

Profiles of Selected Fish Species Found in the Grand Canyon Ecosystem

Information compiled by Jeffrey E. Lovich

Speckled dace (native)

Size–

rarely exceeds 3 inches (7.6 cm).

Distribution–

extensively distributed throughout Western United States.

Status–

abundant in some areas and widely distributed. This species is represented by several subspecies.

Natural history–

The speckled dace (*Rhinichthys osculus*) is the only native dace in Arizona, although the genus is widely

distributed elsewhere. Dace are widely distributed in the Colorado River, with many inhabiting backwaters in western Grand Canyon. Diet includes algae, insect larvae, small crustaceans, and small snails. Spawning occurs in spring and late summer. Large schools of dace congregate over gravel bottoms to spawn. Populations appear to be stable in Grand Canyon.



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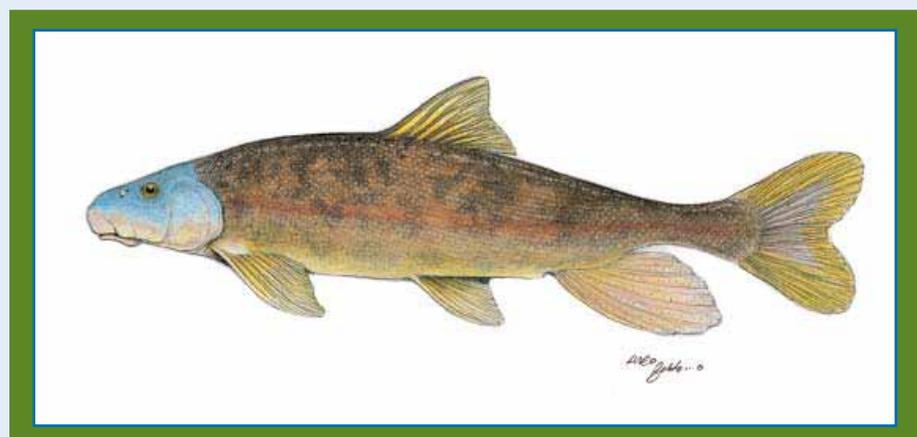
Bluehead sucker (native)

Size–

maximum of about 20 inches (51 cm).

Distribution–

found in fast-flowing river systems in Arizona, Colorado, New Mexico, Utah, and Wyoming.



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Status–

not uncommon in some areas.

Natural history–

This species (*Catostomus discobolus*) occurs in the Colorado River upstream from Lake Mead. Diet includes algae, diatoms, insects, amphipods, and organic debris that it scrapes from rocks with

specialized cartilage lips. In Grand Canyon, spawning occurs over gravel, sand, and cobbles in April and May, when water temperatures exceed 61°F (16°C). Young inhabit backwaters in Grand Canyon. Bluehead suckers are known to hybridize with other sucker species. Populations appear to be stable in Grand Canyon. Individuals can live for more than 20 yr.

Humpback chub (native)

Size–

maximum of about 20 inches (51 cm).

Distribution–

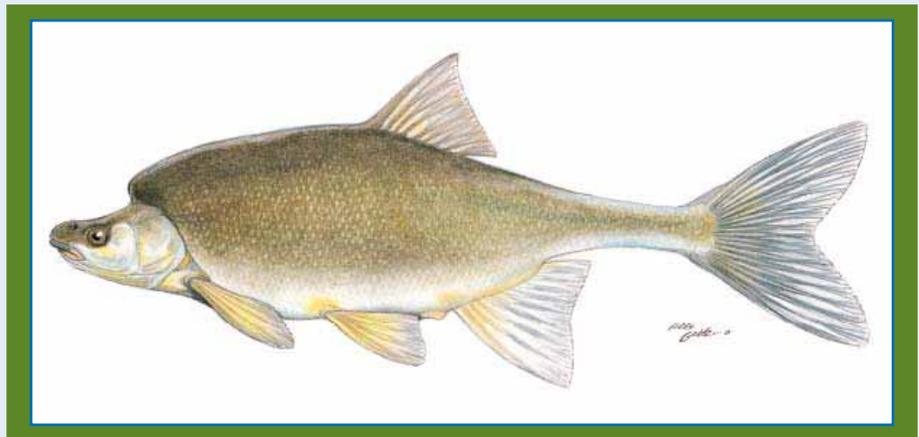
found only in the Colorado River system.

Status–

federally endangered.

