

MOTOR CARRIER RADIO SERVICE
FREQUENCY TABLE—Continued

Frequency or band	Class of station(s)	Limitations
44.36	.....do	5, 6, 23
44.40	.....do	5, 6, 23
44.46	.....do	1, 23
44.48	.....do	1, 23

(c) * * *

(23) This frequency is also used on a secondary basis for cordless telephones under part 15 of this chapter.

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AC01

Endangered and Threatened Wildlife and Plants; Proposed Rule for Six Southern Maritime Chaparral Plant Taxa From Coastal Southern California and Northwestern Baja California, Mexico

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) proposes endangered status pursuant to the Endangered Species Act of 1973, as amended (Act), for four plants (*Arctostaphylos glandulosa* ssp. *crassifolia* (Del Mar manzanita), *Baccharis vanessae* (Encinitas baccharis), *Chorizanthe orcuttiana* (Orcutt's spineflower), and *Dudleya blochmaniae* ssp. *brevifolia* (short-leaved dudleya)) and threatened status for two plants (*Corethrogyne filaginifolia* var. *linifolia* (Del Mar sand aster) and *Verbesina dissita* (big-leaved crown-beard)). The six taxa occur mostly on private lands in coastal Orange and San Diego Counties, California; two taxa extend south into northwestern Baja California, Mexico. These six taxa are threatened by one or more of the following: Trampling by farm workers or recreational activities; fuel modification; competition from alien plant species; and habitat destruction due to residential,

agricultural, commercial, and recreational development. Several of these plant taxa are also threatened with stochastic extinction by virtue of their small population size and limited distribution. This proposed rule, if made final, would extend the Act's protection to these plants. The Service seeks data and comments from the public on this proposed rule.

DATES: Comments from all interested parties must be received by December 30, 1993. Public hearing requests must be received by November 15, 1993.

ADDRESSES: Comments and materials concerning this proposal should be sent to Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Field Office, 2730 Loker Avenue West, Carlsbad, California 92008. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. Richard Zembal, Deputy Field Supervisor, at the above address (telephone 619/431-9440).

SUPPLEMENTARY INFORMATION:

Background

Three of the six plant taxa (*Chorizanthe orcuttiana*, *Corethrogyne filaginifolia* var. *linifolia*, and *Dudleya blochmaniae* ssp. *brevifolia*) are primarily restricted to weathered sandstone bluffs in association with or in microhabitats within southern maritime chaparral. These three species are endemic to south-central and southern coastal San Diego County, California. A fourth taxon (*Arctostaphylos glandulosa* ssp. *crassifolia*) is also primarily associated with southern maritime chaparral in San Diego County, California; it also occurs in disjunct populations in northwestern Baja California, Mexico, at least as far south as Mesa el Descanso, 50 kilometers (km) (31 miles) north of Ensenada.

Southern maritime chaparral (Holland 1986) is a low, fairly open chaparral typically dominated by *Arctostaphylos glandulosa* ssp. *crassifolia*, *Ceanothus verrucosus* (wart-stemmed ceanothus), *Xylococcus bicolor* (mission manzanita), *Quercus dumosa* (Nuttall's scrub oak), *Cneridium dumosum* (bush rue), *Rhamnus crocea* (red berry), *Dendromecon rigida* (bush poppy), and *Yucca schidigera* (Mojave yucca). Southern maritime chaparral is a plant association that occurs only in coastal southern California along the immediate coast of San Diego and Orange Counties and northwestern Baja California, Mexico. The distribution of southern

maritime chaparral in Orange County is disjunct and the species composition is slightly different from that found in San Diego County and Mexico (Gray and Bramlet 1992).

Two of the subject taxa are frequently associated with southern maritime chaparral but extend into other plant communities. *Verbesina dissita* is restricted to rugged coastal canyons in association with San Onofre breccia-derived soils in the southern maritime chaparral of southern Orange County, California. This taxon also occurs in limited numbers in Venturan-Diegan transitional coastal sage scrub (Gray and Bramlet 1992) and southern mixed chaparral (Holland 1986). *Verbesina dissita* occurs disjunctly in similar vegetation associations from Punta Descanso south to San Telmo in northwestern Baja California, Mexico. *Baccharis vanessae* occurs in southern maritime chaparral in the vicinity of Encinitas, central San Diego County, California, and extends inland to Mount Woodson and Poway where it is associated with dense southern mixed chaparral. One population of this plant occurs in the Santa Margarita Mountains of northern San Diego County. Five of the six taxa are found below 250 meters (m) (820 feet (ft)) in elevation in the United States. *Arctostaphylos glandulosa* ssp. *crassifolia* reaches 730 m (2,395 ft) elevation in Baja California, Mexico. *Baccharis vanessae* is known to occur at 880 m (2,887 ft) in elevation on Mount Woodson.

It has been estimated that approximately 900 acres of southern maritime chaparral occurred historically in Orange County (Roberts 1992b), while about 21,000 acres of southern maritime chaparral occurred historically in San Diego County (Oberbauer and Vanderwier 1991). Currently, there are an estimated 600 acres of southern maritime chaparral in Orange County (Roberts 1992b) and 2,530 acres in San Diego County (Oberbauer and Vanderwier 1991). This represents an 85 percent decline in southern California that is largely due to agricultural conversion and urbanization. Much of the remaining 15 percent of the United States portion of southern maritime chaparral is located on Carmel Mountain in San Diego County. The distribution of southern maritime chaparral and related associations have also declined significantly in Baja California, Mexico, for many of the same reasons.

The natural plant communities of coastal Orange and San Diego Counties have undergone significant changes resulting from both human-caused activities and natural occurrences. The

rapid urbanization of southern Orange County and south-central San Diego County have already eliminated a significant portion of the southern maritime chaparral and some of the populations of the proposed plant taxa. Remaining southern maritime chaparral and populations of the proposed taxa have been subjected to a considerable degree of fragmentation.

Although five of the proposed plant taxa are largely restricted to the United States, 85 percent of the known populations of *Verbesina dissita* are known from northwestern Baja California, Mexico. Although the status of this species and its habitat in Mexico is not as well documented, over 20 percent of the known populations have been eliminated and at least another 20 percent of the populations are under immediate threat. Agricultural conversion, resort and residential development, and wide fuel breaks and slash and burn practices have already affected and continue to contribute to the decline of *V. dissita* in Mexico (California Department of Fish and Game (CDFG) 1999).

