Reference Center (Room 239), 1919 M Street, NW, Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractor, ITS, Inc., (202) 857–3800, 1231 20th Street, NW, Washington, DC 20036.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

Part 73 of title 47 of the Code of Federal Regulations is amended as follows:

PART 73—[AMENDED]

1. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under Iowa, is amended by adding New London, Channel 247A.

Federal Communications Commission.

John A. Karousos,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 97–27943 Filed 10–21–97; 8:45 am]

BILLING CODE 6712–01–F

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[MM Docket No. 96–124; RM–8813, RM–8864]

Radio Broadcasting Services; Winner and Wessington Springs, SD

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: The Commission, at the request of Midwest Radio Corporation, substitutes Channel 252C1 for Channel 253C1 at Winner, reallots Channel 252C1 from Winner to Wessington Springs, South Dakota, and modifies Station KGGK(FM)'s construction permit accordingly (RM–8813). *See* 61 FR 31489, June 20, 1996. At the request of Dakota Communications, Inc., we also allot Channel 227C1 at Wessington Springs, South Dakota, as the community's second local FM transmission service (RM–8864). Channels 227C1 and 252C1 can be allotted to Wessington Springs in compliance with the Commission's minimum distance separation requirements at city reference coordinates. The coordinates for Channels 227C1 and 252C1 at Wessington Springs are North Latitude 44–05–12 and West Longitude 98–34–24. With this action, this proceeding is terminated.

DATES: Effective November 24, 1997. The window period for filing applications for Channel 227C1 at Wessington Springs, South Dakota, will open on November 24, 1997, and close on December 26, 1997.

FOR FURTHER INFORMATION CONTACT: Sharon P. McDonald, Mass Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Report and Order, MM Docket No. 96–124, adopted October 1, 1997, and released October 10, 1997. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractors, International Transcription Service, Inc., (202) 857–3800, 1231 20th Street, NW., Washington, DC 20036.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

Part 73 of title 47 of the Code of Federal Regulations is amended as follows:

PART 73—[AMENDED]

1. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336.

§ 73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under South Dakota, is amended by removing Channel 253C1 from Winner, and adding Wessington Springs, Channels 227C1 and 252C1.

Federal Communications Commission.

John A. Karousos,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 97–27942 Filed 10–21–97; 8:45 am]

BILLING CODE 6712–01–F

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AD36

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Nine Plants From the Grasslands or Mesic Areas of the Central Coast of California

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) determines endangered status pursuant to the Endangered Species Act of 1973, as amended (Act) for nine plants: *Alopecurus aequalis* var. *sonomensis* (Sonoma alopecurus), *Astragalus clarianus* (Clara Hunt's milk-vetch), *Carex albida* (white sedge), *Clarkia imbricata* (Vine Hill clarkia), *Lilium pardalinum* ssp. *pitkinense* (Pitkin Marsh lily), *Plagiobothrys strictus* (Calistoga allocarya), *Poa napensis* (Napa bluegrass), *Sidalcea oregana* ssp. *valida* (Kenwood Marsh checker-mallow), and *Trifolium amoenum* (showy Indian clover). These nine species grow in a variety of habitats including valley grasslands, meadows, freshwater marshes, seeps, and blue oak woodlands in Marin, Napa, and Sonoma Counties on the central coast of California. Habitat loss and degradation, competition from invasive plant species, elimination through plant community succession, trampling and herbivory by livestock and wildlife, collection for horticultural use, and hydrological alterations to wetland areas threaten the continued existence of these plants. This rule implements Federal protection and recovery provisions afforded by the Act for these nine species.

DATES: Effective November 21, 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: Diane Elam or David Wright, Sacramento Field Office (see **ADDRESSES** section) (telephone 916/979–2120; facsimile 916/979–2128).

SUPPLEMENTARY INFORMATION:

Background

Populations of the nine plant species in this rule are found in Sonoma, Marin, and Napa Counties, California. *Astragalus clarianus* (Clara Hunt's milk-vetch), *Plagiobothrys strictus* (Calistoga allocarya), and *Poa napensis* (Napa bluegrass) are found up to 70 kilometers (km) (32 miles (mi)) inland in a variety of habitats near the City of Calistoga in the Napa Valley, California. *Alopecurus aequalis* var. *sonomensis* (Sonoma alopecurus), *Carex albida* (white sedge), *Clarkia imbricata* (Vine Hill clarkia), *Lilium pardalinum* ssp. *pitkinense* (Pitkin Marsh lily), *Sidalcea oregana* ssp. *valida* (Kenwood Marsh checker-mallow), and *Trifolium amoenum*

(showy Indian clover) are found in mesic areas mostly within 33 km (15 mi) of the central coast of California. Urbanization, road construction, airport construction, development of hot springs into commercial resorts, agricultural land conversion, hydrological alteration of wetlands, waste disposal, competition with invasive plant species, collection for horticultural use, or livestock grazing have eliminated or adversely impacted much of the habitat and have extirpated numerous populations of these plant species. Historically, these species have not been known to occur outside of Alameda, Marin, Mendocino, Napa, Santa Clara, Solano, and Sonoma Counties.

Willis Jepson (1925a) first described *Astragalus clarianus* in 1909 from specimens collected by Clara Hunt in the Conn Valley near St. Helena, Napa County, California. Axel Rydberg (1929) and Jepson (1936) later treated this taxon as *Hamosa clariana* and *Astragalus rattani* var. *clarianus*, respectively. Rupert Barneby (1950) reestablished *Astragalus clarianus* as a full species, a treatment retained by Spellenberg (1993). *Astragalus clarianus* is a low-growing annual herb in the pea family (Fabaceae). It is a slender, sparsely leafed plant, sparingly covered with sharp, stiff, appressed hairs. The simple single or few basally branching, stems ascend 7 to 20 centimeters (cm) (3 to 8 inches (in)) in height. The leaves are alternate, 1.5 to 6.0 cm (0.5 to 2.5 in) long, with 5 to 9 uncrowded leaflets 2 to 10 millimeters (mm) (0.1 to 0.4 in) long. The leaflets are oblong to obovate, narrow at the base, and notched at the tip. Small flowers appear from March through April. The petals are bicolored, with the wings whitish and the banner and keel purple in the upper third. The keel is longer and wider than the wings. The horizontal to declining seed pods are narrow, linear, slightly curved, pointed at both ends, and are borne on a 1.5 to 2.5 mm (0.06 to 0.10 in) long slender stalk. *Astragalus rattanii* var. *jepsonianus* resembles *A. clarianus*, but grows 10 to 36 cm (4 to 14 in) tall, has larger flowers, and has seed pods that are not elevated on a stalk.

Astragalus clarianus is found on thin, rocky clay soils derived from volcanic or serpentine substrates (Joe Callizo, California Native Plant Society (CNPS), *in litt.* 1996; Jake Ruygt, CNPS, Napa Valley Chapter, pers. comm. 1996, public hearing transcript) in grasslands and openings in whiteleaf manzanita (*Arctostaphylos manzanita*)-blue oak (*Quercus douglasii*) woodlands (Liston 1990) over an elevation range of 75 to 225 meters (m) (240 to 840 feet (ft)). Six historical occurrences were known from Napa and Sonoma counties. Two of these occurrences were extirpated by urbanization and viticulture (California Natural Diversity Data Base (CNDDB) 1996). Of the remaining four occurrences, three are found in northwestern Napa County and one occurs in adjacent Sonoma County. These four disjunct occurrences are restricted to about 28 hectares (ha) (70 acres (ac)) (CNDDB 1996). The trend for Clara Hunt's milk-vetch is one of decline as a result of habitat destruction and modification (California Department of Fish and Game (CDFG) 1991). Extant populations of *A. clarianus* are variously threatened by urbanization, recreational activities, airport maintenance, elimination due to plant community succession, competition from invasive weeds, a proposed water storage project, and random events. Populations occur on private, State, and municipal land.

Edward Greene (1892) and Jepson (Abrams ex Jepson 1951) treated *Plagiobothrys strictus* as *Allocarya stricta* and *Allocarya californica* var. *stricta*, respectively, before Ivan Johnston (1923) assigned the name, *Plagiobothrys strictus*, to specimens collected on alkaline flats near sulphur springs at Calistoga, Napa County, California. This treatment was retained by Messick (1993). *Plagiobothrys strictus* is a small, erect, annual herb belonging to the borage family (Boraginaceae). It grows 1 to 4 decimeters (dm) (4 to 15 in) in height. The nearly hairless plant has either a single stem or branches from near the base. The linear lower leaves are 4 to 9 cm (1.5 to 4 in) long. Small, usually paired, white flowers appear in March to April in a slender, unbranched inflorescence. The fruit is an egg-shaped nutlet about 1.5 mm (0.6 in) long, keeled on the back, with wart-like projections without any prickles. *Plagiobothrys greenei, P. lithocaryus, P. mollis var. vestitus, P. stipitatus,* and *P. tener* have ranges that overlap with that of *Plagiobothrys strictus* and occur in similar habitats, but they do not resemble *P. strictus* and have not been found at the known *P. strictus* sites (J. Callizo, *in litt.* 1996).

Plagiobothrys strictus is found in pools and swales adjacent to and fed by hot springs and small geysers in grasslands within an elevation range of 90 to 160 m (300 to 500 ft). Three historical populations occurred within a 3 km (2 mi) radius of Calistoga, Napa County, California. One population was extirpated by urbanization and agricultural land conversion. Of the two remaining populations of P. strictus, one occurs near a geyser and some undeveloped thermal hot springs while the other occurs at the airport in the city of Calistoga. The combined area of the two remaining populations is less than 80 square meters (m^2) (900 square feet (ft^2)) (CNPS 1990). The overall trend for Calistoga allocarya (*Plagiobothrys strictus*) is one of decline (CDFG 1991). The species is threatened by recreational activities, airport maintenance, urbanization, and random events. Both populations are on private land and neither is protected.

Alan Beetle first described *Poa napensis* in 1946 from specimens that he collected in a meadow moistened by seepage from hot springs, 3 km (2 mi) north of Calistoga at Myrtledale Hot Springs, Napa County, California. This treatment was retained by Soreng (1993). *Poa napensis* is an erect, tufted perennial bunchgrass in the grass family (Poaceae) that grows to 1 dm (4 in) in height. Leaves are folded, stiffly erect, 1 mm (0.04 in) wide, with the basal leaves 20 cm (8 in) long and upper stem leaves to 15 cm (6 in) in length. A few stiff, erect flowering stems appear in May and grow 7 dm (27 in) in height. Flower clusters occur as a pale green to purple, condensed, oblong-oval panicle 10 to 15 cm (4 to 6 in) long and 2 to 5 cm (0.8 to 2.0 in) wide. *Poa napensis* most closely resembles *P. unilateralis* (ocean bluff bluegrass), but differs in leaf and panicle form and habitat.

Poa napensis is found in grasslands and moist, alkaline meadows fed by hot springs. The elevation range of this plant is 100 to 120 m (340 to 400 ft) within a radius of 6 km (4 mi) of Calistoga. Historically, the range of this plant has been diminished by the development of recreational hot springs and the growth of the town of Calistoga. Only two populations of the species are known to exist, one near Myrtledale Hot Springs which is restricted to a 100 m^2 (1,100 ft^2) area, and a second smaller population of 100 plants nearby (CDFG 1979). Both populations of *P. napensis* depend on moisture from adjacent hot springs or surface runoff. Any action that would alter the hydrology or flow from these hot springs would be detrimental to these populations (CDFG 1979). The trend for Napa bluegrass is one of decline (CDFG 1991). *Poa napensis* is threatened by recreational activities, airport maintenance, urbanization, and random events (CNPS 1987, 1990; J. Ruygt, *in litt.* 1993; J. Ruygt, pers. comm. 1996). Both extant populations are located on private land and are not protected.

Peter Rubtzoff (1961) described *Alopecurus aequalis* var. *sonomensis* based on a specimen collected in 1955

in Guerneville Marsh, Sonoma County, California. Specimens assignable to this taxon were collected as early as 1880 in Sonoma and Marin counties, but had been identified as *Alopecurus aequalis* Sobol., a circumboreal foxtail grass found as far south as adjacent Mendocino County. These specimens, however, deviated considerably from typical *A. aequalis* and were identified by Rubtzoff as *A. aequalis* var. *sonomensis.* Although William Crins (1993) only referred to this variety in passing in a discussion of the species, its varietal status adequately reflects its morphological and ecological attributes and it is considered to be a distinct variety (William Crins, Ontario Ministry of Natural Resources, *in litt.* 1993).

