Potomac Basin

REPORTER

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Interstate Commission on the Potomac River Basin

May/June 2002



C. Dalpra

Jim Cummins, Jan Ducnuigeen (ICPRB), and Phong Trieu (MWCOG) (I-r), record data on river herring captured in the Northwest Branch of the Anacostia.

Migratory Fish Restoration Meeting Goals, Showing Gains

A multi-year cooperative effort led by ICPRB to restore American shad populations in the Potomac is showing strong signs of success, with the fish returning to spawning areas where they have not been seen in decades. Similar work to restore river herring to the Anacostia and Rock Creek watersheds are underway.

Both of these economically and ecologically important species have suffered a long history of impacts from pollution, fishing pressure, and loss of habitat. American shad was once one of the largest fisheries on the river. George Washington ran a large netting operation from his Mount Vernon plantation. During the 1900s, shad stocks declined, and have not recovered despite water quality improvements and a 20-year ban on harvests. The restoration projects are focused on the habitat issue, placing

hatchery and classroom-raised fry in upstream spawning and nursery areas of streams blocked by dams, pipes, or other stream obstructions. The effort will boost the reestablishment of stocks in those areas.

Local, state, and federal government agencies have joined in projects to remove blockages to upstream migration, reopening historic spawning habitat to the fish. Placement of newly-hatched fish in these upstream areas imprints the stream location as their birth-stream, to which they will return to spawn after spending several years reaching maturity in the sea. In the meantime, the blockages are being removed or modified for their return.

The project aimed at the American shad began in the Potomac in 1995, with the goal of stocking one million fry each year. That goal has been exceeded every season, with about 1.5-million fry stocked in the spring of this year. A number of challenges 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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kept this year's effort well below the record 3.3-million fry stocked in 2001.

Although approximately 5.9-million eggs were collected and fertilized, only 26 percent survived to fry stage at the U.S. Fish and Wildlife Services Harrison Lake Hatchery, a partner in the project. The hatchery has averaged a very good 47percent rate since the beginning of the project. "This year's poor egg viability was probably a result of what I call the 'backwards spring," noted ICPRB Living Resources Director Jim Cummins. "We started with very hot weather in April, and proceeded to record-setting cold weather in mid-May," the months that the spawning fish are collected for the project. "I think that this reversal of normal temperature trends likely caused physiological confusion in the shad, resulting in poor egg viability," Cummins said. On collection nights with ideal conditions, high numbers of shad were netted, but few were found with ripe eggs, added evidence of the impact of the weather, Cummins added. "Maybe we were fortunate to have stocked 1.5-million," Cummins said.

The collection team also was challenged by the very large numbers of striped bass, or rockfish, that were netted. "When the rockfish were around, the shad were not," Cummins said. The large numbers of rockfish played havoc with the nets. Lewis Harley, a Potomac waterman who works on the project, could not recall seeing so many rockfish in a net. The fish were difficult to remove from the nets, leaving Cummins and Harley with hands cut from spines and scales. "We could hardly move our hands for a week," Cummins said.

Perhaps the best news came when the team assessed the long-term results of the project--whether the shad are using the 10 miles of upstream area opened to the fish after the Little Falls Dam was modified for fish passage in early 2000.

The opened area--from the Dam to the foot of Great Falls--is again being used by American shad. Conditions in the area, known as Mather Gorge, are difficult to survey with boat-mounted electro-fishing gear that would provide the best assessment of the numbers of fish traversing the dam into the gorge. Long-handled dip nets were used just downstream of Great Falls by USFWS personnel, who retrieved 46 American shad, up from 15 found last year. The dip nets, while less efficient, are more directly comparable with historical surveys that used the same gear. Although the number of fish actually observed seems small, the numbers indicate that a growing number of fish are populating the area. The stocking effort is accelerating the repatriation of the Mather Gorge area for this historically important species.

