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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Arkansas River Basin Population of the Arkansas River Shiner; Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AG12

Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Arkansas River Basin Population of the Arkansas River Shiner

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat pursuant to the Endangered Species Act of 1973, as amended (Act), for the Arkansas River Basin population of the Arkansas River shiner (*Notropis girardi*). This designation is made in response to a court settlement in *Center for Biological Diversity* v. *Bruce Babbitt, et al.* C99–3202 SC, directing us to submit for publication in the **Federal Register** a proposal to withdraw the existing ''not prudent'' critical habitat determination together with a new proposed critical habitat determination for the Arkansas River Basin population of the Arkansas River shiner by June 23, 2000, and final rule by March 15, 2001 (subsequently extended until March 28, 2001). We are designating as critical habitat a total of approximately 1,846 kilometers (1,148 miles) of rivers and 91.4 meters (300 feet) of their adjacent riparian zones. Critical habitat includes portions of the Arkansas River in Kansas, the Cimarron River in Kansas and Oklahoma, the Beaver/North Canadian River in Oklahoma, and the Canadian/South Canadian River in New Mexico, Texas, and Oklahoma. Section 7 of the Act requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to adversely modify designated critical habitat. As required by section 4 of the Act, we considered economic and other relevant impacts prior to making a final decision on what areas to designate as critical habitat.

This final critical habitat designation is being completed pursuant to a settlement agreement of a law suit executed on February 16, 2000, and, accordingly, must be published at this time without further review or delay. However, the Department of the Interior's initial review of this final critical habitat rule has raised concerns that are worthy of further attention. Accordingly, we will continue to solicit additional public comments on the effects of this final designation and ways that it may be improved. As soon as practicable hereafter, the Department of the Interior intends to propose the review of the present rule and thereafter, if appropriate, the proposal of a new approach to this critical habitat designation after consideration of these further comments, as part of the recovery planning process.

DATES: This final rule is effective May 4, 2001.

ADDRESSES: The complete administrative record for this rule is on file at the U.S. Fish and Wildlife Service, Oklahoma Ecological Services Office, 222 S. Houston, Suite A, Tulsa, Oklahoma 74127–8909. You may view the complete file for this rule, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Ken Collins, Oklahoma Ecological Services Office, at the above address; telephone 918/581–7458, facsimile 918/581–7467.

SUPPLEMENTARY INFORMATION:

Background

The Arkansas River shiner is a small, robust minnow with a small, dorsally flattened head, rounded snout, and small subterminal mouth (located near the head end of the body but not at the extreme end) (Miller and Robison 1973, Robison and Buchanan 1988). Dorsal (back) coloration tends to be light tan, with silvery sides gradually grading to white on the belly. Adults attain a maximum length of 51 millimeters (2 inches). Dorsal, anal, and pelvic fins all have eight rays, and there is a small, black chevron usually present at the base of the caudal fin.

The Arkansas River shiner was first described based on a fish collection in 1926 from the Cimarron River northwest of Kenton, Cimarron County, Oklahoma (Hubbs and Ortenburger 1929). Historically, the Arkansas River shiner was widespread and abundant throughout the western portion of the Arkansas River basin in Kansas (KS), New Mexico (NM), Oklahoma (OK), and Texas (TX). This species has disappeared from more than 80 percent of its historical range and is now almost entirely restricted to about 820 kilometers (km) (508 miles (mi)) of the Canadian River in OK, TX, and NM (Larson *et al.* 1991; Pigg 1991). An extremely small population may still persist in the Cimarron River in OK and KS, based on the collection of only nine individuals since 1985. A remnant population also may persist in the Beaver/North Canadian River of OK, based on collection of only four individuals since 1990 (Larson *et al.* 1991; Jimmie Pigg, Oklahoma Department of Environmental Quality, pers. comm., 1993). An accurate assessment of Arkansas River shiner populations in the Arkansas, Cimarron, and Beaver/North Canadian rivers is difficult because the populations may be so small that individuals may escape detection during routine surveys. The small size of Arkansas River shiner aggregations in these three rivers significantly reduces the likelihood that these populations will persist over evolutionarily significant timescales in the absence of intensive conservation efforts.

In 1999, six Arkansas River shiners were reportedly collected from the Arkansas River in Wichita, KS, at two locations—four from near the 47th Street South bridge and two near the Kansas State Highway 96 crossing (Vernon Tabor, U.S. Fish and Wildlife Service, Manhattan, KS, pers. comm., 2000). Prior to this collection, the Arkansas River shiner was believed to be extirpated from the Arkansas River. Further examination of these specimens by Dr. Frank Cross revealed that these individuals were actually sand shiners (*Notropis stramineus*), a species which superficially resembles the Arkansas River shiner.

The decline of this species throughout its historical range is primarily the result of modification of the duration and timing of stream flows and inundation by impoundments, channel desiccation by water diversion and groundwater mining, stream channelization, and introduction of nonindigenous species. Additional information on the biology and status of this species can be found in the November 23, 1998, final listing determination (63 FR 64772). Biological factors relevant to the species' habitat needs are discussed in the ''Primary Constituent Elements'' section of this final rule.

Previous Federal Action

We included the Arkansas River shiner in our September 18, 1985, Review of Vertebrate Wildlife (50 FR 37958) as a category 2 candidate for listing. Category 2 included those taxa for which information indicated that a proposal to list as endangered or threatened was possibly appropriate, but for which conclusive data on biological vulnerability and threats were not currently available to support a proposed rule. Our January 6, 1989, revised Animal Notice of Review (54 FR 554) retained this status for the Arkansas River shiner.

We first received detailed information on the status of the species in 1989 (Pigg 1989). A partial status survey by Larson

et al. (1990) was a source of additional information. We subsequently prepared a status report on this species (U.S. Fish and Wildlife Service 1990). Following this report, Larson *et al.* (1991) and Pigg (1991) provided comprehensive status survey information. In our November 21, 1991, Animal Candidate Review for Listing as Endangered or Threatened Species (56 FR 58804), we reclassified the Arkansas River shiner as a category 1 candidate. At that time, category 1 (now referred to as candidates) included those taxa for which we had substantial information on biological vulnerability and threats to support proposals to list the taxa as endangered or threatened.

We published a proposed rule to list the Arkansas River basin population of the Arkansas River shiner as endangered and invited public comment on August 3, 1994 (59 FR 39532). A nonnative population of the Arkansas River shiner that has become established in the Pecos River was not included in that proposal. We reopened the comment period from January 6, 1995, to February 3, 1995, (60 FR 2070) to accommodate three public hearings. Following lifting of a moratorium on issuing final listings or critical habitat designations on April 26, 1996, we again reopened the comment period on the proposal on December 5, 1997 (62 FR 64337). We published the final rule listing the Arkansas River basin population of the Arkansas River shiner as a threatened species on November 23, 1998 (63 FR 64772).

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, we designate critical habitat at the time a species is determined to be endangered or threatened. Our regulations (50 CFR 424.12(a)(1)) state that critical habitat is not prudent if one or both of the following situations exist—(i) the species is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of this threat, or (ii) designation of critical habitat would not be beneficial to the species. In the final rule listing the Arkansas River Basin population of the Arkansas River shiner (63 FR 64772), we found that designation of critical habitat was not prudent because we believed critical habitat would not provide any additional benefit beyond that provided through listing as threatened.

In the last few years, a series of court decisions have overturned several of our determinations made for different species that designation of critical habitat would not be prudent (for example, *Natural Resources Defense Council* v. *U.S. Department of the Interior* 113 F.3d 1121 (9th Cir. 1997); *Conservation Council for Hawaii* v. *Babbitt,* 2 F. Supp. 2d 1280 (D. Hawaii 1998)). Based on the standards applied in those judicial opinions, we reexamined the question of whether designation of critical habitat for the Arkansas River Basin population of the Arkansas River shiner is prudent.

As part of a settlement order of February 16, 2000, in *Center for Biological Diversity* v. *Bruce Babbitt, et al.* C99–3202 SC, we agreed to reconsider the question of whether critical habitat would be prudent; and, if designation of critical habitat is prudent, we agreed to subsequently propose designation of critical habitat for the Arkansas River Basin population of the Arkansas River shiner by June 23, 2000. Our proposed designation of critical habitat for the Arkansas River shiner was published in the **Federal Register** on June 30, 2000 (65 FR 40576). We held three public hearings on the proposed rule in Amarillo, TX, on August 7, 2000, Oklahoma City, OK, on August 9, 2000, and in Pratt, KS, on August 11, 2000. On August 15, 2000 (65 FR 49781), we published a notice in the **Federal Register** extending the comment period on the proposed rule and draft environmental assessment and announcing the availability of the draft economic analysis for comment. The final comment period was open until October 16, 2000.

Summary of Comments and Recommendations

In the June 30, 2000, proposed rule, we requested all interested parties to submit comments or information that might bear on the designation of critical habitat for the Arkansas River shiner (65 FR 40576). The first comment period was scheduled to close on August 29, 2000. We extended this comment period until October 16, 2000, to continue to solicit comments on the proposed rule and draft environmental assessment and to accept comments on the draft economic analysis (August 15, 2000; 65 FR 49781). We contacted all appropriate State and Federal agencies, Tribes, county governments, scientific organizations, and other interested parties and invited them to comment. In addition, we published newspaper notices inviting public comment and announcing the public hearings in the following newspapers in New Mexico: Quay County Sun; Kansas: Dodge City Globe, Hutchinson News Herald, and Wichita Eagle Beacon; Oklahoma: Woodward News, The Daily Oklahoman, and Tulsa World; Texas: Amarillo Globe News, and Lubbock Avalanche Journal. We held three public hearings on the proposed rule: Amarillo, TX (August 7, 2000); Oklahoma City, OK (August 9, 2000); Pratt, KS (August 11, 2000). Transcripts of these hearings are available for inspection (see **ADDRESSES** section).

We solicited nine independent expert opinions of persons who are familiar with this species to peer review the proposed critical habitat designation. However, none of the peer reviewers submitted comments. We received a total of 212 comments (148 written and 64 oral) from individuals, agencies, and organizations. Of these comments, 18 supported critical habitat designation, 146 were opposed to designation, and 48 were neutral but provided information. We reviewed all comments received for substantive issues and new data regarding critical habitat and the Arkansas River shiner. We address all comments received during the comment periods and public hearing testimony in the following summary of issues. Comments of a similar nature are grouped into issues.

Issue 1: Procedural Issues and Legal Compliance

(1) *Comment:* Critical habitat designation is not a required or necessary action under the Endangered Species Act. In the final rule listing the Arkansas River Basin population of the Arkansas River shiner, the Fish and Wildlife Service determined that designation of critical habitat was not prudent because no benefit to the species would result. Why did the Service reverse its opinion? Why were the parties affected by the designation not represented or involved in the litigation that led to the settlement agreement?

Our Response: The Act (4(a)(3)) requires that critical habitat be designated for species listed as threatened or endangered unless such designation would not be prudent. In the final rule listing the Arkansas River Basin population of the Arkansas River shiner as threatened, we determined that designation of critical habitat would not be prudent because such designation would provide little benefit to the species. However, as stated in the proposed rule to designate critical habitat, a series of court decisions have overturned several of our determinations made for different species that designation of critical habitat would not be prudent (for example, *Natural Resources Defense Council* v. *U.S. Department of the Interior* 113 F.3d 1121 (9th Cir. 1997); *Conservation Council for Hawaii* v. *Babbitt,* 2 F. Supp. 2d 1280 (D. Hawaii 1998)).

As part of a settlement order of February 16, 2000, in *Center for Biological Diversity* v. *Bruce Babbitt, et al.* C99–3202 SC, we agreed to reconsider the question of whether critical habitat would be prudent; and, if we found that designation of critical habitat is prudent, we agreed to subsequently propose designation of critical habitat for the Arkansas River Basin population of the Arkansas River shiner. Individuals that are not party to a lawsuit do not participate in negotiations to resolve that litigation. However, we solicited advice and comments from all interested individuals during the public comment periods established for the EA (Environmental Assessment) process and the proposed rule.

Upon further consideration, we believe designation of critical habitat for the Arkansas River shiner may be of some benefit and is thus considered prudent. A critical habitat designation benefits species conservation primarily by identifying important areas and by describing the features within those areas that are essential to conservation of the species, alerting public and private entities to the areas' importance. Although the designation of critical habitat does not, in and of itself, restrict human activities within an area or mandate any specific management or recovery actions, it does help focus Federal, tribal, State, and private conservation and management efforts in such areas. Designating critical habitat may also provide some educational or informational benefits.

(2) *Comment:* The shiner is already protected under sections 4, 7, and 9 of the Act. Why is additional protection necessary?

Our Response: Section 4 of the Act governs listing of species, designation of critical habitat, and recovery planning. Neither the listing provisions nor recovery planning process provide protective mechanisms per se. Rather, once a species is listed under the provisions of section 4, the recovery process begins, and the protections afforded listed species under sections 7 and 9 are then in effect.

We agree that protections afforded listed species under sections 7 and 9 are substantial, and that critical habitat designation usually adds only marginal protections above those already afforded listed species. Under section 7, Federal agencies are required to utilize their authorities to further the conservation of species and the ecosystems upon which they depend. Federal agencies are prohibited from implementing actions likely to jeopardize the continued existence of a species or to destroy or adversely modify a listed species' designated critical habitat. Regulations implementing the requirements of section 7 (50 CFR 402.02) define ''jeopardize the continued existence'' (of a species) and ''destruction or adverse modification'' (of critical habitat) so similarly that the two prohibitions are nearly identical, thus resulting in little additional protection through critical habitat designation.

Section 9 of the Act also provides substantial protection to listed species by prohibiting any person (as opposed to section 7 which involves only Federal agencies) from such activities as taking listed species without proper permits, as well as controlling transportation, selling, and importing or exporting listed species. Critical habitat is not protected under section 9, so no effect on strictly non-Federal activities are added through critical habitat designation.

Despite the little additional benefit critical habitat may provide listed species, its designation is required under the Act if any benefits would accrue to the species at hand. As described above, there may be some benefit to the Arkansas River shiner through designation of its critical habitat.

(3) *Comment:* The court did not require that the Service designate critical habitat for the shiner. Rather, it required only that critical habitat be proposed and considered. Now that critical habitat has been proposed, the Service should withdraw the proposal and return to its original ''not prudent'' determination.

Our Response: As explained above, we believe that designation of critical habitat provides some benefit to shiner conservation and that recent court interpretations on prudency of critical habitat would not lend support in this case to a ''not prudent'' determination. The court cases that reversed our not-prudent determinations have used similar rationales for their decisions.

(4) *Comment:* The Service did not use the best scientific and commercial information available in this designation. No credible information exists as to the threats faced by the species. The Service admits that its contention that a single catastrophic event could eliminate the species is hypothetical and untenable.

Our Response: The best scientific and commercial information available shows that the Arkansas River shiner has been extirpated from around 80 percent of its historical range, and that its decline continues in many of the areas in which it remains. As with most species, the factors causing the shiner's decline are complex, interactive, and difficult to identify with certainty. However, such trends as declining flows, elimination and degradation of riparian areas, and impoundment of previously flowing water can be reasonably cited as reasons for the species' historic and present decline. All of those examples are threats to the species' habitat, so designation of critical habitat is prudent under the Act. In addition, while it is unlikely that a single catastrophic event would, in itself, result in the immediate extinction of the species, the precarious nature of the population and its restricted distribution leave it vulnerable to significant extirpations which could lead to its eventual extinction.

(5) *Comment:* The Service was involved in preparing a Memorandum of Understanding (MOU) among, the involved States, the Service, and other parties interested in a cooperative and voluntary approach to Arkansas River shiner conservation. However, the MOU approach was abandoned. Critical habitat designation was not a part of the MOU, and will jeopardize the opportunity to fully explore the effectiveness of the MOU approach.

Our Response: The commenter is correct that an attempt to develop and sign a MOU was never completed. However, we do not agree that the designation of critical habitat in any way precludes a cooperative approach to conserving the Arkansas River shiner. As elaborated upon below, we believe that a recovery planning process involving the cooperation of numerous stakeholders remains the best approach to shiner conservation and will have a significant influence on how critical habitat is managed, rather than the critical habitat designation driving management decisions.

(6) *Comment:* Designating critical habitat prior to development of a recovery plan for the Arkansas River shiner is inappropriate. This ''cart before the horse'' approach is irresponsible toward the affected public. The public should be allowed to participate in developing a recovery plan for the species, which would be far more effective than designating critical habitat.

Our Response: We agree that, in an ideal situation, we would have a recovery plan in place for any species prior to designating its critical habitat. In that way, the public would have input into the recovery process, and enough would be known about the species to help determine what areas are essential to its recovery. However, the Act requires that critical habitat be designated concurrently with a species'

listing or, in some circumstances, within 1 year of a final listing determination. Unfortunately, the Act does not allow for a delay in critical habitat designation until after a recovery plan is in place.

It is important to note that the recovery planning process, which will allow the involvement of affected individuals; local, state, and tribal governments; and others interested in conservation of the Arkansas River shiner, will result in development of specific recovery actions to be implemented on behalf of the species' conservation. Although recovery plan implementation is not mandatory, the plan does usually provide a ''blueprint'' for achieving recovery and substantially influence how the species is managed under the Act. Thus, although critical habitat is usually designated prior to recovery plan development, its on-the-ground recovery implementation can be influenced by a final recovery plan. It is the consideration of critical habitat during the section 7 process, rather than its mere designation, that actually determines how a species' habitat is managed.

(7) *Comment:* Critical habitat should be designated only in areas where the species is present.

Our Response: The definition of critical habitat under section 3(5) of the Act includes areas outside the geographic areas occupied by the species at the time it was listed, upon a determination that such areas are essential to the conservation of the species. The term ''conservation'' is defined under section 3(3) of the Act as the measures necessary to bring a species to the point that its protection under the Act is no longer necessary, i.e., the species is recovered. We do not believe that the Arkansas River shiner's current distribution and numbers are adequate to achieve its recovery. Thus, we determined that areas outside its current geographic range are necessary to reach that goal.

(8) *Comment:* All landowners within the area affected by the designation should have been notified. The Service is attempting to implement critical habitat without giving landowners adequate time to review the information. (Numerous commenters expressed concerns about the length of the comment period, particularly with regard to the amount of time allowed for review of the draft EA and draft economic analysis.)

Our Response: Given the wide-ranging nature of this designation, the thousands of landowners involved, and the amount of time available to complete the designation, contacting each individual landowner within the proposed area would have been nearly impossible. However, we went well beyond the general notification requirements of the Act and the Administrative Procedure Act. This included notification of all State, local, and tribal governments; mailings to over 1,100 interested parties; publication of notices in 9 newspapers; issuance of a press release and other informational materials; and announcement of all public hearings. We regret any instances where interested parties may have been unaware of the proposed designation.

The public comment period on this action was open for 60 days and extended for an additional 48 days, for a total of 108 days of public comment. The Act requires that a minimum of 60 days be allowed for comment on a critical habitat proposal. Thus, we exceeded the statutory requirement. In addition, the court order limited the amount of time we could allow for public review of the information.

The public comment period was initially open for 60 days following publication of the proposed rule on June 30, 2000. The initial 60-day comment period met the requirement under regulations at 50 CFR 424.16(c)(2). The draft EA was also available for public review at that time. During the 60-day review period on the proposed rule and draft EA, we announced the availability of the draft economic analysis (65 FR 49781; August 15, 2000) and extended the close of the public comment period 48 days beyond the initial 60 days, to allow for a full review and comment period upon the draft economic analysis. Thus, the public had 108 days to review and comment upon the proposed rule and draft EA, and 63 days on the draft economic analysis.

