

"Magnesium powder or Magnesium alloys, powder" in PG I, in column 8A, the entry "151" is revised to read "None".

#### PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

4. The authority citation for Part 173 continues to read as follows:

**Authority:** 49 U.S.C. 5102–5127; 49 CFR 1.53.

5. In § 173.28, in the table in paragraph (b)(4)(i), the footnote is revised to read as follows:

##### § 173.28 Reuse, reconditioning and remanufacture of packagings.

\* \* \* \* \*

<sup>1</sup> Metal drums or jerricans with a minimum thickness of 0.82 mm body and 1.09 mm heads which are manufactured and marked prior to January 1, 1997 may be reused. Metal drums or jerricans manufactured and marked on or after January 1, 1997, and intended for reuse, must be constructed with a minimum thickness of 0.82 mm body and 1.11 mm heads.

\* \* \* \* \*

##### § 173.170 [Amended]

6. In § 173.170, in the first sentence of paragraph (c), the wording "450 g (15.9 ounces)" is revised to read "454 g (16 ounces)".

#### PART 178—SPECIFICATIONS FOR PACKAGINGS

7. The authority citation for part 178 continues to read as follows:

**Authority:** 49 U.S.C. 5101–5127; 49 CFR 1.53.

8. In § 178.2, a new paragraph (f) is added to read as follows:

##### § 178.2 Applicability and responsibility.

\* \* \* \* \*

(f) No packaging may be manufactured or marked to a packaging specification that was in effect on September 30, 1991, and that was removed from this part 178 by a rule published in the **Federal Register** on December 21, 1990 and effective October 1, 1991.

Issued in Washington, DC on March 20, 1997, under authority delegated in 49 CFR part 1.

**Kelley S. Coyner,**

*Deputy Administrator.*

[FR Doc. 97–7558 Filed 3–25–97; 8:45 am]

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#### DEPARTMENT OF THE INTERIOR

##### Fish and Wildlife Service

##### 50 CFR Part 17

RIN 1018–AC00

#### Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Three Plants and Threatened Status for Five Plants From Vernal Pools in the Central Valley of California

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The Fish and Wildlife Service (Service) determines endangered status pursuant to the Endangered Species Act of 1973, as amended (Act) for three plants, *Orcuttia pilosa* (hairy Orcutt grass), *Orcuttia viscida* (Sacramento Orcutt grass), and *Tuctoria greenei* (Greene's tuctoria); and threatened status for five plants, *Castilleja campestris* ssp. *succulenta* (fleshy owl's-clover), *Chamaesyce hooveri* (Hoover's spurge), *Neostapfia colusana* (Colusa grass), *Orcuttia inaequalis* (San Joaquin Valley Orcutt grass), and *Orcuttia tenuis* (slender Orcutt grass). Between publication of the proposed and final rules for these species, the Service determined that *Orcuttia inaequalis*, which was originally proposed as endangered, should be listed as threatened due to lesser immediacy and magnitude of threats to its existence. These species grow in the basins and margins of vernal pools of the Central Valley of California. Habitat loss and degradation due to urbanization, agricultural land conversion, livestock grazing, off-highway vehicle use, a flood control project, a highway project, altered hydrology, landfill projects, and competition from weedy nonnative plants imperil the continued existence of these species. This rule implements Federal protection and recovery provisions afforded by the Act for these eight plants.

**EFFECTIVE DATE:** April 25, 1997.

**ADDRESSES:** The complete file for this rule is available for public inspection, by appointment, during normal business hours at the Sacramento Field Office, U.S. Fish and Wildlife Service, 3310 El Camino Avenue, Suite #130, Sacramento, California 95821–6340.

**FOR FURTHER INFORMATION CONTACT:** Ken Fuller at the above address or by telephone at 916/979–2120 or facsimile at 916/979–2128.

#### SUPPLEMENTARY INFORMATION:

##### Background

Vernal pools in the Central Valley of California were a common and widespread feature in pre-European times (Holland and Jain 1977). Although historic amounts of vernal pool habitat losses and annual loss rates have been disputed, Holland estimated that urbanization and other factors had eliminated 67 to 88 percent of the vernal pools in the Central Valley by 1973 (Holland 1978, and Robert Holland, consultant, *in litt.* 1992). Public comments and additional work regarding the number of remaining acres of vernal pool habitat in the Central Valley indicate the loss of vernal pool habitat is closer to 50 percent than 67 to 88 percent (59 FR 48139; R. Holland, pers. comm. 1996). The plants discussed herein grow only in vernal pools in California and have experienced minor to major population and habitat reductions throughout their respective ranges. California vernal pools are generally small, seasonally aquatic ecosystems that are inundated in the winter and dry slowly in the spring and summer, making a harsh, unique environment. Cyclical wetting and drying create an unusual ecological situation supporting a unique biota. Many plants and animals have evolved to possess such specific characteristics that these organisms cannot live outside these temporary pools. Four other listed species may occur with these plants: The vernal pool tadpole shrimp (*Lepidurus packardii*); conservancy fairy shrimp (*Branchinecta conservatio*); longhorn fairy shrimp (*B. longiantenna*); and vernal pool fairy shrimp (*B. lynchi*). However, no close associations are known between any of the listed shrimp species and the eight plants affected by this rule.

The Central Valley of California consists of the Sacramento Valley in the north half of the State and the San Joaquin Valley in the south half. Within the Central Valley, vernal pools are found in four physiographic settings, each possessing an impervious soil layer relatively close to the surface. These four settings include high terraces with iron-silicate or volcanic substrates, old alluvial terraces, basin rims with claypan soils, and low valley terraces with silica-carbonate claypans. Due to local topography and various geological populations, vernal pools are usually clustered into pool complexes. Pools within a complex typically are separated by a distance of a few to several meters and may form dense, interconnected mosaics of small pools or a more sparse scattering of large

pools. Vernal pool habitats and the eight plants discussed herein are found over a very limited, discontinuous, fragmented area within the Central Valley.

#### Discussion of the Eight Species

*Neostapfia colusana* (Colusa grass) is a robust, tufted annual that grows 7 to 30 centimeters (cm) (3 to 12 inches (in)) in height. The stems are decumbent toward the base with the upper portion erect and terminating in spike-like inflorescences that are cylindrical, dense, and resemble small ears of corn. Because of this unique inflorescence, this distinctive plant is not easily confused with any others. Joseph Burtt-Davy (1898) collected and first described *N. colusana* as a member of the genus *Stapfia*. Burtt-Davy (1899) renamed this genus *Neostapfia* and shortly thereafter, Frank Scribner (1899) submerged *Neostapfia* within the genus *Anthochloa*. Robert Hoover (1940) placed this species in the resurrected monotypic genus *Neostapfia*.

*Neostapfia colusana* has been extirpated from its type locality in Colusa County. Seven populations of *N. colusana* in Colusa, Merced, and Stanislaus counties have been lost. Three populations in Merced County and one occurrence in Stanislaus County have not been seen in many years and are considered to possibly be extirpated. The remaining 40 populations in the San Joaquin Valley are concentrated along a 200 kilometer (km) (98 mile (mi)) stretch of the eastern edge of the San Joaquin Valley in Stanislaus and Merced counties. Additionally, two separate populations occur in Solano County in the Sacramento Valley and another two populations are found in Yolo County. All populations exist on private lands, with the exception of one population found on Castle Air Force Base (Merced County) in 1993 and one population found on McClellan Air Force Base (Yolo County) in 1993. In addition to the population on The Nature Conservancy's (TNC) Jepson Prairie Preserve in Solano County, this plant is afforded some protection via a 970 hectare (ha) (2,400 acre (ac)) conservation easement purchased by TNC at the Flying M Ranch in Merced County (R. Alfandre, TNC, pers. comm. 1994). "The overall trend for Colusa grass is one of decline" (California Department Fish and Game (CDFG) 1992a).

*Orcuttia inaequalis* (San Joaquin Valley Orcutt grass) is a tufted annual that reaches 5 to 15 cm (2 to 6 in) in height. The grayish, pilose (bearing soft, straight hairs) plants have several

spreading to erect stems, each terminating in a spike-like inflorescence. At maturity, the spikelets of the plant are aggregated into a dense, hat-shaped cluster, which separates them from other members of the genus *Orcuttia*. Additionally, the lemmas (lower bracts enclosing the grass floret) are deeply cleft into five prominent teeth which may be sharp-pointed or have awns that are 0.5 millimeters (mm) (0.2 in) long. The middle tooth is conspicuously longer than the four laterals. *Orcuttia inaequalis* does not occur with any other species of *Orcuttia*. The species most closely resembles *O. californica* and *O. viscida*. The former does not have the long central lemma tooth and lacks the grayish appearance, whereas, the spikelets of the latter are more congested toward the apex of the inflorescence, but not as much as in *O. inaequalis*. *Orcuttia inaequalis* has also smaller lemmas, noncurving lemma teeth, and smaller seeds. *Orcuttia inaequalis* grows with *Neostapfia colusana* at five sites in the San Joaquin Valley.

Klyver first collected and identified *Orcuttia inaequalis* as *O. californica* near Lane's Bridge in Fresno County in 1927 (Klyver 1931). Hoover (1936a) described *O. inaequalis* as a distinct species, but reduced the species to a variety of *O. californica* in 1941 (Hoover 1941). Reeder (1982) determined *O. inaequalis* to be a distinct species based on seed proteins, chromosome numbers, and morphological characteristics. Sixteen populations of *O. inaequalis* have been lost in Fresno, Madera, Merced, and Stanislaus counties. Additionally, three populations of *O. inaequalis* have not been seen in some years of surveying and are considered possibly extirpated. The remaining 23 populations, mostly in southeastern San Joaquin Valley in Fresno, Merced, and Madera counties, are discontinuously scattered over a 79 km (36 mi) range. Two populations are on Federal land, one managed by the Bureau of Land Management (BLM) and one transplanted population by the Bureau of Reclamation (BOR), while the remaining 21 populations are found on private lands. Three populations of *O. inaequalis* are protected by a conservation easement with TNC at the Flying M Ranch in Merced County. "The general trend for San Joaquin Valley Orcutt grass is one of decline" (CDFG 1991b).

