

2. Section 721.3764 is revised to read as follows:

§ 721.3764 Fluorene substituted aromatic amine.

(a) *Chemical substance and significant new uses subject to reporting.*

(1) The chemical substance identified generically as a fluorene substituted aromatic amine (PMN P-91-43) is subject to reporting under this section for the significant new uses described in paragraph (a)(2) of this section.

(2) The significant new uses are:

(i) *Protection in the workplace.*

Requirements as specified in § 721.63 (a)(1), (a)(2)(iii), (a)(3), (a)(4), (a)(5)(iii), (a)(5)(iv), (a)(5)(v), (a)(5)(vi), (a)(6)(i), (b) (concentration set at 1.0 percent), and (c). However, these requirements do not apply after the PMN substance is adhered onto film or incorporated into prepreg form (resin impregnated substrate).

(ii) *Hazard communication program.*

Requirements as specified in § 721.72 (a), (b), (c), (d), (e) (concentration set at 1.0 percent), (f), (g)(1)(iv), (g)(2)(i), (g)(2)(ii), (g)(2)(iii), (g)(2)(iv), (g)(2)(v), (g)(3)(i), (g)(3)(ii), (g)(4)(iii), and (g)(5) during manufacture.

(iii) *Industrial, commercial, and consumer activities.* Requirements as specified in § 721.80(l).

(iv) *Release to water.* Requirements as specified in § 721.90 (a)(1), (b)(1), and (c)(1).

(b) *Specific requirements.* The provisions of subpart A of this part apply to this section except as modified by this paragraph.

(1) *Recordkeeping.* Recordkeeping requirements as specified in § 721.125 (a) through (i) and (k) are applicable to manufacturers, importers, and processors of this substance.

(2) *Limitations or revocation of certain notification requirements.* The provisions of § 721.185 apply to this section.

3. Section 721.5225 is amended by revising paragraph (a)(2)(v) to read as follows:

§ 721.5225 Naphthalene, 1,2,3,4-tetrahydro(1-phenylethyl) (specific name).

(a) *Chemical substance and significant new uses subject to reporting.*

* * *

(2) * * *

(v) *Release to water.* Requirements as specified in § 721.90 (a)(4), (b)(4), and (c)(4) (where n = 1).

* * * * *

4. Section 721.7046 is amended by revising paragraph (a)(1) to read as follows:

§ 721.7046 Formaldehyde, polymer with substituted phenols, glycidyl ether.

(a) *Chemical substance and significant new uses subject to reporting.*

(1) The chemical substance identified as formaldehyde, polymer with substituted phenols, glycidyl ether (PMN P-93-955) is subject to reporting under this section for the significant new uses described in paragraph (a)(2) of this section. The requirements of this section do not apply once the substance is a component of a highly densified tablet formulation of an epoxy molding compound.

* * * * *

5. Section 721.7210 is amended by revising paragraph (a)(1) to read as follows:

§ 721.7210 Epoxidized copolymer of phenol and substituted phenol.

(a) *Chemical substance and significant new uses subject to reporting.*

(1) The chemical substance identified as epoxidized copolymer of phenol and substituted phenol (PMN P-91-598) is subject to reporting under this section for the significant new uses described in paragraph (a)(2) of this section. The requirements of this section do not apply once the substance is a component of a highly densified tablet formulation of an epoxy molding compound.

* * * * *

6. Section 721.8350 is amended by adding paragraph (a)(2)(iv) to read as follows:

§ 721.8350 2-Propenoic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester.

(a) *Chemical substance and significant new uses subject to reporting.*

* * *

(2) * * *

(iv) *Release to water.* Requirements as specified in § 721.90 (a)(1), (b)(1), and (c)(1).

* * * * *

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AD37

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Three Plants From the Channel Islands of Southern California

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Fish and Wildlife Service (Service) determines *Cercocarpus traskiae* (Catalina Island mountain-mahogany), *Lithophragma maximum* (San Clemente Island woodland-star), and *Sibara filifolia* (Santa Cruz Island rockcress) to be endangered throughout their respective historical ranges on the Channel Islands of southwestern California, pursuant to the Endangered Species Act of 1973, as amended (Act). *Cercocarpus traskiae* is found primarily in coastal scrub habitats on Santa Catalina Island. *Lithophragma maximum* is found in rock crevices within coastal bluff scrub on San Clemente Island. *Sibara filifolia* is found on talus slopes in coastal scrub on San Clemente Island and may still occur on Santa Catalina Island, although the last sighting of the species on that island was in 1973. These plants are threatened by a variety of factors including grazing, fire, competition from non-native plant species, erosion, and hybridization. This rule implements the Federal protection provisions afforded by the Act for these three plant species.

DATES: Effective September 8, 1997.

ADDRESSES: The file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Carlsbad Field Office, 2730 Loker Avenue West, Carlsbad, California 92008.

FOR FURTHER INFORMATION CONTACT: Gail Kobetich, Field Supervisor, at the above address (telephone 760/431-9440; facsimile 760/431-9624).

SUPPLEMENTARY INFORMATION:

Background

Cercocarpus traskiae (Catalina Island mountain-mahogany), *Lithophragma maximum* (San Clemente Island woodland-star), and *Sibara filifolia* (Santa Cruz Island rockcress) are endemic to the Channel Islands of southern California. These three species are restricted primarily to San Clemente and Santa Catalina Islands. *Cercocarpus traskiae* is currently known only from Santa Catalina Island, although a single plant was discovered in the Santa Monica Mountains in 1993.

Lithophragma maximum occurs on San Clemente Island. *Sibara filifolia* occurs on San Clemente and Santa Catalina Islands. *Sibara filifolia* was also historically found on Santa Cruz Island.

The Channel Islands are composed of igneous and sedimentary rocks that have been uplifted and folded by tectonic activity (Raven 1963, Thorne

1967, Schaffer 1993). The maritime climate of the islands is characterized by hot, dry summers and mild, wet winters with periodic severe droughts and frequent fog (Minnich 1980, Johnson 1980). The archipelago is made up of two chains of islands. The northern Channel Islands include the islands of San Miguel, Santa Rosa, Santa Cruz and Anacapa. The southern Channel Islands are San Nicholas, Santa Barbara, Santa Catalina and San Clemente (Raven 1967).

The Channel Islands are rich in endemic species as a result of their age and geographic isolation. A number of species have persisted on the islands, although their mainland counterparts have been extirpated by climatic change and other factors over geologic time (Raven 1963).

The decline of insular endemic species, including the three plants discussed herein, began before thorough botanical studies on the islands were completed. The original range and distribution of these endemics are speculative because their original habitats are now dominated by non-native plants. Although the Channel Islands have been occupied by humans for at least 10,000 years, non-native plants have only become naturalized on the islands since their introduction by Euro-Americans during the last 200 years. Overgrazing and trampling of native vegetation by domestic animals facilitated the spread of these non-native plants (Raven 1963, Raven 1967, Thorne 1967, Philbrick 1980). Severe erosion resulting from overgrazing was exacerbated by a series of droughts in the 1860's, the first of several periods of severe stripping of vegetation and soil on the islands (Johnson 1980).

