



# Federal Register

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**Tuesday,  
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**Part II**

## **Department of the Interior**

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**Fish and Wildlife Service**

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**50 CFR Part 17  
Endangered and Threatened Wildlife and  
Plants; Final Determinations of Critical  
Habitat for the California Red-legged  
Frog; Final Rule**

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**

RIN-1018-AG32

**Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the California Red-legged Frog****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for the California red-legged frog (*Rana aurora draytonii*) pursuant to the Endangered Species Act of 1973, as amended (Act). A total of approximately 1,674,582 hectares (4,140,440 acres) in Alameda, Butte, Contra Costa, El Dorado, Fresno, Kern, Los Angeles, Marin, Mariposa, Merced, Monterey, Napa, Plumas, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Tehama, Tuolumne, and Ventura counties, California, is designated as critical habitat.

Critical habitat identifies specific areas that have the physical and biological features that are essential to the conservation of a listed species, and that may require special management considerations or protection. The primary constituent elements for California red-legged frogs are aquatic and upland areas where suitable breeding and nonbreeding habitat is interspersed throughout the landscape, and are interconnected by continuous dispersal habitat. Critical habitat for California red-legged frogs includes those areas possessing all of the primary constituent elements.

Section 7 of the Act prohibits destruction or adverse modification of critical habitat by any activity funded, authorized, or carried out by any Federal agency. Section 4 of the Act requires us to consider economic and other impacts of specifying any particular area as critical habitat. We solicited data and comments from the public on all aspects of the proposed rule and economic analysis. We revised the proposal to incorporate or address new information received during the comment periods.

**DATES:** This rule becomes effective on April 12, 2001.**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 Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W. 2605, Sacramento, California 95825.

**FOR FURTHER INFORMATION CONTACT:** For general information, and for information about Alameda, Butte, Contra Costa, El Dorado, Fresno, Kern, Marin, Mariposa, Merced, Napa, Plumas, San Joaquin, San Mateo, Santa Clara, Solano, Sonoma, Stanislaus, Tehama, and Tuolumne counties, contact Wayne White, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W. 2605, Sacramento, California 95825 (telephone 916/414-6600; facsimile 916/414-6712).

For information about Monterey, Los Angeles, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura counties, contact Diane Noda, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2394 Portola Road, Suite B, Ventura, California 93003 (telephone 805/644-1766; facsimile 805/644-3958).

For information about areas in the San Gabriel Mountains of Los Angeles County or Riverside and San Diego counties, contact Jim Bartel, Carlsbad Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2730 Loker Avenue West, Carlsbad, California 92008 (telephone 760/431-9440; facsimile 760/431-9624).

**SUPPLEMENTARY INFORMATION:****Background**

The California red-legged frog (*Rana aurora draytonii*) is the largest native frog in the western United States. It is endemic to California and Baja California, Mexico. It is typically found from sea level to elevations of approximately 1,500 meters (m) (5,000 feet (ft)). The California red-legged frog ranges in body length from 40 to 130 millimeters (mm) (1.6 to 5.1 inches (in.)), with adult females attaining a significantly longer body length than males (138 mm (5.4 in.) versus 116 mm (4.6 in.)) (Hayes and Miyamoto 1984). The posterior abdomen and hind legs of adults vary in color, but are often red or salmon pink; the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish-brown background. Dorsal spots usually have light centers (Stebbins 1985), and the dorsolateral folds (folds along the sides of the frog) are prominent. Larvae range from 14 to 80 mm (0.6 to 3.1 in.)

in length, and the background color of the body is dark brown or olive with darker spots (Storer 1925). A line of very small, indistinct gold-colored spots are thought to become the dorsolateral fold. The California red-legged frog is one of two subspecies of the red-legged frog (*R. aurora*). For a detailed description of the two subspecies see the Draft Recovery Plan for the California Red-legged Frog (Service 2000) and references identified within the plan.

Male California red-legged frogs appear at breeding sites 2 to 4 weeks before females (Storer 1925). A pair in amplexus (breeding position) moves to an oviposition site (the location where eggs are laid) and the eggs are fertilized while being attached to a brace. Braces include emergent vegetation such as bulrushes (*Scirpus* sp.), cattails (*Typha* sp.), or roots and twigs, although breeding has been documented in ponds without emergent vegetation (Steven Bobzien, *in litt.* 2001). Each mass contains about 2,000 to 5,000 individual eggs measuring approximately 2.0 to 2.8 mm (0.08 to 0.11 in.) in diameter. Eggs hatch in 6 to 14 days depending on water temperatures (Jennings *et al.* 1992). Larvae typically metamorphose between July and September, 3.5 to 7 months after eggs are laid (Storer 1925; Wright and Wright 1949). However, several researchers have recently observed larvae to overwinter in Contra Costa, Marin, Santa Clara, and San Luis Obispo counties (Bobzien *et al.* 2000), and possibly in Ventura County (R. Smith, Los Angeles Zoo, *in litt.* 2001), with new metamorphs being observed in March and April.

Of the various life stages, larvae probably experience the highest mortality rates. Survival rate from hatching to metamorphosis (the process of changing from a tadpole to a frog) has been estimated as less than 1 percent (Jennings *et al.* 1992), 1.9 percent (Cook 1997), or less than 5 percent (Lawler *et al.* 1999) for California red-legged frog tadpoles co-occurring with bullfrog tadpoles, and 30 to 40 percent for California red-legged frog tadpoles occurring without bullfrogs (Lawler *et al.* 1999). Sexual maturity can be attained at 2 years of age by males and 3 years of age by females (Jennings and Hayes 1985), with adults living 8 to 10 years (Jennings, U.S. Geological Survey (USGS), Biological Resources Division (BRD), pers. comm. 2000). However, the average life span is probably much lower (Scott, USGS, BRD, pers. comm. 2000).

The historic range of the California red-legged frog extended along the coast from the vicinity of Point Reyes National Seashore, Marin County,

California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985; Hayes and Krempels 1986). California red-legged frogs have been documented in 46 counties in California, but now remain in only 248 streams or drainages in 26 counties; the subspecies has lost approximately 70 percent of its former range (Service 2000; 61 FR 25813). California red-legged frogs are still locally abundant within portions of the San Francisco Bay area (including Marin County) and the central coast. Within the remaining distribution of the subspecies, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse ranges. The subspecies was previously believed to be extirpated (exterminated) from most of its range in the southern Transverse and Peninsular Ranges, but two additional populations have recently been discovered. The species is still present in Baja California, Mexico (California Natural Diversity Data Base (CNDDB) 1998).

The California red-legged frog was listed as a threatened subspecies on May 31, 1996 (61 FR 25813). Habitat loss and alteration, over-exploitation, and introduction of exotic predators were significant factors in the subspecies' decline in the early-to mid-1900s. Reservoir construction, expansion of introduced predators, management of grazing in riparian areas resulting in loss of stream bank habitat and plunge pools, and prolonged drought, fragmented and eliminated many of the Sierra Nevada foothill populations. Only a few drainages currently support California red-legged frogs in the Sierra Nevada foothills, compared to more than 60 historical records. In Northern California, few California red-legged frog populations occupy naturally-occurring wetland environments. As natural wetlands and streams were converted for agriculture, flood control, and urban development, California red-legged frogs colonized small artificial impoundments created by cattle ranchers for the purpose of providing water for their cattle. Without these impoundments, the range of California red-legged frogs would be limited further in this region.

Several researchers have attributed the decline and extirpation of California red-legged frogs to the introduction of bullfrogs (*Rana catesbeiana*) and introduced predatory fishes (Hayes and Jennings 1986; Moyle 1973). This decline has been attributed to both predation and competition. Twedt (1993) observed the predation of

juvenile northern red-legged frogs (*R. aurora aurora*) and suggested that bullfrogs may prey on subadult red-legged frogs. This is supported by Cook (Sonoma County Water Agency, *in litt.* 2000) and David Cook and M. Jennings (*in litt.* 2000) who documented predation of both tadpoles and juvenile California red-legged frogs, as well as a large adult, by bullfrogs. In addition, bullfrogs may have a competitive advantage over red-legged frogs. Bullfrogs are larger, have more generalized food habits (Bury and Whelan 1984), have an extended breeding season (Storer 1933) where an individual female produces as many as 20,000 eggs during a breeding season (Emlen 1977), and bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with red-legged frog reproduction. Both California and northern red-legged frogs have been observed in amplexus with both male and female bullfrogs (Twedt 1993; Service files).

California red-legged frogs are currently threatened by human activities, many of which operate concurrently and cumulatively with each other and with natural disturbances (e.g., droughts and floods). Current factors associated with declining populations of the frog include: Degradation and loss of habitat through urbanization, mining, improper management of grazing, recreation, invasion of nonnative plants, impoundments, water diversions, degraded water quality, and introduced predators. These factors have resulted in the isolation and fragmentation of habitats within many watersheds, often precluding dispersal between subpopulations and jeopardizing the viability of metapopulations (broadly defined as multiple subpopulations that occasionally exchange individuals through dispersal, and are capable of colonizing or rescuing habitat patches when the local subpopulations have been extirpated). The fragmentation of existing habitat, and the continued colonization of existing habitat by nonnative species, may represent the most significant current threats to California red-legged frogs.

Numerous studies have demonstrated the impacts of fragmentation on other anuran (frog and toad) species. Urban populations of common frogs (*Rana temporaria*) were more genetically distinct than rural populations (Hitchins and Beebee 1997). Based on genetic analysis, Reh and Seitz (1990) found that highways effectively isolated *R. temporaria* populations. Kuhn (1987, in Reh and Seitz 1990) estimated that 24 to 40 cars per hour killed 50 percent of

common toad (*Bufo bufo*) individuals migrating across a road, while Heine (1987, in Reh and Seitz 1990) found that 26 cars per hour could reduce the survival rate of toads crossing roads to zero. In addition, Fahrig *et al.* (1995) found a significant negative correlation between traffic density and the density of anuran populations. Thus, heavily traveled roads are an important human-caused landscape component, hindering amphibian movement through vehicle strikes and thereby fragmenting amphibian populations.

In addition to the fragmentation of habitat, activities that occur on upland habitats can have both direct and indirect, significant deleterious impacts on California red-legged frogs. For example, amphibian species richness (number of species in an area) is related to land use in the watersheds of Puget Sound, Washington (Richter and Azous 1995, 1997); species richness was significantly lower in watersheds where more than 40 percent of the land area was developed. This was attributed to increases in the total water level fluctuations within wetlands (e.g., both increases in the number of fluctuations of water levels within the wetland and increases in the magnitude of fluctuations). Specifically, urbanization leads to higher peak flows and volumes resulting in increases in the magnitude, frequency, and duration of wetland hydroperiods and stream levels (Reinalt and Taylor 1997). Urbanization within the range of the California red-legged frog often results in similar effects on wetlands.

Urbanization results in additional water sources into wetlands and stream courses associated with irrigation and home use activities, especially during the summer months. This often drastically alters the hydroperiod and converts intermittent streams and seasonal wetlands to perennial aquatic habitat. Such alteration allows nonnative species such as bullfrogs and nonnative warm water fish species to invade the habitat and further adversely affect California red-legged frog populations. California red-legged frogs are rarely found in areas where a large majority of the watershed has been developed (H.T. Harvey and Associates 1997, Service files). This is further supported by Schueler (1994), who summarized research examining macroinvertebrate and fish diversity. Those results illustrated the difficulty of maintaining predevelopment stream quality when watershed development exceeds 10–15 percent impervious cover. For example, Klein (1979, in Schueler 1994) found that macroinvertebrate diversity consistently

became poor when watershed imperviousness exceeded 10 to 15 percent; this has been supported by Schueler and Galli, (1992 in Schueler 1994) and Shaver *et al.*, (1994, in Schueler 1994). This loss of diversity has also been observed in fish (Klein 1979; Limburg and Schmidt 1990, both in Schueler 1994).

In addition to the modification of hydroperiod, impacts within the watershed can also affect water and habitat quality. As watersheds are developed, the amount of impervious surface increases, resulting in an increase of sediments containing organic matter, pesticides and fertilizers, heavy metals, hydrocarbons, and other debris into streams and wetlands (U.S. Environmental Protection Agency (EPA) 1993). Skinner *et al.* (1999) found developed watersheds had greater concentrations of toxic effluents than less developed areas with more open space. The decrease in water quality can have profound impacts on native amphibians and other wetland vertebrates. Richter and Azous (1997) observed wetlands adjacent to undeveloped upland areas were more likely to have richer populations of native amphibians. Mensing *et al.* (1998) found that amphibian abundance was negatively influenced by land use at small scales (*e.g.*, within 0.5 to 1.0 kilometer (km) (0.30 to 0.60 mile (mi))).

Habitat fragmentation, wetland conversions, and hydrological alterations cumulatively result in changes in wetland species composition, including amphibian composition. Amphibian declines can be attributed to increasing numbers of nonnative competitors and predators capable of thriving in disturbed conditions (Harris 1998). Onorato *et al.* (1998) found native fish species were sensitive to anthropogenic disturbances and were becoming less abundant within the study area. They also found introduced generalists able to tolerate lower quality habitat and to replace native fish species within the system. This scenario has been demonstrated in the Santa Clara Valley, California, where the loss of California red-legged frog populations was attributed in part to the invasion of bullfrogs into urbanized areas (H.T. Harvey and Associates 1997).

California red-legged frogs are adapted to survive in a Mediterranean climate where habitat quality varies spatially and temporally. Due to this variability, population sizes can vary widely from year to year. During favorable years, California red-legged frogs can experience extremely high

rates of reproduction and produce large numbers of dispersing young resulting in an increase in the number of occupied sites. In contrast, frogs may temporarily disappear from an area during periods of extended drought. Therefore, it is important for the long-term survival and recovery of the species to protect those sites that appear to be unoccupied, but can be recolonized by dispersing individuals from nearby sub-populations (Semlitsch 2000).

California red-legged frogs use a variety of habitat types, including various aquatic, riparian, and upland habitats. They include, but are not limited to, ephemeral ponds, intermittent streams, seasonal wetlands, springs, seeps, permanent ponds, perennial creeks, man-made aquatic features, marshes, dune ponds, lagoons, riparian corridors, blackberry (*Rubus* sp.) thickets, nonnative annual grasslands, and oak savannas. Among the variety of habitats where California red-legged frogs have been found, the only common factor is association with a permanent water source. Apparently, California red-legged frogs can use virtually any aquatic system provided a permanent water source, ideally free of nonnative predators, is nearby. Permanent water sources can include, but are not limited to, ponds, perennial creeks (or permanent plunge pools within intermittent creeks), seeps, and natural and artificial springs. California red-legged frogs may complete their entire life cycle in a particular area (*i.e.*, a pond that is suitable for all life stages) or utilize multiple habitat types. These variable life-history characteristics enable California red-legged frogs to change habitat use in response to varying conditions. During a period of abundant rainfall, the entire landscape may become suitable habitat. Conversely, habitat use may be drastically confined during periods of prolonged drought.

Populations of California red-legged frogs are most likely to persist where multiple breeding areas are within an assemblage of habitats used for dispersal (N. Scott and G. Rathbun *in litt.*, USGS, BRD, 1998), a trait typical of many frog and toad species (Laan and Verboom 1990; Reh and Seitz 1990; Mann *et al.* 1991; Sjogren-Gulve 1994; Griffiths 1997; Marsh *et al.* 1999). Breeding sites have been documented in a variety of aquatic habitats. Larvae, juveniles, and adult frogs have been observed inhabiting streams, creeks, ponds, marshes, sag ponds, deep pools and backwaters within streams and creeks, dune ponds, lagoons, estuaries, and artificial impoundments, such as stock

ponds. Furthermore, breeding has been documented in these habitat types irrespective of vegetation cover. Frogs successfully breed in artificial ponds with little or no emergent vegetation (S. Bobzien *in litt.* 2000), and have been observed to successfully breed and inhabit stream reaches that are not cloaked in riparian vegetation (Bobzien *et al.* 2000). The importance of riparian vegetation for this subspecies is not well understood. It is believed that riparian plant communities provide good foraging habitat due to the moisture and camouflage that occur within the community, as well as providing areas for dispersal and supporting pools and backwater aquatic areas for breeding. However, other factors are more likely to influence the suitability of aquatic breeding sites, such as the general lack of introduced aquatic predators.

California red-legged frogs often disperse from their breeding habitat to utilize various aquatic, riparian, and upland estivation habitats in the summer, however it is also common for individuals to remain in the breeding area on a year-round basis. Frogs use a number of habitat features, including ponds, streams, marshes, boulders or rocks, organic debris such as downed trees or logs, industrial debris, and agricultural features, such as drains, watering troughs, or spring boxes. When riparian habitat is present, frogs spend considerable time resting and feeding in the vegetation (G. Rathbun *in litt.* 2000). When riparian habitat is absent, frogs spend considerable time resting and feeding under rocks and ledges, both in and out of water (Trish Tatarian, Sonoma State University, Sonoma County *in litt.* 2000). California red-legged frogs can also use small mammal burrows and moist leaf litter (Jennings and Hayes 1994). Stream channels with portions narrower and deeper than 46 cm (18 in.) may also provide habitat (61 FR 25813). This type of dispersal and habitat use is not observed in all California red-legged frogs, however, and is likely dependent on the year-to-year variations in climate and habitat suitability and varying requirements of each life stage.

At any time of the year, adult California red-legged frogs may move from breeding sites. They can be encountered living within streams at distances exceeding 2.9 km (1.8 mi) from the breeding site and have been found further than 100 m (328 ft) from water in adjacent dense riparian vegetation. The California red-legged frog has been observed inhabiting riparian areas for up to 77 days (J. Bulger *et al.*, USGS, BRD, *in litt.* 2000), but typically remain within 60 m (200

ft) of water. During periods of wet weather, starting with the first rains of fall, some individuals may make overland excursions through upland habitats. Most of these overland movements occur at night. Evidence from marked adult frogs on the San Simeon coast of San Luis Obispo County, California, suggests that frog movements of about 1.6 km (1 mi), over upland habitats, are possible over the course of a wet season (N. Scott and G. Rathbun, *in litt.* 1998). Frogs will make long-distance straight-line, point-to-point movements, rather than using corridors for moving between habitats (N. Scott and G. Rathbun, *in litt.*, 1998). Dispersing adult frogs in northern Santa Cruz County traveled distances from 0.4 km (0.25 mi) to more than 3.2 km (2 mi) without apparent regard to topography, vegetation type, or riparian corridors (J. Bulger, *in litt.* 2000). Many newly metamorphosed juveniles tend to disperse short distances initially, July through September, and then move further away from the breeding habitat during warm rain events (Monk 1997a; M. Jennings *in litt.* 2000; N. Scott *in litt.* 2000; Brian Mori *in litt.* 2000). Bobzien *et al.* (2000) observed juveniles inhabiting a wide variety of habitats while adults primarily inhabited deep pools; and they postulated that juveniles may segregate themselves away from adults to escape predation and competition.

The dispersal capabilities of juveniles have not been studied, but are likely dependent upon rainfall and moisture levels during and immediately following dispersal events and on habitat availability and environmental variability. There is anecdotal evidence that juvenile red-legged frogs disperse at least 1 km (0.6 mi) away from breeding habitat. These data are the result of consulting biologists conducting surveys for California tiger salamanders (*Ambystoma californiense*) in eastern Alameda (Monk and Associates 1997a and 1997b) and Santa Clara counties (B. Mori, *in litt.* 2000). In both locations, newly metamorphosed California red-legged frogs were found dispersing away from breeding habitat during rain events. The ability of juveniles and adults to disperse is important for the long-term survival and recovery of the subspecies as the dispersing individuals can recolonize areas subjected to localized extirpation.

The manner in which non-dispersing California red-legged frogs use upland habitats is not well understood. The length of time California red-legged frogs spend in upland habitats, patterns of use, and whether juveniles, subadults and adults use uplands differently are

under study. Preliminary data from San Simeon and Pico creeks in central California indicated that the number of days when California red-legged frogs were found more than 2.0 m (7 ft) from water ranged from 0 to 56 days (G. Rathbun, *in litt.* 2000), while the majority of California red-legged frogs observed in eastern Contra Costa County spent the entire wet season within streamside habitat (T. Tatarian, *in litt.* 2000). However, several frogs have been documented moving away from the streamside habitat for varying periods (T. Tatarian, pers. comm. 2001).

The healthiest California red-legged frog populations persist as a collection of subpopulations that exchange genetic information through individual dispersal events. These populations persist and flourish where suitable breeding and nonbreeding habitats are interspersed throughout the landscape and are interconnected by unfragmented dispersal habitat. Where this habitat mosaic exists, local extirpations may be counterbalanced by the colonization of new habitat or recolonization of unoccupied areas of suitable habitat. Studies on other frogs and toads have demonstrated that the probability of a habitat being occupied is positively correlated with the distance to the nearest currently occupied habitat patch (Laan and Verboom 1990; Mann *et al.* 1991; Marsh *et al.* 1999). Isolated patches far removed from occupied patches eventually became extirpated (Sjogren-Gulve 1994). In addition to distance between habitat patches, the fragmentation of dispersal routes can also result in the isolation of subpopulations. Studies from other anuran species have shown that fragmentation has resulted in problems associated with inbreeding (Reh and Seitz 1990; Hitchings and Beebee 1997) and an increase in unoccupied suitable habitat, and can ultimately result in extinction (Sjogren-Gulve 1994).

The long-term probability of the survival and recovery of California red-legged frogs is dependent upon the protection of existing breeding habitat, the movements of individuals between aquatic patches, and the ability to recolonize newly created or vacated habitats. Recolonization, which is vital to the recovery of this subspecies, is dependent upon landscape characteristics including the distance between patches, the number and severity of barriers between patches, and the presence of interconnecting elements (*e.g.*, habitat where frogs can rehydrate), and upon the dispersal capability of California red-legged frogs (Laan and Verboom 1990).

### Previous Federal Action

We received a petition from Drs. Mark R. Jennings, Marc P. Hayes, and Dan Holland on January 29, 1992, to list the California red-legged frog as threatened along the coastal portion of its range and endangered throughout the remaining portion of its range. We published a 90-day petition finding on October 5, 1992 (57 FR 45761), that concluded that substantial information had been presented and that listing the subspecies may be warranted. The California red-legged frog had been previously included in our November 21, 1991, Animal Notice of Review (56 FR 58804) as a category 1 candidate species. Category 1 candidates (now known simply as candidates) are species for which we have sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened. On July 19, 1993, we published a 12-month finding on the petitioned action (58 FR 38553), indicating that listing of the frog was warranted and that a proposed rule would be published. We published a proposal to list the frog as an endangered species on February 2, 1994 (59 FR 4888). Based on information provided during the public comment period, we published a final rule listing the California red-legged frog as threatened on May 23, 1996 (61 FR 25813).

We did not propose to designate critical habitat for the California red-legged frog at the time of the final listing rule because we believed designation was not prudent. Because California red-legged frogs are found on private property, we determined the subspecies was at risk from vandalism, and that publication of specific localities would make it more vulnerable to vandalism, as well as collection for market consumption.

On March 24, 1999, the Earthjustice Legal Defense Fund, on behalf of the Jumping Frog Research Institute, the Southwest Center for Biological Diversity, and the Center for Sierra Nevada Conservation, filed a lawsuit in the Northern District of California against the Service for failure to designate critical habitat for the California red-legged frog.

On December 15, 1999, the court ordered us to make a prudency determination by August 31, 2000, and issue a final rule by December 29, 2001. On January 18, 2000, the court clarified an error in the December 15, 1999, order stating that the Service shall issue a final rule by December 29, 2000. On September 11, 2000, we published a proposed determination for the

designation of critical habitat for the California red-legged frog (65 FR 54891). A total of approximately 2,175,000 ha (5,373,650 ac) was proposed as critical habitat for the frog within Alameda, Butte, Calaveras, Contra costa, El Dorado, Fresno, Kern, Los Angeles, Marin, Mariposa, Merced, Monterey, Napa, Plumas, Riversides, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Sierra, Solano, Sonoma, Stanislaus, Tehama, Tuolumne, Ventura, and Yuba counties, California. The comment period was open until October 11, 2000. During this comment period, four public hearings were held in Ventura (September 19, 2000), San Luis Obispo (September 21, 2000), Dublin (September 26, 2000), and Sacramento (September 28, 2000). On December 21, 2000, we published a notice (65 FR 80409) announcing the reopening of the comment period on the proposal to designate critical habitat for the California red-legged frog and a notice of availability of the draft economic analysis on the proposed determination. The comment period was reopened until February 2, 2001.

On August 22, 2000, we submitted a declaration requesting an extension of the court order to March 1, 2001, citing the need to extend the comment period. Publication of this final rule is consistent with that declaration.

#### *Critical Habitat*

Critical habitat is defined in section 3 of the Act 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 the 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 carried out, funded, or authorized by a Federal agency. Section 7 also requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. In our regulations at 50 CFR 402.02, we

define destruction or adverse modification as “\* \* \* the 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.” 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 protections under the Act against such activities.

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 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 4 requires that we designate critical habitat at the time of listing and based on what we know at the time of the designation. When we designate critical habitat at the time of listing or under short court-ordered deadlines, we will often not have sufficient information to identify all areas of critical habitat. We are required, nevertheless, to make a decision and, thus, must base our designations on what, at the time of designation, we know to be critical habitat.

Within the geographic area occupied by the species, we will designate only areas currently known to be essential. Essential areas should already have the features and habitat characteristics that are necessary to sustain the species. We will not speculate about what areas might be found to be essential if better information became available, or what areas may become essential over time. If the information available at the time of designation does not show that an area provides essential life cycle needs of the species, then the area should not be included in the critical habitat designation. Within the geographic area occupied by the species, we will not designate areas that do not now have the primary constituent elements, as defined at 50 CFR 424.12(b), that provide essential life cycle needs of the species.

Our regulations 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 (50 CFR 424.12(e)). Accordingly, when the best available scientific and commercial data do not demonstrate that the conservation needs of the species require designation of critical habitat outside of occupied areas, we will not designate critical habitat in areas outside the geographic area occupied by the species.

Our Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (Vol. 59, p. 34271), identifies criteria, establishes procedures, and provides guidance to ensure that decisions made by the Service represent the best scientific and commercial data available. It requires Service 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 is the listing package for the species. Additional information may be obtained from a draft Recovery Plan, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, unpublished materials, and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, because of the information available for us at the time of designation, 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, critical habitat designations do not signal that habitat outside the designation is unimportant or may not 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), and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the take prohibitions of section 9 of the Act, as determined on the basis of the best available information at the time of the action. We specifically anticipate that 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

In identifying areas that are essential to conserve the California red-legged frog, we used the best scientific and commercial data available. This included data from research and survey observations published in peer-reviewed articles, and recovery criteria, habitat analyses, the recovery strategy, and other information in the draft Recovery Plan (Service 2000). In designating critical habitat for the California red-legged frog, we have reviewed the overall approach to the conservation of the California red-legged frog undertaken by the local, State, Tribal, and Federal agencies operating within the subspecies' range since its listing in 1996. Further, information provided in comments on the proposed designation and draft economic analysis were evaluated and taken into consideration in the development of this final designation.

