

# Brook Trout Life Cycle

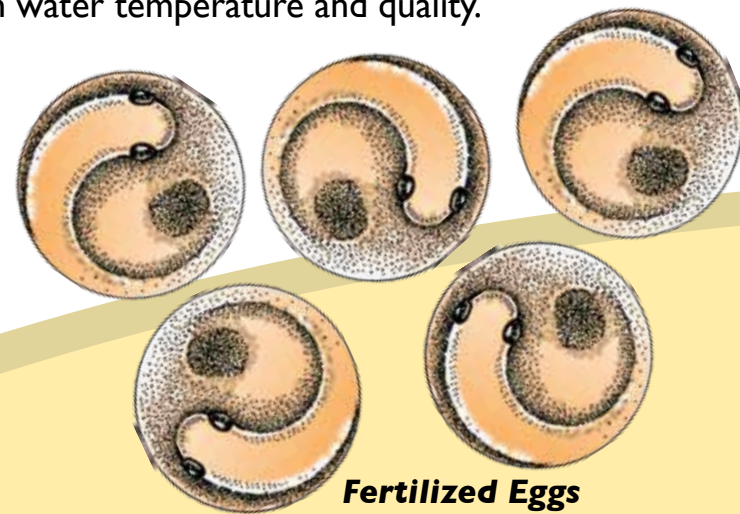
Brook trout, members of the Char Family, live in small, clean, coldwater streams within Pennsylvania and many other eastern states. Their presence indicates a healthy stream.

**FALL:** Adult females (2 to 5 years of age) select a spot for a nest, called a redd. A gravel stream bottom with a steady flow from underneath is an ideal location. Using her tail, the female clears a pit to lay the eggs. Female trout ranging between 5 to 10 inches in length will lay between 20 and 400 eggs. The male brook trout fertilizes the eggs as they sink to the stream bottom. After being fertilized, the eggs are then covered with gravel by the female. About 1 to 2 percent of the eggs will survive to adulthood.



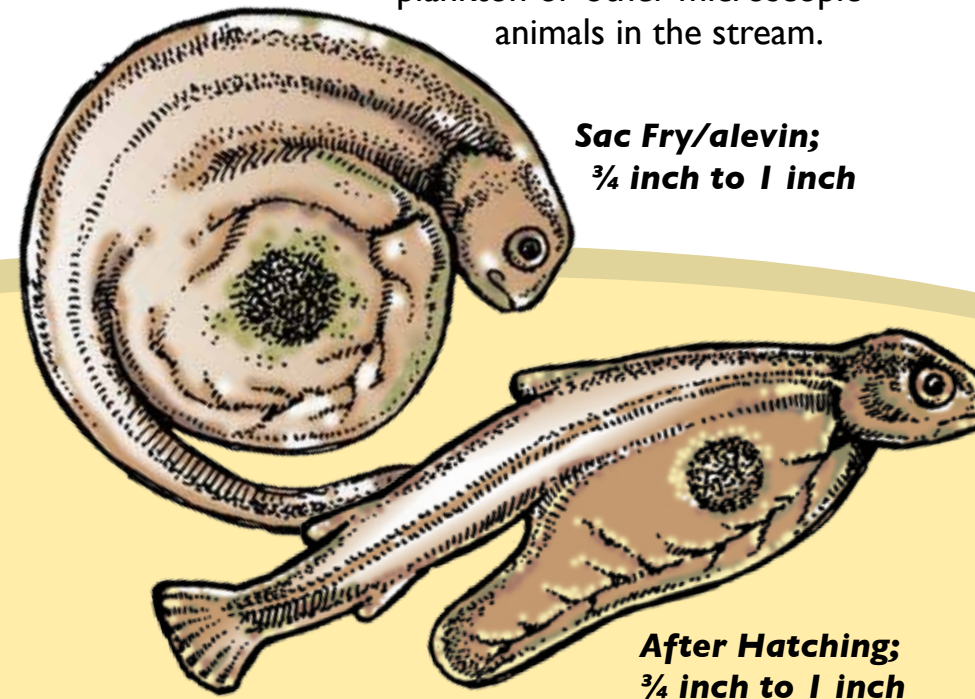
Female Trout  
Excavating a Redd

**WINTER:** Fertilized eggs develop. Within about two weeks, the egg develops eyes (eyed egg-stage). The egg gets oxygen from the water flow around it. Nutrition for the trout comes from the egg yolk. Water temperatures must stay within the 35 to 55 degree range for brook trout. At this stage, the trout are very sensitive to changes in water temperature and quality.



