR 9116). The reasons why we believe designation of critical habitat is prudent for *Cenchrus agrimonioides* are contained in the final rule published on January 9, 2003 (68 FR 1220). Although critical habitat for *Cenchrus agrimonioides* is not being designated on the NWHI (as it has not been seen there for over 20 years and no viable genetic material exists), we are designating critical habitat for this species on Maui (68 FR 25934, May 14, 2003).

B. Methods

As required by the Act and regulations (section 4(b)(2) and 50 CFR 424.12), we used the best scientific information available to determine areas that contain the physical and biological features that are essential for the conservation of *Amaranthus brownii, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata,* and *Sesbania tomentosa.* Using the best information available, we could not identify areas in the NWHI that are essential for *Cenchrus agrimonioides* for the reasons described in section D. *Criteria Used to Identify Critical Habitat.* This information included the known locations and site-specific species information from the HINHP database and our own rare plant database; species information from the Center for Plant Conservation's (CPC) rare plant monitoring database housed at the University of Hawaii's Lyon Arboretum; islandwide Geographic Information System (GIS) coverages (*e.g.,* vegetation, soils, annual rainfall, elevation contours, landownership); the final listing rules for these species; the May 14, 2002, proposal of critical habitat; information received during the public comment period; recent biological surveys and reports; recovery plans for these species; discussions with botanical experts; and recommendations from the Hawaii and Pacific Plant Recovery Coordinating Committee (HPPRCC) (see also the discussion below) (CPC *in litt.* 1999; GDSI 2000; HINHP Database 2000; HPPRCC 1998; Service 1998d, 1999; 59 FR 56333; 61 FR 43178; 61 FR 53108; 65 FR 83158; 67 FR 16492; 67 FR 34522).

In 1994, the HPPRCC initiated an effort to identify and map habitat it believed to be important for the recovery of 282 endangered and threatened Hawaiian plant species. The HPPRCC identified these areas on most of the islands in the Hawaiian chain, and in 1999, we published them in our *Recovery Plan for the Multi-Island Plants* (Service 1999). The HPPRCC expects that there will be subsequent efforts to further refine the locations of important habitat areas and that new survey information or research may also lead to additional refinement of identifying and mapping of habitat important for the recovery of these species.

The HPPRCC identified essential habitat areas for all listed, proposed, and candidate plants and evaluated species of concern to determine if essential habitat areas would provide for their habitat needs. However, the HPPRCC's mapping of habitat is distinct from the regulatory designation of critical habitat as defined by the Act. More data have been collected since the recommendations made by the HPPRCC in 1998. Much of the area that was identified by the HPPRCC as inadequately surveyed has now been surveyed to some degree. New location data for many species have been gathered. Also, the HPPRCC identified areas as essential based on species clusters (areas that included listed species, as well as candidate species and species of concern) while we have only delineated areas that are essential for the conservation of the specific listed species at issue. As a result, the critical habitat designations in this rule include not only some habitat that was identified as essential in the 1998 recommendations but also habitat that was not identified as essential in those recommendations.

C. Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we are required to base critical habitat determinations on the best scientific and commercial data available and to consider those physical and biological features (primary constituent elements) that are essential to the conservation of the species and that may require special management considerations or protection. These features include, but are not limited to: Space for individual and population growth, and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing of offspring, germination, or seed dispersal; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Much of what is known about the specific physical and biological requirements of *Amaranthus brownii,*

Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata, and *Sesbania tomentosa* is described in the ''Background'' section of this final rule.

All areas designated as critical habitat are within the historical range or have been identified in the recovery plans for these species as sites for conservation of one or more of the five species at issue, and contain one or more of the physical or biological features (primary constituent elements) essential for the conservation of the species.

As described in the discussions for each of the five species for which we are designating critical habitat, we are defining the primary constituent elements on the basis of the habitat features of the areas from which the plant species are reported, as described by the type of plant community (*e.g., Pritchardia remota* mesic coastal forest), associated native plant species, locale information (*e.g.,* steep rocky cliffs, talus slopes, gulches), and elevation. The habitat features provide the ecological components required by the plant. The type of plant community and associated native plant species indicate specific microclimate (localized climatic) conditions, retention and availability of water in the soil, soil microorganism community, and nutrient cycling and availability. The locale indicates information on soil type, elevation, rainfall regime, and temperature. Elevation indicates information on daily and seasonal temperature and sun intensity. Therefore, the descriptions of the physical elements of the locations of each of these species, including habitat type, plant communities associated with the species, location, and elevation, as described in the **SUPPLEMENTARY INFORMATION:** *Discussion of Plant Taxa* section above, constitute the primary constituent elements for these species in the NWHI.

D. Criteria Used To Identify Critical Habitat

The Service considered a number of factors in the selection and proposal of specific boundaries for critical habitat. For each, the overall recovery strategy outlined in the recovery plans includes: (1) Stabilization of existing wild populations, (2) protection and management of habitat, (3) enhancement of existing small populations and reestablishment of new populations within historic range or within areas identified in the recovery plans for conservation of the species, and (4) research on species biology and ecology (Service 1998d, 1999). Thus, the long-term recovery of these species is dependent upon the protection of existing population sites and potentially suitable unoccupied habitat within their historic range.

The lack of detailed scientific data on the life history of these plant species makes it impossible for us to develop a robust quantitative model (*e.g.,* a population viability analysis) to identify the optimal number, size, and location of critical habitat units needed to achieve recovery (Beissinger and Westphal 1998; Burgman *et al.* 2001; Ginzburg *et al.* 1990; Karieva and Wennergren 1995; Menges 1990; Murphy *et al.* 1990; Taylor 1995). At this time, and consistent with the listing of these species and their recovery plans, the best available information leads us to conclude that the current size and distribution of the extant populations are not sufficient to expect a reasonable probability of long-term survival and recovery of these plant species. We used the same information, along with the opinions of scientists familiar with these species, to identify potentially suitable habitat within the known historic range of each species.

The recovery goals stated in the recovery plans for these species include the following: Establishment of 8 to 10 populations with a minimum of 300 mature, reproducing individuals per population for *Mariscus pennatiformis* and *Sesbania tomentosa* distributed among the islands of each species known historic range (Service 1999). For purposes of this discussion, a population, as defined in the recovery plan for these species, is a unit in which the individuals could be regularly cross-pollinated and influenced by the same small-scale events (such as landslides), and which contains a minimum of 300 mature, reproducing individuals for these short-lived perennial species (Service 1999).

Within the five species at issue, there are three exceptions to this general recovery goal of 8 to 10 populations for species that are believed to be very narrowly distributed. The recovery goals for *Amaranthus brownii, Pritchardia remota,* and *Schiedea verticillata* include one to three additional colonies of each species on an island other than Nihoa (Service 1998d). In the case of *Pritchardia remota,* Laysan Island should be considered, since a palm that may have been this species formerly occurred there. For *Amaranthus brownii* and *Schiedea verticillata,* Necker Island should be considered since it is adjacent to Nihoa, has similar habitat, and is protected as a U.S. Fish and Wildlife Service refuge (Service 1998d). Should establishment of one to three colonies of any or all of these taxa on an island other than Nihoa occur, delisting may be considered when they have reached a minimum of 100 mature individuals per colony for *Pritchardia remota,* a minimum of 300 mature individuals per colony for *Schiedea verticillata,* and a minimum of 500 mature individuals for *Amaranthus brownii.* Each colony should be stable or increasing for a minimum of five consecutive years. If the establishment of additional colonies on an island other than Nihoa proves infeasible for these taxa, they may be considered recovered if five colonies of each species reach the population targets described above (Service 1998d). The critical habitat designations reflect these exceptions for these species.