Fire also plays an important role in determining southern California plant community distribution and composition. With the advent of widespread urbanization, the disruption in natural fire cycles potentially threatens the six plant taxa proposed here for listing.

Discussion of the Six Species Proposed for Listing

Arctostaphylos glandulosa (Eastwood manzanita) is a relatively open, smooth, dark red-barked shrub characterized by a basal burl and scarcely foliaceous bracts that are shorter than the hairy pedicels (flower-stalks). *Arctostaphylos glandulosa* ssp. *crassifolia* (Del Mar manzanita), a member of the heath family (Ericaceae), was first described by Willis Jepson in 1922 (Jepson 1922) based on a specimen collected by Jepson in Del Mar. *Arctostaphylos glandulosa* ssp. *crassifolia* is an erect shrub, generally 1 to 1.2 m (3.3 to 4 ft) tall, but occasionally higher. *Arctostaphylos glandulosa* ssp. *crassifolia* is distinguished from other varieties of *A. glandulosa* by having dark gray-green leaves that are glabrate above and tomentulose beneath. The branchlets are non-glandular, tomentulose, and sometimes with scattered long hairs.

In 1925, Jepson placed Del Mar manzanita under the name *Arctostaphylos tomentosa* var. *crassifolia* (Jepson 1925). This name was used by McMinn (1939), who stated that Del Mar manzanita "seems very closely related to *A. glandulosa* var.

crashingianc but the more truncate leaf-bases, the usually more tomentulose lower leaf-surfaces, and distribution seem sufficient to maintain it as a variety of *A. tomentosa*." J.E. Adams in his 1940 treatment of the genus *Arctostaphylos* returned var. *crassifolia* to *Arctostaphylos glandulosa* as in Jepson's original treatment (Knight 1985).

In 1968, Philip V. Wells declared that "[o]ther morphological variants of the *A. glandulosa* complex have largely allopatric geographic distributions and are recognized as subspecies" (Wells 1968). Accordingly, Wells applied the name *Arctostaphylos glandulosa* ssp. *crassifolia* to the Del Mar manzanita. Subsequent taxonomic review (Munz 1959, Munz 1974, Beauchamp 1986) have preferred this treatment. In 1985, Walter Knight summarized the taxonomic history of the Del Mar manzanita (Knight 1985) and came to the conclusion that the subspecies should not be recognized. Knight (1985) stated that the Del Mar manzanita was a product of hybridization between *Arctostaphylos glandulosa* and other *Arctostaphylos* species in the area. Knight's treatment was countered 2 years later by Philip Wells (Wells 1987) who continued to recognize Del Mar manzanita as a subspecies, and refuted portions of Knight's arguments for not recognizing the subtaxon. Wells is considered the leading authority on the genus *Arctostaphylos* and his treatment of this taxon has been widely accepted by others; therefore, the Service accepts Wells' subspecific treatment of this taxon.

Arctostaphylos glandulosa ssp. *crassifolia* is restricted to sandstone terraces and bluffs from Carlsbad south to Torrey Pines State Park extending inland to Rancho Santa Fe and Carmel Mountain in San Diego County, California. An additional population has been reported just south of the San Dieguito River southwest of Lake Hodges. This species has also been reported from five localities in northwestern Baja California, Mexico, from just east of Tijuana along the United States border, to Cerro el Coronel and Mesa Descanseo 50 km (31 miles) north of Ensenada. The most recent collection in the San Diego Natural History Museum was taken by Reid Moran in 1982.

Thomas Huffman (Roberts 1992a) reported on the locations of nearly 14,000 individuals of *Arctostaphylos glandulosa* ssp. *crassifolia* in 1980 distributed over 20 population centers. Several other populations have been identified since 1980, but these add fewer than 1,000 individuals to the total

known number in San Diego County. A significant number of these populations have been severely impacted over the last 12 years. For example, in 1987, one population of nearly 500 individuals and its southern maritime chaparral habitat was cleared and converted to agriculture. The cultivation was active for one season and has not been continued (Thomas Oberbauer, Planner, County of San Diego, pers. comm., 1992). Currently, fewer than 8,000 individuals, scattered roughly throughout the historic distribution of the species in San Diego County, are known to be extant. The number of individuals in Baja California, Mexico, is not known but is likely to be smaller than in the United States based on the limited availability of habitat.

Four populations totaling some 3,000 individuals in the vicinity of Miramar Reservoir have been attributed to *Arctostaphylos glandulosa* ssp. *crassifolia*, but Wells (pers. comm., 1992) maintains that these plants are not representative of the subspecies. If these populations should prove to be representative of the subspecies, nearly 50 percent of the individuals known in 1980 were eliminated by the Scripps Ranch project between 1989 and 1992.

Baccharis vanessae (Encinitas baccharis) was discovered by Mitchel Beauchamp in October 1976 in southern maritime chaparral on Eocene sandstones along the north side of Encinitas Boulevard in Encinitas. The species was described in 1980 by Beauchamp (Beauchamp 1980).

Baccharis vanessae, a member of the aster family (Asteraceae), is a dioecious broom-like shrub, 0.5 to 1.3 m (1.6 to 4.3 ft) tall. This taxon is distinguished from other members of the genus *Baccharis* by its filiform leaves and delicate phyllaries, which are reflexed at maturity.

As currently understood, the historical distribution of this species included 18 natural populations scattered from Devils Canyon, San Mateo Wilderness of northern San Diego County, south to Encinitas east through the Del Dios highlands and Lake Hodges area to Mount Woodson and south to Poway and Los Penasquitos Canyon in San Diego County, California. Twelve of these populations are still extant and contain approximately 2,000 individuals (CDFG 1992). Four of these populations contain fewer than six individuals. A single transplanted population of 34 individuals was established in San Dieguito Park; however, this population has not persisted (Hall 1986).

Chorizanthe orcuttiana (Orcutt's spine-flower) was first described by

Charles Parry in 1884 (Parry 1884) based on a specimen collected by Charles R. Orcutt in the same year at Point Loma, San Diego County. *Chorizanthe orcuttiana*, a low, yellow-flowered annual of the buckwheat family (Polygonaceae), is restricted to sandy soils. It is distinguished from other members of the genus *Chorizanthe* by its prostrate form, campanulate 3-toothed involucre, and uncinately (hooked near tip) involucre awns (Reveal 1989).

