

REPORTER



C. Dalpra

Maryland Middle Potomac Tributary Team members lead the Ramblers in a wade-in along the river as an informal test of water clarity and health.

2009 Potomac River Ramble

Have You Ever Gotten to Know a River?

Have you woken along the shores of a river to the sounds of birds and swirling waters? Climbed into a canoe instead of a car for your day's travel? Stopped to explore depths and shallows to see the kinds of critters that live there?

On the 2009 Potomac River Ramble, for four days and nights, 45 curious explorers did just that and more. They became the river's guests, were moved by its hospitality, and gained an understanding of a river like never before.

This year's Potomac River Ramble floated the Monocacy Scenic River and the downstream portion of the Potomac River. The Monocacy is Maryland's first state scenic river and its largest Potomac tributary. The trip was the Ramble's first on the Monocacy. The annual Ramble

program seeks out new stretches of river in the watershed to explore; to highlight both its valuable resources and the issues that threaten them.

After spending four days and 40 miles on, in, and around a river, both its treasures and its troubles come into focus.

The Monocacy and the Potomac Rivers provided a perfect platform for a wide array of educational and hands-on programs, and our valuable partners helped us deliver them to our Ramblers. On the first day, biologists from Hood College and the Maryland Department of Natural Resources engaged our group in a program about the invasive Rusty crayfish. This large, aggressive crayfish is not native to the Potomac watershed, but has found a way into the Monocacy River where it is out-

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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A.Griggs

Ramblers learned first hand about the river's full-time residents, and their roles in the river's ecology.

competing the smaller, native Allegheny crayfish. By studying this new crayfish in the Monocacy, the biologists hope to find clues that might lead to the prevention of further spread in our watershed.

Near the end of a beautiful first day on the water, the group successfully navigated the rapids of a broken rubble dam at Michael's Mill and paddled into the first camp stop at Buckeystown Park in Frederick County.

During dinner, Tim Goodfellow, a principal planner with Frederick County, gave an informative presentation about how comprehensive land-use planning can help manage and protect vital land and water resources. Goodfellow also told the group about the new stream protection ordinance that Frederick County has established to protect buffer zones around streams.

The excellent weather continued for the second day, as the group broke camp and embarked on another day's paddle. Several participants helped collect smallmouth bass for a lunchtime program by Vicki Blazer of the U.S. Geological Survey. Since fish kills began to be observed in the Shenandoah River system in 2002, Blazer has been investigating aspects of smallmouth bass fish health. A startling discovery was made when oocytes (immature eggs) were found growing in the testes of male smallmouth bass, a condition called intersex, which has now been found in several areas of the Potomac watershed. Although the causes of the condition and the fish kills have not been found, Blazer suspects that the increased prevalence of this condition below wastewater treatment plants may indicate that chemicals and other compounds that remain in the treated water are affecting the physiology of smallmouth bass and some other fish species.

At the close of the day, the Ramblers pulled out at the mouth of the Monocacy River and camped in the shadow of the restored C&O Canal Monocacy Aqueduct.



Ramblers wave goodbye to the Monocacy River after passing under the Monocacy Aqueduct.

C. Dalpra

The evening program featured Kristin Mielcarek of the Canaan Valley Institute, who spoke about Maryland's Bay Restoration Fund and its septic upgrade program. The program provides money to counties to help residents upgrade septic systems with a new technology that

Further downstream, a lunch stop at White's Ferry provided a nice backdrop for presentations by members of the Maryland Upper and Middle Potomac Tributary Teams, who explained how these stakeholder groups are working as a bridge between state and local governments and organizations to improve water quality.

The last evening found the Ramblers about a mile from the river at the campsite of the Bethesda-Chevy Chase chapter of the Izaak Walton League of America. This nation-wide non-profit organization has many local chapters that are involved in conservation and stream monitoring and were kind enough to host the group. A campfire program was provided by Michael Rolband, President of Wetland Studies and Solutions Inc. (WSSI), where the group learned about their innovative and celebrated Reston Valley Stream Restoration Bank. Using the latest

stream restoration techniques and years of experience, WSSI and the Reston Association (a homeowners association and nonprofit community service corporation serving Reston, Va.) are restoring the



C. Haywood

The Ramblers approach the Mirant generating plant, where they learned about company programs to reduce its impacts.

significantly reduces nutrient loadings compared with traditional systems (see Sept.-Oct. 2008 *Reporter*).

At the start of the third day, the Ramblers waved goodbye to the Monocacy and paused for a group photo downstream of the Monocacy Aqueduct, the largest of the historic aqueducts in the C&O Canal system. After turning into the Potomac, the Ramblers paddled a short distance to Mirant Mid-Atlantic's Dickerson Power Plant. There the Ramblers learned about the company's efforts to reduce the impacts of necessary power generation along the river. New wet scrubbers are being installed that will remove most of the harmful mercury that currently escapes out of the coal-fired plant's stacks.