Alopecurus aequalis var. *sonomensis* is a tufted perennial in the grass family (Poaceae) that reaches 30 to 75 cm (12 to 30 in) in height. The stems are mostly erect and either straight or weakly bent near the base. The leaf blades are up to 7.5 mm (0.3 in) wide. The panicle is 2.5 to 9.0 cm (1.0 to 3.5 in) long and 4 to 8 mm (0.1 to 0.3 in) wide. The spikelets are usually tinged violet-gray near the tip. The awn (bristlelike part) is straight, and exceeds the lemma body by 1.0 to 2.5 mm (0.04 to 0.1 in). This variety is distinguished from *A. aequalis* var. *aequalis* by its more robust, upright appearance, generally wider panicle, violet-gray tinged spikelets, and longer awn (Rubtzoff 1961; William Crins, Ontario Ministry of Natural Resources, *in litt.* 1993).

When the proposed rule was written, *Alopecurus aequalis* var. *sonomensis* was known from five natural populations. Three of the sites, in Sonoma County, were privately owned, and two sites were on Federal land within Point Reyes National Seashore (PRNS) in Marin County (CNDDB 1993; Virginia Norris, CNPS, Marin Chapter, *in litt.* 1993). Three more natural sites in Marin County have since been identified. Two are on Federal land within PRNS, and the third is a private inholding within the PRNS (CNDDB 1996; V. Norris, *in litt.* 1995; Robert Soost, CNPS, Marin Chapter, *in litt.* 1996). One of the newly discovered populations was initially thought to be the result of seeds washed down from a reintroduced population, but it is now considered a natural population (V. Norris, *in litt.* 1995). All populations occur in moist soils in permanent freshwater marshes between 6 and 210 m (20 and 680 ft) in elevation.

Alopecurus aequalis var. *sonomensis* was known historically from 16 populations. The historical range of the taxon was approximately 48 km (30 mi), extending north from Point Reyes Peninsula to Guerneville and east to Cunningham. Although fewer sites are now present, the range of the species has changed little. The numbers of populations of this species are declining due to competition from invasive plant species, trampling and grazing by cattle, and low reproductive success. Three attempts to reintroduce the species in the PRNS have failed (CNDDB 1996; V. Norris, *in litt.* 1995). The proposed rule, published August 2, 1995 (60 FR 39314), stated that one attempt was destroyed by a flash flood in 1993. It is now thought that the affected population was a natural population and not a reintroduction. This population reestablished and contained 15 plants in 1994 and 13 in 1995 (V. Norris, *in litt.* 1995).

The number of individuals in populations of *Alopecurus aequalis* var. *sonomensis* may fluctuate markedly between years. The largest population recorded in recent years was about 600 plants in 1995; this population dropped to about 100 plants in 1996 (V. Norris, *in litt.* 1995; R. Soost, *in litt.* 1996). A population in Sonoma County reported to have 150 individuals in 1987 had dropped to only 4 plants by 1994 (V. Norris, *in litt.* 1995). Most often, populations of *A. aequalis* ssp. *sonomensis* have about 100 or fewer individuals (CNDDB 1996).

Liberty Bailey (1889) described *Carex albida* based on a specimen collected by John Bigelow in 1854 on Santa Rosa Creek, Sonoma County, California. Specimens of the plant collected by John T. Howell and John W. Stacey in 1937 were described as *C. sonomensis* (Stacey 1937), but Howell (1957) later stated that the type specimen of *C. albida* had been misinterpreted by Stacey and others and that *C. sonomensis* is a synonym of *C. albida.* Howell's interpretation continues to be accepted (Mastrogiuseppe 1993).

Carex albida is a loosely tufted perennial herb in the sedge family (Cyperaceae). The stems are triangular, 4 to 6 dm (1.3 to 2.0 ft) tall, erect, and longer than the leaves. The leaves are flat and 3 to 5 cm (1 to 2 in) wide with closed sheaths. The inflorescence consists of 4 to 7 ovoid or obovoid to oblong spikelets 8 to 18 mm (0.3 to 0.7 in) long. The achenes (fruits) are three-sided when mature. The sacs (perigynia) surrounding the achenes are light green to yellow-green when mature and 3.0 to 4.5 mm (0.1 to 0.2 in) long. Several traits distinguish *C. albida* from other closely related sedges. *Carex albida* has inflorescences with staminate flowers above the pistillate flowers, especially on the terminal inflorescence, lateral spikelets, and leaves that are shorter than the stems and 3 to 5 mm (0.1 to 0.2 in) wide. Some individuals of *Carex lemmonii* resemble *C. albida,* but differ in perigynia and fruit size, or in other respects.

Carex albida was thought to be extinct but is now known from a single population discovered in 1987. *Carex albida* was known historically from four other locations including the type locality on Santa Rosa Creek and three additional populations in two marshes, all in Sonoma County. The marsh containing *C. albida* at the Santa Rosa Creek site was destroyed in the 1960's by channelization and other alterations to Santa Rosa Creek (Betty Guggolz, CNPS, Milo Baker Chapter, *in litt.* 1993). A second marsh has been used for cannery waste disposal since 1971, causing the probable loss of the population (CNDDB 1996). At the third marsh, one of the two historical populations has not been seen since 1951. Access to the other population has been denied by the landowner, and the presence of the plant has not been confirmed since 1976. This marsh has become drier in recent years because the addition of wells and other construction has altered the marsh hydrology, and it likely no longer supports the species (B. Guggolz, *in litt.* 1993).

The only extant population of *C. albida* is found in a sphagnum bog, between 45 and 60 m (150 and 200 ft) in elevation. The population contains about 1,000 plants and occurs on private property in Sonoma County (CDFG 1993a, CNDDB 1996). *Carex albida* is threatened by potential alteration of hydrology from changes in land use or potential disturbance from a proposed wastewater treatment project, competition from invasive species, potential disturbance from repair or alteration of a nearby state highway, and random events.

F. Harlan Lewis and Margaret Lewis (1953) described *Clarkia imbricata* from specimens they collected on July 10, 1951, along Vine Hill Road, Sonoma County. This treatment continues to be accepted (Lewis 1993). *Clarkia imbricata* is an erect, annual herb in the evening-primrose family (Onagraceae). The stems grow to 6 dm (2.5 ft) tall, unbranched or with numerous short branches in the upper parts. This plant is densely leafy, with entire, lanceolate leaves 2.0 to 2.5 cm (0.8 to 1.0 in) long and 4 to 7 mm (0.2 to 0.3 in) broad that are ascending and overlapping. The showy inflorescences appear from June through July. The flowers are grouped closely together and each flower has a conspicuous funnel-shaped tube at its base. Each flower has four fan-shaped, lavender petals 2.0 to 2.5 cm (0.8 to 1.0

in) long with a V-shaped purple spot extending from the middle to the upper margin of the petal. *Clarkia purpurea* ssp. *viminea* is the only other *Clarkia* taxon with which *C. imbricata* can be confused. *Clarkia purpurea* ssp. *viminea* has a much shorter, funnel-shaped tube and does not have the relatively broad, ascending, overlapping leaves of *C. imbricata.*

Clarkia imbricata has never been known to be common. Unsuccessful searches for this plant at its type locality have been made since 1974 (B. Guggolz, *in litt.* 1993). This taxon is only known from two populations, one natural and one planted in a preserve, found in sandy grasslands in Sonoma County. The natural population was the source for cuttings that were transplanted into the 0.6 ha (1.5 ac) preserve in 1974. The two populations are 1.2 km (0.75 mi) apart, have an elevation range of 60 to 75 m (200 to 250 ft), and occur on private land. The natural population contains 2,000 to 5,000 plants and occurs on an open, flat grassland surrounded by a variety of introduced trees and shrubs. The planted population, located in a preserve owned and managed by the CNPS, has fluctuated between 200 and 300 plants. Plants have recently expanded onto an adjacent parcel of private land to the east, where 70 to 100 plants were found in 1993. The planted population is threatened by damage associated with trespassers collecting other rare plants found in the preserve, while the natural population is at risk due to proposed land use conversion (B. Guggolz, *in litt.* 1993). Both populations are also susceptible to adverse impacts from random events.

Lawrence Beane and Albert M. Vollmer first collected *Lilium pardalinum* ssp. *pitkinense* on July 20, 1954, in Sonoma County, California. Beane (1955) described the plant as *Lilium pitkinense.* Mark Skinner (1993) subsequently treated the plant as a subspecies of *L. pardalinum.*

Lilium pardalinum ssp. *pitkinense* is an herbaceous, rhizomatous (underground stem) perennial in the lily family (Liliaceae). The slender, erect stems reach 1 to 2 m (3 to 6 ft) in height. Leaves are yellow-green, up to 14 cm (5.5 in) long, and 1 to 2 cm (0.4 to 0.8 in) wide. The leaves are generally scattered along the stem, but in some plants occur in 2 or 3 whorls of 3 to 6 leaves near the middle of the stem. The inflorescence is a terminal raceme. The flowers are large, showy, and nodding. The petals, which are reflexed from the middle, are red at the outer edge changing to yellow at the center with small, deep maroon dots mostly within the yellow zone. Anthers (pollen-bearing part of the stamen) are purple-brown. The fruit is an elliptical capsule containing many rounded seeds (CDFG 1993b). The species flowers from June to July. *Lilium pardalinum* ssp. *pitkinense* is distinguished from *L. pardalinum* ssp. *pardalinum* by generally shorter petals and anthers.

Lilium pardalinum ssp. *pitkinense* grows only in permanently saturated, sandy soils in freshwater marshes and wet meadows that are 35 to 60 m (115 to 200 ft) in elevation. Only three populations of *L. pardalinum* ssp. *pitkinense* at two sites were recorded historically. All three populations are on private land within a distance of 13 km (8 mi) in Sonoma County. Access to one of the sites has been denied by the landowner since 1975 (CNPS 1988a). As a result, the status of this population has not been confirmed, but it is presumed to be extant. Two populations occur at a second site. The size of these populations has declined due to loss of habitat from urbanization and competition with blackberries (*Rubus* spp.) (CDFG 1993b). About 300 individual plants remain on these two sites (B. Guggolz, pers. comm. 1996). Collection of plants, seeds, and bulbs for horticultural use, competition from invasive plant species, potential disturbance from a proposed subdivision, trampling and herbivory by livestock and wildlife and random events threaten this species (Lynn Lozier, The Nature Conservancy (TNC), *in litt.* 1990; CDFG 1993b; B. Guggolz, pers. comm. 1993, 1996).

Edward L. Greene (1897) first described *Sidalcea oregana* ssp. *valida* in June, 1894, based on material he collected from Knight's Valley, Sonoma County, California. Since then, this taxon has been known as *S. maxima* (Baker), *S. oregana* var. *spicata* (Jepson), *S. eximia* (Baker) and *S. spicata* ssp. *valida* (Wiggins) (CNPS 1988b). C. L. Hitchcock (1957) studied the genus *Sidalcea* and recognized four subspecies, including *S. oregana* ssp. *valida,* a treatment accepted by Steven Hill (1993).

Sidalcea oregana ssp. *valida* is a perennial herb in the mallow family (Malvaceae). The plants are 1 to 2 m (3 to 6 ft) tall. The leaves are rounded. Lower leaves have 5 to 7 shallow lobes; upper leaves are generally smaller and divided into 3 to 5 entire, lanceolate segments. The compound inflorescence consists of densely flowered, spike-like racemes 2 to 5 cm (0.8 to 2.0 in) long. Petals are 1.0 to 1.5 cm (0.4 to 0.6 in) long, notched at the apex, and deep pink-mauve. The flowers appear from late June to September. *Sidalcea oregana* ssp. *valida* differs from *S. oregana* ssp. *eximia* in having a hairless calyx.

Sidalcea oregana ssp. *valida* has never been recorded as abundant and only two occurrences are known. These occurrences are about 29 km (18 mi) apart in Sonoma County, California. Both are on private land. *Sidalcea oregana* ssp. *valida* inhabits freshwater marshes approximately 150 m (490 ft) in elevation. One population covers less than 0.1 ha (0.25 ac), and was reported to have fewer than 100 plants in 1979 (CDFG 1987) and approximately 60 plants in 1993 (Nick Wilcox, State Water Resources Control Board, pers. comm. 1993). The other population contained approximately 70 individuals in 1993 (Ann Howald, CDFG, pers. comm. 1993). Both populations are adversely affected by trampling and reduced seed set resulting from cattle grazing (CNPS 1988b). The potential alteration of the hydrology of one site due to urbanization and water withdrawal poses a threat to the species (A. Howald, pers. comm. 1993). The plants may also suffer from competition by common tule (*Scirpus acutus*) and yellow star-thistle (*Centaurea solstitialis*), and from periodic maintenance of a local aqueduct located in the marsh (A. Howald, pers. comm. 1993). This species is also susceptible to adverse impacts from random events.

