DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AF37

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Huachuca Water Umbel, a Plant

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat pursuant to the Endangered Species Act of 1973, as amended (Act), for the plant *Lilaeopsis schaffneriana* var. *recurva* (Huachuca water umbel). Designated habitat includes a total of 83.2 kilometers (km) (51.7 miles (mi)) of streams or rivers in Cochise and Santa Cruz counties, Arizona. Section 7 of the Act prohibits destruction or adverse modification of critical habitat by any activity funded, authorized, or carried out by any Federal agency. As required by section 4 of the Act, we considered economic and other relevant impacts prior to making a final decision on the size and configuration of critical habitat.

EFFECTIVE DATE: August 11, 1999.

ADDRESSES: The complete administrative record for this rule is on file at the U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office, 2321 West Royal Palm Road, Suite 103, Phoenix, Arizona 85021–4951. The complete file for this rule is available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Tom Gatz, Endangered Species Coordinator, at the above address (telephone 602/640–2720 ext. 240; facsimile 602/640–2730).

SUPPLEMENTARY INFORMATION:

Background

Lilaeopsis schaffneriana var. *recurva* (referred to as *Lilaeopsis* in this proposed rule), the Huachuca water umbel, is a plant found in cienegas (desert marshes), rivers, streams, and springs in southern Arizona and northern Sonora, Mexico, typically in mid-elevation wetland communities often surrounded by relatively arid environments. These communities are usually associated with perennial springs and stream headwaters, have permanently or seasonally saturated highly organic soils, and have a low probability of flooding or scouring (Hendrickson and Minckley 1984). Cienegas support diverse assemblages of animals and plants, including many species of limited distribution, such as *Lilaeopsis* (Hendrickson and Minckley 1984, Lowe 1985, Ohmart and Anderson 1982, Minckley and Brown 1982).

Cienegas, perennial streams, and rivers in the desert southwest are extremely rare. The Arizona Game and Fish Department (1993) recently estimated that riparian vegetation associated with perennial streams comprises about 0.4 percent of the total land area of Arizona, with present riparian areas being remnants of what once existed. The State of Arizona (1990) estimated that up to 90 percent of the riparian habitat along Arizona's major desert watercourses has been lost, degraded, or altered in historical times. *Lilaeopsis* occupies small portions of these rare habitats.

Lilaeopsis is an herbaceous, semiaquatic to occasionally fully aquatic, perennial plant with slender, erect leaves that grow from creeping rhizomes (root-like stems). The leaves are cylindrical, hollow with no pith, and have septa (thin partitions) at regular intervals. The yellow-green or bright green leaves are generally 1–3 millimeters (mm) (0.04–0.12 inches (in)) in diameter and often 3–5 centimeters (cm) (1–2 in) tall, but can reach up to 20 cm (8 in) tall under favorable conditions. Three to 10 very small flowers are borne on an umbel that is always shorter than the leaves. The fruits are globose, 1.5–2 mm (0.06–0.08 in) in diameter, and usually slightly longer than wide (Affolter 1985). The species reproduces sexually through flowering and asexually from rhizomes; the latter probably being the primary reproductive mode. An additional dispersal opportunity occurs as a result of the dislodging of clumps of plants which then may reroot at different sites along streams.

Lilaeopsis schaffneriana spp. *recurva* was first described by A.W. Hill based on the type specimen collected near Tucson in 1881 (Hill 1926). Hill applied the name *Lilaeopsis recurva* to the specimen, and the name prevailed until Affolter (1985) revised the genus. Affolter applied the name *L. schaffneriana* ssp. *recurva* to plants found west of the continental divide.

Previous Federal Action

We included *Lilaeopsis schaffneriana* ssp. *recurva*, then under the name *L. recurva*, as a category 2 candidate in our November 28, 1983 (48 FR 53640), and September 27, 1985 (50 FR 39526), plant notices of review. Category 2 candidates were defined as those taxa for which we had data indicating that listing was possibly appropriate but for which we lacked substantial information on vulnerability and threats to support proposed listing rules. In our February 21, 1990 (55 FR 6184), and September 30, 1993 (58 FR 51144), notices, we included *Lilaeopsis* as a category 1 candidate. Category 1 candidates were defined as those taxa for which we had sufficient information on biological vulnerability and threats to support proposed listing rules but for which issuance of proposals to list were precluded by other higher-priority listing activities. Beginning with our combined plant and animal notice of review published in the **Federal Register** on February 28, 1996 (61 FR 7596), we discontinued the designation of multiple categories of candidates and only taxa meeting the definition of former category 1 candidates are now recognized as candidates for listing purposes.

On June 3, 1993, we received a petition, dated May 31, 1993, from a coalition of conservation organizations (Suckling *et al.* 1993) to list *Lilaeopsis* and two other species as endangered species pursuant to the Act. On December 14, 1993, we published a notice of 90-day finding that the petition presented substantial information indicating that listing of *Lilaeopsis* may be warranted, and requested public comments and biological data on the status of the species (58 FR 65325).

On April 3, 1995, we published a proposal (60 FR 16836) to list *Lilaeopsis* and two other species as endangered, and again requested public comments and biological data on their status. After consideration of comments and information received during the comment period, we listed *Lilaeopsis* as endangered on January 6, 1997.

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, we designate critical habitat at the time we determine a species to be endangered or threatened. At the time of listing, we determined that any potential benefits of critical habitat beyond that of listing, when weighed against the negative impacts of disclosing site-specific localities, did not yield an overall benefit to the species, and, therefore, that designation of critical habitat was not prudent.

On October 31, 1997, the Southwest Center for Biological Diversity filed a lawsuit in Federal District Court in Arizona against the Department of Interior for failure to designate critical habitat for the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) and *Lilaeopsis (Southwest*

Center for Biological Diversity v. *Babbitt*, CIV 97–704 TUC ACM). On October 7, 1998, Alfredo C. Marquez, Senior U.S. District Judge, issued an order stating that ''There being no evidence that designation of critical habitat for the pygmy-owl and water umbel is not prudent, the Secretary shall, without further delay, decide whether or not to designate critical habitat for the pygmy-owl and water umbel based on the best scientific and commercial information available.''

On November 25, 1998, in response to the Plaintiff's motion to clarify his initial order, Judge Marquez further ordered ''that within 30 days of the date of this Order, the Secretary shall issue the proposed rules for designating critical habitat for the pygmy-owl and water umbel * * * and that within six months of issuing the proposed rules, the Secretary shall issue final decisions regarding the designation of critical habitat for the pygmy-owl and water umbel.'' A rule proposing 83.9 kilometers (km) (52.1 miles (mi)) of streams and rivers in Cochise and Santa Cruz counties, Arizona, as critical habitat for Lilaeopsis was published December 30, 1998.

The processing of the December 30, 1998, proposed rule and this final rule does not conform with our Listing Priority Guidance for Fiscal Years 1998 and 1999, published on May 8, 1998 (63 FR 25502). The guidance clarifies the order in which we will process rulemakings giving highest priority (Tier 1) to processing emergency rules to add species to the Lists of Endangered and Threatened Wildlife and Plants; second priority (Tier 2) to processing final determinations on proposals to add species to the lists, processing new listing proposals, processing administrative findings on petitions (to add species to the lists, delist species, or reclassify listed species), and processing a limited number of proposed and final rules to delist or reclassify species; and third priority (Tier 3) to processing proposed and final rules designating critical habitat. Our Southwest Region is currently working on Tier 2 actions; however, we are undertaking this Tier 3 action in order to comply with the above-mentioned court order.

Habitat Characteristics

The physical and biological habitat features essential to the conservation of *Lilaeopsis* include a riparian plant community that is fairly stable over time and not dominated by nonnative plant species, a stream channel that is relatively stable but subject to periodic flooding, refugial sites (sites safe from catastrophic flooding), and a substrate (soil) that is permanently wet or nearly so, for growth and reproduction of the plant.

Lilaeopsis has an opportunistic strategy that ensures its survival in healthy riverine systems, cienegas, and springs. In upper watersheds that generally do not experience scouring floods, *Lilaeopsis* occurs in microsites (small isolated sites) where competition among different plant species is low. At these sites, *Lilaeopsis* occurs on wetted soils interspersed with other plants at low density, along the periphery of the wetted channel, or in small openings in the understory. The upper Santa Cruz River and associated springs in the San Rafael Valley, where a population of *Lilaeopsis* occurs, is an example of a site that meets these conditions. The types of microsites required by *Lilaeopsis* were generally lost from the main stems of the San Pedro and Santa Cruz Rivers when channel entrenchment occurred in the late 1800s. Habitat on the upper San Pedro River is recovering, and *Lilaeopsis* has recently recolonized small reaches of the main channel.