By adopting these specific recovery objectives, the adverse effects of genetic inbreeding and random environmental events and catastrophes, such as landslides, hurricanes, or tsunamis, which could destroy a large percentage of a species at any one time, may be reduced (Menges 1990; Podolsky 2001). These recovery objectives were initially developed by the HPPRCC and are found in all of the recovery plans for these species. While they are expected to be further refined as more information on the population biology of each species becomes available, the justification for these objectives is found in the current conservation biology literature addressing the conservation of rare and endangered plants and animals (Beissinger and Westphal 1998; Burgman *et al.* 2001; Falk *et al.* 1996; Ginzburg *et al.* 1990; Hendrix and Kyhl 2000; Karieva and Wennergren 1995; Luijten *et al.* 2000; Meffe and Carroll 1996; Menges 1990; Murphy *et al.* 1990; Podolsky 2001; Quintana-Ascencio and Menges 1996; Taylor 1995; Tear *et al.* 1995; Wolf and Harrison 2001). The overall goal of recovery in the short-term is a successful population that can carry on basic life history processes, such as establishment, reproduction, and dispersal, at a level where the probability of extinction is low. In the long-term, the species and its populations should be at a reduced risk of extinction and be adaptable to environmental change through evolution and migration.

Many aspects of species life history are considered to determine guidelines for species' interim stability and recovery, including longevity, breeding system, growth form, fecundity, ramet (a plant that is an independent member of a clone) production, survivorship, seed longevity, environmental variation, and successional stage of the habitat. Hawaiian species are generally poorly studied, and the only one of these characteristics that can be uniformly determined for all Hawaiian plant

species is longevity (*i.e.,* long-lived perennial, short-lived perennial, and annual). In general, long-lived woody perennial species would be expected to be viable at population levels of 50 to 250 individuals per population, while short-lived perennial species would be viable at population levels of 1,500 to 2,500 individuals or more per population. The HPPRCC revised these population numbers for Hawaiian plant species due to the restricted distribution of suitable habitat and the likelihood of smaller genetic diversity of several species that evolved from a single introduction. For recovery of Hawaiian plants, the HPPRCC recommended a general recovery guideline of 100 mature, reproducing individuals per population for long-lived perennial species, 300 mature, reproducing individuals per population for short-lived perennial species, and 500 mature, reproducing individuals per population for annual species (HPPRCC 1994).

The HPPRCC recommended the conservation and establishment of 8 to 10 populations of multi-island plant species and establishment of additional colonies on other islands for Nihoa plant species in order to address the numerous risks to the long-term survival and conservation of these species. Although absent the detailed information inherent to population viability analysis models (Burgman *et al.* 2001), this approach employs two widely recognized and scientifically accepted goals for promoting viable populations of listed species: (1) The creation or maintenance of multiple populations so that a single or series of catastrophic events cannot destroy the entire listed species (Luijten *et al.* 2000; Menges 1990; Quintana-Ascencio and Menges 1996); and (2) increasing the size of each population in the respective critical habitat units to a level where the threats of genetic, demographic, and normal environmental uncertainties are diminished (Hendrix and Kyhl 2000; Luijten *et al.* 2000; Meffe and Carroll 1996; Podolsky 2001; Service 1997; Tear *et al.* 1995; Wolf and Harrison 2001). In general, the larger the number of populations (or colonies) and the larger the size of each population (or colony), the lower the probability of extinction (Meffe and Carroll 1996; Raup 1991). This basic conservation principle of redundancy when applied to Hawaiian plant species reduces the threats represented by a fluctuating environment and offers the species a greater likelihood of achieving long-term survival and recovery. Conversely, loss of one or more of the plant populations (colonies) within any critical habitat unit could result in an increase in the risk that the entire listed species may not survive and recover. Similarly, actions that eliminate, or reduce the function of, a primary constituent element could result in an increase in the risk of adverse modification of critical habitat.

Due to the reduced size of suitable habitat areas for these Hawaiian plant species, they are more susceptible to the variations and weather fluctuations affecting quality and quantity of available habitat, as well as direct pressure from hundreds of species of nonnative plants and animals. Establishing and conserving the specific target number of populations or colonies on one or more islands within the historic range of the species will provide each species with a reasonable expectation of persistence and eventual recovery, even with the high potential that one or more of these populations will be eliminated by normal or random adverse events, such as the hurricanes which occurred in 1982 and 1992 on the island of Kauai, fires, and nonnative plant invasions (HPPRCC 1994; Luijten *et al.* 2000; Mangel and Tier 1994; Pimm *et al.* 1998; Stacey and Taper 1992). Based upon this information, we conclude that designation of adequate suitable habitat to meet recovery goals for these five plant species is essential to give each of the species a reasonable likelihood of long-term survival and recovery.

All currently or historically occupied sites or sites identified as conservation areas within the recovery plans for these species, containing one or more of the primary constituent elements considered essential to the conservation of the five plant species were examined to determine if special management considerations or protection are required. We reviewed all available management information on these plants at these sites including published and unpublished reports, surveys, and plans; internal letters, memos, trip reports; and, section 7 consultations. Additionally, we contacted staff of the HINWR to discuss their current management for these plants on national wildlife refuge lands.

Pursuant to the definition of critical habitat in section 3 of the Act, the primary constituent elements as found in any area so designated must require ''special management considerations or protections.'' In determining and weighing the relative significance of the threats that would need to be addressed in management plans or agreements, we considered the following:

—The factors that led to the listing of the species, as described in the final rules for listing each of the species. For all or nearly all endangered plants in the NWHI, the major threats include adverse impacts due to nonnative plants and invertebrates, seed or fruit predation by rats and mice, and fire (USFWS 1998d, 1999; 59 FR 56333; 61 FR 43178).

—The recommendations from the HPPRCC in their 1998 report to the Service (''Habitat Essential to the Recovery of Hawaiian Plants'').

—The management actions needed for assurance of survival and ultimate recovery of Hawaii's endangered plants. These actions are described in the Service's recovery plans for these five species (USFWS 1998d, 1999) and in the 1998 HPPRCC report to the Service (HPPRCC 1998). These actions include, but are not limited to, the following: (1) Nonnative plant control; (2) rodent control; (3) invertebrate pest control; (4) fire control; (5) maintenance of genetic material of the endangered plants species; (6) propagation, reintroduction, and/or augmentation of existing populations into areas deemed essential for the recovery of these species; (7) ongoing management of the wild, outplanted (the planting of propagated plants (material) into the wild)), and augmented populations; (8) habitat management and restoration in areas deemed essential for the recovery of these species; and (9) monitoring of the wild, outplanted, and augmented populations.

