

# REPORTER



C. Dalpra

The sojourn fleet approaches its final landing at the Metropolitan Police dock in Washington Channel.

## Sojourn Brings Paddlers Close to the River

The inaugural Potomac River Sojourn brought 130 enthusiasts together during a week of paddling the river from Shepherdstown, W.Va., to Washington, D.C., in June. Through heat and long days, the participants joined together to increase their knowledge of one of the nation's great rivers.

The trip gave sojourners the chance to learn much about the river through formal presentations, informal conversations, and the quiet times that fill a day spent paddling between tree-lined shores.

The event was organized by the Alliance for Chesapeake Bay, with assistance from the Interstate Commission on the Potomac River Basin (ICPRB) and other groups. Building on a successful template for sojourns in other Chesapeake watersheds, the Potomac event attracted a wide range of participants, including nature and canoeing enthusiasts, government officials, members of environmental groups, students, and teachers. Many of the participants paddled

for just a day or two, although a significant number "paddled through" for the entire week.

Through the mix of chats among the group, presentations, and miles of paddling the river each day, sojourners were able to paint a new picture of the river in their minds. They were able to see the Potomac as an important natural resource that serves as a water source for people, crops, and industry, and is perhaps just as important for the recreation it provides. Boating, fishing, swimming, hunting, camping, hiking, nature observation, and heritage tourism can all be enjoyed throughout the Potomac River basin. Yet, the river often is taken for granted, and river trips can emphasize the importance of conserving and protecting the river for future generations.

During the week, the sojourners rose each morning to breakfast, a morning water safety briefing, a review of the day's schedule, and to get energized for the trip. Lunch stops along the river, welcomed as

***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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the sun beat down on the flotilla, featured representatives from various agencies and groups arranged by a cooperating agency, each of which sponsored a day of the trip. More presentations followed communal suppers along the river at each evening's camp.

Presentations were wide-ranging, and included the National Park Service's Marian Huber, who spoke on the Chesapeake Gateways Program's development of a network of water trails; "Railroad/C&O Canal Conflicts along the Potomac," delivered by ICPRB Commissioner Philip Ogilvie; "Permanent Protection of Potomac Landscapes," by Meridith Lathbury, director of Land Protection for the Potomac Conservancy; and the "History of the Patowmack Canal," by William Garrett, former editor of National Geographic magazine. The ICPRB-sponsored day found the group lunching at Point of Rocks, Md., where the group saw the oldest continuously operating stream gage in the country (1895), with an overview by Bob Pentz and Richard Saffer of the U.S. Geological Survey, which operates Point of Rocks and a series of other gages that provide critical river management information.

Erik Hagen, deputy director of the Cooperative Water Supply Operations Section of ICPRB, explained the gage's important role in the management of the Washington, D.C. metropolitan area water supply. Hagen provided an overview of the current flow condition of the Potomac River and discussed the drought situation in the metropolitan area.

The paddle ended for the day at Tarara Winery near Leesburg, Va., where the group camped. The evening program included presentation of the first "Spirit of Sojourn Award for the Potomac River" to Minny Pohlmann, a long-time ICPRB commissioner, for her many years of dedication and activism in protecting and conserving the waters of the Potomac basin. The award is given to a person who demonstrates exemplary dedication to stewardship of the river and a passionate commitment to fostering a conservation ethic in others.

"I want to thank you all so very much for this award," said a smiling Pohlmann. "I think it's simply stupendous. We should continue this effort by passing on the significance of conservation to small children." Pohlmann thanked everyone for the award and finished, "We still have a lot more work to do."

Jim Cummins, associate director for the Living Resources Section for ICPRB, gave a slide presentation characterizing the ecology of the Potomac River basin through 400 years, and Hilari Benson, executive officer for Community Commons, provided the audience with a local



C. Dalpra

**ICPRB Commissioner Minny Pohlmann with her Spirit of the Sojourn award.**

perspective and description of conservation efforts for the Monocacy watershed, Maryland's largest tributary to the Potomac River.

The participants were from a wide-range of backgrounds and organizations who have an interest in conserving the Potomac watershed. Many paddlers participate in expeditions of this type every year, some several times a year. One retiree had just participated in a kayak expedition and missed the first day of the Potomac sojourn. He said that he made a point of making the Potomac sojourn to give his support to conservation efforts. The group also included eight students from Anacostia High School in Washington. This was their first time to canoe the Potomac, a new and challenging experience for many of them. "Although somewhat out of their element coming from an urban environment and not ever being exposed to this type of experience until now, the sojourn was an adventure the students will never forget," said Gilda Allen of the District's Watershed Protection Division. There were many challenges for the students who were used to designer jeans and sneakers, staying up late, listening to their favorite music, and drinking sodas on hot days. Some were not used to being on the water.

