Page News & Courier "Water Matters"– March 13, 2008
Bacteria, What's all the Hubbub?

One thing is for sure, in the Shenandoah Valley, we've been blessed with an abundance of fresh water. The Shenandoah River is a national treasure and a place that Page County citizens have likely ventured to from time to time in search of peace and quiet. Recently, attention has been turned to the effect that our activities have on the health of our streams and our drinking water sources, particularly as they relate to bacteria.

Bacteria are everywhere, almost literally. Bacteria live on our skin, in the soil, in water, in our intestines; many perform extremely important functions within our environment and within our bodies. Scientists estimate that there are at least a trillion bacteria on this planet for every human!

Though many bacteria are beneficial there are many others that can cause disease or illness in people with compromised immune systems or through improper exposure (drinking tainted water for example). Naturally we are concerned with the levels of bacteria in our food and drinking water but we are also interested in the bacterial levels in the waters in which we fish and swim. The Shenandoah Fish Kill Task Force is deeply involved in investigating roles that bacteria could be playing in the complex fish kill problems. Several bacteria in question, Aeromonas and Flexobactor are naturally abundant and normally our fish have no trouble resisting infection. Now there is evidence that our fishes' immune systems aren't functioning correctly, therefore fish are at risk from disease caused by these bacteria.

The Virginia Department of Environmental Quality and citizen volunteers have monitored many of our streams. Unfortunately several of our waters are impaired for bacteria, like Hawksbill Creek and Mill Creek, which means that at times they are not safe for human contact. Scientists have determined several primary sources: direct deposition of fecal matter by cattle, failing septic systems, wildlife, pet waste on lawns and animal waste fertilizers being applied to fields which can enter our streams during heavy rains.

The good news is that there are efforts underway right now to minimize the impact our cattle and animal manure fertilizer have on the bacteria levels in our waterways. Luray citizens themselves are becoming mindful of their pet waste issues along the Luray Hawksbill Greenway.

Due to elevated bacteria levels, caution should be used when coming into contact with polluted waters after heavy rain events and during low flows in the hot dog days of summer. But perhaps with better attention to our influence over our streams we can make enough improvements to remove our streams from the impaired list.

Here are some important things that citizens can be mindful of:

1) Clean up pet waste from yards and near streams
2) Fence cattle out of streams
3) Pump out and inspect septic tanks (many are failing and we don't know it)
4) Allow streamside forested buffers to grow in order to filter land runoff waste

This is the second in a series of articles addressing Page County's water resources and was contributed by Jeff Kelble, the Shenandoah RiverKeeper and member of the Page County Watershed Management Planning Team. For more information on this article contact jeff@shenandoahriverkeeper.org or the Page County Water Quality Advisory Committee at (540) 743-4808 or canderson@pagecounty.virginia.gov