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 sphecid 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 (Polygonanceae) 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 racoons (*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

level shallow soils over outcrops of Santa Cruz mudstone and Purisima sandstone (Hinds and Morgan 1995). It frequently, though not always, occurs with the endangered *Chorizanthe robusta* var. *hartwegii* (Scotts Valley spineflower) (59 FR 5499) and other small annual herbs in patches within a more extensive annual grassland habitat. These small patches, scattered in a mosaic throughout the grassland plant community, have been referred to as ''wildflower fields'' because they support a large number of native herbs, in contrast to the adjacent annual grasslands that support a greater number of nonnative grasses and herbs. While the wildflower fields are underlain by shallow, well-draining soils, the surrounding annual grasslands are underlain by deeper soils with a greater water-holding capacity, and therefore more easily support the growth of nonnative grasses and herbs.

Although the patches of wildflower field habitat stand out in contrast to the surrounding grasslands, a closer look at the wildflower field patches reveals slight microhabitat differences within the patch itself. The outer edge, or ''ring'' of the patch supports the greatest diversity of the native herbs, which are found on the deepest soils within the patch. Moving toward the center of the patch, the soil layer is shallower, and another ring supporting primarily the endangered *Chorizanthe robusta* var. *hartwegii* occurs here. In the very center of the patch where the soils are shallowest, the greatest concentration of *Polygonum hickmanii* is found, and other species are sparse. The surface soil texture in the center of the wildflower fields tends to be consolidated and crusty rather than loose and sandy (Biotic Resources Group (BRG) 1998). Flowering in *P. hickmanii* lags behind that of the endangered *Chorizanthe robusta* var. *hartwegii* and the other herbs by 4 to 8 weeks, and the consolidated soil surface may play a role in supplying late spring moisture to the species (R. Morgan, pers. Comm. 2003).

Elevation of the sites is from 215 to 246 meters (m) (700 to 800 feet (ft)) (Hinds and Morgan 1995). In the Scotts Valley area, the grasslands tend to be located on the middle to lower slopes within the subwatersheds, while the slopes above the grasslands tend to support redwood and mixed forest plant communities. On the Polo parcel, the slopes become increasingly steep from west to east; slopes nearest to Carbonero Creek on the western edge of the parcel are less than 20 percent, the slopes in the middle of the parcel range from 20 to 40 percent, and the slopes along the eastern edge of the parcel up to the ridgeline reach over 40 percent. Geologic reports discuss several hazards that contribute to the geologic instability of the site. First, the site is within a seismically active region that experiences groundshaking. Second, the site has been subject to landslide activity, and evidences of past debris flows have been observed on the site. Third, due to the impermeable nature of the Purisima Formation bedrock, seasonal perched groundwater conditions are common in areas where the bedrock is overlain by alluvium (material deposited by flowing water) and colluvium (loose deposit of rock debris accumulated at the base of a cliff or slope), which contributes to slope instability (Impact Sciences 2000).

The geology of the Glenwood parcel has some similarities to the Polo parcel. Santa Cruz mudstone underlays the lower slopes and alluvial deposits, and the Purisima Formation underlays the upper slopes and ridges. The lowest elevations are along Carbonero Creek, which runs through the middle of the parcel from north to south. Similar to the Polo parcel, the mildest slopes are adjacent to the creek, while the slopes generally increase with increased distance from the creek, and slopes along the ridges to the east and west reach over 30 percent (Impact Sciences 1997, 1998). Geologic hazards on the site that contribute to slope instability include seismic hazards, landslide activity, high erosion, and sedimentation potential due to the presence of springs and drainages and the impermeable nature of the Purisima Formation on the upper slopes. Although soil erosion and sedimentation are natural processes, human activities can increase the rates above their natural levels (Global Change Research Information Office (GCRIC) 2002). Processes such as soil erosion on upper slopes, the accumulation of sedimentation on lower slopes, and soil compaction can alter the physical and chemical properties of those soils sufficiently to change their ability to store and supply nutrients and moisture needed by plants (GCRIC 2002). The persistence of plants with specific microhabitat requirements depends on maintaining the appropriate edaphic or soil conditions. Maintaining the stability of the higher slopes within a subwatershed are therefore important for maintaining the stability of the edaphic conditions directly downslope.

Polygonum hickmanii is associated with a number of native herbs including *Chorizanthe robusta* var. *hartwegii, Lasthenia californica* (goldfields), *Minuartia douglasii* (sandwort), *Minuartia californica* (California sandwort), *Gilia clivorum* (gilia), *Castilleja densiflora* (owl's clover), *Lupinus nanus* (sky lupine), *Brodiaea terrestris* (brodiaea), *Stylocline amphibola* (Mount Diablo cottonweed), *Trifolium grayii* (Gray's clover), and *Hemizonia corymbosa* (coast tarplant). Nonnative species present at the two sites include *Filago gallica* (filago) and *Vulpia myuros* (rattail) (California Natural Diversity Data Base (CNDDB) 1998; R. Morgan, pers. comm., 1998). In many cases, the habitat also supports a crust of mosses and lichens (BRG 1998).

For purposes of this rule, a concentration of individuals of *Polygonum hickmanii* will be referred to as a ''colony.'' Because of the close proximity of many of the colonies to each other (less than 0.4 km (0.2 mi) apart), it is unknown whether they function as genetically separate units or not. The approximate area occupied by any one colony ranges from the smallest at 1.5 m by 1.5 m (5 ft by 5 ft) to the largest at 15 m by 9 m (50 ft by 30 ft). Currently, there are approximately 11 colonies of *P. hickmanii* in total; the area covered by observable plants is less than 0.4 hectare (ha) (1 acre (ac)).

The *Polygonum hickmanii* colonies are split between two sites—the Glenwood site and the Polo Ranch site. The Glenwood site is located north of Casa Way and west of Glenwood Drive in northern Scotts Valley; it contains five colonies on two parcels of land. One of these colonies is situated within a 3.6 ha (9 ac) preserve on a 19.4 ha (48 ac) parcel that is owned by the Scotts Valley Unified School District and is referred to as the ''School District'' colony (Denise Duffy and Associates 1998). The other four colonies at the Glenwood site are located approximately 0.21 km (0.13 mi) to the west of the School District colony, on a parcel of land owned by the Salvation Army (CNDDB 1998). These four colonies are referred to as the ''Salvation Army'' colonies. Additional suitable but unoccupied habitat is found on the east side of Glenwood Drive on a parcel owned by Glenwood/American Dream. This parcel was recently approved for a housing development; a large portion of the parcel will be designated as ''open space,'' and a management plan will be developed to take into consideration the conservation of sensitive resources (Wetlands Research Associates 2002). This open space area supports numerous colonies of *Chorizanthe robusta* var. *hartwegii*, which is frequently found in the same wildflower field patches as *Polygonum hickmanii*, as well as the endangered Ohlone tiger

beetle (*Cicindela ohlone*) (Impact Sciences 2001).

The Polo Ranch site contains six colonies. This site is located just east of Highway 17 and north of Navarra Road in northern Scotts Valley, and is approximately 1.6 km (1 mi) east of the Salvation Army and School District colonies. These six colonies are situated within 0.2 km (0.1 mi) of one another, and all of these colonies occur on a parcel owned by Greystone Homes (Kathleen Lyons, BRG, *in litt.* 1997; Impact Sciences 2000).

Polygonum hickmanii is a short-lived annual species, and the total number of individuals can vary from year to year. In 2002, the total number of individual stems found at the Glenwood site was approximately 340 (140 on the School District parcel and approximately 200 on the Salvation Army parcel) (K. Lyons, *in litt.* 2002; Biotic Resources Group 2002); the Salvation Army parcel supported as many as 2,000 plants in 1998 (K. Lyons, pers. comm., 1998). In 1998, the total number of individuals on the Polo Ranch site was approximately 1,259 (K. Lyons, *in litt.* 1997).

Previous Federal Action

We first became aware of *Polygonum hickmanii* in 1992 during the development of the proposed listing rule for *Chorizanthe robusta* var. *hartwegii* (66 FR 10469). At that time, however, a name for the taxon had not formally been published, and so we did not consider it for listing under the Act. Once the name, *P. hickmanii*, was published by Hinds and Morgan (1995), we reviewed information in our existing files, in the California Natural Diversity Data Base, and new information on proposed projects being submitted to us for our review, and we determined that sufficient information existed to believe that listing may be warranted. *Polygonum hickmanii* was included in the list of candidate species published in the **Federal Register** on October 25, 1999 (64 FR 57534).

On November 9, 2000, we published a rule to propose (65 FR 67335) *Polygonum hickmanii* as an endangered species. At the time of the proposed listing, we determined that critical habitat for *P. hickmanii* was prudent, but deferred proposing critical habitat designation until a proposal to designate critical habitat could be developed for both *P. hickmanii* and *Chorizanthe robusta* var. *hartwegii*, a plant species already listed as endangered, because the two taxa share the same ecology and geographic location. We proposed critical habitat for both of these taxa on February 15, 2001 (66 FR 10469); the final critical habitat designation for *Chorizanthe robusta* var. *hartwegii* was published on May 29, 2002 (67 FR 37336). On May 22, 2002, the Center for Biological Diversity (CBD) filed a lawsuit alleging our failure to issue a final listing and critical habitat designation for *P. hickmanii* violated the time requirements specified in the Act. In settlement of this lawsuit, we agreed to complete the final listing and critical habitat designations by March 30, 2003.

Summary of Comments and Recommendations

In the November 9, 2000, proposed rule to list the species (65 FR 67335) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. A 60-day comment period closed on January 8, 2001. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A notice announcing the publication of the listing proposal was published in the Santa Cruz Sentinel on November 16, 2000. Another comment period opened on February 15, 2001, when the proposed critical habitat designation for *Chorizanthe robusta* var. *hartwegii* and *Polygonum hickmanii* was published. This 60-day comment period closed on April 16, 2001. A legal notice announcing the publication of the proposed critical habitat designation was published in the Santa Cruz Sentinel on February 24, 2001. Additionally, we published a notice on November 21, 2002, announcing the availability of the draft economic analysis on the proposed critical habitat designation. This notice subsequently opened the public comment period for 15 days, until December 6, 2002, on the proposed listing rule, the proposed critical habitat designation, and the draft economic analysis on the proposed critical habitat designation.

During the three comment periods, we received individually written comments from 17 parties. Twelve commenters expressed support for the listing proposal and the proposed critical habitat designation. One of the 17 commenters opposed the proposed critical habitat designation for *Polygonum hickmanii.* Four commenters were neutral, either on the proposed listing or the proposed critical habitat designation. Approximately 800 additional letters were submitted as part of a mailing campaign when critical habitat was proposed for the species. Of these, 23 were opposed, 1 was neutral, and the remaining were in support of the critical habitat designation.

We reviewed all comments received for substantive issues and new information regarding the proposed listing of *Polygonum hickmanii*; most of the comments received were minor technical comments, and corrections and additions were made to the final rule accordingly. We also reviewed comments regarding the proposed critical habitat designation for *P. hickmanii.* Similar comments were grouped into two general issues relating specifically to biological issues, and procedural and legal issues. These are addressed in the summary that follows.

Peer Review

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited the expert opinions of four peer reviewers regarding pertinent scientific or commercial data and assumptions relating to population status and biological and ecological information for the proposed listing of *Polygonum hickmanii* when it was published on November 9, 2000. Three of the four reviewers responded. These reviewers expressed support for the listing of the species and described the information included in the rule as factually correct to the best of their knowledge. Their comments are summarized in the following responses to comments and incorporated into the final rule.

We also solicited independent opinions from three additional knowledgeable individuals with expertise in one or several fields, including familiarity with the species, familiarity with the geographic region in which the species occurs, and familiarity with the principles of conservation biology, to review the proposed critical habitat designation when it was published on February 15, 2001. As recommended by the Service Directorate, we requested peer review from Sustainable Ecosystems Institute, as well as two other peer reviewers. All three of the peer reviewers supported the proposal, and provided us with comments that are summarized in the following responses to comments and incorporated into the final rule.

Issue 1: Biology and Methodology

Comment 1: The proposed critical habitat designation is not properly supported by the best scientific information available. In particular, the Service makes ''numerous and varied unsupported assertions regarding the biology and habitat requirements'' of the species, and did not use the data available to them.

