

with paragraph 603(a) of the Regulatory Flexibility Act (Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. 601 *et seq.* (1981)).

19. *It is ordered*. That, pursuant to section 5(c)(1) of the Communications Act as amended, 47 U.S.C. 155(c)(1) and 0.201(d)(2) of the Commission's Rules, 47 CFR 0.201(d)(2), the Mass Media Bureau shall prepare and the Bureau Chief shall sign orders terminating MM Docket No. 88-378, MM Docket No. 88-509, and MM Docket No. 88-511.

List of Subjects in 47 CFR Parts 73

Radio broadcasting.

Federal Communications Commission.

Donna R. Searcy,

Secretary.

[FR Doc. 90-18020 Filed 8-2-90; 8:45 am]

BILLING CODE 6712-01-M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Notice of Finding on Petitions to List a Tallapoosa River Crayfish and *Cladonia perforata* (Perforate Reindeer Lichen)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of finding on petitions.

SUMMARY: The Service announces 90-day and 12-month findings for two petitions to amend the Lists of Endangered and Threatened Wildlife and Plants. (A 90-day finding has been made for the crayfish *Cambarus englishi* that substantial information has not been presented to indicate that listing the species may be warranted. In the case of *Cladonia perforata*, the perforate reindeer lichen, the Service has made a 12-month finding that the requested action is warranted but precluded by other actions to amend the lists.)

DATES: The findings announced in this notice were made in June 1990. Comments and information may be submitted until further notice.

ADDRESSES: Information, comments or questions regarding the crayfish petition may be submitted to the U.S. Fish and Wildlife Service, Jackson Mall Office Center, 300 Woodrow Wilson Avenue, Suite 318, Jackson, Mississippi 39213 (telephone 601/965-4900, FTS 490-4900). Information, comments or questions regarding the lichen petition should be submitted to the U.S. Fish and Wildlife Service, 3100 University Boulevard, South, Suite 120, Jacksonville, Florida

32216 (telephone 904/791-2580, FTS 946-2580). The petitions, findings, and supporting data are available for public inspection, by appointment, during normal business hours at the addresses listed above.

FOR FURTHER INFORMATION CONTACT:

Mr. Paul Hartfield at the Jackson, Mississippi, Field Office listed above, or Mr. Dave Martin at the Jacksonville, Florida, Field Office listed above.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(A) of the Endangered Species Act of 1973 (Act), as amended in 1982 (16 U.S.C. 1531 *et seq.*), requires that the Service make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information to demonstrate that the petitioned action may be warranted. To the maximum extent practicable, this finding is to be made within 90 days of the receipt of the petition, and the finding is to be published promptly in the *Federal Register*.

The Service has received and made a 90-day finding on the following petition for Dr. Byron J. Freeman. It was dated February 23, 1990, and was received by the Service on February 28, 1990. It requested the Service to place the crayfish *Cambarus englishi* on the list of Endangered and Threatened Wildlife.

The petition stated that *Cambarus englishi* is endemic to the Tallapoosa River system in Georgia and Alabama, has a restricted range, and faces a significant threat to its continued existence in the upper portion of its range. The known range was indicated to be Haralson County, Georgia, and Clay, Cleburne, and Tallapoosa Counties, Alabama. The petition stated that the primary threat to the Georgia portion of the range is the proposed Haralson County reservoir. The proposed reservoir would purportedly inundate approximately 18 river miles and affect downstream habitat through altered water releases from the reservoir. The petition also indicated the habitat was lost in Alabama in the 1980's due to the construction of Harris Reservoir, which impounded portions of both the Tallapoosa and Little Tallapoosa Rivers. Other information supplied with the petition suggested *Cambarus englishi* to be restricted to main stem riffle areas of the Tallapoosa River proper.

In assessing this petition, the Service supplemented information supplied by the petitioner with other information available from various experts, from collection records and with actual field work conducted by personnel of the

Jackson, Mississippi, Field Office. The following summarizes the available information.

Historically, collection effort for *C. englishi* has been very limited. Published papers by H.H. Hobbs, Jr. (1972, 1981, 1989) and R.W. Bouchard (1978) confirm basic range information supplied by the petitioner. Recent contacts with Bouchard and Hobbs, and with Jan Clark at the U.S. National Museum revealed that the specific localities referenced in Bouchard's and Hobbs' publications include two main stem Tallapoosa River collections of the species in Georgia, one main stem river collection in Cleburne County, Alabama, one in Enitachopco Creek, Clay County, Alabama, and one in Hilabee Creek, Tallapoosa County, Alabama. The tributary collections greatly extend the potential range of the species in the Tallapoosa system.

