# Potomac Basin RECEIVENTS Vol. 57, No. 5 Potomac Basin Sept./Oct. 2001 Sept./Oct. 2001



The U.S. Coast Guard Cutter Albacore and a patrol boat near Fort McNair on the Washington waterfront.

# Potomac in Washington Closed to Traffic After Attack

ours after the September 11 attack on the World Trade Center and the Pentagon, The Potomac River in Washington, D.C., was closed by the U.S. Coast Guard. Movement of vessels on the river from the Woodrow Wilson Bridge to the Francis Scott Key Bridge in Georgetown, and on the Anacostia River from its mouth to the U.S. Route 50 Bridge was halted. A Coast Guard cutter was quickly dispatched to Washington to secure the river.

For the next six days, vessels within the security zone were allowed to move only with prior approval of the Coast Guard, and then only to leave the area permanently. The normally busy river was eerily quiet, as the capital's many touring passenger vessels and pleasure boats remained tied to docks. Compliance of both commercial and pleasure vessels with the closure has been very high, according to the Coast Guard and the District's Metropolitan Police Department Harbor Branch, which also is patrolling the area.

The river was reopened, with restrictions, on September 16. Movement within the security zone was allowed from 5:30 a.m. to 7 p.m., with all vessels subject to boarding and inspection. Representatives of the Coast Guard and the police noted that boaters were generally happy with the operation, with few complaints about the inspections. "People have been nice, and understand the importance of the job we are doing," noted Coast Guard Lt. Russ Bowman.

On September 25, the Coast Guard lifted the Potomac security zone, but noted that they would continue with an increased presence in the area. Naval Protection Zones were established, which require boat traffic to operate at minimum speed within 500 yards of a Navy vessel, and to keep at least 100 yards away from those vessels unless directed to do otherwise by an Our mission is to enhance, protect and conserve the water and associated land resources of the Potomac River and its tributaries through regional and interstate cooperation.

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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. official patrol. This rule currently remains in effect. People may notice that various Coast Guard cutters may be present or absent in the area because Coast Guard assets are shuttled in and out of the metropolitan Potomac. "We retain a strong presence on the river," Bowman said. The Metropolitan Police Department Harbor Branch also is continuing with increased presence on the water, and have assisted in inspections. Other federal police agencies in the area are working together to keep the area secure.

Additionally, the Baltimore District of the U.S. Army Corps of Engineers has authorized the temporary establishment of restricted areas in and around all military assets adjacent to the navigable waters in the region (Maryland, central Pennsylvania, and the District of Columbia). The restricted areas extend 100 meters into navigable waterways, including the Potomac. No vessels or persons may enter these areas. An exception is the Quantico Marine Base on the tidal Potomac, which has established a 500-meter restricted area.

The regulations do not apply to commercial or recreational traffic within designated channels or fairways. Commercial fishing activities are allowed to continue in designated areas after positive identification has been established. The regulations are in effect during declared threat conditions.

If the prohibited zones seem to be getting complex, Lt. Bowman recommends that boaters simply "obey directions given by Coast Guard or police vessels."

The Coast Guard, for obvious reasons, is not sharing information about its strength on the river, including the numbers and types of boats present. In fact, the numbers on the hulls of some boats have been painted over to discourage their identification. The maintenance of security on the river, while not a new role, has in the past been aimed more at promoting public safety on the water, rather than patrolling to prevent harm. "This is a different stance for us," Bowman said. "We normally aren't trying to limit public knowledge of our activities. Usually we are trying to get the word out about our mission."

The closure of the river created hardship for several companies that run boat tours on the Potomac in and around Washington. The Potomac Riverboat Company, like others in the area, was shut down for a time after the attack, in what is traditionally the busiest time of the year. Even after restrictions on boat travel were loosened, the closure of Reagan National Airport and the absence of tourism hurt business for some of those who rely on the river for customers.

