

# Rainbow Trout



**Scientific Name:** *Oncorhynchus mykiss*

*Oncorhynchus* means “hooked nose” (This refers to the hook or “kype” which develops on the lower jaw of breeding males.); *mykiss* is probably a Russian native name.

Rainbow trout are members of the Salmon family and are related to Pacific trout and salmon. Like Pacific salmon, some Pacific populations of rainbow trout are anadromous, spending their adult years in the ocean and returning to freshwater to spawn. Unlike salmon, however, anadromous rainbow trout do not spawn once and die, but return to spawn several times.

**Other Names:**

Steelhead trout, steelhead; this is the name given to Pacific coast anadromous populations and refers to the steel-blue color often found on the head of these trout. Rainbow trout from the Great Lakes are also usually called steelheads.

**Range:**

The native range of rainbow trout is the North Pacific Ocean drainage from eastern Asia and extreme northeastern Russia to the Pacific Coast of North America from northern Mexico to Alaska and inland to the Rocky Mountains.

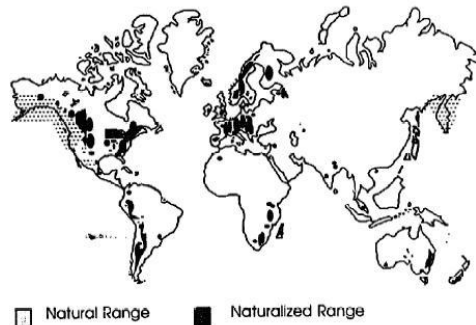


Fig. 1. The known world distribution of rainbow trout (*Oncorhynchus mykiss*). After MacCrimmon (1972).

They have since been introduced into every state in the United States and every continent except Antarctica.

In Maryland, over 500,000 trout are currently stocked in more than 100 streams and lakes all over the state. Rainbow trout in Maryland are not anadromous.



**Appearance:**

Although the appearance of rainbow trout varies greatly, they are basically colored like typical trout with dark spots on a light background. Most rainbow trout in Maryland are olive-green on the back, shading to silver and then to white on the underside. There is a faint red or pink band along the lateral line and the body, dorsal fin and tail fin are covered with dark spots. The dorsal and caudal fins are light olive and the anal and pelvic fins are often tipped with white.

The average size of rainbow trout is 20 to 30 inches and the average weight is 2 to 16 pounds. The world record is a fish caught in Canada in 2009 which weighed 48 pounds; the Maryland record is a fish which weighed 14 pounds 3 ounces and was caught in the Savage River Reservoir in 1987.

**Habitat:**

Rainbow trout prefer clear, well-oxygenated, cold-water streams with gravel or rocky bottoms, deep pools, and natural cover. Unlike native brook trout, however, they also thrive in large lakes as long as there is cool, deep water. Their ideal temperature range is between 10° and 16° C (50° and 60° F) although they can survive warmer temperatures than some other species of trout. They are more sensitive to acidic water than brook or brown trout and prefer water with a pH of 6 to 8.

Stocked rainbow trout can adapt to virtually any waters as long as they have proper habitat, year-round ideal temperatures, and adequate food sources. In Maryland, they are stocked in streams, rivers, lakes and reservoirs.

**Diet:**

Rainbow trout, like other trout, eat a variety of food as long as it fits in their mouth. Rainbow trout, especially juveniles, tend to have a larger proportion of insects, both larvae and adults, in their diet than other trout. Large rainbows will also eat smaller fish, including other trout. They tend to feed more frequently at the surface than other trout.

**Predation:**

Rainbow trout, especially juveniles, are preyed upon by larger fish. Adults are preyed upon by birds such as kingfishers and herons, water snakes, and mammals such as raccoons, otters and minks.

**Reproduction:**

Rainbow trout reach sexual maturity between the ages of 1 and 2. In their native range, they spawn in late winter or spring with peak spawning in March and April. Spawning is triggered by increased day length, water temperature, and water flow. The male arrives first at the spawning grounds; when the female arrives, she constructs the nest or “redd” and deposits eggs. Once the eggs are fertilized, they sink to the bottom of the redd and the female covers them with gravel.





Incubation time depends on water temperature, but is usually shorter than that of brook trout. The eggs hatch in the gravel, and the sac-fry, which are only 3/4" to 1" long, remain hidden away from light. They do not feed, but absorb nutrients from the attached yolk sac. Once the yolk sac is absorbed, they wiggle up through the gravel into the stream and begin feeding. Most rainbow trout only live for 3 or 4 years; the maximum recorded age is 11.

In Maryland, however, there are only three streams that have a naturally spawning population of rainbow trout. These trout spawn any time between late summer and early spring. The rainbow trout found in other places in Maryland are stocked with trout produced in hatcheries.

#### **Threats:**

One of the main threats to rainbow trout populations in Maryland is whirling disease. The disease is caused by a microscopic parasite which was introduced in the late 1950s from Europe; it is now found in 24 states. It was first discovered in Maryland in 1995 in the North Branch of the Potomac River, and in 2007 it was found in several trout hatcheries in Garrett County. The parasite is harmless to humans, but it produces severe damage to infected fish, and causes them display the irregular swimming behavior for which the disease is named. The parasite can be fatal to all trout species, but is particularly harmful to rainbow trout.

