Hickory, Table Rock, High Country Trout Unlimited
September 2025 Newsletter

River conservation education is crucial for instilling a sense of responsibility and stewardship for the environment in children. By understanding the ecological, cultural, and economic significance of rivers, kids can become informed advocates for sustainable river management and conservation practices. Engaging in hands-on activities, such as field trips and citizen science projects, helps them connect with river ecosystems and learn about the impact of human activities on river health. Community involvement in river conservation initiatives also empowers kids to take an active role in protecting their local rivers. Rivers are Life

A major policy with Trout Unlimited is the introduction and education of kids to our trout and the rivers they live in. In the past logging, dams, removal of buffer, and more have destroyed many of our streams. Today there is a lot of effort to reverse the damage and prevent it from happening. Good environmental education of our kids will assure these efforts continue into the future. In this newsletter we will discuss programs to help with that education.

Be sure to read the student essay at the end of the newsletter to see the impact of Trout in the Classroom on kids.

HICKORY TU MEETING

When: Tuesday, Sept 16th, 6 PM
Where: Old Hickory Station
232 Government Ave SW, Hickory
What: Trout in the Classroom

To celebrate the beginning of our 9th year of supporting the Trout in the Classroom program we will be presenting what we believe is one of the finest programs developed to introduce kids to stream conservation. We have invited the teachers to join us, so please come to meet them, learn about the program, and thank them for the great job they are doing.

Do you have fly fishing gear you no longer use that is still in good condition? Bring it to the meeting to help support our monthly raffle.

QUOTE OF THE MONTH

"As children observe, reflect, record, and share nature's patterns and rhythms, they are participating in a process that promotes scientific and ecological awareness.".

....FirstCry.com

UPCOMING EVENTS

Rocky River TU Alarka 2025 Trip, October 16-19. To see the details and sign up for the trip visit Fall 2025-Alarka Trip

Casting for Hope has several September events where they are looking for volunteers and sponsors. For more information about Casting for Hope visit Casting For Hope.

1) We are looking for volunteers to assist with a stocking day at the Casting for Hope Retreat Center in Bakersville, NC in early September, date to be set soon but likely Sep 3 or 4. Lunch will be provided!

2) We are also seeking volunteer guides (any angler with a good attitude who's excited about helping someone else catch a fish!) for our upcoming Patients' and Caregivers' Retreat. We have fishing sessions on both Saturday, Sep 6th & Sunday, Sep 7th . Lunch will be provided and there will be time to fish private water after guiding!

3) We are also hosting a premium one-day fly-fishing fundraiser at our Retreat Center on Sunday, Sep 21st. Spots are limited and corporate sponsors are welcomed to cover anglers' entry fee.

4) Interested in sponsoring Casting for Hope's Fall Events? Becoming a sponsor will get you on the event t-shirt for all of our September events as well as on our website and social media pages.

If interested in any of the above, reach out to Taylor Sharp at taylor@castingforhope.org.

New River Cleanup, Sunday September 14th. Meet at Elk Shoals New River State Park, 349 Methodist Camp Rd, West Jefferson, NC 28694 at 9:00 AM. For more details and to register Elk Shoals River Clean Up

Brook Trout Bash, September 27th On Saturday, September 27th at 3:30 in the afternoon, a brook trout-related event at the Roaring River Vineyards in Traphill, near the state park. Kin Hodges will be speaking about brook trout genetics, along with

Joe Mickey, Dick Everhart and hopefully one of the executive directors of a local nature conservancy. There will also be food catered and some displays with historical fly fishing equipment and local fly tiers. The goal is to get together a group of people who share a passion for the outdoors and trout.

Winkler Creek, Boone, Trash Cleanout, September 23rd. For details visit MountainTrue Trash Trout Cleanout.

Tie-a-Thon, Patterson School Oct. 18th, 9AM-3PM. This Tie-a-Thon is for the benefit of Casting Carolinas and Casting for Hope. We will again be tying Walts worm, squirmy, Y2K, and egg fly. Materials provided, bring your own equipment but a few available. Lunch provided.

