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Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Rio Grande Silvery Minnow; Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AH91

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Rio Grande Silvery Minnow

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule; notice of availability.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for the Rio Grande silvery minnow (*Hybognathus amarus*) (silvery minnow), a species federally listed as endangered under the authority of the Endangered Species Act of 1973, as amended (Act). The silvery minnow presently occurs only in the Rio Grande from Cochiti Dam, Sandoval County, downstream to the headwaters of Elephant Butte Reservoir, Sierra County, New Mexico. We propose to designate critical habitat within this last remaining portion of the occupied range in the middle Rio Grande (Cochiti Dam to Elephant Butte Dam) in New Mexico. The proposed critical habitat designation defines the lateral extent (width) as those areas bounded by existing levees or, in areas without levees, 91.4 meters (300 feet) of riparian zone adjacent to each side of the middle Rio Grande. We request data and comments from the public and all interested parties on all aspects of this proposed rule, including data on economic and other relevant impacts of the designation and the two areas that are not proposed as critical habitat. A draft economic analysis, which examines primarily economic impacts of this proposed rule, has been prepared and is also available for review and comments. This publication also provides notice of the availability of the draft economic analysis and the draft EIS for this proposed rule. We invite all interested parties to submit comments on these draft documents and this proposed rule.

DATES: *Comments.* We will consider all comments on the proposed rule, draft economic analysis, and the draft EIS received from interested parties by September 4, 2002.

Public Hearings. We will also hold two public hearings to receive comments from the public. The public hearings will be held in Socorro and Albuquerque, New Mexico, on June 25 and 26, respectively.

ADDRESSES: 1. Send your comments on this proposed rule, the draft economic analysis, and draft EIS to the New Mexico Ecological Services Field Office, 2105 Osuna Road NE, Albuquerque, NM, 87113. Written comments may also be sent by facsimile to (505) 346–2542 or through the Internet to *R2FWE_AL@fws.gov.* You may also hand-deliver written comments to our New Mexico Ecological Services Field Office, at the above address. You may obtain copies of the proposed rule, the draft economic analysis, or the draft EIS from the above address or by calling 505/346–2525. All documents are also available from our website at *http://ifw2es.fws.gov/Library/.*

2. Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at the New Mexico Ecological Services Field Office (see address above).

3. We will hold public hearings in Socorro, NM, on June 25, 2002; and in Albuquerque, NM, on June 26, 2002 at the following locations:

- Socorro, NM: New Mexico Institute for Mining and Technology, Macey Center, 801 Leroy Place, Socorro, New Mexico, on June 25, 2002, from 6 to 9 p.m.
- Albuquerque, NM: Indian Pueblo Cultural Center, 2401 12th Street NW, Albuquerque, New Mexico, on June 26, 2002, from 6 to 9 p.m.

FOR FURTHER INFORMATION CONTACT: Joy Nicholopoulos, Field Supervisor, New Mexico Ecological Services Field Office (see **ADDRESSES** above); phone: 505–346–2525.

SUPPLEMENTARY INFORMATION:

Background

The Rio Grande silvery minnow is one of seven species in the genus *Hybognathus* found in the United States (Pflieger 1980). The species was first described by Girard (1856) from specimens taken from the Rio Grande near Fort Brown, Cameron County, TX. It is a stout silvery minnow with moderately small eyes and a small, slightly oblique mouth. Adults may reach 90 millimeters (mm) (3.5 inches (in)) in total length (Sublette *et al.* 1990). Its dorsal fin is distinctly pointed with the front of it located slightly closer to the tip of the snout than to the base of the tail. The fish is silver with emerald reflections. Its belly is silvery white, fins are plain, and barbels are absent (Sublette *et al.* 1990).

This species was historically one of the most abundant and widespread fishes in the Rio Grande Basin, occurring from Española, NM, to the Gulf of Mexico (Bestgen and Platania 1991). It was also found in the Pecos River, a major tributary of the Rio Grande, from Santa Rosa, NM, downstream to its confluence with the Rio Grande (Pflieger 1980). The silvery minnow is completely extirpated from the Pecos River and from the Rio Grande downstream of Elephant Butte Reservoir and upstream of Cochiti Reservoir (Bestgen and Platania 1991). The current distribution of the silvery minnow is limited to the Rio Grande between Cochiti Dam and Elephant Butte Reservoir. Throughout much of its historic range, decline of the silvery minnow has been attributed to modification of the flow regime (hydrological pattern of flows that vary seasonally in magnitude and duration, depending on annual precipitation patterns such as runoff from snowmelt) and channel drying because of impoundments, water diversion for agriculture, stream channelization, and perhaps both interactions with non-native fish and decreasing water quality (Cook *et al.* 1992; Bestgen and Platania 1991, Service 1999; Buhl 2001).

It is important to note that much of the species' life history information detailed below comes from studies conducted within the middle Rio Grande, the current range of the minnow. Nevertheless, we believe that our determinations for other areas outside of the middle Rio Grande, but within the historical range of the silvery minnow, are consistent with the data collected to date on the species' ecological requirements (e.g., Service 1999).

The role of the plains minnow (*Hybognathus placitus*) in the decline and extirpation of the silvery minnow from the Pecos River is uncertain; however, the establishment of the plains minnow coincided with the disappearance of the silvery minnow (Bestgen and Platania 1991; Cook *et al.* 1992). It is believed the non-native plains minnow was introduced into the Pecos drainage prior to 1964 (Cook *et al.* 1992), and was probably the result of the release of ''bait minnows'' that were collected from the Arkansas River drainage. It is unclear, however, if populations of the native silvery minnow were depleted prior to the introduction of the plains minnow, or if the reduction and extirpation of the silvery minnow was a consequence of the interactions of the two species (C. Hoagstrom, U.S. Fish and Wildlife Service, pers. comm. 2001). One theory is that the plains minnow may be more tolerant of modified habitats and,

therefore, was able to replace the silvery minnow in the degraded reaches of the Pecos River. Nevertheless, the plains minnow has experienced population declines within its native range from highly variable water levels, unstable streambeds, and fluctuating water temperatures (Cross *et al.* 1985 cited in Taylor and Miller 1990). Although the interactions (e.g., hybridization or competition) between the silvery minnow and the introduced plains minnow are believed by some to be one of the primary causes for the extirpation of the silvery minnow in the Pecos River, this hypothesis is unsubstantiated (Hatch *et al.* 1985; Bestgen *et al.* 1989; Cook *et al.* 1992). Currently, New Mexico State University is conducting research on the plains minnow and silvery minnow to determine if the two species hybridize. Preliminary results of this research should be available in summer 2002. It is important to note that, within its native range, the plains minnow is sympatric (occurs at the same localities) with other species of *Hybognathus.* However, they are segregated ecologically (i.e., the plains minnow is found in the main river channel where the substrate is predominantly sand, whereas the western silvery minnow (*Hybognathus argyritis*) predominates backwaters and protected areas with little to no current and sand or silt substrate) (Pflieger 1997). Consequently, if the silvery minnow and plains minnow do not hybridize, they may be ecologically segregated and able to co-exist.

The plains minnow and silvery minnow appear to have little in the way of behavioral or physiological isolating mechanisms and may hybridize (Cook *et al.* 1992); yet the combined effects of habitat degradation (i.e., modification of the flow regime, channel drying, water diversion, and stream channelization) may be a more likely explanation for the silvery minnow's extirpation from the Pecos River (Bestgen and Platania 1991; C. Hoagstrom, pers. comm. 2001). We acknowledge that there are no conclusive data to substantiate any reasons for extirpation of the silvery minnow from the Pecos River.

The silvery minnow has also been extirpated from the lower Rio Grande, including the Big Bend National Park area (Hubbs *et al.* 1977; Bestgen and Platania 1991). Reasons for the species' extirpation in the lower Rio Grande are also uncertain. The last documented collection of a silvery minnow in the Big Bend area was 1961, but reexamination of that specimen revealed it was a plains minnow (Bestgen and Propst 1996). Therefore, the last silvery minnow from the lower Rio Grande was apparently collected in the late 1950s (Trevino-Robinson 1959; Hubbs *et al.* 1977; Edwards and Contreras-Balderas 1991).

Decline of the species in the middle Rio Grande probably began in 1916 when the gates at Elephant Butte Dam were closed. Construction of the dam signaled the beginning of an era of mainstem Rio Grande dam construction that resulted in five major mainstem dams within the silvery minnow's historic range (Shupe and Williams 1988). These dams allowed manipulation and diversion of the flow of the river. Often this manipulation severely altered the flow regime and likely precipitated the decline of the silvery minnow (Bestgen and Platania 1991). Concurrent with construction of the mainstem dams was an increase in the abundance of non-native fish as these species were stocked into the reservoirs created by the dams (e.g., Cochiti Reservoir) (Sublette *et al.* 1990). Once established, these species often completely replaced the native fish fauna (Propst *et al.* 1987; Propst 1999).

Development of agriculture and the growth of cities within the historic range of the silvery minnow resulted in a decrease in the quality of river water through municipal and agricultural run-off (i.e., sewage and pesticides) that may have also adversely affected the range and distribution of the silvery minnow. Historically there were four other small native fish species (speckled chub (*Macrohybopsis aestivalis*); Rio Grande shiner (*Notropis jemezanus*); phantom shiner (*Notropis orca*); and Rio Grande bluntnose shiner (*Notropis simus simus*)) within the middle Rio Grande that had similar reproductive attributes, but these species are now either extinct or extirpated (Platania 1991). The silvery minnow is a pelagic spawning species; i.e. its eggs flow in the water column. The silvery minnow is the only surviving small native pelagic spawning minnow in the middle Rio Grande and its range has been reduced to only 5 percent of its historic extent. Although the silvery minnow is a hearty fish, capable of withstanding many of the natural stresses of the desert aquatic environment, the majority of the individual silvery minnows live only one year (Bestgen and Platania 1991). Thus, a successful annual spawn is key to the survival of the species (Platania and Hoagstrom 1996; Service 1999; Dudley and Platania 2001). The silvery minnow's range has been so greatly restricted, the species is extremely vulnerable to a single catastrophic event, such as a prolonged period of low or no flow (i.e., the loss of all surface water) (59 FR 36988; Dudley and Platania 2001).

The various life history stages of the silvery minnow require shallow waters with a sandy and silty substrate that is generally associated with a meandering river that includes sidebars, oxbows, and backwaters (C. Hoagstrom, pers. comm, 2001; Bestgen and Platania 1991; Platania 1991). However, physical modifications to the Rio Grande over the last century—including the construction of dams, levees, and channelization of the mainstem—have altered much of the habitat that is necessary for the species to persist (Service 1999). Channelization has straightened and shortened mainstem river reaches; increased the velocity of the current; and altered riparian vegetation, instream cover, and substrate composition (U.S. Bureau of Reclamation (BOR) 2001a).

In the middle Rio Grande, the spring runoff coincides with and may trigger the silvery minnow's spawn (Platania and Hoagstrom 1996; Service 1999; Dudley and Platania 2001). The semi-buoyant (floating) eggs that are produced drift downstream in the water column (Smith 1999; Dudley and Platania 2001) (see ''Primary Constituent Elements'' section of this proposed rule for further information on spawning). However, it is believed that diversion dams act as instream barriers and prevent silvery minnows from movement upstream after hatching (Service 2001b; Dudley and Platania 2001; 2002). In fact, the continued downstream displacement and decline of the silvery minnow in the middle Rio Grande is well documented (Dudley and Platania 2001).

During the irrigation season (approximately March 1 to October 31 of each year) in the middle Rio Grande, silvery minnow often become stranded in the diversion channels (or irrigation ditches), where they are unlikely to survive (Smith 1999, Lang and Altenbach 1994). For example, when the irrigation water in the diversion channels is used on agricultural fields, the possibility for survival of silvery minnows in the irrigation return flows (excess irrigation water that flows from agricultural fields and is eventually returned to the river) is low, because they perish in canals due to unsuitable habitat, dewatering, or predation (Lang and Altenbach 1994). Unscreened diversion dams also entrain (trap) silvery minnow fry (fish that have recently emerged from eggs) and semi-buoyant eggs (Smith 1998; 1999). However, some irrigation water is returned to the river via irrigation wasteways in the reach of the middle Rio Grande from the Isleta Diversion

Dam to the San Acacia Diversion Dam (Isleta reach), which helps sustain flow in certain segments of this reach. Nevertheless, we do not believe these riverside drains offer suitable refugia or are useful for recovery of the silvery minnow.

In the middle Rio Grande, perhaps even more problematic for the silvery minnow are drought years during the irrigation season when there may be little supplemental water (water that is used to augment river flows) available and when most or all of the water in the middle Rio Grande may be diverted into the irrigation channels (e.g., see Dudley and Platania 2001) or otherwise consumed. Compounding this problem is stream bed aggradation (i.e., the river bottom is rising due to sedimentation) below San Acacia, NM, where the bed of the river is now perched above the bed of the low flow conveyance channel (LFCC), which is immediately adjacent and parallel to the river channel. Because of this physical configuration, waters in the mainstem of the river are drained from the river bed into the LFCC. The LFCC parallels the Rio Grande for approximately 121 kilometers (km) (75 miles (mi)) and was designed to expedite delivery of water to Elephant Butte Reservoir, pursuant to the Rio Grande Compact of 1939. The LFCC diverted water from the Rio Grande from 1959 to 1985. The LFCC was built to more efficiently deliver water to Elephant Butte Reservoir during low-flow conditions and has the capacity to take approximately 2,000 cubic feet per second (cfs) of the river's flow, via gravity. If natural river flow is 2,000 cfs or less, the LFCC can dewater the Rio Grande from its heading at the San Acacia Diversion Dam south to Elephant Butte Reservoir.

However, the LFCC has not been fully operational since 1985 because of outfall problems (e.g., stream bed aggradation) at Elephant Butte Reservoir. Even without water diversion into the LFCC, seepage from the river to the LFCC is occurring and causing some loss of surface flows in the river channel (BOR 2001a). In effect, water is drained from the Rio Grande into the LFCC and conveyed to Elephant Butte Reservoir, thereby resulting in water losses in the reach from the San Acacia Diversion Dam to Elephant Butte Reservoir (San Acacia reach). During some years this can result in prolonged periods of low or no flow.

It is believed that, historically, the silvery minnow was able to withstand periods of drought primarily by retreating to pools and backwater refugia, and swimming upstream to repopulate upstream habitats (e.g., Deacon and Minckley 1974, J. Smith, U.S. Fish and Wildlife Service, pers. comm. 2001). It is also believed that after prolonged periods of low or no flow the silvery minnow may have been able to repopulate downstream habitat the following year by the drift of eggs from upstream populations (Platania 1995). However, when the present-day middle Rio Grande dries and dams prevent upstream movement of the silvery minnow, they can become trapped in dewatered reaches and often die in isolated pools before the river becomes wetted again. The inability of the population to find adequate refugia during prolonged periods of low or no flow and to repopulate extirpated reaches creates a very unstable population (Service 2001b). In some isolated pools, Smith and Hoagstrom (1997) and Smith (1999) documented complete mortality of silvery minnows in the middle Rio Grande in both 1996 and 1997 during prolonged periods of low or no flow. These studies documented both the relative size of the isolated pool (i.e., estimated surface area and maximum depth) in relation to pool longevity (i.e., number of days the isolated pool existed) and the fish community within isolated pools. For example, isolated pools found during these conditions typically only lasted for about 48 hours before drying up completely (Smith 1999). Those isolated pools that persisted longer than 48 hours lost greater than 81 percent of their estimated surface area and greater than 26 percent of their maximum depth within 48 hours. Moreover, isolated pools receive no surface inflow; water temperatures increase; dissolved oxygen decreases; and depending on location, size, and duration of the prolonged periods of low or no flow, will usually result in the death of all fish (Tramer 1977; Mundahl 1990; Platania 1993b; Ostrand and Marks 2000; Ostrand and Wilde 2001). Therefore, when periods of low or no flow are longlasting (over 48 hours), complete mortality of silvery minnows in isolated pools can be expected.

Formation of isolated pools also increases the risk of predation of silvery minnows in drying habitats. Predators; primarily fish and birds, have been observed in high numbers in the middle Rio Grande, consuming fish in drying, isolated pools, where the fish become concentrated and are more vulnerable to predation (J. Smith, pers. comm. 2001).

The potential for prolonged periods of low or no flow on the middle Rio Grande becomes particularly significant for the silvery minnow below the San Acacia Diversion Dam, where approximately 95 percent of the only extant population lives. For example, in the river reach above (north of) the San Acacia Diversion Dam, return flows from irrigation and other activities are routed back into the mainstem of the river. At times, this can provide a fairly consistent flow in particular stretches of the Isleta reach. However, at the San Acacia Diversion Dam, once diversions are made (i.e., to irrigation canals, as well as seepage losses to the LFCC) the return flows continue in off-river channels (with a few exceptions at Brown's Arroyo and the 10-mile outfall of the LFCC) until they enter Elephant Butte Reservoir. Thus, unlike in the Isleta reach, the silvery minnow does not receive the benefit of irrigation return flows in the San Acacia reach.

Although we determine that a river reach in the lower Rio Grande in Big Bend National Park downstream of the park boundary to the Terrell/Val Verde County line, Texas, and a river reach in the middle Pecos River, from Sumner Dam to Brantley Dam in De Baca, Chaves, and Eddy Counties, New Mexico, are essential to the conservation of the silvery minnow, these areas are not proposed for critical habitat designation because of our preliminary analysis under section 4(b)(2) (see ''Exclusions Under Section 4(b)(2) of the Act'' section of this rule). The current proposal only includes the middle Rio Grande (Cochiti Dam to Elephant Butte Dam) in New Mexico, and no other reaches within the historical range of the silvery minnow. Therefore, we are only proposing to designate the river reaches currently occupied by the silvery minnow. This proposal is analyzed as the preferred alternative in the draft Environmental Impact Statement (EIS), pursuant to the National Environmental Policy Act (NEPA), which the Service was required to prepare under the court order from the United States District Court for the District of New Mexico, in *Middle Rio Grande Conservancy District* v. *Babbitt,* Civ. Nos. 99–870, 99–872, 99–1445M/RLP (Consolidated). The two reaches referenced above (i.e., middle Pecos River and lower Rio Grande) are also analyzed in the draft EIS. The Service must follow the procedures required by the Act, NEPA, and the Administrative Procedure Act. Therefore, we seek public comment on all reaches identified in this proposed rule as essential, including whether any of these or other areas should be excluded from the final designation pursuant to Section 4(b)(2). As required by law, we will consider all comments received on this proposed rule, the draft EIS, and the

draft economic analysis before making a final determination.

In accordance with the Recovery Plan, we have initiated a captive propagation program for the silvery minnow (Service 1999). We currently have silvery minnows housed at: (1) The Service's Dexter National Fish Hatchery and Technology Center; (2) the Service's Mora National Fish Hatchery and Technology Center; (3) the City of Albuquerque's Biological Park; (4) the U.S. Geological Survey Biological Resources Division's Yankton Laboratory; and (5) the New Mexico State University (J. Brooks, pers. comm., 2001). Progeny of these fish are being used to augment the middle Rio Grande silvery minnow population, but could also be used in future augmentation or reestablishment programs for the silvery minnow in other river reaches (J. Remshardt, New Mexico Fishery Resources Office, pers. comm. 2001). We have also salvaged and transplanted silvery minnows within the middle Rio Grande in recent years (Service 1996, 1998, 1999, 2000, 2001). For example, approximately 220,000 silvery minnow larvae and adults have been released (i.e., stockings from captive bred fish or translocated from downstream reaches) since May 1996 (J. Remshardt, U.S. Fish and Wildlife Service, pers. comm. 2001). Effectiveness of these releases is currently being investigated and will be useful for evaluating future efforts to repatriate the species.

