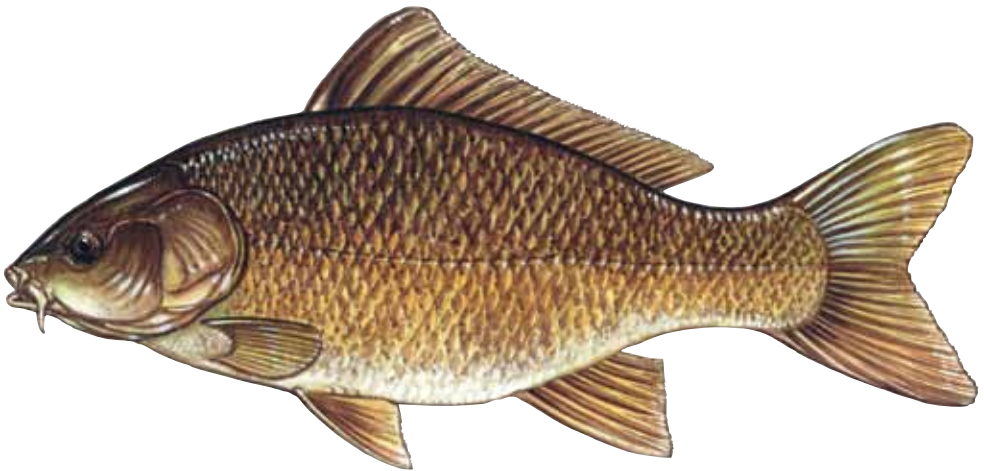




## Common Carp *Cyprinus carpio*

**Species overview:** Pennsylvania's biggest minnow is not a native of this continent, or this hemisphere. It was originally distributed throughout Europe and Asia. It is not known exactly when carp were brought to the United States from Europe, probably the mid-1800s to late 1800s. Some earlier reports by European settlers of "carp" in North America are thought to be misidentifications of the quillback (see page 85). By 1880, the U.S. Fish Commission had distributed more than 12,000 carp to people in 25 states and territories to establish the fish in this country. Today, carp are found not only throughout the United States, where they are especially abundant in the fertile waters of the Mississippi River watershed, but they occur in all 67 Pennsylvania counties. Young carp are an important part of the aquatic food base. Larger carp are a fisherman's challenge because of their tackle-testing weight. Carp are also pursued by bow fishermen, especially when the fish move into shallow water to spawn. The genus name "*Cyprinus*" is the old-world name for carp. "*Carpio*" is a Latinized word meaning "carp."

**Identification:** Carp can be confused with feral (wild) goldfish, except that the carp grows much larger and has two pairs of soft, fleshy barbels around its mouth. Goldfish don't have these barbels. The carp's body is robust, deep and thick, and arched toward the dorsal fin. It has large scales



that are dark-edged, with a black spot at the base. Most carp are heavily scaled, but two genetic mutants show either few, extremely large scales (the "mirror carp") or no scales at all (the "leather carp"). Carp have a lengthy dorsal fin, with nearly 20 soft rays. The dorsal fin extends well along the back. The dorsal and anal fins have a sharp "spine," actually, a hardened soft ray, on the front edge. The typical carp's back is olive-brown to

reddish brown, with the sides becoming silvery-bronze, brassy, or olive-gold. The belly is yellow or yellow-white. The caudal and anal fins are usually tinged with red. Carp generally grow to about 30 inches and 10 to 15 pounds. The Pennsylvania state record is over 50 pounds.

**Habitat:** Carp tolerate a variety of habitats, even heavily silted water or polluted water that most other fish cannot tolerate. They can also be found in clean streams, including the larger trout streams. When carp live in rivers, they inhabit the slower-flowing sections. They are also in ponds, lakes and reservoirs. Carp prefer shallow areas with plenty of underwater weed growth. But they can be found over any type of bottom, including mud, sand or gravel. Carp create their own turbidity, muddying the waters during their bottom-rooting feeding. They have been blamed for contributing to the decline of clean-water native fish, because their silt-stirring activities decrease light penetration. This inhibits plant growth, and causes mud to settle on and suffocate developing fish eggs.

