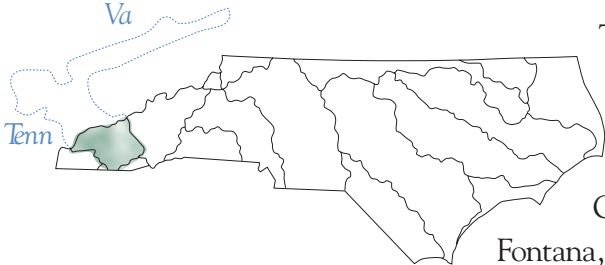


LITTLE TENNESSEE RIVER BASIN



The Little Tennessee River Basin contains famed trout streams, the world-renowned Great Smoky Mountains National Park, a staggering diversity of aquatic wildlife and sparkling, clear rivers that squeeze through forested, picture-perfect gorges.



The basin is named for the Little Tennessee River, which flows north into North Carolina from Georgia. Its major tributaries include the Cullasaja, Nantahala, Tuckasegee and Cheoah rivers. Major lakes in the basin are Fontana, Santeetlah, Nantahala and Glenville. The

concrete dam that impounds Fontana Lake is the highest in the eastern United States at 480 feet. The Little Tennessee River flows into the Tennessee River at Lenoir City, Tennessee and it eventually flows to the Gulf of Mexico.

Water quality in the basin is generally excellent. More than half the land in the basin is publicly owned, and 89 percent of the land is forested. Most of the basin's population lives in and around Franklin, Sylva and Cherokee, a reservation that is home to the entire Eastern Band of Cherokee Indians, which numbers more than 13,000. Macon County, which includes the towns of Franklin and Highlands, is the basin's fastest-growing county.

profile:

- Total miles of streams and rivers: 2,501
- Municipalities within basin: 9
- Counties within basin: 6
- Size: 1,797 square miles
- Population: 94,566 (2010 U.S. Census)

The upper Little Tennessee River meanders through pastures and farmland before reaching Emory Dam below Franklin. In the 25 miles downstream of Lake Emory, the river bends from north to west, becoming rocky, swift and wild as it rushes between the Cowee and Nantahala mountains through the Little Tennessee River Gorge. The gorge contains a rich, expansive and undisturbed mountain forest with such rare plant species as mountain camellia and federal species of concern Fraser's loosestrife.



BILL LEA



BILL LEA

The river otter was reintroduced into the basin in 1992 (above); Little Tennessee River (left)

The Sound of Wilderness



MIKE DUNN

In autumn, an urgent wailing fills the Cataloochee Valley in Great Smoky Mountains National Park. It is the mating call of the elk, a sound that has been absent from the Southern Appalachian Mountains for more than 100 years. The population was devastated by overhunting and loss of habitat. Between 2001 and 2002, 52 elk were re-introduced into the area by the National Park Service. The elk have become one of the park's most popular attractions. September, when the mating season begins, is prime time for viewing and listening. The male's "bugling" can be heard from a mile away, attracting females and challenging other bulls in the vicinity. A male elk may weigh up to 700 pounds, stand as tall as five feet at the shoulder and have antlers that span five feet across. Early morning and late evening are the best times to view elk (from a safe distance). For more information, visit www.nps.gov/grsm/naturescience/elk.htm.



BILL LEA

Dry Falls, Cullasaja Gorge, Nantahala National Forest (above); Appalachian elktoe (right)



S.G. TILLEY

Numerous picturesque gorges are found throughout the river basin. The Cullasaja Gorge on the National Forest Scenic Byway is a spectacular sight with several waterfalls visible from the road. Late afternoon sun produces rainbows at Bridal Veil Falls, a waterfall you can drive underneath. A few miles from there, you can walk under Dry Falls. The Nantahala Gorge is a geologically striking gorge with straight sides—the steepest valley wall is nearly 1,100 feet high. The area is known for its exciting whitewater rafting adventures.