In general, taking all of the above recommended management actions into account, the following management actions are ranked in order of importance. It should be noted, however, that, on a case-by-case basis, some of these actions may rise to a higher level of importance for a particular species or area, depending on the biological and physical requirements of the species and the location(s) of the individual plants: (1) Nonnative plant control; (2) Rodent control; (3) Invertebrate pest control; (4) Fire control; (5) Maintenance of genetic material of the endangered plant species; (6) Propagation, reintroduction, and/or augmentation of existing populations into areas deemed essential for the recovery of the species; (7) Ongoing management of the wild, outplanted, and augmented populations; (8) Maintenance of natural pollinators and pollinating systems, when known; (9) Habitat management and restoration in areas deemed essential for the

recovery of the species; (10) Monitoring of the wild, outplanted, and augmented populations; (11) Rare plant surveys; and (12) Control of human activities/access.

All five species of plants are known from Federal lands within the HINWR. Management of the HINWR has been guided by the 1986 HINWR Master Plan/Environmental Impact Statement, which places primary emphasis on protecting and enhancing refuge wildlife resources, particularly threatened and endangered species (USFWS 1986). This plan does not specifically document management actions that maintain or enhance populations of endangered plants or their habitat on the islands of the HINWR. We are aware that current management actions within HINWR for these species include monitoring of populations and potential pests, and control or eradication of some alien plants (E. Flint, pers. comm., 2000; Morin and Conant 1998; Shultz 2000; USFWS 1998d). However, funding limitations and the difficulty of travel logistics allow only a maximum of one short visit per year to Nihoa Island, and less frequent visits to Necker.

Morin and Conant's draft ''Laysan Island Ecosystem Restoration Plan'' (1998), a long-term planning document that was developed as an integrated approach to managing the entire biota of Laysan Island, outlines conservation management actions for the endangered plant species on Laysan. These conservation management actions include the prevention of new plant or animal introductions to the island, restoration of the Laysan Island ecosystem that was present prior to major human-caused habitat modification, control/eradication of nonnative species, reintroduction of native species which are currently extinct on the island, and establishment of periodic comprehensive ecosystem monitoring (Morin and Conant 1998). A permanent year-round camp on Laysan, staffed by paid employees and volunteers, has enabled some control of nonnative plant species, propagation and outplanting of native plants for restoration efforts, and periodic monitoring of both native and nonnative plant species (E. Flint, pers. comm., 2000; Morin and Conant 1998). In the future, the plan may serve as a guiding document for endangered plant species management on other NWHI as well. However, because the plan is not fully funded or implemented yet, and because is has not yet been adopted for the other islands on which these plants occur, we know of no areas in the HINWR at this time that do not require special management or protection for the five species for which we have designated critical habitat.

In summary, the long-term conservation of Hawaiian plant species requires the designation of critical habitat units on one or more of the Hawaiian islands with suitable habitat in accordance with species-specific recovery goals as outlined in adopted recovery plans. Some of this designated critical habitat is currently unoccupied by these species but in order to recover the species, it is essential to conserve suitable habitat in these unoccupied units. This, in turn, will allow for the establishment of additional populations through natural recruitment or managed reintroduction. Establishment of these additional populations (colonies) will increase the likelihood that the species will survive and recover in the face of normal and stochastic events (Mangel and Tier 1994; Pimm *et al.*, 1998; Stacey and Taper 1992).

In this rule, we have defined the primary constituent elements based on the general habitat features of the areas from which the plants are reported, such as the type of plant community, the associated native plant species, the physical location (*e.g.*, steep rocky cliffs, talus slopes), and elevation. The areas we are designating as critical habitat provide some or all of the habitat components essential for the conservation of the five plant species.

Our approach to delineating critical habitat units was applied in the following manner:

(1) Critical habitat was proposed and will be designated on an island-by-island basis for ease of understanding for landowners and the public, for ease of conducting the public hearing process, and for ease of conducting public outreach. In Hawaii, landowners and the public are most interested and affected by issues centered on the island on which they reside.

(2) We focused on designating units representative of the known current and historical geographic and elevation range of each species; and

(3) Critical habitat units were designed to allow for expansion of existing wild populations and reestablishment of wild populations within the historic range, or within sites identified as conservation areas in the recovery plans for these species.

For *Amaranthus brownii, Mariscus pennatiformis, Prichardia remota, Schiedea verticillata*, and *Sesbania tomentosa*, currently and historically occupied habitat was examined in identifying and designating critical habitat. Critical habitat boundaries were delineated to include the entire island on which the species are found or were historically found.

Critical habitat is not designated for *Cenchrus agrimonioides* in the NWHI for the following reasons. In the NWHI, this taxon is historically known from only Laysan and Midway Islands, and Kure Atoll. It has not been reported on Laysan and Midway for over 70 and 100 years, respectively. A permanent year-round camp on Laysan, staffed by paid employees and volunteers, conducts periodic monitoring of both native and nonnative plant species, and *Cenchrus agrimonioides* has not been seen during these monitoring efforts (Morin and Conant 1998). On Midway, *Cenchrus agrimonioides* was not seen during the most recent botanical surveys conducted in 1995 and 1999 (Chris Swenson, Service, pers. comm., 2002). *Cenchrus agrimonioides* has not been seen on Kure Atoll for over 20 years even though DOFAW conducts annual seabird surveys and a botanical survey was conducted there as recently as 2001 (DOFAW 2001). In addition, no viable genetic material of this the specific variety that occurs in the NWHI is known to exist. The rediscovery of currently unknown individual plants on these three islands and atolls is believed to be extremely unlikely because we believe this perennial plant would have been seen during these surveys. Although genetic material of the closely related *Cenchrus agrimonioides* var. *agrimonioides* exists, this variety is known only from mountainous habitat on Oahu, which is very different from the habitat on the NWHI where *Cenchrus agrimonioides* var. *laysanensis* occurred. We would not use var. *agrimonioides* for restoration purposes in the NWHI because this variety is not known from the NWHI and its preferred habitat is not available in the NWHI.

Following publication of the proposed critical habitat rules for the 245 Hawaiian plants (67 FR 3940, 67 FR 9806, 67 FR 15856, 67 FR 16492, 67 FR 34522, 67 FR 36968, 67 FR 37108), some of which were revised, we reevaluated proposed critical habitat for *Mariscus pennatiformis* and *Sesbania tomentosa*, Statewide, using the recovery guidelines to determine if we had inadvertently proposed for designation too much or not enough habitat to meet the essential recovery goals for these species distributed among the islands of its known historic range (HINHP Database 2000, 2001; Wagner *et al.* 1990, 1999). We then further evaluated areas of the proposed critical habitat for all five species for the existing quality of the primary constituent elements (*i.e.*, intact native plant communities and

predominance of associated native plants versus nonnative plants), potential as a recovery area, and current or expected management of known threats (*e.g.*, weed control and nonnative insect, slug, and snail control). Areas that contain high quality primary constituent elements, are zoned or managed specifically for conservation, and have ongoing or expected threat abatement actions were considered the most essential within these areas, and we selected adequate area to meet recovery goals (*e.g.*, 8 to 10 populations).