Response: As required by the Act and regulations (section 4(b)(2) and 50 CFR 424.12), we used the best scientific information available to determine areas that contain the physical and biological features that are essential for the conservation of *Polygonum hickmanii*. This information includes data from the California Natural Diversity Data Base (CNDDB 2000), geologic and soil survey maps (USGS 1989, SCS 1980), recent biological surveys and reports, our recovery plan for this species, additional information provided by interested parties, and discussions with botanical experts. We also conducted multiple site visits to the two locations that were proposed for designation.

Comment 2: One peer reviewer suggested expanding the list of primary constituent elements to include such factors as seed germination requirements, substrate salinity, microreliefs and microclimates within local habitats, seasonal and yearly groundwater levels, and bird populations that migrate within the range of *Polygonum hickmanii*.

Response: While we recognize that these factors may be important components of the habitats within which *Polygonum hickmanii* is found, we do not have sufficient information at this time that leads us to believe they are the primary factors essential to the conservation of *P. hickmanii* throughout its range.

Comment 3: One peer reviewer commented that, while the Service had reasonably performed the difficult task of identifying the primary constituent elements, that the importance of certain processes (*e.g.*, habitat disturbance, pollination, seed dispersal) was not sufficiently supported in the proposal. Specifically, the reviewer asserts that pollination activity within colonies more likely has a major effect on seed set and population persistence than does pollination activity between colonies, and that the majority of pollination occurs across short distances. The concern is that general statements of opinion could be translated into major management actions without adequate scientific basis.

Response: The peer reviewer that supplied these comments was responding to a request to concurrently review critical habitat proposals for four plant taxa. While we were unable to confirm this with the peer reviewer, we believe that the concern was directed primarily to two other of the four species that have significantly larger distributions than *Polygonum hickmanii*, in which case the concern over discriminating between within-colony and between-colony pollinator distances would be more germane.

With respect to *P. hickmanii*, the entire range of the species covers a distance of only 1.6 km (1 mi), with colonies clustered at the two proximal ends of this range. Although no information is available concerning the importance of pollinators to the long-term persistence of *P. hickmanii*, the distance between the colonies in each of the clusters is well within the 0.5 km (0.3 mi) distance that many native pollinators are thought to fly (Waser *in* litt. 2002).

Comment 4: One commenter submitted a map portraying a recommended revision to the proposed critical habitat covering the parcel owned by American Dream/Glenwood that would have reduced the extent of critical habitat on that parcel. The commenter suggested that the swath of low-elevation grasslands that occur along Carbonera Creek in the middle of the Glenwood Unit could be eliminated from critical habitat, as well as a portion of the Carbonera Creek watershed above them. The commenter suggested that the low-level grasslands do not support the primary constituent elements. Further the commenter suggested that the presence of existing residential development and the Scotts Valley High School along Glenwood Drive would make this area less desirable as a movement corridor for wildlife functioning as dispersal agents for *P. hickmanii*.

Response: While this narrow area of low-elevation grasslands does not contain wildflower fields, it is a grassland plant community that supports pollinators and seed dispersal agents for the wildflower fields. In addition, the low-level grassland along Carbonero Creek provide an important corridor for dispersers between the colonies on the west side and suitable, but unoccupied wildflower field habitat on the east side of Glenwood Valley. Similarly, the low-level grasslands would also be an important corridor to potential pollinators between the two sides of Glenwood Valley once *Polygonum hickmanii* is reestablished on the east side of the valley. Therefore, the low-level grasslands that occur along Carbonero Creek do include primary constituent elements.

The recent development of the Scotts Valley High School has reduced the extent of the corridor between the east and west sides of Carbonero Creek, and has therefore increased the conservation value and importance of the remaining corridor for pollinators and seed dispersers. In the background section of this final rule, we have expanded the discussion of potential seed dispersers and pollinators, which are part of the primary constituent elements, to clarify the role that these elements may play in the long-term conservation of the species.

In the case of *Polygonum hickmanii*, we included conservation recommendations for this species in a multi-species recovery plan we published, which also addressed recovery actions for two listed insects and three listed plants (including the endangered *Chorizanthe robusta* var. *hartwegii* that occurs with *P. hickmanii*) in the Santa Cruz Mountains (Service 1998). Upon *P. hickmanii* being listed, we intend that the conservation recommendations included in this recovery plan will, in effect, become the recovery recommendation for this species. This plan identifies both State and Federal efforts for conservation of the plant and establishes a framework for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan sets recovery priorities and describes site-specific management actions necessary to achieve conservation and survival of the plant.

As part of the recovery recommendations for *Polygonum hickmanii*, the recovery plan states that all known sites would have to be in protected status, a habitat conservation plan would have to be in place with the City of Scotts Valley, and population numbers would have to be stable or increasing (Service 1998). The limited range of the species, the limited opportunities for conservation, and the existence of threats on all locations where it occurs makes conservation of the species very difficult. Further loss of habitat or compromising the ecological processes on which the species depends may eliminate the ability of the species to persist. Therefore, we believe it is necessary to include the low-elevation grasslands in the critical habitat designation.

Issue 2: Legal and Procedural Issues

Comment 5: The proposed designation fails to designate specific areas as critical habitat, but instead used a landscape approach.

Response: The critical habitat designation delineates areas that support locations of known individuals of *Polygonum hickmanii* and areas with the primary constituent elements we believe essential to the long-term conservation of *P. hickmanii*. In fact, the distribution of *P. hickmanii* is so restricted that direct and indirect affects to its habitat will make recovery particularly challenging. However,

given the limited distribution of the species, we were able to map critical habitat with a higher level of accuracy and therefore believe we have identified specific areas meeting the definition of critical habitat.

Comment 6: The proposed designation improperly includes areas not essential to the conservation of *Polygonum hickmanii.*

Response: As result of mapping limitations, not all parcels of land proposed as critical habitat contained habitat components essential to the conservation of Polygonum hickmanii. In developing the final designation, we reevaluated and modified the boundaries of the proposed designation as appropriate to exclude areas that did not contain the primary constituent elements. The use of recently acquired high-resolution aerial photographs (April 2000) enabled us to more accurately map the designation. However, due to our mapping scale, some areas not essential to the conservation of *P. hickmanii* may be included within the boundaries of final critical habitat. Certain features, such as buildings, roads, other paved areas and urban landscaped areas do not contain the primary constituent elements for the species. Service staff at the contact numbers provided are available to assist landowners in discerning whether or not lands within the critical habitat boundaries actually possess the primary constituent elements for the species.

Comment 7: The commenter stated that the proposed designation should have delineated occupied and unoccupied habitat areas. Further, the commenter stated that there are a lack of data to demonstrate that colonies do in fact temporarily disappear or expand into areas surrounding the immediate vicinity of the current year's colony.

Response: In this final designation, both critical habitat units are occupied by either standing plants or support a *Polygonum hickmanii* seed bank, but each of the units probably contains areas that could be considered unoccupied by the species. ''Occupied'' is defined here as an area that may or may not have had above-ground standing plants of *P. hickmanii* during current surveys, but if no standing plants are apparent, the site likely contains a below-ground seed bank of undeterminable boundary. All occupied sites contain some or all of the primary constituent elements and are essential to the conservation of the species, as described below. ''Unoccupied'' is defined here as an area that contains no above-ground standing plant of *P. hickmanii* and is unlikely to contain a viable seed bank (*e.g.*, soils are currently deeper than what is optimal for the *Polygonum hickmanii*). The inclusion of unoccupied habitat in our critical habitat designation reflects the dynamic nature of the habitat and the life history characteristics of this taxon. Unoccupied habitat provides areas into which populations might expand, provides connectivity or linkage between colonies within a unit, and supports populations of pollinators and seed dispersal organisms.

Determining the specific areas that this taxon occupies is difficult for at least two reasons: (1) The way the current distribution of *Polygonum hickmanii* colonies is mapped can be variable, depending on the scale at which concentrations of individuals are recorded (*e.g.*, many small concentrations versus one large concentration); and (2) depending on the climate and other annual variations in habitat conditions, the extent of the distributions of annual species such as *P. hickmanii* may either shrink and temporarily disappear or, if there is a residual seedbank present, enlarge and cover a more extensive area (Baskin and Baskin 1998). Because it is logistically difficult to determine how extensive the seed bank is at any particular site and because above-ground plants may or may not be present in all patches within a site every year, it would be difficult to quantify what proportion of each critical habitat unit may actually be occupied by *P. hickmanii.*

While the areas designated as critical habitat may include areas that do not currently support *Polygonum hickmanii*, we believe these areas are within the geographic area presently occupied by the species. However, even if they were considered to be outside this geographical area presently occupied, for the reasons discussed below we have determined that they are essential to the conservation of the *P. hickmanii.* Occupied areas, as well as the adjacent grassland areas provide the essential life-cycle needs of the species and provide some or all of the habitat components essential for the conservation of *P. hickmanii.* We are designating critical habitat for *P. hickmanii* in all areas that are known to currently be occupied by the species. In addition, we believe it is necessary to protect unoccupied habitat on the slopes above the known occurrences of *P. hickmanii* because its persistence depends on maintaining the stability of the slopes on which it occurs. As discussed in the Background section of this rule, the characteristics of the geology and soils in the area make these slopes naturally prone to soil erosion. Human activities on the slopes above occurrences of *P. hickmanii* can exacerbate the natural rates of erosion and increase the risk of extirpation to *P. hickmanii* on the slopes below. At this time, we are not aware of additional populations of *P. hickmanii* nor additional areas that can be occupied by the species in the future.

Comment 8: The commenter expressed concern about whether there was any new information to be found that would have bearing on the proposed endangered status of *Polygonum hickmanii* or on the identification of habitats essential to the species.

Response: We have reviewed new information from the CNDDB, biological surveys, and botanists in the field familiar with the species, and we have made numerous visits to field sites since the early 1990s. Based upon this information, we believe that the range of the species is limited to the Scotts Valley area. Since the early 1990s, habitat for the species has been destroyed due to several development projects, and additional habitat has been altered due to secondary impacts resulting from development. According to a review of the socioeconomic information available about the geographic area presented in the draft economic analysis, pressure on the remaining suitable habitat for the species from residential and commercial development and recreation has increased steadily since we first became aware of the species in the early 1990s. The increased pressure on the limited area currently available for this species reinforces its endangered status and the need to designate critical habitat.

Comment 9: The Service has failed to properly consider the economic and other impacts of designating particular areas as critical habitat.

Response: The draft economic analysis for *P. hickmanii* was first published concurrently with that for *Chorizanthe robusta* var. *hartwegii.* We accepted comments on the draft economic analysis during a 30-day comment period for the latter species that started on September 19, 2001 (66 FR 48227). However, this comment was made prior to a subsequent reopening of the comment period for the draft economic analysis. On November 21, 2002 (66 FR 700199), we published another notice in the **Federal Register** announcing again the availability of the draft economic analysis for the critical habitat for *Polygonum hickmanii.* This notice opened a 15-day public comment period on the draft economic analysis for the proposed designation of critical habitat for *P. hickmanii.* All comments received regarding the economic

analysis for *P. hickmanii* are addressed in this Summary of Comments and Recommendations section. Additionally, an addendum to the economic analysis, incorporating the comments received on the economic analysis, has been completed and is available upon request (*see* **ADDRESSES**). We believe this economic analysis and its addendum along with this final rule do properly consider the economic and other impacts of designating particular areas as critical habitat.

Comment 10: The Service has improperly bifurcated or separated its consideration of the economic impacts and scientific analysis by not preparing the economic analysis at the time of the proposed critical habitat designation.

Response: Pursuant to section 4(b)(2) of the Act, we are to evaluate, among other relevant factors, the potential economic effects of the designation of critical habitat for *Polygonum hickmanii.* We published our proposed designation in the **Federal Register** on February 15, 2001 (66 FR 10469). At that time, our Division of Economics and their consultants, Industrial Economics, Inc., initiated the draft economic analysis. The draft economic analysis was made available for public comment and review beginning on November 21, 2002 (67 FR 70199), as well as in a previous 30-day open comment period associated with *Chorizanthe robusta* var. *hartwegii* (September 19, 2001, 66 FR 48227). Following the 15-day public comment period on the proposal and draft economic analysis opened on November 21, 2002, a final addendum to the economic analysis was developed. Both the draft economic analysis and final addendum were used in the development of this final designation of critical habitat for *P. hickmanii.* Please refer to the Economic Analysis section of this final rule for a more detailed discussion of these documents.