#### 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 designate as critical habitat, we are required to 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 and 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 breeding, reproduction, rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Due to the complex life history and dispersal capabilities of the California red-legged frog, and the dynamic nature of the environments in which they are found, the primary constituent elements described below are found throughout the watersheds that are being designated as critical habitat. Special management,

such as habitat rehabilitation efforts (e.g., removal of nonnative predators), may be necessary throughout the area being designated. Critical habitat for California red-legged frogs will provide for breeding and nonbreeding habitat and for dispersal between these habitats, as well as allowing for expansion of frog populations, which is vital to the recovery of the subspecies.

Critical habitat includes: (a) Essential aquatic habitat; (b) associated uplands; and (c) dispersal habitat connecting essential aquatic habitat.

Aquatic habitat is essential for providing space, food, and cover, necessary to sustain all life stages of California red-legged frogs. It consists of virtually all low-gradient fresh water bodies, including natural and man-made (e.g., stock) ponds, backwaters within streams and creeks, marshes, lagoons, and dune ponds, except deep lacustrine water habitat (e.g., deep lakes and reservoirs 20 ha (50 ac) or larger in size) inhabited by nonnative predators. The subspecies requires a permanent water source to ensure that aquatic habitat is available year-round. Permanent water sources can include, but are not limited to, ponds, perennial creeks (or permanent plunge pools within intermittent creeks), seeps, and springs. Aquatic habitat used for breeding must have a minimum deep water depth of 0.5 m (20 in.), and maintain water during the entire tadpole rearing season (at least March through July). During periods of drought, or less-than-average rainfall, these breeding sites may not hold water long enough for individuals to complete metamorphosis, but these sites would still be considered essential breeding habitat in wetter years. Ponds that support a small population of California red-legged frogs, but are not surrounded by suitable upland habitat, or are cut off from other breeding ponds or permanent water sources by impassable dispersal barriers, do not have the primary constituent elements for California red-legged frog critical habitat.

To be a primary constituent element for California red-legged frog critical habitat, the aquatic components must consist of two or more breeding sites located within 2 km (1.25 mi) of each other; at least one of the breeding sites must also be a permanent water source. Also, the aquatic component can consist of two or more seasonal breeding sites with a permanent nonbreeding water source located within 2 km (1.25 mi) of each breeding site. California red-legged frogs have been documented to travel 3.6 km (2.25 mi) in a virtual straight line migration from nonbreeding to breeding habitats (J. Bulger, *in litt.* 2000). We

believe that this is likely the upward limit of dispersal capability, and the 2 km (1.25 mi) dispersal element will ensure that connectivity between breeding habitats will be maintained within areas designated as critical habitat. In addition, breeding sites must be connected by essential dispersal habitat, described below.

Associated upland and riparian habitat is essential to maintain California red-legged frog populations associated with essential aquatic habitat. The associated uplands and riparian habitat provide food and shelter sites for California red-legged frogs, and assist in maintaining the integrity of aquatic sites by protecting them from disturbance and supporting the normal functions of the aquatic habitat. Key conditions include the timing, duration, and extent of water moving within the system, filtering capacity, and maintaining the habitat to favor California red-legged frogs and discourage the colonization of nonnative species such as bullfrogs. Essential upland habitat consists of all upland areas within 90 m (300 ft), or no further than the watershed boundary, of the edge of the ordinary high-water mark. This is based, in part, on the work of J. Bulger *et al.* (*in litt.* 2000), who found that frogs were capable of inhabiting upland habitats within 60 m (200 feet) of aquatic habitat for continuous durations exceeding 20 days, and G. Rathbun (*in litt.* 2000), who observed frogs inhabiting riparian habitat for durations exceeding 30 days.

Essential dispersal habitat provides connectivity among California red-legged frog breeding habitat (and associated upland) patches. While frogs can pass many obstacles, and do not require a particular type of habitat for dispersal, the habitat connecting essential breeding locations and other aquatic habitat must be free of barriers (e.g., a physical or biological feature that prevents frogs from dispersing beyond the feature) and at least 90 m (300 ft) wide. Essential dispersal habitat consists of all upland and wetland habitat free of barriers that connects two or more patches of essential breeding habitat within 2 km (1.25 miles) of one another. Dispersal barriers include heavily traveled roads (an average of 30 cars per hour from 10:00 p.m. to 4:00 a.m.) that possess no bridges or culverts; moderate to high density urban or industrial developments; and large reservoirs over 20 ha (50 ac) in size. Agricultural lands such as row crops, orchards, vineyards, and pastures do not constitute barriers to California red-legged frog dispersal.

In summary, the primary constituent elements consist of three components. At a minimum, this will include two (or more) suitable breeding locations, a permanent water source, associated uplands surrounding these water bodies up to 90 m (300 ft) from the water's edge, all within 2 km (1.25 miles) of one another and connected by barrier-free dispersal habitat that is at least 90 m (300 ft) in width. When these elements are all present, all other essential aquatic habitat within 2 km (1.25 mi), and free of dispersal barriers, is also considered critical habitat.

#### *Criteria Used To Identify Critical Habitat*

We considered several criteria in the selection and proposal of specific boundaries for California red-legged frog critical habitat. These criteria, which follow the recovery strategy outlined in the draft Recovery Plan, focused on designating units (1) throughout the geographic and elevational range of the subspecies; (2) that would result in protecting populations that are geographically distributed in a manner that allows for the continued existence of viable and essential metapopulations despite fluctuations in the status of subpopulations; and (3) that possess large continuous blocks of occupied habitat, representing source populations and/or unique ecological characteristics, or areas where the re-establishment of California red-legged frogs is essential to the recovery of the subspecies (Service 2000). We first determined the occupancy status of areas. Areas were considered to possess extant populations if California red-legged frogs have been documented in that area since 1985. We then selected areas that are inhabited by populations (source populations) that are capable of maintaining their current population levels and capable of providing individuals to recruit into subpopulations found in adjacent areas. We also selected several areas that may lack source populations, but which have other unique ecological significance, with the goal of maintaining the full range of the genetic variability and evolutionary adaptation in the subspecies. These include areas on the periphery of the current range and elsewhere that represent the historic distribution of the subspecies, and areas that provide connectivity among source populations or between source populations and unoccupied extirpated areas. Of the approximate 1,674,582 ha (4,140,440 ac) that are designated as critical habitat, an estimated 81,020 ha (200,212 ac) is considered unoccupied habitat (Units 5 and 31). All of this

unoccupied habitat occurs on Federal lands, and was identified in the core areas essential for California red-legged frog recovery in our draft Recovery Plan (Service 2000). Both unoccupied and occupied areas not included in this designation can still be targets for recovery actions, including reestablishing populations.

The critical habitat units were delineated by first creating data layers in a geographic information system (GIS) format of all of the core areas as proposed in the draft Recovery Plan. We then used the California Watershed Map (CALWATER version 2.2), a coverage developed by California Department of Water Resources (DWR), to identify watersheds containing core areas and delineate their boundaries in a 1:24,000 format. CALWATER is a set of watershed boundaries meeting standardized delineation criteria, consisting of six levels of increasing specificity, with the primary purpose of assigning a single, unique code to a specific watershed polygon (e.g., a planning watershed). CALWATER delineates the boundaries of planning watersheds 1,200 to 4,000 ha (3,000 to 10,000 ac) in size. We used these planning watersheds as the minimum mapping unit to delineate critical habitat units because watersheds represent functional, hydrologic management units that allow for efficient evaluation of factors that affect the quality of aquatic habitat and, thus, are extremely relevant to amphibian populations. The use of planning watersheds also allowed us to delineate critical habitat that protects habitat quality, breeding and nonbreeding habitat, and dispersal habitat in a manner consistent with the overall goal of protecting and sustaining metapopulations.

We selected all of the planning watersheds that intersected areas of high California red-legged frog abundance, areas essential to maintain connectivity, and/or areas of unique ecological significance as identified by the core areas from the draft Recovery Plan. In areas where planning watersheds were large and/or watersheds were significantly altered hydrologically, we used alternative structural, political, or topographic boundaries (e.g., roads, county boundaries, elevation contour lines) as critical habitat boundaries because in these areas the benefits of using planning watersheds were limited.

Using the planning watersheds as the minimum mapping unit of this critical habitat designation would not allow us to avoid towns, other developed areas, or other areas where the primary

constituent elements are not found. To address this shortcoming, we overlaid the planning watersheds with a 100-m Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD 83) grid. Using information from recent digital aerial photography, we then removed NAD 83 grid cells that did not contain the primary constituent elements. Although the data available to us were not sufficiently detailed to definitively map the primary constituent elements by grid cell, this approach did allow us to remove significant urban and other developed areas, including some agricultural lands, from the final designation.

We could not depend solely on federally owned lands for critical habitat designation as these lands are limited in geographic location, size, and habitat quality within the current range of the California red-legged frog. In addition to the federally owned lands, we are designating critical habitat on non-Federal public lands and privately owned lands, including land owned by the California Department of Parks and Recreation, the California Department of Fish and Game, DWR, and the University of California, as well as regional and local park lands and water district lands. All non-Federal lands designated as critical habitat meet the definition of critical habitat under section 3 of the Act in that they are within the geographical area occupied by the subspecies, are essential to the conservation of the subspecies, and may require special management considerations or protection.

We are also designating areas that are outside the current distribution of the subspecies, but are essential for the conservation of the subspecies. We included one area in Tuolumne County in the Sierra Nevada and one in the Tujunga watershed in Los Angeles County in the Peninsular Range of southern California. These areas are within the historic range of the subspecies with some occurrences documented as recently as the mid-1980s, are strong candidate areas for reestablishment due to preliminary positive discussions with Federal agencies and adjacent landowners, consist entirely of large blocks of Federal land, and are identified in the draft Recovery Plan as important reestablishment areas essential to the recovery of the California red-legged frog. These areas also provide important connectivity among currently occupied areas. In order for future reestablishment to be successful, special management in these areas is needed, including habitat restoration and the removal of nonnative species, such as



predators. However, the primary constituent elements for California red-legged frogs are present in these areas.

Without reestablishment in the Sierra Nevada and Southern California, it is probable that California red-legged frogs will be extirpated from these areas, greatly reducing the likelihood of eventual recovery of the species. As a result, we have determined that reestablishment of California red-legged frog populations in these currently unoccupied areas is essential to the conservation of the species. Since the listing of California red-legged frogs as a threatened species in 1996, no progress has been made improving habitat for this species within these unoccupied areas. Because California red-legged frogs have been extirpated from these areas, Federal agencies have determined their actions will not adversely affect California red-legged frogs and have further declined to use their authority under section 7(a)(1) to help recover the California red-legged frogs in the Sierra Nevada and southern Transverse and Peninsular Ranges. Therefore, given the lack of protection for these areas, it is important to ensure special management actions are implemented in unoccupied lands within the Sierra Nevada by designating them as critical habitat.

We considered proposing portions of the Santa Ynez Band of the Chumash Mission Indian Reservation because we believed riparian and adjoining upland areas on Tribal lands may be essential

to the conservation of California red-legged frogs. Since the time of the proposal, we have consulted with the Tribe and evaluated additional information to make a determination as to whether any Tribal lands should be included as critical habitat for California red-legged frogs. We did not include these lands in the final critical habitat designation, based upon our determination that this small parcel is not essential because it contains marginal habitat and would provide limited long-term conservation value to the species. Recent surveys by the Tribe also did not detect California red-legged frogs on the parcel.

In selecting areas of critical habitat, we made an effort to avoid developed areas, such as towns and other similar lands, that are not likely to contribute to California red-legged frog conservation. However, the minimum mapping unit that we used to approximate our delineation of critical habitat for California red-legged frogs did not allow us to exclude all developed areas such as roads and rural developed areas or other lands. Existing features and structures within the boundaries of the mapped units, such as buildings, roads, aqueducts, railroads, other paved areas, lawns, and other urban landscaped areas, and uplands removed from essential aquatic and dispersal habitat, are not likely to contain the primary constituent elements essential for the conservation of the California red-legged

frog. Therefore, Federal actions limited to these areas would not trigger a section 7 consultation, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

#### Critical Habitat Designation

The areas we are designating as critical habitat currently provide all of those habitat components necessary to meet the primary biological needs of the California red-legged frog, as described in the draft Recovery Plan (Service 2000), and defined by the primary constituent elements. We did not include all areas currently occupied by California red-legged frogs, only areas possessing large populations, representing unique ecological characteristics, or representing historic geographic area where California red-legged frogs can be reestablished.

Table 1 shows the approximate acreage of critical habitat by county and land ownership. Critical habitat for the California red-legged frog includes approximately 1,674,582 ha (4,140,440 ac) in Alameda, Butte, Contra Costa, El Dorado, Fresno, Kern, Los Angeles, Marin, Mariposa, Merced, Monterey, Napa, Plumas, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Tehama, Tuolumne, and Ventura counties, California. A brief description of each critical habitat unit is given below.

TABLE 1.—APPROXIMATE AREA ENCOMPASSING DESIGNATED CRITICAL HABITAT IN HECTARES (HA) (ACRES (AC)) BY COUNTY AND LAND OWNERSHIP

County	Federal land	Local/state land	Private land	Total
Plumas .....	22,904 ha ..... (56,598 ac)	NA .....	2,458 ha ..... (6,074 ac)	25,362 ha ..... (62,672 ac).
Butte .....	15,115 ha ..... (37,350 ac)	135 ha ..... (335ac)	6,305 ha ..... (15,582 ac)	21,555 ha ..... (53,267 ac).
El Dorado .....	8,624 ha ..... (21,312 ac)	10 ha ..... (26 ac)	15,456 ha ..... (38,193 ac)	24,090 ha ..... (59,531 ac).
Tuolumne .....	49,054 ha ..... (121,216 ac)	NA .....	NA .....	49,054 ha ..... (121,216 ac).
Mariposa .....	1,262 ha ..... (3,120 ac)	NA .....	NA .....	1,262 ha ..... (3,120 ac).
Tehama .....	2,727 ha ..... (6,740 ac)	NA .....	12,771 ha ..... (31,560 ac)	15,498 ha ..... (38,300 ac).
Napa .....	2,151 ha ..... (5,317 ac)	758 ha ..... (1,874 ac)	20,056 ha ..... (49,562 ac)	22,965 ha ..... (56,753 ac).
Sonoma .....	NA .....	819 ha ..... (2,025 ac)	7,154 ha ..... (17,678 ac)	7,973 ha ..... (19,703 ac).
Solano .....	826 ha ..... (2,042 ac)	67 ha ..... (168 ac)	9,765 ha ..... (24,130 ac)	10,658 ha ..... (26,340 ac).
Marin .....	30,247 ha ..... (74,742 ac)	4,846 ha ..... (11,976 ac)	45,649 ha ..... (112,802 ac)	80,742 ha ..... (199,520 ac).
Alameda .....	337 ha ..... (833 ac)	1,853 ha ..... (4,581 ac)	95,404 ha ..... (235,750 ac)	97,594 ha ..... (241,164 ac).
Contra Costa .....	47 ha ..... (117 ac)	7,618 ha ..... (18,826 ac)	47,676 ha ..... (117,810 ac)	55,341 ha ..... (136,753 ac).
Santa Clara .....	2,298 ha ..... (5,678 ac)	15,563 ha ..... (38,459 ac)	69,941 ha ..... (172,828 ac)	87,802 ha ..... (216,966 ac).

TABLE 1.—APPROXIMATE AREA ENCOMPASSING DESIGNATED CRITICAL HABITAT IN HECTARES (HA) (ACRES (AC)) BY COUNTY AND LAND OWNERSHIP—Continued

County	Federal land	Local/state land	Private land	Total
San Joaquin .....	NA .....	38 ha ..... (96 ac)	11,386 ha ..... (28,136 ac)	11,424 ha (28,232 ac).
Stanislaus .....	27 ha ..... (67 ac)	10,809 ha ..... (26,711 ac)	5,824 ha ..... (14,392 ac)	16,660 ha (41,170 ac).
Merced .....	1,010 ha ..... (2,496 ac)	2,627 ha ..... (6,493 ac)	66,880 ha ..... (165,266 ac)	70,517 ha (174,255 ac).
Fresno .....	6,807 ha ..... (16,822 ac)	NA .....	3,058 ha ..... (7,557 ac)	9,865 ha (24,379 ac).
San Benito .....	11,826 ha ..... (29,224 ac)	NA .....	102,340 ha ..... (252,888 ac)	114,166 ha (282,112 ac).
San Mateo .....	418 ha ..... (1,033 ac)	9,785 ha ..... (24,180 ac)	67,711 ha ..... (167,319 ac)	77,914 ha (192,532 ac).
Santa Cruz .....	137 ha ..... (340 ac)	10,059 ha ..... (24,858 ac)	32,773 ha ..... (80,985 ac)	42,969 ha (106,183 ac).
Monterey .....	18,604 ha ..... (45,972 ac)	1,487 ha ..... (3,675 ac)	135,419 ha ..... (334,629 ac)	155,510 ha (384,276 ac).
San Luis Obispo .....	11,010 ha ..... (27,208 ac)	2,050 ha ..... (5,068 ac)	203,916 ha ..... (503,889 ac)	216,976 ha (536,165 ac).
Kern .....	473 ha ..... (1,171 ac)	NA .....	12,148 ha ..... (30,021 ac)	12,621 ha (31,192 ac).
Santa Barbara .....	79,365 ha ..... (196,117 ac)	1,134 ha ..... (2,804 ac)	123,083 ha ..... (304,147 ac)	203,582 ha (503,068 ac).
Ventura .....	104,547 ha ..... (258,343 ac)	NA .....	6,458 ha ..... (15,959 ac)	111,005 ha (274,302 ac).
Los Angeles .....	76,927 ha ..... (190,091 ac)	4,961 ha ..... (12,261 ac)	26,269 ha ..... (64,914 ac)	108,157 ha (267,266 ac).
Riverside .....	11,829 ha ..... (29,232 ac)	NA .....	6,784 ha ..... (16,764 ac)	18,613 ha (45,996 ac).
San Diego .....	4,296 ha ..... (10,616 ac)	NA .....	410 ha ..... (1,015 ac)	4,706 ha (11,631 ac).
Total .....	463,438 ha ..... (1,145,211 ac)	74,949 ha ..... (185,229 ac)	1,147,070 ha ..... (2,834,503 ac)	1,674,582 ha (4,138,064 ac).

Unit 1. North Fork Feather Unit

Unit 1 consists of drainages found within the North Fork Feather River drainage. The unit encompasses approximately 46,917 ha (115,939 ac). The North Fork Feather unit is the northeastern-most of the critical habitat units. This unit is located in Plumas and Butte counties. Approximately 81 percent of the unit consists of Federal lands managed by Plumas and Lassen National Forests, and the majority of the remaining area is privately owned. California red-legged frogs have been documented in the French Creek watershed in Butte County. This population represents one of only three existing populations in the Sierra Nevada. This unit is in need of special management, including the eradication of exotic predators in suitable breeding habitat adjacent to documented breeding habitats. Other necessary management may include reestablishment of red-legged frogs within the area, however, natural recolonization is likely to occur if nonnative predators are removed.

Unit 2. Yuba River Unit

This proposed critical habitat unit has been deleted in this final rule.

Unit 3. Weber Creek-Cosumnes Unit

Unit 3 consists of drainages in the Weber Creek and North Fork Cosumnes River watersheds in El Dorado County. The unit encompasses approximately 24,090 ha (59,531 ac), of which 36 percent is within the El Dorado National Forest and 64 percent is privately owned. California red-legged frogs have been documented in the Weber Creek watershed. This population represents one of only existing three populations in the Sierra Nevada. This unit requires special management, including the eradication of exotic predators in suitable breeding habitat adjacent to documented breeding habitats. Other necessary management may include reestablishment of red-legged frogs within the area, however, natural recolonization is likely to occur if nonnative predators are removed.

Unit 4. South Fork Calaveras River Unit

This proposed critical habitat unit has been deleted in this final rule.

Unit 5. Yosemite Unit

Unit 5 consists of drainages found in the tributaries of the Tuolumne River and Jordan Creek, a tributary to the Merced River, in Tuolumne and Mariposa counties. The unit encompasses approximately 50,316 ha (124,336 ac), of which 100 percent is managed by Stanislaus National Forest or the National Park Service (NPS). Historically, the California red-legged frogs was found in several locations in Unit 5 and in adjacent areas, including two historical occurrences from 1984. Although this unit currently is considered unoccupied, it contains all of the constituent elements and is in need of special management practices that include the eradication of nonnative predators in suitable breeding habitat. This area is a candidate for reestablishment, and is within a core recovery area as defined in the draft Recovery Plan and considered essential to the conservation of California red-legged frogs in the Sierra Nevada.

Unit 6. Headwaters of Cottonwood Creek Unit

Unit 6 consists of drainages found within the headwaters of Cottonwood

and Red Bank creeks in Tehama County. The unit encompasses approximately 15,498 ha (38,300 ac), of which approximately 18 percent is within the boundaries of the Mendocino National Forest; the majority of the remaining 82 percent is privately owned. Unit 6 is occupied by a population known from CNDDDB (2000) records. No additional sightings have been reported from the area. This area contains all of the constituent elements and is essential in that it represents the northernmost population of California red-legged frogs within the Coast Range. This area has not been adequately surveyed and additional populations may be present. This population may be used as a source population to provide natural reestablishment in the northern portion of the Coast Range.

#### Unit 7. Cleary Preserve Unit

Unit 7 consists of drainages found within the watersheds that form the tributaries to Pope Creek in Napa County. The unit encompasses approximately 13,793 ha (34,087 ac), of which approximately 88 percent is privately owned; the remaining 12 percent is managed by Federal or State agencies. Unit 7 represents one of the few documented occurrences of California red-legged frogs in this area (McGinnis 2001) and represents an important link between populations in Marin County and populations on the east side of the Coast Range.

#### Unit 8. Annadel State Park Preserve Unit

Unit 8 consists of the Upper Sonoma Creek watershed found partially within Annadel State Park in Sonoma County. The unit encompasses approximately 2,559 ha (6,326 ac), of which approximately 76 percent is privately owned and 24 percent is managed by the California Department of Parks and Recreation (CDPR). Unit 8 is occupied by one known core population of California red-legged frogs (Cook 1997). This area represents a source population with potential linkage to the Sears Point unit as well as units to the west.

#### Unit 9. Stebbins Cold Canyon Preserve Unit

Unit 9 consists of drainages found within and adjacent to Stebbins Cold Canyon Preserve and the Quail Ridge Wilderness Preserve in Napa and Solano counties. The unit is comprised of watersheds that form Capell Creek, including Wragg Canyon, Markley Canyon, Steel Canyon, and Wild Horse Canyon watersheds. The unit encompasses approximately 8,589 ha (21,227 ac), of which approximately 75

percent is privately owned and 25 percent is managed by the University of California Natural Reserve System, the Quail Ridge Wilderness Conservancy, and the Bureau of Land Management (BLM). Unit 9 represents one of the historic occurrences of California red-legged frogs in this area, and represents an important link between populations in Marin County and populations on the east side of the Coast Range.

#### Unit 10. Sears Point Unit

Unit 10 consists of Stage Gulch and Lower Petaluma River watersheds, tributaries to the Petaluma River. This unit is located in and adjacent to Sears Point in Sonoma and Marin counties and encompasses approximately 4,358 ha (10,771 ac), all of which is privately owned. Unit 10 is occupied by several subpopulations. Essential breeding habitat is dispersed throughout the unit, and has been documented in several ponds and streams. This unit provides linkages to the units to the north, east, and west.

#### Unit 11. American Canyon Unit

Unit 11 consists of watersheds within and adjacent to American Canyon Creek and Sulphur Springs Creek in Napa and Solano counties. Watersheds within this unit include Fagan Creek, a tributary to the Napa River, the Jameson Canyon watershed, and the Sky Valley and Pine Lake watersheds that flow into Lake Herman. The unit encompasses approximately 11,240 ha (27,779 ac), of which 99 percent is privately owned. Unit 11 is occupied by several subpopulations.

#### Unit 12. Point Reyes Unit

Unit 12 consists of watersheds within and adjacent to Bolinas Lagoon, Point Reyes, and Tomales Bay in Marin and Sonoma counties. This unit encompasses approximately 81,168 ha (200,572 ac); 44 percent is managed by the NPS, CDPR, and the Marin Municipal Water District, and 56 percent is privately owned. Unit 12 is occupied with several populations known primarily through research by G. Fellers, BRD (Service files). Essential breeding habitat is dispersed throughout the unit. This unit contains one of the largest known populations of California red-legged frogs.

#### Unit 13. Tiburon Peninsula Unit

Unit 13 consists of the Belvedere Lagoon watershed within and adjacent to the Tiburon Peninsula in Marin County. The unit encompasses approximately 628 ha (1,554 ac), all of which is privately owned. Unit 12 is occupied by one known breeding

population known from CNDDDB (2000) records.

#### Unit 14. San Mateo-Northern Santa Cruz Unit

Unit 14 consists of coastal watersheds within San Mateo County and northern Santa Cruz County that drain into the Pacific Ocean. The unit encompasses approximately 96,296 ha (237,955 ac), of which 83 percent is privately owned; the remaining 17 percent is primarily managed by the San Francisco Public Utilities Commission (SFPUC) and CDPR. Unit 14 is occupied by several core subpopulations known from various sources including formal consultations with the U.S. Army Corps of Engineers (Corps) (Service files). Essential breeding habitat is dispersed throughout the unit; populations have been documented in ponds and wetlands throughout Unit 14. This area contains numerous areas with large populations including Pescadero Marsh, and watersheds to the south.

#### Unit 15. East Bay-Diablo Range Unit

Unit 15 consists of watersheds within Contra Costa, Alameda, San Joaquin, Santa Clara, Stanislaus, San Benito, Merced, and Fresno counties. The unit encompasses approximately 426,480 ha (1,053,850 ac), of which 87 percent is privately owned; the remaining 13 percent is managed, in part, by East Bay Regional Park District (EBRPD), East Bay Municipal Utilities District (EBMUD), Contra Costa Water District (CCWD), U.S. Bureau of Reclamation (BOR), U.S. Department of Energy (DOE), CDPR, SFPUC, CDFG, Santa Clara Valley Water District, and DWR. Unit 15 is occupied with several large core subpopulations, including the population within CCWD and EBRPD lands, and essential breeding habitat is located throughout the unit.

