

# The Lonely Longnose Sucker

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Photos by the author.

**I**magine surviving a cataclysmic event! The landscape has been dramatically altered and life has changed drastically. Many familiar life forms have disappeared and have been replaced by foreign ones. Worse yet, an insurmountable barrier now exists between you and your surviving relatives, and reunion is a physical impossibility. You are stranded in an inhospitable environment and your very survival is in question. You have entered the world of Pennsylvania's longnose suckers.

In the Pleistocene Epoch, frozen behemoths from the north invaded the now-temperate climes of the Keystone State, grinding over the mountains and making their own topography, then retreating, only to return three more times. It was a land of cold and ice, and longnose suckers, well-adapted to the chilly conditions, prospered. Then, roughly 15,000 years ago, the last of the great glaciers that formed the advance of the Wisconsin Ice Sheet finally withdrew, leaving behind conditions more amenable to less-hardy denizens of the south.

Many cold-adapted animals acted as a rear guard to the northward-moving ice, migrating with the chilly conditions to which they had been accustomed for as long as a half-million years. Most of the longnose suckers made this march, and are now widely distributed from the Great Lakes to the Pacific Northwest, and upward through Alaska and northern Canada. Some even made it to Siberia, the only North American suckers to do so.

However, a small band failed to find its way, and was stranded in the warmed-over region of the mid-Appalachians. These stragglers survived only in one relatively small drainage

that would later be named the Mononghela. They are Ice Age relicts trapped in a south-flowing watershed—the Mississippi.

Eventually, these longnose suckers, confined to a small area of Pennsylvania, Maryland and West Virginia, began acting less and less like their northern kin. They abandoned the lakes that much of the northern population continues to inhabit and moved into small, cold rivers and streams. And where their relatives average 16 inches in length, and sometimes reach two feet, Pennsylvania's longnose suckers seldom exceed 12 inches.

## Description

The longnose sucker (*Catostomus catostomus*, Fig. 1) is a streamlined fish with a dark back and light belly. Its defining characteristic is its elongated snout that protrudes well past its upper lip. The nose of the white sucker (*Catostomus commersoni*), which is the only Pennsylvania species it can be confused with, extends only slightly beyond, if at all (see front cover photo). In spite of this enlarged "snoot," it is a handsome fish, as suckers go, sporting a rosy red band on its sides, similar to that of a rainbow trout. This stripe intensifies in color during the spring spawning season. Local names for this fish include redband sucker, sturgeon sucker (again referring to the long snout), and finescale sucker.

## Life History

Generally, longnose suckers spawn in the shallow waters of lakes, or run up streams to lay their eggs in gravel riffles. As many as 35,000 eggs may be laid by each female. They hatch in about 10 days and the fry remain hidden in the gravel for a week or two. These juveniles then migrate downstream at night

*Fig. 1.*

Longnose suckers produce thousands of eggs each spring in the hopes that one or two hatchlings actually make it to adulthood. Early on, the fry are eaten by dragonfly nymphs and crayfish. As they grow, they become the prey of sculpins and then trout.

to their native lakes. Those in Pennsylvania remain in the same stream their entire lives, which may be as long as 20 years.

Juvenile suckers begin with a diet of plankton, and become less picky as they grow up. Food studies reveal a menu of aquatic beetles, bugs, midges, stoneflies, mayflies, crustaceans, fingernail clams, snails, plant material and, as one researcher put it, “a substantial amount of unidentified material.” In other words, they are finned vacuum cleaners.

Longnose suckers of the main northern population have been criticized for usurping space and food that could otherwise be available for sport fish, but its value as a forage fish probably outweighs these negatives. This fish plays the numbers game, producing thousands of eggs each spring in the hopes that one or two hatchlings actually make it to adulthood. Early on, the fry are eaten by dragonfly nymphs and crayfish. As they grow, they become the prey of sculpins, and then trout.

### Scourge Victims

But native aquatic animals and game fish are not this sucker’s only enemies. They are vulnerable to fish-eating birds and mammals, as well as other not-so-desirable finny species. Scientists studying the sea lamprey invasion of the Great Lakes believe that longnose suckers were significant victims of this exotic scourge, which entered the lakes

through the Welland Canal in the 1930s. The Lake Michigan catch of the highly prized lake trout dropped from 2.4 million pounds in 1940 to 56 pounds in 1954, and none the following year as a result. About 1950, when lake trout numbers were severely depleted by lampreys, commercial fishermen also began to notice a decline in their sucker catches. Two decades later, after a lamprey control program had been in effect for a number of years, the suckers rebounded.

### Southern Longnose Sucker Range

The Ice Age survivors in the Mononghela River system have not fared so well. Although it was documented from West Virginia and Maryland, as well as the Youghiogheny River, near McKeesport, Pennsylvania, before 1900, the range of the longnose sucker has shrunk considerably. They have not been found for many years in West Virginia, and are now believed to be extirpated from Maryland. It hangs on in Pennsylvania in a few tributaries to the Casselman River, in Somerset County.

The Casselman, a tributary to the Youghiogheny, along with other streams in the region, has been beset with water pollution problems for more than a century. George Washington noted, in 1770, that he “Went to see a coal mine . . . on the banks of the river (the Youghiogheny). The coal seemed to be



*Fig. 2.*

Pennsylvania Fish & Boat Commission biologists and Penn State personnel electrofish in Somerset County for longnose suckers.

of the very best, burning freely and an abundance of it.” Coal became big business in the 1800s, and production peaked during our two world wars. The acid discharges from the mines devastated aquatic life. The Youghiogheny was polluted from 1900 into the 1960s, and one report stated that in 1950 it was “practically lifeless.” The Casselman was heavily polluted in Pennsylvania because of discharges in the Shaw Mines area, a 5,000-acre complex of underground mines between Meyersdale and Salisbury, but its water quality improved through the mid-1900s as a result of mine seals that were placed over inactive portals.

The Casselman supported smallmouth bass and rock bass in the early 1990s, but a devastating release of mine waste in the spring of 1993, caused when several mine seals “blew out,” again ravaged a 22-mile section of the river and killed fish as far as 40 miles downstream. Since then, as many as 240 acid “seeps” have been identified in the drainage, and a 1995 report estimated that between 1,800 and 2,400 tons of acid mine drainage were entering the Casselman through its tributaries each year.

### Stranded Again

Although efforts are again focused on cleaning up the waters of the Casselman, for now the remaining suckers are

stranded yet again, this time in small numbers in headwater streams of a single river valley. Recognizing the dire status of this glacial relict, the Pennsylvania Fish & Boat Commission lists the longnose sucker as an endangered species. This designation prohibits taking any longnose suckers without a permit, but also ensures that their welfare is considered during the planning and permitting of highway projects, development activities, and new mining initiatives. Because they constitute a distinct population, they are also eligible for protection under the federal Endangered Species Act.

Unfortunately, these southern longnose suckers have been largely ignored by academia. Some research has been conducted on the northern populations, but nobody knows for certain, after at least 10,000 years of isolation, whether these fish even represent the same species—or if they grow, mature and reproduce at the same slow rate as those of the north, which may be critical to their recovery if their status worsens before it gets better.

Until we answer many questions, Pennsylvania’s lonely longnose suckers will remain as insecure as they were when the great glaciers retreated. 



The bottom views of a longnose sucker (*Catostomus catostomus*, top) and a white sucker (*Catostomus commersoni*, bottom) show the former's distinctive long nose. Photo by Rob Criswell.