



STATE of our RIVERS

Watauga River Watershed

The Watauga River Watershed originates in the northern slopes of Grandfather Mountain, North Carolina at an elevation of 5,964 feet. The 78-mile-long Watauga River Basin includes the headwaters and tributaries of the Elk and Watauga Rivers, flowing northwest from North Carolina into Tennessee's Holston and Tennessee Rivers before joining the Mississippi River and draining into the Gulf of Mexico. Grandfather Mountain is one of the most biologically diverse ecosystems in eastern North America with several rare and endangered animal and plant species. The Watauga River Watershed includes mountain bog wetlands that sit at the head of the basin and serve as an important water purification system and habitat for native wildlife. Nearly 90% of mountain bogs in North Carolina and throughout the Southeastern United States have been destroyed. The rapid elimination of mountain bogs poses a challenge for water quality and environmental conservation in the Watauga River Basin.

Eight aquatic species in the Watauga River Basin are state-listed as endangered or threatened. Among these endangered or threatened species are the green floater, a mussel that lives in smaller, slow flowing streams; the banded sculpin, a threatened fish; and the hellbender, North America's largest salamander, which is a species of special concern in the basin. Species of mayfly, stonefly, and caddisfly also reside in the basin – these aquatic insects are known as indicator species because they are good indicators of water quality. These aquatic insect species aid in gauging water quality and ecosystem health due to their distinct tolerances to pollution and stream disturbance.

Increases in development, plastic pollution, soil erosion, sedimentation, and excess nutrients are stressors on aquatic health and habitats. When combined, these stressors can significantly damage aquatic habitats and ecosystems. Much of the land disturbance in the basin takes place on steep mountain slopes, which are naturally vulnerable to soil erosion. As land is cleared due to urbanization and agriculture, rain and melting snow carry eroded sediments, pesticides, fertilizers and road salt into the Watauga River.

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North Carolina has designated 18 miles along Boone's Fork Creek for conservation to receive extra protection. More than half of the basin's streams are classified as trout waters, which means additional treatment is required at local wastewater treatment plants. In addition, 25-foot buffers of shrubs and trees must be maintained between trout streams and graded construction sites to filter runoff and prevent erosion.

The Watauga also offers plenty of sustainable recreational activities, including canoeing and kayaking, whitewater rafting and paddling along the Watauga River Gorge, and fishing for native rainbow trout, smallmouth bass, and invasive brown trout. Parts of the basin run through the Blue Ridge Parkway and Pisgah National Forest, allowing for accessible recreational access points for visitors who want to experience the beautifully biodiverse Watauga River.