Casting Carolinas Tie One On tournament Oct 25&26. To enter the contest, volunteer, sponsor, or just learn more about it visit. Tie One On for Casting Carolinas

For movie and raffle tickets

BRTU Film Festival

NCWRC FISHING CLASSES

9/3/2025 - Entomology for Anglers - Virtual
9/5/2025 - Fly-fishing Basics: Fly-fishing Connections - Marion
9/6/2025 - Basic Fly-casting - Lenoir - Patterson School
9/9/2025 - Topwater Bass Basics - Marion
9/10/2025 - Fly-fishing Basics: Understanding and Selecting Fly-fishing Equipment - Virtual
9/11/2025 - Intermediate Fly-tying Workshop - Morganton
9/18/2025 - Warm Water Fly-fishing Workshop - Marion
9/19/2025 - Catfishing Basics - Marion
9/24/2025 - Basic Fly-casting Workshop - Marion
10/8/2025 - On the Water Fly-fishing Experience
10/9/2025 - Intermediate Fly-tying Workshop - Morganton
10/11/2025 - Fly-fishing Basics - Lenoir - Patterson School

outdoortopia

Part I: Rivers Are Perfect for Teaching Sustainability. Here's Why!

- 
  Alex Moxon

River systems are perfect for children to study how their day-to-day actions can have wide-reaching impacts on a river's water quality and ecological health. Unlike complex large-scale Earth systems, such as global climate patterns and ocean currents, river systems are relatively easy to explore, observe and investigate scientifically using placed-based learning.

"Practically everything we do, from the products we buy in the supermarket, to the amount of water we use in our homes and backyards has direct or indirect impacts on our local river, and the people and wildlife downstream."

Reason #1: We All Live in a River Basin

Everyone of us has a local river or creek close-by to our homes and places of work or study. Clean freshwater is crucial for human survival, and importantly, whether we realize it or not during our busy daily lives, we all live in a 'river basin' (also known as a 'river catchment') somewhere. River basins are extremely sensitive to land use changes, pollution and other human disturbances, which can usually be identified and understood with a little scientific knowledge and some ecological sampling.

Reason #2: Our Actions Matter

Practically everything we do, from the products we buy in the supermarket, to the amount of water we use in our homes and backyards has direct or indirect impacts on our local river, and the people and wildlife downstream. Simple choices like the detergent we wash our clothes with, the shampoo we wash our hair with, and the disinfectant we clean our kitchens with, can have potentially disastrous impacts on our local rivers, lakes, reservoirs and underground aquifers, if we are not careful with the products we buy and use.

Studying rivers in the context of sustainability helps learners to understand the links between how our daily actions can affect rivers.

Reason #3: Connecting Children to Rivers

Rivers have always had huge cultural and spiritual significance in human civilizations throughout the ages. Connecting

children to their local river, and building a better understanding of the ways in which each of us impact upon river catchments in general, is a vital part of environmental education and encouraging responsible stewardship of our planet. It also closely aligns with 'Life Below Water' - one of the 17 prominent UN Sustainable Development Goals (known as the 'SDGs').

Reason #4: Links to SDG 14 - Life Below Water

The living things found in a river or stream depend largely on limiting factors (e.g. turbidity, temperature, pH level and dissolved oxygen) and the long-term environ-mental conditions. If water quality is poor due to human activity for instance, certain freshwater species simply won't be able to survive and reproduce, and so won't be present in the river habitat.

"Connecting children to their local river, and building a better understanding of the ways in which each of us impact upon river catchments in general, is a vital part of environmental education and encouraging responsible stewardship of our planet."

Many freshwater invertebrates (e.g. insects, mollusks and crustaceans), especially insects in the early part of their life cycles, such as mayfly and dragonfly nymphs, are highly sensitive to pollution and human-related disturbances, and thus act as useful 'bio-indicators' for ecological health and overall water quality.

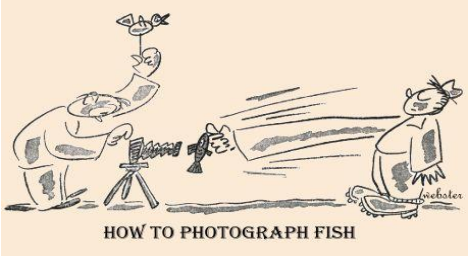
Investigating water quality and river ecology, brings topics including pollution and responsible water consumption to life in a way that a textbook simply cannot.

Reason #5: River Studies Are Engaging!