"But by the weeks end, in spite of the challenges, the students could paddle just as well as some of the others who had previous paddling experience," said Allen. "However," she continued, "until we begin to expose more minority urban children, and more minorities period, we cannot expect them to connect with the river. This is why we need projects such as the sojourn. So that we can connect with all people and expose them to the importance of protecting the river that is such a staple in their daily lives."

The sojourn was given an international flavor by two students interning at ICPRB during the summer. Anees Feran and Panteha Haverim, part of the Avara Institute for Environmental Studies in Israel, paddled the entire sojourn. Their unique perspective on the river is found in a

related article in this issue. Additionally, an environmental reporter for the Voice of America participated, and her reports were heard in a number of foreign countries.

The sojourn ended with a flotilla of red, yellow and green canoes and kayaks floating down the Potomac to the Gangplank Marina on the Washington, D.C., waterfront. That last day was declared "Potomac River Sojourn Day" by District Mayor Anthony Williams. Dr. Vincent Nathan, deputy director of the District of Columbia Department of Health, Environmental Health Administration presented the proclamation to the group.

Alliance for Chesapeake Bay sojourn coordinator Bob Murphy noted that "The sojourn was a very gratifying experience, especially seeing people really enjoy the river from a close, intimate perspective. Friendships were made, and a general good time was enjoyed by all. By all means, this sojourn was a success despite the heat and low water. This year's success will be the foundation for future Potomac Sojourns. Look for the 2003 announcement for routes and dates."

## Students Provide a New View of the Watershed

*Panteha Haverim and Anees Feran are students of the Arava Institute for Environmental Studies (AIES) – an international program in the southern Arava desert of Israel. Ms. Haverim and Mr. Feran, a Jewish Iranian-American and a Muslim Arab-Israeli, respectively, joined together this summer with 17 other AIES alumni on the Institute's first-ever Environmental Leaders' Exchange Program. Sponsored by the U.S. State Department, the group met in Washington, D.C., for a 3-day seminar on environmental activism in the U.S. before setting out in culturally-mixed pairs for a month-long internship with various environmental organizations throughout the country. Ms. Haverim and Mr. Feran came to ICPRB, where they helped to organize the Potomac Sojourn while learning about environmental activity in the basin. Their essay relates some of their thoughts about the Potomac.*

In the Middle East, the issue of water management between states plays a center-stage role in the heated political conflict. Interested in the concept of how adjacent yet distinct states can manage a common natural site, and particularly a watershed, together, we were drawn to see ICPRB in action on various projects.

In our short time in the office here, we were especially focused on the Potomac



Sojourners Anees Feran and Panteha Haverim on the river.

K. Fligger

Sojourn trip logistics, and also had the opportunity to venture into the field and learn about how environmental scientists are working on models to help clean water in the District of Columbia. We learned a little about how the multitude of agencies that monitor the watershed communicate and remain on the same page. We learned about innovations in low-impact development and attended an Anacostia River Business Coalition meeting to get a sense of how the private sector is encouraged to contribute to the watershed. We visited the Environmental Conservation Corps on the Anacostia River and had a first-hand look at how young adult members of the community have come together to pursue innovative river-saving endeavors like planting rain and rooftop gardens, building a river-walk, and other projects to reclaim the river as a recreational spot for their community, and reintroducing the bald eagle to its abandoned habitat along the Anacostia River.

Our four days on the Potomac with the Sojourn community gave us a much greater familiarity with the river than the previous two weeks we spent in research. The river brings the child out in everyone. Tuesday afternoon when we arrived at the Brunswick Family Campground, a group of grownups and kids alike planted themselves in the eddy formed by the huge rock just in front of where we stationed our boats, and played. Some had grabbed others' toes, letting them lay on their back and relax from a long day's paddle and listen to the sound of the waters. Others climbed the rock only to jump into the river and let the swift current carry them back, just to climb right up onto the rock again and jump. From the first grader to the veteran guide, we were out there enjoying the river's gift of renewal, reveling, and unraveling.

The river water is incredibly powerful and yet incredibly impressionable. We were amazed at the clearly visible changes in the water from area to area. One bit kept showing us floating dead fish. The next, the water was so clear, we could count

mussels at the bottom as we paddled across the surface. For a few hours, one day, the water was just murky, murky, murky. The day before, however, we remembered how we could clearly distinguish the colors of the various rocks on the bottom.

