



C. Dalpra

A covered bridge traverses Marsh Creek, near Gettysburg, Pa. in Adams County. Marsh Creek serves as a drinking water source for the area. The rural nature of the county is changing with the development of residential projects.

## Next Round of Pa. Water Resources Public Hearings/Meetings Set

As populations grow and land use changes in the Potomac River basin, state governments are assessing the status of their water resources with an eye to the future. Although pressures in each jurisdiction vary, all share concerns about having enough water of good quality to meet demands from residents and industry while maintaining natural values, which also provide recreational opportunities and important economies of their own.

Pennsylvania's effort, the Water Resources Planning Act of 2002 is scheduled to be completed this year, following a final round of public hearings/meetings. For the Potomac watershed of Pennsylvania (portions of Adams, Bedford, Cumberland, Franklin, Fulton, and Somerset counties), the meeting will

be held at the **Penn State Mont Alto Campus on Thursday, September 18.** (For details, visit <http://www.depweb.state.pa.us> and type "Act 220" into the search feature.)

The plan has been fine tuned over the course of its development, but essentially works in three major areas. The first is the collection of data that can provide planners with a "water budget" from which to work and base decisions. Information on the amount of potable water, major users, current use patterns, and its quality are being collected to create a picture of the state's water resources in each watershed. The plan includes the registration of significant users to provide accurate assessments of how much of the available resource in a watershed is currently being used.

Work with the U.S. Geological Survey

*Our mission is to enhance, protect and conserve the water and associated land resources of the Potomac River and its tributaries through regional and interstate cooperation.*

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and other organizations have assisted in developing geographic information system-based tools for the effort, which includes estimates of agricultural use and population projections. This information can be combined to provide planners with information to guide actions to ensure that water supplies can remain both clean and of adequate volume to meet future demands. The assessments also will point out areas that may not be able to meet future demands or other resource problems, called Critical Water Planning Areas (CWPA), that will receive special attention.

The CWPA watersheds will be nominated by the regional watershed committees (including the Potomac Regional Water Resources Committee), which will subsequently oversee development of Critical Area Resource Plans (CARPs). The plans will include assessments of water uses, availability and quantity, conflicts among users, identification of alternatives to assure supply, and considerations of stormwater and floodplain issues.

The Potomac Regional Water Resources Committee in which ICPRB participates, has identified land use planning and population growth as priorities to be addressed, and has recommended developing land use programs that protect water quality and quantity and preserve the ecological integrity of groundwater and surface water, including streams, lakes, and wetlands.

These priorities reflect the watershed's growing use as an exurb for the Washington/Baltimore metro area. Sections of Franklin County are growing new residential tracts and warehouses. In Adams County, residential growth is very strong, and some planners, local officials, and watershed groups are concerned about the changes in land use and the increasing demand for potable water. A case in point is the recent proposal to bring water into the county by pipeline from the neighboring Susquehanna watershed. No decision has been reached about the idea, but it does raise a number of issues, including the need for more wastewater treatment, and changes in the natural flow of receiving streams. The proposal is being reviewed by the Pennsylvania Department of Environmental Protection (DEP) and the Susquehanna River Basin Commission (SRBC), which raised a number of issues

that were not addressed in the application. The SRBC reviews and permits water withdrawals within the Susquehanna.

That review process is another topic of conversation among the Potomac committee—a similar permitting process does not exist in the state’s Potomac watershed, and some think it is needed. “Commissions for the Susquehanna and Delaware watersheds have regulatory power,” said Robert Reichart, a member of the Potomac committee and a well driller by profession. “It would be helpful to have a permitting process in the Potomac, and I think there is public support for it in general.” While the DEP does register water withdrawers above a certain volume, permits from the river basin commissions require increased monitoring and accountability.

Another committee member, Charles Bennett, chairman of the Potomac regional Committee, agreed that permitting could help bring a more accurate assessment, resulting in better water resources planning. Jeff Taylor, a Franklin County farmer, teacher, and watershed activist, shares the concern that water use can be considered a personal right that does not affect other users. He noted that while an aquaculture facility or water plant has to file paperwork and become part of a process, “A farmer can just put a portable pump by a stream and start irrigating” without reporting the water taken and without concern for its effects downstream. Bennett noted that the committee sees a need for greater focus on well drilling in an area where many people get their water from private wells, and would like to see standardization in well drilling practices, including location, volumes, and protection of well heads.