Adding to the effectiveness of the project, 25 schools took part, with students



Student volunteers photograph captured river herring.

hatching and raising the fry in the classroom in a project called "Schools in Schools." The project is integrated into the student's curriculum, providing a unique hands-on experience in raising the fish while learning of its importance to the river's ecology and our economy and culture. This part of the program is coordinated by the the nonprofit group, Living Classrooms, along with the Chesapeake Bay Foundation and the Anacostia Watershed Society. Students participate in a ceremony at riverside where they release the fish they have raised

The project has now reached the end of the stocking phase, and will now focus more closely on monitoring populations in the river.

A similar project to restore river herring (alewives and blueback herring) in the Anacostia watershed and parts of Rock Creek was begun in 2000. The effort was undertaken to compensate for impacts to tidal and non-tidal wetlands and submerged vegetation resulting from the construction of a replacement for the Woodrow Wilson Bridge. This project also is running in tandem with a coordinated regional effort to remove blockages to migration in many Anacostia tributary streams.

The stocking effort is being conducted through the Anacostia Fish Passage Work Group, in conjunction with Potomac Crossing Consultants. For 2002, ICPRB and Metropolitan Washington Council of Governments biological staffs stocked approximately three-million river herring fry with the assistance of the Maryland Department of Natural Resources Joseph H. Manning Fish Hatchery. The fish stocked during the program's first three years total about 8.3 million. Additionally, the group conducts an annual reconnaissance

survey. The survey noted a particularly strong run of hickory shad during the season, and researchers documented the shad upstream of a fish passage device on the Northwest Branch of the Anacostia, confirming that the structure allows fish to migrate upstream.

The same groups working on the educational portion of the American shad project are designing a similar classroom program for the river herring project, which should be instituted in 2003.

2002 Monocacy River Paddle Raises River Awareness

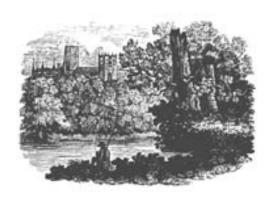
Jasper and Rocky enjoyed jumping in and out of the canoe into the waters of the Monocacy River. The Labrador Retriever and the Pomeranian could not resist a chance at taking a swim and sniffing around on the banks of the river. For a first-time canoer, who shared a canoe with Jasper, Rocky, and their master, canoeing the river during the 2002 Monocacy River Paddle was an experience in endurance and fortitude. It also was an experience that made for an appreciation of a historic river.

The Monocacy River Paddle is an annual week-long canoeing and kayaking event from the basin's headwaters in Pennsylvania to its mouth at the Potomac River, raising river awareness and providing educational opportunities for youth and adults. The event also was held to raise conservation awareness that would focus on conserving water in view of the continuing drought situation.

Each morning during the week, canoers and kayakers from various businesses and affiliations gathered at a set point on the river and paddled a segment to enjoy and explore the beauty of the Monocacy. The group stopped at different points along the river for discussions, forums, and to listen to speakers who have interests in the Monocacy watershed.

This year's paddle began on Monday, May 6, at the Pennsylvania/Maryland border. Pennsylvania Department of Environmental Protection Secretary David E. Hess and Maryland Department of the Environment, Water Management Administration Director Robert M. Summers kicked off the week's event with the "passing of the paddle," symbolizing the states' shared interest in the Chesapeake Bay watershed and the Monocacy River, an interstate waterway.

Participants had an opportunity to paddle one day for a particular set of miles, or from Monday through Saturday from Maryland's



northern border to the Potomac River for a total of 58.2 miles. By Thursday, the group had paddled 37.7 miles to reach Pinecliff Park in Frederick, Md. The evening's event was a roundtable discussion on regional water supply. The discussion, which focused on basin, state, county and city water supply, began with Interstate Commission on the Potomac River Basin (ICPRB) Executive Director Joe Hoffman. Also on the panel was Delegate Sue Hecht, who provided information on recent state actions on water resources. Michael Marschner, director of the Department of Public Works for Frederick County, spoke on the county's water supply plans and initiatives, and Frederick Mayor Jennifer Dougherty, covered the city's situation pertaining to water supply development and response to the current drought condition's impact on city supplies. The mayor's presentation was augmented with a discussion by Fred Eisenhart, director of Public Works for the city.

