

REPORTER



C. Dalpra

The retired Navy Destroyer *Barry* at its frozen berth at the Washington Navy Yard on the tidal Anacostia in Washington. The Potomac basin chilled its way through one of the toughest winters in recent years, with near-record snowfalls in parts of the watershed. Much of the tidal Potomac and its tributaries sported a sheet of ice from bank to bank. Large portions of the Chesapeake Bay froze over as well, a condition not seen since the 1995-1996 winter. The rain and snowfall put an end to the region's long drought, raising both river and groundwater levels. The hard water resulted in increased use of the river by ice skaters in some areas, and enhanced the metropolitan area's homeland security, which has imposed boating restriction around military installations and vessels. Boats travelling too close to military assests was a virtual impossibility.

ICPRB Building a Potomac for the Future

The Interstate Commission on the Potomac River Basin (ICPRB) is a valuable regional resource for Potomac basin residents as well as the local, state, and federal governments. In 2003, the commission will continue to work on several major projects that complement regional cooperation throughout the watershed. ICPRB is involved in projects that highlight living resources, water quality, water supply, education, and public information in the Potomac River basin. This article focuses on some of the major projects for the coming year.

Living Resources in the Balance

This year, ICPRB is pushing forward with initiatives to restore the living resources of the Potomac River and

continuing the success of several existing programs. The commission's living resources team will focus on monitoring the success of the previous eight years of American shad releases into the Potomac River. Through the efforts of the American shad restoration program, more than 15.6-million shad fry have been released into the river. With the stocking program completed, more time will be spent monitoring shad populations to assess the fishery's growth. The data to date show that American shad populations in the Potomac are making a strong rebound. The Little Falls Fish Passage Task Force, partners that contribute to the success of the American shad restoration project, includes the U.S. Fish and Wildlife Service, Maryland, Virginia, ICPRB, U.S. Army Corps of Engineers, U.S. Environmental Protection

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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Agency, Chesapeake Bay Foundation, Potomac River Fisheries Commission, National Biological Survey, National Marine Fisheries Service, Montgomery County, Md., National Park Service, The Potomac Conservancy, and the District of Columbia.

There is no question that the shad restoration efforts have been successful in the 25 schools that participate in the "Schools in Schools" program, a cooperative effort with the Chesapeake Bay Foundation. Hundreds of students raised thousands of young shad for release into the Potomac River. Raising shad fry in classrooms enhances school curricula through the study of ecosystems, food webs, Potomac history, writing, math, and many other topics. The obvious advantage to growing shad in classrooms is to provide fish to stock the rivers. But it is the underlying advantage of fostering long-term relationships between youth and the Potomac River that helps foster a healthier river and bay.

The commission is looking for the same success in renewing the herring populations of the Anacostia watershed and Rock Creek. Removing barriers to fish migration is critical to the success of both programs. In the Potomac, modification of Little Falls dam now allows fish to use a 10-mile upstream segment of the river. In the Anacostia, a number of stream blockages have been removed, with more to follow. The ICPRB, the Metropolitan Washington Council of Governments, and the Maryland Department of Natural Resources have been stocking Anacostia watershed streams and Rock Creek with herring since 2000. The initial goal was to release one million herring between the two waterways each year. Jim Cummins, the project organizer for ICPRB, estimates about two million herring released in each of the past three years, already surpassing the initial goal of the five-year project.

Another facet of the herring project for 2003 is a "Schools in Schools" program similar to the successful American shad project. The ICPRB is continuing to work with the Chesapeake Bay Foundation and expanding the partnership with Living Classrooms, a non-profit environmental educational organization, and the Anacostia Watershed Society to include the public in maintaining the living resources of the Potomac. An advantage to the project is that herring can be released in smaller tributaries, thus fostering positive partnerships with upstream youth. Not only will this project be fun, it will also tie into the school's curricula for biological science, local history, and Potomac history. Students will take pride in raising herring in their own classroom for release into their local waterways and knowing that they have improved the health of their streams and the Potomac.

Pennsylvania has 2,067 stream miles in the Potomac River basin and more stream



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Commission staff Jan Ducnuigeen and Jim Cummins survey a Pennsylvania stream for macroinvertebrates.

miles than any other state in the nation. In 1997, the Pennsylvania Department of Environmental Protection began monitoring Pennsylvania streams within the Potomac watershed with help from ICPRB. The monitoring method involves the collection of aquatic macroinvertebrates that are identified to the family level in the field along with habitat assessment of the area. To date, all streams in Pennsylvania's portion of the Potomac watershed have been surveyed with the exception of those that were too dry to monitor during the drought period of the past five years. The ultimate goal for this project is to accurately assess the current health of all of the Potomac's Pennsylvania tributaries.

