

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AE25

Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for the Plant *Eriogonum apricum* (Ione Buckwheat) and Proposed Threatened Status for the Plant *Arctostaphylos myrtifolia* (Ione Manzanita)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Fish and Wildlife Service (Service) proposes endangered status pursuant to the Endangered Species Act of 1973, as amended (Act), for *Eriogonum apricum* (inclusive of vars. *apricum* and *prostratum*) (Ione buckwheat). The Service also proposes threatened status for *Arctostaphylos myrtifolia* (Ione manzanita). These two species occur primarily on soils derived from the Ione Formation in Amador or Calaveras counties in the central Sierra Nevada foothills of California and are imperiled by one or more of the following factors—mining, clearing of vegetation for agriculture and fire protection, disease, inadequate regulatory mechanisms, habitat fragmentation, residential and commercial development, changes in fire frequency, and continued erosion due to prior off-road vehicle use. Random events increase the risk to the few, small populations of *E. apricum*. This proposal, if made final, would implement the Federal protection and recovery provisions afforded by the Act for these plants.

DATES: Comments from all interested parties must be received by August 25, 1997. Public hearing requests must be received by August 11, 1997.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, Sacramento Field Office, U.S. Fish and Wildlife Service, 3310 El Camino Avenue, Suite 130, Sacramento, California 95821-6340. Comments and materials received, as well as the supporting documentation used in preparing the rule, will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Kirsten Tarp, Sacramento Field Office (see ADDRESSES section) (telephone 916/979-2120; facsimile 916/979-2128).

SUPPLEMENTARY INFORMATION:

Background

Arctostaphylos myrtifolia (Ione manzanita), *Eriogonum apricum* var. *apricum* (Ione buckwheat), and *Eriogonum apricum* var. *prostratum* (Irish Hill buckwheat) are found primarily in western Amador County, about 70 kilometers (km) (40 miles (mi)) southeast of Sacramento in the central Sierra Nevada foothills of California. Most populations occur at elevations between 90 and 280 meters (m) (280 to 900 feet (ft)). A few isolated occurrences of *A. myrtifolia* occur in adjacent northern Calaveras County.

Both species included in this proposal exhibit marked substrate preferences and grow in openings within chaparral vegetation on lateritic soils crusts (cement-like crusts of yellow iron oxide) developed under a subtropical or tropical climate during the Eocene (35–57 million years before present); the laterite is associated with the Ione Formation (Allen 1929). The “Ione soils” in the area are coarse-textured and exhibit soil properties typical of those produced under tropical climates such as high acidity, high aluminum content, and low fertility (Singer 1978). These soils and the sedimentary deposits with which they are associated also contain large amounts of commercially valuable minerals including quartz sands, kaolinitic clays, lignite (low-grade coal), and possible gold-bearing gravels (Chapman and Bishop 1975). The nearest modern-day relatives to these soils occur in Hawaii and Puerto Rico (Singer 1978).

The vegetation in the Ione area is distinctive enough to be designated as “Ione chaparral” in a classification of plant communities in California (Holland 1986). Stebbins (1993) characterized the Ione chaparral as an ecological island, which he defined as a relatively small area with particular climatic and ecological features that differ significantly from surrounding areas. This plant community occurs only on very acidic, nutrient-poor, coarse soils, and is comprised of low-growing heath-like shrubs and scattered herbs (Holland 1986). The dominant shrub is *Arctostaphylos myrtifolia*, which is narrowly endemic to the area. Ione chaparral is restricted in distribution to the vicinity of Ione in Amador County, and a few local areas of adjacent northern Calaveras County where the community is estimated to cover 2,430 hectares (ha) (6,000 acres (ac)) (California Natural Diversity Database (CNDDDB) 1994). The endemic plants that grow here are thought to do so because they can tolerate the acidic,

nutrient-poor conditions of the soil which exclude other plant species; the climate of the area may be moderated by its position due east of the Golden Gate (Gankin and Major 1964, Roof 1982).

Discussion of the Two Species Proposed for Listing

Parry (1887) described *Arctostaphylos myrtifolia* based upon material collected near Ione, California. Subsequent authors variously treated this taxon as *Uva-ursi myrtifolia* (Abrams 1914), *A. nummularia* var. *myrtifolia* (Jepson 1922), *Schizococcus myrtifolius* (Eastwood 1934), and *Arctostaphylos uva-ursi* ssp. *myrtifolia* (Roof 1982). Wells (1993), in his treatment of California *Arctostaphylos*, maintained the species as *A. myrtifolia*.