Natural history–

The humpback chub (*Gila cypha*) formerly ranged downstream to the area now occupied by Lake Mohave, but it is now confined to several aggregations in Grand Canyon and isolated populations in various deep canyon stretches of the Colorado River and its major tributaries above Lake Powell. Most humpback chub in Grand Canyon are found in the vicinity of the Little Colorado River (LCR) and its confluence with the mainstem. Humpback chubs are omnivorous, and their diet includes a diversity of aquatic and terrestrial invertebrates, small fish, algae, and other plant material. In Grand Canyon the diet



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of the nonnative rainbow trout is almost identical, setting the stage for possible resource competition between the species. Spawning occurs in spring in the LCR, and young enter the mainstem during floods associated with storm events, most commonly in spring and late summer/fall. Aggregations of humpback chub, well upstream and downstream of the LCR population, may result from (1) emigration of juveniles, subadults, or adults from the LCR; (2) survival of relict fish from before the dam; or (3) mainstem spawning. The latter has not been documented in the postdam era, so additional research is needed to resolve this issue. The estimated adult population in Grand Canyon has declined sharply from about 10,000 a decade ago to about 3,000–5,000 today.

Flannelmouth sucker (native)

Size—

can exceed about 20 inches (51 cm).

Distribution—

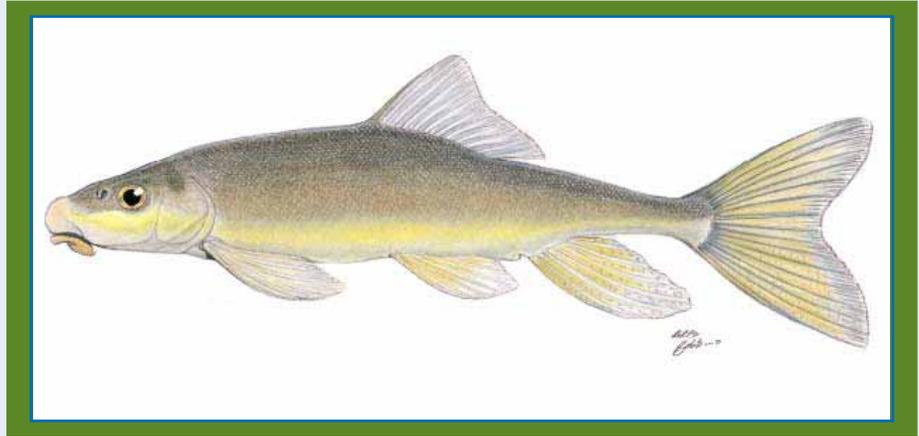
Colorado River Basin in Arizona, California, Colorado, New Mexico, Nevada, Utah, and Wyoming. Extirpated from the Gila River Basin of Arizona.

Status—

not uncommon in some areas.

Natural history—

This species (*Catostomus latipinnis*) occurs in the Colorado River upstream from Lake Mead. Flannelmouth suckers below Lake Mead exist because of the success of reintroduction from the Paria River in the mid-1970s. Diet varies with age class and size but includes algae, insects, plankton, ostracod, crustaceans, plant materials, and detritus. This species likely makes spawning runs in most



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of the major tributaries in Grand Canyon before returning to the mainstem. Spawning occurs from March to July, when water temperatures are between 43°F and 68°F (6°C and 20°C). Spawning occurs in shallow water over sand and gravel bottoms. Females lay from 4,000 to 40,000 eggs. Juveniles are frequently captured in the mainstem from lower Marble Canyon downstream to Lake Mead. Juveniles are also frequently captured in the Little Colorado River and other tributaries downstream. Known to hybridize with the razorback sucker, a species that is presumed to be gone from the Grand Canyon region. Populations appear to be stable in Grand Canyon.



