

published on February 21, 1990 (55 FR 6184). In this revision, *Astragalus clarianus*, *Plagiobothrys strictus*, *Poa napensis*, and *Sidalcea oregana* ssp. *valida* were returned to Category 1 status. 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 Category 1 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. Since the publication of that notice, additional information has been received on the status of *Trifolium amoenum*, indicating its rediscovery. The Service, therefore, believes that sufficient information is now available to support the listing of these nine species.

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 taxa was warranted but precluded by other higher priority listing actions. The finding was reviewed annually in October from 1983 through 1993. Publication of this proposal constitutes the final finding for the petitioned action for these eight species.

Summary of Factors Affecting the Species

Section 4 of the Endangered Species Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in Section 4(a)(1). These factors and their application to *Alopecurus aequalis* Sobol. var. *sonomensis* Rubtsoff (Sonoma alopecurus), *Astragalus clarianus* Jepson (Clara Hunt's milkvetch), *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 checkermallow), and *Trifolium amoenum* Greene (showy Indian clover) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Their Habitat or Range

Habitat destruction, including urbanization, land use changes, and alteration in hydrology of springs poses the most serious threat to the survival of most of these nine plant species.

Inland Species

Astragalus clarianus is known currently from three populations in Napa County and one in Sonoma County (CNDDB 1993, CNPS 1989). The four populations face a variety of threats to their continued existence. Historically, one population in Napa County occupied a larger area but the creation of Lake Hennessey in the 1940s inundated much of the site (Lynn Lozier, pers. comm. 1993). The city of Napa owns the lake and uses Lake Hennessey as a water source for the town. Recently, the city of Napa conducted a feasibility study that considered raising the elevation of the dam as part of a project to increase water storage for the city. Such an elevation change would have raised the lake level, submerging the population of *A. clarianus* (Jake Ruygt, CNPS, *in litt.* 1993). This increased water-storage project at Lake Hennessey has been determined by the city of Napa to be too costly (Don Ridenhour, Public Works Dept., city of Napa, pers. comm. 1993). 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* due to its proximity to 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). Eight plants of *A. clarianus* were counted at this site in 1991, 325 plants in 1992, and 156 plants in 1993 (CDFG 1989; J. Ruygt, *in litt.* 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. Disturbance associated with dredge spoils removal resulted in proliferation of nonnative weeds that further threaten the site, as discussed below under Factor E. The fenced and gated 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* exists in Bothe Napa Valley State Park. Plant numbers have ranged from 8 plants in 1988 to 101 plants in 1993 on a 1 ha (2 ac) monitoring site (J. Ruygt, *in litt.* 1993). 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 historically protected by placing brush piles next to a foot trail to divert people away from the population (Bill Grummer, Bothe Napa Valley State Park, California Dept. of Parks and Recreation, pers. comm. 1993). Although the general plan for the park indicates a campground to be placed over the larger portion of *A. clarianus*, the Service does not consider this plan as an imminent threat because of lack of funding and possible revisions to the park plan (B. Grummer, pers. comm. 1993). 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.

Another population of *Astragalus clarianus* occurs nearer to the city of Santa Rosa in eastern Sonoma County. This population, scattered over 6 ha (15 ac), is on privately owned land under a voluntary protection agreement with TNC. Upslope and adjacent to this population is the 454 ha (1,350 ac) approved subdivision, Saddle Mountain Development. Soil erosion from proposed road and pad construction for house lots potentially threatens this population of *A. clarianus* (J. Ruygt, *in litt.* 1993).

Over 70 percent of the original habitat of *Plagiobothrys strictus* has been destroyed by urbanization and viticulture (CNPS 1990). The two remaining populations of *P. strictus* are threatened by urbanization (CNDDB 1994, CNPS 1990). One population site occurs at the Calistoga Airport. The construction of the airport fragmented and reduced this population to fewer than 100 plants. Further development at this site could potentially threaten this population (J. Ruygt, *in litt.* 1993). Another population of *P. strictus* is scattered over a 4 ha (10 ac) area of private land near Myrtledale Hot Springs. This population has been bisected by an asphalt road. The landowner has proposed to build a convalescent community on this site, but has been unsuccessful due to current zoning status (CDFG 1988; J. Ruygt, *in litt.* 1993).