(9) *Comment:* Numerous commenters felt that there were too few public hearings held, and that the ones that were held should have been delayed until after the public had the opportunity to review the draft economic analysis. Some were concerned that the public hearings were held in the busy summer season and should have been held in winter. Some questioned the geographic distribution of the hearing sites, and some were concerned that the hearings were poorly publicized.

Our Response: The Act requires that at least one public hearing be held on a proposed designation of critical habitat if requested within 45 days of publication of a proposed rule. In anticipation of the public's interest in the proposed designation, we announced in the proposal that we would hold three public hearings beginning on August 7, 2000. Thus, the public was given 38 days notice of the dates and locations of the public hearings, exceeding the 15-day notification requirement in the regulations (50 CFR 424.16(c)(3). In addition, we mailed the proposed rule and other information to over 1,100 interested parties on our mailing list, issued a press release announcing the proposal and the public hearings, and published legal notices in 9 newspapers covering the entire geographic area affected by the proposed designation We believe we provided the public adequate notification of the public hearings.

We held public hearings in Amarillo, TX, Oklahoma City, OK, and Pratt, KS. Although we exceeded the statutory requirement of one public hearing, we agree that more public hearings on the proposal would have been desirable, particularly in rural areas. However, workforce, budgetary, and time constraints did not allow us to hold the number of public hearings we would have liked, and forced us to centralize the hearing sites. Further, the court-ordered deadline for making a final determination on the proposal (March 14, 2001) did not allow us to delay the public hearings until after the draft economic analysis became available, nor did it allow us to hold hearings in the winter. Nonetheless, the public had ample opportunity to review and comment on the economic analysis, and many persons did so.

(10) *Comment:* Federal designation of critical habitat is duplicative and intrusive upon States' rights.

Our Response: Since the designation of critical habitat does not, in itself, prescribe specific management actions or restrictions, we do not see how a designation is duplicative of State management efforts. As stated above, the manner in which consideration of critical habitat during the section 7 process is implemented, will be strongly influenced by the recovery planning process which will, in turn, involve the States in which Arkansas River shiner recovery will occur. It is our intent that States will be closely involved in, and therefore influential upon, recovery plan development.

(11) *Comment:* The proposed rule, draft economic analysis, and draft EA did not indicate that any coordination took place with any State or local governments nor any private organizations.

Our Response: While the documents listed above did not describe in detail the coordination that has taken place during this designation process, we have coordinated extensively with all involved States, as well as many water

conservation districts and other local governments, throughout the listing of the species and its designation of critical habitat. On April 14, 2000, we requested information on areas to include or exclude from a proposed designation and requested biological and economic information germane to the potential proposal from 5 Native American Nations, 34 State agencies, 31 State and local elected officials, 57 county governments, 22 knowledgeable individuals, and 124 organizations, local units of government, water conservation districts, and similar entities. We also contacted numerous Federal agencies and elected officials by letter.

(12) *Comment:* A copy of the settlement agreement leading to the critical habitat designation should be made available to the public. The amount of funds paid to the Center for Biological Diversity as part of the settlement agreement should be part of the public record.

Our Response: As stated in the proposed and final rules, all supporting information for this designation is available for public inspection at the Oklahoma Ecological Services Field Office (see **ADDRESSES** section). In addition, persons may request copies of any documents associated with this designation, subject to the provisions of the Freedom of Information Act, by writing to the Field Supervisor at that office. The settlement agreement is part of the public record in the United States District Court for the Northern District of California, San Francisco Division, *Center for Biological Diversity* v. *Bruce Babbitt, et al.,* Civil No. C99–3202 SC. The Stipulated Settlement Agreement and the Order entering that agreement were filed by the Court clerk on February 16, 2000. The Agreement does not specify attorney's fees but establishes that the Federal defendant ''agrees to pay Plaintiff's reasonable attorneys' fees and costs, such amount to be negotiated by the parties upon Defendant's receipt of Plaintiff's fee request.''

(13) *Comment:* The 300-foot ''buffer zone'' is excessive and unnecessary.

Our Response: Critical habitat includes the area of bankfull width plus 300 feet on either side of the banks. This is not for the purpose of creating a ''buffer zone.'' Rather, it defines the lateral extent of those areas we believe are essential to the species' conservation. Although the shiner cannot be found in the areas when they are dry, the areas are sometimes flooded and provide habitat during high-water periods. In addition, the riparian vegetation within these lateral areas provide seeds and insects eaten by shiners, and thus contains a primary constituent element of critical habitat.

(14) *Comment:* The designation of critical habitat for the Arkansas River shiner is arbitrary.

Our Response: We used the best scientific and commercial data available in developing this designation. Considerations that went into this mapping effort are described in the ''Methods'' section of this final rule.

(15) *Comment:* The phrase ''federally funded actions on private lands'' ''and private actions that require a Federal permit or authorization'' should be clarified. Does this mean all actions that receive Federal funds such as participation in U.S. Department of Agriculture programs, technical assistance from the Natural Resource Conservation Service, transition payments, government loans, loan deficiency payments, conservation plan compliance, etc.?

Our Response: It is up to Federal agencies to determine whether their actions may affect a listed species or critical habitat and thus be subject to the consultation requirements under section 7 of the Act. An ''action'' is defined in section 7 regulations (50 CFR 402.02) as ''* * * all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies * * * Examples include but are not limited to * * * the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid * * * or actions directly or indirectly causing modifications to the land, water, or air.''

(16) *Comment:* Critical habitat is unnecessary because the Service does not have the authority to regulate water quality or quantity and use—only the states and Environmental Protection Agency (EPA) do. The State of Kansas has been working with the EPA to enhance water quality.

Our Response: We agree that we do not have the authority to regulate water use, and have no intention of attempting to do so. However, any Federal agency whose actions influence water quality or quantity in a way that may affect critical habitat must enter into section 7 consultation. Those consultations cannot result in restrictions that are outside the action agencies' authorities to implement.

(17) *Comment:* Critical habitat is unnecessary because the Kansas Department of Wildlife and Parks has designated critical habitat and has ongoing plans to help conserve habitat for the shiner.

Our Response: The designation of critical habitat under Kansas State law only applies to State-sponsored activities and does not apply to Federally-sponsored activities as does a designation of critical habitat under the Act. Additionally, the State designation does not fully overlap this Federal designation. We may exclude areas from critical habitat upon determining that an area is not in need of special management considerations or protection. However, the commenter didn't provide sufficient information to enable us to conduct such an evaluation.

(18) *Comment:* What is to stop the Service from enlarging the critical habitat designation in the future?

Our Response: Our future revision of this critical habitat determination would likely be a result of the recovery planning process, in which we intend to promote full citizen involvement. Should the recovery planning process identify additional areas necessary for critical habitat designation, or if other public comment indicates the need for revisions to this designation, we would go through the complete rulemaking process, including public participation, before finalizing a revised designation. We do not anticipate increasing this designation.

Issue 2: National Environmental Policy Act (NEPA) Compliance

(19) *Comment:* The Service did not adequately comply with the requirements of the National Environmental Policy Act (NEPA). An Environmental Assessment (EA) is not adequate for an action of this magnitude; an Environmental Impact Statement (EIS) is required. Council on Environmental Quality regulatory requirements for the content of an EIS were not met, and the public was not provided adequate information.

Our Response: The commenters did not provide sufficient rationale for their belief that an EIS is required. An EIS is required only if we find that the proposed action is expected to have a significant impact on the human environment. To make that determination we prepared an EA, which analyzed the probable effects of the designation as well as several alternatives to the proposed action. The EA was made available for public review and comment on June 30, 2000. In addition, we conducted a draft economic analysis. The economic analysis was made available for public review and comment on August 15, 2000. Based on those analyses and comments received from the public, we prepared a final EA and made a Finding of No Significant Impact (FONSI), negating the need for preparing an EIS.

The final EA, final economic analysis, and FONSI provide our rationale for determining that critical habitat designation would not have a significant effect on the human environment. Those documents are available for public review (see **ADDRESSES** section).

(20) *Comment:* Neither the EA nor the economic analysis used information from landowners or the Oklahoma Farm Bureau.

Our Response: We considered all information submitted during the comment periods.

(21) *Comment:* The draft EA failed to include information on coordination with State and other Federal agencies.

Our Response: A discussion of our extensive pre-proposal coordination is included in the final EA and available through the Oklahoma Field Office (see **ADDRESSES** section). See the ''National Environmental Policy Act'' section below for a discussion of the 10th Circuit Court precedent on critical habitat and NEPA.

(22) *Comment:* The purpose of the NEPA action should be clearly stated as a court settlement in *Center for Biological Diversity* v. *Babbitt et al.*

Our Response: The primary purpose of the proposed designation is to aid in the conservation of the Arkansas River shiner, as stated in the draft EA. However, we clearly state in the final EA that a secondary purpose of the action is to comply with the settlement agreement.

(23) *Comment:* The cover sheet of the draft EA does not indicate the lead agency, list the cooperating agencies, provide the name, address, and phone number of the contact person, or denote the suspense date for submitting comments.

Our Response: The lead agency and contact information were provided in the cover letter transmitting the draft EA to interested persons. We have added that information to the cover sheet in the final EA. There are no formally-recognized cooperating agencies in this action.

(24) *Comment:* The draft EA fails to clearly define the major issues in accordance with CEQ regulations paragraph 1502.14. Major issues which should be discussed in greater detail include—whether the benefit of the action justifies the cost; effect on private property; plus all other issues identified by State and local governments, concerned citizens, and organizations.

Our Response: The major issues are defined in the Purpose and Need portion of the draft EA. The regulation cited by the commenter speaks to alternatives rather than the Purpose and Need section. We believe we identified and discussed in sufficient detail the major issues we were aware of when we prepared the draft EA. We have addressed all other issues brought to our attention during the comment period in the final EA and/or related documents.

(25) *Comment:* The draft EA fails to discuss the environmental impacts of each alternative, including the proposed action. Such discussion should include—adverse environmental impacts that cannot be avoided; the relationship between short-term use of the environment and maintenance/enhancement of long-term productivity; and any irreversible or irretrievable commitments of resources (CEQ regulations paragraph 1502.16).

Our Response: We disagree with the commenter. We considered a no-action alternative and several action alternatives and discussed the adverse and beneficial environmental impacts of each. We determined through the EA that the environmental effects of the critical habitat designation are insignificant above the effects from the listing. We believe our EA was consistent with the spirit and intent of NEPA.

(26) *Comment:* The draft EA did not provide names and qualifications of persons who prepared the document (CEQ regulations paragraph 1502.17), and the mailing list for those provided copies of the draft EA was not included (CEQ regulations paragraph 1502.19).

Our Response: The regulations cited by the commenter pertain to preparation of an EIS, not an EA.

Issue 3: Biological Concerns

The following comments and responses involve issues related to the biological basis for the designation and status of the Arkansas River shiner.

(27) *Comment:* The Arkansas River shiner population is stable, has readapted to other areas, has not declined in TX or otherwise does not require the protection of the Act. Status information was missing from the proposed rule. How does the Service obtain status information on the species?

Our Response: The Arkansas River Basin population of the Arkansas River shiner was listed as threatened in 1998. Additional information on the biology and status of this species and our rationale for the listing can be found in the November 23, 1998, final listing determination (63 FR 64772). Overall, the range of the Arkansas River shiner has declined by approximately 80 percent. As stated in the final rule, an analysis of the amount of occupied habitat demonstrates that the range of the ARS has been reduced in Texas. Historically, the Arkansas River shiner occupied 370 km (230.0 mi) of the Canadian River in Texas. At present, the ARS occupies 265 river-km (164.5 river-mi). This represents a loss of 28.5 percent of the historically occupied habitat in Texas. With the exception of those aggregations inhabiting the reach between Ute Dam, NM, and the upper reaches of Lake Meredith, TX, the Arkansas River shiner continues to decline.

We used survey data from a variety of sources including the Texas Parks and Wildlife Department, Bureau of Reclamation, University of New Mexico, Oklahoma State University, University of Kansas, University of Oklahoma, University of Michigan, Westark Community College, Texas Tech University, and the Oklahoma Department of Environmental Quality in assessing the current status of the Arkansas River shiner. Some of this information was funded by contract with us, and we were active participants in some of these studies. Fish and habitat data were collected in each study using standard survey techniques.

(28) *Comment:* The population in the Pecos River is no different than that in the Arkansas River Basin, and no critical habitat was proposed for the Pecos River system.

Our Response: While the origin of the founding stock for the Pecos River population undoubtedly came from the Arkansas River Basin, we consider these two populations to be different. The Arkansas River basin population is discrete and separate, based on natural, geographic isolation, from the nonnative, introduced population in the Pecos River, likely the result of intentional or unintentional release of bait fish by anglers. The Arkansas River basin population represents the only surviving natural occurrence of the taxon. The Pecos River population is not significant because it is an introduced population located outside of the species' historic range and, as stated in the final listing determination (63 FR 64772), is not essential for recovery of the species within its historic range. We do not believe listing or active conservation of the introduced Pecos River population is appropriate nor is such conservation required by the Act.

(29) *Comment:* The Arkansas River shiner population in NM is healthy.

Our Response: Surveys and collection records establish that the Arkansas River shiner historically inhabited the Canadian River from the TX-NM State line as far upstream as the Sabinoso area in central San Miguel County, NM (Sublette *et al.* 1990), a distance of over 193 river-km (120 river-mi). The

Arkansas River shiner also occurred in Ute and Revuelto creeks and the Conchas River. Present aggregations of Arkansas River shiners are limited to roughly 52 river-km (32 river-mi) of the Canadian River and a short segment of Revuelto Creek. Although the Arkansas River shiner population in the Canadian River of NM appears to be stable, the range of the species has declined by over 73 percent.

(30) *Comment:* When was the most recent occurrence of the Arkansas River shiner in the Cimarron River in Kansas near the Kansas State Highway 23 crossing.

Our Response: The most recent collection was in May of 1992. The specimen is catalogued in the natural history museum at the University of Kansas, catalogue number KU 23070. This specimen was collected in Harper County, Oklahoma, near the U.S. Route 283 crossing about 6.5 km (4 mi) south of Englewood, KS. To our knowledge, no intensive fish surveys have occurred in this segment of the Cimarron River since that time.

(31) *Comment:* A few comments requested clarification of the identification of the fish collected within the City of Wichita in 1999, or informed us that these specimens were, in fact, not Arkansas River shiners and that the species has been extirpated from the Arkansas River in Kansas. Another questioned whether the occurrence of the species in the Arkansas River was a miraculous recovery or an indication that more study was needed.

Our Response: In 1999, six fish were collected from two locations in the Arkansas River within the Wichita, KS, metropolitan area. At that time, the specimens were believed to be Arkansas River shiners. However, the specimens were in poor condition and subsequent re-examination of the specimens by Dr. Frank Cross led him to conclude that these fish were not Arkansas River shiners. The minnow family, Cyprinidae, is the largest and most widely distrubuted family of fishes with over 280 known species occurring in North America alone (Robison and Buchanan 1988). Identification of individual species, particularly within the genus *Notropis* is difficult due to the large number of species, their small size, and overall similar appearance. Even within a species, individuals can vary considerably in size and appearance. In preparing the proposed rule, we used the best information available to us at the time. At present the Arkansas River shiner is believed to be extirpated from the entire Arkansas River.

(32) *Comment:* The Arkansas River shiner is used for bait or is sought by commercial bait dealers.

Our Response: We have no information which indicates that the Arkansas River shiner is used as bait or is a species selectively harvested by the commercial bait industry. Arkansas River shiners may occasionally be captured incidental to harvest of commercial bait fishes. There also are records of the existence or capture of Arkansas River shiners outside of their historic range, such as the Pecos River population, that are likely the result of intentional or unintentional release of bait fish by anglers. Prior to listing, the Arkansas River shiner also may have occasionally been collected for personal use as bait by individual anglers. All four of the States within the historic range of the species allow the harvest of fish for personal use as bait. However, at the time of listing in 1998, the Arkansas River shiner was already listed as threatened or endangered in the States of KS, NM, and OK and collection or possession was prohibited without a valid state permit. Following listing under the Act in 1998, it was prohibited to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect, or to attempt any of these), import or export, shipping in interstate commerce in the course of commercial activity, or selling or offering for sale in interstate or foreign commerce any Arkansas River shiner except without prior obtainment of a Federal section 10(a)(1)(A) or 10(a)(1)(B) recovery or incidental take permit, respectively.

(33) *Comment:* What is the effect of commercial bait harvest on the Arkansas River shiner and have such effects been documented.

Our Response: As previously discussed, there is some evidence that, at least occasionally, Arkansas River shiners were collected and used as bait prior to Federal listing as threatened. The rarity of this fish outside of the Canadian\South Canadian River would indicate that this fish is not likely to occur in the retail trade or to be collected for personal use very frequently. As stated in the final rule, Larson *et al.* (1991) reported that there is no evidence that the species has been adversely affected by the commercial harvest of bait fish. They suggested that slender-bodied fishes such as the Arkansas River shiner would constitute only a small percentage of the commercial harvest, assuming the commercial bait industry used large-mesh seines as the major mode of capture. We suspect that the Arkansas River shiner, while perhaps not a highly sought commercial species, may be inadvertently collected by the commercial bait industry or was occasionally being harvested for personal use as bait. We do not believe that the abundance of the Arkansas River shiner has been or is likely to be seriously impacted by commercial harvest of bait fish. However, there is no conclusive evidence to confirm or refute this position and we believe the effect of this factor warrants further investigation. As previously stated, the section 9 prohibitions against take will likely minimize any effects to the species from the inadvertent collection of the species during commercial bait harvest. As stated in the final listing determination (63 FR 64772), we believe the most significant threat to the ARS from the commercial bait industry or bait collection for personal use is the potential for introduction of non-indigenous fishes into occupied Arkansas River shiner habitat.

(34) *Comment:* Does the Arkansas River shiner spawn in tributaries?

Our Response: Spawning regularly occurs in the Canadian\South Canadian River and historically occurred in all of the other major Arkansas River tributaries such as the Cimarron and Beaver\North Canadian Rivers. The only small tributary that currently supports a resident population of the Arkansas River shiner is Revuelto Creek in NM. Recent studies (Wilde *et al.* 2000) did not document spawning in Revuelto Creek. Historically, other small tributaries may have contained spawning sites but few supported permanent, resident populations. Other than Moore (1944) and Wilde *et al.* (2000), very little published information on reproduction by the Arkansas River shiner exists.

(35) *Comment:* Rainfall events exceeding 5–6 inches are required to cause flooding and only one major flood event has occurred on the Cimarron River since 1983; under such conditions habitat for the Arkansas River shiner does not exist. Others questioned the wisdom of designating critical habitat in streams that do not sustain reliable stream flows or that are restricted to pools during certain times of the year. Both the Arkansas and Cimarron Rivers were historically dry rivers and Arkansas River shiners cannot exist in a dry river. One individual noted that minnows disappear during the dry months and then return with the spring rains and wanted an explanation of this phenomenon. Rivers which dry up every 3 or 4 years were not suitable habitat for the Arkansas River shiner. The Arkansas River shiner is hardy and if it can find suitable habitat to survive during periods of drought or low flow

conditions, protection under the Act is not necessary because they are not likely to become extinct. Another sought identification of refugia during periods of drought or reduced stream flow, in particular, if tributaries were important.

