

# **Oklahoma Aquatic and Semi-aquatic Species of Concern**

## Fish

Oklahoma has more than 150 native fish species of which 19 are considered state species of concern. Most fishes of conservation concern inhabit rivers and small streams and are at risk due to habitat destruction and fragmentation. This guide is intended to aid in the identification of fish species of conservation concern. The diagram below illustrates common morphometrics used in fish identification.

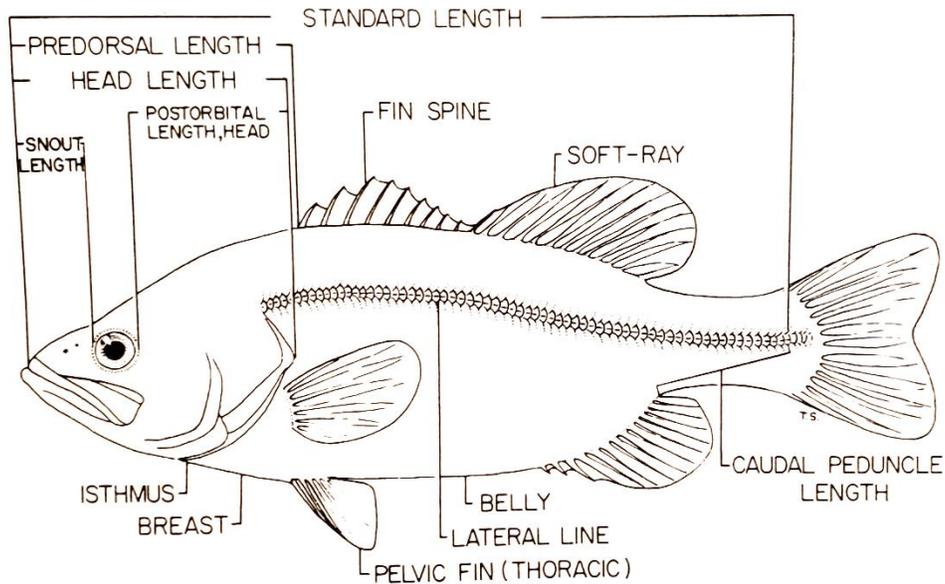
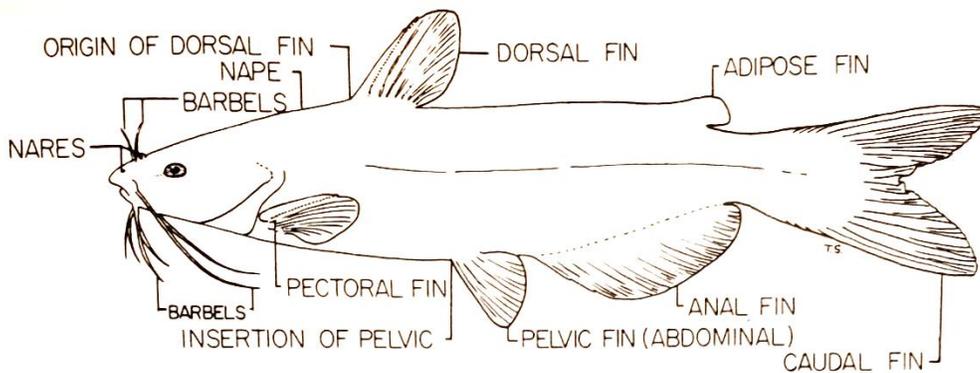


Diagram taken from Miller & Robinson, 2004 Fishes of Oklahoma.

## Peppered Chub *Macrhybopsis tetranema*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Endangered

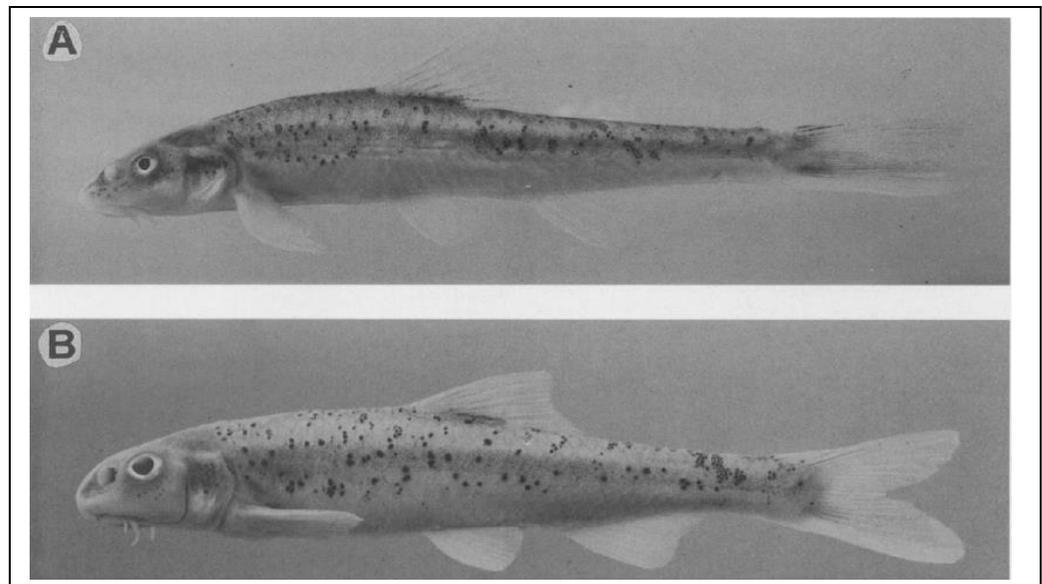
**NatureServe Global status:** G1: Critically Imperiled

**Oklahoma status:** N/A

**Identification:** The peppered chub, similar to other chub species (*Macrhybopsis* spp.), is distinguishable from other species of the Minnow family (Cyprinidae) by its inferior, horizontal mouth and barbels that serve as adaptation to foraging on the streambed (Miller & Robison, 2004).

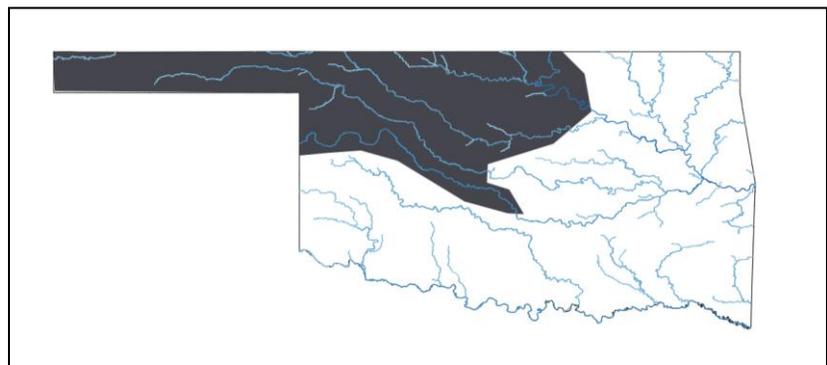
### Similar species:

The peppered chub is similar in appearance to the shoal chub *M. hyostoma* and the prairie chub *M. australis*, but only shares a spatial distribution with the shoal chub. The peppered chub is distinguishable from the shoal



chub by its longer barbels, smaller eyes and scales, and more conical head (Eisenhour, 1999). Notice the differences in relative eye size and head shape in the figure below, with the peppered chub (A) and the shoal chub (B).