The team's fourth major project for the year is continuing participation in a task group reviewing the Potomac's minimum in-stream flow environmental needs. Water supply withdrawals during droughts can occasionally leave a river segment downstream of the Metropolitan Washington intakes with flows approaching 100 million gallons per day, the current minimum recommended flow. The recommendation is being assessed for potential impacts to the river's ecology. The task group will use field data collected in 2002 and this year, and work with several partners to assess the river's needs.

Water Quality Models for the Future

ICPRB is assisting several basin states in their Total Daily Maximum Load (TMDL) programs. A TMDL is an assessment of the maximum amount of a pollutant that can enter a river, stream, lake, or estuary and still allow it to meet the water quality standards set for it by the state and federal government. Calculation of a TMDL and an allocation of that maximum pollutant amount among sources is necessary when a water body is determined to be "impaired" (does not meet water quality standards). To produce a TMDL, all sources of a pollutant are identified, including non-point sources like stormwater or agricultural runoff. A computer simulation model is used to

explain the link between a current pollutant load and observed water quality, and to predict how much the load should be reduced so that the water body meets standards. This year, the water quality section is developing models for the District of Columbia (the tidal Anacostia River for various toxic substances), in Maryland (the non-tidal Anacostia for nutrients and sediment), in Virginia (Goose Creek and several of its tributaries for bacteria and general biological

impairments), and in Pennsylvania (three watersheds to be selected). Assessments performed by ICPRB staff in Pennsylvania will be used to determine where TMDLs are needed.

Restoring the Chesapeake Bay is a regional priority, and ICPRB works closely with the states and federal agencies on their Chesapeake Bay Program initiatives. The Potomac basin comprises 22% of the bay watershed, and is a significant contributor to the bay's problems and must be an important contributor to the bay clean-up. A special challenge to achieving bay goals for pollution reduction in the Potomac watershed is the complex nature of environmental management in a basin shared by five jurisdictions. A higher level of interstate cooperation and coordination is required in the Potomac than for other bay tributaries. ICPRB is ideally suited to assist the states in achieving their Potomac and bay restoration goals through its work in all of the jurisdictions. ICPRB staff provide technical expertise to the Bay Program in biology, monitoring, and modeling issues and provide institutional assistance with many interstate issues.

Education will be another major focus for the water quality team of ICPRB. Through watershed stewardship grants, ICPRB and the Anacostia River Business Coalition (ARBC) will build a demonstration raingarden at the Washington Metro on Minnesota Avenue. ICPRB and ARBC also are working to develop materials for educating businesses about their role in reducing runoff and pollution. ICPRB staff continue to provide technical expertise to watershed groups throughout the Potomac basin on a variety of topics. In particular, the commission provides information on interstate and basin-wide issues to local watershed groups.

Coordination for Sustainable Water Supply and Water Resources

The ICPRB Section for Cooperative Water Supply Operations on the Potomac (CO-OP), a partnership between the water suppliers of the Washington metropolitan

area and ICPRB, will continue to help in the planning and management of the area's water resources. In drought years, CO-OP is responsible for making technical recommendations to water suppliers on how to manage metro water resources, particularly in determining needed releases of stored water when river levels drop. The CO-OP staff also provides Water Supply Outlooks for the metropolitan area water suppliers and other interested parties. These outlooks provide guidance on the probable need for reservoir releases during the drier summer and fall seasons.

Drought exercises are conducted in years of normal river flow to ensure that drought operations are well coordinated among the ICPRB and the three suppliers. Last year, the efforts of the drought exercises paid off as the Washington metropolitan area experienced a severe drought. Operations were smooth and the water suppliers worked through ICPRB to ensure that adequate water was available for water supply demands and environmental flows. If 2003 proves to have normal river flows, a drought preparedness exercise will be conducted to practice for future dry years. The CO-OP hopes to coordinate two temporary gauges on the Potomac, upstream of Little Seneca Creek, and between the creek and Little Falls. These gauges will assist in predicting the flow of the Potomac River at Little Falls during times of drought and can be tested during drought exercises.

The commission will continue to refine the Potomac River Spill Model to improve its utility for communicating information on spills and as an analytical tool for source water protection plans. ICPRB works with state agencies and local water suppliers to coordinate a regional approach to source water protection plans.

