



## Walleye

*Stizostedion vitreum*

Although best known as a popular sport fish in the Midwest, the walleye attracts many anglers in western North Carolina. Much of the walleye's popularity is attributed to its excellent flavor and texture. Many believe it to be the best-tasting of all the freshwater fish. In much of North Carolina it is called walleyed pike.

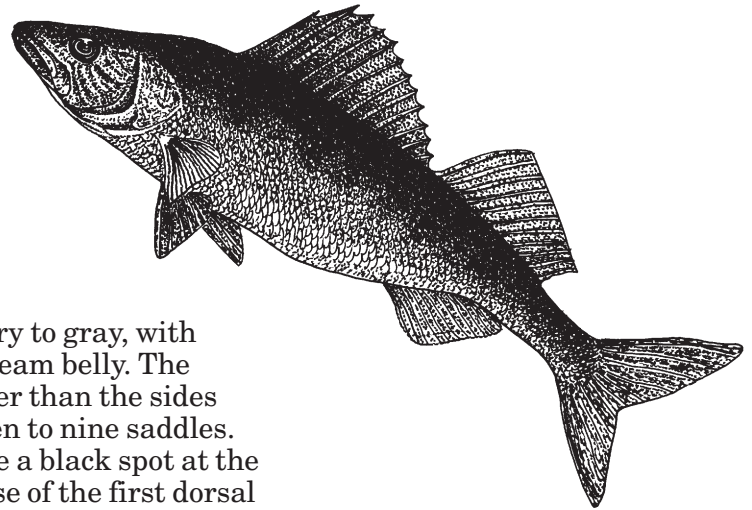
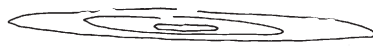
### History and Status

The walleye has an unusual history in North Carolina. It was found naturally in the Tennessee drainage and was introduced to Atlantic-slope systems, including the Catawba, Yadkin and Roanoke rivers. However, it has been virtually eliminated from much of its natural range through damming and pollution, and most populations are now associated with man-made reservoirs.

In North Carolina, introduced populations are flourishing in reservoirs where water temperatures are cool. Introductions into the large western reservoirs were first made from 1949 to 1951 to improve sport-fishing. Walleye now thrive and maintain themselves by natural reproduction in lakes Chatuge, Fontana, Glenville, Hiwassee, James, Nantahala and Santeetlah. Populations also exist in lakes Gaston, Tillery and Badin.

### Description

The walleye is the largest member of the perch family. It has a long, slender body, large canine teeth, large eyes and two separate dorsal fins. Normal



color is silvery to gray, with a white or cream belly. The back is darker than the sides and has seven to nine saddles. Walleye have a black spot at the posterior base of the first dorsal fin and a white spot at the lower portion of the tail fin.

Walleye grow rapidly in North Carolina. The average-size walleye caught in North Carolina is less than 18 inches long and 1½ pounds in weight. The state record walleye is 13 pounds, 8 ounces and was caught in Lake Chatuge in 1986. The world record is a 25-pound fish taken from Old Hickory Lake in Tennessee in 1960.

### Habitat and Habits

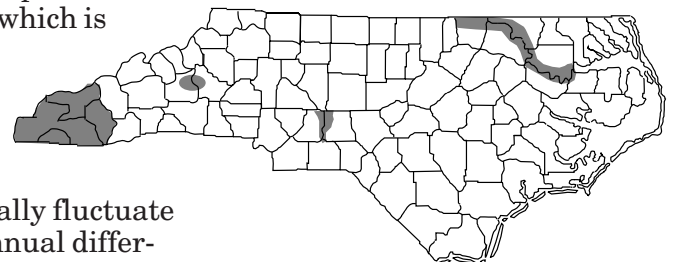
Though found in streams and rivers, walleye prefer lake environments. Walleye are considered a cool-water species, living in maximum water temperatures of less than 77 degrees Fahrenheit. In North Carolina lakes walleye prefer the least-turbid waters. They are found over hard bottoms composed of hard clay, gravel, boulders or bedrock. Walleye ordinarily inhabit moderate depths of from 20 to 60 feet, which is deeper than largemouth bass or smallmouth bass prefer.

Walleye population levels naturally fluctuate because of large annual differences in reproductive success. Spawning success is regulated


by environmental factors such as water temperature, siltation and availability of suitable food. In natural populations, dominant-year classes are followed by several years of less-successful reproduction.

Walleye spawning in North Carolina begins in late February as water temperatures reach 42 degrees, and it peaks in March with water temperatures in the mid-50s. Most walleye spawning takes place at depths of 2 to 4 feet in rocky areas of streams; however, some spawning activity occurs along lake shorelines and shoals or the riprap of dams. Like salmon, walleye are known to return to their place of birth to spawn.