The Jackson Field Office contacted ten museums or other institutions that might have crayfish holdings in an attempt to better determine the abundance and distribution of the species. Only the U.S. National Museum had collections where *C. englishi* was identified. Conversations with various personnel at these institutions indicated almost unanimous agreement that the Tallapoosa drainage is severely undercollected for crayfish.

In an effort to determine the extent and location of potential habitat for *C. englishi*, biologists from the Jackson Field Office spent two days during April 1990 checking streams in the Tallapoosa drainage. A total of 51 river and tributary road crossings were visited in Haralson County, Georgia, and Cleburne, Randolph, Clay, Tallapoosa, Elmore and Macon Counties, Alabama. Potential *C. englishi* habitat (rocky riffles with strong currents) was observed in tributaries and unimpounded reaches of the Tallapoosa River below Georgia Route 100 in Haralson County, Georgia and at most sites visited in Cleburne, Clay, Randolph and Tallapoosa Counties, Alabama.

Although bad weather and high water were not conducive to sampling, nine limited collections of crayfish were made. Six of the collections were identified by Field Office biologists Paul Hartfield as containing *C. englishi* and were confirmed by Dr. J.F. Fitzpatrick, University of South Alabama, Mobile, Alabama. One collection was from the type locality in Georgia, and another was from a previously recorded site on Enitachopco Creek, Clay County, Alabama. The other four were new collection records for the species: Tallapoosa River at Alabama Route 68,

Cleburne County, Alabama; Little Tallapoosa River at Lamar Bridge, Randolph County, Alabama; Fox Creek at Alabama Route 48, Randolph County, Alabama; and Crooked Creek below Cragford, Clay County, Alabama. It is likely the *C. englishi* occurs in many other Tallapoosa River tributaries where there is appropriate habitat, and the species apparent rarity is due, at least in part, to a lack of collecting effort in the system.

The known historic range of *C. englishi* extends from just above Georgia Route 100 in Haralson County, Georgia, to the mouth of Hillabee Creek, Tallapoosa County, Alabama, a main stem Tallapoosa River distance of approximately 150 miles. At least 34 perennial tributaries with potential habitat for the species occur between these two points. Harris Dam has impounded 22 miles of what may be considered historic habitat in the Tallapoosa River. In addition, 16 miles of the Little Tallapoosa, and the lower portions of Wedowee, Fox, and Mad Indian Creeks, and other smaller tributaries, have been flooded by Harris Reservoir. Although Martin Reservoir lies almost entirely below the historic range of the species, its headwaters impound the mouth of Hillabee Creek and several miles of main stem river upstream of Hillabee Creek. Taking into account the numerous tributaries between Hillabee Creek and the most upstream known site for the species, and at least 120 miles of unimpounded main stem river, potential habitat remains abundant within the known range of the species. No crayfish survey has been done in this river system, and of existing collections from the system, at least six lots remain unidentified.

The petition cited a proposed reservoir in Haralson County, Georgia, as the primary threat to *C. englishi*. The site for the reservoir is above the uppermost known locality for the species. Sampling upstream of this point has confined the absence of *C. englishi*. Crayfish populations below the reservoir could be impacted by reservoir releases, and by changes in the flow regime and water quality caused by construction. However, this potential impact would affect only a limited portion of the known range of the species.

For purposes of a 90-day finding, Service draft petition management guidelines define substantial information as an amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted. The guidelines further define substantial

information as the amount of information that is reasonably close to the amount of evidence that would indicate the requested action is warranted. This is interpreted to mean information very near that required to support the preparation of a proposed rule. Information supplied by the petition to list *C. englishi* clearly does not meet that standard. No serious threats are demonstrated in light of the additional information gathered by the Service. As discussed above, there is an apparent abundance of potential habitat for this species in the Piedmont drainage of the Tallapoosa River. Information needed to adequately assess the status of this species includes: the amount of available tributary habitat; the number and extent of tributary populations; the occurrence and status of *C. englishi* main stem populations between Martin and Harris Reservoirs; and identification of threats to the species, including an evaluation of the effects of reservoir releases on downstream populations.