**Range:** In Oklahoma, the peppered chub occurs in the western tributaries of the Arkansas River Basin.



## Arkansas River Shiner *Notropis girardi*

**US Threatened and Endangered Species status:** Threatened

**American Fisheries Society status:** Endangered

**NatureServe Global status:** G2-Imperiled

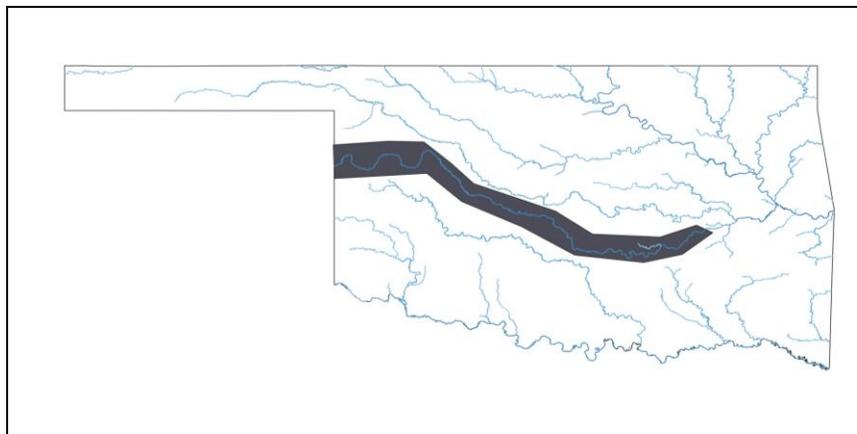
**Oklahoma status:** S1-Critically Imperiled

**Identification:** The Arkansas River shiner is a small (< 2 inches) but heavy bodied minnow. It has a rounded snout and small subterminal mouth. Black pigmentation is common along the lateral line with a small black chevron at the caudal base (Miller & Robinson, 2004).

**Similar species:** The Arkansas River Shiner is similar to and shares a historical range with several other members of the *Notropis* genus. The Arkansas River Shiner distinguished from the Red River Shiner *N. bairdi*, River Shiner *N. blennioides*, Sand Shiner *N. stramineus* by having 8 anal rays rather than 7 anal rays. Like the Arkansas River Shiner, the Ghost Shiner *N. buchananii* and the Mimic Shiner *N. volucellus* also have 8 anal rays, but have lateral line scales that are deeper than they are long and unlike other body scales, whereas, the lateral line scales on the Arkansas River Shiner are more similar to other body scales (Miller & Robinson, 2004).



**Range:** The Arkansas River Shiner was historically found in all Western tributaries of the Arkansas River in Oklahoma, but currently is only believed to occur in the Canadian River.



## Leopard Darter *Percina pantherena*

**US Threatened and Endangered Species status:** Threatened

**American Fisheries Society status:** Threatened

**NatureServe Global status:** G2-Imperiled

**Oklahoma status:** S1-Critically Imperiled

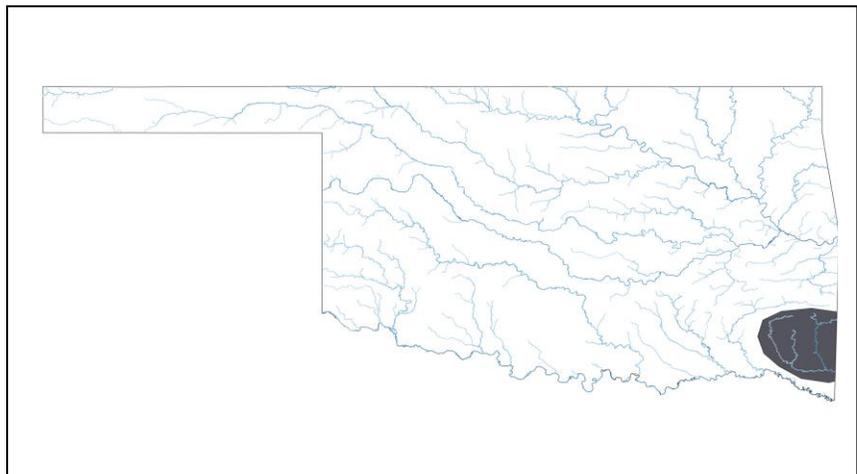
**Identification:** The Leopard Darter is a streamlined, medium sized ( $\approx$  3.5 inches) darter with a conical head. And is distinguishable from other, similar darters (*Percina* spp.) by its leopard patterned coloration on the dorsal side (Miller & Robinson, 2004).

**Similar Species:** The Leopard Darter shares a range with and is most like the Blackside Darter *P. maculata*. The

Leopard Darter is distinguishable from the Blackside Darter having 81 – 91 lateral line scales as opposed to 62 – 77 lateral line scales, and its 11 – 14 distinct black blotches along the lateral line (Miller & Robison, 2004).



**Range:** The Leopard Darter occurs in the Little River Basin of Southeastern Oklahoma



## Neosho Madtom *Noturus placidus*

**US Threatened and Endangered Species status:** Threatened

**American Fisheries Society status:** Threatened

**NatureServe Global status:** G2-Imperiled

**Oklahoma status:** S1-Critically Imperiled

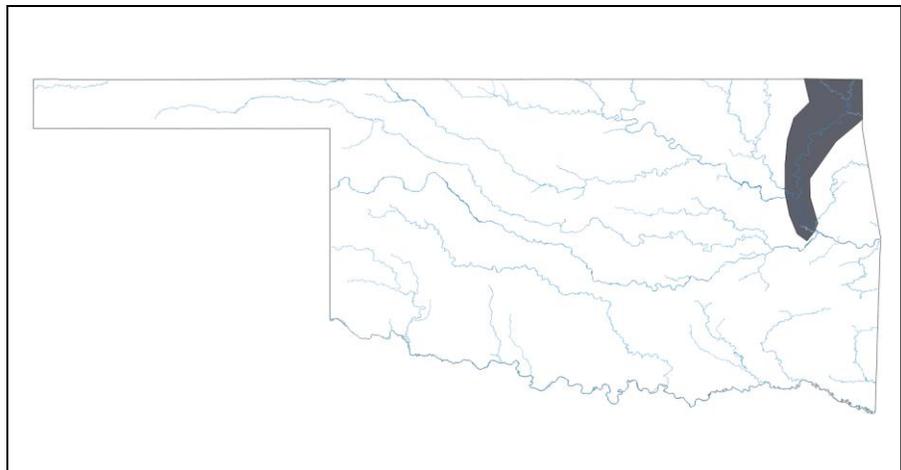
**Identification:** A member of the catfish family (*Ictaluridae*), the Neosho Madtom like other Madtoms (*Noturus* spp.) are distinguishable from other catfishes in the state by their long adipose fin that connects with the caudal fin Miller & Robison, 2004).