Lilaeopsis can occur in backwaters and side channels of streams and rivers, and in nearby springs. After a flood, *Lilaeopsis* can rapidly expand its population and occupy disturbed habitat until interspecific competition exceeds its tolerance. This response was recorded at Sonoita Creek in August 1988, when a scouring flood removed about 95 percent of the *Lilaeopsis* population (Gori *et al.* 1990). One year later, *Lilaeopsis* had recolonized the stream and was again co-dominant with *Rorippa nasturtium-aquaticum* (watercress) (Warren *et al.* 1991).

In rivers and streams, the expansion and contraction of *Lilaeopsis* populations appears to depend on the presence of ''refugia'' where the species can escape the effects of scouring floods, a watershed that has an unaltered flow regime, and a healthy riparian community that stabilizes the channel. Two patches of *Lilaeopsis* on the San Pedro River were lost during a winter flood in 1994, and the species had still not recolonized that area as of May 1995, demonstrating the dynamic and often precarious nature of occurrences within a riparian system (Al Anderson, Grey Hawk Ranch, *in litt.* 1995).

The density of *Lilaeopsis* plants and size of populations fluctuate in response to both flood cycles and site characteristics. Some sites, such as Black Draw, have a few sparsely distributed clones, possibly due to the dense shade of the even-aged overstory of trees and deeply entrenched channel. The Sonoita Creek population occupies 14.5 percent of a 500 square-meter (sq-m) (5,385 square-foot (sq-ft)) patch of habitat (Gori *et al.* 1990). Some populations are as small as 1–2 sq-m (11–22 sq-ft). The Scotia Canyon population, by contrast, has dense mats of leaves. Scotia Canyon contains one of the larger Huachuca water umbel populations, where in 1995 it occupied about 64 percent of a 1,420-m (4,660-ft) reach (Falk 1998).

While the extent of occupied habitat can be estimated, the number of individuals in each population is difficult to determine because of the intermeshing nature of the creeping rhizomes and the predominantly asexual mode of reproduction. A ''population'' of *Lilaeopsis* may be composed of one or many genetically distinct individuals.

Introduction of *Lilaeopsis* into ponds on the San Bernardino and Leslie Canyon National Wildlife Refuges, Arizona, appears to be successful (Warren 1991; Kevin Cobble, San Bernardino National Wildlife Refuge, pers. comm. 1999). In 1991, *Lilaeopsis* was transplanted from Black Draw into new ponds and other wetlands at San Bernardino Refuge. Transplants placed in areas with low plant density expanded rapidly (Warren 1991). In 1992, *Lilaeopsis* naturally colonized a pond created in 1991. However, as plant competition increased around the perimeter of the pond, the *Lilaeopsis* population decreased. This response seems to confirm observations (Kevin Cobble, Service, pers. comm. 1994; and Peter Warren, Arizona Nature Conservancy, pers. comm. 1993) that other species such as *Typha* sp. will out-compete *Lilaeopsis*. A recent introduction to Leslie Canyon Refuge is successful and the plant appears to be expanding its distribution there (K. Cobble, pers. comm. 1999).

Lilaeopsis has been documented from 26 sites in Santa Cruz, Cochise, and Pima counties, Arizona, and in adjacent Sonora, Mexico, west of the continental divide (K. Cobble, pers. comm. 1999; Haas and Frye 1997; Saucedo 1990; Warren *et al.* 1989; Warren *et al.* 1991; Warren and Reichenbacher 1991). The plant has been extirpated from six of the sites. The 20 extant sites occur in 4 major watersheds—San Pedro River, Santa Cruz River, Rio Yaqui, and Rio Sonora. All sites are between 1,148–2,133 m (3,500–6,500 ft) elevation.

Nine *Lilaeopsis* populations occur in the San Pedro River watershed in Arizona and Sonora, on sites owned or managed by private landowners, Fort Huachuca Military Reservation, the Coronado National Forest, and the Bureau of Land Management's (BLM)

Tucson Field Office. Two extirpated populations in the upper San Pedro watershed occurred at Zinn Pond in St. David and the San Pedro River near St. David. Cienega-like habitats were probably common along the San Pedro River prior to 1900 (Hendrickson and Minckley 1984, Jackson *et al.* 1987), but these habitats are now largely gone. Surveys conducted for wildlife habitat assessment have found several discontinuous clumps of *Lilaeopsis* within the upper San Pedro River where habitat was present in 1996 prior to recent flooding (Mark Fredlake, BLM, pers. comm. 1996).

The four *Lilaeopsis* populations in the Santa Cruz watershed probably represent very small remnants of larger populations that may have occurred in the extensive riparian and aquatic habitat formerly existing along the river. Before 1890, the spatially intermittent, perennial flows on the middle Santa Cruz River most likely provided a considerable amount of habitat for *Lilaeopsis* and other aquatic plants. The middle section of the Santa Cruz River mainstem is about a 130-km (80-mi) reach that flowed perennially from the United States/Mexico border northward to Tubac area and intermittently from Tubac north to the Tucson area (Davis 1986).

Davis (1982) quotes from the July 1855, descriptive journal entry of Julius Froebel while camped on the Santa Cruz River near Tucson: ''* * * rapid brook, clear as crystal, and full of aquatic plants, fish, and tortoises of various kinds, flowed through a small meadow covered with shrubs. * * *'' This habitat and species assemblage no longer occurs in the Tucson area. In the upper watershed of the middle Santa Cruz River, the species is now represented only by a single population in two short reaches of Sonoita Creek. A population at Monkey Spring in the upper watershed of the middle Santa Cruz River has been extirpated, although suitable habitat exists (Warren *et al.* 1991).

Lilaeopsis remains in small areas (generally less than 1 sq-m (10.8 sq-ft)) in Black Draw, Cochise County, Arizona. Transplants from Black Draw have been successfully established in nearby wetlands and ponds, including Leslie Canyon. A population at House Pond on private land near Black Draw was thought to be extirpated, but was recently rediscovered there (K. Cobble, pers. comm. 1999).

Two *Lilaeopsis* populations occur in the Rio Yaqui watershed. The species was recently discovered at Presa Cuquiarichi, in the Sierra de los Ajos, several miles east of Cananea, Sonora (Tom Deecken, Coronado National Forest, pers. comm. 1994). A population in the Rio San Bernardino in Sonora was recently extirpated (Gori *et al.* 1990), but another population was found in 1997 on Cajon Bonito near its confluence with Black Draw in Sonora (K. Cobble, pers. comm. 1999). One *Lilaeopsis* population occurs in the Rio Sonora watershed at Ojo de Agua, a cienega in Sonora at the headwaters of the river (Saucedo 1990).

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) of the Act requires that we base critical habitat proposals upon the best scientific and commercial data available, taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. We may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in the extinction of the species (section 4(b)(2) of the Act).

Designation of critical habitat can help focus conservation activities for a listed species by identifying areas that contain the physical and biological features essential for the conservation of that species. Designation of critical habitat alerts the public as well as land-managing agencies to the importance of these areas.

Critical habitat also identifies areas that may require special management considerations or protection, and may provide additional protection to areas where significant threats to the species have been identified. Critical habitat receives protection from the prohibition against destruction or adverse modification through required consultation under section 7 of the Act with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 also requires conferences on Federal actions that are likely to result in the adverse modification or destruction of proposed critical habitat. Aside from the protection that may be provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat.

Section 7(a)(2) of the Act requires Federal agencies to consult with us to ensure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of a threatened or endangered species, or result in the destruction or adverse modification of critical habitat. ''Jeopardize the continued existence'' (of a species) is defined as an appreciable reduction in the likelihood of survival and recovery of a listed species. ''Destruction or adverse modification'' (of critical habitat) is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat for the survival and recovery of the listed species for which critical habitat was designated. Thus, the definitions of ''jeopardy'' to the species and ''adverse modification'' of critical habitat are nearly identical (50 CFR § 402.02).

Designating critical habitat does not, in itself, lead to recovery of a listed species. Designation does not create a management plan, establish numerical population goals, prescribe specific management actions (inside or outside of critical habitat), or directly affect areas not designated as critical habitat. Specific management recommendations for critical habitat are most appropriately addressed in recovery plans and management plans, and through section 7 consultations.

Critical habitat identifies specific areas, that are essential to the conservation of a listed species and that may require special management considerations or protection. Areas that do not currently contain habitat components necessary for the primary biological needs of a species but that could develop them in the future may be essential to the conservation of the species and may be designated as critical habitat.