Potomac Riverboat Company owner Willem Polak noted that his business remains a shadow of the norm. His boats, ported in Alexandria, Va., quit taking trips to Mount Vernon due to the boarding and searches required when a boat leaves the metropolitan area. "I couldn't keep on a schedule," Polack said. He described the Coast Guard personnel on the water as very polite, and is working with the agency to try and streamline the process, perhaps through searches at the dock rather than on the water. The company has been reduced to running weekend trips entirely in the District of Columbia, and bookings for future trips remain very low. "We would typically be sold out for Christmas parties," he said, "but our bookings are down by more than 50 percent."

Other types of river related businesses have been more fortunate. Ken Penrod, who runs Life Outdoors Unlimited, a fishing and hunting guide company that specializes in the metropolitan Potomac, shut down his operations for the week after

# Maintaining a Focus

#### Joseph K. Hoffman, Executive Director

The tragic events of September 11 are fresh in our minds, and our hearts reach out to so many with feelings of sympathy and gratitude. Yet, we must continue with our lives and pursuits, changed as they may be. The attacks and subsequent events have resulted in some reassessments of what governments will be able to fund and how to carry out the business of governing. This includes aspects of water resources. As noted in the lead article of this *Reporter*, the Potomac is certainly part of the evaluation.

Experts say threats to public water supplies remain largely remote. Widespread health problems by terrorist contamination of a public water supply is highly unlikely, given the volume of water and the dilution factors involved. Poisoning the rivers and reservoirs that serve cities would require truckloads of chemicals or biological agents and would be easy to spot, according to experts. Measures to safeguard water supplies have emerged across the nation at varying levels of government. Suppliers would detect the contamination and simply draw their water from a different source. The treatment process itself is designed to remove contaminants that are naturally occurring or enter the water as a result of human activity in the watershed and would work well on most agents intentionally introduced.

Suppliers throughout the Potomac River Basin, including those that provide water to the Metropolitan Washington area, have emergency action plans covering varied types of incidents that may occur at any of the facilities used for water supply operations. Suppliers in several jurisdictions have reviewed their plans and implemented actions to protect their systems from physical damage, contamination and other threats. They have increased routine and special security measures and have assessed potential threats that may impact their systems. Suppliers are taking steps to protect their pipes, including locking doors, setting up surveillance cameras, and installing alarms to assure the integrity of the distribution systems.

As noted above, we must carry on with our lives, including the enjoyment of our leisure hours on this marvelous Potomac. We must continue to seek improvements in the water and related land resources this basin offers to us all. The challenge can be met even in a period when our fiscal resources are strained by the priorities of seeking out terrorists and providing for homeland security. It may take a few years longer than planned, but we can provide resources to ensure cleaner water. We can continue to work with the various communities to reduce sediment transport to our streams and other efforts to improve quality of our waterways.

There is talk of stimuli being infused into our shaken, but not broken economy. An ideal way of continuing vital environmental improvements while providing this stimulus is construction to expand and improve our water and waste water treatment facilities. In the Potomac, as well as the Chesapeake Bay region, biological nutrient removal at treatment facilities is a proven technique of reducing harmful nitrogen loadings in the waters. Implementation of a vast array of best management practices at farms, livestock production sites and construction sites will prevent deterioration of our waterways.

Citizen participation in environmental awareness and monitoring efforts have become vital components of action in this basin. We need citizens to remain actively involved in these pursuits. The wide array of actions to preserve and improve our quality of life through enhancement of our natural resources should continue. The quality of the resources in our basin and the nation is a part of the reason for which we are seeking an end to terrorism.



the attack. Business for the service has mostly recovered since the river reopened. Penrod credits a large local customer base, noting the existing drop in his business has come with the drop in tourism.

#### A History of Conflict

While the short, complete closure of the metropolitan Potomac is unprecedented, the river is no stranger to conflict. As a water highway into the heart of the Nation's Capital, the river has seen more than its share of battles, blockades, and other conflicts.

The first Potomac Navy was formed in 1697 to help with "Indian depredations," according to Potomac Historian Frederick Tilp in his book, "This was Potomac River." In the years before the American Revolution, troubles on the river centered on the increasing friction between the colonies and England, when various defenses were constructed along the river. Throughout the course of the war, British ships entered the Potomac to burn and plunder riverside towns and estates, with some occurring even after Cornwallis surrendered at Yorktown.