**Similar Species:** The Neosho Madtom shares its range with four other Madtom species. Unlike the unicolored Slender Madtom *N. exilis* and Stonecat *N. flavus*, the Neosho Madtom has a mottled appearance. The Freckled Madtom *N.*



*nocturnus* lacks the large blotches and saddle pigmentation of the Neosho Madtom. The Brindled Madtom *N. miurus* shares the mottled appearance, but the Brindle Madtom has a dark bar that extends from the base of the adipose fin to the outer margin, and lacks a dark band midway to the end of the caudal fin. By contrast, the Neosho Madtom lacks the dark band on the adipose fin and has at least one crescent-shaped band on the caudal fin (Miller & Robison, 2004).

**Range:** The Neosho Madtom occurs in the Neosho River basin of Oklahoma, Kansas and Missouri and in tributaries of the Arkansas River between the mouth of the Neosho River and the confluence of the Arkansas and Canadian rivers.



**Ozark Cavefish** *Amblyopsis rosae* (*Troglichthys rosae*)

**US Threatened and Endangered Species status:** Threatened

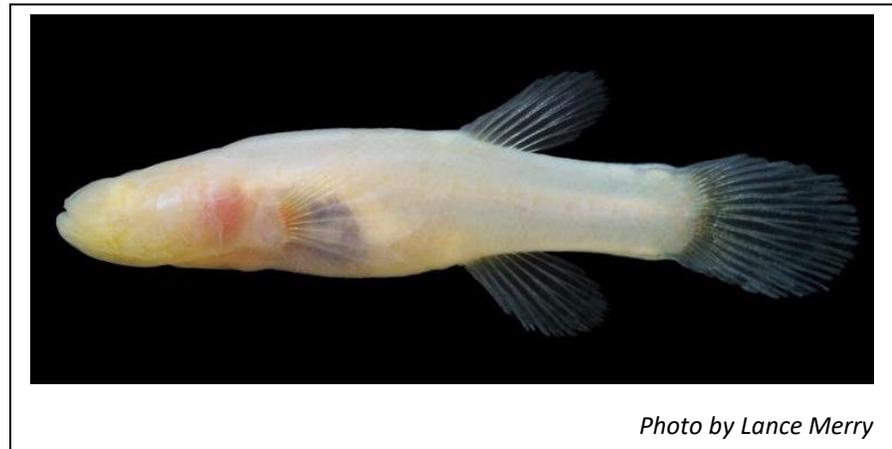
**American Fisheries Society status:** Threatened

**NatureServe Global status:** G3-Vulnerable

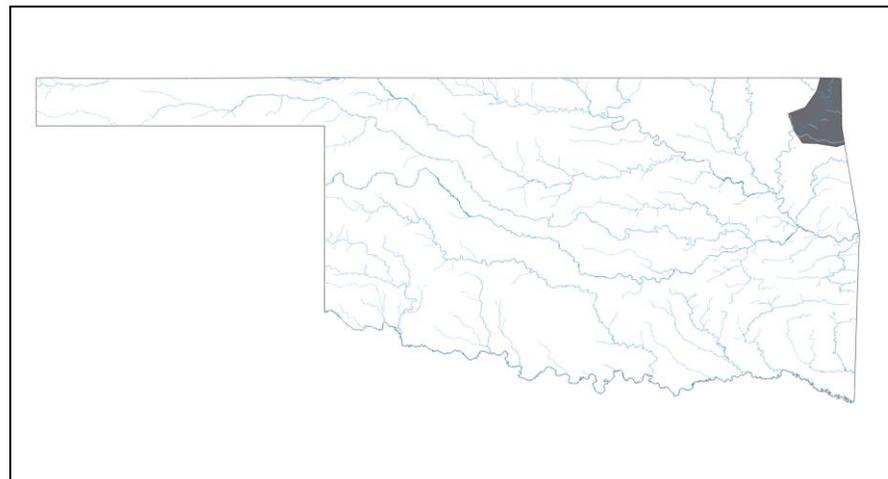
**Oklahoma status:** S1-Critically Imperiled

**Identification:** The Ozark Cavefish lives under ground and has no pigmentation or eyes (Miller & Robinson, 2004).

**Similar Species:** The Ozark Cavefish is unlike any other fish in Oklahoma, although other cavefish (*Amblyosidae* family) occur in other geographic regions (Miller & Robinson, 2004).



**Range:** The Ozark Cavefish occurs in caves in The Ozarks of Oklahoma, Missouri and Arkansas (Miller & Robinson, 2004).



## Longnose Darter *Percina nasuta*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Threatened

**NatureServe Global status:** G3-Vulnerable

**Oklahoma status:** S1-Critically Imperiled

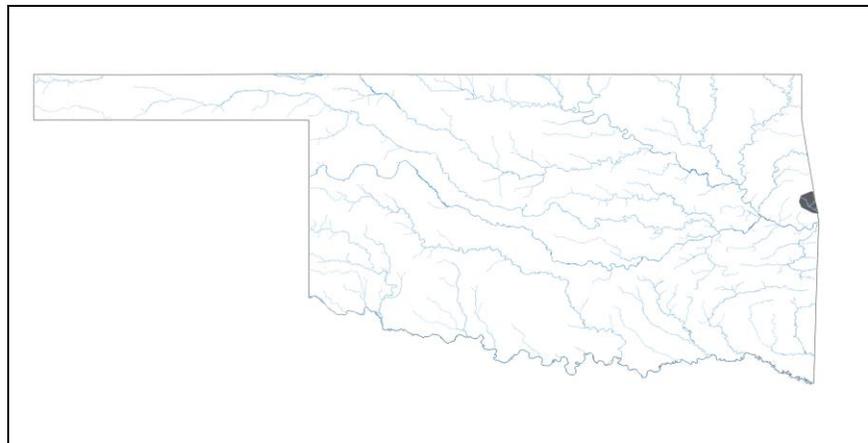
**Identification:** The longnose darter is long and slender with a long, slim and pointed head. The overall slender profile along with the thin orange band along the margin of its spiny dorsal fin make it distinguishable from most other darters (Miller & Robinson, 2004).