Section 3(5)(C) of the Act states that, ''except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.'' All areas containing the primary constituent elements are not necessarily essential to the conservation of the species. Areas that contain one or more of the primary constituent elements, but that are not included within critical habitat

boundaries, may still be important to a species' conservation and may be considered under other parts of the Act or other conservation laws and regulations.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR § 424.12, in determining which areas to propose as critical habitat, we consider those physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include, but are not limited to, the following:

Space for individual and population growth, and for normal behavior;

Food, water, air, light, minerals or other nutritional or physiological requirements;

Cover or shelter;

Sites for breeding, reproduction, or rearing of offspring, germination, or seed dispersal; and

Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

The primary constituent elements of critical habitat for *Lilaeopsis* include, but are not limited to, the habitat components that provide:

(1) Sufficient perennial base flows to provide a permanently or nearly permanently wetted substrate for growth and reproduction of *Lilaeopsis;*

(2) A stream channel that is relatively stable, but subject to periodic flooding that provides for rejuvenation of the riparian plant community and produces open microsites for *Lilaeopsis* expansion;

(3) A riparian plant community that is relatively stable over time and in which nonnative species do not exist or are at a density that has little or no adverse effect on resources available for *Lilaeopsis* growth and reproduction; and

(4) In streams and rivers, refugial sites in each watershed and in each reach, including but not limited to springs or backwaters of mainstem rivers, that allow each population to survive catastrophic floods and recolonize larger areas.

We selected critical habitat areas to provide for the conservation of *Lilaeopsis* throughout the remaining portion of its geographic range in the United States. At least one segment of critical habitat is designated in each watershed containing the species, with the exception of the Rio Yaqui watershed where the plants are found on the San Bernardino National Wildlife Refuge. That population is secure under current management and, therefore, does not require special management considerations or protection.

Critical Habitat Designation

The critical habitat areas described below, combined with other habitat either known or suspected to contain some of the primary constituent elements but not in need of special management, constitute our best assessment at this time of the areas needed for the species' conservation. However, the Arizona Plant Recovery Team will be providing guidance on recovery planning for this species and may provide additional guidance regarding the significance of areas designated as critical habitat or the need to designate other areas. Upon the team's completion of recovery planning guidance, we will evaluate the recommendations and reexamine if and where critical habitat is appropriate.

Critical habitat designated for *Lilaeopsis* includes areas that currently sustain the species and areas that do not currently sustain the species but offer recovery habitat. The species is already extirpated from a significant portion of its historical range. Seven disjunct areas are designated as critical habitat; all proposed areas are in Santa Cruz and Cochise counties, Arizona, and include stream courses and adjacent areas out to the beginning of upland vegetation.

The following general areas are designated as critical habitat (see legal descriptions for exact critical habitat boundaries): approximately 2.0 km (1.25 mi) of Sonoita Creek southwest of Sonoita; approximately 4.4 km (2.7 mi) of the Santa Cruz River on both sides of Forest Road 61, plus approximately 3 km (1.9 mi) of an unnamed tributary to the east of the river; approximately 5.4 km (3.4 mi) of Scotia Canyon upstream from near Forest Road 48; approximately 1.1 km (0.7 mi) of Sunnyside Canyon near Forest Road 117 in the Huachuca Mountains; approximately 6.1 km (3.8 mi) of Garden Canyon near its confluence with Sawmill Canyon; approximately 1.6 km (1.0 mi) of Lone Mountain Canyon and approximately 1.6 km (1.0 mi) of Rattlesnake Canyon and 1.0 km (0.6 mi) of an unnamed canyon, both of which are tributaries to Lone Mountain Canyon; approximately 1.6 km (1.0 mi) of Bear Canyon; an approximate 0.9-km (0.6-mi) reach of an unnamed tributary to Bear Canyon; and approximately 54.2 km (33.7 mi) of the San Pedro River from the perennial flows reach north of Fairbank (Arizona Department of Water Resources 1991) to 200 meters (.13 mi) south of Hereford, San Pedro Riparian National Conservation Area.

Although the majority of lands designated as critical habitat is under Federal administration and management, some riparian systems on private land are being designated. The Sonoita Creek segment and the San Rafael Valley segment within the Santa Cruz River drainage are privately owned. The upper portion of Scotia Canyon is privately owned, but is expected to soon be acquired through land exchange by the Coronado National Forest. Other sites in the Huachuca Mountains (lower Scotia Canyon, Sunnyside, Bear, and Lone Mountain canyons, and tributaries of the latter two canyons) are managed by the Coronado National Forest. The San Pedro Riparian National Conservation Area is managed by the BLM. The Garden Canyon segment is managed by the Fort Huachuca Military Reservation.

Several areas where *Lilaeopsis* occurs are not designated as critical habitat. We recognize the importance of all lands occupied or potentially occupied by *Lilaeopsis*, but, as discussed below, not all such areas were designated because some did not meet the designation criteria (i.e., were too small to support a stable *Lilaeopsis* population over time, and/or were already protected). Also, areas outside the United States are not considered for critical habitat designation (50 CFR 424.12(h)). Several sites were considered small and not capable of supporting large stable populations, including Turkey Creek in the Canelo Hills, Sawmill Spring, Sycamore Spring, Mud Spring, and Freeman Springs.

We believe these small, isolated sites are important, but may not be essential to the conservation of the species, and in the case of Sawmill Spring and Freeman Spring, may not require special management considerations or protection above that currently provided. Freeman Spring is fenced to prevent livestock grazing. Sawmill Spring is an isolated site near the western boundary of Fort Huachuca at which the only significant threats are a trail to the site and wildfire. Recreational use along the trail does not appear to be adversely affecting the species, and Fort Huachuca has committed to various measures to lessen the threat of wildfire.

Also not designated are portions of Bear Canyon above and below the critical habitat reach and several isolated populations in the Bear and Lone Mountain canyons complex. We believe the best habitat in this area is included in the designated reaches of the two canyons and their tributaries. Other reaches are intermittent with limited habitat for *Lilaeopsis*, or are

small, relatively isolated sites. Also, designation of the critical habitat reach provides some protection to at least the downstream reach of Bear Canyon due to conservation of watershed values.

The 0.7-km (0.4-mi) reach of Joaquin Canyon, proposed as Unit 7, is also not designated. This reach is currently administered by the Coronado National Forest, but is expected to be exchanged into private ownership in the near future. During the open comment period, we met with both the Coronado National Forest and prospective new landowners. Through these discussions we learned that the future owners plan to continue current grazing practices, but no other uses of the property are anticipated. Further, the effects of grazing are moderated at this site because the stream channel is largely bedrock and not easily subject to structural damage. Thus, we do not consider this area to be in need of special management consideration or protection. In summary, because of the small size of the Joaquin Canyon habitat and the low degree of threats to the area, we did not designate this area as critical habitat, because it is neither essential to the conservation of the species nor in need of special management or protection. The area proposed as Unit 8 now becomes Unit 7.

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 certain activities involving listed species are discussed, in part, below.

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated or proposed. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. 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.

Section 7(a)(4) of the Act and regulations at 50 CFR 402.10 require Federal agencies to confer with us on any action that is likely to result in destruction or adverse modification of proposed critical habitat. Conferencing on *Lilaeopsis* critical habitat was requested twice, including once by the Department of the Army, Fort Huachuca, in regard to military activities, and once by the Coronado National Forest on their forest-wide grazing program. These conferences are not yet complete. With designation of critical habitat, these conferences are now section 7 consultations.

Activities on Federal lands that may affect *Lilaeopsis* or its critical habitat will require section 7 consultation. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act, will also be subject to the section 7 consultation process. Federal actions not affecting the species, as well as actions on non-Federal lands that are not federally funded or permitted will not require section 7 consultation.

Section 4(b)(8) of the Act requires us to describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat include those that alter the primary constituent elements to the extent that the value of critical habitat for both the survival and recovery of *Lilaeopsis* is appreciably diminished. We note that such activities will also likely jeopardize the continued existence of the species. Such activities may include but are not limited to:

(1) Activities such as damming, water diversion, channelization, excess groundwater pumping, or other actions that appreciably decrease base flow and appreciably reduce the wetted surface area of rivers, streams, cienegas, or springs;

(2) Activities that alter watershed characteristics in ways that would appreciably reduce groundwater recharge or alter natural flooding regimes needed to maintain natural, dynamic riparian communities. Such activities adverse to *Lilaeopsis* critical habitat could include, but are not limited to: vegetation manipulation such as chaining or harvesting timber; maintaining an unnatural fire regime either through fire suppression, or too-frequent or poorly-timed prescribed fires; mining; military maneuvers, including bombing and tank operations; residential and commercial development; road construction; and overgrazing that reduces fire frequency or otherwise degrades watersheds;

(3) Activities that appreciably degrade or destroy native riparian communities, including but not limited to livestock overgrazing, clearing, cutting of live trees, introducing or encouraging the spread of nonnative species, and heavy recreational use; and

(4) Activities that appreciably alter stream channel morphology such as sand and gravel mining, road construction, channelization, impoundment, overgrazing, watershed disturbances, off-road vehicle use, heavy or poorly-planned recreational use, and other uses.