And the herons. Such royalty and grace. It was an honor to see them on the river, like Panteha's Iranian-born father describes having felt when a foreign leader would visit his city and

parade down his street and all the children would come out with their parents and shine. Perched across from us or flying overhead, each time we caught a glimpse of the herons, we felt lucky to have witnessed their majesty, just assuming between us that we had seen something so rare. And a flock of geese waddling nonchalantly at the shore, as if that happens every day. Maybe they see flocks of people riding by all the time, but we sure don't get to see such funny-looking families of birds in the desert or hilly chaparral that is our backyard in Israel and Los Angeles. It's easy to forget the wide range of creatures that depend on the river, but indeed humans, birds, fish, animals, and insects alike all enjoyed the river with us throughout our sojourn. We are happy to know that they are still in their home, and that the people of the Potomac River are trying to do what needs to be done to ensure that they can continue to be safe here.

Having had little experience with rivers in Los Angeles (the so-called "LA River" is not much more than a dry concrete dam that occasionally floods during heavy rains) and knowing that Israel's few rivers are bogged with heavy pollution and not enough conservation to counter the pressure, we are truly inspired by the energy of the sojourn participants to care for and enjoy the Potomac's treasures.

Knowing that the Potomac river was once very polluted and, thanks to the struggle of different organizations, the situation now is much better than before, we are inspired to know that though there is still much to do (if it's about pollution, conservation, and awareness of the importance of the rivers) rivers are restorable and that we can implement similar practices in the rivers of Israel, the Palestinian Authority, Jordan, and throughout the world.

The lessons we have learned here are sure to come in handy in many ways. Anees intends to study water management upon returning to Israel and is passionate about youth development and environmental



action in the predominantly Arab city of Acco, much to the extent of what the Earth Conservation Corps continues to achieve in the disenfranchised communities of Washington, D.C. Panteha would like to learn about low-impact development strategies that would be appropriate to implement in downtown Los Angeles, and to encourage small businesses to adopt sustainable practices. She cares to dedicate

her life's work to community development and hopes to return to Israel and learn more about river health and conservation appropriate for that region. Who knows, maybe a multi-ethnic, multi-national Jordan River Sojourn could help usher our conflicted region into an era of peaceful environmental partnership.

Thank You to the ICPRB and Sojourn Partners for an Inspirational Internship!

## Researchers Learn as Drought Continues

Pick up nearly any newspaper in the Potomac River basin, and you are likely to read at least one article on the effects of the year-long drought. Some days, drought coverage can claim several pages. While nearly all residents of the basin are feeling some impacts, drought means different things to different people, depending on where they live and how they rely on water. Even the creatures that inhabit the river and its environs are feeling the effects, and responding in different ways.

While residents of the Washington metropolitan area are aware of the drought, users of public water supplies have not been required to restrict their use. Extensive planning and research by ICPRB, the water utilities, and governments created a "bank" of stored water in the 1980s that is today being used to allow for water supplies even during extended droughts.

Smaller communities, particularly in hard-hit central Maryland, have had a tougher time. Emergency plans in Frederick, Md., call for water trucks to carry up to four million gallons of water per day from the Potomac to supply the city's drinking water plant. The plan has not been implemented. Other communities are considering similar emergency plans to deal with water shortages that are the worst in memory.

Rural areas that depend on groundwater are fairing just as poorly in some areas, with record-low well levels reported in areas of the basin. Generally, the western Maryland and West Virginia parts of the basin have not been as strongly affected by the drought, while central Maryland, Virginia, and Pennsylvania have been hardest hit.

In the metropolitan area, low river levels have resulted in the release of water from upstream reservoirs to boost Potomac flows so that water utilities can meet demands from the river, which supplies about 70 percent of the area's drinking water (see January/February 2002 *Reporter*, or visit [www.potomacriver.org](http://www.potomacriver.org)). The releases from Jennings Randolph Reservoir (on the



J. Kiang

ICPRB's Erik Hagen and USGS's Johnathan Dillon drive an observation well along the river.

North Branch Potomac, about 200 river miles upstream of the metropolitan-area intakes) and Little Seneca Reservoir in Montgomery County, Md., were made during parts of July and August. Periodic showers in parts of the basin boosted flows enough to stop the releases near the end of August, but could begin again with the lack of rainfall.