Arctostaphylos myrtifolia is an evergreen shrub of the heath family (Ericaceae) that lacks a basal burl. Attaining a height of generally less than 1.2 m (3.8 ft), plants appear low and spreading. The bark is red, smooth, and waxy. Olive green, narrowly elliptic leaves are 6 to 15 millimeters (mm) (0.2 to 0.6 inches (in.)) long. Red scale-like inflorescence bracts are 1 to 2 mm (0.1 in.) long. White or pinkish urn-shaped flowers appear from January to February. The fruit is cylindrical. The species depends almost entirely on fire to promote seed germination (Wood and Parker 1988). *Arctostaphylos myrtifolia* can be distinguished from other species in the same genus by its smaller stature and the color of its leaves.

Arctostaphylos myrtifolia is reported from 17 occurrences (CNDDDB 1997). Because most of these occurrences are based on the collection localities of individual specimens, it is uncertain how many stands these 17 occurrences represent. *Arctostaphylos myrtifolia* may occur in about 100 individual stands which cover a total of about 400 ha (1,000 ac) (Roy Woodward, Bechtel, *in litt.* 1994). It occurs primarily on outcrops of the Ione Formation within an area of about 91 square (sq.) km (35 sq. mi) in Amador County. In addition, a few disjunct populations occur in Calaveras County. The populations range in elevation from 60 to 580 m (190 to 1900 ft), with the largest populations occurring at elevations between 90 and 280 m (280 and 900 ft) (Wood and Parker 1988). *Arctostaphylos myrtifolia* is the dominant and characteristic species of Ione chaparral, where it occurs in pure stands. It also occurs in an ecotone with surrounding taller chaparral types, but it does not persist if it is shaded (R. Woodward, *in litt.* 1994). It is impossible to quantify the amount of *A. myrtifolia* habitat already lost to mining because information

regarding the total mineral production as well as the total acreage of land newly disturbed by a mining operation is proprietary (Maryann Showers, California Department of Mining and Geology, pers. comm. 1994). Although the exact area of habitat lost is unknown, a significant loss of habitat has occurred (Roof 1982; Stebbins 1993; Wood, *in litt.* 1994). Mining, disease, clearing of vegetation for agriculture and fire protection, inadequate regulatory mechanisms, habitat fragmentation, residential and commercial development, changes in fire frequency, and ongoing erosion threaten various populations of this plant (CNDDDB 1997; Ed Bollinger, Acting Area Manager, Bureau of Land Management (BLM), Folsom Resource Area, *in litt.* 1994, Michael Wood, Botanical Consultant, *in litt.* 1994). *Arctostaphylos myrtifolia* occurs primarily on private or non-Federal lands. The BLM manages one occurrence on the Ione Manzanita Area of Critical Environmental Concern (ACEC). Four small, pure populations and several smaller, mixed populations also occur on the state-owned Apricum Hill Ecological Reserve managed by the California Department of Fish and Game (CDFG) (Wood and Parker 1988).

Eriogonum apricum comprises two varieties—*Eriogonum apricum* var. *apricum* and *E. apricum* var. *prostratum*. Descriptions are provided below for each of the varieties.

Howell described the species *Eriogonum apricum* (Ione buckwheat) in 1955 based on a specimen collected in the foothills of the Sierra Nevada near Ione, Amador County, California. Myatt described a variety of the Ione buckwheat, *E. apricum* var. *prostratum* (Irish Hill buckwheat) in 1970. According to the rules for botanical nomenclature, when a new variety is described in a species not previously divided into infraspecific taxa, an autonym (an automatically generated name) is created. In this case, the autonym is *Eriogonum apricum* var. *apricum*.

Both varieties, *Eriogonum apricum* vars. *apricum* and *prostratum*, are perennial herbs in the buckwheat family (Polygonaceae). *Eriogonum apricum* var. *apricum* is glabrous (smooth, without hairs or glands) and grows upright to 8 to 20 centimeters (cm) (3 to 8 in.) in height. Its leaves are basal, round to oval, and 3 to 5 mm (0.1 to 0.3 in.) wide. The calyx (outer whorl of flower parts) is white with reddish midribs.