Bennett also hopes the process will provide important tools to local governments in protecting local values and resident’s quality of life as affected by clean water supplies. Zoning and development decisions in Pennsylvania are controlled by often small township and borough governments, about 2,600 across the state. These small governments can face expensive lawsuits from developers over rights, and some local governments are very interested in using the structure provided by the act to help them take a bolder approach that will help preserve their communities’ resources while planning for future development.

Yet, many people in the state have little or no knowledge of the act and its provisions, despite strong efforts by Pennsylvania to get the word out. Bennett noted that the water resources plan became law after the last major drought that ended in 2002, and droughts focus peoples’ attention, but generally not for long after the drought ends. Taylor noted

that the problem also is that water is a cheap commodity, particularly for people on wells. “People don’t really think about water unless they are paying for it,” Taylor said. “It’s not a pocketbook issue for many residents,” he added, noting that about 50 percent or more of county residents get their water from wells.

The process has been a long and difficult one, described as “grueling” by Bennett. “But it’s better than anything that came before. As far as having adequate, good-quality water in the future, it’s the only game in town, and people need to be a part of it,” he said.

“The need for integrated water management planning is important and growing,” said Reichart. “The right hand needs to know what the left hand is doing—it’s the only way we are going to have protected, adequate water in the future.”

## Clean Water Infrastructure is New Focus in Pa.

While Pennsylvania government and citizens are working to establish integrated water resources planning, a task force has been set up to address another aspect of the state’s resources: water and wastewater treatment plants. As part of his commitment to rebuilding Pennsylvania’s aging infrastructure to serve the commonwealth’s citizens and businesses, protect the public health, and grow the economy, Governor Edward G. Rendell this year created the Sustainable Water Infrastructure Task Force.

Pennsylvania is facing nearly \$11 billion in unmet drinking water infrastructure needs and at least \$7.2 billion in unmet wastewater infrastructure needs, according to a survey. Millions more are needed for operation and maintenance costs. Like other basin states, treatment plants are experiencing overflows, leaking and deteriorated collection systems, a back-log of rehabilitation and replacement work, and a shortage of treatment capacity.

The situation has gained publicity recently as more stringent permits related to cleaning waters that feed the Chesapeake Bay are leaving local governments wondering how residents will be able to afford rising sewer and water bills related to plant upgrades.

The Sustainable Water Infrastructure Task Force is charged with providing an analysis of the issues related to long-term infrastructure financing and offer solutions.

The report by the task force will address current and projected costs, available financial resources, and how the construction,

upgrade, and operation and maintenance of Pennsylvania's drinking water and sewage infrastructure can be accomplished; projected cost savings from available non-structural alternatives; actual costs of water and sewer service, including recommendation on allocating the costs

among customers and state and federal assistance programs; and recommendations for legislative or regulatory changes to promote effective management of water systems. For more information, visit [www.depweb.state.pa.us/watersupply/cwp/view.asp?a=1263&Q=536847#meeting](http://www.depweb.state.pa.us/watersupply/cwp/view.asp?a=1263&Q=536847#meeting).

## Swimming, Boating in the Potomac River: How Safe is It?

Judging by use, residents of the Potomac basin love their rivers and streams. As air and water temperatures rise in the summer, residents take to their favorite fishing, swimming and boating spots. Access areas and beaches along the river from its mouth to the North Branch Potomac draw crowds of people pursuing their favorite pastimes and a love of the river resource.

While many don't give it a second thought, others wonder about the cleanliness of the water, and if what they are doing is safe. During the summer, ICPRB staff sometimes field several calls a week from people wanting to know if a favorite spot on their local river or stream is "safe." With few exceptions, we are unable to provide a definitive answer.

### Can I Swim?

The main concern for water contact recreation (swimming, wading, water skiing) generally is bacterial levels. While bacteria are integral parts of any natural system, some kinds, in sufficient numbers, can cause gastrointestinal illness, skin and ear infections, respiratory illness, and sometimes worse problems. At many areas designated as bathing beaches, or at parks where wading or swimming is officially allowed, water testing is conducted weekly for bacterial contamination. Tests involve examining a water sample for indicator bacteria that signal conditions conducive to the growth of the several types of bacteria that can cause gastrointestinal illness or other infections in people.

