970.5204–17 [Removed and Reserved]

10. Section 970.5204–17, Political activity cost prohibition is removed and reserved.

11. Section 970.5204–31 is amended by revising the introductory paragraph of clause paragraph (h) and adding clause paragraph (m) to read as follows:

970.5204–31 Insurance-litigation and claims.

* * * * *

(h) In addition to the cost reimbursement limitations contained in FAR part 31, as supplemented by DEAR 970.31, and notwithstanding any other provision of this contract, the contractor's liabilities to third persons, including employees but excluding costs incidental to worker's compensation actions, (and any expenses incidental to such liabilities, including litigation costs, counsel fees, judgments and settlements) shall not be reimbursed if such liabilities were caused by contractor managerial personnel:

* * * * *

(m) Reasonable litigation and other legal expenses are allowable when incurred in accordance with the DOE approved contractor legal management procedures (including cost guidelines) as such procedures may be revised from time to time, and if not otherwise made unallowable by law or the provisions of this contract.

970.5204–61 [Removed and Reserved]

12. Section 970.5204–61, Cost prohibitions related to legal and other proceedings is removed and reserved.

970.5204–84 [Removed and Reserved]

13. Section 970.5204–84, Waiver of limitations on severance payments to foreign nationals, is removed and reserved.

14. Section 970.5204–XX is added to read as follows:

970.5204–XX Penalties for unallowable costs.

As prescribed in 970.4207–3 use the following clause:

Penalties for unallowable costs (APR 2000)

(a) Contractors which include unallowable cost in a submission for settlement for cost incurred, may be subject to penalties.

(b) If, during the review of a submission for settlement of cost incurred, the contracting officer determines that the submission contains an expressly unallowable cost or a cost determined to be unallowable prior to the submission, the contracting officer shall assess a penalty.

(c) Unallowable costs are either expressly unallowable or determined unallowable.

(1) An expressly unallowable cost is a particular item or type of cost which, under the express provisions of an applicable law, regulation, or this contract, is specifically named and stated to be unallowable.

(2) A cost determined unallowable is one which, for that contractor,

(i) Was subject to a contracting officer's final decision and not appealed;

(ii) The Department's Board of Contract Appeals or a court has previously ruled as unallowable; or

(iii) Was mutually agreed to be unallowable.

(d) If the contracting officer determines that a cost submitted by the contractor in its submission for settlement of cost incurred is:

(1) Expressly unallowable, then the contracting officer shall assess a penalty in an amount equal to the disallowed cost allocated to this contract plus interest on the paid portion of the disallowed cost. Interest shall be computed from the date of overpayment to the date of repayment using the interest rate specified by the Secretary of the Treasury pursuant to Public Law 92–41 (85 Stat. 97); or

(2) Determined unallowable, then the contracting officer shall assess a penalty in an amount equal to two times the amount of the disallowed cost allocated to this contract.

(e) The contracting officer may waive the penalty provisions when:

(1) The contractor withdraws the submission before the formal initiation of an audit of the submission and submits a revised submission;

(2) The amount of the unallowable costs allocated to covered contracts is $10,000 or less; or

(3) The contractor demonstrates to the contracting officer's satisfaction that:

(i) It has established appropriate policies, personnel training, and an internal control and review system that provides assurances that unallowable costs subject to penalties are precluded from the contractor's submission for settlement of costs; and

(ii) The unallowable costs subject to the penalty were inadvertently incorporated into the submission.

(End of clause)

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AF41

Endangered and Threatened Wildlife and Plants; Proposal to List the Chiricahua Leopard Frog as Threatened With a Special Rule

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose threatened status pursuant to the Endangered Species Act of 1973, as amended (Act), for the Chiricahua leopard frog (*Rana chiricahuensis*). The Chiricahua leopard frog is now absent from many historical localities and numerous mountain ranges, valleys, and drainages within its former range. In areas where it is still present, populations are often few, small, and widely scattered. Known threats include habitat alteration, destruction, and fragmentation, predation by nonnative organisms, and disease. Habitat loss results from water diversions, dredging, livestock grazing, mining, degraded water quality, and groundwater pumping. Problems associated with small population numbers and size also threaten the species. Evidence suggests that adverse effects from water-borne contaminants may also threaten this species. This proposed rule, if made final, would implement Federal protection to this species and provide funding for development and implementation of recovery actions.

DATES: We must receive comments from all interested parties by September 12, 2000. We must receive public hearing requests by July 31, 2000.

ADDRESSES: Send comments and materials to the Field Supervisor, Arizona Ecological Services Field Office, U.S. Fish and Wildlife Service, 2321 West Royal Palm Road, Suite 103, Phoenix, Arizona 85021–4951. Comments and information received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Jim Rorabaugh, Herpetologist, at the above address (telephone 602/640–2720; facsimile 602/640–2730).

SUPPLEMENTARY INFORMATION:

Background

Leopard frogs (*Rana pipiens* complex), long considered to consist of a few highly variable species, are now recognized as a diverse assemblage of more than two dozen species (Hillis *et al.* 1983), with many species described in the last 20 years. Mecham (1968) recognized two distinct variations of ''*Rana pipiens*'' in the White Mountains of Arizona. One of these, referred to as the ''southern form,'' was depicted as a stocky frog with raised folds down both sides of the back (dorsolateral folds) that were interrupted and deflected medially towards the rear. The other form matched previous descriptions of *Rana pipiens.* Based on morphology, mating calls, and genetic analyses (electrophoretic comparisons of blood protein samples), Platz and Platz (1973) demonstrated that at least three distinct forms of leopard frogs occurred in Arizona, including the southern form. This southern form was subsequently described as the Chiricahua leopard frog (*Rana chiricahuensis*) (Platz and Mecham 1979).

This new species was distinguished from other members of the *Rana pipiens* complex by a combination of characters, including a distinctive pattern on the rear of the thigh consisting of small, raised, cream-colored spots or tubercles on a dark background, dorsolateral folds that were interrupted and deflected medially, stocky body proportions, relatively rough skin on the back and sides, and often green coloration on the head and back (Platz and Mecham 1979). The species also has a distinctive call consisting of a relatively long snore of 1 to 2 seconds in duration (Davidson 1996, Platz and Mecham 1979). Snout-vent lengths of adults range from approximately 54 to 139 millimeters (mm) (2.1 to 5.4 inches (in)) (Stebbins 1985, Platz and Mecham 1979). The Ramsey Canyon leopard frog (*Rana subaquavocalis*) is similar in appearance to the Chiricahua leopard frog, but it often grows to a larger size and has a distinct call that is typically given under water (Platz 1993).

Recent articles in the scientific literature report the extirpation and extinction of amphibians in many parts of the world (Berger *et al.* 1998, Lips 1998, Laurence *et al.* 1996, Vial and Saylor 1993, Pechmann *et al.* 1991, Blaustein and Wake 1990). Frogs in the family Ranidae, which includes the Chiricahua leopard frog, are particularly affected (Sredl *et al.* 1997, Sredl 1993, Bradford 1991, Clarkson and Rorabaugh 1989, Hayes and Jennings 1986, Corn and Fogleman 1984). Although these population declines are thought to result in many cases from habitat loss, predation by introduced predators, or other factors, populations are sometimes extirpated from seemingly pristine habitats or from areas where no obvious cause of decline can be identified (Meyer and Mikesic 1998, Sredl 1993, Drost and Fellers 1993, Corn and Fogleman 1984, Hines *et al.* 1981). Although natural long-term fluctuations in the size of populations and the number of populations within a species are often not well studied, increased extirpation rates and in some cases apparent extinction, coupled with recent declining trends in the status of many amphibian species is alarming and may represent a very recent and rapid global decline of an entire class of vertebrates (Blaustein *et al.* 1994, Wake 1991).

Observers have speculated that these declines may have resulted from one or more factors, including habitat disturbance, predation by introduced predators such as nonnative fish and amphibians, disease, drought, pesticides, acid rain, heavy metals, increased ultraviolet radiation due to atmospheric ozone depletion, over-collection, natural events such as severe storms or floods, global warming or other climatic events, and as a result of the dynamics of small populations and groups of small populations or metapopulations (Berger *et al.* 1998, Lips 1998, Lind *et al.* 1996, Rosen *et al.* 1996, 1994; Hale *et al.* 1995, Blaustein *et al.* 1994, Sredl and Howland 1994, Pounds and Crump 1994, Sredl 1993, Bradford 1991, Wyman 1990, Clarkson and Rorabaugh 1989, Corn and Fogleman 1984, Baxter and Meyer 1982, Dimmitt 1979).

The Chiricahua leopard frog is an inhabitant of cienegas (mid-elevation wetland communities often surrounded by arid environments), pools, livestock tanks, lakes, reservoirs, streams, and rivers at elevations of 1,000 to 2,710 meters (m) (3,281 to 8,890 feet (ft)) in central and southeastern Arizona; west-central and southwestern New Mexico; and in Mexico, northern Sonora and the Sierra Madre Occidental of Chihuahua (Sredl *et al.* 1997, Degenhardt *et al.* 1996, McCranie and Wilson 1987, Platz and Mecham 1979). The taxonomic status of frogs in southern Chihuahua and possibly Durango is in question. The species has been reported from southern Chihuahua and Durango (Hillis *et al.* 1983, Platz and Mecham 1984, 1979); however, Webb and Baker (1984) concluded that frogs from southern Chihuahua were not Chiricahua leopard frogs, as expected. The range of the species is divided into two parts, including—(1) a southern group of populations (the majority of the species' range) located in mountains and valleys south of the Gila River in southeastern Arizona, extreme southwestern New Mexico, and Mexico; and (2) northern montane populations in west central New Mexico and along the Mogollon Rim in central and eastern Arizona (Platz and Mecham 1979). There are historical records in Pima, Santa Cruz, Cochise, Graham, Apache, Greenlee, Gila, Coconino, Navajo, and Yavapai counties, Arizona; and Catron, Grant, Hidalgo, Luna, Soccoro, and Sierra counties, New Mexico (Sredl *et al.* 1997, Degenhardt *et al.* 1996). Historical records for the Chiricahua leopard frog also exist from several sites in northern and central Chihuahua, northern Sonora, and possibly southern Chihuahua and Durango (Platz and Mecham 1984, 1979; Webb and Baker 1984; Hillis *et al.* 1983).