*Orcuttia pilosa* (hairy Orcutt grass) is a densely tufted, usually densely pilose annual reaching about 5 to 20 cm (2 to 8 in) in height. The stems are erect or decumbent at the base. The

inflorescence is spike-like and rather elongate, with the spikelets remote on the axis below and usually strongly congested above. The equal-length lemmas are deeply cleft into fine teeth that are sharp-pointed or short-awned. *Orcuttia pilosa* and *O. tenuis* grow together over a portion of their respective ranges but are readily distinguished, as the stems of *O. pilosa* are simple, tiller freely from the base and never branch from the upper nodes. Additionally, the spikelets of *O. pilosa* are strongly congested at the apex of the inflorescence and the stems and leaves are larger. *Orcuttia pilosa* occurs infrequently with *Tuctoria greenei*, but these two grasses can be readily distinguished.

Hoover collected *Orcuttia pilosa* in 1938 from a single locality in eastern Stanislaus County, at the time considering these specimens to be a more robust form of *O. tenuis*. He used one of these specimens as the type for a new species, *O. pilosa*, which he described after examining additional collections from Merced and Madera counties in San Joaquin Valley (Hoover 1941). *Orcuttia pilosa* occurs along a 490 km (223 mi) stretch on the eastern margin of the San Joaquin and Sacramento valleys from Tehama County south to Stanislaus County and through Merced and Madera counties. Previously, 34 populations of *O. pilosa* were known. Eleven populations variously have been extirpated or are presumed extirpated due to agricultural land conversion, urbanization, and intensive cattle grazing in Madera, Merced, Stanislaus, and Tehama counties. Of the 24 native, extant populations and 1 introduced population, only 12 populations are considered to be stable (Stone *et al.* 1988; J. Silveira, U.S. Fish and Wildlife Service (Service), pers. comm. 1994). Of the 25 populations, 3 ungrazed populations of *O. pilosa* occur on the Sacramento National Wildlife Refuge. One population of *O. pilosa* occurs on BOR lands, and a translocated one occurs on land owned by California State Department of Transportation. The remaining 20 populations occur on private lands with 1 population of *O. pilosa* in Butte County, 4 in Stanislaus County, 6 in Madera County, and 9 in Tehama County. Four of the nine populations of *O. pilosa* in Tehama County are located on the TNC's Vina Plains Preserve. However, only one of these sites at the preserve is excluded from an agreement allowing cattle grazing by the previous landowner (Stone *et al.* 1988). "The overall trend for hairy Orcutt grass is one of decline

due to loss of vernal pool habitat" (CDFG 1991c).

*Orcuttia viscida* (Sacramento Orcutt grass) is a densely tufted, pilose annual that reaches 2 to 10 cm (1 to 4 in) in height. The erect stems terminate in spike-like inflorescences that are congested at the apex. The plants are viscid (sticky) even when young and more so at maturity. *Orcuttia viscida* develops five-toothed lemmas 6 to 7 mm (0.2 to 0.3 in) long with the middle tooth conspicuously longer than the four laterals. The lemma teeth curve outward at maturity, giving the inflorescence a distinct bristly appearance. Although *O. viscida* is geographically isolated from all other members of the genus, it most closely resembles *O. inaequalis*, but can be separated as described above under the discussion of *O. inaequalis*.

Hoover collected *Orcuttia viscida* in 1941 from a vernal pool near Folsom in Sacramento County and described it as a variety of *O. californica* (Hoover 1941). Reeder elevated *O. viscida* to specific rank based on differences in chromosome number, seed size, and other morphological characteristics (Reeder 1980, 1982). *Orcuttia viscida* possesses the narrowest range of the eight species proposed for listing herein. *Orcuttia viscida* occurs within a 350 square km (135 square mi) area in eastern Sacramento County. Only 40 km (18 mi) separates the northernmost from the southernmost population. Two of the nine known populations have been extirpated. Presently, three populations are found on private lands and four populations are located on non-Federal public lands (one area owned by a public municipality, one owned by the County of Sacramento, one by the City of Fair Oaks, and one by the CDFG). "The trend for Sacramento Orcutt grass is one of rapid decline" (CDFG 1991d).

*Tuctoria greenei* (Greene's tuctoria) is a tufted, more or less pilose, annual grass that grows 5 to 15 cm (2 to 6 in) tall. The plant develops several to many erect stems, the outermost decumbent to spreading at the base, with each terminating in a spike-like inflorescence that may be partially enveloped by the uppermost leaf. The lemmas are strongly curved and more or less truncate at the apex.

Vasey (1891) described *Tuctoria greenei* as *Orcuttia greenei* from specimens collected by Edward Greene near Chico in Butte County in 1890. It remained in the genus *Orcuttia* until Reeder (1982) described the genus *Tuctoria* and placed the former *O. greenei* into the new genus *Tuctoria*. Nineteen populations of *T. greenei* have been extirpated or are possibly

extirpated in Fresno, Madera, Merced, San Joaquin, Stanislaus, Tehama, and Tulare counties. The 20 remaining populations of *T. greenei* occur in Butte, Glenn, Merced, Shasta, and Tehama counties. The present range of this species extends 567 km (258 miles). With the exception of one small population of 50 plants on the Sacramento National Wildlife Refuge, all populations are on private lands, including four on the TNC's Vina Plains Preserve. "The general trend for Greene's Orcutt grass is one of decline as a result of habitat alteration and destruction" (CDFG 1991e).

*Orcuttia tenuis* (slender Orcutt grass) is a weakly-tufted and sparsely-pilose annual grass. It grows about 5 to 15 cm (2 to 6 in) in height, producing one to several erect stems that often branch from the upper nodes. The inflorescence of this plant is elongate, with the spikelets usually remote along the axis and slightly, if at all, congested toward the apex. The lemmas are deeply cleft into fine, equal-length, prominent teeth that are sharp-pointed or short-awned. *Orcuttia tenuis* and *O. pilosa* are found growing together over a portion of their respective ranges but are readily distinguished as described in the discussion of *O. pilosa*.

Alice Eastwood first collected *Orcuttia tenuis* in 1912 in Shasta County. These specimens were considered to be *O. californica* prior to the description of *O. tenuis* by Hitchcock as a new species in 1934, based upon spikelet arrangement as well as lemma tooth morphology (Hitchcock 1934). *Orcuttia tenuis* has been extirpated from its type locality in Shasta County and four other sites in the vicinity of the Redding Municipal Airport. Disjunct populations occur in vernal pools on remnant alluvial fans and high stream terraces and recent basalt flows across 440 km (220 mi) (Stone *et al.* 1988). *Orcuttia tenuis* is restricted to northern California, with 2 populations occurring in Lake County, 1 in Lassen County, 2 in Plumas County, 2 in Sacramento County, 19 (including one translocated) in Shasta County, 2 in Siskiyou County, and 32 in Tehama County. Thirty-nine populations are on private lands. In addition to the populations on the TNC's Vina Plains Preserve in Tehama County, The Trust for Public Lands has obtained a conservation easement on the Inks Creek Ranch in Tehama County to protect one population of *O. tenuis* (M. Kelly, BLM, pers. comm. 1993). The City of Redding owns lands containing two populations. The United States Forest Service (USFS) and the BLM jointly have prepared a management

guide for one of the ten populations on lands administered by the BLM and three of the nine populations on those lands administered by the Lassen National Forest (B. Corbin, Lassen National Forest, pers. comm. 1994; J. Molter, BLM, pers. comm. 1994; California Natural Diversity Database (CNDDB) 1996). "Although discoveries of additional populations in recent years have extended the known range of this species, the overall trend for slender Orcutt grass is one of decline as a result of habitat alteration and loss" (CDFG 1991f).

*Castilleja campestris* ssp. *succulenta* (fleshy owl's-clover) is a glabrous, hemiparasitic (partly parasitic) annual herb belonging to the snapdragon family (Scrophulariaceae). The stems are simple or branched, generally 5 to 25 cm (2 to 10 in.) tall with brittle-succulent or brittle-fleshy, entire, alternate leaves. The branches end in a dense, short, green inflorescence with bracts equaling or exceeding the bright yellow to white flowers that appear in May. *Castilleja campestris* ssp. *succulenta* occurs with *C. campestris* ssp. *campestris* in Stanislaus County, but the latter can be distinguished by its usually more brittle leaves, shorter bracts, larger corollas, and longer stigmata.

Hoover (1936b) originally described the plant as *Orthocarpus campestris* var. *succulentus* from specimens at its type locality in beds of vernal pools near Ryer, Merced County. He subsequently elevated it to a full species, *O. succulentus*, distinguishing it from *O. campestris* on the basis of leaf and bract shape and flexibility, corolla color, and anther cell length (Hoover 1968). Chuang and Heckard (1991) significantly revised *Orthocarpus*, subsuming most of what had been called *Orthocarpus* into the genus *Castilleja*. They also proposed the new combination *C. campestris* ssp. *succulenta*. This small annual plant was formerly more widespread in the Central Valley and is now extirpated from its type locality near Ryer in Merced County. Additionally, three populations in Fresno County have not been observed for some years and are possibly extirpated (CNDDB 1996). The plant discontinuously occurs in the San Joaquin Valley over a range of 145 km (66 mi) extending through northern Fresno, western Madera, eastern Merced, southeastern San Joaquin, and Stanislaus counties. One population occurs on lands managed by the BOR, one on lands owned by the California Department of Transportation, and two populations on land managed by the BLM. Thirty-two populations occur on

private lands. Of these populations, seven occur at the Flying M Ranch, where TNC has a conservation easement (CNDDB 1996). "The overall trend for succulent owl's clover is one of decline" (CDFG 1991g).

*Chamaesyce hooveri* (Hoover's spurge), a member of the spurge family (Euphorbiaceae), is a prostrate, glabrous annual herb. The leaves are gray-green, asymmetric at the base, rounded to kidney-shaped and have small, narrow white teeth around the margins. The small flowers occur singly in the leaf axils. *Chamaesyce ocellata* can occur in the same range with *C. hooveri* but is readily distinguished by its spreading rather than prostrate habit, yellowish-green color, and entire leaf margins. *Chamaesyce serpyllifolia* is similar to *C. hooveri*. Both species have a gray-green color and may be prostrate, but *C. serpyllifolia* has less rounded leaves, and the marginal teeth are shorter and are usually limited to the leaf apex. Neither *C. ocellata* nor *C. serpyllifolia* have been documented growing together with *C. hooveri* in the same vernal pool.