Comment 11: The Service has not provided a fair and meaningful opportunity for comment on its proposed critical habitat designation.

Response: In our proposed rule to list *Polygonum hickmanii* as endangered on November 9, 2000 (65 FR 67335), we found that designating critical habitat was prudent, but we stated that we would propose critical habitat concurrently with *Chorizanthe robusta* var. *hartwegii* in the future. An open comment period was held at that time to receive comments on the proposed listing, as well as the prudency determination. We published a proposed rule to designate critical habitat for *P. hickmanii* on February 15, 2001 (66 FR 10469), and accepted comments from the public for 60 days, until April 16, 2001. The comment period was reopened from November 21, 2002, to December 6, 2002 (67 FR 70199), to allow for additional comments on the proposed designation and comments on the draft economic analysis of the proposed critical habitat.

We contacted all appropriate State and Federal agencies, county governments, elected officials, and other interested parties and invited them to comment. In addition, we invited public comment through the publication of a legal notice in the Santa Cruz Sentinel on November 16, 2000, after the proposed rule to list was published, and again on February 24, 2001, after the proposed critical habitat designation was published. We provided notification of the draft economic analysis through telephone calls, letters, and news releases faxed and/or mailed to affected elected officials, local jurisdictions, and interest groups. Additionally, the public had two opportunities to request a public hearing, but none was requested.

Comment 12: The Service should prepare and consider an environmental impact statement in keeping with the National Environmental Policy Act of 1969 (NEPA).

Response: We have determined that an Environmental Assessment and/or an Environmental Impact Statement, as defined under the authority of NEPA, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act, as amended. A notice outlining our reason for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244). Also, the public involvement and notification requirements under both the Endangered Species Act and the Administrative Procedure Act provide ample opportunity for public involvement in the process, similar to the opportunities for public involvement and economic analysis of effects that would be provided in the NEPA process.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement 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) of the Act. These factors and their application to *Polygonum hickmanii* are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment Of Its Habitat or Range

In addition to the colonies of *Polygonum hickmanii* at the Glenwood and Polo Ranch sites, other colonies of *P. hickmanii* may have occurred in Scotts Valley prior to publication of the species name in 1995. An existing housing development bordering the south side of the Glenwood site (Glen View) was built in the mid-1980s, and one development bordering the south side of the Polo Ranch site (Navarra Drive) was built in the 1970s. However, the environmental analyses done at those times would not have recognized *P. hickmanii* as a distinct taxon.

None of the occupied habitat for *Polygonum hickmanii* is targeted for direct destruction. However, all occupied habitat will be subject to habitat alteration resulting from current and proposed projects. At the Glenwood site, construction of a high school was initiated in June 1998. The colony of *P. hickmanii* on this site is within an area designated as a grassland preserve intended to protect a number of sensitive plant species, including *P. hickmanii, Minuartia californica* (California sandwort), *Plagiobothrys diffusus* (San Francisco popcorn flower), and the endangered *Chorizanthe robusta* var. *hartwegii.* The preserve is 2 ha (4 ac) in size and is adjacent to a wetland preserve of slightly smaller size. The combined area of the two preserves form a 3.6 ha (9 ac) area, linear in shape, sandwiched between high school playing fields to the north and the existing Glen View development (also known as Casa Way) to the south. The colony of *P. hickmanii* is 18 m (60 ft) away from the edge of the preserve nearest to the playing field. A management plan for the grasslands preserve includes prescriptions for boundary protection, habitat enhancement, control of nonnative plant species, and a 10-year monitoring program (BRG 1998). Although the effectiveness of this management plan has not yet been demonstrated, *P. hickmanii* will likely still be subject to habitat alteration due to the small size of the preserve and its proximity to other land uses. Problems with managing small preserves within urban areas have been documented previously (Jensen 1987, Clark *et al.* 1998, Howald 1993, Service 1995). *See* Factor E for additional discussion of inadequate preserve design on the long-term conservation of plants.

The kinds of habitat alteration that are anticipated to result from the high school project include changes in

surface hydrologic conditions due to the increased watering of the ballfield upslope from the preserve; changes in surface water quality due to the application of fertilizers, herbicides, and pesticides on the ballfield and adjacent areas up slope from the preserve; an increase in the number of nonnative plant species that will likely invade from adjacent newly altered areas; and an increase in the amount of soil erosion, soil compaction, and disturbance to the soil crust caused by the increased numbers of students, pets, and bicycles coming into the preserve from adjacent areas. The nature of the thin soils and the crusts of mosses and lichens they support make them particularly vulnerable to any form of surface disturbance (Belknap 1990).

The Scotts Valley Water District constructed a series of pipelines, maintenance roads, and tanks to distribute recycled water in the northern Scotts Valley area (EMC Planning Group 1998; Scotts Valley Water District 1998). One pipeline and an all-weather maintenance road pass through the southwestern corner of the preserve and continue to the north and west onto a parcel owned by the Salvation Army where a water tank would be installed. As originally proposed, this route was to come within 23 m (75 ft) of the colonies of *Polygonum hickmanii* on the Salvation Army parcel and within 18 m (60 ft) of the endangered *Chorizanthe robusta* var. *hartwegii* (K. Lyons, pers. comm., 1998). However, when road grading was initiated in July 1999, grading plans were not followed closely. Moreover, measures to minimize and mitigate impacts to sensitive resources included in the approved project were not implemented. As a result, road grading came to within 3 m (10 ft) of *P. hickmanii* and to within 6 m (20 ft) of *C. r.* var. *hartwegii* on the Salvation Army parcel; on the adjacent high school preserve, individuals of *C. r. hartwegii* were destroyed. (Vince Cheap, California Native Plant Society, *in litt.* 1999; V. Cheap, *in litt.* 2001).

The kinds of habitat alteration that are anticipated to impact *Polygonum hickmanii* from the Water District's project include changes in surface hydrology due to the placement of the road upslope from the colonies; changes in surface water quality due to the application of herbicides, pesticides, and tackifiers (dust reducing substances) on the road and roadsides upslope from the colonies; an increase in the amount of soil siltation from the upslope roadbank; soil erosion, soil compaction, and disturbance of the soil crust; and an increase in the number of nonnative plant species that will likely invade from the road.

A visit to the Glenwood site confirmed that the nonnative plant *Genista monspessulana* (French broom) has invaded to within a few feet of one of the colonies of *Polygonum hickmanii* in the last few years (Carole Kelley, Friends of Glenwood, pers. comm., 1998). If not controlled, this invasive plant could quickly eliminate habitat for the *P. hickmanii.* French broom is considered a pest species, which in some places forms impenetrable thickets that displace native vegetation and lower habitat value for wildlife (Habitat Restoration Group, no date; Bossard, *et al.* 2000).

A housing development proposed for the Polo Ranch site includes 30 to 40 housing units clustered on 7.3 of 47.0 ha (18 of 116 ac), with the remaining 38 ha (95 acres) kept as open space (City of Scotts Valley 1998). At the time the proposed rule to list *Polygonum hickmanii* was prepared, the proposed development placed houses and roadways within 18 m (60 ft) or closer to five out of six colonies of *P. hickmanii* and separated the colonies from each other, with three of the six colonies isolated on all sides either by existing or proposed dwellings and roadways. As of 2002, the planned layout of houses has been modified to include a 31-m (100-ft) setback from all but one of the colonies (M. Fodge, Planning Department, City of Scotts Valley, pers. comm., 2002; G. Deghi, consultant, pers. comm., 2002).

Alterations of habitat for *Polygonum hickmanii* that are likely to occur as a result of the Polo Ranch development are changes in surface hydrologic conditions due to the grading of roads and lots; soil erosion, soil compaction, and disturbance of the soil crust by humans, pets, and bicycle traffic; inadvertent (*i.e.*, aerial drift) and intentional application of herbicides, pesticides, and fertilizers on roadsides and yards; inadvertent introduction of nonnative species (both weedy and ornamental); and dumping of yard wastes. Examples of alteration of habitat that have occurred on grasslands north of the backyards of existing housing along Navarra Drive (along the south edge of the Polo Ranch property) include gates and pathways leading from backyards onto the grassland, ivy creeping over fences and onto the grassland, oaks (*Quercus* sp.) planted within the grassland, and shade created by planted backyard trees (K. Lyons, pers. comm., 1998).

Although two of the projects (high school and recycled water distribution system) include plans for conservation of *Polygonum hickmanii* through development-related mitigation, and the third project (Polo Ranch) would be expected to do so as well, the successful implementation of these mitigation plans has not been demonstrated. In particular, the size and characteristics of preserve areas and open spaces and the management actions prescribed through the environmental review process (see Factor D) are unlikely to be biologically adequate to ensure the long-term conservation of *P. hickmanii* and its habitat. In addition, since *P. hickmanii* colonies will be in preserves or open spaces that are small in area, support small numbers of individuals, and consist of degraded habitat, or that continue to receive secondary effects of adjacent human activities, they become more vulnerable to extirpation from naturally occurring events (see Factor E).

All habitat for *Polygonum hickmanii* is also threatened in general by the encroachment of nonnative grasses from the surrounding grasslands. Although several species of nonnative grass (*e.g., Vulpia myuros*) grow within the wildflower fields, these patches for the most part do not support the abundant growth of nonnative grasses (*Bromus* sp.) that occur on the adjacent, more mesic grassland habitat. These nonnative grasses on the mesic grasslands do not compete with *P. hickmanii* in the classic sense (competition for light, water, nutrients). However, the tall culms (stems) of nonnative grasses can physically drape over patches of wildflower field habitat, particularly the smaller patches, and deposit a mat of litter (thatch) that physically prohibits the species within the wildflower field from appearing. Because nonnative grasses and herbs produce more biomass than their native counterparts, they also produce more litter (Belknap *et al.* 2001). Although decomposition rates for nonnative species are likely no slower than those of native species, their faster rate of biomass production results in a greater accumulation of litter. Other cases of native species being overtaken by litter accumulation produced by nonnatives have been noted in desert ecosystems (Jayne Belknap, Biological Resources Division, pers. comm., 1998) and on the California Channel Islands (Rob Klinger, The Nature Conservancy, pers. comm., 1998).

In summary, habitat alteration and destruction, including urban development, road construction, and their attendant secondary impacts (including increased trampling from humans, pets, bicycles, and installation and maintenance of landscaped areas),

are threats to the species. These activities cause soil erosion, soil compaction, disturbance of the soil crust, changes in soil hydrology, changes in water quality, encroachment of nonnative species, and accumulation of thatch.

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

Overutilization or vandalism are not known to be threats to this species.

C. Disease or Predation

We found no evidence that disease is a factor affecting this species. Predation by cattle, livestock, or other wildlife species is not known to occur.

D. The Inadequacy of Existing Regulatory Mechanisms

Polygonum hickmanii currently receives no protection under Federal law, and it is not currently listed by the State of California.

