Potomac Basin

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A redbreast sunfish taken from the upper James River. The lesion on this fish is typical of the fish kills occurring in the Shenandoah and South Branch Potomac watersheds.

Potomac Murder Mystery

Shenandoah, South Branch Fish Kills Continue

While the Potomac River Ramble paddle trip was in Harpers Ferry, W.Va., one of the Ramblers talked about his livelihood as part of a company that produces weekend murder mysteries. He produces several in Harpers Ferry each year. They are very popular–people love a good murder mystery, he noted. Especially when the murder is solved at the end of the weekend.

Biologists and others studying die-offs of smallmouth bass and some other species in segments of the Shenandoah and its tributaries, the South Branch Potomac, and just this season in the upper James River basin are similarly trying to solve a murder mystery, but they aren't getting much murder mystery

satisfaction—five years after the kills began, the culprits have not been identified.

The Shenandoah Fish Kill Task Force, formed in 2004, has worked relentlessly in studying the kills. The task force, coordinated by the Virginia Department of Environmental Quality (DEQ) and the Virginia Department of Game and Inland Fisheries, also includes representatives of the U.S. Geological Survey, U.S. Fish and Wildlife Service, U.S. Forest Service, West Virginia Department of Environmental Protection, several universities, and watershed groups. Task force members continue to cooperatively examine diseased fish, intensely monitor water quality, and use sensors to sample water for tiny amounts of toxic or hormonemimicking substances that might lead to an

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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answer (see March/April 2007 Reporter).

The scenario has been the same each year for the fish, with the locations changing somewhat from year to year. Each spring brings a new outbreak, primarily smallmouth bass, that get burn-like lesions on their bodies, and don't behave normally. As time goes on, researchers find small to moderate kills, often just a few fish at a time as a river segment is patrolled. As the season progresses, the situation seems more like a continuous, low-level kill, according to some researchers. Unaffected fish are found in the same areas as those with lesions. Later in the summer, the kills subside, and fish are captured that show lesions that are healing.

Many ideas for the causes of the kills circulate, including a mutated pathogen, toxic or hormone-like chemicals related to agricultural operations or sewage plants that may be hampering fish's ability to resist bacteria or viruses, or other contamination. Another hypothesis is that because the kills tend to end in summer, there may be a pathogen that is strong in the cooler spring waters, but dies out or becomes inactive when temperatures climb. Research has proven none of the ideas, nor ruled them out. A general point of agreement is that there probably are multiple stresses that interfere with the fishes' immune response, making them susceptible to infections they might otherwise resist. Researchers hope to know more when they have sorted through all the information collected this spring.

There are some differences with this year's event, compared with previous seasons. Task force co-chairman Don Kain of DEQ has observed that this year's kills are strange in that "They seem to be at one place on one day, and at another the next." He noted it is hard to determine the persistence of the kills, or the amount of adult fish lost overall.

Researchers were surprised when a similar kill was observed in the upper James River system this year, including the Cowpasture River, a tributary. Early on in the investigations into the kills, the Cowpasture was selected as a control river for study. As a control, the Cowpasture was used as a relatively clean benchmark river to compare with the Shenandoah system.

"The kills on the Cowpasture threw everybody for a loop," said Jeff Kelble, the Shenandoah Riverkeeper. But in retrospect, it shouldn't have, he noted. Kelble, who has researched the kills, did some research on

the Cowpasture River, and found "a significant number of poultry operations in the watershed that weren't accounted for before," and that his research has revealed that a significant amount of poultry litter was being imported into the watershed for spreading on fields.

Kain is hopeful that the data collected this year will help bring an answer for the fish kills. He noted that the task force has been looking in a variety of directions, and that the inclusive, open nature of the task force keeps the group open to new ideasespecially since an answer is yet to be found. The intensive studying of the Shenandoah watershed is also providing a tremendous baseline for looking at the watershed, Kain added. "All the attention also helps to educate about the stresses on the river that we do know about-nutrient loadings, development pressures-its all being discussed to a higher degree," he

Virginia is strongly supporting the task force's efforts, providing \$150,000 so that the investigation can continue.

Anglers Asked to Protect Against Whirling Disease

Smallmouth bass in the upper parts of the basin aren't the only species experiencing problems. The Maryland Department of Natural Resources has destroyed more than 150,000 trout being raised at trout rearing facilities for distribution in the state's rivers after whirling disease was found. The disease is a parasite fatal to trout. It deforms trout skeletons, and the fish lose the ability to swim straight.

To reduce the likelihood of spreading the spores of the organism, the Maryland Department of Natural Resources is asking trout anglers not to move caught fish from one stream to another, not to discard carcasses in the stream or on the stream banks, and to remove mud from boots and equipment before moving from one stream to another.

Potomac River Ramble 2007

Through Whitewater, Thunderstorms, and Comradery, Ramblers Get a New View of Potomac



Ramblers arriving at Point of Rocks.

Most residents of the basin have some impression of the Potomac River, often from newspaper articles about one issue or another, or from the commuting experience of driving over or alongside it. Those impressions evolve and blossom when those same people spend several days on, and occasionally in the river.

Many of the more than 25 people who signed on for the Potomac River Ramble, which over four days covered nearly 40 miles of the Potomac came away from the four-day paddle with a new perspective about the Nation's River. "I'll never be able to look at the river, or read about it, without thinking about all the things I've learned, and how important the river is in our daily lives," noted one paddler after her first trip down the river. Her comments eloquently summed up much of the feedback offered about the trip, which featured programs that familiarized Ramblers with the river's fish and aquatic insects, the birds that fly over it and the trees and plants that grow along its banks.

The 2007 Potomac River Ramble kicked off on Wednesday evening, June 6, at the National Conservation Training Center in Shepherdstown, W.Va. The center graciously allowed the group to camp on its riverside property. A leave-no-trace fire was made on a mound of deposited Potomac sediment and ICPRB's Watershed Coordinator, Adam Griggs attempted to call owls using owlringtones stored on his cell phone, but it seemed nobody was home.

On Thursday morning, the group got off to a good start. Elevated water levels and eager arms helped the group complete the first 10 miles before lunch in only 2.5 hours. This section of the river is spotted with occasional riffles but is mostly slow, flat,

water popular with power boaters and jet skiers.

During a lunch stop at the Shepherdstown boat launch, the group met with representatives of Mirant Mid-Atlantic, a River Ramble sponsor and donator of that day's lunch. Mirant took the time to educate the Ramblers about their mission to upgrade their three area coal-burning power plants to meet more stringent

Maryland air pollution standards three years ahead of schedule. The discussion broadened into the generation of electricity in general, and how it might change in the future.

That evening found the Ramblers at the Antietam campground along the C&O National Historical Park, where a few more people joined the group. Jen Dotson, ICPRB's certified arborist, took the group on a riparian tree walk along

the towpath, pointing out natives such as Hackberry, Sycamore, Osage Orange, and Box Elder amongst invasive species like the Tree of Heaven. Ramblers were shown how to avoid the dreaded poison ivy and stinging nettle, which was very successful. None of the Ramblers were unduly itching at the end of the trip.

On Friday morning, coffee ran hot and nerves were cold as the ramblers, some of them first-time paddlers, prepared for a day of whitewater on the Needles section upstream of Harpers Ferry. Mike Dudash, a highly energized kayak instructor from River and Trail Outfitters, came on at the lunch stop to help prepare the group for the upcoming whitewater. The Needles consist of Class I and II rapids that require some technical turning due to the striated geologic formation that runs across the Shenandoah River, Harpers Ferry, and the Potomac River. The entire group, from seniors with no experience to minors, made it through the big waves without a hitch.

Harpers Ferry National Historic Park, where the Shenandoah River joins the Potomac, provided a riverside campsite that evening. The Ramblers were joined at the site by another paddling group finishing the Shenandoah Sojourn. Programs included a guided tour of the historic town by NPS staff and some traditional period music from a string band complete with cloggers. There also was an informal remembrance of ICPRB Pennsylvania Commissioner Bill Plank, a longtime participant in the Rambles, who died in January after a car accident and to whom the trip was dedicated. The festivities went on despite a strong thunderstorm that dumped a lot of rain,

unwelcome at the time, but useful for getting downstream the next day. The group actually got off easy, as the crackling radio forecast 60 mile-per-hour winds and hail that thankfully never came.

Saturday would bring another day of great weather and the largest rapids of the trip, Mad Dog and White Horse. The majority of Ramblers came through just fine, but a pair of canoes and their



C. Dalnra

Ramblers check their seine net to gather and identify the great variety of bugs and fish that call the riverbed home.

swimmers were reeled in after swamping out in the wave trains. The great weather actually made a short swim through the waves to shore a refreshing experience.