Collecting freshwater invertebrates (sometimes called 'river dipping') is an easy activity to do with learners of any age from teeny tots right up to university level, and can help bring many ecological and sustainability concepts to life using a hands-on approach.

This works best if it is carried out at a minimum of two different geographical locations - one upstream and one downstream of a big urban area - to make an objective comparison of ecosystem health and develop a deeper understanding of the human impacts on life below water.

Stay tuned for Part II of this blog post (later in this newsletter) '**Part II: Rivers Are Perfect for Teaching Sustainability. Here's How!**') to find out exactly how this can be done with youth in your local river!



TROUT IN THE CLASSROOM

Trout In The Classroom is practiced in over 60 classrooms across North Carolina. The program is designed to teach the students the 3Cs of trout. Clean, Clear, and Cold water. Assuming about 30 students per class that means over 1800 students per year in North Carolina, and thousands more across the country, are introduced to the conservation needed to maintain our trout streams.

TU chapters provide the classes with an aquarium, the equipment needed to operate them, materials to test the chemical balance of the water, and food to feed the fish. Usually in late September the NC Wildlife Resources Commission provides us with trout eggs that we then deliver to the schools.

During the school year the students are involved in the monitoring of the aquariums to assure that the water meets the 3C quality and the trout survive until the next spring. Then in April and early May the students visit the river to release the trout into the streams.

The release is the best event of the year and is held on a creek at a state park. It begins with the students taking turns releasing a few trout at a time into the stream. After that we have programs to introduce the students to some river ecology, fly casting, fly tying, and with the help of the park rangers, the animals that live in the park. By far the best of these activities is having the students go into the river to find the insects that the trout feed on. We provide nets and seines and after a brief introduction by the park ranger, the kids wade into the cold water (always the most fun for us watching the shock) and start shuffling feet and turning over rocks to find the bugs. It's very apparent that they love doing this and it is a great way to teach the river ecology. After they have caught the bugs we

bring them to the students to view and discuss what they all are.

Providing the equipment to the schools is a very expensive program and we deeply appreciate donations to help us out. Please consider making a donation to your local TU chapter to help us assure this program can continue.

NORTH CAROLINA TU RIVERCOURSE

Rivercourse Cold Water Conservation & Youth Fly Fishing Camp is a six day annual event for both boys and girls between the ages of 12 and 15. The action-packed six-day program goes beyond fishing. Campers will engage in unique activities like falconry, enjoy interactive conservation talks, and delve into river ecology, learning everything from water safety to insect life. Nights are filled with camaraderie and fireside stories, fostering new friendships and a deep appreciation for nature.

Rivercourse isn't just about catching fish; it's about nurturing a lifelong commitment to environmental stewardship and enjoying the great outdoors. All skill levels are welcome, and you don't need to be a North Carolina resident or a Trout Unlimited member to join.

Highlights include:

In-depth fly fishing and fly tying instruction
Hands-on conservation projects
Fun outdoor games and exciting wildlife encounters
Comfortable, chaperoned accommodations with all meals provided in a beautiful dining setting

For more information about the camp and to sign up for the program visit NCTU RIVERCOURSE.

KIDS IN THE CREEK

Environmental Education

Since the program began in 2011, LJEA's Kids in the Creek program has grown to reach over 1200 students from McDowell and Burke County annually. The program was developed to expand on NC's science curriculum, exploring topics related to water quality, the hydrologic cycle, aquatic habitats, and our roles in protecting and maintaining a healthy aquatic ecosystem. Both teachers and volunteers report that Kids in the Creek has successfully boosted learning outside of the classroom through student engagement with the natural environment, and most importantly, the enthusiasm students bring to expanding their education.

Kids in the Creek is a two-day program consisting of one day in the classroom and one day "in the creek." In the classroom, students engage with models, posters, literature, and maps to learn about watersheds, the interactions between surface and ground water, water pollution, and stormwater runoff.

"In the creek" sessions are held at a local waterway. Students rotate between three stations learning about macroinvertebrates, performing stream and habitat assessments, and examining the chemical and physical properties of water. Students experience hands on learning and get to have fun in the water!

This program would not be successful without our volunteers. Volunteers contribute over 500 hours of time to the program every year. LJEA purchases and maintains the models, equipment, posters and other supplies needed. You can help LJEA sustain and expand the program by volunteering or making a financial contribution. Please visit our Volunteer with Lake James Environmental Association for more information on how you can get involved!