Our Response: We know of no specific studies which investigated the response of Arkansas River shiners to drought and very few studies that document how the species responds during periods of low or no flow. Generally, during periods of low or no flow, plains fishes seek refugia in isolated pools or adjoining tributaries. Here they strive to survive until suitable flow conditions return. This pattern of retraction and recolonization of occupied areas in response to flow and other habitat conditions is typical of fishes who endure harsh conditions of plains rivers and streams. Localized extirpations are not typically of concern where sufficient numbers of the species survive and can recolonize these areas when conditions improve. However, Arkansas River shiners and other plains fishes cannot survive when conditions lead to permanent drying of river systems. Such conditions are in part responsible for the current status of the species. Although the Arkansas River shiner is a fairly hardy species, conditions have degraded to the point where it can no longer persist in certain reaches. Conservation of the core habitats is essential to survival and recovery of the species. However, conservation of sufficient reaches to allow expansion when suitable flow conditions return or under conditions of overall improving habitat conditions and population expansion also is crucial to survival and recovery of the species. The absence of the Arkansas River shiner from an area during certain periods or under certain conditions does not necessarily mean the reach is unoccupied. Please also see our response to Comment (64) under *Issue 5*.

(36) *Comment:* Current soil conservation practices keep runoff from entering the river and such measures would likely preclude existence of Arkansas River shiner habitat.

Our Response: Some soil conservation practices, such as terracing, are very effective at reducing run-off and may contribute to overall declines in peak discharge during rainfall events. However many conservation practices, such as construction of terraces, shelterbelts, grassed waterways, and certain vegetative plantings, are specifically designed to minimize soil erosion and control sedimentation. Without these practices in place, soil erosion and ensuing increased siltation would likely occur in rivers and streams of the Arkansas River basin. We do not believe that construction of terraces, shelterbelts, grassed waterways, and other vegetative plantings for conservation are likely to significantly impact habitat or threaten survival of the Arkansas River shiner.

(37) *Comment:* Designation of critical habitat would result in the creation of an artificial environment for the Arkansas River shiner and we should not proceed with the designation.

Our Response: Designation of critical habitat does not result in the creation of an artificial environment. In order to be included in a critical habitat designation, the habitat must first be ''essential to the conservation of the species.'' Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)). These physical and biological features, as outlined in 50 CFR 424.12, include, but are not limited to, the following: 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. In some cases, restoration of one or more of the constituent elements may be needed before efforts to reintroduce a species to an area where it is no longer extant would be successful. Recovery efforts often focus on habitat restoration to obtain more natural conditions and may involve the removal or corrective restoration of any artificial, detrimental habitat traits.

(38) *Comment:* Several species of wildlife occur within the riparian corridor and livestock could not have a greater impact on Arkansas River shiner habitat than these animals.

Our Response: As stated in the final listing determination (63 FR 64772), we believe well-managed, free-range livestock grazing is compatible with viable Arkansas River shiner populations and will not cause significant degradation of the riparian zone. In fact, low to moderate grazing and seasonal or rotational grazing practices are compatible with many natural resource objectives.

Although many species of wildlife inhabit lowland and riparian areas, they are a natural component of the ecosystem and the overall impacts of these species are generally less than that of livestock at higher stocking rates. White-tailed deer (*Odocoileus virginianus*) are the only large-bodied, native ungulate that regularly occur in riparian zones. Deer do not forage, herd, or move in the same manner as livestock. Deer in the southern United States do not tend to concentrate in large herds and do not remain in riparian areas for extended periods of time as do cattle. Deer typically do not trample vegetation and streambanks to the same extent as cattle. Where cattle have access to streamside zones, they generally reduce the suitability of the riparian zone for deer, either by consumption of forage or by trampling vegetation (Menzel 1984). Restriction of livestock grazing is one of the principal management tools used for white-tailed deer on public lands. Additionally, the dietary preferences of deer and livestock generally do not overlap to a significant extent. Deer are opportunistic feeders, consuming a wide variety of plant species (Jackson (1961) as cited in Menzel (1984)), and cattle forage almost exclusively on grasses and forbs. Consequently, we do not believe that wildlife exert the same influence on the riparian zone as do cattle and likely will not degrade Arkansas River shiner habitat.

(39) *Comment:* The Arkansas River shiner has no lasting value and is not an indicator of the health of ecosystems. The species should be allowed to become extinct.

Our Response: Congress, in section 2 of the Act (Findings, Purposes, and Policy), found that numerous species of fish, wildlife, and plants had become extinct or were in danger of, or, threatened with, extinction due to a lack of concern for their conservation. Furthermore, Congress found that these species of fish, wildlife and plants are intrinsically valuable to the nation and its people for reasons of aesthetic, ecological, educational, historical, recreational, and scientific value (section 2(a)(3)). These findings are the basis of the Act.

A variety of opinions likely exist as to a particular species' contribution to society. We believe that conserving all species of wildlife has a positive effect on society. Society, like the Arkansas River shiner, depends upon reliable supplies of clean water. Conserving water resources will help to provide a necessary resource for future generations of people and maintain a healthy aquatic ecosystem for fish and wildlife. As the health of ecosystems declines, the number of species inhabiting those systems decline. In general, the presence of rare and

declining species is very often a good indicator of failing ecosystem health. It would be contrary to the Act and our mission to allow the Arkansas River shiner to become extinct without taking all reasonable preventative actions.

(40) *Comment:* Animals are only to be utilized to serve the needs of human kind and interfering with the natural process of extinction is frivolous, futile, and unnecessary.

Our Response: As stated in the final listing determination (63 FR 64772), we agree that extinction and the dynamic processes of natural selection, fitness, and evolution are natural, ecological phenomena. Numerous natural, including catastrophic, events over geologic time have resulted in the extinction of many species. However, evolutionary changes rarely occur at rates comparable to those induced by human environmental alteration. Congress clearly recognized human-caused increases in the rate of species extinctions and passed the Act in an attempt to decrease the rate at which human-caused extinctions occur. Allowing a species to become extinct simply because it has not adapted to rapid habitat changes caused by human development is not permissible under the Act.

(41) *Comment:* Several factors, such as climate change, greenhouse gases, and other natural phenomena, are responsible for the declining status of the Arkansas River shiner, not just the few mentioned by the Service.

Our Response: This issue is not relevant to the designation of critical habitat and was addressed in the final listing determination (63 FR 64772), under factor E in the ''Summary of Factors Affecting the Species'' section.

(42) *Comment:* Wildlife species, such as least terns, whooping cranes, and other water birds, racoons, fish, and coyotes feed on Arkansas River shiners and decimate shiner populations during those periods when the river is confined to pools. In many instances this predation operates as a natural population control mechanism.

Our Response: This issue is not relevant to the designation of critical habitat and was addressed in the final listing determination (63 FR 64772), under factor C in the ''Summary of Factors Affecting the Species'' section.

(43) *Comment:* Very little new status or biological information was included in the proposed rule and the information used was dated.

Our Response: Most of the information on the habitat requirements, food habits, and reproductive needs of the Arkansas River shiner was obtained within the last three years.

(44) *Comment:* The Arkansas River shiner had not been reported from the South Canadian River in over 50 years and the species no longer occurs there.

Our Response: Data available to us and contained in our files demonstrates that the Arkansas River shiner persists in the majority of the South Canadian River. The most recent data available for Texas was published in 2000, and for Oklahoma in 1997. This information is included in the administrative record and is available for review by the public by appointment, during normal business hours, at the Oklahoma Field Office. Appointments can be made by contacting the Field Supervisor (see **ADDRESSES** section).

(45) *Comment:* What is the effect of the Red River shiner (*Notropis bairdi*) on Arkansas River shiner populations, have these effects been taken into consideration, and how would improving stream flow conditions compensate for the competitive effect of the Red River shiner.

Our Response: Competition with the non-indigenous Red River shiner contributed to diminished distribution and abundance of the Arkansas River shiner in the Cimarron River. The morphological characteristics, population size, and ecological preferences exhibited by the Red River shiner suggest that it competes with the Arkansas River shiner for food and other essential life requisites in the Cimarron River (Cross *et al.* 1983, Felley and Cothran 1981). The accidental or intentional introduction of the Red River shiner into other stream systems represents a potentially serious threat; however, we do not believe introductions of the Red River shiner have presently had a detrimental effect on any stream system in the Arkansas River Basin other than the Cimarron River. Accidental or intentional releases of the Red River shiner within stream segments occupied by the Arkansas River shiner have occurred on several instances but no populations have become established outside of that in the Cimarron River (Luttrell *et al.* 1995). A recent record of another Red River endemic, the Red River pupfish (*Cyprinodon rubrofluviatilis*), from the Salt Fork of the Arkansas River (Pigg *et al.* 1997) indicates that releases of fish from the Red River continue to occur. Certainly, the risk of extinction for the entire Arkansas River basin population would increase if Red River shiners became established in the Canadian/South Canadian River downstream of Lake Meredith.

The Cimarron River presently provides all of the primary constituent elements needed by the Arkansas River shiner, with the exception of the occurrence of the Red River shiner. If eradication of the Red River shiner from the Cimarron River is feasible, restoration of the Arkansas River shiner here would likely be successful. Techniques to reduce or eliminate Red River shiners could include netting, trapping, electrofishing, habitat modification, or use of fish toxicants. Stream flow restoration would not likely compensate for the effect of the Red River shiner. The most effective approach is to eliminate or minimize the possibility of establishment of this fish into other Arkansas River tributaries. We intend to fully address the threat from introduction of non-native fishes during the recovery planning process for the Arkansas River shiner.

(46) *Comment:* Recovery efforts intended to eradicate Red River shiners would also impact other imperiled Arkansas River basin fishes such as the peppered chub (*Macryhybopsis tetranema*) and the Arkansas darter (*Etheostoma cragini*) and controlling the Red River shiner or attempting restoration of the Arkansas River shiner in light of the potential for introduction of this non-native species is not wise and would be unsuccessful even if critical habitat was designated.

Our Response: As previously stated, we intend to address the threat from introduction of the Red River shiner or other non-native fishes during the recovery process. The needs of other organisms will be fully considered at that time.

(47) *Comment:* The Arkansas River shiner was not reported from the Canadian River in TX until 1954 and was not an indigenous species until that time.

Our Response: We agree, in part. The Arkansas River shiner was first reported captured from TX in 1954 by Cross *et al.* (1955) and Lewis and Dalquest (1955). However records exist from upstream reaches of the Canadian River in NM prior to 1950 (Sublette *et al.* 1990). Consequently, we believe that the Arkansas River shiner is native/indigenous to the entire Canadian/South Canadian River.

(48) *Comment:* There is no reason to save the Arkansas River shiner in Kansas, instead we should concentrate conservation efforts, such as land acquisition, in Texas where the species occurs.

Our Response: Conservation (recovery) of listed species is the ultimate purpose of the Act. Kansas includes a significant portion of the historic range and recovery of the Arkansas River shiner will ultimately

involve restoration of self-sustaining populations in portions of its historic range, including Kansas. The recovery process was initiated upon listing of the species in 1998 and is not dependent upon designation of critical habitat. Please also see our response to Comment (81) under *Issue 8.*

Land acquisition can be an important tool in the conservation of federally listed species. Recovery planning for the species may include recommendations for land acquisition or easements involving private landowners. However, these efforts would only be undertaken with the cooperation of the landowner. Recovery actions such as land acquisition will be fully evaluated during the recovery phase.

(49) *Comment:* The species experts disagree on habitat requirements for the Arkansas River shiner. Cross (1967) claimed that shiners are rarely found in quiet pools or backwaters and Wilde *et al.* (2000) found that the shiner exhibited no obvious selection or avoidance of any particular habitat type.

Our Response: Cross's work primarily described the preferred habitat of adult fish during the period from 1940's through late 1960's when Arkansas River shiner habitat in KS was more intact than it is at present. The work by Wilde *et al.* (2000) included both adults and juveniles from the Canadian River in TX after this system had already been degraded by the construction of several impoundments. Adult fish may use slightly different habitats than sub-adults and fish in the Canadian River likely exploit available habitat when preferred habitat is unavailable. Additionally, plains rivers are highly variable environments and plains river fishes are adapted to utilize the entire spectrum of habitat available in these systems. Consequently, the microhabitat features utilized by Arkansas River shiners, as reported by the experts, will vary according to conditions which existed at the time of the study. Both studies provide information that is important in describing the habitat utilized by the Arkansas River shiner.

(50) *Comment:* Arkansas River shiners and peppered chubs have similar habitat requirements and actions taken to conserve the shiner would also benefit the chub.

Our Response: Generally we agree with this comment. Protection of the habitat of one species will often result in at least partial or total protection for the other species in the same area. However, life history and habitat requirements of the two species do not overlap completely (Wilde *et al.* 2000). The current range of the chub and the Arkansas River shiner only overlap within the section of the Canadian River between Ute Reservoir, NM, and Lake Meredith, TX. This also would imply that habitat requirements of these species are somewhat different. The purpose of the Act is protection of ecosystems and where possible, we intend to consider habitat requirements of the chub as we undertake recovery for the Arkansas River shiner. We also will encourage management based on ecosystem principles which will ensure benefits to all species in the area.

(51) *Comment:* The Service has no evidence to support the assumption that groundwater withdrawals from the High Plains aquifer has affected flows in the Canadian River or habitat for the Arkansas River shiner.

Our Response: As explained in the final listing determination (63 FR 64772), we agree that the extreme southern portion of the High Plains aquifer does not influence streamflows in the Canadian River. We also agree that the influence of the High Plains Aquifer on streamflows in the Canadian River upstream of Lake Meredith is relatively minor. However, downstream of the Hutchinson-Roberts County line in TX, the Canadian River is confined within the sediments of the Ogallala formation and groundwater discharge contributes to surface flows. Groundwater depletion continues within much of the Central Regional Subdivision of the High Plains aquifer. Kromm and White (1992) state that streamflow has been dramatically reduced by groundwater withdrawals in western Kansas and has eliminated aquatic ecosystems in many areas of the High Plains. Additionally, Luckey and Becker 1998 also found that discharge from the High Plains aquifer is important to streamflow in sections of the western portions of the Arkansas River basin.

(52) *Comment:* Has the Service specifically studied flows in the Canadian River; there is currently much more water flowing in the South Canadian River than occurred 50 years ago.

Our Response: We have not conducted specific studies related to streamflow in the Canadian/South Canadian River. Instead, we rely heavily upon streamflow information collected by the U.S. Geological Survey (USGS) at numerous streamflow gaging stations location within the Arkansas River Basin. These data demonstrate that streamflow in the South Canadian River is not considerably greater than flows which occurred some 50 years earlier. For example, at the gaging station at Bridgeport, OK, stream flows for the years from 1944 to 1964 averaged 13.2 cubic meters per second (cubic m/s) (469 cubic feet per second (cfs)). Streamflows at this gage for the years 1970 to 1999 now average 9.0 cubic m/s (320 cfs). At the gaging station near Calvin, OK, some 272 river-km (169 river-mi) downstream, stream flows for the years from 1905 to 1965 averaged 51 cubic m/s (1,804 cfs). Average streamflows at this gage over the entire period of record (1906 to 1999) is 52 cubic m/s (1836 cfs).

Issue 4: Economic Concerns

(53) *Comment:* Many commenters believed that we underestimated the potential economic effects associated with critical habitat designation.

Our Response: Section 7 of the Act requires other Federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. The Act does not place requirements on any other parties to consider the effect of their actions on critical habitat. As a result, non-Federal entities can only be affected by critical habitat designation when the activities they carry out have a Federal nexus and the activity having the nexus could adversely modify critical habitat.

The draft economic analysis to the proposed rule found little incremental cost associated with the proposed designation because the shiner already inhabits many of the areas being proposed for designation, many of the areas overlap with interior least tern habitat, which is a federally protected species, and because many of the activities occurring within proposed critical habitat boundaries lacked any identifiable Federal nexus.

Since the publication of the draft economic analysis, information has developed showing that not all the areas being proposed for critical habitat overlap with least tern habitat, as was originally believed. Furthermore, new information obtained subsequent to the proposed designation, indicates that the section of the Arkansas River through the City of Wichita is now no longer believed to be occupied by the species. As a result, the Addendum to the draft economic analysis now projects that there will be some incremental costs associated with the critical habitat designation. These costs result from some additional section 7 consultations that could occur for some of the activities taking place within critical habitat and that could be attributed to the designation. Activities and associated Federal nexuses that could be

affected by additional section 7 consultations include concentrated animal feeding operations (CAFOs) requiring U.S. EPA permits under the National Pollution Discharge Elimination System, sand and gravel removal operations, and pipeline construction and maintenance activities requiring U.S. Army Corps of Engineers permits under section 404 of the Clean Water Act. While the Addendum reflects the associated costs of these consultations, we do not believe that such costs are significant.

(54) *Comment:* We received several comments from individuals concerned about how critical habitat designation will affect surface and groundwater withdrawals.

Our Response: The permitting and management of water access falls under the control of individual states. Consequently, a Federal nexus does not exist that would allow us to affect surface and groundwater withdrawals under the Act and a result, we do not believe that any section 7 consultations will be conducted for these activities. The Addendum to the draft economic analysis further clarifies these issues.

(55) *Comment:* We received comments stating that it was inaccurate to assume that their would be no incremental effect on section 7 consultations for activities affecting shiner critical habitat that also affect the interior least tern.

Our Response: The Addendum to the draft economic analysis corrects for this oversight and now provides estimates for the few section 7 consultations that we believe may need to discuss an activities impact on shiner critical habitat, in addition to the interior least tern. Because the section 7 consultation would need to occur regardless of shiner critical habitat designation, we believe the incremental effects to be minimal.

(56) *Comment:* We received many comments from individuals concerned about the designation's impact on agricultural activities occurring on the 91.4 meters (300 ft) ''buffer zone'' bordering the designated river systems, including the planting of crops or livestock grazing that may receive some form of Federal subsidy or the operation of CAFOs, which may require a Federal permit to discharge wastes into river bodies.

Our Response: In general, we have not observed any adverse impacts associated with traditional agricultural practices along the river systems being designated for critical habitat. As a result, we have conducted very few consultations on agricultural-related activities within the areas proposed for critical habitat.

Although the draft economic analysis stated that we did not believe that any incremental effects associated with critical habitat designation would occur for agricultural-related practices, the Addendum to the draft economic analysis acknowledges that in some areas small impacts could occur. The Addendum found that, due to a better understanding of areas occupied for the shiner and least tern, agricultural-related activities may take place in areas being designated for critical habitat where the shiner and tern's current occupancy are not well documented. In these areas, any future section 7 consultations that occur could therefore be attributed to critical habitat. The Addendum finds, however, that such effects remain relatively minor due to the combined fact that many of the agricultural-related activities lack a clear Federal nexus, which would allow us the opportunity to consult, and the relatively minor impacts currently adopted agricultural practices have had to date on the river ecosystems being designated.

(57) *Comment:* We received several comments of concern that our draft economic analysis failed to identify some Federal nexuses that potentially could result in new consultations with us over the effects these actions could have on critical habitat once it is designated.

Our Response: The draft economic analysis attempted to identify all the potential Federal nexuses on private lands and their associated activities in order to assess the likelihood of additional section 7 consultations occurring because of the proposed designation. While the draft economic analysis identified many different Federal agencies having potential nexuses on some private property activities, the analysis considered the likelihood that critical habitat could trigger additional section 7 consultations based on the historical record of whether any of these nexuses or associated activities has triggered consultations in the past. In most cases, our section 7 consultations for the interior least tern, which occupies a significant portion of the area being designated as critical habitat for the shiner, involve many of the same activities that may affect shiner critical habitat. The only instance where the shiner critical habitat would result in new, incremental consultations within least tern habitat would involve projects that impede movement of the shiners or their reproductive products (e.g., eggs, larvae) but do not adversely impact abundance of other fishes used by the least tern as a food source. For example, a small channel dam or run-of-the-river hydropower project could influence distribution and abundance of shiners, but not necessarily other small fishes consumed by terns. In the absence of such activities, however, consultations required by shiner critical habitat will occur simultaneous with consultations for the least tern in those areas occupied both species.