Potomac wildlife was the theme of this day as the group passed by an active Heron rookery, and saw Bald Eagles and Great Egrets on their way downstream. The lunch program consisted of sampling and seining for insects and fish that live in the Potomac's waters. ICPRB biologists Jim Cummins and Adam Griggs were on hand to identify the various insects and fish collected in the seine nets, including mayflies, water pennies, fallfish, smallmouth bass, and spotfin shiners, and other creatures. The trip was laced with special, simple moments that stay in memory. One example happened on an afternoon break that found many of the party pulled up on a shady shoreline. This editor's boat was along shore, anchored by a stand of water willow that ran from out in the river to about 20 yards in-shore. A very young deer, about golden retriever size, ventured out of the brush and almost to the boat before pausing, and after a surprised stare, ambled back into the woods. A river trip is often filled with such chance meetings.

Once at Brunswick, the group caught the tail end of the Potomac River Family Festival and indulged in snow cones and lemonade. The group was greeted by Carroll Jones, Mayor of Brunswick, who told the group about development in the town, and the enhanced nutrient removal wastewater treatment plant being constructed to handle sewage. His discussion with the group on planning for increased population while trying to

preserve the town's homey feel and rural nature is one being had in many growing communities along the Potomac.

Continuing with the wildlife theme later in the evening, Adam Griggs called in a barred owl, this time without using his phone, and it alighted in the center of camp where it continued to hoot loudly until 1:30 in the morning.

Sunday, the final day, found the Ramblers paddling to Point of Rocks for a lunch stop. The historic narrows is the site of the oldest U.S. Geological Survey stream gage in the watershed, and one of the oldest in the nation, beginning operation in 1895. The group learned about the gage, one of more than 100 in the watershed that provide information used in managing floods and droughts, recreational safety, and other scientific uses.

After another couple of hours, the Ramblers reached the end of the float, landing at the Tarara Winery near Leesburg, Va., in the afternoon, with time to do some wine tasting and have some relaxed goodbyes.

The following week, Ramblers began sending comments, suggestions, and photos back to ICPRB, reminding the recovering staff about the value of the trip. One Rambler emailed: "We really had a

Remembering Bill Plank

Pennsylvania Commissioner Bill Plank was a fixture on Potomac River Rambles, and was well known in the Pennsylvania portion of the Potomac basin for his many efforts to protect and preserve the Potomac's natural resources.

The ICPRB is working with several other groups, including the Bedford County, Pa., Conservation District, the Ridge and Valley Streamkeepers watershed group, which he helped form, the University of Maryland, and the Maryland U.S. Geological Survey to implement various environmental projects in Plank's memory. Projects include dedication of a stream gage at Sideling Hill Creek in Plank's name, erecting stream signage, educational gardens, a river access project, and other ideas. The coalition is seeking cash donations to help. A specific project can be noted on donations, which should be sent to the Bill Plank Memorial Fund, c/o Ridge and Valley Streamkeepers, P.O. Box 55, Artemas, PA 17211-0055. For more information call Ronald Stanley at the Streamkeepers at (814) 784-3652, or email him at apples@pennswoods.net

great time. Besides getting good advice on canoe techniques, learning about the efforts of the coal-fired electric plants to reduce emissions, white water safety, tree identification, stream bugs and their importance as indicators of water quality, and why gages are important, made the Ramble an informative trip. Despite my old age, I learned a lot!

"In addition to its importance as a water supply for residential and commercial use, it is important to have a clean and adequate Potomac available for recreational boating and fishing; to be able to enjoy 'the great outdoors,' cast a line and reel in a fish, have an opportunity to get your adrenaline pumping as you cascade through the Needles and White Horse Rapids. Being on and in the water makes one appreciate what a valuable resource it is. Many thanks to ICPRB and the trip sponsors for providing us an opportunity to get 'into' the river." Many similar emails were received.

The ICPRB thanks the many sponsors that made this trip possible. Sponsors included the Washington Suburban Sanitary Commission, Mirant, PEPCO, Washington Gas, and Hunton and Williams LLP. Thanks also go to C&O and Harpers Ferry National Historic Parks and the National Conservation Training Center for camping sites, water, and other help, EU Services, which printed flyers and trip brochures, and Tarara Winery, which allowed the Ramblers to park on their property for the duration of the trip. Watch this space and our website for information on the next Ramble!

ICPRB Honors Potomac Stewardship

The Interstate Commission on the Potomac River Basin (ICPRB) honored a number of individuals who have helped in restoring American shad to the Potomac River. Honorees were lauded at the annual National Casting Call, held along the Potomac's shore in Washington, D.C. at Fletcher's Boat House on April 30.

Populations of the historically and economically important fish have been in decline throughout the Chesapeake Bay watershed for decades. During that time, the migratory fish suffered from poor water quality, obstructions to migrations including dams and other blockages, and fishing pressure.

