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Ricardo Martinez,
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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AC85

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Cactus Ferruginous Pygmy-Owl in Arizona

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Fish and Wildlife Service (Service) determines endangered status for the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) in Arizona, pursuant to the Endangered Species Act of 1973, as amended (Act). The Service also determines that the cactus ferruginous pygmy-owl population in Texas does not warrant listing as a threatened species and is not finalizing that portion of the proposal. The Service originally proposed to list the cactus ferruginous pygmy-owl as endangered in Arizona with critical habitat, and threatened in Texas without critical habitat.

New information was received during comment periods indicating that population levels are higher in Arizona and Texas than was known at the time of the proposed rule. This information has been considered in making this final determination. However, the Service still determines that the Arizona population warrants endangered status. Conversely, the new information indicates that listing the species as threatened in Texas is not warranted. This rule implements the Federal protection and recovery provisions afforded by the Act for the Arizona population of this subspecies.

EFFECTIVE DATE: April 9, 1997.

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

FOR FURTHER INFORMATION CONTACT: For Arizona, Mary E. Richardson, Arizona Ecological Services Field Office (see **ADDRESSES** section) (telephone 602/640-

2720; facsimile 602/640-2730). For Texas, William Seawell, U.S. Fish and Wildlife Service, (telephone 512/994-9005; facsimile 512/994-8262).

SUPPLEMENTARY INFORMATION:

Background

The cactus ferruginous pygmy-owl (Order Strigiformes—Family Strigidae) is a small bird, approximately 17 centimeters (cm) (6¾ inches (in)) long. Males average 62 grams (g) (2.2 ounces (oz)), and females average 75 g (2.6 oz). The cactus ferruginous pygmy-owl is reddish-brown overall, with a cream-colored belly streaked with reddish-brown. Some individuals are grayish, rather than reddish-brown. The crown is lightly streaked, and paired black-and-white spots on the nape suggest eyes. There are no ear tufts, and the eyes are yellow. The tail is relatively long for an owl and is colored reddish-brown with darker brown bars. The call of this diurnal owl, heard primarily near dawn and dusk, is a monotonous series of short notes.

The cactus ferruginous pygmy-owl is one of four subspecies of the ferruginous pygmy-owl. It occurs from lowland central Arizona south through western Mexico, to the States of Colima and Michoacan, and from southern Texas south through the Mexican States of Tamaulipas and Nuevo Leon. South of these regions and through Central America, *G. b. ridgwayi* replaces *G. b. cactorum*.

Throughout South America, *G. b. brasilianum* is the resident subspecies (Fisher 1893, van Rossem 1937, Friedmann *et al.* 1950, Schaldach 1963, Phillips *et al.* 1964, de Schauensee 1966, Karalus and Eckert 1974, Oberholser 1974, Johnsgard 1988). Additionally, König and Wink (1995) have identified a fourth subspecies of pygmy-owl from central Argentina (*G. b. stranecki*).

The cactus ferruginous pygmy-owl (hereafter "pygmy-owl" unless otherwise noted) was described by van Rossem (1937), based on specimens from Arizona and Sonora. It is distinguished from *G. b. ridgwayi* and *G. b. brasilianum* by its shorter wings and longer tail, and by generally lighter coloration (van Rossem 1937, Phillips *et al.* 1964). *G. b. cactorum* occurs in several color phases, with distinct differences between regional populations (Sprunt 1955, Burton 1973, Tyler and Phillips 1978, Hilty and Brown 1986, Johnsgard 1988). Some investigators (e.g., van Rossem 1937, Tewes 1993) have suggested that further taxonomic investigation may be needed, however, *G. b. cactorum* is widely

recognized as a valid subspecies (e.g., Friedmann *et al.* 1950, Blake 1953, Sprunt 1955, Phillips *et al.* 1964, Monson and Phillips 1981, Millsap and Johnson 1988, Binford 1989). The American Ornithologists' Union (AOU) recognized *G. b. cactorum* in its 1957 Checklist of North American Birds (AOU 1957), but subsequent lists did not include subspecies (AOU 1983). Based on these authorities, the Service accepted *G. b. cactorum* as a subspecies in 1991 (56 FR 58804), and again in 1993 (58 FR 13045). The Service accepts that there is only one subspecies (*G. b. cactorum*) of cactus ferruginous pygmy-owl in Arizona.

The pygmy-owl nests in a cavity in a tree or large columnar cactus. Cavities may be naturally formed (e.g., knotholes) or excavated by woodpeckers. No nest lining material is used. The pygmy-owl also has nested in fabricated nest boxes (Proudfoot *et al.* 1994a, Proudfoot 1996). Three, four, five, and occasionally six eggs are laid (Bent 1938, Heintzelman 1979, Glenn Proudfoot, Texas A&M University at Caesar Kleberg Wildlife Research Institute, unpubl. data 1996) and incubated for approximately 28 days. The young fledge about 28 days after hatching. The pygmy-owl begins nesting activities in late winter to early spring. It is nonmigratory throughout its range (Bendire 1888, Griscom and Crosby 1926, Oberholser 1974, Johnson *et al.* 1979). The pygmy-owl's diverse diet includes birds, lizards, insects, small mammals (Bendire 1888, Sutton 1951, Sprunt 1955, Earhart and Johnson 1970, Oberholser 1974), and frogs (Proudfoot *et al.* 1994b).

The pygmy-owl occurs in a variety of subtropical, scrub, and woodland communities, including riverbottom woodlands, woody thickets ("bosques"), coastal plain oak associations, thornscrub, and deserts scrub. Unifying habitat characteristics among these communities are fairly dense woody thickets or woodlands, with trees and/or cacti large enough to provide nesting cavities. Throughout its range, the pygmy-owl occurs at low elevations, generally below 1,200 meters (m) (4,000 feet (ft)) (Swarth 1914, Karalus and Eckert 1974, Monson and Phillips 1981, Johnsgard 1988, Enriquez-Rocha *et al.* 1993).

In southern Texas, the pygmy-owl's habitat includes coastal plain oak associations as well as the Tamaulipan thornscrub of the lower Rio Grande Valley region, which consists of mesquite (*Prosopis glandulosa*), hackberry (*Celtis* spp.), oak (*Quercus* spp.), and Texas ebony (*Pithecellobium ebano*) (Griscom and Crosby 1926, Bent

1938, Oberholser 1974, Tewes 1992, Wauer *et al.* 1993). In northeastern Mexico it occurs in lowland thickets, thornscrub communities, riparian woodlands, and second-growth forest (van Rossem 1945, AOU 1983, Enriquez-Rocha *et al.* 1993, Tewes 1993). In central and southern Arizona the pygmy-owl's primary habitats were riparian cottonwood (*Populus* spp.) forests, mesquite bosques, and Sonoran desertscrub, but the subspecies currently occurs primarily in Sonoran desertscrub associations of palo verde (*Cercidium* spp.), bursage (*Ambrosia* spp.), ironwood (*Olneya tesota*), mesquite (*Prosopis juliflora*), acacia (*Acacia* spp.), and giant cacti such as saguaro (*Cereus giganteus*), and organpipe (*Cereus thurberi*) (Gilman 1909, Bent 1938, van Rossem 1945, Phillips *et al.* 1964, Monson and Phillips 1981, Johnson-Duncan *et al.* 1988, Millsap and Johnson 1988). In northwestern Mexico the pygmy-owl occurs in Sonoran desertscrub, Sinaloan thornscrub, and Sinaloan deciduous forest as well as riverbottom woodlands, cactus forests, and thornforest (Enriquez-Rocha *et al.* 1993).

The available information indicates that distinct eastern and western populations of the pygmy-owl are definable. The pygmy-owl occurs along the lower Rio Grande and the coastal plain of southern Texas and northeastern Mexico. It also occurs in lowland areas of northwestern Mexico and southern Arizona. The pygmy-owl's elevational distribution, the distribution of habitat, and recorded locations indicate that these eastern and western ranges of the pygmy-owl are geographically isolated from each other and are ecologically distinct. In the United States, eastern and western portions of the pygmy-owl's range are separated by the basin-and-range mountains and intervening Chihuahuan Desert basins of southeastern Arizona, southern New Mexico, and western Texas. The pygmy-owl has never been recorded in this 805 kilometer (km) (500 mile (mi)) wide area (Bailey 1928, Phillips *et al.* 1964, Oberholser 1974, Sartor O. Williams, New Mexico Department of Game and Fish, *in litt.* 1991).

In Mexico, the eastern and western populations are separated by the highlands of the Sierra Madre Oriental and Occidental, and the Mexican Plateau. The pygmy-owl is considered rare on the Mexican Plateau at/or above elevations of 1,200 m (4,000 ft) on the west, and above 300 m (1,000 ft) on the east (Friedman *et al.* 1950). Some sources describe the eastern and western ranges as contiguous at the

southern end of its range, near the southern end of the Mexican Plateau in central Mexico (Johnsgard 1988). Other sources describe these two ranges as disjunct (Burton 1973). In his description of the subspecies, van Rossem (1937) found that Texas specimens exhibited characteristics of both *G. b. cactorum* and *G. b. ridgwayi*. Ultimately, he did not assign Texas ferruginous pygmy-owls to *G. b. cactorum*, but noted that Ridgeway (1914, in Van Rossem 1937) considered them distinct from *G. b. ridgwayi*, and left the taxonomy of Texas pygmy-owls to be *G. b. cactorum* (e.g., Oberholser 1974, Millsap and Johnson 1988).

In addition to geographic separation, the pygmy-owl's eastern and western populations occupy different habitats. Although some broad similarities in habitat physiognomy are apparent (e.g., dense woodlands and thickets), floristically, these eastern and western habitats are very dissimilar. The desertscrub and thornscrub associations in Arizona and western Mexico are unlike any habitats occupied by the pygmy-owl in eastern Mexico and southern Texas. Also, the oak association habitat occupied on coastal plains in southern Texas is unlike any habitat available in the western portion of the pygmy-owl's range. However, the Tamaulipan thornscrub habitat of the east and the riverbottom mesquite-cottonwood bosque habitat in Arizona are more similar in physiognomy and to a slight degree in floristic makeup.

The potential for genetic distinctness further supports a distinction between eastern and western pygmy-owl populations. The fact that the pygmy-owl is nonmigratory throughout its range suggests that genetic mixing across wide areas may be infrequent. In addition, considerable variation in plumage between regional populations has been noted, including specific distinctions between Arizona and Texas pygmy-owls (van Rossem 1937, Burton 1973, Tyler and Phillips 1978, Johnsgard 1988).

These eastern and western populations of the pygmy-owl may be considered separately for listing under the Act. The Act defines "species" as any subspecies . . . and any distinct population segment of any species of vertebrate which interbreeds when mature (section 3(16)). Further, the Service's policy on vertebrate population segments (61 FR 4722) requires that, to be a listable entity under the Act, the population be "discrete" and significant. A population segment is "discrete" if it is markedly separated from other populations of the same taxon as a consequence of

physical, physiological, ecological, or behavioral factors. A population also can be considered "discrete" if it is delimited by international boundaries across which exist differences in management control of the species. The above information indicates that eastern and western populations of the cactus ferruginous pygmy-owl are distinct based on geographic isolation, distribution and status of habitat, and potential morphological and genetic distinctness.

A population segment is considered "significant" if its loss would constitute a significant gap in the range of the taxon. The above criteria lead the Service to consider the four separate populations of *G. b. cactorum* for listing purposes—western United States (Arizona), eastern United States (Texas), western Mexico, and eastern Mexico to be both discrete and significant. The Service herein proposes separate actions for these various population segments because the levels of threat, habitats occupied, quality of information, and overall status differ among these four populations.

Previous Federal Action

The Service included the pygmy-owl on its Animal Notice of Review as a category 2 candidate species throughout its range on January 6, 1989 (54 FR 554). After soliciting and reviewing additional information, the Service elevated *G. b. cactorum* to category 1 status throughout its range on November 21, 1991 (56 FR 58804). A category 1 species was, at that time, defined as a species for which the Service had on file substantial information to support listing, but for which a proposal to list had not been issued as it was precluded by other listing activities. The Service has since discontinued the practice of maintaining a list of species regarded as "category 1" or "category 2" candidates. Candidates are now considered only those species for which the Service has on file sufficient information to support issuance of a proposed listing rule (61 FR 64481).