WILDERNESS WATERSHED ADVENTURE

What an amazing week we had at our Wilderness Watershed Adventure! Last week, 11 high school students spent 6 days and 5 nights out in the wilderness learning all about the Lake James watershed. Campers spent several days camping in the Linville Gorge and then spent their remaining days based in Lake James State Park.

Throughout the camp, students learned about water quality, freshwater fish, macroinvertebrates, invasive aquatic species, streambank assessments, land conservation, hydroelectric power, herpetology, mycology, and much more. Campers were also able to experience the fun of camping, hiking, fishing, and canoeing. And did we mention that they did this all without their phones?

The campers wrapped up the week with presentations for friends and family on watershed topics of their choosing. These topics included mycology, herpetology, and freshwater mussels.

We had so much fun with these amazing students--they give us so much hope for the future of our watershed and our natural resources!

Thank you to our friends at Foothills Conservancy of NC, Catawba Riverkeeper, Montreat College, and Lake James State Park for partnering with us to make this experience possible.

To learn more about these two programs, visit LJEA Watershed Programs.

ADVICE FROM THE VISE

I was straightening up the shop a few weeks back, and picked up my copy of Don Kirk's Hatches and Fly Patterns of the Great Smoky Mountain. It's a great reference book, and I love all the stories about the origin of fly patterns from days gone by when materials were comprised of what was found around the farm. I encourage you to pick up a copy or download the ebook. Anyway, I spent a nice afternoon browsing through it and this fly sparked my attention, I tied a few up, got them wet, and thought I would share it out to the TU readers.

It's called the Backscratch. There is nothing complex or astonishing- but what a great solid fish catching pattern it has been on Jacob Fork this summer.

It has all the great elements of a Prince, just in a different layout, and that palmered hackle is reminiscent of a Griffith Gnat. But what drew me was that big red thread head that took me back to swinging wet flies in the UK.

I'm tying this on a 2XL wet fly hook, using some 0.30 lead free for weight. The body is peacock herl with a counter wrap of copper brassie sized wire and a palmered dry fly hackle. I've

used some brown furnace, but any brown would do, and the original recipe called for brown goose biots for the tail, and I substituted tanish yellow. Thread is red 8/0 which is heavier than my usual 14/0 to build the body foundation and head later on.

Wrap the wire to leave a gap at the head and bend for the tailing and build up a thread dam to hold the wire in place by taking wraps through it.

Secure in the biots with the cup facing out and get a good flare. This pattern has a pretty long tail proportionately. I think that's part of its charm.

Now you can tie in a stack of material for the body. First the hackle, strip off some fibers from the base to make a ¼ tie in stem. Next the wire, followed by 2 strands of long peacock herl. Take wraps to smooth that joint between the materials, tails and the weight wire.

Start by wrapping the peacock herl forward in pretty tight touching wraps to keep a smooth body.

Let your thread stay just in front of the herl as that little bit of tension will keep the strands together as you wrap.

If you find your herl is too short to complete the body, tie it off and tie in a new pair and continue wrapping forward to the end of the wire, and take a few securing wraps and trim out the tag end.

Wrap the wire rib counter to the direction you wrapped the herl. This gives the herl a bit of extra hold and makes the fly more durable. A couple securing wraps at the head and

helicopter that wire off. Palmer wrap the hackle the same direction as the herl to finish off the body.

Spin the bobbin to flatten out your thread and take wraps to build up a smooth head. Whip finish and dab on the UV resin to seal that up and give it that nice varnished look.

Try these in your box as you head into the fall and the fish are filling up on as much protein as they can find for the winter.

Hope to see you at a Tying for a Cause event soon! Please don't hesitate to contact me at Jacobsforkflytying@gmail.com Please check out some current ties on Instagram at Jacobs Fork Fly Tying.

Dave Everhart

NCDEQ SUPPORTED PROGRAMS

The North Carolina Department of Environmental Quality provides support to help local groups establish Creek Week events, curriculum to help teach environmental education, and a program for kids to report information about their stream.

Creek Week

Creek Week in North Carolina is a celebration of local waters, offering a variety of activities and events to promote environmental awareness and conservation. Several cities and counties around NC have annual Creek Week events. The NC Creek Week Network Objectives are:

- Offer opportunities for partnership among Environmental Education Outreach Providers
- Provide a consolidated resource to promote community-based environmental stewardship
- Connect community members with opportunities to protect and conserve their local natural resources.