Historically, *Chorizanthe orcuttiana* is known from 10 separate occurrences in San Diego County from Point Loma near San Diego, Del Mar, Kearney Mesa, and Encinitas (CDFG 1992). Only two populations have been seen in recent years. L. Allen reported 50 to 100 individuals at Torrey Pines State Park in 1987 (CDFG 1992). However, this population has not been relocated in the last several years possibly due to a changing composition of plant species and density as a result of a 1984 burn. The only population currently known to support this species is at Oak Crest Park in Encinitas. This population numbers nearly 1,500 individuals over a relatively small area (about 4 square meters). The number of individuals varies widely from year to year because success of germination is highly dependent on such factors as rainfall, which can be significantly different one year to the next in southern California.

Corethrogyne filaginifolia var. *linifolia* (Del Mar sand aster) was first described by Harvey M. Hall in 1907 based on a specimen collected by Kathrine Brandegee in 1906 (Hall 1907). *Corethrogyne filaginifolia* var. *linifolia*, a member of the aster family (Asteraceae), is an erect, divaricately branched perennial, 4.5 to 5 decimeters (dm) (18 to 20 inches) tall with violet ray flowers and yellow disk flowers. Hall (1907) differentiated this subtaxon from other subtaxa by the narrow form of the leaf and the persistent tomentum about the involucre, branches, and leaves. *Corethrogyne filaginifolia* var. *linifolia* also lacks a conspicuously glandular involucre.

Roxanna Ferris elevated the Del Mar sand aster to the rank of species and applied the name *Corethrogyne linifolia* (Ferris 1958). This treatment was recognized by Abrams and Ferris (1960) and Munz (1968), but later publications (Munz 1974, Beauchamp 1986) returned to Hall's original treatment.

Corethrogyne filaginifolia var. *linifolia* is known from a relatively limited area in San Diego County from Batiquitos Lagoon in Carlsbad south to Del Mar Mesa, Carmel Mountain, and Torrey Pines State Park. The majority of the

populations are within 4.8 km (3 miles) of the coast, but populations extend up to 8.0 km (5 miles) inland near Del Mar. Historically, this species was known from at least 17 populations. Thirteen of these populations are extant. Six of these populations are relatively large, while the others are smaller and considerably fragmented (Hogan 1990). One of these populations just north of the University of California at San Diego was largely eliminated in November 1992 by grading in conjunction with the widening of John Hopkins Road. It has been estimated that at least 20,000 individuals exist (Jim Dice, California Department of Transportation (CALTRANS), pers. comm., 1992). *Corethrogyne filaginifolia* var. *linifolia* has a preference for sandy locations.

The type specimen for short-leaved dudleya was collected by Reid Moran at Torrey Pines in 1949. The taxon was found growing amongst reddish-brown iron concretions along the reddish sandstones capping the Linda Vista Terrace. In 1950, Moran applied the name *Hasseanthus blochmaniae* ssp. *brevifolia* (Moran 1950) to this taxon. The first collection of short-leaved dudleya was actually made by Frank W. Peirson at Torrey Pines in 1922. However, this specimen was annotated by Willis Jepson as a new species of *Sedum*. Reid Moran was unaware of the Peirson specimen as late as 1945 when he published a treatment on *Hasseanthus blochmaniae* (Moran 1950). In an unpublished thesis at the University of California at Berkeley, Moran proposed the new combination *Dudleya blochmaniae* ssp. *brevifolia* (Moran 1951). This treatment was supported by comparisons made in chromosome structure and in a general discussion of the relationships between *Hasseanthus*, *Stylophyllum*, and *Dudleya* in a publication 2 years later when Moran suggested that *Hasseanthus* represented a specialized form of dudleya and not a distinct genus (Uhl and Moran 1953). In 1975, Moran altered his concept and elevated the rank of short-leaved dudleya to a full species (Moran 1975), applying the name *Dudleya brevifolia*. Recent authors (Munz 1974, Bartel 1993) have retained the subspecific treatment *Dudleya blochmaniae* ssp. *brevifolia*.

Dudleya blochmaniae ssp. *brevifolia*, a member of the stoncrop family (Crassulaceae), is a low growing, white-flowered, ephemeral succulent. A longer and more slender corm, shorter rosette leaves, subglobular as compared to oblong blades, and shorter, relatively broader cauline leaves serve to separate *D. blochmaniae* ssp. *brevifolia* from other similar taxa. *Dudleya blochmaniae*

ssp. *brevifolia* is unique in the California flora. In its young stages, it is a cryptic mimic that is difficult to distinguish from the surrounding iron concretions. The species is restricted to nearly barren Torrey sandstone bluffs.

Dudleya blochmaniae ssp. *brevifolia* is currently restricted to six populations in the vicinity of La Jolla and Del Mar in San Diego County, California. Two populations are located on Torrey Pines State Park. Others are in Del Mar, La Jolla, and on Carmel Mountain. Two additional populations from Del Mar and the Soledad Canyon area have been eliminated due to commercial and residential development. Most of these populations have been reported as containing fewer than 100 individuals.

Verbesina dissita (big-leaved crown-beard) was first described by A. Gray in 1885 (Gray 1885) based on a collection made by Charles Orcutt at Ensenada, Baja California, Mexico, in September 1884. The taxon apparently was first collected in the United States at Arch Beach in South Laguna, Orange County, in 1903 by Mrs. M. F. Bradshaw (Hall 1907).

Verbesina dissita, a member of the aster family (Asteraceae), is a low growing, semi-woody perennial shrub with bright yellow flowers. This taxon grows from 0.5 to 1.0 m (1.6 to 3.3 ft) tall and has distinctive scabrid leaves. *Verbesina dissita* is distinguished from other members of the genus *Verbesina* in California and Baja California, Mexico, by the naked achenes and broad involucre.

Verbesina dissita is found on rugged hillsides in dense maritime chaparral from Laguna Beach in Orange County south to the San Telmo area east of Cabo Colnett in Baja California, Mexico. In California, it is known from two population centers less than 3.2 km (2 miles) apart. Because of the habit and preference for an understory location displayed by this taxon, population size is difficult to estimate. The U.S. populations have been estimated to be several thousand plants (Marsh 1992, CDFG 1992). Historically, this taxon has been recorded from 23 separate locations in Mexico. Of the Mexican localities, over 20 percent, all north of Punta Santo Tomas, have been eliminated.