Based on an extensive review of information on the subspecies, the Service has determined that it is now appropriate to list the Arizona population as endangered, not to finalize the proposed listing in Texas, and to continue reviewing the pygmy-owl in Mexico to determine whether Mexican populations should be proposed for listing. Recent information from Mexico indicates that the subspecies may be more abundant, at least in the southern portion of its range, than originally thought.

On May 26, 1992, a coalition of conservation organizations (Galvin *et al.* 1992) petitioned the Service requesting listing of the pygmy-owl as an endangered subspecies under the Act. The petitioners also requested designation of critical habitat. In accordance with Section 4(b)(3)(A) of the Act, on March 9, 1993, the Service published a finding that the petition presented substantial scientific or commercial information indicating that listing may be warranted, and initiated a status review on the pygmy-owl (58 FR 13045). In conducting its status review, the Service solicited additional comments and biological data on the status of the cactus ferruginous pygmy-owl through mailings, a notice in the Federal Register (58 FR 13045), and other means.

Section 4(b)(3)(B) of the Act requires the Secretary of the Interior to determine whether listing a petitioned species is warranted within 12 months of the petition's receipt (16 U.S.C. S 1531 *et seq.*). On December 12, 1994, the Service published a 12-month finding on the petitioned action (59 FR 63975). This finding indicated that listing of the cactus ferruginous pygmy-owl was warranted and a proposed rule was published on the same date to list the pygmy-owl as endangered in Arizona with critical habitat and as threatened in Texas without critical habitat.

The processing of this final rule conforms with the Service's final listing priority guidance published on December 5, 1996 (61 FR 64475). The guidance clarifies the order in which the Service will process rulemakings during fiscal year 1997. The guidance calls for giving highest priority to emergency listings (Tier 1) and the second highest priority (Tier 2) to finalizing proposed listings. This final rule falls under Tier 2. At this time there are no pending Tier 1 actions.

Summary of Comments and Recommendations

In the December 12, 1994, proposed rule (59 FR 63975) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to development of a final rule. The original comment period closed April 11, 1995, then was reopened from May 1, 1995, to May 30, 1995 (60 FR 19013), and again from October 10, 1996, to November 12, 1996 (60 FR 53187).

Appropriate State agencies and representatives, County and City governments, Federal agencies and representatives, scientific organizations, and other interested parties were contacted and requested to comment.

Newspaper/media notices inviting public comment were published in the following newspapers—in the State of Arizona, the Indian Country Today, the Tucson Citizen, the Arizona Republic, the Arizona Silver Belt, the Green Valley News/Sun, and the Eastern Arizona Courier; and for the State of Texas, in the Laredo Morning Times, the Corpus Christi Caller-Times, the Valley Morning Star, the Monitor, and the Brownsville Herald. The inclusive dates of publications were January 6–18, 1995, for the initial comment period; and April 21–26 and October 15–30, 1995, for the first and second extensions of the comment period, respectively.

In response to requests from the public, the Service held two public hearings. Notices of hearing dates and locations were published in the Federal Register on April 14, 1995 (60 FR 19013). Appropriate State agencies and representatives, County and City governments, Federal agencies and representatives, scientific organizations, and other interested parties were contacted regarding the hearings. Approximately 300 people attended the hearing in Tucson, Arizona and approximately 30 people attended the hearing in Weslaco, Texas. Transcripts of these hearings are available for inspection (see **ADDRESSES** section).

A total of 123 written comment letters were received at the Service's Ecological Services Field Office in Phoenix, Arizona—30 supported the proposed listing; 1 supported the proposed listing in Arizona only; 1 supported the proposed listing in Texas but was opposed to listing in Arizona; 8 opposed the proposed listing; 14 opposed the proposed listing and proposed critical habitat; 45 opposed only the proposed critical habitat; and 24 either commented on information in the proposed rule but stated neither support nor opposition, provided additional information only, or were nonsubstantive or irrelevant to the proposed listing.

Oral comments were received from 20 parties at the hearings. Written comments received at the hearings or given to Service representatives prior to the hearings are included within the discussion above. Of the oral comments at the hearings, 3 supported the proposed listing; 4 opposed the proposed listing; and 9 expressed neither support nor opposition, provided additional information only, or were nonsubstantive or irrelevant to the proposed listing.

In total, oral or written comments were received from 15 Federal and State agencies and officials, 11 local officials, and 126 private organizations,

companies, and individuals. All comments, both oral and written, received during the comment period are addressed in the following summary with the exception of those pertaining to finalizing critical habitat and the proposed special rule. In accordance with the Service's published listing priority guidance, finalizing critical habitat is of the lowest priority and would only be addressed upon the completion of higher priorities. All comments regarding critical habitat will remain on file with the Service. Since the Service is not finalizing the proposed listing of the pygmy-owl as threatened in Texas, the associated proposed special rule and comments regarding it are now moot. Comments of a similar nature are grouped into a number of general issues. These issues and the Service's responses are discussed below.

Issue 1: Other processes, especially conservation agreements in lieu of listing, could be more effective at protecting these species, and would impose fewer regulations and restrictions on land use as compared to Federal listing.

Comment: One commenter asked what local, City, and County officials the Service had coordinated with on this action.

Service Response: The Service has maintained an active mailing list that includes local, City, and County officials, as well as State and Federal officials and private individuals who have expressed an interest in the pygmy-owl listing process. We have provided copies of Federal Register notices, including those announcing public hearing dates, throughout the listing process to individuals on this mailing list. Numerous local, City, County, State, and Federal agencies provided comments during open comment periods, and these comments have been considered in developing the final recommendation for this listing action. The administrative record is available for review, by appointment, during normal business hours (see **ADDRESSES** section).

Comment: Several commenters recommended doing conservation agreements in lieu of listing.

Service Response: The Service does not believe that a conservation agreement, sufficient to preclude listing in Arizona, is feasible at this time because of the extremely small population size and the numerous threats faced by the species. However, it should be noted that listing of the species does not preclude the future development of habitat conservation

plans or other conservation agreements with private individuals or agencies.

Comment: Several commenters understood that the Director of the Service has said that states should take the lead on matters of sensitive species, and therefore, the Service should follow its policy and let the states take the lead in addressing the habitat needs of the pygmy-owl and not list it.

Service Response: The Service is required to follow the provisions of the Act, and in regard to this action, its implementing regulations on listing in 50 CFR 424. Section 4(a) of the Act clearly assigns the responsibility of making listing decisions to the Secretaries of the Interior and Commerce. However, in making those decisions, the Secretaries are required to take into account conservation actions (section 4(b)(1)(A)), notify and invite comment from states, counties, and others on the proposed rules (section 4(b)(5)), hold one public hearing on the proposed rule, if requested (section 4(b)(5)(E)), and take other steps to ensure that the concerns of local governments, citizens, and others are considered in the listing decision. The Service has complied with all these requirements for listing the pygmy-owl.

The Service recognizes that unless preempted by Federal authority, states possess primary authority and responsibility for protection and management of fish, wildlife, and plants and their habitats. The Service has and will continue to solicit and utilize the expertise and information provided by the states. The Service will work closely with residents and officials in the management and recovery of the pygmy-owl. The Service invites others to work with us on voluntary conservation programs as well.

Issue 2: Economic, social, and cultural impacts of listing need to be evaluated and considered in the listing process.

Comment: Several commenters requested that the Service study the indirect and direct economic, social, and/or cultural costs and effects of listing the pygmy-owl. Concern was expressed that listing of the species would affect use and value of private property, use of areas of agricultural concern, new construction, trade and landowner rights, minorities, and off-road tour companies. Concern also was expressed that there would be no land owner compensation from the effects of listing. Some commenters stated that the results of this analysis should be weighed with threats, status, and other listing factors in determining whether these species should be listed.

Service Response: 50 CFR 424.11(b) requires the Secretaries of the Interior

and Commerce to make decisions on listing based on "the best available scientific and commercial information regarding a species' status, without reference to possible economic or other impacts of such determination." The Service is required to solicit comments from the public on proposed listings and consider those comments in final decisions (50 CFR 424.16), as we have done here. The Service does not have the authority or a regulatory mandate to conduct impact analyses on listing decisions, provide compensation to affected landowners, or take other actions outside of its authority.

Comment: Several commenters were concerned that the increased cost and delay associated with projects affected by the proposed rule will cause unreasonable consequences for future developments and/or needed public improvement projects.

Service Response: Any discretionary action funded, carried out, or authorized by a Federal agency that may affect a listed species would be subject to the section 7 consultation process. If a Federal agency is involved in developments and/or needed public improvement projects, it would need to evaluate its actions and possible effects on listed species. The Service is required to deliver a biological opinion, which concludes consultation, to the action agency within 135 days of receipt of a request for consultation (50 CFR 402.14(e)). If the action agency incorporates consultation into their planning process and consultation is initiated early, project delays are unlikely. Some additional costs may accrue resulting from meetings with the Service, preparation of documents, and implementation of any reasonable and prudent alternatives or measures in the biological opinion. Private actions that do not require Federal funds, actions, or authorization, such as a private individual building a house with private funds, are not subject to section 7.

Comment: Another commenter stated that the proposed listing of the pygmy-owl was an attempt to take property rights away from land owners, to gain more power, to increase personnel, and to control all of the rivers, creeks, washes, and water in the country.

Service Response: The purpose of this listing is to extend the protection of the Act to the pygmy-owl. This protection does not authorize the Service to increase personnel or assert jurisdiction over water rights, and the Service does not anticipate significant impacts to local economies or to the well-being of citizens. The listing of the pygmy-owl does not, in itself, restrict groundwater pumping or water diversions, does not

in any way limit or usurp water rights, or violate State or Federal water law. Through section 7 consultations, extraction or use of water that is funded, carried out, or authorized by Federal agencies that might adversely affect the pygmy-owl could be modified through reasonable and prudent measures or alternatives in a biological opinion, pursuant to 50 CFR 402.14 (h) and (i).

As described in "Available Conservation Measures" section, with the promulgation of this rule, Federal agencies will be required to comply with section 7 of the Act to ensure their activities do not jeopardize the continued existence of these species. Compliance with section 7 or other provisions of the Act has never resulted in the wrongful taking of property. The Service does not envision a regulatory scenario that would result in such actions.

Issue 3: Information presented in the proposed rule was insufficient to support listing or was in error.

Comment: The pygmy-owl warrants an endangered listing in Texas, as opposed to threatened. The species has declined throughout a significant portion of its range in Texas and is now rare, significant threats continue to exist within that state and habitat continues to be low, and future threats to habitat in Texas are significant due to increasing human population near the border with Mexico.

Service Response: In Texas, the threats to the species are less prevalent than in Arizona. The Service does not believe listing is warranted at this time. Further discussion of the Service's decision not to finalize the listing proposal in Texas is discussed in the "Summary of Factors Affecting the Species" section, and elsewhere in this final rule.

Comment: Routine ranching activities have contributed to the decline of the species in Texas, yet the Service asserts that "present land management by private (Texas) landowners is generally compatible with the well-being of the owl." This assertion cannot be squared with all the evidence indicating that the pygmy-owl is in grave danger of extinction in Texas.

Service Response: In Texas, pygmy-owl records are from two distinct areas. The first area is along the Rio Grande. Agricultural activities have historically resulted in clearing of 95 percent of the native Tamaulipan brushland in this area, as noted in the proposed rule. The second area is north of the Rio Grande Valley, in and around Kenedy County. The owls in these areas occupy coastal oak associations. As noted in this document, impacts to these areas are

lesser, with only limited oak clearing occurring. It is the land management by private landowners in the coastal oak association that is considered generally compatible with the well-being of the pygmy-owl. It is in these areas that the Service anticipates developing conservation agreements with private landowners to ensure conservation of the species.

The Service also will consider developing conservation agreements with willing landowners in the Rio Grande Valley. However, the Service believes that the ongoing establishment of native vegetation along the Rio Grande, as implemented by the Service's National Wildlife Refuge System, holds the most promise for conserving the species in the Rio Grande Valley.

Comment: Several commenters stated that Arizona and Texas represent the northern edge of the pygmy-owl's distribution and that most species are uncommon or of marginal occurrence at the edges of their range.