In 2000, the 20-year forecast of development and resource availability showed that in 2020, the water resources of the metropolitan area would be strained. The CO-OP utilities are preparing for the increasing population and its effect on the water resources of the Potomac watershed. In the coming years, the CO-OP will continue to provide technical support to the water suppliers in evaluating alternatives for future water supply as the region's water demands increase. Alternatives include increasing the efficiency of operations, structural alternatives, and drought management. Staff have developed a model of North Branch Potomac reservoir water quality operations, and will use the information to examine existing reservoir operating procedures and explore whether



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Along with groups like ARBC, the commission works with many organizations and volunteers to create rain gardens, such as this one at the Air Pegasus heliport in Washington.

alternative operating practices can be developed that are more optimal for water quality, water supply, and environmental needs.

Potomac Information at your Fingertips

ICPRB continues to find creative approaches to bring Potomac information to the public. Recently, the ICPRB website was completely re-designed, providing a more-organized, comprehensive, easily navigated site. Interactive maps, archived issues of the *Potomac Basin Reporter*, annual reports, opportunities for public involvement, and commission projects are all highlighted on the new site. Each year, ICPRB answers thousands of information requests throughout the basin and the world. Information requests can now be completed on-line by e-mailing info@icprb.org or visiting the website's info center at www.potomacriver.org. For those interested in the traditional approach, we can still be contacted via phone at (301) 984-1908, or by mail.

The *Potomac Basin Reporter*, ICPRB's bi-monthly newsletter, focuses on topics in the Potomac watershed. The *Reporter* is distributed to more than 15,000 individuals, organizations, and libraries interested in Potomac basin issues.

The commission continues to provide education and outreach to schools, businesses, and other organizations. One effort, in support of the ARBC educates businesses on pollution reducing activities such as waste reduction, storm water management, and toxics reduction. Educational materials also have been developed for teachers to incorporate into their existing curricula.

The Potomac River Swim for the Environment on May 31 is an event worth watching. Swimmers must raise \$250 in order to be eligible for the swim. Those selected will go on to swim the 7.5 miles from Hull Neck, Virginia to Point Lookout State Park, Maryland. Funds raised from

this event equally benefit the Southern Maryland Sierra Club, Chesapeake Bay Foundation, Point Lookout State Park, Potomac River Association, and ICPRB. For more information, please call Cheryl Wagner at 202-387-2361 or e-mail her at cherylw@crosslink.net.

Outreach continues to extend across international borders with ICPRB's commitment to share information with the Arakawa Sakura club, the Potomac's sister river organization. The Ara basin in Japan is quite similar to the Potomac River basin in that they face many of the same challenges. Over the years, ICPRB commissioners and staff have visited the Ara basin and Japanese delegations have visited the Potomac. The commission also hosts several international delegations each year that come to learn more about protection and management of

Chairman's Report

by William I. Plank, Pennsylvania Commissioner and ICPRB Chairman, 2002-2003

What a tremendous honor and responsibility for a Pennsylvania beef farmer to be elected chairman of the ICPRB! I have received the *Potomac Basin Reporter* since requesting a subscription sometime in the early 1970s when we lived along Rock Creek in the Maryland suburbs of Washington, D.C. I grew up on a small farm in Michigan, attended a one-room school for 6 years and later graduated from Michigan State and the University of Michigan with a masters degree. I subsequently took a number of credits in agronomy at Penn State. I'm a rural person. When starting to travel towards Washington for the Commission meeting in December, 2002, I had to remember to remove the deer rifle from my truck. I've been a member of the Commission for about 10 years and also importantly on the board of the Bedford County, Pa., Conservation District for 18 years. I'm committed to conservation. I'm committed to helping farmers understand their part in cleaning up the river and the bay and helping them find the resources to get the job done. We need to get as much of that job as possible done voluntarily before TMDL deadlines legislate it. I've been to the river's source at Fairfax stone numerous times, to its mouth at Smith Point and Point Lookout, to the Shennandoah headwaters in Love, Va., Smoke Hole, W.Va., and beyond, and to the basin's northern headwaters in Pennsylvania at Fentons Knob on the Conococheague Creek. I've camped, hiked, mountain biked, and paddled lots of territory between all those landmarks. I feel directly connected to the river and passionate about it.

In Bedford County, we have a tradition of



A swimmer nears the Potomac shore.

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our complex, dynamic watershed. This continued information exchange also brings new ideas into Potomac watershed.