In 1813, the second war with Great Britain again resulted in the pillaging and burning of many villages and homes along the lower Potomac. In 1814, a portion of the British fleet made its way past the dangerous shoals upstream of Maryland Point, past Mount Vernon, and Fort Washington, which surrendered without a shot fired. The fleet sailed up the river, and held Alexandria, Va., for five days before heading back down the river. (By the time the fleet arrived, the British Army had already withdrawn from Washington.) The fleet was harassed with some effect as it sailed downriver.

Tilp's book neatly encompasses the role of the Potomac in the Civil War: "From John Brown's raid on the federal arsenal at Harper's Ferry on the upper Potomac to the final flight of Lincoln's assassin, John Wilkes Booth, down into Maryland and across the lower Potomac, the river became a continuous theater of war."

The Potomac was very active, with much commerce, including many crossings by southern Marylanders sympathetic to the Confederacy bearing mail and supplies. The Union quickly assembled a Potomac Flotilla to stop crossings and destroy or cripple the many Confederate batteries along the Virginia shore. James A. Ward, the commander of a Union vessel that landed at Mathias Point to storm and destroy such a battery, became the first Union naval officer of the war to die in action. The Potomac Flotilla was somewhat successful at keeping Union shipping active, but was less effective at stopping the smuggling of arms and goods across the Potomac in smaller boats.

Later in the year, the Confederacy effectively blockaded the Potomac for a time, with shipping running the gauntlet of batteries between Cedar Point and Quantico at night, reaching safety under the lee of Fort Washington in the morning. The Confederate batteries on the Virginia shore hampered Union operations until the focus of the war moved south, at which time the Confederate emplacements along the river were abandoned.

Although the river was blockaded, it was never completely closed. While the Civil War raged in 1862, closure of the river was considered. After the victory of the Confederate ironclad Virginia in the battle at Hampton Roads, Union Secretary of War Edwin Stanton became very concerned about the ship steaming up the Potomac to shell the capital, and destroy "Every vessel in the service," according to research by former congressman and Potomac historian Gilbert Gude. The possibility of such an event prompted a high-level discussion, during which Navy Secretary Gideon Welles told the President that the ironclad was too heavy and clumsy to navigate Kettle Bottom Shoals, near Virginia's Northern Neck. The discussion continued in bits during the day, with Lincoln relenting to Stanton's urging, and "gave approval to the sinking of 50 or 60 canal boats loaded with gravel or stone at Kettle Bottom Shoals ... " When contacted by an admiral about the operation, Welles countermanded the order. At a meeting with Lincoln the next morning, Welles explained that keeping the Potomac open for navigation had come at great expense, and with the rebels finally withdrawn from tidewater Virginia, the plan would close the capital to the sea. Lincoln permitted the canal boats to be loaded but not be sunk unless the Virginia began to steam up the river. Weeks later when the president and a party were steaming down the river, someone inquired about the line of barges anchored along the Maryland shore. Lincoln responded that that they were "Stanton's navy" and good for nothing, "as useless as the paps of a man are to a suckling child. There may be some show to amuse the child, but they are good for nothing for service."

# **EPA Moves to Allay Drinking Water Concerns**

U.S. Environmental Protection Agency (EPA) Christie Whitman sought to allay concerns about the security of the nation's drinking water supply during a visit to the Washington Suburban Sanitary Commission (WSSC) laboratory on October 18.

"As someone who drinks water at home from the tap-as does my family-this is a concern I certainly understand," Whitman said. "It would take large amounts of contaminants to threaten the safety of a city water system. Because of increased security at water reservoirs and other facilities around the country-and because people are being extra vigilant as well-we believe it would be very difficult for anyone to introduce the quantities needed to contaminate an entire system."