*The rare *Junaluska salamander* occurs in the Cheoah River floodplain.*

The Tuckasegee River originates in Panthertown Valley, which has been called “the Yosemite of the East.” The broad, flat valley is flanked by the bare, curved faces of granite cliffs. The Tuckasegee’s headwater creeks in Panthertown Valley include 20 miles of native brook-trout streams that are classified as Outstanding Resource Waters by the state. Closer to the community of Tuckasegee, other headwater creeks tumble into the river at the Bonas Defeat Gorge,

U.S. FISH AND WILDLIFE SERVICE





KEVIN ADAMS

View of Panthertown Valley from Salt Rock, Nantahala National Forest

which features steep cliffs and distinctive, water-sculpted rocks. A 250-foot waterfall cascades nearby on Flat Creek.

In addition to its beauty, the Little Tennessee River Basin supports the richest aquatic species assemblage remaining in the Blue Ridge Mountains. Many of these species are found only in the unimpounded Little Tennessee and Tuckasegee Rivers upstream of Fontana Reservoir. The centerpiece is a short 24-mile reach of the Little Tennessee River between Franklin Dam and Fontana Reservoir that still supports what is believed to be the full species assemblage that was once found throughout the upper Little Tennessee River and its major tributaries.

This is one of a very few small, isolated river reaches that collectively supports what remains of the exceptional aquatic biodiversity of the Southeastern United States.

The Appalachian elktoe and the littlewing pearlymussel, both federally listed as endangered species, are found in the basin, in addition to the federally threatened Spotfin Chub. The Sicklefim Redhorse, a rare sucker fish, is a candidate for listing. The two-foot-long fish is olive green with a striking, crimson tail and a distinctive, sickle-shaped fin on its back. It is found in the Little Tennessee and Hiwassee river basins only. Dams and reservoirs built to provide hydropower, flood control and water supply are threats to the survival of some native species of mussels and fish. These structures alter stream dynamics, disrupting the movement of fish species that depend on cool, rocky, fast-flowing rivers.



WAYNE VAN DEVENDER

Hellbender



BILL LEA

The Carolina northern flying squirrel, which is found in the Little Tennessee River Basin, is on the Endangered Species List. Other basin residents on the list include the spruce-fir moss spider and two bat species, the gray myotis and Indiana myotis.





GEORGE HUMPHRIES



BILL LEA



BILL LEA

Cullasaja Falls in autumn (above); trout fishing (above right); Nantahala River Gorge (below right)

A 2004 agreement among environmental agencies, conservation groups and the company that operates several dams in the river basin (Alcoa Power Generating Inc.) is leading to the recovery of the Cheoah River. In exchange for this and many other conservation measures, the federal government renewed Alcoa's license to operate these dams. The nine-mile stretch of the Cheoah River below Santeetlah dam had been nearly dry for 75 years. The releases from Santeetlah dam are designed to mimic natural flows—both high and low. The stream flows also are designed to improve fishing, whitewater recreation and other activities. Other management activities in the Cheoah River include adding gravel to improve habitat conditions for fish and mussels and the stocking of rare mussel and fish species. Spotfin chub, wounded darter, wavy-rayed lampmussel, and rainbow mussel have been restored to the Cheoah, with plans to reintroduce Appalachian elktoe in the near future.

The basin lays claim to one of the most prized natural areas in North America—the Great Smoky Mountains National Park. The North Carolina portion of the park (the rest is in Tennessee) lies almost entirely within the basin. The park has international significance due to its wildlife diversity. It boasts the greatest diversity of amphibians in North America: 30 species of salamanders and 12 species of toads and frogs. Some of the most famous trout streams in the state are found in the park, including Hazel, Forney, Deep and Noland creeks.