If this proposed rule is finalized, section 7(a)(2) of the Act would require that Federal agencies ensure that actions they fund, authorize, or carry out are not likely to result in the ''destruction or adverse modification'' of critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as ''direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.'' Section 4 of the Act requires us to consider economic and other relevant impacts of specifying any particular area as critical habitat.

Our practice is to make comments that we receive on this rulemaking, including names and home addresses of the respondents, available for public review during normal business hours. Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by Federal law.

Previous Federal Action

We proposed to list the silvery minnow as an endangered species with critical habitat on March 1, 1993 (58 FR 11821). The comment period, originally scheduled to close on April 30, 1993, was extended to August 25, 1993 (58 FR 19220; April 13, 1993). This extension allowed us to conduct public hearings and to receive additional public comments. Public hearings were held in Albuquerque and Socorro, NM, on the evenings of June 2 and 3, 1993, respectively. After a review of all comments received in response to the proposed rule, we published the final rule to list the silvery minnow as endangered on July 20, 1994 (59 FR 36988).

Section 4(a)(3) of the Act requires that the Secretary, to the maximum extent prudent and determinable, designate critical habitat at the time a species is listed as endangered or threatened. Our regulations (50 CFR 424.12(a)(2)) state that critical habitat is not determinable if information sufficient to perform required analyses of the impacts of the designation is lacking or if the biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat. At the time the silvery minnow was listed, we found that critical habitat was not determinable because there was insufficient information to perform the required analyses of the impacts of the designation.

We contracted for an economic analysis of the proposed critical habitat designation in September 1994 and a draft analysis was prepared and provided to us on February 29, 1996. The draft document was then provided to all interested parties on April 26, 1996. That mailing included 164 individuals and agencies, all affected Pueblos in the valley, all county commissions within the occupied range of the species, and an additional 54 individuals who had attended the public hearings on the proposed listing and who had requested that they be included on our mailing list, particularly for the economic analysis. At that time, we notified the public that, because of a moratorium on final listing actions and determinations of critical habitat imposed by Public Law 104–6, no work would be conducted on the analysis or on the final decision concerning critical habitat. However, we solicited comments from the public and agencies on the document for use when such work resumed.

On April 26, 1996, the moratorium was lifted. Following the waiver of the moratorium, we reactivated the listing program that had been shut down for over a year and faced a backlog of 243 proposed species listings. In order to address that workload, we published, on May 16, 1996, our Listing Priority Guidance for the remainder of Fiscal Year 1996 (61 FR 24722). That guidance identified the designation of critical habitat as the lowest priority upon which we could expend limited funding and staff resources. Subsequent revisions of the guidance for Fiscal Years 1997 (December 5, 1996; 61 FR 64475) and for 1998/1999 (May 8, 1998; 63 FR 25502) retained critical habitat as the lowest priority for the listing program within the Service. Thus, no work resumed on the economic analysis due the low priority assigned to critical habitat designations.

On February 22, 1999, in *Forest Guardians* v. *Babbitt,* Civ. No. 97–0453 JC/DIS, the United States District Court for the District of New Mexico ordered us to publish a final determination with regard to critical habitat for the silvery minnow within 30 days. The deadline was subsequently extended by the court to June 23, 1999. On July 6, 1999, we published a final designation of critical habitat for the silvery minnow (64 FR 36274), pursuant to the court order.

On November 21, 2000, the United States District Court for the District of New Mexico, in *Middle Rio Grande Conservancy District* v. *Babbitt,* Civ. Nos. 99–870, 99–872, 99–1445M/RLP (Consolidated), set aside the July 9, 1999, critical habitat designation and ordered us to issue both an EIS and a new proposed rule designating critical habitat for the silvery minnow. This proposed rule and the draft EIS are being issued pursuant to that court order.

On April 5, 2001, we mailed approximately 500 pre-proposal notification letters to the six Middle Rio Grande Indian Pueblos (Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, and Isleta), various governmental agencies, interested individuals, and the New Mexico Congressional delegation. The letter informed them of our intent to prepare an EIS for the proposed designation of critical habitat for the silvery minnow and announced public scoping meetings pursuant to NEPA. On April 17, 23, 24, and 27, 2001, we held public scoping meetings in Albuquerque and Carlsbad, NM, Fort Stockton, TX, and Socorro, NM, respectively. We solicited oral and written comments and input. We were particularly interested in obtaining additional information on the status of the species or information concerning threats to the species. The comment period closed June 5, 2001. We received

approximately 40 comments during the EIS scoping process. During April 2001, we contracted with Industrial Economics Incorporated for an economic analysis and the Institute of Public Law at the University of New Mexico School of Law for an EIS on the proposed critical habitat designation. Following the closing of the scoping comment period, we outlined possible alternatives for the EIS. We held a meeting on September 12, 2001, to solicit input on the possible alternatives from the Rio Grande Silvery Minnow Recovery Team (Recovery Team) and other invited participants including individuals from the Carlsbad Irrigation District, Fort Sumner Irrigation District, the States of New Mexico and Texas, and potentially affected Pueblos and Tribes. Following this meeting, we sent letters to the Recovery Team and other invited participants, including Tribal entities, and resource agencies in New Mexico and Texas, to solicit any additional information—particularly biological, cultural, social, or economic data—that may be pertinent to the economic analysis or EIS. We received 10 comments from our requests for additional information. The information provided in the comment letters was fully considered in developing the alternatives that were analyzed in the draft EIS, which contains this proposed rule as our preferred alternative. We made these comments part of the administrative record for this rulemaking.

Recovery Plan

Restoring an endangered or threatened species to the point where it is recovered is a primary goal of the Service's endangered species program. To help guide the recovery effort, we prepare recovery plans for most of the listed species native to the United States. Recovery plans describe actions considered necessary for conservation of the species, establish criteria for downlisting or delisting them, and estimate time and cost for implementing the recovery measures needed. Although a recovery plan is not a regulatory document (i.e., recovery plans are advisory documents because there are no specific protections, prohibitions, or requirements afforded to a species based solely on a recovery plan), the information contained in the Rio Grande Silvery Minnow Recovery Plan (Recovery Plan) was considered in developing this proposed critical habitat designation.

On July 1, 1994, the Recovery Team was established by the Service pursuant to section 4(f)(2) of the Act and our cooperative policy on recovery plan participation, a policy intended to involve stakeholders in recovery planning (July 1, 1994; 59 FR 34272). Stakeholder involvement in the development of recovery plans helps minimize the social and economic impacts that could be associated with recovery of endangered species. Numerous individuals, agencies, and affected parties were involved in the development of the Recovery Plan or otherwise provided assistance and review (Service 1999). On July 8, 1999, we finalized the Recovery Plan (Service 1999), pursuant to section 4(f) of the Act.

The Recovery Plan recommends recovery goals for the silvery minnow, as well as procedures to better understand the biology of the species. The primary goals of the Recovery Plan are to: (1) Stabilize and enhance populations of silvery minnow and its habitat in the middle Rio Grande valley; and (2) reestablish the silvery minnow in at least two other areas of its historical range (Service 1999). The reasons for determining that these areas were necessary for recovery include: (1) Consideration of the biology of the species (i.e., few silvery minnows live more than 12 to 14 months, indicating the age 1 fish (e.g., all fish born in 2000 that remain alive in 2001 would be age 1 fish) are almost entirely responsible for perpetuation of the species); (2) the factors in each reach that may inhibit or enhance reestablishment and security of the species vary among areas; and (3) it is unlikely that any single event would simultaneously eliminate the silvery minnow from three geographic areas (Service 1999).

We have continued working with the Recovery Team since the Recovery Plan was finalized. We believe this proposed critical habitat designation and our conservation strategy (see ''Exclusions Under Section 4(b)(2) of the Act'' section below) are consistent with the Recovery Plan (Service 1999). The purpose of the Recovery Plan is to outline the research and data collection activities that will identify measures to ensure the conservation of the silvery minnow in the wild and to provide a roadmap that leads to the protection of habitat essential to its recovery. Therefore, we also believe this proposed critical habitat designation and our conservation strategy are consistent with the recommendations of Recovery Team members. Nevertheless, we will request that peer reviewers who are familiar with this species review the proposed rule.

The term ''conservation,'' as defined in section 3(3) of the Act and in 50 CFR 424.02(c), means ''to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary'' (i.e., the species is recovered and removed from the list of endangered and threatened species). It is important to note that we utilized the recommendations in the Recovery Plan, consistent with this definition of conservation, to conclude that the middle Rio Grande proposed critical habitat unit and the middle Pecos River from Sumner Dam to Brantley Dam, NM (middle Pecos River), and the lower Rio Grande from the upstream boundary of Big Bend National Park downstream through the area designated as a wild and scenic river to the Terrell/Val Verde County line, TX (lower Rio Grande) are ''essential to the conservation of'' the silvery minnow. Although the middle Pecos River and the lower Rio Grande are not proposed as critical habitat units, we believe they are important for the recovery of the silvery minnow. Thus, we concur with the Recovery Plan that reestablishment of the silvery minnow within additional geographically distinct areas is necessary to ensure the minnow's survival and recovery (Service 1999). However, recovery is not achieved by designating critical habitat. The Act provides for other mechanisms that will provide for reestablishment of the minnow outside of the middle Rio Grande and the eventual recovery of the silvery minnow. We are not proposing critical habitat designation for the area on the middle Pecos River or the lower Rio Grande; we are proposing to designate only the middle Rio Grande as critical habitat. Our conservation strategy for this species and our rationale is discussed in the ''Exclusions Under Section 4(b)(2) of the Act'' section of this rule below.

Exclusions Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act requires us to base critical habitat designations on the best scientific and commercial data available, after taking into consideration the economic and any other relevant impact of specifying any particular area as critical habitat. We may exclude areas from a critical habitat designation when the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. Our preliminary analysis of the following two areas: (1) The river reach in the middle Pecos River, NM, from Sumner Dam to Brantley Dam in De Baca, Chaves, and Eddy Counties, NM; and (2)

the river reach in the lower Rio Grande in Big Bend National Park downstream of the National Park boundary to the Terrell/Val Verde County line, TX, finds that the benefits of excluding these areas from the designation of critical habitat outweigh the benefits of including them. Therefore, we are not proposing these areas as critical habitat.

As indicated in the ''Public Comments Solicited'' section of this rule, we are seeking comments on whether these areas should be designated as critical habitat. In making a final determination, we will consider all comments we receive on this proposed rule, the draft EIS, and the draft economic analysis.

(1) Benefits of Inclusion

The benefits of inclusion of the river reach in the middle Pecos River, NM, from Sumner Dam to Brantley Dam in De Baca, Chaves, and Eddy Counties, NM, would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed actions do not destroy or adversely modify critical habitat. Historically, no consultations have occurred on the Pecos River for the silvery minnow since the area is not occupied. However, while critical habitat designation could provide some benefit to the silvery minnow, in fact, consultations are already occurring for another listed fish with similar requirements. The Pecos bluntnose shiner (*Notropis simus pecosensis*) was federally listed in 1987 and portions of the Pecos River are designated as critical habitat for the Pecos bluntnose shiner (52 FR 5295). As stated in the ''Criteria for Identifying Proposed Critical Habitat Units'' section of this rule, these fish species belong to the same guild of broadcast spawners with semi-buoyant eggs and also spawn during high flow events with eggs and larvae being distributed downstream (Bestgen *et al.* 1989). Therefore, flow regime operations in this reach that benefit the Pecos bluntnose shiner also provide benefits to habitat of the silvery minnow. We also believe that the primary constituent elements for the Pecos bluntnose shiner critical habitat are compatible with the proposed primary constituent elements for the silvery minnow. Thus, we find that little additional benefit through section 7 would occur as a result of the overlap between habitat suitable for the silvery minnow and the Pecos bluntnose shiner listing and critical habitat designation.

In *Sierra Club* v. *Fish and Wildlife Service*, 245 F.3d 434 (5th Cir. 2001), the Fifth Circuit Court of Appeals stated that the identification of habitat essential to the conservation of the species can provide informational benefits to the public, State, and local governments; scientific organizations; and Federal agencies. The court also noted that heightened public awareness of the plight of listed species and its habitat may facilitate conservation efforts. We agree with these findings; however, we believe that there would be little additional informational benefit gained from including the middle Pecos River because the final rule will identify all areas that are essential to the conservation of the silvery minnow, regardless of whether all of these areas are included in the regulatory designation. Consequently, we believe that the informational benefits will be provided to the middle Pecos River, regardless of whether this reach is designated as critical habitat.

The draft economic analysis recognizes that while consultations regarding the Pecos will occur without a silvery minnow critical habitat designation, those consultations would not consider the silvery minnow. However, due to the similar life history requirements of these species, we do not anticipate that the outcomes of such consultations would be altered. We recognize, as does the draft economic analysis, that the middle Pecos River area (as described above) covers about twice the length of the area designated for the Pecos bluntnose shiner. Historically, two formal consultations and two informal consultations occurred annually for the Pecos bluntnose shiner. The draft economic analysis assumes that twice as many consultations would occur if this area were designated as critical habitat for the silvery minnow, since the area would be doubled in size. However, the draft economic analysis also recognizes that this is likely an overstatement of the actual increase in consultations because consultations frequently occur on projects located outside of Pecos bluntnose shiner critical habitat, due to the interdependent nature of the river system and the presence of the species. Consequently, we do not believe that designating critical habitat within this river reach would provide additional benefits for the silvery minnow, because currently the activities that occur outside of critical habitat designated for the Pecos bluntnose shiner are also being consulted upon. We find little benefit to including this river reach in the proposed critical habitat for the silvery minnow due to the presence of the Pecos bluntnose shiner and its designated critical habitat, in the absence of the silvery minnow. Current and ongoing activities for the Pecos bluntnose shiner are compatible with those of the silvery minnow such that reestablishment of the silvery minnow in this stretch of river should not be precluded in the future. Thus, we determine that any additional benefit from a designation of critical habitat in this river reach does not outweigh the benefit of excluding this area, as discussed below in the ''Benefits of Exclusion'' section.

The benefits of inclusion of the river reach in the lower Rio Grande in Big Bend National Park downstream of the park boundary to the Terrell/Val Verde County line, TX, would also result from the requirement under section 7 that Federal agencies consult with us to ensure that any proposed actions do not destroy or adversely modify critical habitat. However, as indicated in the draft economic analysis, we anticipate very little consultation activity within this area. The draft economic analysis (section 6.3.3) estimates that over the next 20 years there would be a total of 12 formal consultations and 6 informal consultations. The only Federal actions that we are aware of within the stream reach of the lower Rio Grande downstream of Big Bend National Park is the Big Bend National Park oversight and permitting authority for float trips, scientific research permits, environmental education, and law enforcement (R. Skiles, Big Bend National Park, pers. comm. 2001). Therefore, unless there are other types of Federal permitting or authorization within this area, private and State-owned lands would not be affected. Additional activities that were used to estimate the numbers of consultations for this area include: National Park management activities (e.g., pesticide application and fishing regulations), U.S. International Boundary and Water Commission channel maintenance activities, U.S. Fish and Wildlife Service (e.g., fire management plans, fish stocking), and Environmental Protection Agency, National Pollution Discharge Elimination System permitting for the Predsidio or Lajitas wastewater treatment facility. We find sufficient regulatory and protective conservation measures in place and believe there would be little benefit to a designation in this reach since this area is protected and managed by the National Park Service and the number of consultations expected to occur in this area are relatively low.

As above, we believe that heightened public awareness of a listed species and its habitat may facilitate conservation efforts. Nevertheless, we believe that there would be little additional

informational benefit gained from including the lower Rio Grande within designated critical habitat for the silvery minnow because we have identified in this proposed rule, and will identify in the final designation, those areas that we believe are essential to the conservation of the species. For these reasons, we determine that any additional benefit of designation of critical habitat in this river reach does not outweigh the benefit of excluding this area, as discussed below.

(2) Benefits of Exclusion

As discussed in the ''Recovery Plan'' section of this rule, the primary goals of the silvery minnow Recovery Plan are to: (1) Stabilize and enhance populations of the silvery minnow and its habitat in the middle Rio Grande valley; and (2) reestablish the silvery minnow in at least two other areas of its historical range (Service 1999). We believe that the best way to achieve the second recovery goal will be to use the authorities under section 10(j) of the Act. Consequently, we have developed a conservation strategy that we believe is consistent with the species' Recovery Plan. The conservation strategy is to reestablish the silvery minnow, under section 10(j) of the Act, within areas of its historical range, possibly including the river reach in the middle Pecos River and the river reach in the lower Rio Grande (both are described above). Since the silvery minnow is extirpated from these areas and natural repopulation is not possible without human assistance, use of a 10(j) rule is the appropriate tool to achieve this recovery objective. Nevertheless, any future recovery efforts, including repatriation of the species to areas of its historical range must be conducted in accordance with NEPA and the Act. An overview of the process to establish an experimental population under section 10(j) of the Act is described below.

Section 10(j) of the Act enables us to designate certain populations of federally listed species that are released into the wild as ''experimental.'' The circumstances under which this designation can be applied are: (1) The population is geographically separate from non-experimental populations of the same species (e.g., the population is reintroduced outside the species' current range but within its probable historical range); and (2) we determine that the release will further the conservation of the species. Section 10(j) is designed to increase our flexibility in managing an experimental population by allowing us to treat the population as threatened, regardless of the species' status elsewhere in its range. Threatened status gives us more discretion in developing and implementing management programs and special regulations for a population and allows us to develop any regulations we consider necessary to provide for the conservation of a threatened species. In situations where we have experimental populations, certain section 9 prohibitions (e.g., harm, harass, capture) that apply to endangered and threatened species may no longer apply, and a special rule can be developed that contains the prohibitions and exceptions necessary and appropriate to conserve that species. This flexibility allows us to manage the experimental population in a manner that will ensure that current and future land, water, or air uses and activities will not be unnecessarily restricted and the population can be managed for recovery purposes.

When we designate a population as experimental, section 10(j) of the Act requires that we determine whether that population is either essential or nonessential to the continued existence of the species, based on the best available information. Nonessential experimental populations located outside National Wildlife Refuge System or National Park System lands are treated, for the purposes of section 7 of the Act, as if they are proposed for listing. Thus, for nonessential experimental populations, only two provisions of section 7 would apply outside National Wildlife Refuge System and National Park System lands: section 7(a)(1), which requires all Federal agencies to use their authorities to conserve listed species, and section 7(a)(4), which requires Federal agencies to informally confer with the Service on actions that are likely to jeopardize the continued existence of a proposed species. Section 7(a)(2) of the Act, which requires Federal agencies to ensure that their activities are not likely to jeopardize the continued existence of a listed species, would not apply except on National Wildlife Refuge System and National Park System lands. Experimental populations determined to be ''essential'' to the survival of the species would remain subject to the consultation provisions of section 7(a)(2) of the Act.

In order to establish an experimental population we must issue a proposed regulation and consider public comments on the proposed rule prior to publishing a final regulation. In addition, we must comply with NEPA. Also, our regulations require that, to the extent practicable, a regulation issued under section 10(j) of the Act represent an agreement between the Service, the affected State and Federal agencies, and persons holding any interest in land that may be affected by the establishment of the experimental population (see 50 CFR 17.81(d)).

The flexibility gained by establishment of a nonessential experimental population through section 10(j) would be of little value if there is a designation of critical habitat that overlaps it. This is because Federal agencies would still be required to consult with us on any actions that may adversely modify critical habitat. In effect, the flexibility gained from section 10(j) would be rendered useless by the designation of critical habitat. In fact, section 10(j)(2)(C)(ii)(B) of the Act states that critical habitat shall not be designated under the Act for any experimental population determined to be not essential to the continued existence of a species.