(58) *Comment:* Some commenters believed that we should have considered the effect of listing the shiner in our economic analysis.

Our Response: We disagree that the economic impacts of the listing should be considered in the economic analysis for the designation of critical habitat. The Act is clear that the listing decision be based solely on the best available scientific and commercial data available (section 4(b) of the Act). Congress also made it clear in the Conference Report accompanying the 1982 amendments to the Act that ''economic considerations have no relevance to determinations regarding the status of species * * *'' If we were to consider the economic impacts of listing in the critical habitat designation analysis it would lead to confusion, because the designation analysis is meant to determine whether areas should be excluded from the designation of critical habitat based solely upon the costs and benefits of the designation, and not upon the costs and benefits of listing a species. Additionally, because the Act specifically precludes us from considering the economic impacts of the listing, it would be improper to consider those impacts in the context of an economic analysis of the critical habitat designation. Our economic analyses address how the actions we are currently considering may affect current or planned activities and practices; they do not address impacts associated with previous Federal actions, which in this case includes the listing of the shiner as a threatened species. This method is consistent with the standards published by the Office of Management and Budget for preparing economic analyses under Executive Order 12866.

(59) *Comment:* We received a comment that our draft economic analysis relied too much on our own resources for information at the expense of other established information sources.

Our Response: The Act is clear that only the Federal government is required to consider the effect of its actions on critical habitat. As a result, we believe that only Federal government agency representatives are in a position to characterize whether or not any additional or re-initiated section 7

consultations may occur as a result of critical habitat designation. Because critical habitat in this case is composed principally of private lands, the only Federal agencies that could be affected by this designation are those that issue permits, fund, or authorize activities on private lands. The draft economic analysis found that the activities occurring on private land have very few Federal nexuses. Furthermore, few of the activities associated with these nexuses have required or are likely to require section 7 consultations. Consequently, the sources of available, useful information outside of the Service was limited for the analysis of this designation.

(60) *Comment:* We received many comments from individuals expressing their concern that critical habitat designation will infringe on their rights as private property owners and that the designation could result in a reduction in their property's value.

Our Response: Because only the Federal government is required to consider the effect of its actions on critical habitat we do not believe that the designation will result in any significant effects to private property owners. Only activities taking place on their property having some sort of Federal nexus could potentially be affected and experience has shown that the majority of such activities have rarely warranted enough concern to trigger a formal section 7 consultation. Activities occurring on private property that could result in the ''take'' of a species, however, would still be subject to direct consultation with the Service, regardless of any connecting Federal nexus, under section 10 of the Act. Such requirements remain unaffected by the designation of critical habitat and as a result the impacts can not be attributed to this rulemaking.

(61) *Comment:* The Environmental Protection Agency (EPA) indicated that we should evaluate Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, in our economic analysis.

Our Response: Executive Order 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. We do not believe that the designation of critical habitat for endangered and threatened species results in any changes to human health or environmental effects on surrounding human populations, regardless of their socioeconomic characterization. As such, we do not believe that Executive Order 12898 applies to critical habitat designations.

(62) *Comment:* Some commenters believed that the draft economic analysis failed to adequately consider the effect that the designation would have on small businesses and rural communities.

Our Response: The Regulatory Flexibility Act, as amended by the Small Business Regulatory Enforcement Fairness Act, generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. We are certifying that this rule will in fact not have a significant economic impact on a substantial number of small entities and as a result, we do not need to prepare either an initial or final regulatory flexibility analysis. We have based our decision on the finding of the draft economic analysis and Addendum that this rule will not result in any significant additional burden to the regulated community, regardless of the size of the entity.

Issue 5: Site-Specific Issues

The following comments and responses involve issues related to the inclusion or exclusion of specific streams reaches or our methods for selecting appropriate areas for designation as critical habitat.

(63) *Comment:* The Arkansas River within the City of Wichita, KS, metropolitan area is unoccupied and is not suitable habitat for the Arkansas River shiner due to surface and groundwater contamination and the presence of water control structures that impede movement of the species.

Our Response: During preparation of the proposed rule, we believed this section of the Arkansas River was inhabited by the Arkansas River shiner. Further examination of these specimens revealed that they were not Arkansas River shiners and the section of the Arkansas River through the City of Wichita is now no longer believed to be occupied by the species. In addition, two flow control structures exist within this reach that are likely physical barriers to the movement of Arkansas River shiner during normal and low flow conditions. One of these structures, the Lincoln Street Dam, also serves to impound the river for the purpose of maintaining constant water levels in the river throughout downtown Wichita and water depths are generally in excess of those preferred by the Arkansas River shiner. This reach of the river is also degraded by high nutrient loading and groundwater contamination and substrates in this reach are predominantly silt. Based on this information, we have excluded a 12.4-mile reach of the Arkansas River through the City of Wichita. However, the current mayor has made remediation a priority and the city is taking steps to improve water quality within this reach. Water quality improvements should facilitate improvement in habitat conditions in the river downstream of the city. The excluded section also remains important to recovery of the Arkansas River shiner because it serves to connect the upper section with the lower section during periods of high flow. Maintenance of this connection is essential to successful egg development and movement of juvenile Arkansas River shiners between the two sections, and will facilitate future efforts to restore Arkansas River shiners to this section of the Arkansas River. Considering the river functions to pass flood waters during elevated stream flow conditions, we do not anticipate that the city would propose modification of this reach to the point that connection between the upper and lower sections during elevated flows would no longer occur.

(64) *Comment:* Designation of critical habitat in the Cimarron River provides no benefit. Restoration of the Cimarron and Arkansas rivers is not hydrologically feasible and these rivers do not qualify as critical habitat. Areas without sufficient flow should not qualify as critical habitat and should be excluded. How can rivers that do not always flow be habitat for the Arkansas River shiner?

Our Response: As stated in our response to comment 35, these rivers and streams historically have portions that dry either seasonally, during drought conditions, or for other natural reasons. The species is adapted to this phenomenon and persist in isolated pools and tributary refugia only to recolonize the dewatered areas once flow resumes. Consequently, the absence of the Arkansas River shiner or other fishes from an area during certain periods or under certain conditions does not necessarily mean the reach is not suitable habitat.

Arkansas River shiners successfully spawn during elevated flows but major overbank flood events are not necessary to ensure successful reproduction. Arkansas River shiners can, and do, spawn in isolated pools during the

summer but the reproductive effort is not likely to be successful. Flows in the Cimarron River and eastern portions of the Arkansas River basin in Kansas appear suitable for reproduction.

As long as these drought and other adverse circumstances are temporary and not permanent, the shiner can recolonize reaches that were dewatered. Over the past several decades, the extent of areas in the Arkansas River basin that periodically lose flow has increased due to human alterations of the watersheds and stream channels and diversion of the streamflows. If sufficient areas of flow persist, and if all other habitat needs are met, then the stream is suitable for the species whether or not there is flow throughout all areas at all times.

There are areas in the Cimarron and Arkansas rivers where flows are artificially altered by human diversion and uses, up to and including complete loss of flow. In some of these areas, changes in management may potentially increase duration of flows and the length of stream channel with permanent water, thus making them valuable for recovery and survival of Arkansas River shiner.

(65) *Comment:* Although some comments supported inclusion of the adjacent riparian zone as critical habitat, many others were strongly opposed to this approach because the riparian zone should not be considered habitat for the Arkansas River shiner.

Our Response: Riparian areas form the basis of healthy aquatic ecosystems and influence the primary constituent elements, therefore they are essential to the conservation of the species and may be included in a critical habitat designation. Streams and stream functioning are inextricably linked to adjacent riparian and upland areas. Streams regularly submerge portions of the riparian zone via floods and channel migration, and portions of the riparian zone provide seeds and insects eaten by shiners.

The riparian zone also provides an array of important watershed functions that directly benefit plains fishes. Vegetation in the corridor shades the stream, stabilizes banks and provides organic litter and large woody debris. The riparian zone stores sediment, recycles nutrients and chemicals, mediates stream hydraulics and controls microclimate. Healthy riparian zones help ensure water quality essential to aquatic life. Human activities in the riparian zone can harm stream function and fishes by directly and indirectly interfereing with these important functions. For example grazing, cultivation, road building and similar disturbances can, although not always, increase sediment delivery, destabilize banks, reduce organic litter, simplify stream channels, increase peak flows and otherwise reduce the value of the habitat for stream fishes. In some instances, injury or mortality of fishes may occur. Because the riparian corridor is particularly susceptible to degradation from such activities, we concluded that the adjacent riparian corridor would require special management consideration and therefore was appropriate for inclusion in critical habitat.

(66) *Comment:* Critical habitat in the Cimarron River in Oklahoma should be extended to a point at least one-half mile beyond the Lone Mountain/Safety Clean facility. Critical habitat in the Cimarron River in Oklahoma should be extended downstream to the Highway 412 crossing near the confluence of Eagle Chief Creek.

Our Response: Because of the requirement for all proposed critical habitat designations to undergo public review and comment, areas normally are not added to the designation without an additional proposal. However, if restoration efforts are successful, existing Arkansas River shiner aggregations may expand and utilize additional segments of the Cimarron River downstream of the designated reach. We could amend critical habitat at a later date if information gained through the recovery planning process indicates such revisions are warranted. If, at that time, we believe a revision is warranted and funding available, we would propose revised critical habitat and consider all information provided, both on additional areas considered in the revision as well as areas included in the current designation, before a final rule is published. Based on the best available science at this time, we determine that the areas designated by this rule are sufficient to conserve the species. As stated in our response to comment 18, we do not currently anticipate a need to expand the present designation.

(67) *Comment:* Critical habitat in the Canadian River (Unit 1a) should not include the area downstream of the U.S. Routes 87\287 crossing to the mouth of Coetas Creek because this segment is within the operation pool of Lake Meredith. Critical habitat designation should not include the Canadian River in the Texas Panhandle.

Our Response: The segment of the Canadian River from the mouth of Coetas Creek upstream to the vicinity of Ute Reservoir, NM, including the crossing of U.S. Routes 87\287, is occupied by a relatively stable aggregation of Arkansas River shiners. This segment contains all of the primary constituent elements needed by the Arkansas River shiner and is considered essential to conservation of the species. Because the area is already occupied by the species, protection under the Act within this section is already applicable regardless of the critical habitat designation. Additionally, the National Park Service, the primary land owner in the reach downstream of the U.S. Routes 87\287 crossing, requested the area be included because the designation would assist the National Park Service in future recovery of the species and management of its habitat (Karen P. Wade, Director, Intermountain Region, National Park Service, *in litt.* 2000).

(68) *Comment:* Portions of the Arkansas River downstream of the Oklahoma\Kansas state boundary should be included in the designation.

Our Response: These reaches are not suitable for the Arkansas River shiner due to the influence of flood control impoundments and stream channelization. Please see our discussion at Unit 4 under the ''Critical Habitat Designation'' section.

(69) *Comment:* Areas where the Arkansas River shiner has not been recorded from in the last two years should not be designated as critical habitat.

Our Response: Failure to record Arkansas River shiner from specific locations in the past several years is generally indicative of low population levels but does not necessarily support a declaration of extirpation from the entire stream. Documentation of small populations is very difficult and often results in false declarations of extirpation (Mayden and Kuhajda 1996). At the least, this illustrates the need for caution in concluding that a population has been extirpated. Fish, particularly small species, are often very difficult to locate when population levels are very low.

(70) *Comment:* Those streams proposed for designation of critical habitat that contain the nonnative Red River shiner does not meet the proposed constituent elements description of few or no predatory or competitive nonnative species present, and therefore do not qualify for designation as critical habitat.

Our Response: The Cimarron River currently contains all of the primary constituent elements for the Arkansas River shiner, with the exception of the occurrence of the Red River shiner. We recognize the influence of this nonnative on the Arkansas River shiner and intend to investigate measures to control or remove the Red River shiner

prior to any attempts to reestablish the Arkansas River shiner. Although the lack of nonnative aquatic species is the best case scenario for the Arkansas River shiner, the mere presence of nonnative aquatic species does not eliminate an area from consideration as critical habitat. There is strong potential for enhancement of the Cimarron River to the point where it may once again support healthy populations of Arkansas River shiner.

Issue 6: Effects of Designation

The following comments and responses involve issues related to the effects of critical habitat designation on land management or other activities.

(71) *Comment:* The Service should clarify how critical habitat designation will affect private properties, private land uses, and management practices. Specific concerns raised included taking\confiscation of private property, imposed land use restrictions, reduced land values, limited or restricted surface and groundwater rights and ability to irrigate, supercede state's right to manage and regulate water, forced fencing of riparian zone, hamper individual decision-making capacity, forced land acquisition, further regulation of oil and gas industry, regulation of pesticides, restrict off-road and recreational vehicle use, require acquisition of water rights, prohibit or restrict farming operations such as cultivation, grazing, haying, pecan harvest, restrict aquaculture, and regulate CAFOs.

Our Response: A critical habitat designation has no effect on situations where a Federal agency is not involved, for example, a landowner undertaking a project on private land that involves no Federal funding or permit. Individuals, organizations, States, local and tribal governments, and other non-Federal entities would potentially be 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 and the action has the potential to affect the species or its critical habitat. In this instance, Federal agencies are required to enter into section 7 consultation with us. Effects of the designation on projects with a Federal nexus is explained in the ''Effect of Critical Habitat Designation'' section and in Comment (72).

A critical habitat designation does not impose any additional regulatory burdens on private land other than those imposed by the species' listing. Private landowners continue to be free to manage their property as they see fit, using care to ensure that their land management practices do not result in take of listed species. Private actions on private property, such as those mentioned in the comment above, would generally be exempt from the regulatory provisions of the Act unless the actions involve Federal funds, Federal authorization, or some other Federal nexus, or if the individual is engaged in an activity that is likely to result in take of the Arkansas River shiner. The term ''take'' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Prohibitions against take of the species under section 9 of the Act would be present regardless of whether or not critical habitat has been designated. If areas designated as critical habitat are not occupied by Arkansas River shiners, no take in the form of harm or harassment would occur from activities on these areas and no section 9 prohibitions would be in force. However, effects from activities in unoccupied habitat that extend downstream to areas occupied by a listed species could result in take, regardless of whether or not critical habitat has been designated. Although the legal definition of harm includes habitat modification, this applies only to the species and not to critical habitat. Critical habitat is not protected under the take prohibitions of section 9, and there is no regulatory effect of critical habitat on strictly non-Federal activities. If the action causing take does not involve a Federal nexus, a private party could seek a section 10(a)(1)(B) incidental take permit to legally take Arkansas River shiners incidental to otherwise lawful activities. When a Federal nexus is involved, consultation under the Act would be required.

Within the delineated critical habitat boundaries for the Arkansas River shiner, only lands containing one or more of the primary constituent elements that are essential for the primary biological needs of the species are considered critical habitat. Existing human-constructed features and structures within the critical habitat boundary, such as buildings, powerlines, roads, railroads, and others not currently containing one or more of the primary constituent elements are not considered critical habitat and are not included in the designation.

Designation of critical habitat does not prescribe specific management actions but does serve to identify areas that are in need of special management considerations. Regarding grazing, we believe well-managed livestock grazing is compatible with viable Arkansas River shiner populations and that certain types of grazing in riparian zones likely have minimal impacts. In fact, low to moderate grazing and seasonal or rotational grazing practices are compatible with many natural resource objectives. However, negative effects of overgrazing remain a concern (see ''Summary of Factors Affecting the Species'' section in the final listing determination (63 FR 64772)). In instances where water quality degradation may be occurring as a result of livestock grazing, fencing of the riparian area is one of many corrective measures which could be recommended. Designation of critical habitat does not result in the establishment of a refuge or wildlife management area and fencing of the riparian corridor is not anticipated to occur except in those isolated instances previously discussed.

We are sensitive to the concerns of individuals concerning property rights and genuinely do not believe the designation of critical habitat will have significant effects beyond those imposed by the listing of the Arkansas River shiner. We will work with any landowner within the designated areas to help identify actions that would or would not likely result in take of the Arkansas River shiner, identify measures to conserve the shiner, and where appropriate, to develop Habitat Conservation Plans and associated permits under section 10 of the Act to authorize incidental take of the shiner. In unoccupied areas, individual landowners will not be affected unless a Federal nexus exists.

(72) *Comment:* The Service should clarify how critical habitat designation will affect specific Federal activities and projects. Specific actions mentioned included construction and operation of watershed dams, farm program payments, government loans, technical assistance by Federal agencies, operation of flood control projects, operation of Federal dams, existing waste-water discharges, conservation plan compliance, and Lake Meredith Salinity Control project.

Our Response: Section 7(a) of the Act requires Federal agencies 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. Federal actions not affecting the species or its critical habitat, as well as actions on non-Federal lands that are not federally funded or permitted, will not require section 7 consultation and will not be affected. Specific Federal actions will need to be reviewed by the action

agency to determine if the species or its designated critical habitat would be affected. If the Federal action agency determines the proposed activity may affect the species or critical habitat, they will consult with us under section 7 of the Act. The implications of the consultation process on the various agencies would vary according to the nature of the project. If, during the consultation process, it is determined that the activity is likely to adversely modify critical habitat, we will work with the agency to modify the activity to minimize negative impacts to critical habitat. We will work with the agencies and affected public early in the consultation process to avoid or minimize potential conflicts and, whenever possible, find a solution which protects listed species and their habitat while allowing the action to go forward in a manner consistent with its intended purpose.

Projects that were constructed or invoked before the listing of the Arkansas River shiner would not be affected by this designation except in those instances where the agency still retains some discretion or authority over the project. For these completed projects where affects to the species or critical habitat are anticipated, or a modification of the existing project is proposed, section 7 consultation would be required. Projects which have completed section 7 consultation but have not yet been fully constructed and the potential destruction or adverse modification of critical habitat for the Arkansas River shiner has not been addressed, section 7 consultation must be reinitiated with us.

If a project was determined to adversely affect the Arkansas River shiner, or destroy or adversely modify its critical habitat, the action agency would initiate formal consultation with us. We would then prepare a biological opinion, pursuant to 50 CFR 402.14 (h) and (i). If incidental take of a listed species was involved, we would provide reasonable and prudent measures in an incidental take statement to minimize take and its effects. Under the terms of sections 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered taking within the bounds of the Act, provided that such taking is in compliance with an incidental take statement in a biological opinion.

If we determine during formal consultation that a project would jeopardize the continued existence of a listed species, we would seek to develop reasonable and prudent alternatives to avoid jeopardy. Such reasonable and prudent alternatives might require project modifications. Implementation of reasonable and prudent measures and alternatives are not discretionary. However, discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat would be provided as conservation recommendations in the biological opinion.

We are required to deliver a biological opinion, which concludes consultation, to the action agency within 135 days of receipt of a request for formal consultation (50 CFR 402.14(e)). If the action agency incorporates consultation into their planning process and consultation is initiated early, project delays are unlikely. Meetings with us, preparation of documents, and implementation of any reasonable and prudent alternatives or measures identified in the biological opinion may result in some additional project costs.

Large water development projects virtually always involve a Federal agency through funding, permitting, or other action. Therefore, future construction and ongoing operation of Federal reservoirs should be evaluated by the action agency for impacts to the species or its critical habitat, and, where impacts occur, these actions would undergo consultation under section 7 of the Act. If feasible, modifications to these projects will be sought to ensure that the ecosystems upon which this species depends are conserved. However, if no adverse impacts would occur, or if the affected habitat is unoccupied and unsuitable, further consultation under section 7 would be unlikely.