More information about hosting a Creek Week event along with tips for hosting a successful Creek Week can be found at NC Creek Week Network | NC DEQ.

NC Project WET & It's Our Water

Project WET (Water Education for Teachers) Workshops provide professional development and curriculum for classroom teachers and nonformal educators. WET workshops are offered at a variety of environmental education centers and other locations throughout the state.

Project WET is an interdisciplinary water education program intended to supplement a school's existing curriculum. The goal of Project WET is to facilitate and promote the awareness, appreciation, knowledge and stewardship of water resources through the development and dissemination of classroom ready teaching aids and through the establishment of state sponsored Project WET programs.

Project WET offers the educator: activity guides and modules designed for K-12. By using Project WET services and resource materials, young people will gain the knowledge, skill and commitment needed to make informed decisions about water resource uses and conservation. To learn more visit NC Project WET Facilitator's Corner

It's Our Water is a complete water quality curriculum for North Carolina 8th grade science and high school Earth/Environmental Science Classes centered around field activities in a local stream. These activities are coordinated with a series of videos, demonstrations and classroom activities covering everything from the hydrologic cycle to point and non-point source pollution. It is also a Criteria I workshop and the online/outdoor independent study version is the only online Criteria I. For more information, see http://itsourwater.info/

Stream Watch

The goal of NC Stream Watch is to host observations and images of North Carolina's beautiful water resources for community members to see. Our online, interactive map offers users to explore the diversity of waterways from different parts of the state. We invite you to share your visual observations next time you're visiting a stream. Stream Watch provides a link to observation guides and a website to post things you have seen about your river. To learn more visit NC Stream Watch.

To get more first hand information about all of these programs you can contact Lauren Daniel at lauren.daniel@deq.nc.gov.

Part II: Rivers Are Perfect for Sustainability Education. Here's How.

- Alex Moxon

This article follows on from Part I: Rivers Are Perfect for Teaching Sustainability. Here's Why!

Background

The living things found in a river or stream depend largely on limiting factors (e.g. turbidity, temperature, pH level and dissolved oxygen) and the long-term environmental conditions. If water quality is poor due to human activity for instance, certain freshwater species simply won't be able to survive and reproduce, and so won't be present in the river habitat during ecological sampling. Many freshwater invertebrates (e.g. insects, mollusks and crustaceans) in particular, especially insects in the early part of their life cycles such as mayfly and dragonfly nymphs, are highly sensitive to pollution and human-related disturbances, and thus act as useful 'bio-indicators' for ecological health and overall water quality.

Collecting freshwater invertebrates (sometimes called 'river dipping') is an easy activity to do with learners of any age from teeny tots right up to university level. For older groups in particular, I recommend doing this at two (or more) different geographical locations - one upstream and one downstream of a big urban area to make an objective comparison of ecosystem health and develop a deeper understanding of the human impacts on life underwater.

Selecting Suitable Sampling Sites

First find suitable shallow river sections with safe, easy access. Make sure that the sampling site is no deeper than knee height but preferably no shallower than your ankles.

Assessing Potential Risks

Conduct a detailed risk assessment of the sampling site and be sure to consider risks relating to weather and flash flooding.

Make sure that participants wear appropriate footwear for river dipping which attach securely and come with toe protection. In colder regions and seasons you might need rubber boots or waders.

Gather Sampling Equipment and Resources

Groups of 3-4 students work best for this activity. Each group will need the following items to carry out this invertebrate study in a river or stream:

- *1 x pale plastic container*
- *1 x D-frame net*
- *1 x paint brush*
- *1 x pair of tweezers*
- *1 x magnifying glass*
- *1 x laminated species identification charts* (specific to your local freshwater ecology - see below for details)

Freshwater invertebrate identification charts are typically available from conservation or environmental education organizations in your home country or geographical region. In the US, try the North American Association for Environmental Education (NAAEE). In the UK, try the Field Studies Council (FSC).

Investigating Freshwater Invertebrates

Note: We use the "7E" Instructional Model to deliver outdoor environmental and sustainability education. For more information, click here.