**Similar Species:** The Longnose darter is most similar to the Slenderhead Darter *P. phoxocephala*, but has 7 branchiostegal rays rather than 6, and has 73 – 83 lateral line scales as opposed to 70 – 73 lateral line scales that are typical of the slender head darter. The longnose darter has a relatively longer snout that's width is <75% of its length, whereas the of the snout of the Slenderhead darter is > 67% of its length (Miller & Robinson, 2004).



Photo by Mike Gatlin

**Range:** The Longnose Darter once occupied the Poteau River basin and Lee Creek in Eastern Oklahoma. Currently, the only know viable population exists in Lee Creek (Holley & Long, 2018).



## Alligator Gar *Atractoseus spatula*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

**Oklahoma status:** S1-Critically Imperiled

**Identification:** The Alligator Gar has a heavy body and broad snout. The species can exceed 9 feet in length. The body is covered in large bone-like scales, and both the dorsal and anal fins are located near the caudal fin (Miller & Robison, 2004).

### Similar Species:

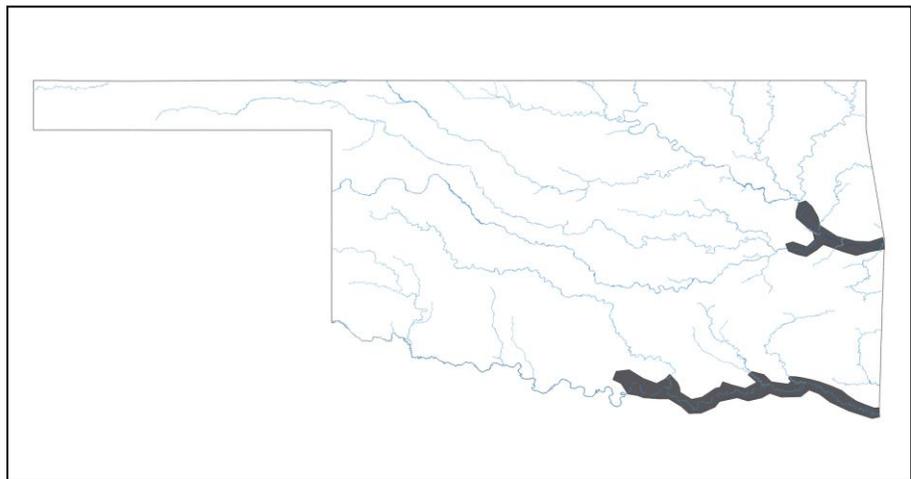
The Alligator Gar shares its range in Oklahoma with three other species of Gar. It is distinguishable from the Longnose Gar by its broad



*Photo by Lance Merry*

snout. Longnose Gar have a very narrow snout that is reminiscent of needle-nose pliers. Spotted and Shortnose Gar have a similarly shaped snout, but adults will have only one row of teeth on the top jaw; whereas, Alligator Gar have two rows. Juvenile Alligator Gar are distinguishable by a thin mid-dorsal white stripe that is bordered by dark lines and extends from the snout to the dorsal fin (Miller & Robison, 2004).

**Range:** The Alligator Gar are big river obligates and viable populations exist in Oklahoma in and around Lake Texoma and in the Red River and its major tributaries below Texoma. Alligator Gar may occur in the Arkansas River below the Neosho River confluence and in the Canadian River below Lake Eufaula.



## **Crystal Darter** *Crystallaria asprella*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

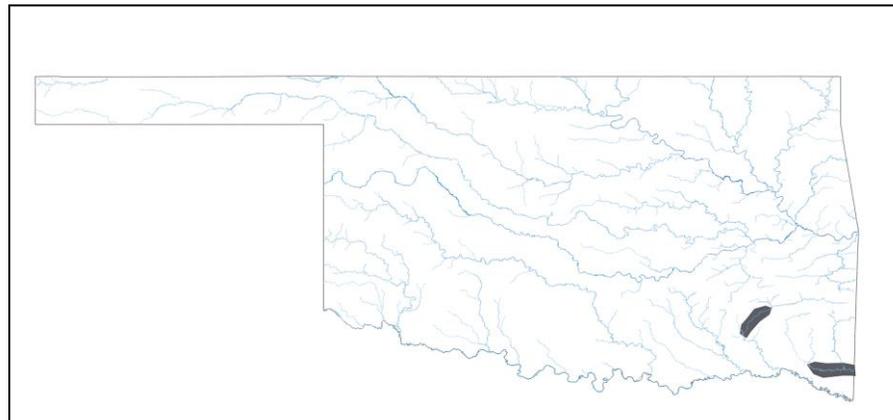
**Oklahoma status:** S1-Critically Imperiled

**Identification:** The Crystal Darter is extremely slender with large eyes. Aside from black pigmentation at the margins of some dorsal scales and a series of 8 – 11 black blotches along the lateral line, the darter is nearly transparent (Miller & Robison, 2004).

**Similar Species:** The Western Sand Darter *Ammocrypta clara* and the Scaly Sand Darter *A. vivax* share the slender profile and transparent appearance of the Crystal Darter. But the Crystal Darter has a frenum (tissue connection between lips and gums) in the upper jaw, whereas the other *Ammocrypta* spp. lack a frenum (Miller & Robison, 2004).



**Range:** In Oklahoma, the Crystal Darter is known to occur in the Kiamichi River between Hugo and Sardis Reservoirs, and in the McCurtain County portion of Little River (Miller & Robison, 2004).



## Arkansas Darter *Etheostoma cragini*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Threatened

**NatureServe Global status:** G3-Vulnerable

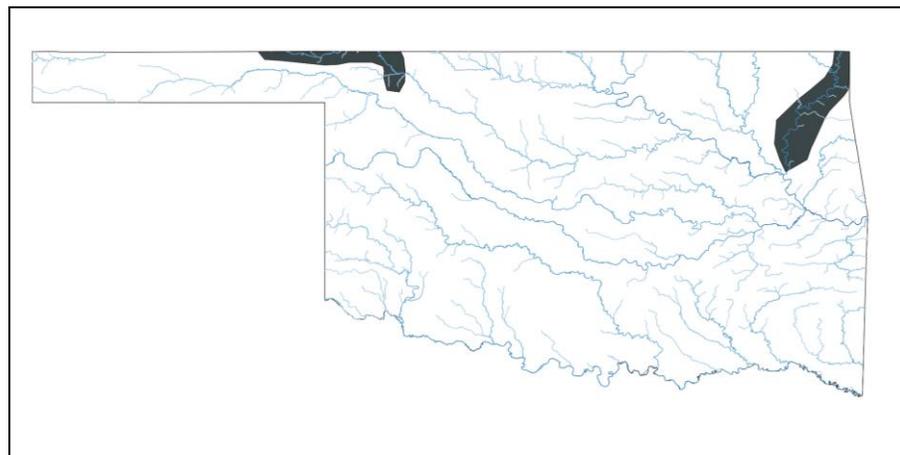
**Oklahoma status:** S1-Critically Imperiled

**Identification:** A small darter (< 2.5 inches) with a blunt nose and relatively large head. The species has 6-9 dusky saddles along the back and 12-14 dusky bars along the lateral line with tiny dark spots below the lateral line. Breeding males have orange along the margins of gill covers, belly, and partially on the pectoral rays (Miller & Robison, 2004).