Previous Federal Action

Action by the Federal government on three of the six plants began as a result of section 12 of the Endangered Species Act of 1973. Section 12 directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be threatened or extinct. This report was designated as House

Document No. 94-51. The report was presented to Congress on January 9, 1975, and included *Arctostaphylos glandulosa* ssp. *crassifolia* and *Chorizanthe orcuttiana* as endangered and *Dudleya blochmaniae* ssp. *brevifolia* as threatened. The Service published a notice in the July 1, 1975, **Federal Register** (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 thereby to review the status of the plant taxa named therein. On June 18, 1976, the Service published a proposal in the **Federal Register** (42 FR 24523) to determine approximately 1,700 vascular plants to be endangered species pursuant to section 4 of the Act. *Chorizanthe orcuttiana*, *Dudleya blochmaniae* ssp. *brevifolia*, and *Arctostaphylos glandulosa* ssp. *crassifolia* were included in the June 16, 1976, **Federal Register** notice.

General comments received in response to the 1976 proposal were summarized in an April 26, 1978, **Federal Register** publication (43 FR 17909). The Endangered Species Act Amendments of 1978 required that all proposals already over 2 years old be withdrawn. A 1-year grace period was given to those proposals already more than 2 years old. In the December 10, 1978, **Federal Register** (44 FR 70796), the Service published a notice of withdrawal of the portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired.

The Service published an updated notice of review of plants on December 15, 1980 (45 FR 82480). This notice included *Dudleya blochmaniae* ssp. *brevifolia*, *Baccharis vanessae*, and *Chorizanthe orcuttiana* as Category 1 taxa. Category 1 taxa are those taxa for which substantial information on biological vulnerability and threats is available to support preparation of listing proposals. *Corethrogyne filaginifolia* var. *linifolia* was included as a Category 2 taxon. Category 2 candidates are taxa for which data in the Service's possession indicate listing is possibly appropriate but for which substantial information on biological vulnerability and threats is not currently known or on file to support proposed rules. On November 28, 1983, the Service published in the **Federal Register** a supplement to the Notice of Review (43 FR 53840), in which *Baccharis vanessae* and *Chorizanthe orcuttiana* were reclassified from Category 1 to Category 2. *Arctostaphylos glandulosa* ssp. *crassifolia* was not

included in either the 1980 or the 1983 notice.

The plant notice was again revised on September 27, 1985 (50 FR 39526), and *Arctostaphylos glandulosa* ssp. *crassifolia* was included in Category 3B. Category 3B taxa are those which on the basis of current taxonomic understanding, do not represent distinct taxa meeting the Act's definition of "species." This change apparently reflected the concept as presented by Walter Knight (Knight 1985). The taxonomy of *A. glandulosa* ssp. *crassifolia* was subsequently reevaluated, and the plant was included in Category 2 in the February 21, 1990, Plant Notice of Review (55 FR 6184), based on the work of Phillip Wells (Wells 1987). Based on additional information on threats and vulnerability, the Service has elevated this plant to Category 1. In the February 21, 1990, notice, *Baccharis vanessae* and *Chorizanthe orcuttiana* were reevaluated and included as Category 1 taxa, based on information contained in status reports prepared in conjunction with State listing. The 1990 notice included *Chorizanthe orcuttiana* as a Category 1* candidate, indicating this species was possibly extinct.

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 glandulosa* ssp. *crassifolia*, *Dudleya blochmaniae* ssp. *brevifolia*, and *Chorizanthe orcuttiana* because the 1975 Smithsonian report had been accepted as a petition. On October 13, 1983, the Service found that the petitioned listing of these species was warranted but precluded by other pending listing actions of higher priority pursuant to section 4(b)(3)(B)(iii) of the Act. Notification of this finding was published in the **Federal Register** on January 20, 1984 (49 FR 2485). Such a finding requires the petition to be recycled, pursuant to section 4(b)(3)(C)(i) of the Act. The finding was reviewed in October of 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, and 1992. Publication of this proposal constitutes the warranted finding for these species.

On December 14, 1990, the Service received a petition dated December 5, 1990, from Mr. David Hogan of the San Diego Biodiversity Project, to list *Dudleya blochmaniae* ssp. *brevifolia* and *Baccharis vanessae* as endangered species. On January 7, 1991, the Service received another petition from Mr.

Hogan, dated December 30, 1990, which requested the Service to list *Corethrogyne filaginifolia* var. *linifolia* as an endangered species. Both petitions also requested the designation of critical habitat.

One of these species (*Dudleya blochmaniae* ssp. *brevifolia*) was included in the Smithsonian Institution's Report of 1975 that had been accepted as a petition. The Service therefore regarded Mr. Hogan's petition to list *Dudleya blochmaniae* ssp. *brevifolia* as a second petition. The Service evaluated the petitioner's requested action for the remaining two plant species and published a 90-day finding on August 30, 1991 (56 FR 42969) that substantial information existed indicating that the requested actions concerning *Baccharis vanessae* and *Corethrogyne filaginifolia* var. *linifolia* may be warranted. Information regarding the distribution and threats to these species have been further reviewed, resulting in the elevation of *Corethrogyne filaginifolia* var. *linifolia* to Category 1. Publication of this proposal constitutes the warranted finding for these two species.

Verbesina dissita has never appeared in any notice of review, and, therefore, no previous Federal action has taken place regarding this species. However, the Service received recommendations from a number of parties, based on information contained in the petition to State-list the species (Connie Rutherford, U.S. Fish and Wildlife Service, pers. comm., 1992), which has resulted in its designation as a Category 1 species. The Service finds that the threats to this species in both the United States and Mexico warrants listing as threatened at this time.