Male Chiricahua leopard frogs exhibit variable development of vestigial (small, nonfunctional) oviducts. Vestigial oviducts are absent in most specimens from the northern populations but are generally present in specimens from southern populations (Platz and Mecham 1979). This and other characteristics that differ regionally throughout the range of the species suggest genetic differentiation. This differentiation is being investigated and may result in a description of the northern populations as a separate species from the southern populations (James Platz, Creighton University, pers. comm. 1994). If the species is split into two distinct taxa, fewer populations would exist within each taxon.

Chiricahua leopard frogs were either collected or observed at 212 localities in Arizona (B. Kuvlesky, Buenos Aires National Wildlife Refuge, pers. comm. 1997; Terry Myers, Apache-Sitgreaves National Forest, pers. comm. 1997; Sredl *et al.* 1997; Rosen *et al.* 1996; Snyder *et al.* 1996; C. Schwalbe, University of Arizona, pers. comm. 1995; R. Zweifel, Portal, Arizona, pers. comm. 1995; Hale 1992; Clarkson and Rorabaugh 1989; Fish and Wildlife Service files, Phoenix, Arizona). In New Mexico, the species was either collected or observed at 170 localities (Jennings 1995; Randy Jennings, Western New Mexico University, pers. comm. 1999; Charles Painter, New Mexico Game and Fish Department, pers. comm. 1999). Eleven historical localities were listed by Platz and Mecham (1979) in Mexico, mostly from the eastern base and foothills of the Sierra Madre Occidental in Chihuahua and Durango, and one site in northern Sonora, Mexico. Hillis *et al.* (1983) list another locality from Durango. However, the presence of Chiricahua leopard frogs in the Sierra Madre Occidental of southern Chihuahua was questioned by Webb and Baker (1984). Frogs at a locality on the Sonora-Chihuahua border have been tentatively identified as Chiricahua leopard frogs (Holycross 1998). Some museums still have many southwestern leopard frogs catalogued as *Rana pipiens.* Once these specimens have been reexamined, additional historical localities for *Rana chiricahuensis* may result. Also, frogs observed at some localities, which may have been *Rana chiricahuensis*, were not positively identified.

Many collections of Chiricahua leopard frogs were made before 1980 (Jennings 1995; Platz and Mecham 1979; Frost and Bagnara 1977; Mecham 1968). Recent surveys to document the status and distribution of the species were conducted primarily from the mid-1980's to the present (Sredl *et al.* 1997, 1995, 1994, 1993; Rosen *et al.* 1996; Fernandez and Bagnara 1995; Jennings 1995; Rorabaugh *et al.* 1995; Rosen 1995; Zweifel 1995; Sredl and Howland 1994, 1992; Hale 1992; Scott 1992;

Wood 1991; Clarkson and Rorabaugh 1989; Rosen and Schwalbe 1988). These surveys were summarized by Jennings (1995) for New Mexico and Sredl *et al.* (1997) for Arizona. In 1995, Jennings reported Chiricahua leopard frogs at 11 sites in New Mexico. An additional 16 populations have been found since 1995 (R. Jennings, pers. comm. 1999, C. Painter, pers. comm. 1999), for a total of 27. Twenty-two of these occur north of Interstate 10 (northern populations), and five are in the southwestern corner of the state (southern populations). Sredl *et al.* (1997) reported that during 1990–1997 Chiricahua leopard frogs were found at 61 sites in southeastern Arizona (southern populations) and 15 sites in central and east-central Arizona (northern populations). As a means to make the Arizona and New Mexico status information more comparable, the number of sites at which Chiricahua leopard frogs were observed from 1995 to the present in Arizona were tallied. Based on available data, particularly Sredl *et al.* (1997) and Rosen *et al.* (1996), Chiricahua leopard frogs were observed at 52 sites in Arizona from 1995 to the present, including 9 northern localities and 43 southern localities.

Recent surveys of potential habitats in Arizona are more complete than surveys done in New Mexico. Sredl *et al.* (1997) conducted 656 surveys for ranid frogs (frogs in the family Ranidae) within the range of the Chiricahua leopard frog in southeastern Arizona. Rosen *et al.* (1996, 1994), Hale (1992), Wood (1991), Clarkson and Rorabaugh (1989), and others have also surveyed wetlands in southeastern Arizona extensively. It is unlikely that many additional new populations will be found there. A greater potential exists for locating frogs at additional localities in Arizona's northern region. Sredl *et al.* (1997) conducted 871 surveys for ranid frogs in the range of the northern localities, but report that only 25 of 46 historical Chiricahua leopard frog localities were surveyed during 1990–1997. Unsurveyed historical localities are primarily located on the San Carlos and Fort Apache Reservations, in areas that have generally not been accessible to State and Federal biologists. Additional populations of Chiricahua leopard frogs of which we are currently unaware may occur on these tribal lands.

Of the historical localities in New Mexico, 80 of 170 were not revisited since frogs were last collected or observed. Twenty-four of these unvisited sites have imprecise locality information that precludes locating or revisiting them. Many others are on private lands to which the owners have denied access to biologists (the privately owned Gray and Ladder ranches are notable exceptions). As in Arizona, potential habitat within the range of the southern populations has been surveyed more extensively than that of the northern populations. From 1990–1991, Scott (1992) conducted extensive surveys of the Gray Ranch, which contains much of the Chiricahua leopard frog habitat in southwestern New Mexico. Observations from numerous other herpetologists were included within his reports, and cowboys and ranch hands were interviewed to locate potential habitats. Jennings (1995) surveyed other potential habitats in southwestern New Mexico outside of the Gray Ranch in the Peloncillo Mountains. Other herpetologists working in that area, including Charles Painter (pers. comm. 1998) and Andy Holycross, Arizona State University (pers. comm. 1997), also worked extensively in this area. Probably few if any unknown populations of Chiricahua leopard frogs occur in southwestern New Mexico.

Surveys in the northern portion of the species' range in New Mexico have been less complete. Jennings (1995) believed that the wilderness areas of the Gila National Forest have the greatest potential for supporting additional extant populations and for securing an intact metapopulation that would have a good chance of long-term persistence.

In Mexico systematic or intensive surveys for Chiricahua leopard frogs were not conducted. However, it is expected that the species almost certainly occurs or occurred at more than the 12 (or 13) reported localities in Chihuahua, Sonora, and Durango (Platz and Mecham 1979, Hillis *et al.* 1983, and Holycross 1998). However, the identity of leopard frogs in southern Chihuahua (and perhaps Durango) is in some question (Webb and Baker 1984). Only one locality has been documented in Sonora, yet populations occur or occurred in the mountain ranges and valleys adjacent to the Sonora border in Arizona. Other localities probably occur or occurred in Sonora.

The Chiricahua leopard frog is reported absent from a majority of historical localities. In Arizona, Clarkson and Rorabaugh (1989) found the species at only 2 of 36 sites that supported Chiricahua leopard frogs in the 1960s and 1970s. In New Mexico, Jennings (1995) found Chiricahua leopard frogs at 6 of 33 sites supporting the species during the previous 11 years. Sredl and Howland (1994) reported finding Chiricahua leopard frogs at only 12 of 87 historical sites. In 1994, during surveys of 175 wetland sites in southeastern Arizona, Rosen *et al.* (1994) reported the Chiricahua leopard frog was extant at 19 historical and new sites, but was not found at 32 historical localities. Throughout Arizona, Sredl *et al.* (1997) found the species present at 21 of 109 historical localities.

Determining whether a species is declining based on its presence or absence at historical sites is difficult. Where frogs are observed at a particular site, they are considered extant. However, a failure to find frogs does not necessarily indicate the species is absent. Corn (1994) notes that leopard frogs may be difficult to detect, museum records do not always represent breeding localities, collections have occurred from marginal habitat, and museum and literature records often represent surveys over long periods of time, which ignores natural processes of geographical extinction and recolonization. The natural processes of extinction and recolonization may be particularly important for the Chiricahua leopard frog because its habitats are often small and very dynamic. Because the Chiricahua leopard frog and other southwestern leopard frogs exhibit a life history that predisposes them to high rates of extirpation and recolonization (Sredl and Howland 1994), its absence from at least some historical sites is expected.

The failure of experienced observers to find frogs indicates that frogs are probably absent, particularly in relatively simple aquatic systems such as most stock tanks and stream segments. Howland *et al.* (1997) evaluated visual encounter surveys at five leopard frog localities. At sites with known populations that were not dry, frogs were detected in 93 of 100 surveys conducted during the day from April through October. During a drought in 1994, Rosen *et al.* (1996, 1994) surveyed all known localities of the Chiricahua leopard frog in southeastern Arizona and other accessible waters, and discussed locations of waters and faunal occurrence with landowners. By focusing on aquatic sites that did not go dry, and through careful and often multiple surveys at each site, the authors were able to define distribution at a time when aquatic faunal patterns were clear. The authors believed that nearly all potential habitat was surveyed, and, if frogs were present, they would be detectable at most sites.

Although survey data strongly suggest that the species is absent at a high percentage of historical sites (absent from 76 and 82 percent of historical sites in New Mexico and Arizona, respectively) (Sredl *et al.* 1997, Jennings

1995), additional analyses are warranted to determine whether extirpations represent natural fluctuations or long-term declines caused by human impacts (Blaustein *et al.* 1994, Pechman *et al.* 1991).