On the basis of the best scientific and commercial information currently available, the Service found that this petition did not present substantial information that the requested action may be warranted. However, the Service is open to additional information about this species as it may become available.

Section 4(b)3(B) of the Act requires that, for any petition to revise the List of Endangered and Threatened Wildlife and Plants that contains substantial scientific or commercial information, the Service should make a finding within 12 months of the date of receipt of the petition on whether the petitioned action is (a) Not warranted, (b) warranted, or (c) warranted but precluded from immediate proposal by other pending proposal. Such findings are to be published promptly in the Federal Register.

A petition from Ms. Ann Buckley dated May 28, 1989, was received by the Service on June 5, 1989. It requested the Service to list the lichen *Cladonia perforata* as an endangered species. An administrative finding that the action requested may be warranted was made on September 11, 1989, and was published in the Federal Register of October 18, 1989 (54 FR 42813).

The petitioner and Mr. Ted Hendrickson summarized historical knowledge of *Cladonia perforata* and presented the results of their own search for it in a 1988 paper in *The Bryologist*. Alexander W. Evans had named the lichen in 1952, based on a collection from Eglin Air Force Base, Santa Rosa

Island, in "Escambia County"—actually Okaloosa County. Dr. Mason E. Hale, Jr. and Sherry K. Pittam of the Smithsonian Institution pointed out (*in litt.*, December 1989) that Evans collected lichens of the Cladoniacae in many Florida counties and examined many herbaria, so his failure to find more sites for the lichen *** suggests that the range and occurrences of this lichen are truly limited."

In 1968, B.J. Moore reported collecting the lichen in sand pine scrub in Highlands County, Florida. In 1986, Buckley and Hendrickson began a search for this lichen at Archbold Biological Station in Highlands County, where they found it on 6 of the Station's 84 Florida rosemary "balds." The balds are small, very dry sand hills, with scattered Florida rosemary bushes surrounded by lichens growing on the ground in full sun, along with several endemic species of vascular plants, including the endangered *Eryngium cuneifolium* and *Hypericum cumulicola*. Searches of rosemary balds outside the Archbold Station revealed a few more sites for the lichen.

In March 1989, Gerould Wilhelm of the Morton Arboretum and James Burkhalter of Pensacola searched all of Santa Rosa Island for the lichen and found it at one site, owned by Eglin Air Force Base, where hundreds of square meters are covered by lichen. The site is occupied by salt-sprayed dwarfed sand pine, myrtle oak, live oak, Florida rosemary, and other lichen species.

In Highlands County, the six sites for *Cladonia perforata* at Archbold Biological Station are threatened to some extent by fire, which destroys ground-dwelling lichens. Fires in the spring of 1989 threatened several populations. In Highlands County outside Archbold Biological Station, sand pine scrub vegetation inhabited by *Cladonia perforata* and other endangered and threatened plants and animals is rapidly being destroyed, and the rate of destruction is increasing.

On Santa Rosa Island, the portion of Eglin Air Force Base with the lichen population is a public recreation area. Limited trampling of the area by visitors may help perpetuate the lichens, but excessive trampling would be a threat. Santa Rosa Island is subject to overwash and other disturbances during hurricanes.

Cladonia perforata is easily identified in the field if one has seen it or a good illustration, such as the one in *The Biology of Lichens* by Mason Hale (1967). The small number of known sites, and especially the small number of known sites in those areas that were

carefully searched specifically for this lichen, strongly indicate that listing of this lichen may be warranted. Before a listing proposal is prepared, however, sand pine scrub vegetation in other parts of Florida (and possibly oak scrub vegetation in southeastern Georgia) should be searched. Most of the areas that should be searched have been visited by biologists seeking other plant and animal species, so an effective search can readily be organized.

On the basis of the best scientific and commercial information presently available, the Service found that the action requested by this petition is warranted, but precluded by work on other species having higher priority for listing.

Section 4(b)(3)(B)(iii) of the Act states that petitioned actions may be found to be warranted but precluded by other listing actions when it is also found that the Service is making expeditious progress in revising the lists. Expeditions progress is being made in lasting endangered and threatened species and is reported annually in the *Federal Register*. The most recent progress report was published on April 25, 1990 (55 FR 17475).