Summary of Factors Affecting the Species

Section 4 of the Endangered Species Act (16 U.S.C. 1533) 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. 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). The threats facing these six taxa are summarized in Table 1. These factors and their application to *Arctostaphylos glandulosa* Eastw. ssp. *crassifolia* (Jeps.) Wells (Del Mar manzanita), *Baccharis vanessae* Beauchamp (Encinitas baccharis), *Chorizanthe orcuttiana* Parry (Orcutt's spineflower), *Corethrogyne filaginifolia* (H. & A.) Nutt. var. *linifolia* Hall (Del Mar sand aster), *Dudleya blochmaniae* ssp. *brevifolia* Moran (short-leaved

dudleya), and *Verbesina dissita* Gray (big-leaved crown-beard) are as follows:

TABLE 1.—SUMMARY OF THREATS

	Trampling	Alien plants	ORV activity	Fire control	Develop. activity	Limited numbers
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>				X	X	
<i>Baccharis vanessae</i>	X				X	X
<i>Chorizanthe orcuttiana</i>	X	X			X	X
<i>Corethrogyne flaginifolia</i> var. <i>linifolia</i>	X	X	X		X	
<i>Dudleya blochmaniae</i> ssp. <i>brevifolia</i>	X		X		X	X
<i>Verbesina dissita</i>				X	X	

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

Three of the six taxa proposed herein (*Chorizanthe orcuttiana*, *Corethrogyne flaginifolia* var. *linifolia*, and *Dudleya blochmaniae* ssp. *brevifolia*) are restricted to the south-central coast of San Diego County, California. One taxon (*Baccharis vanessae*) extends inland 32 km (20 miles), and north to the Santa Margarita Mountains of northern San Diego County. One taxon (*Arctostaphylos glandulosa* ssp. *crassifolia*) extends from the south-central coast of San Diego County south into northwestern Baja California, Mexico, and one taxon (*Verbesina dissita*) occurs in two disjunct populations, one in coastal southern Orange County and one along the coast in northwestern Baja California, Mexico. The imminent threat facing all six taxa and their associated habitats is the ongoing and future destruction and adverse modification of habitat by one or more of the following: urban development, agricultural development, recreational activities, trampling, and fuel modification activities.

Arctostaphylos glandulosa ssp. *crassifolia* (Del Mar manzanita) is restricted to sandstone-derived soils along the south-central coast of San Diego County, extending south to Mesa el Descanso 50 km (31 miles) north of Ensenada, Baja California, Mexico. This taxon is restricted almost exclusively to southern maritime chaparral and is considered an indicator taxon for the community. Published estimates indicate that 87 percent of southern maritime chaparral vegetation in San Diego County has been lost as a result of urban and agricultural development (Oberbauer and Vanderwier 1991). Between 1980 and 1990, the population of San Diego County increased by more than 600,000 people. Most of this increase occurred on or near the coast at sites historically occupied, in part, by southern maritime chaparral.

Approximately 600 acres of southern maritime chaparral is currently approved or proposed for development in San Diego County (Roberts 1992a). This represents approximately 25 percent of the remaining habitat. Less than 30 percent of the remaining southern maritime chaparral is preserved in parks with long-term management for conservation, such as Torrey Pines State Park. Although the exact acreage of potential loss of southern maritime chaparral due to approved or proposed development is not known to the Service, four approved or proposed projects in Carlsbad, Encinitas, and on Carmel Mountain alone could eliminate 25 percent of the remaining southern maritime chaparral in San Diego County (Carrie Phillips, U.S. Fish and Wildlife Service, pers. comm., 1992).

Tom Huffman estimated in 1980 that *Arctostaphylos glandulosa* ssp. *crassifolia* occurred in over 290 subpopulations within 20 major population centers containing over 14,000 individuals (Roberts 1992a). By 1992, over 120 of the 290 subpopulations, 1 major population center, and nearly 8,000 individuals identified by Huffman had been eliminated by development. Over 40 percent of the remaining subpopulations and nearly 40 percent of the remaining individuals, including recently discovered populations, will be eliminated by proposed and approved projects in Carlsbad, Encinitas, Carmel Valley, and the Carmel Highlands (Roberts 1992a).

Populations of *Arctostaphylos glandulosa* ssp. *crassifolia* are also at risk from unauthorized land clearings or agricultural conversions. An unpublished study by the Service, dated June 1992, identified nearly 1,300 acres of unauthorized or possible land clearing activities in San Diego County between August 1991 and May 1992. These clearings, in part, included southern maritime chaparral.

The status of *Arctostaphylos glandulosa* ssp. *crassifolia* and its habitat in extreme northwestern Baja California, Mexico, are not well documented. However, this species only extends some 40 km (25 miles) south of the U.S. border. This region represents one of the most severely impacted areas in Baja California, and many of the same factors (urban and agricultural development) that have affected the status of this taxon in the United States are also clearly having an impact south of the border.

Chorizanthe orcuttiana (Orcutt's spineflower) is restricted to exposed sandy soils at two sites in coastal south-central San Diego County. One site, located at Torrey Pines State Park, is protected. However, this population has not been seen since 1987 despite repeated searches (Hogan, San Diego Biodiversity Project, pers. comm., 1992). The only currently known population is within Oakcrest Park in Encinitas, and this population is threatened by proposed construction of recreational facilities (see Factor D). This reduction of habitat will likely have significant impacts on the long-term viability of the existing *C. orcuttiana* population and the remaining southern maritime chaparral in the park.

Dudleya blochmaniae ssp. *brevifolia* (short-leaved dudleya) is also known from an extremely limited number of populations. The five remaining populations are restricted to sandy pockets on outcrops of Lindavista sandstone. One population is newly discovered, and threats have not yet been analyzed for it. The largest population, at Carmel Mountain, consists of several subpopulations that are threatened by residential development, fire breaks, off-road vehicle activity, and foot traffic (Hogan 1991). *Dudleya blochmaniae* ssp. *brevifolia* occurs in openings of southern maritime chaparral. Published estimates indicate that 87 percent of southern maritime chaparral vegetation in San Diego County has been lost as a

result of urban and agricultural development (Oberbauer and Vanderwier 1991).

Baccharis vanessae (Encinitas baccharis) is associated with dense mixed chaparral and southern maritime chaparral. Fourteen populations currently exist. Seven of the remaining 14 populations are threatened by development projects. Five populations are in the Del Dios Highlands within the Rancho Cielo project area. Three of these are threatened by urban development and a golf course. Grubbing and clearing in 1991 and 1992, in combination with a serious fire in September 1990, may already have eliminated some of these plants. The Rancho Cielo project was approved in 1981, 6 years before the species was declared endangered by the State of California. Even though this project has not yet been constructed, the county of San Diego has not required additional surveys or modifications to existing plans based on the listing status of Encinitas baccharis. Two other populations of this taxon near Lake Hodges have been identified as threatened by development proposals (CDFG 1992). Although a population near Black Mountain was left in open space after the construction of a residential development, no species-specific management plan exists.

Corethrogyne filaginifolia ssp. *linifolia* (Del Mar sand aster) is restricted to the south-central coast of San Diego County between Batiquitos Lagoon in Carlsbad south to Del Mar Mesa, Torrey Pines State Park, and Carmel Mountain. The species is closely associated with southern maritime chaparral, preferring openings and sandy terraces over dense brush. This taxon is able to withstand some disturbance and has reestablished populations along road cuts and railroad right-of-ways. However, the long-term viability of these colonizers has not been demonstrated, and many of these populations are subject to periodic roadside maintenance and clearing activities.

