

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AH76

Endangered and Threatened Wildlife and Plants; Endangered Status and Designation of Critical Habitat for *Polygonum hickmanii* (Scotts Valley polygonum)**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), determine endangered status pursuant to the Endangered Species Act of 1973, as amended (Act), for *Polygonum hickmanii* (Scotts Valley polygonum). *Polygonum hickmanii* is restricted to two sites in northern Scotts Valley, Santa Cruz County, California. We are also designating critical habitat pursuant to the Act for this species; 116 hectares (287 acres) of land are designated as critical habitat. This rule implements the protection and recovery provisions afforded by the Act for this species.

DATES: This rule becomes effective on May 8, 2003.

ADDRESSES: Comments and materials received, as well as supporting documentation used in the preparation of this final rule, will be available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Ventura Field Office, 2493 Portola Road Suite B, Ventura, CA 93003.

FOR FURTHER INFORMATION CONTACT: Connie Rutherford, Ventura Fish and Wildlife Office, at the above address or telephone number 805/644-1766, facsimile 805/644-3958 or e-mail at connie_rutherford@fws.gov. Information regarding this rulemaking is available in alternate formats upon request.

SUPPLEMENTARY INFORMATION:**Background**

Polygonum hickmanii (Scotts Valley polygonum) is a recently described endemic plant species from Scotts Valley, Santa Cruz County, California (Hinds and Morgan 1995). Randy Morgan made the type collection in 1993 from a "grassland [north] of Navarra Drive, [west] of Carbonero Creek" (Hinds and Morgan 1995). The species was named after James C. Hickman, editor of the Jepson Manual-Higher Plants of California (Hickman 1993) and author of the chapter on the

genus *Polygonum* in the same reference. Hickman concurred with Morgan's assessment that the taxon was distinct (J.C. Hickman, *in litt.* 1991), but died before coauthoring the publication of a name. The plant is a small, erect, taprooted annual in the buckwheat family (Polygonaceae). It grows from 2 to 5 centimeters (cm) (1 to 2 inches (in)) tall and can be either single stemmed or profusely branching near the base in more mature plants. The linear-shaped leaves are 0.5 to 3.5 cm (0.2 to 1.4 in) long, 1 to 1.5 mm (0.04 to 0.06 in) wide, and tipped with a sharp point. The single white flowers consist of two outer and three inner tepals (petal-like structure) and are found in the axils of the bracteal leaves (modified leaves near the flower).

The nearest known location of a closely related species, *Polygonum parryi*, is at Mount Hamilton, about 48 kilometers (km) (30 miles (mi)) inland. *Polygonum hickmanii* differs from *P. parryi* in its larger white flowers, longer leaves, larger anthers and achenes, and longer, straight stem sheath (Hinds and Morgan 1995). According to the late Harold Hinds, who was reviewing the genus *Polygonum* in an upcoming volume of the Flora of North America (Flora of North America Editorial Committee, *in prep.*), he intended to continue to recognize the distinctness of *P. hickmanii* as a species in that volume (Harold Hinds, University of New Brunswick, pers. comm., 1998). His successor, Mihai Costea, indicates there is no reason to doubt the validity of the taxon (M. Costea, University of Guelph, Ontario, Canada, *in litt.* 2002).

As with many other annual species found within Mediterranean climates in California (Holland and Keil 1990), *Polygonum hickmanii* germinates in the fall or early winter in response to winter season rains. The plant grows slowly over the next few months and remains fairly inconspicuous until flowering begins in May. The panicles (floral branches) are indeterminate in their growth, meaning that the oldest flowers are found near the base of the stem and younger flowers found near the continually growing tip. The degree to which *P. hickmanii* depends on insect pollinators (rather than being self-pollinated) has not been determined. However, Morgan observed a sphecoid wasp (family Sphecidae) visitation to an individual *P. hickmanii* (R. Morgan, pers. comm., 1998).

With the type of floral development found in *P. hickmanii*, new flowers will continue to be produced until climate or microhabitat conditions are no longer favorable. Consequently, seed production ranges from a few dozen

seeds in a typical individual to as many as two hundred in a particularly robust individual (Randy Morgan, biological consultant, pers. comm., 1998).

The seeds of many plant taxa within the buckwheat family (Polygonaceae) are known to be attractive forage to wildlife, who then inadvertently disperse some portion of the seed. Because the seed of *Polygonum hickmanii* are small, they most likely would be attractive to birds and small mammals including such species as black-tailed hares (*Lepus californicus*), pocket mice (*Perognathus californicus*), western gray squirrel (*Sciurus griseus*), ground squirrels (*Otospermophilus beecheyi*), striped skunks (*Mephitis mephitis*), opossums (*Didelphis virginiana*) and raccoons (*Procyon lotor*).

Maintaining a seed bank (a reserve of dormant seeds, generally found in the soil) is important to the year-to-year and long-term survival of annual plants (Baskin and Baskin 1978, Baskin and Baskin 1998). A seed bank includes all the mature seeds in a population and generally covers a larger area than the extent of observable plants seen in a given year (Given 1995). The number and location of standing plants (the observable plants) in a population varies annually due to a number of factors, including the amount and timing of rainfall, temperature, soil conditions, and the extent and nature of the seed bank. The extent of seed bank reserves is variable from population to population and large fluctuations in the number of standing plants at a given site may occur from one year to the next.

The distribution of *Polygonum hickmanii* has apparently been limited to the northern Scotts Valley area in Santa Cruz County, California. Two bodies of evidence support this theory. First, none of the herbarium collections of other *Polygonum* species that were checked in preparation for the publication of the name for *P. hickmanii* matched those collected from Scotts Valley. Herbaria that were searched included the Dudley Herbarium at Stanford University, the Jepson and University of California (UC) herbaria located at UC Berkeley, and the herbarium at the Missouri Botanic Garden (H. Hinds, *in litt.* 1998; R. Morgan, pers. comm., 1998). Secondly, predictive searches of other potentially suitable habitat in Santa Cruz County (based on soil type, local climate, and associated species) have failed to locate additional colonies of *P. hickmanii* (R. Morgan, pers. comm., 1998).

Polygonum hickmanii is found at two sites about 0.6 km (1 mi) apart at the northern end of Scotts Valley. The plant is found on gently sloping to nearly