



WILDLIFE NOTES

Colorado pikeminnow

The Colorado pikeminnow was once common throughout the Colorado River basin, including portions of New Mexico. However, negative environmental impacts, such as dam building, introduction of non-native fishes, and altered land use patterns, have depleted this population. This species is now federally and state listed as an endangered species.

DESCRIPTION

Many people are surprised to learn the large Colorado pikeminnow (*Ptychocheilus tucius*) is actually a minnow – the biggest member of the minnow family in North America. The adult pikeminnow is easily identified by its large 'lipped' mouth, dark eyes, olive-green back, dark blotch at the base of the tail, and silvery-white belly. Its elongated torpedo silhouette resembles that of a northern pike. Specimens collected in recent years are smaller ones, rarely exceeding 15 pounds or three feet in length. "Old-timer" accounts tell of Colorado pikeminnow reaching 100 pounds and six feet during the late 1800s. Although these fish can be very long-lived, the maximum age of recently collected specimens is about 20 to 30 years. It is assumed the Colorado pikeminnow of a hundred years ago may have lived up to 50 years.

HISTORIC RANGE

The Colorado pikeminnow was originally abundant in the Colorado

River basin of the western United States, which includes the San Juan River in northwest New Mexico; it was also historically found in the Gila River in the southwestern part of the state. This fish has always been considered a 'large river' fish and is seldom found in smaller tributaries. The Colorado pikeminnow is one of four minnow species, all living in western North America. Its nearest relatives live in the Columbia River, Sacramento River, and Oregon coastal rivers. None of these fishes reach a size comparable to a Colorado pikeminnow.

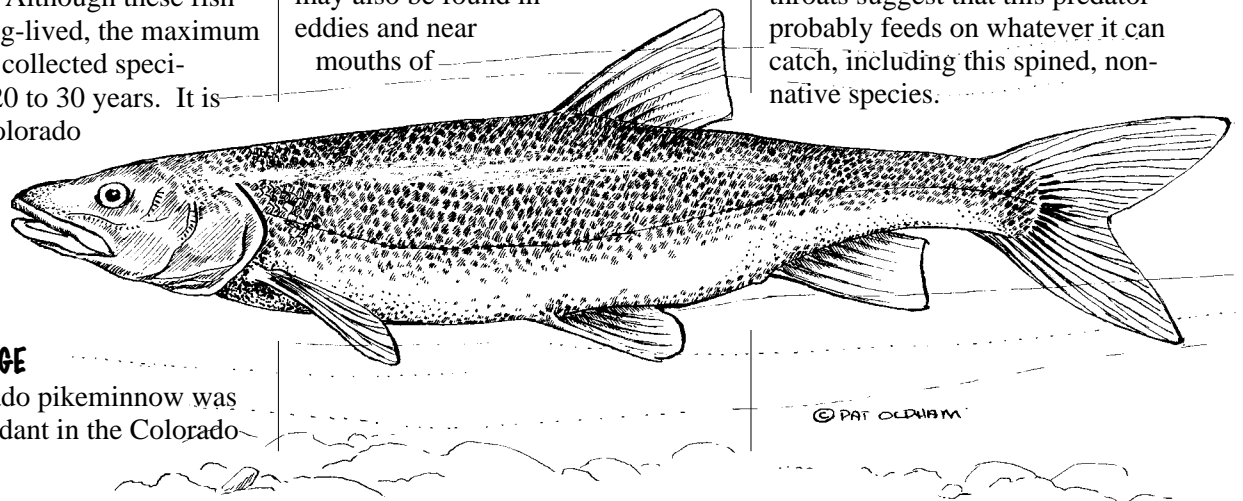
HABITAT

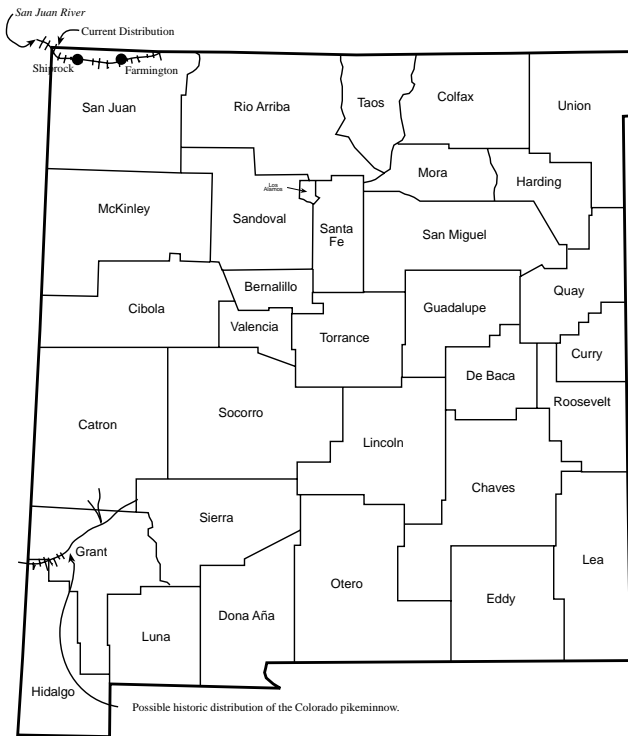
Biologists seeking Colorado pikeminnow begin to find them at the point where 'trout (cold) waters' end and warm waters begin. Stream size and water temperatures are determining factors for pikeminnow habitat selection. Adult pikeminnow seek out medium-depth 'run' habitat (that is, in the current) before and after the spring-runoff. At this time, they may also be found in eddies and near mouths of