Hoover first collected this plant in Tulare County in 1937. Wheeler (1940) described it as *Euphorbia hooveri*. Koutnik (1985) placed this species in the genus *Chamaesyce* based on the presence of a sheath around the vascular bundle, its sympodial (lateral branching) growth habit, and its photosynthetic pathway. *Chamaesyce hooveri* is found in vernal pools on remnant alluvial fans and related depositional stream terraces along a stretch of 528 km (240 mi) on the eastern margin of the Central Valley. Four populations of *C. hooveri* are extirpated or are possibly extirpated in Butte, Tehama, and Tulare counties. Of the 25 extant populations, 10 populations are known from Glenn, Merced, Stanislaus, and Tulare counties. Three populations occur at the northern end of Butte County and the remainder are located in Tehama County. Five of the 12 Tehama County populations occur on TNC's Vina Plains Preserve. All populations are on privately owned lands, except for the four populations in Glenn County found on the Sacramento National Wildlife Refuge (CNDDB 1996; J. Silveira, Sacramento National Wildlife Refuge, pers. comm. 1994).

#### Previous Federal Action

Federal actions on these eight species began as a result of section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those species 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 *Castilleja campestris* ssp. *succulenta* (as *Orthocarpus succulentis* [sic]), *Neostapfia colusana*, *Orcuttia inaequalis* (as *O. californica* var. *inaequalis*), *O. pilosa*, *O. tenuis*, and *O. viscida* (as *O. californica* var. *viscida*) as endangered, and *Chamaesyce hooveri* (as *Euphorbia hooveri*) as threatened. 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 species named therein. The seven plants above were included in the July 1, 1975, notice. On June 16, 1976, the Service published a proposal (42 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act. This 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. *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *Neostapfia colusana*, *O. inaequalis*, *O. pilosa*, *O. tenuis*, and *O. viscida* 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, publication (43 FR 17909). The Endangered Species Act Amendments of 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. On December 10, 1979, the Service published a notice (44 FR 70796) of the withdrawal of the June 16, 1976, proposal, along with four other proposals that had expired.

The Service published an updated Notice of Review for plants on December 15, 1980 (45 FR 82480). This notice included *Castilleja campestris* ssp. *succulentus*, *Chamaesyce hooveri*, *Neostapfia colusana*, *Orcuttia inaequalis*, *O. pilosa*, *O. tenuis*, *O. viscida*, and *Tuctoria greenei* as category 1 candidates. Category 1 candidates were those species for which the Service had on file substantial information on biological vulnerability and threats to support a proposal to list. On November 28, 1983, the Service published a supplement to the notice of review (48 FR 53640), which changed *Castilleja*

*campestris* ssp. *succulentus* and *N. colusana* to Category 2 candidates. Category 2 candidates were those species for which data in the Service's possession indicated that listing was possibly appropriate, but for which substantial data on biological vulnerability and threats were not known or on file to support proposed rules. The plant notice was again revised on September 27, 1985 (50 FR 39526) and the status of the eight plants remained unchanged from the 1983 supplement. In the revision of the plant notice published on February 21, 1990 (55 FR 6184), *N. colusana* was returned to category 1 status. In 1991 and 1992, the Service received additional information regarding threats to *Castilleja campestris* ssp. *succulenta*, and returned this species to category 1 status. As published in the **Federal Register** on February 28, 1996 (61 FR 7596), candidate category 2 status was discontinued and only category 1 species are recognized as candidates for listing purposes.

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 *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *Neostapfia colusana*, *Orcuttia inaequalis*, *O. pilosa*, *O. tenuis*, and *O. viscida*, because the 1975 Smithsonian report had been accepted as a petition. In October of 1983 through 1991, the Service found that the petitioned listing of the above seven plant species was warranted but precluded by other higher priority listing actions.

A proposal to list *Orcuttia inaequalis*, *O. tenuis*, *O. viscida*, and *Tuctoria greenei* as endangered and *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *Neostapfia colusana*, and *O. pilosa* as threatened was published on August 5, 1993 (58 FR 41700). This proposal primarily was based on information supplied by reports to the California Natural Diversity Data Base, the Status Survey of the Grass Tribe *Orcuttieae* and *Chamaesyce hooveri* (Euphorbiaceae) in the Central Valley of California (Stone *et al.* 1988), and observations by numerous botanists. Since publication of the proposed rule for these species, the Service has determined that *Orcuttia inaequalis*, which was proposed as endangered, should be listed as threatened due to a lesser immediacy and magnitude of threats to its existence.

The processing of this final rule conforms with the Service's listing priority guidance published in the **Federal Register** on December 5, 1996 (61 FR 64475). The guidance clarifies the order in which the Service will process rulemakings following two related events: (1) The lifting, on April 26, 1996, of the moratorium on final listings imposed on April 10, 1995 (Public Law 104-6), and (2) the restoration of funding for listing through passage of the Omnibus Budget Reconciliation law on April 26, 1996, following severe funding constraints imposed by a number of continuing resolutions between November 1995 and April 1996. The guidance calls for giving highest priority to handling emergency situations (Tier 1) and second highest priority (Tier 2) to resolving the listing status of the outstanding proposed listings. This final rule falls under Tier 2. At this time there are no pending Tier 1 actions. This rule has been updated to reflect any changes in distribution, status and threats since the effective date of the listing moratorium. This additional information was not of a nature to alter the Service's decision to list the species.

#### Summary of Comments and Recommendations

Upon the publication of the August 5, 1993, proposed rule and associated notifications (58 FR 41700), all interested parties were requested to submit factual reports or information that might assist the Service in determining whether listing is warranted for these species. A 90-day comment period closed on November 18, 1993. Appropriate Federal and State agencies, county and city governments, scientists, and interested parties were contacted and requested to comment. Individual newspaper notices of the proposed rule were published in the Lake County Record-Bee, Modesto Bee, Record Searchlight, Visalia Times-Delta, Siskiyou Daily News, Madera Tribune, Chico-Enterprise Record, Daily Republic, Turlock Daily, Fresno Bee, and Sacramento Bee on a variety of dates from August 21 to August 26, 1993.

In response to the publication of the proposed rule, William Hazeltine, Environmental Consultant, Oroville, California, requested a public hearing in a letter dated August 16, 1993. As a result, the public comment period was extended to November 18, 1993. Notice of the public hearing was published in the **Federal Register** (58 FR 52063) and in the Sacramento Bee, a newspaper with a large regional circulation. A public hearing was held at the Hyatt

Regency Hotel in Sacramento on November 3, 1993, from 6 pm to 8 pm. Eleven people presented oral and written comments.

During the comment period, the Service received comments (letters and oral testimony) from 27 people. Numerous people submitted more than one comment to the Service. Seven comments supported the listing, 12 comments opposed the listing, and 8 comments are viewed as neutral. Several commenters provided clarification and additional detailed information that have been incorporated into this rule. Opposing comments and other comments questioning the proposed rule have been organized into specific issues. These issues and the Service's response to each are summarized as follows:

**Issue 1.** One commenter stated that the population of *Orcuttia viscida* in a vernal pool complex within a preserve in the proposed Sunrise-Douglas subdivision is not threatened. Another commenter stated that this same population is threatened by human disturbance.

**Service Response:** The Service reported in the proposed rule that one population of *Orcuttia viscida* was threatened by an industrial park development in eastern Sacramento County (CNDDB 1993). This industrial park development project was dropped from further consideration, and the Sunrise-Douglas subdivision has been proposed in the same area (George Clark, California Native Plant Society, *in litt.* 1993). The proposed subdivision includes a proposed preserve area, which includes the vernal pools containing *O. viscida* and *O. tenuis*. Because the preserve is only a proposal, it does not provide any protection to these plant populations. Detrimental effects from herbicide runoff, invasion of horticultural exotics, bicycle riding, and other human intrusions have been observed in other preserves adjacent to subdivisions, including one preserve for *O. viscida* in Sacramento County. The Service considers the populations at Sunrise-Douglas to be imperiled by similar threats as discussed in Factor E in the "Summary of Factors Affecting the Species."

**Issue 2.** One commenter stated that one population of *Orcuttia viscida* is not threatened by the Sacramento County landfill. Another commenter stated that the Sacramento County landfill threatens this same population.

**Service Response:** Recently, the Sacramento County landfill has been expanded because the current use area was nearly full to capacity. During the last landfill expansion project, the area

containing the vernal pool complex, mostly centered on the county-owned land having one population of *Orcuttia viscida*, was avoided. Because the County currently does not own land elsewhere for future landfill expansion and has not announced plans to purchase additional land, it is reasonable to expect that any future expansion will threaten this population. Moreover, any expansion of the current landfill area will destroy potential habitat for *O. viscida* (Clark, *in litt.* 1993).

**Issue 3.** One commenter stated that loss of vernal pool habitat from many of the planned housing projects and aggregate mines in the Central Valley will be mitigated by vernal pool creation. Because vernal pool creation has been successful and is not experimental, no habitat losses exist as claimed by the Service.

**Service Response:** Ferren and Gervitz (1990) reviewed 21 vernal pool creation projects and stated that no conclusive data exist to substantiate the hypothesis "that vernal pools can be restored or created to provide functional values within the range of variability of natural pools." In a review of 53 mitigation-related transplantation, relocation, and reintroduction attempts in California, Peggy Fiedler (1991) concluded that the success rate was 8 percent. In a study on the preservation and management of vernal pools, Jones and Stokes (1990) concluded that the science of vernal pool creation is still in its infancy and is primarily an experimental technique. Thus, the Service maintains that urbanization contributes to on-going losses of natural vernal pool habitat. The Service also maintains that vernal pool habitat creation efforts are experimental in nature at this time, and are generally not successful (59 FR 48136). Proposed subdivisions and aggregate mines continue to threaten suitable vernal pool habitat and, in some cases, populations of these eight vernal pool plants.

**Issue 4.** One commenter stated that the Service erroneously calculated the loss of vernal pool acreage in California and suggested that the number of acres of vernal pools lost was far less than claimed by the Service.

**Service Response:** The historical context of vernal pool losses in California in the proposed rule was not intended as a thorough, exhaustive investigation and analysis of vernal pool losses. Retrospective and contradictory information and opinions likely will continue to generate debate on this point. The relevant issue is that vernal pool habitat is depleted and fragmented to render these eight vernal pool plants

vulnerable to extinction by present and foreseeable threats across all or a significant portion of their respective ranges. The threats to vernal pool habitat and the eight vernal pool plants are discussed in the "Summary of Factors Affecting the Species."

**Issue 5.** Several commenters questioned the data that were used in the proposed rule to determine that these eight vernal pool plants warrant listing. One commenter stated that the data in the proposed rule were in error, incomplete, and inconclusive. One commenter stated that the data were poor because the status survey was done in 2 drought years.