#### Unit 16. Pajaro River Unit

Unit 16 consists of portions of two watersheds that are part of the Pajaro River Drainage, the Flint Hills watershed in San Benito County, and the Santa Clara Valley watershed in Santa Clara and San Benito counties. The unit encompasses approximately 19,524 ha (48,247 ac) and is all privately owned. Unit 16 is occupied and is an essential unit in providing connectivity from the outer coast plain and ranges to the inner Coast Ranges.

#### Unit 17. Elkhorn Slough-Salinas River Unit

Unit 17 consists of coastal drainages of southern Santa Cruz and northern Monterey counties. The unit is located in Santa Cruz, Monterey, and San

Benito counties. The unit encompasses approximately 66,799 ha (165,067 ac), of which 93 percent is privately owned; the remaining 7 percent is managed by CDPR and the Elkhorn Slough National Estuarine Research Reserve. Unit 17 is occupied and provides connectivity from the coastal plain and outer coast ranges to the inner coast ranges. The unit represents a unique ecological set in that it is a large estuary/freshwater slough system not typically found on the California coast.

#### Unit 18. Carmel River Unit

Unit 18 consists of drainages comprising the Carmel River watershed in Monterey County. This unit encompasses approximately 62,976 ha (155,620 ac), of which approximately 26 percent is managed by the Los Padres National Forest and CDPR, while the remaining 74 percent is privately owned. Unit 18 is occupied, and populations of California red-legged frogs are found throughout the drainage from the headwaters to the coast. This unit provides connectivity from the Elkhorn Slough unit to the more southern coastal units.

#### Unit 19. The Pinnacles Unit

Unit 19 consists of two watersheds, Gloria Lake and George Hansen Canyon, in San Benito and Monterey counties. This unit encompasses approximately 11,051 ha (27,309 ac), of which 57 percent is managed by the NPS and BLM; the remaining 43 percent is privately owned. Unit 19 is occupied and is representative of the inner coast range. The unit provides connectivity between the Pajaro River and other populations to the north and populations in southern Monterey County and northern San Luis Obispo County.

#### Unit 20. Estrella River/Cholame Creek Unit

Unit 20 consists of the drainages comprising the Cholame Creek, Estrella River, and the Saw Tooth Ridge watersheds in Monterey, San Luis Obispo, and Kern counties. The unit encompasses approximately 159,576 ha (394,325 ac), of which 99 percent is privately owned and the remaining 1 percent is federally managed. Unit 20 is occupied by a large population. The unit contains areas in a unique ecological setting of springs, wetlands and vernal pools in a very dry ecological setting. This unit also provides connectivity between inner and outer Coast Ranges and into the Transverse Ranges.

#### Unit 21. San Simeon Unit-Morro Bay Unit

Unit 21 consists of the coastal watersheds of San Luis Obispo County from Arroyo de la Cruz south to Los Osos Creek. The unit encompasses approximately 84,757 ha (209,445 ac), of which 94 percent is privately owned; the remaining 6 percent is managed by CDPR and Federal agencies. Unit 21 is occupied and contains several core populations of California red-legged frogs. This unit also supports a unique ecological setting, representative of the central coastal oak savannah grassland. This unit also provides connectivity from the outer Coast Range in Monterey County into the Transverse Ranges in San Luis Obispo and Santa Barbara counties.

#### Unit 22. Lopez Lake-Arroyo Grande Creek Unit

Unit 22 consists of the watersheds of Arroyo Grande Creek and its tributaries in San Luis Obispo County. The unit encompasses approximately 34,500 ha (85,254 ac), of which 79 percent is privately owned and the remaining 21 percent is managed by Los Padres National Forest and BLM. Unit 22 is occupied and provides habitat connectivity from the San Simeon Unit-Morro Bay Unit down into the Sisquoc River Unit and Transverse Range.

#### Unit 23. Coastal Dunes Unit

Unit 23 consists of coastal watersheds comprising the coastal dune ponds from Arroyo Grande south to San Antonio Creek in San Luis Obispo and Santa Barbara counties. The unit encompasses approximately 21,358 ha (52,782 ac), of which 3 percent is managed by Federal, State, and local municipalities (primarily Service and CDPR), with the remaining 97 percent in private ownership. Unit 23 is occupied and represents a core population occupying a unique coastal dune system. This unit also provides connectivity between the Lopez Lake-Arroyo Grande Creek Unit down into the Santa Ynez River Unit.

#### Unit 24. Santa Ynez River Unit

Unit 24 consists of watersheds forming the Santa Ynez River in Santa Barbara County. The unit encompasses approximately 98,744 ha (244,004 ac), of which approximately 60 percent is privately owned; the remaining 40 percent is managed by the BOR and Los Padres National Forest. Unit 24 is occupied and contains core populations. Frogs are found on the Santa Ynez River from the headwaters to the estuary. The headwaters provide connectivity to the Sisquoc River Unit and the Matilija-Sespe-Piru Creek Unit. This unit

provides essential connectivity from coastal dune systems, up the Santa Ynez River to the headwaters of the Transverse Range.

#### Unit 25. Sisquoc River Unit

Unit 25 consists of watersheds forming the drainages of the Sisquoc River in Santa Barbara County. These include the Cherokee Spring, Ernest Blanco Spring, Horse Canyon, La Brea Creek, Manzano Creek, Peach Tree Spring, and the Lower Sisquoc River watersheds. The unit encompasses approximately 49,284 ha (121,785 ac), of which 39 percent is privately owned, and 61 percent is managed by the Los Padres National Forest. Unit 25 is occupied. This unit represents a core population that provides connectivity from Lopez Lake-Arroyo Grande Creek Unit into the westernmost portion of the Transverse Ranges. It is also the only undammed river included as critical habitat in this region; for this reason, the threats of nonnative fish are minimal.

#### Unit 26. Coastal Santa Barbara Unit

Unit 26 consists of coastal tributaries including the Bear Creek watershed, east to and including the Ellwood Canyon watershed in Santa Barbara County. The unit encompasses approximately 39,977 ha (98,791 ac), of which 23 percent is managed by the Los Padres National Forest and the CDPR; the remaining 77 percent is privately owned. Unit 26 is occupied by numerous small populations. It contains a unique ecological setting; numerous and relatively small watersheds along a south-facing coastal terrace drain directly into the Pacific Ocean. This type of habitat is not found elsewhere in California. Populations in this unit may play an important role in stabilizing populations in tributaries to the Santa Ynez River, which is affected by agriculture, water management, and non-native species.

#### Unit 27. Matilija-Sespe-Piru Creek Unit

This unit consists of watersheds that comprise portions of the Matilija, Sespe, and Piru Creek drainages in Santa Barbara, Ventura, and Los Angeles counties. The unit encompasses approximately 126,955 ha (313,716 ac), of which 96 percent is managed by the Los Padres National Forest and 4 percent is privately owned. Unit 27 is occupied and provides connectivity across the Transverse Ranges from the Santa Ynez River Unit to the San Francisquito-Amargosa Creek Unit. The Sespe Creek area, which includes portions of the Sespe Wilderness and provides the primary east-west connectivity, currently supports large

numbers of bullfrogs and predatory fish and is in need of special management.

#### Unit 28. San Francisquito-Amargosa Creek Unit

This unit consists of San Francisquito and Amargosa Creeks and the intervening drainages in Los Angeles County, including all or parts of the Lancaster, Rock Creek, Acton, Bouquet Eastern, Mint Canyon, and Sierra Pelona watersheds. The unit encompasses approximately 42,851 ha (105,890 ac), of which 99 percent is privately owned; the remaining 1 percent is primarily managed by the Angeles National Forest. Unit 28 is occupied, supporting a substantial core population and may be a source population for units to the south and west. This unit also supports the only known population occupying a drainage flowing into the Mojave Desert.

#### Unit 29. Malibu Coastal Unit

This unit consists of the upper coastal watersheds in the Santa Monica Mountains of Ventura and Los Angeles counties that drain into the Pacific Ocean near Malibu, including the West Las Virgenes Canyon, Lindero Canyon, Sherwood, Triunfo Canyon, East Las Virgenes Canyon, and Monte Nido watersheds. The unit encompasses approximately 21,235 ha (52,475 ac), of which approximately 67 percent is privately owned and 33 percent is managed in part by the NPS, CDP, and local municipalities. Unit 29 contains one occupied drainage; California red-legged frogs have likely persisted in this drainage because of its isolation from the nonnative predators which are prevalent in most drainages in this recovery unit. Unit 29 contains all of the constituent elements, in addition it supports a habitat mosaic of coastal sage scrub, coast live oak woodlands, and grasslands that is substantially different from habitat contained in other units.

#### Unit 30. Santa Rosa Plateau/Santa Ana Mountains Unit

This unit consists of portions of the watersheds comprising the Santa Rosa Plateau and the Santa Ana Mountains in Riverside and San Diego counties, including De Luz Creek, Murrieta, and San Mateo Canyon watersheds. The unit encompasses approximately 23,319 ha (57,627 ac), of which approximately 69 percent is managed by the U.S. Forest Service (Forest Service), and approximately 31 percent is privately owned (a portion of which is owned by The Nature Conservancy).

The unit includes habitat essential to the conservation of the California red-legged frog, and is within a core recovery area, as defined in the draft

Recovery Plan. This unit contains a small, genetically unique population on The Nature Conservancy's Santa Rosa Plateau Ecological Reserve (Reserve). This unit is the focal point of recovery efforts essential for the conservation of the California red-legged frog and its genetic diversity in southern California. The Reserve and adjacent watershed lands contain riparian habitat with the primary constituent elements essential to the maintenance of the California red-legged frog population and the re-establishment of the subspecies in southern California. A recovery program is currently being implemented on the Reserve that includes habitat restoration, nonnative species/predator removal, and augmentation of the red-legged frog population. Preliminary discussions have been initiated with the Cleveland National Forest concerning re-establishment of California red-legged frogs in the San Mateo watershed. Additionally, The Nature Conservancy has acquired lands between the current Reserve and Cleveland National Forest, and intends to acquire additional lands in this corridor to add to the Reserve. Habitat restoration, and nonnative predator management activities are being conducted in these areas, and these lands are being evaluated for possible red-legged frog re-establishment.

#### Unit 31. Tujunga Unit

This unit consists of portions of the Tujunga watersheds in Los Angeles County. It encompasses approximately 29,744 ha (73,500 ac), of which 100 percent is managed by the Angeles National Forest. This unit contains habitat essential to the conservation of California red-legged frogs in southern California and is within a core recovery area as defined in the draft Recovery Plan. Red-legged frogs are not known to currently occupy this unit, but numerous populations have been historically documented within the boundaries of the unit and adjacent Forest Service lands. This unit is a focal point for reestablishment of the California red-legged frog in southern California. Preliminary discussions have been initiated with the Angeles National Forest concerning the re-establishment project, in addition to nonnative species management and habitat restoration.

### Effect of Critical Habitat Designation

#### Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat to the

extent that the action appreciably diminishes the value of the critical habitat for the survival and recovery of the species. Individuals, organizations, States, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding.

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 proposed or designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species 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. If a species is listed or critical habitat is designated, 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 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, we would ensure that the permitted actions do not destroy or adversely modify critical habitat.

When we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also seek to 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. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

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. Conference reports assist the agency in eliminating conflicts that may be caused by the proposed action, and may include recommendations on actions to eliminate conflicts with or adverse modifications to proposed critical habitat. 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 on proposed critical habitat contain an opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as the biological opinion when the 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)).

Activities on Federal lands that may affect California red-legged frogs or its critical habitat will require section 7 consultation. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the Corps under section 404 of the Clean Water Act, a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (*e.g.*, Federal Highway Administration (FHA), Federal Aviation Administration, or Federal Emergency Management Agency (FEMA)), will also continue to be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal lands that are not federally funded, authorized, or permitted do not require section 7 consultation.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such

designation. Activities that may destroy or adversely modify critical habitat include those that appreciably reduce the value of critical habitat for both the survival and recovery of the California red-legged frog. Within critical habitat, this pertains only to those areas containing the primary constituent elements. We note that such activities may also jeopardize the continued existence of the species.

To properly portray the effects of critical habitat designation, we must first compare the section 7 requirements for actions that may affect critical habitat with the requirements for actions that may affect a listed species. Section 7 prohibits actions funded, authorized, or carried out by Federal agencies from jeopardizing the continued existence of a listed species or destroying or adversely modifying the listed species' critical habitat. Actions likely to "jeopardize the continued existence" of a species are those that would appreciably reduce the likelihood of the species' survival and recovery. Actions likely to "destroy or adversely modify" critical habitat are those that would appreciably reduce the value of critical habitat for the survival and recovery of the listed species.

Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species. Given the similarity of these definitions, actions likely to destroy or adversely modify critical habitat would almost always result in jeopardy to the species concerned, particularly when the area of the proposed action is occupied by the species concerned. Designation of critical habitat in areas occupied by the California red-legged frog is not likely to result in a regulatory burden above that already in place due to the presence of the listed subspecies.

Federal agencies already consult with us on activities in areas currently occupied by the subspecies to ensure that their actions do not jeopardize the continued existence of the subspecies. These actions include, but are not limited to:

(1) Sale, exchange, or lease of lands managed by the BLM, BOR, Department of Defense (DOD), DOE, NPS, or Forest Service;

(2) Regulation of activities affecting waters of the United States by the Army Corps under section 404 of the Clean Water Act, with the exception of maintenance activities on ponds located on private lands for the express purposes of maintaining the area to water stock;

(3) Regulation of water flows, water delivery, damming, diversion, and channelization by the BOR and the

Corps or other water transfers, diversion, or impoundment, groundwater pumping, irrigation activity that causes barriers or deterrents to dispersal, inundates or drains habitat, or significantly converts habitat;

(4) Regulation of grazing, recreation, mining, or logging by the BLM, BOR, DOD, or NPS;

(5) Funding and implementation of disaster relief projects by the FEMA, including erosion control, flood control, streambank repair to reduce the risk of loss of property;

(6) Funding and regulation of new road construction or road improvements by the FHA;

(7) Funding of construction or development activities by the Department of Housing and Urban Development or other agencies that destroy, fragment, or degrade suitable habitat;

(8) Clearing of vegetation and hydrological modifications by the DOE or other agencies; and

(9) Promulgation of air and water quality standards under the Clean Air Act and the Clean Water Act and the clean up of toxic waste and superfund sites under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act by the EPA.

With the exception of the two unoccupied units, all lands designated as critical habitat are within the geographic range of the California red-legged frog and are occupied by the subspecies, and/or are likely to be used by the subspecies, whether for foraging, breeding, growth of larvae and juveniles, intra-specific communication, dispersal, migration, genetic exchange and sheltering. Federal agencies already consult with us on activities in areas currently occupied by the subspecies, or if the subspecies may be affected by the action, to ensure that their actions do not jeopardize the continued existence of the subspecies. Furthermore, in unoccupied habitat, we are only designating federally managed land as critical habitat. Thus, we do not anticipate substantial additional regulatory protection will result from critical habitat designation.

#### *Relationship of Critical Habitat to Military Lands*

##### Exclusions Under Section 3(5)(A)

The Sikes Act Improvements Act of 1997 (Sikes Act) requires each military installation that includes land and water suitable for the conservation and management of natural resources to complete, by November 17, 2001, an

Integrated Natural Resources Management Plan (INRMP). An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes an assessment of the ecological needs on the installation, including needs to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. We consult with the military on the development and implementation of INRMPs for installations with listed species. We believe that bases that have completed and approved INRMPs that address the needs of the species generally do not meet the definition of critical habitat discussed above, as they require no additional special management or protection.

Therefore, we do not include these areas in critical habitat designations if they meet the following three criteria: (1) A current INRMP must be complete and provide a conservation benefit to the species; (2) the plan must provide assurances that the conservation management strategies will be implemented; and (3) the plan must provide assurances that the conservation management strategies will be effective, by providing for periodic monitoring and revisions as necessary. If all of these criteria are met, then the lands covered under the plan would not meet the definition of critical habitat.

Vandenberg Air Force Base completed an INRMP in 1997 prior to the passage and implementation of the Sikes Act Improvements Act of 1997. While we did not specifically participate in its development, this older plan does provide conservation measures for the California red-legged frog, as well as for the management of important wetland habitats across the base. The INRMP provides management direction on conserving listed and imperiled species and their habitats on the base. Known frog sites are protected from disturbance from human activities and grazing through measures appropriate to the given situation. Vandenberg's INRMP specifies monitoring of California red-legged frog populations on the base, and periodic surveys to provide continuous evaluation of the subspecies' status at known and new sites identified on the base. In addition, Vandenberg actively consults with us on all actions that may affect California red-legged frogs on the base, and has implemented conservation measures as recommended. Therefore, we have determined that lands on

Vandenberg Air Force Base do not meet the definition of critical habitat, and have not been included in this final designation of critical habitat for the California red-legged frog, under the section 3(5)(A) definition.

#### Exclusions Under Section 4(b)(2)

In contrast to Vandenberg Air Force Base, other military installations within the area proposed as critical habitat for the California red-legged frog have not yet completed their INRMPs. Camp San Luis Obispo (CSLO) and Camp Parks Reserve Forces Training Area (Camp Parks) have not yet completed their INRMPs, and both bases contain habitat for the frog. The proposed critical habitat encompassed more than 90 percent of both bases. Subsection 4(b)(2) of the Act allows us to exclude areas from critical habitat designation where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species.

(1) *Benefits of Inclusion.* The principal benefit of any designated critical habitat is that activities in such habitat that may affect it require consultation under section 7 of the Act. Such consultation would ensure that adequate protection is provided to avoid adverse modification of critical habitat. In the absence of designated critical habitat, this consultation will not look specifically at the issue of adverse modification of critical habitat; however, it will look at the very similar concept of jeopardy to the listed species. Our experience is that, under most circumstances, consultations under the jeopardy standard will reach the same result as consultations under the adverse modification standard. Implementing regulations (50 CFR Part 402) define "jeopardize the continued existence of" and "destruction or adverse modification of" in virtually identical terms. Jeopardize the continued existence of means to engage in an action "that reasonably would be expected \* \* \* to reduce appreciably the likelihood of both the survival and recovery of a listed species." Destruction or adverse modification means an "alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species." Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species, in the case of critical habitat by reducing the value of the habitat so designated. Thus, actions satisfying the standard for adverse modification are nearly always found to also jeopardize the species concerned, and the existence of a critical habitat

designation does not materially affect the outcome of consultation. Additional measures to protect the habitat from adverse modification are not likely to be required.

We have determined that the benefits of designating critical habitat on CSLO and Camp Parks are small. The primary benefit of designation is the prohibition on destruction or adverse modification of critical habitat under section 7 of the Act. However, all frog habitat on CSLO and Camp Parks is occupied, and we believe that section 7 consultation on any proposed action on these bases that would result in an adverse modification conclusion would also result in a jeopardy conclusion. In addition, they have a statutory obligation under the Sikes Act to complete INRMPs. As noted above, we expect that, when completed and adopted, these INRMPs will provide equal or greater protection to California red-legged frog habitat on the bases than a critical habitat designation.

(2) *Benefits of exclusion.* CSLO and Camp Parks are training facilities managed by the California Army Reserve National Guard (CA ARNG) and the U.S. Army (Army), respectively. Their missions are to provide a major training area for National Guard and U.S. Army Reserve troops for overseas deployment, and to protect public safety during emergency disasters. During the public comment period for the proposal, CSLO and Camp Parks concluded that the designation, if it were to become final, would seriously limit their ability to conduct their critical training activities. They conclude that a final designation that includes these installations would likely result in delays in training and closure of areas to allow for reinitiation of section 7 consultation on critical habitat. They asserted that the designation will have a detrimental effect on the ability of the CA ARNG and Army to meet their training mission.

Because the INRMPs for these two bases have not yet been completed and approved, the lands on these bases currently meet the definition of critical habitat. However, we have determined that it is appropriate to exclude CSLO and Camp Parks from this critical habitat designation under section 4(b)(2). The primary benefit of excluding CSLO and Camp Parks is to ensure that their mission-critical military training activities can continue without interruption while the INRMPs are being completed.

CSLO's INRMP is scheduled for completion and implementation in November 2001. We fully expect that, once the INRMP is completed and

approved, areas of the base included in the proposed critical habitat designation will no longer meet the definition of critical habitat, as they will require no additional special management or protection. Camp Parks has worked with us and developed an Endangered Species Management Plan (ESMP). They are currently working on completing their INRMP. Camp Parks' ESMP was drafted specifically for California red-legged frogs and includes nonnative predator control. Although the ESMP has not been finalized, Camp Parks has already implemented several portions of the plan.

Training activities are ongoing, and the CA ARNG and Army believe that by implementing specific conservation measures, their training activities are not likely to adversely affect California red-legged frogs on the bases, ensuring compliance with section 7(d) of the Act. In particular, CSLO considers all permanent and intermittent waterways and riparian areas to be sensitive habitat and provides buffers. Sections of Chorro Creek, several ponds, springs and reservoirs have been fenced to exclude military training activities and cattle grazing. Although avoiding these areas constrains training activities to some degree, the effectiveness of their overall mission is not compromised. Camp Parks has also identified essential California red-legged frog habitat and has designated these areas as sensitive habitat areas. Further, Camp Parks is currently implementing measures to promote the conservation of California red-legged frogs by implementing control of nonnative predators.

The proposed critical habitat designation included about 90 percent of both CSLO and Camp Parks. If these areas are included in the final designation of critical habitat for the California red-legged frog, the CA ARNG and U.S. Army would be compelled by their interpretation of the Act to significantly curtail necessary training within the area designated as critical habitat, to the detriment of mission-critical training capability, until the reinitiation of consultation is concluded. As a result, this would greatly restrict use of the installation, severely limiting CSLO's and Camp Parks' utility as training sites.

We conclude that the benefits of excluding Camp San Luis Obispo and Camp Parks exceed the benefits of including the installations in the critical habitat designation. Further, we have determined that excluding the bases will not result in the extinction of the red-legged frog, as numerous frog core areas remain within the final critical habitat designation and sections 7(a)(2)

and 9 still apply to the activities affecting red-legged frogs on CSLO and Camp Parks.

Should additional information become available that changes our analysis of the benefits of excluding any of these (or other) areas compared to the benefits of including them in the critical habitat designation, we may revise this final designation accordingly. Similarly, if new information indicates any of these areas should not be included in the critical habitat designation because they no longer meet the definition of critical habitat, we may revise this final critical habitat designation. If, consistent with available funding and program priorities, we elect to revise this designation, we will do so through a subsequent rulemaking.

#### Summary of Comments and Recommendations

In the September 11, 2000, proposed rule (65 FR 54892), we requested all interested parties to submit comments on the specifics of the proposal including information, policy, treatment of HCPs, and proposed critical habitat boundaries as provided in the proposed rule. The first comment period closed on October 11, 2000. The comment period was reopened from October 19, 2000, to November 20, 2000 (65 FR 62690), to allow for additional comments on the proposed rule. The comment period was reopened from December 21, 2000, to January 22, 2001 (65 FR 80409), to accept comments on both the proposed designation and the draft economic analysis. We accepted comments received from September 11, 2000, to February 2, 2001, and entered them into the administrative record for the rule.

We contacted all appropriate State and Federal agencies, Tribes, county governments, elected officials, and other interested parties and invited them to comment. In addition, we invited public comment through the publication of notices in the following newspapers throughout California: the Sacramento Bee, the Mountain Democrat, the Riverside Press-Enterprise, The Press Democrat, the Contra Costa Times, the Marin Independent Journal, the Record Searchlight, Los Angeles Times, San Luis Obispo Telegram Tribune, the Santa Barbara News, the Monterey Herald, and Santa Cruz Sentinel. The inclusive dates of these publications were September 8, 11, 12, and 13, 2000, for all papers. In these notices, and the proposed rule, we announced the dates and times of four public hearings that were to be held on the proposed rule. These hearings were in Ventura (September 19, 2000), San Luis Obispo

(September 21, 2000), Dublin (September 26, 2000), and Sacramento (September 28, 2000). Transcripts of these hearings are available for inspection (see **ADDRESSES** section).

In addition to these announcements, we published display ads in the following newspapers specifically for the public hearings: Contra Costa Times, Tri-Valley Herald, Marin Independent Journal, Chico Enterprise Record, and the Mountain Democrat. We also sent out notices of the reopening of the comment period to all parties on a mailing list for California red-legged frog information. Additionally, we held two informational meetings, one on January 5 in San Luis Obispo and a subsequent meeting on January 7 in Dublin. Specific notices were published in the Sacramento Bee, the Contra Costa Times, The Press Democrat, the Record Searchlight, the Lompoc Record, and the San Luis Obispo Tribune to announce these two informational meetings.

We requested five herpetologists, who have familiarity with California red-legged frogs and/or amphibian metapopulation dynamics, to peer review the proposed critical habitat designation. Two of the peer reviewers submitted comments on the proposed critical habitat designation, one declined to comment, and two did not respond.

We received a total of 73 oral and 1,985 written comments during the 3 comment periods. In total, oral and written comments were received from 11 Federal agencies, 5 State agencies, 2 State officials, 83 local governments, and 1,957 private individuals or organizations. We reviewed all comments received for substantive issues and new information regarding critical habitat and the California red-legged frog. Of the 2,058 comments we received, 1,608 supported designation, 240 were opposed to it, and 210 provided information or declined to oppose or support the designation. Similar comments were grouped into 4 general issues relating specifically to the proposed critical habitat determination and draft economic analysis on the proposed determination. These are addressed in the following summary.

#### *Issue 1: Biological Justification and Methodology*

(1) *Comment:* One commenter stated amphibian species are declining worldwide for unknown reasons and it is, therefore, inappropriate to designate critical habitat without understanding reasons for the decline.

*Our Response:* We agree that there is substantial evidence that amphibian



populations are declining worldwide, and a number of hypotheses have been developed to address these declines. However, while California red-legged frogs may be subject to factors causing worldwide amphibian declines, the decline in California red-legged frog populations is also a result of habitat loss and alteration, over harvesting, and the introduction of nonnative predators that occurred over a longer period of time. The populations that remain continue to face adverse effects from habitat loss and alteration, and nonnative predators. Many of these habitats are in need of special management and protection to ensure the long-term survival and conservation of California red-legged frogs.

(2) *Comment:* Several commenters felt designating critical habitat has no effect on nonnative predators, which are the main cause of decline. Several commenters requested the Service exclude areas with populations of nonnative predators or questioned the validity of designating areas inhabited by nonnative predators. Another commenter stated, given the documented extinctions from areas where the primary constituent elements are known to exist, the proposed designation would not appear to achieve the stated goals for survival.