Designation of critical habitat could affect the following agencies and/or actions including, but not limited to, managing recreation, road construction, livestock grazing, granting rights-of-way, timber harvesting, and other actions funded, authorized, or carried out by the Forest Service or BLM. Permitting of some military activities on Fort Huachuca may be affected by designation. Development on private or State lands requiring permits from Federal agencies, such as 404 permits from the U.S. Army Corps of Engineers, would also be subject to the section 7 consultation process. These activities are already subject to section 7 consultation because of the listing of *Lilaeopsis*.

If you have questions regarding whether specific activities will likely constitute adverse modification of critical habitat, contact the Field Supervisor, Arizona Ecological Services Field Office (see **ADDRESSES** section). Requests for copies of the regulations on listed wildlife and inquiries about prohibitions and permits may be addressed 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).

Summary of Comments and Recommendations

In the December 30, 1998, proposed rule to designate critical habitat, we requested all interested parties to submit comments or information that might bear on the listing or designation of critical habitat for *Lilaeopsis*. The first comment period closed March 1, 1999. We reopened the comment period from April 15 to May 15, 1999, to once again solicit comments on the proposed

rule and to accept comments on the draft economic analysis. Comments received from March 2 to April 14, 1999, were entered into the administrative record during the second comment period. All appropriate State agencies, Federal agencies, County governments, scientific organizations, and other interested parties were contacted and invited to comment. We published newspaper notices inviting public comment in the following newspapers in Arizona: Arizona Republic, Tucson Citizen, Arizona Daily Star, Sierra Vista Herald, Green Valley News and Sun, The Bulletin, The Tombstone Tumbleweed, and Nogales International. The inclusive dates of publication were January 4 to 12, 1999, for the initial comment period; January 26 to February 4, 1999, to advertise the public hearings; and April 21 to 29, 1999, for the second comment period.

We held three public hearings on the proposed rule, at Coolidge (February 10, 1999), Sierra Vista (February 11, 1999), and Tucson, Arizona (February 12, 1999). The hearings were also held to solicit comments on the proposed rule to designate critical habitat for the cactus ferruginous pygmy-owl, *Glaucidium brasilianum cactorum* (63 FR 71820). A notice of hearings and locations was published in the **Federal Register** on January 26, 1999 (64 FR 3923). A total of 89 people attended the public hearings, including 10 in Coolidge, 28 in Sierra Vista, and 51 in Tucson. Transcripts of these hearings are available for inspection (see **ADDRESSES** section).

We contacted three experts on the species that agreed to peer review the proposed critical habitat designation. One of those peer reviewers submitted comments. He concluded that ''the habitat sites designated, to the best of my knowledge, seem reasonable enough to guarantee its (*Lilaeopsis*') survival—even though I would prefer additional ones.''

A total of 8 oral and 41 written comments were received during the two comment periods. Of the 8 oral comments, 3 supported critical habitat designation, 4 were opposed to designation, and 1 provided additional information but did not support or oppose the proposal. Of the written comments, 22 supported designation, 9 were opposed to it, and 10 provided additional information only, or were nonsubstantive or not relevant to the proposed designation. In total, oral and written comments were received from 5 Federal agencies, 2 State agencies, 4 local governments, and 38 private organizations, companies, or individuals.

We reviewed all comments received for substantive issues and new data regarding critical habitat and *Lilaeopsis*. Comments of a similar nature are grouped into a number of general issues. Fifteen general issues were identified relating specifically to critical habitat. These are addressed in the following summary.

Issue 1: The Service did not allow for an appropriate level of local government involvement in the designation of critical habitat. Several commenters said that cities and counties should have greater say in critical habitat designations, while one commenter would have us not consider comments from local governments.

Service Response: The Act requires that we ''give actual notice of the proposed regulation (including the complete text of the regulation) to* * *each county or equivalent jurisdiction in which the species is believed to occur, and invite the comment of such agency, and each jurisdiction'' (section 4(b)(5)(A)(ii)). The comments of local governments are then entered into the administrative record for the proposed regulation and are considered when developing proposed or final rules. However, we do not weight comments from a local government any more or less than other comments. Instead, we are required to base our decision on the ''best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat'' (section 4(b)(2) of the Act). The proposed rule was sent to Cochise, Santa Cruz, and Pima county offices, the Southeastern Arizona Council of Governments, and the cities/towns of Patagonia, Benson, and Sierra Vista. Of these local governments, comments were received from the City of Benson. Those comments were considered in development of this final rule.

Issue 2: Lilaeopsis receives an adequate level of protection on the San Pedro River and at Fort Huachuca, and therefore critical habitat should not be designated in these areas.

Service Response: The San Pedro River critical habitat unit is administered by the BLM, while designated critical habitat on Fort Huachuca (Garden Canyon) is administered by the Department of Defense. Because of the protection afforded *Lilaeopsis* through section 7 consultations on these Federal lands resulted from listing of the species, there is little additional benefit of critical habitat designation in occupied habitats because *Lilaeopsis* occurs patchily in both Garden Canyon and the San Pedro River, and a project that affects one portion of a stream course will affect downstream and perhaps upstream reaches as well.

Given the above, we fundamentally agree that critical habitat designation provides no additional protection beyond that provided through listing the species under the Act. However, given the outcome of litigation surrounding this and other critical habitat designations, we felt that the prudent course would be to designate critical habitat in areas where Federal actions are likely to affect that habitat.

Issue 3: Most of the areas proposed for critical habitat do not have constituent elements and thus should not be designated. Occupied habitat is adequate to ensure conservation of the species, thus unoccupied sites should not be designated. In particular, one commenter said that the San Pedro River channel is too unstable to support *Lilaeopsis*, no refugia exist where the species can escape the effects of flooding, and it is dominated by nonnative species, such as *Typha* spp. (cattail). This commenter also said that the San Pedro River should not be designated critical habitat because flows could be depleted or halted due to diversions or pumping in the upper watershed in Mexico.

Service Response: Although *Lilaeopsis* occurs within all of the critical habitat units, the extent of occupied habitat and areas where all of the constituent elements are found are somewhat dynamic and change within these systems depending on floods, drought, changes in channel morphology, and other factors. Some portions of stream segments designated as critical habitat have very little potential to support *Lilaeopsis*, such as the majority of the upper portion of Lone Mountain Canyon, but may support the species and constituent elements in wet years.

Nevertheless, these segments are hydrologically connected to, and part of, the drainages that support the most important populations of *Lilaeopsis*. In the case of upper Lone Mountain Canyon, populations of *Lilaeopsis* occur both upstream and downstream of this reach; thus not only is this segment likely ephemeral habitat which affects downstream populations hydrologically, it is also a link that can allow for flow of individuals and genetic material among populations. Such flow is essential for genetic diversity and for recolonization if populations are extirpated (Shafer 1990).

In regard to the San Pedro River, the reach designated as critical habitat supports six populations or clusters of

populations that are distributed from the southern to northern boundaries of the reach. This reach is broadly defined by the Arizona Department of Water Resources (1991) as perennial throughout, although in most years flow is greatly reduced and many places are dry immediately before the summer rains begin in July.

The commenter's suggestion that the San Pedro River channel is too unstable; no refugia exist for persistence during floods; and nonnatives such as *Typha* are common is belied by the fact that six populations exist within the critical habitat reach, despite changes in channel morphology and periodic flooding. Also, *Typha* is a native emergent plant, although other non-natives, particularly *Rorippa nasturtium-aquaticum*, are common in the San Pedro River. Habitat suitability varies within the San Pedro critical habitat unit, but we have no reason to believe that any significant portion of it is unsuitable. With the removal of grazing and off-road vehicles since 1989, the channel has apparently become more stable, emergent and riparian vegetation has increased in the river channel, and *Lilaeopsis* was rediscovered on the river. The recent introduction of beavers to the system should further hasten the recovery of cienega conditions and *Lilaeopsis* habitat. Groundwater pumping or diversions, or other changes in the watershed of the San Pedro River in Mexico or Arizona may affect the ability of the river to support *Lilaeopsis* and to provide constituent elements.