(73) *Comment:* Designation of critical habitat will bring a rash of lawsuits.

Our Response: Section 11(g) of the Act allows citizens or organizations seeking redress in those instances where they contend that no action, limited action, or inappropriate action is putting listed species at risk. The individual or organization making such claims is required to present information to support its position.

(74) *Comment:* We cannot guarantee that funds will be available for species management and recovery or to reimburse funds expended on management and to offset economic losses. Designation of critical habitat will hinder, complicate, or delay recovery.

Our Response: We agree that listing does not guarantee that additional funding will become available to implement appropriate management of the species, such as that which may be recommended in an approved recovery plan. The listing does, however, raise the level of awareness about the species' plight and allows us to spend funds from our budget designated for listed species management and protection. It also increases the likelihood that other involved Federal, State, and private organizations will dedicate more funds to recovery of the Arkansas River shiner. Section 7 of the Act provides mandatory protection from any federally permitted, authorized, funded or carried out activity that would cause jeopardy or adverse modification of critical habitat, as explained above. In fact, the Service, U.S. Army Corps of Engineers, and the Bureau of Reclamation have already provided funding for implementation of conservation actions for the species. We do not believe the designation will hinder or delay recovery.

(75) *Comment:* Does the listing and critical habitat designation allow the Service to be granted access to private property or allow trespass?

Our Response: No. We do not condone entering private land without landowner permission.

(76) *Comment:* Designation of critical habitat will prohibit hunting, fishing, hiking, off-road vehicle use and other forms of recreation. Off-road vehicle use is not affecting the Arkansas River shiner.

Our Response: As stated in the final listing determination (63 FR 64772), we believe that normal, lawfully authorized recreational activities such as hunting, and fishing, do not result in take of the Arkansas River shiner and would not be prohibited under section 9 of the Act. These activities do not generally impact or destroy the physical habitat for the shiner. However, although specific studies are lacking, heavy recreation use may be adversely impacting the stream and habitat for the Arkansas River shiner, particularly during periods of low flow. Within areas occupied by the shiner, recreational and off-road vehicle use within the river bed to the extent that habitat for the Arkansas River shiner is adversely impacted could be a violation of section 9.

The Lake Meredith National Recreation Area is managed by the National Park Service. Consequently, the National Park Service has an obligation under section 7 of the Act to evaluate its activities for possible effects on listed species. We do not anticipate that recreational activities at the Lake Meredith National Recreation Area or other Federal reservoirs would be significantly altered as a result of evaluations under section 7.

(77) *Comment:* Even though the lateral extent only includes a 300-foot riparian corridor, the implications of the designation appear to apply to the entire watershed of the streams designated as

critical habitat, including their tributaries.

Our Response: Habitat quality within the mainstem river channels is directly and indirectly related to the character of the floodplain and the associated tributaries, side channels, and backwater habitats. Consequently activities occurring in the entire watershed can influence stream flow, habitat quality, and other key habitat features (e.g., substrate type and water quality). Federal agencies are responsible for ensuring that their activities do not jeopardize the continuing existence of the shiner or destroy or adversely modify it designated critical habitat. Some activities which occur within a watershed would likely have an impact on the species or its critical habitat and must undergo section 7 consultation. Although activities within the watershed may affect the critical habitat, it is not our intent to designate areas outside of the floodplain as critical habitat.

(78) *Comment:* How will designation affect commercial minnow dealers?

Our Response: As stated in the final listing determination (63 FR 64772), we anticipate that listing of the Arkansas River shiner would only have minimal effects on the activities of the commercial minnow industry. Commercial minnow harvest does not generally lead to habitat impacts and the designation of critical habitat is not likely to have any effect on commercial harvest of bait fish.

(79) *Comment:* The designation of critical habitat will result in control of, or ''taking'' of, private property in violation of the rights granted under the Fifth and Tenth Amendments to the U.S. Constitution.

Our Response: This designation will not ''take'' private property. The designation of critical habitat affects only Federal agency actions. Please see our discussion under the section entitled ''Takings.''

Issue 7: Designation of Critical Habitat on Tribal Land

(80) *Comment:* One commenter questioned why we did not propose to designate critical habitat on tribal lands but proposed critical habitat on other private lands when the designation would have the same effects on both.

Our Response: Under the Presidential Memorandum of April 29, 1994, and Executive Order 13175, we have an obligation to consult with tribes on a government-to-government basis and believe that fish, wildlife, and other natural resources on tribal lands are better managed under tribal authorities, policies, and programs than through Federal regulation. We believe that designating tribal land for the Arkansas River shiner provides very little benefit to the species and would compromise the government-to-government relationship essential to achieving our mutual goals of managing for healthy ecosystems upon which the Arkansas River shiner depends.

Issue 8: Recovery

The following comments and responses involve issues related to recovery and recovery planning for the Arkansas River shiner. Although not relevant to the designation of critical habitat, we chose to address some of the comments related to this issue.

(81) *Comment:* Some comments expressed concern regarding implementation of unfavorable recovery actions or noted that the details, costs, and recovery goals of the recovery program were missing from the proposed rule. Others mentioned specific tasks, such as further research, captive propagation, control of salt cedar (*Tamarix* sp.), stream flow restoration, control of non-native fishes, and restoration of the Arkansas River shiner to unoccupied habitat, which we might implement during recovery.

Our Response: The Secretaries of the Interior and Commerce set forth an interagency policy to minimize social and economic impacts of the Act consistent with timely recovery of listed species on July 1, 1994 (59 FR 34272). Consistent with this policy, we intend to work closely with stakeholders throughout the Arkansas River basin regarding development of recovery actions for the Arkansas River shiner and will strive to balance implementation of those recovery actions with social and economic concerns.

The ultimate purpose of listing a species as threatened or endangered under the Act is to recover the species to the point at which it no longer needs the protections provided to the listed species. The Act mandates the conservation of listed species through different mechanisms. Section 4(f) of the Act authorizes us to develop and implement recovery plans for listed species. A recovery plan delineates reasonable actions which are believed to be required to recover and\or protect listed species and may address measures specifically mentioned during the comment period. Recovery plans do not, of themselves, commit personnel or funds nor obligate an agency, entity, or person to implement the various tasks listed in the plan. Recovery plans serve to bring together Federal, State, and private stakeholders in the development and implementation of conservation actions for the species. The plan establishes a framework for agencies to coordinate activities, and cooperate with each other in conservation efforts, set recovery priorities, and estimate costs of various tasks necessary to accomplish the goals of the plan. The plan will describe site specific management actions necessary to achieve conservation and survival of the species. One of the main emphases of recovery plans is to address threats affecting the survival of the species and to remove or minimize their influence. However, we have no intention of restoring these ecosystems to pristine conditions. The recovery plan also will identify delisting criteria.

In the ''Available Conservation Measures'' section of the final listing determination, we listed four general conservation measures that could be implemented to help conserve the Arkansas River shiner. While this list does not constitute the entire scope of a recovery plan as discussed in the provisions of section 4(f) of the Act, it does provide an indication of measures we intend to investigate during preparation of a recovery plan.

Future conservation and recovery of the shiner will emphasize remaining aggregations and habitats in the Canadian, Cimarron, and Beaver\North Canadian Rivers. We also intend to address the implications of groundwater withdrawals and diversions of surface water during the recovery process. Generally, we will support and encourage the States in their efforts to increase irrigation efficiency and improve conservation of groundwater sources in the High Plains. Conservation of the High Plains aquifer, and the resulting benefits to streamflow within the Arkansas River basin, will not occur without the participation of the States. We believe voluntary conservation of the groundwater resource will be more effective in recovery efforts for the Arkansas River shiner than restricting or otherwise regulating withdrawals.

Introductions of non-indigenous species will be closely monitored. Where needed, we will develop and implement measures to minimize or eliminate the accidental or intentional release of these species. Studies will be initiated to determine the feasibility of, and techniques for, eradicating or controlling Red River shiners in the Cimarron River. If control or eradication is feasible, a control program will likely be implemented.

As stated in the following section entitled ''Methods'', we have already begun steps to evaluate and study

captive propagation of the Arkansas River shiner using the non-native Pecos River population. And we have begun participating in a joint effort to investigate the feasibility of controlling salt cedar as a means of enhancing stream flow in western portions of the basin. The State of Texas also has initiated similar efforts in the Canadian River.

(82) *Comment:* Recovery of the species is too costly and recovery is not guaranteed by listing or through the recovery process. The Service should involve stakeholders in meetings and in the development of recovery actions.

Our Response: Regulations at 50 CFR 424.11(b) require the Secretary of the Interior to make listing decisions based on ''the best available scientific and commercial information regarding a species' status, without reference to possible economic or other impacts of such determination.'' Neither the Act nor implementing regulations allows us to consider the recovery potential or recovery cost for a species in determining whether a species should be listed.

It is our policy (59 FR 34270) to solicit active participation by the scientific community, local, State, and Federal agencies, Tribal governments, and other interested parties in the development and implementation of recovery plans. Because the Arkansas River shiner occurs primarily on private property, we fully realize that recovery of this species will depend upon local community support and the voluntary cooperation of private landowners, and we welcome them as cooperators in the recovery effort. We will work closely with stakeholders in the management and recovery of the Arkansas River shiner to ensure that the concerns of local governments, citizens, and others are considered. Technical assistance will be provided to those property owners and land managers who wish to implement conservation measures for this species.

(83) *Comment:* Use the Safe Harbor program to save species.

Our Response: A Safe Harbor Agreement is a voluntary arrangement between us and cooperating non-Federal landowners designed to promote voluntary management of listed species (64 FR 52676). Through this process, we will authorize any necessary future incidental take while providing participating landowners with assurances that no additional restrictions will be imposed as a result of their conservation actions. We intend to utilize Safe Harbor Agreements to the extent practical during conservation of the Arkansas River shiner. In fact, the City of Wichita has already expressed interest in pursuing this program within the metropolitan area.

(84) *Comment:* The Service handled recovery poorly by waiting until after the settlement agreement to begin recovery planning. The Service has completed most of the recovery plan without public involvement.

Our Response: We are currently in the process of assembling a recovery team and drafting a recovery plan for the Arkansas River shiner. This draft recovery plan will include a more thorough analysis of recovery needs of the shiner. We did not wait until after the settlement agreement to begin recovery planning. We prepared, at the time of the final listing determination, a recovery outline for the shiner and have begun to implement some preliminary recovery tasks identified in the outline. Recovery outlines are brief internal planning documents that are prepared within 60 days after the date of publication of the final rule. These documents are intended to direct recovery efforts pending completion of the recovery plan. We have not, to this point, completed or even begun drafting a recovery plan. Considering the first two sections of a recovery plan present information on the biology, life history, and threats to the species, the final listing determination and this document will be used in the preparation of these sections. As such, much of the work required to draft a recovery plan has been completed. However, an implementation schedule, which details estimates of the time required to complete identified tasks and costs to carry out those measures needed to achieve the plan's goal is far from complete. We hope to utilize the expertise of the many stakeholders in the completion of this section of the plan. Once a recovery plan for the Arkansas River shiner has been developed, the plan will be available for public review and comment prior to adoption.

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. The term ''conservation,'' as defined in section 3(3) of the Act, 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).

Section 4(b)(2) of the Act requires that we base critical habitat proposals upon the best scientific and commercial data available, taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. We can 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.

In order to be included in a critical habitat designation, the habitat must first be ''essential to the conservation of the species.'' Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Section 4 requires that we designate critical habitat at the time of listing and based on what we know at the time of the designation. When we designate critical habitat at the time of listing or under short court-ordered deadlines, we will often not have sufficient information to identify all areas of critical habitat. We are required, nevertheless, to make a decision and thus must base our designations on what, at the time of designation, we know to be critical habitat.

Within the geographic area occupied by the species, we will designate only areas currently known to be essential. We will not speculate about what areas might be found to be essential if better information became available, or what areas may become essential over time. If the information available at the time of designation does not show that an area provides essential life cycle needs of the species, then the area should not be included in the critical habitat designation.

Our regulations state that, ''The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' (50 CFR 424.12(e)). Accordingly, when the best available scientific and

commercial data do not demonstrate that the conservation needs of the species require designation of critical habitat outside of occupied areas, we will not designate critical habitat in areas outside the geographic area occupied by the species.

The Service's Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), provides criteria, establishes procedures, and provides guidance to ensure that decisions made by the Service represent the best scientific and commercial data available. It requires Service biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information should be the listing package for the species. Additional information may be obtained from a recovery plan, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, and biological assessments or other unpublished materials (i.e., gray literature).

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, 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, all should understand that 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) and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the Section 9 take prohibition, as determined on the basis of the best available information at the time of the action. We specifically anticipate that 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, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

In finalizing critical habitat for the Arkansas River shiner, we reviewed the overall approach to the conservation of the species undertaken by local, State, tribal, and Federal agencies and private individuals and organizations since the species' listing in 1998. We also solicited information from knowledgeable biologists and reviewed the available information pertaining to habitat requirements of the species. This final critical habitat designation described below constitutes our best assessment of areas essential for the conservation of the Arkansas River shiner and is based on the best scientific and commercial information available. The areas designated are currently within or outside of the geographical range occupied by the species and contain one or more of the primary constituent elements identified in the ''Primary Constituent Elements'' section below. All of the areas designated as critical habitat are within the area historically occupied by the species and require special management consideration and protection to ensure their contribution to the species' recovery.

Important considerations in selection of areas included in the critical habitat designation include factors specific to each river system, such as size, connectivity, and habitat diversity, as well as rangewide recovery considerations, such as genetic diversity and representation of all major portions of the species' historical range. Each area contains stream reaches with interconnected waters so that individual Arkansas River shiners can move between areas, at least during certain flows or seasons. The ability of the fish to repopulate areas where they have been depleted or extirpated is vital to recovery. Some areas include stream reaches that do not have optimum Arkansas River shiner habitat, but provide migration corridors. Additionally, these reaches play a vital role in the overall health of the aquatic ecosystem and, therefore, the integrity of upstream and downstream Arkansas River shiner habitats. This critical habitat designation reflects the need for areas of sufficient stream length to provide habitat for Arkansas River shiner populations large enough to be self-sustaining over time, despite fluctuations in local conditions.

In considering this designation, we took into account that preferred habitat for the Arkansas River shiner is the mainstems of larger plains rivers. The best scientific information available indicates that recovery of this species will depend on conservation of relatively long stretches of large rivers (Platania and Altenbach 1998). Historically, the species has been documented from several smaller tributaries (e.g. Skeleton Creek, Wildhorse Creek, and others) to these rivers (Larson *et al.* 1991). Examination of the collection records provided in Larson *et al.* (1991) shows that about 53 percent of the reported capture dates for Arkansas River shiner in these smaller tributaries occurred during the months of June and July. Another 18 percent occurred during the months of May and August. Consequently, we believe that these tributaries are occupied only during certain seasons during higher flows and do not represent optimum habitat. These seasonally occupied habitats may be important feeding, nursery, or spawning areas and all tributaries, no matter their size, are important in contributing flows to the critical habitat reaches. Federal actions which may substantially reduce these flows may adversely affect critical habitat and will be subject to consultation provisions outlined in section 7 of the Act. Considering newly hatched Arkansas River shiner seek mouths of tributaries where food is more abundant (Moore 1944), this designation (see ''Lateral Extent of Critical Habitat'' section) includes small sections of the tributaries near their confluence, which are important rearing areas for larval Arkansas River shiner.

Stabilization of the Arkansas River shiner at its present population level and distribution will not achieve conservation. The overall trend in the status of the Arkansas River shiner has been characterized by dramatic declines in numbers and range despite the fact that this species evolved in rapidly fluctuating, harsh environments. None of the threats affecting the Arkansas River shiner have been eliminated since the fish was listed; consequently, known Arkansas River shiner aggregations remain fragmented and isolated to essentially one river system and are vulnerable to those natural or manmade factors that might further reduce population size. If recovery actions fail to reverse Arkansas River shiner declines in the Canadian\South Canadian River, the species' vulnerability to catastrophic events, such as the introduction of the Red River shiner, or a prolonged period of low or no flow, would increase. Recovery through protection and enhancement of the existing populations, plus reestablishment of

populations in suitable areas of historical range, are necessary for the species' survival and recovery. As we stated in the listing rule (November 23, 1998; 63 FR 64772), transplantation of Arkansas River shiners from the Pecos River will be evaluated as a means to recover the Arkansas River shiner in unoccupied portions of its historic habitat. In addition, our recovery outline for the species identified re-establishing the Arkansas River shiner into suitable unoccupied historic habitat as a crucial component of recovery. In accordance with the outline, we have undertaken steps to develop and document captive propagation techniques for the Arkansas River shiner. In November 1999, with the assistance of the NM Game and Fish Department, we collected over 300 Arkansas River shiners from the Pecos River. These fish were transported to the Tishomingo National Fish Hatchery in OK where hatchery personnel were successful in inducing spawning of the species and coaxing the juveniles to feed in captivity. Future restoration efforts will undoubtedly occur, pending completion of an approved recovery plan and genetic work to determine the suitability of using Arkansas River shiners from the Pecos River population in transplantation efforts.

The inclusion of areas both within and outside of the geographical range occupied by the Arkansas River shiner in this designation of critical habitat is in accordance with the Act. Restoration of Arkansas River shiner populations to additional portions of their historical range significantly reduces the likelihood of extinction due to any natural or manmade factors that might otherwise further reduce population size. A vital recovery component for this species will likely involve establishment of secure, self-sustaining populations in habitats from which the species has been extirpated. We believe excluding areas outside the currently occupied range of the Arkansas River shiner from the critical habitat designation would be inadequate to ensure the conservation of the species. Therefore, we determine that the unoccupied areas designated as critical habitat are essential for the conservation of the species.

Critical Habitat Designation

Table 1 shows approximate river lengths of occupied and unoccupied habitat in each county in which critical habitat is designated. The designation encompasses approximately 1,846 km (1,148 mi) of stream channels and adjacent areas (see Lateral Extent of Critical Habitat, below). However, the amount of stream channel actually designated as critical habitat is less than this amount because in Oklahoma we derived these figures from adding county totals, and where the river forms a county boundary, that length is included in both county totals.

The critical habitat designation is divided among five reaches found within portions of four river systems. The areas we selected for critical habitat designation contain most, if not all, of the remaining genetic diversity within the Arkansas River Basin and include a representation of each major subbasin within the historical range of the species. The designation incorporates more than 95 percent of the currently known aggregations of Arkansas River shiner in the Arkansas River basin, including the remnant populations that may still persist in the Cimarron and Beaver/North Canadian Rivers. The designation also includes areas outside of the geographical range currently occupied by the Arkansas River shiner in the Arkansas, Cimarron, and Beaver/North Canadian Rivers that are considered essential for future conservation of the species.

The range, numbers, and presumably genetic diversity of the species have already been much reduced. Noss and Cooperrider (1994) identified reduced genetic diversity as one of the factors which predispose small populations to extinction. Therefore, to conserve and recover the fishes to the point where they no longer require the protection of the Act and may be delisted, it is important to maintain and protect all remaining genetically diverse populations of this species.