**Life history:** Carp spawn in late spring to early summer, over aquatic vegetation. They may choose a shallow, weedy bay. After rains have swelled their home river over its banks, they may move into flooded fields to deposit eggs on submerged plants. The splashing of their spawning commotion in shallow water can often be seen and heard. Several males may spawn with a female, which can release up to two million tiny eggs. The carp parents abandon the eggs. The eggs adhere to submerged vegetation and to the bottom. They hatch in four or five days. Carp grow to four or five inches their first year. They mature in three or four years, and they can live to be about 20 years old. The carp is an omnivore, eating a wide variety of aquatic plants, algae, insect larvae and other invertebrates, and even small fish. Its usual feeding method is to disturb the bottom material with its snout and pick up the food it dislodges, usually kicking up clouds of silt. Carp have a well-developed sense of taste and a sensitive mouth. Their pharyngeal “teeth,” located in the throat, are adapted for crushing. The larger ones look like human molars.

## Common Shiner *Luxilus cornutus*

**Species overview:** The common shiner is indeed common in Pennsylvania, and it is an important component for the food web in Pennsylvania stream ecosystems. The common shiner lives in all of Pennsylvania’s watersheds. It is found across southern Canada to Saskatchewan, and south to Kansas and Missouri in the Ohio and Mississippi River watersheds. It can be found in the Atlantic Coast states to Virginia’s James River.

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# Common Carp



Species at a Glance

The common carp (*Cyprinus carpio*) is one of the oldest species to have been introduced globally and is present on every continent except Antarctica. It is considered among the world's worst invasive species and is the most frequently reported nuisance fish in the United States.

## Species Description

The common carp is a voracious, omnivorous fish and one of the largest members of the minnow family, Cyprinidae. It is long-lived with a lifespan of up to 50 years. Its body is heavy and stout, averaging 25-55 cm (10-22 in) in length and weighing 1-10 pounds, although some can reach up to 80 pounds! Color varies from bronze, brassy, or yellow with large scales usually outlined in black. The head is short with a rounded snout, a toothless sucker-like mouth, and two pairs of barbels on each side of the upper jaw. Varieties of common carp include mirror carp, leather carp, and koi, which is popular in small ponds and water gardens.

## Native & Introduced Ranges

While native to areas of Europe and Asia, mainly along the Danube River drainage system, current native populations of common carp are questionable and probably limited to a few areas. It's unclear exactly when the species was introduced into the United States, but most sources suggest that it was introduced in the 1800s as a food and game fish. By 1885, the U.S. Fish Commission was actively stocking lakes and rivers throughout the country with common carp, and it is now prevalent throughout the entire United States.

## Biology & Spread

Common carp are migratory, and once introduced will spread naturally through waterway connections to other bodies of water to spawn. Spawning begins in late April and continues into June with females laying between 100,000 and 500,000 eggs. Young common carp can resemble baitfish, so anglers present another vector of spread by using them as bait.

## Habitat

The common carp is tolerant of cold winter periods and low oxygen concentrations. It is most often found in manmade impoundments, lakes, ponds, and turbid sluggish streams receiving sewage or agricultural runoff, and is less abundant in clear waters or streams with a

high gradient. It also inhabits brackish-water estuaries, backwaters, bays, and shallow water during spring spawning.

## Impacts

Introduction of the common carp causes dramatic ecological disruptions at both the community and ecosystem level. The common carp is omnivorous, feeding on benthic aquatic organisms such as insect larvae, worms, mollusks and zooplankton as well as the stalks, seeds, and leaves of aquatic plants. This foraging behavior increases the turbidity of the water, which releases phosphorous and increases algae growth. This foraging also prevents the growth of native aquatic plants and ultimately has a negative impact on water quality.

## Prevention & Control

Control and eradication methods have traditionally focused on using non-specific poisons, constructing electric or physical barriers, or harvesting from small controlled systems. These methods have been short-lived and costly, yielding only limited success. Therefore, prevention remains the best and most cost effective line of defense against additional introductions of the common carp.

Techniques to prevent the spread of common carp and other aquatic invasive species include checking for and removing any plants, mud, and debris from boats, trailers, clothing, and equipment before leaving a water body; draining water from bait buckets, bilges, and live wells before transporting to new areas; cleaning all equipment: or letting gear and equipment dry for at least five days. Since young common carp can resemble baitfish, it's important to know how to identify them, and to never use common carp as bait.

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