The Health of Our Waters

The Virginia DEQ has determined that 315 stream miles in the Rivanna do not meet Virginia water quality standards.

The Virginia Department of Environmental Quality (DEQ) is responsible for assessing whether our waterbodies meet water quality standards, for one or more designated uses, such as fishing (the aquatic or biological standard) or swimming (the bacteria standard). Waterbodies that do not meet a designated use are listed as "impaired."

Based on draft 2012 data, Virginia DEQ reported:

- 192 miles are impaired biologically (do not support aquatic life)

- 123 miles are contaminated by bacteria (based on *E.coli* or fecal coliform indicators)

Only half of the perennial streams in the Rivanna Watershed have been assessed by DEQ. Many stream miles have more than one impairment. Based on StreamWatch's data collected over 10 years of monitoring in the Rivanna, about 70% of streams in the Rivanna Watershed are impaired for aquatic life.

In addition to monitoring for the aquatic life standard, StreamWatch also monitors bacteria levels in the Watershed. Of the 13 monitoring sites in the Watershed, 7 are part of RCS's *Can You Swim Here?* program that assesses public health concerns at popular swimming spots.

The StreamWatch long-term monitoring program provides Virginia DEQ with significant amounts of high quality data that is used by DEQ to help assess water quality. Photo/StreamWatch

The presence and types of macroinvertebrates (the larval stage of aquatic bugs) indicates the health of streams. Flathead mayflies (above) are generally found in cleaner waters. Photo/StreamWatch

Legend
VA DEQ 2010 Assessment
— Unassessed Waterway (Black)
— Impaired Waterway (Red)
— Meets VA Standard (Blue)
▲ USGS Streamflow Station
☐ Rivanna River Basin
☐ Locality Boundary
⋯ Shenandoah National Park
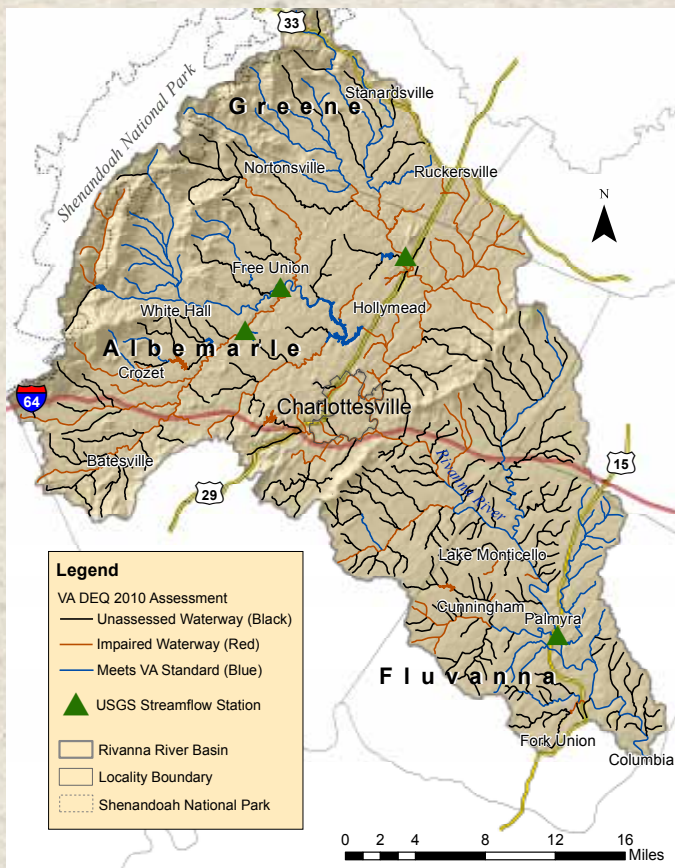

Ivy Creek is one of the many streams in the Rivanna Watershed that has too much sediment in the water after storms, reducing habitat for fish and other aquatic life. Photo/StreamWatch

Excessive sediment (soil or dirt) is a major issue in the Rivanna Watershed because it smothers the aquatic life in the stream bed and reduces water quality. Sediment also fills up our reservoirs, reducing water storage capacity. Elevated levels of nutrients (phosphorus and nitrogen) lead to excessive growth of algae, decreased oxygen, reduced water clarity, and taste and odor problems in drinking water supplies. The U.S. Geological Survey (USGS) samples water quality at a gauge in Palmyra, Virginia, as part of the Chesapeake Bay monitoring network. Everything we do to improve local water quality will also help the James River and the Chesapeake Bay downstream from us.