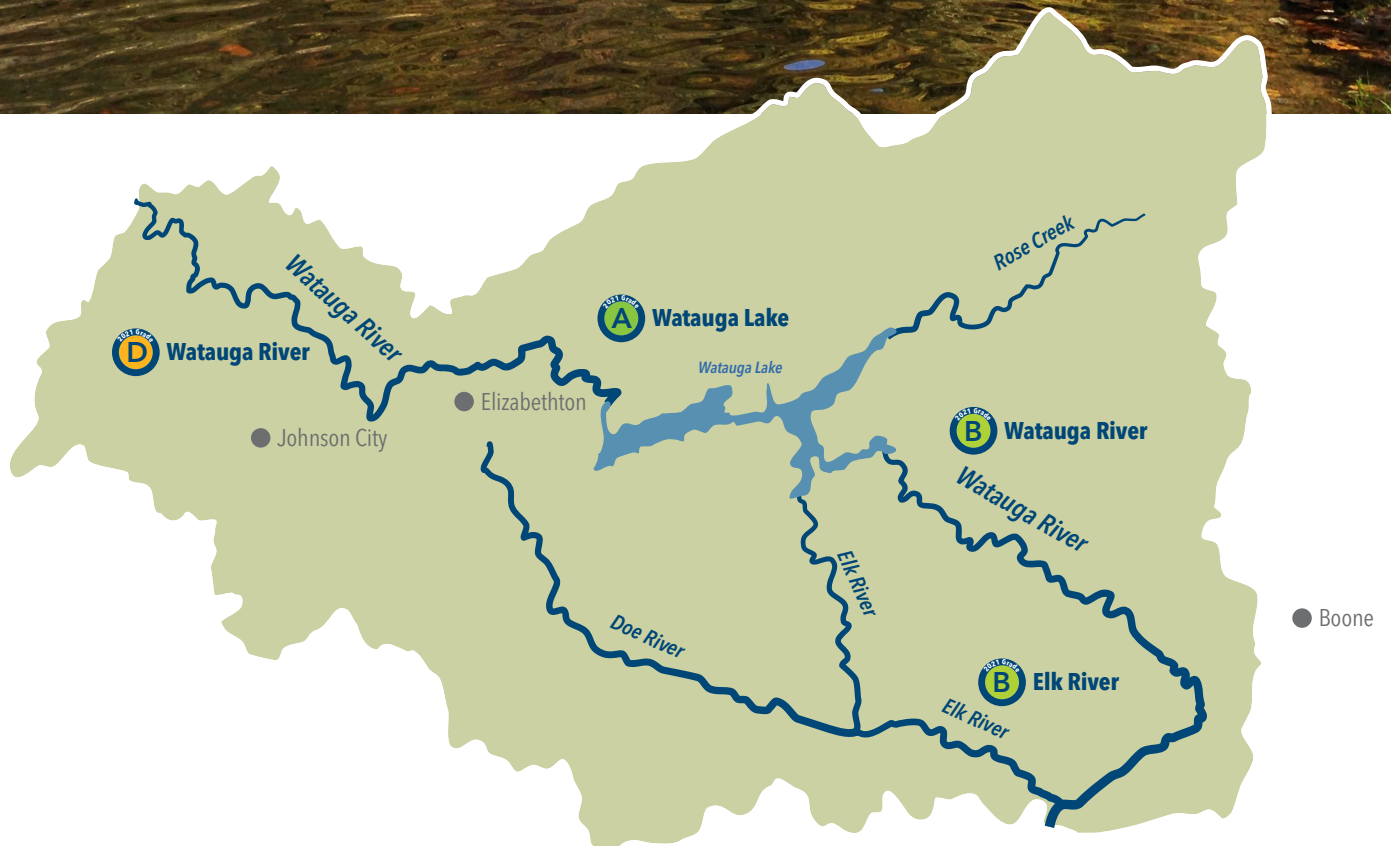
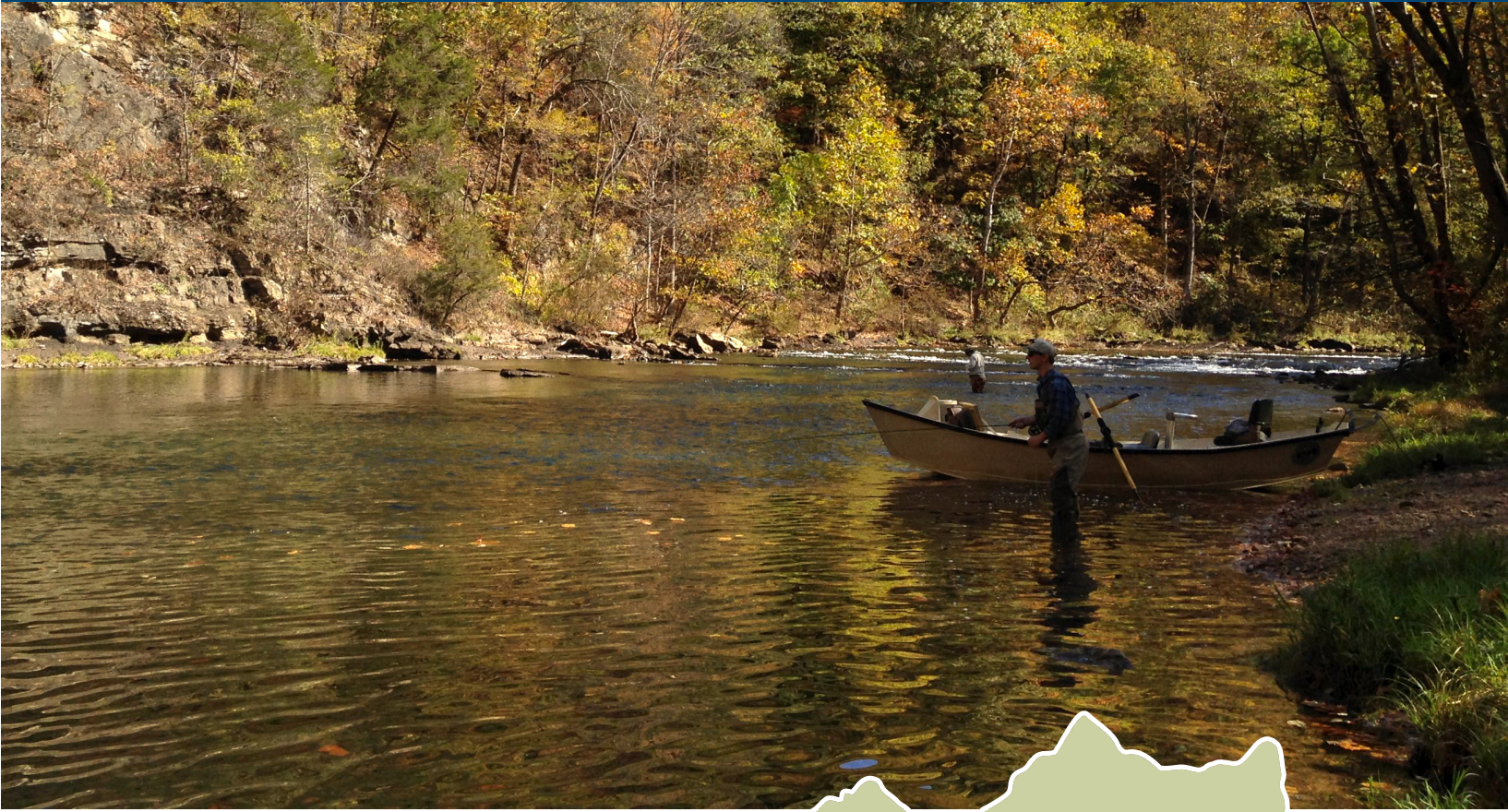
- A** These streams have excellent water quality, low pollution levels and healthy aquatic insect and fish populations.
- B** These streams have good water quality; but have some pollution inputs. The aquatic life and fish populations are mostly healthy.
- C** These streams have average water quality. There are some concerns about pollution levels. Generally the aquatic life and fish populations are not thriving.
- D** These streams have below average water quality. Pollution is a concern and aquatic life and fish populations are not as healthy as they should be.
- F** These streams have poor water quality. Pollution levels are often high and aquatic life and fish populations are not healthy or widespread.

There are four sets of data that MountainTrue uses to formulate our water quality rankings for each stream including:

- M** E. coli data taken by MountainTrue
- S** Aquatic insect data (SMIE) from the nonprofit Environmental Quality Institute
- V** Chemical data (VWIN) from the nonprofit Environmental Quality Institute
- Q** Chemical, aquatic insect, fish, and bacteria data from NC DEQ



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