irrigation ditches. During high flows, they seek out backwaters. During post-runoff, they may be found in deep pools, preferring areas with boulder bedrock substrates.

FEEDING

In the first year of life, young pikeminnows live in quiet backwaters and side channels off the main river. They feed on small crustaceans and aquatic insect larvae, gradually increasing food size until they're able to consume insects. As they grow, fish become more important in their diet. Adult Colorado pikeminnow are predators whose food is mainly other fishes. They favor deep areas of the river channel as a base from which to prey. Radio telemetry studies indicate that pikeminnow tend to select sheltered areas near shore as a 'home base' to which they often return after 'scouting' a section of river. These short-term movements are intensified during dawn and dusk. Stories of large, dead Colorado pikeminnow with channel catfish wedged in their throats suggest that this predator probably feeds on whatever it can catch, including this spined, non-native species.





BREEDING

When Colorado pikeminnow reach the age of six or seven, and a length of 24-to-30 inches, they're able to spawn. Spawning occurs in July and August when the water temperature is at least 70 degrees. Temperature is critical in order for eggs to mature within the female. High spring flow is also critical to successful pikeminnow reproduction as it serves as an environmental cue, signaling the fish to move to spawning bars. It is believed that, before the era of dam construction and water diversion, Colorado pikeminnow carried out spawning migrations, causing 'old timers' to erroneously call them salmon. Since today's rivers are segmented by dams, such migrations are no longer possible. Today, in the limited range that remains, Colorado pikeminnow spawn at various locations. Spawning takes place over a 48-hour period in shallow, cobble-bottomed riffles. A large group of males – usually eight to ten – congregate near a smaller number of females. Males nudge the females, causing them to vibrate and release eggs while the males extrude milt (sperm). Fertilized eggs have a natural adhesive that helps attach them to the sub-

strate. The spawning act is repeated several times, and eggs hatch in about 96 hours.

YOUNG PIKEMINNOW

After hatching, young Colorado pikeminnow move downstream but only until suitable new habitat is reached. Youngsters prefer backwaters and other slow insect larvae are usually found there. Youngsters grow several inches per year

until age three when annual growth slows as the fish ages. Once they reach eight inches in length, young pikeminnow are able to maneuver in the main river channel with ease. As young pikeminnow become larger, the number of specimens collected by research biologists drops dramatically. That is because once the fish begin to use the main river channel, which is usually turbid and deep, the pikeminnow become more difficult to collect.

POPULATION DECLINES

During the 1960s, the construction of large dams through the West threatened to change the way of life for the Colorado pikeminnow forever. Dams mean habitat loss, altered water temperatures, diminished water flows, loss of backwaters, all of which have a detrimental effect on pikeminnow reproduction. Even without dams, something as simple as land use patterns and irrigation may have a gradual but terminal effect on pikeminnow populations, which is what happened to the now-vanished pikeminnow population of the Gila River. Many introduced species of fish feed on young Colorado pikeminnow or compete with them for food and space. By the 1980s, biologists

believed there were no more Colorado pikeminnow left in the San Juan River because of nearby Navajo Dam. However, a small but viable pikeminnow population was rediscovered in the San Juan River during a 1987-1989 research study.

PROSPECTS FOR RECOVERY

Can pikeminnow populations recover? The development of a workable Recovery Plan for Colorado Pikeminnow is not a simple matter. Although such a plan has been prepared by the U.S. Fish and Wildlife Service, it requires the cooperation of numerous state, federal, local, and tribal agencies, as well as public support – often a difficult process. Immediate prospects for recovery of the species are cautiously optimistic. Through improved land and water management practices, the status of some populations has stabilized. Elsewhere, efforts are underway to improve habitat conditions for the species and some progress has been made.

Recovery of a species is a long, often tedious, process. As new information is gained, and managers learn from past mistakes, strategies to conserve and recover the Colorado pikeminnow will improve and this large river fish will again be common in the rivers of the Colorado basin.

*Reprinted 2001
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