Numerous studies indicate that declines and extirpations of Chiricahua leopard frogs are at least in part caused by predation and possibly competition by nonnative organisms, including fish in the family Centrarchidae *(Micropterus* spp., *Lepomis* spp.), bullfrogs (*Rana catesbeiana*), tiger salamanders (*Ambystoma tigrinum mavortium*), crayfish (*Oronectes virilis* and possibly others), and several other species of fish (Fernandez and Rosen 1998, Rosen *et al.* 1996, 1994; Snyder *et al.* 1996; Fernandez and Bagnara 1995; Sredl and Howland 1994; Clarkson and Rorabaugh 1989). For instance, in the Chiricahua region of southeastern Arizona, Rosen *et al.* (1996) found that almost all perennial waters investigated that lacked introduced predatory vertebrates supported Chiricahua leopard frogs. All waters except three that supported introduced vertebrate predators lacked Chiricahua leopard frogs. The authors noted an alarming expansion of nonnative predatory vertebrates over the last 2 decades. In the Chiricahua region, Chiricahua leopard frogs were primarily limited to habitats subject to drying or near drying, such as stock tanks, which discourages the establishment of nonnative predatory fish and bullfrogs. These habitats are highly dynamic and may be marginal habitats for leopard frogs (Rosen *et al.* 1994).

Additional evidence that the observed absence of Chiricahua leopard frogs from historical sites is not the result of a natural phenomenon emerges from the analyses of regional occurrence. If the extirpation of the Chiricahua leopard frog were a natural artifact of metapopulation dynamics or other population-level processes, then an observer would not expect to find the species absent from large portions of its range. Rather, Chiricahua leopard frogs might be absent from some historical sites, but would still be found at other new or historical sites in the region. In New Mexico, Jennings (1995) reported extant Chiricahua leopard frog populations in each of the six major drainages where the species was found historically (Tularosa/San Francisco, Mimbres, Alamosa/Seco/Rio Grande, Gila, Playas, and Yaqui). However, all six are characterized by few, mostly small, isolated populations. Populations in the Playas drainage are limited to two livestock tanks. The species was not found on the mainstem, Middle Fork, and East Fork of the Gila River, where the species occurred historically at many localities.

In Arizona, the species is still extant in all major drainages of historical occurrence (Little Colorado, Salt, Verde, Gila, San Pedro, Santa Cruz, Yaqui/Bavispe, and Magdalena river drainages), but was not found recently in some major tributaries and/or from river mainstems. For instance, the species was not reported from 1995 to the present from the following drainages or river mainstems where it historically occurred: White River, East Clear Creek, West Clear Creek, Silver Creek, Tonto Creek, Verde River mainstem, San Francisco River, San Carlos River, upper San Pedro River mainstem, Santa Cruz River mainstem, Aravaipa Creek, Babocomari River mainstem, and Sonoita Creek. In southeastern Arizona, no recent records (1995 to the present) exist for the following mountain ranges or valleys: Pinaleno Mountains, Peloncillo Mountains, Sulphur Springs Valley, Huachuca Mountains, and Canelo Hills. In many of these regions, Chiricahua leopard frogs were not found for a decade or more despite repeated surveys.

These apparent regional extirpations provide further evidence that the species is disappearing from its range. Once extirpated from a region, natural recolonization of suitable habitats is unlikely to occur in the near future. Where the species is still extant, sometimes several small populations are found in close proximity suggesting metapopulations are important for preventing regional extirpation (Sredl *et al.* 1997).

Disruption of metapopulation dynamics is likely an important factor in regional loss of populations (Sredl *et al.* 1997, Sredl and Howland 1994). Chiricahua leopard frog populations are often small, and habitats are dynamic, resulting in a relatively low probability of long-term population persistence. However, if populations are relatively close together and numerous, extirpated sites can be recolonized.

Human disturbances can result in increased rates of extinction and decreased rates of recolonization. If the extinction rate for a given population exceeds the colonization rate, that population will go extinct (Hanski 1991). Various human impacts (see Summary of Factors Affecting the Species) can result in increased extinction rates and/or increased isolation of populations within a metapopulation with resulting decreased colonization rates. In addition, big rivers, lakes, and reservoirs that once probably supported large populations of Chiricahua leopard frogs, and were likely stable source populations for dispersal to smaller sites, are almost all inhabited by nonnative predators and are unsuitable as habitat for this species (Sredl *et al.* 1997, Sredl and Howland 1994). The currently extant smaller populations almost certainly exhibit greater extinction rates than these larger populations did historically.

Rosen *et al.* (1996) hypothesized that ''the ongoing restriction of Chiricahua leopard frogs to shallow, marginal habitat types means that eventually the species will be wiped out by a drought (see Fellers and Drost 1993, Corn and Fogelman 1984) that it would readily have weathered in refugia now pre-empted by nonnative species. Our hypothesis clearly predicts that this species will go extinct in southern Arizona, and probably elsewhere, unless appropriate action is taken.'' In New Mexico, Painter (1996) reported similar findings: ''*Rana chiricahuensis* is rapidly disappearing from southwest New Mexico (Jennings 1995, pers. obs.). Unless these unexplainable trends are quickly reversed, I expect the species to be extirpated from 90–100 percent of its former range in New Mexico within the next decade * * *''.

Previous Federal Action

Based on status information indicating the species was recently extirpated from historical localities (Clarkson and Rorabaugh 1989), the Chiricahua leopard frog was added to the list of category 2 candidate species with the publication of a comprehensive Notice of Review on November 21, 1991 (56 FR 58804). We also included the species as a category 2 candidate in the November 15, 1994, Notice of Review (59 FR 58982). Category 2 candidates were those taxa for which we had some evidence of vulnerability and threats, but for which we lacked sufficient data to support a listing proposal.

Beginning with our February 28, 1996, candidate notice of review (61 FR 7596), we discontinued the designation of multiple categories of candidates, and only those taxa meeting the definition for former category 1 candidates are now considered candidates for listing purposes. Category 1 candidates were taxa for which we had on file sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened, but for which preparation of listing proposals was precluded by higher priority listing actions. In the February 28, 1996, notice, we identified the Chiricahua leopard frog as a candidate species.

On June 10, 1998, we received a petition dated June 4, 1998, from the Southwest Center for Biological Diversity to list the Chiricahua leopard frog as endangered and to designate critical habitat for the species. In a letter dated July 7, 1998, we informed the petitioner that, pursuant to the Service's July 1996 Petition Management Guidance, we consider candidate species to be under petition and covered by a ''warranted but precluded'' finding under section 4(b)(3)(B)(iii) of the Act. Because listing of candidates is, by definition, already warranted, petitions on candidates are redundant. Accordingly, we do not prepare 90-day findings for petitioned candidate species. We address the resolution of the conservation status of the Chiricahua leopard frog and other candidates through the Listing Priority Guidance.

The processing of this proposed rule conforms with the Fiscal Year 2000 Listing Priority Guidance, published on October 22, 1999 (64 FR 57114). The guidance clarifies the order in which we will process rulemakings. Highest priority is processing emergency listing rules for any species determined to face a significant and imminent risk to its well-being (Priority 1). Second priority (Priority 2) is processing final determinations on proposed additions to the lists of endangered and threatened wildlife and plants. Third priority is processing new proposals to add species to the lists. The processing of administrative petition findings (petitions filed under section 4 of the Act) is the fourth priority. This proposed rule is a Priority 3 action and is being completed in accordance with the current Listing Priority Guidance.

Peer Review

In accordance with the policy promulgated July 1, 1994 (59 FR 34270), we will solicit the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure listing decisions are based on scientifically sound data, assumptions, and analyses, including input of appropriate experts and specialists. Peer reviewers will be mailed copies of this proposed rule to list the Chiricahua leopard frog as a threatened species immediately following publication in the **Federal Register**. We solicit peer reviewers to comment during the public comment period upon the specific assumptions and conclusions regarding this proposed listing. In the preparation of the final rule, we consider all comments received.

Summary of Factors Affecting the Species

Section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in Section 4(a)(1). These factors and their application to the Chiricahua leopard frog (*Rana chiricahuensis* Platz and Mecham) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Riparian (in or associated with wetted areas) and wetland communities throughout the range of the Chiricahua leopard frog are much altered and/or reduced in size compared to early-to mid-19th century conditions (Arizona Department of Water Resources 1994; Brown 1985; Hendrickson and Minckley 1984; Minckley and Brown 1982). Dams, diversions, groundwater pumping, introduction of nonnative organisms, woodcutting, mining, urban and agricultural development, road construction, overgrazing, and altered fire regimes all contributed to reduced quality and quantity of riparian and wetland habitat (Belsky and Blumenthal 1997; Wang *et al.* 1997; DeBano and Neary 1996; Bahre 1995; Brown 1985; Hadley and Sheridan 1995; Ohmart 1995; Stebbins and Cohen 1995; Hendrickson and Minckley 1984; Arizona State University 1979; Gifford and Hawkins 1978).

Many of these changes began before ranid frogs were widely collected or studied in Arizona and New Mexico. The Chiricahua leopard frog may have been much more widely distributed in pre-settlement times than is indicated by historical collections. Extant localities are generally located in stream and river drainage headwaters, springs, and stock tanks. However, historical records exist for the Verde, San Pedro, Santa Cruz, Mimbres, and Gila Rivers, and the species is extant in the mainstem of the San Francisco River in New Mexico and on the Blue River in Arizona. These findings suggest that it may have occurred in other major drainages, such as the mainstems of the Salt, White, Black, and Little Colorado Rivers. Habitat degradation, diversions, loss or alteration of stream flows, groundwater pumping, introduction of nonnative organisms, and other changes are often most apparent on these larger drainages (Sredl *et al.* 1997, State of Arizona 1990).

Although the cumulative effect of such changes to its habitat is unknown, the extirpation of the Chiricahua leopard frog may have occurred in some major drainages prior to its occurrence being documented. These large drainages connect many of the extant and historical populations and may have served as important corridors for exchange of genetic material and as a source of frogs for recolonization if extirpations occurred within populations (Sredl *et al.* 1997, Rosen *et al.* 1996).