Service Response: The Service agrees that Arizona and Texas represent the northernmost portion of the pygmy-owl's range. However, we believe the information reviewed and discussed in the final rule indicates that pygmy-owls occurred in higher numbers in Arizona and Texas in the past, and that loss of habitat and other factors have led to their decline. The continued presence of birds in Arizona, including those that are successfully reproducing, indicates a persistent population. In addition, there is a significant population of nesting birds in Texas. The Service believes that listing the Arizona population at this time is necessary to prevent extirpation of the species from that portion of its range within the United States.

Comment: Several commenters claimed that the Service misrepresents the work of all nine authors it cites in support of its three subspecies claim. Not one of these authors cited by the Service discusses three subspecies of this owl.

Service Response: The use of the scientific name *Glaucidium brasilianum cactorum* in and of itself indicates recognition of a subspecies. Of the authors cited in the proposed and final rules on the discussion of taxonomy, van Rossem (1937), Friedmann *et al.* (1950), Sprunt (1955), AOU (1957), Schaldach (1963), Karalus and Eckert (1974), Johnsgard (1988), and Millsap and Johnson (1988) use *G. b. cactorum* in referencing the pygmy-owl. The leading authority on bird taxonomy, the AOU, recognized the cactus ferruginous pygmy-owl as a subspecies in its 1957 publication. As noted in the proposed

rule and this and final rule, subsequent publications of the AOU have not addressed any subspecies, including that of the pygmy-owl.

Comment: Several commenters stated that the Service's analysis of the pygmy-owl's habitat preferences was flawed. They questioned whether deciduous riparian woodland is the preferred habitat for the pygmy-owl, and stated that their presence in Sonoran desertscrub is uncommon to rare and unpredictable. It also is possible that the apparent "shift" from riparian areas to upland areas closely correlates with the increase in woody brush in Arizona's grasslands that occurred throughout the central and southern portions of the State after the advent of cattle grazing in the late 1800's and early 1900's. There actually may be more suitable habitat now than in historic times when the riparian areas represented the only brushy habitat in what was otherwise primarily a desert grassland setting. Based on its erroneous assumption that the pygmy-owl prefers riparian habitats, the Service has focused its analysis on such habitats and not provided a discussion of threats to other habitat types.

Service Response: The proposed rule noted that the majority of the historical records came from along waterways such as the Rillito or Santa Cruz rivers, but also noted that Sonoran desertscrub provided suitable habitat for the pygmy-owl in central and southern Arizona. As noted within this final rule, naturalists collecting specimens have indicated that the pygmy-owl was rare in Sonoran desertscrub (see references to Kimball 1921, Johnson and Haight 1985, and Taylor 1986 within the text of the final rule). Since publishing the proposed rule, additional birds were found in Arizona, and the text within this final rule has been adjusted accordingly. The majority of the birds in the Arizona population occur in Sonoran desertscrub habitat.

While there may be more "woody brush" in Arizona today as a result of cattle grazing, not all of this vegetation is suitable pygmy-owl habitat. The pygmy-owl is known to occur in Sonoran desertscrub where that desertscrub is particularly dense and supports either saguaro cactus, organ pipe cactus, or mesquites of sufficient size for cavity nesting. In those Sonoran desertscrub areas where the pygmy-owl has been found in the last few years, a density of understory vegetation is also present. Surveys have occurred in areas known to support this vegetation, with negative results in some instances.

This final rule includes modifications to language in the proposed rule to

indicate that pygmy-owls historically and currently use Sonoran desertscrub within the State of Arizona. The proposed rule also was modified to include language on the threats to this Sonoran desertscrub habitat, which are primarily from urban development.

Comment: One commenter stated that endangerment of the pygmy-owl in the Verde River area is due to the absence of federally placed signs, patrols, and follow-ups on shooting incidents.

Service Response: There are no known current records of pygmy-owls in the Verde River area and the Service is unaware of any shooting incidents that involved the pygmy-owl. The Service does not believe that posting of signs and conducting patrols in this area would benefit the owl at this time. Currently, with the exception of a few birds located on Organ Pipe Cactus National Monument (OPCNM), the pygmy-owl occurs on private land, and it is not within the Service's authority to place signs or conduct patrols on private property.

Comment: Some commenters suggested that the pygmy-owl is not in danger of extinction in all or a significant part of its range and that the Service overstates the threats to the species. The Service has failed to present any evidence of a particular threat to the pygmy-owl that has suddenly arisen and that is likely to lead to extinction unless curtailed. One commenter stated that the Service failed to establish that the removal of riparian forests and the diversion and channelization of natural watercourses, and pumping groundwater may also cause the diminishment of the species. One commenter claimed the Service overstates the effects of groundwater pumping and surface water diversions upon particular species of wildlife, and fails to distinguish among such water uses. Some commenters claimed the Service did not support assertions of habitat loss from traditional, historical, public and private land uses with reference to any scientific facts. One commenter asserted that there is no threat of destruction, modification, or curtailment of habitat.

Service Response: The Service does not believe that the threat to this species or its habitat in Arizona has been overstated. As noted within this final rule, the Service must evaluate the best scientific and commercial information available and determine if the proposal meets the definition of endangered or threatened based on any of the five listing factors. The Service completed this evaluation and finds that the pygmy-owl in Arizona meets the definition of endangered, owing to three

of the five factors, namely the present or threatened destruction, modification, or curtailment of its habitat or range, the inadequacy of existing regulatory mechanisms, and other natural or manmade factors affecting its existence.

The historic loss of riparian habitat in Arizona is well documented. Because of the current location of the largest known Arizona pygmy-owl population and pending developments in this key area, the Service believes that imminent threats have been identified. The factors related to this listing are provided in detail in the final rule under the "Summary of Factors Affecting the Species" section.

In response to the comment that the Service failed to establish that the removal of riparian forests, and the factors that cause it, also may cause the diminishment of the species, the Service notes that a variety of activities has been responsible for the loss of riparian habitat in the State of Arizona. Through historic records, the pygmy-owl is noted to have occurred in riparian areas prior to the mid-1900's and was described as a "common," "abundant," "not uncommon," and "fairly numerous" resident of lowland central and southern Arizona in cottonwood forests, mesquite-cottonwood woodlands, and mesquite bosques along the Gila, Salt, Verde, San Pedro, and Santa Cruz rivers, and various tributaries. We believe, therefore, the statement is justified that the loss of riparian habitat has led to its decline. Numerous authors were cited with respect to this statement, and their names are provided in the final rule. Should all or a significant portion of the habitat within the range of a given species be removed or altered, diminishment of the species is not an unlikely result. The Service believes the link between habitat loss and the decline of the pygmy-owl has been made in the text of this final rule. The Service believes that the assertions of habitat loss from traditional, historical, public, and private land uses are well documented within the final rule under the section "Summary of Factors Affecting the Species," particularly that section under the "Western Populations" subsection.

Comment: Several commenters suggested that no evidence exists to support the statement that the pygmy owl is declining, and others noted that the listing of a species should be based upon something more than the rarity of that species in a particular part of the United States.

Service Response: The Service has completed a review of available literature and believes that the information indicates that there has

been a decline of the species in both Arizona and Texas. However, the Service does not believe the pygmy owl's decline is significant enough in Texas to warrant listing the species as threatened.

As discussed in the final rule, the pygmy-owl was described as a "common," "abundant," "not uncommon," and "fairly numerous" resident of lowland central and southern Arizona, in riparian habitat along numerous drainages prior to the mid-1900's. In most instances, observations of pygmy-owls were made during site visits where the author was documenting all species observed over a given area, without focusing on the pygmy-owl. In contrast, Hunter (1988) found fewer than 20 verified records of pygmy-owls in Arizona for the period of 1971 to 1988, and recent survey efforts, focusing specifically on pygmy-owls, have located a total of 19 individuals at the highest, with most annual survey results being 2 to 3 birds.

It should be noted that there are five listing factors, as detailed in the text of this rule. While the pygmy-owl could be called rare, and while the Service believes the decline in numbers of individual birds to be an important piece of information, the recommendation to add the pygmy-owl in Arizona to the endangered species list was based on an analysis of the five listing factors.

Comment: Even the few reports that the Service did examine with respect to historic abundance were reported incorrectly or were not found in the Service files.

Service Response: Coues (1872) has been removed as a reference from that section of the listing that addresses species abundance in the early 1900's. However, the Service has verified that the remainder of the literature citations (Bendire 1888, Fisher 1893, Breninger 1898 in Bent 1938, Gilman 1909, Swarth 1914) were correctly quoted. All literature cited within this final rule is on file at the Service's Arizona Field Office (see ADDRESSES section).

It is important to note that, while the Service believes the number of birds has declined, the decision to list the pygmy-owl does not depend entirely on population trends of the pygmy-owl. It also is necessary to assess current threats to the remaining birds, through evaluation of the five listing factors. If this evaluation indicates that the number of birds known to currently occur in Arizona and Texas are under sufficient threat to cause them to be in danger of extinction or endangerment, the Service must make the decision to list the species. As outlined in this final

rule, the Service believes analysis of the best scientific and commercial data indicates that the pygmy-owl is threatened with extinction in Arizona and warrants listing as an endangered species.

Comment: Not a single source listed by the Service ever conducted any analysis that would allow one to conclude that 90 percent of the riparian areas have been lost or modified. The fact that the Service presents an unfounded conclusion as scientific fact, without appropriate qualification, undermines the credibility of every other conclusion it has expressed and provides evidence that the rule is intended to further a political or other agenda unrelated to necessary protection for the pygmy-owl.

Service Response: The State of Arizona has twice recognized the loss of riparian habitat. The Governor's Riparian Task Force concluded that 90 percent of the riparian habitat in Arizona had been lost. This document is cited in the proposed rule and this final rule. Additionally, the Arizona Game and Fish Department (AGFD) stated that 90 percent of the State's riparian habitat had been lost in their November 1988 issue of Wildlife Views (AGFD 1988). This source has been added to this final rule. The Service has previously published literature (Department of Interior 1988) on the loss of riparian habitat indicating that an estimated 10 percent of the original riparian on the Colorado River remains, while 5 percent of the original riparian on the Gila River remains. This document states that only approximately 15 percent of the original riparian area in Arizona remains in its natural form. This citation also has been added to this final rule. The final rule has been modified to reflect this figure, as well as the 90 percent figure. The remainder of the references in this section address disturbance of riparian areas due to various activities, and address losses, although percentages are not provided.

Comment: The Service's statement that the pygmy-owl is now rare or absent in northern Sonora, within 150 miles of the United States-Mexico border, is incorrect. The Service inaccurately cites Russell and incorrectly assesses the status of the pygmy-owl in northern Sonora.

Service Response: The Service believes the literature cited in this final rule supports this statement. The reference to Monson and Russell, however, has been deleted.

Comment: Some commenters were concerned that the available information was not sufficient to accurately identify all areas or habitats with the potential

to support the species. Others suggested that more surveys, genetic data, information on pygmy-owls from Mexico, and dispersal data are needed.

Service Response: The Service agrees that many aspects of the ecology of this species are poorly understood and need further study. These aspects are treated as uncertainties here and in the proposed rule. Despite these uncertainties, sufficient surveys have been conducted to adequately assess the current status of the species, its perceived threats, and whether or not listing is warranted. The Service is not required to study and answer all questions concerning the ecology or status of a species before it may be listed. Rather, the Service is required to make listing determinations on the basis of the best scientific and commercial data available (section 4(b)(1)(A) of the Act).

Comment: One commenter stated that prey or lack of prey would not be a hindrance to the population. Similarly, one commenter asked what would happen if the prey items on which the pygmy-owl feeds were to become endangered.

Service Response: The Service interprets this comment to mean that it is not a lack of prey that has led to the decline of the pygmy-owl. The Service concurs with this statement. Studies have indicated that the pygmy-owl is a generalist with a diverse diet, including a variety of species of birds, insects, reptiles, small mammals, and amphibians. Therefore, it is unlikely that a lack of prey items, in and of itself, has contributed to a decline in the subspecies. Similarly, because the pygmy-owl uses a wide variety of prey items, it is unlikely that its feeding habitats would lead to the endangerment or extinction of a species. Should one of its prey items become extinct for other reasons, it should not have an adverse effect on the pygmy-owl.