Chorizanthe robusta var. *hartwegiana*, an endangered species, frequently occurs within the same wildflower field habitat as *Polygonum hickmanii*; however, in two locations *P. hickmanii* occurs without the former species. Even though *C. r.* var. *hartwegiana* was federally listed as endangered in 1994, and critical habitat was subsequently designated in 2002, these regulatory actions, and subsequent protections afforded the species and its habitat do not fully protect the frequently co-occurring *P. hickmanii* under the Act for several reasons. First, in context of a consultation under section 7 of the Act, because of the restricted distribution of *P. hickmanii* within the wildflower field habitat, there may be circumstances in which an action proposed by a Federal action agency may jeopardize the continued existence of *P. hickmanii* or destroy or adversely modify its critical habitat, while the same action may not result in jeopardy or adverse modification for *C. r.* var. *hartwegiana*. In addition, because of differences in phenology between the two species (flowering period in *P. hickmanii* is beginning when that of *C. r.* var. *hartwegiana* is ending), it is also possible that the timing of an activity (*e.g.*, grazing or spraying) could be a greater threat to one species than the other. Second, even though *P. hickmanii* shares the same wildflower field habitat with *C. r.* var. *hartwegiana*, it is possible that over time, the distribution of the two species among the wildflower field patches could shift, resulting in less overlap between the two species than is evident at this point in time. Thus, regulatory protections for *C. r.* var. *hartwegiana* may provide less protections for *P. hickmanii*. Third, because of the more restricted distribution of *P. hickmanii* and life history differences between the two plants, recovery actions implemented for *C. r.* var. hartwegiana may be inadequate to provide for the conservation of *P. hickmanii.*

The California Environmental Quality Act (CEQA) requires a full disclosure of the potential environmental impacts of proposed projects. The lead agency is the public agency with primary authority or jurisdiction over the project, and that agency is responsible for conducting a review of the project and consulting with other agencies concerned with the resources affected by the project. Section 15065 of the CEQA Guidelines requires a finding of significance if a project potentially ''reduce(s) the number or restrict(s) the range of a rare or endangered plant or animal.'' Species eligible for, but not yet listed by the State as threatened or endangered, are given the same protection as those species officially listed by State or Federal governments. The Rare Plant Scientific Advisory Committee for the California Native Plant Society has determined that *Polygonum hickmanii* meets the criteria for being included on CNPS' ''List 1B.'' The plants on List 1B meet the definitions of section 1901, chapter 10 of the California Department of Fish and Game Code, and are therefore eligible for State listing. It is mandatory that plants on List 1B be fully considered during preparation of environmental documents relating to CEQA. Once significant effects are identified, the lead agency may require mitigation for effects through changes in the project, or the lead agency may decide that overriding considerations make mitigation infeasible. In the latter case, projects may be approved that cause significant environmental damage, such as destruction of listed species. Therefore, the protection of listed species through CEQA depends upon the discretion of the lead agency involved; however, findings of ''overriding considerations'' are infrequent.

Inclusion of mitigation measures in a project approved through the CEQA process does not guarantee that such measures are implemented. The recycled water distribution project approved by the Scotts Valley Water District included measures to avoid and mitigate impacts to sensitive resources, including those for *Polygonum hickmanii* and *Chorizanthe robusta* var. *hartwegii*. However, grading for this project was initiated without implementing those measures, which resulted in a much narrower buffer zone left between the plant populations and the grading activity (Carl Wilcox, California Department of Fish and Game, *in litt.* 1999).

Certain local agencies are exempt from city and county regulations in accordance with chapter 1, paragraphs 53094 and 53096, of the State of California regulations on planning, zoning, and development laws (Governor's Office of Planning and Research 1996). The High School project for the Scotts Valley Unified School District is exempt from local permitting requirements; therefore, no permits or approvals were required from the City of Scotts Valley. Additionally, the recycled water distribution project for the Scotts Valley Water District is similarly exempted; therefore, no permits or approvals are required from either the City of Scotts Valley or the County of Santa Cruz. In July 1999, the Water District proceeded with road and tank pad grading for this project. This activity was initiated without fulfilling mitigation measures that called for sensitive areas to be flagged and fenced ahead of time, and resulted in grading that went beyond the scope of work for the project. Although the County of Santa Cruz notified the Water District that the additional grading was not exempted from applicable regulations, the only consequence is that the county has requested that the damaged areas be satisfactorily restored (Alvin James, County of Santa Cruz, *in litt.* 1999).

The establishment and implementation of a management plan for the preserve at the High School site does not provide for enforcement authority to maintain the physical integrity of the preserve.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

The design of preserves and open spaces related to project mitigation to date has been insufficient to provide for the long-term conservation of *Polygonum hickmanii* and other sensitive species that occur in the wildflower fields in Scotts Valley. Additionally, the threat of random extinction is increased in small populations of limited distribution (please see the ''Random Extinction'' section below for further discussion).

Inadequate Preserve Design

The need for adequate preserve design has been discussed by many biologists (Jensen 1987; Shafer 1995; Rathcke and Jules 1993; Kelly and Rotenberry 1993). To increase the certainty that a species will persist over a given interval of time,

adequate habitat needs to be protected and land uses adjacent to the preserve need to be compatible with maintaining the integrity of the preserve. Habitat is not restricted solely to the area actually occupied by the species. It must include an area that is large enough to maintain the ecological functions upon which the species depends and have a ratio of edge to total area that minimizes fragmentation and edge effects.

Failure to protect sufficient habitat results in the eventual decline of the target species. Small preserves adjacent to urban areas have additional stress placed on them due to the need to manage a host of human-caused impacts. The increased stress urban wildland areas receive has been documented by many authors (Keeley 1993).

In the case of *Polygonum hickmanii* at the School District Preserve, the site remained unfenced and unsigned for several years, was subject to bicycle and heavy equipment traffic, and served as a repository for yard waste (C. Kelley, *in litt.* 1999). Local residents also have used the preserve for golf practice (Biotic Resources Group 2002). A management plan for the preserve was completed in 1998 (Wittwer, *in litt.* 2002). However, prescribed management actions are not always implemented according to schedule due to budget limitations.

Habitat fragmentation also affects plant-pollinator interactions in a number of ways. The abundance of specific pollinators may decline due to the elimination of nesting sites, decreases in food source plants due to changes in composition of the plant community, increases in competition from nonnative pollinators, and increases in the exposure to pesticides (Rathcke and Jules 1993; Jennersten 1988; Kearns and Inouye 1997). In plant species that are obligate outcrossers (those that require pollinators to effect seed development), reduced pollinator availability can result in limited seed production. Even if a plant species is not an obligate outcrosser, genetic variability within the plant population can be reduced with potentially deleterious long-term consequences (see discussion below on random extinction). We believe the effects of habitat fragmentation discussed above are similar to those that could affect the long-term persistence of the *Polygonum hickmanii*.

Ecological processes that would be important to maintain within preserve areas for *Polygonum hickmanii* include, but are not limited to, the integrity of edaphic (soil) conditions, hydrologic processes (surface flows), the associated ''wildflower field'' plant community, plant-pollinator interactions, and seed dispersal mechanisms. Maintaining such processes will be severely compromised by the small size of the areas being set aside as preserves or open spaces, the extent of edge subject to external influences, and the particular kinds of adjacent land use to which the preserves will be subject. Threats resulting from alteration of habitat due to adjacent changes in land use (discussed in Factor A) are exacerbated by the small size of the preserves and the proximity of nearly all of the colonies to the edges of the preserves or open spaces, or to roads. Distances of less than 24 m (80 ft) are not considered to be effective at buffering from chemical pollutants (*e.g.*, herbicides, pesticides, and other contaminants) (Conservation Biology Institute (CBI) 2000). Depending on site configuration or circumstances, buffers of up to 91 m (300 ft) may not be adequate to provide sufficient buffering from invasive animals and increased fire frequency (CBI 2000) .

Random Extinction

This species is considered to have a high risk of extinction in the wild in the immediate future based on criteria put forth by the World Conservation Union, as modified for plants (Keith 1998). Species with few populations and individuals are vulnerable to the threat of naturally occurring events, causing extinction through mechanisms operating either at the genetic level, the population level, or the landscape level. Decrease in genetic variability will reduce the likelihood that individuals in a population will persist in a changing environment. Additionally, populations with lower levels of genetic diversity are more likely, on average, to experience reduced reproductive success due to inbreeding depression. Species with few populations or those that are low in number may be subject to forces at the population level that affect their ability to complete their life cycles successfully. For example, reduced numbers of individuals may lead to a reduction in number of pollinators and subsequently seed set. Additionally, if the host plants are partially self-incompatible, reduction in population size may lead to increased self-pollination and may reduce the level of genetic variability. At the landscape level, random natural events, such as storms, drought, or fire, could destroy a significant percentage of individuals or entire populations; a hot fire could destroy a seedbank as well. The restriction of colonies to small sites increases their risk of extinction from such naturally occurring events.

The genetic characteristics of *Polygonum hickmanii* have not been investigated; therefore, the degree to which these characteristics contribute to the likelihood of *P. hickmanii* being vulnerable to extinction for these reasons is unknown. However, random events operating at the population and landscape levels clearly have the potential for increasing the chance of extinction for *P. hickmanii.*

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this taxon in determining the actions to take in this rule. Based on this evaluation, the appropriate action is to list *Polygonum hickmanii* as endangered. The species is threatened with extinction due to habitat alteration resulting primarily from urban development, inadequate preserve design, and vulnerability to naturally occurring events due to low numbers of individuals and occupied acreage of the entire taxon. All of the colonies are on private lands. Although conservation efforts have been prescribed as part of mitigation for two of the three projects (high school and recycled water distribution project), and are expected to be proposed for the third project (Polo Ranch development), the small extent of occupied habitat, small colony sizes, and imminent threats lessen the chance that such efforts will lead to secure, self-sustaining colonies at these sites.

Critical Habitat

Section 3 of the Act defines critical habitat as—(i) the specific areas within the geographic 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 geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures that are necessary to bring an endangered species or a threatened species to the point at which listing under Act is no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions authorized, funded, or carried out by a Federal agency. Section 7 of the Act also

requires conferences on Federal actions that are likely to result in the destruction or adverse modification of proposed critical habitat. Aside from the added protection that may be provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat. Because consultation under section 7 of the Act does not apply to activities on private or other non-Federal lands that do not involve a Federal nexus, critical habitat designation would not afford any additional regulatory protections under the Act against such activities.

In order to be included in a critical habitat designation, the habitat must first be ''essential to the conservation of the species.'' Critical habitat designations identify, to the extent known, and using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (*i.e.*, areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Section 3(5)(C) of the Act states that not all areas that can be occupied by a species should be designated as critical habitat except in those circumstances determined by the Secretary. Our regulations (50 CFR 424.12(e)) also state that, ''The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.''

Section 4(b)(2) of the Act requires that we take into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. We may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in extinction of the species.

Our Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), provides criteria, establishes procedures, and provides guidance to ensure that our decisions represent the best scientific and commercial data available. This policy requires our biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information should, at a minimum, be the listing package for the species. Additional information may be obtained from a recovery plan, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials.

Section 4 of the Act requires that we designate critical habitat based on what we know at the time of designation. Habitat is often dynamic, and populations may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, it is important to understand that critical habitat designations do not signal that habitat outside the designation is unimportant or may not also be required for recovery. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) of the Act and to the regulatory protections afforded by the Act's section 7(a)(2) jeopardy standard and the section 9 prohibitions, as determined on the basis of the best available information at the time of the action. Federally funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

As required by the Act and regulations (section 4(b)(2) and 50 CFR 424.12), we used the best scientific and commercial data available to determine areas that contain the physical and biological features that are essential for the conservation of *Polygonum hickmanii*. This information included data from the CNDDB 2000, geologic and soil survey maps (USGS 1989, SCS 1979), geologic information contained in project documents (Impact Sciences 1998, 2000), recent biological surveys and reports, our multi-species recovery plan for the Santa Cruz Mountatins that provided conservation recommendations for *Polygonum hickmanii*, additional information provided by interested parties, and discussions with botanical experts. We also conducted multiple site visits to the two locations that are being designated as critical habitat.

In addition to the above, we also reviewed the goals for *Polygonum hickmanii* included in our multi-species recovery plan, which addresses this species and other taxa from the Santa Cruz Mountains (Service 1998). The plan included the following conservation recommendations: (1) Secure and protect habitat for *Polygonum hickmanii* through habitat conservation plans (HCPs), conservation easements, or acquisition; (2) manage habitat for the species through such actions as controlling nonnative species, reducing impacts from recreation, restoring degraded sites, and monitoring regularly; (3) learn more about the life history, ecology, and population dynamics of the species that will contribute to developing appropriate management strategies; (4) increase public awareness of the species and its associated habitats through various outreach efforts; and (5) use an adaptive management approach to revise management strategies over time. Critical habitat alone is not expected to recover the species, and it is only one of many strategies that can assist in such recovery.