**Similar Species:** The Arkansas Darter shares the Eastern portion of its distribution with the similar Stippled Darter *E. punctulatum*. The two species are most easily distinguished by the incomplete lateral line of the Arkansas Darter (only 7 – 20 lateral line scales will be pored). Additionally, the large saddles and vertical blotches along the sides of the Stippled Darter are never present on the Arkansas Darter (Miller & Robison, 2004).



**Range:** In Oklahoma, the Arkansas Darter in occurs in the Grand River system and in the Cimarron River near the Kansas border (Miller & Robison, 2004; Pigg, Harrison, and Gibbs 1985).



## **Bluehead Shiner** *Pteronotropis hubbsi*

**US Threatened and Endangered Species status:** None

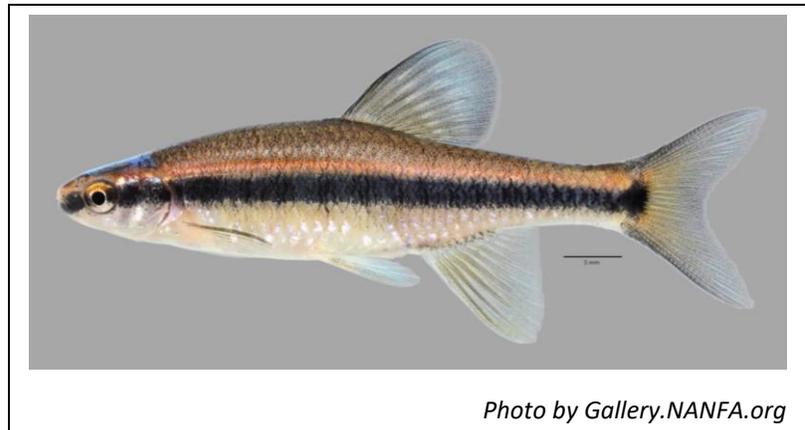
**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

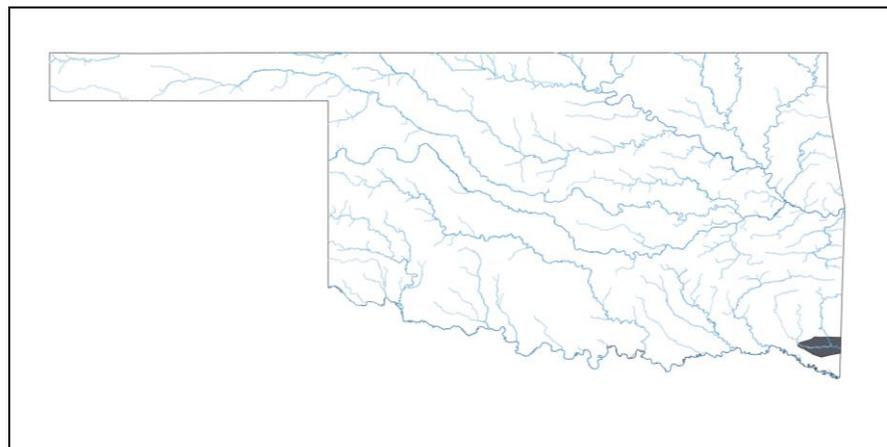
**Oklahoma status:** S1: Critically Imperiled

**Identification:** A distinctive minnow with a broad black stripe down the lateral line extending from the tip of the nose to the caudal fin. The body is dusky above the stripe and white below. The insertion of the dorsal fin is behind the further back than the pelvic ray insertion. The Dorsal fin has 9-10 rays, anal fin has 9-11 rays and only 2-9 of the lateral line scales are pored (Miller & Robison, 2004).

**Similar Species:** Bluehead shiners share a range with several other minnow species but have distinct coloration and large sail-like fins. The aforementioned ray counts and incomplete lateral line make it distinguishable from other species (Miller & Robison, 2004).



**Range:** In Oklahoma, the Bluehead Shiner occurs in the Little River and its tributaries and sloughs (McCurtain Co.) below the Glover River confluence.



## **Blackside Darter** *Percina maculata*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** None

**NatureServe Global status:** G5-Secure

**Oklahoma status:** S2-Imperiled

**Identification:** The Blackside Darter is medium-sized, slender and has a conical head. The lateral line is complete and has 62-77 scales. The species has a series of 7-8 large dark blotches along the lateral line and a less conspicuous series of 8-9 dark saddles along the back. Fins are dusky with light bars on the second dorsal fin and caudal fin (Miller & Robison, 2004).

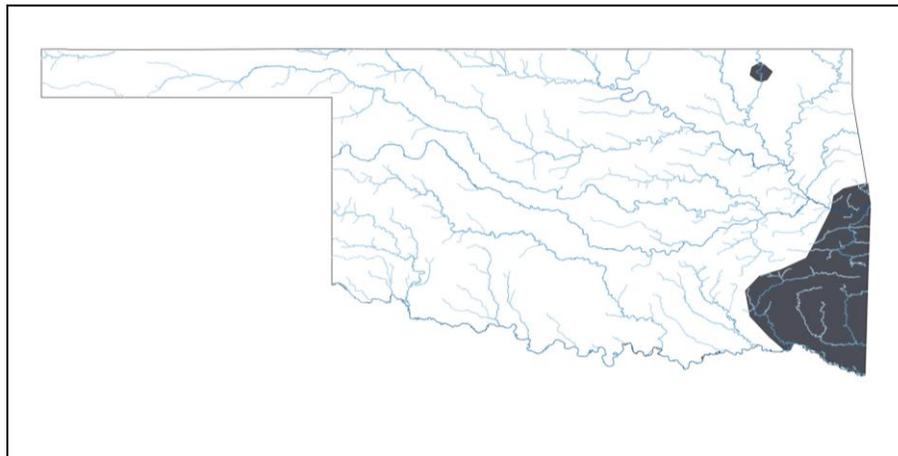
**Similar Species:** The Blackside Darter shares a range with and is like the Channel Darter *P. copelandi* and the Dusky Darter *P. sciara* (see also Leopard Darter above). The Blackside Darter differs from the Channel Darter in that the Blackside Darter has a more pointed head and a well developed frenum

between the snout and premaxilla (connective tissue from upper lip to upper jaw). The Dusky Darter has a finely serrate preopercular edge making it distinguishable from all other darters (Miller & Robison, 2004).



Photo by Brandon Brown

**Range:** The Blackside Darter primarily occurs in the Southeastern portion of the state but has been observed in the Verdigris River.