Of the proposed critical habitat for *Mariscus pennatiformis* and *Sesbania tomentosa*, areas that did not contain high quality constituent elements and that may provide habitat for populations above the recovery goal of 8 to 10 populations were determined not essential for the conservation of the species and excluded from final designation. However, all of the proposed critical habitat for *Sesbania tomentosa* on Nihoa and Necker and all of the proposed critical habitat on Laysan for *Mariscus pennatiformis* was considered essential for conservation of these species and is designated as critical habitat. For *Amaranthus brownii, Pritchardia remota*, and *Schiedea verticillata*, taxa known only from the NWHI, we determined that critical habitat on the islands of Laysan and Nihoa was essential for their conservation because it contains occupied habitat important for the expansion of current colonies and the establishment of additional colonies. In addition, these areas may require special management considerations or protection in order to address the threats to each species.

Within the critical habitat boundaries, section 7 consultation is generally necessary, and adverse modification could occur only if the primary constituent elements are affected. Therefore, not all activities within critical habitat would trigger an adverse modification conclusion. In addition, existing manmade features and structures within boundaries of the mapped unit do not contain one or more of the primary constituent elements and would be excluded under the terms of this proposed regulation. Federal actions limited to those areas would not trigger a section 7 consultation unless they affect the species or primary constituent elements in adjacent critical habitat.

In summary, the critical habitat areas described below constitute our best assessment of the physical and biological features needed for the conservation of *Amaranthus brownii, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata*, and *Sesbania tomentosa* and the special management needs of these species, and are based on the best scientific and commercial information available and described above. We publish this final rule acknowledging that we have incomplete information regarding many of the primary biological and physical requirements for these species. However, both the Act and the relevant court orders require us to proceed with designation at this time based on the best information available. As new information accrues, we may consider reevaluating the boundaries of areas that warrant critical habitat designation.

The approximate areas of the designated critical habitat by landownership or jurisdiction are shown in Table 4.

TABLE 4.—APPROXIMATE CRITICAL HABITAT DESIGNATED AREA BY UNIT AND LANDOWNERSHIP OR JURISDICTION, NORTHWESTERN HAWAIIAN ISLANDS, HAWAII

Unit name	State/local	Private	Federal	Total
Nihoa 1—*Amaranthus brownii*	none	none	69 ha (171 ac)	69 ha (171 ac)
Nihoa 2—*Pritchardia remota*	none	none	69 ha (171 ac)	69 ha (171 ac)
Nihoa 3—*Scheidea verticillata*	none	none	69 ha (171 ac)	69 ha (171 ac)
Nihoa 4—*Sesbania tomentosa*	none	none	69 ha (171 ac)	69 ha (171 ac)
Necker 1—*Sesbania tomentosa*	none	none	19 ha (46 ac)	19 ha (46 ac)
Laysan 1—*Mariscus pennatiformis*	none	none	405 ha (1,002 ac)	405 ha (1,002 ac)
Laysan 2—*Pritchardia remota*	none	none	405 ha (1,002 ac)	405 ha (1,002 ac)
Grand Total	none	none	493 ha (1,219 ac)	493 ha (1,219 ac)

Critical habitat includes habitat for these five species on the islands of Nihoa, Necker, and Laysan. Lands designated as critical habitat are under Federal ownership and managed by the Department of the Interior (the Service). The designated lands have been divided into seven units. A brief description of each unit is presented below.

Descriptions of Critical Habitat Units

Nihoa 1—*Amaranthus brownii*

This unit is critical habitat for *Amaranthus brownii* and is 69 ha (171 ac) on federally owned land. It includes the entire island, which is part of the HINWR. The unit is currently unoccupied but provides habitat that is essential to the conservation of up to 500 reproducing individuals of this annual species endemic to Nihoa. The area designated as critical habitat is considered to be the most likely to contain a viable seed bank of *Amaranthus brownii.* The habitat features contained in this unit that are essential for this species include, but are not limited to, shallow soil and rocky outcrops in fully exposed locations that contain one or more of the following associated native plant species: *Chenopodium oahuense, Eragrostis variabilis, Ipomoea indica, Ipomoea pes-caprae* ssp. *brasiliensis, Panicum torridum, Scaevola sericea, Schiedea verticillata, Sicyos pachycarpus, Sida fallax*, and *Solanum nelsonii.* This critical habitat unit is essential to the conservation of the species because it supports habitat for the re-establishment of populations of this endemic species.

Nihoa 2—*Pritchardia remota*

This unit is critical habitat for *Pritchardia remota* and is 69 ha (171 ac) on federally owned land. It includes the entire island, which is part of the HINWR. This unit, which contains at least 4 colonies that consist of at least 1,074 individuals (including seedlings) of *P. remota*, provides habitat that is essential to the conservation of 100 mature, reproducing individuals of this long-lived perennial species. The habitat features contained in this unit that are essential for this species include, but are not limited to, a coastal forest community that contains one or more of the following associated native plant species: *Chenopodium oahuense, Sesbania tomentosa, Solanum nelsonii*, and *Sida fallax.* This unit is essential to the conservation of the species because

it supports the only extant wild occurrence of this species and is geographically separated from the designated critical habitat unit on Laysan Island to avoid destruction by one naturally occurring catastrophic event.

Nihoa 3—*Schiedea verticillata*

This unit is critical habitat for *Schiedea verticillata* and is 69 ha (171 ac) on federally owned land. It includes the entire island, which is part of the HINWR. The unit provides habitat that is essential to the conservation of 300 mature, reproducing individuals of this short-lived perennial and, based on surveys conducted in 1996, contained at least 11 colonies and a total of at least 372 individuals. The habitat features contained in this unit that are essential for this species include, but are not limited to, rocky scree, soil pockets, and cracks on coastal cliff faces and in *Pritchardia remota* coastal mesic forest that contain one or more of the following associated native species and lichens: *Eragrostis variabilis, Rumex albescens*, and *Tribulus cistoides.* This critical habitat unit is essential to the conservation of the species because it supports extant colonies of *S. verticillata* and includes habitat that is important to the expansion of the present population on Nihoa.

Nihoa 4—*Sesbania tomentosa*

This unit is critical habitat for *Sesbania tomentosa* and is 69 ha (171 ac) on federally owned land. It includes the entire island, which is part of the HINWR. The unit contains habitat essential to the conservation of 300 mature, reproducing individuals of this short-lived perennial and contains one island-wide population of at least 1,000 individuals. The habitat features contained in this unit that are essential for this species include, but are not limited to, shallow sandy soils on beaches and dunes in *Chenopodium oahuense* coastal dry shrubland that contain one or more of the following associated native plant species: *Pritchardia remota, Scaevola sericea, Sida fallax*, and *Solanum nelsonii.* This critical habitat unit is essential to the conservation of the species because it supports extant colonies of *Sesbania tomentosa* and is also geographically separated from designated critical habitat on other islands to avoid destruction by one naturally occurring catastrophic event.

