Public perceptions of the Potomac River were dominated by several events during the past year, led by the continuing story about fish displaying some traits of both sexes, a condition known as intersex. As researchers find more incidents of the problem in several species and in several areas, questions have been raised about the public water supply. Other major concerns included continued expansion of the snakehead fish, the search, in some areas, for potable water sources to meet rapid growth, and the opportunity for green development along the changing Anacostia waterfront.

Many other things that don’t often make the front page are just as important, including ongoing efforts such as reducing nutrient loads, controlling toxic substances, and comprehensively planning for a river that can support our many and sometimes competing demands in the future. Efforts to engage and involve the public in discussions and solutions are an essential part of all these efforts.

None of these issues is limited to a single jurisdiction—all require answers developed cooperatively on a regional or watershed basis. The Interstate Commission on the Potomac River Basin (ICPRB), a nonregulatory agency of the Potomac basin jurisdictions, is focused on helping to build solutions through consultation, sound scientific investigation, capacity building, and public education and involvement.

Drinking Water Purity Begins with Clean Streams, Ample Groundwater

The river’s use (along with many of its tributaries) as a source of drinking water is perhaps its highest calling. Residents relying on public drinking water systems
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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Commissioners and their alternates are appointed by the state’s governors, the mayor of the District of Columbia, and the President of the United States.

have the luxury of turning on a tap, and for the most part, trust that the water is plentiful, safe, and pure. That luxury is the result of long-term planning and coordination by the water utilities and government agencies responsible. The major water suppliers in the metropolitan area, state governments, ICPRB, the U.S. Environmental Protection Agency, and other organizations are working together to protect water quality as a means of protecting the drinking water supply. These entities established the Potomac River Basin Drinking Water Source Protection Partnership in 2004, with a coordinated focus on watershed management principles—looking at the many existing and potential threats to drinking water at their sources. The organization continues to bring more utilities and agencies to the table, with the intention of creating a basin-wide body focused on protecting drinking water sources. The effort is part of the “multiple barrier” approach to protect drinking water purity, beginning at the sources of potential contaminants. The group is tracking research on endocrine disrupting chemicals thought to be a factor in the discovery of intersex fish in parts of the Potomac, and pushing for more basic research to be done. The partnership also is holding workshops and networking on other areas of concern, including reducing and controlling pathogens and chemical substances that affect the raw water sources on which utilities depend. Other interests include urban stormwater and how land conservation can be used to protect raw water supplies. Through regular collaboration, the partners can stay well-informed about existing and new threats to our source water, and our use of it as a drinking supply.

The other major source of drinking water for the watershed’s residents is in the form of wells that tap groundwater aquifers. Groundwater is commonly used in the upper portions of the basin, and by residents of the coastal plain, where surface water is too salty for drinking use. Groundwater resources, like surface water, are under increasing use in the watershed, and some areas may be reaching their aquifer’s capacity, which must recharge from rainfall filtering through the ground. The aquifers also are connected to streams and rivers, providing the base flow that keeps streams flowing between storms and during extended dry periods.

Recognizing that groundwater is a crucial resource, ICPRB will continue its program to assess groundwater availability throughout the watershed. Building on collaborative work with the U.S. Geological Survey, ICPRB is monitoring groundwater levels in real-time, analyzing data to provide a picture of groundwater in the basin, and focusing targeted studies on
areas of concern. As basin-wide analysis continues, more focused studies are ongoing in the Monocacy watershed, which includes the rapidly growing area in and around Frederick, Md., and on the coastal plain. Coastal areas near the Chesapeake Bay also are experiencing rapid growth, and in some cases, decreasing groundwater levels. The information gathered by this research provides tools for state and local governments to plan for stable and sustainable water resources in the future.

As more is learned about the quality and availability of water resources in the basin, the jurisdictions are assessing these and other factors to develop new policies that protect water supplies and preserve them for the future. The ICPRB continues to provide support to basin governments as they review and modify their water resources programs. Issues including groundwater and surface water availability, consumptive use, allocations, and other issues all are being addressed. The ICPRB helps in providing a watershed basis for states to use in creating rules for use of what is an increasingly shared resource.