Beavers (*Castor canadensis*) likely promoted the creation of Chiricahua leopard frog habitat. The activities of beavers tend to inhibit erosion and downcutting of stream channels (Parker *et al.* 1985), and ponded water behind beaver dams is favored habitat for ranid frogs. However, beavers were extirpated from some areas by the late 1800s and are still not abundant or are extirpated from other areas where they were once common (Hoffmeister 1986). For example, in Arizona beavers are extirpated from the Santa Cruz River and, before recent reintroductions, were extirpated from the San Pedro River. Loss of this large mammal and the dams it constructed likely resulted in loss of backwater and pool habitat favored by the Chiricahua leopard frog.

These changes occurred before leopard frogs were widely collected; thus, hypotheses concerning correlations between extirpations of beaver and Chiricahua leopard frogs cannot be tested by comparing historical versus extant frog populations. Where beavers occur within the range of the Chiricahua leopard frog today, beaver ponds are often inhabited by nonnative predators, such as introduced fish and bullfrogs, that prey upon and likely preclude colonization by Chiricahua leopard frogs. Because nonnative species often thrive in beaver ponds, the presence of beavers could actually hinder recovery of the Chiricahua leopard frog in some systems.

Stock tanks, constructed as water sources for livestock, are very important habitats for the Chiricahua leopard frog throughout its range. In some areas, stock tanks replaced natural springs and cienegas and provide the only suitable habitat available to the Chiricahua leopard frog. For instance, the only known localities of the Chiricahua leopard frog in the San Rafael and San Bernardino Valleys, Fossil Creek drainage, and in the Patagonia Mountains of Arizona are stock tanks. Sixty-one percent of extant Chiricahua leopard frog localities in Arizona are stock tanks, versus only 35 percent of extirpated localities (Sredl and Saylor

1998), suggesting Arizona populations of this species have fared better in stock tanks than in natural habitats. However, this generalization may not be true for New Mexico, where in recent years many stock tank populations were extirpated. Sredl and Saylor (1998) also found that stock tanks are occupied less frequently by nonnative predators (with the exception of bullfrogs) than natural sites. Therefore, a high probability exists that the Chiricahua leopard frog would be extirpated from many more areas if ranchers had not built and maintained stock tanks for livestock production.

Although stock tanks provide refugia for frog populations and are very important for this species, only small populations are supported by such tanks, and these habitats are very dynamic. Tanks often dry out during drought, and flooding may destroy downstream impoundments or cause siltation, either of which may result in loss of aquatic habitat and extirpation of frog populations. Periodic maintenance to remove silt from tanks may also cause a temporary loss of habitat. Populations of nonnative introduced predaceous fish and bullfrogs, although less prevalent than in natural habitats, sometimes become established in stock tanks and are implicated in the decline of the Chiricahua leopard frog (Rosen *et al.* 1996, 1994). Stock tanks may facilitate spread of nonnative organisms by providing aquatic habitats in arid landscapes that otherwise may have served as barriers to the spread of such organisms. In New Mexico, stock tank populations in some areas were eliminated by disease (Declining Amphibian Populations Task Force 1993).

Grazing by domestic livestock occurs throughout the range of the Chiricahua leopard frog. The effects of livestock grazing on leopard frog populations are not well studied. As discussed, construction of tanks for livestock has created important leopard frog habitat, and in some cases has replaced destroyed or altered natural wetland habitats. A large and healthy population of Chiricahua leopard frogs coexists with cattle and horses on the Tularosa River, New Mexico (Randy Jennings, Western New Mexico University, pers. comm. 1995).

Maintenance of viable populations of Chiricahua leopard frogs is thought to be compatible with well-managed livestock grazing. However, adverse effects to the species and its habitat may occur under certain circumstances. These effects to habitats include deterioration of watersheds, erosion and/or siltation of stream courses, elimination of undercut banks that provide cover for frogs, and loss of wetland and riparian vegetation and backwater pools (Belsky *et al.* 1999, Ohmart 1995; Hendrickson and Minckley 1984; Arizona State University 1979). Eggs and tadpoles of the Chiricahua leopard frog are probably trampled by cattle on the perimeter of stock tanks and in pools along streams. Cattle can also contribute to degraded water quality at stock tanks, including elevated hydrogen sulfide concentrations, which are toxic to frogs (Sredl *et al.* 1997).

Many large impoundments or lakes were created within the range of the Chiricahua leopard frog for water storage, recreation, and as a source of hydroelectric power. Historical records exist for the species from Luna Lake, Nelson Reservoir, Hawley Lake, and Rainbow Lake north of the Gila River in Arizona; and Lake Roberts, Patterson Lake, and Ben Lilly Lake in New Mexico, but surveys at these sites since 1985 located no frogs (Jennings 1995, Arizona Game and Fish Department (AGFD) 1997). Currently, large impoundments invariably support populations of nonnative fish and/or bullfrogs. Predation and possibly competition with leopard frogs by these introduced predators likely contributed to the disappearance of the Chiricahua leopard frog from reservoir habitats.

Construction and operation of reservoirs also alter downstream flows and can result in dramatic changes in stream hydrology, rates of erosion and sedimentation, riparian vegetation, and other components of riparian ecosystems (Johnson 1978). The effects of these changes on Chiricahua leopard frog populations are unknown. However, downstream effects of such impoundments are implicated in the decline of other anurans (frogs and toads), including the endangered arroyo toad (*Bufo californicus*) (Service 1993) and the foothill yellow-legged frog (*Rana boylii*) (Lind *et al.* 1996).

On the Trinity River in California, the extent of riparian vegetation increased with an accompanying decrease in sandbar habitat, of which the latter was breeding habitat of the yellow-legged frog. Unseasonably high flows from dam releases also resulted in loss of entire cohorts or age groups of larval frogs (Lind *et al.* 1996). Similar effects may occur in Chiricahua leopard frog habitat. Water temperatures are often colder below dams than in similar unaltered systems (Lind *et al.* 1996), which may retard development of frog eggs and larvae (Stebbins and Cohen 1995). Lack of scouring flood flows below dams may also create relatively stable pool habitat with established vegetation that favors establishment of bullfrogs (Lind *et al.* 1996). Dispersal of nonnative fish from impoundments to either downstream or upstream reaches may have resulted in further adverse effects to frog populations.

Only a few extant or historical Chiricahua leopard frog localities are thought to be directly affected by current mining operations. Active mining occurs in California Gulch, Pajarito Mountains, Arizona, but is limited to a short reach of the drainage. The recently proposed Gentry Iron Mine may be located within 1.6 km (1.0 mi) of two Chiricahua leopard frog populations on the Tonto National Forest, Arizona. The resulting effects of the proposed mining activities on these populations are uncertain at this time, but may include changes in water quality and flow rates. Populations of Chiricahua leopard frog northeast of Hurley, Grant County, New Mexico, may also be affected by mining. Evidence of mining can be found at or near many other localities, but few mines are currently active and most do not directly affect the wetland and riparian habitats occupied by the species. Although mining activities were more widespread historically and may have constituted a greater threat in the past, the mining of sand and gravel, iron, gold, copper, or other materials remains a potential threat to the habitat of the Chiricahua leopard frog. In addition, as noted in Factor C of this section, mining also has indirect adverse effects to this species.

Fire frequency and intensity in the mountain ranges of southeastern Arizona and southwestern New Mexico are much altered from historic conditions. Before 1900, surface fires generally occurred at least once per decade in montane forests with a pine component. Beginning about 1870–1900, these frequent ground fires ceased to occur due to intensive livestock grazing that removed fine fuels, followed by effective fire suppression in the mid to late 20th century (Swetnam and Baisan 1996). Absence of ground fires allowed a buildup of woody fuels that precipitated infrequent but intense crown fires (Danzer *et al.* 1997, Swetnam and Baisan 1996). Absence of vegetation and forest litter following intense crown fires exposes soils to surface and rill erosion during storms, often causing high peak flows, sedimentation, and erosion in downstream drainages (DeBano and Neary 1996). Following the 1994 Rattlesnake fire in the Chiricahua Mountains, Arizona, a debris flow filled in Rucker Lake, a historic Chiricahua leopard frog locality. Leopard frogs

(either Chiricahua or Ramsey Canyon leopard frogs) apparently disappeared from Miller Canyon in the Huachuca Mountains, Arizona, after a 1977 crown fire in the upper canyon and subsequent erosion and scouring of the canyon during storm events (Tom Beatty, Miller Canyon, pers. comm. 2000). Leopard frogs were historically known from many localities in the Huachuca Mountains; however, natural pool and pond habitat is largely absent now, and the only breeding leopard frog populations occur in man-made tanks and ponds. Bowers and McLaughlin (1994) list six riparian plant species they believed might have been eliminated from the Huachuca Mountains as a result of floods and debris flow following destructive fires.

Other activities have also affected the habitat of the Chiricahua leopard frog. For instance, in an attempt to increase flow, explosives were used at Birch Springs in the Animas Mountains to open up the spring. The explosion resulted in destruction of aquatic habitat, flows were reduced rather than increased, and Chiricahua leopard frogs subsequently disappeared (N. Scott, pers. comm. 1994).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* The collection of Chiricahua leopard frogs in Arizona is prohibited by Arizona Game and Fish Commission Order 41, except where such collection is authorized by special permit. Collection of Chiricahua leopard frogs is also prohibited in Mexico. The collection of Chiricahua leopard frogs is not prohibited in the State of New Mexico.

Over-collection for commercial purposes is known to be a contributing factor in the decline of other ranid frogs (Jennings and Hayes 1985, Corn and Fogelman 1984). Although collection is not documented as a cause of population decline or loss in the Chiricahua leopard frog, the collection of large adult frogs for food, scientific, or other purposes, particularly after a winter die-off or other event that severely reduces the adult population, can hasten the extirpation of small populations. The listing of the Chiricahua leopard frog and its recognition as a rare species is reasonably expected to increase its value to collectors. In 1995, many large adult Ramsey Canyon leopard frogs (closely related to the Chiricahua leopard frog) were illegally collected from a site in the Huachuca Mountains, Arizona, following publicity about the rare status of the frog.