Necker 1—*Sesbania tomentosa*

This unit is critical habitat for *Sesbania tomentosa* and is 19 ha (46 ac) on federally owned land. It includes the entire island, which is part of the HINWR. The unit contains Annexation and Summit Hills, is occupied by one population of undetermined size, and provides habitat that is essential for the conservation of up to one population of 300 mature, reproducing individuals of this short-lived perennial species. The habitat features contained in this unit that are essential for this species include, but are not limited to, shallow sandy soils on beaches and dunes in *Chenopodium oahuense* coastal dry shrubland that contain one or more of the following associated native plant species: *Sida fallax, Scaevola sericea, Solanum nelsonii,* and *Pritchardia remota.* This unit is essential to the conservation of *Sesbania tomentosa* because it supports the only extant colony of the species on Necker. This unit also includes habitat that is important for the expansion of the present population, which is currently considered not viable. This unit is located at the westernmost range of this multi-island species and is geographically separated from designated critical habitat on other islands to avoid destruction by one naturally occurring catastrophic event.

Laysan 1—*Mariscus pennatiformis*

This unit is critical habitat for *Mariscus pennatiformis* and is approximately 405 ha (1,002 ac) in size, which includes a 52 ha (129 ac) hypersaline lagoon in its center. It is all on Federal land and is part of the HINWR. The unit is occupied by one occurrence of approximately 200 individuals and provides habitat essential to the conservation of 300 reproducing individuals. The habitat features contained in this unit that are essential for this species include, but are not limited to, coastal sandy substrate that contains one or more of the following associated native plant species: *Cyperus laevigatus, Eragrostis variabilis,* and *Ipomoea* sp. This critical habitat unit is essential to the conservation of *Mariscus pennatiformis* ssp. *bryanii* because it supports the only extant colony, which is currently considered not viable. It also contains habitat that is important to the expansion of this taxon.

Laysan 2—*Pritchardia remota*

This unit is critical habitat for *Pritchardia remota* and is approximately 405 ha (1,002 ac) in size, which includes a 52 ha (129 ac) hypersaline lagoon in its center. It is all on Federal land and is part of the HINWR. The unit is currently unoccupied but provides habitat essential to the conservation of 100 reproducing individuals of this long-lived perennial species. The habitat features contained in this unit that are essential for this species include, but are not limited to, the coastal strand community that contains one or more of the following associated native plant species: *Chenopodium oahuense* and *Solanum nelsonii.*

This unit is currently unoccupied but is essential to the conservation of *Pritchardia remota* because it provides habitat for the establishment of a new colony in order to achieve recovery goals for the species. This unit is also geographically separated from the occupied designated critical habitat unit on Nihoa, which serves to avoid the destruction of both colonies by one naturally occurring catastrophic event.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. Destruction or adverse modification of critical habitat occurs when a Federal action directly or indirectly alters critical habitat to the extent that it appreciably diminishes the value of critical habitat for the conservation of the species. Individuals, organizations, States, local governments, and other non-Federal entities are directly affected by the designation of critical habitat when their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding.

Section 7(a) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened, and with respect to its critical habitat, if any is designated or proposed. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies (action agency) to confer with us on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat.

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal action agency must

enter into consultation with us. Through this consultation, the action agency would ensure that the permitted actions do not destroy or adversely modify critical habitat.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate formal consultation on previously reviewed actions under certain circumstances, including instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement, or control has been retained or is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conferencing with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

If we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide ''reasonable and prudent alternatives'' to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid the likelihood of resulting in destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Activities on Federal lands that may affect critical habitat of *Amaranthus brownii, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata,* or *Sesbania tomentosa* will require section 7 consultation.

Section 4(b)(8) of the Act requires us to briefly describe and evaluate in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may adversely modify such habitat or that may be affected by such designation. We note that such activities may also jeopardize the continued existence of the species.

Activities that, when carried out, funded, or authorized by a Federal agency, may directly or indirectly destroy or adversely modify critical habitat include, but are not limited to:

(1) Activities that appreciably degrade or destroy habitat defined in the discussion of the primary constituent elements including, but not limited to: Clearing or cutting of native live trees and shrubs, whether by burning or mechanical, chemical, or other means (*e.g.*, woodcutting or herbicide application); introducing or enabling the spread of nonnative species; and taking actions that pose a risk of fire;

(2) Construction activities by the U.S. Department of the Interior (the Service);

(3) Research activities funded by the U.S. Department of the Interior (the Service) or National Oceanic and Atmospheric Administration (National Marine Sanctuaries Program, National Marine Fisheries Service); and

(4) Activities not mentioned above funded or authorized by the Department of the Interior (U.S. Geological Survey, National Park Service), Department of Commerce (National Oceanic and Atmospheric Administration), Western Pacific Regional Fisheries Council, or any other Federal Agency.

If you have questions regarding whether specific activities will likely constitute adverse modification of critical habitat, contact the Field Supervisor, Pacific Islands Ecological Services Field Office (see **ADDRESSES** section). Requests for copies of the regulations on listed wildlife and plants, and inquiries about prohibitions and permits, may be addressed to the U.S. Fish and Wildlife Service, Division of Endangered Species, 911 N.E. 11th Ave., Portland, OR 97232–4181 (telephone 503/231–2063; facsimile 503/231–6243).

Economic Analysis

Exclusions Under Section 4(b)(2)

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific and commercial information available, and to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat. We cannot exclude areas from critical habitat when the exclusion will result in the extinction of the species concerned.

Economic Impacts

Following the publication of the proposed critical habitat designation on May 14, 2002, a draft economic analysis was conducted to estimate the potential economic impact of the designation, in accordance with recent decisions in the *N.M. Cattlegrowers Ass'n* v. *U.S. Fish and Wildlife Serv.,* 248 F.3d 1277 (10th Cir. 2001). The draft analysis was made available for review on September 12, 2002 (67 FR 57784). We accepted comments on the draft analysis until the comment period closed on October 15, 2002.

No comments addressing the economic analysis were received, and no information has come to light that might change the conclusions of the draft economic analysis. Therefore, the draft analyses constitutes the final economic analysis for this rule. The economic analysis estimates that, over the next 10 years, the designation may result in potential economic effects of approximately $30,800, and that economic benefits from the designation of critical habitat would not be significant. A more detailed discussion of our economic analysis is contained in the draft economic analysis and the addendum. Both documents are included in our administrative record and are available for inspection at the Pacific Islands Fish and Wildlife Office (see **ADDRESSES** section). We do not believe the economic impacts of this designation, which would result primarily from section 7 consultations on FWS, NMS, and private research activities, would be significant. Therefore, no critical habitat units in the proposed rule were excluded or modified due to economic impacts.

As described above, section 4(b)(2) of the Act also requires us to consider other relevant impacts, in addition to economic impacts, of designating critical habitat. No critical habitat units were excluded or modified due to non-economic impacts.

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, the Office of Management and Budget (OMB) has determined that this critical habitat designation is not a significant regulatory action. This rule will not have an annual economic effect of $100 million or more or adversely affect any economic sector, productivity, competition, jobs, the environment, or other units of government. This designation will not create inconsistencies with other agencies' actions or otherwise interfere with an action taken or planned by another agency. It will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Finally, this designation will not raise novel legal or policy issues. Accordingly, OMB has not reviewed this final critical habitat designation.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA) (as amended by the Small Business Regulatory Enforcement Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions).

However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the RFA to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities.

SBREFA does not explicitly define either ''substantial number'' or ''significant economic impact.'' Consequently, to assess whether a ''substantial number'' of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in the area. Similarly, this analysis considers the relative cost of compliance on the revenues/profit margins of small entities in determining whether or not entities incur a ''significant economic impact.'' Only small entities that are expected to be directly affected by the designation are considered in this portion of the analysis. This approach is consistent with several judicial opinions related to the scope of the RFA. (*Mid-Tex Electric Co-Op, Inc.* v. *F.E.R.C.* and *America Trucking Associations, Inc.* v. *EPA*.)

In today's rule, we are certifying that the designation of critical habitat for the five plant species on the NWHI will not have a significant effect on a substantial number of small entities. The following discussion explains our rationale.

Federal courts and Congress have indicated that an RFA/SBREFA analysis is appropriately limited to impacts to entities directly regulated by the requirements of the regulation (Service 2002). As such, entities not directly regulated by the critical habitat designation are not considered in this section of the analysis.

Small entities include small organizations, such as independent nonprofit organizations and small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents, as well as small businesses. Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000. The RFA/SBREFA defines ''small organization'' as any not-for-profit enterprise that is independently owned and operated and is not dominant in its field (5 U.S.C. 601).

For the purposes of the RFA/SBREFA, Federal agencies (*e.g.*, the Service, U.S. Geological Survey, National Park Service, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, and Western Pacific Regional Fisheries Council) are not considered small governments and thus are not small entities. State governments are not considered small governmental entities and thus DLNR is not considered a small entity. The University of Hawaii is a large State university system, so it is also not a small entity. The Bishop Museum, which may sponsor research, is not likely to be considered a small organization because it is the largest museum in the State and thus is dominant in its field.

Thus, none of the entities potentially impacted by the designation of critical habitat are likely to be considered a small entity under the RFA/SBREFA. For these reasons, we are certifying that the designation of critical habitat for *Amaranthus brownii, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata,* and *Sesbania tomentosa* will not have a significant economic impact on a substantial number of small entities. Therefore, a regulatory flexibility analysis is not required.

Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 804(2))

Under the Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 801 *et seq.*), this rule is not a major rule. Our assessment of the economic effects of this designation are described in the economic analysis. Based on the effects identified in this analysis, we believe that this rule will not have an effect on the economy of $100 million or more, will not cause a major increase in costs or prices for consumers, and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. Refer to the economic analysis for a discussion of the effects of this determination.

Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211, on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. According to OMB, this rule is not a significant regulatory action under Executive Order 12866, and we do not expect it to significantly affect energy production supply and distribution facilities because no energy production, supply, and distribution facilities are included within designated critical habitat. Further, for the reasons described in the economic analysis, we do not believe the designation of critical habitat for the five NWHI plants will affect future energy production. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*):

(a) This rule will not ''significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. All of the land being designated as critical habitat in this rule is owned by the Federal government and is managed as a National Wildlife Refuge by the Service. Small governments will not be affected unless they propose an action affecting the refuge and requiring Federal funds, permits, or other authorizations. Any such activities will require that the Federal agency ensure that the action will not adversely modify or destroy designated critical habitat.

(b) This rule will not produce a Federal mandate on State or local governments or the private sector of $100 million or greater in any year; that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. For the reasons described above, the designation of critical habitat imposes no obligations on State or local governments.

Takings

In accordance with Executive Order 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), we have analyzed the potential takings

implications of designating critical habitat for the five species from the NWHI in a takings implication assessment. The takings implications assessment concludes that this final rule does not pose significant takings implications.

Federalism

In accordance with Executive Order 13132, this final rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of Interior policy, we requested information from appropriate State agencies in Hawaii.

Because all of the designated critical habitat, including the unoccupied unit, is on Federal land, there should be no impact on State and local governments and their activities as a result of the designation of critical habitat in currently unoccupied areas of the NWHI.

Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor has determined that this rule does not unduly burden the judicial system and does meet the requirements of sections 3(a) and 3(b)(2) of the Order. We have designated critical habitat in accordance with the provisions of the Endangered Species Act. The rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the five plant species from the NWHI.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any information collection requirements that require OMB approval under the Paperwork Reduction Act. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number.

National Environmental Policy Act

We have determined that we do not need to prepare an Environmental Assessment and/or an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act. We published a notice outlining our reason for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This determination does not constitute a major Federal action significantly affecting the quality of the human environment.

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We have determined that there are no Tribal lands essential for the conservation of these five plant species. Therefore, designation of critical habitat for these five species does not involve any Tribal lands.

References Cited

A complete list of all references cited in this final rule is available upon request from the Pacific Islands Fish and Wildlife Office (see **ADDRESSES** section).

Authors

The primary authors of this final rule are staff of the Pacific Islands Fish and Wildlife Office (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

■ Accordingly, we hereby amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations as set forth below:

PART 17—[AMENDED]

■ 1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

■ 2. Amend § 17.12(h) by revising the entries for *Amaranthus brownii, Mariscus pennatiformis, Pritchardia remota, Schiedea verticillata,* and *Sesbania tomentosa* under FLOWERING PLANTS in the List of Endangered and Threatened Plants to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
Amaranthus brownii.	None	U.S.A. (HI)	Amaranthaceae	E	587	17.99(g)	NA
Mariscus pentiformis.	None	U.S.A. (HI)	Cyperaceae	E	559	17.99(a)(1), (e)(1), (g).	NA
Pritchardia remota	Loulu	U.S.A. (HI)	Arecaceae	E	587	17.99(g)	NA
Schiedea verticillata.	None	U.S.A. (HI)	Caryophyllaceae	E	587	17.99(g)	NA
Sesbania tomentosa.	Ohai	U.S.A. (HI)	Fabaceae	E	559	17.99(a)(1), (c), (e)(1), (g).	NA
*	*	*	*	*		*	*

■ 3. Amend § 17.99 as set forth below:

■ (1) By revising the section heading to read as follows; and

■ (2) By adding new paragraphs (g) and (h) to read as follows:

§ 17.99 Critical habitat; plants on the islands of Kauai, Niihau, and Molokai, HI, and on the Northwestern Hawaiian Islands.