Eriogonum apricum var. *apricum* flowers from July to October, and is restricted to 9 occurrences occupying a total of approximately 4 ha (10 ac) (The Nature Conservancy 1984) on otherwise

barren outcrops within the Ione chaparral. Of the 9 known occurrences of *E. apricum* var. *apricum*, one is partially protected by CDFG (CNDDDB 1994). *Eriogonum apricum* var. *apricum* occurs primarily on private or non-Federal land; BLM manages one occurrence. Mining, clearing of vegetation for agriculture and for fire protection, inadequate regulatory mechanisms, habitat fragmentation, increased residential development, and erosion threaten both populations of this plant.

Eriogonum apricum var. *prostratum* has smaller leaves, a prostrate habit (lying flat), and an earlier flowering time than *E. apricum* var. *apricum*. The 2 known occurrences of *E. apricum* var. *prostratum* are restricted to otherwise barren outcrops on less than 0.4 ha (1 ac) in openings of Ione chaparral on private land. Mining, inadequate regulatory mechanisms, habitat fragmentation, erosion, and random events threaten the occurrences of this plant.

Previous Federal Action

Federal government actions on both plants began as a result of section 12 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct in the United States. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975, and included *Arctostaphylos myrtifolia*, *Eriogonum apricum* var. *apricum* and *E. apricum* var. *prostratum* as endangered species. The Service published a notice on July 1, 1975 (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as a petition within the context of section 4(c)(2) (petition provisions are now found in section 4(b)(3) of the Act) and its intention to review the status of the plant taxa named therein. The above three taxa were included in the July 1, 1975, notice. On June 16, 1976, the Service published a proposal (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act. The list of 1,700 plant taxa was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975, **Federal Register** publication. *Arctostaphylos myrtifolia*, *E. apricum* var. *apricum*, and *E. apricum* var. *prostratum* were included in the June 16, 1976, **Federal Register** document.

General comments received in relation to the 1976 proposal were summarized in an April 26, 1978, rule (43 FR 17909). Amendments to the Act in 1978 required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to those proposals already more than 2 years old. In a December 10, 1979, notice (44 FR 70796), the Service withdrew the June 16, 1976, proposal, along with four other proposals that had expired.

The Service published a Notice of Review for plants on December 15, 1980 (45 FR 82480) that listed those plants currently considered for listing as endangered or threatened. The three taxa were included as candidates for Federal listing in this document. Candidate taxa are those for which the Service has on file substantial information on biological vulnerability and threats to support preparation of listing proposals. The November 28, 1983, supplement to the Notice of Review (48 FR 53640) made no changes to the designation for these taxa.

The plant notice was revised again on September 27, 1985 (50 FR 39526), February 21, 1990 (55 FR 6184), and September 30, 1993 (58 FR 51144). In these three notices, *Arctostaphylos myrtifolia*, *Eriogonum apricum* var. *apricum* and *E. apricum* var. *prostratum* were again included as candidates. All three taxa were also included as candidates in the February 28, 1996, Notice of Review (61 FR 7596).

Section 4(b)(3)(B) of the Act requires the Secretary to make certain 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 *Arctostaphylos myrtifolia*, *Eriogonum apricum* var. *apricum* and *E. apricum* var. *prostratum*, because the 1975 Smithsonian report had been accepted as a petition. On October 13, 1982, 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 annually in October of 1983 through 1994. Publication of this proposal constitutes the final finding for the petitioned action.

Eriogonum apricum has a listing priority number of 2 (each variety has a listing priority number of 3).

Arctostaphylos myrtifolia has a listing priority number of 8. Processing of this rule is a Tier 3 action under the current listing priority guidance (61 FR 64480).

Summary of Factors Affecting the Species

Section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists of endangered and threatened species. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Arctostaphylos myrtifolia* C. Parry (Ione manzanita) and *Eriogonum apricum* J. Howell (inclusive of vars. *apricum* and *prostratum* R. Myatt) (Ione buckwheat) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Nearly all occurrences of both plant species occur on private or non-Federal land. The primary threat facing both species is the ongoing and threatened destruction and modification of their habitat by mining for silica sand, clay, lignite, common sand and gravel, and reclamation of mined lands to vegetation in which these species cannot exist. A lesser degree of threat is posed by commercial or residential development, clearing for agriculture and fire protection, and continued erosion due to previous fireline construction and a driver training course used by fire fighters.