Hoffman stressed the importance of not taking the water resources for granted, especially in times of drought. "We need to begin to look at our water resources and plan for an interconnection of systems and resource development," said Hoffman. "We must prepare to meet future consumptive use in order to meet demand by the year 2020. Because of the potential demand for water in the future, we need funding to do the necessary studies and to gather data to accurately describe the current and future water resource conditions and implement them." He went on to stress the importance of working together to develop creative solutions to water supply issues. Hoffman suggested the need for prompt action to address groundwater use and availability. He noted the availability of ICPRB's Source Water Assessment Program (SWAP) database as a tool for developing and refining a wealth of water resources data.

A First-time Paddler's One-day Journey Down the Monocacy

Friday's segment of 9.4 miles began at Pinecliff Park with 25 paddlers. The day's

first stop was the Monocacy National Battlefield. Once making the stop to eat some refreshments and tour the battlefield, the group journeyed on toward Buckeystown Park where lunch would be served.

As the group approached the next landing at Buckeystown Park, the flat, calm river gained momentum with white water flowing over a dam of big boulders and huge logs. Only one canoe was a wipeout, but no one was hurt. At the lunch time presentation, Nancy Bodmer from Carrollton Manor Land Trust addressed the gathering on preserving the lands around the Monocacy. A utilities and solid waste crew from the nearby Ballenger Creek wastewater treatment plant spoke about its operation and the processes used.

The last leg of the day's paddle down the Monocacy was a time to reflect on the beauty of the river, its history, and to appreciate the wildlife that still live in and around the water. Along the way, the group passed caves cut into large slabs of stone. The shoreline was overgrown with trees with roots so mangled and wide that one could only wonder if they were around during the Civil War.

The Friday river paddle ended at the LilyPons Water Gardens with a barbeque, music, and 20 students from the Ballenger Creek Middle School Environmental Club camped out after a day of planting trees. The eclectic group of voyagers included ICPRB staff; Lynne Cherry, a children's book author and her two dogs, Jasper and Rocky; a biologist who was leaving soon after the paddle to study wolves in the Boundary Waters Wilderness in Canada; and even a massage therapist who enjoyed canoeing. Karen Fligger, watershed coordinator for ICPRB, helped coordinate the commission's participation in the Friday paddle.

"The Monocacy River Paddle 2002 was a success," said Hilari Benson, executive officer for Community Commons, and coordinator of the river paddle. "We involved 400 residents ages five to 75 in a river awareness program where we provided historical and ecological information, hopefully fostering stewardship and commitment to protection and restoration of the watershed. We also were able to announce our Monocacy Water Trailway project, a self-guided canoe and kayak trail along the river from Creagerstown Park to the Potomac River."

Saturday was the last day of the paddle. Paddlers canoed and kayaked a total of 53.4 miles down the Monocacy, just 4.8 miles shy of the total 58.2 miles to the Potomac.

For more information on next year's paddle, call Community Commons at (301) 662-3000, or log on to the Community Commons website at www.community.commons.org.

River Critters

Few See This Exotic Yet Regular Visitor





Great Lakes Sea Grant Exotic Species Library

The sea lamprey can grow to three feet long. Its mouth (r) is lined with bony teeth surrounding a rasp-like tongue. It attaches to fish or invertebrates and feeds off the host's body fluids.

The strange, eel-shaped creature with a disk-like mouth is being seen more and more along the Anacostia and other Potomac streams. It looks different from any other fish, including the American eel, in the river. In fact, it's a parasite, and it travels a long distance to spawn. The creature is the sea lamprey, which attaches itself to other fish with its mouth and lives off their blood and body fluids. The sea lamprey caused a major collapse of fish populations in the Great Lakes during the 1940s and 1950s. Fish such as carp, rainbow trout, bass, whitefish, bullheads, and yellow perch were particularly hard hit. Lake trout and whitefish stocks were decimated. Although in abundance in the Great Lakes, sea lampreys can be found as far south as Florida. It is estimated that there are more than 55,000 sea lamprey in Maryland waters alone, according to Maryland Department of Natural Resources' 1995-1997 Maryland Biological Stream Survey. They have been found in the mainstem of the Potomac River as far upstream as Great Falls, and in many tributaries.