Issue 4: The economic effects of designating critical habitat greatly outweigh any benefits of designating critical habitat. The designation will have harmful impacts on the quality of life, education, and economic stability. In particular, designation of critical habitat on the San Pedro River would change groundwater pumping, which could result in closure of Fort Huachuca and subsequent devastating effects to the economy of Sierra Vista.

Service Response: Areas proposed as critical habitat may be excluded from designation if ''the benefits of such exclusion outweigh the benefits of specifying the areas as part of the critical habitat,'' unless it is determined that ''failure to designate such area as critical habitat will result in extinction of the species'' (section 4(b)(2) of the Act). As discussed in our response to issue 2, additional conservation benefits of designation for most species, are few if any.

The economic analysis (McKenney *et al.* 1999), based on our view that no restrictions beyond those resulting from listing the species will result from critical habitat designation, found that the critical habitat designation would have no economic effect on activities. Based on our experience with consultation on *Lilaeopsis* as well as completed and ongoing conferences on the species' proposed critical habitat, we do not foresee any action that would result in a finding of destruction or adverse modification of proposed critical habitat that would not also result in a finding of jeopardy to the species. As a result, no effects to the economy of Sierra Vista or other cities or towns are anticipated from designation of critical habitat, and therefore the benefits of excluding these areas do not outweigh the benefits of including them as critical habitat.

Issue 5: Designation of critical habitat has significant takings implications; thus a takings implications assessment, as required by Executive Order 12630, must be conducted. Also, a Regulatory Flexibility Analysis should have been done.

Service Response: Please see the discussions under the ''Required Determinations'' section of this final rule that discusses takings implications assessments.

Issue 6: San Bernardino National Wildlife Refuge should be designated critical habitat instead of the San Pedro River.

Service Response: In determining what areas are critical habitat, we consider physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection (50 CFR 424.14(b)). San Bernardino and Leslie Canyon National Wildlife Refuges, as well as the upper San Pedro River, provide important habitat for *Lilaeopsis*. However, as National Wildlife Refuges with mandates to conserve and protect rare species, special management and protection are already in place. Thus, no additional layer of protection is needed. However, as discussed herein and in the final listing rule (62 FR 665), *Lilaeopsis* and its habitat are threatened by groundwater overdraft on the upper San Pedro, which may require special management considerations or protection. As a result, critical habitat was designated on the upper San Pedro River but not at San Bernardino or Leslie Canyon National Wildlife Refuges.

Issue 7: Critical habitat designation will direct collectors of rare plants and recreationists to these important habitats, resulting in increased collection of *Lilaeopsis* and habitat disturbance.

Service Response: Designation of critical habitat is not prudent when the species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species (50 CFR 424.19). As discussed in the proposed rule, we are concerned that publishing maps of *Lilaeopsis* critical habitat could facilitate collection or other adverse effects. However, *Lilaeopsis* is a small, grass-like plant with inconspicuous flowers that is unlikely to be highly prized by plant collectors. Collection has not been identified as a threat.

Publishing the localities could facilitate visits by botanists or recreationists to these sites, which could result in trampling of plants or banklines. However, we expect that these visits will be few in number and very little disturbance will result from such visits.

Issue 8: All *Lilaeopsis* localities should have been designated as critical habitat, or the Service should provide a rationale for not designating sites. One commenter suggested that more critical habitat should be designated in Bear Canyon of Unit 6.

Service Response: In determining what areas are critical habitat, we consider areas and constituent elements that are essential to the conservation of the species and that may require special protection or management considerations (50 CFR 424.19(b)). Thus, not all areas occupied or potentially occupied by a species are appropriate for designation. Our rationale for not designating all *Lilaeopsis* localities as critical habitat is discussed in the section of this rule entitled ''Critical Habitat Designation.''

Issue 9: Designation of critical habitat should be delayed until better information becomes available on the species.

Service Response: Critical habitat designation can be found to be not determinable if information is insufficient to perform the required analyses of the impacts of the designation, or the biological needs of the species are not known well enough to permit identification of an area as critical habitat. Although additional work on this species is needed, the biological needs of the species is far from unknown and an analysis of economic impacts was completed (McKenney *et al.* 1999). Surveys and ecological studies of *Lilaeopsis* (Affolter 1985, Falk 1998, Falk and Warren 1994, Gori *et al.* 1990, Haas and Frye 1997, Saucedo 1990, Warren *et al.* 1989, Warren *et al.* 1991, Warren and Reichenbacher 1991) provide sufficient

information upon which to base a critical habitat determination. Critical habitat may be revised if new information becomes available suggesting such revision is needed (50 CFR 424.12(g)).

On November 25, 1998, Judge Marquez ordered ''that within 30 days of the date of this Order, the Secretary shall issue the proposed rules for designating critical habitat for the pygmy-owl and water umbel * * * and that within six months of issuing the proposed rules, the Secretary shall issue final decisions regarding the designation of critical habitat for the pygmy-owl and water umbel.''

Issue 10: The maps are inadequate for landowners to determine what areas were proposed as critical habitat. The meaning of ''adjacent areas out to the beginning of the upland vegetation'' is unclear.

Service Response: The maps are intended to be a general guide to where critical habitat is located. To determine exactly where critical habitat begins and ends along the designated canyons and stream reaches, readers should refer to the legal descriptions in the section entitled ''Critical Habitat—Plants.'' In regard to the precise location of critical habitat within canyons or stream reaches, we decided that an ecological description would be more appropriate than a strictly legal description. The floodplain vegetation community defines the area in which constituent elements will be found more precisely than legal descriptions. *Lilaeopsis* habitat and constituent elements are expected to change within those floodplains over time as the watercourse changes direction, creates new channels, etc. Movement within the floodplain is more likely to occur in a broad floodplain such as the San Pedro River, as compared to a narrow canyon, such as Rattlesnake Canyon in Unit 6. Although the habitat and constituent elements may move within a floodplain, they will always be within that floodplain and its associated zone of riparian and wetland vegetation, thus we defined the boundaries of critical habitat by vegetation communities. The boundary between riparian/wetland communities and adjacent uplands are typically quite clear in the arid woodlands and semi-desert grasslands in which *Lilaeopsis* habitat occurs and should be easy to identify on the ground.

Issue 11: Further survey work is needed in Unit 6 to determine where critical habitat should be designated.

Service Response: We reevaluated survey data and reports, particularly Gori *et al.* (1990), Haas and Frye (1997), and Warren *et al.* (1991); and in March, 1999, we made two field trips to the area to investigate the distribution of *Lilaeopsis* and assess habitat suitability. These field trips focused on Lone Mountain Canyon and its tributaries. Our review of existing literature and investigations in Lone Mountain Canyon confirmed that the stream reaches proposed as critical habitat met the regulatory criteria for critical habitat. *Lilaeopsis* was found by us and previous investigators in Lone Mountain Canyon and its two tributaries, but there are long stretches of these canyons that are typically dry, and the species was not located. The species may occur in these reaches during wet periods, but as discussed in our response to Issue 3, not only are these reaches likely ephemeral habitat during wet cycles, but they also affect downstream populations hydrologically, and are links that can allow for flow of individuals and genetic material among populations.

Issue 12: There is no need to designate critical habitat on the fringe of *Lilaeopsis'* range, where few areas contain constituent elements.

Service Response: The commenter states that the range of *Lilaeopsis* extends to central and northern Mexico and northwestern South America. This is the range of the entire species, but the listed entity, *Lilaeopsis schaffneriana* ssp. *recurva*, is only known from 26 sites in Santa Cruz, Cochise, and Pima counties, Arizona, and in adjacent Sonora, Mexico. These are not ''fringe'' localities; they represent the only places where this taxon is found.

Issue 13: The Service failed to notify or request comments from the State of Arizona, Mexico, and South American countries where *Lilaeopsis* occurs, as required by the Act.

Service Response: As discussed in our response to Issue 12, *Lilaeopsis schaffneriana* ssp. *recurva* does not occur in South America, therefore we did not solicit comments from South American countries. Pursuant to 50 CFR 424.16 (c)(1)(iv), we are required to give notice to foreign countries in which the species occurs only if the proposed regulation is to list, delist, or reclassify the species. Because this is not an action to list, delist, or reclassify a species, this action does not apply to Mexico, and we are not required to inform that government of this designation. Within Arizona State government, the proposed rule was sent to 28 contacts within numerous agencies, including the Governor's Office and the Arizona Department of Agriculture, which has jurisdiction over plant protection within State government. Of these 28, the Arizona Department of Environmental Quality and Arizona Game and Fish Department responded in writing to us indicating they had no comments on the proposed designation.

Issue 14: The Service should focus on establishing *Lilaeopsis* in small sites where it can persist, such as creating a small diversion along the San Pedro River that could serve as a refugium for the species, rather than designating large areas that impinge on property and water rights and increase unnecessary regulation.