Particular areas in which people swim from an uncontrolled beach or from a boat may or may not have a water quality monitoring station in the general area. Many stations are monitored only monthly, and many of those don't test for bacteria. A typical call could be "I like to water ski with my family downstream of Alexandria, Va. Will we get sick?" Although helpful data is not available, we do provide some general guidance, listed below.

### Where does the Contamination Come From?

In past decades, sewage treatment



plants were a major cause of bacterial loads in the river. That isn't so true any more. Most sewage plants in the region treat to a high degree, and disinfect the water before it is discharged. However, broken sewer pipes that collect waste for transfer to the plant can leak raw sewage into waterways. Heavy rains can cause flows that overwhelm treatment plants. Like any other mechanical device, treatment plants sometimes malfunction and sewage overflows to the river. Septic systems in rural areas also can fail, or be overloaded by rains.

Other major contaminant sources are mostly related to storm water runoff. Storm water from streets and rooftops of urban and suburban areas carries bacteria-laden trash, pet waste, and other pollutants. In rural areas, agricultural operations can contribute animal manure and processing by-products, sediment, and fertilizer. Beach areas with populations of geese and ducks can show elevated bacteria levels. The pace and methods in which land is developed and used can cause bacteria problems in local waterways. Additionally, older urban areas, including a large portion of Washington, are served by old, combined sewer systems that route sewage and stormwater through the same pipes. Significant rains cause the pipes to back up, and a mixture of sewage and storm water that normally goes to a treatment plant backs up and discharges directly to a waterway or river. This kind of pollution frequently affects the Anacostia River and Rock Creek, and can affect the adjacent segment of the Potomac.

## What can you tell us about the safety of my local stream or river?

Bacteria levels can change rapidly with rain events. Except for parks and other facilities where swimming and wading is a sanctioned activity, water monitoring is done at often far-spread stations, usually monthly. Many of these areas are heavily used, without reports of outbreaks of gastrointestinal illness. Without good data, people must decide based on their attitude toward risk and their personal level of health. The odds of a person getting sick increase with the amount of bacteria that enter the body. A small amount is unlikely to affect most people. For that reason, boating, where people may just get splashed occasionally, is much less risky than swimming.

When people do choose to swim in the Potomac, there are a number of things they can do to limit any risk.

**\*Don't enter the water for several days after a significant rainstorm. Storm flows spike bacteria levels, which decrease after several days.**

**\*Don't swallow water.**

**\*Don't enter the water if you have cuts or open sores. These are pathways for bacteria to enter your body.**

**\*Wash after swimming.**

**\*People with immuno-suppressive diseases should avoid direct contact with the river.**

If the residents of the basin want a swimmable Potomac—and its tributaries that make up our local streams—both governments and the citizens of the basin will need to make strong commitments to improve water quality. Government agencies tasked with the work will require strong



J. Willoughby

**A swimmer strokes across the Potomac's mouth during the annual Swim for the Environment. Swimming and boating carries added risk in contaminated water.**

public and monetary support. State and local agencies face competing budget priorities at the same time that land is being developed at a rapid pace. Citizens need to voice their demands for a cleaner environment while becoming stewards of their local waterways. The ICPRB promotes stewardship through a variety of outreach and education projects.

People who want to know about bacterial levels in their local waterway should start with their county health department, but the information needed may not exist. Maryland and Virginia host websites that list stations tested for bacteria and their current status, with contacts for some county health departments. For more information, visit or call:

**Maryland:** [http://mddnr.chesapeakebay.net/eyesonthebay/swim\\_beach\\_info.htm](http://mddnr.chesapeakebay.net/eyesonthebay/swim_beach_info.htm)

**Virginia:** <http://www.vdh.virginia.gov/epidemiology/DEE/BeachMonitoring/>

**Pennsylvania:** call 1-877-PA-HEALTH

**West Virginia:** Contact your county health department.

*Swimming is not an approved activity in the waters of the District of Columbia.*

## Fish Kills on Shenandoah Reduced, Catches Improve

The disease and kills that have affected some fish species in parts of the Shenandoah watershed each spring since 2004 occurred more slowly this year, and anglers are finding more and healthier fish in the river.