*Our Response:* We agree that nonnative predators continue to impact California red-legged frog populations, and our ability to recover the subspecies will be related to how effectively we are able to work with Federal, State, and local agencies, and in partnerships with individuals to develop management strategies to address this impact. However, critical habitat, by definition, contains those areas that are essential to the conservation of the species and may require special management considerations or protection. We believe that the control of nonnative predators will be an important factor in our efforts to recover California red-legged frogs and thus, should be considered a special management consideration.

(3) *Comment:* The proposed rule relies entirely on science of the last 20 years and ignores over-harvesting of frogs in the early 1900s. Several commenters also stated many relevant factors are of concern only because of historic over-harvesting and the presence of nonnative predators.

*Our Response:* We agree that over-harvesting of California red-legged frogs in portions of California is, in part, responsible for the decline of the subspecies, and this was exacerbated by the introduction of nonnative predators. However, there are areas where the subspecies has declined even though

harvesting did not occur (e.g., southern California). Many of the factors leading to population declines in California red-legged frogs are still occurring today (e.g., habitat loss and alteration and colonization by nonnative predators). These factors illustrate that the species habitat is in need of special management.

(4) *Comment:* One commenter stated that current data from satellite and infrared aerial photography, or multi-spectral high resolution orthophotographs, can be used to identify suitable habitat within each unit. One commenter stated the Service has access to such information, as well as data from section 7 consultations, biological opinions, surveys, and HCPs that would inform its decision on what habitat is critical.

*Our Response:* We used System Pour l'Observation de la Terre (SPOT) data and digital orthographic quarter quadrangles to exclude developed areas such as towns, housing subdivisions, or other developed lands unlikely to provide habitat for California red-legged frogs. However, the scale of these data make them inappropriate to use as a tool to specifically identify suitable aquatic habitat such as water depth and persistence. For example, stream habitats may possess suitable breeding habitats, but they can not be identified using these data. Therefore, we could not specifically identify each habitat as this would have resulted in over-emphasis of pond habitats, and an under-emphasis in stream habitats. This would be problematic as frogs in the southern portion of the range are found primarily in stream habitats with deep pools.

The proposed rule was largely based on data collected by scientists conducting research on California red-legged frogs under section 10(a)(1)(A) permits, consulting biologists interacting with Service staff, conducting site assessments, surveys, informal and formal consultations, as well as working with State biologists. Service staff have used this information as the best available scientific and commercial data available to prepare the proposed designation.

(5) *Comment:* Some commenters voiced concern that their property was within proposed critical habitat boundaries even though the land contained no California red-legged frogs or their habitat.

*Our Response:* We recognize that not all parcels of land designated critical habitat will contain the habitat components essential to the conservation of California red-legged frogs. The court-ordered time line, and

the use of planning watershed (CAL WATER 2.2) as the minimum mapping units in defining critical habitat boundaries for California red-legged frogs, did not allow us to exclude all developed areas such as towns, housing developments, or other developed lands unlikely to provide habitat for California red-legged frogs. However, because these areas do not contain one or more of the primary constituent elements for the California red-legged frog, Federal actions limited to these areas will not trigger a section 7 consultation, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

(6) *Comment:* Several parties commented on the methodologies used to designate critical habitat. The broad or landscape scale of the proposed critical habitat does not specifically identify the locations of primary constituent elements for the California red-legged frog. One commenter stated that it was inappropriate to use planning watersheds as the minimum mapping unit upon which to base amphibian population management actions. Another commenter questioned why the core areas identified in the draft Recovery Plan were not used as the minimum mapping unit and felt the Service did not adequately explain the inconsistencies between the two approaches. The use of landscape methodologies instead of specific mapping techniques violated the Act and implementing regulations. The Service's assertion that only areas containing the primary constituent elements are being proposed as critical habitat is confusing and does not allow for a discriminate boundary.

*Our Response:* We are required to describe critical habitat (50 CFR 424.12(c)) with specific limits using reference points and lines as found on standard topographic maps of the area. We used planning watersheds (CALWATER 2.2) as the minimum mapping unit to delineate proposed critical habitat units because watersheds represent functional, hydrologic management units that allow for efficient evaluation of factors that affect the quality of aquatic habitat and thus, are extremely relevant to amphibian populations. The use of planning watersheds also allowed us to delineate critical habitat that protects habitat quality, breeding and nonbreeding habitat, and dispersal habitat in a manner consistent with the overall goal of protecting and promoting metapopulations. Impacts upstream or downstream of critical habitat units could directly impact the proposed units. Furthermore, mapping on a

watershed basis takes into account the ecological characteristics of the subspecies and utilizes them to delineate what is important and critical to their long-term survival and recovery. The core areas identified within the draft Recovery Plan were developed using both CALWATER planning watersheds and property lines. Once we started working on the critical habitat designation, we chose to use planning watersheds. We believe that this made biological sense because California red-legged frogs would not be affected by property boundaries. Given the range of the frog, it would also have been difficult to rely on Public Land Survey (PLS) lines as several of the proposed areas are within Spanish land grants and PLS information is not readily available. Additionally, we believe that the use of PLS lines doesn't make biological sense. We specifically utilized this process to avoid confusion. We believed that the use of UTM data to specifically describe the meets and bounds of the critical habitat boundary would make it difficult for the public to identify critical habitat, but that the use of watersheds would allow individuals to identify specific watersheds they were interested in for comparison with what was published in the **Federal Register**.

In the preparation of the final determination, we had more detailed GIS coverages that allowed us to reduce our minimum mapping unit from planning watersheds to a 100-m UTM grid square. This allowed for the exclusion of many areas that do not contain the primary constituent elements for California red-legged frogs, and the drawing of more refined critical habitat boundaries.

(7) *Comment:* Some commenters were concerned that no data or research were cited in the primary constituent elements section.

*Our Response:* The descriptions of the primary constituent elements for the California red-legged frog are based on a compilation of data from peer-reviewed published literature, unpublished or non-peer-reviewed survey or research reports, the draft Recovery Plan, and biologists knowledgeable about the subspecies and its habitat. The primary constituent elements, as described, represent our best estimate of those habitat features that are essential for the conservation of core California red-legged frog populations, and for dispersal and connectivity between these populations. In our response to specific comments and in other pertinent areas, we have listed citations where it is necessary. Also, a copy of all supporting

documentation used in the development of this determination is in the administrative record and available for inspection at the Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

(8) *Comment:* Several commenters felt the description of the primary constituent elements is vague and would not be consistently applied. Several of the commenters also requested clarification on various aspects of the primary constituent elements. Several commenters did not feel the use of landscape approach was specific enough or questioned whether the use of landscape analysis was even legal.

*Our Response:* The description of the primary constituent elements for California red-legged frogs is based on the best available scientific and commercial data regarding the subspecies. Although California red-legged frogs are associated with aquatic habitat, all life stages can be found in a variety of natural and man-made aquatic habitat. Furthermore, the use of upland habitat has been documented for frogs in both mesic (wet) and xeric (dry) climates. Upland habitat is also essential to maintain the integrity of aquatic areas. Finally, the ability to disperse to other breeding habitat is essential to maintain genetic diversity and allow for range/population expansion. For this reason, the primary constituent elements are categorized to capture the habitat types that are essential for the conservation of source populations and connectivity between source populations.

(9) *Comment:* Several commenters had specific comments relating to the aquatic component of the primary constituent elements. Some commenters believed the 2 km (1.25 mi) dispersal distance was arbitrary; another questioned the importance of seasonal wetlands; and another suggested the use of stream flow data to help define critical habitat. One commenter inquired into the minimum distance between two breeding locations to allow these habitats to be considered independent from one another; one commenter believed the 0.2 m (7.87 in) depth of breeding habitat was insufficient; and another commenter asked if suitable breeding habitat was defined by documented breeding or by suitable habitat, and if the presence of nonnative predators affected this determination, and what was the definition of still and slow-moving waters, large reservoir, and waters edge.

*Our Response:* The 2 km (1.25 mi) dispersal distance was determined by research conducted on radio-telemetered California red-legged frogs

(Scott *in litt.* 2000, Fellers *in litt.* 2000, and Jennings *in litt.* 2000). The 2 km (1.25 mi) distance represents the distance frogs can disperse through xeric areas. Therefore, we feel that the dispersal distance is a conservative estimate. Seasonal wetlands represent additional habitat within the landscape that can be used by frogs as stop-over locations during dispersal events (Thomas Reid and Associates 1998; Bobzien *et al.*, 2000). These seasonal wetlands may be an important component of California red-legged frogs, dispersal capabilities.

We agree that stream flow data may provide a component of the necessary information in describing suitable breeding habitat. Unfortunately, we are not aware of any information available regarding stream flows and California red-legged frog breeding and nonbreeding habitat. The only citation available is from Jennings (1988) that describes "slow and still-moving water". We believe no minimum distance can be selected that would reliably identify a breeding site as independent. Breeding habitats will be considered independent if tadpoles are not capable of utilizing each of the two or more breeding habitats. For pond environments, this scenario is obvious, and for stream breeding populations it is possible for tadpoles to reach downstream pools, but it would be difficult for tadpoles to travel upstream due to slope, current, and barriers. Based on comments from individuals and from a peer reviewer, we agree that 0.2 m (7.87 in.) depth is too shallow for consistent breeding success and, furthermore, we are increasing the depth of suitable habitat to 0.5 m (20 in.).

We define suitable breeding habitat as aquatic habitat no less than 0.5 m (20 in.) deep and that consists of virtually all still or slow-moving fresh water bodies, including natural and man-made (e.g., stock) ponds, backwaters within streams and creeks, marshes, lagoons, and dune ponds, except deep lacustrine water habitat (e.g., deep lakes and reservoirs over 20 ha (50 ac) in size) inhabited by nonnative predators (note that the presence of nonnative predators only applies to large reservoirs; smaller bodies of water could benefit from special management activities such as removing nonnative predators from the habitat). Aquatic habitat used for breeding must maintain water during the entire tadpole rearing season (at least March through July). However, during periods of drought or less than average rainfall, these breeding sites may not hold water long enough for individuals to complete metamorphosis,

but these sites would still be considered suitable breeding habitat. To be considered critical habitat, the aquatic components must consist of two or more breeding sites located within 2 km (1.25 mi) of each other, if at least one of the sites is also a permanent water source, or two or more breeding sites and a permanent water source located within 2 km (1.25 mi) of each breeding site, if the breeding sites are not permanent water sources. In addition, the sites must be connected by suitable dispersal habitat, described below.

(10) *Comment:* Several commenters had specific comments relating to the upland component of the primary constituent elements. One commenter felt the 150 m (500 ft) upland habitat component was arbitrary; one commenter questioned if annual grassland was suitable upland habitat, another questioned whether uplands downslope of suitable breeding habitat need 150 m (500 ft) of upland habitat to maintain the integrity of the watershed.

*Our Response:* While developing the proposed rule, we extensively studied the literature relating to watershed processes and their effects on ranid frogs, other amphibians, and other wildlife (see references throughout text). Unfortunately, there is a lack of information available to provide a specific distance to protect individuals and watershed integrity. The most revealing information came from Puget Sound, where Richter and Azous (1995 and 1997) found species richness was significantly lower in watersheds where more than 40 percent of the land area was developed. Furthermore, Schueler (1994) used evidence from studies examining macroinvertebrates and fishes to illustrate that it is difficult to maintain predevelopment stream quality when watershed development exceeds 10–15 percent impervious cover. For example, Klein (1979 in Schueler 1994) found that macroinvertebrate diversity consistently became poor when watershed imperviousness exceeded 10 to 15 percent. This has been supported by Schueler and Galli 1992, and Shaver *et al.*, (1994 in Schueler 1994). This loss of diversity has also been observed in fish (Klein 1979, Limburg and Schmidt 1990, both in Schueler 1994).

The lack of any real consistent number is not surprising as numerous factors including stream order, landscape topography, water quality parameters, habitat structure, pollutants, and nature of the development would all be significant factors in the watershed process. In our consultations, we routinely ask for avoidance of upland habitat found within 90 m (300

ft) of the edge of wetlands and riparian areas; avoidance of these areas provides some protection against changes in hydrology and water quality, and also protects suitable upland habitat adjacent to the proposed developed areas. Based on the best available commercial and scientific information, we believe a minimum of 90 m (300 ft) of upland habitat is essential for California red-legged frogs. This decision is based on information from frogs observed to inhabit 60 m (200 ft) from water (Bulger *in litt.*, 2000) and 30 to 90 m (100 to 300 ft) from water in eastern Contra Costa County (T. Tatarian *in litt.*, 2001).

Furthermore, frogs have been extirpated from areas where development exists adjacent to suitable breeding and nonbreeding habitat. In conclusion, there is a lack of data available to support our description of a 150 m (500 ft) upland habitat component. However, consistent with Service policy dealing with California red-legged frog consultations, observations of frogs inhabiting upland areas for extended periods of time, the importance of upland habitat for maintenance of hydrology, water quality, and overall ecosystem health, and known extirpations from developed watersheds, the upland component will include all upland areas 90 m (300 ft) from the edge of ordinary high water.

The commenter makes a good point that impacts in areas downslope of suitable breeding habitat may not affect suitable, essential aquatic habitat upstream. However, breeding habitats are rarely isolated (*e.g.*, breeding occurs in creeks and in ponds created in small tributaries with dams), and there is likely suitable, essential aquatic habitat downslope of breeding ponds, therefore these downslope areas will also include a 90 m (300 ft) upland habitat component. We feel that to remain consistent with observations of frogs inhabiting upland areas for extended periods of time, and the importance of the upland habitat for maintenance of hydrology, water quality, and overall ecosystem health, the upland component will include all upland areas 90 m (300 ft) from the edge of ordinary high water. Furthermore, California red-legged frogs could use these areas to forage or for cover.

Most California red-legged frogs found inhabiting upland areas tend to be found in dense vegetation such as under blackberry bushes (*Rubus* spp.) and dense scrub. Annual grassland may provide some cover, but it is likely that denser vegetation is preferred. Densely vegetated upland habitats do provide shelter to frogs inhabiting upland areas adjacent to suitable aquatic habitat;

however, densely vegetated upland habitats are essential to maintain the integrity of California red-legged frog aquatic habitat, by providing the conditions essential for providing food, water, nutrients, and protection from disturbance necessary for normal behavior.

(11) *Comment:* Several commenters had specific comments relating to the dispersal component of the primary constituent elements: some commenters felt the 150 m (500 ft) dispersal width was arbitrary, and frogs can readily move through areas less than that width. Some questioned the types of land uses that could be considered barriers (*e.g.*, golf courses, camp grounds, recreation developments, trails, logging roads, county roads, and highways), and several commenters suggested that defining a road as a barrier should be based on the number of cars traveling at night because this is when amphibians typically disperse. Some commenters felt the 2 km (1.25 mi) dispersal distance between breeding habitats was arbitrary, while others believed it may exclude habitat that could prove essential to California red-legged frogs. Some commenters felt that the presence of bullfrogs and fish should be considered barriers.

*Our Response:* California red-legged frogs have been documented to disperse through uplands in movements that could be considered both random as well as straight-line to and from breeding ponds irrespective of slope and topography (Bulger *et al.*, 2000). Furthermore, juvenile red-legged frogs have been observed to make overland movements of nearly 1 km (0.6 mi) (Monk and Associates 1997a). We agree that dispersal corridors through wetland and riparian areas can be less than 90 m (300 ft) (*e.g.*, the upland habitat from the edge of ordinary highwater). Frogs have been observed to travel underneath bridges and through culverts with widths much less than 150 m (500 ft). It is likely that movements of adult frogs to and from breeding sites are not random; this is supported by Bulger *et al.*, (*in litt.* 2000) who found frogs to make straight-line movements between breeding and nonbreeding habitat. However, for dispersing juveniles who make overland movements, dispersal away from breeding habitats is likely random. This is supported by incidental trappings of the subspecies (Monk 1997a). Therefore, it is important to provide dispersal habitat of sufficient width to allow for the probability of juvenile frogs to find the dispersal area. There are no data on the use of corridors by California red-legged frogs, much less for any other ranid frog species. In

addition, we have required 45–90 m (150–300 ft) upland dispersal corridors to ensure California red-legged frogs can disperse between aquatic habitats. In a general description of dispersal corridors, Soule (1991) discusses the variable benefits and liabilities associated with corridor widths. Essential dispersal habitat for California red-legged frogs is based on providing a corridor of sufficient width to ensure that randomly dispersing juveniles can find the corridor and migrate to adjacent essential habitat. Therefore, the habitat connecting essential breeding locations and other aquatic habitat must be free of barriers and at least 90 m (300 ft) wide.

One of the peer reviewers questioned our view that lands such as row crops, orchards, vineyards, and pastures did not constitute barriers to California red-legged frog dispersal. The peer reviewer felt these areas may not be absolute barriers but rather a selective filter allowing some frogs through, and would clearly affect connectivity. This is supported by Schneeweiss and Schneeweiss (1997) who documented amphibian mortality on a recently fertilized field due to caustic burns associated with nitrogenous fertilizer. In addition, agricultural areas are often disced and free of vegetation during the periods California red-legged frogs are likely to be most active, therefore making them susceptible to predation. However, we are aware of documented sightings in areas surrounded by agriculture near Hollister in San Benito County as well as in the Elkhorn Slough area of Monterey County (CNDDDB 2000). Therefore, it is reasonable to believe that California red-legged frogs are capable of moving through intensively managed agricultural areas, but these areas are likely not optimal dispersal habitats and may serve as habitat sinks. Other features such as camp grounds, recreation developments, trails, and logging roads likely are not barriers as frogs would be moving through these areas during rains at night when very little automobile traffic would be occurring. We agree with the commenter who suggested that we modify the definition of barrier to include only traffic patterns during the periods California red-legged frogs are the most active. Other features such as roads and highways with 30 cars per hour during the period of 10:00 p.m. and 04:00 a.m. would be considered a barrier, if these features possessed no bridges, culverts, or underpasses that would allow frogs to disperse along wetlands, streams, or straight-line movements. The use of 30 cars per hour is based on work by Kuhn (1987, in Reh and Seitz 1990), who

estimated that 24 to 40 cars per hour killed 50 percent of common toad (*Bufo bufo*) individuals migrating across a road, while Heine (1987, in Reh and Seitz 1990) found that 26 cars per hour could reduce the survival rate of toads crossing roads to zero. In addition, Fahrig *et al.* (1995) found a significant negative correlation between traffic density and the density of anuran populations, and Westphal (*in litt.* 1997) documented the significance of mortality on and near Highway 1 in San Mateo County.

As discussed earlier, the 2 km (1.25 mi) dispersal distance was based on input from scientists who have monitored dispersing California red-legged frogs. Furthermore, anecdotal evidence from road surveys and California tiger salamander trapping (Westphal *in litt.* 2000; Monk and Associates 1997a and 1997b; and Morey, *in litt.* 2000) have shown that juvenile frogs can move at least 1 km (0.6 mi). One peer reviewer felt the maximum dispersal distance should be lowered to 1 km (0.6 mi) based on studies by Berven and Grudzien (1990) and Lann and Verboom (1990). Both studies illustrated frogs, on average, move up to 1 km (0.6 mi) and that distances greater than this impede the probability of recolonization. However, given the results from radio-telemetered California red-legged frogs making movements over 2 km (1.25 mi), comments from scientists conducting research on California red-legged frogs movements (including one of the peer reviewers), and data from Sjogren-Gulve (1994) who found extinction rates increase at distances greater than 2.8 km (1.75 mi), we believe 2 km (1.25 mi) is the best commercial and scientific data available. Based on the best available data, we believe that suitable breeding habitat beyond 2 km (1.25 mi) from other sites has such a low probability of being rescued from a localized extinction that these areas are not essential to the conservation of California red-legged frogs. However, those breeding habitats within 2 km (1.25 mi) represent suitable breeding habitats where the immigration and emigration of California red-legged frogs insures localized extinctions have a high probability of recolonization.

Although nonnative predators adversely affect California red-legged frogs, with the implementation of special management, these nonnative predators can be removed from essential breeding habitats. However, large reservoirs over 20 ha (50 ac) in size are not considered suitable aquatic habitat as it is not currently technically feasible to eradicate nonnatives from these areas.

Therefore, we believe, with the exception of reservoirs over 20 ha (50 ac) in size, the presence of nonnative predators does not constitute a barrier.

(12) *Comment:* Some commenters felt the 2.2 million ha (5.4 million ac) being proposed as critical habitat represents the entire range of the subspecies and the Act prohibits such a broad designation. Several commenters felt there was a lack of data to support the importance of individuals and nonbreeding populations to the conservation of the subspecies. Some commenters stated there is no basis for designating unoccupied habitat because the Service has failed to determine these areas are essential.

*Our Response:* In proposing critical habitat for the California red-legged frog, we identified those areas that are essential to the conservation of the subspecies. The areas we proposed to designate as critical habitat provide all of those habitat components essential for the primary biological needs of California red-legged frogs as described in the draft Recovery Plan and defined by the primary constituent elements. We did not include all areas currently occupied by California red-legged frogs, but proposed those areas that possess a large population of frogs, represent unique ecological characteristics, or represent historic geographic areas where California red-legged frogs can be reestablished. This included initially proposing unoccupied areas in Plumas, Butte, Sierra, Yuba, El Dorado, Calaveras, and Tuolumne counties in the Sierra Nevada (however, since the publication of the proposed rule, we have excluded Unit 2 in Yuba, Sierra, Butte, and Plumas counties and Unit 4 in Calaveras County), and the San Gabriel Mountains in Los Angeles County in southern California. Ponds that support a small population of California red-legged frogs, but are not surrounded by essential upland habitat, or are cut off from other breeding ponds or permanent water sources by impassible dispersal barriers, would not be considered critical habitat. Furthermore, some locations in the Sierra Nevada and elsewhere, may be occupied by only a few individuals and/or nonbreeding populations. Areas proposed where the unit consists of occupied but nonbreeding populations is essential to the conservation of the subspecies because these individuals represent distinct genetic characteristics and the historic range of the subspecies. These units are also strong candidate areas for reestablishment due to a large amount of private and Federal support, and large amounts of Federal land. In order for future reestablishment to be

successfully completed, special management in these areas is needed, which includes the removal of nonnative predators and habitat restoration. Also, without designation of these areas as critical habitat, management actions that may promote nonnative predators may continue to be implemented and, thus, ensure that frogs will not be successfully reintroduced into these areas. For example, the unit to the south would allow for a significant reexpansion of the subspecies' range in the Transverse Range of southern California, and preservation of genetic diversity. Therefore, these areas are essential to the conservation of the subspecies.

(13) *Comment:* One commenter recommended the Service base critical habitat on an in-depth analysis of the characteristics in watersheds/regions which have a long history of occupancy and have survived past periods of land form alteration, drought, introduced species, and other cited causes of localized extinctions and population reductions.

*Our Response:* While devising the methodology to designate critical habitat, we used information from populations in the Bay Area of California and Santa Barbara which persist as a collection of subpopulations connected by individual dispersal events. These populations persist and flourish where suitable breeding and nonbreeding habitats are interspersed throughout the landscape and are interconnected by unfragmented dispersal habitat. Where this habitat mosaic exists, local extinctions may be counterbalanced by the colonization of new habitat or recolonization of unoccupied areas of suitable habitat. This scenario may be best exemplified by information collected from the U.S. Navy's Concord Weapons Station in Contra Costa County, where California red-legged frogs were rarely observed in the late 1980s, presumably due to the large number of bullfrogs in the area. However, by the late 1990s, California red-legged frogs were again abundant and bullfrogs were noticeably absent (Downard, *in litt.*, 1999). This observation strongly supports our assertion that it is essential for the long-term survival and recovery of the subspecies to protect those sites that appear to be unoccupied, but can be recolonized by dispersing individuals from nearby subpopulations.

(14) *Comment:* Some commenters feel there is very little data available to describe the dispersal behavior of California red-legged frogs and question the importance of dispersal to the survival of California red-legged frogs.

Another commenter questioned the statement that the healthiest populations persist as subpopulations, exchanging genetic information through individual dispersal events and asked for evidence that genetic exchange occurs. The commenter also felt that the importance of adjacent unoccupied habitats may not be important to the survival and recovery of the subspecies as these locations may be ecological sinks.

*Our Response:* We strongly believe that dispersal may be the most important ecological characteristic of California red-legged frogs. Data from researchers studying the movement ecology of California red-legged frogs have documented dispersal events through riparian areas to and from breeding habitats, as well as making straight-line overland movements to and from breeding habitat, irrespective of slope. Furthermore, there is anecdotal evidence that juvenile red-legged frogs disperse at least 1 km (0.6 mi) away from breeding habitat. This information is the result of consulting biologists conducting surveys for California tiger salamanders (*Ambystoma californiense*) in eastern Alameda (Monk and Associates 1997a and 1997b) and Santa Clara counties (Brian Morey, *in litt.* 2000). In both locations, newly metamorphosed California red-legged frogs were found dispersing away from breeding habitat during rain events. Given the fact that California red-legged frogs live in a Mediterranean climate where long periods of drought are common, that ability to have individuals dispersing into extirpated habitats is extremely important to the long-term conservation of the subspecies. Breeding adults from neighboring subpopulations dispersing into adjacent areas will allow for genetic exchange between subpopulations. Given the documented dispersal characteristics of California red-legged frogs, and evidence that illustrates that California red-legged frog populations can increase upon removal of nonnative predators, we feel that designating unoccupied adjacent areas is important to the survival and the recovery of the subspecies. Areas that may be currently unsuitable habitat for California red-legged frogs due to the presence of nonnative predators, could become suitable if special management actions are initiated.

(15) *Comment:* Several commenters questioned the importance of a permanent water source. One commenter felt that there is no basis for the spatial relationship of the permanent water source to the breeding habitat because breeding ponds dry late

in the summer when arid conditions would likely prohibit dispersal of California red-legged frogs. Another commenter felt that a permanent water source was not necessary, as frogs can live in uplands for an extended period of time and, therefore, only need water until the end of the breeding period.

*Our Response:* When we first started to work on the critical habitat proposal, staff from the three Service field offices located within the range of the subspecies, and who have had direct experience with California red-legged frogs, met and discussed some of the common attributes between the various areas. The only consistent feature present within the landscape was a permanent water source. Often the permanent water source is nothing more than a spring or seep, but these features play an important role in maintaining individuals during periods of drought. We agree that late season dispersal is unlikely in the more arid portions of the subspecies range. However, California red-legged frogs are known to inhabit small spring boxes in even the most arid portions of their range. During periods of drought, habitats like this may be the only suitable habitat available, as wetlands capable of supporting water through an extensive drought are large water bodies and are generally occupied by nonnative predators. Therefore, these small, permanent water sources are essential for providing safe, suitable nonbreeding habitat for California red-legged frogs until the favorable conditions return.