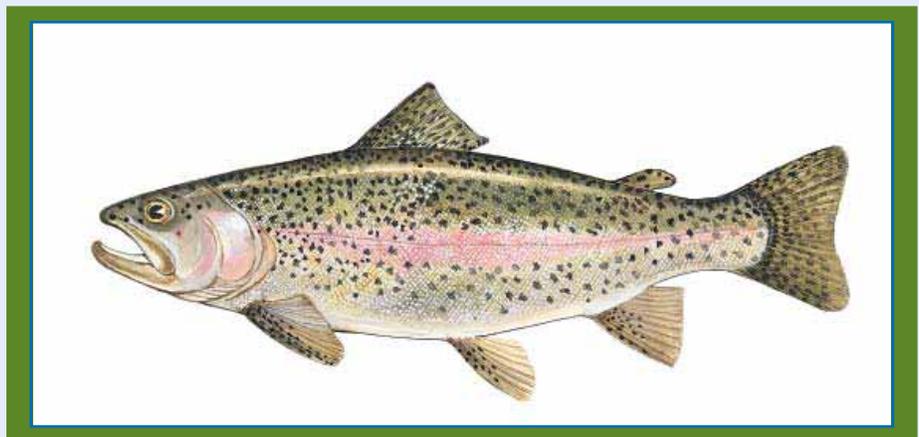
Rainbow trout (nonnative)

Size—

up to 47 inches (120 cm). Arizona State record was 32.25 inches (81.9 cm).

Distribution—

extensively distributed throughout Western North America in river systems



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draining into the Pacific Ocean. Widely introduced worldwide, including into the Colorado River.

Status–

common.

Natural history–

Rainbow trout (*Oncorhynchus mykiss*) were introduced into the Grand Canyon area in the 1920s for sport fishing. Originally confined to clear tributary streams, the construction of Glen Canyon Dam created cold, clear conditions that allowed trout to colonize the mainstem. Trout were also stocked in the tailwaters of the dam by the State of Arizona shortly after construction

was completed in the 1960s. The diet consists mainly of both aquatic and terrestrial insects and other aquatic invertebrates including amphipods. Spawning in Grand Canyon occurs in winter and early spring. After fertilization by males, females excavate a depression, or redd, in gravelly bottoms, and the eggs are buried in the substrate to hatch unattended. Rainbow trout like cold water temperatures and rarely live in water above about 77°F (25°C). The Lees Ferry reach of the Colorado River is where most spawning occurs in the Grand Canyon area and is managed as a “blue ribbon” trout fishery. Trout numbers have been increasing in recent years, possibly to the detriment of the endangered humpback chub.

Brown trout (nonnative)

Size–

Arizona State record is 36 inches (91.4 cm). The world record is a 40 lb, 4 oz (18.3 kg) specimen caught in Arkansas.

Distribution–

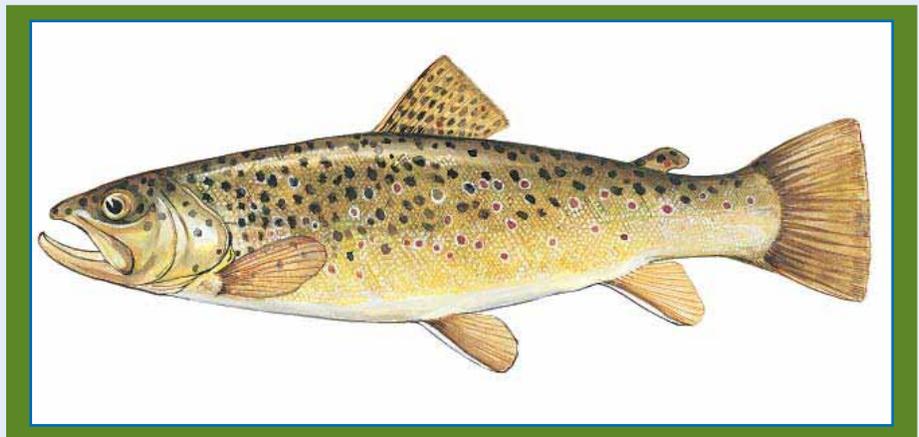
widely introduced worldwide, including into the Colorado River.

Status–

common.

Natural history–

Native to Europe and Asia, brown trout (*Salmo trutta*) were introduced into the Grand Canyon area in the 1920s for sport fishing. Originally confined to clear tributary streams, brown trout were able to colonize the mainstem of the Colorado River when the construction of Glen Canyon Dam created cold, clear conditions. Brown trout eat



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a variety of aquatic and terrestrial insects and other invertebrates. Large specimens are highly predaceous on other fish, including smaller trout. Reproduction is as in other species of trout (see text box for rainbow trout). Bright Angel Creek is an important spawning stream for mainstem trout that move into the smaller tributary for this purpose in winter and early spring. Brown trout are capable of tolerating slightly higher water temperatures than most other trout. Most brown trout in Grand Canyon today occur near the confluence with Bright Angel Creek.