TABLE 1.—RIVER DISTANCES, BY COUNTY, FOR OCCUPIED AND UNOCCUPIED DESIGNATED CRITICAL HABITAT FOR THE ARKANSAS RIVER SHINER

[Information derived from USGS National Atlas 1:2,000,000 scale hydrography data sets]

County	Occupied		Unoccupied		Total	
	Kilometers	Miles	Kilometers	Miles	Kilometers	Miles
Kansas:						
Barton	.....	0.0	44.4	27.5	44.4	27.5
Clark	20.7	12.8	9.2	5.7	29.9	18.5
Comanche	.....	0.0	9.8	6.1	9.8	6.1
Cowley	.....	0.0	45.4	28.1	45.4	28.1
Edwards	.....	0.0	38.4	23.8	38.4	23.8
Finney	.....	0.0	42.5	26.4	42.5	26.4
Ford	.....	0.0	67	41.5	67	41.5
Gray	.....	0.0	41.6	25.8	41.6	25.8
Hamilton	.....	0.0	20.5	12.7	20.5	12.7
Kearny	.....	0.0	44.3	27.5	44.3	27.5
Kiowa	.....	0.0	.37	.23	0.37	.23
Meade	28.6	17.7	.....	0.0	28.6	17.7
Pawnee	.....	0.0	48.1	29.8	48.1	29.8
Reno	.....	0.0	54.3	33.7	54.3	33.7
Rice	.....	.....	32.3	20.0	32.3	20.0
Sedgwick	.....	.....	53.3	33.0	53.3	33.0
Seward	15	9.3	.....	0.0	15	9.3
Sumner	.....	0.0	32.1	19.9	32.1	19.9
Sub-total	64.3	39.8	583.57	361.7	647.87	401.5
New Mexico:						
Quay	51.8	32.1	.....	.....	51.8	32.1
Sub-total	51.8	32.1	.....	.....	51.8	32.1

TABLE 1.—RIVER DISTANCES, BY COUNTY, FOR OCCUPIED AND UNOCCUPIED DESIGNATED CRITICAL HABITAT FOR THE ARKANSAS RIVER SHINER—Continued

[Information derived from USGS National Atlas 1:2,000,000 scale hydrography data sets]

County	Occupied		Unoccupied		Total	
	Kilometers	Miles	Kilometers	Miles	Kilometers	Miles
Oklahoma:						
Beaver	137.7	85.4	.....	0.0	137.7	85.4
Blaine	40.3	25.0	.....	0.0	40.3	25.0
Caddo	0.8	0.5	.....	0.0	0.8	0.5
Canadian	71.4	44.3	.....	0.0	71.4	44.3
Cleveland	81.2	50.3	.....	0.0	81.2	50.3
Custer	9.6	6.0	.....	0.0	9.6	6.0
Dewey	98.3	60.9	.....	0.0	98.3	60.9
Ellis	84.3	52.3	.....	0.0	84.3	53.4
Grady	37	22.9	.....	0.0	37	22.9
Harper	61.9	38.4	26.3	16.3	88.2	54.7
Hughes	70	43.4	.....	0.0	70	43.4
Major	.....	0.0	3.4	2.1	3.4	2.1
McClain	104.1	64.5	.....	0.0	104.1	64.5
McIntosh	8.2	5.1	.....	0.0	8.2	5.1
Pittsburg	27	16.7	.....	0.0	27	16.7
Pontotoc	80.4	49.8	.....	0.0	80.4	49.8
Pottawatomie	44.5	27.6	.....	0.0	44.5	27.6
Roger Mills	84.3	52.3	.....	0.0	84.3	52.3
Seminole	48.5	30.1	.....	0.0	48.5	30.1
Texas	16.1	10.0	.....	0.0	16.1	10.0
Woods	.....	0.0	214.9	133.2	214.9	133.2
Woodward	1.9	1.2	127.6	79.1	129.5	80.3
Sub-total [1]	1107.5	686.7	372.2	230.8	1479.7	918.5
Texas:						
Hemphill	35.8	22.2	.....	.....	35.8	22.2
Oldham	115.7	71.7	.....	.....	115.7	71.7
Potter	47	29.1	.....	.....	47	29.1
Sub-total	198.5	123.0	.....	.....	198.5	123.0
Total [1]	1507.7	934.6	870.2	539.5	2377.9	1475.1

[1] **Note:** Totals and subtotals are higher for Oklahoma than the actual lengths designated as critical habitat because, where the river forms a county boundary, that length is included in the table more than once.

For each stream reach designated, the up-and downstream boundaries are described below. The distances below are approximate due to the meandering and dynamic nature of the river reaches. Uncertainty on upstream and downstream distributional limits of some Arkansas River shiner populations may result in small areas of occupied habitat being excluded from the designation. Similarly, the need to identify sufficient reference points that define the specific limits of the designation also may result in small areas of occupied habitat being excluded from the designation. Finally, as described previously, this critical habitat designation is focused on mainstem rivers, so we have not included some smaller tributaries that may at least seasonally support Arkansas River shiner, but are not considered essential for the conservation of this species.

In some instances, areas outside of critical habitat that contain one or more of the primary constituent elements may still be important to the conservation of the Arkansas River shiner even if they are not designated as critical habitat. These areas may be of value in maintaining ecosystem integrity and supporting other organisms indirectly contributing to recovery of the species. Additionally, these areas may have those missing elements restored in the future. We have not included these areas in the critical habitat designation because we have determined that they are not essential to the conservation of the species. However, we anticipate that these areas can be adequately protected under the Act through section 7 consultation, the section 9 prohibition against taking listed species, and the section 10 habitat conservation planning process, and through other appropriate State and Federal statutes and regulations.

We designate the following areas as critical habitat for the Arkansas River Basin population of the Arkansas River shiner (see the ''Regulation Promulgation'' section of this rule for exact descriptions of boundaries).

1. Canadian/South Canadian River, NM, TX, and OK. The Canadian/South Canadian River from near Ute Dam in NM to the upper reaches of Eufaula Reservoir in OK, except for those areas rendered unsuitable for Arkansas River shiner by Lake Meredith in TX, is currently occupied by the Arkansas River shiner. These are the largest, perhaps only, remaining viable aggregations of Arkansas River shiner, and are considered to represent the ''core'' of what remains of the species. Smaller tributary streams, with the exception of Revuelto Creek in NM and small sections of the tributaries near their confluence may be seasonally occupied by the Arkansas River shiner.

a. Canadian River, Quay County, NM, and Oldham and Potter Counties, TX—215 km (134 mi) of river extending from U.S. Highway 54 bridge near Logan, NM, downstream to confluence with Coetas Creek, TX. Seepage from Ute Reservoir, inflow from Revuelto Creek,

and several springs help sustain perennial flow in most years. There are occasional periods of no flow, and prior to 1956, low flows in the lower section were historically maintained by effluent from the Amarillo, TX, wastewater treatment plant. This segment of the Canadian River, despite flows having been modified by Conchas and Ute reservoirs, still supports a largely intact plains river fish fauna.

We did not include the following areas in the designation. Upstream of Ute Reservoir, the Canadian River was substantially modified following the construction of Conchas Reservoir and likely provides little suitable habitat. A small portion of Arkansas River shiner historical range occurs upstream of Conchas Reservoir, but the suitability of that reach for Arkansas River shiner is unknown. No extant aggregations of Arkansas River shiner are known from that reach. Arkansas River shiners still occur in portions of the 3.2 km (2 mi) reach between the U.S. Highway 54 bridge and Ute Dam, above the reach designated as critical habitat. We do not consider this section of the stream to be essential to the conservation of the species since it rarely contains suitable habitat due to the influence of Ute Reservoir.

b. Canadian/South Canadian River, Hemphill County, TX, and Blaine, Caddo, Canadian, Cleveland, Custer, Dewey, Ellis, Grady, Hughes, McClain, McIntosh, Pittsburg, Pontotoc, Pottawatomie, Roger Mills, and Seminole Counties, OK—593 km (368 mi) of river extending from the U.S. Highway 60/83 bridge near Canadian, TX, downstream to the Indian Nation Turnpike bridge northwest of McAlester, OK. This segment of the Canadian/South Canadian River is the longest unfragmented reach in the Arkansas River basin that still supports the Arkansas River shiner. Here, Arkansas River shiner range from rare to common, with the species becoming more abundant in a downstream direction.

We did not include the following reaches in the designation. The Canadian River upstream of the community of Canadian, TX, to Sanford Dam at Lake Meredith, supported Arkansas River shiner prior to the construction of Lake Meredith. However, habitat in this segment is degraded and generally unsuitable. Some aggregations of Arkansas River shiner may still persist upstream of Canadian, TX, primarily on a seasonal basis and in extremely small numbers. Altered flow regimes will continue to affect habitat quality in this reach. Aggregations of Arkansas River shiner also persist in the 49 km (30 mi) section of the South Canadian River from the Indian Nation Turnpike bridge downstream to the upper limits of Eufaula Reservoir. However, the downstream distributional limit of these populations frequently fluctuates. Management of water surface elevations in Eufaula Reservoir for flood control and the resultant backwater effects routinely alter stream morphology at the downstream extent of the population. Under elevated surface water conditions, the lower reaches of this segment are degraded or may be entirely unsuitable for Arkansas River shiner.

2. Beaver/North Canadian River, Beaver, Ellis, Harper, Major, Texas, and Woodward Counties, OK—259 km (161 mi) of river extending from Optima Dam in Texas County, OK, downstream to U.S. Highway 60/281 bridge in Major County, OK. Almost the entire Beaver/North Canadian River mainstem and at least one of the major tributaries (Deep Fork River) in OK was historically known to support Arkansas River shiner aggregations. A small population may still persist between Optima Dam and the upper reaches of Canton Reservoir, based on the collection of four individuals since 1990. At present, habitat in large areas of the drainage are degraded or unsuitable, either because of reservoirs, reduced stream flow, or water quality impairment. The segment between Optima Dam and the upper reaches of Canton Reservoir offers the best opportunity for recovery of the Arkansas River shiner in the Beaver/North Canadian River. Habitat in this reach appears suitable although detailed studies have not yet been conducted. Recovery activities will include augmenting existing aggregations of the Arkansas River shiner and reestablishing additional populations in this system. Designation of the unoccupied areas of this reach reflects the need for areas of sufficient stream length to provide habitat for Arkansas River shiner populations large enough to be self-sustaining over time, despite fluctuations in local conditions.

We did not include the following reaches in the designation. Above Optima Reservoir, pumping from the High Plains aquifer has considerably reduced streamflow in the Beaver River (Luckey and Becker 1998), and the habitat is no longer suitable for Arkansas River shiner.

3. Cimarron River, Clark, Comanche, Meade, and Seward Counties, KS, and Beaver, Harper, Woods, and Woodward, Counties, OK—215 km (134 mi) of river extending from U.S. Highway 54 bridge in Seward County, KS, downstream to U.S. Highway 281 bridge in Woods County, OK. Historically, almost the entire Cimarron River mainstem and several of the major tributaries were inhabited by the Arkansas River shiner, including the type locality for the species (the area from which the specimens that were used to first describe the species were taken). A small population of Arkansas River shiner could still persist in the Cimarron River in OK and KS, based on the collection of nine individuals since 1985. Arkansas River shiners were last reported from the Cimarron River in 1992. At present, habitat appears suitable throughout most of the system, but detailed studies have not yet been conducted. Recovery activities for Arkansas River shiner will likely include augmenting existing populations and reestablishing additional aggregations in this system or the Arkansas River in KS. Lack of adequate streamflow in both systems and the presence of Red River shiners in the Cimarron River will hinder recovery efforts in these two rivers. The introduction of the Red River shiner, in combination with habitat loss and degradation, was responsible for the diminished distribution and abundance of the Arkansas River shiner in the Cimarron River. The Red River shiner, a small minnow endemic to the Red River, was first recorded from the Cimarron River in Kansas in 1972 (Cross *et al.* 1985) and from the Cimarron River in Oklahoma in 1976 (Marshall 1978). Since that time, the nonindigenous Red River shiner has essentially replaced the Arkansas River shiner in the Cimarron River. The Cimarron River is included in the designation because it is essential habitat and contains all of the primary constituent elements, except for the presence of a competitive nonnative species, which we intend to address during recovery planning efforts for the Arkansas River shiner. We are also including unoccupied areas of this reach since it reflects the need for areas of sufficient stream length to provide habitat for Arkansas River shiner populations large enough to be self-sustaining over time, despite fluctuations in local conditions.

4. Arkansas River, Barton, Cowley, Edwards, Finney, Ford, Gray, Hamilton, Kearny, Kiowa, Pawnee, Reno, Rice, Sedgwick, and Sumner Counties, KS—564 km (351 mi) of river extending from Kansas State Highway 27 bridge in Hamilton County, KS, downstream to KS/OK State line in Cowley County, KS, excluding a 20 km (12.4 mi) reach of the Arkansas River within the City of Wichita metropolitan area, extending from the westbound lane of Kansas State

Highway 96 crossing downstream to the Interstate 35 crossing. The Arkansas River in KS contains a significant portion of the species' historical range. The Arkansas River shiner historically inhabited the entire mainstem of the Arkansas River, but had begun to decline by 1952 due to the construction of John Martin Reservoir 10 years earlier on the Arkansas River in Bent County, Colorado (Cross *et al.* 1985).

Typically, releases from John Martin Reservoir and irrigation return flows from eastern Colorado maintain streamflow in the Arkansas River as far east as Syracuse, KS (Kansas Geologic Survey 1996). Between Syracuse and Garden City, KS, the river often ceases to flow due to surface and groundwater withdrawals. Surface flow then resumes near Great Bend, KS. Lack of sufficient streamflow and ongoing water quality degradation renders much of the Arkansas River west of Great Bend at least seasonally unsuitable for Arkansas River shiner. However, in early 1995, the U.S. Supreme Court ruled that Colorado had violated the Arkansas River Compact by depleting usable flows of the Arkansas River in Kansas (*Kansas* v. *Colorado,* No. 105, Orig., US Supreme Ct, 1995). Based on this ruling, Colorado has provided additional water to Kansas and, according to USGS, releases of water in the Arkansas River have helped to increase the flow of the river to near record levels during the 1998 water year. We expect habitat conditions in the Arkansas River west of Great Bend to improve as a result of the additional water. Recovery for Arkansas River shiner will include reestablishing additional populations in this system or the Cimarron River, or potentially both based upon the assessment of the Recovery Team regarding the feasibility of reducing or controlling the presence of the Red River shiner in the Cimarron River. This segment of the Arkansas River is the longest unfragmented, unoccupied reach in the Arkansas River basin. Stream flows in approximately the eastern half of this stream segment are more reliable and habitats are characteristic of those used by Arkansas River shiner. This stream segment contains one or more of the primary constituent elements and thus is essential for the conservation of the Arkansas River shiner.

We did not include the following reaches in the designation. Downstream of the KS/OK State line, large areas of the basin are unsuitable for Arkansas River shiner, either because of reservoirs (i.e., Kaw and Keystone) and the associated streamflow alterations, or because of stream channel alteration for navigation. Even if releases from these reservoirs were modified to mimic historic, pre-impoundment flow patterns, we suspect that the reaches below Kaw and Keystone reservoirs would never provide suitable habitat. The distance between Kaw Dam and the upper reaches of Keystone Reservoir is only 139 river km (86 river mi), and the distance between Keystone Dam and the McClellan-Kerr Navigation System is only about 130 river km (81 river mi). These distances are likely insufficient to sustain reproducing populations (see ''Primary Constituent Elements'' below).

The 1998 listing rule for the Arkansas River shiner conservatively estimated that at least 3,900 km (2,450 mi) of habitat within the species' range was occupied historically. This final designation involves approximately half that amount. Considering the amount of historically occupied habitat that occurred in the smaller tributaries of the Arkansas River Basin, which are not included in this designation, the amount being designated as critical habitat is much less than one-half of the historically occupied habitat. Although the amount of habitat being designated as critical habitat is less than one-half the historical range of the species, we believe that conservation of the Arkansas River shiner within these areas can secure the long-term survival and recovery of this species.

Lateral Extent of Critical Habitat

This designation takes into account the naturally dynamic nature of riverine systems and recognizes that floodplains are an integral part of the stream ecosystem. Habitat quality within the mainstem river channels in the historical range of the Arkansas River shiner 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 these reaches. Among other things, the floodplain provides space for natural flooding patterns and latitude for necessary natural channel adjustments to maintain appropriate channel morphology and geometry. A relatively intact riparian zone, along with periodic flooding in a relatively natural pattern, are important in maintaining the stream conditions necessary for long-term survival and recovery of the Arkansas River shiner.

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 Arkansas River shiner 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 contain the elements essential to a species' conservation and must be in need of special management considerations or protection. We see no need for special management considerations or protection for the entire floodplain, and we are not proposing to designate the whole floodplain as critical habitat. However, conservation of the river channel alone is not sufficient to ensure the survival and recovery of the Arkansas River shiner. For instance, the diet of the Arkansas River shiner includes many species of terrestrial insects and seeds of grasses occurring in the riparian corridor (Jimenez 1999). We believe the riparian corridors adjacent to the river channel provide a reasonable lateral extent for critical habitat designation.

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 corridors help ensure water courses maintain the primary constituent elements essential to stream fishes, including the Arkansas River shiner.

The lateral extent (width) of riparian corridors fluctuates considerably between a stream's headwaters and its mouth. The appropriate width for riparian buffer strips has been the subject of several studies (Castelle *et al.* 1994). Most Federal and State agencies generally consider a zone 23–46 meters (m) (75.4–150.9 feet (ft)) wide on each side of a stream to be adequate (NRCS 1998, Moring *et al.* 1993, Lynch *et al.* 1985), although buffer widths as wide as 152 m (500 ft) have been recommended for achieving flood attenuation benefits (Corps 1999). In most instances, however, riparian buffer zones are primarily intended to reduce (i.e. buffer) detrimental impacts to the stream from sources outside the river channel. Consequently, while a riparian corridor 23–46 m (75.4–150.9 ft) in width may function adequately as a buffer, it is likely inadequate to preserve the natural processes that provide Arkansas River shiner constituent elements.

Generally, we consider a lateral distance of 91.4 m (300 ft) on each side of the stream beyond the bankfull width to be an appropriate riparian corridor width for the preservation of Arkansas River shiner constituent elements. 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); this activity generally occurs every 1 to 2 years (Leopold *et al.* 1992). 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).

Primary Constituent Elements

In identifying areas as critical habitat, 50 CFR 424.12 provides that we consider those physical and biological features that are essential to conservation of the species and that may require special management considerations or protection. These physical and biological features, as outlined in 50 CFR 424.12, include, but are not limited to, the following:

- 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.

The important habitat features that provide for the physiological, behavioral, and ecological requirements of the Arkansas River shiner include adequate spawning flows; habitat for food organisms; appropriate water quality; a natural flow regime; rearing and juvenile habitat appropriate for growth and development to adulthood; and flows sufficient to allow Arkansas River shiner to recolonize upstream habitats. Given the large geographic range the species historically occupied, and the diverse habitats used by the various life-history stages, describing specific values or conditions for each of these habitat features is not always possible. However, the following discussion summarizes the biological requirements of the Arkansas River shiner relevant to identifying the primary constituent elements of its critical habitat.

The Arkansas River shiner historically inhabited the main channels of wide, shallow, sandy-bottomed rivers and larger streams of the Arkansas River basin (Gilbert 1980). Adults are uncommon in quiet pools or backwaters lacking streamflow, and almost never occurred in habitats having deep water and bottoms of mud or stone (Cross 1967). Cross (1967) believed that adults prefer to orient into the current on the ''lee'' sides of large transverse sand ridges and prey upon food organisms washed downstream in the current.

