



# STATE of our RIVERS

## Broad River & Green River Watersheds

The Broad River watershed originates on the Blue Ridge escarpment at the Eastern Continental Divide. Upstream of Lake Lure, the Rocky Broad is very clean, although it does pass through residential areas and the Town of Lake Lure before it reaches the lake. Below Lake Lure, the mountainous terrain along the river transitions into rolling foothills with wider valleys and rich bottom lands more suitable for agriculture. Agricultural practices along this fertile stretch of land contribute to sedimentation from runoff and eroded riparian buffers.

The Green River is the largest tributary of the Broad River in North Carolina and its headwaters are largely protected. From its source in Henderson County to Lake Summit, the Upper Green is significantly impacted by agriculture, poor stream management practices, and lack of appropriate riparian buffers. At Lake Summit, water is released downstream into the Green River Gorge, where it receives additional flow from its confluence with the Big Hungry River. The Green River benefits from protected land as it travels through the Green River Game Lands and drops steeply down the Green River Narrows – a world-renowned whitewater paddling destination – before settling into Lake Adger in Polk County. The Green River flows into the Broad River near the Polk and Rutherford County Line. Major tributaries in the lower Green River Watershed include Walnut Creek from the north, and White Oak Creek from the south.

In a tale of two tributaries, the former touts excellent water quality and benefits from a large nature preserve while the latter suffers from degraded water quality as a result of development, land clearing, agriculture, and other intensive land use.

The Broad River converges with the Second Broad River just upstream of the Rutherford and Cleveland County Line. Originating in the foothills of the Blue Ridge Mountains near Marion, the headwaters of the Second Broad quickly flow into the agriculture-rich piedmont region near the towns of Rutherfordton, Spindale, and Forest City. Industry becomes more prominent as the Broad River flows east from Rutherford to Cleveland County.

# BROAD & GREEN WATERSHEDS



A tributary of the Broad River, the First Broad River's clean headwaters originate in the protected South Mountain Game Lands, where the waters of the North Fork of the First Broad are designated as Outstanding Resource Waters by the North Carolina Division of Water Resources. Water quality declines as the First Broad enters the agriculture-rich piedmont region, where cattle are often allowed to roam (and defecate) directly into local streams. There are over 100 industrial chicken operations in Cleveland County – most of which are in the First Broad River sub-basin – that apply large quantities of manure as crop fertilizer. Without adequate fencing and riparian buffers, agricultural runoff catalyzes erosion, increased turbidity, and bacteria pollution. By the time the First Broad reaches Shelby, it fails to meet Environmental Protection Agency (EPA) bacteria standards nearly 50% of the time. First Broad tributary Buffalo Creek has a history of high bacteria levels and feeds Moss Lake, Cleveland County's only public reservoir and the water supply for Kings Mountain. In June 2020, the North Carolina Department of Environmental Quality (NC DEQ) documented Moss Lake's first-ever harmful algal bloom (HAB) – this is a big concern for nearby residents, recreationists, and all who depend on Moss Lake for their drinking water supply.

Overall, water quality in the most popular recreational area on the main stem of the Broad River is pretty good. The river is so large that contaminants of concern in the tributaries are diluted and bacteria levels at the Broad River Greenway in Cleveland County almost always meet EPA standards for safe recreation.

The First Broad River eventually meets the Broad River before flowing into South Carolina.



## WATER GRADING INFORMATION

- 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.
- E** These streams have poor water quality. Pollution levels are often high and aquatic life and fish populations are not healthy or widespread.
- 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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\*Outstanding Resource Water Designation

