



SMART Angler's Notebook

by Carl Richardson
illustrated by Ted Walke



Seasons of a Trout

Natural reproduction occurs in many streams, including those stocked with hatchery fish. On most of these waters stream productivity, habitat and water quality limit reproduction and growth. Few wild fish reach adulthood in these waters,

so they are stocked with hatchery fish. There are a few streams where conditions are suitable for reproduction and growth. These waters are not stocked with hatchery trout.

SPRING

Developing eggs, still in redd, hatch anytime from February to March. Hatch date depends on stream temperature.

Fry, still living in bottom gravel, live off yolk sac. When this sac is used up, the fry emerge from the gravel. This usually happens in April through early May. Fry eat plankton, the microscopic animals in the stream. Fry are 1 1/2 inches long when they emerge.



SUMMER

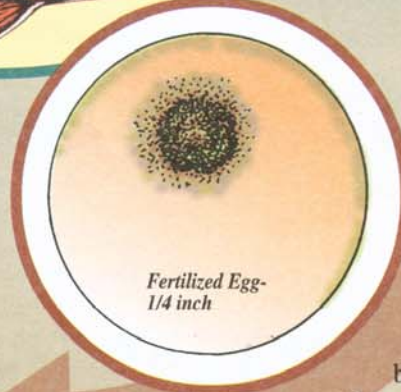
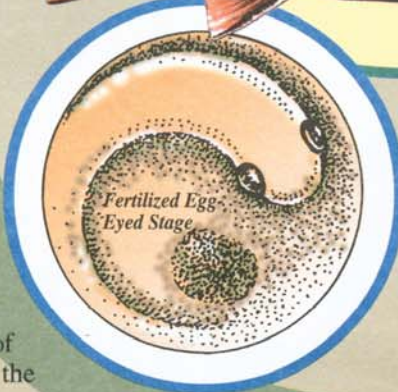
To hide from predators, young trout spend time in shallow water hiding under and around rocks. They eat small insects and plankton. Depending on the stream, young trout may be three to four inches long by the end of the summer. In the wild, fewer than 10 percent of these fry survive the first year.

Three-year-old fish are getting ready to spawn for the first time. The eggs develop in the female and grow larger each day.



WINTER

Fertilized eggs develop. Oxygen comes from the steady flow of water. Nutrition for the eggs comes from the egg yolk. Temperatures must stay within the 35-degree to 55-degree range for brook and brown trout eggs to hatch. Rainbow trout eggs don't survive when temperatures drop below 40 degrees.



FALL

Females select a spot for the nest, called a redd. Gravel bottoms with a steady flow are ideal. Using her tail she clears a spot for the eggs. A three-year-old fish, about 10 to 12 inches long, will release 500 to 1000 eggs. Fertilized eggs, about 1/4-inch round, sink into the spaces between the gravel.



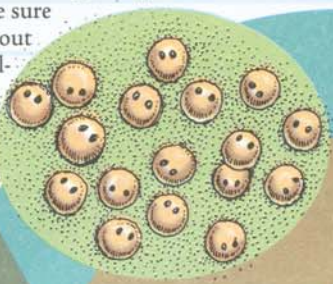
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From Egg to Creel: The Life of a Hatchery Trout

EGGS

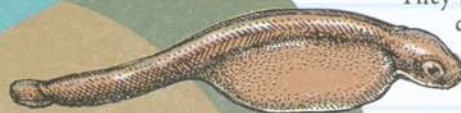
Eggs are collected at Commission hatcheries from late August to early November. Rainbow trout are the first ones to be spawned. Brown trout are the latest. Eggs are collected from fish called "brood stock." These 2-year-old to 4-year-old fish are the best of the best. They are selected because of their size and growth, color, and the size and number of eggs produced. On average, a 3-year-old female will produce 3,800 eggs. To make sure there are enough catchable trout a year later, three eggs are collected for every one fish stocked. Sperm from one male is mixed with the eggs from one female. Fertilized eggs are placed into large egg jars or trays. In 50-degree water temperatures, rainbow trout eggs hatch in 31 days. Brook trout eggs hatch in 44 days, and brown trout eggs hatch in 41 days.



Eggs

FRY

There are two fry stages: Yolk, or sac fry, and swim-up fry. Sac fry, fresh from the egg, are nourished from the yolk for two to four weeks, so they aren't fed. Once the sac is absorbed, the young fish swim up from the bottom and are fed fine granular feed—about the size of black pepper. At this time they are moved into large, long tubs. These tubs, which are about the size of a large bathtub, hold about 50,000 fry. Fry are fed 6 to 10 times each day. After 8 to 10 weeks, most of the young trout are moved outside into raceways. Some are stocked in streams where they can grow to adults. Others are provided to the Commission's cooperative nurseries. They raise these trout to catchable size.



Sac Fry

FINGERLING TO ADULT

It takes 12 to 14 months for the trout to grow to catchable size. During this period they are fed pellets 3 to 5 times a day. This is when they really grow. On average, it takes 1.6 pounds of food to make one pound of trout. Also during this period the fish are separated by size. Fish culturists call this "grading and sorting." By doing this the bigger, more aggressive fish aren't with the "runts of the litter."



Adult Trout

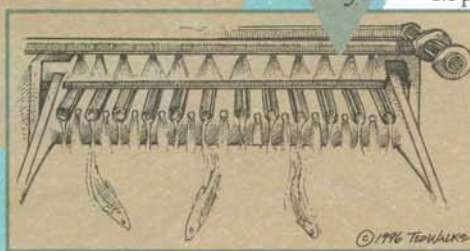
Sizing in Raceways

TROUT STOCKING

Some 15 months are needed to take a trout from an egg to your creel. By now they are 10 inches or longer. At each hatchery in the spring, fish are weighed, counted and loaded into stocking trucks. Each truck has a 1,200-gallon tank with an aeration and oxygen system. This ensures that the fish are healthy when they arrive at their destinations. Each truck carries from 3,000 to 3,600 catchable trout. Fewer trout are loaded in the tank if the fish are big or will travel long distances. When they arrive, the fish are stocked—and we catch them!



Trout Stocking



TROUT FOOD

The food trout are fed in the hatchery is made mostly of fish meal. Ocean fish like herring and menhaden are processed and nutritional supplements (vitamins) are added. This mixture is formed into pellets for adult trout and smaller pieces for fingerling and fry. This feed has lots of protein, much like feed for livestock.

Food shown actual size



Fry fish meal



Fingerling fish pellets



Adult trout fish pellets