Step 1: Elicit Prior Understanding

Finding out what your students already know about your topic is the first step in any experiential learning quest. Has anyone in your group ever been river or pond dipping before? Have they ever picked up pebbles in a stream looking for creepy crawlies?

The answers to these questions can provide you with a feel of the level to pitch your lesson at and it should help inform your approach for the next 6 steps of the 7E Instructional Model.

Step 2: Engage the Learner (the 'POW')

Engage learners by grabbing the attention of the group with what's sometimes known as 'the POW'! This could be a related game, joke, anecdote, concentration activity, story or image designed to introduce the general theme of the activity and get students interested and focused on learning more.

Top POW!: Take some river water from your sampling sites in a see-through glass or container. Ask your students to look closely at it and smell it. Does it look clean? What does it smell like? Would anyone like to swim in it?

Step 3: Explore the Concept

Ask relevant questions and introduce specific terms and concepts linked to the activity in a creative and interesting way that inspires anticipation and participation.

Ask learners what they think lives under rocks and pebbles in rivers and streams. Understanding the difference between "vertebrates" and "invertebrates" is important for this activity. Give your group a glance of the invertebrate identification charts to generate a sense of intrigue about this underwater world of tiny critters.

How might humans disturb this underwater ecosystem of small creatures?

Step 4: Explain the Activity

Now your learners are primed and ready for the main activity! Explain the instructions and logistics of the task (outlined below). Teacher expectations, boundaries and student questions or concerns should also be outlined and addressed in this step.

Activity:

- Get students into groups of 3-4 individuals. Issue each group with a D-frame net, a pale colored plastic container, a paint brush and a pair of tweezers.
- Younger learners could simply pick up small rocks and pebbles and look underneath for creepy crawlies (a common technique called 'stone washing').
- More advanced learners could try kick sampling and/or sweep netting to capture freshwater invertebrates using the D-frame nets.
- Carefully use the paint brush and/or tweezers to transfer the invertebrates into the container provided making sure not to harm them in any way.

Step 5: Elaborate On the Concept

After adequate time for students to capture as many invertebrates as possible, it's time to get them to land and classify them. Identify the invertebrates to the lowest taxonomic level possible.

The invertebrate species present in a river or stream can be used as bio-indicators to infer water quality. That's because some invertebrate species can tolerate poor water quality (e.g. segmented worms, leeches etc.) while others cannot survive unless the water quality is good (e.g. mayfly and dragonfly nymphs). This has important implications for monitoring and restoring aquatic ecosystems. For more information click here.

Step 6: Evaluate Learning Experience

This is the post activity wrap up or debriefing session. It's the time to draw out conclusions, engage in discussion, gather feedback and guide students to join the dots and relate what they've learned to their own lives (or the "real world"). Ask questions such as:

- Where did you find the invertebrates? Where were the best places to look for them?
- Were you surprised how many different invertebrate species you found?
- Based on the results, do you think the water in your river or stream is clean or polluted? Why?

Step 7: Extend to Other Contexts

- How could you monitor the water quality and ecological health of your local river?
- Where does water pollution come from?
- How might you improve the water quality and ecological health of a river or stream?