Determining the specific areas that this taxon occupies is difficult for several reasons: (1) The distribution of *Polygonum hickmanii* appears to be more closely tied to the presence of the Santa Cruz mudstone and Purisima soils than to specific plant communities; the plant communities may undergo changes over time, which, due to the degree of cover that is provided by that vegetation type, may or may not favor the growth of *P. hickmanii* above ground; (2) the way the current distribution of *P. hickmanii* is mapped can be variable, depending on the scale at which patches of individuals are recorded (*e.g.*, many small patches versus one large patch); and (3) depending on the climate and other annual variations in habitat conditions, the extent of the distributions may either shrink and temporarily disappear, or, if there is a residual seedbank present, enlarge and cover a more extensive area. Because it is logistically difficult to determine how extensive the seed bank is at any particular site and because above-ground plants may or may not be present in all patches within a site every year, it would be difficult to quantify what proportion of each critical habitat unit may actually be occupied by *P. hickmanii*. Therefore, within the grassland habitat, patches of unoccupied habitat are interspersed with patches of occupied habitat; the inclusion of unoccupied habitat in our

critical habitat units reflects the dynamic nature of the habitat and the life history characteristics of this taxon. Unoccupied areas provide areas into which populations might expand, provide connectivity or linkage between colonies within a unit, and support populations of pollinators and seed dispersal organisms. Other areas, specifically the steeper slopes above the occurrences of *P. hickmanii*, and including non-grassland areas that extend up to the ridgelines, are necessary to maintain the hydrologic and edaphic characteristics of the wildflower field patches where *P. hickmanii* is found.

Summary of Changes From the Proposed Critical Habitat Designation

Based on a review of public comments received on the proposed designation of critical habitat, we reevaluated our proposal and made several changes to the final designation of critical habitat. These changes include the following:

(1) The description of the primary constituent elements was modified and clarified. One peer reviewer suggested expanding the list of primary constituent elements; we did not believe it was appropriate to do so (see comment 2 in Summary of Comments above). However, we did incorporate some of the additional elements suggested by the peer reviewer and included discussion of them as features of the landscape that need special management or protections. In the third primary constituent element (''grassland plant community that supports the wildflower field habitat that is stable over time''), we removed the reference to nonnative species being absent or at low densities in recognition that such areas, even if they contain nonnative species, may have the potential to be restored so as to support *Polygonum hickmanii* in the future. Two other primary constituent elements (pollinator activity between existing colonies of *P. hickmanii*, and seed dispersal mechanisms between existing colonies and other potentially suitable sites) were removed as individual primary constituent elements. Instead, these two elements were added into primary constituent element #3. We did this because we think it more accurately portrays the role of pollinators and seed dispersers as integrated parts of a healthy plant community that could support *P. hickmanii*, rather than as elements whose absence would lead the public to conclude that an area was not critical habitat.

(2) One primary constituent element (''physical processes * * * that support natural dune dynamics'') was erroneously included in the proposed rule; it has been removed from this final rule.

(3) We added a section describing the Special Management Needs or Protections that *Polygonum hickmanii* may require. We believe that this new section will assist land managers in developing strategies for conservation and protection of *P. hickmanii* on lands they manage.

(4) We made revisions to the boundary lines on both critical habitat units. The purpose of these changes was to remove areas that do not contain the primary constituent elements. The use of recently acquired high-resolution aerial photographs (April 2000) enabled us to more precisely map critical habitat. These changes reduced the Glenwood Unit by 4 percent (3 ha, 8 ac). The Polo Ranch Unit was reduced 15 percent (5 ha, 13 ac) by eliminating some of the riparian gallery forest at the western edge of the unit that borders Carbonero Creek and does not support any of the primary constituent elements.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we consider those physical and biological features (primary constituent elements) that are essential to the conservation of the species and that may require special management considerations or protection. These include, but are not limited to: Space for individual and population growth, and for normal behavior; food, water, air, light, minerals or other nutritional or physiological requirements; cover or shelter; sites for germination, or seed dispersal; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Much of what is known about the specific physical and biological requirements of *Polygonum hickmanii* is described in the Background section of this final rule. Based on the best available information at this time, we believe the long-term probability of the conservation of *P. hickmanii* is dependent upon the protection of existing population sites and the maintenance of ecological functions within these sites, including connectivity between colonies within close geographic proximity to facilitate pollinator activity and seed dispersal mechanisms, and the ability to maintain disturbance factors (for example, fire disturbance) that contribute to the openness of plant cover upon which the species depends. In addition, the small range of this species makes it vulnerable to edge effects from adjacent human activities, including disturbance from trampling and recreational use, the introduction and spread of nonnative species, and the application of herbicides, pesticides, and other contaminants (Conservation Biology Institute 2000).

The primary constituent elements of critical habitat for *Polygonum hickmanii* are:

(1) Thin soils in the Bonnydoon series that have developed over outcrops of Santa Cruz mudstone and Purisima sandstone;

(2) ''Wildflower field'' habitat that has developed on these thin-soiled sites;

(3) A grassland plant community that supports the ''wildflower field'' habitat and that supports the pollinator activity and seed dispersal mechanisms that typically occur within the grassland plant community;

(4) Areas around each colony to allow for recolonization to adjacent suitable microhabitat sites;

(5) Habitat within the subwatersheds upslope to the ridgelines to maintain the edaphic and hydrologic conditions and slope stability that provide the seasonally wet substrate for growth and reproduction of *P. hickmanii.*

Special Management Considerations or Protections

Special management considerations or protections may be needed to maintain the primary constituent elements for *Polygonum hickmanii* within the units being designated as critical habitat. In some cases, protection of existing habitat and current ecologic processes may be sufficient to ensure that populations of *P. hickmanii* are maintained at those sites and have the ability to reproduce and disperse in surrounding habitat. In other cases, however, active management may be needed to maintain the primary constituent elements for *P. hickmanii.* We have outlined below the most likely kinds of special management and protection that *P. hickmanii* may require.

(1) The soils on which *Polygonum hickmanii* is found should be maintained to optimize conditions for its persistence. Physical properties of the soil, such as its chemical composition, surface crust, and drainage capabilities, would best be maintained by limiting or restricting the use or application of herbicides, fertilizers, or other soil amendments.

(2) Overspray from irrigation or saturation of soils beyond the normal rainfall season should also be avoided,

as this may alter the structure and composition of the grassland community or render the native species more vulnerable to pathogens found in wetter soil regimes.

(3) The associated plant communities must be maintained to ensure that the habitat needs of pollinators and seed dispersal agents are maintained. The use of pesticides should be limited or restricted so that healthy populations of pollinators are present to effect pollination and, therefore, seed set in *Polygonum hickmanii.* The fragmentation of habitat through construction of roads and certain types of fencing should be limited so that dispersal agents may disperse seed of *P. hickmanii* throughout the unit.

(4) Invasive, nonnative species such as brome grasses and other species may need to be actively managed within the grassland community to maintain the patches of open habitat that *Polygonum hickmanii* needs.

(5) Certain areas where *Polygonum hickmanii* occurs may need to be fenced to protect it from accidental or intentional trampling by humans and livestock. While *P. hickmanii* appears to withstand light to moderate disturbance, heavy disturbance may be detrimental to its persistence. Seasonal exclusions may work in certain areas to protect *P. hickmanii* during its critical season of growth and reproduction.

Criteria Used To Identify Critical Habitat

To delineate the critical habitat units, we selected areas that provide for the conservation of *Polygonum hickmanii* at the only two sites where it is known to occur, additional suitable habitat, and habitat upslope of these areas to the ridgeline of the subwatersheds. The current range of the species suggests that part of its former range was destroyed by urban development. Additionally, the remaining range of the species is highly restricted, with standing plants currently growing on less than 0.4 ha (1 ac) of land. We believe it is essential to the conservation of the species to preserve all areas that currently support native populations of *P. hickmanii* because the current range of the species is so restricted. However, habitat is not restricted solely to the area where standing individuals can be observed. Habitat for the species must include an area that is large enough to maintain the ecological functions upon which the species depends (*e.g.*, the hydrologic and edaphic conditions for seed germination and establishment, pollinators, and seed dispersers). We believe it is important to designate an area of sufficient size to allow landscape scale processes to continue that maintain the patches of wildflower field habitat and to minimize the alteration of habitat, such as invasions of nonnative species and recreation-caused erosion, that result from human occupancy and human activities occurring in adjacent areas.

We delineated the critical habitat units by creating data layers in a geographic information system (GIS) format of the areas of known occurrences of *Polygonum hickmanii* using information from the California Natural Diversity Data Base (CNDDB 2000) and the other information sources listed in the Methods section above. These data layers were created on a base of USGS 7.5′ quadrangle maps obtained from the State of California's Stephen P. Teale Data Center. Because the areas within proposed critical habitat boundaries were portions of the San Augustin Spanish Land Grant, they have not been surveyed according to the State Plan Coordinate System. Therefore, instead of defining proposed critical habitat boundaries using a grid of township, range, and section, we defined the boundaries for the proposed critical habitat units using known landmarks and roads.

During preparation of the final rule, we found several discrepancies between the legal description of the boundaries of the critical habitat units and the boundaries of the units as depicted in the maps accompanying the proposed rule. The discrepancies resulted primarily through our use of data layers created at a small scale (for example 1:100,000 scale USGS mapping) during preparation of the maps of the proposed critical habitat. For the final rule, we corrected the mapped boundaries of critical habitat first to be consistent with the boundaries as described in the proposed rule. We then modified the boundaries of proposed critical habitat using information on the location of existing developed areas from recent (April 2000) aerial imagery, additional information from botanical experts, and comments on the proposed rule. The boundaries of the final critical habitat units are defined by Universal Transverse Mercator (UTM).

In selecting areas of critical habitat, we made an effort to avoid developed areas, such as housing developments, which are unlikely to contribute to the conservation of *Polygonum hickmanii.* We attempted to map critical habitat for the final rule in sufficient detail to exclude developed areas, or other lands unlikely to contain the primary constituent elements essential for the conservation of *P. hickmanii.* Some other areas within the boundaries of the mapped units, such as roads, parking lots and other paved areas, lawns, and other urban landscaped areas, will not contain any of the primary constituent elements. Federal actions limited to these areas, therefore would not trigger a section 7 consultation under the Act, unless they affect the species or primary constituent elements in adjacent critical habitat.

Critical Habitat Designation

The critical habitat units described below constitute our best assessment at this time of the areas essential for the species' conservation. Critical habitat for *Polygonum hickmanii* is being designated at the only two sites where it is known to occur. Both units are currently occupied with known occurrences of *P. hickmanii.* These areas provide the essential life cycle needs of the species and the habitat components essential for the conservation of *P. hickmanii.* The two units are primarily within the city limits of Scotts Valley in Santa Cruz County with a small portion within an unincorporated area of Santa Cruz County, California, and include the grassland habitat that contains the ''wildflower field'' patches on which the species depends. Given the threats to the habitat of *P. hickmanii* discussed above, we believe that these areas are likely to require special management considerations and protection.

Because we consider maintaining hydrologic and edaphic conditions so important in these grasslands, the critical habitat area extends outward to the following limits—(1) Upslope from the occurrences of *P. hickmanii* to include the upper limit of the immediate watershed; (2) downslope from the occurrences of *P. hickmanii* to the point at which grassland habitat is replaced by forest habitats (oak forest, redwood forest, or mixed conifer-hardwood forest); and (3) to the boundary of existing development.

Including the upper limit of the watershed highlights the importance of maintaining stability of the slopes above the habitat of the species, because soil disturbing activities in this area could result in erosion and deposition of soils on top of wildflower field habitat, and could also lead to a change in the flow of surface and subsurface water downslope, which could change the amount and timing of water availability to the wildflower field habitat. Including habitat downslope from the wildflower field habitat likewise highlights the importance of maintaining edaphic and hydrologic conditions below the wildflower field patches, because soil disturbing activities in this area could also result

in erosion and removal of soils which could cause destabilization of slopes where the wildflower field patches are located.

Unit Descriptions

We are designating the following general areas as critical habitat (see legal descriptions for exact critical habitat boundaries).