The sea lamprey is a primitive, jawless parasitic fish native to the Atlantic Ocean that made its way to Canada and the Great Lakes through canal locks and shipping canals in the 1800s. However, they can occupy a great range of environments, including cold freshwater lakes, warm small streams, estuary shallows, and the deep ocean. Their life span is approximately eight years. Migration begins between March and June. Spawning and death occur in the spring or summer.

Adult sea lampreys attach themselves to the victim with its sucker-like mouth, and with its sharp teeth rasps a hole in the body of the fish. It will feed sometimes for as long as three weeks until the fish is weakened or dies. In the Great Lakes, sea lamprey populations are controlled by the application of chemical lampricides, which kill larval lamprey.

Their presence in the Potomac seems to

be a positive sign for the river. "The resurgence of sea lamprey is another indication that water quality is getting better," said Jim Cummins, ICPRB associate director for the Living Resources Section. "Sea lamprey are fairly sensitive to pollution." Sea lampreys were once believed to be plentiful in the Chesapeake Bay, but the population was reduced because of siltation, pollution, and blockage of spawning areas by dams.

During migratory fish surveys, Cummins has seen sea lamprey and signs of them from the scars on shad and striped bass. Does this mean that there will be a problem here as there was in the Great Lakes? "Probably not," Cummins said, "because we haven't seen a large quantity of sea lamprey, but they are again found in many of our waters."

Thomas Edsell, chief scientist with the Great Lakes Science Center agrees. "They are not in such abundance in the Potomac River that they cause a problem," said Edsell. "Sea lamprey only spawn in fresh water. They normally feed on salt water fish. In the Chesapeake Bay area the fish tend to be larger, and are not affected much from the parasite." The sea lamprey attaches itself and feeds until full and then drop offs, not killing the larger fish, such as rockfish and shad. "Because of these factors, you wouldn't really notice their presence," said Edsell

In the Great Lakes, the transplanted sea lamprey flourished at the expense of native species because there were no natural predators or competitors in the new habitat. However, in the waters of the Potomac they exist naturally. "They serve an ecological purpose," said Cummins.

They also may be purposely served. Lamprey stew with garlic mashed potatoes is served to patrons of Bennett's Bar and Grill in Duluth, Minnesota. If numbers of the fish continue to grow in the Potomac, the region's residents may find local crab houses adding this dish to the menu.

CO-OP Monitors River Flows, Reservoir Releases Likely

Releases of water stored in upstream reservoirs will probably be needed later this year to assure that demands for metropolitan-area drinking water can be met by utilities. The ICPRB Section for Cooperative Water Supply Operations on the Potomac (CO-OP) assists water suppliers by coordinating operations during droughts,



Watching the River Flow

The flow of the Potomac River, measured just upstream of Washington, D.C., remained below average in April, but was slightly above average in May, according to the U.S. Geological Survey.

In April, the Potomac flowed at about 8.3 billion gallons per day (bgd), or about 77 percent of the long-term average of about 10.7 bgd. Daily extremes during the month ranged from a low of about 3.1 bgd on April 14 and 15 to a high flow of about 31.7 bgd on April 24. Water used for drinking averaged about 407 million gallons per day (mgd), about four percent more than April 2001. Water withdrawals for metropolitan-area drinking use averaged less than five percent of total river flow. Groundwater measured at an index well for the metropolitan area hit a record low in April, and has been below normal for four consecutive months. Freshwater inflow to the Chesapeake Bay was about 57 percent of the long-term average in April. The Potomac contributed a near-average 21 percent of the total.

