CHESTER RIVER ASSOCIATION

CRA

CURRENTS

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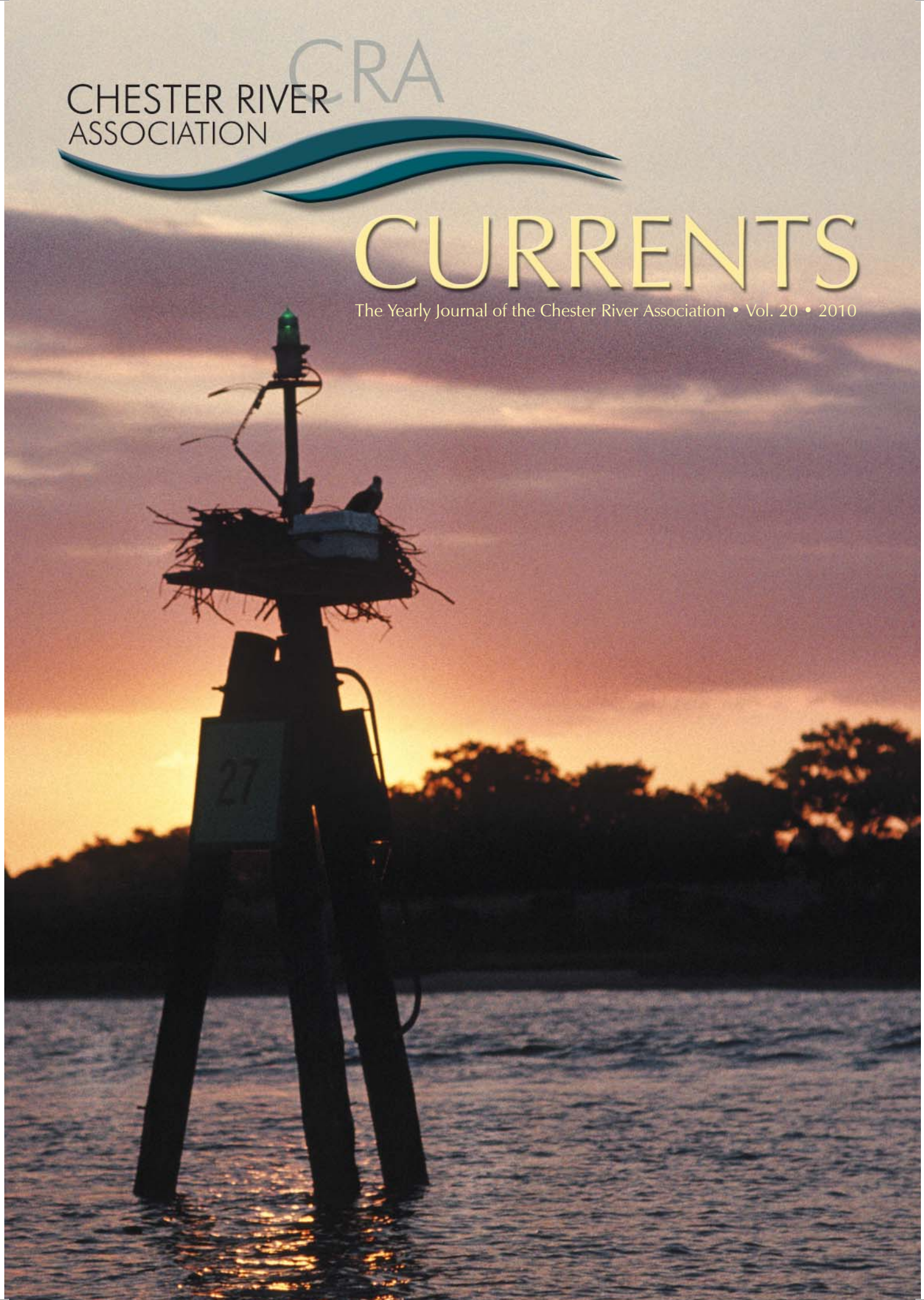