A considerable portion of the historic range of *Corethrogyne filaginifolia* ssp. *linifolia* has been eliminated by urban development within the cities of Carlsbad, Encinitas, and Del Mar, and elsewhere within northern San Diego County. Remaining populations have been subject to fragmentation and isolation in these areas. Historic populations in Encinitas have been greatly reduced. Relics of larger historical populations occur along Via Cantabria Road and in Oakcrest Park. The Via Cantabria Road stand occurs in a small fragment of southern maritime

chaparral along the roadside curb. Potential habitat in the Green Valley area just southeast of Batiquitos Lagoon is threatened by two proposed developments (Arroyo La Costa and Home Depot). Large populations of *C. filaginifolia* ssp. *linifolia* are found on Carmel Mountain along with the largest stand of southern maritime chaparral (Hogan 1991). The southern maritime chaparral and at least seven subpopulations of *C. filaginifolia* ssp. *linifolia* on Carmel Mountain are threatened by proposed development (Hogan 1991).

In the United States, *Verbesina dissita* (big-leaved crown-beard) is restricted to rugged coastal hillsides and canyons in southern maritime chaparral and, to a lesser extent, coastal sage scrub and mixed chaparral, along a 3.2-km stretch (2-mile stretch) of coastline in Laguna Beach, Orange County. Although portions of its distribution extend into Aliso-Woods Regional Park, the majority of the populations are on private land. These populations are threatened by residential development and fuel modification activities (CDFG 1992).

Small-scale housing projects continue to incrementally impact the main Laguna Beach population. At least four new residences were built directly on *Verbesina dissita* after State listing as a threatened species in 1989. Although the individual houses eliminated a relatively small number of individuals, local ordinances require the creation of a fuel modification zone up to 46 m (150 ft) from the residence. Over 20 percent of *V. dissita* occurrences are within 46 m (150 ft) of residential development. If these ordinances are fully implemented, a significant portion of this species in the United States would be eliminated. In 1984, a fuel break was cut through one population on Temple Hill. The species normally persists in relatively dense brush, although it is known to respond favorably to some clearing and fires. The plants in the fuel break began to decline after 4 years. The City of Laguna Beach used goats to clear fuel breaks in 1991 over objections by citizens concerned that the goats could potentially consume rare plant species (Dr. Peter Bowler, University of California, Irvine, pers. comm., 1992). The City of Laguna Beach has indicated that many neglected areas containing dense brush adjacent to residential development will be cleared (Laguna Beach Fire Department, pers. comm., 1991). These areas are, in part, occupied by *V. dissita*. One development completed in 1989 has placed irrigation and hydromulching over one population. *V. dissita* is not expected to persist with overwatering and

competition from *Atriplex semibaccata* (Australian saltbush).

Approximately 900 acres of southern maritime chaparral occurred historically in Orange County (Roberts 1992b). One third of that has been eliminated through urban development. The remaining habitat is relatively contiguous; however, several proposed developments would reduce and further fragment this rare vegetation association. Only 20 percent of the habitat is preserved (i.e., in Aliso-Woods Canyon Regional Park).

The majority of *Verbesina dissita* populations occur south of the United States-Mexico border in coastal, northwestern Baja California, Mexico, where it occurs in similar vegetation associations as found in Laguna Beach, California. The status of *V. dissita* and its habitat in Mexico are not well documented. According to one prominent researcher, the distribution of this species in Mexico is spotty (Reid Moran, California Academy of Sciences, pers. comm., 1992). Over 20 populations are known between Punta Descanseo and San Telmo near Cabo Colonet (Roberts 1988). A survey of historic localities in 1988 between Punta el Descanseo and Punta Santo Tomas determined that over 25 percent of these localities had been urbanized or converted to agriculture. Four separate localities are known from Punta Bunda just south of Ensenada. Changes in land use from relatively pristine conditions in 1987 to extensive grubbing and clearing in addition to rural condominium development in 1990 are threatening three of the four known populations on Punta Banda (Roberts, memo to files, June 23, 1992). Clearly, many of the same factors threatening the species in the United States (urban and agricultural development) are threatening this species south of the border.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

Some taxa have become vulnerable to collecting by curiosity seekers as a result of increased publicity following publication of a listing proposal. The limited population size of and relatively easy access for two of the species (*Chorizanthe orcuttiana* and *Dudleya blochmaniae* ssp. *brevifolia*) could render them vulnerable to collecting following publication of the listing proposal.

C. Disease or Predation.

Disease is not known to be a factor for any of the taxa. Insect predation of the six taxa is not well understood;

however, swollen galls on the stems of *Baccharis vanessae* indicate parasitism by a lepidopteran (Beauchamp 1980).

D. The Inadequacy of Existing Regulatory Mechanisms.

Existing regulatory mechanisms are not sufficient to protect southern maritime chaparral or reduce the losses of *Arctostaphylos glandulosa* ssp. *crassifolia*, *Baccharis vanessae*, *Chorizanthe orcuttiana*, *Corethrogyne filaginifolia* var. *linifolia*, *Dudleya blochmaniae* ssp. *brevifolia*, and *Verbesina dissita*.

Under the Native Plant Protection Act (Chapter 1.5, section 1900 *et seq.* of the Fish and Game Code) and California Endangered Species Act (Chapter 1.5, section 2050 *et seq.*), the California Fish and Game Commission listed *Dudleya blochmaniae* ssp. *brevifolia* (as *Dudleya brevifolia*) as endangered in 1982, *Baccharis vanessae* as endangered in 1987, and *Chorizanthe orcuttiana* as endangered in 1979. *Verbesina dissita* was listed by the State as threatened in 1989. Although both statutes prohibit the "take" of State-listed plants (Chapter 1.5 sections 1908 and 2080), State law appears to exempt the taking of such plants via habitat modification or land use change by the landowner. After the CDFG notifies a landowner that a State-listed plant grows on his or her property, State law evidently requires only that the landowner notify the agency "at least 10 days in advance of changing the land use to allow salvage of such plant" (Chapter 1.5, section 1913). Even this requirement is seldom adhered to or enforced. For example, in 1992, *Verbesina dissita* plants in Laguna Beach were removed without the State's knowledge (Ken Berg, CDFG Endangered Plants Program, pers. comm., 1992).