The Arkansas River shiner is believed to be a generalized forager and feeds upon both items suspended in the water column and items lying on the substrate (Jimenez 1999, Bonner *et al.* 1997). In the South Canadian River of central OK, Polivka and Matthews (1997) found that gut contents were dominated by sand/sediment and detritus (decaying organic material) with invertebrate prey being an incidental component of the diet. In the Canadian River of NM and TX, the diet of Arkansas River shiner was dominated by detritus, invertebrates, grass seeds, and sand and silt (Jimenez 1999). Invertebrates were the most important food item, followed by detrital material.

Terrestrial and semiaquatic invertebrates were consumed at higher levels than were aquatic invertebrates (Jimenez 1999). With the exception of the winter season, when larval flies were consumed much more frequently than other aquatic invertebrates, no particular invertebrate taxa dominated the diet (Bonner *et al.* 1997). Fly larvae, copepods, immature mayflies, insect eggs, and seeds were the dominant items in the diet of the nonnative population of the Arkansas River shiner inhabiting the Pecos River in NM (Keith Gido, University of Oklahoma, *in litt.* 1997).

Most plains streams are highly variable environments. Water temperatures, flow regimes, and overall physicochemical conditions (e.g., quantity of dissolved oxygen) typically fluctuate so drastically that fishes native to these systems often exhibit life-history strategies and microhabitat preferences that enable them to cope with these conditions. Matthews (1987) classified several species of fishes, including the Arkansas River shiner, based on their tolerance for adverse conditions and selectivity for physicochemical gradients. The Arkansas River shiner was described as having a high thermal and oxygen tolerance, indicating a high capacity to tolerate elevated temperatures and low dissolved oxygen concentrations (Matthews 1987). Observations from the Canadian River in NM and TX revealed that dissolved oxygen concentrations, conductivity, and pH rarely influenced habitat selection by the Arkansas River shiner (Wilde *et al.* 2000). Arkansas River shiners were collected over a wide range of conditions—water temperatures from 0.4 to 36.8° Celsius (32.7 to 98.2° Fahrenheit), dissolved oxygen from 3.4 to 16.3 parts per million, conductivity (total dissolved solids) from 0.7 to 14.4 millisiemens per centimeter, and pH from 5.6 to 9.0.

In the South Canadian River of central OK, Polivka and Matthews (1997) found that Arkansas River shiner exhibited only a weak relationship between the environmental variables they measured and the occurrence of the species within the stream channel. Water depth, current, dissolved oxygen, and sand ridge and midchannel habitats were the environmental variables most strongly associated with the distribution of Arkansas River shiner within the channel. Similarly, microhabitat selection by Arkansas River shiner in the Canadian River of NM and TX was influenced by water depth, current velocity, and, to a lesser extent, water temperature (Wilde *et al.* 2000). Arkansas River shiners generally occurred at mean water depths between 17 and 21 centimeters (cm) (6.6–8.3 in) and current velocities between 30 and 42 cm (11.7 and 16.4 in) per second. Juvenile Arkansas River shiner associated most strongly with current, conductivity, and backwater and island habitat types (Polivka and Matthews 1997).

Wilde *et al.* (2000) found no obvious selection for or avoidance of any particular habitat type (i.e., main channel, side channel, backwaters, and pools) by Arkansas River shiner. Arkansas River shiners did tend to select side channels and backwaters slightly more than expected based on the availability of these habitats (Wilde *et al.* 2000). Likewise, they appeared to make no obvious selection for or avoidance of any particular substrate type. Substrates in the Canadian River in NM and TX were predominantly sand; however, Arkansas River shiner were observed to occur over silt slightly more than expected based on the availability of this substrate (Wilde *et al.* 2000).

Successful reproduction by Arkansas River shiner appears to be strongly correlated with streamflow. Moore (1944) believed the Arkansas River shiner spawned in July, usually coinciding with elevated flows following heavy rains associated with summertime thunderstorms. Bestgen *et al.* (1989) found that spawning in the nonnative population of Arkansas River shiner in the Pecos River of NM generally occurred in conjunction with releases from Sumner Reservoir.

However, recent studies by Polivka and Matthews (1997) and Wilde *et al.* (2000) neither confirmed nor rejected the hypothesis that elevated streamflow triggered spawning in the Arkansas River shiner.

Arkansas River shiners are open-water, broadcast spawners that release their eggs and sperm over an unprepared substrate (Platania and Altenbach 1998, Johnston 1999). Examination of Arkansas River shiner gonadal development between 1996 and 1998 in the Canadian River of NM and TX demonstrated that the species undergoes multiple, asynchronous (not happening at the same time) spawns in a single season (Wilde *et al.* 2000). The Arkansas River shiner appears to be in peak reproductive condition throughout the months of May, June, and July (Wilde *et al.* 2000, Polivka and Matthews 1997); however, spawning may occur as early as April and as late as September. Arkansas River shiners may, on occasion, spawn in standing waters (Wilde *et al.* 2000), but it is unlikely that such events are successful.

Both Moore (1944) and Platania and Altenbach (1998) described egg behavior in the Arkansas River shiner. The fertilized eggs are nonadhesive and semibuoyant. Platania and Altenbach (1998) found that spawned eggs settled to the bottom of the aquaria where they quickly absorbed water and expanded. Upon absorbing water, the eggs became more buoyant, rose with the water current, and remained in suspension. The eggs would sink when water current was not maintained in the aquaria. This led Platania and Altenbach (1998) to conclude that the Arkansas River shiner and other plains fishes likely spawn in the upper to mid-water column during elevated flows. Spawning under these conditions would allow the eggs to remain suspended during the 10- to 30-minute period the eggs were non-buoyant. Once the egg became buoyant, it would remain suspended in the water column as long as current was present.

In the absence of sufficient streamflows, the eggs would likely settle to the channel bottom, where silt and shifting substrates would smother the eggs, hindering oxygen uptake and causing mortality of the embryos. Spawning during elevated flows appears to be an adaptation that likely increases survival of the embryo and facilitates dispersal of the young. Assuming a conservative drift rate of 3 km/hour, Platania and Altenbach (1998) estimated that the fertilized eggs could be transported 72–144 km (45–89 mi) before hatching. Developing larvae could then be transported up to an additional 216 km (134 mi) before they were capable of directed swimming movements. Bonner and Wilde (2000) speculate that 218 km (135 mi) may be the minimum length of unimpounded river that allows for the successful completion of the life-history for the Arkansas River shiner, based on their observations in the Canadian River in NM and TX.

Rapid hatching and development of the young is likely another adaptation in plains fishes that enhances survival in the harsh environments of plains streams. Arkansas River shiner eggs hatch in 24–48 hours after spawning, depending upon water temperature (Moore 1944, Platania and Altenbach 1998). The larvae are capable of swimming within 3–4 days; they then seek out low-velocity habitats, such as backwater pools and quiet water at the mouths of tributaries where food is more abundant (Moore 1944).

Evidence from Wilde *et al.* (2000) indirectly supports the speculation by Cross *et al.* (1985) that the Arkansas River shiner initiates an upstream spawning migration. Whether this represents a true spawning migration or just a general tendency in these fish to orient into the current and move upstream, perhaps in search of more favorable environmental conditions, is unknown (Wilde *et al.* 2000). Regardless, strong evidence suggested the presence of a directed, upstream movement by the Arkansas River shiner over the course of a year.

As previously discussed, introductions of nonindigenous species can have a significant adverse impact on Arkansas River shiner populations under certain conditions. The morphological characteristics, population size, and ecological preferences exhibited by the Red River shiner, a species endemic to the Red River drainage, suggest that it competes with the Arkansas River shiner for food and other essential life requisites (Cross *et al.* 1983, Felley and Cothran 1981). Since its introduction, the Red River shiner has colonized much of the Cimarron River and frequently may be a dominant component of the fish community (Cross *et al.* 1983, Felley and Cothran 1981). The intentional or unintentional release of Red River shiners, or other potential competitors, into other reaches of the Arkansas River drainage by anglers or the commercial bait industry is a potentially serious threat that could drastically alter habitat quality in these reaches.

We determined the primary constituent elements for Arkansas River shiner from studies on their habitat requirements and population biology, as outlined above. These primary constituent elements are the following:

1. A natural, unregulated hydrologic regime complete with episodes of flood and drought or, if flows are modified or regulated, a hydrologic regime characterized by the duration, magnitude, and frequency of flow events capable of forming and maintaining channel and instream habitat necessary for particular Arkansas River shiner life-stages in appropriate seasons;
2. A complex, braided channel with pool, riffle (shallow area in a streambed causing ripples), run, and backwater components that provide a suitable variety of depths and current velocities in appropriate seasons;
3. A suitable unimpounded stretch of flowing water of sufficient length to allow hatching and development of the larvae;
4. Substrates of predominantly sand, with some patches of silt, gravel, and cobble;
5. Water quality characterized by low concentrations of contaminants and natural, daily and seasonally variable temperature, turbidity, conductivity, dissolved oxygen, and pH;
6. Abundant terrestrial, semiaquatic, and aquatic invertebrate food base; and
7. Few or no predatory or competitive nonnative species present.

The areas we are designating as critical habitat for Arkansas River shiner provide one or more of the above primary constituent elements. All of the areas designated as critical habitat require special management considerations or protection to ensure their contribution to the species' recovery.

Land Ownership

The vast majority (about 98 percent) of areas we designated as critical habitat are in private ownership, with relatively small, scattered tracts of State and Federal lands. Private lands are primarily used for grazing and agriculture, but also include towns, small-lot residences, and industrial areas. A general description of land ownership in each complex follows:

1a. Canadian River—This reach is predominantly in private ownership. The State of New Mexico owns scattered tracts. The reach in TX is in private ownership, except for a small segment that is owned by the National Park Service as part of the Lake Meredith National Recreation Area.

1b. Canadian/South Canadian River—This reach is predominantly in private ownership, with limited areas of State and tribal ownership. Although we have included tribal lands within the critical

habitat boundary, we have narratively excluded them from the designation (see ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' section). The Texas Parks and Wildlife Department owns a small segment downstream of the town of Canadian, TX (Gene Howe Wildlife Management Area (WMA)). The Oklahoma Department of Wildlife Conservation owns a small section near Roll, OK (Packsaddle WMA). Small tracts of tribal lands are near Oklahoma City.

2. Beaver/North Canadian River—The ownership is predominantly private, with limited areas of State-owned lands. The Oklahoma Department of Wildlife Conservation owns small sections near Beaver, OK (Beaver River WMA) and near Fort Supply, OK (Cooper WMA). The Oklahoma Department of Parks and Tourism owns a small section near Woodward, OK (Boiling Springs State Park).

3. Cimarron River—Land here is entirely in private ownership.

4. Arkansas River—This area is entirely in private ownership except for a small area near the Kansas/Oklahoma State line owned by the U.S. Army Corps of Engineers (Kaw Wildlife Area). This area is managed by the State of Kansas (Kansas Department of Wildlife and Parks).

Effect of Critical Habitat Designation

Section 7(a) of the Act requires Federal agencies 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, local and tribal 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. Thus, activities on Federal lands that may affect the Arkansas River shiner or its critical habitat will require section 7 consultation. Actions on private or State 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 critical habitat. Federal actions not affecting the species or its critical habitat, as well as actions on non-Federal lands that are not federally funded or permitted, will not require section 7 consultation.

Federal agencies are required to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its proposed or designated critical habitat. Regulations implementing these interagency cooperation provisions of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act and regulations at 50 CFR 402.10 require Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or to result in destruction or adverse modification of proposed critical habitat. A section 7 conference on proposed critical habitat results in a report that may provide conservation recommendations to assist the action agency in eliminating or minimizing adverse effects to the proposed critical habitat that may be caused by the proposed agency 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 conference opinion as to whether the proposed action is likely to destroy or adversely modify proposed critical habitat. This biological opinion is prepared as if critical habitat were designated as final, in accordance with 50 CFR 402.13.

If we subsequently finalize the proposed critical habitat designation, then section 7(a)(2) will require Federal agencies to enter into consultation with us on agency actions that may affect critical habitat. Consultations on agency actions that will likely adversely affect critical habitat will result in issuance of a biological opinion. We may adopt a formal conference report as the biological opinion if no significant new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)).

If we find a proposed agency action is likely to destroy or adversely modify the critical habitat, our biological opinion may include reasonable and prudent alternatives to the action that are designed to avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions 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 we believe would avoid 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 vary accordingly.

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 and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation if their actions may affect designated critical habitat, or conferencing with us on actions likely to destroy or adversely modify proposed critical habitat.

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. A wide range of Federal activities have the potential to destroy or adversely modify critical habitat for the Arkansas River shiner. These activities may include land and water management actions of Federal agencies (e.g., U.S. Army Corps of Engineers, Natural Resources Conservation Service, Bureau of Reclamation, 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 U.S. Army Corps of Engineers; and, National Pollutant Discharge Elimination System permits authorized by the Environmental Protection Agency). Specifically, activities that may destroy or adversely modify critical habitat are those that alter the primary constituent elements (defined above) to an extent that the value of critical habitat for both the survival and recovery of the Arkansas River shiner is appreciably reduced. Such activities include, but are not limited to:

(1) Significantly and detrimentally altering the minimum flow or the natural flow regime of any of the designated stream segments. Possible actions would include groundwater pumping, impoundment, water diversion, and hydropower generation. 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 riparian zone in any of the designated stream segments. 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.

(3) Significantly and detrimentally altering the channel morphology of any of the stream segments listed above. Possible actions would include channelization, impoundment, road and bridge construction, deprivation of substrate source, destruction and alteration of riparian vegetation, 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.

(4) Significantly and detrimentally altering the water chemistry in any of the designated stream segments. Possible actions 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 nonnative aquatic species in any of the designated stream segments. Possible actions 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 Arkansas River basin; however, they do indicate the potential types of activities that will require consultation in the future and, therefore, that may be affected by critical habitat designation. We do not expect that designation of critical habitat in areas occupied by the Arkansas River shiner will result in a regulatory burden above that already in place, due to the presence of the listed species. However, areas designated as critical habitat that are not currently occupied by the species may require protections similar to those provided to occupied areas under past consultations.

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

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

We are in the process of developing a recovery plan for the Arkansas River Basin population of the Arkansas River shiner. The recovery plan, when finalized, will provide recommendations on recovering this species, including recommendations on management of its critical habitat. Further, should the recovery plan recommend adding or deleting areas as critical habitat, we will consider whether a future revision of critical habitat is appropriate.

Summary of Changes From the Proposed Rule

A 20 km (12.4 mi) reach of the Arkansas River within the City of Wichita metropolitan area, extending from the westbound lane of Kansas State Highway 96 crossing downstream to the Interstate Highway 35 crossing, has been excluded from the designation. During preparation of the proposed rule, we believed that this section of the Arkansas River was inhabited by the Arkansas River shiner. In 1999, six fish originally identified as Arkansas River shiners were collected from the Arkansas River in Wichita, KS, at two locations—four from near the 47th Street South bridge and two near the Kansas State Highway 96 crossing (Vernon Tabor, U.S. Fish and Wildlife Service, Manhattan, KS, pers. comm., 2000). However, further examination of these specimens revealed that they were not Arkansas River shiners but instead were sand shiners, a minnow that closely resembles the Arkansas River shiner. Thus, the section of the Arkansas River through the City of Wichita is now no longer believed to be occupied by the species. In addition, two flow control structures, the Wichita Valley Center Flood Control Structure Number 4 and the Lincoln Street Dam exist within the excluded reach. These two control structures likely are physical barriers to the movement of Arkansas River shiner during normal and low flow conditions. The Lincoln Street Dam also serves to impound the river for the purpose of maintaining constant water levels in the river throughout downtown Wichita. Water depths maintained by the Lincoln Street Dam are generally in excess of those preferred by the Arkansas River shiner. This reach of the river is also degraded by high nutrient loading and groundwater contamination, and substrates in this reach are predominantly silt. Although this reach of the river is presently degraded and generally unsuitable for Arkansas River shiners, the City of Wichita is taking steps to improve water quality within this reach which should facilitate improvement in habitat conditions in the river downstream of the city. The excluded section remains important to recovery of the Arkansas River shiner because it serves to connect the upper section with the lower section during periods of high flow. Maintenance of this connection is essential to successful egg development and movement of juvenile Arkansas River shiners between the two sections. Considering the river functions to pass flood waters during elevated stream flow conditions, we do not anticipate that the city would propose modification of this reach to the point that connection between the upper and lower sections during elevated flows would no longer occur.

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 that we consider the economic and other relevant impacts of designating a particular area as critical habitat. The economic impacts to be considered in a critical habitat designation are the incremental effects of the designation over and above the economic impacts attributable to listing of the species. In general, these incremental impacts are more likely to result from management

activities in areas outside the present distribution of the listed species.

We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying those areas as critical habitat; however, we cannot exclude areas from critical habitat when the exclusion will result in the extinction of the species. We utilized the economic analysis, and took into consideration all comments and information submitted during the public hearings and comment period, to determine whether areas should be excluded from the final critical habitat designation.

The economic effects already in place due to the listing of the Arkansas River shiner as threatened is the baseline upon which we analyzed the economic effects of the designation of critical habitat. The critical habitat economic analysis examined the incremental economic and conservation effects of designating critical habitat. The economic effects of a designation were evaluated by measuring changes in national, regional, or local indicators. A draft analysis of the economic effects of the proposed Arkansas River shiner critical habitat designation was prepared and made available for public review (August 15, 2000; 65 FR 49781). We concluded in the final analysis, which included review and incorporation of public comments, that no significant economic impacts are expected from critical habitat designation above and beyond that already imposed by listing the Arkansas River shiner. A copy of the final economic analysis is included in our administrative record and may be obtained by contacting the Oklahoma 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, and Executive Order 13175, we believe that, to the maximum extent possible, fish, wildlife, and other natural resources on tribal lands are better managed under tribal authorities, policies, and programs than through Federal regulation wherever possible and practicable. Based on this philosophy, we believe that, in most cases, designation of tribal lands as critical habitat provides very little additional benefit to threatened and endangered species. This is especially true where the habitat is occupied by the species and is therefore already subject to protection under the Act through section 7 consultation requirements. Conversely, such designation is often viewed by tribes as unwarranted and an unwanted intrusion into tribal self governance, thus compromising the government-to-government relationship essential to achieving our mutual goals of managing for healthy ecosystems upon which the viability of threatened and endangered species populations depend.

To this end, we support tribal measures that preclude the need for conservation regulations, and we provide technical assistance to Indian tribes who wish 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.

Section 4(b)(2) of the Act requires us to consider the economic and other relevant impacts of critical habitat designation, and authorizes us to exclude areas from designation upon finding that the benefits of exclusion outweigh the benefits of including the areas as critical habitat, so long as excluding those areas will not result in the extinction of the species concerned. In the proposed rule for this critical habitat designation we solicited information from interested parties on the anticipated economic and other relevant impacts of designation. Below we evaluate the benefits of excluding these tribal lands from critical habitat and the benefits of including these areas.

In our deliberations over this critical habitat designation, we identified two categories of possible effects to tribes or tribal resources. These include: (1) Effects resulting from designation of critical habitat on tribal lands; and (2) effects on tribal resources, such as water deliveries, resulting from designation of critical habitat on nontribal lands. We identified tribal lands belonging to the Choctaw and Chickasaw Nations as containing stream reaches that may be appropriate for designation of critical habitat. Additionally, several tribes may have lands located downstream from the designated critical habitat.

1. Designation of Critical Habitat on Tribal Lands

The Presidential Memorandum of April 29, 1994, also requires us to consult with the 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 the tribes. Recognizing a government-to-government relationship with tribes and our Federal trust responsibility, we consulted to the extent possible with the Indian tribes having tribal trust resources, tribally owned fee lands, or tribal rights that might be affected by the designation of critical habitat.