The habitat of *Arctostaphylos myrtifolia* and *Eriogonum apricum* occurs in areas that contain valuable minerals. Clay mining began in the Ione area around 1860. Since this time, the Ione area has produced about a third of the fire clay in California (Chapman and Bishop 1975). Lignite, a low-grade coal, also has been mined in the Ione area since the early 1860's, initially as a fuel source, but more recently for wax used for industrial purposes. Chapman and Bishop (1975) reported the Ione lignites were the only lignites used commercially in the United States in the production of a specialized wax (montan wax). Quartz sand used in making glass containers, and laterite, used for making cement, also are commercially mined in the Ione area (Chapman and Bishop 1975). Common sands and gravels are also mined for various uses. Mining of all of these deposits has resulted in the direct removal of habitat for both plant species (Michael Wood, Botanical Consultant, *in litt.* 1994; Wood and Parker 1988; V. Thomas Parker, San Francisco State

University, *in litt.* 1994). Strip mining of silica for glass and clay for ceramics and industrial filters has extirpated populations of *A. myrtifolia* north and south of Highway 88 (Roof 1982).

By 1982, a significant amount of habitat already had been lost (Roof 1982; Stebbins 1993; Wood, *in litt.* 1994). Fifteen active surface mines on private land near Ione continue to remove the habitat of both plants; approved reclamation plans show that in excess of 1,400 ha (3,500 ac) of surface removal will occur (mining reports on file at California Department of Geology and Mines; CDFG 1992; V. Thomas Parker, *in litt.* 1994; Michael K. Wood, *in litt.* 1994). The exact amount of habitat loss to date cannot be quantified because information regarding the total mineral production as well as the total acreage of land newly disturbed by a mining operation is proprietary (Maryann Showers, pers. comm. 1994). Based on an estimate derived from mining reports on file at California Department of Geology and Mines, over half of the Ione chaparral habitat, numerous stands of *Arctostaphylos myrtifolia*, and most of the occurrences of *Eriogonum apricum* occur within areas that will be impacted by the 15 mines. Mining has eliminated several populations of *A. myrtifolia* south of Ione since 1990 (V. Thomas Parker, *in litt.* 1994). The East Lambert Project, a proposed open pit to mine clay, lignite, and silica, if approved, would remove part of a population of *A. myrtifolia*. Clay mining threatens one of the two remaining populations of *Eriogonum apricum* var. *prostratum* (CDFG 1991). The second population is not protected and potentially could be mined (CDFG 1991). Most of the 9 populations of *E. apricum* var. *apricum* occur on private land that is not protected and could be mined.

As discussed in Factor D, mining reclamation results in conversion of former habitat to rangeland, pasture, and other agricultural uses. Additionally, once the area is mined, the specialized substrate required by the plants may no longer be present. This type of disturbance permanently precludes restoration of habitat suitable for *Arctostaphylos myrtifolia* and *Eriogonum apricum*. To a lesser extent, land conversion to grazing and agriculture also has degraded or destroyed the habitat for these plants (Michael Wood, *in litt.* 1994; Wood and Parker 1988; V. Thomas Parker, *in litt.* 1994). Both activities continue to pose threats to the habitat of the subject plant taxa.

Commercial and residential development also threatens the habitat

of *Arctostaphylos myrtifolia*. In 1993, a 43 ha (107 ac) parcel in the City of Ione reported to have *A. myrtifolia* was cleared, presumably to facilitate future development (Randy L. Johnsen, Ione City Administrator, *in litt.* 1994). The Amador County master plan has zoned an area in the northern Ione chaparral near Carbondale for industrial uses. This area of about 75 ha (185 ac) is proposed to be developed over the next 10 years (Ron Mittlebrunn, Amador Council of Economic Development, pers. comm. 1994). Zoning for most lands outside the City of Ione permits one house on 16 ha (40 ac) density (Gary Clark, Amador County Planning Department, *in litt.* 1994). Habitat loss and degradation outside the City of Ione results from development of small ranches and associated clearing for fire protection, pastures, buildings, and infrastructure (G. Clark, *in litt.* 1994). Clearing destroys individual plants of both species and fragments and degrades the habitat.

Mining operations, land clearing for agriculture; and commercial and residential development have fragmented and continue to fragment and isolate the habitat of *Arctostaphylos myrtifolia* in Amador County. Habitat fragmentation may disrupt natural ecosystem processes by changing the amount of incoming solar radiation, water, wind, and/or nutrients (Saunders *et al.* 1991) and further exacerbates the impacts of mining, off-road vehicular use, and other human activities.