The ICPRB began a stocking project in 1995, and with the help of other agencies, volunteers, and school students, have placed more than 17-million shad fry in the Potomac. The most recent assessments have shown a strong rise in the Potomac



Congressman Jim Moran addresses the crowd, while ICPRB Chairman Hamid Karimi looks on.

population, which is responsible for most of the positive upturn in Chesapeake Bay stocks.

Many groups and individuals are responsible for the success of the project which included the government modification of the dam at Little Falls that allowed shad to regain about 10 miles of upstream spawning and nursery habitat, which was completed in 2000. Honorees included:

Maryland Senator Paul Sarbanes, for a lifetime of achievement in helping protect the Potomac. In addition to many, many efforts to preserve and restore the river, the senator was instrumental in the push to modify the dam at Little Falls, which for many decades was a barrier to migratory American shad. The construction of the fishway at the dam, which has reopened about 10 miles of river upstream for spawning, took many years and could easily have faltered without the efforts of people like Senator Sarbanes. His contributions to many other environmental issues on the Potomac and Chesapeake Bay are numerous.

Virginia Senator John Warner has been a strong proponent of protecting the environment since he was first elected to the Senate in 1979. During his senate career, Warner has championed the Chesapeake Bay Program for restoring the bay and the Potomac, and has worked on efforts to conserve land and support national parks and refuges. Last year, Warner appeared in the movie "On the Edge/The Potomac River and Dyke Marsh." Along with Senator Sarbanes, Warner spearheaded the successful effort to establish the Captain John Smith Water Trail, the first in the nation. Warner also helped to bring about the removal of the Embrey Dam on the Rappahannock River, reopening historic shad habitat. With Warner's help, shad fry from the Potomac have been placed in the Rappahannock

during the last several years, helping to jump-start the restoration of American shad on that river.

Maryland Congressman Steny Hoyer has done much to protect the Potomac over his career. Hoyer's support for construction of the fish passageway at the Little Falls Dam in support of the shad restoration project is only one in a long list of accomplishments benefitting the Potomac. He has been a key leader of a number of projects aimed at restoration of the Anacostia River, support for and participation in the annual Potomac River Watershed Cleanups, the Potomac Watershed Trash-Free

Initiative and the creation of the Captain John Smith Water Trail.

Virginia Congressman James Moran has viewed protecting natural resources and the environment as one of his top priorities. Locally, Moran has enacted legislation to preserve thousands of acres of open space and facilitated a land exchange protecting about 800 acres on Mason Neck. Moran has been very involved in a project along Four Mile Run, aimed at restoring the watershed shared by Arlington and Alexandria. He also has been a strong supporter of the Potomac Heritage National Scenic Trail.

Virginia Delegate Vincent Callahan has been a strong supporter of conservation and protection in the Virginia House, where he is chairman of the Appropriations Committee. In the last legislative session, Delegate Callahan was the patron of a \$250 million bond bill that will provide upgrades for sewage treatment plants, benefitting both the Chesapeake Bay and the Potomac River. He has supported many other funding bills to help restore the environment during his tenure. Delegate Callahan also served as a Virginia Commissioner to ICPRB for one term from 1997 to 2001.

Washington, D.C., Representative Eleanor Holmes Norton has strongly supported a range of environmental efforts on both the Potomac and the Anacostia Rivers. Norton has forwarded development of a 10-year comprehensive action plan for the Anacostia River and its tributaries. Combined sewer overflows are a major cause of Anacostia pollution, and its remediation is an important part of the bill. She is a member of the Environmental and Energy Study Conference and a member of the subcommittee on Water Resources and the Environment.

U.S. Fish and Wildlife Service Virginia Coordinator Albert Spells, who, as manager of the Harrison Lake National Fish Hatchery, recognized the vital role it would play in the project. Albert Spells also spent many nights working with ICPRB project manager Jim Cummins, including meeting him at late hours to transfer the shad eggs to the hatchery. Albert went well above and beyond his duties to ensure the project would succeed.

Sandy Burk wrote an outstanding book about the Potomac shad restoration project entitled "Let the River Run Silver Again!" This book, which describes how a few students made a big difference fostering support for a fish passageway and raising shad in their classrooms for stocking the Potomac, has been an inspiration to thousands of students, not only in the Potomac watershed, but across the country. The book received the Izaak Walton League's 2005 Conservation Book of the Year and the Green Earth Book Award for 2006. Her award recognizes her contributions not only with the book, but also the many hours she has spent working closely with many of the schools and



Watching the River Flow

Flow of the Potomac River measured near Washington, D.C., began well below average in April, but a strong storm boosted river levels, which then fell steadily for the rest of the month and through May, according to provisional data provided by the U.S. Geological Survey.