The majority of the known populations of the six taxa occur on privately owned land. Local and county zoning designations are subject to change and do not incorporate the principles of conservation biology in the establishment of open space areas. What few resource protection ordinances exist are subject to interpretation and in cases where findings of overriding social and economic considerations are made, compliance is not required. In many cases, land-use planning decisions are made on the basis of environmental review documents, prepared as required by the California Environmental Quality Act (CEQA) or the National Environmental Policy Act, that do not adequately address potential impacts to the six taxa or southern maritime chaparral, or offer insufficient compensation for losses that continue to

contribute to the overall net loss of habitat. Transplantation is frequently used to compensate for the loss of rare plant species. However, it has never been demonstrated to provide for long-term viability of any of the six taxa. Several attempts at transplanting *Baccharis vanessae* and *Arctostaphylos glandulosa* ssp. *crassifolia* have been reported by Hall (1986). Attempts to transplant *B. vanessae* at Quail Botanical Garden and at San Dieguito County Park failed shortly after the monitoring period ended. Six years after individuals of *A. glandulosa* ssp. *crassifolia* were transplanted at Quail Botanical Garden, 75 percent had died.

Dudleya blochmaniae ssp. *brevifolia* occurs at two sites on State lands set aside for conservation at Torrey Pines State Park. A third site receives limited protection at Crest Canyon Preserve in Del Mar; however, recreational activity (see Factor E) threatens the species at this site. A small population of *Corethrogyne filaginifolia* ssp. *linifolia* occurs within San Elijo Lagoon State Preserve. Other larger populations are located in both the northern and southern parcels of Torrey Pines State Park (Jim Dice, pers. comm., 1992). These populations are protected and expected to be viable for the long-term. A population within the City of Del Mar's Crest Canyon Park is also within preserved southern maritime chaparral but is subject to trampling (Hogan 1991). One population of *Baccharis vanessae* occurs in the San Mateo Wilderness of the Cleveland National Forest, where it is protected.

Existing land use regulations have failed to protect these plants as exemplified by the case of Oakcrest Park in Encinitas. Although a portion of the park was originally set aside for conservation purposes by the County of San Diego (Oberbauer, pers. comm., 1992; Hogan 1991), the City of Encinitas has been eliminating southern maritime chaparral and causing direct losses to *Arctostaphylos glandulosa* ssp. *crassifolia*, *Baccharis vanessae*, *Chorizanthe orcuttiana*, and *Corethrogyne filaginifolia* var. *linifolia* through incremental impacts of recreational development for several years. One area developed relatively recently included a natural preserve area set aside under an agreement with the California Coastal Commission. Current recreational development plans for Oakcrest Park, including the construction of a community center, swimming pool, lawn installations, and numerous walking paths, will impact three of these taxa (*A. glandulosa* ssp. *crassifolia*, *B. vanessae*, and *C. filaginifolia* var. *linifolia*). The proposed

development will reduce the *Baccharis vanessae* population and the extent of southern maritime chaparral within the park by approximately one-third (David Wigginton, Director, Parks and Recreation, City of Encinitas, pers. comm., 1992).

Another example demonstrating how existing regulatory mechanisms are inadequate is provided by the case of one project in the City of Carlsbad that was originally approved circa 1980. The project area contains the northernmost known population of *Arctostaphylos glandulosa* ssp. *crassifolia* and a significant stand of southern maritime chaparral. When a City official was approached by the proponent in 1992, the City informed the proponent that the existing CEQA documentation was inadequate and that additional biological surveys would be required. Despite this finding, the proponent was able to obtain grading permits to clear the land without additional documentation in July or August 1992 (Terri Stewart, California Department of Fish and Game, pers. comm., 1992).

The southern range of *Arctostaphylos glandulosa* ssp. *crassifolia* and *Verbesina dissita* continues south along the coast into northwestern Baja California, Mexico. The country of Mexico has laws that presumably provide protection to rare plants; however, enforcement of laws is lacking (U.S. Fish and Wildlife Service 1992).

In summary, although many of these taxa are receiving at least partial protection through existing regulatory mechanisms, threats continue to adversely affect the species, as indicated by their declining status.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

At least three of the taxa (*Baccharis vanessae*, *Chorizanthe orcuttiana*, and *Verbesina dissita*) are threatened with extinction by stochastic events because of their restricted distribution and small population size. Genetic viability is reduced in small populations, making them vulnerable to extinction by a single human-caused or natural event. The potential for extirpation owing to small populations size can be exacerbated by natural causes, such as the recent drought or fire. For instance, the impact of fire on *B. vanessae* is not fully understood, yet a major fire in the Del Dios highlands burned four of the known populations in September 1990. Many populations are now in close proximity to residential development, and are threatened by fuel modification activities, fire suppression, and increased human activities associated with the nearby development.

Additionally, unidentified pollinators or wildlife species functioning as seed-dispersal agents may also be impacted by this development.

Habitat fragmentation and isolation, in addition to fuel modification, threaten the taxa where they grow adjacent to or mixed within residential areas. For example, in addition to the 40 percent of the remaining *Arctostaphylos glandulosa* ssp. *crassifolia* that are threatened by development, an additional 10 percent are threatened by fuel modification and habitat fragmentation (Roberts 1992a). Conflicts between fire management and preservation arise when insufficient buffers exist between sensitive biological resources and residential dwellings. A recent example includes the grubbing (clearing of vegetation) of approximately 2 acres of southern maritime chaparral bordering a new residential development in Carlsbad on June 22, 1992.

Baccharis vanessae is comprised of only 13 extant populations. Four of these have fewer than six individuals. While the combination of the remaining populations may contain over 1,500 individuals, no population is known to have over 300 individuals. The recent drought or the cold snap southern California suffered in December 1990 may have reduced these numbers further.

Chorizanthe orcuttiana is the most vulnerable of the six taxa. This plant is threatened by trampling by workers and recreationists because of the plant's small size and its preference for open areas, which tend to attract foot traffic through otherwise dense chaparral vegetation. The only known site could be eliminated in a single event if a particularly large number of workers or park users walk through and trample the population. Exotic grass and weed species could overwhelm the population if recreational activities and trampling impacts that favor aggressive introduced species are not curtailed.