The population of *Arctostaphylos myrtifolia* occurring on the BLM Ione Manzanita ACEC was degraded by California Department of Forestry's training activities. Building firelines and conducting driver training courses resulted in a criss-crossing of roads and trails within the ACEC that reduced and fragmented the habitat (BLM 1989). Although these practices were discontinued in 1991 the roads have not revegetated naturally and continued erosion of the roads and adjacent habitat remains a concern (Ed Bollinger, BLM, Folsom Resource Area, *in litt.* 1994).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Overutilization is not currently known to be a factor for the two plants, but unrestricted collecting for scientific or horticultural purposes or excessive visits by individuals interested in seeing rare plants could potentially result for *Eriogonum apricum* from increased publicity as a result of this proposal.

C. *Disease or predation.* Livestock graze one population of *Eriogonum apricum* var. *prostratum*, but grazing is not considered to be harmful (CNDDDB

1994). An unidentified fungal pathogen has caused major die-back of partial or entire stands of *Arctostaphylos myrtifolia* throughout its range (Wood and Parker 1988; Wood, *in litt.* 1994). The majority of populations of *A. myrtifolia* show signs of die-back. The fungal disease is a serious problem for the populations south of Ione (M. Wood, pers. comm. 1994). Stands along Highway 88 that were healthy a few years ago are being killed with little evidence of seedlings regeneration (Neil Havlik, Solano County Farmland and Open Space Foundation, pers. comm. 1994). Wood and Parker conducted a series of controlled burns to test the regeneration of stands that had no, partial, and complete die-back. To date, stands that were completely killed by the fungus before burning have not regenerated. Healthy and partially affected stands regenerated, but it is not yet known if this regeneration will result in healthy stands (M. Wood, *in litt.* 1994).

D. *The inadequacy of existing regulatory mechanisms.* *Eriogonum apricum* vars. *apricum* and *prostratum* are listed as endangered under the California Endangered Species Act (chapter 1.5 section 2050 *et seq.* of the California Fish and Game Code and Title 14 California Code of Regulations 670.2). Individuals are required to obtain a management authorization with the California Department of Fish and Game (CDFG) to possess or "take" a listed species under the California Endangered Species Act. Although the "take" of State-listed plants is prohibited (California Native Plant Protection Act, chapter 10 sec. 1908 and California Endangered Species Act, chapter 1.5 sec. 2080), State law appears to exempt the taking of such plants via habitat modification or land use changes by the owner. This State law does not necessarily prohibit activities that could extirpate this species. After CDFG notifies a landowner that a State-listed plant grows on his or her property, State law requires only that the land owner notify the agency "at least 10 days in advance of changing the land use to allow salvage of such a plant" (Native Plant Protection Act, chapter 10 sec. 1913). Ten days may not allow adequate time for agencies to coordinate the salvage of the plants.

The California Environmental Quality Act (CEQA) (chapter 2 section 21050 *et seq.* of the California Public Resources Code) requires a full disclosure of the potential environmental impacts of proposed projects. 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, now undergoing amendment, 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." Species that are eligible for listing as rare, threatened, or endangered are given the same protection as species officially listed under the State or Federal governments. Once significant effects are identified, the lead agency has the option to require mitigation for effects through changes in the project or to decide that overriding considerations make mitigation infeasible. In the latter case, projects may be approved that cause significant environmental damage, such as the destruction of State-listed endangered species. The protection of *Eriogonum apricum* var. *apricum*, *E. apricum* var. *prostratum*, and *Arctostaphylos myrtifolia* under CEQA is therefore dependent upon the discretion of the lead agency.

Section 21080(b) of CEQA allows certain projects to be exempted from the CEQA process. Ministerial projects, those projects that the public agency must approve after the applicant shows compliance with certain legal requirements, may be approved or carried out without undertaking CEQA review. Examples of ministerial projects include final subdivision map approval and most building permits (Bass and Herson 1994).