Mirant staff also highlighted other environmental efforts, including an Atlantic sturgeon hatchery and research program to bring back the fish (at another Mirant plant), and an Olympic training whitewater course that uses the warm-water cooling discharge to provide a year-round training facility for competitive paddlers.



A. Griggs

USGS Scientist Vicki Blazer discusses fish health problems and possible causes at a stop along the river.

eroded stream channels in this suburban Virginia watershed that have been damaged by years of uncontrolled stormwater runoff.

The final day provided a slower pace on the river and time for reflecting about the trip, the activities, people, and camaraderie that developed over the days spent together. Never again would the Ramblers see the



A.Griggs

Ramblers shared the river with abundant wildlife, such as this green heron warily eating its breakfast.

Monocacy and the Potomac in the same light. They had learned much about the valuable resources the river provides and the issues that stress its ecosystem.

The Ramblers gathered at the end of the trip to discuss their adventure, what they enjoyed most, how the trip could be changed to make it even more enjoyable, and what they would take away from their days spent on the water. Several people new to canoeing said that they would be going again, although one Rambler noted that they would seek out areas without motorboats. Many of the Ramblers spoke of the unique nature of the trip, allowing them to “get away from it all,” and meeting new people to share wildlife viewing, meals along the river, and learning so much about the river and its environs every day.

Some very interesting comments came from participants for whom the Monocacy is their home river, noting that they frequently drove over the river during daily commutes while having no idea of what was really flowing below them. They do now, another Rambler responded, noting that the daily drive over the bridge would always bring memories of the days spent experiencing the river.

For more information about the River Rambles, please visit www.potomacriver.org. There you can see where the River Rambles have been, watch videos of past trips, and learn where we are headed. Please think about joining us next year as we continue to explore the Potomac watershed.

Thanks go out to all of our sponsors and partners, including: the Potomac River Swim for the Environment; PEPCO Holdings; Mirant Mid-Atlantic; River and Trail Outfitters; Wetland Studies and Solutions, Inc., Gainesville, Va.; the Maryland Department of Natural Resources; National Park Service C&O Canal National Historic Park; EU Services Printing, Rockville, Md.; and the Bethesda-Chevy Chase Chapter, Izaak Walton League.

--Adam Griggs, Potomac River Ramble Coordinator

River Basin Commission Urges Congress, Administration, to Restore Funding

The Interstate Commission on the Potomac River Basin is working to restore responsible federal funding to help protect, preserve and restore the water quality and related resources of the Potomac basin. The federal government is an active participating member of the ICPRB, and a key partner with respect to the water resources of the Washington metropolitan area of the Potomac basin, as well as the interstate aspects of the basin. Therefore, federal support, both financially and with project and program efforts, is critical to the health of the river and its watershed.

“It’s much more than the congressional legislation consenting to the interstate compact that created ICPRB, and directed federal funding to assist in Potomac basin efforts,” said ICPRB Executive Director Joseph Hoffman. “The federal footprint in the Potomac basin is quite large, particularly in the Washington metropolitan area. That federal infrastructure consumes the region’s waters, contributes to wastewater treatment plant loadings, adds

significantly to stormwater runoff impacts, and has other primary and secondary effects. The federal government clearly is a strong presence in the watershed, and we need their help in preserving and protecting the water quality and related resources of the region,” Hoffman said.

The ICPRB is the only regional Potomac agency serving the state and federal governments in promoting sound, watershed-based management of the river and its tributaries. It has long fostered regional cooperation working to meet restoration challenges that can not be effectively addressed by the jurisdictions working as separate entities.

The majority of ICPRB’s operating funds come in the form of project-specific grants, contracts, and other agreements, not from direct appropriations from the member jurisdictions. While these projects benefit the basin, they may not always address the most critical resources issues affecting the region as a whole, because of project scope limitations. General operating funds

provided by directed appropriations from the Potomac jurisdictions and the federal government, as required by the ICPRB compact, allow direct efforts for critical issues as part of an integrated watershed-based program. These projects and programs include assessments of groundwater quality and availability, water resources and supply planning, drinking source water protection strategies and coordination, fisheries and other resource revitalization, development of water quality restoration strategies that transcend state boundaries, and other projects related to the water resources of the basin. The ICPRB relies on these general funds to formulate, lead, and guide the regional initiatives that avoid duplication of efforts, build partnerships, and protect and preserve the resources of the Potomac basin.

Congressional funding was provided annually under the legislation that created ICPRB until Fiscal Year 1997, when Congress suspended payments as a cost-cutting measure. Funding was again authorized for the ICPRB in the 2007 Water Resources Development Act. The ICPRB received \$650,000 in the Fiscal Year 2009 federal budget.

