

Brown Trout

Salmo trutta

One of the three species of trout in the mountains of North Carolina, the brown trout is considered the trophy trout species because it grows larger and is more difficult to catch than rainbow trout and brook trout.

History and Status

The brown trout is not native to North America or North Carolina. It was first brought to North America from Europe in 1883 but not stocked in North Carolina waters until 1887. The stocking of brown trout was so widespread in the United States that by 1900 it had been introduced into 38 states. After 1905, brown trout were introduced into many mountain streams by the federal government and by the agency that has now become the N.C. Wildlife Resources Commission.

Brown trout were originally stocked in North Carolina to replace the native brook trout that nearly had been eliminated because of massive clearcut logging in the late 1800s and early 1900s. The railroad cars used to remove the timber later transported brown trout and rainbow trout for stocking into the damaged streams.

Since then, many populations have become established in streams with good habitat, and they maintain themselves through natural reproduction. In other streams and rivers, where habitat is limited or water temperatures get too warm, the Wildlife Commission stocks fingerling or adult brown trout to provide angling opportunities.

Description

Brown trout are related to Atlantic salmon and are recognized by their brownish-yellow color and the scattered black, red and orange spots on their sides. The leading edges of the pelvic and anal fins are white. The adipose fin is usually fringed with red.

The typical brown trout taken from North Carolina waters is 12 inches or less in length, but fish over 20 inches are occasionally taken. The North Carolina record is 15 pounds, 13 ounces. The world record is a 40-pound, 4-ounce specimen caught in Arkansas. Occasionally, where brown trout and brook trout are found in the same stream, a hybrid offspring, called a tiger trout, occurs.

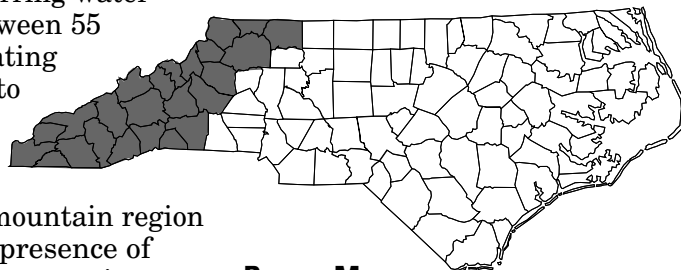
Habitat and Habits

The brown trout is primarily a stream fish, preferring water temperatures between 55 to 60 F, but tolerating temperatures up to 70 degrees. For this reason, brown trout are restricted to the mountain region of the state. The presence of brown trout in a stream is an indication that water quality is

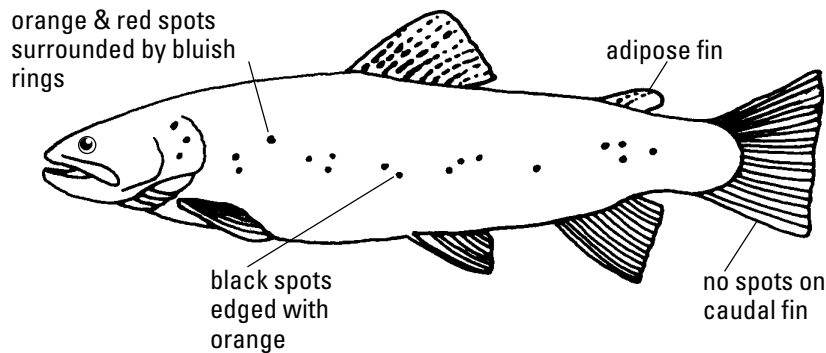
good. However, brown trout are more tolerant of high silt loads and warmer temperatures than brook trout or rainbow trout.

Brown trout range in a variety of cold-water habitats, from small steep streams to large rivers. The presence of in-stream cover, especially logs and undercut banks, is very important to maintaining a good population of brown trout. While they may be found in rather small streams, big fish prefer larger, slower-flowing streams containing an abundance of minnows. Brown trout feed primarily on a variety of aquatic and terrestrial insects, but they also eat salamanders and crayfish. After they reach 12 inches, they increasingly eat fish.

Brown trout spawn in the autumn, generally from October through November. The males



Range Map:
Occupied range ■



gather in the tail of a pool and begin clearing silt from gravel substrate. The female excavates a nest, called a "redd," by digging in the gravel with her tail. The nest is normally about the size of a dinner plate. The pair releases eggs and milt over the nest, which is then covered with gravel and abandoned.

Range and Distribution

The native range of brown trout is northern and eastern Europe and western Asia. Today, brown trout are found in parts of every continent except Antarctica. In the United States, brown trout have become established (naturalized) in nearly every state. In North Carolina, hundreds of streams, totaling about 1,000 miles, support wild brown trout. Catchable-sized brown trout are stocked into another 150 North Carolina streams on a regular basis to provide a put-and-take fishery.

As brown trout expand their range in North Carolina, it is often at the expense of the brook trout, which is the only trout species native to the eastern United States. Although both brown and brook trout spawn in the fall, brown trout have an advantage because they live longer and produce more eggs.

People Interactions

Brown trout are extremely wary and are the most difficult trout species to catch. Once they become established in a stream, it is almost impossible to catch them out. Brown trout are stubborn fighters

when hooked, but do not put on as spectacular an acrobatic show as the rainbow trout. Instead, they tend to go to the bottom and run underneath a log or into a rock crevice.

In North Carolina, brown trout are legally taken by hook-and-line fishing. Fly rods with artificial flies and spinning rods with minnow-like plugs or spinners are most effective.

Fishing regulations are important in trout management. These regulations include restrictions on the season, daily creel, fish size and type of lure or bait. Regulations are fairly liberal on stocked waters where harvest is emphasized. More restrictive regulations are used in order to maintain populations of wild trout.

References

Stolz, J. and J. Schnell, editors. *The Wildlife Series: Trout* (Harrisburg, Pa.: Stackpole Books, 1991).

Willers, B. *Trout Biology* (New York, N.Y.: Lyons and Burford, 1991).

Credits

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BROWN TROUT

Classification

Class: Osteichthyes
(bony fishes)

Order: Salmoniformes

Average Size

(In North Carolina)

Length: 8 in. to 14 in.

Weight: ½ - ¾ lb.

Food

Brown trout eat mostly aquatic insect larvae, although they also eat terrestrial insects and animals. Larger trout eat minnows and crayfish.

Spawning

Occurs October to November. Brown trout deposit their eggs in nests (redds) excavated in gravel. About 200 to 500 eggs are released per typical female. Adults do not guard the nest. Incubation period depends upon water temperature. Eggs hatch the following spring.

Young

After hatching, very young fish are called "sac-fry." They remain in the nest until yolk sac is absorbed, then emerge as free-swimming fry. Juveniles are called fingerlings and reach 4 to 5 inches by first autumn. Sexual maturity is reached at age 2 or 3.

Life Expectancy

Over 90 percent of fry die within first year. In North Carolina, most fish only live 3 years, but some reach 6 years. The maximum age (worldwide) is about 18 years.