"The releases are considered a normal part of dry-weather operations," noted Erik Hagen, deputy director of the ICPRB Section for Cooperative Water Supply Operations on the Potomac (CO-OP), which manages drought operations that coordinate the withdrawals of the three independent major water utilities that supply the Washington metropolitan area. The reservoirs were constructed in the 1980s in part to meet water demands during drought conditions. The reservoirs were first used for water supply purposes in 1999.

The extended nature of the drought has emphasized the relationship between groundwater and surface water (streams). Groundwater provides the "base flow," that keeps streams and rivers going even when there has been no rain for an extended period. Without this base flow, no stream would flow for more than a few weeks

without rain. Because streams and groundwater are directly connected, “we can’t completely understand stream flow without considering its groundwater component,” Hagen said.

Hagen and CO-OP Water Resources Scientist Julie Kiang had that point driven home during the current drought, when meticulous monitoring of river levels at several gages revealed an unexplained difference between them. Millions of gallons of water were “disappearing” between the Point of Rocks and Little Falls gages. The



## Watching the River Flow

The Potomac River basin remains locked in an extended drought that began last fall. River flows, as measured near Washington, D.C., by the U.S. Geological Survey, reflect the severity of the drought (see related story), and ran at less than half of normal flows for this time of year.

In June, Potomac River flows averaged about 2.9 billion gallons per day (bgd), about 48 percent of the long-term average of about 6.0 bgd. Daily extremes ranged from a high of about 6.1 bgd on June 1 to a low of about 1.4 bgd on June 30. Water used for metropolitan area drinking supplies averaged about 472 million gallons per day during the month, about 10 percent more than June 2001. Freshwater inflow to Chesapeake Bay also fared poorly, the total of 40.6 bgd only 41.5 percent of the long-term June average. The parched Potomac contributed only about 10 percent of the total, compared with a long-term average of about 21 percent.

Conditions were even more severe in July, when the river averaged a flow of about 1.4 bgd, or 44 percent of the long-term average of about 3.2 bgd. Extremes during the month ranged from a low of about 0.7 bgd on July 13 to a high of about 4.4 bgd on July 31. The demand on metropolitan area water supplies averaged about 510 mgd in July, about 17 percent more than in July 2001. Freshwater inflow to Chesapeake Bay averaged about 13.6 bgd, or about 55 percent of average. The Potomac contributed about 15 percent of the total.

U.S. Geological Survey measured flow at both gages, and made minor adjustments, but the discrepancy did not nearly add up to the missing volume of water. “The unaccounted-for water posed some challenging reservoir release decisions,” Hagen said. “Fortunately, the reservoirs were able to make up the difference.”

Management of releases was changed to ensure meeting both water supply and environmental flowby targets while accounting for the missing water.

A review of historical data revealed that the discrepancy had occurred in some previous droughts.

Several potential causes were examined, including the effects of the fish passage device at Little Falls Dam (which changed the height of a segment of the dam, allowing for more passage of water), heavy growth of submerged vegetation, which can “dam” water behind dense beds of plants, and other causes.

While no conclusive answer has yet been found, a likely reason is the infiltration of river water back into the groundwater table near the river bed in a wide area where the sandy and porous soil mixture would allow the transfer. Thirsty trees and other vegetation in the area may be creating conditions that allow water to flow backward into the water table.

The ICPRB and U.S. Geological Survey staff are now testing the idea by installing a series of small, shallow observation wells called drive points to check for variations in river level and adjacent groundwater levels. “Close examination of these wells at various distances from the river may show whether a hydraulic gradient exists, driving flow away from the river,” Hagen said. Staff have identified a number of sites for the small steel shafts, which are driven several feet into the ground by hand with a sledge hammer. Regular monitoring hopefully will solve this drought-induced mystery, allowing greater efficiency during drought operations.

## Enhanced Spill Model Provides Protection

The Interstate Commission on the Potomac River Basin (ICPRB) recently enhanced its Toxic Spill Model, which tracks the movement of spills and provides timely information to water utilities downstream so they can protect area water supplies. The spill model provides estimates of travel times from the site of the spill to water intakes on the river, including estimates of the leading edge of the spill, its maximum

concentration, and the trailing edge.

While the model has served as a useful tool, most recently early this year when a Hagerstown, Md., wastewater treatment plant failed and discharged raw sewage into a Potomac tributary (see January/February 2002 *Reporter*), recent enhancements allow for greater accuracy and modeling of a wider range of substances.