San Clemente Island is the southernmost of the Channel Islands in California. Its terrain is marked by a broad, high plateau surrounded by deeply incised cliffs. The highest elevation on the 145 square kilometer (sq km) (56 square mile (sq mi)) island is 600 meters (m) (1,965 feet (ft)) (Power 1980). San Clemente Island contains the entire historical range of *Lithophragma maximum* and one of two known populations of *Sibara filifolia*.

Goats (*Capra hircus*) were present on San Clemente Island as early as 1827 (Dunkle 1950). The San Clemente Island Sheep and Wool Company leased that island from the U.S. Government from 1877 to 1934 (Raven 1963). The ownership of the island was subsequently transferred to the Department of Defense (Navy). Although the Navy eliminated sheep (*Ovis aries*) grazing in 1934, the goat population proliferated (Kellogg and Kellogg 1994).

In addition, the California Department of Fish and Game (CDFG) introduced pigs (*Sus scrofa*) to the island in 1951 and mule deer (*Odocoileus hemionus*) in 1962 (Kellogg and Kellogg 1994). Populations of feral goats ranged from 15,000 to 20,000 about 1930 (Kellogg and Kellogg 1994). The Navy removed all feral goats and pigs by 1992, in an effort to preserve endemic flora and fauna (Kellogg and Kellogg 1994).

Santa Catalina Island is the largest of the southern Channel Islands, measuring 194 sq km (75 sq mi). The terrain is rugged and mountainous, with a maximum elevation of 648 m (2,125 ft) (Power 1980). Due to its proximity to the mainland, the flora of Santa Catalina Island is very similar to the flora of the mainland (Thorne 1967). Habitats on the island include oak woodlands, chaparral, coastal sage scrub, and grasslands (Minnich 1980). Santa Catalina supports the only known extant population of *Cercocarpus traskiae* and is part of the historical range of *Sibara filifolia* (Thorne 1967, Thorne 1969, Wallace 1985). The most recent find, the first in 70 years, of *Sibara filifolia* on Santa Catalina was in 1973. The voucher specimen is at the Rancho Santa Ana Botanic Garden Herbarium, but its existence remained unknown until 1996.

Santa Cruz is the largest of the northern Channel Islands measuring 250 sq km (96 sq mi) with a maximum elevation of 753 m (2,470 ft) (Power 1980). The north side of the island is mountainous and rugged; the topography of the southern side is gentle and rolling. The Nature Conservancy currently owns approximately 90 percent of Santa Cruz Island. The remainder is co-owned by the National Park Service (Schuyler 1987) and a private party. Santa Cruz Island is a historical location of *Sibara filifolia*, although the species has not been seen on the island since 1936.

Cercocarpus traskiae was first described by Alice Eastwood (1898) based on a specimen collected by Blanche Trask in 1897. Dunkle (1940) reduced *C. traskiae* to a variety of *C. betuloides*. Although Martin (1950) subsequently included this taxon as a variety of *C. montanus*, Munz and Keck (1959) retained it as *C. betuloides* var. *traskiae*. Munz (1935, 1968) returned *C. betuloides* var. *traskiae* to species rank, *C. traskiae*. Murray (1982) changed the rank of this taxon to a subspecies of *C. betuloides*; however, *C. traskiae* is currently recognized at the species level by both Munz (1974) and Lis (1993).

Cercocarpus traskiae, a member of the rose family (Rosaceae), is an evergreen shrub or small tree that flowers from

March to May. The flowers lack petals and occur in clusters of 4 to 10. The hypanthium (floral structure derived from the fused lower portions of sepals, petals, and stamens) is densely white-woolly, and is approximately 7 to 14 millimeters (mm) (0.5 inch (in.)) long (Lis 1993). The fruit is an achene with a persistent plumose style, which dries in a spiral, typical of the genus. The leathery, clustered leaves are simple, serrate (toothed), and range from 2.5 to 6 centimeters (cm) (1 to 2.5 in.) long. The upper surface of the leaf is glabrous (smooth); the lower surface is densely white-woolly. *Cercocarpus betuloides* var. *blancheae* is relatively common on Santa Catalina Island, and is distinct from *C. traskiae* (Eastwood 1898, Cole and Lu 1979). It is differentiated from *C. traskiae* by the strigose (with stiff, sharp, appressed hairs) undersides of its leaves and by the pubescence of the floral tube. In addition, the leaves of *C. betuloides* var. *blancheae* are not leathery (Eastwood 1898, Lis 1993).

Cercocarpus traskiae is one of California's rarest trees. It is endemic to a particular soil type, derived from sausserite gabbro parent material (Martin 1984). On Santa Catalina Island, *C. traskiae* is currently only found in Wild Boar Gully, a steep-sided, narrow arroyo located in the southwestern portion of the island (Thorne 1967, 1969). *Cercocarpus traskiae* occurs there in coastal sage scrub containing *Eriogonum fasciculatum* (California buckwheat), *Salvia mellifera* (black sage), and *Rhus integrifolia* (lemonade berry). The Santa Catalina Island Conservancy (SCIC), a private corporation which owns 86 percent of the land on Santa Catalina Island, owns all of the habitat occupied by *C. traskiae*.

An estimated 50 individuals of *cocarpus traskiaere* identified from Wild Boar Gully when this taxon was originally discovered (Eastwood 1898). The population has since been reduced to six mature trees (Martin 1984, Rieseberg and Swensen 1996). The SCIC has planted *C. traskiae* seedlings in test plots (Rieseberg et al. 1989). The results of this planting are unknown at this time.

In 1993, a single individual of *Cercocarpus traskiae* was discovered in the Santa Monica Mountains by David Carroll (Rieseberg and Swensen 1996). Although additional individuals may exist in the Santa Monica Mountains, this taxon is not likely to be widespread or common. The single mainland specimen may represent a remnant of an ancestral or sister population of *C. traskiae*, or a hybrid between *C. traskiae* and the mainland variety, *C. betuloides*

var. *betuloides* (Rieseberg and Swensen 1996). It is also possible that this specimen was planted.

Lithophragma maximum was originally described by Rimo Bacigalupi (1963) as *L. maxima* based on a collection by Mrs. Nell Murbarger in 1936 on San Clemente Island. The specific epithet was later corrected to *L. maximum* (Bacigalupi 1979). Taylor (1965) was unaware of *L. maximum* at the time he published his monograph of the genus; however, *L. maximum* has been recognized by Munz (1968, 1974) and Elvander (1993).

Lithophragma maximum is a member of the saxifrage family (Saxifragaceae) and flowers from April to June. It is a rhizomatous, perennial herb with basal leaves and two or three stout flowering stems from 40 to 60 cm (16 to 24 in.) high. Each flower-bearing stem produces 20 or more white, campanulate (bell-shaped) flowers, each about 1 cm (0.5 in.) in length (Bacigalupi 1963). The leaves are palmately compound and arise from the base on slender petioles 15 cm (6 in.) long. *Lithophragma maximum* is differentiated from other species of *Lithophragma* by its trifoliolate compound leaves (Munz 1968, Elvander 1993).

Lithophragma maximum was thought to be extinct until it was rediscovered in 1979 in Bryce and Eagle Canyons by Mitch Beauchamp and Howard Ferguson (Bacigalupi 1979). The number of plants on the island found in Bryce Canyon has fluctuated from 5 to 15 plants since its rediscovery (Bacigalupi 1979, Beauchamp 1987, Mistretta 1992). Three of the 15 plants originally discovered in Eagle Canyon are believed to be extant at this time (Kellogg and Kellogg 1994). Sixteen additional plants were found in Near Death Canyon in 1991. There are currently only 11 known populations, all from the southeastern part of the island in deeply incised canyons. Approximately 200 plants were located during field surveys for this species in the spring of 1996 (M. Elvin, Rancho Santa Ana Botanic Garden, *in litt.* 1996; J. Stone, Naval Air Station, North Island, pers. comm. 1996). These plants were generally found at or near previously known sites.