References Cited

Boucard, R.W. 1978. Taxonomy, ecology, and phylogeny of the subgenus *Depressicamarbus*, with the description of a new species from Florida and redescriptions of *Carbarus graysoni*, *Cambarus latimanus* and *Cambarus striatus* (Decapoda: Cambaridae). Alabama Museum of Natural History Bulletin 3:27-60.

Buckley, A., and T.O. Hendrickson. 1988. The distribution of *Cladonia perforata* Evans on the Southern Lake Wales Ridge in Highlands County, Florida. The Bryologist 91:354-358.

Hobbs, H.H., Jr., and E.T. Hill, Jr. 1972. A new crayfish from the Tallapoosa River in Georgia (Decapoda: Astacidae). Proceedings of the Biological Society of Washington 85(12):151-161.

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Hobbs, H.H., Jr. 1981. The crayfishes of Georgia. Smithsonian Contributions to Zoology 318:viii + 549 pages.

Hobbs, H.H., Jr. 1989. An illustrated checklist of the American crayfishes (Decapoda: Astacidae, Cambaridae and Parastacidae). Smithsonian Contributions to Zoology 480:iii + 238 pages.

Moore, B.J. 1968. The macrolichen flora of Florida. The Bryologist 71:161-267.

Author

The notice was prepared by Thomas W. Turnipseed, Division of Endangered Species, U.S. Fish and Wildlife Service,

75 Spring Street S.W., Atlanta, Georgia 30303, (404/331-3583 or FTS 481-3583.

Authority: The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and record-keeping requirements, Transportation.

Dated: July 19, 1990.

Suzanne Mayer,
Acting Director, U.S. Fish and Wildlife Service.

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50 CFR Part 17

RIN 1018-AB 42

Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Two Na Pali Coast Plants: *Hedyotis st. johnii* (Na Pali Beach Hedyotis) and *Schiedea apokremnos* (Ma'oli'o'i)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) proposes to list two plants, *Hedyotis st. johnii* and *Schiedea apokremnos*, as endangered species under the authority contained in the Endangered Species Act of 1973, as amended (Act). These species are known only from the northwest (Na Pali) coast of the island of Kauai, Hawaii. *Hedyotis st. johnii* is known from 5 populations totaling about 250 individuals, and *S. apokremnos*' 5 known populations total about 100 plants. The greatest immediate threat to the survival of *S. apokremnos* is predation and habitat degradation by feral goats. As a result of past goat activity, *H. st. johnii* is almost entirely restricted to sites inaccessible to goats where the plants are now threatened by competition from alien plant species. The small number and size of populations are a considerable threat to both species, as the limited gene pool may depress reproductive vigor, or a single environmental disturbance could destroy a significant percentage of the extant individuals. Fire and landslides are environmental disturbances that pose potential threats to these species. A determination that *H. st. johnii* and *S. apokremnos* are endangered would implement the Federal protection and recovery provisions provided by the Act. Comments and materials related to this proposal are solicited.

DATES: Comments from all interested parties must be received by October 2, 1990. Public hearing requests must be received by September 17, 1990.

ADDRESSES: Comments and materials concerning this proposal should be sent to Ernest F. Kosaka, Field Supervisor, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, room 6307, P.O. Box 50187, Honolulu, Hawaii 96850. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Joan E. Canfield, at the above address (808/541-2749 or FTS 551-2749).

SUPPLEMENTARY INFORMATION:

Background

Hedyotis st. johnii was first collected in 1947 by Harold St. John, E.J. Britten, and R.S. Cowan on the vertical sea cliffs between Kalalau and Honopu valleys on Kauai. The next collection was made by B.C. Stone in 1958 from the same location. Two years later Stone and I. Lane (1958) described the plant as a new species, naming it in honor of its discoverer. All subsequent collections have been from a four and a half mile long section of the Na Pali coast: Between Kalalau and Honopu beaches, and from Nualolo Valley, Nualolo Kai, and Milolii Beach. *Hedyotis st. johnii* is still extant in all of those areas except perhaps Nualolo Kai, which has not been resurveyed in 11 years (Carolyn Corn, State botanist, Division of Forestry and Wildlife, Hawaii Department of Natural Resources; Robert Hobdy, botanist, Maui District, Division of Forestry and Wildlife, Hawaii Department of Natural Resources and Steven Perlman, botanist, National Tropical Botanical Garden, Hawaii, pers. comms., March 6, 1990). A total of about 250 individuals has been seen, with some populations numbering as low as 1 plant (Corn 1984, Hawaii Heritage Program 1989a). Similar, inaccessible habitat might harbor as yet undiscovered individuals (C. Corn and R. Hobdy, pers. comms., March 6, 1990). Known only from State-owned land, *H. st. johnii* is restricted to Na Pali Coast State Park.