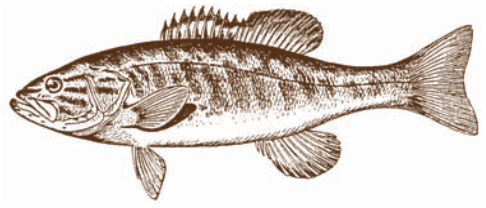
Fish kills in the neighboring James River watershed, appear similar to those in 2007, according to the Virginia Department of Environmental Quality (DEQ) and the Department of Game and Inland Fisheries, who are jointly managing and organizing the continuing response to the problem among a coalition of federal, state, and

public agencies and organizations. The causes of high numbers of primarily adult smallmouth bass and sunfish that develop lesions and slowly die has to date evaded a large cooperative investigation (see March/April 2008 *Reporter*).

So far this year, no problems have been reported on the mainstem Shenandoah, while the upper North and South forks have shown low numbers of affected fish. Surveys have shown lesion rates of approximately 10-20 percent this year. Don Kain, water monitoring and assessment manager for DEQ's Valley Regional Office

and a co-chair of the multi-agency Fish Kill Task Force, noted that while observed disease varies from site to site, some South Fork sites last year had about 50 percent diseased fish.

Kain added that the up-and-down nature of the spring water temperatures could have helped ease the problems this spring. The outbreak of lesions on the fish seems to occur within a certain temperature range,



with fish becoming sick in spring, and the disease and fish starting to heal when water temperatures rise above 70 degrees Fahrenheit. This spring, water temperatures would creep into the range for a short period of time and then fall below it. Water temperatures are now above 70 degrees. "There still are fish out there with lesions, but I'm cautiously optimistic that we have seen the worst of it," Kain said.

Investigators have again this spring collected water and fish samples before and during the kills, both in affected areas and in similar streams not experiencing kills, looking for problems and any differences between the two types of streams. Analyses of the samples can take several months.

Reports from both monitoring and reports from anglers have noted improved catches of smallmouth bass, and that the bass caught are healthier than in previous years. The North Fork downstream of Woodstock, Va. is producing good catches, as are sections of the South Fork. Sunfish species that were struck by the disease in earlier years also are being reported in stronger numbers.

Anglers and other users of the Shenandoah watershed are encouraged to report diseased, dying, or dead fish to DEQ. Information on location, number and species of fish should be forwarded to DEQ's Harrisonburg office at (540) 547-7800, or toll-free in Virginia at 1-(800)-592-5482, or email [fishreports@deq.virginia.gov](mailto:fishreports@deq.virginia.gov).

## High Winds Send Swimmers to Lake

The 29 distance swimmers were ready to swim across the Potomac River from Hull Neck, Va., to Point Lookout on Saturday, May 31, a distance of more than 8.5 miles. But the river was having none of it. Cloudy skies brought winds of 17 to 25 knots, forcing the 15<sup>th</sup> Annual Potomac River Swim for the Environment into the more protected waters of Lake Conoy in Point Lookout State Park.

The swim began as a solo effort by distance swimmer Joe Stewart, who "Swam the River for the Environment's sake," raising awareness about water quality in the lower Potomac. The annual swim has



## Watching the River Flow

Flow of the Potomac River measured near Washington, D.C. was much above normal during April and May 2008, according provisional data from the U.S. Geological Survey.

In April, average flow of the Potomac, measured near Washington, D.C., was about 13.6 billion gallons per day (bgd), about 40 percent more than the long-term average of 9.7 bgd. Daily extremes during the month ranged from a low of about 5.2 bgd on April 3, and reaching its monthly high of about 46.8 bgd on April 22. Water taken from the river for metropolitan water supply averaged about 296 million gallons per day (mgd).

May rose even higher on heavy precipitation, with an average flow for the month of about 21.8 bgd, or about 125 percent more than the May average of about 9.7 bgd. The river's flow ranged from a high of about 83.4 bgd on May 13, and falling to a low of about 7.6 bgd on May 31. Water taken for water supply averaged about 300 mgd in May. May 2008 rainfall across the basin ranked as the seventh highest on record.

