



Early on a rainy May morning in 2016, Cyndi Camp and her husband, Greg Silva, drove to Clark's Creek in northern Dauphin County from their home in West Hanover Township to collect bugs (macroinvertebrate insects*, actually) which they planned to take the next morning to Dauphin County's acclaimed Ned Smith Center for Nature and Art where they would meet about forty students from Harrisburg's Marshall Math Science Academy. In addition to the hundreds of mayflies, stoneflies, caddis flies, and other assorted aquatic insects Cyndi and Greg were bringing with them to the Ned Smith Center, the middle school students and their teacher, Kelli Reher, and a few volunteers, were bringing a 5-gallon bucket with the brook trout fingerlings the students had raised from eyed eggs in their classroom aquarium. The surviving brook trout from a package of about 300 eyed eggs were to be released that morning into the Wiconisco Creek that flows through the Ned Smith Center as part of a statewide program called Trout in the Classroom (TIC), an educational program sponsored by the Pennsylvania Fish and Boat Commission, the Pennsylvania Council of Trout Unlimited, the Pennsylvania Department of Education, and, in Dauphin County, by the Doc Fritchey Chapter of Trout Unlimited.

Cyndi Camp volunteered nine years ago to coordinate the Doc Fritchey Chapter's participation with Trout in the Classroom. "Since I have a biology degree from Allegheny College and a life-long love of nature, biology, and the outdoors," Cyndi Camp

said, "when our TU Chapter started to look for someone to serve as the liaison for Trout in the Classroom in Dauphin County I decided I wanted to be part of what I think is a unique classroom learning experience. I have been our TU Chapter's liaison since 2006, and it is great fun and very worthwhile to work with hundreds of students and their classroom teachers, and help them raise brook trout in their classrooms in 55-gallon aquariums that have been provided by our Doc Fritchey Trout Unlimited Chapter."

The Doc Fritchey Chapter, through Cyndi Camp's guidance, works with seven classrooms (five in Dauphin County and two in Palmyra) to incorporate a hands-on, scientific learning experience that starts in early November when a package of eyed brook trout eggs is delivered to the classroom from the Fish and Boat Commission and concludes in the middle of May when the students take a field trip to a nearby state-approved trout stream to release their two to three inch fingerlings into the wild.

From November to May, the students are responsible for feeding their newly hatched brook trout (with a special feed formula supplied by the Fish and Boat Commission) and for monitoring the water quality in their classroom's aquarium, which is equipped with a chiller to maintain trout-prime 52-degree water. Throughout the six months that the trout go from eggs to fingerlings the students daily monitor the aquarium water's pH levels, and also the concentrations of ammonia, nitrites, and nitrates in the water.



Cyndi Camp visits each of the seven classroom several times in the first two months to train the students on how to take corrective actions when the water quality needs to be adjusted.

Cyndi Camp commented that she incorporates macroinvertebrates on the day the students release their brook trout because she wants the students to see the live insects the trout will eat when they have been released into a cold water trout stream. "I help my students feed their hatchlings and fingerlings with a special formula while they are living in the aquarium," Cindy said, "but I think my students also want to know about the real world, and that real world is living on the bottom of the rocks in our trout streams. Those nymphs, as trout fisherman call them, are what these brook trout will eat for the rest of their lives."

Joe Kuhns, a success coach at Commonwealth Connections Academy Charter School in Harrisburg, another of the seven schools Cyndi Camp works with every year in the Trout in the Classroom program, commented the morning his sixteen students released their 187 fingerlings into Clark's Creek that Trout in the Classroom gives his students access to something they would not have had access to in their daily lives; things they never would have known existed. "For the most



part, the students we work with are inner-city youth.

The farthest afield many of these kids get is to their summer jobs at Hersheypark," Joe Kuhns said. "Look at them gathered around the trays Cyndi has set out this morning with freshly caught mayflies, stoneflies, caddis flies, and other insects. These students have never seen insects like this, especially in this beautiful setting here along Clark's Creek on a gorgeous May morning. This morning, along the stream means a lot to these students. Together, we raised these brook trout in our learning center, learned about water quality and how to maintain the proper environment to successfully raise trout in our classroom, and then we released them into Clark's Creek where, hopefully, they will survive and grow up to reproduce on their own."



**Macroinvertebrates are animals without a backbone that can be seen with the naked eye. These bottom-dwelling animals include crustaceans and worms but most are aquatic insects. Beetles, caddisflies, stoneflies, mayflies, hellgrammites, dragonflies, true flies, and some moths are among the groups of insects represented in streams. Macroinvertebrates are an important link in the food web between the producers (leaves, algae) and higher consumers such as fish.*