Comment: One commenter stated that pygmy-owls were not extirpated in Arizona.

Service Response: The Service concurs with this statement. Surveys for 1996 indicated a total of 19 known birds, with 2 additional unconfirmed sightings. The final rule has been modified to amend the statement on extirpation that appeared in the proposed rule.

Comment: One commenter stated that a source for the map in the proposed rule was not given.

Service Response: The Service used various published and unpublished information to develop the Federal Register map.

Issue 4: The Services information is not based on the best scientific or commercial information.

Comment: A commenter stated that riparian loss is being addressed through various means, and listed several examples. It was further stated that the State of Arizona is committed to statutorily mandating riparian conservation so no other protection is necessary.

Service Response: The Service supports rehabilitation of riparian areas. However, the acres of riparian habitat that have been altered or removed since the early 1900's exceed those which have been rehabilitated. In addition, these projects have only recently been funded, and many years will be needed to determine their effectiveness in restoring riparian habitat and the resulting effect on pygmy-owl populations. Further, riparian loss is only one of many factors affecting the pygmy-owl.

Comment: Some commenters claimed that the Service "mis-cites" several authors to support the claim that the pygmy-owl's habitat is threatened by destruction and modification, that it was a commonly found inhabitant of mesquite bosques in Arizona, and that river bottom forests and bosques supported the greatest populations of pygmy-owls.

Service Response: Additional information has been added to the final rule to indicate that pygmy-owls were found historically in Sonoran desertscrub in central and southern Arizona. However, the Service believes that the available literature indicates that the majority of birds found by early naturalists were found in the riparian and mesquite bosque habitat along the major drainages in central and southern Arizona.

Comment: One commenter questioned the importance of mesquite habitat in Texas.

Service Response: As noted in this final rule, the pygmy-owl historically occurred in dense mesquite thickets along the Rio Grande. Further, as noted under section A, "The present or threatened destruction, modification, or curtailment of its habitat or range" for Texas, pygmy-owls have been detected in 1994 and 1995 on two of the ranches in Texas that support mesquite woodlands.

Comment: The Service has failed to examine the reports of many other early explorers who surveyed for wildlife but found few or no pygmy-owls. The Service only reviewed reports of early naturalists and ornithologists that actually referenced the pygmy-owl in their reports.

Service Response: The absence of a reference to pygmy-owls in the published reports of early naturalists does not establish absence of the species. It is possible that a naturalist who did not indicate that pygmy-owls were seen may not have known the species or may not have observed the species when the species was, in fact, present.

Comment: The Service has proposed the listing of the pygmy-owl without due regard to the studies currently being conducted by Dr. Sam Beasom of Texas A&M University.

Service Response: Although the proposed rule did not quote Dr. Beasom's studies, information from these studies has been included in the final rule. This information has been considered in reaching a final decision on listing of the pygmy-owl.

Comment: Much of what the Service assumes is true regarding the effects of groundwater pumping and surface water diversions is an ongoing debate among hydrologists, geologists and other experts. The Service's failure to consult the Arizona Department of Water Resources and other experts is a failure to consider the best scientific data available.

Service Response: The text of the final rule cites several sources indicating that pumping of groundwater, along with several other activities, has led to the reduction of riparian habitat. The Service believes that the connection between groundwater pumping and its effects on riparian habitat have been adequately documented through these sources. In addition, information was solicited from State and Federal agencies, as well as the public, and comments received during the open comment periods were evaluated as part of this analysis.

Comment: The Service has not completed any groundtruthing of data or notified the landowners of groundtruthing.

Service Response: For obvious reasons, the Service cannot groundtruth historical observation data. However, survey efforts conducted by the OPCNM, the AGFD, and the Service since 1990 have been conducted on the ground. The AGFD, which has conducted the work in the Tucson area, has contacted private landowners regarding their survey work in that area.

Comment: Some commenters felt that the rule was based on assumptions, hearsay, speculative observations, and anecdotal evidence, not scientific data, and that the Act does not provide for listing based on this type of information.

Service Response: The Service has used the best scientific and commercial

information available in its determination to list the pygmy-owl. The threats have been documented under the "Summary of Factors Affecting the Species" section. The Service believes there are adequate references within the final rule to document the detrimental effects of overgrazing, as well as other activities, on riparian habitat in the Southwest. Evidence presented in the literature and summarized in the final rule, including recent studies on the pygmy-owl in Texas and Arizona, indicate the importance of the different habitat types to pygmy-owls in the two different populations. The Service believes that the historical information referenced in the final rule, while potentially considered anecdotal or speculative, is important in developing an understanding of the subspecies. However, the Service did not rely solely on this information in developing a recommendation to list.

Comment: The rule suggests that different population segments tend to inhabit different habitat, although the various habitats do appear to share some basic characteristics. The rule then seems to suggest that within a specific area, the bird seems to need specific vegetation criteria. It seems the bird is far more adaptable than the Service gives it credit.

Service Response: As noted in the proposed rule and in this final rule, the eastern and western populations of the pygmy-owl inhabit different vegetation communities. Although these communities consist of different plant species (for example, live oak-honey mesquite and ebony in Texas, versus saguaros and cottonwood-willow in Arizona), there are common characteristics in the two communities, such as some form of vegetation large enough to support cavity nesting and a dense understory.

Comment: The cactus ferruginous pygmy-owl is not a separate species of the ferruginous pygmy owl.

Service Response: The Service considers the cactus ferruginous pygmy-owl to be a subspecies of the ferruginous pygmy-owl. The Service refers the commenter to the discussion on taxonomy under the "Background" section.

Comment: DNA analysis suggests lack of differentiation between Mexican and Texas populations, so there is no need to list.

Service Response: As noted in the proposed and final rules, the Service will continue to evaluate information on the pygmy-owl in Mexico and Texas. The Service's responses under Issue 5 explain the purpose in considering the

separate populations identified in the proposed and final rules.

Issue 5: The designation of four distinct population segments for the pygmy-owl has no scientific or regulatory basis.

Comment: Several commenters stated that there is no biological reason or regulatory authority which would allow the Service to draw a distinct vertebrate population segment boundary at the international border.

Service Response: The Service's policy on distinct vertebrate population segments (61 FR 4722) recognizes that the use of international boundaries as a measure of discreteness of a population may introduce an artificial and nonbiological element to the recognition of distinct population segments. However, the Service has determined that it is reasonable to recognize units delimited by international boundaries when these units coincide with differences in the management, status, or exploitation of a species. With respect to the pygmy-owl, the Service believes the status of the species in Arizona is different from that in Sonora, with records currently indicating a higher number of individuals in Sonora as discussed in this final rule.

While the area classified as the range of the Arizona population may only represent a small percentage of its total range, it is the area within which the United States Government, through the Department of the Interior, can affect protection and recovery for this species. The Service believes that data indicate a decline of this species within its United States range, and that listing in Arizona is warranted.

Comment: Several commenters stated that the Service did not support its determination that the Arizona, Texas, eastern Mexico, and western Mexico populations of pygmy-owls meet the definition of discrete populations.

Service Response: The Service believes that the potential for genetic distinctness of the Arizona and Texas populations exists because the pygmy-owl is nonmigratory throughout its range and genetic mixing across the area separating the Arizona and Texas populations is likely infrequent. The Arizona and Texas portions of the pygmy-owl's range are separated by the basin and range mountains and intervening Chihuahuan Desert basins of southeastern Arizona, southern New Mexico, and western Texas.

In addition to geographic separation, the pygmy-owl's Texas and Arizona populations occupy different habitats. Although some broad similarities in habitat physiognomy are apparent (e.g., dense woodlands and thickets),

floristically, these eastern and western habitats are very dissimilar. The desertscrub and thornscrub associations in Arizona are unlike any habitats occupied by the pygmy-owl in eastern Mexico and southern Texas. Also, the oak association habitat occupied on coastal plains in southern Texas is unlike any habitat available in the Arizona portion of the pygmy-owl's range. In addition, considerable variation in plumage between regional populations has been noted, including specific distinctions between Arizona and Texas pygmy-owls.

Comment: Several commenters stated that the Service did not show that the Arizona, Texas, eastern Mexico, and western Mexico populations of pygmy-owls were significant.

Service Response: The Service's policy on distinct vertebrate population segments requires it to consider the elements of discreteness, significance, and status. In determining whether or not a population meets the significance element, the Service must consider—(1) Whether a discrete population segment persists in an ecological setting unusual or unique for the taxon; (2) whether there is evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon; (3) whether there is evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range; or (4) whether there is evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

The Arizona and Texas populations of the cactus ferruginous pygmy-owl are unique due to their geographic separation, potential morphological and genetic distinctness, and the floristics, distribution, and status of habitat. Should the loss of either the Arizona or Texas populations occur, the remaining population would not fill the resulting gap as the remaining population would not be genetically or morphologically identical, and would require different habitat parameters. The loss of either population also would decrease the genetic variability of the taxon and would result in a significant gap in the range.

Issue 6: The existing regulations and management of the land by landowners are satisfactory for protecting the pygmy-owl.

Comment: Several commenters stated that both Arizona and Texas were adequately protecting the pygmy-owl so federally listing it would not be necessary. The State of Arizona is

committed to statutorily mandate riparian conservation so no other protection is necessary. The pygmy-owl already is listed as threatened by the State of Texas.

Service Response: While the Service recognizes the efforts of the State of Arizona in protecting potential pygmy-owl habitat, laws have yet to be finalized and potential benefits of these efforts have not yet been realized. Thus, these efforts have not yet affected the status of the species. However, these actions are expected to contribute to recovery.

Listing a species as threatened by Texas requires that permits be obtained for propagation, zoological gardens, aquariums, rehabilitation purposes, and scientific purposes, as noted in the final rule, but there are no provisions for habitat protection. However, the Service also believes that current land-use practices in the area of the main Texas pygmy-owl population are not detrimental to the species.

Comment: Several commenters felt that current landowners have protected and enhanced lands and that they are being penalized for being good stewards. They felt that the Service should be more interested in helping them and learning from them.

Service Response: The Service recognized, in the proposed rule and this final rule, that the major portion of the population in Texas exists today because present land management by private landowners is generally compatible with the well-being of the pygmy-owl. The Service will continue to work with landowners in developing management plans and agreements with the objective of conserving the Texas population.

Conversely, there is an imminent threat of extirpation of the subspecies in Arizona. The Service believes that listing of the pygmy-owl as endangered in Arizona provides protection of the pygmy-owl, as mandated by provisions of the Act.

Issue 7: The Service failed to follow Federal or other regulations in regard to the listing of these species.

Comment: The Service violates the Act's requirement for the Secretary to make his decision regarding listing of the species within 12 months of receiving the petition. The proposed rule was not published until some 17 months after the petition was filed. The *Idaho Farm Bureau Federation v. Babbitt* court ruling stated that if a proposal to promulgate a final regulation is not made within the statutory 12 months (or 18 months if an extension is declared), then the proper course is for the Secretary to find there

is insufficient evidence at that time to justify the listing and to withdraw the listing.

Service Response: The petition to list these species was received by the Service on May 26, 1992. Regulations at 50 CFR 424.14(b) require the Service to publish, within 12 months of receipt, a notice in the Federal Register determining whether the petitioned action is warranted. If the action is warranted, the Service must promptly publish a proposed rule, with certain exceptions (50 CFR 424.14(b)(3)). In this case, the Service opted to publish a proposed rule at the same time as the 12-month finding. The date of that finding and proposed rule was December 12, 1994. In accordance with 50 CFR 424.17, the Service is required to publish a final determination or an extension within 1 year of the date of the proposed rule. In this case, the final rule was published well over a year after the proposed rule; however, this was due in part to legislation preventing the Service from issuing final rules from April 10, 1995, to October 1, 1995; a near cessation of final and other listing actions from October 1, 1995, to April 26, 1996, due to budget limitations and legislation; and a backlog and lack of personnel to complete final rules after April 26, 1996. Although the 12-month finding/proposed rule and this final rule were not published within the allotted timeframes, neither the Act nor the implementing regulations at 50 CFR 424 invalidate rules that are published late. The *Idaho Farm Bureau Federation v. Babbitt* court ruling was vacated by the U.S. Court of Appeals (*Idaho Farm Bureau Federation v. Babbitt*, Nos. 94-35164, 94-35230, U.S. Ct. App. (June 29, 1995)). The court held that violating the time limit was not a prohibition on listing, but rather, that the "time limits were designed as an impetus to act rather than as a bar on subsequent action." The court held that because the Act specified no consequences to violating the time limit, Congress intended to merely compel agency action rather than discard the listing process.