Schiedea apokremnos was first collected in the early 1900's by J.M. Lydgate from an unrecorded locality on Kauai. Harold St. John made the next collection at Nualolo Kai on the Na Pali coast in 1965. Five years later, he described the taxon as a new species (St. John 1970), naming it for the plant's habitat of steep cliffs. All subsequent collections have been from Kaaweiki

Ridge and three areas along a six and a half mile long section of the Na Pali coast: Milolii Valley, Kalalau Beach, and between Kaalahina and Manono ridges. The species is probably extant at all locations except Nualolo Kai, although the Kalalau and Milolii populations have not been revisited for over six years [C. Corn, Timothy Flynn, botanist, National Tropical Botanical Garden, Hawaii and R. Hobdy, pers. comms., February 28–March 1, 1990]. A total of about 100 plants has been seen, with only the Kaaalahina-Manono population numbering more than 5 individuals (Corn 1984; Hawaii Heritage Program 1989b and 1989c; T. Flynn and S. Perlman, pers. comms., March 1–6, 1990). As with *Hedyotis st.-johnii*, more plants could exist in similar, inaccessible habitat (R. Hobdy and S. Perlman, pers. comms., March 1–6, 1990). In addition, a *Schiedea* recently collected from a gulch near the head of Kalalau Valley, if identified as *S. apokremnos*, would extend the known range of this species (R. Hobdy, pers. comm., March 6, 1990). Like *H. st.-johnii*, *S. apokremnos* is known strictly from State-owned land; the Kaaweiki population is in Puu Ka Pele Forest Reserve, all others are in Na Pali Coast State Park.

Hedyotis st.-johnii is a succulent perennial herb of the Rubiaceae family with slightly woody, trailing, quadrangular stems up to 1 foot (3 decimeters) long. The fleshy leaves are clustered toward the base of the stem and are broadly ovate to broadly elliptic, 2–6 inches (5.5–15 centimeters) long and about 2 inches (3.5–7.5 centimeters) wide. Clusters of flowers are borne on 3–6 inch (7–15 centimeters) long flowering stems. The leafy, broadly ovate calyx lobes are about 0.1 inch (3–4 millimeters) long and wide, enlarging in fruit to about 0.4 inch (8–11 millimeters) long and wide. The green petals are fused into a tube about 0.2 inch (5–8 millimeters) long and wide. The fruit consists of kidney-shaped capsules with dark brown to blackish angular seeds. *Hedyotis st.-johnii* is distinguished from related species by its succulence, basally clustered fleshy leaves, shorter floral tube, and a large leafy calyx lobes when in fruit (Wagner *et al.* 1990).

Schiedea apokremnos is a low, branching shrub 8–20 inches (2–5 decimeters) tall, of the Caryophyllaceae family. The leaves are oppositely arranged, oblong, somewhat fleshy and glabrous, about 1–2 inches (3–5 centimeters) long and 0.2–0.5 inch (0.6–1.2 centimeters) wide. The flowers lack petals and are in clusters with green and often purple-tinged bracts and sepals; the sepals are about 0.1 inch (2–3

millimeters) long. The round to kidney-shaped seeds are produced in capsules. *Schiedea apokremnos* is distinguished from related species by shorter sepals, nectaries, and capsules (Wagner *et al.* 1990).