**Service Response:** The Service has received reports from the CNDDB, knowledgeable botanists, and from a field status survey specifically directed at gathering the best available scientific and commercial information on the distribution and threats to these eight vernal pool plants. Information from botanical collections of these vernal pool plants that date from the 1890's was utilized in the preparation of the proposed rule. The Service received information from a request for information from Federal, State, and local agencies and consulted professional botanists during the preparation of the proposed rule. Destruction and loss of habitat and extirpation of populations of these eight vernal pool plants from a variety of causes have been documented. These species of plants have been surveyed in drought and non-drought years. Although these vernal pool plants have variable populations and new populations may be found in the future, the same threats are likely to apply to any newly discovered populations. No data were provided to substantiate comments that the findings of the proposed rule were based on erroneous or inconclusive data.

**Issue 6.** Several commenters stated that livestock grazing had no or little adverse or possibly a beneficial effect or was necessary for the survival of these eight vernal pool plants or that these plants are stable and thriving as a result of moderate or heavy grazing. One commenter stated that drought, not livestock grazing, was responsible for the decline of *Tuctoria greenei*. Another commenter stated that urbanization and drought, not livestock grazing, was responsible for the decline of *T. greenei*.

**Service Response:** Livestock grazing may have adverse, beneficial, or little effect on vernal pool plants depending upon a wide variety of circumstances. Grazing varies in frequency, intensity, timing, duration, and kind of animal, resulting in widely varying impacts to

the plant communities involved. Temperature and effective spring rainfall moisture contribute to difficulties in predicting vernal pool plant growth and reproduction. These environmental factors influence the ability to determine vernal pool plant availability for livestock consumption and identify what levels of consumption are not likely to adversely affect long-term plant sustainability. Grazing on private lands occurs at many of the locations of these eight vernal pool plants. The Service is aware of some populations having no livestock grazing on them for over 40 years. Additionally, the Service is aware of numerous instances where, under a specific set of circumstances, livestock grazing has little to no adverse effect on some populations of these eight vernal pool plants. For instance, private livestock grazing in California commonly occurs in the winter and early spring. Direct impacts from grazing and trampling are avoided in many instances because the plants have yet to emerge from the vernal pools that are still filled with water in the winter and early spring. These populations have been characterized as stable and thriving and not threatened by grazing, given a specific set of management circumstances (Stone *et al.* 1988). However, it would be inaccurate to characterize these vernal pool plant populations as stable and thriving as a result of heavy or moderate grazing. Documented observations of positive, neutral, and detrimental effects of livestock grazing on some populations of these eight vernal pool plants exist (Stone *et al.* 1988).

One population of *Tuctoria greenei* may have been extirpated as a result of cattle grazing from a site on private land near Farmington, San Joaquin County. This population was last seen in 1936 (Stone *et al.* 1988). Three populations of *T. greenei* in Merced County, two populations in Tehama County, and one population in Stanislaus County are presumed to be extirpated as a result of cattle grazing (Stone *et al.* 1988). The last time any of these populations was documented was in 1981. The proposed rule stated that livestock grazing was responsible for the damaged and declining status of five populations of *T. greenei*. Alternatively, another five populations of *T. greenei* in Tehama County are not threatened by current livestock grazing practices and were not included in the discussion of grazing threats in the proposed rule. In these five specific cases in Tehama County, livestock grazing has little or no adverse effect and is compatible with the

biological needs for the long-term persistence of these populations.

No commenter submitted any data to substantiate their statements that drought and/or urbanization have caused the decline of *Tuctoria greenei*. Populations of *T. greenei* and the other seven vernal pool plants have been surveyed in drought and non-drought years. In regard to the likelihood of extirpation due to drought, these eight vernal pool plants have adapted to survive extreme environmental variations like drought. Current information suggests extirpation from drought is unlikely, except for marginal populations. It is not readily apparent why populations may not appear consistently on a given site and the reasons may be attributed to drought or other unknown factors.

The best scientific and commercial information indicates some populations of these eight vernal pool plants may have been extirpated as a result of livestock grazing and that other populations are adversely impacted by livestock grazing (Stone *et al.* 1988). The Service maintains that current information suggests that livestock grazing, under certain conditions, may be detrimental to some of these eight vernal pool species. The determination of whether impacts from livestock grazing are positive, neutral, or detrimental to these vernal pool plants is made on a site-by-site basis for specific populations and is based upon documented observations. Livestock grazing is only one of numerous activities adversely affecting these eight vernal pool plants. Additional information regarding livestock grazing may be found in "Factor C" in the "Summary of Factors Affecting the Species."

**Issue 7.** Several commenters stated that the listing of these eight vernal pool plant species will have an adverse impact on cattle ranching and that the Service needs to consider the economic effects of listing.

**Service Response:** Under section 4(b)(7)(A), a listing determination must be based solely on the best scientific and commercial data available. The legislative history of this provision clearly states the intent of Congress to "ensure" that listing decisions are "based solely on biological criteria and to prevent non-biological considerations from affecting such decisions", H. R. Rep. No. 97-835, 97th Cong. 2d Sess. 19 (1982). As further stated in the legislative history, "Applying economic criteria \* \* \* to any phase of the species listing process is applying economics to the determinations made under section 4 of the Act and is

specifically rejected by the inclusion of the word "solely" in this legislation," H. R. Rep. No. 97-835, 97th Cong. 2d Sess. 19 (1982). Because the Service is precluded from considering economic impacts in a final decision on a proposed listing, the Service has not examined such impacts to the cattle industry or other business that may be caused by the listing of these eight vernal pool species.

**Issue 8.** One commenter stated that livestock operators create vernal pool habitat by building stock ponds.

**Service Response:** Although some populations of *Orcuttia tenuis* are found in livestock ponds, such habitat is artificial and does not support the biological functions and values of natural vernal pools. Additionally, artificial livestock stock ponds are only a temporary feature of surface hydrology. Lack of maintenance or changing land uses can cause such a livestock pond to disappear. The Service considers that livestock ponds represent temporary artificial refuge that is not ecologically viable for the eight vernal pool plants to sustain themselves.

**Issue 9.** One commenter stated the Service should assess impacts from grasshopper predation on these eight vernal pool plants.

**Service Response:** Grasshopper predation has been recorded only twice in the history of monitoring information on these eight vernal pool plants. The Service does not consider grasshopper predation a serious threat to these eight vernal pool plants.

**Issue 10.** Several commenters stated that these vernal pool plant species are in preserves and do not require more protection. One commenter stated that piecemeal protection may not prevent extinction of these species. Another commenter stated that, in specific cases, some of the existing preserves do not protect these plants.

**Service Response:** The likelihood of the long-term survival of any of the eight vernal pool plants is difficult to predict with the best scientific methods. Difficulties and uncertainties in predicting extinction of species involve knowledge of many interrelated factors including; the biological status of the species, the genetic structure within and among populations of a species, the significance of contributions of marginal populations to the genetics of the species, the rate and direction of gene flow, historic or current population bottlenecks, genetic drift, and inbreeding. Upon listing of the eight vernal pool plants, the Service will undertake preparation of a recovery plan for vernal pool ecosystems in

California. The recovery plan will include all federally listed and candidate vernal pool species and have the goal to delist the species. Implementation of the recovery plan will help provide more than piecemeal protection.

While a few populations of some of these vernal pool plants are found on preserves, most populations are located on private lands and are not secure. In the few cases where some of these species are in preserves on privately owned lands, the preserves are not managed specifically for these plants and threats arise from sources other than habitat destruction. For example, one commenter stated that one population of *Neostapfia colusana* located in a preserve, Jepson Prairie, owned by TNC, is threatened by competition from a nonnative, aggressive weed, common frog-fruit (*Phyla nodiflora* var. *nodiflora*). Furthermore, a population of *Orcuttia viscida*, located on a preserve owned by CDFG, is adversely affected by runoff from an adjacent housing development that has changed the hydrology of the vernal pool complex. For additional information regarding protection of individual populations, please refer to the "Background" and the "Summary of Factors Affecting the Species."

**Issue 11.** Several commenters stated that the Service must complete a Takings Implication Assessment under Executive Order 12630.

**Service Response:** The U.S. Attorney General has issued guidelines to the Department of the Interior (Department) on the implementation of Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights." Under these guidelines, a special rule applies when an agency within the Department is required by law to act without exercising its usual discretion. The provisions in the guidelines relating to non-discretionary actions clearly are applicable to the determination of endangered or threatened status for the vernal pool plants in this rule.

In this context, an agency's action might be subject to legal challenge if it did not consider or act upon economic information. In these cases, the Attorney General's guidelines state that Takings Implication Assessments (TIAs) shall be prepared after, rather than before, the agency makes the decision upon which its discretion is restricted. The purpose of the TIAs in these special circumstances is to inform policymakers of areas where unavoidable taking exposures exist. Such TIAs shall not be considered in the making of administrative decisions that must, by

law, be made without regard to their economic impact. In enacting the Endangered Species Act, Congress required that the Department list species based solely upon scientific and commercial data indicating whether or not they are in danger of extinction. Thus, by law and U.S. Attorney guidelines, the Service cannot conduct such TIAs prior to listing. However, the Service will be preparing a Takings Implication Assessment regarding this listing after the listing becomes final.

**Issue 12.** Several commenters stated that the Service needs to complete a Regulatory Impact Analysis, as directed by Presidential Executive Order 12291, for the proposed rule for the eight vernal pool plants.

**Service Response:** The Endangered Species Act requires that listing decisions be made solely on the basis of biological information. The legislative history of the 1982 amendments to the Act states:

"The Committee of Conference \* \* \* adopted the House language which requires the Secretary to base determinations regarding the listing or delisting of species 'solely' on the basis of the best scientific and commercial data available to him. As noted in the House Report, economic considerations have no relevance to determinations regarding the status of species and the economic analysis requirements of Executive Order 12291, and such statutes as the Regulatory Flexibility Act and the Paperwork Reduction Act, will not apply to any phase of the listing process." H.R. Conf. Rep. No. 835, 97th Cong., 2d Sess. 20 (1982); accord, H.R. Rep. No. 567, 97th Cong., 2d Sess. 12, 19-20 (1982); S. Rep. No. 418, 97th Cong., 2d Sess. 4 (1982).

The Service has concluded that the analyses required by the Regulatory Flexibility Act and Executive Order 12291 are not applicable to listing determinations. Additionally, Executive Order 12291 was revoked by issuance of Executive Order 12866 on September 30, 1993.

**Issue 13.** Several commenters stated that the Service must prepare an Environmental Impact Statement (EIS), pursuant to the National Environmental Policy Act (NEPA), on this rule.

