

Valley Angler

Bartlett Elementary School's Trout in the Classroom Project

by Bill Thompson

Recently I had the great pleasure of visiting the Josiah Bartlett Elementary School and seeing firsthand how their Trout in the Classroom project was going. Trout in the Classroom is an educational program where elementary and high school students are given the opportunity to study the development of trout from the egg to the adult and ultimately release them into the wild. Trout in the Classroom programs, in New Hampshire, are supported by New Hampshire Fish and Game, the New Hampshire Trout Unlimited Council and local TU chapters. The Bartlett program is funded by Saco Valley Anglers along with donations of equipment from some of the parents.

Several years ago Trout Unlimited came up with the idea for Trout in the Classroom and developed lesson plans to be used by participating teachers. The plan is available on T U's web site at no charge. The New Hampshire Fish and Game Department is an enthusiastic supporter of the program and offers its own lesson plan and clinic's for teachers interested in getting involved in the program. Most important of all, it is Fish and Game who provides the eggs for the projects.

Just about a year ago Saco Valley Anglers decided to get involved with a TITC program. We were well acquainted with the Bartlett schools fly fishing program, headed by the school's principal, Joe Voci. Mr. Voci was approached with the idea and we were immediately referred to the school's science teacher Joe Yahna. Joe readily embraced the project. Not long after Joe and two members of Saco Valley Anglers attended a TITC clinic hosted by Judy Tumosa from NHF&G. Soon we were all involved in the search for the perfect aquarium chiller and the other equipment that would be needed to get the project off the ground.

Last January the eggs arrived at the school where they were greeted by a cadre of students. Signs welcoming the 150 brook trout eggs adorned the science room and I am told a special song had been written for the occasion.

The following description of the event was written by Milly Goodwin a Eighth Grade student at the school: *"After the welcome message, a group of about 15 students, from the middle school, gave up their lunch break to help get the eggs settled. Some students carefully transferred the small, fragile eggs from a Nalgene bottle into a net in the aquarium. Others sorted and picked out any sick or damaged eggs. Others looked on and offered suggestions and encouragement. The students were fascinated by the strange-looking translucent orange eggs; each with two eye spots."*

The article goes on to say: "It was an exciting day, last January, when the eggs arrived. The eggs were donated by the Berlin Fish Hatchery (New Hampshire Fish and Game) as part of the Trout in the Classroom program. Now weeks later the excitement is still there. The trout eggs are kept in a special aquarium housed in the science room where Mr. Yahna and his students can keep a close eye on them. The tank has filters, an oxygen pump and a chiller system to keep the water fresh and cold. No effort is spared to keep the eggs safe and sound. The entire tank is covered in a layer of insulation, duct tape and cardboard to help keep it cold. The aquarium conditions are meant to mimic the conditions of a

natural river habitat in winter; dark and cold.

Upon hatching the new baby fish, (alevin), did little except rest in their nest and absorb nutrients from their egg sacs. Once the egg sacs are completely absorbed the alevin will enter the fry stage of their development. Eventually the fry will begin to move about and start eating. They will be fed in the aquarium for a few more weeks as they continue to grow. Eventually these brook trout fry will be released into the Saco River”.

When I visited the classroom, Catie Barrows, one of Mr. Yahna's students, explained in great detail how the project had been going. Mr. Yahna told me that Catie had, from the beginning, been one of the most enthusiastic “care givers”. Catie explained to me how the eggs were first transferred from the original container into a small net at the bottom of the tank. The eggs first had to be examined and any diseased and defective removed. Eggs that turn fuzzy must be removed at once or the entire batch will be infected. Shortly after the arrival of the eggs a major disaster occurred. Somehow the net that held the eggs turned over spilling the precious contents to the bottom of the tank. The students had to use syringes to suction the eggs out of the gravel bottom of the tank. Fortunately most of the eggs were salvaged.

Not long after their arrival the eggs hatched into the alevin stage. At this point the immature trout live off of their egg sacs. Towards the end of March the alevin became fry. When I visited only twenty-five survivors remained. Roughly half had made the transformation to fry. A close look at the fry revealed that they were beginning to show signs of developing fins. Catie told me that they were now at 97% of their development and once they reached 100% they would rise for food. It was expected that in a very short time that these trout would begin rising. Small amounts of food were being introduced to the tank in anticipation of this event. It is crucial to their survival that food be readily available to them when they begin to rise. The temperature in the tank was gradually being increased. The day I was there the temperature was at 47 degrees. The goal is to gradually increase the temperature to 50 degrees, at which point they will be ready for release. It is important that the river temperature be the same as the tank temperature to ensure survival.

Mr. Yahna was planning to keep one or two of the trout around for a while and possibly through the summer. By June they should be around two and a half inches long. There are a great many problems that go along with keeping the larger trout so it will be interesting to see how this plays out.

I can tell you that I was greatly impressed with all the hard work that Mr. Yahna and his students have put into this project. I get the impression that the Bartlett students have had a good time with their project and learned a lot in the process; I know that I did. Congratulations to all of them and I hope to be present when they finally release their trout into the Saco River.

Molly wrote the perfect ending to her article and I hope she doesn't mind if I use it here: *“As this year ends the fry will go to their new home in the Saco and this year’s students will leave for high school. Next year a new group of students and a new batch of trout eggs will enter the Trout in the Classroom program. The knowledge gained by this year’s students will be passed along to next year's students as they attempt to understand the concepts of watersheds and ecosystems, along with the life cycle of the trout”.*

See you on the river.