C. *Disease or predation.* Predation by introduced, nonnative bullfrogs and fish was implicated as a contributing factor in the decline of ranid frogs in western North America (Bradford *et al.* 1993, Hayes and Jennings 1986, Moyle 1973), and may be the most important factor identified so far in the current decline of the Chiricahua leopard frog (Rosen *et al.* 1994, 1996). In southeastern Arizona, Rosen *et al.* (1994, 1996) documented 13 nonnative predaceous vertebrate species in aquatic habitats in the range of the Chiricahua leopard frog, including bullfrog, tiger salamander, and 11 fish species including bass, trout, and catfish, among others.

Rosen *et al.* (1994, 1996) found that Chiricahua leopard frogs were replaced by bullfrogs and centrarchid fish. Sixteen of 19 localities where Chiricahua leopard frogs occurred lacked nonnative vertebrates. All historical frog localities that lacked Chiricahua leopard frogs supported nonnative vertebrates. At the three sites where Chiricahua leopard frogs occurred with nonnatives (one site with green sunfish, *Lepomis cyanellus,* and two with tiger salamanders), either the frog or the nonnative vertebrate was rare. In two of the three cases, frogs may have derived from other nearby localities (Rosen *et al.* 1996), and thus may have represented immigrants rather than a viable population.

In the San Rafael Valley, Arizona, Chiricahua leopard frogs were found only at sites that lacked nonnative fish and bullfrogs (Snyder *et al.* 1996). In the White Mountains of Arizona, disappearance of Chiricahua leopard frogs from most historical localities correlated with the appearance of tiger salamanders and nonnative crayfish (Fernandez and Bagnara 1995). Crayfish were found to prey upon Chiricahua leopard frog larvae, metamorphs, and adults. Crayfish recently spread to the breeding pond of one of the last and possibly the most robust populations of Chiricahua leopard frogs in the White Mountains, Arizona (M. Sredl, pers. comm. 1999, Fernandez and Rosen 1998).

Sredl and Howland (1994) noted that Chiricahua leopard frogs were nearly always absent from sites supporting bullfrogs and nonnative predatory fish; however, Rosen *et al.* (1996) suggested further study was needed to evaluate the effects of mosquitofish, trout, and catfish on frog presence. Rosen *et al.* (1996) suspected that catfish would almost always exclude Chiricahua leopard frogs, and that trout may exclude leopard frogs.

In contrast to nonnative aquatic vertebrates, numerous species of native fish, the Sonoran mud turtle (*Kinosternon sonoriense*), other species of native ranid frogs, and native garter snakes (Rosen *et al.* 1996, Platz and Mecham 1979) commonly coexist with the Chiricahua leopard frog. Tiger salamanders are native to the following portions of the Chiricahua leopard frog's range: San Rafael Valley in southeastern Arizona (*Ambystoma tigrinum stebbinsi*), the northern portion of the species' range (*Ambystoma tigrinum nebulosum*), and the mountains of Sonora, Chihuahua, and Durango (*Ambystoma rosaceum*). Native fishes, such as trout (*Oncorhynchus*), chub (*Gila*), and topminnow (*Poeciliopsis*), also occur within the range of the Chiricahua leopard frog.

The Rio Grande leopard frog (*Rana berlandieri*) is a recent introduction to southwestern Arizona, (Platz *et al.* 1990). Although the species does not presently occur within the range of the Chiricahua leopard frog, the Rio Grandes leopard frog is rapidly expanding its distribution and currently occurs as far east as the Phoenix area (Rorabaugh *et al.* in prep.). If it continues to spread eastward, the ranges of the Rio Grande and Chiricahua leopard frogs may overlap in the future. This large, introduced leopard frog might prey on small Chiricahua leopard frogs (Platz *et al.* 1990), and tadpoles of the two species may compete.

In June 1994, a die-off of Chiricahua leopard frogs occurred at a stock tank in the Chiricahua Mountains, Arizona, that reduced the frog population from 60–80 adults to fewer than 10 (Sredl *et al.* 1997). Analysis of dead and moribund frogs and water from the tank indicated that disease was unlikely to be the cause of the die-off, however, levels of hydrogen sulfide were high enough to be toxic to wildlife. The authors suspected that high detritus loads (including cattle feces), low water levels, high water temperature, and low concentrations of dissolved oxygen created a suitable environment for sulphur-producing bacteria that produced toxic levels of hydrogen sulfide. Chiricahua leopard frogs were not found at this site in 1998.

The disease Postmetamorphic Death Syndrome (PDS) was implicated in the extirpation of Chiricahua leopard frog populations in Grant County, New Mexico, as well as in other frog and toad species (Declining Amphibian Populations Task Force 1993). All stock tank populations of the Chiricahua leopard frog in the vicinity of Gillette and Cooney tanks in Grant County disappeared within a 3-year period, apparently as a result of PDS (Declining Amphibian Populations Task Force 1993). The syndrome is characterized by death of all or most recently metamorphosed frogs in a short period

of time. Dead or moribund frogs are often found during or immediately following winter dormancy or unusually cold periods. The syndrome appears to spread among adjacent populations causing regional loss of populations or metapopulations. Evidence suggests that PDS may also be present in the Santa Rita and Pajarito mountains, Arizona. Although winter die-offs are not documented, Steve Hale (Tucson, AZ, pers. comm. 1994) observed very few Chiricahua leopard frogs in the spring, suggesting that frogs are dying during the winter months. The apparent post-metamorphic death of the Tarahumara frog was documented in southern Arizona and northern Sonora (Hale *et al.* 1995, Hale and Jarchow 1988), and numbers of Ramsey Canyon leopard frogs declined in the Huachuca Mountains, Arizona, during the winters of 1997–1998 and 1998–1999.

Arsenic poisoning may be a contributing factor in PDS (Hale and Jarchow 1988). Elevated arsenic levels may have contributed to the extirpation of the Tarahumara frog at a site in northern Sonora (Hale and Jarchow 1988). Arsenic often occurs at high levels near sulfitic mine tailings and may be leached by rainfall containing elevated levels of sulfate (Hale and Jarchow 1988). Rainfall near Elgin in southeastern Arizona contained high levels of sulfate, probably due to emissions from copper smelters in Cananea and Nacozari, Sonora, and Douglas, Arizona (Blanchard and Stromberg 1987). The smelters at Cananea and Douglas are no longer in operation.

The size of the Chiricahua leopard frog population in Sycamore Canyon in the Pajarito Mountains of Arizona appears to vary greatly from year to year. This annual variation in population size may be attributable, in part, to cadmium toxicity (Hale and Jarchow 1988). A likely source of cadmium in Chiricahua leopard frog habitat is emissions from copper smelters at Cananea and Nacozari, Sonora (Hale and Jarchow 1988, Blanchard and Stromberg 1987). Elevated levels of cadmium also occur in and near tailings of copper, lead, and zinc mines (Peterson and Alloway 1979). Cadmium may be mobilized and deposited into stream courses through rainfall.

From 1980 to 1985, Chiricahua leopard frogs were abundant in Sycamore Canyon only at Hank and Yank Tank and in the creek immediately downstream of it. In May 1982 the ratio of zinc to cadmium in this reach was 5 to 30 times that of downstream reaches where frogs were absent or very rare (Hale and Jarchow 1988). Cumulative leaching and deposition in drainages likely results in elevated concentrations of cadmium in downstream reaches. Thus, stream headwaters and springs, such as Hank and Yank Tank, may be important refugia for frogs during times when toxic conditions exist in downstream reaches. Decreased zinc to cadmium ratios may have also contributed to the extirpation of the Tarahumara frog from one site in southern Arizona and three sites in northern Sonora (Hale and Jarchow 1988).

Other contaminants or pathogens may also be contributing to the decline of the Chiricahua leopard frog. Lips (1998) documented reduced abundance and skewed sex ratios of two anuran species, and dead and dying individuals of six other amphibian species in Puntarenas Province, Costa Rica. She attributed these changes to biotic pathogens or chemicals, or the combined effects of environmental contamination and climate change. Toxic agrochemicals may have been transported via winds and the atmosphere over long distances to the remote sites studied in Costa Rica. Her observations are also consistent with a pathogen outbreak, and recent evidence suggests a chytridiomycete skin fungi may be responsible for the declines (Longcore *et al.* 1999, Berger *et al.* 1998). Lips (1998) noted that declines in her study area are similar to those reported for Monteverde, Costa Rica, the Atlantic coast of Brazil, and Australia. Amphibian decline in these areas has spread wave-like across the landscape, suggestive of pathogen dispersal. Chytrid fungi have recently been shown to be associated with amphibian declines in Panama and Queensland, Australia (Berger *et al.* 1998); the authors hypothesize that it is the proximate cause of amphibian decline in these areas. Chytrid fungi have also been found in captive arroyo toads, *Bufo californicus*, in California, cricket frogs, *Acris crepitans*, in Illinois, American toads, *Bufo americanus*, in Maryland, and in Arizona, lowland leopard frogs, *Rana yavapaiensis*, Rio Grande leopard frogs, Ramsey Canyon leopard frogs, and four populations of Chiricahua leopard frogs (M. Sredl, pers. Comm., 2000; Milius 1998). The role of the fungi in the population dynamics of the Chiricahua leopard frog and these other North American species is as yet undefined; however, it may well prove to be an important contributing factor in observed population decline. Rapid death of recently metamorphosed frogs, typical of post-metamorphic death syndrome, is also characteristic of chytrid infections. Thus, chytrids may have played a role in extirpation of stock tank populations of Chiricahua leopard frog in New Mexico (Declining Amphibian Populations Task Force 1993), as well as overwinter die-offs in the mountains of southern Arizona.