Unit 1: Glenwood Site

Unit 1 consists of approximately 87 ha (214 acres) to the west of Glenwood Drive and north and northwest of Casa Way, in the city of Scotts Valley. This unit includes land owned and managed by the Salvation Army and by the Scotts Valley High School District as a preserve, but excludes the rest of the High School, and land to the east of Glenwood Drive, encompassing the parcel known as the Glenwood Development. Most of the land being designated within this unit is privately owned, with a small portion (4 ha (9 ac)) owned by a local agency (High School District). This unit is essential because it supports approximately 25 to 50 percent of the known above-ground numbers of individuals of *Polygonum hickmanii,* as well as other suitable patches of wildflower field habitat that could be colonized by the species naturally, or used as introduction sites as part of a recovery effort. Much of this suitable, but unoccupied habitat, is slated to be dedicated as ''open space'' as part of the housing development on the Glenwood parcel; therefore, an opportunity may exist to pursue such a recovery effort. The unit also supports intervening habitat that includes the grassland community that supports the pollinators and seed dispersers that are important to the survival and conservation of *P. hickmanii.* Additional habitat that is unsuitable for *P. hickmanii* is also included on the slopes above the wildflower field patches; this additional habitat is necessary to maintain the slope stability and therefore the hydrologic and soil conditions suitable for *P. hickmanii* and the wildflower field habitat.

Unit 2: Polo Ranch Site

The Polo Ranch site consists of approximately 30 ha (73 ac) to the east of Carbonera Creek on the east side of Highway 17 and north and northeast of Navarra Drive, in the city of Scotts Valley, in Santa Cruz County, California. All land being designated as critical habitat is privately owned. This unit is essential because it supports approximately 50 to 75 percent of the known above-ground numbers of individuals of *Polygonum hickmanii,* as well as other suitable patches of wildflower field habitat that could be colonized by the species naturally, or used as introduction sites as part of a recovery effort. The unit also supports intervening habitat that includes the grassland community necessary for pollinators and seed dispersers that are responsible for maintaining genetic variability within the species. Additional habitat that is unsuitable for the growth of *P. hickmanii* is also included on the slopes above the wildflower field patches; this additional habitat is necessary to maintain the slope stability and therefore the hydrologic and soil conditions suitable for *P. hickmanii.* Much of the unsuitable habitat will be set aside as ''open space'' as part of the pending housing development, because these slopes are too steep to safely support housing construction.

TABLE 1.—APPROXIMATE CRITICAL HABITAT AREA (HA (AC)) AND LAND OWNERSHIP.

[1 ha = 2.47 ac]

Unit name	Local agency	Private	Total
Glenwood Unit	4 ha (9 ac)	83 ha (205 ac)	87 ha (214 ac)
Polo Ranch Unit	0 ha (0 ac)	30 ha (73 ac)	30 ha (73 ac)
Total	4 ha (9 ac)	113 ha (278 ac)	117 ha (287 ac)

Estimates reflect the total area within critical habitat unit boundaries. Approximate hectares have been converted to acres.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain activities. Recognition through listing encourages and results in public awareness and conservation actions by Federal, State, and local and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the States, and requires that we develop and implement recovery plans for all listed species unless we find that such a plan will not promote the conservation of the species. Together with our partners, we would initiate such appropriate recovery actions following listing. 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 requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened, and with respect to its critical habitat, if any is being designated. Regulations implementing this Interagency Cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a species proposed to be listed 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 to destroy or adversely modify its critical habitat, if any has been designated. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with us.

Activities on private lands requiring a permit from a Federal agency, such as a permit from the Army Corps of Engineers under section 404 of the Clean Water Act, would be subject to the section 7 of the Act consultation process. Federal actions not affecting the species, as well as actions on non-Federal lands that are not federally funded or permitted, would not require section 7 consultation.

Listing of this plant would authorize development of a recovery plan. However, in the case of *Polygonum*

hickmanii, we included conservation recommendations for this species in a multi-species recovery plan we published, which also addressed recovery actions for two listed insects and three listed plants (including the endangered *Chorizanthe robusta* var. *hartwegii* that occurs with *P. hickmanii*) in the Santa Cruz Mountains (Service 1998). Since *P. hickmanii* is being listed with the publication of this final rule, we intend that the conservation recommendations included in this multi-species recovery plan will, in effect, become the recovery plan for this species. This plan identifies both State and Federal efforts for conservation of the plant and establishes a framework for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan sets recovery priorities and describes site-specific management actions necessary to achieve conservation and survival of the plant. Additionally, pursuant to section 6 of the Act, we would be able to grant funds to the State of California for management actions promoting the protection and recovery of the 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 for endangered plants, would apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce the species, or to remove the species from areas under Federal jurisdiction. In addition, for plants listed as endangered, the Act prohibits the malicious damage or destruction in areas under Federal jurisdiction and the removal, cutting, digging up, damaging, or destroying of such endangered plants in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law. Certain exceptions to the prohibitions apply to our agents 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 plants under certain circumstances. Such permits are available for scientific purposes and to enhance the propagation or survival of the species. Requests for copies of the regulations regarding listed species and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Permits Branch, 911 N.E. 11th Avenue, Portland, OR 97232–4181 (telephone 503/231–2063; facsimile 503/231–6243).

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 on proposed and ongoing activities within a species' range. Collection, damage, or destruction of endangered plants on Federal lands is prohibited, although in appropriate cases, a Federal endangered species permit may be issued to allow for collection. However, *Polygonum hickmanii* is not presently known to occur on Federal land. Removal, cutting, digging up, damaging, or destroying endangered plants on non-Federal lands also constitutes a violation of section 9 of the Act if conducted in knowing violation of State law or regulations, including State criminal trespass law.

Questions regarding whether specific activities will constitute a violation of section 9 should be addressed to the Field Supervisor, Ventura Fish and Wildlife Office (*see* **ADDRESSES**).

Effects of Critical Habitat Designation

Section 7 of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as ''a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to: Alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.'' However, in a March 15, 2001, decision of the United States Court of Appeals for the Fifth Circuit (*Sierra Club* v. *U.S. Fish and Wildlife Service et al.*, F.3d 434), the Court found our definition of destruction or adverse modification to be invalid. In response to this decision, we are reviewing the regulatory definition of adverse modification in relation to the conservation of the species.

Section 7(a) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated or proposed. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer with us 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. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory.

We may issue a formal conference report if requested by a Federal agency. Formal conference reports include an opinion that is prepared according to 50 CFR 402.14, as if the species was listed or critical habitat were designated. We may adopt the formal conference report as the biological opinion when the species is listed or critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (*see* 50 CFR 402.10 (d)).

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, the Federal action agency would ensure that the permitted actions do not destroy or adversely modify critical habitat.

If we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide ''reasonable and prudent alternatives'' to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Activities on Federal lands that may affect *Polygonum hickmanii* or its critical habitat will require consultation under section 7 of the Act. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act, or any other activity requiring Federal action (*i.e.*, funding, authorization) will also continue to be subject to the section 7 of the Act consultation process. Federal actions not affecting critical habitat, as well as actions on non-Federal lands that are not federally funded or permitted, will not require section 7 of the Act consultation.

Both of the units we are designating are considered to be occupied by either standing *Polygonum hickmanii* plants or a seed bank, and Federal agencies already consult with us on activities in areas where the species may be present to ensure that their actions do not jeopardize the continued existence of the species. Therefore, the designation of critical habitat is not likely to result in a significant regulatory burden above that already in place due to the presence of the listed species. Actions on which Federal agencies consult with us include, but are not limited to:

(1) Development on private lands requiring permits from Federal agencies, such as section 404 of the Clean Water Act permits from the U.S. Army Corps of Engineers;

(2) Restoration projects sponsored by the Natural Resources Conservation Service; and

(3) Pest control projects undertaken by the Animal and Plant Health Inspection Service, permits from Housing and Urban Development, or authorization of Federal grants or loans.

Such activities would be subject to the section 7 of the Act consultation process. Where federally listed wildlife species occur on private lands proposed for development, any HCPs submitted by the applicant to secure an incidental take permit according to section 10(a)(1)(B) of the Act would be subject to the section 7 of the Act consultation process. The Ohlone tiger beetle (*Cicindela ohlone*), a federally endangered species, occurs in close proximity to *C. r.* var. *hartwegii* within grasslands on the east side of Carbonero Creek on the Glenwood Development parcel. We anticipate that an HCP will be developed to cover incidental take for the tiger beetle and will address conservation measures for *C. r.* var. *hartwegii* as well as *Polygonum hickmanii* during development of the management plan for the open space portion of the parcel.

Section 4(b)(8) of the Act requires us to briefly describe and evaluate in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may adversely modify such habitat or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat would be those that alter the primary constituent elements to the extent that the value of critical habitat for the conservation of *Polygonum hickmanii* is appreciably reduced. We note that such activities may also jeopardize the continued existence of the species.

Activities that, when carried out, funded, or authorized by a Federal agency, may directly or indirectly destroy or adversely modify critical habitat include, but are not limited to:

(1) Activities that alter watershed characteristics in ways that would appreciably alter or reduce the quality or quantity of surface and subsurface flow of water needed to maintain natural grassland communities and the wildflower field habitat. Such activities adverse to *Polygonum hickmanii* could include, but are not limited to: Vegetation manipulation, such as chaining or harvesting timber in the watershed upslope from *P. hickmanii*; maintaining an unnatural fire regime either through fire suppression or prescribed fires that are too frequent or poorly-timed; residential and commercial development, including road building and golf course installations; agricultural activities, including orchardry, viticulture (the cultivation of grapes), row crops, and livestock grazing; and

(2) Activities that appreciably degrade or destroy native grassland communities, including, but not limited to, livestock grazing, clearing, discing, introducing or encouraging the spread of nonnative species, and heavy recreational use.

If you have questions about whether specific activities may constitute adverse modification of critical habitat, contact the Field Supervisor, Ventura Fish and Wildlife Office (*see* **ADDRESSES**).

Relationship to Habitat Conservation Plans

Currently, there are no HCPs that include *Polygonum hickmanii* as a covered species. Section 10(a)(1)(B) of the Act authorizes us to issue permits for the take of listed species incidental to otherwise lawful activities. An incidental take permit application must be supported by an HCP that identifies conservation measures that the permittee agrees to implement for the species to minimize and mitigate the impacts of the permitted incidental take. Although the Act only prohibits take of listed wildlife species, listed plant species may also be covered in an HCP for wildlife species.

In the event that future HCPs covering *Polygonum hickmanii* are developed within the boundaries of designated critical habitat, we will work with applicants to ensure that the HCPs provide for protection and management of habitat areas essential for the conservation of this species. This will be accomplished by either directing development and habitat modification to nonessential areas, or appropriately modifying activities within essential habitat areas so that such activities will not destroy or adversely modify the primary constituent elements. The HCP development process would provide an opportunity for more intensive data collection and analysis regarding the use of particular habitat areas by *P. hickmanii.* The process would also enable us to conduct detailed evaluations of the importance of such lands to the long-term survival of the species in the context of constructing a biologically configured system of interlinked habitat blocks. We will also provide technical assistance and work closely with applicants throughout the development of any future HCPs to identify appropriate management for lands essential for the long-term conservation of *P. hickmanii.* Furthermore, we will complete intra-Service consultation on our issuance of section 10(a)(1)(B) permits for these HCPs to ensure permit issuance will not destroy or adversely modify critical habitat.

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific and commercial information available, and to consider the economic and other relevant impacts of designating a particular area

as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat. We cannot exclude such areas from critical habitat when such exclusion will result in the extinction of the species.

Following the publication of the proposed critical habitat designation, a draft economic analysis was conducted to estimate the potential economic effect of the designation. The draft analysis was made available for review on November 21, 2002. We accepted comments on the draft analysis until December 6, 2002.

Our draft economic analysis evaluated the potential future effects of *Polygonum hickmanii* as a threatened species under the Act, as well as any potential effect of the critical habitat designation above and beyond those regulatory and economic impacts associated with listing. To quantify the proportion of total potential economic impacts attributable to the critical habitat designation, the analysis evaluated a ''without critical habitat'' baseline and compared it to a ''with critical habitat'' scenario. The ''without critical habitat'' baseline represented the current and expected economic activity under all modifications prior to the critical habitat designation, including protections afforded the species under Federal and State laws. The categories of potential costs considered in the analysis included the costs associated with: (1) Conducting section 7 consultations associated with the listing or with the critical habitat, including incremental consultations and technical assistance; (2) modifications to projects, activities, or land uses resulting from the section 7 consultations; (3) uncertainty and public perceptions resulting from the designation of critical habitat; and (4) potential offsetting beneficial costs associated with critical habitat, including educational benefits. The most likely economic effects of critical habitat designation are on private landowners carrying out development activities funded or authorized by a Federal agency.