Comment: Several commenters stated that the Service did not provide adequate time for the public to comment on the proposed rule. The Service violated the Act and the Administrative Procedures Act (APA) by not notifying or providing the public with sufficient opportunity to comment. The Service also violated both Act and the APA by denying public access to materials upon which the proposed rule was based.

Service Response: Regulations at 50 CFR 424.16(c)(2) require the Service to allow a minimum of 60 days for public

comment on proposed rules. Three comment periods were provided on the proposed rule, including a 120-day period from December 12, 1994, to April 11, 1995; 30 days from May 1 to May 30, 1995; and 34 days from October 10 to November 12, 1995; for a total of 184 days.

Regulations at 50 CFR 424.16(c)(3) require the Service to hold at least one public hearing if any person so requests within 45 days of publication of a proposed rule. The Service received nine requests for a public hearing within the 45-day request period. In response, public hearings were held in Tucson, Arizona, and in Weslaco, Texas. Additional requests for a public hearing were received more than 45 days after publication of the proposed rule. Although no additional public hearings were conducted, the Service twice reopened the comment period to accept additional comments and information.

In response to requests from the public, and in accordance with the Act and its implementing regulations, the Freedom of Information Act (FOIA), and the APA, the Service provided copies of documents to several members of the public and lent the administrative record for copying. Some requests for information were not promptly addressed because they were contained within comment letters on the proposed rule. In accordance with Service guidance on implementation of Public Law 104-6 that halted work on final rules, comment letters were filed and not read; thus granting of some information requests was delayed. However, the Service did not deny any information requests, with the exception of information withheld in accordance with the FOIA.

Comment: Listing of the pygmy-owl would constitute a violation of NEPA because the Service did not analyze the economic impacts of the action. Both the letter of the law and interpretive case law require the Service prepare NEPA planning documents and submit them for public review and input, which the Service did not do.

Service Response: As discussed in "National Environmental Policy Act" in this rule, the Service has determined that neither environmental assessments nor environmental impact statements need to be prepared for proposed or final listing actions.

Comment: One commenter stated that the notice was irretrievably flawed on a legal and technical basis by its use of an obsolete address to which comments and requests for public hearings on the proposed rule were to be sent. Additionally, this commenter stated that

comments and materials received were not available for public inspection at the old address; therefore, the Service must, by law, withdraw the proposed rule.

Service Response: Between the time the proposed rule was prepared and its publication, the Service moved its office within Phoenix, Arizona. The proposed rule listed the old address and facsimile number (the telephone number was correct in the proposed rule), but cover letters to interested parties and newspaper notices soliciting comment gave the correct address. The Service received some comment letters addressed to the old address; thus, the Post Office was forwarding our mail. A recorded phone message at the old phone number also informed callers of the new number in the event the old office was contacted. The Service is unaware of any comment letters, requests for hearings, or requests to inspect records that were returned to the sender.

In Federal Register notices announcing subsequent comment periods, from May 1 to May 30, 1995, and October 10 to November 12, 1995, the correct address and phone numbers were published. Because mail was forwarded and callers were informed of our new number, cover letters and newspaper notices included the correct address, and the latter two comment periods totaling 64 days were announced by Federal Register, newspaper notices, and cover letters with the correct address and phone number, the Service believes the public was provided adequate opportunity to provide comment on the proposed rule and inspect supporting information.

Comment: One commenter questioned if agency peer review policy was followed and whether the review is effective in weeding out hearsay from good science.

Service Response: The Service requested and/or received comments on the proposed rule from a variety of Federal, State, County, and private individuals. All parties the Service is aware of with expertise regarding the pygmy-owl have obtained copies of the proposed rule, and many have commented. All comments have been considered and new information was incorporated into this final rule.

Comment: Some commenters were concerned that the listing of this species would unnecessarily restrict public access on Federal lands.

Service Response: The Service does not foresee restricting access on Federal lands based on this listing.

Issue 8: The Service should not list the species because recovery of the species is too costly, puts an unfair

burden on land owners in the United States, and is not guaranteed. Also listing the species would not benefit endangered species protection as a whole.

Comment: Several commenters stated that money and effort should not be given to list a species that the Service was not 100 percent sure could be recovered. Another commenter stated that attempting to recover a species in a highly-modified and degraded habitat, surrounded by an increasingly urbanized environment, creates a cognitive dissonance that begs a concise, logical, and irrefutable justification.

Service Response: Regulations at 50 CFR 424.11(b) require the Secretary of the Interior to make decisions on listing based on "the best available scientific and commercial information regarding a species' status, without reference to possible economic or other impacts of such determination." There is nothing in the Act or implementing regulations that allows the Service to consider the recovery potential of a species in determining whether a species should be listed.

Comment: Without an immediate halt to the urbanization of the Phoenix and Tucson metropolitan areas, the potential impacts from such limiting factors will only increase in intensity and quite possibly negate any positive advances made rehabilitating this habitat.

Service Response: While the urbanization of the Phoenix and Tucson metropolitan areas have resulted in a decline in riparian areas where the pygmy-owl was historically found (i.e., the Gila, Salt, Rillito, and Santa Cruz rivers, and Canada del Oro Wash), it is not the intention of the Act to halt urbanization. In fact, the largest Arizona population of pygmy-owls is located in a developed section of Tucson, indicating that the pygmy-owl can coexist with certain levels of development. The recovery of this, or any other species, will require a variety of measures including project review through section 7 consultation, section 10 Habitat Conservation Plans, and development of conservation agreements where possible.

Comment: One commenter stated that the Service admitted that 70 to 80 percent of the pygmy-owl's habitat is in Mexico and questioned why the landowners in Arizona, Texas, and New Mexico should have to sacrifice their land to take care of Mexico's wildlife.

Service Response: As a point of clarification, the pygmy-owl is not known to occur in New Mexico, and this listing action is limited to Texas and Arizona. Neither the final rule,

proposed rule, nor presentations at public hearings referenced the fact that 70 to 80 percent of the pygmy-owl's habitat is in Mexico, or that less than one-fifth of its range is in Arizona, and it is unclear what these figures are based on. Regardless of these figures, it is important to note that, although the Service is concerned with protecting populations in Mexico, the immediate concern is for populations within the boundaries of the United States. Listing of endangered species is the first of many steps, followed by mitigation of threats facing the species, and eventual recovery. It is more feasible for the United States Government to list, mitigate, and recover a species within our own jurisdiction. The Service has noted that we will continue to evaluate the status of the species in Mexico. We have not eliminated the possibility of cooperating with Mexico in implementing needed protection in that country.

Additionally, the Act does not authorize "takings" of private lands, and many of the provisions of the Act apply only to Federal agencies. Regardless of land ownership, the Act prohibits taking of a listed species. It should be noted that, through proper Federal actions, cooperation with private landowners, development of conservation agreements, and a variety of other measures, landowners will not have to "sacrifice" any lands to aid in the recovery of the pygmy-owl.

Comment: One commenter stated that listing species has created bitterness toward the Act and the Service and that listing species would give people a reason to kill endangered species and destroy habitat. One commenter recommended the Service not list the pygmy-owl because the current political climate would heat up even more against conservation and endangered species.

Service Response: Regulations at 50 CFR 424.11(b) require the Secretary of the Interior to make decisions on listing based on "the best available scientific and commercial information regarding a species' status, without reference to possible economic or other impacts of such determination." The Service is aware that there are segments of the public that disagree with determinations made; however, the Service has no authority to base a listing decision on the possible aftereffects of listing.

Summary of Factors Affecting the Species

Section 4(a)(1) 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 List of Endangered and Threatened Wildlife and Plants. A species may be determined to be endangered or threatened owing to one or more of the five factors described in Section 4(a)(1) of the Act. These factors and their application to the cactus ferruginous pygmy-owl are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The pygmy-owl is threatened by past, present, and potential future destruction and modification of its habitat, throughout a significant portion of its range in Arizona (Phillips *et al.* 1964, Johnson *et al.* 1979, Monson and Phillips 1981, Johnson and Haight 1985a, Hunter 1988, Millsap and Johnson 1988). The severity of habitat loss and threats varies across the pygmy-owl's range. Population numbers have been drastically reduced in Arizona, which once constituted its major United States range. In Texas, pygmy-owl populations have experienced significant declines, from the lower Rio Grande Valley but persists in oak associations on the coastal plain north of the Rio Grande Valley.

The majority of these losses are due to destruction and modification of riparian and thornscrub habitats. It is estimated that between 85 and 90 percent of low-elevation riparian habitats in the southwestern United States have been modified or lost. These alterations and losses are attributed to urban and agricultural encroachment, woodcutting, water diversion and impoundment, channelization, livestock overgrazing, groundwater pumping, and hydrologic changes resulting from various land-use practices (e.g., Phillips *et al.* 1964, Carothers 1977, Kusler 1985, AGFD 1988a, DOI 1988, General Accounting Office 1988, Jahrsdoerfer and Leslie 1988, Szaro 1989, Dahl 1990, State of Arizona 1990, Bahre 1991).

Status information for pygmy owls in Mexico is very limited, but some observations suggest that although habitat loss and reductions in numbers are likely to have occurred in northern portions of the two subspecies in Mexico, the pygmy-owl persists as a locally common bird in southern portions of Mexico. Habitat loss and population status are summarized below for the four populations of the pygmy-owl.

Western Populations

Several habitat types are used by the pygmy-owl in the western portion of its range. These include riparian woodlands and bosques dominated by mesquite and cottonwood, Sonoran

desertscrub (usually with relatively dense saguaro cactus forests), and Sinaloa deciduous Forest (van Rossem 1945, Phillips *et al.* 1964, Karalus and Eckert 1974, Millsap and Johnson 1988).

1. Arizona

The northernmost record for the pygmy-owl is from New River, Arizona, approximately 55 km (35 mi) north of Phoenix, where Fisher (1893) found it to be "quite common" in thickets of intermixed mesquite and saguaro cactus. Prior to the mid-1900's, the pygmy-owl also was described as "not uncommon," "of common occurrence," and a "fairly numerous" resident of lowland central and southern Arizona in cottonwood forests, mesquite-cottonwood woodlands, and mesquite bosques along the Gila, Salt, Verde, San Pedro, and Santa Cruz rivers, and various tributaries (Breninger 1898 *in* Bent 1938, Gilman 1909, Swarth 1914). Bendire (1988) noted that he had taken "several" along Rillito Creek near Fort Lowell, in the vicinity of Tucson, Arizona. The pygmy-owl also occurs in Sonoran desertscrub associations in southern and southwestern Arizona, consisting of palo verde, ironwood, mesquite, acacia, bursage, and columnar cacti such as the saguaro and organpipe (Phillips *et al.* 1964, Davis and Russell 1984 and 1990, Monson and Phillips 1981, Johnson and Haight 1985a, Johnsongard 1988).

In the past, the pygmy-owl's occurrence in Sonoran desertscrub was apparently less common and predictable. It was more often found in xeroriparian habitats (very dense desertscrub thickets bordering dry desert washes) than more open, desert uplands (Monson and Phillips 1981, Johnson and Haight 1985a, Johnson-Duncan *et al.* 1988, Millsap and Johnson 1988, Davis and Russell 1990). The pygmy-owl also was noted to occur at isolated desert oases supporting small pockets of riparian and xeroriparian vegetation (Howell 1916, Phillips *et al.* 1964).

The trend of Sonoran desertscrub habitats and pygmy-owl occupancy is not as clear. Historical records from this habitat in Arizona are few. This may be due to disproportionate collecting along rivers where humans were concentrated, while the upland deserts were less intensively surveyed. Johnson and Haight (1985a) suggested that the pygmy-owl adapted to upland associations and xeroriparian habitats in response to the demise of Arizona's riverbottom woodlands. However, conclusive evidence to support this hypothesis is not available. It may be that desertscrub habitats simply are of

lesser quality and have always been occupied by pygmy-owls at lower frequency and density (Johnson and Haight 1985b, Taylor 1986). While historical records of pygmy-owls do exist for Sonoran desertscrub in areas such as the Santa Catalina foothills, they generally note that the birds are rare in these areas (Kimball 1921).