May flows climbed to the normal range, with the month's average flow at 9.9 bgd, or 105 percent of normal. Daily extremes ranged from a high of about 25.1 bgd on May 1 to a low of about 5.5 bgd on May 26. Water taken for metropolitan-area drinking use averaged about 413 mgd, about five percent less than May 2001. The water taken averaged about four percent of total river flow.

Groundwater levels monitored at the Washington area index well fell further in May, again setting a new record. Freshwater inflow to the Chesapeake Bay in May averaged about 126 percent of the average flow of 64.1 bgd. The Potomac contributed about 16 percent of the total.

and ordering releases of stored water when necessary.

If the weather remains dry, water stored in the reservoirs by the major metropolitan water suppliers will be released to boost river flow and ensure that minimum environmental flows are met downstream of water supply intakes. The river provides about 75 percent of the drinking water for metropolitan Washington. When flows dip below certain levels, a series of cooperative agreements guides releases of stored water and increased cooperation in operations among the utilities. The agreements are renewed annually.

Releases are considered a part of normal operations during droughts. The CO-OP is monitoring river conditions on a daily basis. The storage reservoirs are full. With the stored water, the metropolitan area will have enough water to meet demands, even if the regions experiences conditions significantly worse than the drought of record.

31 Swimmers Cross Potomac to Improve Environment

Beautiful weather for a river crossing greeted the 31 swimmers who stroked their way across the Potomac River on June 1 at the ninth annual Potomac River Swim for the Environment. In the process, they set several new records for the event, which takes swimmers from Hull Neck, Va., to the swimming beach at Point Lookout State Park in Maryland, a distance of more than 7.5 miles.

The event provides a challenging distance swim and seeks to raise environmental awareness and funds for the river's protection. Records were set for the number of swimmers participating--31, more than twice that of any previous year; for the fastest time ever--2 hours 42 minutes 46 seconds, set by 16-year-old Guillermo Garcia, on his first Potomac River swim; and for the \$11,500 raised by the contestants to advance environmental efforts for the river.

Bob Astheimer, who finished second this year after finishing first in the previous four races and swam the race close to his usual time, noted that the conditions were very good again this year. The weather was sunny and warm, with a gentle breeze that produced calm conditions in the 71-degree water, speeding the swimmers along. He is not surprised by the event's increasing popularity among a growing number of distance swimmers. "The Potomac River Swim is gaining popularity as a middistance swim. It's longer than the bay swim and shorter than the 20-plus-mile longer

events," Astheimer said. He noted that the longer swims can require a lot more of a swimmer in the way of resources -- not just the conditioning and stamina required, but in the amount of money and time needed. Astheimer noted that the Potomac River Swim also is a charity event, and is not so heavily focused on whether contestants use wetsuits, or in providing different categories for age or sex. More-purist events do not allow wetsuits. which provide floatation and result in faster times.

Many of the Potomac River swimmers compete in longer events in the U.S. and abroad, such as the swim around Manhattan and the English Channel crossing. The Potomac Swim displays the wide variety of people involved in distance swimming, a sport that Astheimer described as "exploding." Seven women participated in the event, some of whom have competed for several years. Ages of the swimmers ranged from the 16-year-old winner to two swimmers who are 55, including event originator Joe Stewart, who began the tradition with a solo "Swim for the River's Sake" in 1993. Contestants came from across the country, the furthest from Seattle, Wash. Finishing times ranged widely as well, from under three hours to more than seven. The good water conditions helped all the contestants to complete the race. Joe Stewart, the originator of the event, swam in the group for the first time. "It was a lot of fun just being a participant," he said. "It's a different experience to be a swimmer in the water, instead of the organizer."