Based on our economic analysis, we concluded that the designation of critical habitat would not result in a significant additional regulatory burden above and beyond that attributable to the listing of *Polygonum hickmanii.* Our economic analysis does take into account that unoccupied habitat is being designated and that there may be some cost associated with new section 7 consultations that would not have occurred but for critical habitat being designated. Our economic analysis also recognizes that there may be economic effects due to the reaction of the real estate market to critical habitat designation, as real estate values may be temporarily lowered due to perceived increase in the regulatory burden. However, we believe these impacts will be short-term or minimal in cost.

In the final economic analysis, we conclude that, over the next 10 years the total costs to all landowners attributable to the designation are expected to be approximately $11,000 to $36,000 annually. However, we anticipate the costs will be even less because the costs of preparing Environmental Impact Reports for proposed developments, which were figured into the estimates, would have already been prepared to satisfy California Environmental Quality Act requirements for the lead State agency.

The values presented above may be an overestimate of the potential economic effects of the designation because the analysis includes a number of assumptions about the likelihood of future section 7 of the Act consultations, Environmental Impact Report preparation costs, and the costs involved in project modifications. Please see the economic analysis and final addendum for more information. Furthermore, the final designation has been reduced to encompass 117 ha (287 acres) versus the 125 ha (308 ac) proposed as critical habitat, a difference of approximately 8 ha (21 ac), that may reduce the economic effects of the designation.

A copy of the final economic analysis with supporting documents are included in the supporting record for this rulemaking and may be obtained by contacting our Ventura Fish and Wildlife Office (*see* **ADDRESSES**).

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, the Office of Management and Budget (OMB) has determined that this critical habitat designation is not a significant regulatory action. This rule will not have an annual economic effect of $100 million or more or adversely affect any economic sector, productivity, competition, jobs, the environment, or other units of government.

This designation will not create inconsistencies with other agencies' actions or otherwise interfere with an action taken or planned by another agency. It will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Finally, this designation will not raise novel legal or policy issues. Accordingly, OMB has not reviewed this final critical habitat designation.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA also amended the Regulatory Flexibility Act (RFA) to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic effect on a substantial number of small entities. SBREFA also amended the RFA to require a certification statement. In this rule, we are certifying that the critical habitat designation for *Polygonum hickmanii* will not have a significant effect on a substantial number of small entities. The following discussion explains our rationale.

Small entities include small organizations, such as independent nonprofit organizations, small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents, as well as small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000. To determine if potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this rule, as well as the types of project modifications that may result. In general, the term ''significant economic impact'' is meant to apply to a typical small business firm's business operations.

To determine if the rule would affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities (*e.g.*, housing development, grazing, oil and gas production, timber harvesting, etc.). We apply the ''substantial number'' test individually to each industry to determine if certification is appropriate. SBREFA does not explicitly define either ''substantial number'' or ''significant economic impact.'' Consequently, to assess whether a ''substantial number'' of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in the area. Similarly, this analysis considers the relative cost of compliance on the revenues/profit margins of small entities in determining whether or not entities incur a ''significant economic impact.'' Only small entities that are expected to be directly affected by the designation are considered in this portion of the analysis. This approach is consistent with several judicial opinions related to the scope of the RFA. (*Mid-Tex Electric Co-op Inc.* v. *F.E.R.C.*, 773 F.2d 327 (D.C. Cir. 1985) and *American Trucking Associations, Inc.* v. *U.S. E.P.A.*, 175 F.3d 1027, (D.C. Cir. 1999))

Designation of critical habitat only affects activities conducted, funded, or permitted by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. Residential development on private land constitutes the primary activity expected to be impacted by the designation of critical habitat for *Polygonum hickmanii.*

To be conservative (*i.e.*, more likely overstate impacts than understate them), the economic analysis assumed that the two potentially affected parties (American Dream/Glenwood and Lennar/Graystone Homes) that may be engaged in development activities within critical habitat are small entities. There are approximately 35 small residential development and construction companies in Santa Cruz County. At most two formal consultations could arise involving private entities. Therefore, the economic analysis assumes that at most two separate residential/small business entities may be affected by the designation of critical habitat for *Polygonum hickmanii* over 10 years.

Under the reasonable assumption that the two consultations would be spread out over the 10-year period, less than 1 percent of residential development and construction companies may be affected annually, on average, by the designation of critical habitat for the *Polygonum hickmanii*. Consequently, the economic analysis concludes that this designation will not affect a substantial number of small entities as a result of the designation of critical habitat for *P. hickmanii*.

In general, two different mechanisms in consultations under section 7 of the Act could lead to additional regulatory requirements for the one small business, on average, that may be required to consult with us each year regarding their project's impact on *Polygonum hickmanii* and its habitat. First, if we conclude, in a biological opinion, that a proposed action is likely to jeopardize the continued existence of a species or destroy or adversely modify its critical habitat, we can offer ''reasonable and prudent alternatives.'' Reasonable and prudent alternatives are alternative actions that can be implemented in a manner consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid jeopardizing the continued existence of listed species or resulting in destruction or adverse modification of critical habitat. A Federal agency and an applicant may elect to implement a reasonable and prudent alternative associated with a biological opinion that has found jeopardy or destruction or adverse modification of critical habitat. An agency or applicant could alternatively choose to seek an exemption from the requirements of the Act or proceed without implementing the reasonable and prudent alternative. However, unless an exemption were obtained, the Federal agency or applicant would be at risk of violating section 7(a)(2) of the Act if it chose to proceed without implementing the reasonable and prudent alternatives. Secondly, if we find that a proposed action is not likely to jeopardize the continued existence of a listed animal or plant species, we may identify reasonable and prudent measures designed to minimize the amount or extent of take and require the Federal agency or applicant to implement such measures through nondiscretionary terms and conditions. We may also identify discretionary conservation recommendations designed to minimize or avoid the adverse effects of a proposed action on listed species or critical habitat, help implement recovery plans, or develop information that could contribute to the recovery of the species.

Based on our experience with consultations pursuant to section 7 of the Act for all listed species, virtually all projects—including those that, in their initial proposed form, would result in jeopardy or adverse modification determinations in section 7 consultations—can be implemented successfully with, at most, the adoption of reasonable and prudent alternatives. These measures, by definition, must be economically feasible and within the scope of authority of the Federal agency involved in the consultation. As we have no consultation history for *Polygonum hickmanii*, we can only describe the general kinds of actions that may be identified in future reasonable and prudent alternatives. These are based on our understanding of the needs of the species and the threats it faces, as described in this final listing rule and critical habitat designation.

It is likely that a developer could modify a project to avoid removing standing plants. Based on the types of modifications that have been implemented in the past for plant species, a developer may take such steps as installing fencing to protect existing colonies of plants, re-aligning the project to avoid sensitive areas, continuation of current grazing practices or establishment of new management provisions to ensure containment of nonnative exotic species that threaten *Polygonum hickmanii*, and or restrictions of certain recreation uses to avoid disruption of normal propagation of the species. As determined in our economic analysis, the cost for implementing these modifications for one project may range from $11,000 to $55,000. It should be noted that developers likely would already be required to undertake such modifications due to regulations in CEQA. These modifications are not likely to result in a significant economic impact to project proponents.

In summary, we have considered whether this rule would result in a significant economic effect on a substantial number of small entities and have determined, for the above reasons, that it will not affect a substantial number of small entities. Furthermore, we believe that the potential compliance costs for the number of small entities that may be affected by this rule will not be significant. Therefore, we are certifying that the designation of critical habitat for *Polygonum hickmanii* will not have a significant economic impact on a substantial number of small entities. A regulatory flexibility analysis is not required.

Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 804(2))

OMB's Office of Information and Regulatory Affairs has determined that

this rule is not a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. In the economic analysis, we determined whether designation of critical habitat would cause (a) any effect on the economy of $100 million or more, (b) any increases in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions, or (c) any significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. Refer to the final economic analysis for a discussion of the effects of this designation.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*):

(a) This rule will not ''significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. Small governments will be affected only to the extent that they must ensure that any programs involving Federal funds, permits, or other authorized activities will not adversely affect the critical habitat.

(b) This rule will not produce a Federal mandate of $100 million or greater in any year, that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments.

Executive Order 13211

On May 18, 2001, the President issued an Executive Order 13211 on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. There are no energy-related facilities located within designated critical habitat. This rule is not a significant regulatory action under Executive Order 12866, and it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Takings

In accordance with Executive Order 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), we have analyzed the potential takings implications of designating critical habitat for *Polygonum hickmanii* in a takings implication assessment. The takings implications assessment concludes that this final rule does not pose significant takings implications.

Federalism

In accordance with Executive Order 13132, this rule does not have significant Federalism effects. A Federalism assessment is not required. As discussed above, the designation of critical habitat in areas currently occupied by *Polygonum hickmanii*, as well as unoccupied areas, would have little incremental impact on State and local governments and their activities. The designations may have some benefit to these governments in that the areas essential to the conservation of this species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are identified. While making this designation and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long range planning, rather than waiting for case-by-case section 7 of the Act consultation to occur.

Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor has determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have designated critical habitat in accordance with the provisions of the Endangered Species Act, as amended. The rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of *Polygonum hickmanii*.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any information collection requirements for which Office of Management and Budget approval under the Paperwork Reduction Act is required. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB Control Number.

National Environmental Policy Act

We have determined that an Environmental Assessment and/or an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act, as amended. A notice outlining our reason for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244). This determination does not constitute a major Federal action significantly affecting the quality of the human environment.

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations With Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a Government-to-Government basis. The designated critical habitat for *Polygonum hickmanii* does not contain any Tribal lands or lands that we have identified as impacting Tribal trust resources.

References Cited

A complete list of all references cited herein, as well as others, is available upon request from the Ventura Fish and Wildlife Office (*see* **ADDRESSES**).

Author

The primary author of this final rule and critical habitat designation is Constance Rutherford, Ventura Fish and Wildlife Office (*see* **ADDRESSES**).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

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

PART 17—[AMENDED]

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

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

■ 2. Amend § 17.12(h), by adding an entry for *Polygonum hickmanii* in alphabetical order under FLOWERING PLANTS to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
Flowering Plants							
*	*	*	*	*	*	*	
Polygonum hickmanii	Scotts Valley polygonum.	U.S.A. (CA)	Polygonaceae	E	736	17.96(a)	NA
*	*	*	*	*	*	*	

■ 3. Amend § 17.96(a) by adding a critical habitat for Family Polygonaceae: *Polygonum hickmanii* (Scotts Valley polygonum) in alphabetical order to read as follows:

§ 17.96 Critical habitat—plants.

(a) * * *

Family Polygonaceae: *Polygonum hickmanii* (Scotts Valley polygonum)

(1) Critical habitat units are depicted for Santa Cruz County, California, on the map below.

(2) The primary constituent elements of critical habitat for *Polygonum hickmanii* are the habitat components that provide:

(i) Thin soils in the Bonnydoon series that have developed over outcrops of Santa Cruz mudstone and Purisima sandstone;

(ii) ''Wildflower field'' habitat that has developed on these thin-soiled sites;

(iii) A grassland plant community that supports the ''wildflower field'' habitat and that supports the pollinator activity and seed dispersal mechanisms that typically occur within the grassland plant community;

(iv) Areas around each colony to allow for recolonization to adjacent suitable microhabitat sites; and

(v) Habitat within the subwatersheds upslope to the ridgelines to maintain the edaphic and hydrologic conditions and slope stability that provide the seasonally wet substrate for growth and reproduction of *Polygonum hickmanii*.