(16) *Comment:* Several commenters questioned the basis for using the 1,700 m (5,500 ft) elevation limit, and several commenters suggested using lower elevations as the limit, citing that frogs were only known from above 1,500 m (5,000 ft) in Tuolumne County.

*Our Response:* We based this demarcation on past observations of frogs inhabiting meadows at elevations of approximately 1,700 m (5,500 ft). We believe this represents the upper limit of known California red-legged frog occurrences. However, the three most recent sightings in the Sierra Nevada have been below 1,500 m (5,000 ft). Given these observations, and the historic sightings of occurrences up to 1,500 m (5,000 ft), we have excluded all lands above 1,500 m (5,000 ft) from the critical habitat designation.

(17) *Comment:* One commenter felt there are no data to support the statement that frogs will use natural and man-made habitats irrespective of vegetation cover.

*Our Response:* California red-legged frogs have been found inhabiting a variety of habitats including natural and

man-made habitats devoid of vegetation. California red-legged frogs have even been found to breed in ponds where vegetation was virtually absent.

Although vegetation may play an important role in providing cover, researchers believe frogs are more often found in warm, open-water shallows with deeper water refuge areas used by adult frogs (Scott, *in litt.*, 2000).

(18) *Comment:* Some commenters questioned the statement that only 17 percent of the proposed designation is unoccupied, and that 90 percent of unoccupied habitat is privately owned. Other commenters stated watersheds were not occupied and assumed these areas were designated to lessen impacts to water quality of suitable habitat downstream. They further stated these unoccupied areas were too far away from occupied habitat to affect water quality and questioned their utility.

*Our Response:* With the exception of Units 5 and 31, critical habitat designated for California red-legged frogs is within the geographical area occupied by the subspecies and is likely used for breeding, sheltering, or dispersing. A California red-legged frog may not use breeding habitat on a daily basis, but the breeding habitat is still considered occupied. This differs from the common public perception that occupancy equates to the detectable presence of California red-legged frogs at all times. In those units we considered to be unoccupied, we proposed areas that were largely managed by Federal agencies. Within the final rule, we have excluded all non-federal lands from designation within unoccupied critical habitat units.

(19) *Comment:* Several commenters requested the revision of the methods section to include additional information on the criteria used to select critical habitat, and how were areas of occupancy, presence of source populations, areas with unique ecological significance, or areas important for dispersal identified. One commenter also questioned the use of 1985 as the cut-off date.

*Our Response:* Criteria used to identify critical habitat can be found in the "Criteria Used To Identify Critical Habitat" section. We considered a unit to be occupied if there were documented occurrences within the unit since 1985. This decision was based on our belief that the absence of sightings within the last 15 years in areas that have been at least generally surveyed was adequate evidence that frogs are likely to be extirpated from the area. Furthermore, we have used this year as a cutoff in agreements made between the Service and the Forest

Service regarding occupancy determinations during informal consultation regarding the Sierra Nevada Framework process.

(20) *Comment:* One commenter suggested a method to evaluate how well the designation would provide for survival and recovery, and the Service should analyze the effects of different areas on designation. The commenter provided two alternatives. One alternative would be to evaluate whether lands designated as critical habitat can be limited to lands that are located outside of existing urban limit lines, and outside of areas that have a general plan/zoning designation for residential, commercial, and industrial purposes. A second alternative would be to limit critical habitat to the Central Coast from San Francisco to Santa Barbara. If the goal is to protect subspecies of frog, why would protection of these populations alone not be sufficient?

*Our Response:* We believe urbanized areas are not essential to the conservation of the California red-legged frog, and we are removing these lands from the final designation. However, without an in-depth analysis on a case-by-case basis of each general plan or zoning designation, the removal of undeveloped areas with general plans or zoned for development could potentially result in excluding areas to the extent that recovery may be excluded. We strongly believe populations of California red-legged frogs in the units of the Sierra Nevada, eastern side of the Coast Range in northern California, and southern California could be extirpated without special management actions and are essential to protect the full range of genetic variability of the sub-species. Therefore, designation of these areas meets the definition of critical habitat defined in section 3(a)(5) of the Act as being: (1) essential to the conservation of the subspecies, and (2) requiring special management or protection, therefore, warranting designation as critical habitat.

(21a) *Comments:* Some commenters believed that the primary constituent elements may exclude habitat that could prove to be essential to California red-legged frogs.

*Our Response:* We believe the critical habitat for California red-legged frogs in this final designation will provide for breeding and nonbreeding habitat and for dispersal between these habitats, as well as allowing for expansion of California red-legged frog populations, which is vital to the recovery of the subspecies. Habitats that may be excluded, based on the description of

primary constituent elements, are primarily isolated. Isolated habitats cannot recover from extinction. Although isolated habitats may possess a large population of red-legged frogs, these habitats could be subjected to localized events that may result in the extirpation of the subspecies from the area.

(21b) *Comment:* Several commenters requested the Service utilize NWI maps to define the primary constituent elements, and one commenter stated that NWI maps should not be used for this purpose.

*Our Response:* Although NWI maps are useful to identify general habitat types, they are based on data collected over 20 years ago and, in many cases, do not reflect current conditions. In northern California, the majority of the California red-legged frogs are found in stock ponds. These ponds, although sometimes identified on NWI maps, are often susceptible to sedimentation and/or dam failure and tend to be short-lived. Therefore, the use of NWI maps could result in the identification of suitable breeding habitat that may no longer exist. Use of these maps would also result in not identifying suitable habitat essential to California red-legged frogs because the scale of these maps is inappropriate. They are generalized and cannot be used to specifically identify habitat, especially suitable breeding pools in streams.

(22) *Comment:* One commenter suggested we use sensitivity analyses to provide a rough estimate of the amount of critical habitat within a subset of critical habitat units. The commenter also believed habitat suitability models and a metapopulation viability analysis were needed to evaluate and complete the designation.

*Our Response:* We believe that the use of sensitivity data would rely on too many assumptions and we feel would inaccurately portray the distribution of California red-legged frog habitat. It would only roughly estimate the distribution of primary constituent elements in a limited number of proposed units. It is likely that suitable habitat would be excluded from the analysis and unsuitable habitats would be included. When attempting to more accurately delineate critical habitat, we examined numerous ways to more specifically refine the proposed designation. These included using data from NWI maps that do not accurately reflect the distribution of frog habitat throughout the landscape, and the use of hydrographic information including RiverReach 3 data from the EPA to identify all suitable aquatic habitat within 2 km (1.25 mi). Because all

digital and hard copy maps are not detailed enough to accurately define suitable breeding habitat within a creek, we had to assume the whole creek was suitable habitat. We defined a 2 km (1.25 mi) buffer around streams identified in the coverage in an effort to identify all aquatic areas. This procedure resulted in identifying the entire proposed unit as critical habitat, which is grossly inaccurate. Given these limitations, we believe sensitivity analysis would rely on too many assumptions and would misrepresent the distribution of California red-legged frog critical habitat.

Habitat suitability models and metapopulation viability analysis would allow us to examine multiple variables across a large geographic range using numerous available data sources. We agree that this would allow us to identify suitable habitat variables for California red-legged frogs. However, results from such analyses are not currently available. Therefore, we are relying on the best information available from surveys, informal and formal consultations, research published in peer reviewed and unpublished information, as well as discussions with scientists conducting research involving California red-legged frogs and other amphibians.

(23) *Comment:* Some commenters suggested creating a GIS layer of all existing populations of California red-legged frogs, all predators known to impact frogs, and all lands covered by adequate protective regulations such as HCPs, Wild and Scenic Rivers, and other species' critical habitat designations, and use these layers to select the areas most likely to maintain existing populations or have the potential to reestablish populations.

*Our Response:* Unfortunately, there are no current maps showing the distribution of nonnative predators throughout the State. This information would be useful so as to more efficiently direct efforts to those areas where special management will be effective. We also did not propose any critical habitat units within the boundaries of an existing HCP, although we did overlap with certain proposed and final critical habitat boundaries or other designated areas such as Wild and Scenic Rivers, these designations would not provide special management necessary for California red-legged frogs.

(24) *Comment:* Several commenters felt there was not enough evidence to support the statement that grazing adversely affects California red-legged frogs.

*Our Response:* As stated in the May 23, 1996, final rule to list the subspecies

as threatened (61 FR 25813), no site-specific studies have been done that document the decline and disappearance of California red-legged frogs once grazing is introduced into an area. Most evidence on the effects of grazing on the subspecies is circumstantial. However, extensive research has been done on the effects of livestock grazing on the aquatic environment. Grazing has occurred at all historic sites known to support California red-legged frogs in the Central Valley hydrologic basin. Combining this information with information on the habitat preferences of California red-legged frogs supports the conclusion that grazing, where it has dramatically altered red-legged frog habitat, has played a role in the decline of the subspecies. However, we believe that livestock grazing can be managed properly to avoid impacts to California red-legged frogs, and even enhance habitat in some circumstances.

(25) *Comment:* One commenter asked that the minimum mapping units (planning watersheds) be further delineated by county, and stated the maps should delineate each watershed boundary and be labeled.

*Our Response:* In the preparation of the final determination, we have more detailed GIS coverages that allowed us to reduce our minimum mapping unit from planning watershed to a 100-m UTM grid square. This permitted us to exclude many areas that do not contain the primary constituent elements for the California red-legged frog and refine the critical habitat boundaries. We did not label the watershed boundaries in this final rule because we changed our mapping unit from watershed boundaries to UTM coordinates.

(26) *Comment:* One commenter asked for the acreage of military lands including firing ranges, dedicated impact areas, and associated structures interspersed throughout the upland areas that will be defined as critical habitat. The DOD requested that their lands be excluded from the critical habitat designation because protections and management afforded the California red-legged frog under their Integrated Natural Resource Management Plans (INRMPs), pursuant to the Sikes' Act, were sufficient, and no additional special management or protection would be required. In this case, these areas would not meet the definition of critical habitat.

*Our Response:* We agree that INRMPs can provide special management for lands such that they no longer meet the definition of critical habitat when the plans meet the following criteria: (1) A current INRMP must be complete and

provide conservation benefit to the species; (2) the plan must provide assurances that the conservation management strategies will be implemented; and (3) the conservation management strategies will be effective and provide for periodic monitoring and revisions as necessary. If all of these criteria are met, then the lands covered under the plan would no longer meet the definition of critical habitat.

Vandenberg Air Force Base, which had proposed critical habitat within its boundaries, has completed an INRMP that addresses and provides a conservation benefit for the California red-legged frog. We have determined that the lands within this base no longer meet the definition of critical habitat, and they have been excluded from the final designation of critical habitat for the California red-legged frog. Further discussion of this exclusion can be found in the section of this document entitled "Exclusions Under Section 3(5)(A)."

Camp San Luis Obispo (CSLO) and Camp Parks Reserve Forces Training Area (Camp Parks) have not yet completed their INRMPs, and both bases contain occupied habitat for the California red-legged frog. The proposed critical habitat encompassed more than 90 percent of both bases.

CSLO and Camp Parks are training facilities managed by the California Army Reserve National Guard (CA ARNG) and the U.S. Army (Army), respectively. Their missions are to provide a major training area for National Guard and U.S. Army Reserve troops for overseas deployment, and to protect public safety during emergency disasters. During the public comment period for the proposal, CSLO and Camp Parks concluded that if these areas are included in the final designation of critical habitat for the California red-legged frog, the CA ARNG and U.S. Army would be compelled by their interpretation of the Act to significantly curtail necessary training within the area designated as critical habitat, to the detriment of mission-critical training capability, until the reinitiation of consultation is concluded. As a result, this would greatly restrict use of the installation, severely limiting CSLO's and Camp Parks utility as training sites.

In contrast, the benefits of designating critical habitat on these two bases now are small. The primary benefit of designation is the prohibition on destruction or adverse modification of critical habitat under section 7 of the Act. However, California red-legged frog habitat on CSLO and Camp Parks is occupied, and we believe that section 7

consultation on any proposed action on these bases that would result in an adverse modification conclusion would also result in a jeopardy conclusion. We conclude that the benefits of excluding Camp San Luis Obispo and Camp Parks exceed the benefits of including the installations in the critical habitat designation. Further, we have determined that excluding the bases will not result in the extinction of the red-legged frog, as numerous frog core areas remain within the final critical habitat designation and sections 7(a)(2) and 9 still apply to the activities affecting red-legged frogs on CSLO and Camp Parks. Further discussion of this exclusion can be found in the section of this document entitled "Exclusions under Section 4(b)(2)."

Should additional information become available that changes our analysis of the benefits of excluding any of these (or other) areas compared to the benefits of including them in the critical habitat designation, we may revise this final designation accordingly. Similarly, if new information indicates any of these areas should not be included in the critical habitat designation because they no longer meet the definition of critical habitat, we may revise this final critical habitat designation. If, consistent with available funding and program priorities, we elect to revise this designation, we will do so through a subsequent rulemaking.

(27) *Comment:* One commenter felt that once the proposal was finalized, the primary constituent elements found throughout the unit would be overlooked and it will be assumed that the entire unit is inhabited by the frog. Other commenters expressed concerns that California red-legged frogs may wander off critical habitat units onto adjacent lands thus decreasing private property values.

*Our Response:* The primary constituent elements that define critical habitat for the California red-legged frog are detailed under the "Primary Constituent Elements" section above. Each element that defines critical habitat for the red-legged frog must be present in a project area before we will declare it to be critical habitat. Areas within designated critical habitat units that do not contain the primary constituent elements necessary to make them critical habitat, and areas that lie outside critical habitat units, may be occupied by California red-legged frogs. Critical habitat only denotes those areas that are essential to the conservation of the species and that may require special management considerations or protection.

#### *Issue 2: Legal and Procedural Comments*

(28) *Comment:* The Service did not conduct a re-analysis of the threatened status of the California red-legged frog during the designation of critical habitat.

*Our Response:* We are not required by the Act to re-analyze the listing status of the subspecies when designating critical habitat. To re-analyze its status would require a separate rule to reevaluate the threats to the subspecies.

(29) *Comment:* One commenter stated the Service designated far too much habitat as critical to the conservation of the subspecies, which is a violation of the Act. Other commenters felt the Service based habitat criteria and conclusions on unpublished and otherwise unavailable data.

*Our Response:* Under 50 CFR 424.12(b), "In determining what areas are critical habitat, the Secretary shall consider those physical and biological features that are essential to the conservation of a given species and that may require special management considerations or protection." The final designation of critical habitat is based on the available body of information on the biology and status of this subspecies, as well as the effects of land-use practices on its continued existence. We agree that much remains to be learned about this subspecies. If credible, new information becomes available that contradicts the basis for this designation, we will reevaluate our analysis and, if appropriate and funding is available, propose to modify this critical habitat designation. We have considered the best scientific information available at this time, as required by the Act. All the information that we used in the development of the proposed and this final rule is available for inspection, during normal business hours, at the Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

(30) *Comment:* The broad scale of the proposed critical habitat maps are not specific enough to allow for reasonable public comment, therefore, violating the Act and 50 CFR 424.12(c).

*Our Response:* This final rule contains the required legal descriptions of areas designated as critical habitat. The accompanying maps are for illustration purposes. If additional clarification is necessary, contact the Sacramento Fish and Wildlife Office (see **ADDRESSES** section). We identified specific areas referenced by specific legal description, roads, waterways, and other landmarks, which are found on standard topographic maps.

(31) *Comment:* Several commenters stated that the 30-day comment period

violated 50 CFR 424.16(c)(2) and requested that we extend the comment period on the proposed determination and economic analysis to allow for additional outreach to interested parties as well as hold more public hearings. Other commenters recommended that we withdraw the rule and re-propose it when we provided a designation that was more specific, and after the completion of other relevant analyses. Some commenters requested the Service petition the Court to extend the deadline for the publication of the proposed rule.

*Response:* Following the publication of the proposed critical habitat determination on September 11, 2000, we opened a 30-day comment period which closed on October 11, 2000. On November 19, 2000, we reopened the comment period for an additional 30 days to obtain further comments on the critical habitat designation. We held four public meetings during September 2000, and conducted outreach by notifying affected elected officials, local jurisdictions, interested groups, and property owners. We conducted much of this outreach through legal notices in 15 regional newspapers, telephone calls, letters, and news releases faxed and/or mailed to affected officials, local jurisdictions, and interest groups, and publication of the proposed determination and associated material on our Regional world wide web page. We announced the availability of the draft economic analysis in the **Federal Register** on December 21, 2000, and opened a public comment period from December 21, 2000 to January 22, 2001, to allow for comments on the draft economic analysis and additional comments on the proposed determination itself. During this time, we also held two informational meetings. 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. Due to the court-ordered deadline, we are not able to reopen the comment period a fourth time. The direction from the court also did not state withdrawal of the proposal as an option.

(32) *Comment:* Several commenters stated the designation of critical habitat constitutes a major Federal action significantly affecting the quality of the human environment. An environmental impact statement (EIS) should be prepared.

*Our Response:* We have determined that Environmental Assessments (EAs)



and EISs, as defined under the authority of the National Environmental Policy Act of 1969 need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** in October, 1983 (48 FR 49244).

(33) *Comment:* Many landowners, cattle ranchers in particular, expressed concern about how the critical habitat designation would limit their use of their property and were concerned that any activity undertaken on their property would be prohibited or would need a permit.

*Our Response:* Designation of critical habitat does not prescribe specific management actions, but does identify areas that are in need of special management considerations. In regard to grazing, we do not foresee any change in the ability of private landowners to graze their property. In addition, we anticipate that many activities, including grazing, presently occurring on critical habitat areas can be managed to be compatible with the subspecies' needs. Only those activities occurring in designated critical habitat and requiring a Federal permit, authorization, or funding would require consultation.

(34) *Comment:* Some commenters were concerned this designation would result in additional constraints under the California Environmental Quality Act (CEQA) and by the Coastal Zone Management Program (CZMP).

*Our Response:* To the extent that the CEQA and CZMP places additional constraints on property owners within designated critical habitat, such constraints would be a direct effect of CEQA and CZMP, and not a direct result of the designation of critical habitat for the California red-legged frog.

(35) *Comment:* Several commenters stated the designation of unoccupied habitat violated the Act.

*Our Response:* The definition of critical habitat in section 3(5)(A) of the Act includes, "specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species." After weighing the best available information, including the subspecies' draft Recovery Plan (Service 2000), we conclude that the areas designated by this final rule that lie outside the geographic area occupied by the subspecies at the time it was listed are essential for the recovery of the subspecies and subsequent removal from the List of Endangered and Threatened species.

(36) *Comment:* Some commenters felt it was inappropriate to close the

comment period on the critical habitat proposal prior to the closing of the comment period on the subspecies' draft Recovery Plan, and that comments obtained during the recovery planning process should be considered before final critical habitat designation.

*Our Response:* Development of the subspecies' draft Recovery Plan, and designation of critical habitat for the California red-legged frog, are two separate processes with two separate timeframes. We recognize that information developed during the recovery planning process is directly relevant to the development of the critical habitat designation, and we relied heavily upon it. The closing date of the comment period for the draft Recovery Plan (November 8, 2000) was established long before the court-ordered timeframe for designation of critical habitat. Nevertheless, potential changes to the California red-legged frog draft Recovery Plan resulting from public comments received during the draft Recovery Plan comment period were also considered in this final rule.

(37) *Comment:* Several commenters felt the proposed rule will have significant takings implications which the Service must address.

*Our Response:* As stated below under the "Takings" section, we believe that, in accordance with Executive Order 12630, the rule does not have significant takings implications. Therefore, a takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. The rule will not increase or decrease the current restrictions on private property concerning take of the California red-legged frog. Due to current public knowledge of the subspecies' protection, the prohibition against take of the subspecies, both within and outside of the designated areas, and the fact that critical habitat provides no incremental additional restrictions, we do not anticipate that property values will be affected by the critical habitat designation.

(38) *Comment:* Several commenters felt the proposed rule was based on the standard of recovery and not based on habitats that are essential to the conservation of the subspecies. Another commenter stated the proposed rule uses key terms such as survival, recovery, and essential, but does not objectively define these terms in a manner that is specific to California red-legged frogs.

*Our Response:* The term "conservation", as defined in section 3(3) of the Act, means "to use and the use of all methods and procedures which are necessary to bring any

endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary" (*i.e.*, the species is recovered and removed from the list of endangered and threatened species). The Draft Recovery Plan for the California red-legged frog provides a description of habitat attributes that are essential to the survival and recovery of the subspecies (Service 2000). These terms are thoroughly described in the draft Recovery Plan under section II "Recovery," which is incorporated by reference.

(39) *Comment:* A number of commenters identified specific areas that they thought should not be designated as critical habitat.

*Our Response:* Where site-specific documentation was submitted to us providing a rationale as to why an area should not be designated critical habitat, we evaluated that information in accordance with the definition of critical habitat pursuant to section 3 of the Act and made a determination as to whether modifications to the proposal were appropriate. We excluded lands from the final designation that we determined to be nonessential to the conservation of the California red-legged frog.

(40) *Comment:* In response to the Service's request that the public comment on critical habitat designation relative to future HCPs, several commenters stated that critical habitat should be retained within the boundaries of approved HCPs. They felt that HCPs cannot be viewed as a functional substitute for critical habitat designation. They also stated that HCPs are a mechanism for non-Federal landowners to obtain an incidental take permit that may be incompatible with the destruction or adverse modification of critical habitat. One commenter recommended that critical habitat remain within existing and future HCPs but suggested that actions covered under an HCP should be exempt from additional review for critical habitat if the subspecies is covered in the HCP.

*Our Response:* Critical habitat does not provide for a higher standard of conservation and protection than HCPs or section 7 consultations. See our response to the following comment for a discussion of conservation measures afforded covered species under HCPs. Also, see our discussion of the relationship of consultations conducted under section 7 relative to critical habitat in the section in this document entitled "Section 7 Consultation".

(41) *Comment:* Fifteen commenters supported the approach that critical habitat be removed entirely from the

boundaries of HCPs automatically upon the issuance of an incidental take permit. Many of these same commenters recommended that areas protected by existing HCPs also be removed from the critical habitat boundary. They supported their recommendations by asserting that landowners will be reluctant to participate in HCPs unless they have incentives including the removal of critical habitat from HCP boundaries, or because they will fear a third-party lawsuit.

*Our Response:* We recognize that critical habitat is only one of many conservation tools for federally listed species. HCPs are one of the most important tools for reconciling land use with the conservation of listed species on non-Federal lands. Section 4(b)(2) of the Act allows us to exclude from critical habitat designation areas where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We believe that in most instances the benefits of excluding HCPs from critical habitat designations will outweigh the benefits of including them. For this designation, we find that the benefits of exclusion would outweigh the benefits of designation for all legally operative HCPs issued for the California red-legged frog.

We anticipate that future HCPs in the range of the California red-legged frog will include it as a covered species and provide for its long-term conservation. We expect that HCPs undertaken by local jurisdictions (*e.g.*, counties, cities) and other parties will identify, protect, and provide appropriate management for those specific lands within the boundaries of the plans that are essential for the long-term conservation of the species. Section 10(a)(1)(B) of the Act states that HCPs must meet issuance criteria, including minimizing and mitigating any take of the listed species covered by the permit to the maximum extent practicable, and that the taking must not appreciably reduce the likelihood of the survival and recovery of the species in the wild. We fully expect that our future analyses of HCPs and section 10(a)(1)(B) permits under section 7 will show that covered activities carried out in accordance with the provisions of the HCPs and section 10(a)(1)(B) permits will not result in the destruction or adverse modification of critical habitat designated for the California red-legged frog.

In the event that future HCPs covering the California red-legged frog 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 the frog by either directing development and habitat modification to nonessential areas or appropriately modifying activities within essential habitat areas so that such activities will not adversely modify the primary constituent elements. The HCP development process provides an opportunity for more intensive data collection and analysis regarding the use of particular habitat areas by the frog. The process also enables us to conduct detailed evaluations of the importance of such lands to the long-term survival of the subspecies in the context of constructing a biologically configured system of interlinked habitat blocks. We will provide technical assistance and work closely with applicants throughout the development of future HCPs to identify lands essential for the long-term conservation of the California red-legged frog and appropriate management for those lands. By definition, if the California red-legged frog is a covered species under future HCPs, the plans should provide for the long-term conservation of the species. The take minimization and mitigation measures provided under these HCPs are expected to adequately protect the essential habitat lands designated as critical habitat in this rule, such that the value of these lands for the survival and recovery of the frog is not appreciably diminished through direct or indirect alterations. If an HCP that addresses the California red-legged frog as a covered species is ultimately approved, we will reassess the critical habitat boundaries in light of the HCP. We will seek to undertake this review when the HCP is approved, but funding constraints may influence the timing of such a review. However, an HCP can proceed without a concurrent amendment to the critical habitat designation should all parties agree.

The designation of critical habitat should not deter participation in the NCCP or HCP processes. Approvals issued under these processes include assurances of no additional mitigation through the HCP No Surprises regulation (63 FR 8859). The development of new HCPs or NCCPs should not be affected by designation of critical habitat primarily because the Service views the standards of jeopardy for listed species and of adverse modification for critical habitat as being virtually identical. We discuss these standards in detail in the section in this document entitled "Section 7 Consultation".

(42) *Comment:* One commenter recommended that critical habitat be excluded from proposed HCPs for a period of time sufficient to finalize the HCP. If the HCP is not completed within the timeframe agreed upon, this commenter recommended that the Service place the land back into designated critical habitat to avoid potential lawsuits.

*Our Response:* We have considered several different approaches regarding the issuance of HCPs within the critical habitat boundary. If consistent with available funding and program priorities, we may elect to revise this designation to reflect future HCPs, which would require a subsequent rulemaking.

(43) *Comment:* Several commenters felt the number of, and extent of, potential Federal nexuses was understated within the proposed rule and failed to identify common potential nexuses.

*Our Response:* A number of activities may trigger a Federal nexus including, but not limited to, those listed in Table 2 below. A Federal nexus is invoked when a Federal agency is funding, permitting, or in some way authorizing, a project. If a project has not, to date, received Federal funding, or a Federal permit or authorization, but will in the future, and the project might destroy or adversely modify critical habitat, we would require a section 7 consultation. In addition, for projects that have been federally funded, permitted, or authorized but have not been fully constructed, we would also require a section 7 consultation if the project may destroy or adversely modify critical habitat.

#### *Issue 3: Site-Specific Areas and Other Comments:*

(44) *Comment:* Some commenters questioned how the listing rule and draft Recovery Plan identified California red-legged frogs from 23 counties and a reduction of 70 percent of its range, and the proposed critical habitat rule identified 31 counties and still determined the reduction was 70 percent.