Sibara filifolia was first collected by E. L. Greene in 1886 and described as *Cardamine filifolia* (Greene 1887a). Greene (1887b) later transferred it to *Arabis filifolia*. Greene (1896) proposed the new genus *Sibara* to accommodate this species. *Sibara* has been retained by Munz and Keck (1959), Munz (1968, 1974), and Rollins (1993).

Sibara filifolia is a slender annual herb in the mustard family (Brassicaceae) that flowers in April (Munz 1974). It is 13 to 38 cm (5 to 15 in.) tall. The flowers are pink to purplish with spoon-shaped petals 3 to 6 mm (1/8 to 1/4 in.) in length. The pinnately lobed leaves are 2.5 to 5 cm (1 to 2 in.) long, with narrow linear lobes. The fruit is a slender pod (silique), 1.5 to 3 cm (3/5 to 1 in.) long, that contains many wingless seeds. *Sibara filifolia* is distinct from *S. virginica*, which has narrowly winged seeds, and from *S. rosulata* and *S. deserti*, which have white petals. No other species of *Sibara* occur on the Channel Islands.

The type locality for *Sibara filifolia* is Santa Cruz Island (Greene 1887a). It was last seen on Santa Cruz Island in 1936 and was not relocated during the 1985 survey of the island. The species is thought to have once been common as well as wide ranging, because it was collected on two distant islands, Santa Catalina and Santa Cruz. Trask collected *S. filifolia* in 1901 on Santa Catalina Island where she reported it to be common in two locations (Thorne 1967). A more recent (1973) collection of *S. filifolia* from Santa Catalina Island came to light in 1996. Although the status of the population on Santa Catalina is not precisely known, the species has not been reported from there since 1973. M. Hoefs (Wrigley Botanical Garden, Catalina, pers. comm. 1996), one of the original collectors, did not relocate any specimens at the original site during a search for *Sibara filifolia* but noted that the habitat and associated species appear to be in good condition. Although *Sibara filifolia* has not been observed on Santa Catalina Island for 24 years, its extirpation has not been confirmed, and for that reason the Service believes there is a possibility that it still may be present there.

Sibara filifolia, originally known from historical collections on Santa Cruz Island and Santa Catalina Island, had never been known to occur on San Clemente Island until 1986 when two plants were discovered near Pyramid Head by Beauchamp (1987). Prior to this discovery, the species was thought to be extinct. The extent of its original range on San Clemente Island is unknown.

Sibara filifolia presently exists on San Clemente Island only on a sea terrace on the southern part of the island, near Pyramid Head. It grows on volcanic rock scree (talus) in association with *Opuntia prolifera* (cholla), *Selaginella bigelovii* (spike-moss), and *Lotus argophyllus* var. *adsurgens* (San Clemente Island birds-foot trefoil) (Beauchamp 1987, Elvin, *in litt.* 1996). This location conflicts with

records of historical localities indicating that *S. filifolia* “* * * is to be sought in shady places on the northward slope” on Santa Cruz Island (Greene 1887a). There were fewer than 40 of these plants located on San Clemente Island in the 1996 season (Elvin, *in litt.* 1996; Stone, pers. comm. 1996). These plants were found on a dry rocky saddle with thin soil.

Previous Federal Action

Federal government action on all three of the plant taxa considered in this rule began as a result of section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, and presented to Congress on January 9, 1975, recommended *Cercocarpus traskiae* for endangered status, *Sibara filifolia* as threatened and *Lithophragma maximum* as extinct. The Service published a notice in the July 1, 1975, **Federal Register** (40 FR 27823), of its acceptance of the report as a petition within the context of section 4(c)(2) of the Act (petition provisions are now found in section 4(b)(3)(A)), and of the Service's intention to review the status of the plant taxa named therein, including *C. traskiae*, *L. maximum* and *S. filifolia*. On June 16, 1976, the Service published a proposal (41 FR 24523) to list approximately 1,700 vascular plants as endangered species pursuant to section 4 of the Act. *Cercocarpus traskiae* and *Lithophragma maximum* were included in this **Federal Register** notice. Because the list contained only proposed endangered species, *Sibara filifolia* was not included.

General comments received in response to the 1976 proposal were summarized in an April 26, 1978, **Federal Register** notice (43 FR 17909). A revision of the Smithsonian report was published in April 1978 as a book: *Endangered and Threatened Plants of the United States*, Smithsonian Institution and World Wildlife Fund, Washington, DC Acknowledgment of the Service's acceptance of this document as a petition was included in a notice of findings on certain petitions published in the **Federal Register** on February 15, 1983 (48 FR 6752). This document recommended endangered status for *Sibara filifolia*, *Cercocarpus traskiae*, and *Lithophragma maxima* [sic]. *Lithophragma maximum* was included, although it was considered extinct, because of the possibility it would be rediscovered. The 1978 amendments to the Endangered Species Act amendments required all proposals

over two years old to be withdrawn, although a one-year grace period was given to those proposals already more than two years old. In the December 10, 1979, **Federal Register** (44 FR 70796), the Service published a notice of withdrawal for that portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired.

The Service published a notice of review for plants in the **Federal Register** on December 15, 1980 (45 FR 82480). This notice listed the status of *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* as category 1 taxa. Category 1 taxa were taxa for which the Service presently had sufficient data in its possession to support preparation of listing proposals. *Sibara filifolia* was marked with an asterisk indicating a possibly extinct species. The status of the three species remained unchanged until February 21, 1990, when the Service published in the **Federal Register** a notice of review for plant taxa (55 FR 6183) in which *Sibara filifolia* was no longer considered possibly extinct, following its rediscovery on San Clemente Island. The status of the three species remained unchanged in a subsequent notice of review published by the Service in the **Federal Register** (58 FR 51143) on September 30, 1993. In the notice of review published by the Service on February 28, 1996 (61 FR 7595), *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* were listed as proposed endangered.

Section 4(b)(3)(B) of the Act requires the Secretary to make findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. This was the case for *Cercocarpus traskiae* and *Lithophragma maximum* because the 1975 Smithsonian report had been accepted as a petition. On October 13, 1983, the Service found that the petitioned listing of these species was warranted, but precluded by other pending listing proposals of higher priority, pursuant to section 4(b)(3)(B)(iii), of the Act. Notification of this finding was published in the **Federal Register** on January 20, 1984 (49 FR 2485). Such a finding requires the petition to be recycled, pursuant to section 4(b)(3)(C)(i) of the Act. The petition was reviewed in October of 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, and 1993.

On July 25, 1995 (60 PR 37988), the Service published a proposal to list *Cercocarpus traskiae*, *Lithophragma*

maximum, and *Sibara filifolia* as endangered species. Publication of the proposed rule constituted the warranted finding for these species. The Service now determines *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* to be endangered species with the publication of this rule.