The California Surface and Mining Reclamation Act of 1975 (CSMRA) (chapter 9, section 2710 *et seq.* of the California Public Resources Code) requires that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a useable condition that is readily adaptable for alternative land uses. Although CSMRA requires reclamation for mining activities, the standards for reclamation and the success of any revegetation is judged on the approved end use of the land. Approved examples of these end uses for mining activities within the Ione area include water storage for irrigation, grazing, rangeland, seeding with grasses for pasture, and intensive agriculture (mining reports on file at California Department of Geology and Mines). CSMRA does not require replacement of the same vegetation type, species, or percentage of vegetation cover as the habitat that is lost. No approved mining reclamation plans included measures to attempt restoration of either *Arctostaphylos myrtifolia* or *Eriogonum apricum*,

although one plan indicated an intention to allow *A. myrtifolia*, known to occur on the site, to re-establish itself (mining reports on file at California Department of Geology and Mines). As a result, reclamation of mining impacts will not result in re-establishment of the native vegetation. CSMRA also does not apply to the prospecting or extraction of minerals for commercial purposes, as well as the removal of material that lies above or between natural mineral deposits in amounts less than 760 cubic m (1,000 cubic yards) in any location of 0.4 ha (1 ac) or less.

CSMRA is also inadequate for protection of the species subject to this proposed rule because reclamation plans are required to be submitted only for operations conducted after January 1, 1976. Surface mining operations that were permitted or authorized prior to January 1, 1976, are not required to submit reclamation plans as long as no substantial changes are made in their operation. The lead agency is responsible for determining what constitutes a substantial change in operation.

Although the City of Ione General Plan and the Environmental Impact Report of the Banks annexation to the City of Ione includes the protection of *Arctostaphylos myrtifolia* and *Eriogonum apricum* as a goal, the City has no regulatory mechanism to stop land clearing and/or preserve natural habitat (R. Johnsen, *in litt.* 1994).

Two preserves support occurrences of *Arctostaphylos myrtifolia* and *Eriogonum apricum* var. *apricum*. The Apricum Hill Ecological Reserve, managed by the California Department of Fish and Game, is about 15.2 ha (37.5 ac). The Ione manzanita ACEC, managed by BLM, covers 35 ha (86 ac). Because both preserves are small, they are subject to edge effects such as shading by taller shrubs or competition with invasive vegetation (see Factor A and E for more detail).

E. *Other natural or manmade factors affecting its continued existence.* The effects of altered fire periodicity on *Arctostaphylos myrtifolia* have not been well studied. *Arctostaphylos myrtifolia* lacks the ability to crown sprout and is killed outright by fire. It must, therefore, reproduce by seed. Abundant post-fire seed germination has been reported by Roof (1982) and by Woodward (*in litt.* 1994) who also reported successful reestablishment of the species on ground scraped by tractors during a fire suppression operation. The response of *A. myrtifolia* to fire appears, however, to be irregular and unpredictable (Wood and Parker 1988).

Fire appears to be necessary for the long-term maintenance of the Ione chaparral community. Controlled burning may be a viable means of ensuring adequate reproduction of *Arctostaphylos myrtifolia*, or perhaps even controlling or preventing loss due to the fungal pathogen (M. Wood, *in litt.* 1994, V.T. Parker, *in litt.* 1994). Field observations and controlled experiments to date, however, suggest that caution be exercised in the use of fire until the reasons for the variability in the response of *A. myrtifolia* are better understood. Long term study sites established to study this response have been graded and cleared by the land owner (V.T. Parker, *in litt.* 1994, M. Wood, *in litt.* 1994).

Re-establishment in mined areas may be difficult for *Arctostaphylos myrtifolia* due to a lack of the required specialized substrate and an absence of proven propagation methods (E. Bollinger, *in litt.* 1994). Researchers have attempted a variety of germination and seed bank experiments without success (Wood and Parker 1988). Others have also attempted to cultivate the species with little or no success (R. Gankin, pers. comm., cited in Wood and Parker 1988). Although the plant has a limited capacity to root from its lower branches, Roof (1982) reported that he was unaware of even a single plant that had been grown or cultivated from a rooted branch. The only report of successful cultivation indicates that the plant requires high soil-acidity and heavy supplements of soluble aluminum (Roof 1982).

Throughout its range, on habitat edges where better soil development occurs, *Arctostaphylos myrtifolia* is being outcompeted by native vegetation. *Arctostaphylos viscida* (white-leaf manzanita), a more rapidly growing, taller manzanita, encroaches along the edge of stands of *A. myrtifolia*, shading individuals. *Arctostaphylos myrtifolia* is eliminated when *A. viscida* grows tall enough to shade it (M. Wood, pers. comm. 1994; Roy Woodward, *in litt.* 1994). This is not likely to be a significant threat to the species, however, because most stands occur on substrates from which taller shrubs are excluded.