Hedyotis st.-johnii and *Schiedea apokremnos* grow in the crevices of near-vertical coastal cliff faces. Although *H. st.-johnii* is confined to north-facing, nearly vertical sea cliffs within the spray zone below 250 feet (75 meters) elevation, *S. apokremnos* extends 0.3 mile inland, occupying cliffs and rock outcrops from 200 to 1100 feet (60–330 meters) elevation (Carr 1982; Hawaii Heritage Program 1989a; C. Corn and T. Flynn, pers. comms., March 1–6, 1990). Sparse dry coastal shrub vegetation with *Artemisia australis* and *Pluchea symphytifolia* is typical of the habitat of *H. st.-johnii* and lower elevation sites of *S. apokremnos* (Hawaii Heritage Program 1989a, 1989c; S. Perlman, pers. comm., March 6, 1990). Other associates of *H. st.-johnii* include *Lipochaeta succulenta*, *Capparis sandwichiana*, and *Panicum* sp. (Stone and Lane 1958; R. Hobdy, pers. comm., March 6, 1990). Other low elevation associates of *S. apokremnos* are *Chamaesyce celastroides*, *Lobelia niihauensis*, and *Eragrostis variabilis* (Hawaii Heritage Program 1989b). In contrast, *S. apokremnos'* upper elevation site is dominated by the introduced *Leucaena leucocephala*, with *Wilkesia hobdyi*, *Lipochaeta connata*, and *Lobelia niihauensis* (T. Flynn, pers. comm., March 1, 1990).

The greatest immediate threat to the survival of *Schiedea apokremnos* is predation and habitat degradation by feral goats. As a result of past goat activity, *Hedyotis st.-johnii* is almost entirely restricted to sites inaccessible to goats where the plants are now threatened by competition from alien plant species. Alien plants are a threat to at least one population of *S. apokremnos* as well. The small size of most populations and a restricted distribution are serious potential threats to these two species. The limited gene pool may depress reproductive vigor, or a single environmental disturbance could destroy a significant percentage of the extant individuals. Landslides and fire pose additional potential threats to both species. Some *S. apokremnos* individuals are functionally females and must be cross-pollinated to set seed. This reproductive strategy may threaten populations with few individuals (Stephen Weller, botanist, pers. comm., February 28, 1990).

Federal action on *Hedyotis st.-johnii* and *Schiedea apokremnos* began as a

result of section 12 of the Act, which directed the Secretary of the Smithsonian Institution to prepare a report on plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94–51, was presented to Congress on January 9, 1975. *Hedyotis st.-johnii* was included in the Smithsonian report, and considered endangered; *S. apokremnos* was not included. On July 1, 1975, the Service published a notice in the Federal Register (40 FR 27823) accepting the report as a petition within the context of section 4(c)(2) (now section 4(b)(3)(A)) of the Act, and giving notice of its intention to review the status of the plant taxa named therein. *Hedyotis st.-johnii* was treated in the July 1, 1975, notice as under petition for listing as endangered. As a result of this review, on June 16, 1976, the Service published a proposed rule in the Federal Register (41 FR 24523) to determine approximately 1,700 vascular plant species, including *H. st.-johnii*, to be endangered pursuant to section 4 of the Act. 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, the Service published a notice in the Federal Register (44 FR 70796) of the withdrawal of 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 an updated Notice of Review for plants on December 15, 1980 (45 FR 82480), including *Hedyotis st.-johnii* as a Category 1 candidate, meaning that the Service had substantial information indicating that proposing for listing was appropriate. In the updated Notice of Review for plants published by the Service on September 27, 1985 (50 FR 39525), and February 21, 1990 (55 FR 6183), *Schiedea apokremnos* was included along with *H. st.-johnii* as a Category 1 candidate. Section 4(b)(3)(B) of the Act, as amended, requires the Secretary to make findings on certain pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. The latter was the case for *H. st.-johnii* and *S. apokremnos* because the Service had accepted the 1975 Smithsonian report 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 actions, in accordance with section

4(b)(3)(B)(iii) of the Act; notification of this finding was published 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 finding was reviewed in October of 1984, 1985, 1986, 1987, 1988, and 1989. Publication of the present proposal constitutes the final 1-year finding.

