

Brook Trout



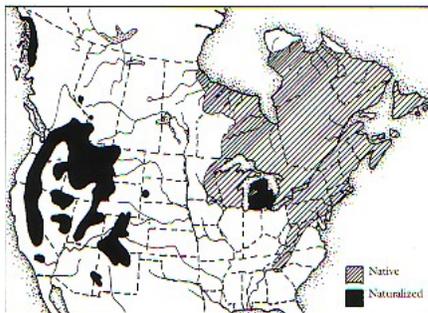
Scientific Name: *Salvelinus fontinalis*: the meaning of *Salvelinus* is not known; *fontinalis* means “living in springs”.

Brook trout are part of the Salmon family and are actually char; they are related to Arctic char and lake trout. (**Note:** What is often sold in Baltimore as “lake trout” is not a trout at all but rather Atlantic whiting, a member of the cod family.) Char are distinguished from other trout by having light spots on a dark background and the absence of teeth on the roof of the mouth.

Other Names: Speckled trout, brookie

Range:

Brook trout are the only trout species native to Maryland. Their original range was from eastern Canada to eastern Minnesota and down the Appalachians as far south as Georgia. They have been introduced not only into other states but into other countries where they are sometimes considered an invasive species.



In Maryland they are found mainly in northern Baltimore County, the Catoclin Mountains in Frederick County, and in far western Maryland.

Appearance:

Unlike other trout found in Maryland, brook trout have light spots on a dark background instead of the other way around. Breeding males are dark olive on top, shading to orange on the lower side and then to cream on the belly. The spots on the back tend to be worm-shaped; the spots on the sides below the lateral line are red with a light blue halo around them. The pectoral, pelvic and anal fins have a white leading edge bordered with a black stripe; the rest of the fin is orange-red. Non-breeding adults are similarly colored but less vivid; the red spots and the orange sides may be paler or absent.



Brook trout are fairly small trout, usually reaching a maximum length of about 10 inches and weighing about 10 ounces. The world record brookie weighed 14 pounds 8 ounces and was 33 inches long caught in Ontario in 1915; the Maryland record is a fish weighing 6 pounds 2 ounces caught in the North Branch of the Potomac in 1999.

Habitat:

Brook trout prefer clean, cold, rocky streams with plenty of shade, and well-oxygenated water. They do best in water that does not exceed 20° C (68° F). They are less tolerant of warm water than other trout, although adult fish can tolerate temperatures up to 25° C (77° F) for a very short time. However, they are more tolerant of low pH than other trout and can reproduce in water with a pH as low as 4.5, although the preferred pH range is 5 to 7.5.

Diet:

The diet of brookies consists of anything that fits in their mouths and is easy to catch. The most common food items are aquatic insects, both larvae and adults, land insects that fall in the water, and small fish. They also eat worms, mollusks, crustaceans, amphibians, and small reptiles and mammals. They are sight feeders and tend to feed mainly at dawn and dusk; during mid-day, they seek deeper water or shaded areas.

Predation:

Brook trout are preyed upon by larger fish, including other trout, water snakes, birds (kingfishers, great blue herons) mink, otters and raccoons.

Reproduction:

On average, brook trout reach sexual maturity around the age of 2 and spawn each year. Spawning is triggered by decreasing water temperature and day length; in Maryland most spawning takes place in late October and early November. The female uses her caudal fin to clear an area in the gravel called a “redd” where she lays 300 to 600 eggs. Once fertilized, the eggs sink to the bottom of the redd and the female covers them with gravel. The eggs remain buried over the winter and hatch out in the early spring. Most brookies only live about 5 years although occasionally they may live as long as 9 years.

Threats:

One of the biggest threats to native brook trout populations is the introduction of non-native brown trout. Brown trout tend to be bigger than brookies and are more aggressive and as a result, they out-compete brook trout for food and spawning sites. They also routinely prey on brook trout.

Other threats to brook trout include increased water temperatures in trout streams caused by deforestation in the watershed, removal of streamside vegetation, and water releases from dams. Decreased pH due to acid rain and acid mine drainage also contributes to the decline of brook trout populations.



Too much dirt in the water can affect brook trout populations by decreasing the dissolved oxygen, smothering eggs and fry in the redds, and reducing the production of food organisms. Since brook trout are sight feeders, they are affected by even a little bit of turbidity because it reduces their ability to see their food.

Brook trout are the “canaries in the coal mine”; they serve as indicators of the health of the watershed. A decline in brook trout populations may be a warning that the entire watershed is in trouble.

Brook trout are the only trout in Maryland for which a Fisheries Management Plan was written. www.dnr.state.md.us/fisheries/pdfs/MDBrookTrout006.pdf

For an excellent video on brook trout go to:

<http://www.fws.gov/northeast/multimedia/video/brooktrout.html>