The second goal of the Recovery Plan is to reestablish the silvery minnow in areas of its historic range. We strongly believe that in order to achieve recovery for the silvery minnow we would need the flexibility provided for in section 10(j) of the Act to help ensure the success of reestablishing the minnow in the middle Pecos River and lower Rio Grande areas. Use of section 10(j) is meant to encourage local cooperation through management flexibility. Critical habitat is often viewed negatively by the public since it is not well understood and there are many misconceptions about how it affects private landowners. It is important for recovery of this species that we have the support of the public when we move towards meeting the second recovery goal. It is critical to the recovery of the silvery minnow that we reestablish the species in areas outside of its current occupied range. The current population of silvery minnow in the middle Rio Grande is in an imperiled state making it extremely important that reestablishment into other portions of its historical range occur.

Nonessential experimental populations located within the National Park System are treated, for purposes of section 7 of the Act, as if they are listed as threatened (50 CFR 17.83(b)). Moreover, a nonessential experimental population established in the river reach in the lower Rio Grande downstream of the Big Bend National Park boundary (i.e., within the reach designated as a wild and scenic river) to the Terrell/Val Verde County line, TX, would also be treated, for purposes of section 7, as a threatened species because this area is a component of the national wild and scenic rivers system that is administered by the Secretary of the Interior through

the National Park Service and is considered part of the National Park System (16 USC 1281(c)). These lands downstream of Big Bend National Park are owned by the State of Texas (Black Gap Wildlife Management Area) and approximately 12 to 15 private landowners. The National Park Service's management authority in the wild and scenic river designation currently extends 0.25 mi from the ordinary high water mark. For the past two years, Big Bend National Park has been working on a management plan for the ''outstanding remarkable values of the Rio Grande wild and scenic river'' (F. Deckert, Big Bend National Park, pers. comm. 2002). The development of the river management plan has involved stakeholders, including private landowners and the State of Texas. Throughout the stakeholder-based planning process, the Park has built trust among diverse and competing interests by encouraging open dialogue regarding various river management issues. If critical habitat were designated in this river reach, the introduction of additional Federal influence could jeopardize the trust and spirit of cooperation that has been established over the last several years (F. Deckert, pers. comm., 2002). The designation of critical habitat would be expected to adversely impact our, and possibly the Park's, working relationship with the State of Texas and private landowners, and we believe that Federal regulation through critical habitat designation would be viewed as an unwarranted and unwanted intrusion. Based on recent conversations with the National Park Service, their plan and draft EIS are expected to be completed in 2002, and finalized in 2003. We do not want to impede the development of a river management plan, which will likely provide for the management of this river reach consistent with the recovery needs of the silvery minnow. We believe this area has the greatest potential for repatriating the species within an area of its historical range and believe this river reach also has the greatest potential for developing an experimental population under section 10(j) of the Act. In order for an experimental population to be successful, the support of local stakeholders—including the National Park Service, the State of Texas, private landowners, and other potentially affected entities—is crucial. In light of this and the fact that the river management plan will soon be completed, we find that there would be significant benefits to excluding this river reach from designation of critical habitat.

On the middle Pecos River, we acknowledge that the New Mexico Interstate Stream Commission (NMISC) has been actively acquiring and leasing water rights to meet the State's delivery obligations to Texas as specified in the Pecos River Compact and pursuant to an Amended Decree entered by the U.S. Supreme Court. For example, between 1991 and 1999, $27.8 million was spent on the Pecos River water rights acquisition program. New Mexico faced a shortfall in its Pecos River Compact delivery obligations for the year 2001 and the possibility of priority administration, in which the State Engineer would order junior water rights holders not to use water. Given the tight water situation and the Compact delivery obligations, we believe that the flexibility of section 10(j) would be especially appropriate in the middle Pecos. Economic costs associated with endangered species management and critical habitat designation for the silvery minnow are discussed in the draft economic analysis. There are a variety of current and potential future costs associated with the ongoing water management and water reallocation on the middle Pecos River. The draft economic analysis and DEIS discuss and analyze these costs. We used the draft economic analysis and DEIS to make our preliminary determinations on the benefits of including or excluding areas from the proposed designation of critical habitat. Consequently, we invite comments on the economic and other relevant impacts of all of the areas we have determined are essential for the conservation of the silvery minnow.

In summary, we believe that the benefits of excluding the middle Pecos River and lower Rio Grande outweighs the benefits of their inclusion as critical habitat. Including these areas may result in some benefit through additional consultations with Federal agencies whose activities may affect critical habitat. However, overall this benefit is minimal due to the presence of the Pecos bluntnose shiner and its critical habitat in the middle Pecos River and the minimal number of estimated future consultations that are expected to occur within Big Bend National Park and the wild and scenic river designation that extends beyond the Park's boundaries. On the other hand, an exclusion will greatly benefit the overall recovery of the minnow by allowing us to move forward using the flexibility and greater public acceptance of section 10(j) of the Act to reestablish minnows in other portions of its historical range where it no longer occurs. This is likely the most important step in reaching recovery of this species and we believe that section 10(j), as opposed to a critical habitat designation, is the best tool to achieve this objective. Thus, we believe that an exclusion of these two areas outweighs any benefits that could be realized through a designation of critical habitat and we have not proposed these two areas for critical habitat designation.

The Pecos River and lower Rio Grande reaches were historically occupied but are currently unoccupied by the silvery minnow (Hubbs 1940; Trevino-Robinson 1959; Hubbs *et al.* 1977; Bestgen and Platania 1991). The silvery minnow occupies less than five percent of its historic range and the likelihood of extinction from a catastrophic event is high because of its limited range (Hoagstrom and Brooks 2000, Service 1999). However, if critical habitat were designated in the middle Pecos River or lower Rio Grande, the likelihood of extinction of the species from the occupied reach of the middle Rio Grande would not decrease because critical habitat designation is not a process to reestablish additional populations within areas outside of the current known distribution. We believe that the exclusion of the river reaches of the middle Pecos River and the lower Rio Grande will not lead to the extinction of the species.

Exclusions Under Section 3(5)(A) Definition

Section 3(5) of the Act defines critical habitat, in part, as areas within the geographical area occupied by the species ''on which are found those physical and biological features (I) essential to the conservation of the species and (II) which may require special management considerations and protection.'' As noted above, special management considerations or protection is a term that originates in the definition of critical habitat. Additional special management is not required if adequate management or protection is already in place. Adequate special management considerations or protection is provided by a legally operative plan or agreement that addresses the maintenance and improvement of the primary constituent elements important to the species and manages for the long-term conservation of the species. We use the following three criteria to determine if a plan provides adequate special management or protection: (1) A current plan or agreement must be complete and provide sufficient conservation benefit to the species; (2) the plan or agreement must provide assurances that the

conservation management strategies will be implemented; and (3) the plan or agreement must provide assurances that the conservation management strategies will be effective (i.e., provide for periodic monitoring and revisions as necessary). If all of these criteria are met, then the area covered under the plan would no longer meet the definition of critical habitat. If any management plans are submitted during the open comment period, we will consider whether these plans provide adequate special management or protection for the species. We will use this information in determining which, if any, river reaches or portions of river reaches within the middle Rio Grande should not be included in the final designation of critical habitat for the silvery minnow.

Proposed Critical Habitat

Critical habitat is defined in section 3(5)(A) of the Act as—(i) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. ''Conservation,'' as defined by the Act, means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the Act is no longer necessary.

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

Designation of critical habitat helps focus conservation activities by identifying areas that are essential to the conservation of the species and alerting the public and land management agencies to the importance of an area to conservation. Within areas currently occupied by the species, critical habitat also identifies areas that may require special management or protection. Critical habitat receives protection from destruction or adverse modification through required consultation under section 7 of the Act with regard to actions carried out, funded, or authorized by a Federal agency. Where no such Federal agency action is involved, critical habitat designation has no bearing on private landowners, State, or Tribal activities. Aside from the added protection provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat.

Designating critical habitat does not, in itself, lead to recovery of a listed species. Designation does not create a management plan, establish numerical population goals, prescribe specific management actions (inside or outside of critical habitat), or directly affect areas not designated as critical habitat. Specific management recommendations for areas designated as critical habitat are most appropriately addressed in recovery, conservation, and management plans, and through section 7 consultations and section 10 permits. We recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery.

Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1), the regulatory protections afforded by the section 7(a)(2) jeopardy standard, and the section 9 take prohibition. Federally funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans under section 10 of the Act, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

In determining areas that are essential to conserve the silvery minnow, we used the best scientific and commercial data available. This included data from research and survey observations published in peer-reviewed articles, recovery criteria outlined in the Recovery Plan (Service 1999), data collected from reports submitted by biologists holding section 10(a)(1)(A) recovery permits, and comments received on the previous proposed and final rule, draft economic analysis, and environmental assessment. This proposed rule constitutes our best assessment of areas needed for the conservation of the silvery minnow. We must make this determination based on the information available at this time, and we are not allowed to delay our decision until all information about the species and its habitat are known, nor are we required to conduct further surveys or scientific studies on our own. *Southwest Center for Biological Diversity* v. *Babbitt,* 215 F.3d 58 (D.C. Cir. 2000). We have emphasized areas known to be occupied by the silvery minnow and described other stream reaches that were identified in the Recovery Plan and we believe are important for possible repatriation and recovery (Service 1999).

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we are required to base critical habitat designations on the best scientific and commercial data available and to consider those physical and biological features (primary constituent elements) that are essential to the conservation of the species and, within areas currently occupied by the species, that may require special management considerations or protection. These include, but are not limited to: space for individual and population growth, and for normal behavior; food, water, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of a species.

Diverse habitats are used by the various life-history stages of the silvery minnow. The following discussion summarizes the biological requirements of the silvery minnow relevant to identifying the primary constituent elements of its critical habitat.

The silvery minnow historically inhabited the portions of the wide, shallow rivers and larger streams of the Rio Grande basin, predominantly the Rio Grande and the Pecos River (Bestgen and Platania 1991). Adults were common in shallow and braided runs over sand substrate, and almost never occurred in habitats with bottoms of gravel or cobble, while young-of-year fish (less than 1 year old) occupy shallow, low-velocity backwaters with sand-silt substrates (Dudley and Platania 1997; Platania and Dudley

1997; Platania 1991; Remshardt *et al.* 2001). Young-of-year silvery minnows are infrequently found at the same time in the same habitat as adults. Stream reaches dominated by straight, narrow, incised (deep) channels with rapid flows are not typically occupied by the silvery minnow (Bestgen and Platania 1991).

The habitats most often occupied by silvery minnow were characterized by low (<20 cm) to moderate depths (31 to 40 cm), little (<10 cm/s) to moderate (11 to 30 cm/s) water velocity, and silt and sand substrata (Dudley and Platania 1997; Remshardt *et al.* 2001). It is believed that silvery minnow select debris piles, pools, and backwaters, as habitat with main channel runs generally being avoided (Dudley and Platania 1997).

The silvery minnow is believed to be a generalized forager, feeding upon items suspended in the water column and items lying on the substrate (e.g., plankton, algae, diatoms) (Sublette *et al.* 1990; Dudley and Platania 1997; Service 1999). The silvery minnow's elongated and coiled gastrointestinal tract suggests that detritus (partially decomposed plant or animal matter), including sand and silt, is scraped from the river bottom (Sublette *et al.* 1990). Other species of *Hybognathus* have similar food habits, consuming rich organic ooze and detritus found in silt or mud substrates (Pflieger 1997).

The silvery minnow is a pelagic spawner, with each female capable of producing an average of 3,000 semi-buoyant, non-adhesive eggs during a spawning event (Platania 1995; Platania and Altenbach 1998). The collection of eggs in the middle of May, late May, early June, and late June suggest a contracted spawning period in response to a spring runoff or spike (increase in flow that occurs when winter snows melt) (Service 1999; BOR 2001a). However, the peak of egg production appears to occur in mid-May (Smith 1998, 1999). If the spring spike occurs at the wrong time or is reduced, then silvery minnow reproduction could be impacted. It is unknown if the silvery minnow spawns multiple times during the summer, although this behavior has been documented in other species of *Hybognathus* in other drainages (Lehtinen and Layzer 1988, Taylor and Miller 1990).

Platania (1995, 2000) found that early development and hatching of eggs is correlated with water temperature. Silvery minnow eggs raised in 30°C water hatched in about 24 hours, while eggs reared in 20°C water hatched within 50 hours. Eggs were 1.6 mm (0.06 in) in size upon fertilization, but quickly swelled to 3 mm (0.12 in). Recently hatched larval fish are about 3.7 mm (0.15 in) in standard length and grow about 0.15 mm (0.005 in) in size per day during the larval stages. Eggs and larvae remain in the drift for 3 to 5 days, and may be transported from 216 to 359 km (134 to 223 mi) downstream depending on river flows and habitat conditions (e.g., debris piles, low velocity backwaters, etc.) (Platania and Altenbach 1998). About three days after hatching, the larvae begin moving to low velocity habitats where food (mainly phytoplankton and zooplankton) is abundant and predators are scarce. Because eggs and larvae can be swept downstream, where recruitment (individuals added to the breeding population) of fish may be poor in the current degraded condition of the middle Rio Grande (e.g., channelization, banks stabilization, levee construction, disruption of natural processes throughout the floodplain, etc.), adequate stream length appears to be an important determinant of reproductive success.

Platania (1995) indicated that the downstream transport of eggs and larvae of the silvery minnow over long distances may have been, historically, beneficial to the survival of their populations. This behavior could have promoted recolonization of reaches impacted during periods of natural drought (Platania 1995). Alternatively, in a natural functioning river system (e.g., a natural, unregulated flow regime), a variety of low-velocity refugia (e.g., oxbows, backwaters, etc.) would have been available for silvery minnow and lengthy downstream drift of eggs and larvae may not have been common (J. Brooks, U.S. Fish and Wildlife Service pers. comm., 2001). Currently, the release of floating silvery minnow eggs may replenish downstream reaches, but the presence of the diversion dams (Angostura, Isleta, and San Acacia Diversion Dams) prevents recolonization of upstream habitats (Platania 1995). As reaches are depleted upstream, and diversion structures prevent upstream movements, population decline of the species within stream reaches may occur through loss of connectivity (i.e., preventing upstream movement of fish). Silvery minnow, eggs, and larvae are also transported downstream to Elephant Butte Reservoir, where it is believed that survival of these fish is highly unlikely because of poor habitat, and, even more important, because of predation from reservoir fishes (Service 2001b). The population center (i.e., the stream reach that contains the majority of adult silvery minnows) is believed to have moved farther downstream over the last several years (Dudley and Platania 2001; 2002). For example, in 1997, it was estimated that 70 percent of the silvery minnow population was found in the reach below San Acacia Diversion Dam (Dudley and Platania 1997). Moreover, during surveys in 1999, over 95 percent of the silvery minnows captured occurred downstream of San Acacia Diversion Dam (Dudley and Platania 1999a, Smith and Jackson 2000). Probable reasons for this distribution include: (1) The spawning of buoyant eggs during the spring and early summer high flows, resulting in downstream transport of eggs and larval fish; (2) diversion dams that restrict or preclude the movement of fish into upstream reaches; and (3) reduction in the amount of available habitat due to the current degraded condition of some areas within the middle Rio Grande (e.g., channelization, streambed degradation, reduction in off-channel habitat, and the general narrowing and incising of the stream channel) (Platania 1998; Lagassee 1981; BOR 2001).

Most Great Plains streams are highly variable environments. Fish in these systems (e.g., the Rio Grande) are subjected to extremes in water temperatures, flow regimes, and overall water quality conditions (e.g., quantity of dissolved oxygen). Native fish in these streams often exhibit life history strategies and microhabitat preferences that enabled them to cope with these natural conditions. For example, Matthews and Maness (1979) reported that the synergistic (combined) effects of high temperature, low oxygen, and other stressors probably limit fishes in streams of the Great Plains.

The silvery minnow evolved in a highly variable ecosystem, and is likely more tolerant of elevated temperatures and low dissolved oxygen concentrations for short periods than other non-native species. Although little is known about the upper tolerance limits of the silvery minnow, when water quality conditions degrade, stress increases, and fish generally die (e.g., see Matthews and Maness 1979; Ostrand and Wilde 2001). Generally, it is believed that during periods of low flow or no flow, Great Plains fishes seek refugia in large isolated pools, backwater areas, or adjoining tributaries (Deacon and Minckley 1974; Matthews and Maness 1979). Fish in these refugia strive to survive until suitable flow conditions return and these areas reconnect with the main river channel. This pattern of retraction and recolonization of occupied areas in response to flow and other habitat

conditions is typical of fishes that endure harsh conditions of Great Plains rivers and streams (Deacon and Minckley 1974; Matthews and Maness 1979).

Localized reductions in abundance are not typically a concern where sufficient numbers of the species survive, because stream reaches can be recolonized when conditions improve. However, habitat conditions such as oxbows, backwaters, or other refugia that were historically present on the Rio Grande and Pecos River and were a component of natural population fluctuations (e.g., extirpation and recolonization) have been dramatically altered or lost (e.g., Bestgen and Platania 1991; Hoagstrom 2000; BOR 2001a, 2001b). Over the past several decades, the extent of areas in the Rio Grande and Pecos River that periodically lost flow has increased due to human alterations of the watersheds and stream channels and diversion of the streamflows (Service 1994).

Variation in stream flow (i.e., flow regime) strongly affects some stream fish (Schlosser 1985). For example, juvenile recruitment (that portion of the young-of-the-year fish that survive to adults and reproduce) of some stream fish is highly influenced by stable flow regimes (Schlosser 1985; Hoagstrom 2000). When sufficient flows persist and other habitat needs are met, then recruitment into the population is high. Silvery minnows and other Great Plains or desert fishes cannot currently survive when conditions lead to prolonged periods of low or no flow of long stretches of river (Hubbs 1974; Hoagstrom 2000). Fish mortality likely begins from degraded water quality (e.g., increasing temperatures, p.H., and decreasing dissolved oxygen) and loss of refuge habitat prior to prolonged periods of low or no flow (J. Brooks, pers. comm 2001; Ostrand and Wilde 2001). For instance, a reduction of stream flow reduces the amount of water available to protect against temperature oscillations, and high temperatures from reduced water flow frequently kill fish before prolonged periods of no flow occurs (Hubbs 1990).

It is also possible that fish may subsequently die from living under sub-optimal conditions or that their spawning activities may be significantly disrupted (Hubbs 1974; Platania 1993b). Such conditions are in part responsible for the current, precarious status of the silvery minnow. For example, management of water releases from reservoirs, evaporation, diversion dams, and irrigation water deliveries have resulted in dewatered habitat—causing direct mortality and isolated pools that cause silvery minnow mortality due to poor water quality (low dissolved oxygen, high water temperatures) and predation from other fish and predators (e.g., birds, raccoons etc.). Portions of the middle Rio Grande were dewatered in 1996 to 2001 (Service 2001b; J. Smith, pers. comm. 2001). In 1996, about 58 km (34 mi) out of the 90 km (56 mi) from the San Acacia Diversion Dam to Elephant Butte Reservoir was dewatered. In 1997, water flows ceased at the south boundary of the Bosque del Apache National Wildlife Refuge, resulting in dewatering 22.5 km (14 mi) of silvery minnow habitat. In 1998, the Rio Grande was discontinuous within the Bosque del Apache National Wildlife Refuge, dewatering about 32 km (20 mi) of habitat. In 1999, flows ceased about one mile upstream of the Bosque del Apache National Wildlife Refuge northern boundary, dewatering about 39 km (24 mi) of habitat. A similar event occurred in 2000, only not to the extent of the 1999 drying. In 2001, approximately 14 combined km (9 mi) of river dried, within the Bosque del Apache National Wildlife Refuge and south of San Marcial (Smith 2001). Because of recurring prolonged periods of low or no flow through multiple years, the status of the silvery minnow has declined (Dudley and Platania 2001; 2002).