## Alabama Shad *Alosa alabamae*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Threatened

**NatureServe Global status:** G2-Imperiled

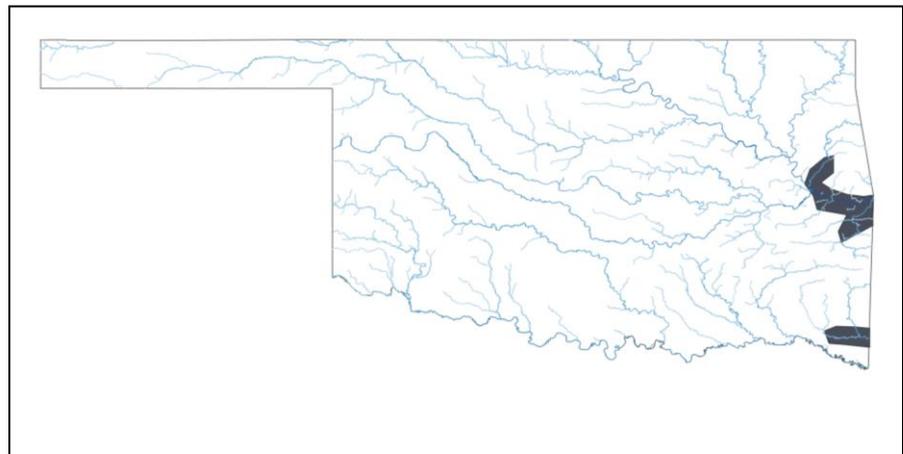
**Oklahoma status:** S2-Imperiled

**Identification:** The Alabama Shad thin, silver, herring-like fish that is distinguishable from other shads in Oklahoma by having 16 – 18 dorsal fin rays (instead of 12 – 13). The dorsal fin origin is nearer to the head than the pelvic fin origin. The mouth of the species is relatively large compared to other shad (Miller & Robison, 2004).

**Similar Species:** The Alabama Shad shares a portion of its range and is more like the Skipjack Herring *A. chrysochloris* than other shad species. The Alabama Shad has a single row of hyoid teeth and has pigmentation along the lower jaw rather than 2 – 4 rows of teeth and pigmentation only at the tip of the lower jaw as in the Skipjack Herring (Miller & Robison, 2004).



**Range:** The Alabama Shad is rare in Oklahoma, but has been collected in the Poteau and Illinois River drainages and in the Little River (McCurtain Co.).



## Western Sand Darter *Ammocrypta clara*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

**Oklahoma status:** S2-Imperiled

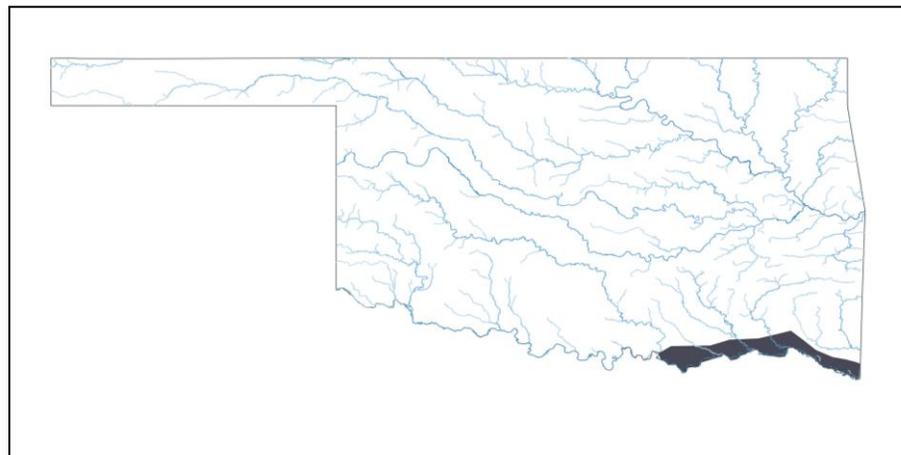
**Identification:** The Western Sand Darter is a very long, slender and translucent darter with long and high fins and very little pigmentation on its body (Miller & Robison, 2004).

**Similar Species:** The Western Sand Darter shares parts of its distribution with two similar species, the Crystal Darter *Crystallaria asprella* and the Scaly Sand Darter *A. vivax*. Unlike the Crystal Darter, the Western Sand Darter does not have a frenum between the top lip and jaw (see Crystal Darter above). The



The Western Sand Darter differs from the Scaly Sand Darter in having a sharp, pinlike spine on the opercula instead of a flat, triangular spine on the opercle. The nape of the Western Sand Darter typically lacks scales, but may have some around the midline, as opposed to the scaly nape of the Scaly Sand Darter. Conspicuous pigmentation is indicative of the Scaly Sand Darter, whereas pigmentation of the Western Sand Darter is faint if it exists at all (Miller & Robison, 2004).

**Range:** The Western Sand Darter is known to the Red River below Lake Texoma (Miller & Robison, 2004).



## Blue Sucker *Cycleptus elongatus*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

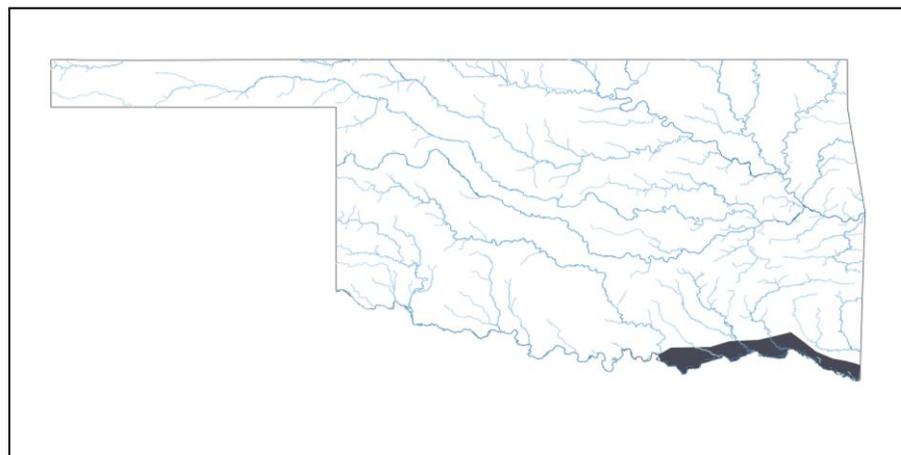
**Oklahoma status:** S2-Imperiled

**Identification:** The Blue Sucker is a long, streamlined fish with a long dorsal fin and small, but elongated head. The eyes are relatively small and the mouth is inferior with fleshy, papillose lips (Miller & Robison, 2004).