2025 DELAYED HARVEST STOCKING WEEKS

COUNTY	STREAM	MARCH	APRIL	MAY	OCTOBER	NOVEMBER
Ashe	Helton Creek	3–7	1–4	1–2	1–3	3–7
	Trout Lake	3–7	1–4	1–2	6–10	10–14
	Big Horse Creek	3–7	1–4	5–9	1–3	3–7
	South Fork New River		7–17	5–9	6–10	10–14
Burke	Jacobs Fork		7–11	5–9	1–3	3–7
Caldwell	Wilson Creek	3–7	1–4	5–9	6–10	10–14
Clay	Fires Creek	3–7	1–4	5–9	1–3	3–7
Graham	Big Snowbird	3–7	1–4	5–9	1–3	10–14
Haywood	West Fork Pigeon River	3–7	1–4	5–9	1–3	6–10
Henderson	North Fork Mills River	3–7	1–4	5–9	1–3	3–7
Jackson	Tuckasegee River	3–7	1–4	1–2, 5–9	6–10	3–7
Macon	Nantahala	3–7	1–4	5–9	1–3	10–14
Madison	Big Laurel Creek	3–7	7–11	1–2	6–10	3–7
	Shelton Laurel Creek	3–7	7–11	1–2	6–10	3–7
	Spring Creek	3–7	1–4	1–2	6–10	10–14
McDowell	Curtis Creek	3–7	7–11	5–9	1–3	3–7
	Catawba River	3–7	7–11	5–9	1–3	3–7
	Mill Creek				1–3	3–7
Mitchell	Cane Creek	3–7	7–11	5–9	1–3	3–7
Surry	Ararat River	3–7	1–4	1–2	6–10	3–7
	Mitchell River	3–7	1–4	1–2	1–3	3–7
Swain	Tuckasegee River	3–7	7–11	5–9	6–10	3–7
Transylvania	East Fork French Broad River	3–7	1–4	5–9	1–3	3–7
	Little River	3–7	1–4	1–2	6–10	3–7
Watauga	Watauga River	3–7	1–4	1–2	6–10	10–14
	Lake Coffey	3–7	1–4	1–2	6–10	10–14
Wilkes	East Prong Roaring River	3–7	1–4	1–2	1–3	3–7
	Stone Mountain Creek	3–7	1–4	1–2	1–3	3–7
	Reddies River	3–7	1–4	1–2	1–3	3–7
	Elk Creek	3–7	1–4	1–2	1–3	3–7
Yancey	Cane River				1–3	3–7

TU YOUTH PROGRAMS

When Trout Unlimited works in a community to care for and restore watersheds, it is crucial to both sustain and continue to grow the work that has been done. To sustain our work, we must engage local communities, especially the youth, to help them understand what we have done, and why.

To that end, watershed-based environmental education and home-waters oriented fishing education are crucial to TU's mission. We have been working with youth from the beginning. Many chapters had an early interest in youth education, and some piloted creative programs.

TU's youth education efforts encompass a range of programs and projects known as the Stream of Engagement, serving children, teenages and young adults. From the nationally-recognized, science-based Trout in the Classroom and Adopt-a-Trout programs to fly-fishing and conservation camps, Expeditions and college fly-fishing clubs, TU involves young people in our mission to protect and restore the nation's coldwater resources.

The Stream of Engagement ensures that people of any age can "plug-in" to TU and continue their relationship with coldwater conservation and fly fishing through various age-appropriate programs.

Editor's note: A few years ago Hickory TU offered a sponsorship to Rivercourse for a TIC student for the best essay received on river conservation. Haley's paper won the award and when you read it you will understand why and see the impact of Trout in the Classroom on our kids.

THE IMPACT WE LEAVE BEHIND

By: Haley Soukthavone

River Bend Middle School:

Grade 8: Science: 2018 – 2019

"Progress is impossible without change, and those who cannot change their minds cannot change anything." As small as it may seem, it's important to notice the details that make up the environment we live in. The life we are given needs a sense of purpose and in order to feel that, we need to take care of the ones on our planet. Notice how visible the options in front of us can be. How simple a cause and effect reaction can be taken into place? To be part of a much larger ecosystem rests a heavy weight on the shoulders of organisms alike. We rely on each other to live, and when the system is unbalanced, we all fall apart. For example, change your perspective into the point of view of trout. On a larger scale, there are three major species of trout here in North Carolina alone. There are far more, others worldwide ranging in either saltwater or freshwater. Likewise, the conservation of trout affects not only the fish itself but the things that surround it. Having a sustainable habitat for the fish maintains a steady livelihood here where we live as well as places we don't. In order to demonstrate the importance of trout, we need to understand the life cycle of the species, where habitats are located, and how we manage the threats that surround the fish.

Trout have similar life cycles to follow through with and having the knowledge benefits us into providing positive changes throughout its life. We start with the eggs and go from there. The reproduction varies between the species but likely the cycle is seasonal. Eggs will usually be laid during the fall and winter to hopefully hatch in March and April for a plentiful amount of food available or vice versa. Using a tail fin, a place for the eggs are made known as a redd. Milt from the male will then cover the eggs in order to fertilize the fish. Depending on water temperature, the days leading up to hatching can range from forty four days to one hundred forty four days. The tadpole like fish stay close to the ground away from predators until old enough to swim to higher ground. Any indication of spots from juvenile years will disappear and the trout become adults. Features specify the type of trout and with this information, we'll know how to aid their lives. Details like color of scales, certain fins, and the way a fish carries itself throughout its life are demonstrations of how anatomy affects the livelihood of