We believe it is possible to manage the middle Rio Grande and Pecos River to avoid prolonged periods of low or no flow and provide sufficient flowing water during critical time periods, such as from May to October (Service 2001a, 2001b). For example, in a recent biological opinion we issued on the effects of actions associated with the U.S. Bureau of Reclamation's, U.S. Army Corps of Engineers'', and Non-Federal Entities' discretionary actions related to water management on the middle Rio Grande, NM, provided, among other elements of a reasonable and prudent alternative:

> river flow from Cochiti Dam to Elephant Butte Reservoir from October 31 to April 30 of each year, with a target flow of 50 cfs at the San Marcial Floodway gage. Flows will not drop below 40 cfs. From May 1 to June 15 of each year, provide a minimum flow of 50 cfs at the San Marcial Floodway gage. From June 16 to July 1 of each year, ramp down the flow to achieve 50 cfs over San Acacia Diversion Dam (Service 2001b).

A similar biological opinion on the effects on the Pecos bluntnose shiner of actions associated with the U.S. Bureau of Reclamation's discretionary actions related to water management on the Pecos River, in New Mexico, provided for target flows of 35 cfs at the Acme Gage (Service 2001a). We believe that by providing target flows, it may be possible to intensively manage and closely monitor the water in middle Rio Grande and Pecos River. For example, this was the case during the 2001 irrigation season on the middle Rio Grande in which the continued existence of the silvery minnow was not jeopardized (i.e., the implementation of the elements of the reasonable and prudent alternative) (Service 2001b).

The primary constituent elements identified below provide a qualitative description of those physical and biological features necessary to ensure the conservation of the silvery minnow. We did not identify quantitative estimates of specific minimum thresholds (e.g., minimum flows or depths), because we believe these estimates vary seasonally and annually, and by stream reach within the proposed critical habitat unit. Thus, we believe these thresholds are appropriately enumerated through section 7 consultations (e.g., see Service 2001b), which can be more easily changed if new information reveals effects to critical habitat in a manner or extent not previously considered (see 50 CFR 402.16(b)). We acknowledge that if thresholds were established as part of a critical habitat designation, they could be revised if new data became available (50 CFR 424.12(g)); however, the process of new rulemaking can take years (see 50 CFR 424.17), as opposed to months to reinitiate and complete a formal consultation (see 50 CFR 402.14). Formal consultation provides an up-to-date biological status of the species or critical habitat (i.e., environmental baseline) which is used to evaluate a proposed action during formal consultations. Consequently, we believe it is more prudent to pursue the establishment of specific thresholds through formal consultation.

This proposed rule does not explicitly state what might be included as special management for a particular river reach within the middle Rio Grande. We anticipate that special management actions will likely be developed as part of the section 7 consultation process. Special management might entail a suite of actions including: re-establishment of hydrologic connectivity within the floodplain, widening the river channel, or placement of woody debris or boulders within the river channel (J. Smith, pers. comm., 2001).

It is important to note that some areas within the middle Rio Grande proposed critical habitat unit have the potential for periods of low or no flow under certain conditions (e.g., see discussion above on middle Rio Grande). We recognize that the proposed critical

habitat designation specifically includes some areas that have lost flow periodically (Middle Rio Grande Conservancy District 1999; Scurlock and Johnson 2001; D. Coleman, U.S. Fish and Wildlife Service, pers. comm., 2001). It is difficult to describe the existing conditions for the river reach below San Acacia Diversion Dam on the middle Rio Grande. It is our belief that this stretch of river is likely to experience periods of low or no flow under certain conditions. However, it is important to note that we are not able to predict with certainty which areas within the middle Rio Grande will experience these conditions. We nevertheless believe this area is essential to the conservation of the silvery minnow because it likely serves as connecting corridors for fish movements between areas of sufficient flowing water (e.g., see Deacon and Minckley 1974; Eberle *et al.* 1993). Additionally, we believe this area is essential for the natural channel geomorphology (the topography of the river channel) to maintain or re-create habitat, such as pools, by removing or redistributing sediment during high flow events (e.g., see Simpson *et al.* 1982; Middle Rio Grande Biological Interagency Team 1993). Therefore, we believe that the inclusion of an area that has the potential for periods of low or no flow as proposed critical habitat will ensure the long-term survival and recovery of silvery minnow. As such, we believe that the primary constituent elements as described in this proposed rule provide for a flow regime that allows for short periods of low or no flow. However, it is difficult to describe the existing conditions of this area (see above) and to define the primary constituent elements to reflect such a flow regime. Thus, we are soliciting comments or information related to the proposed designation of critical habitat in this area that may experience periods of no or low flow, and in particular the primary constituent elements and how they relate to the existing conditions (e.g., flow regime).

If this proposed rule is finalized, Federal agencies with discretion over actions related to water management that affect critical habitat will be required to consider critical habitat and possibly enter into consultation under section 7 of the Act. These consultations will evaluate whether any Federal discretionary actions destroy or adversely modify critical habitat to the extent that the action appreciably diminishes the value of the critical habitat for the survival and recovery of the species. The adverse modification analysis will likely evaluate whether the adverse effect of prolonged periods of low or no flow is of sufficient magnitude (e.g., length of river) and duration that it would appreciably diminish the value of the critical habitat unit for the survival and recovery of the silvery minnow. For example, the effect of prolonged periods of low or no flow on the habitat quality (e.g., depth of pools, water temperature, pool size, etc.) and the extent of fish mortality is related to the duration of the event (Bestgen and Platania 1991). All of these factors will be analyzed under section 7 of the Act, if they are part of an action proposed by a Federal agency. Additionally, any Federal agency whose actions influence water quantity or quality in a way that may affect proposed critical habitat or the silvery minnow must enter into section 7 consultation with us. Still, these consultations cannot result in biological opinions that require actions that are outside an action agency's legal authority and jurisdiction (50 CFR 402.02).

We determined the primary constituent elements of critical habitat for the silvery minnow based on studies on their habitat and population biology including, but not limited to: Bestgen and Platania 1991; Service 1999; Dudley and Platania 1997; 2001; 2002; Platania and Altenbach 1998; Platania 1991, 2000; Service 2001; Smith 1998, 1999; Hoagstrom 2000; Remshardt *et al.* 2001. These primary constituent elements include:

1. A hydrologic regime that provides sufficient flowing water with low to moderate currents capable of forming and maintaining a diversity of aquatic habitats, such as, but not limited to: backwaters (a body of water connected to the main channel, but with no appreciable flow), shallow side channels, pools (that portion of the river that is deep with relatively little velocity compared to the rest of the channel), eddies (a pool with water moving opposite to that in the river channel), and runs (flowing water in the river channel without obstructions) of varying depth and velocity which are necessary for each of the particular silvery minnow life-history stages; e.g., the silvery minnow requires habitat with sufficient flows from early spring (March) to early summer (June) to trigger spawning, flows in the summer (June) and fall (October) that do not increase prolonged periods of low or no flow; and a relatively constant winter flow (November to February), in appropriate seasons;

2. The presence of low velocity habitat (including eddies created by debris piles, pools, or backwaters, or other refuge habitat (e.g., connected oxbows or braided channels)) within unimpounded stretches of flowing water of sufficient length (i.e., river miles) that provide a variation of habitats with a wide range of depth and velocities;

3. Substrates of predominantly sand or silt; and

4. Water of sufficient quality to maintain natural, daily, and seasonally variable water temperatures in the approximate range of greater than 1°C (35°F) and less than 30°C (85°F) and reduce degraded water quality conditions (decreased dissolved oxygen, increased pH, etc.).

We determined that these proposed primary constituent elements of critical habitat provide for the physiological, behavioral, and ecological requirements of the silvery minnow. The first primary constituent element provides water of sufficient flows to reduce the formation of isolated pools. We conclude this element is essential to the conservation of the silvery minnow because the species cannot withstand permanent drying (loss of surface flow) of long stretches of river. Water is a necessary component for all silvery minnow life-history stages and provides for hydrologic connectivity to facilitate fish movement. The second primary constituent element provides habitat necessary for development and hatching of eggs and the survival of the silvery minnow from larvae to adult. Low velocity habitat provides food, shelter, and sites for reproduction, and are essential for the survival and reproduction of silvery minnow. The third primary constituent element provides appropriate silt and sand substrates (Dudley and Platania 1997; Remshardt *et al.* 2001), which we and other scientists conclude are important in creating and maintaining appropriate habitat and life requisites (e.g., food and cover). The final primary constituent element provides protection from degraded water quality conditions. We conclude that when water quality conditions degrade (e.g., increasing water temperatures, pH, decreasing dissolved oxygen, etc.), silvery minnows will likely be injured or die.

Criteria for Identifying Proposed Critical Habitat

The primary objective in designating critical habitat is to identify areas that are considered essential for the conservation of the species, and to highlight specific areas where management considerations should be given highest priority. In proposing critical habitat for the silvery minnow, we have reviewed the overall approach

to the conservation of the silvery minnow undertaken by the local, State, Tribal, and Federal agencies operating within the species' historical range since the species' listing in 1994, and the previous proposed (58 FR 11821) and final critical habitat rules (64 FR 36274). We have also outlined our conservation strategy to eventually recover the species (see ''Exclusions Under Section 4(b)(2) of the Act'' section above).

We also considered the features and steps necessary for recovery and habitat requirements described in the Recovery Plan (Service 1999), and information provided by our Fishery Resources Office in New Mexico, and other biologists, as well as utilized our own expertise. We also reviewed the biological opinion issued June 29, 2001, to the BOR and U.S. Army Corps of Engineers (Corps) for impacts to the silvery minnow from water operations in the middle Rio Grande (Service 2001b), the biological opinion issued to the BOR for discretionary actions related to water management on the Pecos River, in New Mexico (Service 2001a), and reviewed available information that pertains to the habitat requirements of this species, including material received during the initial public comment period on the proposed listing and designation, the information received following the provision of the draft economic analysis to the public on April 26, 1996, the comments and information provided during the 30-day comment period opened on April 7, 1999, including the public hearing, and the comments and information received during the 60-day comment period opened on April 5, 2001, for the notice of intent to prepare an EIS and public scoping meetings held on April 17, 23, 24, and 27, 2001 (April 7, 1999; 64 FR 16890).

Since the listing of the silvery minnow in 1994 (59 FR 36988), no progress has been made toward reestablishing this species within unoccupied areas (e.g., stream reaches on the middle Pecos, lower Rio Grande, etc.). Because the silvery minnow has been extirpated from these areas, Federal agencies have not consulted with us on how their discretionary actions may affect the silvery minnow. We conclude these areas (e.g., stream reaches on the middle Pecos and the lower Rio Grande) are essential to the conservation of the minnow, but we have not proposed them for designation of critical habitat (see discussion above).

For these reasons, this proposed critical habitat designation differs from the final critical habitat designation we made in 1999 (64 FR 36274), and which was subsequently set aside by court order. The differences also reflect the best scientific and commercial information analyzed in the context of the final Recovery Plan (see ''Recovery Plan'' discussion above) and our conservation strategy for this species. Although we could have proposed two additional critical habitat units to respond to the Recovery Plan's recommendation that additional areas are required to achieve recovery (Service 1999) (see ''Recovery Plan'' discussion above), we believe that the inclusion of these areas could hinder our future conservation strategy (see ''Exclusions Under Section 4(b)(2) of the Act'' section above) and actually impede recovery of the silvery minnow.

Recovery requires protection and enhancement of existing populations and reestablishment of populations in suitable areas of historical range. The Recovery Plan identifies, ''the necessity of reestablishing silvery minnow in portions of its historical range outside of the middle Rio Grande in New Mexico.'' The Recovery Plan identified potential areas for reestablishment of silvery minnow in certain stream reaches of the Rio Grande and Pecos River. The Recovery Plan also recommended a thorough analysis of the reestablishment potential of specific river reaches within the historical range of the silvery minnow.

Therefore, we have determined that one of the most important goals to be achieved toward the conservation of this species is the establishment of secure, self-reproducing populations in areas outside of the middle Rio Grande, but within the species' historical range (Service 1999). Thus, we have outlined our conservation strategy for the silvery minnow (see ''Exclusions Under Section 4(b)(2) of the Act'' section above). Because the species occupies less than five percent of its historical range and the likelihood of extinction from a catastrophic event is greatly increased (Hoagstrom and Brooks 2000, Service 1999), we believe that additional populations should be established within certain unoccupied reaches (i.e., areas outside of the current known distribution). Nevertheless, any future recovery efforts, including repatriation of the species to areas of its historical range must be conducted in accordance with NEPA and the Act.

The recent trend in the status of the silvery minnow has been characterized by dramatic declines in numbers and range despite the fact that this species evolved in rapidly fluctuating, harsh environments. Moreover, none of the threats affecting the silvery minnow have been eliminated since the fish was listed (59 FR 36988), and through the summer of 2000, its status declined (Dudley and Platania 2001). Although the 2001 population levels of silvery minnow in the middle Rio Grande were higher than those recorded in 2000, the known silvery minnow population within the middle Rio Grande has become fragmented and isolated and is vulnerable to those natural or manmade factors that might further reduce population size (Dudley and Platania 2001; 2002). Because there have been low spring peak flows in the Rio Grande in some recent years (e.g., such as in 2000), and a related decrease in spawning success of the silvery minnow, the population size of silvery minnow declined through the summer of 2000, but catch rates in June 2001 were higher than those observed in 2000 (Dudley and Platania 2001; 2002). We conclude the species' vulnerability to catastrophic events, such as prolonged periods of low or no flow, have increased since the species was listed as endangered in 1994 (59 FR 36988).

It is widely recognized that major efforts to repatriate the silvery minnow to large reaches of its historical habitat in the Rio Grande and Pecos River will not likely occur without either natural or induced changes in the river, including changes affecting the existing fish community, habitat restoration, and coordinated water management (e.g., see Service 1999). Nevertheless, we conclude that conservation and recovery of the silvery minnow requires habitat conditions that will facilitate population expansion or repatriation. As an example, we are currently involved in developing several efforts to assist in the conservation and recovery of the silvery minnow and other imperiled species (e.g., Federal and non-Federal efforts to create a middle Rio Grande Endangered Species Act Collaborative Program). Any future habitat restoration efforts conducted by us or other Federal agencies within the species' historical habitat will be analyzed through NEPA and will be conducted in accordance with the pertinent sections of the Act and Federal rulemaking procedures.

Habitat alteration and loss, and non-native competition, predation, and other effects are inextricably intertwined and have contributed substantially to the endangered status of the silvery minnow (Service 1999; Dudley and Platania 2001). Furthermore, habitat alteration has been a significant contributor to non-native fish invasion, competition, and adverse effects. In turn, non-native species have likely contributed significantly to the inability of native fish, such as the silvery minnow, to persist in altered environments (Hubbs

1990; Propst 1999). However, non-native fish species may have the potential to be removed or reduced to acceptable levels using a variety of control or management techniques. For example, the New Mexico State Game Commission recently passed a regulation limiting the species that can be used as baitfish in the Pecos River (New Mexico Department of Game and Fish 2000). As part of this proposed rule (see ''Public Comments Solicited'' section below) we are seeking further information regarding the role of unoccupied stream reaches within the historical range of the silvery minnow, including those reaches with non-native fish species (e.g., plains minnow) present or those reaches that have the potential for low or no flow events. We are particularly interested in assistance on how to describe the existing habitat (e.g., flow) conditions for the river reach below San Acacia Diversion Dam on the middle Rio Grande.

It is important to note that the mere presence of non-native aquatic species does not eliminate an area from being considered for designation as critical habitat. For example, the relationship between the introduction of the plains minnow and extirpation of the silvery minnow is unclear (see discussion above). Although the Recovery Plan suggested that the plains minnow would be the primary limiting factor precluding successful reestablishment of the silvery minnow to the Pecos River (Service 1999), we have little data from which to draw firm conclusions for the extirpation of the silvery minnow from the Pecos River. We recognize that any efforts to reestablish the silvery minnow to unoccupied stream reaches must fully analyze and consider a variety of habitat management techniques, including the control or management of non-native fish. Consequently, we invite comments or information relating to the status of the plains minnow in the Pecos River and this area not being proposed as critical habitat. We are especially interested in observations of related species of *Hybognathus* and any behavioral or reproductive mechanisms that might provide for ecological separation in areas where two or more species of *Hybognathus* co-occur.

Portions of the Pecos River include designated critical habitat for the Pecos bluntnose shiner (52 FR 5295). The Pecos bluntnose shiner critical habitat includes a 103 km (64 mi) reach of the Pecos River extending from a point 16 km (10 mi) south of Fort Sumner, NM downstream to the De Baca and Chaves County line and a 60 km (37 mi) reach from near Hagerman, NM, to near Artesia, NM (52 FR 5295). There are current protections in place for the Pecos bluntnose shiner in the river reach from Sumner to Brantley Reservoirs on the Pecos river; consequently, we believe that the designation of critical habitat would provide little additional benefit for the silvery minnow above the current jeopardy and adverse modifications standards for the Pecos bluntnose shiner (see ''Exclusions Under Section 4(b)(2) of the Act'' section above).

The Pecos bluntnose shiner inhabits main-channel habitats with sandy substrates, low velocity flows, and at depths from 17 to 41 cm (7 to 16 in) (Hatch *et al.* 1985). Adult Pecos bluntnose shiners use main-channel habitats, with larger individuals found mainly in more rapidly flowing water (greater than 40 cm/sec, 1.25 ft/sec), but preferences for particular depths were not found (Hoagstrom *et al.* 1995). Young of the year use the upstream reaches between Sumner and Brantley Reservoirs, which provide shallow, low velocity habitat. These reaches also maintain such habitat at high (bankfull) discharge, providing refugia from swift, deep water. Pecos bluntnose shiner and related mainstream cyprinids (e.g., silvery minnow) are adapted to exploit features of Great Plains rivers (Hoagstrom 2000). These fish species belong to the same guild of broadcast spawners with semi-buoyant eggs and also spawn during high flow events in the Pecos River, with eggs and larvae being distributed downstream to colonize new areas (Bestgen *et al.* 1989). The habitat features used by the Pecos bluntnose shiner are largely affected by ongoing Sumner Dam operations (e.g., block releases). Nevertheless, any flow regime operations in this reach that benefit the Pecos bluntnose shiner, would also benefit the silvery minnow. We believe they could both occupy the same river reach in the future with little to no interspecific competition, in part, because these species historically co-existed (Bestgen and Platania 1991), and microhabitat partitioning has been documented for related species of southwestern fish (Matthews and Hill 1980). Therefore, we believe that the primary constituent elements for the Pecos bluntnose shiner critical habitat (e.g., clean permanent water; a main river channel habitat with sandy substrate; and a low velocity flow (52 FR 5295)) are compatible with our conservation strategy for repatriating the silvery minnow. We invite comments or information relating to the current protections under the Act for the Pecos bluntnose shiner and our exclusion of this area from the designation of critical habitat for the silvery minnow.

Lateral Extent of Critical Habitat

The proposed critical habitat designation defines the lateral extent as those areas bounded by existing levees or in areas without levees the lateral extent of critical habitat is proposed to be defined as 91.4 meters (300 feet) of riparian zone adjacent to each side of the middle Rio Grande. Thus, the lateral extent of proposed critical habitat does not include areas adjacent to the existing levees but within the 300-foot lateral width outside the existing levees (i.e., these areas are not proposed as critical habitat, even though they may be within the 300-foot lateral width). If this proposed rule is finalized, critical habitat will not remove existing levees. We recognize that these areas can be important for the overall health of river ecosystems, but these areas have almost no potential for containing the primary constituent elements because they are protected from the levees and are rarely inundated by water. Therefore, they are not included in the proposed designation because we conclude they are not essential to the conservation of the silvery minnow. Nevertheless, these and other areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) of the Act and to the regulatory protections afforded by the section 7(a)(2) of the Act jeopardy standard and the section 9 of the Act take prohibition.