**Service Response:** For the reasons set out in the NEPA section of this document, the Service has determined that the rules issued pursuant to section 4(a) of the Act do not require the preparation of an EIS. The Federal courts have held in *Pacific Legal Foundation v. Andrus*, 657 F.2d 829 (6th Circuit 1981) that an EIS is not required for listing under the Act. The court decision noted that preparing an



EIS on listing actions does not further the goals of NEPA or the Act.

**Issue 14.** One commenter stated that the Service was uncooperative and inaccessible regarding the notification of the proposed rule. Another commenter stated that the Service needs to conduct a hearing for the proposed rule to list these eight vernal pool plants in Butte County because the Butte County Board of Supervisors passed a resolution that directs all government agencies to inform them of any action that may affect their economics, customs, or culture.

**Service Response:** The Service published a notice of the proposed rule regarding these eight vernal pool plants in the **Federal Register** on August 5, 1993. On August 16, 1993, the Service mailed out over 125 notifications of the proposed rule to Federal, State, and county entities, and individuals. Additionally, the Service published public notices regarding the proposed rule in the following newspapers—Chico-Enterprise Record, Fresno Bee, Fairfield Daily Republic, Lake County Record-Bee, Madera Tribune, Modesto Bee, Redding Record Searchlight, Siskiyou Daily News, Sacramento Bee, Turlock Daily, and Visalia Times-Delta.

In regard to notification of the public hearing, one request for a public hearing was received. In accordance with the Endangered Species Act, the Service determined that the request for a public hearing was received during the comment period and scheduled a public hearing in a large city, Sacramento, that is located in the center of the range of the eight species proposed for listing. The notification of the public hearing and extension of the comment period was published in the **Federal Register** on October 6, 1993 (58 FR 52063) and shortly thereafter published in the *Sacramento Bee*, a local newspaper with a large circulation. The Service also mailed the notification of public hearing and extension of comment period to interested parties. The Service maintains that adequate public notification was given in regard to the notification of the proposed rule, the public hearing, and extension of comment period for the eight vernal pool plants proposed for listing. The perception of the Service as uncooperative and inaccessible is regrettable. We will continue to strive for complete satisfaction in our communication with the public.

**Issue 15.** One commenter stated that the Service needs to designate critical habitat. Another commenter stated that critical habitat should not be designated. Another commenter stated that the Service needs to designate

critical habitat for people to find more populations of these eight vernal pool plants.

**Service Response:** The Service believes that, at this time, the threat posed by designating critical habitat outweighs any potential benefit. As discussed in the "Summary of Factors Affecting the Species" and "Critical Habitat" sections of this rule, all eight vernal pool plants could be adversely affected by acts of vandalism. The Service is aware of vernal pools that contained suitable habitat for other federally proposed species that apparently were destroyed to escape regulatory requirements. Designation of critical habitat at this time would increase the threats to these eight vernal pool plants from similar acts of vandalism. Within the constraints of agency budget and priority workload, the Service is willing to work with anyone interested in inventorying vernal pools for undiscovered populations of these eight vernal pool plants. Critical habitat is typically designated for known populations throughout the range of these species. Therefore, such a designation would not aid in the discovery of new populations.

**Issue 16.** A commenter from a mosquito abatement district was concerned about restrictions of mosquito control activities in vernal pools. Another commenter stated that listing would prevent landowners from abating mosquitos on private lands and, thereby, could create a public nuisance that could cause a liability.

**Service Response:** After the Service proposed three species of fairy shrimp and one species of tadpole shrimp for listing in 1992 (57 FR 19856), commenters expressed similar concerns. Although degraded or disturbed vernal pools may contain abundant mosquito populations, most natural, non-degraded vernal pools do not provide a significant breeding source for mosquitos. Since the Federal listing the three species of fairy shrimp and one tadpole shrimp in vernal pools of California in 1994 (59 FR 48136), the Service is not aware of any problems or conflicts that have arisen regarding treatment of vernal pools for mosquitos and the need to protect federally listed fairy shrimp or tadpole shrimp. If the need for treatment of some vernal pools occurs, least toxic, benign chemical alternatives and biological or cultural controls exist for mosquito control. The Service recognizes that potential conflicts may exist with the use of some of the many chemicals used for mosquito control that may potentially be detrimental to vernal pool plants and biota. The Service does and will

continue to work with recognized experts, and Federal, State, and local entities in examining the use of additional alternatives, such as including methoprene and the use of *Bacillus thuringiensis* var. *israelensis* (Bti) and *Lagenidium giganteum* to achieve mosquito control. The Service is confident that Federal listing will contribute to the survival of the eight species of vernal pool plants without threatening public health and safety.

**Issue 17.** One commenter recommended that the eight vernal pool species be listed as threatened because it would allow for incidental take in conservation plans.

**Service Response:** Section 9, "Prohibited Acts", of the Act and the Code of Federal Regulations (50 CFR parts 10, 17) address protection of federally listed endangered and threatened plants. Incidental take does not apply to federally listed plants. However, it is unlawful to remove, damage or destroy any such species from areas under Federal jurisdiction, or to remove, damage or destroy any such species in knowing violation of any State law or regulation on other lands. For further information, please see the protection section in "Factor E" in the "Summary of Factors Affecting the Species."

#### Peer Review

The Service solicited the expert opinions of more than a dozen appropriate and independent specialists regarding pertinent scientific or commercial data and assumptions relating to the taxonomy and biological and ecological information for these eight species. Two responses from specialists were received. One specialist provided information supporting the position of the Service that *Orcuttia tenuis* and *O. viscida* were facing a number of threats in Sacramento County. The other specialist provided information that clarified overlap in the distribution of *Chamaesyce hooveri*, *C. ocellata*, and *C. serpyllifolia*, and provided additional range, distribution or threat information for *Orcuttia inaequalis*, *O. pilosa* and *Tuctoria greenei*. These comments were incorporated into the final rule.

#### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Orcuttia pilosa* Hoover (hairy Orcutt grass), *Orcuttia viscida* (Hoover) J. Reeder (Sacramento Orcutt grass), and *Tuctoria greenei* (Vasey) J. Reeder (Greene's tuctoria) should be classified



as endangered; and *Castilleja campestris* (Benth.) Chuang and Heckard ssp. *succulenta* (Hoover) Chuang and Heckard (fleshy owl's-clover), *Chamaesyce hooveri* (Wheeler) Koutnik (Hoover's spurge), *Neostapfia colusana* (Davy) Davy (Colusa grass), *Orcuttia inaequalis* Hoover (San Joaquin Valley Orcutt grass), and *Orcuttia tenuis* Hitchcock (slender Orcutt grass) should be classified as threatened. Procedures found at section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. 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 *Orcuttia pilosa*, *Orcuttia viscida*, *Tuctoria greenei*, *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *Neostapfia colusana*, *Orcuttia inaequalis*, and *Orcuttia tenuis* are as follows:

A. *The present or threatened destruction, modification, or curtailment of habitat or range.* The habitat of these species has been reduced and fragmented throughout their respective ranges as vernal pools continue to be eliminated by urbanization, flood control projects, landfill projects, highway development, and agricultural land conversion. Lands on the Central Valley floor are closer to existing and expanding cities and farms than the valley rim, which is steeper, less fertile and more removed from cities. As a result, valley floor vernal pools, along with open rangeland, have been and continue to be favored for urban and agricultural development. Within the last 20 years, conversion of land to agricultural use is known to have eliminated one population of *Chamaesyce hooveri* in Tulare County; five populations of *Neostapfia colusana* in Stanislaus County, one in Colusa County, and one in Merced County; five populations of *Orcuttia inaequalis* in Stanislaus County, four in Madera County, three in Merced County, and one in Fresno County; five populations of *O. pilosa* in Stanislaus County, two in Madera County, and one in Merced County; one population of *O. tenuis* in Shasta County; one population of *Tuctoria greenei* in Tulare County, three in Fresno County, one in Madera County, four in San Joaquin County, two in Stanislaus County, and two in Tehama County (Stone *et al.* 1988, Rarefind 1996). Agricultural land conversion now threatens eight populations of *O. pilosa* in Madera and Stanislaus counties; two populations of *Chamaesyce hooveri* in Stanislaus

County and three populations in Tulare County; one population of *Castilleja campestris* ssp. *succulenta* in Madera County and one in Fresno County; fourteen populations of *N. colusana* in southeastern Stanislaus County; seven populations of *T. greenei* in Merced County; and two populations of *O. inaequalis* in Madera County (Stone *et al.* 1988, Woodward-Clyde 1992, CNDDDB 1996).

Additionally, numerous activities associated with agricultural development have caused habitat degradation severe enough that many populations of the species proposed for listing herein have not been seen for 2 consecutive years or more and are presumed to be extirpated (Stone *et al.* 1988, CNDDDB 1996). For example, livestock pond construction has inundated one population of *Neostapfia colusana* in Merced County. Irrigated agriculture and associated runoff have likely eliminated one population of *Orcuttia inaequalis* in Madera County, and one population of *Tuctoria greenei* in Madera County and one in Merced County. Overgrazing and hay production likely have destroyed one population of *O. inaequalis* in Tehama County. Discing combined with grazing presumably has destroyed one population of *T. greenei* in Merced County. Discing also has destroyed one population of *N. colusana* in Tulare County. Discing has likely eliminated one population of *Castilleja campestris* ssp. *succulenta* in Fresno County (Stone *et al.* 1988, CNDDDB 1996). In addition, 5 of the 12 remaining populations of *O. pilosa* in Madera, Merced, and Stanislaus counties have been damaged by discing or discing combined with grazing (Stone *et al.* 1988).

Human activities that alter the hydrology of vernal pools, including changes in the amount of water or the length of inundation, may directly and indirectly affect vernal pool plants. For example, a vernal pool known to contain *Orcuttia tenuis* was channelized for mosquito abatement. It is likely that the population was extirpated as a result (Stone *et al.* 1988, CNDDDB 1996). Pond construction for recreational waterfowl hunting in Colusa County has presumably eliminated one population of *Neostapfia colusana*. Additionally, hydrological modifications have destroyed two Merced County and one Fresno County population of *O. inaequalis*, and three populations of *O. tenuis* in Shasta County (Stone *et al.* 1988). Increases in agricultural field runoff are responsible for possibly extirpating one population of *N. colusana* in Merced County and one in Stanislaus County (CNDDDB 1996). One

population of *Chamaesyce hooveri* in Stanislaus County is threatened by increases in agricultural irrigation runoff and by grazing (CNDDDB 1996). The U.S. Army Corps of Engineers' (Corps) Merced County Stream Channel Project threatens three populations of *O. inaequalis*, four populations of *N. colusana*, and four populations of *Castilleja campestris* ssp. *succulenta* in Merced County within the San Joaquin Valley (R. Keck, Service, pers. comm. 1992; CNDDDB 1996).