Summary of Factors Affecting the Species

Section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the Act set forth the procedures for adding species to the Federal Lists. 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 *Hedyotis st.-johnii* B. Stone & Lane (Na Pali beach hedyotis) and *Schiedea apokremnos* St. John (ma'oli'oli) are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range. Feral goats and cattle have altered and degraded the vegetation of much of Kauai, including the valleys and slopes where *Hedyotis st.-johnii* and *Schiedea apokremnos* have been collected (Corn *et al.* 1979, Hawaii Heritage Program 1990). An estimated 1650 goats inhabited the Na Pali Coast in 1982; they are still abundant throughout the portion of the coast that *H. st.-johnii* and *S. apokremnos* inhabit (Hawaii Heritage Program 1990, Tomich 1986). The restriction of these two species to inaccessible cliffs suggests that goat predation may have eliminated them from more accessible locations, as is the case for other rare plants of the Na Pali coast (Corn *et al.* 1979; R. Hobdy, pers. comm., March 6, 1990). While browsing on *S. apokremnos* and vegetation adjacent to both species, goats disturb the ground, limiting seedling development, accelerating erosion, reducing habitat, and creating sites for invasion by more aggressive introduced plant species (Carr 1982, Corn *et al.* 1979, U.S. Fish and Wildlife Service 1989). *Leucaena leucocephala* and *Hyptis pectinata* are common invasive alien species at the Kaaweiki site of *S. apokremnos* (T. Flynn, pers. comm., March 1, 1990). The other populations of *S. apokremnos* and some populations of *H. st.-johnii*, confined to sparsely vegetated cliff crevices, are apparently not threatened by alien plants (R. Hobdy, pers. comm., March 6, 1990). However, alien plants do constitute the primary threat to other populations of *H. st.-johnii*, with *Pluchea symphytifolia*

the main competitor (C. Corn and S. Perlman, pers. comms., March 6, 1990). Landslides are another potential threat to *H. st.-johnii* and *S. apokremnos* (C. Corn, pers. comm., March 6, 1990). Vegetation was destroyed by a recent landslide near Honopu Beach on a cliff similar to the habitat of *H. st.-johnii* (C. Corn, pers. comm., March 6, 1990). Corn *et al.* (1979) consider fire an immediate serious threat to the rare plants of the cliff faces and valleys of the Na Pali coast. Under dry conditions, human-set fires would spread rapidly and destroy these plants due to the strong prevailing winds and dry fuel load on cliff ledges (Corn *et al.* 1979). Fire poses a potential and growing threat to *H. st.-johnii* and *S. apokremnos*, especially as recreational use in the State Park increases (Corn *et al.* 1979). Because of their inaccessible location, however, it is unlikely that these two species would be otherwise threatened by proposed park development (C. Corn and Wayne Souza, planner, pers. comms., March 5-6, 1990).

B. Overutilization for commercial, recreational, scientific, or educational purposes. Not known to be a factor, but unrestricted scientific collecting or excessive visits resulting from increased publicity could seriously affect the species. The co-occurrence at one site of *Schiedea apokremnos* and *Wilkesia hobdyi*, currently proposed for listing as an endangered species (U.S. Fish and Wildlife Service 1989), could bring additional publicity and visitation. Disturbance to the accessible areas by trampling would promote erosion and greater ingress by competing alien species.

C. Disease or predation. Predation by feral goats is probably the greatest present threat to the survival of *Schiedea apokremnos* (T. Flynn, R. Hodby, and S. Perlman, pers. comms., March 1-6, 1990). Goat browsing on this species has been observed at the Kaaweiki population for the past several years (T. Flynn, pers. comm., March 1, 1990). At precisely the same locality, grazing damage by increasing numbers of goats is recognized as a serious present threat to another rare species, *Wilkesia hobdyi* (Carr, 1982, U.S. Fish and Wildlife Service 1989). The most accessible population of *Hedyotis st.-johnii*, behind Kalalau Beach, is threatened by goat predation (S. Perlman, pers. comm., March 6, 1990). Other than that site, however, goat predation apparently already has eliminated *H. st.-johnii*, elsewhere at all sites goats are capable of reaching (C. Corn, R. Hobdy, and S. Perlman, pers. comms., March 6, 1990). No evidence of

disease or predation by other species has been reported for either species.

D. The inadequacy of existing regulatory mechanisms. All populations of *Hedyotis st.-johnii* and *Schiedea apokremnos* are located on State-owned park or forest reserve land. State regulations prohibit the removal, destruction, or damage of plants found on these lands. However, those regulations are difficult to enforce due to limited personnel. Hawaii's Endangered Species Act (HRS, section 195D-4(a)) states, "Any species of wildlife or plant that has been determined to be an endangered species pursuant to the Endangered Species Act (of 1973) shall be deemed to be an endangered species under the provisions of this chapter * * *. Further, the State may enter into agreements with Federal agencies to administer and manage any area required for the conservation, management, enhancement, or protection of endangered species (HRS, section 195D-5(c)). Funds for these activities could be made available under section 6 of the Act (State Cooperative Agreements) if two species were listed as threatened or endangered. Listing of *H. st.-johnii* and *S. apokremnos* will therefore protect the species and reinforce and supplement the protection available to the species under State law. The Act also would offer additional protection to the two species in that it is now a violation of the Act if any person removes, cuts, digs up, damages or destroys an endangered plant in an area not under Federal jurisdiction in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law.