As discussed in factor A, habitat fragmentation may alter the physical environment. Plant species may disappear from chaparral fragments that are from 10 to 100 ha in size due to persistent disturbance and potentially due to change in fire frequency (Soulé *et al.* 1992). In addition, habitat fragmentation increases the risks of extinction due to random environmental, demographic, or genetic

events. The two small, isolated populations of *Eriogonum apricum* var. *prostratum*, makes random extinction more likely. Chance events, such as disease outbreaks, reproductive failure, extended drought, landslides, or combination of several such events, could destroy part of a single population or entire populations. A local catastrophe also could decrease a population to so few individuals that the risk of extirpation due to genetic and demographic problems inherent to small populations would increase.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to propose this rule. *Eriogonum apricum* (inclusive of vars. *apricum* and *prostratum*) is known from 11 populations on approximately 4 ha (10 ac) in Amador County, California. The species is endangered by mining, clearing of vegetation for agriculture and for fire protection, inadequate regulatory mechanisms, habitat fragmentation, residential and commercial development and ongoing erosion. *Eriogonum apricum* is in danger of extinction throughout all or a part of its range and the preferred action is, therefore, to list it as endangered. *Arctostaphylos myrtifolia* is reported from 17 sites, and estimated to occur in a total of about 100 stands covering about 400 ha (1,000) acres in Amador County, with a few occurrences in Calaveras County. It is threatened by mining, disease, clearing of vegetation for agriculture and for fire protection, inadequate regulatory mechanisms, habitat fragmentation, increased residential development and changes in fire frequency. Although *A. myrtifolia* faces many of the same threats as *Eriogonum apricum*, the significantly wider range and greater number of populations and individuals of *A. myrtifolia* moderate the threats. Thus, *A. myrtifolia* is not now in danger of extinction throughout a significant portion of its range, as is *E. apricum*, but is likely to become endangered within the foreseeable future. Therefore, the preferred action is to list *A. myrtifolia* as threatened. Other alternatives to this action were considered but not preferred because not listing *Eriogonum apricum* (inclusive of vars. *apricum* and *prostratum*) as endangered and *Arctostaphylos myrtifolia* as threatened would not provide adequate protection and not be in keeping with the purposes of the Act.

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 consideration 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 the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for *Eriogonum apricum* and *Arctostaphylos myrtifolia* 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 threat to the species, or (2) such designation of critical habitat would not be beneficial to the species.

Because *Eriogonum apricum* and *Arctostaphylos myrtifolia* face numerous human-caused threats (see Factors A and E in "Summary of Factors Affecting the Species") and occur predominantly on private land, the publication of precise maps and descriptions of critical habitat in the **Federal Register** would make these plant species more vulnerable to incidents of vandalism and, therefore, could contribute to the decline of these species and increase enforcement problems. A 43 ha (107 ac) parcel previously identified in a public document as habitat for these species was cleared in 1993, presumably to facilitate future development (R. Johnsen, *in litt.* 1994). The listing of *E. apricum* as endangered also publicizes the rarity of this plant and, thus, can make it attractive to researchers or collectors of rare plants.

Furthermore, critical habitat designation for *Arctostaphylos myrtifolia* and *Eriogonum apricum* is

not prudent due to lack of benefit. All but one occurrence of *E. apricum* and most occurrences of *Arctostaphylos myrtifolia* are on non-Federal land. Furthermore, since *E. apricum* has very specific habitat requirements and occupies a total of only about 4 ha (10 ac) at few locations, any activity that would adversely modify critical habitat or destroy plants would likely jeopardize the continued existence of *E. apricum*. Therefore, designation of critical habitat would provide little, if any, additional benefit beyond listing. The Service, therefore, concludes that designation of critical habitat is not prudent for these species both because such designation can be expected to increase the degree of threat to the species and because of a lack of benefit from such action.

Protection of the habitat of these species will be addressed through the recovery process and through the section 7 consultation process. The Service believes that Federal involvement in the areas where these plants occur can be identified without the designation of critical habitat. Therefore, the Service finds that designation of critical habitat for these plants is not prudent at this time, because such designation likely would increase the degree of threat from vandalism, collecting, or other human activities, and because it provides no benefits to the species beyond those which are provided by listing.

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 and results in conservation actions by Federal, State, local agencies, private organizations, and individuals. The 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 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 the 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.