The processing of this final rule follows the Service's listing priority guidance published in the **Federal Register** on December 5, 1996 (61 FR 64475). The guidance clarifies the order in which the Service will process rulemakings following two related events: (1) The lifting, on April 26, 1996, of the moratorium on final listings and critical habitat designations imposed on April 10, 1995 (Pub. L. 104-6), and (2) the restoration of significant funding for listing through passage of the omnibus budget reconciliation law passed on April 26, 1996, following severe funding constraints imposed by a number of continuing resolutions between November 1995 and April 1996. The guidance calls for prompt processing of final rules containing species facing threats of high magnitude. All three taxa in this rule face high magnitude threats.

Summary of Comments and Recommendations

In the July 25, 1995, proposed rule (60 FR 37987) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. The comment period closed on October 9, 1995. Appropriate State agencies, county and city governments, Federal agencies, scientific organizations, and other interested parties were notified for comment. Public notices announcing the publication of the proposed rule were published in the *San Diego Union-Tribune* and *The Outlook* on August 10, 1995. The Service received one letter of comment during the comment period. No request for a public hearing was received.

In accordance with interagency policy published on July 1, 1994 (59 FR 34270), the Service also solicited the expert opinions of three independent specialists regarding pertinent scientific or commercial data for taxa under consideration for listing. The purpose of such review is to ensure listing decisions are based on scientifically sound data, assumptions, and analyses, including input of appropriate experts and specialists. Lack of response to a request for review is assumed to constitute concurrence. No responses were received from the three independent specialists solicited.

The single letter of comment received specifically addressed the two plant taxa that occur on San Clemente Island. The comments have been organized into nine specific issues. The issues and the Service's responses are summarized as follows.

Issue 1: The commenter stated that *Lithophragma maximum* and *Sibara filifolia* are protected on San Clemente Island through limited access to their habitat as well as through active management.

Service Response: The factors affecting these species were discussed in the proposed rule (60 FR 37987). These included, but are not restricted to, loss of habitat from erosion induced or exacerbated by herbivore damage, and direct decline of the species from herbivore damage. Other natural or man-made factors were considered, including specifically, the presence of invasive exotic plant species, and fires induced by military activities which include bombing.

The Navy has removed the most destructive herbivores, goats and pigs, from San Clemente Island. No feral goats were evident as of June 1992 (Kellogg and Kellogg 1994). This action enhances the status of the native biota in general. It also will greatly improve the prospects for survival of *Lithophragma maximum*, *Sibara filifolia*, and other sensitive plants. However, both species remain threatened by human-caused fires, bombing, and the spread of invasive non-native plants. The remaining population of *Sibara filifolia*, for example, lies in close proximity to a target area where ship-to-shore bombardment occurs. Limited access to the two species' habitat will not completely alleviate these threats. The Service has not received any plans for the active management of these species.

Issue 2: The commenter suggested that *Lithophragma maximum* would benefit from protection afforded the endangered *Castilleja grisea* (San Clemente Island paintbrush) and *Lotus dendroideus* var. *traskiae* (Trask's Island lotus) because these species " * * * are located in canyons with the San Clemente Island woodland-star." The commenter also asserted that similar protection was afforded *Sibara filifolia* because "Rare taxa, including the cliff spurge (*Euphorbia misera*), island apple-blossom (*Crossosoma californica*), and San Clemente Island silver hosackia (*Lotus Argophyllus adsurgens*) were observed nearby."

Service Response: According to Kellogg and Kellogg (1994), Elvin (pers. comm. 1996) and Stone (pers. comm. 1996), *Lithophragma maximum*

occasionally occurs with *Castilleja grisea*, but there is no consistent pattern. Distribution maps show that patterns of occurrence of *Lithophragma maximum*, *Castilleja grisea*, and *Lotus dendroideus* var. *traskiae* are not coincident over significant portions of their ranges (Kellogg and Kellogg 1994).

Although *Sibara filifolia* may occasionally occur near habitats occupied by rare plant taxa, none of these other taxa are known to be restricted to the same habitat as *Sibara filifolia*. In addition, none of the rare plant taxa mentioned are protected pursuant to the Act and, therefore, do not provide protection to other species found in the same area.

Issue 3: The commenter noted that there are nine historical sightings of *Lithophragma maximum*, and concluded that the Rare Plant Survey for San Clemente Island, set for 1996, would provide more definitive information on the status of the taxa. The commenter also noted that the difficulties associated with access to *L. maximum* locales and habitat may compromise status and distribution assessments of the species.

Service Response: This species apparently is extant at 11 sites on San Clemente Island (Stone, pers. comm. 1996). These sites include three newly discovered sites (Elvin, pers. comm. 1996) and omit a previously reported site of doubtful validity. Based on the Rare Plant Survey and other information available to the Service, the total recorded range is about 4 km (2.5 mi) along the east coast of San Clemente Island, rather than the 7 mi cited by the commenter. A purported historical occurrence of *Lithophragma maximum* at Lemon Tank, near the middle of the island, stems from a confusion between two collections cited by Raven (1963). A collection of *L. maximum* made by Murbarger in 1936 did not identify a specific locality (Bacigalupi 1963), but rather “ * * * a single canyon on the East side [of the island].” Raven (1963) also listed a collection made by Munz at Lemon Tank under *L. maximum* noting that the specimen, which Munz called *Heuchera* in his field notes, was lost. Elvin (pers. com. 1996) believes that the habitat within Lemon Tank is unsuitable for *L. maximum*. Therefore, the evidence to support consideration of Lemon Tank as a historical locality is insufficient.

Recent field work focused, in part, on *Lithophragma maximum* has resulted in the identification of about 200 individuals on San Clemente Island. Although, this estimate does not take into account populations in those canyons not surveyed in 1996, the

species is known to exist in low numbers of individuals in a few scattered localities. The Interim Report, Sensitive Plant Status Survey by Junak and Wilken (*in litt.* 1996) does not provide any new information regarding the condition of *Lithophragma maximum*, its microhabitat preferences, or biology. This species occupies grassy benches in steep canyons, and its habitat is subject to loss from increased erosion from natural causes and loss of vegetation cover from fires.

The number of known populations of *L. maximum* is low (11) as is the total number of individuals. Most plant populations are genetically differentiated from one another and maintenance of this diversity is vital to the survival of rare plants (Barrett and Kohn 1991). *Lithophragma maximum* is, therefore, likely to be quite susceptible to genetic stresses (Barrett and Kohn 1991).

Issue 4: The comment was made that two plants of *Sibara filifolia* were discovered on San Clemente Island in 1986 and 50 to 350 plants were found at the site in 1992.

Service Response: Staff of Rancho Santa Ana Botanic Garden conducted field surveys in the Guds region, at the southeast end of the island, in 1996. Sites of previously known populations that had burned in 1995 were surveyed (Stone, pers. comm. 1996). Although no individuals were found at known, previously occupied sites, fewer than 40 plants were found at a new, nearby site. Because the plants were found in an area with thin soil, their seeds may not survive fire (Elvin, pers. comm. 1996). As evidenced by the drastically lower number of individuals from the 1992 estimates to the 1996 counts, this species appears to be susceptible to environmental events, such as fire.

Currently no estimate of the long-term effects of small population size or adverse environmental events exist for plant species (Huenneke 1991). Further, there is no evidence that the plants observed were the result of the germination of the entire seed bank from the previous year. Nevertheless, given the fire history and disturbance pattern of the island and the small number and location of extant plants, this species remains in danger of extinction.

