

a result of a varying flow regime does not preclude the area from being considered essential to the conservation of the species and, further, from being designated 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 designating the middle Rio Grande as critical habitat. This area 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 designated critical habitat). We conclude that this critical habitat can provide for the physiological, behavioral, and ecological requirements of the silvery minnow. The designated critical habitat is within the middle Rio Grande from immediately downstream of Cochiti Reservoir to the utility line crossing the Rio Grande with UTM coordinates of UTM Zone 13: 311474 E, 3719722N, just east of the Bosque Well demarcated on USGS Paraje Well 7.5 minute quadrangle (1980), including the tributary Jemez River from Jemez Canyon Dam to the upstream boundary of Santa Ana Pueblo, which is not included. The designation also defines the lateral extent (width) as those areas bounded by existing levees or, in areas without levees, 300 ft (91.4 m) of riparian zone adjacent to each side of the bankfull stage of the middle Rio Grande. We did not include the Pueblo lands of Santo Domingo, Santa Ana, Sandia, and Isleta within the middle Rio Grande. The downstream boundary of the designated critical habitat is determined to be the utility line crossing (see the "Regulation Promulgation" section of this rule for exact descriptions of boundaries of designated critical habitat). 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 designated as critical habitat. A description of each river reach within the silvery minnow's historic 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 designating 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 critical habitat in the middle Rio Grande.

The historic 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 historic range of the silvery minnow into 12 river reaches: (1) Upstream of Cochiti Reservoir to the confluence of the Rio Chama and Rio Grande, NM; (2) middle Rio Grande from Cochiti Reservoir downstream to the Elephant Butte Dam, including the Jemez River from the Jemez Canyon Dam to the confluence of the Rio Grande; (3) downstream of Elephant Butte Dam to the Caballo Dam, NM; (4) downstream of Caballo Dam, New Mexico, to the American Dam, TX; (5) downstream of American Reservoir, to the upstream boundary of Big Bend National Park, TX; (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, TX; (7) the Terrell/Val Verde County line, TX, to the Amistad Dam, TX; (8) downstream of Amistad Dam to the Falcon Dam, TX; (9) downstream of the Falcon Dam to the Gulf of Mexico, TX; (10) Pecos River from Santa Rosa Reservoir to Sumner Dam, Guadalupe County, NM; (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 is 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, as well as 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). The stream length in this reach

is inadequate (*e.g.*, less than 134 to 223 mi (216 to 358.8 km)) to ensure the survival of downstream drift of eggs and larvae and recruitment of adults (Platania and Altenbach 1998). Further investigation may be needed in this reach to evaluate potential future recovery actions. For these reasons, we conclude that habitat for silvery minnow within this river reach is generally degraded and unsuitable, and is not essential to the conservation of the silvery minnow. Therefore, this river reach is not designated as critical habitat.

2. Middle Rio Grande from Cochiti Reservoir downstream to the Elephant Butte Dam, including the Jemez River from the Jemez Canyon Dam 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; 2002a, 2002b). This area currently contains the primary constituent elements (described above) during all or 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 that are designated as critical habitat 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, except for the land of Santo Domingo, Santa Ana, Sandia, and Isleta Pueblos, we designate the following reaches as a critical habitat. This designated critical habitat 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 river reach within the middle Rio Grande because these areas do not offer suitable refugia for the silvery minnow. The river reaches in the middle Rio Grande critical habitat include (see "Regulation Promulgation" section of this rule for exact