E. Other natural or manmade factors affecting its continued existence. The small size of the extant populations (totaling 100 individuals of *Schiedea apokremnos* and 250 of *Hedyotis st.-johnii*) is in itself a considerable threat to these species. A single fire, landslide, or other man-caused or natural environmental disturbance could destroy a significant percentage of the known individuals. The limited gene pool may depress reproductive vigor. Reproduction of *S. apokremnos* also may be potentially threatened by the species' breeding system: Some progeny of one individual are known to be unisexual, requiring cross-pollination to set seed (S. Weller, pers. comm., February 28, 1990). If those plants do not flower simultaneously or are too widely separated for pollination, no seed will be set.

The Service has carefully assessed the best scientific and commercial

information available regarding the past, present, and future threats faced by these two species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Hedyotis st.-johnii* and *Schiedea apokremnos* as endangered. For the two species, only about 250 and 100 individuals respectively are known in the wild, and they face threats from feral goat predation and habitat degradation. Small population size, competing alien plants, fires, and landslides pose additional threats. Given these circumstances, the determination of endangered status is warranted. See the following "Critical Habitat" section for a discussion of why critical habitat is not being proposed.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary propose critical habitat at the time the species are proposed to be listed as endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for these two species. Such a determination would result in no known benefit to the species. The publication of descriptions and maps that are required in a proposal for critical habitat would potentially increase the degree of threats of trampling (causing erosion and invasion of alien plants), vandalism, and taking at the Kaaweiki site for *Schiedea apokremnos*. *Hedyotis Hedyotis st.-johnii* might be subject to an increased threat of taking and vandalism as well. Publication of critical habitat descriptions and maps would make *H. st.-johnii* and *S. apokremnos* more vulnerable to taking and vandalism and would increase enforcement problems. All involved parties and the landowner have been notified of the location and importance of protecting the habitat of these two species. Protection of the species' habitat will be addressed through the recovery process and through section 7 consultation. Therefore, it would not now be prudent to designate critical habitat for *H. st.-johnii* and *S. apokremnos*.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain activities. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species

Act provides for possible land acquisition and cooperation with the State 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) of the Act requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, 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 such a species or to 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 formal consultation with the Service. There are no known Federal activities that may affect either of these species.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plants. With respect to *Hedyotis st.-johnii* and *Schiedea apokremnos*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would 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 these species in interstate or foreign commerce; or to remove and reduce to possession the species from areas under Federal jurisdiction or maliciously damage or destroy any such species on any such area; or remove, cut, dig up, damage or destroy any such species on an area not under Federal jurisdiction in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law. Certain exceptions 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 plant species under certain circumstances. It is anticipated that few trade permits would ever be sought or issued because these two species are not common in cultivation or in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, 4401 North Fairfax Drive, room 432, Arlington, Virginia 22203-3507 (703/358-2104 or FTS 921-2232).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Hedyotis st.-johnii* and *Schiedea apokremnos*;

(2) The location of any additional populations of these two species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range, distribution, and population size of the two species; and

(4) Current or planned activities in the subject area and their possible impacts on these species.

Any final decision on the proposed listing of *Hedyotis st.-johnii* and *Schiedea apokremnos* will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be received by September 17, 1990. Such requests must be made in writing and addressed to the Field Supervisor, Honolulu Field Station (see ADDRESSES section).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, 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).

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Author

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List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and record-keeping requirements, and Transportation.

Proposed Regulations Promulgation

Accordingly, it is hereby proposed to 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: 18 U.S.C. 1361–1407; 18 U.S.C. 1531–1543; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. It is proposed to amend § 17.12(h) by adding the following, in alphabetical order under the families Caryophyllaceae and Rubiaceae, respectively, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species	Scientific name	Common name	Historic range	Status	When listed	Critical habitat	Special rules
Caryophyllaceae—Pink family:							
<i>Schiedea apokremnos</i>	Ma'o'oli		U.S.A. (HI)	E		NA	NA
Rubiaceae—Coffee family							
<i>Hedyotis st-johnii</i>	Na Pali beach hedyotis		U.S.A. (HI)	E		NA	NA

Dated: June 27, 1990.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.

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