U.S. Fish and Wildlife Service, South Dakota Ecological Services Office
Flooding Emergency Topeka Shiner Recommendations
April 20, 2011

The Topeka shiner (*Notropis topeka*) is a small minnow species found in the James, Vermillion and Big Sioux River watersheds of South Dakota. This species is currently listed as endangered under the Endangered Species Act (ESA) (as amended, 16 U.S.C. 1531 et seq.). The U.S. Fish and Wildlife Service (USFWS) is the Federal agency charged with administering the ESA, and USFWS assists individuals, companies, federal agencies, and other entities in achieving compliance with this Federal law. Section 9 of the ESA prohibits unauthorized take[1] of Federally listed species. Section 7 regulations require Federal agencies to consult with the Service on their actions to both conserve listed species by carrying out their programs in furtherance of the act (section 7(a)(1)) as well as to ensure their activities do not jeopardize the continued existence of listed species (section 7(a)(2)).

Flooding events in South Dakota frequently result in damage to stream crossing structures (bridges and culverts) at times rendering them unsafe to cross or damaged to an extent that precludes vehicular traffic entirely. Repairs to such structures are often needed immediately to allow access to residences and necessary facilities. The cost of such repairs may later be reimbursed by State or Federal agencies when states of emergency or disaster situations are declared. When stream-crossing structure damage occurs in watersheds known to be occupied by the Topeka shiner, and instream work is conducted to repair that damage, the risk of take of this species exists.

The USFWS recognizes that emergency (natural disasters or other calamities) may require expedited consultation (50 CFR § 402.05). In emergency/disaster situations, normal consultation procedures are modified to ensure no obstruction of any emergency response occurs as a result of USFWS actions. It is our policy to submit recommendations - to be applied whenever possible and appropriate under the given emergency circumstances - in order to minimize adverse affects to species protected by the ESA. The guidance herein is offered as means to reduce the risk of take of this species in situations where emergency situations exist and structures must be replaced immediately. Note, however, that any take of Federally listed species that occurs will not necessarily be authorized via any after-the-fact consultation with USFWS.

In lieu of normal ESA consultation procedures, the following recommendations are intended to minimize potential short and long-term impacts to Topeka shiners that may occur as crews work to replace damaged stream-crossing structures as a result of the current flooding emergency:

- **Conduct actions outside the Topeka shiner spawning period, primarily May 15-July 31, to avoid direct and indirect impacts to spawning adults, eggs, and larval fish within known occupied Topeka shiner waterways, such as the Elm River.** Given the pattern of flooding emergencies that occur in early spring, compliance with this recommendation is likely not problematic.

- **Implement comprehensive and effective sediment and erosion controls to the greatest extent possible.** It is recognized that floodwaters often carry high sediment loads, and construction actions during high water conditions are challenging. However,

efforts should be made to minimize additional sediment input to Topeka shiner streams as much as possible, as heavy and prolonged instream sedimentation can incur detrimental effects to the shiner and other aquatic species.

- **Whenever possible, install stream-crossing structures and repair existing damaged structures, in a manner that will not result in long-term fish passage problems.** Installing structures greater than the bankfull width, and countersinking culverts below the stream bed a minimum of 6" are recommended measures, although it is noted that analysis of instream morphology is needed on a case-by-case basis to determine the appropriate countersink depth needed to preclude structure perching. At times 12" or more is determined to be necessary and appropriate, however, without the time and resources available to determine correct countersinking depths, we recommend a minimum of 6", and greater depths wherever feasible. This relates to the next item below.

- **If it is necessary during the emergency to install structures that are undersized, and/or set above-grade or at-grade level, we recommend that these structures be installed to serve the purposes identified during the emergency, but that these structures be revisited and replaced with structures allowing fish passage once the emergency has passed.** Perching of culverts or restriction of flows that precludes fish from passing through the structures may result in the loss of stream segments, or even entire streams, which can constitute take of Topeka shiners. Short-term repairs that impact individual Topeka shiners may not be problematic to the species as a whole, but long-term loss of habitat could preclude conservation and recovery.

Note that without information on exact conditions within emergency/disaster areas, project-specific details, or monitoring results, it is difficult for the USFWS to determine appropriateness/effectiveness of the above recommendations. These recommendations are based on our limited knowledge of these flooding situations, and as stated above, are intended to minimize the potential impacts to Topeka shiners without inhibiting the emergency response require at this time to address flooding damages.

If changes are made in operating criteria, or if additional information becomes available, the Service should be informed so that the above guidelines can be reconsidered.

Questions regarding these guidelines should be directed to Natalie Gates, U.S. Fish and Wildlife Service, Ecological Services, 420 South Garfield Avenue, Suite 400, Pierre, South Dakota 57501, Telephone: (605) 224-8693.

[1]The term "take" as related to the Endangered Species Act is defined by the U.S. Fish and Wildlife Service as follows: To harass, harm, pursue, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. **Harm** is further defined by USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.

Harass is defined by USFWS as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering.