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Issue II 2003

WHY DO PEOPLE VOLUNTEER?

I had the privilege of attending the Shenandoah River Pure Water 2000 Roundtable last week. It was the largest gathering of people concerned with the Shenandoah Watershed I have seen in my fifteen years of river volunteerism. Several thoughts crossed my mind as I watched the intermingling of many volunteers with professionals from state and federal agencies and private consulting firms. Foremost was the question posed as the title of this missive. In addition, I wondered what is the half-life of a volunteer. Over the fourteen years of the existence of the Friends of the Shenandoah many volunteers have come and gone, most of which we missed greatly. Special meetings were held to brainstorm the ways to attract new members and retain those on board. The bottom line always seemed to be that volunteers expect their contribution of time, talents and funds to produce some tangible progress, e.g. I thought we were going to clean up the river and now after five years it is more polluted. Volunteer citizen groups must have answers and a reason to be. Of course the first thought is; It took two hundred years to create the mess that the Shenandoah is mired in now, and it will take at least fifty to return the river to its former pristine condition. Ah, but we are making progress! By monitoring, the sources of many of the pollution problems have been identified. Such information must be developed before an intelligent approach can be developed to remediate the problem. It follows that the monitoring data is essential to gain public support and influence with the General Assembly or Federal Agencies for clean up action. That action can be in several forms, be it laws such as the Clean Water Act or funding to clean up messes such as the Avtex Site in Front Royal. Solid data on the plight of the river is also a necessity to seek funding for support for other activities of the Friends such as educational programs for youth groups such as Scouts and 4-H, and finally funding is necessary to convey to the world that the Friends is joining with many other citizen groups in the Shenandoah Watershed as a combined demand that the Shenandoah be made clean. Volunteers take heart, your contributions of time, talents, and money are making a difference!

Thank You. -Meryl Christiansen

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*Special thanks to the Banquet Committee: Milton Boyce, Karen Andersen, Don Orr, & Jolissa Mathews,
and the South Warren Volunteer Fire Department Auxiliary*

STATE OF THE RIVER: FIRST QUARTER, 2003

Five Best and Worst Sites on the River: Nutrients

The table below shows the five monitoring sites (excluding sewage treatment plants) with the lowest and highest levels of nutrient pollution for the third quarter of 2003. Also shown is turbidity because of the growing realization of the adverse impact turbidity has on the benthic invertebrates (small bottom dwellers) and subsequent impact on the fish population. It is evident from the table that nitrogen and turbidity go hand in hand ($R^2 = 0.85$): the recent ample rains wash both nutrients and soil into streams.

| BEST SITES | N (PPM) | Turbidity (NTU) |
|---|----------------|------------------------|
| FP15, Overall Creek, Page County | .12 | 1.59 |
| GA22, South river/Back Creek, Augusta County | .14 | 2.34 |
| FP12 Cub run, Page County | .20 | 1.22 |
| GA24 S. River Watershed/Stoney Run, Augusta County | .24 | 2.43 |
| GA21 S. River Watershed/ Jones Hollow Creek, Augusta County | .27 | 1.87 |
| NS30 Stoney Creek @ Rt. 675 Bridge, Shenandoah County | .36 | 5.02 |

| WORST SITES | N (PPM) | Turbidity (NTU) |
|---|----------------|------------------------|
| JR07 Cooks Run - North River, Rockingham County | 13.24 | 22.53 |
| JR10 Pleasant Run, Rockingham County | 9.6 | 14.09 |
| JR06 Long Glade Creek-North River, Rockingham County | 6.92 | 17.6 |
| GA30 Middle River Watershed/ Barterbrook Branch, Augusta County | 6.55 | 5.47 |
| JR01 Muddy Creek, Rockingham County | 5.22 | 11.81 |

The cleanest sites seem to be located along the small streams in Page, and Augusta County, with the worst in Rockingham County. The purest of them all is Overall Run in Page County – its location close to the Shenandoah National Park may have something to do with that. The worst site is Cooks Creek in Rockingham County. The high nutrient levels in Rockingham County are very likely caused by the large number of poultry rendering plants.

Only 1% of the sites (excluding the eight STPs which always have very excessive nutrients) have nitrogen levels above the severely impaired level of 10 ppm; but 73% have nitrogen levels in the impaired levels between 1.0 ppm and the severely impaired level of 10 ppm. The remaining 38% of the sites had levels less than or equal to the impaired level. The nutrient levels for the first quarter of this year are substantially above the levels for last year. As explained below, rain and snowfall this winter and spring were abundant, and the nutrients accumulated last years are now being washed into the river.

