TROUT IN THE CLASSROOM *in Vermont*

Overview
Trout in the Classroom is an environmental education program in which students raise salmonids, usually brook trout, from eggs to fry or fingerlings before releasing them in an approved local stream.

Trout in the Classroom (TIC) began approximately 30 years ago, and thousands of classrooms nationwide host active TIC projects that have often resulted from unique local partnerships among teachers, volunteers, outdoor-oriented organizations, and government agencies. Trout Unlimited (TU), principal sponsor for 30% of the country's TIC programs, oversees TIC in Vermont, working closely with the Vermont Department of Fish and Wildlife.

As recently as 2012, Vermont had only a handful of TIC programs, but today 97 schools—from Pownal to Newport, Highgate to Guilford—raise salmonids in 99 tanks. Ninety-four of those tanks hold brook trout, Vermont's state fish; landlocked Atlantic salmon are raised in five northern Vermont tanks. Because at many schools, two or more teachers collaborate on offering TIC, a total of 135 Vermont teachers participate in TIC in 2018-2019. These programs collectively benefit more than 2,000 Vermont youth annually.

TU's TIC volunteers, through fund raising and grant writing, have covered the $1,200-per-school costs of initiating many of Vermont's TIC programs. The state's five TU chapters have also purchased start-up equipment and supplies for schools in their regions.

Teachers tailor TIC to fit the educational needs of their students. While TIC requires a focus on science, the program has excellent interdisciplinary applications in numerous other subjects, including mathematics, social studies, language arts, technology, and fine arts. National groups have published curriculum guides that connect TIC's teaching and learning opportunities with both the Next Generation Science Standards and the Common Core State Standards in Language Arts and Mathematics.

Regarding science study, the *essential* aspects of TIC are learning about early trout development, monitoring water chemistry, and maintaining water quality. But many programs also provide students opportunities to:

- learn about trout anatomy, life cycle, food, habitat, and threats;
- study streams and how they work;
- collect and classify stream insects;
- analyze stream water quality; and
- learn how human behavior can either improve or damage trout habitat.

Ideally, TIC students have a large role in—indeed, take responsibility for—tank maintenance. Experience has shown that, once trained, students as young as third graders can competently perform all water chemistry tests as well as necessary water changes. Adult supervision is, of course, desirable.

Through such experiences, students grow to understand ecosystems, develop an appreciation of water resources, and begin to acquire a conservation ethic.