

## **Animal and human pollution entering the Tellico Reservoir**

Marilyn Hawkey – May 2020



Cattle in the lake

All living creatures give off waste products. Ingested food, air and chemicals are utilized by the body and residue – waste - is released back into the environment. All human and animal waste residue includes E. coli and other bacteria, phosphorus and nitrogen. E. coli is a major concern as some strains can cause diarrhea, urinary track infections, respiratory illness and pneumonia. Unless controlled and managed, these pollutants negatively impact Tellico Lake, creeks within the watershed and all those who recreate in those bodies of water.

One goal of the Watershed Association of the Tellico Reservoir (WATeR) is to protect and improve the quality of water in Tellico Lake and

throughout the watershed of the lake. This includes attempting to reduce and eliminate the negative effects of human and animal waste within the Tellico Watershed. The Tennessee Department of Environment and Conservation (TDEC) samples the water of most streams throughout the state on a five-year rotating basis to evaluate and classify streams for pollution. Results of these analyses have indicated that most creeks within the watershed of Tellico Lake have excess levels of phosphorus, nitrogen and E. coli which caused TDEC to list these streams as impaired waterbodies.

For the past 20 years, WATeR has worked to reduce and eliminate the negative effects of pollution within the Tellico Watershed. Because TDEC collects these samples at only one to three sites every five years on each stream, WATeR often collects additional samples for laboratory analysis to address specific issues requiring more resolution at targeted sites of concern. Both TDEC and WATeR sampling programs found that Madisonville's old and inefficient wastewater treatment plant was discharging a major source of E. coli pollution into Bat Creek and ultimately into Tellico Lake. WATeR's corrective effort was to work within the judicial system to bring the Madisonville treatment system into compliance by building a new treatment plant. The new plant opened in June of 2018 and was in full compliance with their discharge permit in 2019. This action greatly reduced E. coli, nitrogen and phosphorous from flowing into Tellico Lake via Bat Creek at the southern end of Tellico Village.

A second source of E. coli, phosphorus and nitrogen in the lake is animal waste from unrestrained cattle, wild animals and pets defecating in or next to area creeks and Tellico Lake, and from failing septic tanks. WATeR's corrective action to minimize this waste has been to recruit, encourage and assist local agencies to work with farmers to improve their best management practices with the goal of

“delisting” these creeks meaning that they meet the state’s criteria as creeks free of pollution.

WATeR partners with and provides data and analysis from its water sampling projects as well as general technical consulting services to the following agencies: UT’s Agricultural Extension Service, County Soil Conservation Districts and NRCS officials. These agencies have received and are managing over \$1,400,000 in matching grants from the Federal Government.

The money flows directly to farmers in Blount, Loudon and Monroe counties and supports their acquisition of knowledge and skills in best farming practices as-well-as paying for construction of fences, crossings, watering stations and riparian buffers to keep cattle out of the streams, increase the health of these animals and improve capital returns to the farmers. Owners of failing septic tanks in these three counties also receive funds to replace or repair them.

Working with the Watershed community to change attitudes and well-worn behaviors that cause waste pollution is a slow and difficult task. All of us contribute to waste problems and need to learn and be part of improving ways to handle them. It is not “they” that pollute; its “we” who pollute! And “we” doing our small part, will maintain our pristine lake water and improve our environment.

The next article written by WATeR will focus on sources of phosphorus and nitrogen pollution from chemical and organic fertilizers applied to residential lawns, golf courses and agricultural operations.

WATeR is an all-volunteer not-for-profit organization. To learn more, visit its web site at [www.Tellicowater.org](http://www.Tellicowater.org) or email WATeR at [Tellicowater@aol.com](mailto:Tellicowater@aol.com).