D. *The inadequacy of existing regulatory mechanisms.* A variety of existing international conventions and law and Federal and State regulations provide limited protection to the Chiricahua leopard frog and its habitat. State regulations prohibit collection or hunting of Chiricahua leopard frogs in Arizona, except under special permit. Collection is not prohibited in New Mexico, and although collecting has not been documented as a cause of population loss, the typically small, geographically isolated populations of this species are extremely vulnerable to collection pressure. Regulations have not been adequate to stem habitat loss and degradation or to address factors such as introduction of nonnative predators.

In Mexico, the collection of threatened species is prohibited. The habitats of the Chiricahua leopard frog and other threatened species are protected from some activities in Mexico. The species is not protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, which regulates international trade.

The Lacey Act (16 U.S.C. 3371 *et seq.*), as amended in 1982, provides some protection for the Chiricahua leopard frog. This legislation prohibits the import, export, sale, receipt, acquisition, purchase, and engagement in interstate or foreign commerce of any species taken, possessed, or sold in violation of any law, treaty, or regulation of the United States, any Tribal law, or any law or regulation of any State.

The Federal Land Policy Management Act of 1976 (43 U.S.C. 1701 *et seq.*) and the National Forest Management Act of 1976 (16 U.S.C. 1600 *et seq.*) direct Federal agencies to prepare programmatic-level management plans to guide long-term resource management decisions. In addition, the Forest Service is required to ''maintain viable populations of existing native and desired nonnative species'' in their planning areas (36 CFR 219.19). These regulations have resulted in the preparation of a variety of land management plans by the Forest Service and the Bureau of Land Management that address management and resource protection of areas that support, or in the past supported, populations of Chiricahua leopard frogs.

At least 47 of 79 localities confirmed as supporting extant populations of the Chiricahua leopard frog from 1995 to the present occur entirely, or in part, on National Forest Lands. Thirty-four extant localities occur entirely, or in part, on the Coronado National Forest, Arizona. Additional localities occur on the Gila, Apache-Sitgreaves, Tonto, and Coconino National Forests. As a result, Forest Service land management plans are particularly important in guiding the management of Chiricahua leopard frog habitat. However, these plans have not always adequately protected this species' habitat. Many activities that affect the Chiricahua leopard frog and its habitat are beyond Forest Service control. For instance, the Forest Service does not have the authority to regulate off-site activities such as atmospheric pollution from copper smelters or other actions that may be responsible for global amphibian declines, including that of the Chiricahua leopard frog. The Forest Service has only limited ability to regulate introductions or stockings of nonnative species that prey on Chiricahua leopard frogs. Despite extensive planning efforts by the Forest Service and implementation of management actions to maintain viable populations of native species on Forest Service lands, loss of Chiricahua leopard frog populations and metapopulations continues.

The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4370a) requires Federal agencies to consider the environmental impacts of their actions. NEPA requires Federal agencies to describe the proposed action, consider alternatives, identify and disclose potential environmental impacts of each alternative, and involve the public in the decision-making process. Federal agencies are not required to select the alternative having the least significant environmental impacts. A Federal action agency may select an action that will adversely affect sensitive species provided that these effects were known and identified in a NEPA document. Most actions taken by the Forest Service, the Bureau of Land Management, and other Federal agencies that affect the Chiricahua leopard frog are subject to the NEPA process.

State and Federal air quality regulations strictly regulate emissions from copper smelters, a major source of atmospheric cadmium and arsenic, pollutants that may adversely affect the Chiricahua leopard frog (Hale and Jarchow 1988). However, a major source of airborne pollutants likely affecting this species has been copper smelters in Cananea and Nacozari, Sonora, which are not subject to the same strict regulations as in the United States (Hale *et al.* Blanchard and Stromberg 1987).

Wetland values and water quality of aquatic sites inhabited by the Chiricahua leopard frog are afforded varying protection under the Federal Water Pollution Control Act of 1948 (33 U.S.C. 1251–1376), as amended, and Federal Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands). The protection afforded by these and other Federal laws and regulations discussed herein is inadequate to halt population extirpation and the degradation of the habitat of this species.

The AGFD included the Chiricahua leopard frog on their draft list of species of concern (AGFD 1996); however, this designation affords no legal protection to the species or its habitat. Collection of Chiricahua leopard frogs is prohibited in Arizona, except by special permit. The Chiricahua leopard frog is not a State-listed species, nor is collection prohibited in New Mexico.

The New Mexico Department of Game and Fish adopted a wetland protection policy in which the Department does not endorse nor take any action that would promote any private or public project that would result in a net decrease in either wetland acreage or wetland habitat values. This policy affords only limited protection to Chiricahua leopard frog habitat because it is advisory only; destruction or alteration of wetlands is not regulated by State law.

State of Arizona Executive Order Number 89–16 (Streams and Riparian Resources), signed on June 10, 1989, directs State agencies to evaluate their actions and implement changes, as appropriate, to allow for restoration of riparian resources. Implementation of this regulation may reduce adverse effects of some State actions on the habitat of the Chiricahua leopard frog.

E. *Other natural or manmade factors affecting its continued existence.* Because of the inherent dynamic nature of southwestern wetland and riparian habitats, coupled with the increased likelihood of extirpation characteristic of small populations, the viability of extant populations of the Chiricahua leopard frog is thought, in many cases, to be relatively short. Approximately 38 of 79 extant localities found from 1995 to the present were located in artificial tanks or impoundments constructed for watering livestock. These environments are very dynamic due to flooding, drought, and human activities such as maintenance of stock tanks. In addition, stock tank populations are often quite small. Small populations are subject to extirpation from random variations in such factors as the demographics of age structure or sex ratio, and from disease and other natural events (Wilcox and Murphy 1985). Inbreeding depression and loss of genetic diversity may also occur in small populations of less than a few hundred individuals; such loss may reduce the fitness of individuals and the ability of the population to adapt to change (Frankel and Soule 1981). Both of these genetic considerations result in an increased likelihood of extirpation (Lande and Barrowclough 1987).

The dynamic nature of stock tank habitats and the small size of the populations that inhabit them suggest that many of these populations are not likely to persist for long periods. As an example, siltation and drought dramatically reduced the extent of aquatic habitat at Rosewood Tank in the San Bernardino Valley, Arizona (Matt Magoffin, San Bernardino National Wildlife Refuge, pers. comm. 1997). Aquatic habitat was reduced in June 1994, to a surface area of approximately 60 square feet (sq. ft) that supported a population of approximately eight adult Chiricahua leopard frogs and several hundred tadpoles. In this instance, the landowner was only able to prevent the population from being extirpated by repeated efforts to intervene on behalf of the Chiricahua leopard frog in trucking water to the site, rebuilding the tank, and constructing a small permanent pond to maintain habitat for the species.

Some larger populations occurring in stream courses or other non-stock tank habitats also experience dramatic changes in population size, such as in Sycamore Canyon in the Pajarito Mountains, Arizona, and on the eastern slope of the Santa Rita Mountains, Arizona (S. Hale, pers. comm. 1994). These habitats, although much larger than a stock tank, experience dramatic environmental phenomena such as floods, drought, and in the case of Sycamore Canyon, varied zinc to cadmium ratios, all of which may cause populations to crash. This finding suggests that even these relatively large and natural habitats and the frog populations they support are very dynamic. As a result of this dynamic nature, leopard frog populations are susceptible to extirpation.

As discussed in the ''Background'' section of this proposed rule, metapopulations are more likely to persist over time than small, more isolated populations, because individuals and genetic material can be exchanged among populations within the metapopulation, resulting in increased recolonization rates and fewer

potential genetic problems. To define metapopulations of the Chiricahua leopard frog, some knowledge of the ability of this species to move among aquatic sites is required. Although the ability of the Chiricahua leopard frog to move among aquatic sites needs some additional study, the Chiricahua leopard frog is considered a highly aquatic species (Stebbins 1985) that may not travel as far from water as other leopard frog species. Amphibians, in general, have limited dispersal and colonization abilities due to physiological constraints, limited movements, and high site fidelity (Blaustein *et al.* 1994). Dispersal of Chiricahua leopard frogs probably occurs most often along drainages, particularly those with permanent water, but also along intermittent stream courses and overland during summer rains.

Where several populations of Chiricahua leopard frog occur in close proximity (separated by no more than a few kilometers), functional metapopulations may exist. Two areas of the Galiuro Mountains of Arizona support a total of 12 extant localities, including 4 localities in the northern end of the range and 8 in the southern end. A similar cluster of seven localities occurs in the Dragoon Mountains, Arizona. Metapopulations may exist elsewhere, for instance, in Arizona in the southwest quarter of the San Rafael Valley, and in the Crouch Creek area, and in New Mexico, east and northeast of Hurley, and in the Frieborn Canyon-Dry Blue Creek area. However, with the exception of those in the Dragoon and southern Galiuro mountains, metapopulations of which we are aware probably consist of five or fewer localities. Metapopulations, particularly the larger examples, are critical to long-term survival of the species. Also critical are large populations, such as on the Tularosa River, New Mexico, and Sycamore Canyon and associated tanks in the Pajarito Mountains, Arizona, which are expected to experience relatively low extinction rates and may serve as source populations for colonization of nearby suitable habitats.

In making the determination to propose this rule, we carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the Chiricahua leopard frog. Based on this evaluation, our preferred action is to list the Chiricahua leopard frog as threatened. The Act defines an endangered species as one that is in danger of extinction throughout all or a significant portion of its range. The Act defines a threatened species as any species likely to become endangered within the foreseeable future.

Within its range in the United States, the Chiricahua leopard frog is believed absent from a relatively high percentage of historical localities, and has undergone regional extirpation in areas where it was once well-distributed. The status of populations in Mexico are unknown, but the species is considered as threatened by the Mexican Government. The species is not in immediate danger of extinction, because at least a few relatively robust populations and metapopulations still exist (e.g., Tularosa River, Dragoon Mountains, Galiuro Mountains), and 79 extant localities have been documented from 1995 to the present. However, if present threats and declines continue, the Chiricahua leopard frog is likely to become an endangered species in the foreseeable future (Painter 1996, Rosen *et al.* 1996). Therefore, we believe that the Chiricahua leopard frog meets the definition of a threatened species under the Act.