Issue 5: The commenter disagreed that the abundance of exotic plants adversely affects the native plant species of the island and contributes to their slow recovery. The commenter pointed out that the Navy has implemented a native bunchgrass restoration program. This action has resulted in a weed eradication implementation plan. The annual grass,

Avena barbata (slender wild oat) was mentioned as the eradication target. Eradication of this species is to be followed by reseeded with native bunchgrasses.

Service Response: Exotic plants occur in abundance on San Clemente Island. Exotic species such as *Amsinkia intermedia*, and *Bromus diandrus* occur near *Lithophragma maximum* and may compete with this plant for space or resources, or may otherwise affect the persistence of this species. Exotic species are not abundant on the thin rocky soils currently occupied by *Sibara filifolia*, but do occur on other soil types that historically may have supported this species. Exotic species such as *Avena barbata* could restrict the expansion of the *S. filifolia* population, as they occupy potential habitat for this species.

While the Service is interested in providing input to restoration efforts that may benefit listed or sensitive species, the Service has not received or reviewed the Navy native bunchgrass restoration program or weed eradication implementation plan mentioned by the commenter. Such programs may benefit listed species, however the target weed species, *Avena barbata*, does not occur in the habitat types of *Lithophragma maximum* or *Sibara filifolia*, and neither species are bunchgrasses. Therefore, the weed eradication and native bunchgrass restoration described in the comment letter are not expected to reduce threats to *L. maximum* or *S. filifolia*.

Issue 6: The commenter noted that the proposed rule states that Service-proposed mitigation measures were not adequately implemented. The commenter argued that “[i]n most instances Service comments result in direct modification of projects and implementation of appropriate mitigation measures.” The commenter further noted that a fire management plan and a native bunchgrass restoration program have been implemented.

Service Response: Most of the current impacts to sensitive plant species on San Clemente Island are related directly or indirectly to current human activities. Prior to 1996, the Navy avoided sensitive habitats through an internal site approval process, but did not coordinate with the Service on some programs and projects that had potential effects on listed species. Military activities associated with ongoing training could have long lasting effects on sensitive plant taxa on San Clemente Island. The potential impacts of these activities must be adequately assessed and appropriate mitigation incorporated.

Issue 7: The commenter contended that fire, bombardment, and bulldozing are minimal threats to *Lithophragma maximum* given the fact that the species grows in canyon bottoms. The commenter concluded that bulldozer use is precluded in canyon bottoms and noted that the shore bombardment area (SHOBA) is located on the opposite side of the island. The commenter stated that the same factors hold true for *Sibara filifolia*, although no specific information was provided. The commenter further stated that the Service had misrepresented the threat of fire to the species because of the location of the taxa and the low density of potential fuels.

Service Response: As was discussed previously under Issue 4, a 1995 fire may have eliminated the populations of *Sibara filifolia* known to be extant on San Clemente Island prior to 1996. Based on the history of this species, even if all currently and previously known populations are extant, the total number of individuals present in 1997 would likely be no more than a few hundred. Although the bombardment target areas are on the other side of the island from *S. filifolia* and *L. maximum* populations, the area delineated as the SHOBA includes the entire southern end of the island. No bulldozing activities currently take place or are planned on the sea terraces near the *Sibara filifolia* sites (Stone, pers. comm. 1996), therefore, bulldozing currently remains a minimal threat to *Sibara filifolia*. However, if bulldozing is employed for access or fire suppression, the effects of such an action could easily eliminate the *S. filifolia* population. Fires or bulldozing can also lead to increased erosion above the steep canyons and induce habitat loss for *Lithophragma maximum*. Fires near the upper ends of the canyons could also destroy the dense shrub cover of *Rhus integrifolia* (lemonade berry) and *Prunus ilicifolia* ssp. *lyonii* (Catalina cherry) which often provide cover for *L. maximum* (G. Allan, *in litt.* 1996; Elvin, *in litt.* 1996).

Issue 8: In response to the threat posed by military-associated fires, the commenter contended that the Navy is actively implementing a fire management plan and that fuel breaks had been created around target sites in the SHOBA. According to the commenter, although the Fire Management Plan (FMP) is still being prepared it will prohibit military training using pyrotechnics or live firing during the fire season.

Service Response: The suppression measures recently proposed by the Navy should decrease the spread and severity

of wildfires at the southern end of San Clemente Island. However, wildfires and prescribed fires will continue to pose a threat to *Sibara filifolia*, which could be destroyed by fire, as evident from the destructive 1995 fire. Fires could also cause significant loss of vegetative cover and result in increased erosion in the canyon habitats of *Lithophragma maximum*. The development and implementation of a fire management plan will be an integral part of any strategy to protect *L. maximum*, *S. filifolia*, and the other sensitive biota on the island.

Although some of the vegetation on the island is recovering well after removal of the feral goats, their removal may also allow for a general increase in previously browsed exotic vegetative cover and thus increase the severity of any fire in the area. *Sibara filifolia* apparently has not increased in abundance since feral goat removal (O. Mistretta, Rancho Santa Ana Botanic Garden, *in litt.* 1996).

Issue 9: The commenter recommended postponement of listing or evaluation until the rare plant survey is completed to provide more definitive information on the status of *Lithophragma maximum* and *Sibara filifolia* on San Clemente Island.

Service Response: Following publication of the proposed rule and receipt of the commenter's letter, Junak and Wilken (*in litt.* 1996) conducted the requested rare plant survey and provided results and pertinent discussion to the Service. Based on a review of the interim rare plant survey and other information available to the Service, it is unlikely that finalization of the document will provide significant information indicating that *Lithophragma maximum* and *Sibara filifolia* are more widespread or less vulnerable than previously believed.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* should be classified as endangered species. Procedures found at section 4 of the Act (16 U.S.C. 1533) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Cercocarpus traskiae* Eastw. (Catalina Island mountain-mahogany), *Lithophragma*

maximum Bacigal. (San Clemente Island woodland-star), and *Sibara filifolia* (Greene) Greene (Santa Cruz Island rockcross) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Their Habitat or Range

In general, feral animals have caused a loss of habitat for endemic species on all the Channel Islands. Defoliation from overgrazing caused increased erosion resulting in loss of topsoil and the formation of incised canyons (Kellogg and Kellogg 1994). The loss of soil organic matter, and reduction of soil nutrient cycling and water-holding capacity promoted the invasion of non-native plants.

The decline of the native flora of Santa Catalina Island began with the proliferation of introduced herbivores. Goats were introduced to the island as early as 1827 (Thorne 1967). Goats are known to consume coarse vegetation such as shrubs and trees, including *Cercocarpus traskiae* (Coblentz 1980). Sheep ranching became important on the island in the 1850's (Minnich 1980). Sheep eat herbaceous vegetation that would have included *Sibara filifolia*. Other non-native herbivores introduced to Santa Catalina Island included pigs, bison, and deer. Pigs uprooted seedlings and soil in some canyons and may have impacted both *Sibara filifolia* and *Cercocarpus traskiae* (Thorne 1967).