April river flow averaged about 15.45 billion gallons per day (bgd), or about 16 percent more than the long-term average. River flow ranged from a low of about 5.99 bgd on April 11 to a high of about 72.39 bgd on April 17. Water withdrawn for metropolitan area water supply averaged about 368 million gallons per day (mgd).

May was a very dry month in the basin. The May flow was about 4.86 bgd, or only 49.8 percent of average. Daily extremes ranged from a high of about 8.27 bgd on May 1, sliding to a low of about 3.12 bgd at month's end. Water withdrawn for water supply averaged about 421 mgd.

students involved.

"While we note the contributions of a few individuals who worked very hard on the project, thousands of others gave their time and energy to ensure that it would succeed. Along the way, we were able to demonstrate to politicians, government agencies, and the general public that the project was worthwhile and deserved support," said ICPRB Executive Director Joseph Hoffman. "As a small, nonregulatory agency, ICPRB's projects largely rely on partnerships with other agencies and groups; public knowledge about and support of projects like shad restoration remain strong because of that support."

Friend of Potomac, ICPRB, Gilbert Gude Passes Away

The Potomac River, ICPRB, and anyone with a strong interest in the preservation of the watershed lost a valuable friend and ally when former Maryland congressman and champion of the river Gilbert Gude died on June 7. He was 84.

Gude's interest in the river was evident from his work as a state delegate in the 1950s and as a state senator until 1966. He then served five terms as a U.S. Congressman representing Montgomery County, retiring in 1977. In 1969, he was the chief sponsor of a bill that protected the Chesapeake and Ohio Canal from a proposed highway that would hug the river, and later resulted in the 1971 legislation that created the C&O Canal National Historic Park. In addition to the recreational and cultural benefits enjoyed by millions today, the park's creation created a green buffer alongside the river for more than 180 miles, protecting it from development and pollution.

Gude, in a disarming, affable voice, spoke and acted strongly for the river's protection. In 1975, he led a month-long trip from the river's source at Fairfax Stone to its mouth at Point Lookout, of which several ICPRB staff and commissioners were a part. The group bicycled, hiked, canoed, and boated its way down, meeting with local officials and groups, and publicizing the beauty and heritage of the river environs. That same year found Gude pushing a bill that would have created a 200-foot wide buffer strip along the Potomac from Washington, D.C., to Cumberland, Md., creating a green buffer on the river's other bank, complimentary to the C&O Canal. A similar bill was sponsored in the Senate. The visionary idea, unfortuantely never became law.

After leaving Congress, Gude became head of the Congressional Research

Service at the Library of Congress, and continued to explore and research the river. During the 1980s, Gude wrote two books chronicling the history and culture of the upper Potomac, "Where the Potomac Begins: A History of the North Branch Valley," in 1984, and "Small Town Destiny: A Story of Small Towns along the Potomac Valley," in 1989. He also wrote an article, "Presidents and the Potomac," for the *Journal of the White House Historical Association*.

He also was active in helping to form the Potomac River Basin Consortium, a group of professors and researchers from basin universities that meet to advance knowledge and scholarship about many aspects of the watershed. Gude also taught a course about the Potomac at Georgetown University, and would contact ICPRB each year before class started to get an update and trade information about aspects of the watershed. What was nice about Gude's annual fishing expedition at the Commission was that he usually had as much information to give as he got.

Gilbert Gude's efforts to preserve and protect the river that he felt flow through him gained success through his focus on the big picture, his respectful, low-key approach to dealing with people, and his unbridled love of the Nation's River. Gilbert, the river and many people who work for it will miss you.



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ICPRB Honored as Watershed Steward

The Frederick County, Md., Division of Public Works recently nominated ICPRB as a "Watershed Steward," and the agency was awarded a sign from the Monocacy and Catoctin Watershed Alliance for improving watershed health through outstanding community partnerships during the past three years.

The award represents ICPRB's leadership on projects including the Clover Hill Community Park riparian buffer planting, assisting the New Forest Society in building a grow-out station for trees used in plantings, the Middletown, Md., rain barrel project, a rain garden constructed at Brook Hill Methodist Church, and the ongoing 2007 rain barrel project. More importantly, the partners who worked with ICPRB also received signs as a tribute to their efforts.

The Monocacy watershed includes most of Frederick County, and is the second-largest Potomac tributary. These projects benefit the Monocacy watershed and the downstream Potomac. The Chesapeake Bay Trust helped to fund the projects.

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