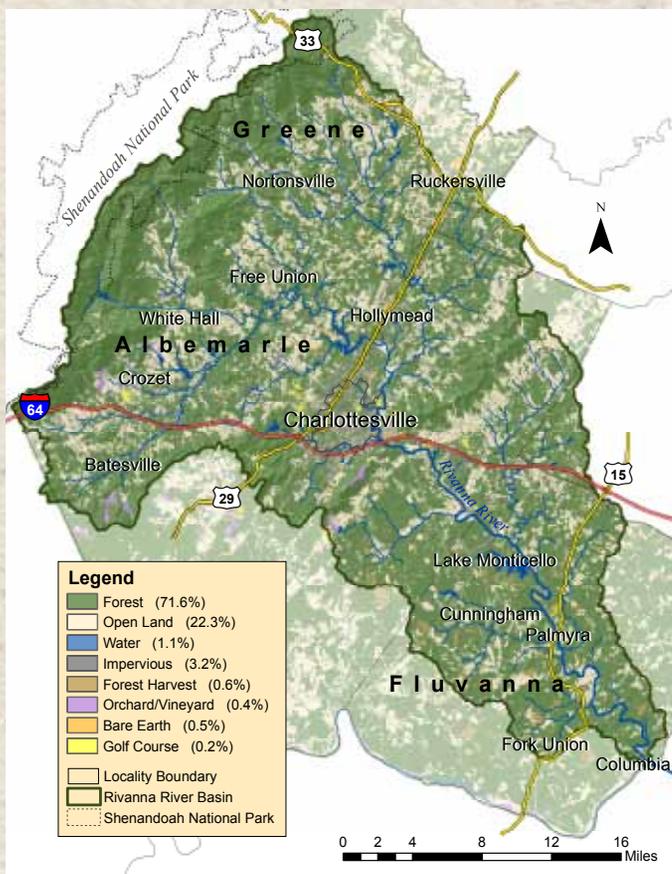# Living in Our Watershed

The 2009 Rivanna and Vicinity Map provides land use and land cover data to 1-meter resolution based on 2009 aerial imagery. RRBC, StreamWatch, and local government partners have used this imagery to analyze land use and to better understand and determine policies that could improve water quality in the Rivanna Watershed.

Stream health is related intimately to how we live on and use the land. As land use intensifies from rural to urban, stream health declines predictably.

The 2011 StreamWatch Land Use Study predicts stream health based on the amount of forest and development in the surrounding area. The study finds:

• Less forest and more impervious cover in the Watershed over time lead to unhealthy stream conditions.

• Unhealthy (impaired) streams have less aquatic life, more erosion along stream banks, and higher levels of various pollutants, including too much sediment.

• Even relatively modest levels of land disturbance affect stream health.

• More than half of the monitored semi-rural (or exurban) streams fail the biological water quality standard.

• StreamWatch estimates that, within 20 years, increased development in non-urban areas could reduce the number of healthy streams by about 1/3.

• Many of our Rivanna streams are "borderline" and can be restored to better water quality and maintained in a healthier condition.
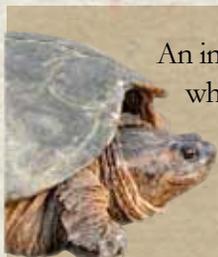

Impervious cover such as roads, parking lots, rooftops, and other hard surfaces strongly influence stream health. Photo/TJSWCD

Impervious surfaces lead to higher stream flows which in turn cause more erosion along banks that are poorly stabilized. Photo/Center for Watershed Protection

Downstream in Fluvanna County, the Rivanna River swells with sediment-filled flow. Photo/Mary Porter

An important aspect of watershed forest cover is the extent to which trees and vegetation are immediately adjacent to streams and rivers. A buffer densely vegetated with native trees and shrubs, 35 to 100 feet (or more) wide, can intercept runoff from adjacent lands and protect and stabilize stream banks.

StreamWatch in the Rivanna Watershed

StreamWatch is the local stream monitoring non-profit that collects water quality data to support our community's efforts to maintain and restore healthy waterways. StreamWatch collects and analyzes data with help from citizen volunteers and local professionals, and presents stream assessments and reports to partners, planners, managers, elected decision-makers, and the general public.