For each stream reach within the middle Rio Grande, the up- and downstream-boundaries are described below. Proposed critical habitat includes the stream channels within the identified stream reaches and areas within these reaches potentially inundated during high flow events. Critical habitat includes the area of bankfull width plus 300 feet on either side of the banks. The bankfull width is the width of the stream or river at bankfull discharge, i.e., the flow at which water begins to leave the channel and move into the floodplain (Rosgen 1996). Bankfull discharge, while a function of the size of the stream, is a fairly consistent feature related to the formation, maintenance, and dimensions of the stream channel (Rosgen 1996). This 300-foot width defines the lateral extent of those areas we believe are essential to the species' conservation. Although the silvery minnow cannot be found in these areas when they are dry, they likely provided backwater habitat and were sometimes flooded (Middle Rio Grande Biological Interagency Team 1993), suggesting

these areas may provide habitat during high-water periods. As discussed in this section, we determined that the areas within the 300-foot lateral width are essential to the conservation of the silvery minnow.

We determined the 300-foot lateral extent for several reasons. First, the implementing regulations of the Act require that critical habitat be defined by reference points and lines as found on standard topographic maps of the area (50 CFR 424.12). Although we considered using the 100-year floodplain, as defined by the Federal Emergency Management Agency (FEMA), we found that it was not included on standard topographic maps, and the information was not readily available from FEMA or from the Corps for the areas we are proposing to designate. We suspect this is related to the remoteness of various stream reaches. We could not find specific aerial photos, maps, or geographic information systems coverages that accurately delineated vegetation type along the proposed critical habitat unit. If this information were available, we could have refined the extent of the lateral width, specific to various river reaches. Therefore, we selected the 300-foot lateral extent, rather than some other delineation, for three biological reasons: (1) The biological integrity and natural dynamics of the river system are maintained within this area (i.e., the floodplain and its riparian vegetation provide space for natural flooding patterns and latitude for necessary natural channel adjustments to maintain appropriate channel morphology and geometry, store water for slow release to maintain base flows, provide protected side channels and other protected areas for larval and juvenile silvery minnow, allow the river to meander within its main channel in response to large flow events, and recreate the mosaic of habitats necessary for the survival and recovery of the silvery minnow); (2) conservation of the adjacent riparian area also helps provide essential nutrient recharge and protection from sediment and pollutants, which contributes to successful spawning and recruitment of silvery minnows; and (3) vegetated lateral zones are widely recognized as providing a variety of aquatic habitat functions and values (*e.g.,* aquatic habitat for fish and other aquatic organisms, moderation of water temperature changes, and detritus for aquatic food webs) and help improve or maintain local water quality (65 FR 12897; Middle Rio Grande Biological Interagency Team 1993). We invite comments or information relating to the 300-foot lateral width of this proposed designation of critical habitat.

This proposed critical habitat designation takes into account the naturally dynamic nature of riverine systems and recognizes that floodplains (including riparian areas) are an integral part of the stream ecosystem. For example, riparian areas are seasonally flooded habitats (i.e., wetlands) that are major contributors to a variety of vital functions within the associated stream channel (Federal Interagency Stream Restoration Working Group 1998, Brinson *et al.* 1981). They are responsible for energy and nutrient cycling, filtering runoff, absorbing and gradually releasing floodwaters, recharging groundwater, maintaining streamflows, protecting stream banks from erosion, and providing shade and cover for fish and other aquatic species. Healthy riparian areas help ensure water courses maintain the habitat components essential to aquatic species (*e.g.,* see U.S.D.A. Forest Service 1979; Middle Rio Grande Biological Interagency Team 1993; Briggs 1996), including the silvery minnow. Habitat quality within the mainstem river channels in the historical range of the silvery minnow is intrinsically related to the character of the floodplain and the associated tributaries, side channels, and backwater habitats that contribute to the key habitat features (*e.g.,* substrate, water quality, and water quantity) in the middle Rio Grande (Middle Rio Grande Biological Interagency Team 1993). Among other things, the floodplain provides space for natural flooding patterns and latitude for necessary natural channel adjustments to maintain channel morphology and geometry. We believe a relatively intact riparian area, along with periodic flooding in a relatively natural pattern, is important in maintaining the stream conditions necessary for long-term survival and recovery of the silvery minnow.

Human activities that occur outside the river channel can have a demonstrable effect on physical and biological features of aquatic habitats. However, not all of the activities that occur within a floodplain will have an adverse impact on the silvery minnow or its habitat. Thus, in determining the lateral extent of critical habitat along riverine systems, we must consider the definition of critical habitat under the Act. That is, critical habitat must be determined to be essential to a species' conservation and, within areas currently occupied by the species, must be in need of special management considerations or protection.

We do not believe that the entire floodplain is essential to the conservation of the species, and we are not proposing to designate the entire floodplain as critical habitat. However, conservation of the river channel alone is not sufficient to ensure the survival and recovery of the silvery minnow. For the reasons discussed above, we believe the riparian corridors adjacent to the river channel provide an important function for the protection and maintenance of the primary constituent elements and are essential to the conservation of the species.

The lateral extent (width) of riparian corridors fluctuates considerably on the Rio Grande. The appropriate width for riparian protection has been the subject of several studies (Castelle *et al.* 1994). Most Federal and State agencies generally consider a zone 23 to 46 meters (m) (75.4 to 150.9 feet (ft)) wide on each side of a stream to be adequate to help improve or maintain local water quality (Natural Resource Conservation Service 1998, Moring *et al.* 1993, Lynch *et al.* 1985), although lateral widths as wide as 152 m (500 ft) have been recommended for achieving flood attenuation benefits (Corps 1999). In most instances, however, these riparian areas are primarily intended to reduce (i.e. protect) detrimental impacts to the stream from sources outside the river channel (e.g., agricultural runoff). Generally, we believe a lateral distance of 91.4 m (300 ft) on each side of the stream beyond the bankfull width to be appropriate for the protection of riparian and wetland habitat and the natural processes involved in the maintenance and improvement of water quality (e.g., see Middle Rio Grande Biological Interagency Team 1993). We believe this lateral width will help ensure the protection of one or more primary constituent elements (e.g., water quality) of the critical habitat. Thus, within the area proposed for critical habitat designation on the middle Rio Grande, we conclude that the 300-foot lateral width is essential to the conservation of the species.

We did not map critical habitat in sufficient detail to exclude all developed areas and other lands unlikely to contain primary constituent elements essential for silvery minnow conservation. Some developed lands within the 300-foot lateral extent are not considered critical habitat because they either do not contain the primary constituent elements or they are not essential to the conservation of the silvery minnow. Lands located within the exterior boundaries of the proposed critical habitat designation, but not considered critical habitat include:

existing paved roads, bridges, parking lots, dikes, levees, diversion structures, railroad tracks, railroad trestles, water diversion canals outside of natural stream channels, active gravel pits, cultivated agricultural land, and residential, commercial, and industrial developments. These developed areas do not contain any of the primary constituent elements and do not provide habitat or biological features essential to the conservation of the silvery minnow, and generally will not contribute to the species' recovery. However, some activities in these areas like activities in other areas not included within the designation (if Federally funded, authorized, or carried out) may affect the primary constituent elements of the proposed critical habitat and, therefore, may be affected by the critical habitat designation, as discussed later in this proposed rule.

Reach-by-Reach Analysis

We conducted a reach-by-reach analysis of the entire known historical range of the silvery minnow to evaluate and select stream reaches that require special management or protection, or are essential to the conservation of the species. As identified in the Recovery Plan (see ''Recovery Plan'' discussion above), important factors we considered in determining whether areas were essential to the conservation of the species include presence of other members of the reproductive guild (e.g. pelagic spawners, species with semibuoyant eggs, etc.), habitat suitability (e.g., appropriate substrate), water quality, and presence of non-natives (competitors, predators, other species of *Hybognathus*, etc.). These important factors were evaluated in conjunction with the variable flow regime of each reach. Each of the stream reaches, to some extent, has a varying flow regime. However, the fact that a river reach may at times experience a prolonged period of low or no flow as a result of a varying flow regime does not preclude the area from being considered essential to the conservation of the species and, further, being proposed as critical habitat. Based on our reach-by-reach analysis, we have determined which reaches are essential for the conservation of the species.

We are proposing to designate the middle Rio Grande as a critical habitat unit. This unit contains all of the primary constituent elements during some or all of the year (see the ''Regulation Promulgation'' section of this rule for exact descriptions of boundaries of the proposed critical habitat unit). We conclude that the proposed critical habitat unit can provide for the physiological, behavioral, and ecological requirements of the silvery minnow. The proposed critical habitat unit is within the middle Rio Grande from immediately downstream of Cochiti Reservoir to the Elephant Butte Reservoir Dam, including the tributary Jemez River from Jemez Canyon Reservoir to its confluence with the Rio Grande. Although we determined that other areas are essential to the conservation of the silvery minnow (i.e., the middle Pecos River from immediately downstream of Sumner Dam to Brantley Dam, NM; and the lower Rio Grande from the upstream boundary of Big Bend National Park to Terrell/Val Verde County line, TX), these areas are not proposed as critical habitat. A description of each stream reach within the silvery minnow's historical range is provided below. We also provide our reasons for determining whether each reach is essential to the conservation of the species and whether we are proposing or not proposing critical habitat for each of the identified reaches. We conclude that we can secure the long-term survival and recovery of this species with the establishment of future experimental populations under section 10(j) of the Act, along with the proposed critical habitat unit in the middle Rio Grande.

The historical range of the species in the Rio Grande is from Española, NM, to the Gulf of Mexico, and, in the Pecos River (a major tributary of the Rio Grande) from Santa Rosa, NM, downstream to its confluence with the Rio Grande (Pflieger 1980; Bestgen and Platania 1991). We separated the historical range of the silvery minnow into 12 stream reaches that include: (1) Upstream of Cochiti Reservoir to the confluence of the Rio Chama and Rio Grande, New Mexico; (2) Middle Rio Grande from Cochiti Reservoir downstream to the Elephant Butte Dam, including the Jemez River immediately downstream of Jemez Canyon Reservoir to the confluence of the Rio Grande; (3) Downstream of Elephant Butte Dam to the Caballo Dam, New Mexico; (4) downstream of Caballo Dam, New Mexico, to the American Dam, Texas; (5) downstream of American Reservoir, to the upstream boundary of Big Bend National Park, Texas; (6) the upstream boundary of Big Bend National Park to the southern boundary of the wild and scenic river designation at Terrell/Val Verde County line, Texas; (7) the Terrell/Val Verde County line, Texas to the Amistad Dam, Texas; (8) downstream of Amistad Dam to the Falcon Dam, Texas; (9) downstream of the Falcon Dam to the Gulf of Mexico, Texas, (10) Pecos river from Santa Rosa Reservoir to Sumner Dam, Guadalupe County, New Mexico, (11) Sumner Dam to the Brantley Dam, NM; (12) Brantley Dam, NM to the Red Bluff Dam, TX; and (13) Red Bluff Dam to the confluence of the Rio Grande, TX. Each of these reaches are analyzed below.

1. Upstream of Cochiti Reservoir to the confluence of the Rio Chama and Rio Grande, Rio Arriba, Sante Fe, and Sandoval Counties, NM. Currently, this reach is dominated by cool water, which is not considered suitable for the silvery minnow (Platania and Altenbach 1998). The majority of this reach is bounded by canyons, with substrate dominated by gravel, cobble, and boulder (Service 1999). The flow regime is also highly variable seasonally because of irrigation and other agricultural needs, and recreational and municipal uses. This river reach is highly manipulated by releases from El Vado and Abiquiu Reservoirs (J. Smith, pers. comm. 2001). Furthermore, silvery minnow populations may have been historically low for some areas of this reach, supporting only small outlier populations (Bestgen and Platania 1991). Currently, this reach is dominated by cool or cold water species, which have almost completely replaced the native fish species (Service 1999). For these reasons, we conclude that habitat for silvery minnow within this stream reach is generally degraded and unsuitable, and is not essential to the conservation of the silvery minnow. Therefore, this stream reach is not proposed as critical habitat.

2. Middle Rio Grande from Cochiti Reservoir downstream to the Elephant Butte Dam, including the Jemez River immediately downstream of Jemez Canyon Reservoir to the confluence of the Rio Grande, Sandoval, Bernalillo, Valencia, and Socorro Counties, NM. The middle Rio Grande is currently occupied, and the status of the silvery minnow within this segment is unstable (Bestgen and Platania 1991; Dudley and Platania 1999; Platania and Dudley 2001; 2002). This area currently contains the primary constituent elements (described above) during all or a part of the year and is considered suitable habitat for the silvery minnow, as shown by the presence of the silvery minnow within this reach. The river reaches in the proposed critical habitat unit are degraded from lack of floodplain connectivity, non-native vegetation, stabilized banks (e.g., jetty jacks), streambed aggradation, and decreasing channel width, increasing depths, and increasing velocities (BOR 2001a; Service 2001b). Thus,

conservation of the silvery minnow requires stabilizing populations within the middle Rio Grande, including special management considerations or protections (e.g., habitat management and/or restoration).

The middle Rio Grande is essential to the conservation of the silvery minnow (see discussion below), and therefore we propose the following reaches as a critical habitat unit. This proposed critical habitat unit does not include the ephemeral or perennial irrigation canals and ditches, including the LFCC (i.e., downstream of the southern boundary of Bosque del Apache National Wildlife Refuge to the headwaters of Elephant Butte Reservoir) that are adjacent to a portion of the stream reach within the middle Rio Grande because these areas do not offer suitable refugia and are not useful for recovery of the silvery minnow. The stream reaches in the proposed middle Rio Grande critical habitat unit include (see the Regulation Promulgation section of this rule for exact descriptions of boundaries of this proposed critical habitat unit):

a. Jemez Canyon Reach—8 km (5 mile) of river immediately downstream of Jemez Canyon Reservoir to the confluence of the Rio Grande. This reach of river is manipulated by releases from Jemez Canyon Reservoir. Releases from this reservoir are determined by downstream needs and flood events occurring in the Jemez River. Silvery minnows historically occupied this reach of the Jemez River and have recently been collected there (Sublette *et al.* 1990; Corps 2001). The water within this reach is continuous to the confluence with Rio Grande and currently contains the primary constituent elements (described above) during all or a part of the year. Although this reach currently provides suitable habitat for the silvery minnow, we believe that it is important to ensure that special management actions are implemented within this stream reach. We also conclude that this area is essential to the conservation and contains the primary constituent elements for the silvery minnow. This area is essential because the additional loss of any habitat that is currently occupied could increase the likelihood of extinction (Hoagstrom and Brooks 2000, Service 1999). Moreover, if the species or habitat were severely impacted within this reach, the continued existence of silvery minnows in downstream reaches would be affected (i.e., the extirpation of fish within this reach would create a very unstable population within the downstream reaches). Thus, we propose this section of the Jemez River as critical habitat for the silvery minnow.

b. Cochiti Reservoir Dam to Angostura Diversion Dam (Cochiti Reach)—34 km (21 mile) of river immediately downstream of Cochiti Reservoir to the Angostura Diversion Dam. This reach is somewhat braided and is dominated by clear water releases from Cochiti Reservoir. Since Cochiti Reservoir was filled, the downstream substrate has changed from a course sand to a gravel substrate (Baird 2001). Silvery minnows were collected immediately downstream of Cochiti Dam in 1988 (Platania 1993). Although the Cochiti reach has not been monitored since the mid-1990s (Platania 1995), it is believed that silvery minnow may still be present within this reach, but reduced in abundance. For example, silvery minnows were documented near the Angostura Diversion Dam in 2001 (Platania and Dudley 2001; 2002; Service 2001c). In this reach, water releases from Cochiti Reservoir have scoured sand from the stream channel and reduced the downstream temperatures (Bestgen and Platania 1991; Platania 1991; 59 FR 36988; Service 1999; Hoagstrom 2000). These effects (e.g., low water temperatures) may inhibit or prevent reproduction among Rio Grande Basin Cyprinids (Platania and Altenbach 1998), but it is unknown if water temperatures have affected silvery minnow reproduction within this reach. Although reservoirs can modify river flows and habitat (e.g., the downstream river reaches have increased in depth and water velocity) (Hoagstrom 2000), we believe this river reach is essential to the conservation of the silvery minnow because we believe it is still occupied by the species and contributes to its survival in downstream reaches (i.e., the eggs and larvae of the silvery minnow drift in the water column and may be transported downstream depending on river flows and habitat conditions). We reviewed aerial photographs from 1997, and have determined that the river through this reach is braided in areas and contains many side channels. We also spoke with the Corps and conclude there is a high potential to increase the amount of suitable habitat (e.g., debris piles, low velocity backwaters, side channels, etc.) within the entire reach, but particularly in the proximity of the confluences of Galisteo Creek and the Rio Grande and the Sante Fe River and the Rio Grande (D. Kreiner, U.S. Army Corps of Engineers, pers. comm. 2001). Thus, we conclude special management in this reach is needed. We conclude that this area contains suitable habitat for the silvery minnow and contains the primary constituent elements (described above) during all or a part of the year. Therefore, this reach is proposed as critical habitat.

c. Angostura Diversion Dam to Isleta Diversion Dam (Angostura Reach)—61 km (38 mile) of river immediately downstream of the Angostura Diversion Dam to the Isleta Diversion Dam. Silvery minnows and suitable habitat are still present throughout this reach of the river, although their abundance appears to be low (Dudley and Platania 2001; 2002). This reach is relatively wide 183 m (600 ft) and the substrate is mostly course sand to gravel (Baird 2001). The river bank within this reach is dominated by bank stabilization (e.g., jetty jacks), which has led to the floodplain being predominantly disconnected from the river. Bank stabilization devices and other flood control operations (e.g., channelization) have led to flows that seldom exceed channel capacity, such that the river dynamics which likely provided backwater habitat for the silvery minnow no longer function naturally. These river processes historically shaped and reshaped the river, constantly redefining the physical habitat and complexity of the river. Historical large flow events allowed the river to meander, thereby creating and maintaining the mosaic of habitats necessary for the survival of the silvery minnow and other native fish (Middle Rio Grande Biological Interagency Team 1993). We conclude that the creation and maintenance of these habitats is essential to the conservation of the silvery minnow. We believe that special management is necessary in this and other downstream reaches within the middle Rio Grande to create and maintain the habitat complexity (e.g., backwater areas, braided channels, etc.) that was historically present, but may not currently present, in these river reaches. This reach currently contains the primary constituent elements (described above) during all or a part of the year. Thus, we propose this reach as critical habitat.

d. Isleta Diversion Dam to San Acacia Diversion Dam (Isleta Reach)—90 km (56 mi) of river immediately downstream of the Isleta Diversion Dam to the San Acacia Diversion Dam. The river bank within this reach is also dominated by bank stabilization (e.g., jetty jacks), and the floodplain is predominantly disconnected from the river. The substrate is mostly sand and silt and there are many permanent islands within the river channel (J. Smith, pers. comm. 2001). This reach provides continuous water flow in most years with infrequent periods of low or

no flow (Service 2001b). Nevertheless, flows vary markedly in magnitude, from high spring to low summer flows. The variable flow regime is a result of irrigation demand, irrigation returns (e.g., augmented flow), precipitation, temperature, and sediment transport. This reach also contains numerous arroyos and small tributaries that provide water and sediment during rainstorm events, which may periodically augment river flows (Service 2001b; J. Smith, pers. comm. 2001). Silvery minnows and suitable habitat are still present throughout this reach of the river; however, abundance appears to be low (Dudley and Platania 2001; 2002). Nevertheless, we conclude that this area is essential to the conservation of the silvery minnow because the additional loss of any habitat that is currently occupied could increase the likelihood of extinction (Hoagstrom and Brooks 2000, Service 1999). Similarly, if the species or habitat were severely impacted within this reach, the continued existence of silvery minnows in downstream reaches would be affected (i.e., the extirpation of fish within this reach would create a very unstable population within the downstream reaches). This reach currently contains the primary constituent elements (described above) during all or a part of the year. We believe that special management is necessary within this reach to create and maintain the habitat complexity (e.g., backwater areas, debris piles, meandering river, etc.) that was historically, but may not currently be associated with this reach. Thus, we propose this reach as critical habitat.

e. San Acacia Diversion Dam to the Elephant Butte Dam (San Acacia Reach)—147 km (92 mi) of river immediately downstream of the San Acacia Diversion Dam to the Elephant Butte Dam. We selected Elephant Butte Dam as the boundary of the proposed critical habitat because it is a stationary structure. Nevertheless, the area inundated by the reservoir does not provide those physical or biological features essential to the conservation of the species and is specifically excluded from the proposed critical habitat. We define the reservoir as that part of the body of water impounded by Elephant Butte Dam where the storage waters are lentic (relatively still waters) and not part of the lotic (flowing water) river channel.