The ICPRB has for decades been directly involved in ensuring that an adequate quantity of water is available in the Potomac to meet the needs of the Washington metropolitan area through the ICPRB Section for Cooperative Water Supply Operations on the Potomac (CO-OP). The CO-OP staff is responsible for releases of stored water to the river during low flows, when the public's demands on the metropolitan area's three major water suppliers might require all that the river can give (high summer demands on the Potomac currently can top 600 million gallons per day (mgd); the historical low flow of the river downstream of the intakes was about 388 mgd, reached during the drought of 1966). Releases of water from upstream reservoirs, tied with cooperative operating rules to coordinate Potomac and off-river withdrawals among the normally independent utilities, has ensured that the metropolitan area can meet its raw water demands even during a drought much worse than the worst recorded. In addition to securing reliable water supplies, these reservoir releases and cooperative operations ensure that adequate water remains in the river for fish and other aquatic life.

Although stored water from upstream reservoirs, which were filled in the early 1980s, has been used to ensure adequate water supplies only during 1999 and 2002, drought operation simulations are conducted annually to ensure that the system runs smoothly, and that the mix of water utility, government, and ICPRB staff all know their roles. The exercises often reveal new actions that can make the system operate more efficiently.

The CO-OP staff continue to study the system and institute changes to the drought management procedures to maximize the reliability of the water supply system, even in droughts much more severe than those experienced in the last several decades.

Current studies are examining historical changes in land use and climate that can directly impact water supplies. Land use changes can affect whether rainfall runs immediately into a stream, or if it seeps into the ground, refreshing the groundwater table that provides the base flow for streams and rivers. The landscape during the drought of record, in the 1930s, is in many areas markedly different than today, and accounting for the related hydrological changes as well as examining differences in climate from then to present can increase our understanding of the system and improve management.

Staff also maintain a toxic spill model used to advise water suppliers of the threat of toxic substances released into the river upstream, such as when years ago a pipeline rupture near a Virginia stream sent a massive slick of oil downstream that closed a major water intake for more than a week. The model can be run at any time, given the source and volume of the spill, to provide guidance on water supply operations.

Coordinated River Restoration

A major focus of jurisdictional efforts to protect water quality under the federal Clean Water Act is the listing of waterways that do not meet quality standards. Total Maximum Daily Load (TMDL) studies determine the sources and loads of a particular contaminant and the reductions needed to return a stream to compliance with water quality standards. Each of the basin jurisdictions has identified a significant number of streams that do not meet standards, and many TMDLs are being

A popular canoe stream, the Monocacy River is pressured from sediment and growing use of surface and groundwater resources.
The ICPRB is involved in several TMDL projects, particularly those involving interstate streams. The largest effort covers the tidal Potomac, and is aimed at reducing polychlorinated biphenyls (PCB) levels in fish tissue. An industrial solvent banned decades ago, PCBs are a toxic substance found in elevated levels in some tidal Potomac fish. Each of the jurisdictions (the District of Columbia, Maryland, and Virginia) is responsible for a TMDL for their portion of the river, but have elected to join forces, with the help of ICPRB, to address the problem as a watershed-scale issue. The willingness to work together in a shared waterway will produce a single study on which all parties agree. The effort has the added benefit of saving time and money in addressing the river’s PCB problem. The ICPRB is performing some of the research and modeling, and is coordinating the multi-jurisdictional effort. The ICPRB also is involved in TMDL development in the Anacostia and Monocacy watersheds, and is assisting Maryland in technical investigations and computer modeling for other plans. While these studies can produce a roadmap for managing pollutants, such as establishing limits to be included in permits, they do not authorize restoration funds, and plans must receive strong support to be implemented.

Understanding water chemistry and the impact of particular contaminants is essential in creating restoration plans and increasing our knowledge of the river. Yet, chemical water quality only gives part of the picture. A more-complete picture is gained by understanding both the chemical and biological processes of the river, and ICPRB is increasing that understanding with a number of projects. During the year, ICPRB Living Resources staff will contribute to assessments by Pennsylvania and West Virginia by performing biological stream assessments in those states. The assessments used for targeted streams rely on identifying and quantifying aquatic insects captured in the streams. With other data, the numbers and types of organisms found provide a picture of the stream’s health, including water quality and habitat suitability. The assessments are required under the federal Clean Water Act, and help identify streams needing restoration plans, as well as streams that should be protected because of their high quality.