**Similar Species:** The Blue Sucker is unique to its genus in the Mississippi River Basin and is easily distinguished from other suckers from the family (Catostomidae). Blue Sucker coexists with and shares the elongated dorsal fin of Buffalo species (*Ictiobus* spp.) and Carpsuckers (*Carpoides* spp.), but is distinguishable by its torpedo-like shape as opposed to the deep-bodied Buffalo and Carpsucker species. The elongated dorsal fin distinguishes the Blue Sucker from the Redhorses (*Moxostoma* spp.).



**Range:** The Blue Sucker is a big-river obligate and historically occurred throughout the Red and Arkansas river drainages. Currently, the Blue Sucker is only known to occur in the Red River and major tributaries below Lake Texoma (Brewer and Dyer, 2018; J. Johnston pers. Comm).



## Ouachita Mountain Shiner *Lythrurus snelsoni*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

**Oklahoma status:** S2-Imperiled

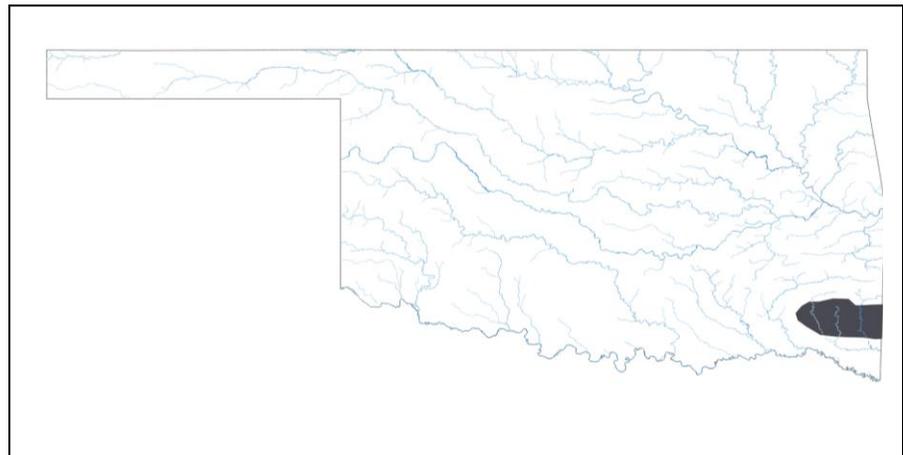
**Identification:** The Ouachita Mountain Shiner is a small, slender, silvery shiner with a blunt rounded nose, a large eye and terminal mouth. The lateral line has a slight downward curve with 38-45 scales. Breeding males have red pigment on the top of the head, chin and throat (Miller & Robison, 2004).

**Similar Species:** The Ouachita Mountain Shiner is similar to two other species within its range. It can be distinguished from Ribbon Shiner *L. fumeus* by having 10 anal rays rather than 11 – 12. It is distinguished from the Ribbon Shiner *L. umbratilis* by the lack of a prominent black spot at the origin of the dorsal fin and chevrons along its back (Miller & Robison, 2004).



Photo by Nicholas Keith

**Range:** The Ouachita Mountain Shiner occurs in the Ouachita Mountain portion of the Little River catchment (Miller & Robison, 2004).



## **Prairie Chub** *Macrhybopsis australis*

**US Threatened and Endangered Species status:** None

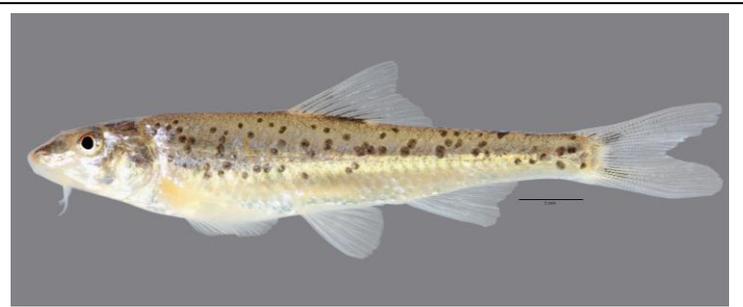
**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

**Oklahoma status:** S2-Imperiled

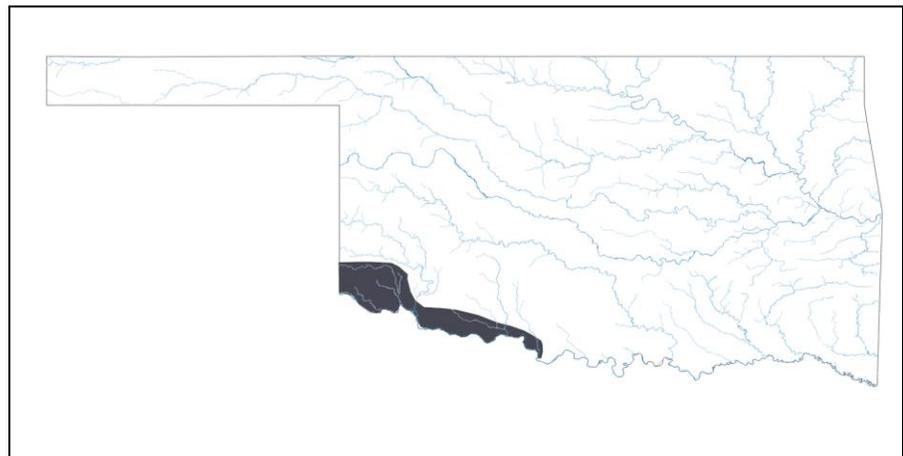
**Identification:** The Prairie Chub, like other small chubs (*Macrhybopsis* spp.) stands out from other minnows (family Cyprinidae) by having a subterminal mouth with barbels and a stream-lined body that is adapted for living on the bed of flowing streams (Miller & Robison, 2004).

**Similar Species:** The Prairie Chub shares the eastern portion of its range with the Shoal Chub *M. hyostoma*. The species are most easily distinguishable by their barbels. The Prairie Chub's two sets of barbel are near similar in length, whereas the Shoal Chub's forward set of barbels will be less than half as long if not absent (see also Peppered Chub above) (Miller & Robison, 2004).



*Photo by Gallery.NANFA.org*

**Range:** The Prairie Chub occurs in the upper reaches and tributaries of the Red River in Southwest Oklahoma (Miller & Robison, 2004).