Although the Santa Catalina Island Company eliminated sheep grazing in the 1950's (Thorne 1967), the population of feral goats and pigs continued to increase. A goat and pig management program has reduced the number of feral herbivores, but the threat to native species still remains (Dave Garcelon, Institute For Wildlife, Santa Catalina Island, pers. comm. 1994) (see Factor C). Pigs continue to degrade the habitat of *Cercocarpus traskiae* on Santa Catalina Island by preventing surface litter from accumulating. Surface litter holds moisture and seeds on the steep slopes. Pigs also create a network of bare trails with compacted soils. The vegetation loses its tiered, overlapping structure because shrubs become isolated by surrounding trails (Martin 1984). A noticeable increase in seedlings of all types have been observed since the numbers of pigs and goats have declined (Rieseberg and Swensen 1996).

San Clemente Island is currently used as an artillery practice range and as a ship-to-shore bombing area (Kellogg and Kellogg 1994). Fires due to natural events or as a result of military activities can significantly decrease the plant cover. This can lead to increased

erosion, which is a serious, persistent problem on the island (Kellogg and Kellogg 1994). An indirect effect of fire is the possible alteration of the climax vegetation components and associated habitat. The direct effects of fire on the plant populations is discussed under Factor E.

The decline of the flora on Santa Cruz Island, including extirpated populations of *Sibara filifolia*, is primarily due to overgrazing by sheep and other non-native herbivores. Sheep, cattle, and horses were introduced to Santa Cruz Island in 1853; pigs may have been introduced at the same time (Brumbaugh 1980). The population of sheep has ranged from 20,000 to 50,000 or more (Brumbaugh 1980, Schuyler 1987). Cycles of defoliation and erosion are evident in the stratigraphic studies of deposits from debris slides and correlate with the introduction of sheep to the island and periods of drought (Brumbaugh 1980). Most feral herbivores have been removed, but pigs remain and sheep currently remain on the east end of the island (see Factor C).

B. Overutilization for Commercial, Recreational, or Educational Purposes

Due to their extreme rarity on Santa Catalina Island, *Cercocarpus traskiae* and *Sibara filifolia* may become vulnerable to collecting on the island as a result of increased publicity following the publication of a listing proposal and final rule. The rarity of *C. traskiae* and *S. filifolia* suggests that any unauthorized collection or even unintentional overutilization could result in extinction or extirpation. The focus of many evolutionary biologists on the biology of islands (Rieseberg and Swensen 1996) ensures that interest in these insular species will continue, necessitating careful control over access to known or potential localities on the islands of Santa Catalina and Santa Cruz. Overutilization is not known to be applicable for *Lithophragma maximum* and *Sibara filifolia* on San Clemente Island, where public access is restricted by the Navy.

C. Disease or Predation

Feral herbivores continue to threaten the survival of *Cercocarpus traskiae* (and, probably, *Sibara filifolia*) on Santa Catalina Island and threaten the possible reappearance of *Sibara filifolia* on Santa Cruz Island. Non-native mule deer and goats likely consume endemic plants including *Cercocarpus traskiae*. Severe browsing may kill plants directly and prevent successful reproduction by surviving individuals (Thorne 1967).

The decline of *Cercocarpus traskiae* is primarily due to grazing by feral goats

and pigs. Pigs are limiting the recovery of *C. traskiae* because they uproot new seedlings while searching for food. Previously these animals nearly drove this taxon to extinction (Rieseberg *et al.* 1989). Fencing was installed around two individuals in the late 1970s (Rieseberg 1991). In 1985, this fencing was improved and enlarged to exclude pigs, and perimeter fencing was added to limit access by other non-native animals (Rieseberg 1991). As a result, seedling counts increased from 1 in 1984 to 70 seedlings in 1988 (Rieseberg 1991). In 1994, however, a total of only 54 seedlings was found. Most of the *C. traskiae* trees do not have individual pig-proof fencing around them and the perimeter fencing does not exclude pigs. Approximately 2,000 pigs remained on Santa Catalina Island at the time of publication of the proposed rule. It appears that the SCIC pig removal program has waned since 1994; the current estimate of the numbers of pigs on Santa Catalina Island is 2,000 to 3,000 animals (Garcelon, pers. comm. 1996).

Although managers for the SCIC have removed more than 8,000 goats from the island, 300 to 400 goats remained on the island at the time of publication of the proposed rule in 1994. Due, in part, to decreased management since 1994, the current estimate of the goat population on Santa Catalina Island is up to 1,000 to 1,500 animals (Garcelon, pers. comm. 1996). Similarly, populations of introduced mule deer are increasing, currently estimated at 500 to 700 animals. Although reduced predation by goats resulted in successful basal sprouting of *Cercocarpus traskiae*, a continued increase in goat and deer populations would likely reverse this trend. Perimeter fencing along Wild Boar Gully limits the access of deer and goats to *Cercocarpus traskiae*, but it does not entirely exclude them.

Sibara filifolia may have been extirpated from Santa Cruz Island by overgrazing. Although some areas have been fenced, sheep and pigs continue to re-invade these areas and their numbers appear to be increasing. Although *Sibara filifolia* could be rediscovered on Santa Cruz Island, grazing by non-native animals may prevent its re-establishment or proliferation.

D. The Inadequacy of Existing Regulatory Mechanisms

Existing regulatory mechanisms that could provide some protection for *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* include: (1) Listing under the California Endangered Species Act (CESA); (2) the California Environmental Quality Act

(CEQA) and the National Environmental Policy Act (NEPA); (3) the Act in those cases where these taxa occur in habitat occupied by other listed species; and (4) local laws and regulations.

State and Local Laws, Regulations, and Ordinances: The California Fish and Game Commission has listed *Cercocarpus traskiae* and *Lithophragma maximum* as endangered under the Native Plant Protection Act (NPPA) (Division 2, chapter 10, section 1900 *et seq.* of the California Fish and Game (CFG) Code) and the CESA (Division 3, chapter 1.5, section 2050 *et seq.*). Although NPPA and CESA prohibit the "take" of State-listed plants (chapter 10, section 1908 and chapter 1.5, section 2080, CFG Code), these existing statutes appear to be inadequate to protect against the taking of such plants via habitat modification or land use change by the landowner. After the CDFG notifies a landowner that a State-listed plant grows on his or her property, the CFG Code requires only that the landowner notify the agency "at least 10 days in advance of changing the land use to allow salvage of such plant" (chapter 10 section 1913). *Sibara filifolia* is not State-listed and has no protection under these laws.

The CEQA (California Public Resources Code, section 21000 *et seq.*) requires that the potential environmental impacts of proposed projects be disclosed to the public. The public agency with primary authority or jurisdiction over the project is designated as the lead agency, and is responsible for conducting a review of the project and consulting with the other agencies concerned with the resources affected by the project. Section 15065 of the CEQA Guidelines requires a finding of significance if a project has the potential to "reduce the number or restrict the range of a rare or endangered plant or animal." Once significant impacts are identified, the lead agency may either require mitigation or determine that "overriding social and economic considerations" make mitigation infeasible (California Public Resources Code, Guidelines, section 15093). In the latter case, projects may be approved that cause significant environmental damage, such as destruction of endangered plant species or their habitat. Small projects on private lands, such as road building or fence installation, often qualify for exemption under CEQA as categorically exempt activities. Also, "negative declarations" can allow a State agency to overlook the existence of listed plants at project sites.