Direct reestablishment of fisheries is continuing in the wake of ICPRB-led projects to restore American shad to the Potomac River and river herring to the Anacostia. Both projects involved the capture of spawning fish to acquire fertilized eggs. Eggs were hatched both in fish hatcheries and by school classrooms that incorporated the project into their science curriculum. Fry were then placed upstream of blockages that reduced the spawning habitat for the migratory fish. Both projects used volunteers to help. Active stocking has ceased, and monitoring reveals that the American shad population in the Potomac is at its highest in decades. A recent report on American shad in the Chesapeake Bay revealed that the vast majority of the shad found were in the Potomac. Both projects are suffering from funding shortages that limit continued assessment of the two successful projects. Monitoring the success of the projects provides an accurate assessment of these reestablished fisheries, and provides valuable information on making future efforts more efficient.

Other staff are working closely with the Chesapeake Bay Program to help maintain large databases of biological and chemical water data that are essential to bay management and gaging program success. The Potomac, as the second-largest tributary to the bay, is affected by bay management decisions, and improved.

**Watching the River Flow**

Flow of the Potomac River measured near Washington, D.C. was above normal in December and January, according to provisional data supplied by the U.S. Geological Survey. December flow averaged about 8.85 billion gallons per day (bgd), with daily extremes ranging from a low of about 5.07 bgd on December 22, jumping to the high for the month of 16.70 bgd on December 27. Those flows do not include about 510 million gallons per day (mgd) withdrawn for municipal water supplies. Freshwater inflow to the Chesapeake Bay in December averaged about 44.73 bgd, with the Potomac contributing about 17 percent.

In January, average daily flow in the Potomac jumped to about 12.80 bgd, ranging from about 22.80 bgd on January 9 to about 6.57 bgd on January 31. Those flows do not include about 500 mgd withdrawn for water supplies. Freshwater inflow to Chesapeake Bay averaged an above-average 79.76 bgd. The Potomac contributed about 13 percent of the total.
Potomac water quality is crucial to the bay restoration. Other staff keep the Potomac well-represented in the Bay Program by chairing subcommittees and work groups focused on a variety of restoration topics.

Watershed Groups, Rain Barrels, and Cleanups All a Target This Year

The communications team at ICPRB strives to bring solutions, education, and assistance to watershed groups, individuals, and local, state, and regional governments. Capacity-building for local watershed groups, rain barrel workshops and sales, Potomac River canoe and kayak trips, and information through its newsletter and website are among the many projects in line this year.

One of the most recent groups to form, aided by ICPRB assistance, is the Antietam Creek Watershed Alliance (ACWA). Assistance included help with attaining non-profit status and developing a clear mission statement and vision. The group also is working on establishing a greenway through Hagerstown, Md., native plantings in the city, and at least two cleanups of Antietam Creek.

Similar efforts are underway with the Shenandoah Pure Water Forum, which is building capacity and fostering support for watershed organizations in the Shenandoah watershed, the Potomac’s largest tributary. The Shenandoah watershed is home to many of the Potomac basin’s farms and remains largely undeveloped. However, development pressures and some farming practices impact the river’s health. Watershed groups that focus on smaller streams and creeks that feed the Shenandoah will target problem areas with on-the-ground efforts to reduce erosion and sediment and provide valuable information to the public.

The Potomac Trash Free Initiative, a project started by the Alice Ferguson Foundation, developed as an extension of the 18-year Potomac Cleanup effort. The goal of the groups who signed the Trash Free Potomac Treaty hope to have the Potomac trash free by 2013. Staff are working to publicize the effort and assist with organizational needs. The ICPRB is partnering with the Alice Ferguson Foundation to help with this year’s Potomac Cleanup on March 31 and April 1 by assisting at several sites and helping to advertise the event. Trash is a major issue throughout the watershed and can significantly impact the public’s perception of the river’s health, its accessibility, and its importance to the region’s water supply.

Rain barrels have been on the minds of many watershed residents, especially since last summer’s lack of precipitation. The ICPRB will sell about 250 barrels this year and offer at least 11 workshops to residents across the watershed. The project was a success in Middletown, Md., in 2006 and ICPRB hopes to expand it throughout the Potomac watershed this year with the aid of grant money from Chesapeake Bay Trust. After this year, the project will be sustainable and ICPRB will be able to bring barrels and offer workshops to the public year after year.

Through the Potomac Basin Reporter newsletter, and a website www.potomacraver.org, ICPRB is able to bring important and relevant information to the public. Staff will continue to provide useful information to Reporter readers, and update the website. The website has more than doubled its visitor usage in two years and currently receives about 18,000 visits a month. The website is the hub of the organization and is used to announce upcoming events, major news issues, such as last year’s fish kills, and highlight ICPRB projects, such as American shad restoration.