Service Response: Creation of habitat is an action that could be employed to help recover and ultimately eliminate the need for *Lilaeopsis*' endangered status and the critical habitat designation. However, such decisions will be addressed in the species' recovery plan, which has yet to be developed.

Because critical habitat designation would not affect any uses of private property, unless those uses were federally authorized, funded, or carried out, no infringement of property rights would result from critical habitat designation. The designation is also not expected to increase regulatory burden above and beyond that already imposed by listing, because projects that would adversely modify or destroy critical habitat would also result in jeopardy to the species.

Issue 15: The following finding from the proposed rule is inconsistent with the Act and its implementing regulations: ''Areas that do not currently contain all of the primary constituent elements but that could develop them in the future may be essential to the conservation of the species and may be designated as critical habitat.''

Service Response: The implementing regulations require that analyses to determine critical habitat shall focus on the principal biological and physical constituent elements within defined areas that are essential to the conservation of the species (50 CFR 424.12(b)(5)). The species occurs in all of the critical habitat units, but in certain reaches within each unit it may at times be absent and some constituent elements may be missing. Nevertheless, these areas are important as habitat during wet cycles and/or are important corridors for movement of plants and genetic material among populations. Since stream courses are dynamic, as is the distribution of the plant, protection of sites that do not currently support the water umbel but could do so in the future are essential to the species' conservation.

Issue 16: The assumption used in the analysis is incorrect, as designation of critical habitat will have economic

impacts on the City of Sierra Vista and Fort Huachuca.

Service Response: The designation of critical habitat for the Huachuca water umbel has been evaluated in the economic context known as ''with'' and ''without'' the rule. It was found that the status of the Huachuca water umbel is such that any adverse modification of its habitat would be likely to jeopardize the species. Further, it is our position that both within and outside of critical habitat, Federal agencies should consult under the jeopardy standard if a proposed action is (1) within the geographic areas occupied by the species, whether or not the Huachuca water umbel has been detected on the specific project site; (2) the project site contains habitat features that can be used by the species; and (3) the proposed action is likely to adversely affect that habitat. Under this condition, any and all real economic consequences would be due to the jeopardy call under section 7 of the Act and an adverse modification without a jeopardy call would not occur. Therefore, the economic consequences identified during the comment period are all due to the listing of the water umbel and not additional consequences accrued from the designation of critical habitat. The economic analysis of designating critical habitat determined that the same regulatory process is in place ''with'' as well as ''without'' the rule, and consequently found no economic effects attributable to the designation of critical habitat.

Issue 17: The designation will have harmful impacts on the quality of life, education, and economic stability of small towns. There is an expressed concern that the proposed critical habitat designation will change groundwater pumping from the San Pedro River and this will negatively affect the city of Sierra Vista and Fort Huachuca which provides jobs to local residents.

Service Response: As stated in the economic analysis, the proposed rule to designate critical habitat for the Huachuca water umbel is not adding any new requirements to the regulatory process. Since the adverse modification standard for critical habitat and the jeopardy standard are almost identical, the listing of the Huachuca water umbel itself invoked the requirement for consultation. The rule to designate critical habitat adds no other requirements not already in place when the species was listed.

Issue 18: The Service's designation of critical habitat has not adequately considered potential economic implications. There is opposition to the fact that the Service did not prepare an initial regulatory flexibility analysis to address potential impact to small businesses, as required under the Regulatory Flexibility Act.

Service Response: The proposed rule was published under very tight time constraints placed by Court Order on December 24, 1998. At that time we prepared a Record of Compliance certification that the proposed critical habitat designation would not have a significant economic impact on small entities. A detailed analysis was initiated by a private firm under Government contract and subsequently, we distributed a draft of the economic report for a 30-day public comment period ending in May, 1999. The findings of the economic reports indicate that the designation of critical habitat adds no new restrictions on economic activity that were not in place with the listing of *Lilaeopsis.* Therefore, there is no economic effect on small entities attributable to this rulemaking, and a regulatory impact analysis is not required.

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific and commercial information available and to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as part of critical habitat. We cannot exclude such areas from critical habitat if such exclusion would result in the extinction of the species concerned.

Economic effects caused by listing *Lilaeopsis* as endangered and by other statutes are the baseline upon which critical habitat is imposed. The economic analysis must then examine the incremental economic and conservation effects of the critical habitat addition. Economic effects are measured as changes in national income, regional jobs, and household income.

An analysis of the economic effects of *Lilaeopsis* critical habitat designation was prepared (McKenney *et al.* 1999) and made available for public review. The final analysis, which reviewed and incorporated public comments, concluded that no economic impacts are expected from critical habitat designation above and beyond that already imposed by listing *Lilaeopsis.* The only possible economic effects of critical habitat designation are on activities funded, authorized, or carried out by a Federal agency. These activities would be subject to section 7 consultation if they may affect critical habitat. However, activities that may affect critical habitat may also affect the species, and would thus be subject to consultation regardless of critical habitat designation. Also, changes or mitigating measures that might increase the cost of the project would only be imposed as a result of critical habitat if the project adversely modifies or destroys that critical habitat. We believe that any project that would adversely modify or destroy critical habitat would also jeopardize the continued existence of the species; thus no regulatory burden or additional costs would accrue because of critical habitat above and beyond those resulting from listing. Furthermore, we believe any reasonable and prudent alternative that would remove jeopardy to the species would also remove adverse modification of critical habitat.

A copy of the economic analysis and description of the exclusion process with supporting documents are included in our administrative record and may be obtained by contacting our office (see **ADDRESSES** section).

Required Determinations

Regulatory Planning and Review. In accordance with Executive Order 12866, this action was submitted for review by the Office of Management and Budget. Because the economic analysis identified no economic benefits from excluding any of the proposed critical habitat areas, we made a determination to designate all proposed critical habitat units, with the exception of Unit 7, Joaquin Canyon, which is excluded because its designation is not essential to the conservation of the species and is not in need of special management or protection. No inconsistencies with other agencies' actions and or effects on entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients, were identified in the economic analysis. This rule does not raise novel legal or policy issues.

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

In the economic analysis we determined that designation of critical habitat will not have a significant effect on a substantial number of small entities. As discussed in that document and in this final rule, designating critical habitat will not place restrictions on any actions beyond those already resulting from listing *Lilaeopsis* as endangered. We recognize that some towns, counties, and private entities are considered small entities in accordance

with the Regulatory Flexibility Act, however, they also are not affected by the designation of critical habitat because no additional restrictions will result from this action.

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

In the economic analysis, we determined that designation of critical habitat will not cause (a) any effect on the economy of $100 million or more, (b) any increases in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions in the economic analysis, or (c) any significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

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

In the economic analysis, we determined that no effects would occur to small governments as a result of critical habitat designation.

Takings. In accordance with Executive Order 12630, this rule does not have significant takings implications, and a takings implication assessment is not required. This rule will not ''take'' private property and will not alter the value of private property. Critical habitat designation is only applicable to Federal lands and to private lands if a Federal nexus exists. We do not designate private lands as critical habitat unless the areas are essential to the conservation of a species. Although the majority of lands designated as critical habitat is under Federal administration and management, some riparian systems on private land are being designated.

Federalism

This rule will not affect the structure or role of States, and will not have direct, substantial, or significant effects on States. As previously stated, critical habitat is only applicable to Federal lands and to non-Federal lands when a Federal nexus exists, and in the economic analysis we determined that no economic impacts would result from of critical habitat designation.

Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor has determined that this rule does not unduly burden the judicial system and does meet the requirements of sections 3(a) and 3(b)(2) of the Order. We have made every effort to ensure that this final determination 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 rule does not contain any information collection requirements for which Office of Management and Budget approval under the Paperwork Reduction Act is required.

National Environmental Policy Act (NEPA)

We have determined that regulations adopted pursuant to section 4 of the Act need not undergo preparation of Environmental Assessments or Environmental Impact Statements as defined under the authority of the NEPA. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951) and 512 DM 2: We understand that we must relate to federally recognized Tribes on a Government-to-Government basis. Secretarial Order 3206—American Indian Tribal Rights, Federal-Tribal Trust Responsibilities and the Endangered Species Act, states that ''Critical habitat shall not be designated in such areas [an area that may impact Tribal trust resources] unless it is determined essential to conserve a listed species. In designating critical habitat, the Service shall evaluate and document the extent to which the conservation needs of a listed species can be achieved by limiting the designation to other lands.'' *Lilaeopsis* critical habitat does not contain any Tribal lands or lands that we have identified as impacting Tribal trust resources.