The ICPRB Section for Cooperative Water Supply on the Potomac River (CO-OP), in its most recent water supply outlook noted that the high rainfall and normal to above-normal groundwater levels results in a three- to five-percent chance that reservoir releases of stored water will be needed for water supply and environmental flow-by this year.



C. Wagner/Potomac River Swim

**Potomac River Swim for the Environment participants in front of Lake Conoy. These distance swimmers are a diverse group of athletes ranging in age from teenagers to people in their sixties.**

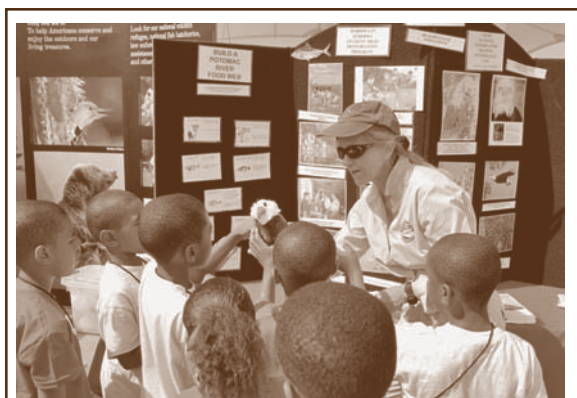
grown since then, with each swimmer collecting pledges for the race that benefit environmental groups on the Potomac, including ICPRB, the Chesapeake Bay Foundation, Southern Maryland Sierra Club, Potomac River Association, Potomac Conservancy, West Virginia Rivers Coalition, Eastern Shore Land Conservancy, Ridge Rescue, and the St.

Mary's River Watershed Association.

The Lake Conoy swim was held in stages, with all the swimmers going for three miles. Nine swimmers went on to swim six miles, with a single swimmer going for nine.

The ICPRB thanks the swim organizers and swimmers for their annual donation that helps to fund ICPRB public outreach and education efforts.

## Kids Fish for the Big Ones



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**Students from Saint Thomas More School get quizzed on Potomac ecology by Sandy Burk, an environmental educator who has helped organize school participation in ICPRB's American shad restoration project.**

along with some of the 200 students who came from area schools. For many of the kids, it was their first time on a bass boat catching, in some cases, some very large largemouth bass. Displays and learning stations hosted by Living Classrooms, Discovery Creek, and other environmental groups, including ICPRB, exposed the students to Potomac ecology, recreation, and safety.

The event held at the new National Harbor complex near the Woodrow Wilson Bridge, raised more than \$40,000 to support hands-on educational programming in the Washington, D.C. region to connect under-served youth to their outdoor natural environments.

For more information, please contact Mari Lou Livingood, at Living Classrooms, 202-488-0627 x22.

The ICPRB participated in the 2008 Nation's River Bass Tournament hosted by the Living Classrooms of the National Capital Region and Discovery Creek Children's Museum of Washington, non-profit organizations that provide hands-on learning and workforce development experiences and training to over 17,000 youth in the Washington, D.C., metropolitan region.

Living Classrooms works closely with ICPRB and area schools in raising American shad as a part of the cooperative shad restoration project coordinated by ICPRB. The one-day tournament brought together 40 boats and angling professionals who fished with area celebrities and environmental partners,

## Commission Meeting Affords A View of Western Maryland Resources

At its recent quarterly business meeting, ICPRB commissioners and staff took advantage of beautiful weather to learn more about the watershed in and around Green Ridge State Forest in Maryland.



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**Keith Eshleman, University of Maryland Appalachian Laboratory, explains the use of a stream gage in assessing water quality on Town Creek.**

A June 9 tour of the area was organized by Pennsylvania Commissioner Ron Stanley, who is a member of the Ridge and Valley Streamkeepers, a nonprofit group that works to protect and restore several streams in the area.

The group visited several automated stream gages that are providing data for water supply protection and in assessing

nutrient loadings from watersheds experiencing development.

The group also visited Green Ridge State Forest, A 46,000-acre oak-hickory forest that was once timbered and transformed into orchard before being acquired by the state in 1931. Management of the forest, which lies along the Potomac, helps protect the river's water quality.



*Potomac Basin*

# REPORTER

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