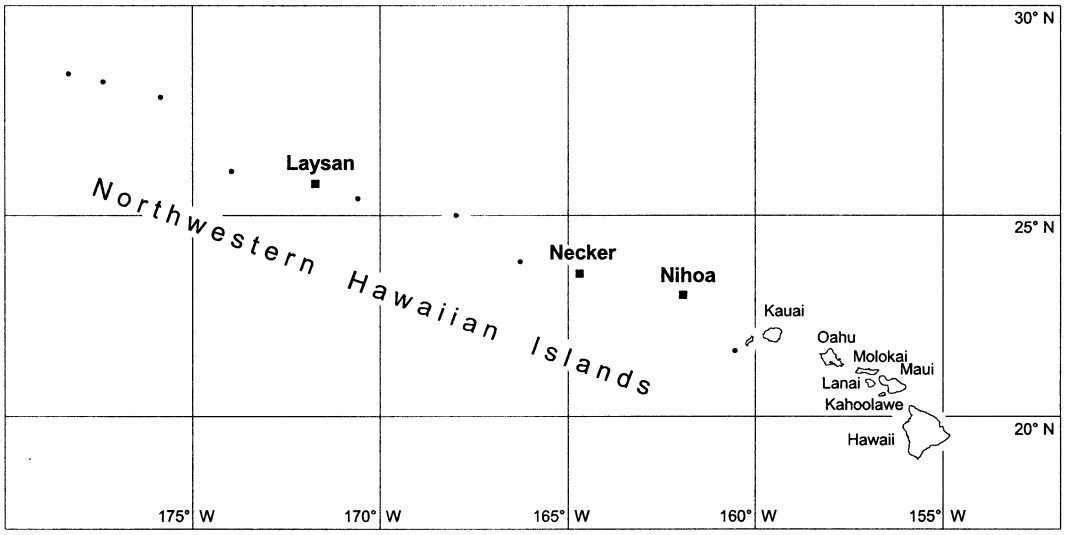
* * * * *

(g) *Maps and critical habitat unit descriptions for the Northwestern Hawaiian Islands.* The following paragraphs contain the legal descriptions of the critical habitat units

designated for the Northwestern Hawaiian Islands. Existing manmade features within boundaries of the mapped areas, such as water features, telecommunications equipment, arboreta and gardens, and heiau (indigenous places of worship or shrines) and other archaeological sites do not contain one or more of the primary constituent elements described for each species in paragraphs (h) of this section and therefore are not included in the critical habitat designations. Coordinates are in WGS84 datum. See Map 1 for the the general locations of the seven critical habitat units designated for the islands of Laysan, Nihoa, and Necker.

(1) Index map—Map 1—follows:

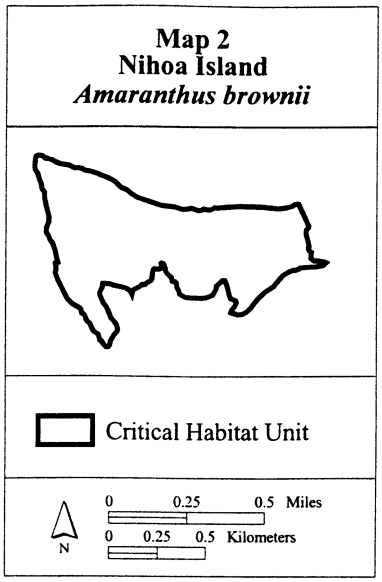
Map 1 - General Locations of Units for Five Species of Plants
Islands of Laysan, Necker, and Nihoa



(2) Nihoa 1—*Amaranthus brownii*—entire island (approximately 69 ha; 171 ac).

(i) Nihoa Island is located between 23°3′ N. and 23°4′ N. and between 161°54′ W. and 161°56′ W.

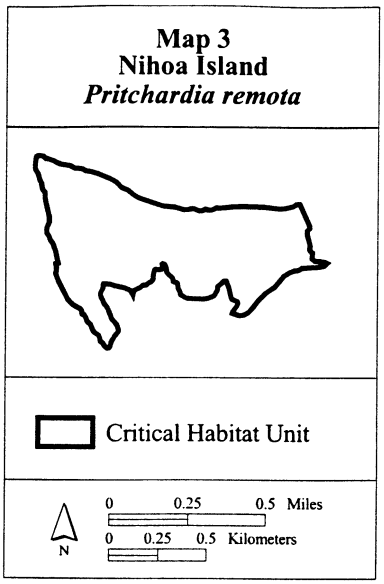
(ii) **Note:** Map 2 follows:



(3) Nihoa 2—*Pritchardia remota*—entire island (approximately 69 ha; 171 ac).

(i) Nihoa Island is located between 23°3′ N. and 23°4′ N. and between 161°54′ W. and 161°56′ W.

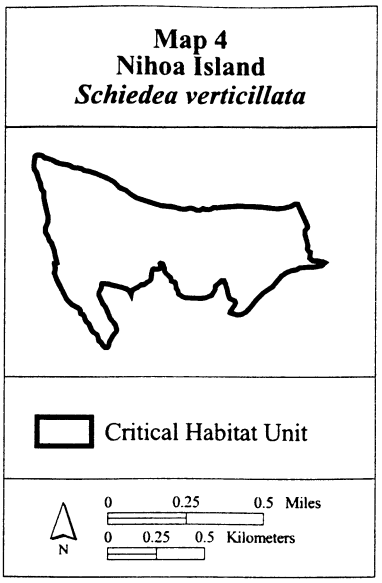
(ii) **Note:** Map 3 follows:



(4) Nihoa 3—*Schiedea verticillata*—entire island (approximately 69 ha; 171 ac).

(i) Nihoa Island is located between 23°3′ N. and 23°4′ N. and between 161°54′ W. and 161°56′ W.

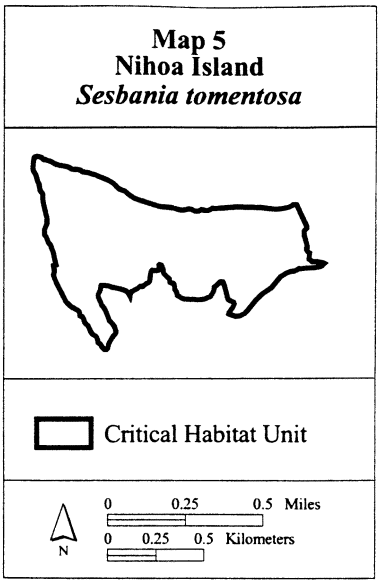
(ii) **Note:** Map 4 follows:



(5) Nihoa 4—*Sesbania tomentosa*—entire island (approximately 69 ha; 171 ac).

(i) Nihoa Island is located between 23°3′ N. and 23°4′ N. and between 161°54′ W. and 161°56′ W.

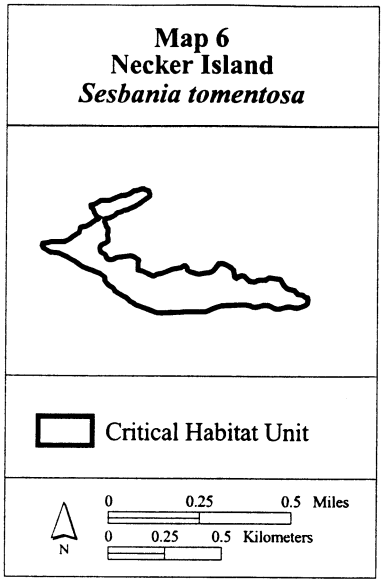
(ii) **Note:** Map 5 follows:



(6) Necker 1—*Sesbania tomentosa*—entire island (approximately 18 ha; 46 ac).