As always, the ICPRB staff welcomes public input on its wide array of projects. These major efforts are complemented by many other smaller projects that benefit the Potomac River basin and its residents, both present and future.



working beyond the state border to consider the entire watershed. We formed a partnership to improve the raw water quality for the City of Cumberland, Md., reservoirs through our bi-state Evitts Creek Steering Committee. The same commitment to watershed boundaries extends to the Ridge and Valley Streamkeepers, a citizens group that monitors and fosters watershed based planning with multiple partners in the Town Creek and Sideling Hill Creek watersheds. The Pennsylvania Department of Environmental Protection's Growing Greener initiative allows the use of Pennsylvania dollars to study the watershed on both sides of the Mason-Dixon line. The Western Pennsylvania Conservancy, where as a member I am involved in a number of efforts, is starting a state-funded Rivers Conservation Grant for the two above-mentioned tributaries plus a smaller one, Fifteen Mile Creek sandwiched between them (some will remember a famous watering hole at the mouth of this stream). The Conservancy will again be involved in planning on both sides of the line. The

Commission needs to continue its commitment to supporting such citizen efforts.

I like to think of all the water that contributes to the main stem as the Potomac. In the days before GIS, automobiles, airplanes, and other technology, isolated stream valley residents and explorers chose to differentiate smaller streams. Its time to think in a more integrative fashion now, and think of the "Big River." I paddle a kayak on



Watching the River Flow

Above-average precipitation kept river Potomac riverflow elevated toward the end of 2002 and into 2003, according to the U.S. Geological Survey.

In December, flow of the Potomac measured at Little Falls near Washington, D.C., averaged about 11.4 billion gallons per day (bgd), or 144 percent of the average December flow of about 7.9 bgd. Daily extremes for the month ranged from a low of about 3.5 bgd on December 10 to a high of about 31.1 bgd on December 16. Water withdrawn for drinking use in the metropolitan area averaged about 357 million gallons per day (mgd), about one percent more than December 2001. Freshwater inflow to Chesapeake Bay averaged about 64.6 bgd, or about 123 percent of the long-term average. The Potomac contributed about 22 percent of the total.

January 2003 flow was even higher, the 13.6 bgd average for the month about 150 percent above normal (9.0 bgd). Daily extremes ranged from a high of about 61.2 bgd on January 3 to a low of about 4.2 bgd on January 24. Withdrawals for drinking water use in the metropolitan area averaged about 378 mgd, about three percent more than January 2002. Freshwater inflow to Chesapeake Bay averaged about 58.9 bgd, or 109 percent of the historical average. The potomac contributed an above-average 26 percent.

For the 2002 calendar year, the Potomac showed the effects of the multi-year drought that has by most measures ended. Flow of the river averaged about 4.8 bgd, or about 44 percent of the long-term average. The high daily flow for the year occurred on April 24, with 31.7 bgd. The low daily flow for the year was about 0.6 bgd on September 13.

the "Big River." Sojourns have become the fashion in the last few years and rightly so. What a great way for those who are able to get to know the resource close-up and for all to be able to hear others speak about it around the fire in the evening. ICPRB has supported sojourns and must continue to do so.

We Pennsylvanians turn to the highly qualified staff of the Commission for stream assessments and source water protection plans among other things. In the near future we hope to be able to contribute data and utilize the products of the upcoming basin-wide ground water study.

Though we seem to be entering a wet weather cycle, the Commission needs to continue cooperating with Maryland in the low-flow study and to discover if our assumptions are correct about reduced flow regime effects on water quality and on the living organisms that call the river home. We need to continue the excellent work that Commission staff does on monitoring water quantity, upstream storage for water supply, and the great work we do to model water quantity in the river for both low-flow and for flood scenarios. The ICPRB also should continue its work and its encouragement of others in fishery restoration.

We need to continue to encourage a renewal of support for river basin commissions by the federal government. We should respond positively to calls for increased ICPRB activity from interests like the Shared Potomac Strategies Work Group and groups like the Potomac Conservancy, the Alice Ferguson Foundation and its cleanup days, and the Potomac River Keeper. Outreach will increase the general public's knowledge of what the Commission does and why. It will help create a demand for federal support, and very importantly will instill a sense of ownership in those who reside in the watershed.

From the Executive Director's Desk

by Joseph K. Hoffman

As you read this issue of the Potomac Basin reporter, you are learning about some of the projects on the front burners at the Commission. The expertise and experience of the ICPRB staff are being used in many ways for the Potomac River basin resources--both water and land.

A body such as ICPRB, with its signatory members cooperatively addressing common problems in the region, benefits the public as well as the jurisdictions. The current financial constraints of the commission members point out the need for the services we provide to ensure that the quality of life supported by basin resources



continues to be available to all. The ICPRB efforts for restoration of shad and herring, our staff immersion in Chesapeake bay issues, our support with assessments and modeling for state TMDLs, and our efforts to bring a variety of groups together to work on local watershed initiatives and basin cleanups are services that multiply the values that our members receive from the commission.

