

Colorado River Pikeminnow

BY SCOTT BRYAN AND TONY ROBINSON • ILLUSTRATION BY PAUL JANOVSKY

SCIENTIFIC NAME: *Ptychocheilus lucius*. From the Greek, *Ptycho* meaning folded and *cheilus* meaning lip; *lucius* refers to pike-like body.

DESCRIPTION: The Colorado River pikeminnow, once known as the Colorado River squawfish (the name was changed in the late 1990s), is North America's largest minnow (family Cyprinidae). Historically, individuals grew up to 6 feet long and weighed more than 100 pounds. Today, specimens rarely exceed 5 pounds. Adults are generally dark brownish to bright olive green on the back, silvery white or yellow along the sides, and dingy yellow or white on the belly. The head is cone-shaped, with a large, nearly horizontal mouth. The body is elongate and streamlined.

DISTRIBUTION: The Colorado pikeminnow is endemic to the Colorado River basin (from Wyoming to Mexico) and once occupied both the Colorado and Gila river drainages in Arizona. In the Gila River basin, their distribution extended as far north as Perkinsville on the Verde River, eastward to Ft. Thomas on the Gila River, and as far south as the delta in Mexico. Currently, Arizona has no natural populations, however the Arizona Game and Fish Department stocks a limited number of pikeminnow in the upper Verde River.

HABITAT: Adults occupy deep, fast-flowing waters of large rivers. Preferred water is generally turbid, with a sand to mud substrate and little or no aquatic

vegetation. Young can be found where the current is slight or absent and in depths of 1–2 feet.

BIOLOGY: Pikeminnow are long-lived (up to 30 years) and slow growing (about 1–2 inches per year). They mature at 12–13 inches and 5–6 years.

Spawning occurs in late spring to early summer; spike flows during this time cue pikeminnow to migrate to spawning areas.

They have been known to migrate more than 100 kilometers to join concentrated spawning aggregations. Adults congregate in shallow riffles and runs during spawning. After hatching in gravel, larvae drift unknown distances downstream. As they age, juveniles tend to move upstream and congregate in warm backwaters.

Adults predominantly eat other fish, including young of their own species, as well as small mammals, birds, and reptiles. Young eat crustaceans and aquatic insects.

STATUS: Pikeminnow were once so abundant in Arizona's large rivers that they supported a seasonal commercial fishery. By the mid-1960s they disappeared from their last holdout in the state, the Salt River Canyon, due to a variety of factors. Dams that impound rivers, alter downstream water temperatures and seasonal flow patterns, and block fish movements, were partly responsible. Non-native fishes that compete, or otherwise interact with and/or prey upon small pikeminnow,

also contributed to the decline. The Colorado River pikeminnow was listed as endangered by the U.S. Fish and Wildlife Service in 1967.

Hatchery-produced pikeminnow were reintroduced to tributaries and mainstream reaches of the Salt, Verde, and Gila rivers in Arizona during the 1980s in an effort to recover the species from near extinction. More than 600,000 fish were reintroduced through 1992. Low stocking success of small fish (2–4 inches), primarily due to predator-induced mortality, forced a decision to stock larger fish (up to 16 inches) and reduce the stocking distribution to only the upper Verde River. Since 1992, more than 11,000 pikeminnow have been reintroduced into the upper Verde River. Success of the stockings is being monitored, and studies have been conducted to determine the fate and needs of these stocked fish.

MANAGEMENT NEEDS: Aggressive research and management in the Green River (Utah) have shown that recovery is possible. A recovery plan developed for the pikeminnow in the late 1980s outlined steps that need to occur to achieve recovery in Arizona. Of particular importance is habitat restoration and protection, and restoration of natural flow regimes. Also, the continuation and expansion of pikeminnow stockings are needed to establish reproducing populations. Finally, because relatively little is known of the life history of the Colorado River pikeminnow, studies of imprinting, homing behavior, and habitat selection, and development of efficient propagation techniques will allow for continuing improvement of the recovery plan. ♣

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Scott Bryan and Tony Robinson are biologists in the department's Research Branch.