*Our Response:* This was an error. California red-legged frogs are known from 26 counties (including a recent discovery of the subspecies in Yuba County, a rediscovery of the subspecies in Tehama County, and a previously unreported sighting in Napa County). However, all three of these populations are quite small, and unless we find additional populations in these areas, our estimate that the frog has been extirpated from 70 percent of its range is still valid.

(45) *Comment:* Several commenters requested additional areas be designated as critical habitat. These include watersheds within the Sierra Nevada including: The French Creek Watershed in Unit 1; Little Oregon Creek located immediately south of Unit 2; the Traverse Creek watershed in El Dorado County; the Interface area in Calaveras County; lands within Auburn Recreation Area in Placer County; several Merced River watersheds; the middle fork and south fork of the Tuolumne River watersheds; and the upper Mokelumne River. Other commenters requested the addition of watersheds within the Bay Area of northern California including: Briones, Las Trampas, and Tilden Regional Park watersheds; watersheds managed by EBMUD; watersheds located around Orinda and Moraga; the Alhambra Creek watersheds; upper Stevens Creek watershed; and the Lagoon Valley watershed in Vacaville. Other commenters requested additional areas in the central Coastal region including: Mt. Madonna State Park, coastal watersheds from the boundary of Unit 14 south to the Wilder Creek watershed; watersheds within the Santa Cruz Mountains, watersheds currently managed by local open space districts in Santa Clara, Santa Cruz, and San Mateo counties, watersheds adjacent to and including the town of Pacifica; watersheds to the east of Unit 21; the Pescadero Creek, East Stillwater, and Indian Village watersheds in Pebble Beach; the Spanish Lake Wetlands in San Luis Obispo County, and Casmalia Creek and Oso Flaco watersheds. Other commenters requested additional areas be included in the Santa Barbara and Ventura counties including: South coastal watersheds in Santa Barbara County, and all major watersheds adjacent to Unit 29 from Rustic Canyon to Trancas Creek. Several commenters also asked why we did not designate any lands within the Central Valley.

*Our Response:* We did not include all of the specific lands listed above in the proposal because, at the time of proposal, we concluded these lands were not essential for the conservation of California red-legged frogs, or met the definition of critical habitat. After reassessing the requested additional lands (and lands requested for exclusion) in the Sierra Nevada, with the exception of the Little Oregon Creek watershed, we continue to believe these lands are not essential for the conservation of the California red-legged frog. We have not included the Little Oregon Creek watershed within Unit 2 because we believe it is inappropriate to

designate additional lands that had not been disclosed or commented upon during the rulemaking process even though we believe this population is essential. After reassessing the requests for the other areas, we do not believe they are essential for the conservation of the California red-legged frog. Many of these areas are isolated, as in the Bay Area. Within the central coast region of California, most of these areas are immediately adjacent to designated critical habitat. Within Ventura and Santa Barbara, many of these areas lack sufficient information to determine if they are essential, and we did not include areas within the Central Valley because these areas were not identified as essential in the Recovery Plan.

(46) *Comment:* A number of commenters identified specific areas that they thought should not be designated as critical habitat.

*Our Response:* Where site-specific information was submitted to us providing a rationale as to why an area should not be designated critical habitat, we evaluated that information in accordance with the definition of critical habitat pursuant to section 3 of the Act, and made a determination as to whether modifications to the proposal were appropriate. We excluded lands from the final designation that we determined to be nonessential to the conservation of California red-legged frogs. We included lands in the final designation that we still considered essential using the revised mapping scale of 100-m UTM grid and did not have special management sufficient for the conservation of California red-legged frogs.

#### *Issue 4: Economic Comments*

(47) *Comment:* Some commenters expressed concern that the publication of the proposed rule to designate critical habitat before an economic analysis was completed deprived the Secretary of information necessary to understand the true costs of designating critical habitat. Other commenters stated that critical habitat should not have been proposed before an economic and other analysis was completed, and the opportunity to comment on the economic analysis and the proposed rule was limited. Some commenters felt the incremental extension process prevented interested parties from developing a workable comprehensive review of the plan.

*Our Response:* Pursuant to 50 CFR 424.19, we are not required to conduct an economic analysis at the time critical habitat is initially proposed. We published the proposed determination in the **Federal Register** (65 FR 54892), invited public comment, and held four

hearings. We used comments received on the proposed critical habitat to develop the draft economic analysis. We invited public comments for 30 days on the draft economic analysis and proposed determination, and also held two informational meetings to further clarify the economic analysis and the proposed rule. We were unable to allow a longer comment period given the short timeframe ordered by the court.

(48) *Comment:* Critical habitat designation is so broad that some landowners will be forced to survey for red-legged frogs under Federal and State environmental laws when undertaking a project, even though some sites within designated critical habitat do not contain red-legged frogs, or the primary constituent elements required by the subspecies to occupy an area. The critical habitat proposal improperly places the onus on private landowners to refute the designation that their property possesses the primary constituent elements and is, therefore, in violation of the Act.

*Our Response:* We do not believe that the designation of critical habitat results in additional survey requirements. Ideally, we would prefer to map critical habitat more precisely, and this final designation is more precisely mapped than the proposal. To the extent allowed through the application of our minimum mapping unit, we excluded lands not essential to the conservation of the California red-legged frog from the critical habitat designation. However, we were not able to exclude all nonessential lands such as roads, buildings, and similar structures unlikely to contain primary constituent elements and thereby contribute to the conservation of the red-legged frog. Existing features and structures within the boundaries of the mapped units, such as buildings, roads, railroads, other paved areas, lawns, and other urban landscaped areas will not contain all the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a section 7 consultation, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

(49) *Comment:* Several commenters stated that the economic analysis failed to make site-by-site cost-benefit comparisons and as a result failed to provide information in sufficient detail to allow the Secretary to consider whether the benefits of excluding particular areas outweigh the benefits of including such areas when making a final determination on critical habitat designation.

*Our Response:* We believe that the draft economic analysis made a

reasonable attempt to identify all current and future planned activities within proposed critical habitat. Our draft analysis assessed potential economic impacts from critical habitat designation by first identifying current and future land uses within the proposed critical habitat. Our analysis then considered whether these activities were likely to involve a Federal nexus and, if so, the likelihood that Service biologists would want to consult on the activity over concern for the activity's impact on the red-legged frog or its critical habitat. For activities identified by Service biologists as likely to cause a concern, we attempted to differentiate between consultations that would take place because such activities could jeopardize the continued existence of a listed species versus those that would likely take place solely because of critical habitat designation.

Although we attempted to characterize these effects by proposed critical habitat unit, we were unable to estimate with any precision the number of likely incremental consultations by unit due to the numerous uncertainties that affect generating reliable estimates for specific areas. It is very difficult to estimate whether a potential future activity would require a consultation, let alone determine the degree to which critical habitat designation influences that outcome. Given these limitations, we were only able to develop a general estimate of the number of future consultations that potentially could result from the designation of the proposed rule. We believe that this estimate, along with the characterization of activities by unit, should provide the Secretary with enough information to make an informed decision concerning the designation of the final rule.

(50) *Comment:* Some commenters questioned our approach to consider the incremental effects of the proposed rulemaking and stated that we should have also considered the effects of listing the red-legged frog in our analysis.

*Our Response:* While listing effects can be significant in some cases due to the prohibition on "taking" a listed species, Congress specifically directed the Service to base its listing decisions strictly on biological considerations. Consequently, economic analyses are only conducted for the designation of critical habitat. When conducting economic analyses on critical habitat rulemakings, our analyses are conducted to consider the incremental effect of the action. As a result, listing effects, along with other types of effects that would occur regardless of critical habitat designation, constitute the

baseline of our critical habitat analyses. This approach, which is consistent with economic theory, has been ratified through guidelines published by the Office of Management and Budget (Economic Analysis of Federal Regulations Under Executive Order 12866, Office of Management and Budget, January 11, 1996).

(51) *Comment:* An economic study that was commissioned by some commenters was submitted claiming that our draft economic analysis significantly underestimated the potential costs of critical habitat designation. The study provided by the commenter claims that economic losses are actually in excess of \$100 million per year and are borne by many groups not considered in our draft analysis.

*Our Response:* The results of the economic analysis conducted by Dr. David Sunding and Dr. David Zilberman of the University of California at Berkeley, we believe, dramatically overstate the potential impacts proposed red-legged frog critical habitat designation could have on Northern Californian real estate developers. In short, we believe their analysis overstates impacts because it fails to recognize the fact that the red-legged frogs occupy much of the habitat that was proposed in Alameda and Contra Costa counties and that many of the impacts mentioned in their analysis would occur regardless of critical habitat designation.

The analysis faults us on several fronts including underestimating the net number of homes in an area that would not be built as a result of critical habitat designation, the cost incurred by developers when involved in a section 7 consultation, and attributing all changes to a proposed development to critical habitat designation, while ignoring the other factors that frequently lead to delay.

While real estate developers may suffer delays in project activities and changes in project scope, attributing such impacts to critical habitat designation is difficult at best. To begin, until recently, critical habitat has not been designated in many of the areas of concern to real estate developers. While some projects may be delayed out of concern for a project's impact on federally protected species, large real estate projects are often delayed for numerous other reasons that include compliance with various State and local ordinances and zoning regulations. It would be improper to attribute all such changes in the scope of a development project to critical habitat when numerous other factors frequently contribute to delay. Furthermore, most

developers who have consulted with us over the scope of their projects have done so because of the impacts their projects would have on federally protected endangered species not because of critical habitat designation. Consequently, care must be exercised when forecasting future impacts based on impacts attributable to another part of the Act that would remain unaffected by critical habitat designation.

We have also found little evidence to date to support claims by some developers that critical habitat designation would have significant regional economic impacts. In areas where critical habitat has been designated, economic growth has continued to grow. For example, a study was released by the Coalition for Sonoran Desert Protection that examined the impact of designating habitat for the cactus ferruginous pygmy-owl in southern Arizona (McKenney 2000). Performed one year after the designation, the study found that dire predictions made by developers in that region have not materialized. Specifically, high-density housing development has not slowed, the value of vacant land has risen, land sales have continued, and the construction sector has continued its steady growth.

Similarly, in a study conducted by Oliver Houch, the author reviewed over 71,560 informal and 2,000 formal consultations that were conducted under the Act and found that only 18 projects, or 0.02 percent of the projects we consulted on, were ultimately terminated (Houck 1993, p. 318). Furthermore, of the 99 jeopardy opinions issued by the Service that were reviewed by the author, he found that we issued "reasonable and prudent alternatives" in nearly all of these opinions, which allowed the projects to proceed (Houck 1993, p. 319). Houck found that "(T)he few opinions that did not identify such alternatives involved small-scale, private development directly in habitat essential to the species (although not always designated as critical). No major public activity, nor any major federally-permitted private activity was blocked" (Houck 1993, p. 320). Houck also reported that a common theme in all the jeopardy opinions that he reviewed was our determination to find an alternative within the economic means, authority, and ability of the applicant that would allow the project to proceed (Houck 1993, p. 320).

We believe that had Dr. Sunding and Dr. Zilberman been able to verify the reasonableness of their assertion that critical habitat would result in the net

loss of regional housing, they would have found little evidence to substantiate such claims and would have therefore reached conclusions similar to those presented in our draft analysis.

(52) *Comment:* Some commenters stated that we should have estimated the cumulative effect of the critical habitat designation for the frog along with the effect of future pending and proposed critical habitat for other species in the area.

*Our Response:* We do not believe that we are required to estimate the cumulative effect of critical habitat designations as part of our rulemaking procedures. We are required to consider only the effect of the proposed government action, which in this case is the designation of critical habitat for the frog. Again, the appropriate baseline to use in an analysis of a Federal action, which in this case is the designation of critical habitat for the frog, is the way the world would look absent the proposed regulation. Against this baseline, we attempt to identify and measure the incremental costs and benefits associated with the government action. Because the frog is already a federally protected species, any effect this listing has on the regulated community is considered part of the baseline scenario, which remains unaffected by our critical habitat designation. Future pending and proposed critical habitat designation for other species in the area will be part of separate rulemakings and, consequently, their economic effects will be considered separately.

(53) *Comment:* Some commenters stated we should have analyzed impacts over a 25-year time span rather than the 10-year horizon used in the draft analysis because the draft Recovery Plan for the red-legged frog is based on a 25-year recovery period.

*Our Response:* We limited our analysis to a 10-year horizon because the estimation of future impacts becomes extremely speculative beyond that point. As stated in the draft analysis, our approach for estimating the potential effects of critical habitat designation followed four basic steps. First, we developed a comprehensive list of possible Federal nexuses on Federal, State, county, municipal, and private lands in and around the proposed critical habitat areas. Second, we reviewed historical patterns and current information describing the section 7 consultations in the proposed critical habitat areas to evaluate the likelihood that nexuses would result in consultations with the Service. Third, we determined whether specific projects

and activities within the proposed critical habitat involve a Federal nexus and would likely result in section 7 consultations. Finally, we evaluated whether section 7 consultations with the Service would likely result in any modifications to projects, activities, or land uses. While we believe we did a credible job in identifying both current and planned future land use activities within proposed critical habitat, we also believe that to speculate about long-term, future activities on particular units, which are different than those currently being conducted or envisioned, adds little information of value to the decision-making process. For example, some areas of proposed critical habitat include private property that is currently being used for ranching purposes. These areas are located far enough away from urban corridors and in some cases have such steep slopes that it is difficult to credibly predict alternative uses for such specific areas beyond 10-years given current population growth patterns and technological developments. Our analysis showed that we believe the annual effects throughout the State will be less than 5 million dollars under the proposed rule.

(54) *Comment:* One commenter questioned why the draft analysis attributed some effects to the draft Recovery Plan and not to critical habitat.

*Our Response:* The draft economic analysis carefully attempted to identify and measure only those effects that may occur as a result of critical habitat designation. In some areas, land-use activities are already being consulted on or likely to be consulted on due to the presence of species listed under the Act. These consultations would occur regardless of critical habitat designation for the red-legged frog. However, our economic analysis discusses these consultations, in an attempt to clarify to the public why we believe the effects are not attributable to critical habitat. We note that our method for considering only the incremental effects of critical habitat designation is consistent with economic theory and the standards published by the Office of Management and Budget for preparing economic analyses under Executive Order 12866.

(55) *Comment:* One commenter believed that it was impossible to actually estimate the economic impacts attributable to the proposed critical habitat designation until the Service actually identifies reasonable and prudent alternatives and measures.

*Our Response:* As previously stated, the Act requires the Federal Government to consider whether effects

of its actions could jeopardize a listed species or adversely modify critical habitat. After consulting with us and determining that a project, as proposed, could either jeopardize a species or adversely modify critical habitat, we are required to identify reasonable and prudent alternatives to the proposed project. By definition, these alternatives must be economically and technologically feasible. Because numerous different activities are occurring or likely to occur in proposed critical habitat and because we have not yet determined that any of the proposed projects that we have consulted on could jeopardize the red-legged frog, it is difficult to determine what types of reasonable and prudent alternatives would be issued if we determined in the future that some activity could result in adverse modification.

Consequently, after considering many of the different types of activities occurring in proposed critical habitat and those that potentially could result in adverse modification, we made a conservative assumption that in the case of real estate development within some of the areas proposed for critical habitat, reasonable and prudent alternatives could impact up to 2.5 percent of a project's original scope. This assumption is meant to reflect the impact critical habitat designation could have in some areas on real estate development above and beyond those impacts resulting from a project's impact on jeopardizing a species and was based in part on previous reasonable and prudent measures that we have issued to reduce red-legged frog takings on real estate development projects.

(56) *Comment:* One commenter stated that the analysis failed to adequately consider costs of future third-party lawsuits.

*Our Response:* Our analyses did not address the potential effects of third-party lawsuits directly due to the limited information and experience that critical habitat designation could have on such a lawsuit. However, we recognize that it is possible that some third parties may elect to sue us over future decisions we may make about whether an activity adversely modifies critical habitat. As of yet, we have not faced any such lawsuits and because we are only designating occupied private property as critical habitat for the red-legged frog, we find it highly unlikely that we would ever determine that a Federal action could adversely modify critical habitat without simultaneously jeopardizing the continued existence of the frogs due to the similarity between the two definitions.

(57) *Comment:* One commenter stated that our economic analysis ignored the cumulative impact of multiple designations.

*Our Response:* We do not believe that we are required to estimate the cumulative effect of critical habitat designations as part of our rulemaking procedures. We are required to consider only the effect of the proposed government action, which in this case is the designation of critical habitat for the frog. Again, the appropriate baseline to use in an analysis of a Federal action, which in this case is the designation of critical habitat for the frog, is the way the world would look absent the proposed regulation. Against this baseline, we attempt to identify and measure the incremental costs and benefits associated with the government action. Because the frog is already a federally protected species, any effect this listing has on the regulated community is considered part of the baseline scenario, which remains unaffected by our critical habitat designation. Future pending and proposed critical habitat designation for other species in the area will be part of separate rulemakings and, consequently, their economic effects will be considered at the time they are proposed.

(58) *Comment:* Several commenters faulted our draft economic analysis for failing to consult with affected industries or local governments likely to be affected by the proposal.

*Our Response:* We do not believe that it is necessary to contact every potential stakeholder in order for us to develop a draft economic analysis. We believe that we were adequately able to understand the issues of concern to the local community based on public comments submitted on the proposed rule, on transcripts from public hearings, and from detailed discussions with Federal Government representatives. In collecting data, we also contacted some representatives from State and local government agencies. When the draft economic analysis was completed, we notified the public of its availability in the **Federal Register** and local newspapers, held several public meetings, and requested public comment. In particular, we requested comments on the adequacy of the economic analysis.

In regard to future or renewed consultations, the Act and its implementing regulations only requires Federal agencies to consult with us on activities that they fund, authorize, or carry out that may adversely modify red-legged frog critical habitat (in addition to the current requirement that

they consult with us on Federal activities that may jeopardize the frog). As a result, only Federal agency representatives are in a position to characterize whether or not any additional or re-initiated section 7 consultations might occur as a result of red-legged frog critical habitat designation and to speculate on the activities, time commitments, and outcomes that such section 7 consultations would entail. We note that private parties are also required to consult with us whenever an activity they propose to carry out may take a listed species, which includes activities that harm or harass red-legged frogs and their habitat. These consultations, however, which are conducted under section 10 of the Act, are being conducted and will continue to occur due to the Act's takings prohibition, which remains unaffected by critical habitat designation.

(59) *Comment:* Some commenters believe that the findings in the draft economic analysis concerning potential associated real estate development costs are significant enough to warrant a withdrawal of these units.

*Our Response:* In preparing the economic analysis, we made an honest attempt to estimate the potential effects from critical habitat designation resulting from section 7 consultations that could be attributable to the designation. As previously stated, we believe that many of the effects perceived by the public to be attributable to critical habitat would actually occur regardless of critical habitat designation because the red-legged frog is a federally protected species. Because we are attempting to estimate potential future effects from critical habitat designation, our estimates are based on potential future activities that are typical for the areas proposed for designation. In reality, the costs associated with section 7 consultations can vary widely depending on the activity, scope, and areas actually affected. On the whole, however, we believe that we have reasonably estimated the potential future impacts of critical habitat designation for the red-legged frog.

(60) *Comment:* Several commenters questioned why the draft economic analysis failed to provide an estimate of costs associated with potential reductions in property values.

*Our Response:* Our economic analysis acknowledged that critical habitat designation may, in some instances, have short-term effects on private property values. However, as we stated in the analysis, we did not attempt to quantify such effects due to their highly

speculative nature, lack of real observable data, and propensity to likely have offsetting effects. Since we conducted the draft economic analysis, a study was released by the Coalition for Sonoran Desert Protection that examined the impact of designating habitat for the cactus ferruginous pygmy-owl in southern Arizona. Performed one year after the designation, the study found that dire predictions made by developers in that region have not materialized. Specifically, high-density housing development has not slowed, the value of vacant land has risen, land sales have continued, and the construction sector has continued its steady growth. We similarly believe that critical habitat designation for the red-legged frog will not likely exert any real, long-term significant influence on real estate development and existing land values within the critical habitat areas.

(61) *Comment:* One commenter stated that our draft analysis failed to adequately consider the effect critical habitat designation could have on affordable housing and the resulting disproportional effects that would result to the poor and minorities.

*Our Response:* We disagree that critical habitat designation will have any significant effect on the number and type of newly built housing units in a region, either affordable or unaffordable. Again, we point to the fact that the vast majority of private lands being designated for red-legged frog critical habitat are in areas already occupied by the frog. In these areas, development activities having a Federal nexus would be affected by a section 7 consultation regardless of critical habitat designation. In such instances, critical habitat adds very little to the consultation process. We also note the scarcity of evidence supporting the commenter's claims that critical habitat designation will have a significant effect on future real estate development activities in an area. We remind the commenters of the studies cited elsewhere in this response supporting our position that critical habitat designation has had very little effect on local economies.

(62) *Comment:* One commenter stated that the analysis for the proposed rule ignores local planning issues and violates Federalism rules.

*Our Response:* Executive Order 13132 requires Federal agencies to consult with affected State and local governments if they promulgate regulations with Federalism implications that either: (1) Impose substantial direct compliance costs on State and local governments not required by statute and do not provide

funds to cover these costs, or preempt State or local laws. We believe that this rulemaking does not have significant Federalism effects, and, as a result, a Federalism assessment is not required. This belief is based on the fact that only the Federal Government is required to consider the effect of its actions on designated critical habitat and consult with us over those actions that could adversely modify critical habitat. Critical habitat designation does not impose any additional requirements on State and local governments.

(63) *Comment:* Several commenters believed that we understated the actual contributions of the agricultural industry to local economies and that we understated the effect critical habitat designation would have on this industry.

*Our Response:* The draft economic analysis discusses the likely effects that proposed critical habitat designation will have on agricultural-related activities. The analysis found that based on the relative scarcity of section 7 consultations conducted to date concerning agricultural impacts on the California red-legged frog, it is not likely that the designation of critical habitat would add any incremental effects. Specifically, the analysis noted that we have not generally consulted on agricultural-related activities because of the relatively minor impacts such activities have had on the frog and its related environment.

(64) *Comment:* One commenter stated that the draft economic analysis failed to adequately consider the effect the proposed rule could have on small businesses.

*Our Response:* We disagree. The draft economic analysis did discuss the potential impact the proposed rule could have on small businesses. Specifically, the analysis discussed how the proposal would not impose any significant additional impacts to those currently in existence for occupied areas of critical habitat. While we did acknowledge that critical habitat designation could have some slight effects on certain industries such as real estate development, mining, ranching, and timber harvesting, the biggest effects to these industries result from the impact their activities have, and will continue to have, on the frog, which is afforded protection due to its status as a Federally protected threatened species. As a result, private sector entities will still be required to consult with us whenever their actions could result in a "taking" of the frog. Because we are only designating private lands that are currently occupied by the frog, we do not expect any significant

increase in consultations or related project delay or mitigation costs to be attributable to the designation of critical habitat. Consequently, we are certifying that this rule will not impose any significant impacts on a substantial number of small entities.

#### **Summary of Changes From the Proposed Rule**

Based on a review of public comments received on the proposed determination of critical habitat for California red-legged frogs, we reevaluated our proposed designation of critical habitat. This resulted in several significant changes that are reflected in this final determination. These are: (1) A reduction in the minimum mapping unit for defining critical habitat boundaries, (2) the modification and clarification of the primary constituent elements, (3) the exclusion, under section 4(b)(2) of some lands where new information revealed they were unessential, and the exclusion of Vandenberg Air Force Base, Camp San Luis Obispo Army National Guard, and Camp Parks Army Reserve Forces Training Area, and (4) the removal of proposed critical habitat from Unit 2 in Yuba, Sierra, Butte, and Plumas counties and Unit 4 in Calaveras County.

Based on public comment and the availability of more current and precise GIS data, we refined the minimum mapping unit for the designation from planning watersheds (1,200–1,600 ha (3,000–4,000 ac) average size) to a 100-m UTM grid that approximates the boundaries of land essential to California red-legged frog conservation delineated from digital aerial photography. We then overlaid the proposed critical habitat boundaries on the newer imagery information and removed lands that were not essential to the conservation of California red-legged frogs. This resulted in the removal of significant urban or developed areas. In addition, during this effort to refine the critical habitat boundaries, we discovered the removal of some urbanized areas resulted in the isolation of some proposed critical habitat areas. These small isolated patches were also removed.

Based on public comments regarding the precision and scientific basis for identifying the primary constituent elements, we modified the primary constituent elements to incorporate those relevant comments. Specifically, we modified the upland and dispersal components of the primary constituent elements of suitable upland habitat to consist of all areas within 90 m (300 ft) of the boundary of ordinary highwater

of suitable aquatic habitat. We also modified the definition of suitable dispersal habitat. Suitable dispersal habitat will consist of aquatic and upland areas connecting suitable breeding locations and other aquatic habitat. Dispersal must be free of barriers and at least 90 m (300 ft) in width. We also modified the minimum depth of breeding habitat, based on comments from individuals and peer reviewers. Therefore, breeding habitat must now be deeper than 0.5 m (20 in.).

Based on comments received, we excluded those areas where new information revealed that lands were not essential, including lands in the lower Sisquoc River below La Brea Creek in Santa Barbara County, the lands adjacent to the Santa Clarita River in Unit 28, reservoirs over 20 ha (50 ac) in size, areas above 1,500 m (5,000 ft), and, in unoccupied areas, all lands not managed by Federal agencies are excluded from this designation. Also, we excluded those lands of the Santa Ynez Band of the Chumash Mission Indian Reservation upon a determination that the small parcel is not essential to the conservation of the species.

During the comment period for the proposed determination of critical habitat for the California red-legged frog, we received and subsequently evaluated a final INRMP for Vandenberg Air Force Base found in Units 23, 24, and 26. This plan addresses the California red-legged frog as a covered species and provides conservation measures for the species. Based on this plan and Vandenberg's section 7 consultation history, we have determined that the conservation measures afforded the subspecies are sufficient to assure its conservation on the base. Therefore, we have excluded Vandenberg Air Force Base from the final determination of critical habitat for the red-legged frog resulting in a reduction of approximately 38,445 ha (95,000 ac) from these units. A more detailed discussion of the criteria and reasons for this exclusion can be found in the Summary of Comments and Recommendations section.