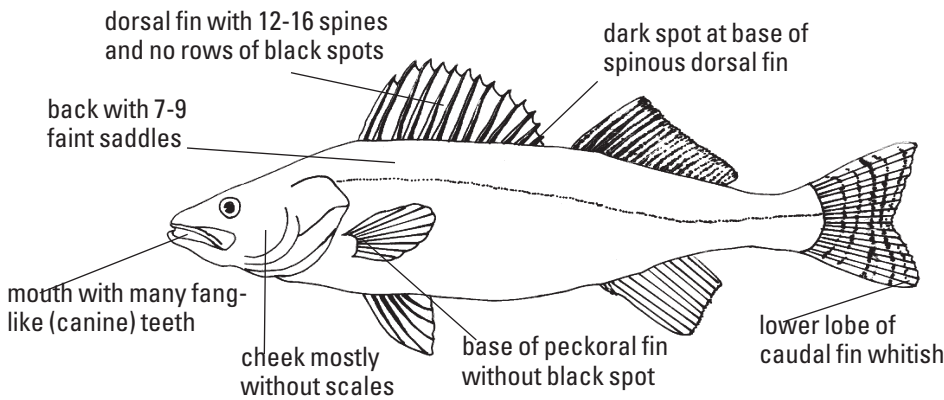
Walleye spawn at night. Males occupy the spawning area first. They remain in deep water during the day and migrate into



**Range Map:**

Occupied range 

**WILD  
Facts**



**WALLEYE**

**Classification**

Class: Osteichthyes  
Order: Perciformes  
Family: Percidae

**Average Size**

Length: 14-18 in.  
Weight: ¾ to 1½ lbs.

**Food**

Walleye less than 3 in. feed on microscopic crustaceans, switch to insects and then become almost exclusively a fish-eater at 4 to 6 in.

**Spawning**

Walleye first spawn at ages 3 to 4 in shallow rocky habitats. They usually ascend rivers from lakes at night. Walleye do not build nests or guard the eggs or the young. Eggs hatch, depending upon water temperature, in one to three weeks and fry are carried to open-water lake environments.

**Young**

In early summer, young walleye (3 to 4 in.) shift habitats and food, moving from open water where they feed on zooplankton to shallow shorelines where they feed on fish. Fish reach sexual maturity in 3 to 4 years.

**Life Expectancy**

Most walleye in North Carolina live to 4 years, with a maximum age of 8 to 10 years. In the northern United States and Canada walleye can live longer.

shallow water after dark. Females ready to spawn move into the spawning area accompanied by several males. The fish vibrate and roll close together as the eggs and sperm are broadcast over the rocks. Eggs are sticky, adhering to the rocks. An 8- to 10-pound female can lay 250,000 eggs. Hatching time varies with the water temperature, requiring 7 days at 51 degrees and 26 days at 40 degrees. Walleye do not dig nests or care for their young.

Following hatching, fry are carried by currents into open water areas of the lake where they begin to feed upon planktonic crustaceans, then switch to insects. By mid to late summer they begin to feed almost exclusively on fish and move from open water to shorelines and coves. From the time walleye move inshore they become a schooling fish and remain so throughout the remainder of their life. Males mature at 3 or 4 years of age when they reach 13 to 14 inches; females mature at ages 4 to 5 when they are 15 to 16 inches long.

**Range and Distribution**

The original range of walleye extended from most of Canada, southward through the Ohio, Mississippi and Tennessee drainages to North Carolina, and westward through the Missouri River system to Montana. The original range has been greatly expanded through introductions on the Atlantic, Pacific and Gulf coasts.

**People Interactions**

The walleye is a much-studied fish species of commercial and sport significance. Natural fluctuations in walleye reproductive success translates into fluctuating adult populations. This can be frustrating to anglers who experience poorer success when population levels are low.

Probably the most important factor resulting in the decline of walleye in North Carolina's large rivers was the construction of dams for purposes of electrical power, navigation or flood control. This prevented walleye from reaching their traditional spawning areas.

**References**

Eschmeyer, P. H. "The life history of the walleye, *Stizostedion vitreum* (Mitchill), in Michigan," *Bulletin of the Institute for Fisheries Research* 3: 1-99, (Michigan Department of Conservation, 1950).

Menhinick, E. F. *The Freshwater Fishes of North Carolina* (North Carolina Wildlife Resources Commission, 1991).

**Credits**

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Produced July 1996 by the Division of Conservation Education, N.C. Wildlife Resources Commission.

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