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.

Section 4(b)(2) and 4(b)(6)(C) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. The designation of critical habitat is not prudent (50 CFR 424.12(a)(1)) when one or both of the following situations exist—(1) the species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat, or (2) such designation would not be beneficial to the species.

Critical habitat designation would require publishing in the **Federal Register** the locations of all or the most important Chiricahua leopard frog populations and habitats. As discussed under Factor B in the ''Summary of Factors Affecting the Species,'' the Chiricahua leopard frog is potentially threatened by collection. Publishing locality data would facilitate collection as it would provide collectors with specific, previously unknown information about the location of this species. Collection has contributed to the decline of other rare anurans, including the endangered Wyoming toad (*Bufo hemiophrys baxteri*), threatened California red-legged frog (*Rana aurora draytonii*) (Stebbins and Cohen 1995, Jennings and Hayes 1995), and a number of other anuran species worldwide (Vial and Saylor 1993).

Scientists have not documented collection, to date, as a cause of population decline or loss in the Chiricahua leopard frog. However, such collection would be difficult to document. Collection of large adult frogs for food, fish bait, scientific, or other purposes, particularly after a winter die-off or other event that severely reduces the adult population, could hasten the extirpation of small populations. Recognition of the Chiricahua leopard frog as a threatened species may increase its value to collectors. The Chiricahua leopard frog is an attractive, often bright green frog that we believe would do quite well in captivity. The Northern leopard frog, *Rana pipiens*, a very similar animal, is common in the pet trade. We are aware of internet trade in ''leopard frogs,'' which could include Chiricahua leopard frogs. Chiricahua leopard frogs should be as attractive as the Northern leopard frog to collectors, or perhaps more so because of their rarity.

Import and export data provided by our Division of Law Enforcement document a substantial amount of international trade in *Rana* spp. Specifically, for the period of January 1, 1996, to October 31, 1998, 9,997 live individuals of *Rana* spp. were imported into and 51,043 live individuals were exported from the United States. Because shipments of wildlife from the United States are not as closely monitored as imports, and are sometimes not recorded to the genus level (this is also true for imports as well), the number of exports documented for this timeframe is likely an under representation of what actually occurred.

In 1995, many large adult Ramsey Canyon leopard frogs (which are very similar in appearance and closely related to the Chiricahua leopard frog) were illegally collected from a site in the Huachuca Mountains, Arizona,

following publicity about the rare status of the frog. The locality, which occurs within the range of the Chiricahua leopard frog, has been considered extirpated since 1997. Collection probably contributed to its demise. Following newspaper publicity regarding our proposal to list the Arroyo toad (*Bufo microscaphus californicus*), a former U.S. Forest Service employee found that a main pool near the road, formerly with a high density of calling males, was absent of males, some previously tagged. The tagged males could not be located elsewhere, and their absence was not thought to be due to natural movement or predation (Nancy Sandburg, U.S. Forest Service pers. comm. 1999). Publishing maps for the best populations and habitats of Chiricahua leopard frog could cause or contribute to similar declines or extirpations. The evidence shows, therefore, that threat of collection would increase substantially if we disclosed specific location information for all or the most important Chiricahua leopard frog populations and habitats.

Publishing locality data could also facilitate vandalism of habitats where Chiricahua leopard frogs occur. Platz (1995) noted the disappearance of large tadpoles at a Ramsey Canyon leopard frog site in Brown Canyon, Huachuca Mountains, in 1991–1992, and suggested their disappearance may have, in part, resulted from an act of vandalism. Many Chiricahua leopard frog habitats are small and could be easily contaminated with toxicants or taken over by nonnative predators, resulting in extirpation of frog populations. The majority of extant populations also occur on public lands (primarily National Forest lands) with public access routes that lead to the populations or pass nearby. Public access to these sites is reasonably expected to facilitate collections or vandalism.

Publishing maps of Chiricahua leopard frog sites could also facilitate disease transmission. Chytridiomycosis and other amphibian diseases can be spread by transporting mud, water, or frogs from one site to another. If a person visits a site where disease is present and then travels to another site, disease can be spread via muddy or wet boots, nets, vehicles or other equipment (Speare *et al.* 1998, David Green, National Wildlife Health Center, Madison, Wisconsin, pers. comm. 2000). Although other hypotheses have been proposed (Carey *et al.* 1999), Daszak *et al.* (1999) find that the pattern of amphibian deaths and population declines associated with chytridiomycosis is consistent with an introduced pathogen. The chytrid fungus is not known to have an airborne spore, but rather disperses among individuals and populations via zoospores that swim through water or during contact between individual frogs (Daszak 1998). If chytridiomycosis is a recent introduction on a global scale, then dispersal by way of global or regional commerce; translocation of frogs and other organisms; and travel among areas by anglers, scientists, tourists, and others are viable scenarios for transmission of this disease (Daszak *et al.* 1999, Halliday 1998). Until the spread of chytridiomycosis is better understood, and the role of this and other diseases in the decline of the Chiricahua leopard frog is clarified, visitation of Chiricahua leopard frog sites should not be encouraged. Publishing maps of Chiricahua leopard frog sites could facilitate visitation by collectors or those who want to view the frog. Increased visitation increases the risk of disease transmission.

The prohibition of destruction or adverse modification of critical habitat is provided under section 7 of the Act and, therefore applies only to actions funded, authorized, or carried out by Federal agencies. ''Destruction or adverse modification'' is defined under 50 CFR 402.02 as an action that appreciably diminishes the value of critical habitat for the survival and recovery of the listed species. Similarly, section 7 prohibits jeopardizing the continued existence of a listed species. ''Jeopardize the continued existence'' is defined as an action that would be expected to reduce appreciably the likelihood of survival and recovery of a listed species.

Given the similarity in the above definitions, in most cases Federal actions that would appreciably reduce the value of critical habitat for the survival and recovery of the Chiricahua leopard frog would also reduce appreciably the likelihood of survival and recovery of the species. The Chiricahua leopard frog occurs mostly in relatively small populations that are highly vulnerable to extirpation. Habitat alteration of a severity to result in destruction or adverse modification of critical habitat would likely also jeopardize the continued existence of the species. Similarly, reasonable and prudent alternative actions that would remove the likelihood of jeopardy would also remove the likelihood of destruction or adverse modification of critical habitat. While a critical habitat designation for habitat currently occupied by this species would not be likely to change the section 7 consultation outcome because an action that destroys or adversely modifies such critical habitat would also be likely to result in jeopardy to the species, in some situations section 7 consultation might be triggered only if critical habitat is designated. Examples could include unoccupied habitat or occupied habitat that may become unoccupied in the future. However, we investigated whether designating unoccupied habitat would provide some potential benefit. We are aware of only a few unoccupied sites that would be essential for the conservation of the Chiricahua leopard frog; the vast majority of essential sites are occupied. As a result, we see little benefit from the designation of unoccupied habitat. Designating critical habitat may also provide some educational or informational benefits. However, any added benefit would be outweighed by the publication of these additional areas in detailed maps that would subject the species to the threat of collecting, vandalism, and disease transmission.

In balancing the benefits of critical habitat designation against the increased threats, we believe the records show that few, if any, benefits would be derived in this particular instance from designation of critical habitat. We believe that any potential benefits of critical habitat designation, beyond those afforded by listing, when weighed against the negative impacts of disclosing site-specific localities, does not yield an overall benefit. We, therefore, determine that critical habitat designation is not prudent for the Chiricahua leopard frog.

Special Rule

As a means to promote conservation efforts on behalf of the Chiricahua leopard frog, we are proposing a special rule under section 4(d) of the Act. Under the rule, take of Chiricahua leopard frog caused by livestock use of or maintenance activities at livestock tanks located on private or tribal lands would be exempt from section 9 of the Act. The rule targets tanks on private and tribal lands to encourage landowners and ranchers to continue to maintain these tanks that are not only important for livestock operations, but also provide habitat for leopard frogs. Livestock use and maintenance of tanks on Federal lands will be addressed through the section 7 process.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices.

Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated or proposed. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed or critical habitat is designated subsequently, Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of 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 must enter into consultation with us.

The Chiricahua leopard frog occurs on Federal lands managed by the Coronado, Apache-Sitgreaves, Tonto, Coconino, and Gila National Forests; the Bureau of Land Management; and our refuges. Examples of Federal actions that may affect the Chiricahua leopard frog include dredge-and-fill activities, grazing programs, construction and maintenance of stock tanks, logging and other vegetation removal activities, management of recreation, road construction, fish stocking, issuance of rights-of-ways, prescribed fire and fire suppression, and discretionary actions authorizing mining. These and other Federal actions require Section 7 consultation if the action agency determines that the proposed action may affect listed species.

Development on private or State lands requiring permits from Federal agencies, such as permits from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act, would also be subject to the Section 7 consultation process. Federal actions not affecting the species, as well as actions that are not federally funded or permitted would not require Section 7 consultation. However, prohibitions under Section 9 of the Act (discussed below) would apply.

Important regional efforts are currently under way to establish viable metapopulations of Chiricahua leopard frogs. We are currently working with the Arizona Game and Fish Department, New Mexico Department of Game and Fish, and several Federal and private landowners in these efforts. An ongoing regional conservation planning effort in the San Bernardino Valley, Arizona, being undertaken by this agency, the Forest Service, State, and private individuals is a good example of such efforts. Owners of the Magoffin Ranch, in particular, have devoted extensive efforts to conserving leopard frogs and habitat at stock tanks on that ranch. As part of the San Bernardino Valley conservation effort, a high school teacher and his students rear tadpoles in Douglas, Arizona, and established populations of Chiricahua leopard frogs in small constructed wetlands at Douglas area public schools (Biology 150 Class, Douglas High School 1998). In another regional conservation effort, the Tonto National Forest, Arizona, Arizona Game and Fish Department, and the Phoenix Zoo have developed a Chiricahua leopard frog ''conservation and management zone'' in which frogs have been reared and released into the wild to establish new populations (Sredl and Healy 1999). A similar regional conservation plan, involving The Nature Conservancy, Randy Jennings, and the New Mexico Game and Fish Department, is under way on the Mimbres River, New Mexico.