We met with representatives of the Cherokee, Chickasaw, Creek, and Seminole Nations on April 6, 2000, to discuss the proposed designation. The Chickasaw and Choctaw Nations are the two tribes that have habitat for Arkansas River shiner on their lands. Given our obligations under the Presidential Memorandum, we did not propose critical habitat on Tribal land. As provided under section 4(b)(2) of the Act, we solicited information during the comment period as to whether these areas should be designated as critical habitat. We did not receive any comments except one (see comment 80) related to the issue of our not proposing to designate critical habitat on tribal lands during the public comment period. In our weighing of the benefits of excluding tribal lands from this designation of critical habitat we felt that such a designation would be expected to adversely impact our working relationship with the Tribes, the maintenance of which is beneficial in implementing natural resource programs of mutual interest. In addition, we feel that the designation will provide little if any benefit since the areas where tribal lands occur (Unit 1b) is all occupied by the Arkansas River shiner.

After carefully balancing the considerations involved in determining whether lands should be included or excluded from the designation of critical habitat, we determined that the benefits of promoting self-determination and the cooperative relationship with the tribes in managing threatened and endangered species and their habitats, outweigh the benefits to be obtained from designating critical habitat for this species. Exclusion of these lands from the designation will not result in extinction of the Arkansas River shiner.

2. Effects on Tribal Trust Resources From Critical Habitat Designation on Nontribal Lands

We do not anticipate that designation of critical habitat on nontribal lands will result in any impact on tribal trust resources or the exercise of tribal rights. As stated above, some tribes may have lands located downstream from critical habitat for the Arkansas River shiner. However, we did not propose to include these lands in the critical habitat designation since we determined that they were not essential to the conservation of the Arkansas River shiner.

In complying with our tribal trust responsibilities, we must communicate with all tribes potentially affected by the designation. Therefore, we solicited information during the comment period on the potential effects to tribes or tribal resources that may result from critical habitat designation. We did not receive any substantive comments related to the issue of impacts on tribal trust resources or exercise of tribal rights resulting from designation of critical habitat on nontribal lands during the public comment period.

Required Determinations

Regulatory Planning and Review

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

(a) This rule will not have an annual economic effect of $100 million or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. A cost-benefit analysis is not required for purposes of Executive Order 12866. The Arkansas River shiner was listed as a threatened species in 1998. Currently, we have not conducted any formal section 7 consultation with other Federal agencies to ensure that their actions would not jeopardize the continued existence of the Arkansas River shiner.

Under the Act, critical habitat may not be adversely modified by a Federal agency action; critical habitat does not impose any restrictions on non-Federal persons unless they are conducting activities funded or otherwise sponsored or permitted by a Federal agency (see Table 2 below). Section 7 requires Federal agencies to ensure that they do not jeopardize the continued existence of the species. Based upon our experience with the species and its needs, we conclude that any Federal action or authorized action that could potentially cause an adverse modification of the proposed critical habitat would currently be considered as ''jeopardy'' to the species under the Act. Accordingly, the designation of currently occupied areas as critical habitat does not have any incremental impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons that receive Federal authorization or funding. Non-Federal persons who do not have a Federal ''sponsorship'' of their actions are not restricted by the designation of critical habitat (however, they continue to be bound by the provisions of section 9 of the Act concerning ''take'' of the species). Additionally, critical habitat for the shiner overlaps with land inhabited by the interior least tern (*Sterna antillarum*), a small white bird that has been listed as endangered since 1985. Three of the five shiner critical habitat units overlap with areas commonly inhabited by the least tern. For these areas, since consultations for the least tern would have taken place regardless of the designation of critical habitat for the shiner, shiner critical habitat is unlikely to result in new, incremental section 7 consultations in areas that overlap with least tern habitat. Thus, the incremental impacts of consultations addressing shiner critical habitat in such areas will be limited to the additional effort required to conduct a consultation for two species at once.

Designation of unoccupied areas as critical habitat may have impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons that receive Federal authorization or funding. Based on our understanding of the threats to the species, the prohibition against adverse modification of critical habitat in unoccupied areas is not expected to impose any additional restrictions to federally sponsored projects or activities occurring in these areas, unless we make a determination that the proposed activity would result in an appreciable reduction of the value of the critical habitat for both the survival and recovery of the Arkansas River shiner. As discussed in the final addendum to the economic analysis, we do anticipate additional consultations to occur in unoccupied areas, incremental to the listing of the Arkansas River shiner, as Federal agencies will need to ensure that their actions do not result in adverse modification of the designated critical habitat. However, we determined that the costs of these additional consultations and any resulting project modifications will not have an annual economic effect of $100 million or adversely affect an economic sector, productivity, jobs, the environment, or other units of government.

(b) This rule will not create inconsistencies with other agencies' actions. Federal agencies have been required to ensure that their actions do not jeopardize the continued existence of the Arkansas River shiner since its listing in 1998. The prohibition against adverse modification of critical habitat is not expected to impose any additional restrictions above those that currently exist. We do anticipate additional consultations to occur in unoccupied areas, incremental to the listing of the Arkansas River shiner, as Federal agencies will need to ensure that their actions do not result in adverse modification of the designated critical habitat.

(c) This designation will not significantly impact entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Federal agencies are currently required to ensure that their activities do not jeopardize the continued existence of the species, and, as discussed above, we do not anticipate that the adverse modification prohibition (resulting from critical habitat designation) will have any incremental effects in areas of occupied habitat. In unoccupied areas, we anticipate that there will be some incremental increase in the number of consultations as Federal agencies will need to ensure that their actions do not result in adverse modification of the designated critical habitat.

(d) OMB has determined that this rule will raise novel legal or policy issues and, as a result, this rule has undergone OMB review.

TABLE 2.—IMPACTS OF DESIGNATING CRITICAL HABITAT FOR ARKANSAS RIVER SHINER

Categories of activities	Activities potentially affected by the designation of critical habitat in areas occupied by the species (in addition to those affected from listing the species)	Activities potentially affected by the designation of critical habitat in unoccupied areas
Federal activities potentially affected [1].	None	Activities such as those affecting waters of the United States by the U.S. Army Corps of Engineers under section 404 or by the Environmental Protection Agency under section 402 of the Clean Water Act; natural gas/petroleum pipeline and hydropower development/licensing by the Federal Energy Regulatory Commission; construction of communication sites licensed by the Federal Communications Commission; road construction and maintenance, vegetation manipulation, right-of-way designation, regulation of agricultural activities, and other activities funded by any Federal agency.
Private or other non-Federal activities potentially affected [2].	None	Activities that require a Federal action (permit, authorization, or funding) and that involve such activities as removing or destroying Arkansas River shiner habitat (as defined in the primary constituent elements discussion), whether by mechanical, chemical, or other means (e.g., channelization, flood control, water diversions, etc.), including indirect effects (e.g., edge effects, invasion of exotic plants or animals, or fragmentation); and that appreciably decrease habitat value or quality.

[1] Activities initiated by a Federal agency.
[2] Activities initiated by a private or other non-Federal entity that may need Federal authorization or funding.

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

In the economic analysis, we determined that designation of critical habitat will not have a significant effect on a substantial number of small entities. As discussed under Regulatory Planning and Review above, this designation is not expected to result in any additional restrictions in either areas occupied or unoccupied by the Arkansas River shiner.

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

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

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

In accordance with the Unfunded Mandates Reform Act:

a. 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 programs involving Federal funds, permits, or other authorized activities must ensure that their actions will not destroy or adversely modify critical habitat. However, as discussed above, no further restrictions are anticipated in areas of occupied designated critical habitat and few, if any, restrictions are anticipated in areas of unoccupied critical habitat.

b. This rule will not produce a Federal mandate on State, local, or tribal governments or the private sector of more than $100 million or greater in any year, *i.e.,* it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments.

Takings

In accordance with Executive Order 12630, this rule does not have significant takings implications, and a takings implication assessment is not required. This designation will not ''take'' private property. The designation of critical habitat affects only Federal agency actions. The rule will not increase or decrease the current restrictions on private property concerning take of the Arkansas River shiner. Additionally, critical habitat designation does not preclude development of habitat conservation plans and issuance of incidental take permits. Landowners in areas that are included in the designated critical habitat will continue to have opportunity to utilize their property in ways consistent with the survival of the Arkansas River shiner.

Federalism

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. The designation of critical habitat in areas currently occupied by the Arkansas River basin population of the Arkansas River shiner imposes no additional restrictions to those currently in place, and therefore has little incremental impact on State and local governments and their activities. In unoccupied areas, we do not anticipate the prohibition against adverse modification of critical habitat to impose any additional restrictions to federally sponsored projects or activities occurring in these areas, unless through the consultation process we find that the proposed activity will appreciably decrease habitat value or quality for both the survival and recovery of the Arkansas River shiner.

In keeping with Department of the Interior policy, we requested information from and coordinated development of this critical habitat designation with appropriate State resource agencies in Kansas, New Mexico, Oklahoma, and Texas. We also utilized information on critical habitat submitted by the States during the listing of the Arkansas River shiner. We anticipate that the affected States will have representatives on our recovery team for this species. Consequently, we will continue to coordinate this and any future designation of critical habitat for the Arkansas River shiner with the appropriate State agencies.

Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. The Office of the Solicitor reviewed this final determination. We

made every effort to ensure that this final determination contains no drafting errors, provides clear standards, simplifies procedures, reduces burden, and is clearly written such that litigation risk is minimized.

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

This rule does not contain any information collection requirements for which OMB approval under the Paperwork Reduction Act is required.

National Environmental Policy Act

Our position is 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 courts of the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. Ore. 1995), *cert. denied* 116 S. Ct. 698 (1996). However, when the range of the species includes States within the Tenth Circuit (the States of CO, KS, NE, NM, OK, UT, and WY), such as that of the Arkansas River shiner, 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 undertake a NEPA analysis for critical habitat designation. We completed an environmental assessment and finding of no significant impact on the designation of critical habitat for the Arkansas River shiner.

References Cited

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

Author

The primary author of this notice is Ken Collins (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

Accordingly, we 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 § 17.11(h), by revising the entry for ''shiner, Arkansas River'' under ''FISHES'' to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*		*	*
FISHES							
*	*	*	*	*		*	*
Shiner, Arkansas River.	*Notropis girardi*	U.S.A. (AR, KS, NM, OK, TX).	Arkansas River Basin (AR, KS, NM, OK, TX.	T	653	§ 17.95(e)	NA
*	*	*	*	*		*	*

3. Amend § 17.95(e) by adding critical habitat for the Arkansas River shiner (*Notropis girardi*) in the same alphabetical order as this species occurs in 17.11(h) to read as follows.

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(e) Fishes.

* * * * *

ARKANSAS RIVER SHINER (*Notropis girardi*)

1. Critical habitat is depicted for Barton, Clark, Comanche, Cowley, Edwards, Finney, Ford, Gray, Hamilton, Kearny, Kiowa, Meade, Pawnee, Reno, Rice, Sedgwick, Seward, and Sumner Counties, Kansas; Quay County, New Mexico; Beaver, Blaine, Caddo, Canadian, Cleveland, Custer, Dewey, Ellis, Grady, Harper, Hughes, Major, McClain, McIntosh, Pittsburg, Pontotoc, Pottawatomie, Roger Mills, Seminole, Texas, Woods, and Woodward Counties, Oklahoma; and Hemphill, Oldham, and Potter Counties, Texas, on the maps and as described below.

2. Critical habitat includes the stream channels within the identified stream reaches indicated on the maps below, and includes a lateral distance of 91.4 m (300 ft) on each side of the stream width at bankfull discharge. Bankfull discharge is the flow at which water begins to leave the channel and move into the floodplain (Rosgen 1996) and generally occurs with a frequency of every 1 to 2 years (Leopold *et al.* 1992).

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—(1) a natural, unregulated hydrologic regime complete with episodes of flood and drought or, if flows are modified or regulated, a hydrologic regime characterized by the duration, magnitude, and frequency of flow events capable of forming and maintaining channel and instream habitat necessary for particular Arkansas River shiner life-stages in appropriate seasons; (2) a complex, braided channel with pool, riffle, run, and backwater components that provide a suitable variety of depths and current velocities in appropriate seasons; (3) a suitable unimpounded stretch of flowing water of sufficient length to allow hatching and development of the larvae; (4) substrates of predominantly sand, with some patches of gravel and cobble; (5) water quality characterized by low concentrations of contaminants and natural, daily and seasonally variable temperature, turbidity, conductivity, dissolved oxygen, and pH; (6) abundant terrestrial, semiaquatic, and aquatic invertebrate food base; and (7) few or no predatory or competitive nonnative species present.

4. Existing human-constructed features and structures within the critical habitat boundary, such as buildings, powerlines, roads, railroads, urban development, and other features not containing any primary constituent elements, are not considered critical habitat and are not included in the designation. Tribal lands located within

the critical habitat boundary of Unit 1b are not considered critical habitat.

5. Kansas (Sixth Principal Meridian (SPM)), New Mexico (New Mexico Principal Meridian (NMPM)), Oklahoma (Cimarron Meridian (CM) and Indian Meridian (IM)), and Texas (geographic coordinates): Areas of land and water as follows (physical features were identified using USGS 7.5′ quadrangle maps; river reach distances were derived from digital data obtained from USGS National Atlas data set for river reaches, roads, and county boundaries.

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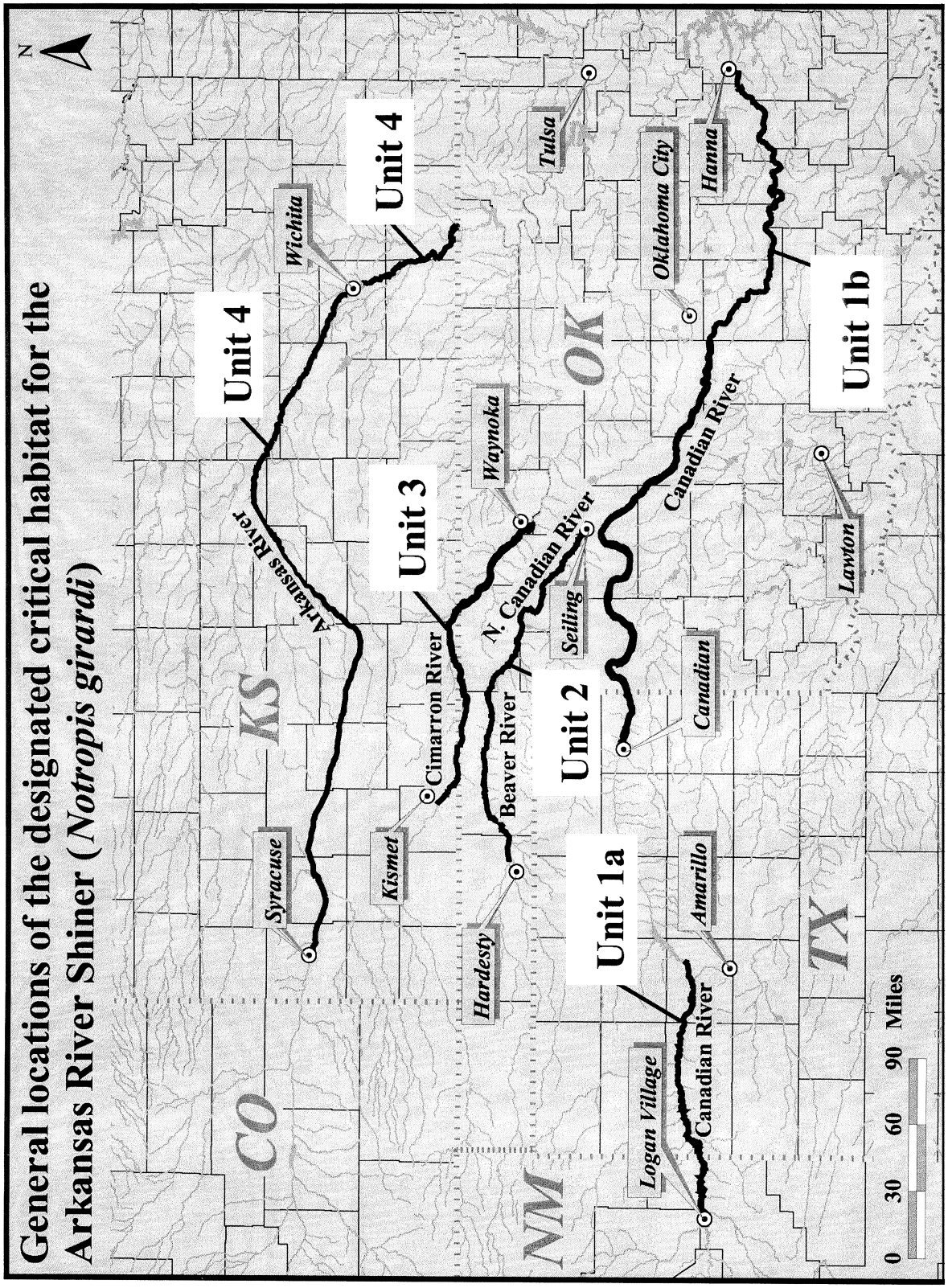

Use Constraints: This map is intended to be used as a guide to identify the general areas where Arkansas River Shiner critical habitat has been designated. The precise legal definition of critical habitat should be obtained from the text of the Final Designation of Critical Habitat for the Arkansas River Shiner.

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ARKANSAS RIVER SHINER (*Notropis girardi*)

Reach 1. Canadian/South Canadian River, New Mexico, Texas, and Oklahoma.

a. Canadian River—approximately 215 km (134 mi) from U.S. Highway 54 bridge near Logan, Quay County, New Mexico (NMPM, T.13N., R.33E., NW¼ Sec. 14) downstream to the confluence with Coetas Creek, Potter County, Texas (35°27′53″ N, 101°52′46″ W).

b. Canadian River—approximately 593 km (368 mi), extending from U.S. Highway 60/83 bridge near Canadian, Hemphill County, Texas (35°56′02″ N, 100°22′00″ W) downstream to Indian Nation Turnpike bridge northwest of McAlester, Oklahoma (IM T.8N., R.13E., SE¼ SW¼ SE¼ Sec. 23).

Reach 2. Beaver/North Canadian River, Texas, Beaver, Harper, Ellis, Woodward, and Major Counties, Oklahoma—259 km (161 mi) of river extending from Optima Dam in Texas County, Oklahoma (CM,T.2N., R.18E., NW¼ SE¼ SE¼ Sec. 5) downstream to U.S. Highway 60/281 bridge in Major County, Oklahoma (IM, T.20N., R.16W., west boundary Sec. 28).

Reach 3. Cimarron River, Seward, Meade, Clark and Comanche Counties, Kansas and Beaver, Harper, Woods, and Woodward, Counties, Oklahoma—215 km (134 mi) of river extending from U.S. Highway 54 bridge in Seward County, Kansas (SPM, T. 33 S., R. 32 W., Sec. 25) downstream to U.S. Highway 281 bridge in Woods County, Oklahoma (IM, T.24N., R.16W., Sec. 35).

Reach 4. Arkansas River, Hamilton, Kearny, Finney, Gray, Ford, Edwards, Kiowa, Pawnee, Barton, Rice, Reno, Sedgwick, Sumner, and Cowley Counties, Kansas—564 km (351 mi) of river extending from Kansas State Highway 27 bridge in Hamilton County, Kansas (SPM, T. 24 S., R. 40 W., Sec. 18) downstream to KS/OK State line in Cowley County, Kansas (SPM, T.35S., R.5E., southern boundary Sec. 18).

* * * * *

Dated: March 28, 2001.

Joseph E. Doddridge,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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