Because the human population of the Central Valley is growing rapidly, numerous populations of *Chamaesyce hooveri*, *Orcuttia inaequalis*, *O. pilosa*, *O. tenuis*, and *O. viscida* have been extirpated and continue to be threatened by urban development projects. For example, two major proposed urban developments are likely to adversely affect significant amounts of vernal pool habitat in the Central Valley, one for 80,000 people in southwest Placer County and one for 40,000 people in southeastern Yolo County. In El Dorado County, a 730 ha (1,800 ac) community near Georgetown is proposed as the first of 15 large-scale urban developments. Four new cities, projected to house 142,000 people, are proposed for Sutter County in the Sacramento Valley (Weigand 1991). Urbanization has extirpated one population of *O. inaequalis* in Fresno County, three populations of *O. pilosa* in Madera County, and one population of *Tuctoria greenei* in Tehama County (Stone *et al.* 1988). In the Sacramento Valley, eight populations of *O. tenuis* in Shasta County are threatened by urbanization around Redding (Stone *et al.* 1988). Numerous proposed housing developments, golf courses, and landfills in the Sacramento and San Joaquin valleys threaten vernal pool areas that may provide suitable habitat for *O. tenuis* and *O. viscida*, including Borden Ranch, Evelyn Clipper Residential Subdivision, Laguna Commons, Laguna Palms, Lakeview subdivision, Merced Community Golf Course, Rio Mesa subdivision, River Bend Ranch, Sunrise-Douglas, and Yosemite Estates (June DeWesse, Kelly Geer, and Mark Littlefield, Service, pers. comm. 1994; CNDDDB 1996). Although one population of *O. viscida* in eastern Sacramento County is within a preserve, this population remains threatened by a proposed subdivision (G. Clark, CNPS, pers. comm. 1993). Housing tract developments imperil two populations of *Castilleja campestris* ssp. *succulenta* in Fresno County and one population in Madera County, and one population of

*O. tenuis* in Shasta County (CNDDDB 1996).

Proposed gravel and aggregate mining projects that threaten to destroy vernal pool habitat containing *Orcuttia inaequalis*, *O. viscida* and *Castilleja campestris* ssp. *succulenta* include Granite Vineyard Aggregate Mining Project and Granite 1/Aspen VI, both in Sacramento County, and Fresno County Surface Mining (K. Geer, pers. comm. 1994). The University of California prepared a draft environmental impact statement for a new 810-ha (2,000-ac) campus for 25,000 students that will be located at Lake Yosemite in Merced County. The site is in valley grassland that harbors vernal pool habitat (John Zimmermann, University of California, in litt. 1994; Geer, pers. comm. 1994) and contain some of the eight plant species in this rule.

In addition to the numerous housing developments discussed above, increasing urbanization of the Central Valley can affect vernal pool habitat. Landfills, highway projects, and a proposed Federal prison facility on a former U.S. Air Force base threaten vernal pool habitat. For example, the 90 ha (200 ac) Merced County Landfill will destroy vernal pools contained in the project area. This project area contains *Orcuttia inaequalis*, *O. pilosa*, *Castilleja campestris* ssp. *succulenta*, *Neostapfia colusana*, and *Tuctoria greenei*. Additionally, a proposed landfill threatens one population of *C. campestris* ssp. *succulenta* in Fresno County (CNDDDB 1996). One of the seven Sacramento County populations of *O. viscida* is threatened by a public landfill expansion (G. Clark, in litt. 1993). Three populations of *C. campestris* ssp. *succulenta*, two populations of *O. inaequalis*, and one population of *O. pilosa* in Madera County are threatened by proposed expansion of State Highway 41 (Brian Apper, California State Dept. of Transportation, in litt. 1993; CNDDDB 1996). One population of *N. colusana* in Merced County is threatened by a proposed Federal prison on part of the former Castle Air Force Base (Earth Technology Corporation 1994).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Overutilization is not known to be a factor for any of these species. Collecting for scientific or horticultural purposes or uncontrolled visits by groups or individuals could result in trampling of vernal pool plants from increased publicity that may result from a listing proposal. The Service is aware of several instances of the destruction of vernal pool and associated upland habitats known or likely to contain

species proposed for Federal listing in the Central Valley of California. Vandalism is considered a threat to the eight vernal pool species, as discussed further in the "Critical Habitat" section of this rule.

C. *Disease or predation.* All eight plants occur mostly on private land, some Federal rangelands managed by the USFS and the BLM that are subject to livestock grazing, and rarely on National Wildlife Refuge lands managed by the Service. Livestock grazing and associated trampling may or may not adversely affect vernal pool plants depending on, among other things, the kind of livestock, stocking level, season-of-use, and grazing duration. The intensity and, more importantly, the timing of this activity affect how livestock grazing may adversely impact vernal pool plants (Stone et al. 1988). However, as long as the land remains in dry pasture, moderate grazing regimes appear to have little impact on populations of *Orcuttia*, *Neostapfia*, *Tuctoria*, and *Chamaesyce hooveri* (Stone et al. 1988). The stems of *C. hooveri* exude a latex when broken that appears to repel herbivores and that may be poisonous. The impact of grazing combined with plant competition probably has an adverse effect on *Tuctoria greenei* (see Factor E below).

D. *The inadequacy of existing regulatory mechanisms.* The Endangered Species Act can incidentally afford protection to these plants if they co-exist with species already listed as threatened or endangered. Four other listed species may occur with these plants: The vernal pool tadpole shrimp (*Lepidurus packardii*); conservancy fairy shrimp (*Branchinecta conservatio*); longhorn fairy shrimp (*B. longiantenna*); and vernal pool fairy shrimp (*B. lynchi*). However, these species are only rarely and sporadically found in the same vernal pools or vernal pool complexes as the eight vernal pool plants.

Under section 404 of the Clean Water Act, the U. S. Army Corps of Engineers (Corps) regulates the discharge of fill into waters of the United States, which includes navigable and isolated waters, headwaters, and adjacent wetlands. The section 404 regulations require that applicants obtain an individual permit to place fill for projects affecting greater than 4 ha (10 ac) of waters of the United States. Nationwide Permit (NWP) No. 26 (33 CFR part 330) was established by the Department of the Army to facilitate authorization of discharges of fill into isolated waters (such as vernal pools) that cause the loss of less than 4 ha (10 ac) of waters of the United States, and

that cause only minimal individual and cumulative environmental impacts. Projects that qualify for authorization under NWP 26 and that affect less than one acre of isolated waters or headwaters may proceed without notifying the Corps. Evaluation of impacts of such projects through the section 404 permit process is thus precluded.

Corps District and Division Engineers may require that an individual section 404 permit be obtained if projects otherwise qualifying under NWP 26 would have greater than minimal individual or cumulative environmental impacts. However, the Corps has been reluctant to withhold authorization under NWP 26 unless the existence of a listed threatened or endangered species would be jeopardized, regardless of the significance of the affected wetland resources.

Additionally, and equally important, the upland watersheds of vernal pools are not provided any protection in most cases. Disturbance or loss of watersheds have extirpated several populations of these species as discussed previously in Factor A. Thus, as a consequence of the small scale of many vernal pools (most are less than one acre in size) and the lack of protection of associated watersheds, these vernal pool plants receive insufficient Federal protection under section 404 of the Clean Water Act.

The *Orcuttia tenuis* Species Management Guide written by the Lassen National Forest and the Susanville District of the BLM (1990) gives long-term management direction for 5 of 19 Forest Service and BLM plant and animal populations in Plumas, Shasta, and Siskiyou counties in northern California. Since 1990, three of the five populations of *O. tenuis* included in the guide have been fenced to protect them from impacts from grazing and off-highway vehicle use. Since 1990, six additional populations of *O. tenuis* located on BLM administered land, not currently included in the species management guide, have been fenced to protect the populations from grazing. Grazing has been discontinued in some instances.

The California Fish and Game Commission has listed *Castilleja campestris* ssp. *succulenta*, *Neostapfia colusana*, *Orcuttia inaequalis*, *O. pilosa*, *O. tenuis*, and *O. viscida* as endangered, and has classified *Tuctoria greenei* as a rare species under the California Endangered Species Act (California Fish and Game Code section 2050 et seq.) and California Code of Regulations Title 14 §670.2 (1995). *Chamaesyce hooveri* is not State-listed or classified.

Although the "take" of State-listed plants is prohibited under the California Native Plant Protection Act (California Fish and Game Code Section 1908 and California Fish and Game Code Section 2080), State law appears to exempt the taking of such plants via habitat modification or land use changes by the owner. After the CDFG notifies a landowner that a State-listed plant grows on his or her property, the California Native Plant Protection Act requires only that the landowner notify the agency "at least 10 days in advance of changing the land use to allow salvage of such a plant" (California Fish and Game Code § 1913(c)).

The California Environmental Quality Act (CEQA) obligates disclosure of environmental resources within proposed project areas and may enhance opportunities for conservation efforts. However, CEQA does not guarantee that such conservation efforts will be implemented. Additionally, part of the environmental review under the CEQA for projects that result in the loss of sites supporting these species includes the development of mitigation plans. Such plans usually involve the transplantation of the plant species to another existing vernal pool, or the artificial creation of vernal pool habitat. Transplantation and habitat creation efforts are experimental in nature at this time, and are generally not successful (Fiedler 1991, Jones and Stokes 1990). Following the development of the transplantation plan, the original site is destroyed. Therefore, if the mitigation effort fails, the resource has already been lost.

The public agency with primary authority or jurisdiction over the project (the lead agency) is responsible for conducting a review of the project and consulting with other agencies concerned with the resources affected by the project. However, the lead agency may approve projects that cause significant environmental damage, such as the destruction of State-listed endangered species, and does not always require adequate mitigation for the replacement or protection of the affected resources. The protection of listed species through CEQA is therefore dependent upon the discretion of the lead agency.

Conservation easements do not currently ensure adequate protection for these vulnerable plant species. First, fewer than 8 percent of the populations of these eight species are within existing conservation easements. Secondly, although four populations of *Orcuttia pilosa* are located on the TNC's Vina Plains Preserve, only one of these sites is excluded from an agreement allowing

continued cattle grazing by the previous landowner, and the other populations have all been damaged by grazing (Stone *et al.* 1988). Two of the five populations of *Tuctoria greenei* on the Vina Plains Preserve are also damaged and declining due to grazing (CNDDDB 1996).