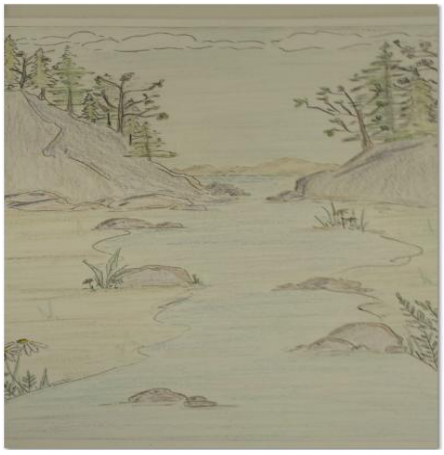
the trout. This cycle of reproduction repeats and gives a healthy population for numerous streams.

The location of trout plays a significant factor in the adaptions the fish can make. The surroundings determine how the trout reproduce and if the offspring will survive. The habitats trout occupy are cold water streams that support them from predators. The area surrounding the stream, known as the watershed affects the lives of the trout. As a working ecosystem, everyone affects everything and it's important to know what benefiting and what's not. For example something that happens outside of a stream will most definitely affect the organisms inside the stream. If we discover the disadvantages in an untimely manner, the ecosystem will be unbalanced. The water most trout occupy are rocky streams that flow into tributaries. The new source of water then carries sediment and soil particles into the stream. Chemicals like oil and fertilizers can affect the fish in a negative way. Notice how details like water flow can uncooperatively influence the lives of trout. Of course adaptations can be made if the environment is incorrect, but only so many changes can be made. Trout simply can be designated as a single piece in a machine. All the pieces must work together in unison. If a piece is missing or fails to support the other, the machine breaks and in this case, the ecosystem becomes disturbed.

Through reproduction and protecting the ecosystems that have been made, to conserve what we have will truly benefit everyone in the days ahead. There is no higher bar when asked the question what's more important in the ecosystem trout are a part of. Conservation is supported by so many because of how easily an impact can be made. Knowing what you have will improve your discoveries as you help your environment. Simply going to a stream and cleaning litter from the land surrounding it benefits the organisms in the waters and out. Along with that, conserving water plays a major role in trout ecosystem and serves as a everyday purpose. The water we have on Earth is all we have left. The streams the trout occupy are homes providing shelter and life. If you take it all away, the fish will not survive and other animals that consume fish won't thrive either. Change is bound to happen and nothing will prevent various outcomes. If a contrasting concept can counteract these changes, negative outcomes can be prevented. It's only a matter of choosing to conserve or change previous actions. By consistently following through with conservation strategies, a positive impact will showcase itself in the days to come.

In order to demonstrate the importance of trout, we need to understand the life cycle of the species, where habitats are located, and how we manage the threats that surround the fish. An outline for a plan starts somewhere small and becomes a collection of ideas to follow through with. A happy medium can be found when an ecosystem becomes balanced. By paying attention to the fish in its environment, we know what to protect and determine actions leading up to new decisions. Everything that is done leaves an imprint on our planet. Almost like a timestamp, scientists can look back on what we once had. Decisions correspond to what already is known. So many will convince you to spark a change, but you have to embark that choice within yourself. The livelihood of trout is far greater than just another species in an ecosystem. Small details make up various habitats, biotic or abiotic. We need distinct details like this to see the entire view and we just have to be willing enough to look.

A Trout Stream:
By: Haley Soukthavone
River Bend Middle School:
Grade 8: Science: 2018 - 2019



Sources

Trout Facts, The Wild Trout Trust, September 28, 2018.
https://www.wildtrout.org/trout-facts

Coldwater Conservation in the Old North State, The North Carolina State Council of Trout Unlimited, n.d
North Carolina Council

Natural History Of Brook Trout, Dennis Kalma, n.d
No Longer on-line

Trout Habitat, Stream Explorers, n.d
http://www.streamexplorers.org/fish-facts/trout-habitat

Chapter Presidents

Hickory TU President
Gary Schnick garthies007@earthlink.net
Table Rock TU President
Alan Clark alan@hattarasgroup.com
High Country TU President
Joe Lynch joe@thespeckledtrout.com
Editor
Chick Woodward hkynctu@gmail.com