The majority of the occurrences of these species are on Federal land and

are not subject to CEQA. *Cercocarpus traskiae* and the Santa Catalina Island occurrence of *Sibara filifolia* are on private land owned by the SCIC and subject to the provisions of CEQA. Regardless, the Service does not anticipate future project proposals that may adversely affect listed species because SCIC lands are dedicated for conservation purposes. However, the current threats posed by the naturally expanding feral goat, pig, and mule deer populations on Santa Catalina Island would not be addressed by CEQA review.

Federal Laws and Regulations: Candidate or other sensitive species may be afforded protection if they exist with species already listed as threatened or endangered under the Act. However, the "Recovery Plan for the Endangered and Threatened Species of the California Channel Islands" (Service 1984) was prepared prior to the rediscovery of *Sibara filifolia* on San Clemente Island. The plan also did not include specific measures designed to protect *Lithophragma maximum*. Although *Castilleja grisea*, a listed species, occasionally occurs with *Lithophragma maximum*, this situation is not consistent or widespread (Stone, pers. comm. 1996). The locations of the extant populations of the three species which are the subject of this rule do not consistently coincide with those of other federally listed plant or animal species on the islands (Kellogg and Kellogg 1994; Elvin, pers. comm. 1996). Therefore, Federal protection under the Act does not currently extend to these three species. Although the Navy has removed herbivores that were adversely affecting some of the listed taxa from San Clemente Island, natural threats and direct and secondary impacts from activities such as fires, bombing, and bulldozing continue (Kellogg and Kellogg 1994; Mistretta, pers. comm. 1996; Elvin, *in litt.* 1996).

The Service acknowledges the efforts of the Navy to reduce the likelihood and spread of wildfires on San Clemente Island. The primary target area at China Canyon will be defoliated to reduce fuel loads on-site to prevent the spread of fire into San Clemente Island loggerhead shrike (*Lanius ludovicianus mearnsi*) habitat. No incendiary devices will be used at this site during the period of the fire season that overlaps with the breeding season of the shrike. In addition, a firebreak will be created upslope from the defoliated target area. The secondary target area at Pyramid Cove is used infrequently, but the Navy will also defoliate a portion of this area. Only those defoliated areas will be used during the fire season. These measures,

when fully implemented, will reduce the chance of wildfires. However, the number of plants of *Sibara filifolia* and *Lithophragma maximum* are so low that fire remains a threat to their persistence and recovery. An existing agreement between the U.S. Forest Service and the Navy to provide mutual support to suppress wildfires will add a level of protection beyond existing conditions. The Forest Service will provide aerial resources for fire fighting; however, the difficulties associated with getting firefighting equipment to island locations and the possible occurrence of concurrent fires on the mainland, especially during fire season, may limit the benefits of this agreement. Details of the San Clemente Island fire management plan, as they pertain to *Sibara filifolia* and *Lithophragma maximum* remain unresolved.

Like CEQA, NEPA requires disclosure of the environmental effects of projects under Federal jurisdiction. *Sibara filifolia* and *Lithophragma maximum* are found on San Clemente Island, which is federally owned. However, under NEPA, the Service's comments are only advisory. Project proponents are not required to necessarily avoid, minimize, or mitigate impacts to these species under NEPA.

E. Other Natural or Manmade Factors Affecting Their Continued Existence

As a consequence of habitat degradation on the islands, the proportion of invasive exotic plant species to native and endemic species has increased. On San Clemente Island, 98 species of alien plants are currently known (Kellogg and Kellogg 1994). Of these alien plants, ten were noted in 1886 (Lyon 1886), 66 in 1963 (Raven 1963), and 81 in 1985 (Wallace 1985). The abundance of exotic plants continues to adversely affect the endemic plant species of the island and contributes to their slow recovery from previous predation by feral animals (Kellogg and Kellogg 1994; Mistretta, *in litt.* 1996). The disparity between the reported historical occurrences of *Sibara filifolia* on shady north-facing slopes and the current presence of the species on grass-free, south-facing slopes, suggests that alien grasses may prevent the expansion of *S. filifolia* into otherwise suitable habitat (Greene 1887a, Kellogg and Kellogg 1994).

Lithophragma maximum is thought to have existed on the plateau area of San Clemente Island before the introduction of non-native grasses (Kellogg and Kellogg 1994). The remaining habitat of *L. maximum* persists only within steep canyons. Erosion threatens not only the individual plants but the entire habitat

that supports them. During the winter of 1979–1980, large portions of canyon walls were observed to have sloughed taking large numbers of endemic plants with them. (Beauchamp and Ferguson 1980).

Fires, some apparently related to military activities, and erosion have contributed to the decline of *Lithophragma maximum*, *Sibara filifolia*, and other native species endemic to San Clemente Island and continue to threaten their existence (Kellogg and Kellogg 1994; Elvin, *in litt.* 1996; Mistretta, *in litt.* 1996). The natural fire frequency of San Clemente Island is not known and fire is not definitely known to be the primary mechanism of natural disturbance on the island (Kellogg and Kellogg 1994). Keeley (1982) found that the natural occurrence of fire increased with elevation and distance away from the coast (further inland); two factors that would point away from natural fire being a common occurrence on islands. Considerable fire damage apparently destroyed the known population of *Sibara filifolia* on San Clemente Island in 1995 (Stone, pers. comm. 1996; Mistretta, *in litt.* 1996). Chance fires could drastically reduce or eliminate all of the remaining individuals of the species and destroy the seed bank as well, preventing reestablishment of the last confirmed extant population (Elvin, *in litt.* 1996).

Fire destroys vegetative cover to varying degrees, which can lead to secondary effects such as increased soil instability and erosion. Degraded plant communities can result in excessive erosion (Kellogg and Kellogg 1994), particularly for areas near canyons where changes in hydrologic patterns may result from enlarged bare areas above canyon walls. Increased runoff can lead to slope failure and slumping of material into canyon bottoms. As stated above, erosion of steep canyons on San Clemente Island threatens *Lithophragma maximum* and may be exacerbated by fire in the surrounding areas.

On Santa Catalina Island, *Cercocarpus traskiae* would likely suffer high mortality from fire. Members of the genus *Cercocarpus* are long-lived, a trait typical of shrubs in low fire frequency areas (Minnich 1980). The effects of a severe fire on this species would be significant because so few mature individuals remain and the species is not known to be a stump-sprouter following fire events. On Santa Catalina Island, grazing by feral herbivores would inhibit the establishment of any new shoots which sprout following fire (Minnich 1980).

Cercocarpus traskiae is threatened by hybridization with the locally common *C. betuloides* var. *blancheae*. Because only six mature individuals of *C. traskiae* are known to exist, genetic swamping of the species would be the probable outcome of hybridization. The uniqueness of the species would be compromised or lost due to the influx of genetic variability from the larger population. Rieseberg *et al.* (1989) have recommended elimination of mature hybrids as a means of preserving the species.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these three plant species in determining to issue this final rule. Based on this evaluation, the preferred action is to list *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* as endangered. *Cercocarpus traskiae* and *Sibara filifolia* are known from no more than two populations and fewer than 40 individuals. *Lithophragma maximum* has a dissected distribution pattern of about 200 known individuals from 11 populations. All three species are imperiled due to degradation of habitat, fire, predation by feral animals, competition with exotic plant species, erosion, and hybridization. *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* are in danger of extinction throughout all or a significant portion of their ranges, and therefore meet the Act's definition of endangered. Critical habitat is not being proposed for these species at this time for reasons discussed below.