E. *Other natural or manmade factors affecting its continued existence.* Nonnative annual and perennial plants have invaded many vernal pools of the Central Valley. Nonnative annual grasses such as *Hordeum geniculatum*, *Phalaris paradoxa*, *Polypogon monspeliensis*, and *Lolium multiflorum* and soil disturbance associated with cattle grazing appear to result in low vigor and low seed production of two populations of *Orcuttia inaequalis* in Merced County (Stone *et al.* 1988). Additionally, the nonnative perennial herb, *Sida hederacea*, appears to threaten another *O. inaequalis* population at a heavily grazed site in Merced County (Stone *et al.* 1988). This same perennial, along with the three weedy, nonnative grasses *L. multiflorum*, *H. geniculatum*, and *P. monspeliensis*, appear to threaten three populations of *O. pilosa*, two in Tehama County and one in Stanislaus County (Stone *et al.* 1988). The native perennials *Eleocharis macrostachya* and *Eryngium* sp. appear to limit distribution and abundance of three populations of *O. tenuis* in Shasta County and ten populations in Tehama County in the Sacramento Valley (Stone *et al.* 1987, 1988). Five populations of *Chamaesyce hooveri* in Tehama County are threatened by one or more native or nonnative plant species (CNDDDB 1996). The distribution and abundance of *O. viscida* at six of the seven extant sites is significantly restricted by *Eleocharis macrostachya*, which appears to threaten one population of *O. viscida* through competitive exclusion (Stone *et al.* 1988). Another population of *Neostapfia colusana* on TNC's Jepson Prairie Preserve is threatened by competitive exclusion from the nonnative, aggressive *Phyla nodiflora* var. *nodiflora* (CNDDDB 1996; G. Clark, *in litt.* 1993). Initial results from on-going research regarding controlling or eradicating *Phyla nodiflora* var. *nodiflora* at the Jepson Prairie Preserve have indicated that control or eradication is likely to be very difficult (CDFG 1991h).

Soil disturbance from cattle grazing combined with competition from the introduced annual grasses *Cryptis schoensides*, *Phalaris paradoxa*, *Hordeum geniculatum*, and *Polypogon monspeliensis* and the nonnative perennial *Lolium multiflorum* appear to adversely affect two populations of

*Tuctoria greenei* in Tehama County and one in Butte County within the Sacramento Valley, and all seven remaining extant sites in Merced County in the San Joaquin Valley (Stone *et al.* 1987, 1988; CNDDDB 1996). *Tuctoria greenei* appears to be the most susceptible of the eight plants in this rule to negative grazing impacts because its preference to grow in the margin of a vernal pool (along the outer edges of the pool) makes it more susceptible to livestock trampling damage and competition from nonnative weeds such as *L. multiflorum*, *Phalaris paradoxa*, and *Polypogon monspeliensis* (Stone *et al.* 1987). All populations of *T. greenei* are subject to grazing. One population of *T. greenei* in Tehama County, two in Merced County, and one in Butte County are damaged and declining due to grazing (Stone *et al.* 1988). Because cattle grazing is likely the primary cause for extirpation or presumed extirpation of *T. greenei* at eight sites and all other populations are grazed by livestock, the remaining populations of *T. greenei* are potentially threatened by grazing (Stone *et al.* 1988). Lastly, the primary threat to populations of *Orcuttia pilosa*, *O. tenuis*, and *T. greenei* on TNC's Vina Plains Preserve is competition from nonnative, aggressive weeds, including *Convolvulus arvensis*, *Proboscidea louisianica*, and *Xanthium strumarium* (CDFG 1991i, CNDDDB 1996).

A population of *Neostapfia colusana* on the McClellan U.S. Air Force Base radio transmitter site in Yolo County is severely degraded due to herbicide runoff from the antenna pads and to discing of firebreaks (CNDDDB 1996; G. Clark, *in litt.* 1993).

Off-highway vehicle damage has been reported to one population of *Orcuttia tenuis* in Plumas County and threatens two additional populations in Shasta and one population of *O. pilosa* in Madera County (CNDDDB 1996).

Because vernal pools are fairly localized habitats in close proximity to urban and agricultural areas, uncontrolled visits by groups or individuals could result in trampling of vernal pool plants and potentially threaten all eight species.

The Service has carefully assessed the best scientific and commercial information available regarding the present and future threats faced by these eight species in determining to issue this rule. As described under the "Summary of Factors Affecting the Species" section above, the available information indicates that many of the populations of these plants are currently threatened. Thirty-three populations of these eight vernal pool plants have been extirpated and much of the habitat has

been lost to a variety of human activities. Large-scale human population increases and attendant urban growth, as well as changes in agricultural uses in adjacent areas, have destroyed and continue to destroy significant quantities of the plants' vernal pool habitat and continue to eliminate many plant populations. As a result, all eight species have fragmented, discontinuous, highly restricted habitats within the Central Valley, most of which are vulnerable to current and future threats.

More than half of the remaining populations of the plants determined for listing as endangered face numerous ongoing threats. Although these remaining populations of *O. pilosa*, *O. viscida*, and *Tuctoria greenei* vary in size of occupied habitat, their geographic distribution near expanding urban areas and restriction to the Central Valley floor renders them more vulnerable to various threats, as described in Factor "A". The Central Valley floor is favored over the valley rim for urban development, agricultural activities, and agricultural land conversion. The immediacy and magnitude of threats to these plant populations is, therefore, greater than those occurring above the valley floor. Nine populations of *O. pilosa* have been lost and two others are possibly extirpated. Fourteen of the remaining 25 native extant populations of *O. pilosa* are variously threatened by urbanization, agricultural land conversion, a highway expansion project, discing, off-highway vehicle use, and competition from nonnative weeds. Of the seven extant populations of *O. viscida*, five populations are threatened by one or more of the following factors—a landfill project, urban development, and competition from nonnative weeds. Approximately half the known populations of *Tuctoria greenei* have been extirpated or are possibly extirpated by some form of human activity. With the exception of the population on the Sacramento National Wildlife Refuge, the remaining 20 extant populations of *T. greenei* are variously threatened by competition from nonnative weeds, grazing, and agricultural land conversion. Based upon the above evaluation, the proposed action is to list *O. pilosa*, *O. viscida*, and *T. greenei* as endangered.

The remaining populations of the four species proposed as threatened and *Orcuttia inaequalis*, which was proposed as endangered, face fewer existing threats, that are of lesser magnitude. Moreover, several populations of these five plants occur in pool habitats above the Central Valley floor (up to 1,090 m (3,600 feet) in elevation) and/or somewhat removed

from expanding urban areas. Nonetheless, these five species are likely to become increasingly imperiled in the foreseeable future unless current trends of urban development and agricultural conversion are reversed. Of the 36 extant populations of *Castilleja campestris* ssp. *succulenta*, nearly half are threatened by one or more of the following—urbanization, agricultural land conversion, discing, trampling, a flood control project, and a proposed highway expansion project. About one-third of the 25 remaining populations of *Chamaesyce hooveri* are threatened by agricultural land conversion, a flood control project, and/or competition with nonnative weeds. Ten populations of *Neostapfia colusana* are lost or suspected of being lost due to conversion of habitat. Of the 44 remaining populations of *N. colusana*, 22 populations are threatened or are damaged and declining due to agricultural land conversion, discing, a flood control project, a proposed Federal prison, herbicide contaminated runoff, and/or competition with nonnative plants. Sixteen populations of *O. inaequalis* have been lost and three other populations are possibly extirpated. Of the remaining 23 native extant populations of *O. inaequalis*, 11 are variously threatened by urbanization, agricultural land conversion, and competition with nonnative weeds. Twenty-three of the 59 native extant populations of *O. tenuis* are variously threatened either by one or more of the following—urbanization, altered hydrology, off-highway vehicles, and competition from nonnative weeds. Based on the evaluation above, the preferred action is to list *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *N. colusana*, *O. inaequalis*, and *O. tenuis* as threatened.

Alternatives to this action were considered but not preferred. Not listing *Orcuttia pilosa*, *O. viscida*, and *Tuctoria greenei* as endangered or *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *Neostapfia colusana*, *O. inaequalis*, and *O. tenuis* as threatened would not provide adequate protection and would not be consistent with the Act. The Service is not proposing to designate critical habitat for these plants species at this time, as discussed below.

#### Critical Habitat

Critical habitat is defined in section 3(5)(A) of the Act as: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the

conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

"Conservation" as defined in section 3(3) of the Act 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 the implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for *Orcuttia pilosa*, *O. viscida*, *Tuctoria greenei*, *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *Neostapfia colusana*, *O. inaequalis*, and *O. tenuis*. Service regulations (50 CFR 424.12(a)(1)) state that the designation of critical habitat is not prudent when one or both of the following situations exist—(1) the species is imperiled by taking or other human activity and the identification of critical habitat can be expected to increase the degree of such threat to the species, or (2) such designation of critical habitat would not be beneficial to the species. In the case of the eight vernal pool plants in this final rule, both criteria are met.

The listing of these plants as endangered or threatened elevates awareness of their rarity, making them more sought after by curiosity seekers, researchers, rare plant collectors, and vandals. Because vernal pool habitats are small and easily identified, the publication of precise maps and descriptions of critical habitat in the **Federal Register** would increase the vulnerability of these plant species to incidents of collection and general vandalism. Over a period of recent years, the Service is aware of the discing or filling of vernal pools and associated upland habitats known to or likely containing Federal candidate, proposed or listed species including vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), California tiger salamander (*Ambystoma californiense*), Burke's goldfields (*Lasthenia burkei*), Sonoma sunshine (*Blennosperma bakeri*), and Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*) (Jim Browning, Jan Knight, Chris Nagano, Dan Strait, Service, pers. comms. 1994).

Most of the populations of the eight vernal pool plants occur on private lands where Federal involvement in land-use activities does not generally occur. The most likely Federal involvement would occur with the Corps through section 404 of the Clean Water Act. The Service finds that Federal involvement in the few areas where these plants occur on Federal land has already been identified without the designation of critical habitat. The USFS and the BLM jointly have prepared a species management guide for *Orcuttia tenuis*. A few populations have been fenced to protect them from off-highway vehicle use and grazing. The BLM also is aware of the populations of *Castilleja campestris* ssp. *succulenta* and *O. inaequalis* and has fenced several populations of each species to protect the populations from trespass grazing. Sacramento National Wildlife Refuge personnel are also aware of the few populations of *Chamaesyce hooveri*, *O. pilosa*, and *Tuctoria greenii* occurring on Service land in Glenn County. Protection of a few populations of several of these vernal pool plants and their habitats on Federal land will be addressed through the recovery process and through the section 7 consultation process. Therefore, the Service finds that designation of critical habitat for these eight plants is not prudent at this time because such designation would increase the threat from vandalism or other human activities. The Service also finds that designation of critical habitat is not beneficial because most of the populations of the eight vernal pool plants are found on private lands. Where they are found on Federal lands, the agencies are aware of the species and are already addressing conservation efforts.