Edward L. Greene (1891) described *Trifolium amoenum* from specimens that he collected near Vanden, Solano County, California, in 1890. This treatment was retained by Duane Isely (1993). Historically, this species has been found in a variety of habitats including low, wet swales, grasslands, and grassy hillsides up to 310 m (1,020 ft) in elevation. This annual plant, which is a member of the pea family (Fabaceae), is hairy, erect, and grows to 1 to 6 dm (4 to 27 in) in height. The leaves are pinnately compound, widely obovate, and 2 to 3 cm (0.8 to 1.2 in) long. The flowers, which are purple with white tips, are 12 to 16 mm (0.5 to 0.6 in) long and occur in dense, round or ovoid heads, 2 to 3 cm (0.8 to 1.2 in) long. Flowers appear from April to June. *Trifolium amoenum* is similar in appearance to *T. macraei,* but is generally larger and the flowers lack subtending bracts.

The historical range of *Trifolium amoenum* was from the western edge of the Sacramento Valley in Solano County, west and north to Marin and Sonoma counties, where many sites were presumed extirpated by urban and agricultural development (CNPS 1977). Until 1993, *Trifolium amoenum* was considered extinct. However, one

locality was discovered in 1993 and a second in 1996. In 1993, Peter Connors, Bodega Marine Laboratory, discovered a single *Trifolium amoenum* plant in Sonoma County. The land on which this plant was found is private (CNDDB 1996), and at the time of writing of the proposed rule the land was for sale (Peter Connors, Bodega Marine Laboratory, pers. comm. 1994). No plants were found at the site in 1994 or 1995, and the site has now been developed (P. Connors, pers. comm. 1996). The only known extant population of *T. amoenum* is that found in 1996. This population consists of about 200 plants growing on two residential lots in Marin County. One lot has a house on it, and a house is being built on the other; both landowners are currently cooperating in the conservation of the species on their property (P. Connors, pers. comm. 1996).

In 1994, Dr. Connors grew 18 plants in cultivation from seed produced by the single plant found in 1993 (Connors 1994). These plants were grown to produce seed for later reintroduction efforts (P. Connors, pers. comm. 1994); the seed is expected to be viable for decades (P. Connors, pers. comm. 1996). Should additional *T. amoenum* be found, these populations would likely be threatened by urbanization, competition with invasive plants, land conversion to agriculture, livestock grazing, and random events.

Previous Federal Action

Federal government actions on these nine species began as a result of section 12 of the Act which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct in the United States. This report, designated as House Document No. 94–51, was presented to Congress on January 9, 1975, and included *Astragalus clarianus, Carex albida, Clarkia imbricata, Lilium pardalinum* ssp. *pitkinense* (as *L. pitkinense*), *Plagiobothrys strictus, Poa napensis,* and *Trifolium amoenum* as endangered and *Sidalcea oregana* ssp. *valida* as threatened. The Service published a notice in the July 1, 1975, **Federal Register** (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as a petition within the context of section 4(c)(2) (petition provisions are now found in section 4(b)(3) of the Act) and of its intent to review the status of the plant taxa named therein. The above eight taxa were included in the July 1, 1975, notice. On June 16, 1976, the Service published a proposal in the **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act. The list of 1,700 plant taxa was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94–51 and the July 1, 1975, **Federal Register** publication. *Astragalus clarianus, Carex albida, Clarkia imbricata, Lilium pardalinum* ssp. *pitkinense, Poa napensis,* and *Trifolium amoenum* 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, **Federal Register** 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. In the December 10, 1979, **Federal Register** (44 FR 70796), the Service published a notice of withdrawal of the June 16, 1976, proposal, along with four other proposals that had expired.

The Service published a Notice of Review for plants in the **Federal Register** on December 15, 1980 (45 FR 82480). This notice included *Alopecurus aequalis* var. *sonomensis, Astragalus clarianus, Carex albida, Clarkia imbricata, Lilium pardalinum* ssp. *pitkinense, Plagiobothrys strictus, Poa napensis, Sidalcea oregana* ssp. *valida,* and *Trifolium amoenum* as a Candidate species. On November 28, 1983, the Service published a supplement to the Notice of Review (48 FR 53640). This supplement changed *Alopecurus aequalis* var. *sonomensis, Astragalus clarianus, Plagiobothrys strictus, Poa napensis, Sidalcea oregana* ssp. *valida,* and *Trifolium amoenum* to category 2. At that time, category 2 taxa were those being considered for possible addition to the Federal List of Endangered and Threatened Wildlife. Designation of category 2 species was discontinued in the February 28, 1996, **Federal Register** notice (61 FR 7596).

The plant notice was revised again on September 27, 1985 (50 FR 39526). The candidate status of eight of the plant species remained unchanged in this notice. *Trifolium amoenum* was indicated as being possibly extinct. Another revision of the plant notice was published on February 21, 1990 (55 FR 6184). In this revision, *Astragalus clarianus, Plagiobothrys strictus, Poa napensis,* and *Sidalcea oregana* ssp. *valida* were designated as Candidates. The Service made no changes to the status of any of the nine species in the plant notice published on September 30, 1993 (58 FR 51144). The Service approved Candidate status for *Alopecurus aequalis* var. *sonomensis* on August 26, 1993. However, the status change was inadvertently not published in the plant notice published on September 30, 1993. After the publication of that notice, the Service received information that *Trifolium amoenum* had been rediscovered (Connors 1994).

In the August 2, 1995, **Federal Register**, the Service published a proposed rule to list the nine plant species as endangered, and invited public comment (60 FR 39314). Processing of the proposed rule was delayed by a congressional moratorium on activities associated with final listings from April 10, 1995, through April 26, 1996. After the moratorium was lifted, the Service reopened the comment period and scheduled a public hearing on September 11, 1996 (61 FR 47856).

Section 4(b)(3)(B) of the Act requires the Secretary to make findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. This was the case for *Astragalus clarianus, Carex albida, Clarkia imbricata, Lilium pardalinum* ssp. *pitkinense, Plagiobothrys strictus, Poa napensis, Sidalcea oregana* ssp. *valida,* and *Trifolium amoenum* because the 1975 Smithsonian report had been accepted as a petition. The Service found that the petitioned listing of those eight species was warranted but precluded by other higher priority listing actions. This finding was reviewed annually in October from 1983 through 1994. Publication of the proposed rule on August 2, 1995 (60 FR 39314), constituted the final finding for the petitioned action for these species.

The processing of this final listing rule conforms with the Service's final listing priority guidance made final on December 5, 1996 (61 FR 64475). The guidance clarifies the order in which the Service will process rulemakings following two related events, the lifting, on April 26, 1996, of the moratorium on final listings imposed on April 10, 1995 (Pub. L. 104–6) and the restoration of significant 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 status of proposed listings. A lower priority is assigned to resolving the conservation status of candidate species and processing administrative findings on petitions to add species to the lists or reclassify species from threatened to endangered status (Tier 3). The lowest priority actions are in Tier 4, a category which includes processing critical habitat determinations, delistings, or other types of reclassifications. Processing of this final rule is Tier 2 action.

Summary of Comments and Recommendations

In the August 2, 1995, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that would contribute to the development of a final determination on the proposed listing. A 65-day comment period closed on October 9, 1995. Appropriate Federal and State agencies, county and city governments, scientists, and interested parties were contacted and requested to comment. The Service published notices in the *Marin Independent Journal, Mill Valley Pacific Sun, Santa Rosa Press Democrat, Ross Valley Reporter, San Francisco Chronicle* and *San Francisco Examiner* on August 9, 1995, in the *Napa Register* on August 10, 1995, and in the *Napa County Record* and *Petaluma Argus-Courier* on August 11, 1995, inviting general public comment. In response to the publication of the proposed rule, the Sonoma County Farm Bureau, Santa Rosa, California, requested a public hearing in one of 2 letters each dated August 28, 1995.

Following the lifting of the listing moratorium, the comment period was reopened on September 11, 1996, for 35 days, closing on October 15, 1996. Upon the reopening of the comment period, the Service again contacted interested parties, and published notices—in the *Petaluma Argus-Courier* on September 17, 1996, in the *Marin Scope* and *Mill Valley Pacific Sun* on September 18, 1996, and in the *Marin Independent Journal, Napa Register,* and *Santa Rosa Press Democrat* on September 19, 1996—inviting general public comment and announcing the scheduling of a public hearing. A public hearing was held at the Best Western Novato Oaks Inn in Novato, California, on October 3, 1996. The hearing was attended by approximately 20 people, of whom nine presented oral or written testimony.

In accordance with Service peer review policy published on July 1, 1994, (59 FR 34270), the Service sent copies of the proposed rule to one ecologist who works for a university, two plant ecologists who work for State agencies, eight university professors who are species experts, and six other species experts. The Service received one response, from a species expert. The comments received in this response did not contain any new information substantive to the listing determination. The remaining reviewers did not respond to the Service.

In total, 24 individuals, groups, or agencies submitted comments, including the California Department of Parks and Recreation, the California Native Plant Society (CNPS), the Marin and the Sonoma County Farm Bureaus, the California Cattlemen's Association, and the Washington Legal Foundation. Several individuals commented more than once. Nine commenters supported the proposed action, eight opposed it or expressed reservations, and seven did not state a position. Several commenters provided corrections or updated information regarding one or more of the species proposed for listing. The Service has incorporated into the final rule any verifiable new information that is substantive to the listing decision.

Written comments and oral statements presented at the public hearing and received during the comment periods are addressed in the following summary. Comments of a similar nature are grouped together into general issues. These issues and the Service's responses are presented below.

Issue 1: Several commenters expressed concern that listing the plants would adversely affect the economies of Marin, Sonoma, and Napa counties, or requested the Service to consider possible economic impacts.

Service Response: Under section 4(b)(1)(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.

Issue 2: One commenter stated that the Service must complete a Taking Implications Assessment, as directed by Presidential Executive Order 12630, before issuing a final rule.

Service Response: The Attorney General has issued guidelines to the Department of the Interior (Department) on implementing 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, that is, to act solely upon specified criteria that leave the agency no choice. In the present context, the Service's action might be subject to legal challenge if it considered or acted upon economic information in reaching a listing decision.

In such cases, the Attorney General's guidelines state that Taking Implications Assessments (TIAs) shall be prepared after, rather than before, the agency makes the decision in which its discretion is restricted. The purpose of the TIAs in these special circumstances is to inform policy makers of areas where unavoidable taking exposures exist. Such TIAs must not be considered in the making of administrative decisions that must, by law, be made without regard to their economic impact. In enacting the Act, Congress required that listings be based solely on scientific and commercial data showing whether or not the species are in danger of extinction. Thus, by law and by U.S. Attorney General guidelines, the Service is forbidden to conduct TIAs prior to listing.

Issue 3: Several commenters expressed concern that farmers and ranchers would be restricted in their everyday operations by listing of the nine plant species. One worried that farmers and ranchers would be subject to criminal prosecution for the accidental taking of these plants. Another suggested that compensation should be provided for land taken out of range production.

Service Response: The Act does not restrict the taking of listed plants due to otherwise lawful private activities on private land. Listing the nine plants as endangered will not regulate farming or ranching operations, including cattle grazing, on private land. Other activities that do not violate the taking prohibitions of section 9(a)(2) of the Act are discussed further under ''Conservation Measures.''

Issue 4: Several commenters, including representatives of the California Cattlemen's Association, Sonoma-Marin Cattlemen's Association, and the Marin County Farm Bureau, stated that grazing is likely to be beneficial to the nine plant species, both as a land use alternative to urbanization and other land uses, and in reducing competition from other plant species, notably nonnative grasses. One commenter stated that there is no verifiable evidence of a relationship between grazing and these plants. Another said that because there is public debate about the effects of grazing on land and vegetation, little scientific basis exists for claims that grazing is a threat. One commenter asserted that the Service has a strong bias against all grazing.

Service Response: Some degree of grazing by cattle and other animals is likely to be beneficial to some or all of the nine plant species addressed in this rule. Evidence that heavy grazing is a threat to some of the species, however, is discussed under Factor C. The Service is not opposed to grazing, and maintains that best grazing management practices are compatible with many natural resource objectives.