We also received and evaluated a request from Camp Parks Reserve Forces Training Area found in Unit 15 and Camp San Luis Obispo found in Unit 21, for exclusion from final designation because of the impact a final designation would have on their training-critical mission. The proposed designation included about 90 percent of both installations. After evaluation of the benefits of inclusion and the benefits of exclusion, we have excluded Camp Parks resulting in a reduction of approximately 857 ha (2,118 ac) in Unit

15 and CSLO resulting in a reduction of approximately 2,272 ha (5,613 ac) in Unit 21 from this final designation.

In Unit 2, an unoccupied unit in Yuba, Sierra, Butte, and Plumas counties and in Unit 4, an unoccupied unit in Calaveras County, we discovered that Federal ownership was "checkerboarded", that is, interspersed with other landowners. There were no large continuous blocks of Federal land. Given the discontinuous distribution of Federal land, special management actions would not be meaningful. Therefore, we chose to delete these units resulting in a reduction of 27,410 ha (67,750 ac). However, Federal biologists found California red-legged frogs in the Little Oregon Creek watershed on the Plumas National Forest in Yuba County 4 days after the release of the proposed critical habitat designation. This new population was discovered approximately 3 miles south of the southern boundary of Unit 2. This new discovery represents only one of three known populations within the Sierra Nevada. We believe this population is essential to the survival and recovery of California red-legged frogs, however, we believe it is inappropriate to designate additional lands that had not been disclosed or commented upon during the rulemaking process.

The overall refinement of critical habitat boundaries due to the revised mapping scale, exclusion of significant urban areas, exclusion of Vandenberg Air Force Base, Camp San Luis Obispo Army National Guard, and Camp Parks Army Reserve Forces Training Area, and the removal of proposed critical habitat from Units 2 and 4 has resulted in a reduction of approximately 488,580 ha (1,206,330 ac).

#### **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.

Economic effects caused by listing the California red-legged frog as a threatened subspecies, and by other statutes, are the baseline against which the effects of critical habitat designation are evaluated. The economic analysis

must then examine the incremental economic and conservation effects and benefit of the critical habitat designation. Economic effects are measured as changes in national income, regional jobs, and household income. An analysis of the economic effects of the proposed California red-legged frog critical habitat designation was prepared (Industrial Economics, Incorporated, 2000) and made available for public review (December 21 to February 2, 2000; 65 FR 80409). The final analysis, which reviewed and incorporated public comments, concluded that no significant economic impacts are expected from critical habitat designation above and beyond that already imposed by listing the California red-legged frog. The most likely economic effects of critical habitat designation are on activities funded, authorized, or carried out by a Federal agency. The analysis examined the effects of the proposed designation on: (1) Re-initiation of section 7 consultations, (2) length of time in which section 7 consultations are completed, and (3) new consultations resulting from the determination. Because areas proposed for critical habitats are within and outside the geographic range occupied by the California red-legged frog, we examined activities that may be affected by the critical habitat determination within these unoccupied areas. Identified impacts attributed solely to the designation of critical habitat included consultations with Federal agencies in the unoccupied units resulting in minor modifications associated with grazing allotments. Specifically, we determined that fencing may be necessary in those areas where grazing could not be adequately monitored to ensure the primary constituent elements were not adversely modified. We also believe that it is not possible to assert, with any accuracy, that all consultations within occupied units could not be attributed solely to the designation of critical habitat. Therefore, we believe that a small percentage of consultations within occupied units may be attributed solely to the designation of critical habitat. However, we determined these impacts would be negligible. Within areas currently occupied by California red-legged frogs, activities that may affect critical habitat would also affect the species, and would thus be subject to consultation whether or not critical habitat is designated.

We believe that any project that would adversely modify or destroy critical habitat would also jeopardize the continued existence of the species,

and that reasonable and prudent alternatives to avoid jeopardizing the species would also avoid adverse modification of critical habitat. Within the analysis, we determined there would be costs associated with the designation, however, these costs were determined to be negligible. Thus, no regulatory burden or associated significant additional costs would accrue because of critical habitat above and beyond that resulting from listing. Our economic analysis does recognize that there may be costs from delays associated with reinitiating completed consultations after the critical habitat designation is made final. There may also be economic effects due to the reaction of the real estate market to critical habitat designation, as real estate values may be lowered due to perceived increase in the regulatory burden. However, we believe this impact will be short-term.

In summary, in our economic analysis, we estimate that, over the next ten years, the total cost of this rulemaking will range between \$23.6 and \$56.9 million. This estimate is primarily attributable to costs associated with section 7 consultations and potential modifications to future residential and commercial real estate development projects. A copy of the final economic analysis and description of the exclusion process with supporting documents are included in our administrative record and may be obtained by contacting the Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

#### **Required Determinations**

##### *1. Regulatory Planning and Review*

This document has been designated as significant and reviewed by the Office of Management and Budget (OMB), in accordance with Executive Order 12866. OMB makes the final determination of significance under Executive Order 12866.

(a) This rule will not have an annual economic effect of \$100 million or more or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. The California red-legged frog was listed as a threatened subspecies in 1996. In fiscal years 1996 through 2000, the Sacramento, Carlsbad, and Ventura Fish and Wildlife Offices conducted, or are in the process of conducting, 144, 9, and 209, respectively, formal section 7 consultations with other Federal agencies to ensure their actions would not jeopardize the continued existence of the California red-legged frog.



Under the Act, critical habitat may not be adversely modified by a Federal agency action; the Act does not impose any restrictions through critical habitat designation on non-Federal persons unless they are conducting activities funded or otherwise sponsored,

authorized, or permitted by a Federal agency. Section 7 requires Federal agencies to ensure that they do not jeopardize the continued existence of the species. Based upon our experience with the subspecies and its needs, we conclude that any Federal action or

authorized action that could potentially cause adverse modification of designated critical habitat would currently be considered as "jeopardy" under the Act (see Table 2).

TABLE 2.—IMPACTS OF CALIFORNIA RED-LEGGED FROG LISTING AND CRITICAL HABITAT DESIGNATION

Categories of activities	Activities potentially affected by species listing only <sup>1</sup>	Additional activities potentially affected by critical habitat designation <sup>2</sup>
Federal Activities Potentially Affected <sup>3</sup> .	Grazing permits, commercial or silvicultural logging prescriptions, Flood Control projects, Federal Emergency Management Act (FEMA) activities, Federal Highway Administration actions, Federal Housing Act actions.	None in occupied habitat. In unoccupied habitat, no additional types of activities will be affected, but consultation, previously not required due to listing, will be required on these activities.
Private Activities Potentially Affected <sup>4</sup> .	Activities that require a Federal action (permitting, authorization, or funding) and may remove or destroy California red-legged frog habitat by mechanical, chemical, or other means (e.g., grading, overgrazing, timber harvesting within riparian areas, construction, road building, herbicide application, recreational use) or appreciably decrease habitat value or quality through indirect effects (e.g., edge effects, invasion of exotic plants or animals, fragmentation of habitat).	None.

<sup>1</sup> These columns represent activities potentially affected by the critical habitat designation in addition to those activities potentially affected by listing the species.

<sup>2</sup> This column represents the activities potentially affected by the critical habitat designation in addition to those activities potentially affected by listing the species.

<sup>3</sup> Activities initiated by a Federal agency.

<sup>4</sup> Activities initiated by a private or other non-Federal entity that may need Federal authorization or funding.

Accordingly, the designation of areas within the geographic range occupied by California red-legged frogs does not have any incremental impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons that receive Federal authorization or funding. Non-Federal persons that do not have a Federal "sponsorship" of their actions are not restricted by the designation of critical habitat (however, they continue to be bound by the provisions of the Act concerning "take" of the species).

(b) This rule will not create inconsistencies with other agencies' actions. As discussed above, Federal agencies have been required to ensure that their actions do not jeopardize the continued existence of California red-legged frogs since the listing in 1996. The prohibition against adverse modification of critical habitat is not expected to impose any substantial additional restrictions to those that currently exist. Because of the potential for impacts on other Federal agencies activities, we will continue to review this action for any inconsistencies with other Federal agencies actions.

(c) This rule will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Federal agencies are currently required to ensure that their activities do not jeopardize the

continued existence of the subspecies, and as discussed above we do not anticipate that the adverse modification prohibition (resulting from critical habitat designation) will have any significant incremental effects.

(d) OMB has determined that his rule will raise novel legal or policy issues and, as a result, this rule has undergone OMB review.

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

In the economic analysis, we determined that designation of critical habitat will not have a significant effect on a substantial number of small entities. As discussed under Regulatory Planning and Review above and in this final determination, this rule is not expected to result in any restrictions in addition to those currently in existence. As indicated in Table 1 (see Critical Habitat Designation section), we designated property owned by Federal, State and local governments, and private property.

Within these areas, the types of Federal actions or authorized activities that we have identified as potential concerns are:

(1) Regulation of activities affecting waters of the U. S. under section 404 of the Clean Water Act;

(2) Regulation of water flows, damming, diversion, and channelization by Federal agencies;

(3) Road construction, right of way designation, or regulation of agricultural activities by Federal agencies;

(4) Hazard mitigation and post-disaster repairs funded by FEMA;

(5) Construction of communication sites licensed by the Federal Communications Commission; and

(6) Regulation of grazing, mining, and recreation by the Forest Service or BLM;

(7) Military training, maneuvers, and other activities on applicable DOD lands;

(8) Funding of activities by the EPA, DOE, FHA, or any other Federal agency.

Many of the activities sponsored by Federal agencies within critical habitat areas are carried out by small entities (as defined by the Regulatory Flexibility Act) through contract, grant, permit, or other Federal authorization. As discussed above, these actions are already currently required to comply with the protections of the Act, and the designation of critical habitat is not anticipated to have any additional effects on these activities.

For actions on non-Federal property that do not have a Federal connection (such as funding or authorization), the current restrictions concerning take of the species remain in effect, however,

this final rule will have no additional restrictions.

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

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. Please refer to the final economic analysis for a discussion of the effects of this determination.

*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 any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. However, as discussed above, these actions are currently subject to equivalent restrictions through the listing protections of the subspecies, and no further restrictions are anticipated.

(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.

*Takings*

In accordance with Executive Order 12630, this rule does not have significant takings implications. A takings implication assessment is not required. As discussed above, the designation of critical habitat affects only Federal actions. The rule will not increase or decrease the current restrictions on private property concerning take of the California red-legged frog. Due to current public knowledge of the subspecies' protections, the prohibition against take of the subspecies both within and outside of the designated areas, and the fact that critical habitat provides no substantial incremental restrictions, we

do not anticipate that property values will be affected by the critical habitat designation. While real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, we expect any such impacts to be short term. Additionally, critical habitat designation does not preclude development of HCPs and issuance of incidental take permits. Owners of areas that are included in the designated critical habitat will continue to have the opportunity to utilize their property in ways consistent with the survival of the California red-legged frog.

*Federalism*

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from and coordinated development of this critical habitat designation with appropriate State resource agencies in California. The designation of critical habitat in areas currently occupied by the California red-legged frog imposes no substantial additional restrictions to those currently in place and, therefore, has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments in that the areas essential to the conservation of the subspecies are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the subspecies are specifically identified. While making this definition 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 consultations 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 designated critical habitat in accordance with the provisions of the Endangered Species Act. 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 the California red-legged frog.

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

This rule does not contain any information collection requirements that require OMB approval under the Paperwork Reduction Act. 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 Act as amended. We published a notice outlining our reason for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

*Government-to-Government Relationship With Tribes*

In accordance with the Presidential Memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), E.O. 13175, and 512 DM 2, we coordinated with federally recognized Tribes on a Government-to-Government basis. We considered proposing portions of the Santa Ynez Band of the Chumash Mission Indian Reservation because we believed riparian and adjoining upland areas on Tribal lands may be essential to the conservation of California red-legged frogs. Since the time of the proposal, we have consulted with the Tribe and evaluated additional information to make a determination as to whether any Tribal lands should be included as critical habitat for California red-legged frogs. We excluded these lands from critical habitat upon our determination that this small parcel is not essential because it contains marginal habitat and would provide limited long-term conservation value to the species. Recent surveys by the Tribe also did not detect California red-legged frogs on the parcel. The changes are detailed in the Summary of Changes From the Proposed Rule section.

**Relationship With Mexico**

We are not aware of any existing national-level regulatory mechanism in Mexico that would protect the California red-legged frog or its habitat. Although new legislation for wildlife is pending in Mexico, and Mexico has laws that could provide protection for rare species, there are enforcement challenges. Even if specific protections were available and enforceable in

Mexico, the portion of the California red-legged frog's range in Mexico alone, in isolation, would not be adequate to ensure the long-term conservation of the subspecies.

**References Cited**

A complete list of all references cited in this final rule is available upon request from the Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

**Authors**

The primary authors of this final rule are Curt McCasland and Jason Davis,

Sacramento Fish and Wildlife Office, and Douglas Krofta, Carlsbad Fish and Wildlife Office (see **ADDRESSES** section).

**List of Subjects in 50 CFR Part 17**

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

**Regulation Promulgation**

Accordingly, 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. In § 17.11(h) revise the entry for “Frog, California red-legged,” under “AMPHIBIANS,” to read as follows:

**§ 17.11 Endangered and threatened wildlife.**

\* \* \* \* \*  
(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*		*
AMPHIBIANS							
*	*	*	*	*	*		*
Frog, California red-legged.	<i>Rana aurora draytonii</i> .	U.S.A (CA), Mexico.	Entire (excluding Del Norte, Humboldt, Trinity, & Mendocino Cos., CA; Glenn, Lake, and Sonoma Cos., CA, west of the Central Valley Hydrologic Basin; Sonoma & Marin Cos., CA, west & North of San Francisco Bay drainages and Walker Creek drainage; and NV).	T	583	17.95(d)	NA
*	*	*	*	*	*		*

3. Amend § 17.95(d) by adding critical habitat for the California red-legged frog (*Rana aurora draytonii*) in the same alphabetical order as this subspecies occurs in § 17.11(h), to read as follows:

**§ 17.95 Critical habitat—fish and wildlife.**

\* \* \* \* \*

(d) *Amphibians.*

\* \* \* \* \*

**CALIFORNIA RED-LEGGED FROG (*Rana aurora draytonii*)**

1. Critical habitat units are depicted for Alameda, Butte, Contra Costa, El Dorado, Fresno, Kern, Los Angeles, Marin, Mariposa, Merced, Monterey, Napa, Plumas, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Tehama, Tuolumne, and Ventura counties, California, on the maps below.

2. Critical habitat includes: Essential aquatic habitat; associated uplands; and dispersal habitat connecting essential aquatic habitat.

3. Within these areas, primary constituent elements of the California red-legged frog include the following habitat components. Essential aquatic components consists of all still or slow-flowing freshwater aquatic features possessing minimum water depths of 0.5 m (20 in.), with the exception of deep lacustrine water habitat (lakes and reservoirs greater than 20 ha (50 ac) inhabited by nonnative predators, that are essential for providing space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, nonbreeding subadults, and breeding and nonbreeding adult frogs, and are found in areas with two or more suitable breeding locations and a permanent water source with no more than 2 km (1.25 mi) separating these locations. Essential dispersal habitat consists of upland and aquatic areas, free of barriers and at least 90 m (300 ft)

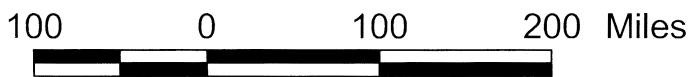
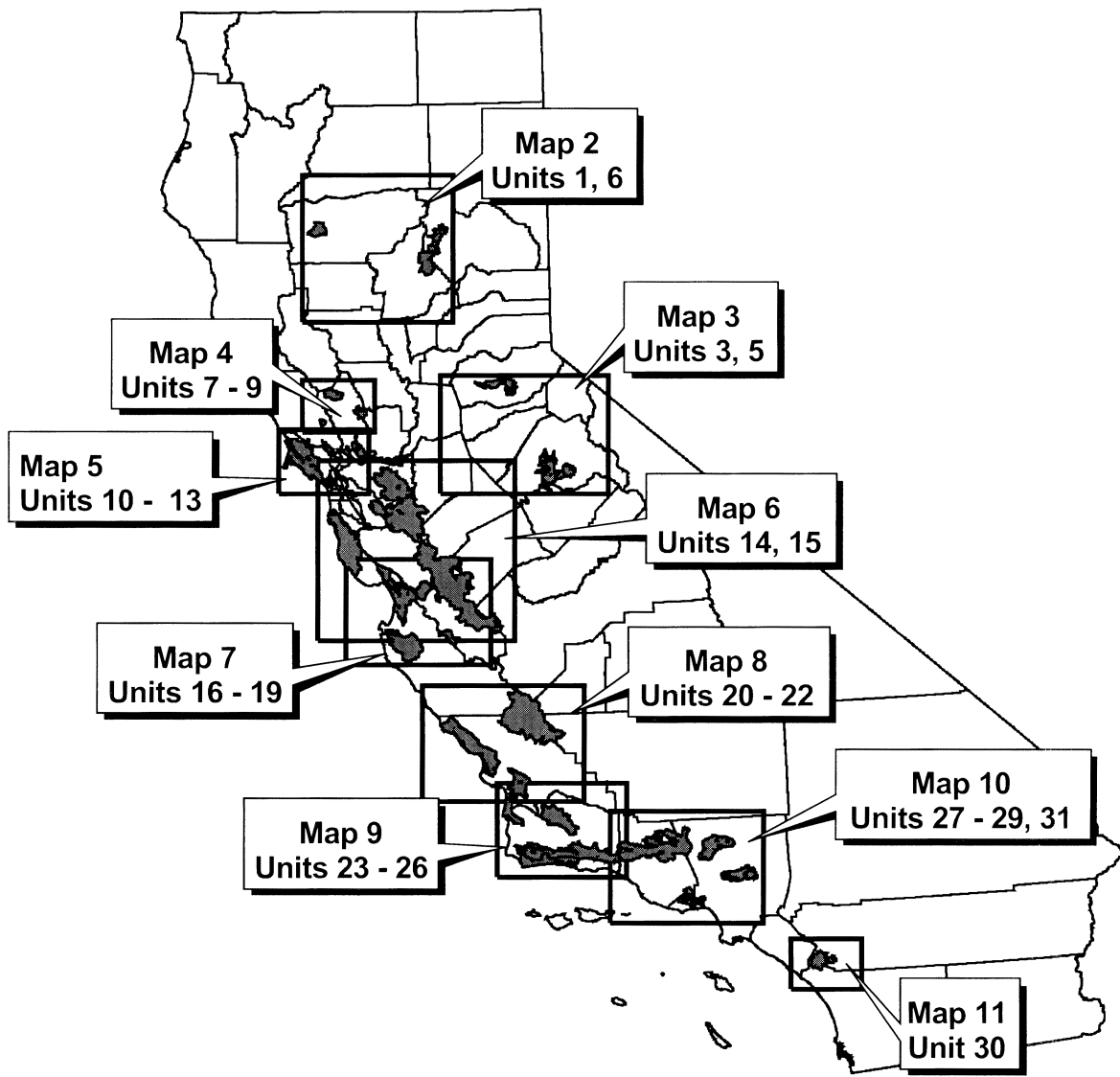
wide; this element is essential for providing connectivity between aquatic breeding areas identified above. Upland habitat components are areas within 90 m (300 ft) from the edge of the essential aquatic primary constituent element. In situations where a watershed boundary is less than 90 m (300 ft) from suitable habitat, the top of the watershed shall be the boundary for this constituent element.

4. Existing features and structures within the boundaries of the mapped units, such as buildings, roads, aqueducts, railroads, other paved areas, lawns, and other urban landscaped areas, and uplands removed from essential aquatic and dispersal habitat, will not contain one or more of the primary constituent elements and, therefore, would not trigger a section 7 consultation, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

**BILLING CODE 4310–55–P**

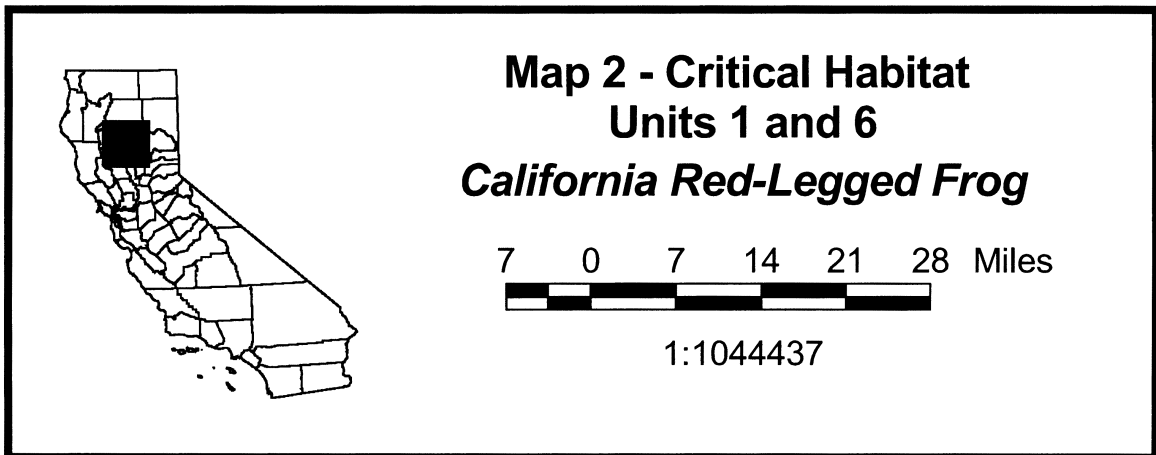
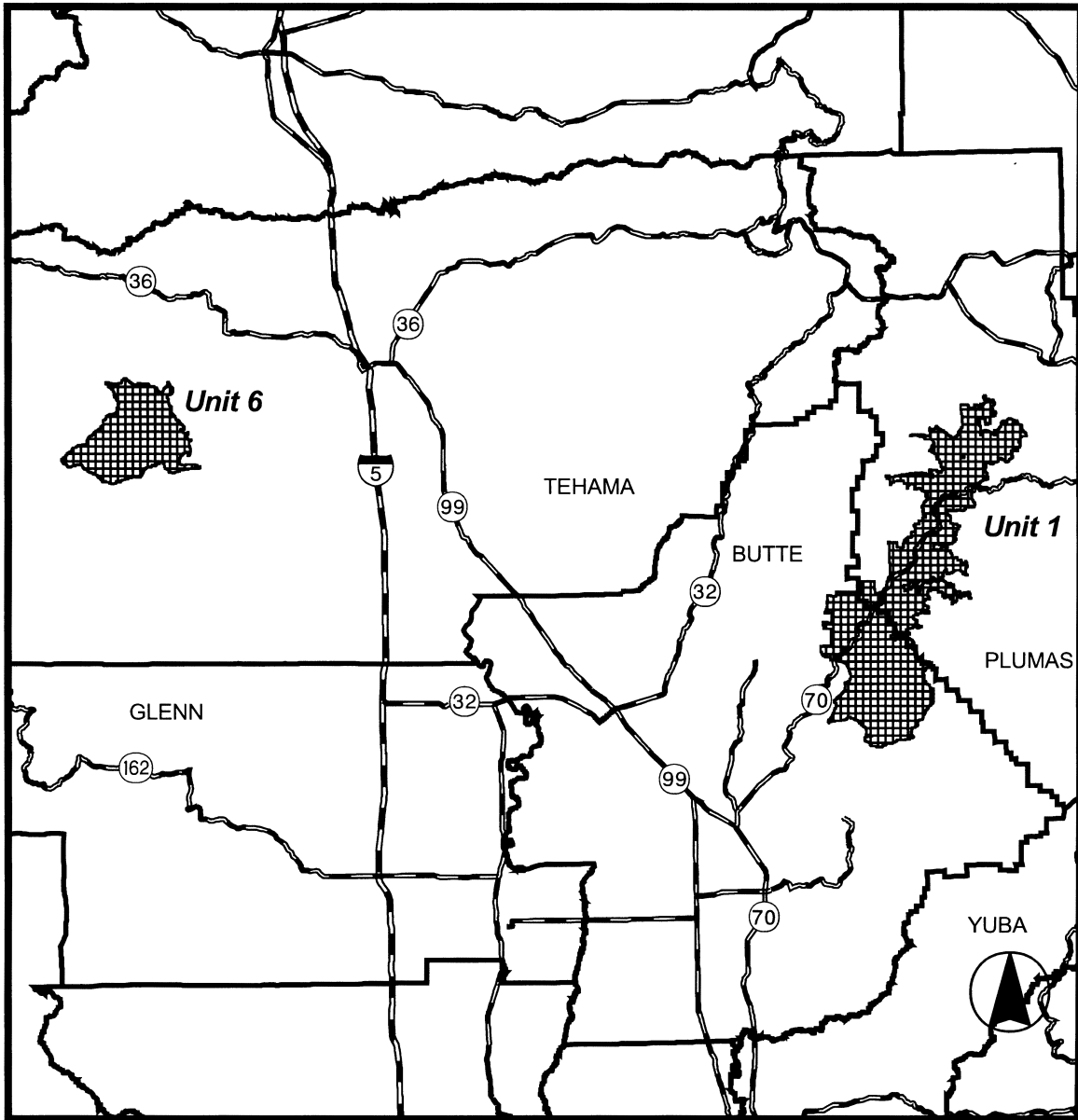
# Map 1 - Index