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" means the use of all methods and procedures needed to bring the species to the point at which listing under the Act is no longer necessary.

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is

determined to be endangered or threatened. The Service finds that designation of critical habitat for *Cercocarpus traskiae*, *Lithophragma maximum*, and *Sibara filifolia* is not prudent at this time. Service regulations (50 CFR 424.12(a)(1)) state that designation of critical habitat is not prudent when one or both of the following situations exist: (1) 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; or (2) such designation of critical habitat would not be beneficial to the species.

As discussed under Factor B, *Cercocarpus traskiae* and *Sibara filifolia* on Santa Catalina Island may become threatened by over-collecting, an activity difficult to regulate. "Taking" is only regulated by the Act with respect to plants in cases of (1) removal and reduction to possession of federally listed plants from lands under Federal jurisdiction, or their malicious damage or destruction on such lands; and (2) removal, cutting, digging-up, damaging, or destroying of federally listed plants on non-federal lands in knowing violation of any State law or regulation, including State criminal trespass law. All known populations of *C. traskiae* are on privately owned lands with little or no Federal involvement. The SCIC, the landowner, is aware of the presence of *C. traskiae*, supports the proposal to list the species, and is currently working to protect the population. In addition, the publication of precise maps and descriptions of critical habitat in the **Federal Register**, would make the few remaining plants more vulnerable to incidents of vandalism or collection and could contribute to the decline of the species. Therefore, the designation of critical habitat for *C. traskiae* (and *S. filifolia*, should its presence on Santa Catalina Island be confirmed) could contribute to the decline of the species.

The Service also determines that designation of critical habitat is not prudent for *Sibara filifolia* or *Lithophragma maximum*. Critical habitat designation provides protection only on Federal lands or on private lands when there is Federal involvement through authorization or funding of, or participation in, a project or activity. Extant populations of *Sibara filifolia* and *Lithophragma maximum* occur on Federal lands on San Clemente Island (except, as noted above, for the occurrence of *Sibara filifolia* on Santa Catalina Island) and are managed by the Navy. These populations are subject to section 7 consultation and recovery planning under the Act. Section 7(a)(2)

of the Act requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by such agency, does not jeopardize the continued existence of a federally listed species, or does not destroy or adversely modify designated critical habitat. For those species that occur wholly or primarily on Federal lands or in areas subject to Federal regulation, and that exist in small numbers and/or have a limited geographic distribution, any action that would potentially have a significant impact to the species may result in a "jeopardy" biological opinion in a section 7 consultation. Due to the limited, insular ranges of *Sibara filifolia* and *Lithophragma maximum* and their small population sizes, determinations for "jeopardy" and "adverse modification" likely would involve similar scopes and analyses. The Navy has begun meeting with the Service to discuss management of listed and other sensitive species on San Clemente Island, including *Lithophragma maximum* and *Sibara filifolia* populations. Protection of their habitat will be addressed through the consultation and recovery processes. Therefore, designation of critical habitat would provide no additional benefits beyond those that these taxa would receive by virtue of their listing as endangered species. All other Federal and State agencies involved have been notified of the location and importance of protecting habitat of these two taxa. Therefore, due to the increased risk of vandalism or collection, and the lack of benefit to the species, the Service finds that designation of critical habitat is not prudent at this time for *Cercocarpus traskiae*, *Sibara filifolia*, and *Lithophragma maximum*.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain activities. Recognition through listing encourages public awareness and results in conservation actions by Federal, State, and local agencies, private organizations, and individuals. The Act provides for possible land acquisition from willing sellers and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies 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 being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer with the Service 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 subsequently listed, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the 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 agency must enter into consultation with the Service.

The U.S. Army Corps of Engineers may have jurisdiction under section 404 of the Clean Water Act for some habitats that support these plants. Nationwide permits (61 FR 65784) are not valid where a federally listed endangered or threatened species would be directly or indirectly affected by the proposed project. When a proposed project may affect a listed species, consultation is required pursuant to section 7 of the Act prior to the authorization of any permit. In addition, the Navy owns San Clemente Island and administers lands containing *Sibara filifolia* and *Lithophragma maximum* and authorizes, funds, or otherwise conducts activities that may affect these species; these actions also are subject to review by the Service under section 7 of the Act.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered plants. All prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61 for endangered plants, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale in interstate or foreign commerce, or remove and reduce the species to possession from areas under Federal jurisdiction. In addition, for plants listed as endangered, the Act prohibits the malicious damage or destruction on

areas under Federal jurisdiction and the removal, cutting, digging up, damaging, or destroying of such plants in knowing violation of any State law or regulation, including State criminal trespass law. Certain exceptions to the prohibitions apply to agents of the Service and State conservation agencies.

The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered plants under certain circumstances. Such permits are available for scientific purposes and to enhance the propagation or survival of the species. It is anticipated that few trade permits would ever be sought or issued for these species since they are not in cultivation or common in the wild.

It is the policy of the Service, published on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of this listing on proposed and ongoing activities within the species' range. *Sibara filifolia* and *Lithophragma maximum* are known to occur on lands under the jurisdiction of the Navy. In general, the collection, damage, or destruction of listed species on these lands is prohibited, except as authorized under section 7 or section 10(a)(1)(A) of the Act. Such activities on non-Federal lands, as would be the case for *Cercocarpus traskiae*, and Santa Catalina Island specimens of *Sibara filifolia*, would constitute a violation of section 9, if activities were conducted in knowing violation of State law or regulations or in violation of State criminal trespass law. The Service is not aware of any otherwise lawful activities currently being conducted or proposed by the public that would be affected by this listing and result in a potential violation of section 9.

Questions whether specific activities would constitute a violation of section 9 should be directed to the Field Supervisor of the Service's Carlsbad Field Office (see ADDRESSES section). Requests for copies of the regulations concerning listed plants (50 CFR 17.61 and 17.71) and general inquiries regarding prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Endangered Species Permits, 911 N.E. 11th Avenue, Portland, Oregon 97232-

4181 (telephone 503/231-6241; facsimile 503/231-6243).

National Environmental Policy Act

The Fish and Wildlife Service has determined that Environmental Assessments or Environmental Impact Statements, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

Required Determinations

The Service has examined this regulation under the Paperwork Reduction Act of 1995 and found it to contain no information collection requirements.

References Cited

A complete list of all references cited herein is available upon request from the U.S. Fish and Wildlife Service, Carlsbad Field Office (see ADDRESSES section).

Author: The primary author of this document is Dr. Gary D. Wallace, Carlsbad Field 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, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended 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. Section 17.12(h) is amended by adding the following, in alphabetical order under FLOWERING PLANTS, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *
(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
* <i>Cercocarpus traskiae</i>	* Catalina Island mountain-mahogany.	* U.S.A. (CA)	* Rosaceae	* E	* 624	* NA	* NA
* <i>Lithophragma maximum.</i>	* San Clemente Island woodland-star.	* U.S.A. (CA)	* Saxifragaceae	* E	* 624	* NA	* NA
* <i>Sibara filifolia</i>	* Santa Cruz Island rockcress.	* U.S.A. (CA)	* Brassicaceae	* E	* 624	* NA	* NA
* 	* 	* 	* 	* 	* 	* 	*

Dated: July 21, 1997.
John G. Rogers,
Acting Director, Fish and Wildlife Service.
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