Funding for ICPRB and its two sister river basin commissions, the Delaware River Basin Commission and the Susquehanna River Basin Commission, are not included in the current versions of funding authorization bills for Fiscal Year 2010. Despite efforts from the three commissions, the outlook for inclusion in the Fiscal Year 2010 funding authorization is grim. The commissions were not included in the President's budget, and the inclusion of funding for the commissions by congressional action arguably would require an earmark, which is a delicate



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The Anacostia waterfront with the Capitol and Washington Monument in the background. The metropolitan area has a high concentration of federal lands.

subject with Congress at this time.

The three commissions are now working with the Obama Administration and congressional members and staffs to include the commissions in the President's budget for Fiscal Year 2011. Federal funding is even more critical as budgets of the Potomac basin states, which annually contribute to the commission, are facing challenging obstacles with budget cuts and funding shortfalls, that reduce the capabilities of all to extend regional water quality and resources efforts.

Although both the federal and basin jurisdiction budgets are severely constrained, the region cannot afford the erosion of critical resources that provide drinking water, waste removal, and other quality of life aspects from which the region benefits.

"Now, more than ever, given its rapidly growing population and demands on the water resources of the river and its tributaries, the Potomac River Basin needs a strong and financially viable ICPRB with the resources necessary to address the interstate water resources issues of the basin," concluded Executive Director Hoffman.

Finding A Market-based Approach to Water Quality

ICPRB is exploring opportunities to use market-based water quality improvement tools like trading and offsets. Market-based approaches have been used in many watersheds to improve water quality. Notable examples include carbon and temperature in Washington and Oregon. These approaches work by encouraging sources with high pollution reduction costs to purchase pollution discharge credits from sources where the costs are lower. This approach allows targets to be achieved more cost-effectively and efficiently than solely through regulation. Since the states manage pollution trading programs, they require an additional amount of reduction to be "retired," thus

leading to an overall increase in pollution reduction.

The House climate change bill (HR 2454), which passed last June, set up a market-based program for businesses to meet the greenhouse gas emissions cap. A recent Senate Agriculture Committee hearing on climate change legislation heard views from the White House, farmer groups and policy organizations on the impacts of the legislation on the agricultural sector. Under discussion was the impact of agricultural offsets, like carbon sequestration. Maryland, Virginia, and Pennsylvania have already issued guidelines and policies on nitrogen and phosphorus trading; West Virginia has



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Agricultural practices, such as fencing to deny cattle access to streams could be part of a credit program.

Bay-wide total maximum daily load pollution reduction plan, there will be increasing demand for ways to address the more stringent caps in a cost-effective and efficient way. Credit sellers will still have to meet a baseline requirement established by TMDLs and other regulations before they are eligible to trade. This will limit the availability of credits. Yet, there may be ways to help potential credit generators reduce pollutants even below the baseline requirements of the trading programs.

drafted their policy and it is available for public comment.

With the anticipated 2011 Chesapeake

ICPRB is working with the states and other organizations to develop ideas on ways to use offsets that will improve water quality.

Collaborative Assessment will Assist Basin Planning

As the Potomac basin continues to develop and grow, the value of its water resources becomes greater, and efforts to protect those resources become more important. While much of the Potomac basin has adequate water resources, some areas undergoing rapid development are putting water resources to the test.

To assist the Potomac jurisdictions in providing water resources of high quality for multiple uses, the ICPRB is collaborating with the U.S. Army Corps of Engineers and The Nature Conservancy in an assessment of the surface waters of the middle Potomac watershed. The partners will develop information resources and analytical tools to assess human and environmental uses of stream flows that will support regional planning for sustainable water resources throughout the basin.

The assessment will include the impacts of current and future human activities on river hydrology, such as water withdrawals, dam operations, changes in land use and development, projected climate change, and how these issues can be balanced and mitigated to better manage water use conflicts and ecological degradation.

The project will generate a database of biological and water quality data, a hydrologic model based on the data, future use projections, an assessment of current



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Little Falls Dam on the Potomac is part of an area that will be studied to determine flow rates that will sustain a healthy ecology.

and future alterations to the basin's hydrology, environmental flow recommendations for the mainstem Potomac River, and other tools that can help guide future decisions about water use and its effects.

The ICPRB will be conducting much of the technical work for the project, using information from previous projects conducted in the watershed. The ICPRB has a history of involvement in the development of water resources in the basin. The ICPRB's Section for Cooperative Water Supply Operations on the Potomac has for decades worked closely with the metropolitan Washington water suppliers to ensure adequate drinking water for the region even during the worst droughts.