#### 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, and private agencies, groups, 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)(1) requires Federal agencies to use their authorities to further the purposes of the Act by carrying out programs for listed species. Section 7(a)(2) of the Act requires Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action is likely to adversely affect a listed species, the responsible Federal agency must enter into formal consultation with the Service.

The Corps of Engineers will become involved with these species through its permitting authority under section 404 of the Clean Water Act as well as water projects in the Central Valley such as the Merced County Streams Project. By regulation, nationwide permits may not be issued where a federally listed endangered or threatened species would be affected by the proposed project without first completing formal consultation pursuant to section 7 of the Act. The presence of a listed species would highlight the national importance of these resources. In addition, issuance of housing loans by the Department of Housing and Urban Development in areas that presently support these eight species would be subject to review by the Service under section 7 of the Act. The BOR will become involved under its Friant water contract renewal program to the extent that these species may occur within the 404,700 ha (1 million ac) water delivery area (M. Kohl, Service, pers. comm. 1992). Other future BOR contract renewals will provide additional potential for section 7 involvement. The BLM and the USFS will become involved as they are responsible for authorizing grazing and other land uses in areas containing vernal pools. Highway construction and maintenance projects that receive funding from the Department of Transportation (Federal Highways Administration) will be subject to review under section 7 of the Act. The Federal Bureau of Prisons could become involved in discussions with the Service in the event that part of the reuse of the former U.S. Castle Air Force Base is determined to be a Federal prison facility. Castle Air Force Base is now closed, but the property is still under Federal ownership. The U.S. Air Force may become involved regardless of the

decision of whether a Federal prison is located on part of the former U.S. Air Force base.

Listing *Orcuttia pilosa*, *O. viscida*, and *Tuctoria greenii* as endangered and *Castilleja campestris* ssp. *succulenta*, *Chamaesyce hooveri*, *Neostapfia colusana*, *O. inaequalis*, and *O. tenuis* as threatened provides for the development of a recovery plan(s), which will bring together State and Federal efforts for conservation of these plants. The recovery 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 these species. Additionally, pursuant to section 6 of the Act, the Service would be able to grant funds to affected states for management actions aiding in the protection and recovery of these plants.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered and threatened plants. All prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61 and 17.71, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export; transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale in interstate or foreign commerce, or remove and reduce the species to possession from areas under Federal jurisdiction. In addition, for plants listed as endangered, the Act prohibits the malicious damage or destruction on areas under Federal jurisdiction and the removal, cutting, digging up, 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. Seeds from cultivated specimens of threatened plant taxa are exempt from these prohibitions provided that a statement "Of Cultivated Origin" appears on the shipping 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 or threatened plant species under certain circumstances. Such permits are available for scientific purposes and to enhance the

propagation or survival of the species. For threatened plants, permits are also available for botanical or horticultural exhibition, educational purposes, or special purposes consistent with purposes of the Act. Because none of these eight plants are common in the wild or in cultivation, trade permits likely would not be sought. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Permits Branch, 911 NE 11th Avenue, Portland, Oregon 97232-4181 (503/231-6241).

It is the policy of the Service (59 FR 34272; July 1, 1994) to identify to the maximum extent practicable at the time of listing 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 or on-going activities. The Service believes that the following actions would result in a violation of section 9, although possible violations are not limited to these actions alone: Collection, damage, or destruction of these species on Federal lands, except in certain cases described below; and activities on non-Federal lands conducted in knowing violation of California State law, which requires a ten day notice be given before taking of plants on private land. The Service believes that, based on the best available information, the following actions will not result in a violation of section 9 on private land provided that they do not violate State trespass or other laws: Livestock grazing, ranching operations (construction or maintenance of fences, water facilities, corrals; off-road vehicle travel), firebreak

construction and maintenance, non-federally authorized mining, and recreational activities. Activities that occur on Federal land, or on private land that receive Federal authorization, permits, or funding, and for which either a Federal endangered species permit is issued to allow collection for scientific or recovery purposes, or a consultation is conducted in accordance with section 7 of the Act, would also not result in a violation of section 9. General prohibitions and exceptions that apply to all endangered and threatened plants in section 9(a)(2) of the Act, implemented by 50 CFR 17.61 and 17.71, apply as discussed earlier in this section. Questions regarding whether specific activities will constitute a violation of section 9 should be directed to the Field Supervisor of the Service's Sacramento Field Office (see ADDRESSES section).

#### National Environmental Policy Act

The Service has determined that Environmental Assessments and Environmental Impact Statements, as defined by 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, 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. This rulemaking was not subject to review by the Office of

Management and Budget under Executive Order 12866. The Department has determined that these final regulations meet the applicable standards provided in Sections 3(a) and 3(b)(2) of Executive Order 12988.

#### References Cited

A complete list of all references cited herein is available upon request from the Field Supervisor of the Sacramento Field Office (see ADDRESSES section).

Author: The primary author of this proposed rule is Ken Fuller (see ADDRESSES section).

#### List of Subjects in 50 CFR Part 17

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

#### Regulation Promulgation

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

#### PART 17—[AMENDED]

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

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

#### § 17.12 [Amended]

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:

\* \* \* \* \*

(h) \* \* \*

Species			Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name							
Flowering Plants:								
*	*	*		*	*	*		*
<i>Castilleja campestris</i> ssp. <i>succulenta</i> .	Fleshy owl's-clover .....	U.S.A. (CA).	Scrophulariaceae .....	T	611	NA	NA	
*	*	*	*	*	*	*	*	
<i>Chamaesyce hooveri</i> .....	Hoover's spurge .....	U.S.A. (CA).	Euphorbiaceae .....	T	611	NA	NA	
*	*	*	*	*	*	*	*	
<i>Neostapfia colusana</i> .....	Colusa grass .....	U.S.A. (CA).	Poaceae .....	T	611	NA	NA	
*	*	*	*	*	*	*	*	
<i>Orcuttia inaequalis</i> .....	San Joaquin Valley Orcutt grass.	U.S.A. (CA).	Poaceae .....	T	611	NA	NA	

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
<i>Orcuttia pilosa</i> .....	Hairy Orcutt grass .....	U.S.A. (CA).	Poaceae .....	E	611	NA	NA
<i>Orcuttia tenuis</i> .....	Slender Orcutt grass .....	U.S.A. (CA).	Poaceae .....	T	611	NA	NA
<i>Orcuttia viscida</i> .....	Sacramento Orcutt grass .....	U.S.A. (CA).	Poaceae .....	E	611	NA	NA
<i>Tuctoria greenei</i> .....	Greene's tuctoria .....	U.S.A. (CA).	Poaceae .....	E	611	NA	NA

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Dated: February 24, 1997.

**John G. Rogers,**

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

[FR Doc. 97-7619 Filed 3-25-97; 8:45 am]

BILLING CODE 4310-55-P

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 640

[Docket No. 970318058-7058-01; I.D. 022597A]

RIN 0648-XX82

#### Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic; Rescission of Control Date

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice of rescission of control date.

**SUMMARY:** The Gulf of Mexico and South Atlantic Fishery Management Councils (Councils) believe that changes in the management of the spiny lobster fishery makes a previously announced control date obsolete. Therefore, on behalf of the Councils, NMFS announces that the date of January 15, 1986, is no longer considered a control date for entry into the Gulf of Mexico and South Atlantic spiny lobster fishery.

**EFFECTIVE DATE:** March 26, 1997.

**FOR FURTHER INFORMATION CONTACT:** Georgia Cranmore, 813-570-5305.

**SUPPLEMENTARY INFORMATION:** The spiny lobster fishery is managed under the

Fishery Management Plan for the Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic (FMP). The FMP was prepared by the Councils and is implemented through regulations at 50 CFR part 640, under the authority of the Magnuson-Stevens Fishery Conservation and Management Act.

A control date of January 15, 1986, was established for the spiny lobster fishery in anticipation of a possible Federal limited access program for this fishery (51 FR 5713, February 18, 1986). The notice announcing this control date stated that anyone entering the fishery after January 15, 1986, was not assured of continued participation if a limited access system was adopted.

No limited access program was developed by the Councils. Instead, the Councils adopted Florida's management regime for the exclusive economic zone (EEZ) off Florida. The commercial fishery is confined primarily to Florida waters and the EEZ off Florida. Commercial and recreational spiny lobster landings outside Florida are negligible.

In 1992, NMFS adopted for the EEZ off Florida, Florida's spiny lobster trap certificate, trap reduction, and trap identification programs (57 FR 56516, November 30, 1992).

In 1994, NMFS removed the requirement for Federal vessel permits in the commercial fishery in the EEZ off Florida (59 FR 53118, October 21, 1994). The South Atlantic Council determined (at its November 1996 meeting) and the Gulf Council determined (at its July 1996 meeting) that these changes in the management of the spiny lobster fishery make the control date obsolete. Therefore, NMFS announces the

rescission of the January 15, 1986, control date with respect to this fishery.

**Authority:** 16 U.S.C. 1801 *et seq.*

Dated: March 20, 1997.

**C. Karnella,**

*Acting Assistant Administrator for Fisheries, National Marine Fisheries Service.*

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#### 50 CFR Part 679

[Docket No. 961107312-7021-02; I.D. 031997A]

#### Fisheries of the Exclusive Economic Zone Off Alaska; Offshore Component Pollock in the Aleutian Islands Subarea

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Modification of a closure.

**SUMMARY:** NMFS is opening directed fishing for pollock by vessels catching pollock for processing by the offshore component in the Aleutian Islands subarea (AI) of the Bering Sea and Aleutian Islands management area (BSAI). This action is necessary to fully utilize the total allowable catch (TAC) of pollock in that area.

**EFFECTIVE DATE:** 1200 hrs, Alaska local time (A.l.t.), March 20, 1997, through 1200 hrs, A.l.t., March 22, 1997.

**FOR FURTHER INFORMATION CONTACT:** Mary Furuness, 907-586-7228.

**SUPPLEMENTARY INFORMATION:** The groundfish fishery in the BSAI exclusive economic zone is managed by NMFS according to the Fishery Management Plan for Groundfish of the Bering Sea