Arkansas Darter

Etheostoma cragini

Guidelines for Landowners Using Conservation Practices

Missouri Department of Conservation

Common name ▪ Arkansas Darter
Scientific name ▪ *Etheostoma cragini*
Federal status ▪ Candidate

Ecology

The historical range of the Arkansas darter is the Arkansas River drainage in southeastern Colorado, southern Kansas, northern Oklahoma, southwestern Missouri, and northwestern Arkansas. Arkansas darters inhabit small spring-fed creeks with cool, clear water and herbaceous aquatic vegetation such as growths of watercress or other aquatic plants. They are often found in pools with sand, fine gravel, or organic detritus substrate. They feed on a variety of aquatic insects, especially mayflies, and some plant material. Eggs are laid in gravel bottoms. In Missouri, spawning occurs during the spring. Arkansas darters are sexually mature in 1 year or less. Breeding females range in age from 1 to 3 years. Adult Arkansas darters typically reach a length of 1.6 to 2.2 inches.

Reasons for Decline

Although the Arkansas darter was historically considered uncommon throughout its range, it has declined in abundance, particularly in the western and central parts. Surface water diversion and dewatering of the Ogallala Aquifer for irrigation and general development resulted in major losses of Arkansas darter habitat. Current threats to the Arkansas darter include habitat loss, improper and untimely sand and gravel removal, habitat and groundwater degradation, agricultural runoff containing pesticide chemicals and waste from livestock, and restricted dispersal due to population fragmentation. Missouri may have the last remaining healthy population of this small perch.

Photo Credit: Missouri Department of Conservation

Recommendations

The presence of populations of the Arkansas darter may be an indication that our underground water supply is at a safe and sustainable level. Without underground aquifers, habitat for species such as the Arkansas darter will be gone, as will drinking water for humans. Efforts should be made to ensure our waterways are healthy through protection and/or restoration of habitat for this and other aquatic species.

Avoid constructing stream crossings. If unavoidable, culverts and stream crossings should be constructed with the same bottom elevation as the existing streambed to avoid restricting flow and obstructing fish passage.

Bank stabilization materials should consist only of rock, clean broken concrete or similar materials free of pollutants, silt and extraneous debris including exposed rebar. Erosion and sediment controls should be implemented, maintained and monitored for the duration of the project.

Follow proper sand and gravel removal procedures outlined in the Missouri Instream Sand and Gravel Removal Guidelines prepared by the Missouri Departments of Conservation and Natural Resources. Guidelines include the following: leave a minimum 20-foot buffer zone between the water line and the excavation area, do not mine within 20 feet of streamside vegetation, and do not alter stream channels. In addition, do not remove gravel during the Arkansas darter spawning season (February 15 to June 15).

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Limit clearing of vegetation, including standing and downed timber, to that which is absolutely necessary for construction purposes. Re-establish and maintain forested riparian corridors at least 100-feet wide along streams to reduce erosion and capture nutrient rich runoff. Discourage cattle from using streams and exclude livestock with fences to allow the area to naturally re-vegetate.

Refer to Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers.

Consider the balance between adverse and beneficial practices when determining the overall effect of a conservation practice.

Beneficial Practices

- Limit livestock access to streams.
- Protection and restoration of riparian corridors along springs and streams.
- Nutrient and pest management on adjacent agricultural fields that results in reduced opportunities for contamination of runoff.
- Control erosion and prevent the delivery of sediment to the aquatic system.

Adverse Practices

- Sand and gravel removal beyond excess material on adjacent unconsolidated bars.
- Project activities that occur below the high bank between March 1 and June 15, the spawning period for the Arkansas darter.
- Constructing dams and other impoundment structures on streams that host the fish.
- Improper erosion and sediment control.
- Culverts, fords, and stream crossings that restrict flow or create a barrier to fish passage.
- Unnecessary vehicle and equipment stream crossing.
- Removing or degrading the riparian corridor near springs and along streams.
- Unmanaged application of pesticides, animal waste or fertilizers.

Information Contacts

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Policy Coordination Section
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http://www.mdc.mo.gov/nathis/endangered/

Missouri Department of Natural Resources
Division of Environmental Quality
P.O. Box 176
Jefferson City, MO 65102-0176
Telephone: 800-361-4827 / 573-751-1300
cleanwater@dnr.mo.gov

U.S. Army Corps of Engineers
Regulatory Branch
700 Federal Building
601 E. 12th Street
Kansas City, MO 64106-2896
Telephone: 816-389-3990
http://www.nwk.usace.army.mil/

U.S. Environmental Protection Agency
Water, Wetlands, and Pesticides Division
901 North 5th Street
Kansas City, KS 66101
Telephone: 913-551-7003 / 800-223-0425
http://www.epa.gov/region7/

U.S. Fish and Wildlife Service
Ecological Services Field Office
101 Park DeVille Dr., Suite A
Columbia, MO 65203
Telephone: 573-234-2132
http://www.fws.gov/midwest/partners/missouri.html

Legal

The Missouri Department of Conservation prepared these guidelines for conservation practices with assistance from other state agencies, contractors, and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat.

Compliance with these management guidelines is not required by the Missouri wildlife and forestry law or by any regulation of the Missouri Conservation Commission. Other federal, state or local laws may affect construction practices.

"State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, and specific requirements

for impacts to such species are expressed in the Missouri Wildlife Code, rule 3 CSR 10-4.111.

Species listed under the Federal Endangered Species Act must be considered in projects receiving federal funds or requiring permits under the Clean Water Act, with compliance issues resolved in consultation with the U.S. Fish and Wildlife Service.