The channel width within this reach varies from approximately 15 m (50 ft) to approximately 198 m (650 ft). The substrate is mostly sand and silt. The flow regime within this reach was historically, and is currently, highly variable. In fact, this stretch may not have provided continuous flow in some years prior to the 1900s (Middle Rio Grande Conservancy District 1999; Scurlock and Johnson 2001). As described above, we are soliciting comments or information relating to the proposed designation of critical habitat in this reach, which may experience periods of no or low flow.

Currently, the river channel has been highly modified by water depletions from agricultural and municipal use, dams and water diversion structures, bank stabilization, and the infrastructure for water delivery (e.g., irrigation ditches). These modifications have led to the loss of sediment, channel drying, separation of the river from the floodplain, and changes in river dynamics and resulting channel morphology. Consequently, this reach requires special management considerations similar to those discussed above. This reach currently contains the primary constituent elements (described above) during all or a part of the year. Although the silvery minnow continues to be widespread within this reach with higher abundance than the Angostura or Isleta reaches (Dudley and Platania 2001; 2002), the variable flow regime and modifications to the river have increased the potential for short and long-term impacts not only to the silvery minnow, but also to its habitat. Thus, we determine that this area is essential to the conservation of the species and in need of special management considerations or protections; we propose this reach as critical habitat.

3. Downstream of Elephant Butte Reservoir to the Caballo Dam, Sierra County, NM. This short 26-km (16-mile) reach is highly channelized with widely variable flow regimes. Construction of Elephant Butte and Caballo Reservoirs in 1916 and 1938, respectively, severely altered the flows and habitat within this reach (Bestgen and Platania 1991). The silvery minnow has not been documented within this reach since 1944 (Service 1999). This river reach is currently highly channelized to expedite water deliveries and very few native fish remain (Propst *et al.* 1987; International Boundary and Water Commission 2001). This reach is subject to prolonged periods of low or no flow and there is no spring runoff spike (Service 1999). Altered flow regimes will continue to affect habitat quality in this reach and it does not contain suitable habitat for the silvery minnow. The stream length in this reach is inadequate (e.g., less than 134 to 223 mi) to ensure the survival of downstream drift of eggs and larvae and recruitment of adults (Platania and Altenbach 1998). We conclude this area is not essential to the conservation of the species. Therefore, this river reach is not proposed as critical habitat.

4. Downstream of Caballo Dam to American Reservoir Dam, Sierra and Doña Ana, Counties, NM and El Paso, County, TX. This approximately 176-km (110 mile) reach has a highly regulated flow regime from releases of water stored in Caballo Reservoir. This reach is also highly canalized with winter flows near zero in the upper portions and does not contain suitable habitat for the silvery minnow (Service 1999; IBWC 2001a). Silvery minnow have not been reported from this reach since 1944 (Bestgen and Platania 1991, Service 1999). The reach is currently inhabited by many non-native fish species (IBWC 2001a). Due to lack of suitable habitat, diminished and highly regulated flow (IBWC 2001a), this reach of river no longer contains suitable habitat for the silvery minnow and is not essential to the conservation of the silvery minnow. Thus, this reach is not proposed as critical habitat.

5. Downstream of American Reservoir to the upstream boundary of Big Bend National Park, El Paso, Hudspeth, and Presidio, Counties, TX. Portions of this reach, primarily upstream of Presido, TX, are continually dewatered, especially between Fort Quitman and Presidio (Hubbs *et al.* 1977; Department of Interior 1998). River flow is augmented downstream of Presido by waters flowing from the Rio Conchos. The near-continuous input of municipal waste has led to a deterioration of water quality, with corresponding changes to the ichthyofauna (fish species assemblage within a region) (Hubbs *et al.* 1977; Bestgen and Platania 1988; IBWC 1994; El-Hage and Moulton 1998a). Flows in this reach consist of a blend of raw river water; treated municipal waste from El Paso, TX; untreated municipal water from Juarez, Mexico; irrigation return flow; and the occasional floodwater (Texas Water Development Board 2001). For example, water temperature patterns can be elevated and oxygen levels decreased by the input of various pollutants (e.g., nitrogen, phosphorus) (Texas Water Development Board 2001; IBWC 2001b). Water quality is believed to improve farther downstream of the confluence of the Rio Conchos and Rio Grande. The development of agriculture and population growth of this area has resulted in a decrease of water quantity and quality, which has had a significant impact on the range and distribution of many fish species within this reach

(IBWC 1994; El-Hage and Moulton 1998a). There are no current or museum records of silvery minnow from this reach (Service 1999). Because of dewatering upstream and the degraded water quality, we believe this reach of river would never provide suitable habitat for the silvery minnow. Thus, this river reach is not essential to the conservation of the silvery minnow and is not proposed as critical habitat.

6. The upstream boundary of Big Bend National Park (3.2 km, 2 mi downstream of Lajitas), Brewster County, to the southern boundary of the wild and scenic river designation at Terrell/Val Verde County line, TX. This approximately 368-km (230-mile) reach of the lower Rio Grande was historically occupied but is currently unoccupied by the silvery minnow (Hubbs 1940; Trevino-Robinson 1959; Hubbs *et al.* 1977; Bestgen and Platania 1991). The continuing presence of members of the pelagic spawning guild (e.g., speckled chub and Rio Grande shiner) are evidence that the lower Rio Grande through Big Bend National Park area may support reestablishment of silvery minnow (Platania 1990; IBWC 1994). Moreover, water quality, compared to the reach upstream of the Park, is greatly improved in this reach from the many freshwater springs within Big Bend National Park (MacKay 1993; R. Skiles, pers. comm. 2001; IBWC 1994). This area is protected and managed by the National Park Service and the river currently supports a relatively stable hydrologic regime (R. Skiles, pers. comm. 2001). The National Park Service's management authority in the wild and scenic river designation currently extends 0.25 mi from the ordinary high water mark. Thus, the area designated as a wild and scenic river outside of Big Bend National Park is currently managed by the National Park Service under their authorities and is considered part of the National Park Service System. As discussed above, we have determined that recovery of the silvery minnow requires reestablishing populations outside of the middle Rio Grande (see ''Recovery Plan'' discussion above), and should include areas within the lower Rio Grande. Because the silvery minnow has been extirpated from this reach, Federal agencies have determined their actions will not adversely affect the silvery minnow and therefore have not consulted with the Service under section 7(a)(2) on their actions related to this reach. We believe it is important to ensure that the assistance of Federal agencies, the State of Texas resource agencies, and non-Federal entities in future recovery actions (e.g., the establishment of an experimental population) are not compromised. Although Big Bend National Park expressed support for a critical habitat designation for the silvery minnow within the National Park, they also indicated that if areas outside the National Park, but within the wild and scenic river were included, their attempts at developing a river management plan could be compromised (F. Deckert, Big Bend National Park, pers. comm.).

We have determined that this reach is essential to the conservation of the silvery minnow. However, our conservation strategy for the silvery minnow is to establish populations within its historical range under section 10(j) of the Act, and this could include all or portions of this stream reach. We believe that this area will contribute to the recovery of the silvery minnow, but have not proposed this stream reach for designation of critical habitat. As indicated in the ''Public Comments Solicited'' section of this rule we are seeking comments on whether this reach should or should not be designated as critical habitat based upon the factors discussed in this proposed rule and any other relevant information that you believe should be considered in our analysis. We are also soliciting comments on the applicability of an experimental population under section 10(j) of the Act to provide for conservation and recovery of the silvery minnow within this reach of its historical range.

7. The Terrell/Val Verde County line, TX to the Amistad Dam, TX. This short reach is highly influenced by the Amistad Dam at its terminus. It is also believed that introduced fish played a role in the extirpation of silvery minnow in this reach (Bestgen and Platania 1991). Water quality conditions within this reach are generally degraded, and are also a concern for this reach, particularly during low-flow conditions (Texas Water Development Board 2001; Texas Natural Resource Conservation Commission 1996). For all these reasons, we do not believe that this river reach is essential to the conservation of the silvery minnow; therefore, it is not proposed as critical habitat.

8. Downstream of the Amistad Dam to the Falcon Dam, Val Verde, Kinney, Maverick, Web, Zapata, and Starr Counties, TX. This reach does provide continuous base flows ranging between 500 and 3000 cfs (Service 1999), but the reach is highly urbanized and has many instream barriers (e.g., earthen dams) at Maverick, Eagle Pass, and Indio that would prevent movements of silvery minnow. Water quality is also a potential concern for this reach, particularly during low-flow conditions (Texas Water Development Board 2001; Texas Natural Resource Conservation Commission 1996). This reach is heavily channelized with little to no stream braiding and, in areas inappropriate substrate (e.g., cobble). There is no suitable habitat for the silvery minnow within this reach, and the species was last recorded here in the 1950s (Service 1999). The fish community within this reach is dominated by warm water non-native predators (Platania 1990; Service 1999). Because this reach does not have suitable habitat for the silvery minnow and water quality during variable flow conditions is a concern, this reach of river is not essential to the conservation of the silvery minnow and is not proposed as critical habitat.

9. Downstream of Falcon Reservoir to the Gulf of Mexico, Starr, Hildago, and Cameron, Counties, TX. The silvery minnow historically occupied this reach of river (Service 1999). In fact, the type locality (the location from which the species was originally described) for the species is Brownsville, TX (Hubbs and Ortenburger 1929). However, the last collection of the silvery minnow occurred in 1961 just downstream of Falcon Reservoir (Bestgen and Platania 1991). This flow regime of this reach of the Rio Grande is highly influenced by releases from Falcon Reservoir. Most of the tributary inflow is controlled or influenced by small impoundments off the main channel of the river. The lower portion of this reach is often dewatered with the river flow stopping before the confluence with the Gulf of Mexico (IBWC 2001b). The fish community in this reach of the Rio Grande has had a significant shift toward estuarine (a mixture of fresh and salt water) type species (IBWC 1994; Contreras-B. and Lozano-V.1994). There has also been a significant loss of the native fish fauna in the Mexican tributaries in the last several decades (Hubbs *et al.* 1977 Almada-Villela 1990; Platania 1990), apparently from poor water quality (e.g., see Texas Water Development Board 2001; Texas Natural Resource Conservation Commission 1996). Finally, invasive weeds (e.g., hydrilla and hyacinth) have clogged many areas of this reach and have reduced the amount of dissolved oxygen in the water (IBWC 2001b). Because this reach does not have suitable habitat, there appears to be little benefit in trying to intensively managing the flow regime in this reach of river. For these reasons, this reach is not considered essential to

the conservation of the silvery minnow and is not proposed as critical habitat.

10. Pecos River from Santa Rosa Reservoir to Sumner Dam, Guadalupe County, NM. This reach is approximately 89 km (55 mi) and is typified by wide fluctuations in flow regimes from upstream releases from Santa Rosa Reservoir (Hoagstrom 2000). Within this reach there is one diversion at Puerto del Luna, NM. The silvery minnow has not been collected within this reach since 1939 (Bestgen and Platania 1991; Service 1999). The habitat in this reach is not suitable for the silvery minnow because much of the surrounding topography is composed of steep cliffs and canyons (Hoagstrom 2000). Canyon habitat does not provide suitable habitat (e.g., shallow, braided, streams with sandy substrates) for the silvery minnow (Bestgen and Platania 1991; Dudley and Platania 1997; Remshardt *et al.* 2001). Due to the short length of this reach, fluctuations in the flow regime, and the absence of suitable habitat for the silvery, this reach of river is not essential to the conservation of the silvery minnow and is not proposed as critical habitat.

11. Middle Pecos Reach—approximately 345 km (214 mi) of river immediately downstream of Sumner Reservoir to the Brantley Reservoir Dam in De Baca, Chaves, and Eddy Counties, NM. The Pecos River was historically occupied but is currently unoccupied by the silvery minnow (Bestgen and Platania 1991). In fact, the silvery minnow was once one of the most common fish species present between Sumner and Avalon Reservoir (the area currently inundated by Brantley Reservoir) (Bestgen and Platania 1991). The Pecos River can support a relatively stable hydrologic regime between Sumner and Brantley Reservoirs, and, until summer 2001, this stretch maintained continuous flow for about the last 10 years (D. Coleman, pers. comm. 2001). For example, groundwater seepage areas and base flow supplementation from Sumner Dam bypasses can offer a degree of stability for the river flow, especially during low flow periods (Hatch *et al.* 1985; Service 2001). Still, segments of this river reach were dewatered for at least 5 days during summer 2001 (D. Coleman, pers. comm. 2001). Although springs and irrigation return flows maintain water flow in the lower portions of this river reach during times when no water is being released from Sumner Dam, periods of low discharge or intermittency have the potential to impact much of the suitable habitat within portions of this reach (Service 2001).

After the construction of Sumner Dam, major channel incision occurred during the 1949 to 1980 period, accompanied by salt cedar proliferation along the river banks (Hoagstrom 2000). High velocity flows within the incised (deep) river channel have the ability to displace eggs from pelagic spawners such as the silvery minnow. This channel incision also reduced the areas of low velocity habitat within this river reach (Hoagstrom 2000). Recently lengthy reservoir releases such as those that occurred in 1988 (36 days) and in 1989 (56 days), have been shortened to about 10 days, which has benefitted species such as the Pecos bluntnose shiner (Service 2001). Nevertheless, historical block releases of water from Sumner Reservoir have modified river flows and habitat (e.g., the downstream river reaches have increased in depth and water velocity) (Hoagstrom 2000).

The recovery of the silvery minnow requires reestablishing populations outside of the middle Rio Grande (Service 1999). We believe that repatriation is required outside of the area presently occupied by the species (i.e., the middle Rio Grande) to ensure the recovery of the silvery minnow (50 CFR 424.12(e)) (see ''Recovery Plan'' discussion above). We recognize that habitat within this river reach is degraded, but believe this reach within the middle Pecos River may provide one of the most promising areas for conducting recovery efforts because we believe it still contains habitat suitable for the silvery minnow (Hoagstrom 2000). For example, the continuing presence of members of the pelagic spawning guild (e.g., speckled chub, Rio Grande shiner, Pecos bluntnose shiner) is evidence that this reach of the Pecos River contains habitat suitable for the silvery minnow and may support reestablishment of the species (Hoagstrom 2000).

Federal agencies have not consulted with us on how their actions will affect the silvery minnow, because the species no longer occurs within the Pecos River (D. Coleman, pers. comm. 2001). Because habitat suitable for the silvery minnow is still present within this river reach, we find that this stream reach is essential to the conservation of the species. Although we have determined that this reach is essential to the conservation of the silvery minnow, we have not proposed this area for designation of critical habitat (see ''Exclusions Under Section 4(b)(2) of the Act'' section above). Our conservation strategy is to develop, through Federal rulemaking procedures, one or more experimental populations within the historical range of the silvery minnow. We believe this river reach may provide a suitable area for an experimental population. Consequently, we are soliciting comments on the applicability of an experimental population under section 10(j) of the Act to provide for conservation and recovery of the silvery minnow in areas of currently suitable habitat within its historical range.

12. Downstream of Brantley Reservoir, Eddy County, NM to Red Bluff Reservoir, Loving and Reeves Counties, Texas. This reach is short, with a highly variable flow regime that is dependent on agricultural demand. This reach is also highly segmented with small closely placed impoundments (e.g., permanent and temporary diversion dams) that pond water, impede fish movements, and would not allow for adequate stream length (e.g., 134 to 223 mi) to ensure the survival of downstream drift of eggs and larvae and recruitment of adults (Platania and Altenbach 1998). Additionally, agricultural and oil field pollution and permian salts (i.e., brine) are added to the river in this reach, decreasing the water quality to levels that likely would not support the silvery minnow (Campbell 1959; Larson 1994). Silvery minnow was historically uncommon within this reach; only 14 specimens from two collections are known (Bestgen and Platania 1991). Due to the short length of this reach, fluctuations in the flow regime, degraded water quality, and the absence of suitable habitat for the silvery minnow, it is not considered essential to the conservation of the silvery minnow and is not proposed as critical habitat.

13. Downstream of Red Bluff Reservoir to the confluence with Rio Grande, Loving, Reeves, Pecos, Ward, Crane, Crockett, and Terrell Counties, TX. Historically silvery minnows occurred in this reach, though their exact distribution and abundance is unclear (Campell 1958,Trevino-Robinson 1959, James and De La Cruz 1989, Linam and Kleinsasser 1996, Garrett 1997, Service 1999). For example, Bestgen and Platania (1991) suggest silvery minnows may have been uncommon within this reach because of pond habitat and high water salinity. However, this area may not have been well surveyed when the silvery minnow was still extant in the Pecos River (D. Propst, New Mexico Game and Fish, pers. comm. 2001). Still, sampling the middle and lower parts of this river reach has been historically difficult because of dense vegetation, steep canyon banks, and lack of public access (Campbell 1959). The upper segment of this reach can be characterized as devoid of suitable habitat, and has a

highly variable flow regime from release of water from Red Bluff Reservoir for agricultural use. Indeed, many freshwater springs that historically augmented the Pecos River throughout this reach have recently been diminished or gone dry (Campbell 1959; Brune 1981 cited in Hoagstrom 2000; Barker *et al.* 1994; El-Hage and Moulton 1998b;). The water quality in this upper portion is also poor and dominated by high salinity (generally exceeding 5 parts per thousand) (Hiss 1970; Hubbs 1990; Linam and Kleinsasser 1996; Miyamoto *et al.* 1995; El-Hage and Moulton 1998b). Additionally, algal blooms (*Prymnesium parvum*) have essentially eliminated all the fishes throughout from Malaga, NM, to Amistad Dam, TX (James and De la Cruz 1989; Hubbs 1990; Rhodes and Hubbs 1992). The river channel is also somewhat incised and dominated by non-native vegetation in parts (Koidin 2000; Harman 1999; IBWC 2001b). Agricultural needs diminish south of Girvin, TX, and water quality conditions (e.g., salinity) generally begin to improve downstream from the confluence of Independence Creek to Amistad Dam (Hubbs 1990; Linam and Kleinsasser 1996). This improvement could result from the freshwater springs within the lower 160 km (100 mi) stretch of this reach. Nevertheless, gaging records from the lower segment indicate that there is virtually no flow during drought conditions (Texas Water Development Board 2001) and water quality (e.g., total dissolved solids) at Shumla Bend, just upstream of Amistad Reservoir, would be expected to have a deleterious effect on aquatic life (IBWC 1994). We did not include this reach because the current or potential suitability for the silvery minnow is unknown; detailed habitat studies have not been conducted in this reach. Moreover, it is believed that this area contains a network of steep canyons, with rock and course gravel substrate (Campbell 1959; Texas Parks and Wildlife 1999). Canyon habitat reduces stream channel width, which decreases sinuosity and meandering, and creates deep channels that do not provide suitable habitat (e.g., shallow, braided, streams with sandy substrates) (Bestgen and Platania 1991; Dudley and Platania 1997; Remshardt *et al.* 2001). Additionally, the presence of algal blooms will continue to affect water quality in this reach. For these reasons, we do not believe that this reach is essential to the conservation of the species. It is unknown whether this reach contains or has the potential to develop the primary constituent elements. Although portions of this river reach may contain fresh water (i.e., salinity less than 1 part per thousand), we suspect that much of this stream reach may never provide suitable habitat for the silvery minnow, and it is not proposed as critical habitat.

Land Ownership

The proposed critical habitat for the silvery minnow encompasses stream reaches where the species has been collected in the recent past and where it is currently known to exist. Proposed critical habitat for the silvery minnow includes both the active river channel and the area of bankfull width plus 300 feet on either side of the banks, except in areas narrowed by existing levees.

Ownership of the river channel and the lateral width along the bank is unclear in the middle Rio Grande proposed critical habitat unit. However, most of the land in the middle Rio Grande valley that abuts critical habitat is within the administrative boundaries of the Middle Rio Grande Conservancy District. The Middle Rio Grande Conservancy District is a political subdivision of the State of New Mexico which provides for irrigation, flood control, and drainage of the Middle Rio Grande valley in New Mexico, from Cochiti Dam downstream 150 mi (285 km) to the northern boundary of the Bosque del Apache National Wildlife Refuge. Within these 150 miles are also the lands of the communities of Algodones, Bernalillo, Rio Rancho, Corrales, Albuquerque, Los Lunas, Belen, Socorro, and a number of smaller incorporated and unincorporated communities. Other landowners, sovereign entities, and managers include: The Pueblos of Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, and Isleta; the BOR; the Service; the U.S. Bureau of Land Management (BLM); New Mexico State Parks Division; New Mexico Department of Game and Fish; New Mexico State Lands Department; and the Corps. Approximately 86 river km (45 mi) of our proposed critical habitat run through Pueblo lands including: Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, and Isleta.

Effect of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat to the extent that the action appreciably diminishes the value of the critical habitat for the survival and recovery of the species. Individuals, organizations, States, Indian Pueblos and Tribes, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding.

Activities on Federal lands that may affect the silvery minnow or its proposed critical habitat will require section 7 consultation. Actions on private, State, or Indian Pueblo and Tribal lands receiving funding or requiring a permit from a Federal agency also will be subject to the section 7 consultation process if the action may affect proposed critical habitat. Federal actions not affecting the species or its proposed critical habitat, as well as actions on non-Federal lands that are not federally funded or permitted, will not require section 7 consultation. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(4) of the Act require Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or to result in destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory.

We may issue a formal conference report if requested by a Federal agency. Formal conference reports on proposed critical habitat contain a biological opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as a biological opinion if the critical habitat is designated, if no significant new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)).

Regulations at 50 CFR 402.16 also require Federal agencies to reinitiate consultation in instances where we have already reviewed an action for its effects on a listed species if critical habitat is subsequently designated. Consequently, some Federal agencies may request reinitiation of consultation or conferencing with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

When we issue a biological opinion concluding that a project is likely to

result in jeopardy or the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director of the Service believes would avoid the likelihood of jeopardizing the continued existence of listed species or result in the destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Section 4(b)(8) of the Act requires us to describe in any proposed or final regulation that designates critical habitat a description and evaluation of those activities involving a Federal action that may adversely modify such habitat or that may be affected by such designation. When determining whether any of these activities may adversely modify critical habitat, we will analyze the effects of the action in relation to the designated critical habitat unit (Service and National Marine Fisheries Service 1998). Therefore, the analysis (i.e., the determination whether an action destroys or adversely modifies critical habitat) conducted through consultation or conferencing should evaluate whether that loss, when added to the environmental baseline, is likely to appreciably diminish the capability of the critical habitat unit to satisfy essential requirements of the species. In other words, activities that may destroy or adversely modify critical habitat include those that alter the primary constituent elements (defined above) to an extent that the value of the critical habitat unit for both the survival and recovery of the silvery minnow is appreciably reduced (50 CFR 402.02).

A number of Federal agencies or departments fund, authorize, or carry out actions that may affect the silvery minnow and proposed critical habitat. We have reviewed and continue to review numerous activities proposed within the range of the silvery minnow that are currently the subject of formal or informal section 7 consultations. A wide range of Federal activities have the potential to destroy or adversely modify critical habitat of the silvery minnow. These activities may include land and water management actions of Federal agencies (e.g., Corps, BOR, Service, and the Bureau of Indian Affairs) and related or similar actions of other federally regulated projects (e.g., road and bridge construction activities by the Federal Highway Administration; dredge and fill projects, sand and gravel mining, and bank stabilization activities conducted or authorized by the Corps; construction, maintenance, and operation of diversion structures; management of the conveyance channel; and levee and dike construction and maintenance by the BOR; and, National Pollutant Discharge Elimination System permits authorized by the Environmental Protection Agency). These types of activities have already been examined under consultation with us upon listing the species as endangered and in our previous designation of critical habitat. We expect that the same types of activities will be reviewed in section 7 consultation if critical habitat is again designated. However, there is some potential for an increase in the number of proposed actions we review under section 7 of the Act from actions proposed in areas that are contained within the 300-foot lateral width. We believe that we currently review most actions (e.g., indirect effects) that could affect silvery minnow through section 7 that occur in this lateral width, but acknowledge that an explicit boundary could result in a slight increase in consultations.

Activities that we are likely to review under section 7 of the Act include, but are not limited to:

1. Significantly and detrimentally altering the river flow or the natural flow regime of any of the proposed river reaches in the middle Rio Grande. Possible actions would include groundwater pumping, impoundment, and water diversion with a Federal nexus (i.e., activities that are authorized, funded, or carried out by a Federal agency). We note that such flow reductions that result from actions affecting tributaries of the designated stream reaches may also destroy or adversely modify critical habitat.

2. Significantly and detrimentally altering the characteristics of the 300-foot lateral width (e.g., parts of the floodplain) in the middle Rio Grande critical habitat unit. Possible actions would include vegetation manipulation, timber harvest, road construction and maintenance, prescribed fire, livestock grazing, off-road vehicle use, powerline or pipeline construction and repair, mining, and urban and suburban development with a Federal nexus.

3. Significantly and detrimentally altering the channel morphology (e.g., depth, velocity, etc.) of any of the stream reaches within the proposed designation. Possible actions would include channelization, impoundment, road and bridge construction, deprivation of substrate source, reduction of available floodplain, removal of gravel or floodplain terrace materials, reduction in stream flow, and excessive sedimentation from mining, livestock grazing, road construction, timber harvest, off-road vehicle use, and other watershed and floodplain disturbances with a Federal nexus.

4. Significantly and detrimentally altering the water quality within the proposed designation. Possible actions with a Federal nexus would include release of chemical or biological pollutants into the surface water or connected groundwater at a point source or by dispersed release (non-point).

5. Introducing, spreading, or augmenting non-native aquatic species within the proposed designation. Possible actions with a Federal nexus would include fish stocking for sport, aesthetics, biological control, or other purposes; use of live bait fish; aquaculture; construction and operation of canals; and interbasin water transfers.

Not all of the identified activities are necessarily of current concern within the middle Rio Grande; however, they do indicate the potential types of activities that will require consultation in the future and, therefore, that may be affected by the proposed designation of critical habitat. We do not expect that the proposed designation of critical habitat will result in a significant regulatory burden above that already in place due to the presence of the listed species. However, areas included within the 300-foot lateral width of the proposed designation that are not currently occupied by the species may result in an additional regulatory burden when there is a Federal nexus (Federal funding, authorization, or permit).

As discussed previously, Federal actions that are found likely to destroy or adversely modify critical habitat may often be modified, through development of reasonable and prudent alternatives, in ways that will remove the likelihood of destruction or adverse modification of critical habitat. Such project modifications may include such things as adjustment in timing of projects to avoid sensitive periods for the species and its habitat; replanting of riparian vegetation; minimization of work and vehicle use in the main river channel or the 300-foot lateral width; restriction of

riparian and upland vegetation clearing in the 300-foot lateral width; fencing to exclude livestock and limit recreational use; use of alternative livestock management techniques; avoidance of pollution; minimization of ground disturbance in the 300-foot lateral width; use of alternative material sources; storage of equipment and staging of operations outside the 300-foot lateral width; use of sediment barriers; access restrictions; and use of best management practices to minimize erosion.

The silvery minnow does not need a large quantity of water to survive but it does need a sufficient amount of flowing water to reduce prolonged periods of low or no flow and minimize the formation of isolated pools. The identification of primary constituent elements for the silvery minnow is not intended to create a high-velocity, deep flowing river, with a bank-to-bank flow. The silvery minnow does not require such habitat characteristics. Instead, the silvery minnow requires habitat with sufficient flows through the irrigation season to avoid prolonged periods of low or no flow; additionally, a spike in flow in the late spring or early summer to trigger spawning, and a relatively constant winter flow are also required.

If you have questions regarding whether specific activities will likely constitute destruction or adverse modification of proposed critical habitat, contact the Field Supervisor, New Mexico Ecological Services Field Office (see **ADDRESSES** section). If you would like copies of the regulations on listed wildlife or have questions about prohibitions and permits, contact the U.S. Fish and Wildlife Service, Division of Endangered Species, P.O. Box 1306, Albuquerque, New Mexico 87103 (telephone 505–248–6920; facsimile 505–248–6788).

Economic Analysis

Section 4(b)(2) of the Act requires that we designate critical habitat on the basis of the best scientific and commercial information available and consider the economic and other relevant impacts of designating a particular area as critical habitat. We based this proposed rule on the best available scientific information, including the recommendations in the Recovery Plan (Service 1999). We will further utilize the draft and final economic analyses and our analysis of other relevant impacts, and consider all comments and information submitted during the public hearing and comment period, to make a final critical habitat designation. We may exclude areas from the final designation upon a final determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat. In accordance with section 4(b)(2) of the Act we cannot exclude areas from critical habitat when their exclusion will result in the extinction of the species. We have prepared a draft economic analysis that is available for public review and comment during the comment period for this proposed rule. Send your requests for copies of the draft economic analysis to the New Mexico Ecological Services Field Office (see **ADDRESSES** section).

American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act

In accordance with the Presidential Memorandum of April 29, 1994, we believe that, to the maximum extent possible, Indian Pueblos and Tribes should be the governmental entities to manage their lands and tribal trust resources. To this end, we support tribal measures that preclude the need for Federal conservation regulations. We provide technical assistance to Indian Pueblos and Tribes who ask for assistance in developing and expanding tribal programs for the management of healthy ecosystems so that Federal conservation regulations, such as designation of critical habitat, on tribal lands are unnecessary.

The Presidential Memorandum of April 29, 1994, also requires us to consult with the Indian Pueblos and Tribes on matters that affect them, and section 4(b)(2) of the Act requires us to gather information regarding the designation of critical habitat and the effects thereof from all relevant sources, including Indian Pueblos and Tribes. Recognizing a government-to-government relationship with Indian Pueblos and Tribes and our Federal trust responsibility, we have and will continue to consult with the Indian Pueblos and Tribes that might be affected by the designation of critical habitat.

We will make every effort to consult with the affected Indian Pueblos and Tribes during the comment period for this proposed rule to gain information on: (1) possible effects if critical habitat were designated on Tribal lands; and (2) possible effects on tribal resources resulting from the proposed designation of critical habitat on non-tribal lands. We will meet with each potentially affected Pueblo or Tribe to ensure that government-to-government consultation on proposed critical habitat issues occurs in a timely manner.

Designation of Critical Habitat on Tribal Lands

Section 3(5) of the Act defines critical habitat, in part, as areas within the geographical area occupied by the species ''on which are found those physical and biological features (I) essential to the conservation of the species and (II) which may require special management considerations and protection.'' We included lands of the Indian Pueblos of Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, and Isleta in this proposed designation of critical habitat for the silvery minnow.

As provided under section 4(b)(2) of the Act, we are soliciting information on the possible economic and other impacts of critical habitat designation, and we will continue to work with the Indian Pueblos and Tribes in developing voluntary measures adequate to conserve silvery minnow on tribal lands. If any of these Indian Pueblos and Tribes submit management plans, we will consider whether these plans provide adequate special management or protection for the species, and we will further weigh the benefits of including these areas versus the benefits of excluding these areas under section 4(b)(2) of the Act. We will use this information in determining which, if any, tribal lands should be excluded in the final designation of critical habitat for the silvery minnow.

Effects on Tribal Trust Resources From Critical Habitat Designation on Non-Tribal Lands

We do not anticipate that the proposal of critical habitat on non-tribal lands will result in any impact on tribal trust resources or the exercise of tribal rights. However, in complying with our tribal trust responsibilities, we must communicate with all Indian Pueblos and Tribes potentially affected by the designation. Therefore, we are soliciting information from the Indian Pueblos and Tribes and will arrange meetings with them during the comment period on potential effects to them or their resources that may result from critical habitat designation. We sent preproposal letters to all affected Indian Pueblos including Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, Isleta, and San Juan, and solicited additional information from them regarding biological, cultural, social, or economic data that were pertinent to the EIS process. We will continue to provide assistance to and cooperate with Indian Pueblos and Tribes that potentially could be affected

by this proposed critical habitat designation at their request.

Public Comments Solicited

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

1. The reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefits of excluding areas will outweigh the benefits of including areas as critical habitat. Specifically we ask if there is adequate special management and protection in place on any lands included in this proposed rule to allow us not to designate these lands as critical habitat. We also seek information concerning New Mexico or Texas State water rights issues (e.g., Rio Grande Compact delivery obligations) and how designation of critical habitat might affect these uses. We also request assistance in describing the existing conditions for the river reach below San Acacia Diversion Dam on the middle Rio Grande. For these and other areas that have the potential for low or no flow events, we are soliciting comments or information relating to the proposed designation of critical habitat that includes areas that may experience these conditions. In addition, we are seeking comments on the primary constituent elements and how they relate to the existing conditions (i.e., flow regime) in the middle Rio Grande.

2. We ask whether areas or river reaches suggested in the Recovery Plan for potential reestablishment of the silvery minnow, which are not included in this proposed rule, should be designated as critical habitat. We are further soliciting information or comments concerning our conservation strategy for the silvery minnow. We believe that, in particular, the development of one or more experimental populations provides a conservation benefit for the silvery minnow that outweighs the conservation benefit of designating areas as critical habitat. Depending on public comments, information, or data received, we will evaluate whether the areas we have determined are essential for the conservation of the silvery minnow (i.e., the river reach of the middle Pecos and lower Rio Grande in Big Bend National Park and downstream to the Terrell/Val Verde County line) should be designated as critical habitat, and critical habitat could be revised as appropriate.

3. Specific information on the amount and distribution of silvery minnow habitat, and what habitat is essential to the conservation of the species and why;

4. Land use practices and current or planned activities in the subject areas, including comments or information relating to the 300-foot lateral width, and their possible impacts on proposed critical habitat;

5. Any foreseeable economic or other impacts resulting from the proposed designation of critical habitat including, in particular, any impacts on small entities or families; and

6. Economic and other values associated with designating critical habitat for the silvery minnow, such as those derived from nonconsumptive uses (e.g., hiking, camping, birding, enhanced watershed protection, increased soil retention, ''existence values,'' and reductions in administrative costs).

We are also seeking additional information about the silvery minnow's status and would like information on any of the following:

1. The location of silvery minnow populations;

2. Any additional information about the silvery minnow's range, distribution, and population sizes; and

3. Any current or planned activities (i.e., threats or recovery actions) in or near areas occupied by the silvery minnow.

Clarity of the Rule

Executive Order 12866 requires each agency to write regulations and notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand including answers to questions such as the following: (1) Are the requirements in the document clearly stated? (2) Does the proposed rule contain technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the proposed rule in the ''Supplementary Information'' section of the preamble helpful in understanding the document? (5) What else could we do to make the proposed rule easier to understand? Send a copy of any written comments about how we could make this rule easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street NW., Washington, DC 20240.

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

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure listing decisions are based on scientifically sound data, assumptions, and analyses. We will send copies of this proposed rule immediately following publication in the **Federal Register** to these peer reviewers. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designation of critical habitat.

We will consider all comments and information received during the comment period on this proposed rule during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposed rule. It is important to note that we have not proposed critical habitat designation for two areas that we have determined are essential for the conservation of the silvery minnow (i.e., the river reach of the middle Pecos and lower Rio Grande in Big Bend National Park and downstream to the Terrell/Val Verde County line). We believe that our conservation strategy of developing one or more experimental populations outweighs the benefits that would be provided to the silvery minnow by including these areas within a designation of critical habitat. However, depending on public comments, information, or data received, we will evaluate whether these areas within the silvery minnow's historical range should be designated as critical habitat,

and critical habitat could be revised as appropriate.

Public Hearings

The Act provides for one or more public hearings on this proposed rule, if requested. Given the high likelihood of multiple requests we have scheduled two public hearings. We will hold public hearings in Socorro, New Mexico, on June 25, 2002; and in Albuquerque, NM, on June 26, 2002 (see **ADDRESSES** section for times and locations). Announcements for the public hearings will be made in local newspapers.

Written comments submitted during the comment period receive equal consideration with those comments presented at a public hearing.

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant rule and has been reviewed by the Office of Management and Budget (OMB), under Executive Order 12866.

1. We have prepared a draft economic analysis to assist us in considering whether areas should be excluded pursuant to section 4(b)(2) of the Act. The draft analysis indicates that this rule will not have an annual economic effect of $100 million or more or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. Under the Act, critical habitat may not be destroyed or adversely modified by a Federal agency action; the Act does not impose any restrictions related to critical habitat on non-Federal persons unless they are conducting activities funded or otherwise sponsored or permitted by a Federal agency.

2. As discussed above, Federal agencies would be required to ensure that their actions do not destroy or adversely modify designated critical habitat of the silvery minnow. Because of the potential for impacts on other Federal agencies activities, we will review this proposed action for any inconsistencies with other Federal agency actions.

3. We believe that this rule, if finalized, will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients, except those involving Federal agencies which would be required to ensure that their activities do not destroy or adversely modify designated critical habitat. As discussed above, we do not anticipate that the adverse modification prohibition (from critical habitat designation) will have any significant economic effects such that it will have an annual economic effect of $100 million or more.

4. OMB has determined that the critical habitat portion of this rule will raise novel legal or policy issues and, as a result, this rule has undergone OMB review. The proposed rule follows the requirements for proposing critical habitat contained in the Act.

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

Under the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996; 5 U.S.C. 804(2)), whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities. We are certifying that the rule will not have a significant effect on a substantial number of small entities. The following discussion explains our rationale.

The economic analysis determined whether this proposed critical habitat designation potentially affects a ''substantial number'' of small entities in counties supporting proposed critical habitat areas. It also quantifies the probable number of small businesses that experience a ''significant effect.'' While SBREFA does not explicitly define either ''substantial number'' or ''significant effect,'' the Small Business Administration (SBA) and other Federal agencies have interpreted these terms to represent an impact on 20 percent or more of the small entities in any industry and an effect equal to three percent or more of a business' annual sales.

Based on the past consultation history for the silvery minnow, wastewater discharges from municipal treatment plants are the primary activities anticipated to be affected by the designation of critical habitat that could affect small businesses. To be conservative, (i.e., more likely to overstate impacts than understate them), the economic analysis assumes that a unique company will undertake each of the projected consultations in a given year, and so the number of businesses affected is equal to the total annual number of consultations (both formal and informal).

First, the number of small businesses affected is estimated. As shown in Exhibit 1 below, the following calculations yield this estimate:

- Estimate the number of businesses within the study area affected by section 7 implementation annually (assumed to be equal to the number of annual consultations);
- Calculate the percent of businesses in the affected industry that are likely to be small;
- Calculate the number of affected small businesses in the affected industry;
- Calculate the percent of small businesses likely to be affected by critical habitat.