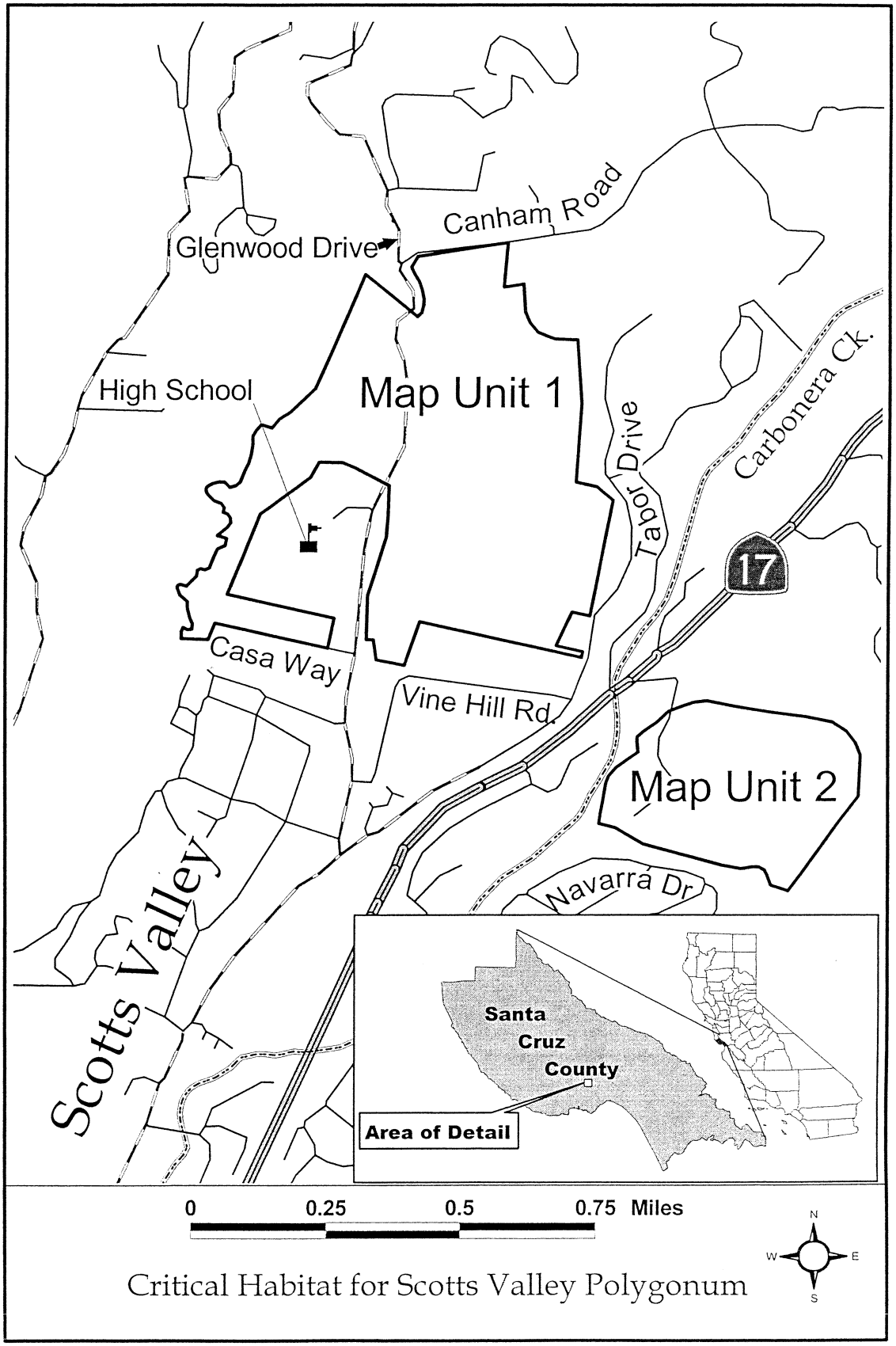
(3) Existing features and structures, such as buildings, roads, railroads, airports, other paved areas, lawns, and other urban landscaped areas, do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1: Santa Cruz County, California. From USGS 7.5′ quadrangle map Felton, California, Mount Diablo Meridian, California. Lands bounded by the following UTM zone 10 NAD83 coordinates (E,N): 587990, 4103190; 587999, 4103220; 588021, 4103230; 588025, 4103250; 587997, 4103260; 588025, 4103280; 588035, 4103290; 588033, 4103310; 588025, 4103320; 588012, 4103330; 588014, 4103340; 588005, 4103350; 587984, 4103360; 587969, 4103370; 587962, 4103380; 587958, 4103390; 587962, 4103400; 587975, 4103410; 587992, 4103410; 588012, 4103420; 588029, 4103400; 588046, 4103410; 588058, 4103420; 588064, 4103430; 588072, 4103450; 588082, 4103480; 588088, 4103500; 588091, 4103530; 588091, 4103560; 588099, 4103570; 588115, 4103590; 588146, 4103580; 588169, 4103610; 588201, 4103630; 588272, 4103700; 588411, 4104050; 588571, 4103930; 588584, 4103940; 588589, 4103960; 588590, 4103980; 588583, 4104010; 588574, 4104030; 588559, 4104050; 588549, 4104070; 588568, 4104110; 588833, 4104150; 588827, 4104020; 588883, 4104030; 588891, 4103950; 588906, 4103920; 588931, 4103890; 588979, 4103870; 589049, 4103870; 589069, 4103680; 589061, 4103450; 589124, 4103440; 589173, 4103400; 589117, 4103050; 589062, 4103060; 589019, 4102960; 589099, 4102940; 589096, 4102920; 588612, 4103020; 588570, 4102880; 588485, 4102900; 588474, 4102960; 588452, 4102960; 588452, 4103090; 588473, 4103160; 588502, 4103270; 588504, 4103330; 588505, 4103420; 588402, 4103470; 588360, 4103480; 588292, 4103480; 588267, 4103440; 588121, 4103320; 588033, 4103080; 588352, 4103020; 588337, 4102930; 588000, 4102990; 587981, 4102940; 587900, 4102940; 587900, 4102960; 587905, 4102980; 587919, 4102970; 587931, 4102970; 587932, 4102990; 587924, 4103010; 587916, 4103040; 587915, 4103060; 587893, 4103070; 587887, 4103090; 587883, 4103100; 587885, 4103100; 587891, 4103110; 587911, 4103100; 587939, 4103130; 587942, 4103150; 587951, 4103160; 587963, 4103150; 587977, 4103160; 587990, 4103190.

(5) Unit 2: Santa Cruz County, California. From USGS 7.5′ quadrangle map Laurel, California, Mount Diablo Meridian, California. Lands bounded by the following UTM zone 10 NAD83 coordinates (E,N): 589297, 4102370; 589213, 4102420; 589164, 4102430; 589168, 4102460; 589174, 4102500; 589181, 4102550; 589189, 4102570; 589210, 4102600; 589243, 4102620; 589261, 4102630; 589274, 4102640; 589271, 4102660; 589270, 4102680; 589270, 4102690; 589289, 4102710; 589327, 4102740; 589361, 4102770; 589402, 4102790; 589435, 4102800; 589472, 4102800; 589571, 4102790; 589657, 4102780; 589762, 4102770; 589845, 4102750; 589889, 4102730; 589917, 4102690; 589932, 4102660; 589932, 4102620; 589930, 4102530; 589865, 4102440; 589732, 4102250; 589681, 4102260; 589669, 4102290; 589661, 4102300; 589642, 4102310; 589623, 4102310; 589590, 4102310; 589531, 4102320; 589297, 4102370.

(6) Map for Units 1 and 2 follows:

BILLING CODE 4310–55–P



Critical Habitat for Scotts Valley Polygonum

* * * * *

Dated: March 27, 2003.

Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 03–8181 Filed 4–7–03; 8:45 am]

BILLING CODE 4310–55–C

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 021212307–3037–02; I.D. 032803E]

Fisheries of the Exclusive Economic Zone Off Alaska; AtkaMackerel and Pacific Cod With Trawl Gear in the Bering Sea and Aleutian Islands

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

ACTION: Closures and openings.

SUMMARY: NMFS announces opening and closing dates of the first and second directed fisheries for Atka mackerel within the harvest limit area (HLA) in Statistical Areas 542 and 543. These actions are necessary to fully use the 2003 HLA limits established for the Central (area 542) and Western (area 543) Aleutian Districts pursuant to the 2003 Atka mackerel total allowable catch (TAC). NMFS also prohibits directed fishing for Pacific cod by vessels using trawl gear in the HLA.

DATES: Prohibition of directed fishing for Pacific cod with trawl gear in area 542 HLA and area 543 HLA: Effective 1200 hrs, Alaska local time (A.l.t.), April 8, 2003, until 1200 hrs, A.l.t., April 11, 2003. The first directed fisheries for Atka mackerel in the HLA in area 542 and area 543 open: Effective 1200 hrs, A.l.t., April 8, 2003, until 1200 hrs, A.l.t., April 9, 2003. The second directed fisheries for Atka mackerel in the HLA in area 542 and area 543 open: effective 1200 hrs, A.l.t., April 10, 2003, until 1200 hrs, A.l.t., April 11, 2003.

FOR FURTHER INFORMATION CONTACT: Andrew Smoker, 907–586–7228.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fishery in the BSAI exclusive economic zone according to the Fishery Management Plan for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

In accordance with § 679.20(a)(8)(iii), vessels using trawl gear for directed fishing for Atka mackerel have previously registered with NMFS to fish in the HLA fisheries in areas 542 and/or 543. NMFS has randomly assigned each vessel to the directed fishery or fisheries for which they have registered. NMFS has notified each vessel owner as to which fishery each vessel has been assigned by NMFS (68 FR 2922, January 22, 2003).

In accordance with § 679.20(a)(8)(ii)(C)(*1*), the HLA portion of the Atka mackerel TAC in areas 542 and 543 are 8,147 mt and 5,547 mt, respectively (68 FR 9907, March 3, 2003). The HLA directed fisheries for Atka mackerel were previously opened and closed (68 FR 2920, January 22, 2003) based on the HLA apportionments of the interim specifications of groundfish (67 FR 78739, December 26, 2002). NMFS has determined that as of March 25, 2003, the remaining amounts of the Atka mackerel HLA limits are 2,496 mt in the 542 HLA limit and 1,894 mt in the 543 HLA limit.

In order to fully utilize the 2003 HLA limit for areas 542 and 543 and pursuant to § 679.20(a)(8)(iii)(C), NMFS is reopening the first and second directed fisheries for Atka mackerel for the dates and times listed under the **DATES** section of this notice.

In accordance with § 679.20(a)(8)(iii)(D) and based on the amounts of the HLA limits currently available and the proportion of the number of vessels in each fishery compared to the total number of vessels participating in the HLA directed fishery for area 542 or 543, the harvest limits for each HLA directed fishery in areas 542 and 543 are: 1,248 mt for the first directed fishery in area 542, 947 mt for the first directed fishery in area 543, 1,248 mt for the second directed fishery in area 542, and 947 mt for the second directed fishery in area 543.

In accordance with § 679.20(a)(8)(iii)(E), the Administrator, Alaska Region, NMFS, has established the closure dates of the Atka mackerel directed fisheries in the HLA for areas 542 and 543 based on the amount of the harvest limit and the estimated fishing capacity of the vessels assigned to the respective fisheries. Consequently, NMFS is prohibiting directed fishing for Atka mackerel in the HLA of areas 542 and 543 in accordance with the dates and times listed under the **DATES** section of this notice.

In accordance with § 679.22(a)(8)(iv)(A), directed fishing for Pacific cod by vessels named on a Federal Fisheries Permit under § 679.4(b) and using trawl gear is prohibited in the HLA in area 542 or area 543, as defined in § 679.2, when the Atka mackerel HLA directed fishery in area 542 or area 543 is open. Consequently, NMFS is prohibiting directed fishing for Pacific cod in the HLA in area 542 and area 543 as defined in accordance with the dates and times listed under the **DATES** section of this notice.

Classification

This action responds to the best available information recently obtained from the fishery. The Assistant Administrator for Fisheries, NOAA, finds good cause to waive the requirement to provide prior notice and opportunity for public comment pursuant to the authority set forth at 5 U.S.C. 553(b)(B) as such requirement is contrary to the public interest. This requirement is contrary to the public interest as it would delay the closure of the fisheries, lead to exceeding the HLA limits, and therefore reduce the public's ability to use and enjoy the fishery resource.

The AA also finds good cause to waive the 30–day delay in the effective date of this action under 5 U.S.C. 553(d)(3). This finding is based upon the reasons provided above for waiver of prior notice and opportunity for public comment.

This action is required by § 679.20 and is exempt from review under Executive Order 12866.

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

Dated: April 2, 2003.

Richard W. Surdi,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 03–8543 Filed 4–3–03; 2:21 pm]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 021122286–3036–02; I.D. 040203B]

Fisheries of the Exclusive Economic Zone Off Alaska; Pollock in Statistical Area 620 of the Gulf of Alaska

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