“The revised model has a completely new code, which added graphical output, an enhanced ability to model sewage spills, the ability to estimate concentrations of non-conservative substances, such as pathogens or volatile material, and can rapidly evaluate different spill scenarios,” said Carlton Haywood, associate director of ICPRB’s Water Quality Section, who engineered the new features.

The previous version assumed that the spilled substance would not evaporate over time, and was completely dissolved in the water, which allowed for a simpler model, but was less accurate with substances such as solvents that evaporate over time, or for the longevity of bacteria in sewage spills. These concerns are addressed in the enhanced model.

The model covers the Potomac River from Cumberland, Md., to Little Falls at Washington, D.C., and includes five tributaries – the Monocacy River, Antietam Creek, Conococheague Creek, the Shenandoah River, and the South Branch Potomac River.

“The spill model provides 24-hour emergency response support, which gives the suppliers some advance notification of when a spill might arrive at the intakes. This information can be used to develop

monitoring strategies in the river, so that the suppliers can track the location of the spill in the river as it makes its way downstream. The information can also be used to develop strategies for water supply management in the event that a spill were to temporarily shut down a water supply intake.” said Erik Hagen, deputy director of the ICPRB Section for Cooperative Water Supply Operations on the Potomac.

“The ICPRB toxic spill model gives us information in a timely manner so that we can begin taking steps while monitoring the situation,” said Jeanne Bailey of the Fairfax County Water Authority’s Public Information Office. “After receiving the information that the model gives us, we would immediately notify our operations staff and implement this data into our strategic planning.”

The strategic planning depends on the type of spill that has occurred. “Depending on the travel time and concentration of a particular spill, we may boost production until the spill reaches us, if we thought we would have to go offline,” said Karen Wright, a group leader with the Washington Suburban Sanitary Commission. “The most important factor is media notice. The model would give us time to inform our customers of the problem and to be able to tell them what action to take to conserve water. Depending on the spill, we may have to alter our treatment process.”

The Toxic Spill Model was developed based on dye studies conducted in the river by the U.S. Geological Survey. In that study, a fluorescent dye was put into the river and its downstream travel monitored. Continuing enhancements to the spill model provide increased protection for the water supplies of the metropolitan area.



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The end of spawning season doesn’t mean the end of efforts in ICPRB’s shad restoration project. The ICPRB and U.S. Fish and Wildlife Service (USFWS), with volunteer help, spent late-summer nights hunting for the young shad that hatched last spring. The ICPRB’s Jim Cummins steers the boat as USFWS’s Dave Peterson and volunteer Mark Bryer of the Nature Conservancy lower a pushnet into the water to trap shad and assess the success of the spawn. The survey found more than twice the amount of young shad observed in 2001, which was a record year.

## Grow Native in October

Volunteers are needed throughout the Potomac River and Chesapeake Bay watershed to collect as many native tree seeds as they can. On Saturday, October 12, 2002 the Potomac Watershed Partnership and the Potomac Conservancy will sponsor the second annual Growing Native, a volunteer-led effort to replenish depleted reserves of native tree stock for reforestation projects throughout the region.

The Potomac Watershed Partnership is seeking 300 volunteer collection site coordinators and 5,000 volunteer seed collectors. Check out the new *Growing Native* website at [www.growingnative.org](http://www.growingnative.org) to learn more about how you can "Get Nuts for Clean Water," or contact Rob Carey, *Growing Native* Coordinator, at 703.276.2777 x207 or [coordinator@growingnative.org](mailto:coordinator@growingnative.org).



Potomac Basin

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**Editors: Curtis M. Dalpra  
Donna Desormeaux**

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**E-Mail: [info@icprb.org](mailto:info@icprb.org)  
Internet: <http://www.potomacriver.org>**

**Joseph K. Hoffman, Executive Director**

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## State of Bay Report Published

The Chesapeake Bay Program has released its *State of the Chesapeake Bay*, highlighting cooperative protection and restoration efforts. The report examines current environmental conditions throughout the region and provides opportunities for public involvement in the restoration effort.

The report, regularly published by the Chesapeake Bay Program since 1985, follows the framework of the *Chesapeake 2000* agreement, which set the latest framework for cooperative bay restoration, and focuses on improving water quality, protecting vital habitats, encouraging sound land use, engaging communities in restoration and protection activities, and improving and protecting the bay's living resources.

The *State of the Chesapeake Bay* report is available free of charge from the bay program website at [www.chesapeakebay.net/pubs/sob](http://www.chesapeakebay.net/pubs/sob) or by calling (800) YOUR-BAY.

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