Stream Flow and Well Water Levels

Due to the frequent rainstorms and heavy snowfall this winter and spring, the drought from which the region suffered so badly during 2002 is finally over. According to the U.S. Geological Survey, the flow of the Main Stem of the Shenandoah River measured at Millville, just downstream from the Route 7 Bridge, is 10,800 million gallons per day. This is 16 times the long-time average of 640 mgd. The flows upstream from the Main Stem are also vary substantially above the long time average: at the North Fork near Strasburg the flow during May maintained a level of about 5,270 mgd, and in the South Fork at Front Royal is at 2,030 mgd.

Groundwater levels are approaching the highest levels observed since 1988. The USGS index well in Clarke County reports that the groundwater levels rose sharply from 45 feet below the surface observed in 2002 to about 30 feet below the surface today. The trend indicates that the water level will be 25 feet below the surface within the next few months. This will be the best level observed since 1998.

SENATOR GEORGE ALLEN



United States Senate

April 26, 2003

GEORGE ALLEN
VIRGINIA

Friends of the Shenandoah River
Post Office Box 410
Front Royal, Virginia 22630

Dear Friends:

Please accept my best wishes on your Annual Membership and Awards Banquet. I sure wish I could join you for this special event.

You are all here today because of your shared commitment to preserving the natural beauty of our Commonwealth for future generations to enjoy. I applaud you all for promoting public awareness and involvement in protecting the Shenandoah River watershed and its tributaries.

As a United States Senator, I am working on ways to make our air and water cleaner and to preserve our natural resources. I have introduced legislation intended to put an end to the Army Corps of Engineers' unlimited dumping of polluted sludge into the Potomac River, and worked to restore our current natural habitats, such as the Chesapeake Bay.

Friends, I hope you all enjoy this time of celebration. Please know I will continue working to make Virginia an even better and cleaner place to live, learn, work and raise a family.

With warm regards, I remain

Sincerely,

George Allen

WAKING THE DEAD: Expanding Dead Zone Threatens Chesapeake Waters

—Article by Jedd Ferris published in the Blue Ridge Outdoors May 2003 edition

A mysterious killer blob is creeping across the Chesapeake, spreading its deadly tentacles deeper into the bay. No, it's not a distant relative of the Loch Ness monster, but a traveling pocket of algae and oxygen-starved water known as ... the dead zone.

The Chesapeake's dead zone is growing almost as fast as the region's burgeoning population, triggering fish kills, shrimp population declines, and crab jubilees—massive migrations of crabs fleeing oxygen-deprived water and crowding bay-area beaches.

What is causing the dead zone to expand? The primary culprit is nitrogen-rich run-off from hog farms, sewage treatment plants, and agricultural fields treated with synthetic fertilizers. Air-borne nitrous oxides from automobiles and coal-fired power plants also settle into Chesapeake waterways. Nitrogen-polluted waters flush into the bay, spawning massive algae growth that depletes the water's dissolved oxygen and eventually chokes out nearly all aquatic life.

"It's one of those chronic problems that keeps getting worse," said Michael Shultz, Vice President for public affairs of the Chesapeake Bay Foundation, a 32 year-old environmental organization with a sole purpose of protecting and maintaining the bay.

According to Shultz, two-thirds of the Chesapeake Bay suffers from a lack of oxygen during the summer months, when air and water pollution levels increase. Populations of striped bass—the most prized fish in the bay—are suffering from the effects of the dead zone, and shrimp, crabs, and other bottom-dwellers are often smothered beneath mats of stinking, sulfur-oxidizing bacteria.

That's bad news for crabber Kenny Keen, who has fished the Chesapeake Bay for over 20 years. Hurt by sharply declining blue crab populations in the bay, he's been forced to travel farther and farther from port—sometimes hundreds of miles—in search of his catch, costing him gas and time.

"I've gotta go where the crabs are," he explains. "And these days, they're nowhere near the shore."

With more nitrogen pollution washing downstream into the bay daily, fisheries recovery is not likely anytime soon.

"What we've got to do is stop nitrogen pollution," says Shultz. "It's very possible. It's not rocket science."

The Chesapeake is one of the best-studied estuaries in the world, Shultz points out. With so much scientific research clearly acknowledging the long-term dangers of nitrogen pollution, Shultz believes it's now time for action.

"The sad thing is that [agencies] have known what they need to do for quite a while, and they haven't done it."

The most promising effort so far recently came on March 21 when regulators from six states and Washington D.C agreed to reduce nitrogen deposits in the Chesapeake Bay by 40 percent by 2010. The new standards backed by federal and state agencies mandate a nutrient reduction of 175 million pounds per year. But the plan carries a \$19 billion price tag, and current state and federal revenues will only fund \$6 billion.

"They've got the game plan laid out in front of them. Now they need the money and the political leadership to do it," Schultz concludes

Friends of the Shenandoah River
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