Almost all of the occurrences for both species are on private land. One population of *Arctostaphylos myrtifolia* and a population of *Eriogonum apricum* var. *apricum* occur on Federal land managed by the BLM. Other potential Federal involvement includes the construction and maintenance of roads and highways by the Federal Highway Administration (2 populations of *E. apricum* var. *apricum* occur along right-of-ways owned by Caltrans), the permitting of lignite or coal mines through the Federal Office of Surface Mining Reclamation and Enforcement, and the relicensing of hydroelectric projects by the Federal Energy Regulatory Commission.

Listing these two plant species would provide for development of a recovery plan (or plans) for them. Such plan(s) would bring together both State and Federal efforts for conservation of the plants. The plan(s) would establish a framework for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan(s) would set recovery priorities and estimate costs of various tasks necessary to accomplish them. It also would describe site-specific management actions necessary to achieve conservation and survival of the two plants. Additionally, pursuant to section 6 of the Act, the Service would be more likely to grant funds to affected states for management actions promoting the protection and recovery of these species.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered or threatened plants. All prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61 for endangered plants and 17.71 for threatened 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 malicious damage or destruction on areas under Federal jurisdiction, and the removal, cutting, digging up, or damaging or destroying of such plants in knowing violation of any State law or regulation, including state criminal trespass law. Section 4(d) of the Act allows for the provision of such protection to threatened species through regulation. This protection may apply to *Arctostaphylos myrtifolia* in the future if regulations are promulgated. Seeds from cultivated specimens of threatened plants are exempt from these prohibitions provided that their containers are marked "Of Cultivated Origin" appears on the shipping containers. Certain exceptions to the prohibitions apply to agents of the Service and state conservation agencies.

It is the policy of the Service (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 the listing on proposed and ongoing activities within a species' range. Less than 5 percent of the occurrences of the two species occur on public (Federal) lands. Collection, damage or destruction of these species on Federal lands is prohibited, although in appropriate cases a Federal endangered species permit may be issued to allow collection for scientific or recovery purposes. Such activities on non-Federal lands would constitute a violation of section 9 when conducted in knowing violation of California State law or regulations or in violation of State criminal trespass law. See factor D. for a discussion of California's law protecting plants.

Activities that are not prohibited by the Federal listing of these plants include livestock grazing, clearing a defensible space for fire protection around one's personal residence, and landscaping (including irrigation), around one's personal residence. Questions regarding whether specific activities will constitute a violation of section 9 should be directed to the Field Supervisor of the Sacramento Field Office (see ADDRESSES section).

The Act and 50 CFR 17.62, 17.63 for endangered plants, and 17.72 for threatened plants, also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered or threatened plants under certain circumstances. Such permits are available for scientific

purposes and to enhance the propagation or survival of the species. For threatened plants, permits also are available for botanical or horticultural exhibition, educational purposes, or special purposes consistent with the purposes of the Act. It is anticipated few trade permits would ever be sought or issued for the three species because the species are not common in cultivation or in the wild. Requests for copies of the regulations regarding listed species and inquiries regarding prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Endangered Species Permits, 911 N.E. 11th Avenue, Portland, Oregon 97232-4181 (phone 503/231-2063, facsimile 503/231-6243).

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. The Service will follow its current peer review policy (59 FR 34270) in the processing of this rule. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Arctostaphylos myrtifolia* and *Eriogonum apricum*;

(2) The location of any additional populations of these 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 these species; and

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

Final promulgation of the regulation(s) on these species 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 Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal in the **Federal Register**. Such requests must be made in writing and addressed to the Field Supervisor, U. S. Fish and Wildlife Service, Sacramento Field Office, 3310 El Camino Avenue, Suite 130, Sacramento, California 95821-6340.

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).

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 Field Supervisor, Sacramento Field Office (see **ADDRESSES** section).

Author: The primary author of this proposed rule is Kirsten Tarp, U.S. Fish and Wildlife Service, Sacramento Field Office (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

Accordingly, the Service hereby proposes 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: 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 to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
*	*	*	*	*	*		*
<i>Arctostaphylos myrtifolia</i> .	lone manzanita	U.S.A. (CA)	Ericaceae	T	NA	NA
*	*	*	*	*	*		*
<i>Eriogonum apricum</i> (inclusive of vars. <i>apricum</i> and <i>prostratum</i>).	lone buck wheat	U.S.A. (CA)	Polygonaceae	E	NA	NA
*	*	*	*	*	*		*

Dated: May 12, 1997.

John G. Rogers,

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

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