These major undertakings by ICPRB are complemented by many other related projects that can be found on the ICPRB website. Together, these projects and the many partners involved build capacity and inertia for tackling the Potomac’s challenges. With its mix of water quality, living resources, water supply development and protection, and public outreach projects, ICPRB assists the Potomac jurisdictions with a comprehensive approach that promotes watershed management principles.

Pa. Residents can Assist in Protecting Drinking Water

Pennsylvania’s State Water Plan includes a process to nominate watersheds that may be facing future water shortages as Critical Water Planning Areas. If accepted by the Department of Environmental Protection a Critical Area Resource Plan will be produced. The plan will include a more-detailed investigation of water availability and current and future demands for water. Existing and potential conflicts among users will be identified, along with possible alternatives to resolve such conflicts; and supply-side and demand-side alternatives to assure an adequate supply of water in the future.

The plans are not regulatory documents. They will, however, suggest measures and actions that could be adopted to address the potential water shortage in the area. For more information, visit the DEP website at http://www.dep.state.pa.us/dep/deputate/watermgt/wc/act220/critical_water.htm
I am honored to serve as chairman of the Interstate Commission on the Potomac River Basin, created through a collective wisdom that realized that the river’s challenges are too large and complex to be addressed either separately or on a jurisdictional basis. Both the complexity of the challenges and the need for cooperative, watershed-based efforts is only greater than when ICPRB was established for that purpose in 1940.

My career as an environmental official for the District of Columbia government, where we recently created a new Department of the Environment, provides a constant reminder of the need to work together across the watershed. The District of Columbia lies in the middle of the Potomac’s largest population center, shared with rapidly growing suburbs in Maryland and Virginia. The District’s population and land activities (sewage, stormwater control) create an impact that is multiplied by the upstream impacts from the surrounding jurisdictions. Of course, the impacted waters eventually flow out of the District and back into Maryland and Virginia waters.

These shared impacts and responsibilities demand answers based on coordinated planning and restoration, which is how ICPRB serves the watershed. The platform provided by ICPRB allows the jurisdictions—Washington, D.C., Maryland, Virginia, Pennsylvania, and West Virginia—to work with each other and the federal government, also represented on ICPRB, to find solutions that “enhance, protect, and preserve the water and associated land resources of the watershed through regional and interstate cooperation,” the ICPRB mission. The quality of that effort is reflected in the strength and leadership of the members through ICPRB. Whatever it tries to do, ICPRB will accomplish its mission in proportion to the trust and sharing of resources that the partners place in each other and in ICPRB.

As seen in the related article, there are many examples of what can be accomplished when the jurisdictions commit to working together under a watershed approach:

**Control of toxic chemicals.** The ICPRB is helping to create a single total daily maximum load (TMDL) plan that will address polychlorinated biphenyls (PCBs) contamination in the tidal river shared by the District, Maryland, and Virginia. Banned decades ago, PCBs remaining in riverbed sediments have contaminated tidal Potomac fish, and the jurisdictions are required under federal water law to complete plans for meeting water quality standards. This departure from separate jurisdiction plans can save each time and money through a single integrated plan. The effort does require that the jurisdictions work together and negotiate agreements. In the long run, the process should produce a comprehensive, understandable plan for the river segment.

**Drinking water supply and protection.** For decades, the major water suppliers for the Washington metropolitan area have worked closely together, and with ICPRB created a structure that allows each to provide reliable water supplies even during the worst of droughts. The ICPRB helps to ensure that water withdrawals do not impact the river ecology. In addition, ICPRB coordinates the Potomac Basin Drinking Water Source Protection Partnership, a growing coalition of water suppliers, government regulators, and other groups focused on protecting public drinking water quality through the protections of its sources, the Potomac and its tributaries. The group is working on a range of water quality issues, including how emerging contaminants might affect drinking water.

**Fisheries restoration and protection.** In its American Shad Restoration Project, ICPRB has led a broad-based cooperative program that is returning the population to health. The coalition of partners includes government (state and federal), nonprofit organizations, school students, and teachers. The future of the American shad in the Potomac is bright because of the range of government and private stewardship invested in bringing the species back.

**Citizen stewardship.** The ICPRB will never fulfill its mission without strong public stewardship. A restored and protected Potomac River basin will require government to step up its commitment in many areas, something that will not occur without strong and continuing citizen support. The ICPRB engages the public through its newsletter, website, and projects, such as shad restoration, that give the public a role and a reason to care.

These are just a few examples of ICPRB.
leadership in the watershed. There are many others, including technical assistance to the jurisdictions through the Chesapeake Bay Program and other efforts.