References Cited

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

Authors

The primary author of this notice is Jim Rorabaugh (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

For the reasons given in the preamble, we amend 50 CFR part 17 as set forth below:

PART 17—[AMENDED]

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

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

2. In § 17.12(h) revise the entry for ''*Lilaeopsis schaffneriana* var. *recurva*'' under ''FLOWERING PLANTS'' to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
*	*	*	*	*	*		*
Lilaeopsis schaffneriana var. *recurva.*	Huachuca water umbel.	U.S.A. (AZ), Mexico	Apiaceae	E	600	§ 17.96(a)	NA
*	*	*	*	*	*		*

3. In section 17.96 add critical habitat for *Lilaeopsis schaffneriana* var. *recurva,* Huachuca water umbel, as the first entry under ''(a) Flowering plants'' to read as follows:

§ 17.96 Critical habitat—plants.

(a) Flowering plants.

Family Apiaceae: *Lilaeopsis schaffneriana* var. *recurva* (Huachuca water umbel). Critical habitat includes the stream courses identified in the legal descriptions below, and includes adjacent areas out to the beginning of upland vegetation. Within these areas, the primary constituent elements include, but are not limited to, the habitat components which provide—(1) Sufficient perennial base flows to provide a permanently or nearly permanently wetted substrate for growth and reproduction of *Lilaeopsis;* (2) A stream channel that is relatively stable, but subject to periodic flooding that provides for rejuvenation of the riparian plant community and produces open microsites for *Lilaeopsis* expansion; (3) A riparian plant community that is relatively stable over time and in which nonnative species do not exist or are at a density that has little or no adverse effect on resources available for *Lilaeopsis* growth and reproduction; and (4) In streams and rivers, refugial sites in each watershed and in each reach, including but not limited to springs or backwaters of mainstem rivers, that allow each population to survive catastrophic floods and recolonize larger areas.

Unit 1. Santa Cruz County, Arizona. From USGS 7.5′ quadrangle map Sonoita, Arizona.

Gila and Salt Principal Meridian, Arizona: T. 20 S., R. 16 E., beginning at a point on Sonoita Creek in sec. 34 at approx. 31°39′19″ N latitude and 110°41′52″ W longitude proceeding downstream (westerly) to a point in sec. 33 at approx. 31°39′07″ N latitude and 110°42′46″ W longitude covering approx. 2 km (1.25 mi.).

Unit 2. Santa Cruz County, Arizona. From USGS 7.5′ quadrangle map Lochiel, Arizona.

That portion of the Santa Cruz River beginning in the San Rafael De La Zanja Grant approx. at 31°22′30″ N latitude and 110°35′45″ W longitude downstream (southerly) to Gila and Salt Principal Meridian, Arizona, T. 24 S., R. 17 E., through secs. 11 and 14, to the south boundary of sec. 14 covering approx. 4.4 km (2.7 mi.). Also, a tributary that begins in T. 24 S., R. 17 E., sec. 13 at approx. 31°21′10″ N latitude and 110°34′16″ W longitude downstream (southwesterly) to its confluence with the Santa Cruz River covering approx. 3 km (1.9 mi.).

Unit 3. Cochise County, Arizona. From USGS 7.5′ quadrangle map Huachuca Peak, Arizona.

Gila and Salt Principal Meridian, Arizona: That portion of Scotia Canyon beginning in T. 23 S., R. 19 E., sec. 3 at approx. 31°27′19″ N latitude and 110°23′44″ W longitude downstream (southwesterly) through secs. 10, 9, 16 and to approx. 31°25′22″ N latitude and 110°25′22″ W longitude in sec. 21 covering approx. 5.4 km (3.4 mi.).

Unit 4. Cochise County, Arizona. From USGS 7.5′ quadrangle map Huachuca Peak, Arizona.

Gila and Salt Principal Meridian, Arizona: That portion of Sunnyside Canyon beginning in T. 23 S., R. 19 E., on the east boundary of sec. 10 downstream (southwesterly) to the south boundary of sec. 10 covering approx. 1.1 km (0.7 mi.).

Unit 5. Cochise County, Arizona. From USGS 7.5′ quadrangle map Miller Peak, Arizona.

That portion of Garden Canyon in the Fort Huachuca Military Reservation beginning at approx. 31°27′13″ N latitude and 110°22′33″ W longitude downstream (northwesterly) to approx. 31°28′45″ N latitude and 110°20′11″ W longitude covering approx. 6.1 km (3.8 mi.).

Unit 6. Cochise County, Arizona. From USGS 7.5′ quadrangle map Miller Peak, Arizona.

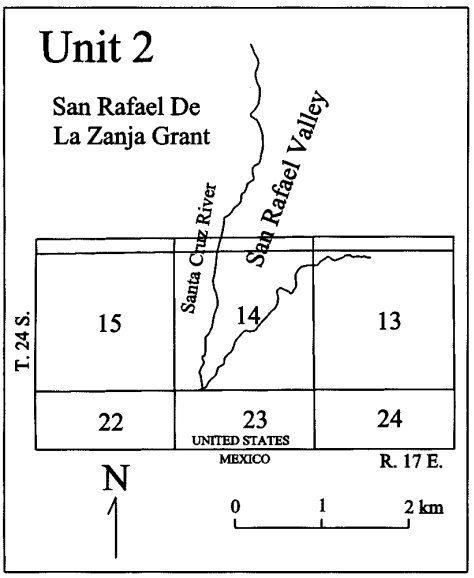
Gila and Salt Principal Meridian, Arizona: That portion of Bear Canyon beginning at a point in T. 24 S., R. 19 E., sec. 1 at approx. 31°22′30″ N latitude and 110°21′47″ W longitude upstream through T. 23 S., R. 19 E., sec. 36 to a point in sec. 31 at approx. 31°23′18″ N latitude and 110°21′22″ W longitude covering approx. 1.7 km (1.0 mi.). Also, continuing up an unnamed tributary beginning at a point in T. 23 S., R. 19 E., sec. 31 at approx. 31°23′18″ N latitude and 110°21′22″ W longitude upstream (northerly) to a point in T. 23 S., R. 19 E., sec. 30 at approx. 31°23′44″ N latitude and 110°21′14″ W longitude covering approx. 0.9 km (0.5 mi.). Also, that portion of Lone Mountain Canyon beginning at its confluence with Bear Creek at a point in T. 23 S., R. 19 E., sec. 36 at approx. 31°22′54″ N latitude and 110°21′43″ W longitude to a point in sec. 36 at approx. 31°23′26″ N latitude and 110°21′58″ W longitude, thence up an unnamed tributary northwesterly into sec. 25 thence northerly to a point at approx. 31°24′13″ N latitude and 110°21′54″ W longitude covering approx. 2.7 km (1.7 mi.). Also that portion of Rattlesnake Canyon beginning at its confluence with Lone Mountain Canyon in T. 23 S., R. 19 E., sec. 36 upstream northeasterly into sec. 25 to a point at approx. 31°22′08″ N latitude and 110°21′31″ W longitude covering approx. 1.5 km (1.0 mi.).

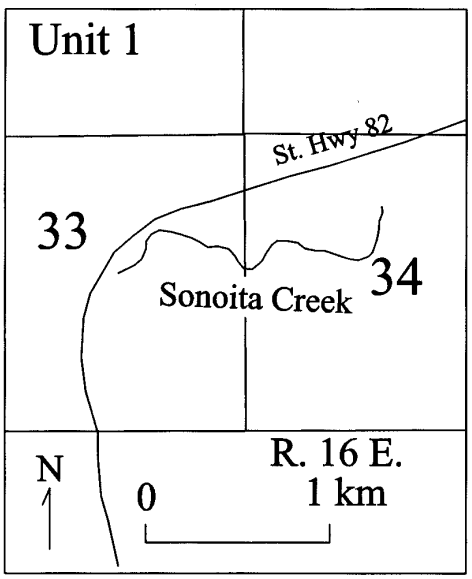
Unit 7. Cochise County, Arizona. From USGS 7.5′ quadrangle maps: Hereford, Ariz.; Tombstone SE, Ariz.; Nicksville, Ariz.; Lewis Springs, Ariz.; Fairbank, Ariz.; Land, Ariz.

