



# Environmental Sound

## News

### **State Water Control Board issues largest-ever wetlands penalty**

In April 2009, the State Water Control Board issued a \$145,000 penalty against an Augusta County property owner for destruction of wetlands, the largest wetlands penalty ever imposed by the board.



*Quarles Pond had been called the largest intact Shenandoah Valley sinkhole pond in Virginia and supported rare plants and insects before illegal excavation destroyed its ecological function. (Photo/DEQ)*

The 15,000 year-old wetlands, referred to as Quarles Pond or Green Pond, was excavated during construction of the property owner's house without a permit. Impacts of this nature to a wetland requires a Virginia Water Protection permit which aims to minimize impacts to wetlands and protect [natural heritage resources](#). The Virginia Department of Environmental Quality's 2006 investigation revealed that the construction significantly altered and degraded the wetland acreage and function of the wetland. The wetland is thought to have supported rare plants (spatterdock, pondweeds, and buttonbush) and insects (spatterdock damer) and had been called the largest intact Shenandoah Valley sinkhole pond in Virginia.

In addition to the monetary penalty, the property owner is required to restore the wetlands to the extent feasible and to monitor progress for 10 years. To learn more about Virginia Water Protection permits and wetlands protection in Virginia, visit [www.deq.state.va.us/wetlands/](http://www.deq.state.va.us/wetlands/).

*L. M. Crowell, Esq., DEQ Central Office*

### **Fish illnesses and deaths observed in Virginia rivers**

Reports of dead fish and fish with lesions, similar to what has occurred in past years, have come in to DEQ and the [Department of Game and Inland Fisheries](#) since mid-May from these rivers:

- North Fork of the Shenandoah River in Shenandoah County (from the New Market area downstream to beyond Woodstock).
- Upper portions of the South Fork of the Shenandoah River in Rockingham County (mainly upstream

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- Lower sections of the North, Middle and South rivers in Augusta and Rockingham counties.
- Upper James River near Buchanan in Botetourt County.

In past years, the fish kills have occurred earlier in the season. Due to the recent cool water temperatures and the relationship between the kills and temperature, the fish kills have shown up later than expected in 2009. So far in the affected rivers, the fish kills appear to be mild, with a few dead fish per mile in most areas. With the exception of the single report from the upper James River indicating a high percentage of fish with lesions, biologists generally have seen around 15 percent to 25 percent of fish with lesions.

Scientists recently have found a link between *Aeromonas salmonicida* – a bacterium found in the diseased river fish – and lesions and deaths of experimentally infected laboratory fish. A significant focus of current investigations is to determine the source of this bacterium and how it is transmitted, and to determine why certain fish appear to be more susceptible than others.

To learn more about fish kills in Virginia and the bacterium link, visit [DEQ's web site](#).

*Don Kain, DEQ Valley Regional Office*

### **Multi-Agency training on the science of oil spills a success**

The Department of Environmental Quality has partnered with the [National Oceanic and Atmospheric Administration](#) and Research Planning Inc. to host a training course about oil spill science and response. The training represents the first time in Virginia that multiple federal and state agencies participated in maritime environmental science training. A total of 35 emergency responders attended the training from these agencies: DEQ, [U.S. Coast Guard](#), [Virginia Department of Game and Inland Fisheries](#), [Virginia Marine Resources Commission](#) and the [Virginia Department of Emergency Management](#) assigned to the Eastern Region of Virginia. The course was held March 31 through April 2, 2009, at [DEQ's Tidewater Regional Office](#) in Virginia Beach. It included a combination of class lectures and hands-on field exercises from NOAA and Research Planning instructors to introduce the participants to the current assessment, cleanup, recovery and restoration of shorelines impacted by oil, as well as oil chemistry, oil behavior, wildlife impact, and protection and response strategies for coastal waters and shorelines.



*Thirty-five emergency responders attended a three-day training course about oil spill science and response from March 31 to April 2, 2009. (Photo/NOAA)*

DEQ's Office of Spill Response and Remediation and Tidewater Regional Office Pollution Response Program coordinated the training. Research Planning has been part of the Office of Response and Restoration of NOAA for more than 30 years and provides technical assistance and support for NOAA.

*John Settle, DEQ Tidewater Regional Office*

### **DEQ works with students to build a living world**

On May 8, 2009, 105 fourth-graders and their teachers from Watauga Elementary School participated in a science day at the Higher Education Center in Abingdon. Tracey Blalock from the [Department of Environmental Quality's Southwest Regional Office](#) helped the students construct a tabletop living world (biosphere) to learn about taking care of the Earth. The biosphere was made from a Mason jar and included rocks, seashells, aquatic plants, snails and a guppy. The students used the biosphere to learn how to recycle and conserve natural resources in a practical manner and how each component of the biosphere plays a role in lifecycles, food sources and waste products. DEQ staff wrapped up the activity by explaining that scientists, like them, are researching the living world to understand and protect it.

