

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 70019), 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