

## Warm Springs Watershed Association Continues to Monitor for Fecal Coliform in Warm Springs

- *Kate Lehman, WSWA President*

Warm Springs Run (WSR) is located in Morgan County, West Virginia. An 11.8 mile-long stream, it flows from central Morgan County north into the Potomac River. Based on WVDEP data collected in 2007 and 2009, the Run was listed by WVDEP on the 2012 303(d) list as impaired due to high levels of fecal coliform bacteria. High levels of fecal coliform bacteria have been recorded **above** the sewage treatment plant. While most of the houses in the watershed are hooked into the sewer system, there are areas where homes have septic tanks.

In 2013 the Warm Springs Watershed Association (WSWA) was awarded a Stream Partners grant to do 'pre-TMDL monitoring' for fecal coliform bacteria. The goal was to gain a better understanding of possible sources of fecal coliform contamination as well as to inform the pending TMDL source tracking study. WSWA worked with Cacapon Institute (CI) to establish a Quality Assurance Project Plan, which was approved by WVDEP and the EPA. Staff from CI and trained WSWA volunteers collected and tested samples at eight locations in the Run between July of 2013 and June of 2014. CI submitted the final report for that study to the WSWA in June 2014.

The results of the 2013-14 study were "inconclusive," which is to say that areas with high levels of fecal coliform bacteria on one date were near normal when subsequently tested, and vice versa. WSWA thus asked if funds not spent from the original 2013 Stream Partners grant could be used to hire CI to conduct a limited amount of additional sampling for the purpose of source tracking bacterial "hot spots."

CI personnel and WSWA volunteers collected samples from the Run on three occasions under three different weather conditions. The first two sets of samples once again had inconclusive results. The third set of results was a different kettle of fish – or so it initially seemed!

The third sampling (11/17/14) was conducted after a night of significant precipitation. Samplers walked the stream in an effort to isolate the source of high bacteria counts observed during the 10/29/14 sampling. With continuous rain since about midnight, the stream was notably higher and murkier than the previous sampling and runoff was apparent in many locations. All seven samples on this date exceeded the 400 cfu/100 ml standard. The highest level was 3500 cfu/100 ml.

It seemed clear that elevated fecal coliform counts in this section of Warm Springs Run are associated with precipitation. However, tests conducted the next week show low levels of fecal coliform bacteria. Again, the ground was wet, probably close to saturated, due to melting of the Thanksgiving Eve snow; however, there was no surface runoff and the stream was clear. We learned nothing that would help us identify sources other than at nearly saturated conditions, on this day, with these antecedent conditions, and in fairly cold weather (40s) we found a bit of nothing.

In an effort to get a better handle on the mystery of disappearing and reappearing fecal coliform bacteria in this area of Warm Springs Run, WSWA volunteers and Cacapon Institute personnel are meeting with the sanitarian of the Morgan County Department of Health and the general manager of the Warm Springs Public Service District. By putting our heads together, we hope to see if potential sources of high levels of fecal coliform bacteria can be identified and thus addressed.

The results of this study support the continued listing of this stream as impaired for fecal coliform bacteria. The drivers for elevated fecal coliform bacteria counts at the sampled sites remain unclear.