## Final California Red - Legged Frog Critical Habitat Units



Approximate Map Scale 1:7,500,000





Unit 1, North Fork Feather: Plumas and Butte Counties, California. From USGS 1:24,000 quadrangle maps Almanor, Belden, Berry Creek, Brush Creek, Bucks Lake, Caribou, Haskins Valley, Kimshe Point, Pulga, Soapstone Hill, and Storrle, lands bounded by the following UTM zone 10 NAD83 coordinates (E, N): 653700, 4444100; 653900, 4444100; 653900, 4444000; 654000, 4444000; 654000, 4443800; 653800, 4443800; 654000, 4443600; 654000, 4443500; 654200, 4443600; 654300, 4443600; 654300, 4443500; 654900, 4443500; 654900, 4443400; 655000, 4443400; 655000, 4443200; 655100, 4443100; 655200, 4443100; 655200, 4442900; 655100, 4442900; 655100, 4442800; 655000, 4442800; 655000, 4442600; 654800, 4442600; 654900, 4442200; 654900, 4442000; 654800, 4442000; 654800, 4441600; 655000, 4441600; 655000, 4441700; 655200, 4441700; 655200, 4441800; 655300, 4441800; 655300, 4441700; 655400, 4441700; 655400, 4441600; 655200, 4441600; 655200, 4441400; 655300, 4441400; 655300, 4441200; 655000, 4441200; 655000, 4441100; 654600, 4441100; 654600, 4440700; 654500, 4440700; 654500, 4440600; 654600, 4440500; 654500, 4440500; 654500, 4440200; 654600, 4440200; 654400, 4440100; 654400, 4440200; 654200, 4440200; 654200, 4440000; 653900, 4440000; 653900, 4440300; 653800, 4440300; 653800, 4440500; 653900, 4440500; 653900, 4440700; 653800, 4440700; 653800, 4440800; 653200, 4440800; 653200, 4440900; 652800, 4440900; 652800, 4440800; 652700, 4440800; 652700, 4440500; 652800, 4440500; 652900, 4440400; 652900, 4440300; 653100, 4440300; 653100, 4440200; 653000, 4440200; 653000, 4439800; 653100, 4439800; 653100, 4439700; 653200, 4439700; 653200, 4438900; 653100, 4438900; 653200, 4438700; 653200, 4438500; 653400, 4438500; 653400, 4438900; 653500, 4438900; 653500, 4439000; 653600, 4439000; 653600, 4439100; 653800, 4439100; 653800, 4439200; 654000, 4439200; 654000, 4439100; 654200, 4439000; 654400, 4439000; 654400, 4438900; 654600, 4438900; 654600, 4438800; 654800, 4438800; 654800, 4438700; 654900, 4438700; 654900, 4438600; 655100, 4438600; 655100, 4438500; 655300, 4438500; 655300, 4438700; 655200, 4438700; 655200, 4439000; 655100, 4439200; 655600, 4439200; 655600, 4439300; 655700, 4439300; 655700, 4439400; 655800, 4439400; 655800, 4439500; 655900, 4439500; 655900, 4439600; 656000, 4439600; 656000, 4439700; 656100, 4439700; 656100, 4440200; 656200, 4440200; 656200, 4440300; 656300, 4440300; 656300, 4440400; 656400, 4440400; 656400, 4440500; 656700, 4440500; 656700, 4440400; 657000, 4440400; 657000, 4440700; 657100, 4440800; 657200, 4440800; 657200, 4440900; 657400, 4440900; 657400, 4440800; 657600, 4440800; 657600, 4440700; 657800, 4440700; 657800, 4440600; 657900, 4440600; 657900, 4440500; 658000, 4440500; 658000, 4440400; 658300, 4440400; 658300, 4440500; 658400, 4440500; 658400, 4440300; 658500, 4440300; 658500, 4440100; 658600, 4440100; 658600, 4440000; 658800, 4440000; 658800, 4439900; 659000, 4439900; 659000, 4439800; 659100, 4439800; 659100, 4439200; 659200, 4439200; 659200, 4439100; 659300, 4439100; 659300, 4438900;

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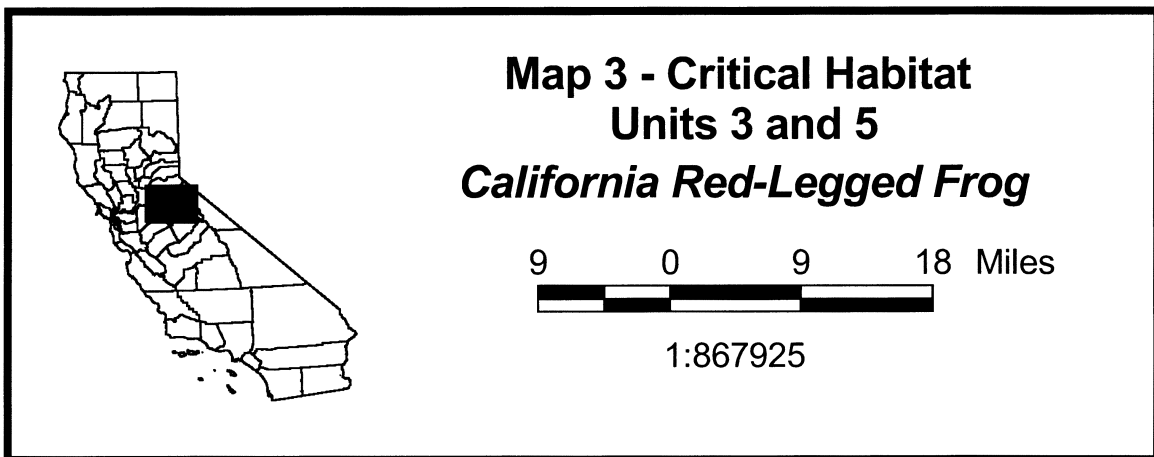
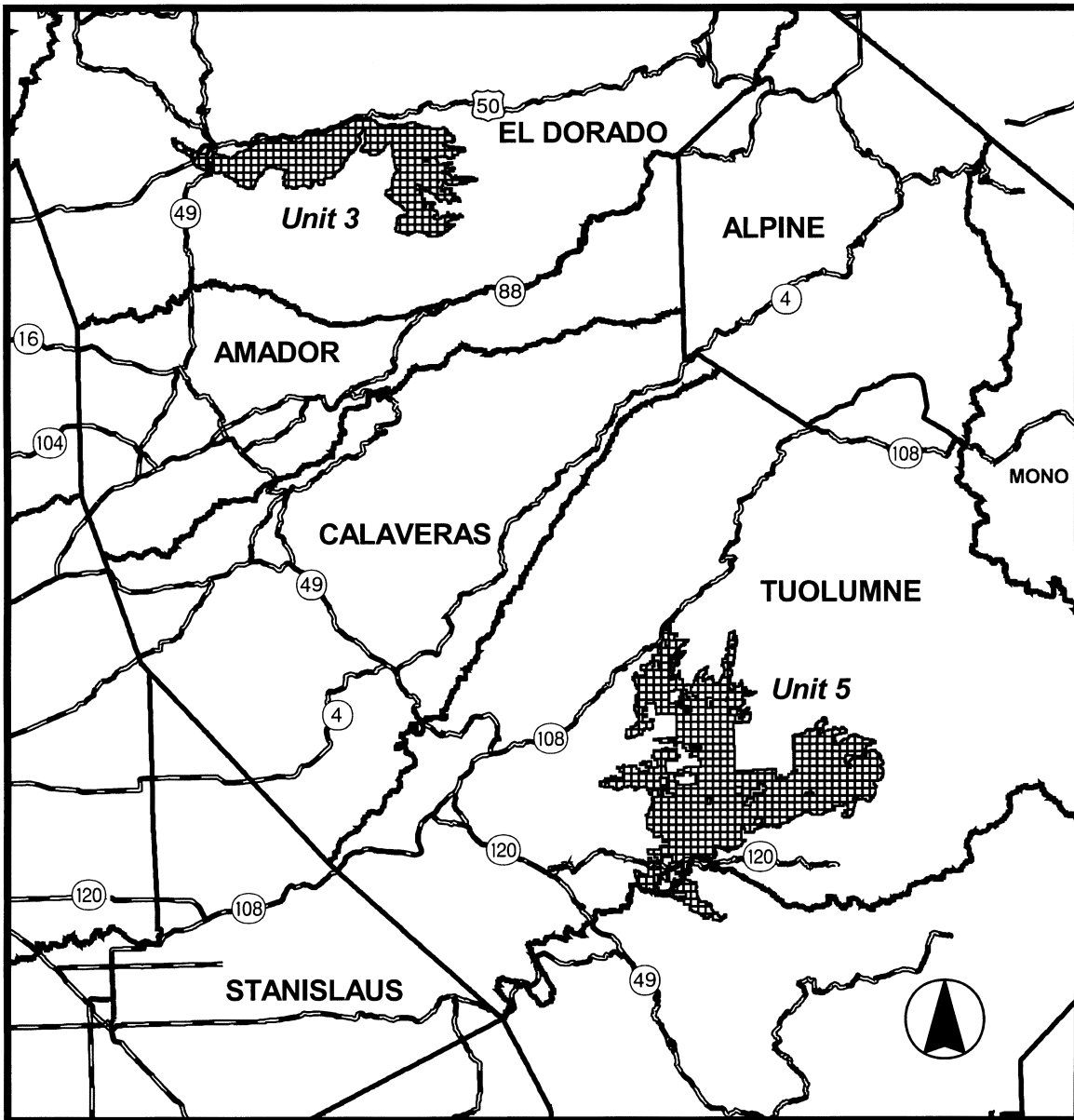
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Unit 6. Headwaters of Cottonwood Creek: Tehama County, California. From USGS 1:24,000 quadrangle maps Cold Fork, Lowrey, Oxbow Bridge, and Raglin Ridge, land bounded by the following UTM Zone 10 NAD83 coordinates (E, N): 531300, 4446500; 531600, 4446500; 531600, 4446400; 531700, 4446400; 531700, 4446300; 531800, 4446300; 531800, 4446200; 532000, 4446200; 532000, 4446000; 532100, 4446000; 532100, 4445900; 532300, 4445900; 532300, 4445800; 532400, 4445800; 532400, 4445700; 532600, 4445700; 532600, 4445600; 532800, 4445600; 532800, 4445500; 533000, 4445500; 533000, 4445600; 533300, 4445600; 533300, 4445800; 533600, 4445800; 533600, 4445700; 534000, 4445700; 534000, 4445600; 534300, 4445600; 534300, 4445700; 534800, 4445700; 534800, 4445600; 534900, 4445600; 534900, 4445500; 535000, 4445500; 535000, 4445400; 535600, 4445400; 535600, 4445300; 535700, 4445300; 535700, 4445200; 535900, 4445200; 535900, 4445100; 536000, 4445100; 536000, 4444900; 536100, 4444900; 536100, 4444800; 536200, 4444800; 536200, 4444700; 536300, 4444700; 536300, 4444600; 536400, 4444600; 536400, 4444500; 536600, 4444500; 536600, 4444600; 536900, 4444600; 536900, 4444800; 537000, 4444800; 537000, 4445000; 537100, 4445000; 537100, 4445100; 537200, 4445100; 537200, 4445200; 537300, 4445200; 537300, 4445300; 537400, 4445300; 537400, 4445500; 537500, 4445500; 537500, 4445900; 537600, 4445900; 537600, 4446000; 537700, 4446000; 537700, 4445800; 537800, 4445800; 537800, 4445600; 537900, 4445600; 537900, 4445500; 538000, 4445500; 538000, 4445300; 538100, 4445300; 538100, 4445200; 538200, 4445100; 538300, 4445100; 538300, 4444600; 538200, 4444600; 538200, 4444400; 538100, 4444400; 538100, 4444300; 538000, 4444300; 538000, 4444200; 537900, 4444200; 537900, 4444100; 537500, 4444100; 537500, 4444000; 537400, 4444000; 537400, 4443800; 537500, 4443800; 537500, 4443700; 537600, 4443700; 537700, 4443500; 537700, 4442900; 537800, 4442900; 537800, 4442600; 538000, 4442600; 538000, 4442500; 538100, 4442100; 538000, 4442100; 538000, 4441800; 538100, 4441800; 538100, 4441500; 538200, 4441500; 538200, 4441400; 538300, 4441400; 538300, 4441300; 538400, 4441300; 538400, 4441200; 538500, 4441200; 538500, 4441100; 538600, 4441100; 538600, 4441000; 538700, 4441000; 538700, 4440800; 538800, 4440800; 538800, 4440600; 539000, 4440600; 539000, 4440500; 539100, 4440500; 539100, 4440400; 539200, 4440400; 539200, 4440300; 539300, 4440300; 539300, 4440200; 539400, 4440200; 539400, 4440100; 539500, 4440100; 539500, 4440000; 539600, 4440000; 539600, 4439900; 539700, 4439900; 539700, 4439700; 539800, 4439700; 539800, 4439600; 539900, 4439600; 539900, 4439500; 540000, 4439500; 540000, 4439300; 539500, 4439200; 539400, 4439200; 539400, 4439100; 539500, 4439100; 539500, 4439000; 539600, 4439000; 539700, 4438900; 539700, 4438900; 539700, 4438800; 539800, 4438800; 539800, 4438800; 540400, 4438800; 540400, 4438600; 540400, 4438500; 540300, 4438500; 540300, 4438000; 540400, 4438000; 540400, 4437900; 540500, 4437900; 540500, 4437800;

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BILLING CODE 4310-55-P



Unit 3. Weber Creek-Consumnes: Eldorado County, California. From USGS 1:24,000 quadrangle maps Caldor, Camino, Omo Ranch, Placerville, Pollock Pines, Riverton, Sly Park, Stump Spring, lands bounded by the following UTM Zone 10 NAD83 coordinates (E, N): 710200, 4293200; 710700, 4293200; 710700, 4293100; 711000, 4293100; 711000, 4293000; 711100, 4293000; 711100, 4293000; 711100, 4292900; 711700, 4292900; 711700, 4293000; 711900, 4293000; 711900, 4292900; 712100, 4292900; 712100, 4292800; 712400, 4292800; 712400, 4292700; 712500, 4292700; 712500, 4292600; 712900, 4292600; 712900, 4292500; 713000, 4292500; 713000, 4292400; 713100, 4292400; 713100, 4292300; 713200, 4292300; 713200, 4292100; 713400, 4292100; 713400, 4292000; 713800, 4292000; 713800, 4291900; 714800, 4291900; 714800, 4292000; 715000, 4292000; 715000, 4292100; 715700, 4292100; 715700, 4292000; 715800, 4292000; 715800, 4291900; 716300, 4291900; 716300, 4292000; 717200, 4292000; 717200, 4292100; 717400, 4292100; 717400, 4292200; 717900, 4292200; 717900, 4292300; 718400, 4292300; 718400, 4292200; 718500, 4292200; 718500, 4292100; 718900, 4292100; 718900, 4292000; 719000, 4292000; 719000, 4291900; 719300, 4291900; 719300, 4291800; 719500, 4291800; 719500, 4291700; 720300, 4291700; 720300, 4291600; 720500, 4291600; 720500, 4291500; 720900, 4291500; 720900, 4291400; 721200, 4291400; 721200, 4291500; 721600, 4291500; 721600, 4291400; 722000, 4291400; 722000, 4291500; 722300, 4291500; 722300, 4291600; 722500, 4291600; 722500, 4291500; 722600, 4291500; 722600, 4291400; 722700, 4291400; 722700, 4291300; 722900, 4291300; 723000, 4291000; 723000, 4290900; 723100, 4290900; 723100, 4290800; 723200, 4290800; 723200, 4290700; 723400, 4290700; 723400, 4290600; 723800, 4290600; 723800, 4290500; 723900, 4290500; 723900, 4289800; 723800, 4289800; 723800, 4289700; 723700, 4289700; 723700, 4289600; 723600, 4289600; 723600, 4289500; 723500, 4289600; 723300, 4289600; 723300, 4289700; 722900, 4289700; 722900, 4289600; 722700, 4289600; 722700, 4289500; 722400, 4289500; 722400, 4289400; 722300, 4289200; 722400, 4289200; 722400, 4289100; 723000, 4289100; 723000, 4289000; 723100, 4289000; 723100, 4288600; 723400, 4288600; 723400, 4288900; 724000, 4288900; 724000, 4288800; 724100, 4288800; 724100, 4288900; 724500, 4288900; 724500, 4288800; 724600, 4288800; 724600, 4288700; 724900, 4288700; 724900, 4288800; 725100, 4288800; 725100, 4288700; 725300, 4288700; 725300, 4288400; 725400, 4288400; 725400, 4288300; 725100, 4288300; 725000, 4288200; 725000, 4288300; 724800, 4288300; 724800, 4288200; 724500, 4288200; 724500, 4288100; 724300, 4288100; 724300, 4288100; 724300, 4287800; 723700, 4287800; 723700, 4287600; 723800, 4287600; 723800, 4287400; 723400, 4287400; 723400, 4287300; 723100, 4287300; 723100, 4287400; 722900, 4287400; 722900, 4287500; 722700, 4287500; 722700, 4287600; 722600, 4287500; 722500, 4287500; 722500, 4287600; 722000, 4287600; 722000, 4287500; 721300, 4287500; 721300, 4287300; 721400, 4287300; 721400, 4287000; 721500, 4287000; 721500, 4286800; 721600, 4286800; 721600, 4286700; 721700, 4286700; 721700, 4286400; 722100, 4286400;

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Excluding lands bound by: 721700, 4284300; 721500, 4284300; 721500, 4284100; 721700, 4284100; 721700, 4284300.

Excluding lands bound by: 719900, 4281100; 719800, 4281100; 719800, 4281000; 719700, 4281000; 719700, 4280700; 719900, 4280700; 719900, 4280800; 720000, 4280800; 720000, 4280900; 719900, 4280900; 719900, 4281100.

Unit 5. Yosemite: Tuolumne and Mariposa counties, California. From USGS 1:24,000 quadrangle maps Ackerson Mtn, Ascension Mtn, Buckhorn Peak, Cherry Lake North, Cherry Lake South, Duckwall Mtn, Groveland, Hull Creek, Jawbone Ridge, Lake Eleanor, Strawberry, Tuolumne, and Twain Harte, all federal lands bounded by the following UTM zone 10 NAD83 coordinates (E, N): Subunit A (West): 753500, 4206700; 753200, 4206700; 753200, 4206600; 752000, 4206600; 752000, 4206900; 751200, 4206900; 751200, 4207100; 751900, 4207100; 751900, 4207200; 753100, 4207200; 753100, 4207300; 754400, 4207300; 754400, 4207500; 754300, 4207500; 754300, 4210500; 754200, 4210500; 754200, 4210600; 751800, 4210600; 751800, 4210500; 751500, 4210500; 751500, 4211400; 751400, 4211400; 751400, 4212100; 750100, 4212100; 750100, 4211500; 750200, 4211500; 750200, 4211000; 749900, 4211000; 749900, 4211200; 749600, 4211200; 749600, 4210300; 749900, 4210300; 749900, 4210500; 750200, 4210500; 750200, 4210200; 749600, 4210200; 749600, 4209400; 749900, 4209400; 749900, 4209500; 750700, 4209500; 750700, 4209800; 751200, 4209800; 751200, 4209700; 751000, 4209700; 751000, 4209000; 751100, 4209000; 751100, 4208700; 751000, 4208700; 751000, 4208600; 750700, 4208600; 750700, 4208400; 750600, 4208400; 750600, 4208600; 749900, 4208600; 749900, 4208300; 749600, 4208300; 749500, 4207700; 749500, 4207700; 749500, 4207800; 749100, 4207800; 749100, 4207700; 748900, 4207700; 748900, 4207600; 748800, 4207600; 748500, 4207500; 748500, 4207400; 748000, 4207400; 748000, 4207300; 747800, 4207300; 747800, 4207200; 747600, 4207300; 747400, 4207300; 747400, 4207400; 747400, 4207300; 747400, 4207700; 747400, 4207700; 747400, 4208500; 748000, 4208500; 748000, 4208800; 748100, 4208800; 748100, 4208700; 748300, 4208700; 748300, 4208800; 748400, 4208800; 748400, 4208900; 748600, 4208900; 748600, 4209000; 748700, 4209000; 748700, 4209300; 748900, 4209300; 748900, 4209400; 749000, 4209400; 749000, 4209600; 749100, 4209600; 749100, 4210100; 749000, 4210100; 749000, 4210300; 748900, 4210300; 748900, 4210500; 748800, 4210500; 748800, 4210800; 748700, 4210800; 748700, 4211000; 748600, 4211000; 748600, 4211100; 748500, 4211100; 748500, 4211800; 748600, 4211800; 748600, 4211900; 748700, 4211900; 748700, 4211800; 748900, 4211800; 748900, 4212000; 749000, 4212000; 749000, 4212200; 748900, 4212200; 748900, 4212300; 748700, 4212300; 748700, 4213100; 748800, 4213100; 748800, 4213200; 748900, 4213200; 748900, 4213300; 749000, 4213300; 749000, 4213500; 749100, 4213500; 749100,

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Excluding lands bounded by: 753500, 4206700; 753800, 4206700; 753800, 4206800; 753900, 4206800; 753900, 4207100; 753600, 4207100; 753600, 4207000; 753500, 4207000; 753500, 4207000.

Excluding lands bounded by: 753300, 4220900; 752800, 4220900; 752800, 4220000; 753300, 4220000; 753300, 4220900.

Excluding lands bounded by: 762200, 4220200; 762000, 4220200; 762000, 4219700; 762200, 4219700; 762200, 4219900; 762300, 4219900; 762300, 4220100; 762200, 4220100; 762200, 4220200.

Excluding lands bounded by: 751800, 4218000; 751300, 4218000; 751300, 4217200; 751000, 4217200; 751000, 4216700; 751900, 4216700; 751900, 4217400; 751800, 4217400; 751800, 4218000.

Excluding lands bounded by: 758000, 4215300; 757900, 4215300; 757900, 4215100; 758000, 4215100; 758000, 4215300.

Excluding lands bounded by: 754900, 4213900; 754000, 4213900; 754000, 4213800; 753200, 4213800; 753200, 4213500; 753300, 4213500; 753300, 4212100; 754200, 4212100; 754200, 4212300; 754300, 4212300; 754300, 4212100; 754400, 4212100; 754400, 4212000; 754600, 4212000; 754600, 4211800; 754700, 4211800; 754700, 4211700; 754900, 4211700; 754900, 4211500; 755000, 4211500; 755000, 4211400; 755100, 4211400; 755100, 4211800; 755000, 4211800; 755000, 4212200; 754900, 4212200; 754900, 4212300; 754800, 4212300; 754800, 4212400; 754700, 4212400; 754700, 4212500; 755100, 4212700; 754800, 4212700; 754800, 4212900; 754700, 4212900; 754700, 4213000; 755000, 4213000; 755000, 4213200; 754900, 4213200; 754900, 4213900.

Excluding lands bounded by: 755700, 4213900; 755200, 4213900; 755200, 4213400; 755700, 4213400; 755700, 4213000; 756100, 4213000; 756100, 4212600; 757000, 4212600; 757000, 4213100; 756600, 4213100; 756600, 4213500; 755700, 4213500; 755700, 4213900.

Excluding lands bounded by: 759400, 4212800; 758500, 4212800; 758500, 4211500; 759000, 4211500; 759000, 4212300; 759400, 4212300; 759400, 4212800.

Excluding lands bounded by: 761500, 4212800; 761300, 4212800; 761300, 4212600; 761200, 4212600; 761200, 4212400; 761300, 4212400; 761300, 4212500; 761400, 4212500; 761400, 4212600; 761500, 4212600; 761500, 4212800.

Excluding lands bounded by: 755800, 4211700; 755500, 4211700; 755500, 4211600; 755600, 4211600; 755600, 4210900; 756000, 4210900; 756000, 4211000; 756400, 4211000; 756400, 4211200; 756300, 4211200; 756300, 4211300; 756200, 4211300; 756200, 4211500; 756100, 4211500; 756100, 4211600; 755900, 4211600; 755900, 4211500; 755800, 4211500; 755800, 4211700.



Excluding lands bounded by: 762700, 4211300; 761800, 4211300; 761800, 4210400; 762700, 4210400; 762700, 4211300.

Excluding lands bounded by: 756300, 4206200; 756200, 4206200; 756200, 4206100; 756100, 4206100; 756100, 4206000; 756200, 4206000; 756200, 4205900; 756700, 4205900; 756700, 4205800; 757000, 4205800; 757000, 4205900; 757100, 4205900; 757100, 4206000; 757300, 4206000; 757300, 4205900; 757600, 4205800; 757800, 4205800; 757800, 4206000; 757700, 4206000; 757700, 4206100; 757400, 4206100; 757400, 4206200; 756700, 4206200; 756700, 4206100; 756600, 4206100; 756600, 4206200; 756400, 4206200; 756400, 4206100; 756300, 4206100; 756300, 4206200.

Excluding lands bounded by: 756200, 4202500; 755300, 4202500; 755300, 4202100; 754000, 4202100; 754000, 4201900; 754100, 4201900; 754100, 4201200; 754500, 4201200; 754500, 4200800; 756400, 4200800; 756400, 4200900; 757000, 4200900; 757000, 4202200; 756300, 4202200; 756300, 4202100; 756200, 4202100; 756200, 4202500.

Excluding lands bounded by: 753000, 4201700; 752000, 4201700; 752000, 4201500; 752100, 4201500; 752100, 4200700; 753000, 4200700; 753000, 4201700.

Excluding lands bounded by: 744800, 4201200; 744500, 4201200; 744500, 4200900; 744700, 4200900; 744700, 4201000; 744800, 4201000; 744800, 4201200.

Excluding lands bounded by: 763400, 4200400; 762500, 4200400; 762500, 4199500; 763400, 4199500; 763400, 4200400.

Excluding lands bounded by: 753000, 4200000; 752500, 4200000; 752500, 4199100; 753900, 4199100; 753900, 4199400; 753800, 4199400; 753800, 4199600; 753000, 4199600; 753000, 4200000.

Excluding lands bounded by: 759000, 4199100; 758700, 4199100; 758700, 4199000; 758500, 4199000; 758500, 4198700; 758600, 4198700; 758600, 4198100; 759100, 4198100; 759100, 4198100; 759100, 4198400; 759000, 4198400; 759000, 4199100.

Excluding lands bounded by: 755000, 4189900; 754700, 4189900; 754700, 4189800; 754600, 4189800; 754600, 4189700; 754500, 4189700; 754500, 4189600; 754300, 4189600; 754300, 4189400; 753700, 4189400; 753700, 4189200; 753600, 4189200; 753600, 4189100; 753500, 4189100; 753500, 4189200; 753300, 4189200; 753300, 4187400; 752800, 4187400; 752800, 4187500; 753000, 4187500; 753000, 4188400; 752500, 4188400; 752500, 4188300; 752300, 4188300; 752300, 4187800; 752500, 4187800; 752500, 4187700; 752100, 4187700; 752100, 4187500; 751800, 4187500; 751800, 4188300; 751300, 4187200; 751800, 4187200; 751800, 4187300; 752100, 4187300; 752100, 4187000; 751700, 4187000; 751700, 4186900; 751400, 4186900; 751400, 4186600; 751500, 4186600; 751500, 4186400; 751800, 4186400; 751800, 4186500; 751900, 4186500; 751900, 4186100; 754400, 4186100; 754400, 4187000; 753600, 4187000; 753600, 4187300; 753900, 4187300; 753900, 4187600; 754000, 4187600; 754000, 4187800; 754100, 4187800; 754100, 4187500; 755000, 4187500; 755000, 4188400; 754200, 4188400; 754200, 4188700; 755000, 4188700; 755000, 4189900.

Subunit B (East): lands bounded by the following UTM zone 11 NAD83 coordinates (E, N): 236800, 4215200; 236900, 4215200;

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Excluding lands bounded by: 253300,  
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Excluding lands bounded by: 251100,  
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Excluding lands bounded by: 252700,  
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Excluding lands bounded by: 251000,  
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Excluding lands bounded by: 238600,  
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Excluding lands bounded by: 245400,  
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Excluding lands bounded by: 238400,  
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**BILLING CODE 4310-55-P**