



What's next in redistricting saga, 6A

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A healthy Bay begins at home

Help sought in monitoring water pollution

By Mary Vause

A gruel of rain and toxins runs into the Chesapeake Bay from 63,000 square miles that span six states along the East Coast. Greater Williamsburg is part of the problem, and growth is aggravating matters.

New research has found that pollutants of all kinds contaminate our creeks and streams. The murky water drains eastward toward the bay.

Randy Chambers, an associate professor of biology at the College of William & Mary, hopes to bring the little-known problem of residential, "non-point source" runoff into the public eye while encouraging citizens to become better stewards of their environment.

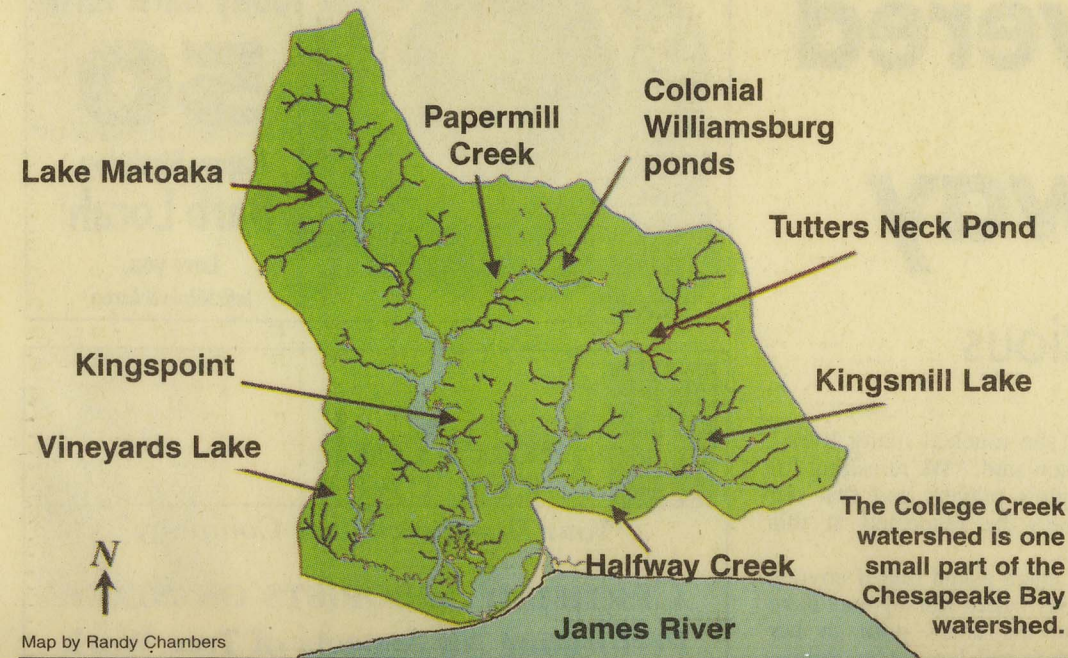
For the last two years, Chambers and the College Creek Alliance at W&M have analyzed

water samples from 17 sites within the College Creek watershed. It forms a triangle from the Vineyards at Jockey's Neck to Lake Matoaka to Kingsmill Pond. The miniature watershed spans 14 square miles and represents one-fourth of 1% of the entire Bay watershed. In many ways, it reflects the bay's problems in microcosm.

Since the local watershed is not victim to "point source" pollution from sewage plants or factories, it's hard to envision it as particularly dirty. Yet Chambers and his students have found that runoff from litter, construction sites, lawn fertilizer, and the asphalt and concrete of developed land is plenty to sully local creeks and streams.

Water samples were analyzed at the Keck Environmental Field Lab at W&M to measure sus-
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What we need



The College Creek watershed is one small part of the Chesapeake Bay watershed.



Timothy Russell

Marie Kurz, a junior at William & Mary, samples water at Kingspoint Pond for the College Creek Alliance.

Public invited to test the waters

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pendent sediment load, oxygen content, nutrient concentration and fecal coliform count. Among the 17 sample sites, nine received a failing grade for water quality, and four were close to failing. There was only one "A" grade.

The Kingspoint neighborhood along College Creek received the highest marks with a score of 92. A stream in Kingsmill was a distant second at 74.

"There's not *less* development in Kingspoint, but it's an older development and the landscape can heal itself over time," explained Chambers. "Also, a lot of trees remain in Kingspoint, shielding the water from runoff, and the housing density is not too great."

The lowest scoring areas were Papermill Creek (a score of 30), the main stream on the William & Mary campus (30) and a stream near the Jamestown-Williamsburg Airport (26). According to a separate state grading system, the water quality of the Chesapeake Bay as a whole rates a "D."

In addition to making the seven contributing rivers and the bay itself aesthetically unappealing and unsuitable for recreation, pollution makes life difficult for the small creatures that reside locally. Tiny fish in a pond on Route 5 have red blotches and lesions on their bodies. Excessive amounts of nitrogen and phosphorous create algal blooms on the water's surface. They block the sun and absorb oxygen from the water, effectively killing the underwater animals and plants.

Chambers is inviting community members to get involved with the project by volunteering to collect water samples. The procedure requires taking a clean water bottle to a nearby stream or pond, filling it with water and dropping it off at the Keck lab shortly for analysis. He believes

that participation will help energize people about conservation.

"Sometimes it's hard to make that connection between what's local and what's regional," he said. "People don't see how water could get from their yard to the Chesapeake Bay. The alliance is trying to promote local watershed stewardship and education."

When allocating funds to improve water quality in the bay, legislators tend to focus on upgrades to sewage plants to get "the most bang for their buck," he said. Out of the \$257 million proposed in the state budget for improved water quality, 85% is going to sewage plants rather than control of runoff pollution.

Chambers hopes that his work will bring more attention to pollution from developed land. From an environmental standpoint, he favors clustering housing

with greenspace tradeoffs instead of the traditional one house to every three acres.

"If there's going to be a development impact, it should be concentrated to leave more open space available," he said.

For the development that is inevitable, he feels there should be efforts to minimize the effect on nearby waterways. Chambers suggests limiting the "total impervious surface" constituted by sidewalks and parking lots since they prevent water from reaching the soil below. Trees are also helpful in retaining water and preventing runoff. And developers should also better manage stormwater retention basins. Chambers said his team has found many basins that are improperly installed or poorly maintained.

Want to help? To volunteer to collect water samples, e-mail Randy Chambers at rmcham@wm.edu or call 221-2331. To learn more about local efforts to gauge water quality, visit the W&M website, www.wm.edu/environment/CCA/CCA.html.

What
we
need