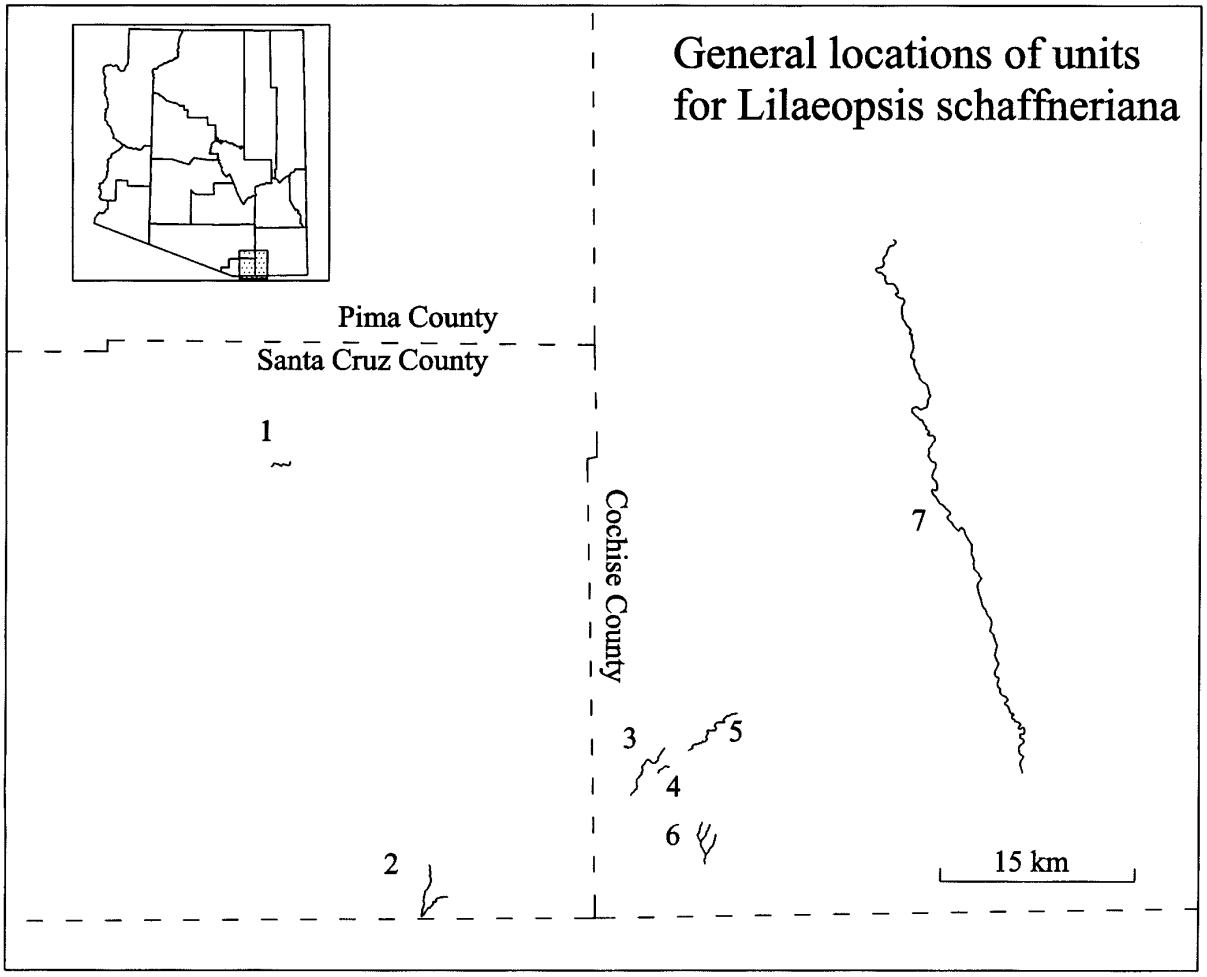
Gila and Salt Principal Meridian, Arizona: That portion of the San Pedro River beginning in the San Rafael Del Valle Grant at a point approx. 200 meters upstream (south) of the Hereford Road bridge at approx. 31°26′16″ N latitude and 110°06′24″ W longitude continuing downstream (northerly) through the San Rafael Del Valle Grant; T. 21 S., R. 22 E.; T. 21 S., R 21 S.; through the San Juan De Las Boquilla y Nogales Grant to a point at approx. 31°48′28″ N latitude and 110°12′32″ W longitude covering approx. 54.2 km (33.7 mi.).

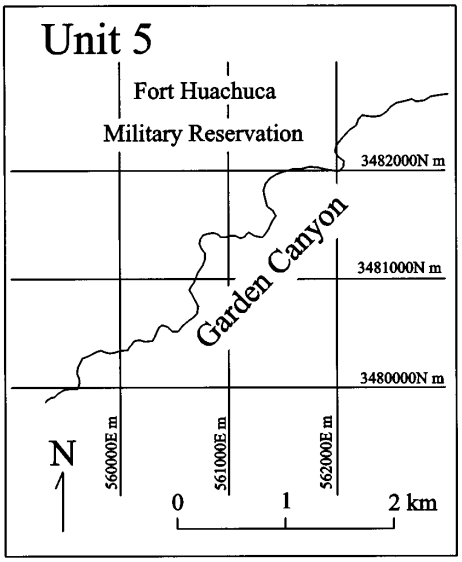
Note: Maps for Units 1–7 follow:

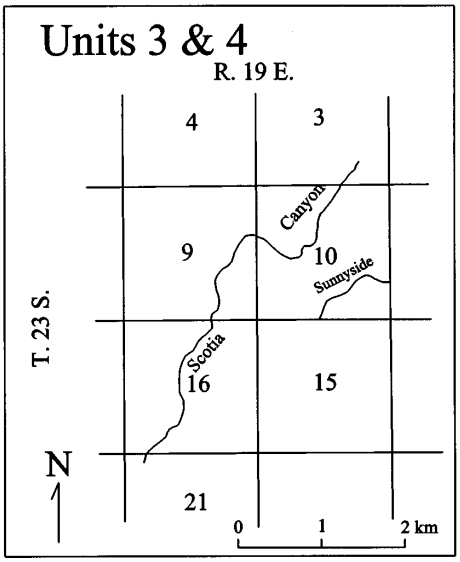
BILLING CODE 4310–55–P

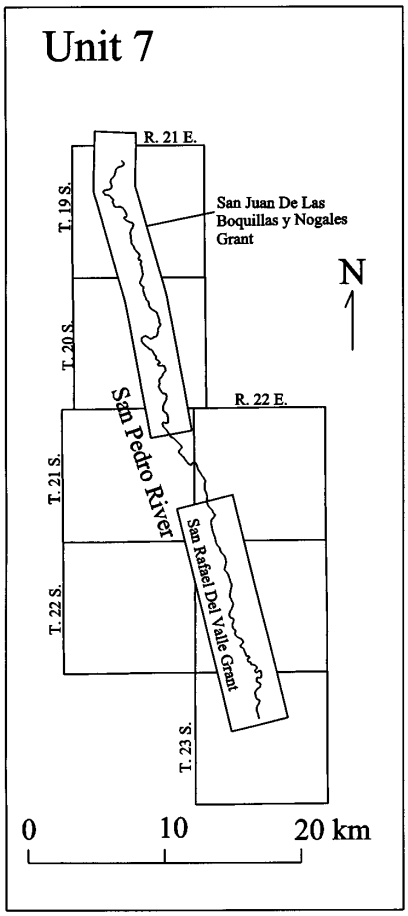

Unit 2
San Rafael De
La Zanja Grant
Santa Cruz River
San Rafael Valley
T. 24 S.
15
14
13
22
23
24
UNITED STATES
MEXICO
R. 17 E.
N
0
1
2 km

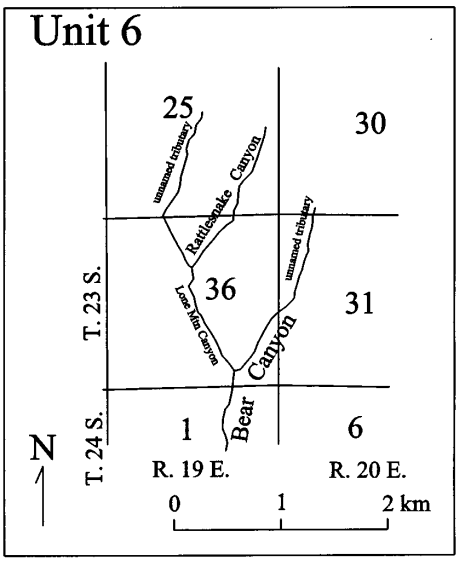

Unit 1
St. Hwy 82
33
34
Sonoita Creek
N
R. 16 E.
0
1 km


General locations of units
for Lilaeopsis schaffneriana
Pima County
Santa Cruz County
Cochise County
1
2
3
4
5
6
7
15 km









Dated: June 30, 1999.

Donald J. Barry,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 99–17403 Filed 7–6–99; 1:25 pm]

BILLING CODE 4310–55–C