Issue 5: Two commenters believed that listing would allow the Service or the California Department of Fish and Game to intrude upon private property to search for the listed plants.

Service Response: Listing will have no such effect. The Act does not give any person or government agency the right to trespass.

Issue 6: Several commenters requested an extension of the comment period beyond the second deadline of October 15, 1996. One member of the Marin County Farm Bureau stated that their organization had not had adequate time to notify their membership of the public hearing regarding the proposed rule. Other commenters requested additional hearings at more convenient places and times.

Service Response: The Service believes that the comment period provided was adequate. The beginning of this section reviews the Service's efforts to notify the public of the proposed rule regarding these nine plants. In addition to publication in the **Federal Register** and public notices appearing in several local and regional newspapers, the Service mailed separate notifications of the public hearing to species experts, other individuals, and Federal, State, and county entities, including the Marin County Farm Bureau, on September 17, 1996. The location and time of the public hearing was selected to be convenient to most citizens living around populations of the proposed plant species.

Issue 7: One commenter, noting certain errors in the proposed rule and in a Service press release on the proposed listing, requested an additional public hearing after corrections had been made.

Service Response: One purpose of the public comment period is to seek feedback on the accuracy of the information in the proposed rule; correction of errors in the rule does not mandate the re-opening of public comment. The inaccurate information in the Service's press release dealt only with consequences of any listing, not with information or procedures relevant to this listing determination.

Issue 8: One commenter questioned whether all appropriate public land has been surveyed for the nine plant species, and whether the species can truly be listed as threatened by extinction without such surveys. She requested that the listing decision be postponed and the comment period be extended until such surveys have been conducted. Another commenter asserted that the Service lacks data supporting the likelihood of the purported threats to the species, and that the Service has discussed threats that do not exist. As examples, the commenter stated that the water level of Lake Hennessey has not been raised such that it completely inundates a population of *Astragalus clarianus* and that *Carex albida* is not grazed, yet the Service considers these threats.

Service Response: The Act requires the Service to reach its decision based on the best scientific and commercial information available. The Service believes that botanical study of the appropriate habitats on public and private lands in Marin, Napa, Sonoma, and nearby counties has been adequate to show that the nine plants are indeed extremely rare. The threats to the species discussed under Summary of Factors Affecting the Species are also based on the best information available, and are well documented or reasonably foreseeable. With respect to the assertion that the Service has identified threats that do not exist, threats, by general definition, are descriptions of events that have not yet taken place but that are likely to occur in the foreseeable future.

Issue 9: One commenter argued it would be safer to engage in conservation actions without listing the nine plants, since listing could provoke malicious damage.

Service Response: Factor D presents information about the inadequacy of existing protections for the nine plant species. Additional protections that they will receive as a result of listing are discussed under Available Conservation Measures. The Service believes that listing these nine species as endangered under the Act will significantly reduce the threats to their continued existence. Although real, the Service considers the risk of malicious damage to most of these plants to be relatively small, especially for the species that are inconspicuous. The degree of risk, however, will increase significantly if precise maps of the locations of these species were published. This aspect is discussed further in the Critical Habitat section.

Issue 10: One commenter asserted that the Service has not given proper consideration to data provided by ranchers and other landowners, and that the Service gives much more weight to the information provided by California Native Plant Society volunteers. He further stated that references to grazing impacts in reports to the Natural Diversity Database maintained by the California Department of Fish and Game are inaccurate and biased and that the volunteers who submit these reports lack experience in range management or livestock behavior.

Service Response: The Service considers all information received from all sources. No group's or individual's information receives ''more weight'' than others. Information received from all sources was carefully evaluated in accordance with Service policy on information standards under the Act, published on July 1, 1994 (59 FR 34271). Criteria for what information may be considered are discussed in the Summary of Factors Affecting the Species, and in the response to Issue 1. The Service has checked all substantive information for accuracy, and believes that the information included in this rule is reliable and credible and represents the best scientific and commercial information available.

Issue 11: One commenter, representing the California Cattlemen's Association, commented that it is very unlikely that grazing is a threat to *Lilium pardalinum* ssp. *pitkinense*, in part because livestock prefer dry areas to the bogs and marshes in which this plant grows.

Service Response: Although cattle prefer dryer areas, they will enter and graze such wet areas, especially if forage in the surrounding dry areas is less attractive. Evidence of cattle and other herbivores grazing on *Lilium pardalinum* ssp. *pitkinense*, is discussed under Factor C.

Issue 12: One commenter suggested that the nine plants may be naturally rare, and may nevertheless be thriving.

Service Response: Decisions on listing plants and animals are based on the threats facing the species. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1) of the Act. Evidence that the nine plants are in danger of extinction in all or significant portions of their ranges is discussed under Summary of Factors Affecting the Species.

Issue 13: One commenter noted that the proposed rule claimed that habitat for *Trifolium amoenum* has been lost due to livestock grazing and called for the Service to recognize that livestock grazing does not permanently alter the landscape.

Service Response: The final rule has been changed to clarify that proper grazing generally does not cause permanent habitat loss.

Issue 14: Two commenters suggested that the observation in the proposed rule that a fenced population of *Lilium pardalinum* ssp. *pitkinense* continued to suffer from herbivory demonstrating that something other than domestic livestock is causing the damage.

Service Response: The Service maintains that domestic livestock as well as other vertebrate and invertebrate herbivores are capable of damaging these plants (see Factor C and response to Issue 11).

Issue 15: One commenter said that *Alopecurus aequalis* var. *sonomensis* and *Trifolium amoenum* might prove to have agricultural value, since both are palatable to cattle. *Alopecurus aequalis* var. *sonomensis* appears tolerant of some grazing, and *T. amoenum* might renew soil fertility and provide valuable forage if it could be grown in sufficient quantity. The commenter speculated that these species could be seeded to improve pastures.

Service Response: The Service will evaluate these points as it plans and implements the recovery of these species.

Issue 16: One commenter argued that passive preservation of individual species is ecologically unsound and will not ultimately protect biodiversity.

Service Response: The Service notes that habitat protection helps conserve other species with similar habitat needs contributing to the biodiversity of the ecosystem. Some species require active management and the Service will address this in the recovery plan.

Issue 17: One commenter asserted that policies calling for the removal of nonnative species are based on outdated science, that nonnative plants have increased the biodiversity of California's annual grasslands and that these alien species do not threaten the ecological community of grasslands.

Service Response: The Service has extensive information and has received a large number of comments from farmers, ranchers, and scientists, indicating that competition from invasive plants, mostly of nonnative origin, has played a major role in the decline of several of the nine plant species and is a continuing and serious threat to most of them. This information is summarized under Factor E.

Issue 18: One commenter stated that, under the National Environmental Policy Act (NEPA), the Service must prepare an Environmental Impact Statement (EIS) for this rule.

Service Response: For the reasons set out in the NEPA section of this document, the Service has determined that the rules issued under section 4(a) of the Act do not require the preparation of an EIS. Courts in Pacific Legal Foundation v. Andrus, 657 F.2d 829 (6th Circuit 1981), held that an EIS is not required for listing under the Act. The Sixth Circuit decision noted that preparing an EIS on listing actions does not further the goals of NEPA or the Act.

Issue 19: One commenter urged the Service, in the event of listing, to designate critical habitat for the nine plant species with a consideration of economic impacts of such designation required by law.

Service Response: The Service has determined that the designation of critical habitat for these nine plant species is not prudent. Please refer to the ''Critical Habitat'' section of this rule for a detailed discussion of the critical habitat determination.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Alopecurus aequalis* Sobol. var. *sonomensis* Rubtzoff (Sonoma alopecurus), *Astragalus clarianus* Jepson (Clara Hunt's milk-vetch), *Carex albida* Bailey (white sedge), *Clarkia imbricata* Lewis and Lewis (Vine Hill clarkia), *Lilium pardalinum* Kellogg. ssp. *pitkinense* (Beane and Vollmer) M. Skinner (Pitkin Marsh lily), *Plagiobothrys strictus* (Greene) I.M. Johnston (Calistoga allocarya), *Poa napensis* Beetle (Napa bluegrass), *Sidalcea oregana* (Nutt.) Gray ssp. *valida* (Greene) C.L. Hitchcock (Kenwood Marsh checker-mallow), and *Trifolium amoenum* Greene (showy Indian clover) should be classified as endangered species. The Service followed procedures found at section 4(a)(1) of the Act and regulations implementing the listing provisions of the Act (50 CFR part 424) in reaching this determination. 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 the nine species are as follows:

A. *The present or threatened destruction, modification, or curtailment of their habitat or range.* Habitat destruction and modification due to urbanization, land use changes, or alterations in hydrology pose the most serious threats to the survival of these nine plant species.

Astragalus clarianus is known currently from three populations in Napa County and one population in Sonoma County (CNPS 1989, CNDDB 1996). The four populations face a variety of threats to their continued existence. One population in Napa County was reduced in size when the creation of Lake Hennessey in the 1950's inundated much of the site (L. Lozier, pers. comm. 1993). The City of Napa owns the lake and uses Lake Hennessey as a water source. Recently, the City of Napa conducted a feasibility study on the raising in elevation of the dam as part of a project to increase water storage for the city. This would have raised the lake level and submerged the remnant population of *A. clarianus* (J. Ruygt, CNPS, *in litt.* 1993). This increased water-storage project at Lake Hennessey is currently considered too costly (Don Ridenhour, Public Works Dept., City of Napa, pers. comm. 1993). However, any future water storage project that would involve increasing the height of the dam and raising the level of Lake Hennessey would constitute a threat to the population of *A. clarianus* that lies along the lakeshore. In December 1990, this remnant population was nearly destroyed when dredge spoils from the lake were placed on top of it (A. Howald, pers. comm. 1993). The City of Napa, in cooperation with CDFG, removed most of the dredge spoils and fenced the 1 ha (2 ac) area, placing a gate in the fence for fishing access to the lake. Ground disturbance caused by dredge spoil removal resulted in proliferation of invasive weeds that further threaten the site, as discussed below under Factor E. The population has not recovered well (J. Ruygt, pers. comm. 1996). Eight plants of *A. clarianus* were counted at this site in 1991, 325 plants in 1992, 156 plants in 1993 (CDFG 1989; J. Ruygt, *in litt.* 1993), 9 plants in 1994 (CNDDB 1996), and 15 plants in 1996 (J. Ruygt, pers. comm.

1996, public hearing transcript). The area remains a favorite fishing access to the lake and receives significant use by the public (CDFG 1989). The City of Napa has repaired damage to the fence several times (A. Howald, pers. comm. 1993).

Another population of *Astragalus clarianus* occurs in Bothe Napa Valley State Park. Plant numbers have been reported as 8 plants in 1988, 220 plants in 1992, 101 plants in 1993, and 39 plants in 1996 on a 1 ha (2 ac) monitoring site (J. Ruygt, *in litt.* 1993, pers. comm. 1996, public hearing transcript). The larger portion of the population of *A. clarianus* outside of the monitoring zone occurs sparsely on a 6 ha (15 ac) area. This area has been partially protected by placing brush piles next to a foot trail to divert people away from the population (William Grummer, Bothe Napa Valley State Park, California Dept. of Parks and Recreation, pers. comm. 1993). The general plan for the park indicates a campground to be placed over the larger portion of *A. clarianus,* but the Service does not consider the proposed action in this plan as an imminent threat because of lack of funding and possible revisions to the park plan (W. Grummer, pers. comm. 1993). At present, no specific plans to develop a campground have been made (W. Grummer, pers. comm. 1996). Although the campground development may be relocated away from the population of *A. clarianus,* the Service considers that increased recreational use from an additional campground in this park constitutes a potential threat.

The third population of *Astragalus clarianus* occurs near the City of Santa Rosa in eastern Sonoma County. This population was estimated at 2,100 plants in 1996 scattered over 6 ha (15 ac) and appears stable at the present time (Saxon Holt, CNPS, Milo Baker Chapter, pers. comm. 1996). It is on private land under a voluntary protection agreement with TNC. Upslope and adjacent to this population is the 454 ha (1,350 ac) approved Saddle Mountain subdivision (J. Ruygt, *in litt.* 1993, S. Holt, pers. comm. 1996). Soil erosion from proposed road and pad construction for house lots potentially threatens this population of *A. clarianus* (J. Ruygt, *in litt.* 1993). Construction of this development has not yet begun (S. Holt, pers. comm. 1996).