The ICPRB also has worked on defining groundwater quality and availability in parts of the watershed. The work included examining some areas of the watershed where groundwater use is high, and sought to provide tools that planners could use to assess groundwater supplies and their sustainable yields. The ICPRB also has assisted Pennsylvania with its water resources planning act, which is in the process of assessing watersheds that will

require special attention in providing sustainable water resources.

For more information, contact Carlton Haywood at (301) 984-1908 x 105, or email chaywood@icprb.org.

New Stressors Identified for Sick Fish

Fish kills of primarily smallmouth bass and redbreast sunfish continued this spring and summer at a rate similar to last year's kills, according to the Virginia Department of Environmental Quality. The kills, which began on segments of the Shenandoah River system in 2004, have been the subject of much research.

The 2004 kills also led to the discovery of male fish containing immature eggs, a condition known as intersex. A direct linkage between the kills and intersex is suspected by some researchers, but has not been established. Significant numbers of intersex fish, both smallmouth and largemouth bass, were subsequently discovered in parts of the Potomac mainstem and other river systems.

The kills this year were influenced by the cool, wet spring. Fish observed in the Shenandoah develop skin lesions that look like burns or sores before the kills occur, although some fish without lesions make up part of the kills. Many of the diseased fish recover after the water warms into the 60s.

Ongoing research into the kills have pointed to a possible bacterial cause. A known pathogen for trout and salmon, *Aeromonas salmonicida*, has been identified in samples of the diseased fish. Research at the U.S. Geological Survey National Fish Health Laboratory in Leetown, W. Va., is finding that the bacteria can cause lesions even with fish living in clean water. It is thought that a number of different stressors may be causing the fish to become more easily infected. The bacteria does not typically survive in warmer water temperatures.

Other ongoing research at the laboratory is focused on determining whether the intersex issue, as well as the disease and fish kills, can be linked to minute quantities of estrogen-mimicking chemicals found in the water. Largemouth bass at the lab were injected with estrogen, and after exposure to bacterium, produced less hepcidin, a protein that may have anti-microbial effects. None of the fish used in the study contracted disease. Hepcidin is an important iron-regulating hormone in fish and amphibians. Researchers don't know whether the hormone may deny needed iron to bacteria, or if there is a direct effect on bacteria. The study is continuing.



Watching the River Flow

Rain events helped the river to run high and fast in June, sinking to below normal in July, measured near Washington, D.C., according to provisional data from the U.S. Geological Survey. Provisional data has not been reviewed for accuracy.

The June flow of the Potomac averaged about 10.4 billion gallons per day (bgd), about 67 percent more than the long-term June average of 6.2 bgd. Daily extremes during the month ranged from a high of about 24.5 bgd on June 7, and decreasing to a low of about 4.1 bgd on June 30. Water taken from the river for metropolitan water supply averaged about 300 million gallons per day (mgd).

A drier July caused the fall of river levels, averaging about 2.6 bgd, or about 25.9 percent less than the long-term average of about 3.5 bgd. The river's flow ranged from a high of about 3.8 bgd on July 1, falling to a low of about 2.0 bgd on July 21. Water taken for municipal supply averaged about 300 mgd.

As river levels continue to fall, the ICPRB Section for Cooperative Water Supply Operations on the Potomac will continue to monitor river levels, and will be prepared if releases of stored water are required to meet metropolitan drinking water demands while maintaining flows to protect the river's ecology. Currently, the probability that a release will be needed this year are between 8-13 percent.

The remains of birth control pills, hormone replacements, hormones used in agricultural operations, and herbicides can be part of runoff or from wastewater treatment plant effluents. None of the substances have been found in amounts that cause human health concerns, but the

chemicals' impact on fish and other creatures that live in the water are much harder to pin down.

Angling was very good along the Shenandoah this year, and reproduction levels remain good, according to fisheries officials.

New Website Tracks Federal Bay Cleanup Activities

The Chesapeake Bay Program has launched a website that will cover developments of President Obama's Executive Order delivered last spring that kicked off heightened federal efforts for bay restoration (see *May/June 2009 Reporter*).

The site will be a distribution point for news, events, documents and other information from several federal agencies that were ordered to work closely together to significantly raise efforts to restore the Chesapeake Bay and its tributaries.

The site will begin by publishing draft reports on how the federal agencies will address water pollution, climate change, and other issues. After public comment, the drafts will be combined into a federal strategy to guide restoration and protection

efforts. The site, which includes a blog and public comments section, is located at <http://executiveorder.chesapeakebay.net>.

Correction

The credit for the photograph of the Potomac and Washington Channel in the *May/June 2009 Reporter* was incorrect. The photo was shot by Patrick J. Hendrickson of High Camera Aerial Photography. Hendrickson has graciously donated several of his images to ICPRB over the years.



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