The swimmers were aided by a large pool of volunteer support staff. Kayakers from the Chesapeake Paddlers Association, the Association of North American Kayakers, and individual kayakers paddled alongside swimmers for safety. The Chesapeake Bay Boston Whalers Club had support boats along the course to assist. Other in-water support was provided by the U.S. Coast Guard, Charles County Dive and Rescue, the Ridge, Md., Volunteer Fire and Rescue Squad, and local boaters, including Bob Knight aboard the Knight Life, used as an overall command vessel. Race organizer Cheryl Wagner, herself a distance swimmer, noted that she pressed some of her swim team cadre into service as kayakers. Other supporters of the event included Blue Wind Kayak Corporation, the Chesapeake Bay Field Lab, Point Lookout State Park staff, the Maryland Natural Resources Police, the National Oceanic and Atmospheric Administration, Sheible's Fishing Center, Hale House, the Patuxent Friends, the Trinity Parish Hall ladies who cooked the



C. Dalpra

Sue Wilkinson-Megaw, of Fairfax, Va., is welcomed to the Maryland shore of the Potomac. She completed the swim in 4 hours, 44 minutes, 33 seconds, and enjoyed the challenge.

pre-swim supper and many other individuals. "I am deeply grateful to the many individuals who made this race a success. I was continually impressed by the hospitality and generosity of the individuals in the Southern Maryland area, and was gratified to see the happiness on the faces of each of the swimmers as they completed the swim," Wagner said.

The money raised by the swimmers will help defray the expenses of the race, but the bulk of the pledges collected by the swimmers will go to five groups working to improve and protect the river's water quality: the Potomac River Association, Southern Maryland Sierra Club, Chesapeake Bay Foundation, Point Lookout State Park, and the Interstate Commission on the Potomac River Basin. The picnic also serves as an informal networking event, where people can discuss environmental issues affecting southern Maryland. Volunteers are needed for next year's event. For more information on volunteering or participating, contact Cheryl Wagner, (202) 387-2361, or email at cherylw@crosslink.net.

TOP 10 FINISHERS, POTOMAC RIVER SWIM FOR THE ENVIRONMENT, 2002

- 1.) Guillermo Garcia, Boyds, Md., 2:42.46 (wetsuit)
- 2.) Bob Astheimer, Alexandria, Va., 2:57.29 (westsuit)
- 3.) James Kegly, Washington, D.C., 3:00.29
- 4.) Trish Lane, Lusby, Md., 3:05.14 (wetsuit)
- 5.) Steve Taylor, Springfield, Va., 3:15.47 (wetsuit)
- 6.) Andrew Johnson, Arlington, Va., 3:26.18
- 7.) Scott Lautman, Seattle, Wash., 3:27.388.) Dave Parcells, Madison Conn.,
- 3:27.48 9.) Michael Lee, Greenbelt, Md., 3:42.03
- 10.) Meryem Tangoren-Masood, New York, N.Y., 3:51.49

You've Waited All This Time...And Now They're Here!

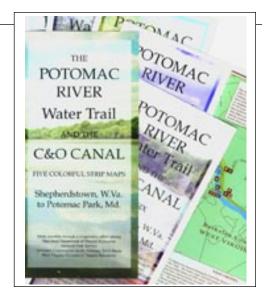
The long-awaited companion to ICPRB's popular Potomac River and C&O Canal Mapset is now available, covering the upper half of the area from Shepherdstown, W.Va., to just upstream of Cumberland, Md.

"The Potomac River Water Trail and C&O Canal: Shepherdstown, W.Va., to Potomac Park, Md.," is now available from ICPRB for \$10 postpaid. The map also will be available at select book and outdoor stores in the region.

A valuable resource for canoeists, hikers and outdoors enthusiasts, this colorful five-map set has been printed on waterproof, tearproof paper. Like its predecessor for the lower section, the maps include information on boating, public access sites, support facilities, camping and fishing sites, and picnic and parking areas. The maps also are filled with cultural and historical information, safety tips, and contact information.

This handsome guide to the river and canal was produced by ICPRB, the Maryland Department of Natural Resources, National Park Service, and the West Virginia Department of Natural Resources.

The new set is available by sending a check to ICPRB Publications. The old mapset, covering the river and canal from



Georgetown in Washington, D.C., to Opequon Creek remains available for \$6 postpaid. PLEASE SPECIFY WHICH SET YOU ARE PURCHASING ON THE MEMO LINE OF THE CHECK.

Maps also are available by stopping by the ICPRB office.

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