The fourth population of *Astragalus clarianus* consisted of 2,238 plants in 1993 scattered over less than 2 ha (5 ac) of private land (J. Ruygt, *in litt.* 1993). Feral pigs uprooted a substantial number of plants during 1994; the number of plants at this site has declined in 1995 and 1996, although this decline may be attributable to factors other than damage by pigs (J. Ruygt, pers. comm. 1996, public hearing transcript).

One historical occurrence and over 70 percent of the original habitat of *Plagiobothrys strictus* have been extirpated by urbanization and conversion of land to vineyards (CNPS 1990). The two remaining populations of *P. strictus* are threatened by urbanization (CNDDB 1996, CNPS 1990). One of these populations occurs at the Calistoga Airport, where about 5,000 plants were counted in an area of about 180 m^2 (2,000 ft^2) in 1994 (J. Ruygt, pers. comm. 1996, public hearing transcript). The number of individuals in this population fluctuates considerably, perhaps due to variations in spring rainfall between years (CDFG 1988). Future development at this site could threaten this population (J. Ruygt, *in litt.* 1993), as could airport maintenance activities (J. Ruygt, pers. comm. 1996). The other population of *P. strictus* is scattered over a 4 ha (10 ac) area bisected by an asphalt road on private land near Myrtledale Hot Springs in the City of Calistoga. The number of individuals in this population was estimated to be in the hundreds (J. Ruygt, *in litt.* 1993). In recent years, the landowner has denied access to the site. The landowner has proposed to build a hospital on this site, but has been unsuccessful due to current zoning status (CDFG 1988; J. Ruygt, *in litt.* 1993; J. Ruygt, pers. comm. 1996).

Historically, the habitat of the two remaining populations of *Poa napensis* has been reduced by the development of health spas and resorts in the City of Calistoga and other construction activities at the Calistoga Airport (CNPS 1989). The remnant population of *P. napensis* at the Calistoga Airport was thought to be extirpated as a result of construction activities in 1981 because no plants were found that year. By 1987, however, 500 plants were counted at the airport location (CDFG 1989; J. Ruygt, *in litt.* 1993). In 1994 and 1996, about 150 plants were counted at the airport site (J. Ruygt, pers. comm. 1996). The only other population is near Myrtledale Hot Springs in the City of Calistoga, where several thousand plants were reported in a 100 m^2 (1,100 ft^2) area in the early 1980's. The landowner has denied access to the property in recent years. Because *Poa napensis* and *Plagiobothrys strictus* occur at both the Calistoga Airport site and the other site near Myrtledale Hot Springs, the threats from urbanization, including construction of a hospital, are the same for both species (CNPS 1987, 1990; J. Ruygt, *in litt.* 1993; J. Ruygt, pers. comm. 1996).

The single known population of *Carex albida* is located approximately 46 m (150 ft) from a State highway in a sphagnum bog. Any direct impact or change in the hydrology of the area resulting from highway widening or maintenance, or a change in land use would adversely affect the population. Draining the wetland would not only directly impact the species but would encourage the spread of blackberries (*Rubus* spp.), which have become dominant in other parts of the marsh that have been drained (CDFG 1993a; CNDDB 1996; B. Guggolz, *in litt.* 1993).

When the proposed rule was written, a wastewater treatment project was proposed to be built 300 m (328 yards) from the Carex albida population. Potential impacts from this project, as originally proposed, included adverse effects from the application of recycled wastewater and the temporary or permanent removal of wetlands, riparian vegetation, and special status plants and their habitats (Environmental Science Associates 1993). The treatment plant has now been constructed, but the use of recycled wastewater has not been implemented (B. Guggolz, pers. comm. 1996). If implemented, from 1,200 to 4,900 cubic m (1 to 4 ac-ft) of wastewater per year would be applied on approximately 14 to 27 ha (35 to 60 ac) of land. Although the population of *C. albida* would not be directly impacted, the application of this volume of wastewater could result in the alteration of remaining habitat within the historical range of *C. albida* through modification of surface hydrology (Environmental Science Associates 1993). The historical ranges of *Lilium pardalinum* ssp. *pitkinense* and *Alopecurus aequalis* var. *sonomensis* also occur within the project boundaries.

The type locality of *Clarkia imbricata* along the roadside at Pitkin Ranch was extirpated prior to 1974, as a probable result of changes in land use or roadside maintenance (B. Guggolz, *in litt.* 1993). Another population of *C. imbricata* in Sonoma County was extirpated as a result of tree farming and weed control activities (B. Guggolz, *in litt.* 1993). The sole remaining natural population of C. imbricata is threatened by changing land use, such as conversion to agriculture, and inadvertent mowing of its habitat (B. Guggolz, *in litt.* 1993; B. Guggolz, pers. comm. 1996).

One site with two populations of *Lilium pardalinum* ssp. *pitkinense* was largely destroyed by urbanization in 1961; however, approximately 300 plants remain at this site (CDFG 1993b;

B. Guggolz, pers. comm. 1996). Although a subdivision is planned for the area surrounding a portion of this site, the landowner agreed to protect a portion of the habitat of *L. pardalinum* ssp. *pitkinense* (Allan Buckmann, CDFG, *in litt.* 1993; B. Guggolz, pers. comm. 1996). This agreement, if implemented, would place all sensitive natural resource areas in a conservation easement for long-term management, with CDFG as easement holder (A. Buckmann, *in litt.* 1993). Neither this easement, however, nor another easement that would protect the other population of *L. pardalinum* ssp. *pitkinense* at this site, has been executed and recorded (B. Guggolz, pers. comm. 1996). At the second site, wetland fills in the marsh have lowered the water table and resulted in drier soil conditions, which have negatively affected *L. pardalinum* ssp. *pitkinense*. This change in habitat quality is considered a significant threat to the population (CDFG 1993b), since only about 10 plants remain at this site (CNDDB 1996; B. Guggolz, pers. comm. 1996).

One of the two remaining sites of *Sidalcea oregana* ssp. *valida* is threatened by permitted and unauthorized water diversions from a stream that flows into the marsh where two subpopulations of the species occur. In the past, these diversions have removed all water from the stream channel, eliminating a source of surface water to the marsh (A. Howald, pers. comm. 1993). Plant census data from 1991 indicate that the eastern and western subpopulations in the marsh declined by approximately 40 and 30 percent, respectively, compared to 1989 and 1990 data. These figures suggest that this population may have been experiencing a delayed response to a drought period that began in the late 1980's. The adverse effects of future droughts may be exacerbated by increased surface water diversions and result in a further decline, or extinction of the species (John Turner, CDFG, *in litt.* 1993).

Trifolium amoenum was known from about 20 historical occurrences in 7 counties (Skinner and Pavlik 1994; CNDDB 1996). Loss of this habitat resulted primarily from urbanization and land conversion to agriculture (CNPS, 1977; Corelli and Chandik 1995). Two occurrences of *T. amoenum* have been recently discovered. The occurrence found in 1993 in Sonoma County consisted of a single plant located on private property that has subsequently been developed. The second, a population of about 200 plants, is found on two residential lots in Marin County (P. Connors, pers. comm 1996). If this property is further developed or altered, it may no longer contain suitable habitat for *T. amoenum*. Widespread urbanization has occurred, and continues to occur, throughout the historic range of the species. The populations of Sonoma and Marin counties are expected to grow by 11.1 and 10.4 percent, respectively, by the year 2000 (California Department of Finance 1993, 1996).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* One of the remaining populations of *Lilium pardalinum* ssp. *pitkinense* has been nearly extirpated by uncontrolled collection of plants, seeds, and bulbs for horticultural use. This species was abundant historically at this site, but the removal of plants and bulbs for horticultural use reduced this population to two plants by 1993 (CDFG 1993b). This population of *L. pardalinum* ssp. *pitkinense* has since expanded slightly to approximately 10 plants (B. Guggolz, pers. comm. 1996). Similar activities at the remaining site, which contains only 300 individuals in two populations, would likely result in the extinction of the species (B. Guggolz, pers. comm. 1993, 1996). Of the two remaining populations of *Clarkia imbricata*, one population is found in a preserve owned by the CNPS. Although CNPS has attempted to discourage unauthorized collection by fencing the preserve and by not publicizing the exact location of the site, trespassers have damaged the fence, trampled the vegetation, and collected seed of *C. imbricata* on several occasions (B. Guggolz, *in litt.* 1993).

No evidence of over-collection of *Sidalcea oregana* ssp. *valida* by botanists and/or horticulturists for scientific and commercial purposes is known at this time, although the species is considered to have horticultural potential (Hill 1993). Both populations are small enough, however, that even limited collecting pressure would have adverse impacts. *Sidalcea oregana* ssp. *valida* is an attractive plant, and may be sought for collection once the rarity of this species becomes known and if current site locations become known. Wild collected seed of the species, *S. oregana* (no variety given), are available through a seed exchange program offered by an international gardening society (North American Rock Garden Society (NARGS) 1996).

Any occurrences of *Trifolium amoenum* that may be discovered in the future also may attract collectors of plants or seed because the species was previously considered to be extinct. Overutilization is currently not known to be a factor for the remaining five species, but unrestricted collecting for scientific or horticultural purposes or excessive visits by individuals interested in seeing rare plants could result from increased publicity as a result of this proposal.

C. *Disease or predation.* Little is known about any diseases that may affect the nine plant species considered here. None of the species is currently known to be threatened by disease.

Seven of the 8 known sites of *Alopecurus aequalis* var. *sonomensis* are currently grazed or have been grazed in recent years by cattle (CNDDB 1996; V. Norris, *in litt.* 1995; R. Soost, *in litt.* 1996). All three populations in Sonoma County are currently threatened by cattle grazing (CNDDB 1996), as is a portion of one population outside of a fenced area on the PRNS where three small patches disappeared from a gathering place for cattle over a one week period of observation (V. Norris, *in litt.* 1995). The portion of the population inside of the fenced area decreased from 603 flowering culms (stems) in 1995 to 195 flowering culms in 1996, possibly due to annual fluctuation or competition from other vegetation (R. Soost, *in litt.* 1996). Another population on the PRNS was fenced from cattle in 1987. The number of individuals of *A. aequalis* var. *sonomensis* was 0 in 1990, 14 in 1991, and 0 in 1993, possibly due to competition from a dense growth of other marsh plants (V. Norris, *in litt.* 1993). Since then, experiments have been conducted with partial opening and closing of the entry gate, but few cattle found their way in and no plants have been seen at this site since 1991 (V. Norris, *in litt.* 1995; R. Soost, , *in litt.* 1996). These results suggest that some grazing may be necessary to maintain populations of *A. aequalis* var. *sonomensis* in the face of competition from other plants, but that excessive grazing by cattle can adversely impact the species.

Sidalcea oregana ssp. *valida* is adversely affected at both of its locations by reduced seed set resulting from cattle grazing (CNPS 1988b). Populations of *Lilium pardalinum* ssp. *pitkinense* have been enclosed with various types of wire fencing in an attempt to prevent grazing or browsing by cattle, horses, and deer, but most of the fences have failed to prevent grazing completely. The plants continue to suffer from herbivory by cattle, deer, and perhaps gophers and other herbivores, resulting in loss of flowers and seeds (L. Lozier, *in litt.* 1990).

Trifolium amoenum may have disappeared from some of its former

locations due to grazing (Connors 1994). This species is a large clover that blooms when many grassland plants have already turned brown, likely making it more attractive to grazing herbivores. Most recent sightings of the plant were located outside of fences along roadsides, suggesting that the species survived for a period where it was protected from grazing (Connors 1994). Threats due to herbivory on the one natural population of this species, which occurs on portions of two residential lots, are unknown, but livestock grazing is unlikely. Grazing may, however, pose a threat to any undiscovered sites for the species.

D. *The inadequacy of existing regulatory mechanisms.* The California Fish and Game Commission has listed *Carex albida, Clarkia imbricata, Lilium pardalinum* ssp. *pitkinense, Poa napensis,* and *Sidalcea oregana* ssp. *valida* as endangered species under the California Endangered Species Act (Division 3, Chapter 1.5 section 2050 et seq. of the California Fish and Game Code and Title 14 California Code of Regulations 670.2). The California Fish and Game Commission has also listed *Astragalus clarianus* and *Plagiobothrys strictus* as threatened species. Listing by the State of California requires individuals to obtain authorization from CDFG to possess or ''take'' a listed species. Although the ''take'' of State-listed plants is prohibited (California Native Plant Protection Act, Division 2, Chapter 10, section 1908 and California Endangered Species Act, Division 3, Chapter 1.5, section 2080), State law exempts the taking of such plants via habitat modification or land use changes by the owner. After CDFG notifies a landowner that a State-listed plant grows on his or her property, the California Native Plant Protection Act only requires that the landowner notify the agency ''at least 10 days in advance of changing the land use to allow salvage of such a plant'' (Division 2, Chapter 10, section 1913 of the California Fish and Game Code).