Another important and scenic natural area is Joyce Kilmer Memorial Forest, which shelters an impressive stand of virgin tulip poplars. This cathedral-like cove forest contains 400-year-old trees—many of them soaring to 150 feet tall. Some of the trees have trunks 20 feet in circumference. The tree canopy shades the mosses and lichens that blanket the forest floor, and it provides refuge to a host of warblers and other neotropical migratory songbirds that pass through in spring and fall, including the federal species of concern cerulean warbler.

Sunrise over the Great Smoky Mountains.



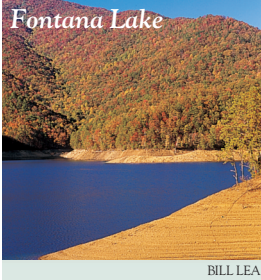
BILL LEA

Habitat degradation is the biggest threat to water quality in the Little Tennessee River Basin. When land is disturbed, eroded sediment washes into streams, muddying the water and harming aquatic organisms and their habitat. Bound to these sediments are fertilizers, pesticides and other pollutants. Historically, soil washed primarily from fields, pastures and roads. In the past 25 years, however, a growing population and accompanying land development have escalated runoff. Population in the basin is expected to increase by a third by 2020. Wise, efficient land-management practices will be necessary to protect streams and rivers.

Multiple conservation activities are helping maintain the rural, scenic landscapes and ecological resources within the basin. Conservation groups—with help from state trust funds, the U.S. Fish and Wildlife Service and private donations—joined together to protect 26 miles of the Little Tennessee River between Franklin and Fontana Lake and 37 miles of tributary streams with the purchase of a 4,468-acre piece of land called the Needmore Tract. This area has been called the “Noah’s ark” of the Blue Ridge region because of its rich biological diversity—it shelters 57 species of fish and many rare and threatened species of freshwater mussels. Biologists hope the pristine streams here may one day be an important source for replenishing species lost or threatened in waterways throughout the Southeast. Managed by the N.C. Wildlife Resources Commission, the tract preserves a continuous stretch of land between the Nantahala and Cowee mountains used as pathways by bears and other wildlife. Additionally, it contains some of the most significant Cherokee Indian archaeological sites in the country. Long-time uses of the land—such as camping, hiking, fishing, hunting and agriculture—will be preserved.

A variety of skills, knowledge and talents is necessary to address water quality issues, which is why it’s important for many different people, organizations and agencies to pool their resources to protect a community’s natural resources. To learn more about how you can help, see the contact list on the back page.

WHERE SHOULD I GO



What makes the Little Tennessee River Basin so special? See for yourself. Visit these Environmental Education Centers to discover more about your ecological address:

- Great Smoky Mountains Institute at Tremont
- Great Smoky Mountains National Park
- Highlands Nature Center

For more information about Environmental Education Centers in North Carolina, check out the Office of Environmental Education and Public Affairs' website at www.eenorthcarolina.org.

HOW CAN I HELP



You can gain a sense of community pride by learning more and helping to protect streams, rivers and lakes in the Little Tennessee River Basin. The contacts listed below can help you do just that. To find out about local river organizations and conservation groups, contact your local soil and water conservation district.

Clean Water Management Trust Fund
<https://cwmtf.nc.gov>

Little Tennessee River Basinwide Plan*
<https://deq.nc.gov/about/divisions/water-resources/planning/basin-planning>

North Carolina Association of Soil & Water Conservation Districts
www.ncaswcd.org

North Carolina Division of Water Resources Education Programs
<https://deq.nc.gov/about/divisions/water-resources/water-resources-training/public-involvement/project-wet>

North Carolina Water Science Center
<http://nc.water.usgs.gov/>

**Basinwide water quality planning is a nonregulatory, watershed-based approach to restoring and protecting the quality of North Carolina's surface waters. The N.C. Division of Water Resources welcomes community input.*

▶ To order additional brochures on any of North Carolina's 17 river basins, a general river basin booklet or a poster, fill out the online order form at www.eenorthcarolina.org.