The population of *Corethrogyne filaginifolia* ssp. *linifolia* at Oakcrest Park is threatened by trampling. This species is also threatened in at least two localities (Via Cantabria Road and at Vulcan Road in Encinitas) with being overwhelmed by aggressive non-native plant species such as *Carpobrotus edulis* (Hottentot-fig) and *Limonium sinuatum* (statice).

The northernmost population of *Dudleya blochmaniae* ssp. *brevifolia* continues to be threatened by trampling via recreational activities. The population at Crest Canyon Preserve in Del Mar is also threatened by recreational activity as evidenced by the

many trails that cross the site (Hogan 1991).

All six taxa are potentially threatened by the interruption of the natural fire cycle. Fragmentation has rendered individual populations more susceptible to fire events that may either occur too frequently or be suppressed too long to maintain a healthy southern maritime chaparral habitat.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these six taxa in determining to propose this rule. Based on this evaluation, the Service finds that *Arctostaphylos glandulosa* ssp. *crassifolia*, *Baccharis vanessae*, *Chorizanthe orcuttiana*, and *Dudleya blochmaniae* ssp. *brevifolia* are in danger of extinction throughout all or a significant portion of their ranges due to habitat alteration and destruction resulting from urban, recreational, and agricultural development; fuel modification activities; trampling and recreational activities; inadequacy of existing regulatory mechanisms; stochastic extinction; and competition from exotic plant species. Therefore the preferred action is to list those taxa as endangered. For the reasons discussed below, the Service finds that *Corethrogyne filaginifolia* var. *linifolia* and *Verbesina dissita* are likely to become endangered species within the foreseeable future throughout all or a significant portion of their ranges. Therefore, the preferred action is to list these taxa as threatened. The Service finds that threatened status is appropriate for *Corethrogyne filaginifolia* var. *linifolia* because the largest populations exist within the State Park system and the species can tolerate more disturbance than most native species. *Verbesina dissita* is extremely threatened in the United States portion of its range by development and fuel modification activities. The status of this species in Baja California, Mexico, is considerably better, due to a larger number of extant populations; however, those populations are vulnerable to similar activities that threaten the plant in the United States. Critical habitat is not being proposed for these taxa for the reasons discussed in the "Critical Habitat" section of this proposal.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat

is not presently prudent for these taxa. Such a determination would result in no known benefit to these species. The publication of critical habitat descriptions and maps required for critical habitat would increase the degree of threat to these plants from possible take or vandalism, and could contribute to their decline. The listing of species as either endangered or threatened publicizes the rarity of the plants and can make these plants attractive to researchers, curiosity seekers, or collectors of rare plants. All appropriate Federal agencies and local planning agencies have been notified of the location and importance of protecting these species' habitat. Protection of these species' habitat will be addressed through the recovery process and potentially through the section 7 consultation process. Therefore, the Service finds that designation of critical habitat for these plants is not prudent at this time; such designation likely would increase the degree of threat from vandalism, collecting, or other human activities.

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 States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) 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 insure 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.

Although none of the six species are directly involved in section 404 (Clean Water Act) permitted activities, actions that include direct and indirect effects or that are interrelated or interdependent with the proposal under consideration may require action through section 404 of the Clean Water Act. Additionally, three of the taxa (*Arctostaphylos glandulosa* ssp. *crassifolia*, *Corethrogyne filaginifolia* var. *linifolia*, and *Baccharis vanessae*) are known to occur in areas where highway alignments, which may involve Federal funding and the Federal Highway Administration, have been proposed. At least one species (*B. vanessae*) is known from within the Cleveland National Forest and occurs within 1 km (0.6 miles) of Camp Pendleton Marine Base. New populations of the six taxa could be discovered at Miramar Naval Air Station, Point Loma Naval Reserve, and Camp Pendleton.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 for endangered plants, and at 50 CFR 17.71 and 17.72 for threatened plants, set forth a series of general prohibitions and exceptions that apply to all endangered or threatened plants. With respect to the four plant taxa proposed to be listed as endangered, 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 with respect to any endangered plant 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 this species in interstate or foreign commerce; remove and reduce to possession the species from areas under Federal jurisdiction; maliciously damage or destroy any such species on any area under Federal jurisdiction; or remove, cut, dig up, damage, or destroy any such endangered plant species on any other area in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law.

Corethrogyne filaginifolia var. *linifolia* and *Verbesina dissita*, proposed to be listed as threatened, would be subject to similar prohibitions (16 U.S.C. 1538(a)(2)(E); 50 CFR 17.61, 17.71). Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62, 17.63, and 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered and threatened plant species under certain circumstances. It is anticipated that few trade permits would ever be sought or issued because none of the six species is 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 (703/358-2093).

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 these taxa;
- (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.

The final decision on this proposal 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 within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Field Supervisor of the Carlsbad Field Office (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).

References Cited

A complete list of all references cited herein, as well as others, is available upon request from the Carlsbad Field Office (see ADDRESSES section).

Author

The primary author of this proposed rule is Fred M. Roberts, Jr., Carlsbad Field Office, U.S. Fish and Wildlife Service, 2730 Loker Avenue West, Carlsbad, California 92008 (telephone 619/431-9440).

List of Subjects in 50 CFR Part 17

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

Proposed Regulations 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) for plants is amended by adding the following, in alphabetical order under the plant families indicated, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Status	When listed	Critical habi- tat	Special rules
Scientific name	Common name					
Asteraceae—Aster family:						
<i>Baccharis vanossae</i>	Encinitas baccharis	U.S.A. (CA)	E	.....	NA	NA
<i>Corstrogynne flaginifolia</i> var. <i>linifolia</i> .	Del Mar sand aster	U.S.A. (CA)	T	.....	NA	NA
<i>Verbesina dissita</i>	Big-leaved crown-beard	U.S.A. (CA), Mexico	T	.....	NA	NA
Crassulaceae—Stonecrop family:						
<i>Dudleya blochmaniae</i> ssp. <i>brevifolia</i> .	Short-leaved dudleya	U.S.A. (CA)	E	.....	NA	NA
Ericaceae—Heath family:						
<i>Arctostaphylos</i> <i>glandulosa</i> ssp. <i>crassifolia</i> .	Del Mar manzanita	U.S.A. (CA), Mexico	E	.....	NA	NA
Polygonaceae—Buckwheat family:						
<i>Chorizanthe orcuttiana</i> ..	Orcutt's spineflower	U.S.A. (CA)	E	.....	NA	NA

Dated: September 16, 1993.

Richard N. Smith,

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

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