The California Environmental Quality Act (CEQA) requires a full disclosure of the potential environmental impacts of proposed projects. The public agency with primary authority or jurisdiction over the project is designated as the lead agency and is responsible for conducting a review of the project and consulting with the other agencies concerned with the resources affected by the project. Section 15065 of the CEQA Guidelines requires a finding of significance if a project has the potential to ''reduce the number or restrict the range of a rare or endangered plant or animal.'' Species that are eligible for State listing as rare, threatened, or endangered, but are not so listed, are given the same protection as those species that are officially listed with the State or Federal governments. Once significant effects are identified, the lead agency has the option to require mitigation for effects through changes in the project or to decide that overriding considerations make mitigation infeasible. In the latter case, projects may be approved that cause significant environmental damage, such as destruction of endangered species. Protection of listed species through CEQA is, therefore, dependent upon the discretion of the agency involved. In addition, CEQA guidelines recently have been revised in ways which, if made final, may weaken protections for threatened, endangered, and other sensitive species.

Hot spring areas and perennial freshwater emergent marshes are generally small and scattered, and treated as isolated wetlands or waters of the United States for regulatory purposes by the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act. However, the Clean Water Act, alone, does not provide adequate protection for *Alopecurus aequalis* var. *sonomensis, Carex albida, Lilium pardalinum* ssp. *pitkinense, Poa napensis, Plagiobothrys strictus, Sidalcea oregana* ssp. *valida,* and *Trifolium amoenum*. For example, Nationwide Permit (NWP) No. 26 (33 CFR part 330 Appendix B (26)) was established by the Corps to facilitate issuance of permits for discharge of fill into wetlands. Under current regulations, NWPs may be issued for fills up to 1.2 ha (3.0 ac); fills greater than 1.2 ha require an individual permit. For project proposals falling under NWP 26, the Corps seldom withholds authorization unless a listed threatened or endangered species' continued existence would be jeopardized by the proposed action, regardless of the significance of other wetland resources. Moreover, for fills less than 0.13 ha (⅓ ac) only an after-the-fact report is required by the Corps. This report must be submitted within 30 days of completion of the work and include only the name, address, and telephone number of the permittee; location and description of the work; and the type and acreage of the loss. All of the populations of the seven species in this rule that occur in wetlands are significantly smaller than 0.13 ha (⅓ ac). Although General Condition 11 of the NWP states that ''no activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or which is likely to destroy or modify the critical habitat of such species,'' the after-the-fact nature of the reporting requirement is inadequate to ensure the protection of populations that occur in areas smaller than the 0.13 ha (⅓ ac) threshold. Four of the seven plant species in this rule that occur in wetlands are known from only two populations, and two of the seven species are known only from a single population. Thus, for six of the seven species, the *post facto* reporting requirement may be inadequate to prevent their extinction.

Additionally and equally important, the upland watersheds that contribute significantly to the hydrology of marshes are not provided any direct protection under section 404. Disturbance to, or loss of, seep or marsh habitat and alteration of hydrology have damaged populations and habitat, as discussed previously under Factor A. Reductions in water volume or inundation of the sites have the potential to adversely affect the seven plant taxa listed above. Thus, as a consequence of the small size of these marsh, meadow, and hot spring areas and lack of protection of associated uplands, these types of habitats receive insufficient protection under section 404 of the Clean Water Act.

The Sonoma County Department of Planning has designated several marshes where some of these plants occur as ''critical habitat'' (Sonoma County 1989). The streams within these marshes are designated as ''riparian corridors.'' It is not likely that these designations will adequately protect the species involved. County policies for ''critical habitat'' include 15 m (50 ft) setbacks of construction from wetland boundaries and preparation of biotic resource assessments for development of mitigation measures, if the planning director determines that a ''critical habitat'' area will be impacted (Sonoma County 1989). A setback may be waived, however, if the setback is determined to make the parcel unsuitable for construction. The single population of *Carex albida* and the larger population of *Lilium pardalinum* ssp. *pitkinense* occur within 15 m (50 ft) of streams in Sonoma County (CNDDB 1996). The Sonoma County policy for ''riparian corridors'' allows the removal of riparian vegetation as part of a pest management program administered by the County Agricultural Commissioner, as well as construction of roads and summer dams (Sonoma County 1989). In addition, agricultural projects that may involve removal of native vegetation, including the species in this

rule and their habitats, are considered in Sonoma County to be ''ministerial'' (Ken Ellison, Sonoma County Department of Planning, pers. comm. 1993). Ministerial projects are those projects that the public agency must approve after the applicant shows compliance with certain legal requirements. They may be approved or carried out without undertaking CEQA review.

Only a few measures have been taken to protect some of the species in this rule. In 1989, the landowners of the two confirmed populations of *Lilium pardalinum* ssp. *pitkinense* entered into voluntary protection agreements with TNC (CDFG 1993b). Since that time, TNC and the California Conservation Corps have jointly built and maintained cattle exclosures in an attempt to protect the plants at both sites. Some plants, however, continue to suffer herbivory from livestock and wildlife, resulting in loss of flowers and seeds (L. Lozier, *in litt.* 1990). A memorandum of understanding is currently in effect between CDFG and the Berry Botanic Garden, Portland, Oregon, for research on germination and recovery of this species (CDFG 1993b). TNC also obtained a voluntary agreement with private landowners in 1990 to protect one population of *Astragalus clarianus*.

CDFG has proposed to purchase approximately 37 ha (90 ac) of the marsh where *Sidalcea oregana* ssp. *valida* occurs to create an ecological preserve (A. Howald, pers. comm. 1993). Acquisition of the preserve, however, is dependent on the cooperation of the current landowners. The owner of one parcel with about half of the population has declined to sell her property to the State (N. Wilcox, pers. comm. 1994). Purchase of the land as a preserve would ensure appropriate grazing practices on the site and would allow direct management of the plant population with possible opportunities to expand the population (A. Howald, pers. comm. 1993). The preserve would include only a small portion of the watershed, however, limiting the protection that the preserve would afford to the hydrology of the marsh (N. Wilcox, pers. comm. 1994).

TNC also has entered into a verbal conservation agreement with a landowner for the protection of the one natural population of *Clarkia imbricata*. However, this population of *C. imbricata* was inadvertently mowed before seed set in 1989 and 1991, reducing the seed production and number of plants in the years following mowing (B. Guggolz, *in litt.* 1993).

Seed from cultivated *Trifolium amoenum* plants is currently being collected for future reintroduction efforts (P. Connors, pers. comm. 1994, 1996). In addition, half of the seed that was recovered from the single plant in 1993 was deposited for long-term storage at the U.S. Department of Agriculture National Seed Storage Laboratory in Fort Collins, Colorado (Connors 1994).

Although the PRNS is part of the National Park system, 17 cattle and dairy ranches are contained within its boundaries. Grazing and ranching, which have occurred on the peninsula for more than a century, have been determined to be ''consistent with the purpose for which the Seashore was authorized'' (Clark and Fellers 1987). Clark and Fellers (1986) state that grazing has been a serious threat to *Alopecurus aequalis* var. *sonomensis* occurrences located on the Seashore, but more recent reports indicate concerns about both too much and too little grazing (CNDDB 1996; V. Norris, in litt. 1995; R. Soost, *in litt.* 1996).

E. *Other natural or manmade factors affecting their continued existence.* *Alopecurus aequalis* var. *sonomensis* suffers from competition from invasive emergent wetland species, including rushes (*Juncus* spp.) and nutsedges (*Cyperus* spp.) at one location. These wetland plants have nearly extirpated *A. aequalis* var. *sonomensis* from that site (V. Norris, *in litt.* 1993; CNDDB 1996). Additionally, *A. aequalis* var. *sonomensis* is not readily propagated. Three attempts to reintroduce the species from seed to suitable habitat within its range have failed, as has an attempt to start a population in the East Bay Botanic Garden in Tilden Park. Naturally occurring floods also may be an ongoing threat. One population was damaged by a flash flood in 1993 (V. Norris, *in litt.* 1995; R. Soost, *in litt.* 1996).

The population of *Astragalus clarianus* located along the north shore of Lake Hennessey has an infestation of the invasive and dominating alien weed, yellow star-thistle (*Centaurea solstitialis*) (A. Howald, pers. comm. 1993; J. Ruygt, hearing transcript). This infestation was a direct result of ground disturbance associated with the removal of dredge spoils that were placed on top of this population as discussed under Factor A (A. Howald, pers. comm. 1993). Competition from this alien annual weed is also considered a threat to the population of *A. clarianus* at the Bothe Napa Valley State Park (J. Ruygt, *in litt.* 1993). A proposed application to build two small agricultural water storage reservoirs along a creek in Napa County would avoid direct impacts to another population of *A. clarianus*, but ground disturbance would most likely introduce this same alien invasive weed (A. Howald, pers. comm. 1993).

Plant succession may be excluding or reducing the population of *Astragalus clarianus* at one site (J. Ruygt, *in litt.* 1993) where *A. clarianus* grows sparingly in the gaps between manzanita plants. As established plants continue to grow, and new manzanita seedlings become established, less space is available for *A. clarianus*. Fire suppression has reduced fire frequency in the manzanita community. Periodic fire reduces manzanita cover and creates space for other plants, including *A. clarianus*. This species, therefore, is vulnerable to habitat loss from plant succession. Another population of *A. clarianus* is threatened by competition from French broom (*Genista monospessulana*), an invasive alien shrub, and the rooting behavior of wild pigs (CNDDB 1996; J. Ruygt, pers. comm. 1996).

The potential for loss of the only population of *Sidalcea oregana* ssp. *valida* from naturally occurring events, because of the small population size, is exacerbated by drought and water diversions. In addition, this population is being encroached upon by invasive weeds, including yellow star-thistle and blackberry (A. Howald, pers. comm. 1993). One of the subpopulations was damaged by an off-road vehicle during maintenance of a local aqueduct, which passes through the marsh. The maintenance activity occurred late in the season when the soil was relatively dry, resulting in minimal damage to the plants. If such maintenance activities occur during a time when the soil is saturated, they pose a threat to the plants (A. Howald, pers. comm. 1993).

Because *Lilium pardalinum* ssp. *pitkinense* is unlikely to be self-pollinating, single plants or widely separated plants in sparse populations may not set viable seed (Mark Skinner, CNPS, pers. comm. 1994). The remaining plants at one site are monitored closely by CNPS volunteers and, at the time the proposed rule was written, had not been observed to have set seed for several years (M. Skinner, pers. comm. 1994). Much of the habitat for *L. pardalinum* ssp. *pitkinense* has been invaded by blackberry vines that compete for space, light, and nutrients (CDFG 1993b).

Grass mowing, vehicle traffic, and parking have impacted and continue to threaten one population of *Poa napensis* at the Calistoga airport (CNPS 1990; Robert Soreng, Cornell Univ., *in litt.* 1993). Grass mowing is done at regular intervals through the spring and summer to reduce fire and aircraft safety hazards. Mowing for fire control during

the reproductive cycle of *Clarkia imbricata* has reduced the size of one of its populations by a third (B. Guggolz, *in litt.* 1996). Airport users include a spray plane service, recreational gliders, and associated tow planes. Service vehicles for the planes and the private vehicles of the customers impact this population of *P. napensis*, especially during the spring and summer when airport use increases.

The extirpation of historical populations of *Trifolium amoenum* may have partially been a result of competition with weedy, alien plant species. A recent germination study of other *Trifolium* species from historical *T. amoenum* habitat in Sonoma County suggested that some annual *Trifolium* species germinate in late November, well after many introduced species, including redstem storkbill (*Erodium cicutarium*), ripgut brome (*Bromus diandrus*), and California burclover (*Medicago polymorpha*) (Connors 1994). By germinating and growing earlier, it is likely that alien species have reduced the numbers of *T. amoenum* plants by occupying available space (Connors 1994).