Both riparian and desertscrub habitats are likely to provide several requirements of the pygmy-owl ecology. Trees and large cacti provide cavities for nesting and roosting. Also, these habitats along watercourses are known for their high density and diversity of animal species that constitute the pygmy-owl's prey base (Carothers 1977, Johnson *et al.* 1977, Johnson and Haight 1985b, Stromberg 1993).

The pygmy-owl has declined throughout Arizona to the degree that it is now extremely limited in distribution in the State (Davis and Russell 1979, Johnson *et al.* 1979, Monson and Phillips 1981, AGFD 1988a, Johnson-Duncan *et al.* 1988, and Millsap and Johnson 1988). Riverbottom forests and bosques, which supported the greatest abundance of pygmy-owls, have been extensively modified and destroyed by clearing, urbanization, water management, and hydrological changes (Willard 1912, Brown *et al.* 1977, Rea 1983, Szaro 1989, Bahre 1991, Stromberg *et al.* 1992, Stromberg 1993). Cutting for domestic and industrial fuelwood was so extensive throughout southern Arizona that, by the late 19th century, riparian forests within tens of miles of towns and mines had been decimated (Bahre 1991). Mesquite was a favored species, because of its excellent fuel qualities. The famous, vast forests of "giant mesquites" along the Santa Cruz River in the Tucson area described by Swarth (1905) and Willard (1912) fell to this threat, as did the "heavy mesquite thickets" where Bendire (1888) collected pygmy-owl specimens along Rillito Creek, a Santa Cruz River tributary, also in what is now Tucson. Only remnant fragments of these bosques remain.

Cottonwoods also were felled for fuelwood, fenceposts, and for the bark, which was used as cattle feed (Bahre 1991). In recent decades, the pygmy-owl's riparian habitat has continued to be modified and destroyed by agricultural development, woodcutting, urban expansion, and general watershed degradation (Phillips *et al.* 1964, Brown *et al.* 1977, State of Arizona 1990, Bahre 1991, Stromberg *et al.* 1992, Stromberg 1993). Sonoran desertscrub has been affected to varying degrees by urban and agricultural development, woodcutting, and livestock grazing (Bahre 1991).

In addition to clearing woodlands, the pumping of groundwater and the diversion and channelization of natural watercourses are also likely to have reduced pygmy-owl habitat. Diversion and pumping result in diminished surface flows, and consequent reductions in riparian vegetation are likely (Brown *et al.* 1977, Stromberg *et al.* 1992, Stromberg 1993). Channelization often alters stream banks and fluvial dynamics necessary to maintain native riparian vegetation. The series of dams along most major southwestern rivers (e.g., the Colorado, Gila, Salt, and Verde) have altered riparian habitat downstream of dams through hydrological and vegetational changes, and have inundated former habitat upstream.

Livestock overgrazing in riparian habitats is one of the most common causes of riparian degradation (e.g., Ames 1977, Carothers 1977, Behnke and Raleigh 1978, Forest Service 1979, General Accounting Office 1988). Effects of overgrazing include changes in plant community structure, species composition, relative species abundance, and plant density. These changes are often linked to more widespread changes in watershed hydrology (Brown *et al.* 1977, Rea 1983, GAO 1988), and are likely to affect the habitat characteristics critical to the pygmy-owl.

Hunter (1988) found fewer than 20 verified records of pygmy-owls in Arizona for the period of 1971 to 1988. Although pygmy-owls are diurnal and frequently vocalize in the morning, the species was not recorded or reported in any breeding bird survey data in Arizona (Robbins *et al.* 1986). Formal surveys for the pygmy-owl on OPCNM began in 1990, with one bird located that year. Beginning in 1992, in survey efforts conducted in cooperation with the AGFD, three single pygmy-owls were located on the Monument (Fish and Wildlife Service and National Park Service, unpubl. data 1992). In 1993, more extensive surveys again located three single pygmy-owls in Arizona (AGFD unpubl. data 1993, Felley and Corman 1993). During 1993–1994 surveys, one pair of owls was detected in north Tucson, near the sightings in 1992 and 1993 (Collins and Corman 1995). Two individual owls were found in northwest Tucson during 1995 surveys, and an additional owl was detected at OPCNM (Lesh and Corman 1995).

In 1996, the AGFD focused survey efforts in northwest Tucson and Marana, and detected a total of 16 birds, two of which were a pair, and two of which were fledglings. Three additional

pygmy-owls were detected on OPCNM in 1996, with three additional, but unconfirmed, reports (Harold Smith, National Park Service, OPCNM, *in litt.* 1996).

Potential threats to pygmy-owl habitat in Arizona persist. Through the public comment period, the Service was made aware of five specific housing and development projects operating or in the planning stages that would affect habitat where the majority of birds in Arizona currently exist. Housing and industrial developments continue to expand in the Tucson area, and the northwest portion of the Tucson area is experiencing rapid growth. It was estimated that only 60 percent of the people living in the Tucson area are within the city of Tucson, even though the city limits continue to be expanded to keep up with urban expansion (Sierra Club 1988, Duane Shroufe, AGFD, *in litt.* 1996).

The AGFD (D. Shroufe, *in litt.* 1996) estimated that 22,032 hectares (ha) (54,400 acres (ac)) of suitable habitat exists in the northwest Tucson area, where the majority of birds are found for the western population. Surveys completed in 1996 covered 44.2 square km (17.0 square mi) of this area (Abbate 1996). The AGFD notes that, while 60 percent of this land is in State Trust or Bureau of Land Management (BLM) ownership, much of the land may be subject to development as the Town of Marana is developing a general plan for future growth that may incorporate these areas. In addition, the BLM is evaluating a proposal to exchange all of its land within this area to a developer.

At OPCNM, potential threats include the increased risk of wildfire associated with an invasion of the OPCNM by nonnative grasses such as red brome (*Bromus tectorum*) and buffelgrass (*Pennisetum ciliare*). Sonoran desertscrub is not generally considered fire adapted, and fire can lead to loss of saguaros. An additional threat in this area is the increasing visitation and through-traffic from the international port of entry at Lukeville (H. Smith, *in litt.* 1996).

In summary, very few pygmy-owls remain throughout the pygmy-owl's historic range in Arizona due to extensive loss of habitat. In addition, the remaining pygmy-owl habitat faces numerous and significant threats.

2. Western Mexico

The pygmy-owl occurs in the more arid lower elevations (below 1,200 m (4,000 ft) elevation) in western Mexico in riparian woodlands and communities of thornscrub and large cacti. The pygmy-owl is absent or rare in the highlands of Mexico's central plateau

(Friedmann *et al.* 1950), where the least (*G. minutissima*) and northern (*G. gnoma*) pygmy-owls occur.

In the mid-20th century, the pygmy-owl was generally described as "common" in western Mexico (van Rossem 1945, Friedmann *et al.* 1950, Blake 1953). Schaldach (1963) considered the pygmy-owl abundant at the southern extreme of its range in Colima 30 years ago, and 50 years ago the pygmy-owl was considered "fairly common" in the lower elevations of western Sonora (van Rossem 1945). Current information on the status of the pygmy-owl and its habitat in western Mexico is incomplete, but suggests that trends vary within different geographic areas. The pygmy-owl can still be located fairly easily in southern Sonora (Babbitt 1985, Troy Corman, AGFD, pers. comm. 1994), but its distribution is somewhat erratic. Christmas Bird Count data from 1972 through 1995 from Alamos, Sonora, and San Blas, Nayarit, indicate that the pygmy-owl is common, but detections varied widely from year to year, possibly due to variations in the time spent per count and the number of searchers participating in the count. The count for Alamos, Sonora never exceeded four individuals, and no sightings were recorded in 10 out of 14 years (National Audubon Society 1972–1995). In recent years, pygmy-owls have been found in abundance in some areas but not detected in other areas of apparently similar habitat. Abundance also varies between habitat types, being more abundant in thorn forest than cactus forest (Taylor 1986).

The pygmy-owl is now rare or absent in northern Sonora, within 241 km (150 mi) of the United States-Mexico border (Hunter 1988, D. Shroufe, *in litt.* 1996). Extensive conversion of desertscrub and thornscrub to the exotic, buffelgrass, for livestock forage is now taking place, but quantification is not currently available. It is possible that the factors causing declines in Arizona also are affecting western Mexico (Deloya 1985, Hunter 1988). The region of Sonoita, Mexico, immediately south of OPCNM currently is undergoing extensive urban and agricultural development that may result in modification or destruction of movement corridors for the pygmy-owl between southern Arizona and northern Sonora (H. Smith, *in litt.* 1996). However, further information is needed before determining whether this subspecies should be listed in western Mexico.

Eastern Populations

Several habitat types also are used by the pygmy-owl in the eastern portion of

its range. These include coastal plain oak associations in south Texas (Tewes 1993, Wauer *et al.* 1993), Tamaulipan thornscrub in the lower Rio Grande Valley and other lowland areas, and thick forest and second-growth forest in the Mexican States of Nuevo Leon and Tamaulipas. The use of cypress trees by pygmy-owls along the Rio Grande also has been noted (Tewes 1993).

1. Texas

The pygmy-owl's historical range in Texas included the lower Rio Grande Valley, where it was considered a common resident of dense mesquite, cottonwood-ebony woodlands, and Tamaulipan Brushland (Griscom and Crosby 1926, Bent 1938, Friedmann *et al.* 1950, Stillwell and Stillwell 1954, Oberholser 1974, Heintzelman 1979, Hunter 1988, Millsap and Johnson 1988). Pygmy-owls also occur in coastal plain oak associations between Brownsville and Corpus Christi (Oberholser 1974), where it has recently been found in higher numbers than previously known (Texas A&M University, *in litt.* 1993, Wauer *et al.* 1993, P. Palmer, *in litt.* 1993, Mays 1996, Proudfoot 1996).

Until recently, formal surveys in Texas were lacking, but pygmy-owls were reported as occurring generally in two areas: the Rio Grande floodplain below Falcon Dam; and along U.S. Highway 77, north of the lower Rio Grande Valley. Wauer *et al.* (1993) note that pygmy-owls have been reported almost annually from the Rio Grande floodplain downstream of Falcon Dam to the Santa Anna National Wildlife Refuge in Starr and Hidalgo counties. Two pygmy-owls were reported below the dam in April 1993 (ABA 1993). These records generally are for 1 bird or 1 pair of birds, with the exception of a report of 10 birds from below the Dam in 1989 (unpubl. data). More recently, pygmy-owls have been located in Kenedy, Brooks and adjacent south Texas counties (Wauer *et al.* 1993). Oberholser (1974) reported birds on the Norias Division of the King Ranch as having been discovered in 1968.

A larger population of birds occurs on the King Ranch and surrounding ranches, approximately 112 km (70 mi) north of Brownsville. Caesar Kleberg Wildlife Research Institute at Texas A&M University (*in litt.* 1996) states that the most consistently used habitat, of which the King Ranch is a part, is a 4,660 square km (1800 square mi) oblong area of sandy soils, which support live oak (*Quercus virginiana*), honey mesquite (*Prosopis glandulosa*), and live oak mottes (small groupings of live oaks). Beasom (1993) described this

same area, historically known as the Wild Horse Desert, as an intrusion of deep, coastal sands that protrudes inland for approximately 81 km (50 mi) from the Laguna Madre and covers portions of northern Willacy, Kenedy, and Brooks counties. This area was recognized as a distinct vegetational region in Texas by Blair (1950), who noted that brush in this area thins out as available moisture declines inland, and that there was a difference in plant composition in this area due to the extensive sand strip.

Four recent studies have been completed in Texas on the pygmy-owl, with three of these focusing on the Norias Division of the King Ranch (Tewes 1993, Wauer *et al.* 1993, Mays 1996, Proudfoot 1996). Tewes (1993) conducted a study by contacting individuals with possible information on the pygmy-owl, reviewing museum specimen records, and conducting a survey. Tewes noted that his contacts believed the most accessible pygmy-owls in Texas were those below Falcon Dam in Starr County, but noted additional sighting records for other Texas counties were fewer and often accompanied by reports of unsuccessful surveys. This was true for Hidalgo (four sightings, one unsuccessful search), Zapata (one sighting, one unsuccessful search), and Cameron (zero sightings, one unsuccessful search) counties.