While these efforts have helped the Potomac and its jurisdictions, ICPRB must continue to bolster its existing efforts, while looking for new ways to bring the region together to improve and protect the Potomac. We need cleaner water, better protection, more stewardship, and a renewed commitment to preserving many aspects of our quality of life through preserving our waterways. While the jurisdictions are all practicing these principals, all of those efforts will be magnified if we work together to cooperatively address these issues on a watershed basis. The ICPRB provides that platform.

Pa. Commissioner Bill Plank Passes Away

William I. Plank, an ICPRB Pennsylvania Commissioner since 1994, passed away on January 25 at the age of 64. He died from injuries sustained from an auto accident that occurred just before the December holidays.

“In addition to his family and friends, Bill will be missed by the Potomac River community, many of whom he worked with on a long list of environmental efforts,” said ICPRB Executive Director Joseph Hoffman.

Plank worked tirelessly on river issues, primarily in the upper watershed. He worked to push ICPRB toward greater advocacy for river issues, and stressed the empowerment of citizens groups to protect local waterways. He served as ICPRB chairman during 2002-2003. Many of Plank’s efforts were as a private citizen. His activities were centered in the area around his beef cattle farm in Clearville, Pa. He was director of the Bedford County Conservation District for 21 years, and served as its representative to the Pennsylvania Association of Conservation Districts. He also brought conservation district input into the Three Sisters water conservation plan for the Western Pennsylvania Conservancy.

Those efforts were just a starting point for the tireless Plank. He served the watershed as a member of the Evitts Creek Steering Committee (a bi-state group that helped provide reliable water for Cumberland, Md., while preserving other stream values and uses), Ridge and Valley Streamkeepers, the Potomac Appalachian Trail Club, and the Sierra Club. He was a member of the Southern Allegheny Conservancy and the Bedford County Arts Council.

Plank found time to bicycle the C&O Canal Park Towpath or other trails, and could often be found on the river or a tributary stream in his kayak, which lived on the roof of his truck.

Plank’s efforts toward protecting the environment were not only strong, but infectious. He had an easy going manner that drew other people in to his determination on issues including development in Bedford County and the growth of corporate agriculture in the region. Plank did his homework on these issues, and even those that disagreed did not doubt his sincerity or motives.

His decades of advocacy were recognized during the 2005 Potomac River Sojourn, sponsored by ICPRB and the Alliance for Chesapeake Bay. Plank received the Spirit of the Sojourn Award in honor of his own stewardship as well as that which he inspired in others.

The award is even more fitting now, as many who paddle the river will feel Plank’s spirit with them as they travel through what he helped to protect. Many of us will still wait for a glimpse of his boat as we round a corner through the Paw Paw Bends, an area he loved. The river will seem a little emptier with his absence.
Join ICPRB for the Summer River Ramble, June 7-10

The ICPRB invites you to join us on the Potomac for an adventure that you will not soon forget. The summer Potomac River Ramble expedition will start at the National Conservation Training Center (NCTC) on June 7 in Shepherdstown, W.Va., and will end at Tarara Winery in Va., on June 10. During this canoe/kayak outing, participants will learn about some of the river’s challenges, meet up with the Shenandoah Sojourners at Harpers Ferry, gain historical perspectives, and build stewardship and camaraderie.

Ramblers will camp at NCTC on the evening of June 6. There will be two days of beginner-level whitewater boating with plenty of safety boaters stationed along the way. Beginners are welcome to join the Ramble. More details are posted on the ICPRB Ramble page at www.potomacriver.org/ramble.htm and a registration form will be posted on that page soon.

ICPRB also is looking for corporate sponsors for the event. Your company can participate as a sponsor in this fantastic environmental educational opportunity and get recognized as an organization that supports environmental efforts. Contact Adam Griggs at (301) 984-1908 ext. 103 for details about participating in or sponsoring the Rambles or email agriggs@icprb.org.

The Potomac Cleanup Needs You

The Alice Ferguson Foundation is holding the 19th Annual Potomac River Watershed Cleanup on March 31-April 1, from 9 a.m. until 12 noon. The need for personal stewardship of our natural resources has never been greater, and the cleanup is an opportunity to work for your community alongside friends and neighbors. Site leaders and volunteers are needed at hundreds of sites across the Potomac watershed. To learn more about the cleanup, sites near you home, or about the Trash-Free Potomac project, call (301) 292-5665, or visit www.trashfreepotomac.org.