(i) Necker Island is located between 23°34′ N. and 23°35′ N. and between 164°41′ W. and 164°43′ W.

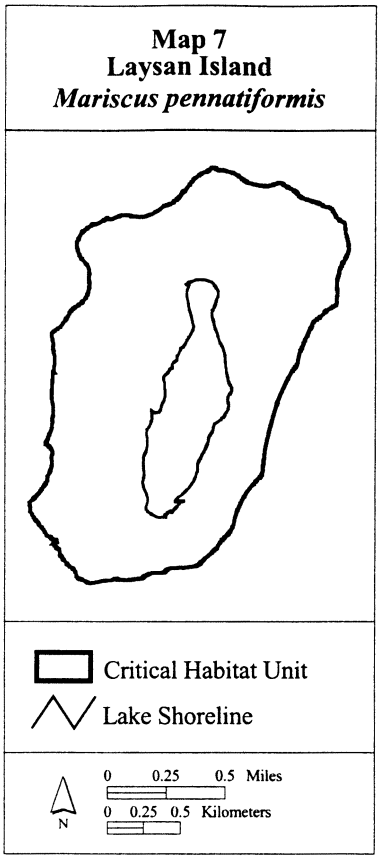
(ii) **Note:** Map 6 follows:



(7) Laysan 1—*Mariscus pennatiformis*—entire island (approximately 405 ha; 1,219 ac).

(i) Laysan Island is located between 25°45′ N. and 25°47′ N. and between 171°43′ W. and 171°45′ W.

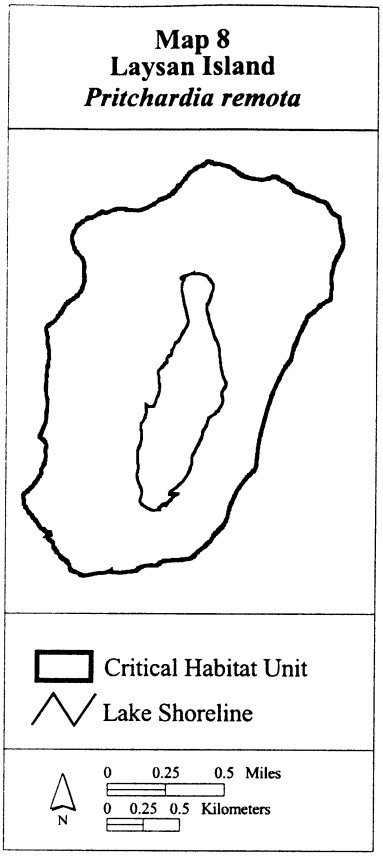
(ii) **Note:** Map 7 follows:



(8) Laysan 2—*Pritchardia remota*—entire island (approximately 405 ha; 1,219 ac).

(i) Laysan Island is located between 25°45′ N. and 25°47′ N. and between 171°43′ W. and 171°45′ W.

(ii) **Note:** Map 8 follows:



(9) Table of protected species within each critical habitat unit for the Northwestern Hawaiian Islands.

Island	Species—Occupied	Species—Unoccupied
Laysan	*Mariscus pennatiformis*	*Pritchardia remota*
Necker	*Sesbania tomentosa.*	
Nihoa	*Pritchardia remota, Schiedea verticillata, Sesbania tomentosa.*	*Amaranthus brownii*

(h) *Plants on the Northwestern Hawaiian Islands; Constituent elements.*

Family Amaranthaceae: *Amaranthus brownii* (NCN)

Nihoa 1—*Amaranthus brownii,* identified in the legal description in paragraph (g) of this section, constitutes critical habitat for *Amaranthus brownii.* On Nihoa, the currently known primary constituent elements of critical habitat include, but are not limited to, the habitat components provided by:

(1) Shallow soil in fully exposed locations on rocky outcrops and containing one or more of the following associated native plant species: *Chenopodium oahuense, Eragrostis variabilis, Ipomoea indica, Ipomoea pes-caprae* ssp. *brasiliensis, Panicum torridum, Scaevola sericea, Schiedea verticillata, Sicyos pachycarpus, Sida fallax,* or *Solanum nelsonii;* and (2)

Elevations between 30 and 242 m (100 and 800 ft).

Family Arecaceae: *Pritchardia remota* (loulu)

Nihoa 2—*Pritchardia remota,* and Laysan 2— *Pritchardia remota,* identified in the legal descriptions in paragraph (g) of this section, consitute critical habitat for *Pritchardia remota.*

(1) On Nihoa, the currently known primary constituent elements of critical habitat include, but are not limited to, the habitat components provided by:

(i) *Pritchardia remota* coastal forest community and containing one or more of the following associated native plant species: *Chenopodium oahuense, Sesbania tomentosa, Sida fallax,* or *Solanum nelsonii;* and

(ii) Elevations between sea level and 151 m (500 ft).

(2) On Laysan Island, the currently known primary constituent elements of critical habitat include, but are not limited to, the habitat components provided by:

(i) Coastal strand habitat with *Chenopodium oahuensee* and *Solanum nelsonii;* and

(ii) Elevations between sea level to 12 m (0 to 40 ft).

Family Caryophyllaceae: *Schiedea verticillata* (NCN)

Nihoa 3—*Schiedea verticillata,* identified in the legal description in paragraph (g) of this section, constitutes critical habitat for *Schiedea verticillata.* On Nihoa, the currently known primary constituent elements of critical habitat for *Schiedea verticillata* include, but are not limited to, the habitat components provided by:

(1) Rocky scree, soil pockets, and cracks on coastal cliff faces and in *Pritchardia remota* coastal mesic forest and containing one or more of the following associated native plant species: *Eragrostis variabilis, Rumex albescens, Tribulus cistoides,* or lichens; and

(2) Elevations between 30 and 242 m (100 and 800 ft).

Family Cyperaceae: *Mariscus pennatiformis* (NCN)

Laysan 1—*Mariscus pennatiformis,* identified in the legal description in paragraph (g) of this section, constitutes critical habitat for *Mariscus pennatiformis.* On Laysan Island, the currently known primary constituent elements of critical habitat for *Mariscus pennatiformis* include, but are not limited to, habitat components provided by:

(1) Coastal sandy substrate containing one or more of the following associated native plant species: *Cyperus laevigatus, Eragrostis variabilis,* or *Ipomoea* sp.; and

(2) Elevation of 5 m (16 ft).

Family Fabaceae: *Sesbania tomentosa* (ohai)

Nihoa 4—*Sesbania tomentosa,* and Necker 1—*Sesbania tomentosa,* identified in the legal descriptions in paragraph (g) of this section, constitute critical habitat for *Sesbania tomentosa.* On Nihoa and Necker, the currently known primary constituent elements of critical habitat for *Sesbania tomentosa* include, but are not limited to, habitat components provided by:

(1) Shallow soil on sandy beaches and dunes in *Chenopodium oahuense* coastal dry shrubland or mixed coastal dry cliffs and containing one or more of the following associated native plant species: *Pritchardia remota, Scaevola sericea, Sida fallax,* or *Solanum nelsonii;* and

(2) Elevations between sea level and 84 m (0 and 276 ft).

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Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

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