We commend the individuals involved in these efforts. These regional conservation plans are proving grounds for developing the techniques to recover the species rangewide. As such, we strongly support them and encourage others to develop regional conservation plans; we will provide assistance and use our authorities to help develop and implement site-specific conservation activities for this species. If the Chiricahua leopard frog is listed, handling, rearing, translocation or other forms of direct or incidental take resulting from conservation activities can continue under section 10 permits from us. Incidental take associated with conservation plans may also be permitted pursuant to an incidental take statement in a biological opinion for activities under Federal jurisdiction. If the species is listed, we will work with the individuals involved in these conservation efforts to ensure that permits are issued promptly and that the process does not interrupt or hinder ongoing recovery actions.

We are also exploring other opportunities to permit conservation activities. In particular, we encourage the public to comment on the desirability of promulgating a special rule under section 4(d) of the Act that would exempt from the section 9 take prohibitions activities associated with conservation plans. Eligible conservation plans would need to promote recovery and be approved by us and the appropriate State game and fish agency. Activities potentially addressed under such a plan, and which would be exempt from the section 9 take provisions, could include, but are not limited to, construction of new habitats or modification of existing habitats, fencing, enhancement or control of vegetation, translocation of frogs, and monitoring of frog populations.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, codified at 50 CFR 17.31, in part, make it illegal for any person subject to the jurisdiction of the United States to take (including harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect, or attempt any such conduct), import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any threatened species unless provided for under a special rule. To possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally is also illegal. Certain exceptions will apply to persons acting in an agency capacity on the behalf of the Service and to activities associated with cooperative State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. For threatened species, permits also are available for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act.

Our policy (July 1, 1994; 59 FR 34272) is to identify to the maximum extent practicable at the time a species is listed those activities that would or would not likely constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of the listing on proposed and ongoing activities within a species'

range. Based on the best available information, the following are examples of actions that would not likely result in a violation of section 9:

(1) Actions that may affect Chiricahua leopard frog that are authorized, funded, or carried out by a Federal agency when the action is conducted in accordance with an incidental take statement issued by us pursuant to section 7 of the Act;

(2) Actions that may result in take of Chiricahua leopard frog when the action is conducted in accordance with a permit under section 10 of the Act;

(3) Recreational activities that do not destroy or significantly degrade occupied habitat, and do not result in take of frogs;

(4) Release, diversion, or withdrawal of water from or near occupied habitat in a manner that does not displace or result in desiccation or death of eggs, tadpoles, or adults; does not disrupt breeding activities of adults; does not favor introduction of nonnative predators; and does not alter vegetation characteristics at or near occupied sites to an extent that exposes the frogs to increased predation; and

(5) Logging activities that do not result in erosion or siltation of stream beds and other aquatic habitats occupied by Chiricahua leopard frogs, do not adversely affect water quality, and do not denude shoreline vegetation or terrestrial vegetation in occupied habitat.

Activities that we believe could potentially result in ''take'' of the Chiricahua leopard frog, include, but are not limited to the following:

(1) Unauthorized collection, capture or handling of the species;

(2) Intentional introduction of nonnative predators, such as nonnative fish, bullfrogs, crayfish, or tiger salamanders;

(3) Any activity not carried out pursuant to the proposed special rule (described at the end of this document) in ''§ 17.43 Special rules-amphibians'' that results in destruction or significant alteration of habitat of Chiricahua leopard frog including, but not limited to, the discharge of fill material, the diversion or alteration of stream flows and aquatic habitats occupied by the species or withdrawal of water to the point at which habitat becomes unsuitable for the species, and the alteration of the physical channels within the stream segments and aquatic habitats occupied by the species;

(4) Water diversions, groundwater pumping, water releases, or other water management activities that result in displacement or death of eggs, tadpoles, or adult frogs; disruption of breeding activities; introduction of nonnative predators; or significant alteration of vegetation characteristics at or near occupied sites. However, pursuant to the proposed special rule for this species, operation and maintenance of livestock tanks on private or tribal lands that result in incidental mortality of frogs would not be considered a violation of section 9;

(5) Discharge or dumping of hazardous materials, silt, or other pollutants into waters supporting the species;

(6) Possession, sale, delivery, transport, or shipment of illegally taken Chiricahua leopard frogs; and

(7) Actions that take Chiricahua leopard frogs that are not authorized by either a permit under section 10 of the Act or an incidental take statement under section 7 of the Act, or are identified as prohibited in the special rule ''§ 17.43 Special rules-amphibians'' for this species; the term ''take'' includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capture, or collecting, or attempting any of these actions.

In the description of activities above, a violation of section 9 would occur if those activities occur to an extent that would result in ''take'' of Chiricahua leopard frog. Not all of the activities mentioned above will result in violation of section 9 of the Act; only those activities that result in ''take'' of Chiricahua leopard frog would be considered violations of section 9. Direct your questions regarding whether specific activities will constitute a violation of section 9 to the Field Supervisor, Arizona Ecological Services Field Office (see **ADDRESSES** section). Address your requests for copies of the regulations on listed wildlife and inquiries about prohibitions and permits to the U.S. Fish and Wildlife Service, Branch of Endangered Species/Permits, P.O. Box 1306, Albuquerque, New Mexico 87103 (telephone (505)248–6920, facsimile (505)248–6922).

Public Comments Solicited

We intend for any final action resulting from this proposal to be as accurate and as effective as possible. Therefore, we solicit comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule. We particularly seek comments concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to the Chiricahua leopard frog;

(2) The location of any additional populations of Chiricahua leopard frog and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range, distribution, and population size of the Chiricahua leopard frog;

(4) Current or planned activities in the subject area and their possible impacts on the Chiricahua leopard frog; and

(5) Additional information pertaining to the promulgation of a special rule to exempt from the section 9 take prohibitions livestock use of and maintenance activities at livestock tanks located on private or tribal lands. Although beyond the scope of the currently proposed special rule, we also solicit comment on the desirability of a special rule that would exempt from the section 9 take prohibitions activities associated with conservation plans that promote recovery and are approved by us and the appropriate State game and fish agency.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by law. In some circumstances, we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish for us to withhold your name and/or address, you must state this request prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours (see **ADDRESSES** section).

In making a final decision on this proposed rule, we will take into consideration the comments and any additional information we receive. The final rule may differ as a result of this process.

The Act provides for one or more public hearings on this proposal, if requested. We must receive requests within 45 days of the date of publication of the proposal in the **Federal Register**. Such requests must be made in writing and be addressed to the Field Supervisor (see **ADDRESSES** section).

Executive Order 12866 requires each agency to write regulations and notices that are easy to understand. We invite

your comments on how to make this proposed rule easier to understand including answers to questions such as the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the proposed rule in the ''Supplementary Information'' section of the preamble helpful in understanding the notice? What else could we do to make the proposed rule easier to understand?

Send a copy of any comments that concern how we could make this proposed rule easier to understand to the Field Supervisor (see **ADDRESSES** section).

Required Determinations

Prior to publication of the final rule, we will analyze the economic effects of the special rule and will determine whether the special rule is in compliance with the following. We will announce the availability of our analysis in a separate **Federal Register** notice:

(1) Regulatory Planning and Review

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

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

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

(5) Taking Personal Property Rights (Executive Order 12630)

(6) Federalism (Executive Order 13132)

Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor determined that this proposed special rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. The Office of the Solicitor will review the final special rule. We will make every effort to ensure that the final special rule contains no drafting errors, provides clear standards, simplifies procedures, reduces burden, and is clearly written such that litigation risk is minimized.

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

This proposed rule and special rule does not contain any information collection requirements for which Office of Management and Budget (OMB) approval under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) is required. An information collection related to the rule pertaining to permits for endangered and threatened species has OMB approval and is assigned clearance number 1018–0094. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. This proposed rule and special rule does not alter that information collection requirement. For additional information concerning permits and associated requirements for threatened species, see 50 CFR 17.32.

National Environmental Policy Act

We determined that we do not need to prepare Environmental Assessments and Environmental Impact Statements, as defined under the authority of the National Environmental Policy Act of 1969, in connection with regulations adopted pursuant to Section 4(a) of the Endangered Species Act of 1973, as amended. We published a notice outlining the basis for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

A complete list of all references cited in this rule is available upon request from the Arizona Ecological Services Field Office (see **ADDRESSES** section).

Author: The primary author of this notice is James Rorabaugh (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

We propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

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

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

2. Amend section 17.11(h) by adding the following in alphabetical order, under AMPHIBIANS, to the List of Endangered and Threatened Wildlife:

§ 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, Chiricahua leopard.	*Rana chiricahuensis.*	U.S.A. (AZ, NM), Mexico.	Entire	T	.....	NA	§ 17.43(b)
*	*	*	*	*		*	*

3. We propose to amend 50 CFR 17.43 by adding paragraph (b) to read as follows:

§ 17.43 Special rules—amphibians.

* * * * *

(b) *What species is covered by this special rule?* Chiricahua leopard frog (*Rana chiricahuensis*).

(1) *What activities are prohibited?* Except as noted in paragraph (b)(2) of this section, all prohibitions of § 17.31 will apply to the Chiricahua leopard frog.

(2) *What activities are allowed on private or tribal land?* Incidental take of the Chiricahua leopard frog will not be considered a violation of section 9 of the Act, if the incidental take results from livestock use of or maintenance activities at livestock tanks located on private or tribal lands. A livestock tank is defined as an existing or future impoundment in an ephemeral drainage or upland site constructed primarily as a watering site for livestock.

Dated: May 19, 2000.

Donald J. Barry,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 00–14972 Filed 6–13–00; 8:45 am]

BILLING CODE 4310–55–P