

Lake Chub, *Couesius plumbeus dissimilis* (Girard): Similar in appearance to the Creek Chub (*Semotilus atromaculatus*) and Pearl Dace (*Margariscus margarita*), the Lake Chub has a larger, conical barbel at the corner of its mouth, rather than a small, flap-like barbel. The range of this northern species extends south into eastern Montana, with isolated populations in northern Colorado and Nebraska. In the upper Missouri River basin the Lake Chub typically inhabits cool, clear headwater streams, as well as a beaver ponds and reservoirs. With few taste buds on its barbels and head, it probably uses sight to detect food, primarily invertebrates. Spawning occurs as a male pushes against a female, often pressing her against a rock. The nonadhesive eggs are abandoned on coarse substrates or occasionally on silt or leaves. Populations of the Lake Chub are threatened by reduced stream flows, sedimentation, and nonnative piscivorous fishes. The species was considered extinct in Colorado and Nebraska until specimens were collected in the 1980s, after not being collected for over 80 years. Colorado lists the Lake Chub as an endangered species. Adults to about 23 cm (9 inches). *Mark Eberle, Fort Hays State University, Hays, Kansas.*

Northern Pearl Dace, *Margariscus margarita nachtriebi* (Cox): The Pearl Dace is similar in appearance to the Creek Chub (*Semotilus atromaculatus*), which has a black spot at the anterior base of the dorsal fin and a larger mouth that extends past the front margin of the eye. The Lake Chub (*Couesius plumbeus*) is distinguished by its conical barbel at the corner of its mouth; the Pearl Dace has a flattened barbel, which is sometimes absent on one or both sides. A northern species, isolated populations of the Pearl Dace occur in the Niobrara and Loup river basins of Nebraska, South Dakota, and Wyoming. The species inhabits headwater streams with cool, clear water over beds of gravel and sand. It feeds on invertebrates and algae. Spawning occurs over coarse substrates. No nest is prepared. Lying side by side, the male wraps his pectoral fin and tail around the female. Vibrations of her tail stir materials that cover the eggs, which are abandoned. The species is threatened by groundwater withdrawals that dry springs, dams that fragment populations, and nonnative piscivorous fishes. The Pearl Dace is listed as a threatened species in South Dakota. Adults to about 16 cm (6.3 inches). *Mark Eberle, Fort Hays State University, Hays, Kansas.*

Central Mudminnow, *Umbra limi* (Kirtland): The Central Mudminnow looks similar to topminnows (*Fundulus*), but the dorsal fin of the mudminnow sits farther forward than the anal fin, and its mouth is not oriented upward. The Central Mudminnow inhabits shallow, vegetated lakes, wetlands, and river pools with little current and clear water, where organic material accumulates over sand. The species tolerates low dissolved oxygen levels. Its air bladder is connected to its pharynx, allowing the fish to gulp air to supplement its oxygen intake. The Central Mudminnow feeds on small insects, crustaceans, and other invertebrates. To avoid predators, it hides in vegetation or buries itself in bottom ooze. In winter, older females switch from a diet of invertebrates to fish, perhaps to prepare for spawning the following spring, when they will eat little, if at all. Spawning occurs in inundated terrestrial vegetation, to which the eggs possibly adhere and are abandoned by the adults. Presence of the Central Mudminnow along the Missouri River of Nebraska and Iowa likely resulted from an introduction, although this is not certain. Adults to about 15 cm (6 inches). *Mark Eberle, Fort Hays State University, Hays, Kansas.*

Trout-perch, *Percopsis omiscomaycus* (Walbaum): The Trout-perch has a small, dorsal adipose fin, as do trouts and catfishes. The species inhabits clear water in lakes and river pools, usually over beds of sand or gravel. It is most active at night, when it moves to shallow water, sometimes onto stream riffles, to feed on aquatic insects and other invertebrates. Spawning typically occurs at night in shallow water in a stream or along a lakeshore. The female scatters eggs over the substrate in the company of two or more males. The fish abandon the spawning area during the day and, consequently, offer no protection to the eggs. The species was possibly a rare waif along the Missouri River in Kansas, but was probably extirpated by the early 1900s. The likely causes of declines in prairie streams are siltation from cropland and stream channelization, which eliminates pools. In northern Missouri and western Iowa, the species has declined substantially in abundance and distribution, but it is not listed as a threatened or endangered species in our region. Adults to about 20 cm (8 inches). *Mark Eberle, Fort Hays State University, Hays, Kansas.*

Brook Charr, *Salvelinus fontinalis* (Mitchill): The Brook Charr, commonly referred to as the Brook Trout, is native to eastern Canada, the northeastern USA through the Appalachian Mountains, and the Great Lakes region and northern Mississippi River basin. The species was introduced in Nebraska, the Dakotas, and montane regions of western North America and elsewhere around the world. It was introduced in Kansas during the late 1800s but did not persist. The light-colored spots and wavy lines on a darker background distinguish the Brook Charr from trouts (*Oncorhynchus* and *Salmo*), which have dark spots. The species inhabits cold, clear streams and associated lakes or beaver ponds, often under banks, logs, or other cover. It feeds primarily on aquatic and terrestrial insects, and opportunistically on other invertebrates. Fish reach sexual maturity at about age 2 and often do not live beyond age 3 in small streams. Females use their tails to sweep redds in clean gravel in cool, well-oxygenated water. Spawning occurs during daylight in autumn, and the embryos develop over winter. Non-hatchery adults usually to 18–30 cm (7–12 inches), to a maximum of about 71 cm (28 inches). *Mark Eberle, Fort Hays State University, Hays, Kansas.*

Brook Stickleback, *Culaea inconstans* (Kirtland): The Brook Stickleback is native to southern Canada and the Great Lakes region through New England, as far south as Montana, Nebraska, and Iowa. It was introduced in Colorado and New Mexico. The appearance of the species is unique among plains fishes. The forward section of its dorsal fin consists of isolated spines with small trailing membranes, and the pectoral fin is reduced to a single spine. Scales are replaced by a single, lateral row of bony plates. Typical habitat is quiet streams, ponds, and wetlands with cold, clear water and abundant aquatic vegetation. It feeds mainly on small aquatic invertebrates. The male builds and defends a spherical nest of plant fibers and filamentous algae attached to a submerged branch or plant and held together partly by a secretion from his kidney and other organs. The nest has a single opening. The male coaxes a female into the nest and, from outside the nest, he nudges her near the tail to induce her to release eggs. She then departs through the back of the nest. He follows to fertilize the eggs and repair the nest. The male guards the eggs and young. Adults to about 9 cm (3.5 inches). *Mark Eberle, Fort Hays State University, Hays, Kansas.*