The small population size of most of these nine plant species increases the susceptibility to extirpation from random events. Population sizes of 100 or fewer are known for one or more populations of *Alopecurus aequalis* var. *sonomensis, Astragalus clarianus, Lilium pardalinum* ssp. *pitkinense, Plagiobothrys strictus, Poa napensis,* and *Sidalcea oregana* ssp. *valida*. The single extant population of Trifolium amoenum contains about 200 individuals. These species may also be subject to increased genetic drift and inbreeding as a consequence of their small population sizes (Menges 1991, Ellstrand and Elam 1993). Increased homozygosity resulting from genetic drift and inbreeding may lead to a loss of fitness (ability of individuals to survive and reproduce) in small populations. In addition, reduced genetic variation in small populations may make any species less able to successfully adapt to future environmental changes (Ellstrand and Elam 1993). Thus, seven of the nine species are threatened by potential loss of fitness and/or genetic variability associated with small population sizes.

Each of the species addressed in this rule is known from few populations. *Carex albida* and *Trifolium amoenum* each have only one population. *Clarkia imbricata, Lilium pardalinum* ssp. *pitkinense, Plagiobothrys strictus, Poa napensis,* and *Sidalcea oregana* ssp. *valida* each have only two confirmed populations. *Astragalus clarianus* is known from four populations. *Alopecurus aequalis* var. *sonomensis* has eight populations. The combination of few populations, small range, and restricted habitat makes the nine species highly susceptible to extinction or extirpation from a significant portion of their ranges due to random events, such as flood, drought, disease, or other occurrences (Shaffer 1981, Primack 1993). Such events are not usually a concern until the number of populations or geographic distribution become severely limited, as is the case with all of the species discussed here. Once the number of populations, or the plant population size, is reduced due to habitat destruction or fragmentation, the remnant populations, or portions of populations, have a higher probability of extinction from random events.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to make this rule final. Based on this evaluation, the preferred action is to list *Alopecurus aequalis* var. *sonomensis* (Sonoma alopecurus), *Astragalus clarianus* (Clara Hunt's milkvetch), *Carex albida* (white sedge), *Clarkia* imbricata (Vine Hill clarkia), *Lilium pardalinum* ssp. *pitkinense* (Pitkin Marsh lily), *Plagiobothrys strictus* (Calistoga allocarya), *Poa napensis* (Napa bluegrass), *Sidalcea oregana* ssp. *valida* (Kenwood marsh checker-mallow), and *Trifolium amoenum* (showy Indian clover) as endangered. Competition with invasive plant species or excessive cattle grazing threatens five of the eight remaining populations of *Alopecurus aequalis* var. *sonomensis.* Efforts to reintroduce this species to sites within its range have failed. If combined, all four populations of *Astragalus clarianus* would occupy only a 0.5 ha (1 ac) area, and are threatened variously by a potential water storage project, an approved subdivision, competition from invasive plant species, recreational activities, airport maintenance, and elimination through plant community succession. The single *Carex albida* population, totaling approximately 1,000 plants, is located 46 m (150 ft) from the State highway and is threatened by potential changes in the site's hydrology resulting from wetland drainage or fill, competition from invasive plant species, changes in land management by the owner, highway widening or maintenance, and potential disturbance from a proposed wastewater treatment. The two remaining populations of *Clarkia imbricata* are threatened by changing land use, mowing for fire control, and unauthorized collection. The three remaining populations of *Lilium pardalinum* ssp. *pitkinense,* totaling approximately 300 plants, suffer from uncontrolled collection of plants, seeds, and bulbs for horticultural use, and from herbivory by livestock and wildlife. One site is potentially threatened by a proposed wastewater treatment project; the other site is potentially threatened by a proposed subdivision. Competition from invasive plants such as blackberry also adversely impacts this species. If combined, the remaining populations of *Plagiobothrys strictus* and *Poa napensis* would occupy an area of less than 0.5 ha (1 ac) each. These populations are surrounded by hot springs resorts or housing. *Plagiobothrys strictus* and *Poa napensis* both occur at the same two sites where they are threatened by airport activities, including traffic and vehicle parking on the plants, grass mowing, and land use changes, including the construction of a hospital at one site. Both populations of the two species are also threatened by potential alteration of hot springs hydrology. The only population of *Sidalcea oregana* ssp. *valida* is threatened by trampling and reduced seed set resulting from cattle grazing, aqueduct maintenance, competition from invasive plant species, and the potential alteration of hydrology from urbanization. *Trifolium amoenum* has been extirpated from all 24 historical occurrences in seven counties; the species currently is known from one natural population. This species is threatened by competition with invasive plant species, loss of habitat from urbanization and other land use changes. All nine species, because of their few, small populations and very narrow ranges are also highly susceptible to genetic complications and at increased risk of local extirpation or extinction from random events.

These nine species are imminently threatened by extinction throughout all or a significant portion of their range by the factors summarized above, and the final action, therefore, is to list them as endangered.

Critical Habitat

Critical habitat is defined in section 3 of the Act as: (i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management consideration or protection and; (ii) specific areas outside the geographical area occupied

by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures needed to bring the species to the point at which listing under the Act is no longer necessary.

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. Critical habitat is not determinable when one or both of the following situations exist—(1) Information sufficient to perform required analyses of the impacts of the designation is lacking, or (2) the biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat (50 CFR 424.12(a)(2)). Service regulations (50 CFR 424.12(a)(1)) state that designation of critical habitat is not prudent when one or both of the following situations exist—(1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or (2) such designation of critical habitat would not be beneficial to the species.

The Service finds that designation of critical habitat is not prudent for any of these nine plant taxa. Designation of critical habitat is not prudent for *Astragalus clarianus, Clarkia imbricata, Lilium pardalinum, Carex albida, Plagiobothrys strictus, Poa napensis, Sidalcea oregana* ssp. *valida, Trifolium amoenum,* and *Alopecurus aequalis* var. *sonomensis* because of lack of benefit. Moreover, designation of critical habitat for *Clarkia imbricata, Lilium pardalinum* ssp. *pitkinense, Carex albida, Sidalcea oregana* ssp. *valida,* and some populations of *Alopecurus aequalis* var. *sonomensis* is not prudent because doing so would increase the degree of threat to these species, or another species in this rule with which it occurs. The basis for these conclusions, including the factors considered in weighing the benefits against the risks of designation, are provided by species below.

Astragalus clarianus

None of the four known occurrences of *Astragalus clarianus,* which total about 28 ha (70 ac), are on Federal land (CNDDB 1996). This species does not occur in wetlands and no Federal actions are likely to occur in its habitat. Critical habitat designation outside of the areas where *A. clarianus* occurs also would serve no purpose because all other historical sites have been destroyed by urban development and viticulture (CNDDB 1996) and have no practical value for the survival and recovery of the species. Designation of critical habitat for *A. clarianus,* therefore, is not prudent because it provides no additional benefit to the species beyond that conferred by listing.

Clarkia Imbricata and *Lilium Pardalinum* ssp. *Pitkinense*

Clarkia imbricata and *Lilium pardalinum* ssp. *pitkinense* are attractive to plant collectors and incidents of overutilization and illegal collection of both species have occurred in the past. Both taxa are known only from private land. One of the two remaining populations of *C. imbricata* occurs on a CNPS preserve where, despite attempts to not publicize the preserve location and to discourage unauthorized collection, trespassers have damaged the fencing, trampled vegetation, and collected seeds of *C. imbricata* on several occasions (B. Guggolz, *in litt.* 1993). Critical habitat designation outside of the areas where *C. imbricata* occurs would serve no purpose because no other sites are known to be essential to the conservation of this species. At one of the two remaining sites for *L. pardalinum* ssp. *pitkinense,* the species was once abundant, but it has now been nearly extirpated by the uncontrolled collection of plants, seeds, and bulbs for horticultural use (CDFG 1993b). No historical sites for this taxon other than the two where it now occurs have ever been reported.

Lilium pardalinum ssp. *pitkinense* is a wetland species and alteration of its habitat may be regulated by the Army Corps of Engineers under section 404 of the Clean Water Act. The Service believes that activities regulated under section 404 that could impact the habitat of *L. pardalinum* ssp. *pitkinense* are unlikely to occur in the foreseeable future, and that this species is primarily threatened by overcollection, unregulated hydrological alterations, competition from alien plants, and trampling and herbivory by livestock and wildlife. Moreover, the inadequacies of the section 404 permitting process for protecting very small plant populations, discussed in detail under factor D of the ''Summary of the Factors'' section, apply to this species. In addition to these inadequacies, due to the small size of the only two populations of this species and the lack of historical habitat elsewhere, any adverse modification of its habitat would also likely jeopardize its continued existence. This would also hold true as the species recovers and its numbers increase. Any benefits that might result from the designation of critical habitat for *L. pardalinum* ssp. *pitkinense* would be outweighed by the likely increased threat of uncontrolled collection to this species.

Designation of critical habitat for *Clarkia imbricata* and *Lilium pardalinum* ssp. *pitkinense,* therefore, is not prudent because doing so would increase the degree of threat to these species. Although there may be a Federal nexus for *L. pardalinum* ssp. *pitkinense* through the Clean Water Act, the designation of critical habitat for this species would provide little or no benefit to the protection of this species beyond that provided by listing. The publication of maps and precise locations of populations that is required for designation of critical habitat would contribute to the further decline of this species by facilitating trespassing, uncontrolled collecting, and hindering recovery efforts. Any benefit from designation of critical habitat for these species, therefore, would be outweighed by the increased degree of risk to these species due to the publication of precise maps of their populations.

Carex Albida

The only known population of *Carex albida* occupies less than 300 m^2 of private land in Sonoma County (CDFG 1993a). Critical habitat designation outside of the areas where *C. imbricata* occurs would serve no purpose. The other four historical localities for the species, due to hydrological alteration and the long-term effects of effluent discharge from a cannery (CDFG 1993a), serve no practical value for the survival and recovery of the species. The Service believes that activities regulated under section 404 that could impact the habitat of *C. albida* are unlikely to occur in the foreseeable future, and that this species is primarily threatened by unregulated hydrological alterations and competition from native and alien plant species favored by drier conditions. Moreover, the inadequacies of the section 404 permitting process for protecting very small plant populations, discussed in detail under factor D of the ''Summary of the Factors'' section above, apply to this species. Even if a proposed fill was larger than the regulatory threshold and a pre-construction permit was required, any activity that would destroy or adversely modify the habitat of the sole remaining population of this species would also likely jeopardize its continued existence. This would also hold true as

the species recovers and its numbers increase. Because the site occurs within 45 m (150 ft) of a State highway, a potential Federal nexus also exists through activities of the Federal Highway Administration. In such a situation, however, any action that would adversely modify the habitat of the only known population of the species would also likely jeopardize the continued existence of the species. This would also hold true as the species recovers and its numbers increase. Designation of critical habitat for *C. albida*, therefore, is not prudent because it provides no additional benefit to the species beyond that conferred by listing. In addition, *C. albida* occurs at the same site as *Lilium pardalinum* ssp. *parkinense* (see previous paragraph) and the designation of critical habitat and publication of detailed maps of this site would contribute to the further decline of the latter species by facilitating trespassing, uncontrolled collecting, and hindering recovery efforts for the latter species. The plants at this site are particularly vunerable since they are close to a State highway and more easily accessible to collectors.

Alopecurus Aequalis var. Sonomensis

Alopecurus aequalis var. *sonomensis* is the only species in this rule that occurs on Federal land. Four of the eight known populations occur on Federal land within the PRNS (CNDDB 1996). The plant appears to have very strict habitat requirements and suitable habitats occur in only a few places within the PRNS (V. Norris, *in litt.* 1995). Several attempts at establishing new populations in seemingly suitable habitat on the PRNS have been unsuccessful. The locations of these four populations are known to the managers of the PRNS and each population is closely monitored by CNPS members, acting in an official capacity as National Park Service (NPS) volunteers (V. Norris, *in litt.* 1995; R. Soost, *in litt.* 1996). This monitoring includes annual surveys for new populations of the species. The NPS has also fenced a portion of one population. The species within the exclosure declined despite this effort. Because the presence of this plant, and its specific locations, are well known to the managers of the PRNS, no modification of its habitat is likely to occur without consultation under section 7 of the Act. Any action which would destroy or adversely modify the habitat of the few remaining populations of this species would also likely jeopardize its continued existence. This would also hold true as the species recovers and its numbers increase. Designation of critical habitat for any of the four populations of *Alopecurus aequalis* var. *sonomensis* on Federal land with the PRNS, therefore is not prudent because it provides no additional benefit to the species beyond that conferred by listing.