Whitman noted that training materials that will help water utilities to conduct thorough assessments of vulnerabilities are being developed by the Sandia National Laboratories. Originally scheduled to be available next year, the project has been accelerated, with the materials being made available for water system operator training scheduled to begin in November. The EPA has been working with the Association of Metropolitan Water Agencies and the Federal Bureau of Investigation and created a notification system among drinking water providers, the law enforcement community, and emergency response officials. It can help alert authorities and water system officials to threats, potential vulnerabilities, and incidents. The system is being enhanced with a secure web-based center.

Whitman noted that even though the probabilities of a water-system incident are small, it is still possible. She noted that EPA is prepared to provide guidance and laboratory analysis, and that their specialists are ready to assist in recovery.

John Griffin, WSSC general manager, noted that the utility was working to ensure the security of its supply, which meets the demands of Washington's suburbs in Maryland. "Since our nation's recent tragedies, we've strengthened our already solid foundation of safety and security measures. Our modern water quality laboratory helps ensure we fulfill that crucial mission," Griffin said.

## Companies Seek Permits for Power Plant Construction Along Potomac

The Interstate Commission on the Potomac River Basin (ICPRB) is monitoring developments in the applications of two companies to construct electric generation plants along the Potomac river upstream of Washington, D.C. As an agency tasked with the protection and enhancement of water quality and related resources through regional and interstate cooperation, ICPRB is keeping aware of these proposals and possible effects on the river's health and ability to meet the drinking water demands on the river during drought conditions. The facilities, as proposed, will use Potomac River and/or tributary water for cooling. Collectively, the plants could consume several million gallons per day (mgd) of water, and create other impacts that should be addressed in planning for future use of the river.

Duke Energy Frederick, LLC (Duke) and Mirant Dickerson Development, LLC (Mirant) have submitted applications for a Certificate of Public Convenience and Necessity to the Maryland Public Service Commission. The certificate issued by the commission is the key permit necessary for construction of the plant, with input from the state air and water regulatory agencies. The Maryland Department of Natural Resources Power Plant Research Program coordinates state agency responses to the permit applications.

Duke's permit, if approved, would allow for construction of the proposed power plant with an allocation of 7.5 million gallons per day (mgd) daily maximum and 4.66 mgd annual average appropriation from the Potomac River, of which 96% will be consumptively used.

The proposed Mirant facility has an 8.3 mgd daily maximum consumptive use and 6.6 mgd annual average consumptive use from the Potomac River. The facility is an expansion of the existing Dickerson facility.

There are significant consumptive water use issues associated with these plants, which have a bearing on water supply interests in the metro area. (Consumptive uses are withdrawals of water that are not returned to stream after use.) The water suppliers in the Washington Metropolitan Area have intakes downstream of the proposed power plant water intakes. These water suppliers are the Washington Aqueduct Division of the U.S. Army Corps of Engineers, which takes water from the Potomac to supply to the District of Columbia, Arlington and Falls Church; the Washington Suburban Sanitary Commission, which supplies water to parts of Montgomery and Prince Georges Counties (Maryland); and the Fairfax County Water Authority, which supplies



#### Watching the River Flow

Flow of the Potomac River measured near Washington, D.C., in August and September ranged from well above to below average, and averaged about 34 percent below average for the 2001 Water Year that ended on September 30, according to the U.S. Geological Survey (USGS).

The USGS starts their Water Year on October 1, when agricultural water use has largely declined for the year and stream flows are low and steady. For Water Year 2001, flow of the Potomac averaged about 5.4 billion gallons per day (bgd), or about 66 percent of the normal flow, about 8.1 bgd. The observations are based on flow records that date back to 1930. During the water year, flow ranged from a high of about 42.1 bgd on March 23 to a low of about 1.0 bgd on September 19. Total freshwater inflow to the Chesapeake Bay averaged about 403 bgd, or about 25 percent less than last year. The Potomac contributed about 21 percent of the total, about average.

For August, the river raced along at about 3.8 bgd, 42 percent more than the long-term average of 2.7 bgd. Daily extremes ranged from a high of about 8.3 bgd on August 2 to a low of about 1.8 bgd on August 30. Municipal withdrawals for water supply averaged about 435 million gallons per day, about five percent more than in August 2000. Total freshwater inflow to the Chesapeake Bay for August averaged about 15.4 bgd, with the Potomac contributing about 33 percent.