Fertilized Eggs  
(Eyed Egg-Stage);  
1/4 inch or less in diameter

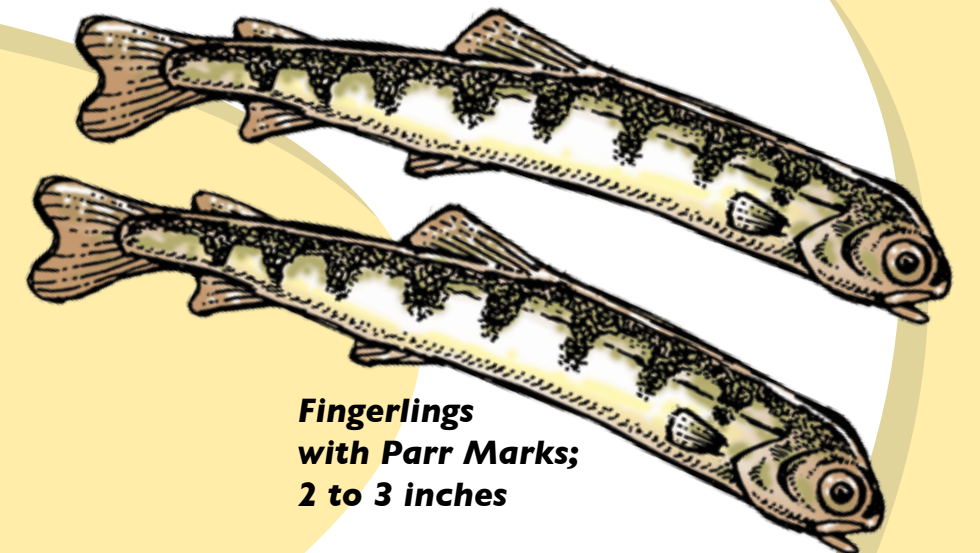
**SPRING:** Developing eggs, still in the redd, hatch from February to March. Hatch date depends on stream temperature and quality. Fry, still living in the gravel, live off the yolk sac (sac fry or alevin). When the sac is used up, the fry emerge from the gravel to begin eating. This usually happens between March and April. Fry will eat plankton or other microscopic animals in the stream.



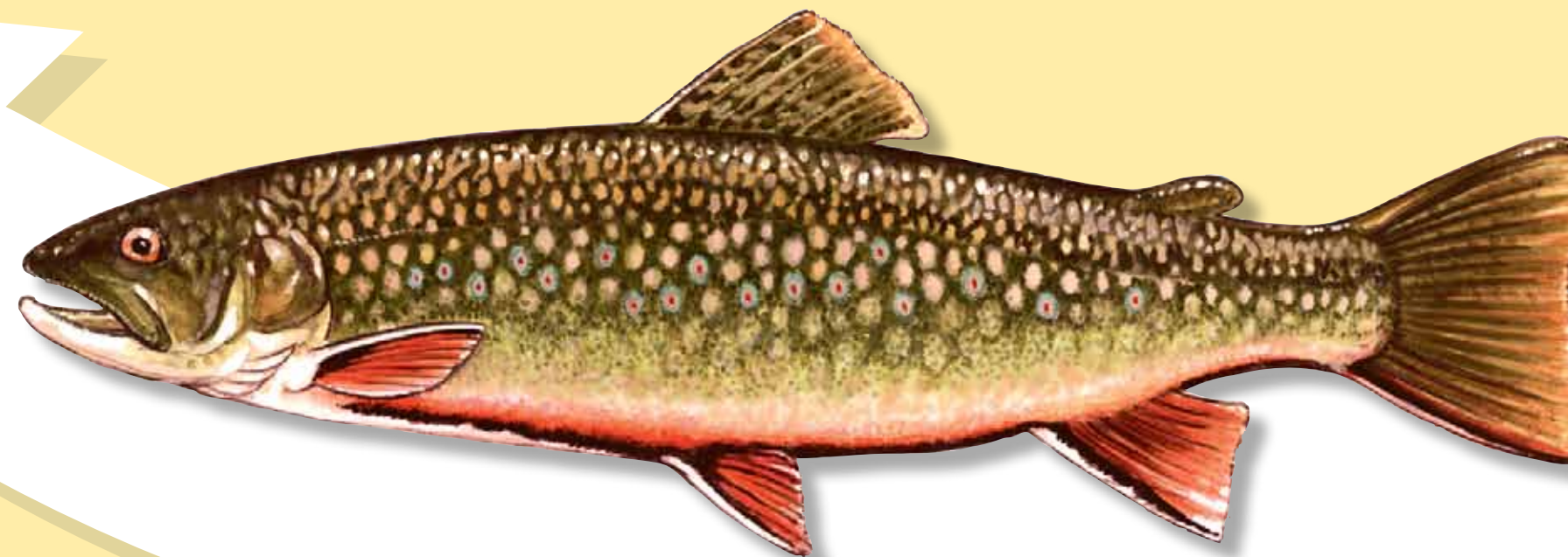
Sac Fry/alevin;  
3/4 inch to 1 inch

After Hatching;  
3/4 inch to 1 inch

**SUMMER:** To hide from predators, young trout spend time in shallow water hiding under and around rocks. They eat small insects and plankton. Young trout grow quickly and reach 2 to 3 inches long by the end of the summer. As the fry continue to develop, vertical lines called parr marks begin appearing along their body. These bars help camouflage the young trout and protect them from predators. When the trout have parr marks, they are called fingerlings or parr.



Fingerlings  
with Parr Marks;  
2 to 3 inches



## BROOK TROUT ADULT:

They are Pennsylvania's state fish and only native trout. A brook trout's body is dark green with light "wormy" lines across the top. Their fins are orange with white edges. Red spots with bluish halos dot the body, and their belly appears orange in color. The tail is nearly square.

Adult;  
5 to 10 inches