The other four populations occur on private land and may have a Federal nexus through the Clean Water Act. However, the inadequacies of the section 404 permitting process for protecting very small plant populations, discussed in detail under Factor D of the ''Summary of the Factors'' section, apply to this species. In addition to these inadequacies, due to the small size of the only known populations of this species any adverse modification of its habitat would also likely jeopardize its continued existence. This would also hold true as the species recovers and its numbers increase.

Moreover, two of the four populations of *Alopecurus aequalis* var. *sonomensis* on private land are found in proximity to *L. pardalinum* ssp. *pitkinense* (see previous discussion of this species). Although *A. aequalis* var. *sonomensis* is not collected for horticultural use, mapping specific localities of *A. aequalis var. sonomensis* could lead to increased collection of *L. pardalinum* ssp. *pitkinense*. The horticultural value of the latter species makes it highly attractive and one of its two populations has been nearly extirpated by the uncontrolled collection of plants, seeds, and bulbs for horticultural use (CDFG 1993b). Designation of critical habitat for these two populations of *Alopecurus sonomensis*, therefore, would increase the degree of threat to *Lilium pardalinum* ssp. *pitkinense* by facilitating trespassing and uncontrolled collecting, and hindering recovery efforts.

Designation of critical habitat for any of the four populations of *Alopecurus aequalis* var. *sonomensis* on Federal land with the PRNS, therefore, is not prudent because it provides no additional benefit to the species beyond that conferred by listing. Critical habitat designation for known populations on private land would also confer no benefit beyond that provided by listing. Because of the few small occurrences of this species, any adverse modification of its habitat would likely jeopardize its continued existence. The publication of maps and precise locations of the two private populations at which *A. aequalis* var. *sonomensis* occurs with *Lilium pardalinum* ssp. *pitkinense* would also contribute to the further decline of the latter species by facilitating trespassing and uncontrolled collecting, and hindering recovery efforts.

Plagiobothrys strictus

Plagiobothrys strictus is known only from two populations on private land. The total area of these populations is less than 80 m^2 (900 ft^2). The only other historical locality has been rendered unsuitable by urbanization and agricultural land conversion (CNPS 1990) and has no practical value for the survival and recovery of the species. Thus, the establishment of critical habitat in this unoccupied area would serve no purpose. As with *Carex albida*, the habitat for *P. strictus* will likely be regulated under section 404 of the Federal Clean Water Act, but the total area of the population is significantly smaller than the minimum regulatory threshold of 0.13 ha (⅓ ac) for pre-construction notification. Even if a pre-construction permit was required, any activity that would destroy or adversely modify the habitat of the sole remaining population of this species would also likely jeopardize its continued existence. This would also hold true as the species recovers and its numbers increase. The designation of critical habitat for *Plagiobothrys strictus*, therefore, is not prudent because it provides no additional benefit to the species beyond that conferred by listing.

Poa Napensis

Both extant populations of *Poa napensis* occur on private land, where they occupy slightly more than 100 m^2 (1,100 ft^2). Urban growth and recreational development of hot springs in the Calistoga area has rendered all other historical localities unsuitable for this species (CDFG 1979). Thus, the establishment of critical habitat in these unoccupied areas would serve no purpose since these areas have no practical value for the survival and recovery of the species. At least some of the suitable wetland habitat for *P. napensis* may be regulated under section 404 of the Clean Water Act. As with *Carex albida* and *Plagiobothrys strictus*, the total population area is significantly smaller than the 0.13 ha (⅓ ac) minimum regulatory threshold for pre-construction notification. As is also the case with these species, even if a pre-construction permit was required, any activity that would destroy or adversely modify the habitat of the *Poa napensis* would also likely jeopardize its continued existence. This would also hold true as the species recovers and its numbers increase. Designation of critical habitat for *P. napensis*, therefore, is not prudent because doing so provides no additional benefit to the species beyond that conferred by listing.

Sidalcea Oregana ssp. Valida

Both populations of *Sidalcea oregana* ssp. *valida* occur only on private land. There is no evidence that the species was ever present at any other localities (CNPS 1988b, CDFG 1987). It grows in a habitat which is likely to be regulated under the Clean Water Act but, as with the other wetland species discussed above, the small populations occupy less than the 0.13 ha (1/3 ac) minimum regulatory threshold for pre-construction notification. Moreover, due to the small size of the only two extant populations, any activity that would destroy or adversely modify the habitat of either of the two remaining populations of this species would also likely jeopardize its continued existence. This would also hold true as the species recovers and its numbers increase. The species is also of recognized horticultural value (Hill 1993), and wild-collected seeds of this species (no variety given) are available through a seed exchange program offered by a international gardening society (NARGS 1996). Both populations are small enough that even limited collecting pressure would have adverse impacts. Designation of critical habitat for *S. oregana* ssp. *valida*, therefore, is not prudent because it provides no additional benefit to the species beyond that conferred by listing and because doing so would increase the degree of threat to this species. The publication of maps and precise locations of the populations that is required for designation of critical habitat, therefore, would contribute to the further decline of this species by facilitating trespassing and uncontrolled collecting, and hindering recovery efforts.

Trifolium Amoenum

Only a single population of *Trifolium amoenum* is known to be extant. Although the species was widespread north and east of San Francisco Bay historically, it had last been seen in 1969 and presumed extinct until its rediscovery in 1992 after years of searching (Connors 1994). Because it is a large, attractive plant, it is highly likely that it has been extirpated from its historical localities (Connors 1994). The sole population is on private land with little probability of any Federal activity. No other suitable habitat on Federal land, or where any Federal action is likely to occur, is known to exist. The species has probably been eliminated at its other historical localities by competition with alien species of annual plants and because of the prevalance of alien species throughout the historical range of *T. amoenum*, (Connors 1994). Although historically the plant was known from ''wet swales,'' the current site is not a regulated wetland. Even if a Federal nexus were identified, any activity that would destroy or adversely modify the habitat of the sole remaining population of this species would also likely jeopardize its continued existence. This would also hold true as the species recovers and its numbers increase. Designation of critical habitat for *Trifolium amoenum* at this site, therefore, is not prudent because it provides no additional benefit to the species beyond that conferred by listing. Although collection is not currently thought to be a threat to the species, the plant is large with showy flowers and its populations are small enough that even limited collecting pressure would have adverse impacts. Designation of critical habitat for *T. amoenum* anywhere within its historical range, therefore, is not prudent because doing so would increase the degree of threat to this species. The publication of maps and precise locations of involved plant populations that is required for designation of critical habitat would contribute to the further decline of this species by facilitating trespassing and uncontrolled collecting, and hindering recovery 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 practices. Recognition through listing results in public awareness and conservation actions by Federal, State, and local agencies, private organizations, and individuals. The Act provides for possible land acquisition and cooperation with the State, and requires that recovery plans be developed 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. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

To the extent that six of the nine taxa proposed herein are currently known to inhabit marshes, wet meadows, perennial streams, or thermal hot springs, the Service anticipates that the Corps will enter into section 7 consultations regarding these species if it regulates fill of these wetlands under section 404 of the Clean Water Act. Because of the small area covered by these populations, however, actions which could impact their habitats may not be subject to pre-construction notification. The inadequacies of current regulations for NWP 26 processing under the Clean Water Act are discussed in detail under factor D in the ''Summary of Factors'' section above. The National Park Service may participate in section 7 consultation because of potential grazing effects on *Alopecurus aequalis* var. *sonomensis* at the PRNS, and concerning park management plans that directly or indirectly affect this species.

Listing *Alopecurus aequalis* var. *sonomensis*, *Astragalus clarianus*, *Carex albida*, *Clarkia imbricata*, *Lilium pardalinum* ssp. *pitkinense*, *Plagiobothrys strictus*, *Poa napensis*, *Sidalcea oregana* ssp. *valida*, and *Trifolium amoenum* would provide for development of a recovery plan (or plans) for them. Such plan(s) would bring together both State and Federal efforts for conservation of the plants. The plan(s) would establish a framework for agencies to coordinate activities and cooperate with each other in conservation efforts, set recovery priorities, and estimate costs of various tasks necessary to accomplish them. The plan(s) also would describe site-specific management actions necessary to achieve conservation and survival of the nine plant species. Additionally, pursuant to section 6 of the Act, the Service would be more likely to grant funds to affected states for management actions promoting the protection and recovery of these species.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered plants. All prohibitions of section 9(a)(2) of the Act,

implemented by 50 CFR 17.61, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export any of the plants, transport them in interstate or foreign commerce in the course of a commercial activity, sell or offer them for sale in interstate or foreign commerce, or remove and reduce any of the plants to possession from areas under Federal jurisdiction. In addition, the Act prohibits the malicious damage or destruction of endangered plants on areas under Federal jurisdiction, as well as the removal, cutting, digging up, or damaging or destroying of such plant species in knowing violation of any State law or regulation, including State criminal trespass law. Certain exceptions to the prohibitions apply to agents of the Service and State conservation agencies.

The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered plant species under certain circumstances. Such permits are available for scientific purposes and to enhance the propagation or survival of the species. The Service anticipates that few permits would ever be sought or issued for most of the species because they are typically not sought for cultivation and are uncommon in the wild. *Lilium pardalinum* ssp. *pitkinense* and *Clarkia imbricata*, however, are collected for horticultural use.

It is the policy of the Service, published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of the listing of the nine plant species on proposed and ongoing activities within the species' range. Collection, damage or destruction of these species on Federal lands is prohibited, although in appropriate cases a Federal permit may be issued to allow collection for scientific or recovery purposes. Such activities on non-Federal (private) lands would constitute a violation of section 9 when conducted in knowing violation of California State law or regulations or in violation of State criminal trespass law. See Factor D. for a discussion of California's law protecting plants.

As noted above, Federal listing of plant species protects plants occurring on Federal lands and when Federal activities may affect the species. Thus, activities on private lands such as landscape maintenance, clearing vegetation for firebreaks, and livestock grazing, are not prohibited or regulated unless they are conducted in knowing violation of State law or are federally funded or authorized. Questions regarding whether specific activities would constitute a violation of section 9 should be directed to the Field Supervisor of the Service's Sacramento Field Office (see **ADDRESSES** section). Requests for copies of the regulations regarding listed plants and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Endangered Species Permits, 911 NE 11th Ave., Portland, Oregon 97232–4181 (phone 503/231–2063, facsimile 503/231–6243).

National Environmental Policy Act

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

Required Determinations

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

References Cited

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

Author

The primary authors of this final rule are Diane Elam and David Wright, Sacramento Field Office (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, the Service amends as follows:

PART 17—[AMENDED]

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

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

2. Amend Section 17.12(h) by adding the following, in alphabetical order under FLOWERING PLANTS, to the List of Endangered and Threatened Plants to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic Range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common Name						
FLOWERING PLANTS							
*	*	*	*	*	*		*
Alopecurus aequalis var. *sonomensis.*	Sonoma alopecurus	U.S.A. (CA)	Poaceae	E	625	NA	NA
*	*	*	*	*	*		*
Astragalus clarianus	Clara Hunt's milk-vetch.	U.S.A. (CA)	Fabaceae	E	625	NA	NA
*	*	*	*	*	*		*
Carex albida	white sedge	U.S.A. (CA)	Cyperaceae	E	625	NA	NA
*	*	*	*	*	*		*
Clarkia imbricata	Vine Hill clarkia	U.S.A. (CA)	Onagraceae	E	625	NA	NA

Species		Historic Range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common Name						
*	*	*	*	*	*		*
Lilium pardalinum ssp. *pitkinense.*	Pitkin Marsh lily	U.S.A. (CA)	Liliaceae	E	625	NA	NA
*	*	*	*	*	*		*
Plagiobothrys strictus	Calistoga allocarya	U.S.A. (CA)	Boraginaceae	E	625	NA	NA
*	*	*	*	*	*		*
Poa napensis	Napa bluegrass	U.S.A. (CA)	Poaceae	E	625	NA	NA
*	*	*	*	*	*		*
Sidalcea oregana ssp. *valida.*	Kenwood Marsh checker-mallow.	U.S.A. (CA)	Malvaceae	E	625	NA	NA
*	*	*	*	*	*		*
Trifolium amoenum ..	showy Indian clover	U.S.A. (CA)	Fabaceae	E	625	NA	NA
*	*	*	*	*	*		*

Dated: September 29, 1997.

Jamie Rappaport Clark,

Director, Fish and Wildlife Service.

[FR Doc. 97–27924 Filed 10–21–97; 8:45 am]

BILLING CODE 4310–55–P