## Peppered Shiner *Notropis perpallidus*

**US Threatened and Endangered Species status:** None

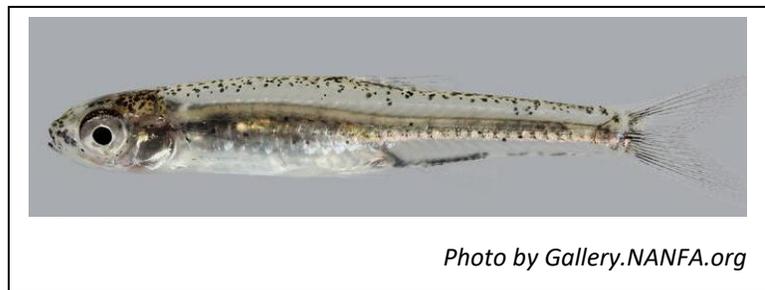
**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

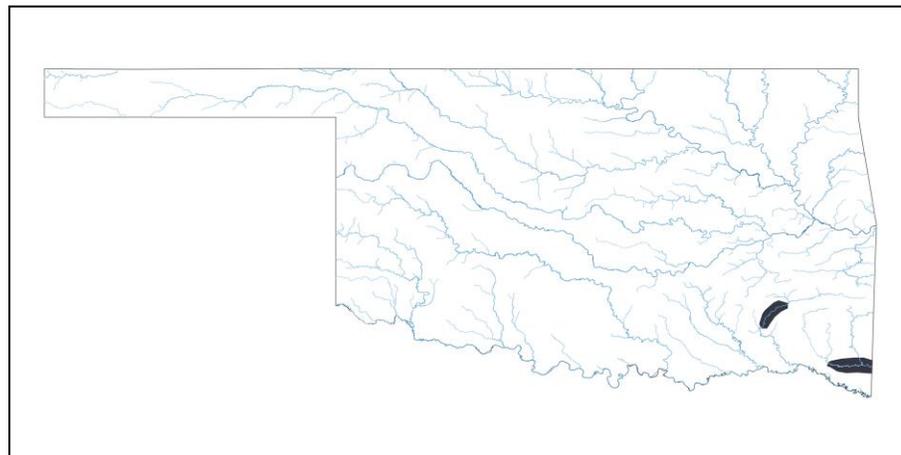
**Oklahoma status:** S2-Imperiled

**Identification:** The Peppered Shiner is slim, small (< 2.7 inches) and pale with large scales, a small head and noticeably large eye. The lateral line is decurved with 32-35 scales. The coloration is distinct with sparse black specks on most of the body and a distinct lateral line along a portion of the body length (Miller & Robison, 2004).

**Similar Species:** The Peppered Shiner shares its range with several other minnows (family Cyprinidae) but the large eye, irregular and sparse coloration paired with 9-11 anal rays makes the fish distinguishable from other species (Miller & Robison, 2004).



**Range:** The Peppered Chub occurs in the mid-reaches of the Kiamichi River and in the Little River below the confluence with the Glover River in McCurtain County, Oklahoma (Miller & Robison, 2004).



**Kiamichi Shiner** *Notropis ortenburgeri*

**US Threatened and Endangered Species status:** None

**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

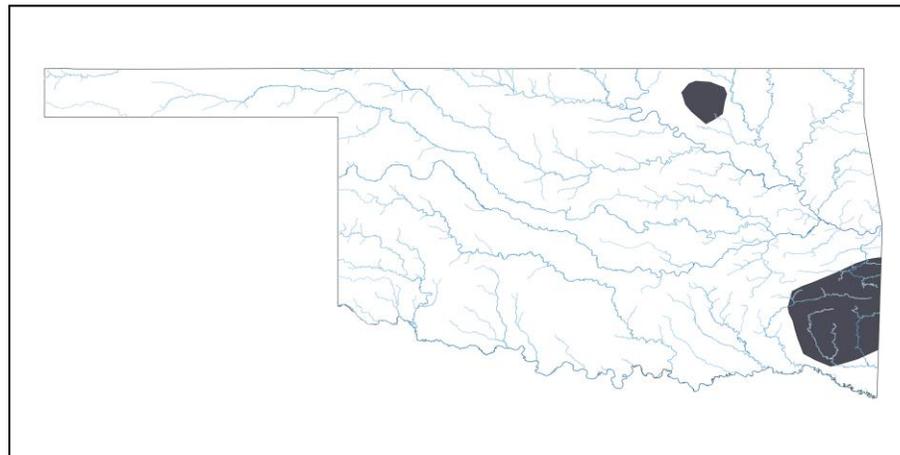
**Oklahoma status:** S3-Vulnerable

**Identification:** The Kiamichi Shiner is a slim minnow with a large eye, extremely oblique mouth and small head (Miller & Robison, 2004).

**Similar Species:** The Kiamichi Shiner is most similar to and shares its range with the Bigeye Shiner *N. boops*. The two species distinguishable by ray counts and coloration. The Kiamichi Shiner has 9-10 anal rays whereas the Bigeye shiner has only 8. Also, the Kiamichi Shiner has a black patch on its chin (Miller & Robison, 2004).



**Range:** The Kiamich Shiner has been observed in tributaries to the Arkansas River in the Osage Hills. It also occurs in the Poteau River and stream of the Ouachita Mountains (Miller & Robison, 2004).



## Rocky Shiner *Notropis suttkusi*

**US Threatened and Endangered Species status:** None

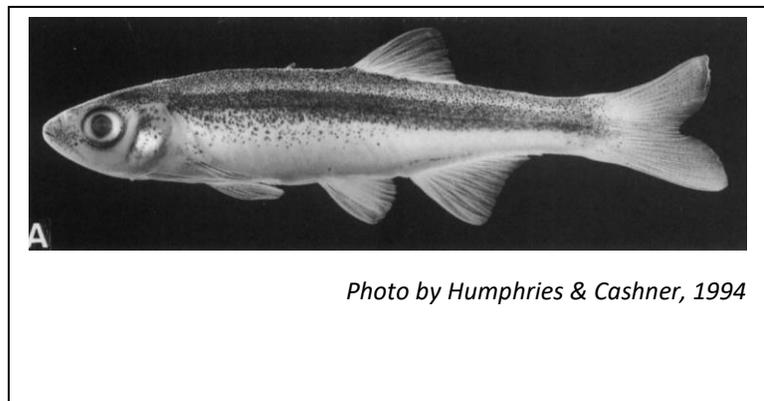
**American Fisheries Society status:** Vulnerable

**NatureServe Global status:** G3-Vulnerable

**Oklahoma status:** S3-Vulnerable

**Identification:** The Rocky Shiner is a slender, slightly compressed shiner with a terminal, oblique mouth. It stands out from most minnow species (family Cyprinidae) by the first ray of its dorsal fin being distinctly posterior to the pelvic ray insertion and nearer to the caudal fin than the snout (Miller & Robison, 2004).

**Similar Species:** The Rocky Shiner shares its range with two similar species. The Redfin Shiner *Lythrurus umbratilis* and the Emerald Shiner *N. atherinoides* are similar to the Rocky shiner in their posteriorly placed dorsal fin. The Rocky Shiner differs from the Redfin Shiner by its lack of black coloration at the insertion of the dorsal fin. Unlike the Emerald Shiner, the rocky shiner has a broad lateral band with a scattering of black specks on the upper portion of the body.



**Range:** The Rocky Shiner occurs in tributaries of the Red River in Southeastern Oklahoma.