Surveys were conducted as part of this study at 27 sites in Mexico and 11 sites in Texas, with 12 positive responses noted. However, these responses were all in Mexico. Survey efforts in Texas that yielded no responses occurred on the Laguna Atascosa and Santa Anna National Wildlife Refuges, along Highways 77 and 281, and at the Falcon Recreation Area, Kelly Wildlife Management Area, Bentsen State Park, and Los Penitas Wildlife Management Area (Tewes 1993).

Additional survey results from work completed in 1993 found 116 individual, nonredundant pygmy-owl records on and around the King Ranch in mature mixed live oak-mesquite habitats. The highest density of birds found in this survey was on the Norias Division of the King Ranch (Wauer *et al.* 1993).

Mays (1996) also focused study efforts on the Norias Division of the King Ranch, and included portions of the Kenedy Ranch, the Encino Division of the King Ranch, the Canelo Ranch, and the Runnels Ranch. Habitat on the Norias Division is live oak, while the Kenedy Ranch and the Encino Division of the King Ranch support live oak-honey mesquite woodland. The Canelo

Ranch supports honey mesquite woodland, but no live oak, as does the Runnels Ranch. Mays recorded 166 responses during 1994 and 1995 on the King, Kenedy, Canelo, and Runnels ranches. The TPWD conducted additional studies during this 2-year period and reported three responses on the Mariposa Ranch, and no responses for the LaCopa, Cage, and Hopper ranches. During 1995, TPWD sampled but recorded no responses for the Mariposa, LaCopa, Cage, Hopper, Los Compadres, Singer, Jones, Myrick, Rancho Isabela or Mills Bennett ranches.

Proudfoot (Glenn, pers. comm. 1996) has trapped and banded pygmy-owls on the Norias Division of the King Ranch, focusing on a 29,000 ha (71,393 ac) portion of the King Ranch supporting a live oak-honey mesquite forest. This effort resulted in the trapping and banding of 111 pygmy-owls. It should be noted that there is overlap between work completed by Mays and that completed by Proudfoot, so that the number of individuals recorded by each are not additive. Of the estimated 101,250 ha (250,000 ac) of live oak habitat surrounding the King, Kenedy, and other nearby ranches, it is estimated that all but a 4,050 ha (10,000 ac) parcel on one ranch have been surveyed for pygmy-owls (G. Proudfoot, pers. comm.).

While the number of known individuals ranges from 111 (Glenn, pers. Comm. 1996) to 166 (Mays, 1996), the estimated population is much higher. Mays (1996) estimated between 745 and 1,823 pygmy-owls on the Norias Division of the King Ranch alone. Wauer *et al.* (1993) estimated 1,308 birds in the habitat available in Kenedy, Brooks, and Willacy counties. The Caesar Kleberg Institute of Texas A&M University believes that pygmy-owl populations in Texas are viable and probably exceed 1,300 birds.

The Service believes that the habitat for pygmy-owls along the coastal plain of southern Texas is stable, and may be increasing as former grasslands are invaded by oaks and the oaks mature to form the structural characteristics favored by pygmy-owls. Further, the habitat on the large, privately-owned ranches in this area is largely managed for wildlife (e.g., hunting, birding), conversion for agricultural use is considered uneconomical and unlikely, and other threats to this habitat are low or nonexistent (Caesar Kleberg Wildlife Institute *in litt.* 1996).

Through the Santa Ana/Lower Rio Grande Valley National Wildlife Refuge Complex in Texas, the Service has recently started a Wetlands Reserve

Program with the Natural Resources Conservation Service. Using grant monies, the Service will pursue the purchase of easements with willing landowners. The focus of the easement agreements will be on habitat protection and restoration. Additional tracts of land are being evaluated for purchase in river frontage areas in Starr and Hidalgo counties. These efforts will result in a corridor of riparian woodlands, which may serve as pygmy-owl habitat in the future (L. Ditto, pers. comm. 1996).

In summary, there remains a significant population of pygmy-owls in the coastal plain area of Texas, and a substantial amount of habitat exists. That habitat is largely managed for wildlife. The economic feasibility of conversion to agricultural use makes threats to the habitat low or nonexistent. Finally, habitat acquisition and rehabilitation underway in the lower Rio Grande Valley should provide substantial pygmy-owl habitat. For these reasons, the Service determines that the cactus ferruginous pygmy-owl in Texas is not likely to become endangered in the foreseeable future throughout all or a significant portion of its range. There is not sufficient evidence to justify finalizing that portion of the proposed rule.

2. Eastern Mexico

The pygmy-owl occurs in lowland regions (below 330 m (1,000 ft)) along the Gulf Coast of Mexico (Friedmann *et al.* 1950), in the states of Tamaulipas and Nuevo Leon. Its primary habitat in this region is Tamaulipan thornscrub, forest edge, riparian woodlands, thickets, and lowland tropical deciduous forest (Webster 1974, Enriquez Rocha *et al.* 1993, Tewes 1993). The pygmy-owl is absent or rare in the highlands of Mexico's central plateau (Friedmann *et al.* 1950), where the least and northern pygmy-owls occur.

In the mid-20th century, the pygmy-owl was generally described as having been common in eastern Mexico (Friedman *et al.* 1950, Blake 1953). Current information on the status of the pygmy-owl and its habitat in eastern Mexico is incomplete. In 1976, the pygmy-owl was reported to be "fairly common" in the Sierra Picachos of Nuevo Leon (Arvin 1976). In 1991, Tewes located pygmy-owls at 13 of 27 survey sites in northeastern Mexico.

Christmas Bird Count data from 1972 through 1996 from Rancho Los Colorados, Rio Corona, and Gomez Farias, all in Tamaulipas, indicate the pygmy-owl was common, but detections varied widely from year to year, probably due to time spent per count

and the number of individuals involved in the count effort (National Audubon Society 1972-1996). Christmas Bird Count data indicated the same for ferruginous pygmy-owls at El Naranjo in San Louis Potosi, at the zone of probable intergradation between *G. b. cactorum* and *G. b. ridgwayi*.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* The pygmy-owl is highly sought by birders who concentrate at several of the remaining known locations of pygmy-owls in the United States. Limited, careful birding is probably not harmful; however, excessive attention by birders may at times harass and affect the occurrence and behavior of the pygmy-owl (Oberholser 1974, Tewes 1993). For example, in early 1993, one of the few areas in Texas known to support the pygmy-owl continued to be widely publicized (American Birding Association 1993). The resident pygmy-owls were detected at this highly-visited area only early in the breeding season and not thereafter. O'Neil (1990) also indicated that five birds initially detected in southern Texas failed to respond after repeated visits by birding tours. Additionally, Oberholser (1974) and Hunter (1988) indicated that, in southern Texas, recreational birding may disturb owls at highly visited areas.

C. *Disease or Predation.* One disease potentially affecting the pygmy-owl is trichomoniasis, as identified by the AGFD (D. Shroufe, *in litt.* 1996). Because owls prey on finches, sparrows, and other seed-eating birds known to carry trichomoniasis, they are at risk of contracting the disease. According to Boal and Mannan (1996), raptors in urban areas experience a higher exposure rate to trichomoniasis, and the result is high mortality of raptor nestlings. No studies have been completed to date on the pygmy-owl in urban or other areas to determine if, in fact, pygmy-owls have been affected by this disease.

Recent work by Proudfoot (1996) indicates that snake predation may be an additional factor adversely affecting the pygmy-owl population on the Norias Division of the King Ranch. Proudfoot noted that nest boxes previously containing eggs would later be discovered empty, without sufficient time having elapsed to allow for fledging to occur. A lack of egg shell remains in nest boxes may indicate that snakes have depredated nests containing pygmy-owl eggs. Although long-tailed weasels (*Mustela frenata*) also occur in this study area, the lack of egg shell remains and the nest box configuration indicate that weasels are

not likely to have eaten the eggs. Nest boxes are typically 14 x 14 x 46 cm (5.5 x 5.5 x 18 in.) with a 5.13 cm (2.0 in.) entrance hole placed 31 cm (12 in.) above the box bottom.

Proudfoot (1996) has observed the indigo snake (*Drymarchon corais*) climbing trees on the King Ranch and notes that the indigo snake is known to prey on cavity nesting green-cheeked Amazon parrots (*Amazona viridigenalis*). Proudfoot notes that, from 1993 to 1996, eight out of 112 available nest boxes (or 232 nest box opportunities) were used. Where flashing was placed around trees to prevent the possibility of predation by snakes, eggs were not disturbed. For the four nest boxes left unprotected, three were depredated before the eggs hatched, while one was depredated following hatching. Proudfoot further noted that fecundity (the number of young successfully raised per year), for natural cavities was approximately one-third that of fecundity for nest boxes, and speculates that eggs and birds in natural cavities were likely to have been depredated by both snakes and long-tailed weasels, resulting in a lower fecundity rate (G. Proudfoot, pers. comm. 1996). However, it is unknown what the effect of nest predation is on mortality rates of the pygmy-owl population, nor whether predation notes are unnaturally high.

D. *The inadequacy of existing regulatory mechanisms.* Although the pygmy-owl is considered nonmigratory, it is protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). The MBTA is the only direct, current Federal protection provided for the cactus ferruginous pygmy-owl. The MBTA prohibits "take" of any migratory bird. "Take" is defined as "* * * to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." However, unlike the Act, there are no provisions in the MBTA preventing habitat destruction unless direct mortality or destruction of active nests occurs.

The Federal Clean Water Act contains provisions for regulating impacts to river systems and their tributaries. These mechanisms have been insufficient to prevent major losses of riparian habitat, including habitats occupied by the pygmy-owl.

The Barry M. Goldwater Range, which overlaps the historical distributional range of the pygmy-owl, has an existing policy stating that, for any species that have been identified as state or Federal species of concern, the range will be inventoried, and potential impacts to those species analyzed with other

information gathered. Projects can then be modified to avoid or minimize impacts to the species. The Goldwater Range also has identified any habitats that are unique or significant on the range, including desert washes, bajadas, and dunes. The Goldwater Range has the flexibility to create management plans for any species of concern; however, no such policy currently exists for the pygmy-owl.

The OPCNM, the second major location for pygmy-owls in the State of Arizona, provides protection for the pygmy-owl, as it does for all other natural and cultural resources. This protection has been compared as similar to the takings prohibitions of the MBTA and wildlife taking regulations for the State of Arizona (H. Smith, *in litt.* 1996).

The State of Arizona lists the ferruginous pygmy-owl (subspecies not defined) as endangered (AGFD 1988). However, this designation does not provide special regulatory protection. Arizona regulates the capture, handling, transportation, and take of most wildlife, including *G. b. cactorum*, through game laws, special licenses, and permits for scientific investigation. There are no provisions for habitat protection under Arizona endangered species law.

The State of Texas lists the ferruginous pygmy-owl (subspecies not defined) as threatened (TPWD 1978 and 1984). This designation requires permits for take for propagation, zoological gardens, aquariums, rehabilitation purposes, and scientific purposes (State of Texas 1991). Again, however, there are no provisions for habitat protection. The TPWD has indicated that they have a Memorandum of Understanding with the Texas Department of Transportation (TXDOT), which provides that it is the responsibility of TPWD to protect wildlife resources. Under this Memorandum, TPWD and TXDOT will coordinate on any project within range and in suitable habitat of any State or federally listed threatened or endangered species. Additionally, TPWD reviews seismic exploration on State lands through coordination with the Texas General Land Office. The pygmy-owl is also on the Texas Organization for Endangered Species (TOES) "watch list" (TOES 1984).

Most Federal agencies have policies to protect species listed by states as threatened or endangered, and some also protect species that are candidates for Federal listing. However, until agencies develop specific protection guidelines, evaluate their effectiveness, and institutionalize their implementation, it is uncertain whether

any general agency policies adequately protect the pygmy-owl and its habitat.