In future months, we will begin a groundwater assessment of the basin. Funded with supporting dollars from the federal fiscal year 2003 budget, we can thank our congressional delegation for the opportunity to pursue this effort with the United States Geological Survey (Department of the Interior). Spurred by the recent 2002 drought conditions that so adversely impacted large parts of the Potomac basin, congressmen Bartlett, Gilchrest, and Wolf, along with former members, Congresswoman Morella and Governor Ehrlich, supported funding for this project in the House Interior appropriation. Senators Sarbanes, Mikulski, and Byrd were able to ensure that the appropriation remained available during conference committee discussions and efforts to finalize the 2003 federal budget. The support of all is gratefully acknowledged.

This new project is just beginning and will involve three elements. First, working with the USGS, we will seek to install real-time groundwater monitoring devices throughout the basin. Information, similar to the real-time data available for streamflow, will become accessible via the USGS and other agency websites. This will allow governments, citizens, and researchers to learn more about the groundwater resource in the basin. Second, we will work with experts at the local, state, and federal level to identify areas with groundwater concerns, particularly those areas where growth and development are occurring and water use is increasing. In some cases, groundwater use may be exceeding the normal recharge rates of our aquifers. This effort may spur development of alternative water supply sources to meet demands for the future without significantly impacting the

resource. Third, for the last several years, our Commissioners have noted the need for a basin-wide water supply assessment. This groundwater project will allow us to prepare data to undertake a complete evaluation, while we immediately focus on one component of the water resources of the basin. We will furnish more details as this project progresses.

The ICPRB staff look forward to addressing the groundwater issue and other challenges in the basin by strengthening relationships among various constituencies throughout the basin. With continuing focus on a watershed approach to many of our water needs, the commission is a valuable tool to support the member jurisdictions and the citizens and governments of the Potomac River basin. We appreciate the support of our commissioners and the public of the Potomac basin.

PHNST Preserves Potomac History

In 1983, Congress amended the National Trails System Act to preserve the Potomac's historic trails. The Potomac Heritage National Scenic Trail (PHNST) brings together local, regional, and national organizations to preserve and enhance the national history of the corridor of land and water trails between the Chesapeake Bay and the Laurel Highlands of western Pennsylvania.

The backbone of the corridor is the Potomac River Water Trail. Meandering through forests and cities, the Potomac River is accompanied by numerous trails, which the PHNST is linking together to create one continuous trail system. In addition to water trails, three major land trails are part of the PHNST corridor: the Mount Vernon trail, the Chesapeake and Ohio Canal Towpath, and the Laurel Highlands hiking trail. Because of its accessibility to Potomac residents, many choose to get their daily dose of nature on the land and water trails of the PHNST.

More than 447 trail miles already exist in the trail system, with another 272 planned. The completed PHNST will link trails from Point Lookout, Maryland to the Youghiogheny River Trail in Pennsylvania.

The ICPRB has continued to support the success of the trail system as a PHNST partner organization and Potomac Trail Council partner. The PHNST annual report is available through the Potomac Trail Council by e-mailing info@potomactrail.org or calling (888) 223-4093.

Potomac River Water Trail maps are available through ICPRB by e-mailing info@icprb.org or calling (301) 984-1908.

River Flow Data Available on the Web

The National Weather Service Middle Atlantic Forecast Center has launched a new service on their website that will help keep people informed about flood probabilities and river conditions in the region.

Available at <http://www.erh.noaa.gov/er/marfc/> the Advanced Hydrologic Prediction Services website combines existing condition and forecast information for sites along the rivers of the middle Atlantic region, which includes the entire Potomac basin. The information will prove useful to a wide range of river users, as well as those who live in zones prone to floods.

The site was launched on February 19, and is in a "shakedown" mode as designers refine the site, so limited information may be available for some collection points. The sophisticated site will provide a wealth of information from a single site to an entire river. Visit this informative new tool.

Come for a Swim

Come to the mouth of the Potomac River on May 31 to witness an annual rite of spring: the annual Potomac River Swim for the Environment at Point Lookout State Park, Md.

This will be the the 10th anniversary of the more than 7.5-mile swim across the river's mouth, where distance swimmers test their mettle against the river's tides and currents while raising awareness about the river, as well as money for several river organizations.

Volunteers are needed to help in safety and other roles, and spectators are welcome to join in a picnic lunch and cheer the swimmers to shore. Swimmers will start on the Virginia side of the river at 9 a.m. start across the river to the park. For more information or to volunteer, Contact Cheryl Wagner at (202) 387-2361, or email to cherylw@crosslink.net.



Potomac Basin

REPORTER

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