EXHIBIT 1.—ESTIMATED ANNUAL NUMBER OF SMALL BUSINESSES AFFECTED BY CRITICAL HABITAT DESIGNATION: THE ''SUBSTANTIAL'' TEST

Industry name	Sanitary services SIC 4959
Annual number of affected businesses in industry:	
By formal consultation	0.13
(Equal to number of annual consultations): [1]	
By informal consultation	0.75
Total number of all businesses in industry within study area	6
Number of small businesses in industry within study area	6
Percent of businesses that are small (Number of small businesses)/(Total Number of businesses)	100%

EXHIBIT 1.—ESTIMATED ANNUAL NUMBER OF SMALL BUSINESSES AFFECTED BY CRITICAL HABITAT DESIGNATION: THE ''SUBSTANTIAL'' TEST—Continued

Industry name	Sanitary services SIC 4959
Annual number of small businesses affected (Number affected businesses) * (Percent of small businesses)	0.88
Annual percentage of small businesses affected (Number of small businesses affected)/(Total number of small businesses); >20 percent is substantial.	15%

[1] Note that because these values represent the probability that small businesses will be affected during a one-year time period, calculations may result in fractions of businesses. This is an acceptable result, as these values represent the probability that small businesses will be affected.

This calculation reflects conservative assumptions and nonetheless yields an estimate that is still far less than the 20 percent threshold that would be considered ''substantial.'' As a result, this analysis concludes that a significant economic impact on a substantial number of small entities will *not* result from the designation of critical habitat for the silvery minnow. Nevertheless, an estimate of the number of small businesses that will experience effects at a significant level is provided below.

Costs of critical habitat designation to small businesses consist primarily of the cost of participating in section 7 consultations and the cost of project modifications. To calculate the likelihood that a small business will experience a significant effect from critical habitat designation for the silvery minnow, the following calculations were made:

- Calculate the per-business cost. This consists of the unit cost to a third party of participating in a section 7 consultation (formal or informal) and the unit cost of associated project modifications. To be conservative, the economic analysis uses the high-end estimate for each cost.
- Determine the amount of annual sales that a company would need to have for this per-business cost to constitute a ''significant effect.'' This is calculated by dividing the per-business cost by the three percent ''significance'' threshold value.
- Estimate the likelihood that small businesses in the study area will have annual sales equal to or less than the threshold amount calculated above. This is estimated using national statistics on the distribution of sales within industries.
- Based on the probability that a single business may experience significant effects, calculate the expected value of the number of businesses likely to experience a significant effect.
- Calculate the percent of businesses in the study area within the affected industry that are likely to be affected significantly.

Calculations for costs associated with designating critical habitat for the silvery minnow are provided in Exhibit 2 below.

EXHIBIT 2.—ESTIMATED ANNUAL EFFECTS ON SMALL BUSINESSES: THE ''SIGNIFICANT EFFECT'' TEST

Industry	Sanitary services SIC 4959	
	Formal consultations with project modifications	Informal consultations
Annual Number of Small Businesses Affected (From Exhibit 8–1)	0.13	0.75
Per-Business Cost	$34,100	$2,900
Level of Annual Sales Below Which Effects Would Be Significant (Per-Business Cost/3%)	$1,136,667	$96,667
Probability That Per-Business Cost Is Greater Than 3% of Sales for Small Business [1]	48%	3%
Probable Annual Number of Small Businesses Experiencing Significant Effects (Number Small Businesses)* (Probability of Significant Effect).	0.06	0.02
Total Annual Number of Small Businesses Bearing Significant Costs in Industry	0.08	
Total Annual Percentage of Small Businesses Bearing Significant Costs in Industry	1.4%	

[1] This probability is calculated based on national industry statistics obtained from the Robert Morris Associated Annual Statement of Studies: 2001–2002, which provides data on the distribution of annual sales in an industry within the following ranges: $0–1 million, $1–3 million, $3–5 million, $5–10, $10–25 million, and $25+ million. This analysis uses the ranges that fall within the SBA definition of small businesses (i.e., for industries in which small businesses have sales of less than $5.0 million, it uses $0–1 million, $1–3 million, and $3–5 million) to estimate a distribution of sales for small businesses. It then calculates the probability that small businesses have sales below the threshold value using the following components: (1) All small businesses (expressed as a percentage of all small businesses) in ranges whose upper limits fall below the threshold value experience the costs as significant; (2) for the range in which the threshold value falls, the percentage of companies in the bin that fall below the threshold value is calculated as [(threshold value − range minimum)/(bin maximum − range minimum)] × percent of small businesses captured in range. This percentage is added to the percentage of small businesses captured in each of the lower ranges to reach the total probability that small businesses have sales below the threshold value. Note that in instances in which the threshold value exceeds the definition of small businesses (i.e., the threshold value is $10 million and the definition of small businesses is sales less than $5.0 million), all small businesses experience the effects as significant.

Because the costs associated with designating critical habitat for the silvery minnow are likely to be significant for less than one small businesses per year (approximately one percent of the small businesses in the sanitary services industry) in the affected counties, the economic analysis concludes that a significant economic impact on a substantial number of small entities will not result from the designation of critical habitat for the silvery minnow. This would be true even if all of the effects of section 7 consultation on these activities were attributed solely to the critical habitat designation.

Executive Order 13211

On May 18, 2001, the President issued an Executive Order (E.O. 13211) on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. We have a very good consultation history for silvery minnow; thus, we can describe the kinds of actions that have undergone consultations. Within the middle Rio Grande proposed critical habitat unit, the BLM has the highest likelihood of any Federal agency to undergo section 7 consultation for actions relating to energy supply, distribution, or use. However, since 1994, the BLM has not conducted any consultations for resource management plans that related to energy supply, distribution, or use. We do not anticipate the development of oil and gas leases within the area we are proposing to designate as critical habitat (J. Smith, pers. comm. 2001). Nevertheless, if we were to consult on a proposed BLM energy-related action, the outcome of that consultation likely would not differ from the BLM's policy of not allowing oil and gas development within the 100-year floodplain. For these reasons, we do not anticipate, this rule will be a significant regulatory action under Executive Order 12866, and it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

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

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*):

1. This rule will not ''significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. Small governments will be affected only to the extent that any of their actions involving Federal funding or authorization must not destroy or adversely modify the critical habitat or take the species under section 9.

2. This rule will not produce a Federal mandate of $100 million or greater in any year (i.e., it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act).

Takings

In accordance with Executive Order 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), we have analyzed the potential takings implications of the proposed listing and designation of critical habitat for the silvery minnow. The takings implications assessment concludes that this proposed rule does not pose significant takings implications. A copy of this assessment is available by contacting the New Mexico Ecological Services Field Office (see **ADDRESSES** section).

Based on the above assessment, the Service finds that this proposed rule designating critical habitat for the silvery minnow does not pose significant takings implications.

Federalism

In accordance with Executive Order 13132, we have considered whether this rule has significant Federalism effects and have determined that a Federalism assessment is not required. In keeping with Department of the Interior policy, we requested information from and coordinated development of this proposed rule with appropriate resource agencies in New Mexico and Texas (i.e., during the EIS scoping period). We will continue to coordinate any future designation of critical habitat for the silvery minnow with the appropriate agencies.

We do not anticipate that this regulation will intrude on State policy or administration, change the role of the Federal or State government, or affect fiscal capacity. For example, we have conducted one formal consultation with the Corps and BOR, and a non-Federal agency (e.g., Middle Rio Grande Conservancy District) over actions related to water operations on the middle Rio Grande (Service 2001b). Although this consultation was conducted after critical habitat designation for the silvery minnow was removed pursuant to court order, we do not believe that this designation of critical habitat will have significant Federalism effects. For example, in the recent formal section 7 consultation, the Middle Rio Grande Conservancy District's regulatory burden requirement was only affected to the extent that they were acting as the United States' agent over the operation and maintenance of facilities. If this critical habitat designation is finalized, Federal agencies also must ensure, through section 7 consultation with us, that their activities do not destroy or adversely modify designated critical habitat. Nevertheless, we do not anticipate that the amount of supplemental instream flow, provided by past consultations (e.g., Service 2001b), will increase because an area is designated as critical habitat. This rule also will not change the appropriation of water rights within the area proposed to be designated as critical habitat. For these reasons, we do not anticipate that the designation of critical habitat will change State policy or administration, change the role of the Federal or State government, or affect fiscal capacity.

Within the 300-foot lateral width, designation of critical habitat could trigger additional review of Federal activities under section 7 of the Act, and may result in additional requirements on Federal activities to avoid destroying or adversely modifying critical habitat. Any action that lacked Federal involvement would not be affected by the critical habitat designation. Should a Federally funded, permitted, or implemented project be proposed that may affect designated critical habitat, we will work with the Federal action agency and any applicant, through section 7 consultation, to identify ways to implement the proposed project while minimizing or avoiding any adverse effect to the species or critical habitat. In our experience, the vast majority of such projects can be successfully implemented with at most minor changes that avoid significant economic impacts to project proponents.

The designation may have some benefit to these governments in that the areas essential to the conservation of the species would be clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species would be identified. While this definition and identification does not alter where and what Federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that this rule would not unduly burden the judicial system and would meet the requirements of sections 3(a) and 3(b)(2) of the Order. We propose to designate critical habitat in accordance with the provisions of the Act. The rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the silvery minnow.

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

This rule does not contain any new collections of information that require approval by the Office of Management and Budget (OMB) under 44 U.S.C. 3501 *et seq.* This rule will not impose new

record-keeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless they display a currently valid OMB control number.

National Environmental Policy Act

It is our position that, outside the Tenth Circuit, we do not need to prepare environmental analyses as defined by the NEPA in connection with designating critical habitat under the Endangered Species Act of 1973, as amended. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld in the Ninth Circuit *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), *cert. denied,* 116 S. Ct. 698 (1996). However, when the range of the species includes States within the Tenth Circuit, such as that of the silvery minnow, pursuant to the Tenth Circuit ruling in *Catron County Board of Commissioners* v. *U.S. Fish and Wildlife Service,* 75 F.3d 1429 (10th Cir. 1996), we will undertake a NEPA analysis for critical habitat designation. Additionally, on November 21, 2000, the United States District Court for the District of New Mexico, in *Middle Rio Grande Conservancy District* v. *Babbitt,* Civ. Nos. 99–870, 99–872 and 99–1445M/RLP (Consolidated) set aside the July 9, 1999, critical habitat designation and ordered us to issue within 120 days both an EIS and a new proposed rule designating critical habitat for the silvery minnow. We have prepared the draft EIS pursuant to that court order.

Government-to-Government Relationship With Indian Pueblos and Tribes

In accordance with the Secretarial Order 3206, ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997), the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of the Interior's requirement at 512 DM 2, we understand that recognized Federal Indian Pueblos and Tribes must be related to on a Government-to-Government basis. Therefore, we are soliciting information from the Indian Pueblos and Tribes and will arrange meetings with them during the comment period on potential effects to them or their resources that may result from critical habitat designation.

References Cited

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

Authors

The primary authors of this notice are the New Mexico Field Office staff (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and record-keeping requirements, Transportation.

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

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

2. Amend § 17.95(e) by revising critical habitat for the Rio Grande silvery minnow (*Hybognathus amarus*), to read as follows.

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(e) *Fishes.* * * *

Rio Grande Silvery Minnow (*Hybognathus amarus*)

(1) Proposed critical habitat is depicted for Socorro, Valencia, Bernalillo, and Sandoval, Counties, New Mexico; on the map and as described below.

(2) For each river reach proposed, the up- and downstream boundaries are described below. Proposed critical habitat includes the stream channels within the identified river reaches and areas within these reaches included within the existing levees, or if no levees are present, then within a lateral distance of 91.4 m (300 ft) on each side of the river width at bankfull discharge. Bankfull discharge is the flow at which water begins to leave the channel and move into the floodplain.

(3) Within these areas the primary constituent elements include, but are not limited to, those habitat components that are essential for the primary biological needs of foraging, sheltering, and reproduction. These elements include the following:

(i) A hydrologic regime that provides sufficient flowing water with low to moderate currents capable of forming and maintaining a diversity of aquatic habitats, such as, but not limited to: backwaters (a body of water connected to the main channel, but with no appreciable flow), shallow side channels, pools (that portion of the river that is deep with relatively little velocity compared to the rest of the channel), eddies (a pool with water moving opposite to that in the river channel), and runs (flowing water in the river channel without obstructions) of varying depth and velocity necessary for each of the particular silvery minnow life-history stages in appropriate seasons (e.g., the silvery minnow requires habitat with sufficient flows from early spring (March) to early summer (June) to trigger spawning, flows in the summer (June) and fall (October) that do not increase prolonged periods of low or no flow, and a relatively constant winter flow (November to February));

(ii) The presence of eddies created by debris piles, pools, or backwaters, or other refuge habitat (e.g., connected oxbows or braided channels) within unimpounded stretches of flowing water of sufficient length (i.e., river miles) that provide a variation of habitats with a wide range of depth and velocities;

(iii) Substrates of predominantly sand or silt; and

(iv) Water of sufficient quality to maintain natural, daily, and seasonally variable water temperatures in the approximate range of greater than 1 °C (35 °F) and less than 30 °C (85 °F) and reduce degraded conditions (decreased dissolved oxygen, increased p.H., etc.).

(4) Proposed critical habitat is depicted on the following map for the Middle Rio Grande, which includes the area from Cochiti Reservoir downstream to the Elephant Butte Dam, Sandoval, Bernalillo, Valencia, and Socorro Counties, New Mexico. The stream reaches in the middle Rio Grande include:

(i) Jemez Canyon Reach—8 km (5 mile) of river immediately downstream of Jemez Canyon Reservoir to the confluence of the Rio Grande;

(ii) Cochiti Diversion Dam to Angostura Diversion Dam (Cochiti Reach)—34 km (21 mile) of river immediately downstream of Cochiti Reservoir to the Angostura Diversion Dam;

(iii) Angostura Diversion Dam to Isleta Diversion Dam (Angostura Reach)—61 km (38 mile) of river immediately downstream of the Angostura Diversion Dam to the Isleta Diversion Dam;

(iv) Isleta Diversion Dam to San Acacia Diversion Dam (Isleta Reach)—90 km (56 mi) of river immediately downstream of the Isleta Diversion Dam to the San Acacia Diversion Dam; and

(v) San Acacia Diversion Dam to the Elephant Butte Dam (San Acacia Reach)–147 km (92 mi) of river immediately downstream of the San Acacia Diversion Dam to the Elephant Butte Dam.

(vi) Map Follows:

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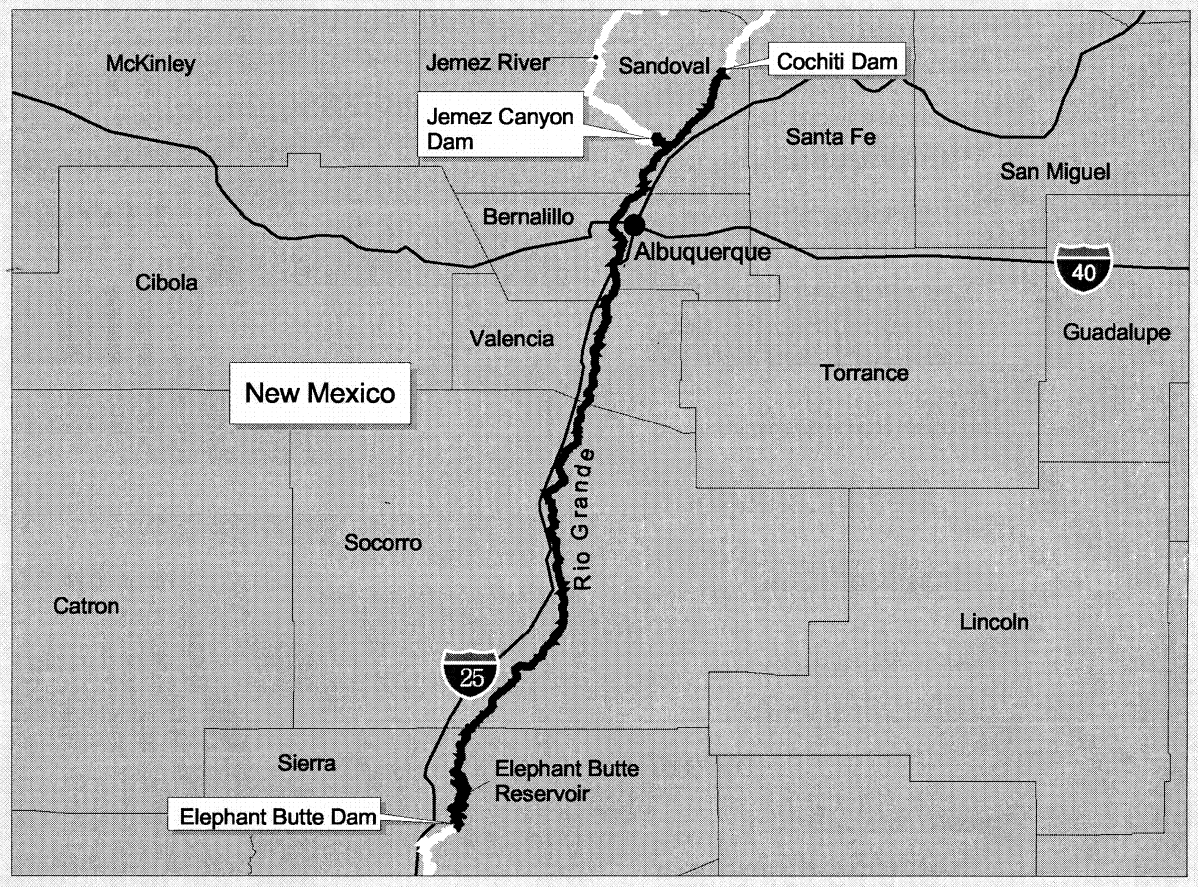
General Location of Proposed Critical Habitat for the Rio Grande Silvery Minnow

(Hybognathus amarus)

Middle Rio Grande Reach



10 0 10 20 30 Miles

Not Proposed as Critical Habitat
Proposed Critical Habitat

N
W E
S

Use Constraints: This map is intended to be used as a guide to the general area of proposed Rio Grande silvery minnow critical habitat. Included in the designation is a riparian zone that runs up to 300 feet on each side of the designated reaches of the Rio Grande and Jemez River. Lines portraying critical habitat have been made thicker for presentation purposes only.

BILLING CODE 4310–55–C

(5) This designation does not include the ephemeral or perennial irrigation canals and ditches outside of natural stream channels, including the low flow conveyance channel that is adjacent to a portion of the stream reach within the middle Rio Grande (i.e., downstream of the southern boundary of Bosque del Apache National Wildlife Refuge to the Elephant Butte Dam).

(6) The area inundated by Elephant Butte Reservoir does not provide those physical or biological features essential to the conservation of the species and is specifically excluded by definition from the proposed critical habitat. We define the reservoir as that part of the body of water impounded by the dam where the storage waters are lentic (relatively still waters) and not part of the lotic (flowing water) river channel.

(7) Lands located within the exterior boundaries of the proposed critical habitat designation (i.e., within the existing levees, or if no levees are present, then within a lateral distance of 91.4 m (300 ft) on each side of the stream width at bankfull discharge), but that are not considered critical habitat and are therefore excluded by definition, include existing paved roads; bridges; parking lots; dikes; levees; diversion structures; railroad tracks; railroad trestles; active gravel pits; cultivated agricultural land; and residential, commercial, and industrial developments.

* * * * *

Dated: May 23, 2002

Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 02–14141 Filed 6–5–02; 8:45 am]

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