*Tracey Blalock, DEQ Southwest Regional Office*

## Virginia marine protected areas receive national recognition

Seven sites in Virginia have received national recognition by being accepted into a new national system of marine protected areas. The national system was launched by the U.S. Departments of Commerce and Interior to enhance the effectiveness of marine protected areas across the country. The Virginia natural area preserves and state parks make up 3.1 percent of the overall national system and cover an area of approximately 952 square miles.

The Virginia sites, nominated by the Virginia Coastal Zone Management Program at the Virginia Department of Environmental Quality, were included because they contain protected intertidal zones (lands that are submerged at high tide and exposed at low tide) that are considered part of the marine environment. The sites include:

- Blue Crab Sanctuary in the mainstem of the Chesapeake Bay
- Bethel Beach Natural Area Preserve in Mathews County
- Dameron Marsh Natural Area Preserve in Northumberland County
- Hughlett Point Natural Area Preserve in Northumberland County
- Savage Neck Dunes Natural Area Preserve in Northampton County
- False Cape State Park in Virginia Beach
- Kiptopeke State Park in Northampton County



A map of the Virginia marine protected areas shows the seven sites that were accepted into a new national system of marine protected areas. (Image/DEQ)

Learn more by visiting [Virginia's Coastal Zone Management Program at DEQ](http://www.mpa.gov). For the full national list, visit [www.mpa.gov](http://www.mpa.gov).

*Virginia Witmer and Krystal Coxon, DEQ Central Office*

## DEQ celebrates Earth Day with students

Smyth County public schools held their annual "Watershed Field Day" for the county's sixth-grade students on April 24, 2009. An estimated 380 students from the county's middle schools attended the event. The students were split into groups and rotated through stations to learn about what makes rivers, lakes and streams clean or polluted. Jason McCroskey, [DEQ's Southwest Regional Office](#) biosolids coordinator, talked about some of the ways in which DEQ monitors the health of streams through chemical monitoring. Students learned about how DEQ scientists collect water samples from streams and how they determine the amount of [dissolved oxygen](#), [pH](#), temperature and other indications of water quality. They also received an introduction to the Hydrolab instrument used for collecting field parameters as well as the sampling bucket and containers used by ambient monitors on a daily basis.

*Jason McCroskey, DEQ Southwest Regional Office*

## First participant graduates from DEQ cooperative student program

On May 17, 2009, Rachel Baker became the first graduate of the state supported Virginia Water Resources Cooperative Graduate Program when she received a master's degree in civil and environmental engineering from the [University of Virginia](#). The cooperative program was implemented in the fall of 2007. It aims to recruit potential employees, especially minorities and women, and direct the research of graduate engineering students for projects that provide needed information for DEQ's management of water resources.

Rachel's thesis utilized a new mathematical modeling technique to research four areas on Virginia's Eastern Shore where ground water withdrawals are expected to increase and also where salt water intrusion risks are high. New or expanded users of the ground water resources within Virginia's ground water management areas are often required to implement water level observation programs supporting their permits in order to provide additional information to DEQ about the ground water resources. Rachel's conclusions were presented in composite maps which identify locations where additional water level information will provide the greatest benefit to resource management activities. The valuable information will be referenced by DEQ's ground water withdrawal permitting program during evaluations of proposed permits that seek to change ground water use patterns on Virginia's Eastern Shore.

The cooperative program optimizes funding sources from the College of Engineering and Applied Science at the University of Virginia, the Virginia Environmental Endowment and DEQ.

*Robin Patton, DEQ Central Office*



*The Virginia Water Resources Cooperative Graduate Program's first graduate, Rachel Baker, shakes hands with DEQ Director David K. Paylor after graduating on May 17, 2009. (Photo/DEQ)*

## Community Involvement Highlight

### *DEQ staff teams up to clean lakes*

Virginia Department of Environmental Quality staff from the [Piedmont Regional Office](#) teamed up with Innsbrook Corporate volunteers to clean up lakes Rooty, Innsbrook and Waterfront in Glen Allen. Thirty-one people worked together on foot and in boats to remove 35 bags of trash from the lakes and their banks on April 22, 2009. The most common types of trash recovered were Styrofoam, plastic bottles, consumer packaging products, balls and fishing lures.

*Doug Masini, DEQ Piedmont Regional Office*



## Director's Corner

### *Keeping seaside rivers and creeks clean*

Growth and changing land uses on the Eastern Shore increase the frequency and amount of wastewater discharged from businesses and localities that can pollute seaside waters.

*John Reinhardt, DEQ air inspector, removes trash from Lake Rooty on April 22, 2009. (Photo/Lauren Summers, Innsbrook Foundation)*

[Read more...](#)

*David K. Paylor, DEQ Director*

*Environmental Sound* is a bi-monthly newsletter produced by the staff of DEQ.