In September, river flow fell, its monthly flow of about 1.7 bgd only 79 percent of average. Daily extremes for the month ranged from a low of about 1.0 bgd (the daily low for the water year) on September 19 to a high of about 7.0 bgd on September 25. Municipal withdrawals averaged about 425 mgd, about six percent more than the previous September. Chesapeake Bay freshwater inflow averaged about 11.7 bgd during the month, only 57 percent of average. The Potomac contributed about 21 percent. water to several areas in Northern Virginia.

Under Maryland's consumptive use regulation, water withdrawers are required either to augment Potomac flow to meet consumptive use, or cut back to less than 1 mgd during certain periods specified by Maryland Department of the Environment. Both power companies in their permit applications cite the latter strategyreducing power output during times of drought in order to meet the 1 mgd withdrawal limitation-as their plan. This plan produces conflicts among water uses in that drought periods are normally times when electric users are seeking increased power due to the extreme weather conditions accompanying the drought.

In recent studies on future water demand, ICPRB considered the possibility of then unplanned power plant water use, at the rate of 1 million gallons per day for each of two possible plants. The current demand for energy seems to have caused these possibilities to result in active applications. Other power projects, possibly using basin waters, are being discussed, although no formal permit applications are known to have been made.

The Potomac river is the primary source of drinking water for the Washington metropolitan area. It is an adequate source of water for both power and water uses during most periods. However, the potential exists for drought and low flow conditions to occur, during which times the free flowing Potomac will be inadequate to meet both power and water supply withdrawals. The summer demand on the Potomac by the three metro area water suppliers averages about 500 mgd. Average flow of the river over Little Falls Dam (after water withdrawals) is about 2.9 billion gallons per day during the summer (July through September). When the minimum environmental flow plus water supply demands exceeds Potomac flow levels, upstream reservoir releases are made from water supply storage in order to meet the minimum flow requirement. These releases are, in effect, available to any water withdrawer along the river. Storage in upstream reservoirs is paid for through a cooperative agreement between the three major water suppliers in the metro area.

In addition to monitoring power plant development for potential impacts on water supply availability, ICPRB has been asked for technical information by the involved Maryland agencies and the metropolitan area water suppliers. Also of interest to ICPRB are possible impacts to water quality and living resources that may arise from temperature increases in the Potomac and increased nutrients into the air and waters of the basin.

Additional information may be obtained from the Public Service Commission at William Donald Schaefer Tower, 6 St. Paul St., 16th Floor, Baltimore, MD 21202, email: <u>mpsc@psc.state.md.us</u>, telephone (410) 767-8000, MD Toll Free, 1-800-492-0474 or MD Relay Service 1-800-735-2258 (TT/ Voice). More information on the permit applications can be found by going to the Maryland Public Service Commissions website at <u>http://www.psc.state.md.us/psc/</u> <u>home.htm</u> and searching case numbers 8888 for Mirant and 8891 for Duke.

The ICPRB water demand studies are available on the ICPRB website at <u>www.potomacriver.org.</u>

# **Bryozoa Revealed**

In response to last month's article on the exotic Potomac denizen, we received a letter from Kent Mountford, the former senior scientist for the Chesapeake Bay Program, an estuarine ecologist and environmental historian whose column appears in Bay Journal.

#### Name the Beast: The Beast Named!

The Potomac Basin Reporter for July-August, 2001, asked readers to "name this Potomac denizen", and I'll give a pretty certain response: *Pectinella magnifica*, which is sometimes called "jelly-ball". These sometimes dramatic masses of organisms are members of the order Bryozoa so called "moss-like animals".

Bryozoans commonly encrust other surfaces but the star- or rosette-shaped zooids-individual animals of *Pectinella magnifica* growing cheek by jowl, form a gelatinous mass. These colonies of many animals are sometimes firm, like the one shown, but are sometimes very watery. The overall structure is called (appropriately) a floatoblast, and yes it floats, still often containing the stick or other object which was the nucleus of its formation. Big colonies are often host to insect larvae, since they provide shelter and an environment stable for many weeks.

