

(7) *Comment*: One of the most significant threats to native fish in the southwestern United States is non-native fish; however, the Service did not provide any information on whether non-native fish affect the silvery minnow or its habitat.

Our Response: In the proposed critical habitat designation rule, we stated: "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)" (June 6, 2002; 67 FR 39206).

(8) *Comment*: There is a notable lack of data in your reports concerning the plains minnow found within the middle Rio Grande.

Our Response: Although the plains minnow was found infrequently in a survey of bait-fishing stores within the Rio Grande Basin (Schmitt 1975), the plains minnow has never been documented in the wild within the middle Rio Grande (R. Dudley, American Southwest Ichthyological Research Foundation, pers. comm., 2002; K. Bestgen, Colorado State University, Larval Fish Laboratory, pers. comm., 2002). The silvery minnow and plains minnow can be distinguished from each other by morphological and genetic differences (Bestgen and Propst 1996; Cook *et al.* 1992). Therefore, we believe that "a lack of data" is reflective of a lack of presence of the plains minnow in the middle Rio Grande.

(9) *Comment*: Critical habitat could result in the loss of flood pulses for uses such as periodic flooding of the bosque.

Our Response: The silvery minnow requires a spike in early spring to trigger spawning (Platania and Dudley 2000). Critical habitat will not result in the loss of this pulse of water. In fact, this hydrologic event could also periodically flood some areas of the bosque (bosque is the riparian areas adjacent to the Rio Grande).

(10) *Comment*: One commenter believes the Service overlooked important information that silvery minnows can bury in the wet sand and survive extensive periods, especially when the river bed is dry. This commenter states that when the river is dry, silvery minnows have been found by digging in the sand.

Our Response: There is no information in the scientific literature or provided by biologists researching the silvery minnow to indicate that the species can either bury underground or survive in the wet sand when the river is dry. Available evidence indicates that silvery minnows die only minutes after being removed from water.

(11) *Comment*: The Service should consider the use of irrigation ditches to recover the silvery minnow.

Our Response: 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) do not offer suitable refugia and are not useful for conservation of the silvery minnow because they do not contain the primary constituent elements and the habitat is not sufficient to support viable populations of silvery minnow for extended periods of time (*see also* BOR 2001c). Silvery minnows found in canals and ditches are believed to represent silvery minnows that became entrapped due to the diversion of irrigation water from the mainstem middle Rio Grande. Nevertheless, we are aware that a study is being conducted by New Mexico State University to evaluate the usefulness of irrigation canals and ditches to the silvery minnow (Thompson 2002). We will assess the results of this study when they are available.

(12) *Comment*: Why does the Service indicate that agricultural runoff is detrimental to the silvery minnow, when the return flows are an important source of water for the species?

Our Response: We recognize that under current irrigation operations, the delivery of irrigation water and associated return flows play an important role in supporting fish survival in the lower reaches of the river. The return flows also help to provide water to meet Rio Grande Compact delivery obligations. Irrigation water deliveries to MRGCD and the six middle Rio Grande Pueblos provide "carriage" water that facilitates the more efficient delivery of supplemental water to benefit the silvery minnow. However, as noted in the background section, development of agriculture and the growth of cities within the historic range of the silvery minnow may have resulted in a decrease in the quality of river water through municipal and agricultural runoff (*i.e.*, sewage and pesticides).

Issue 2: Procedural and Legal Compliance

(13) *Comment*: The U.S. Army Corps of Engineers (Corps) should be held responsible for the plight of the silvery minnow because they constructed Cochiti Dam and drastically altered the species' habitat.

Our Response: The effects of past and ongoing human and natural factors leading to the current status of the silvery minnow is called the environmental baseline. The environmental baseline is a snapshot of the species' status at any point in time, and is updated when we conduct a section 7 biological opinion. No single entity can be held responsible for the status of the silvery minnow. However, the Corps is (as are many other entities) included in the Middle Rio Grande Endangered Species Act Collaborative Program and is part of the long-term solution to develop and implement activities to conserve the minnow.

(14) *Comment*: We must specify in the final rule for critical habitat whether the experimental population under section 10(j) of the Act would be essential or nonessential.

Our Response: 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 on the basis of the best available information. Any future recovery efforts, including repatriation of the species to areas of its historical range under section 10(j) of the Act, will be conducted in accordance with the pertinent sections of the Act, NEPA, and Federal rulemaking procedures. A NEPA analysis is necessary to carefully consider information concerning every significant environmental impact among all the alternatives and select a preferred alternative. We find that nonessential designations garner wider and more meaningful public support. However, at this time we cannot determine the type of 10(j) rule that may be proposed for the minnow.

(15) *Comment*: The establishment of experimental populations is purely speculative because according to the Service's regulations, the establishment of an experimental population requires an agreement among the Service, affected States, Federal agencies, and landowners. An agreement is unlikely to happen.

Our Response: We believe that the use of section 10(j) will encourage local cooperation through management flexibility. Our regulations state that we shall consult with appropriate State fish