No conservation plans or habitat restoration projects specific to the cactus ferruginous pygmy-owl exist for lands managed by the United States Government, Indian Nations, State agencies, or private parties. The Forest Service, BLM, and Bureau of Reclamation have focussed some attention on modifying livestock grazing practices in recent years, particularly as they affect riparian ecosystems. Several of these projects are in the former range of the pygmy-owl, including some historical nesting locations. In addition, some private landowners in southern Texas are accommodating and funding research and have expressed an interest in carrying out conservation measures to benefit the pygmy-owl.

In summary, individual owls are protected from taking by one or more State and Federal statutes, and some Federal agencies are developing programs to protect riparian areas. However, there are currently no regulatory mechanisms in place that specifically protect pygmy-owl habitat.

E. Other natural or manmade factors affecting its continued existence. Environmental, demographic, and genetic vulnerability to random extinction are recognized as interacting factors that might contribute to a population's extinction (Hunter 1996). Environmental random extinction refers to random events, climate, nutrients, water, cover, pollutants, and relationships with other species such as prey, predators, competitors, or pathogens, that may affect habitat quality.

To date, the Service is aware of only one genetic study completed on pygmy-owls in the United States. Using toe clippings or blood samples, Zink *et al.* (1996) extracted DNA from pygmy-owls on the Norias Division of the King Ranch and from Rio Corona, Tamaulipas, Mexico. Data obtained from this study indicate that there is very little genetic difference between birds on the King Ranch and those in Tamaulipas. The authors concluded that any division between the two populations would therefore have occurred recently, likely within the last 75 years.

In addition, the data indicate low levels of genetic variation in the pygmy-owls. Populations without genetic variation are often considered imperiled due to either the effect of low population numbers, increased chance of inbreeding, or both (Soule 1986, Meffe and Carroll 1994).

Pesticides may pose an additional threat to the pygmy-owl where it occurs

in floodplain areas that are now largely agricultural. Jahrsdoerfer and Leslie (1988) note that more than 100 pesticides are used on agricultural crops throughout the lower Rio Grande Valley. Pesticide application occurs year-round. Because crops, such as cotton, are grown repeatedly year after year, an accumulation of resistant pesticides may result.

Pesticide contamination is described as "widespread" throughout the inland waters of the lower Rio Grande Valley, and includes concentrations of DDT, dieldrin, endrin, lindane, endosulfan, Guthion, and PCB's which exceeded 1976 EPA criteria for propagation of fish and wildlife. Without appropriate precautions, these agents may potentially affect pygmy-owls through direct toxicity or effects on their food base. No quantitative data on the effects of this potential threat on the pygmy-owl are known at this time. While the effects of pesticides such as DDT on the reproductive success of other bird species are well known, there are no data on whether pesticides are currently affecting the pygmy-owl.

The pygmy-owl nests in cavities excavated by woodpeckers in trees or large cacti. Some sources (AGFD 1988) believe that increasing competition with exotic European starling (*Sturnus vulgaris*) for nest cavities may be a threat to cavity nesters like the pygmy-owl. Starlings were first reported as occurring in Arizona in 1946 (Monson 1948).

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this subspecies in relation to the Act's definitions of "endangered" and "threatened." An endangered species is defined as one which is in danger of extinction throughout all or a significant portion of its range (section 3(6) of the Act). A threatened species is one which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (section 3(19) of the Act).

In Arizona, the pygmy-owl exists in extremely low numbers, the vast majority of its former habitat can no longer support the species, and much of the remaining habitat is under immediate and significant threat. The Service thus determines that the cactus ferruginous pygmy-owl faces imminent extinction and therefore meets the definition of endangered under the Act. The Service has determined that the pygmy-owl in Texas does not warrant listing as a threatened species. The Service will continue to review the status of this subspecies in Mexico.

Critical Habitat

Critical habitat, is defined in section 3 of the Act as—(i) The specific areas within the geographical 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 considerations or protection, and; (ii) specific areas outside the geographical area which are occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. "Conservation" means the use of all methods and procedures needed to bring the species to the point at which listing under the Act is no longer necessary.

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 242.12) require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. Critical habitat was proposed for the cactus ferruginous pygmy-owl in Arizona in the proposed rule. However, because the pygmy-owl has been a sought after species for birding enthusiasts, the Service now believes that the designation of critical habitat and the subsequent publication of location maps and detailed locality descriptions would harm the species rather than aid in its conservation. The Service determines that designation of critical habitat for the cactus ferruginous pygmy-owl in Arizona is not prudent.

Although the Service is not finalizing the portion of the proposed rule to list the Texas population as threatened and critical habitat designation is not an issue for that population, the Service is aware that the Texas population may be impacted by birding activities, as well. However, pygmy-owls in Texas are located on private land, which benefits from bird enthusiasts. The Texas population does not face the same potential harm or harassment threats as the Arizona pygmy-owls occurring on public land because of more limited access to the Texas population. Additionally, some areas of private land that allow birding excursions may be specifically managed to benefit pygmy owls in Texas.

As noted in factor B "Overutilization for commercial, recreational, scientific, or educational purposes" in this rule, the pygmy-owl is highly sought by birders concentrating on the remaining known localities in the United States. Excessive uncontrolled attention by birders may affect the occurrence,

behavior, and reproductive success of the pygmy-owl. A recently advertised birding excursion in southeast Arizona specifically mentions pygmy-owls as a target species. The Service feels that although the proposed rule and the proposed critical habitat designation contained therein provided maps and detailed location descriptions, no new pygmy-owl localities discovered since the publication of the proposed rule have been disclosed. Pygmy-owl locations in Arizona should not be disclosed because of the potential for harassment and harm.

Additionally, the Service is concerned that the publication of specific pygmy-owl localities in Arizona would make the species and specifically pygmy-owl nests, more vulnerable to acts of vandalism, and increase the difficulties of enforcement. Because of the increased pressures exerted by birding enthusiasts and the possibility of acts of vandalism, the Service believes that conservation of the pygmy-owl is better addressed through the recovery process and through the section 7 consultation process. Designation of critical habitat for the pygmy owl in Arizona is not prudent.

Special Rule

The Service included a proposed special rule under section 4(d) of the Act for the proposed threatened pygmy-owl population in Texas. (See the proposed rule for a discussion of the proposed special rule). However, the Service has determined that the cactus ferruginous pygmy-owl in Texas does not warrant threatened status and thus the special rule is no longer under consideration.

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 authorizes recovery plans for all listed species. The protection required for 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 being

designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service 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 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 the Service.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all endangered and threatened wildlife, respectively. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and the State conservation agencies.

Regulations at 50 CFR 17.3 define the terms "harm" and "harass" as used under the Act's definition of "take." "Harm" is defined as an act which actually kills or injures wildlife. Such acts may include significant habitat modification that impairs essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined as an intentional or negligent act or omission which creates a likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns, including, but not limited to, breeding, feeding, or sheltering.

Permits may be issued to carry out otherwise prohibited activities involving endangered and threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 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

Dated: February 28, 1997.

J.L. Gerst,

Acting Director, Fish and Wildlife Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 648 and 649

[Docket No. 970221036-7036-01; I.D. 012797D]

RIN 0648-AJ48

Fisheries of the Northeastern United States; Framework Adjustments to the Northeast Multispecies and American Lobster Fishery Management Plans

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

ACTION: Final rule.

SUMMARY: NMFS issues this final rule to implement measures contained in Framework Adjustment 22 to the Northeast Multispecies Fishery Management Plan (FMP) and Framework Adjustment 4 to the American Lobster FMP. This rule will close certain areas to specific gear types, thereby alleviating the gear conflicts in Southern New England.

EFFECTIVE DATE: March 17, 1997.

ADDRESSES: Copies of Amendment 7 to the Northeast Multispecies FMP, Amendment 5 to the American Lobster FMP, the regulatory impact review and the initial regulatory flexibility analysis, its final supplemental environmental impact statement (FSEIS), and the supporting documents for Framework Adjustment 22 to the Northeast Multispecies FMP and Framework 4 to the American Lobster FMP are available from Christopher B. Kellogg, Acting Executive Director, New England Fishery Management Council, 5 Broadway, (Route 1), Saugus, MA 01906-1097.

FOR FURTHER INFORMATION CONTACT: Paul H. Jones, Fishery Policy Analyst, 508-281-9273.

SUPPLEMENTARY INFORMATION: An emergency interim rule to the American Lobster FMP was published on March 27, 1996 (61 FR 13454). This action implemented a prohibition on mobile gear vessels fishing in Restricted Gear Areas I and II, a prohibition on lobster pot vessels fishing in and lobster pots in Restricted Gear Area III, and a

requirement that all mobile gear vessels in Restricted Gear Areas I and II and all lobster pot (fixed gear) vessels in Restricted Gear Area III stow their gear while transiting the restricted gear areas. This action became necessary after a New England Fishery Management Council (Council) and Industry-negotiated voluntary agreement concerning gear conflicts failed to resolve the problem.

Regulations implementing Amendment 8 to the Northeast Multispecies, Amendment 6 to the Atlantic Sea Scallop, and Amendment 6 to the American Lobster FMPs became effective on February 10, 1997 (62 FR 1403, January 10, 1997). The regulations added to each FMP a list of management measures from which the Council could select future solutions to gear conflicts through the framework adjustment process. The regulations authorize the Council to recommend adjustments to any of the measures currently in the FMPs.

Framework Adjustment 22 to the Northeast Multispecies FMP and Framework Adjustment 4 to the American Lobster FMP closes four small, defined areas to fishers using certain gears during certain times of the year. Specifically, the action implements a prohibition on mobile gear vessels fishing in Restricted Gear Area I during October 1 through June 15, in Restricted Gear Area IV during June 16 through September 30, in Restricted Gear Area II during November 27 through June 15, and in Restricted Gear Area III during June 16 through November 26, and a prohibition on lobster pot vessels fishing in Restricted Gear Area I during June 16 through September 30, in Restricted Gear Area II during June 16 through November 26, and in Restricted Gear Area III during January 1 through April 30. Vessels may transit these areas provided that all mobile gear is on board the vessel while inside these areas.

This action is necessary because substantial harm and disruption to the fishery is again occurring through gear conflicts since the emergency action expired on June 25, 1996. These conflicts are occurring because of increased targeting of monkfish by mobile gear vessels since the emergency action and the failure of the Council's voluntary industry agreement. The framework measures build upon the emergency action and provisions of the Council's voluntary industry agreement. The measures in this rulemaking were selected from among other options because they are relatively less controversial, as evidenced by the near unanimous support of the Council. The

action is expected to reduce gear damage and economic loss.

Direct economic losses to individual lobster vessels from gear loss are reported by the Council to be as high as \$125,780. As reported to the Council by eight lobster vessels, the value of lost gear for a partial season totaled more than \$290,000. There are approximately 50 active lobster vessels fishing within the gear conflict areas. If the above data are representative of the fleet, the direct economic loss as the result of lost gear was potentially \$1.8 million, or more than \$36,000 per lobster vessel.

The value of lobster landings during October through June, when lobster vessels move their gear inshore, averaged more than \$8.5 million for 1991-93. Landings data showing the magnitude of lost fishing opportunity during 1994 and 1995 are unavailable. Lobster fishers, however, reported setting their gear in a severely restricted band that had a significant effect on catch per trap. Even if the number of traps remained constant and catch per trap only declined 25 percent, the lost revenue could have totaled more than \$2.1 million. The total estimated economic loss that could be prevented by taking this action is, therefore, nearly \$4 million. Furthermore, the action is consistent with the American Lobster FMP objectives to minimize social, cultural, and economic dislocation in the lobster fishery.

The Council requests publication of the management measures as a final rule after considering the required factors stipulated in the regulations governing the Northeast multispecies fishery and the American lobster fishery and providing supporting analysis for each factor considered. The Regional Administrator, Northeast Region, NMFS, concurs with the Council's recommendation and has determined the framework adjustments should be published as a final rule.

NMFS is amending the multispecies and lobster regulations following the procedure for framework adjustments codified in 50 CFR parts 648 and 649. The Council followed this procedure when making adjustments to the FMPs by developing and analyzing the actions at two Council meetings held on August 21-22 and October 2, 1996.

Comments and Responses

The August 21-22, 1996, Council meeting was the first of two meetings that provided an opportunity for public comment on the frameworks. A draft document containing the proposed management measures and their rationale was available to the public during the second week in August 1996