At some point later in summer or fall, *Pectinella* colonies break up from the floatoblast stage, and produce "statoblasts," small circular or sometimes rhomboidal disk-like cysts, each bordered by a crown of spines and possessing a small raised float. These are resistant to severe conditions in the environment and are the device by which *Pectinella* persists from year to year. Some bryozoan statoblasts were dried for 50 months and still germinated when times were again favorable.

This particular species has a long history among East coast biologists, having been first described by Philadelphia physician / naturalist Joseph Leidy in 1851. Leidy was

# Potomac Shoreline to be Preserved

Maryland Governor Parris N. Glendening announced the spending of \$6.3 million from the GreenPrint Program to purchase 1,271 acres of land in Charles County to preserve a major portion of the Douglas Point property.

The tract, which includes 1.8 miles of Potomac River shoreline, 90 acres of wetlands, and high-quality, mature forest will be purchased from the Potomac Electric Power Company and will be permanently preserved.

The land will be purchased as the first step in a conservation strategy that includes the county, the Conservation Fund, and the federal Bureau of Land Management. The purchase will allow federal, state, and local officials to work in partnership to determine future use of the area. Plans call for the area to support recreation and nature tourism that will preserve the area's ecology. State biologists had determined that the land holds endangered plants and animals.

The property's future set off a controversy in the county when its purchase by a mining company was proposed, and some county residents became concerned with noise and pollution issues related to gravel extraction operations.

"We are acting with a sense of urgency all across the state to save our most ecologically valuable lands before they are lost forever to development," Glendening said. Douglas Point is a vital link in the state's delicate ecosystem and boasts a dense forest, an abundance of wetlands, and a pristine stretch of shoreline that is home to a variety of wildlife, including bald eagles and osprey."

During the Glendening Administration, land protected by state and local partners has increased from 589,487 to 825,279 acres, an increase of 40 percent in seven years.

among the group which founded the Academy of Natural Sciences of Philadelphia in 1812. It is our nation's oldest natural science institution and today has a strong presence around the Chesapeake through its estuarine research laboratory on Maryland's Patuxent River.

Freshwater bryozoa are usually not associated with really polluted conditions, but *Pectinella* is reported to occur in "stagnant waters," so unfortunately they don't so far seem to be a bellwether of better conditions in the Potomac and Anacostia.

# POTOMAC CALENDAR

#### **ICPRB Business Meeting**

ICPRB will hold its first-quarter business meeting at its offices in Rockville on December 4. Commissioners will be updated on ICPRB projects and discuss other Potomac issues. The meeting is open to the public. For more information or to attend, contact Ms. Bo Park at the commission.

# Controlling Nutrients and Sediment

The Pennsylvania departments of Environmental Protection and Agriculture, in cooperation with several other cosponsoring organizations, will present a Nutrient Management and Sediment Control Innovative Technology Forum on February 12-14, 2002 at the Holiday Inn in Grantville, Dauphin County.

The forum will highlight new techniques for controlling these types of impacts, providing an opportunity for technology users to interact with providers. The forum seeks to provide cost-effective answers to pollution control through familiarization with new technologies. For more information, contact Peter Slack at (717) 787-3481, or email him at pslack@state.pa.us



#### Potomac Basin



#### Editor: Curtis M. Dalpra (ISSN 1072-8627)

Published six times a year by the Interstate Commission on the Potomac River Basin, Suite 300, 6110 Executive Blvd., Rockville, MD 20852. (301) 984-1908.

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This publication does not necessarily reflect official Commission policies. Funds for the *Reporter* are provided by the U.S. Environmental Protection Agency and the signatory bodies to ICPRB: District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia.

#### Stream workshop for Pa. Monitors

Citizen stream monitors can benefit from this event on January 25-26 by learning about the usefulness of monitoring, how data is used, and decision-making. The indoor session uses role-play and feedback in small groups. A location in south-central Pennsylvania will be determined. For more information, contact Diane Wilson, Pa. Department of Environmental Protection, at (717) 787-3730.

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