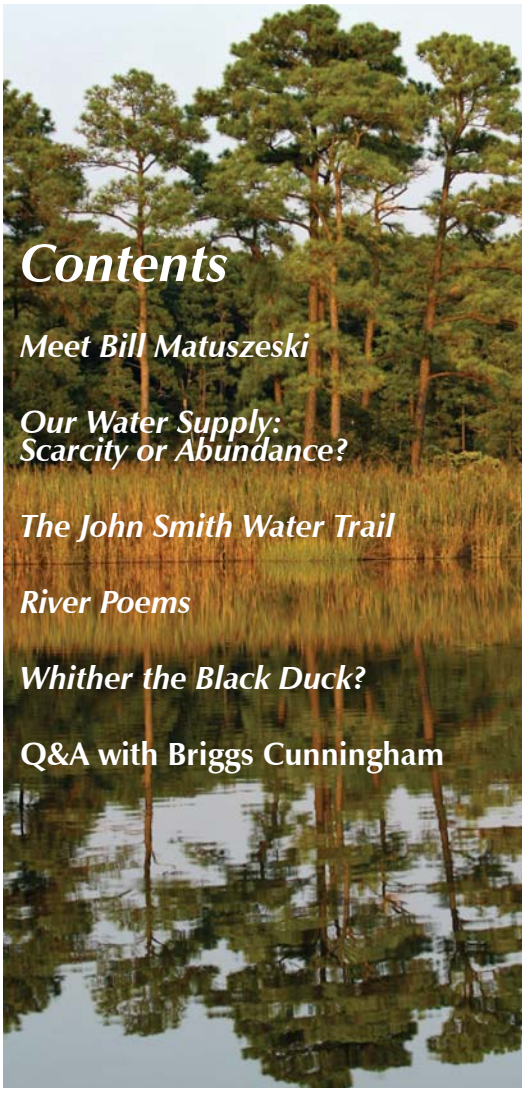

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Letter from the PRESIDENT

Michael Moore

Recession, unemployment and record budget deficits are all part of the current lexicon describing our nation's—and our state's—economic situation. They are hardly words that invoke optimism. Yet, in spite of our monetary straits, we remain resilient in our drive to press forward with initiatives aimed at restoring the bay and the Chester River.

The recently ended Maryland legislative session is indicative of the public's unwavering support for restoring the bay and rivers. Although there were no game-changing initiatives similar to the previously passed Nutrient Management Act for farmers or the Chesapeake Restoration Act for waste water plant and septic upgrades, the positive momentum continued with the following results. The Chesapeake Bay 2010 Trust Fund was actually increased by 10 percent to $22 million. Chester River Association, along with other local partners, received a $286,000 multi-year grant from the fund last year to pay farmers in the middle Chester watershed to plant switchgrass buffers and to purchase "Greenseeker" fertilizer equipment that reduces the amount of nitrogen applied to crops without reducing yield. We have been notified that the grant will not only be renewed but will be increased to $520,000 this year. The takeaway for the river is that more nutrients will be intercepted before reaching the river thanks to more buffers or never applied to begin with thanks to more acreage fertilized with Greenseekers.

Continued on page 15

About the CHESTER

The Chester River meets the Chesapeake Bay at Eastern Neck Island. From its headwaters in Delaware to its mouth at Love Point, its mainstem stretches 60 miles and is fed by 43 named tributaries. The Chester is a natural boundary between Kent and Queen Anne's counties, with a watershed that covers more than 390 square miles. Open to everyone, CRA was founded in 1986 and established its Chester **RIVERKEEPER**® program in 2002. Through meetings, forums, field trips, publications, habitat restoration projects, the Chester Testers and collaboration with community groups and government agencies, CRA strives to improve water quality and increase public awareness of river and watershed issues. Call us at 410-810-7556. Chester Riverkeeper Tom Leigh can also be reached at 410-810-7556. Our office address: CRA, 100 N. Cross Street, Suite One, Chestertown, Maryland 21620. Email: info@chesterriverassociation.org. Our web address: www.chesterriverassociation.org. Anyone who would like to get involved in CRA's river work is encouraged to get in touch.

Chester River Association MISSION

Chester River Association is an advocate for the health of the Chester River and the living resources it supports. CRA strives to promote stewardship of the Chester River – its forests, marshes, fields, creeks and streams – as well as an understanding of the river's place in the economic and cultural life of our communities. In its efforts to improve water quality, educate the public and facilitate resolution of river-related issues, CRA is a voice for the Chester River.

The Chester River Association and its Chester **RIVERKEEPER**® program are members of Waterkeeper Alliance, Inc., an international network of river, bay, lake, coast and soundkeepers dedicated to restoring our waterways.

WATERKEEPER® ALLIANCE MEMBER

CHESTER RIVER ASSOCIATION CRA

Annual MEETING

Imagine, as Bill Matuszeski has, a corn field. Now color in a band of switchgrass around the field. It's a simple picture that has huge implications for alternative energy production in the Chesapeake region.

Here's how Matuszeski, a former director of the federal Chesapeake Bay Program, frames that picture: The switchgrass absorbs runoff from excess fertilizer on the corn field—a win for water quality. The farmer now has a dual crop, an economic plus. And the switchgrass, among other biofuel feedstocks grown locally, is used to generate heat and electricity.

"There are a lot of reasons for thinking about how our forest and farm resources should be used in new, creative ways. Done right, this would be so beneficial. This gets to the whole issue of farmland preservation, it gets to things like development sprawl," says Matuszeski, 58. "Slowly this is getting into the public consciousness—and it's happening at the local level. We are getting somewhere."

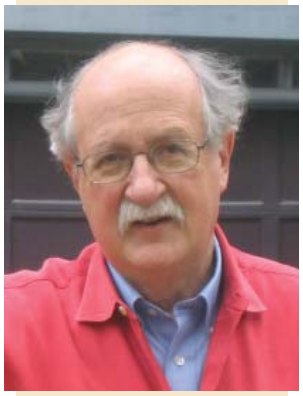
Matuszeski, the headliner at Chester River Association's upcoming annual meeting, consulted on all three biofuels reports published by the Chesapeake Bay Commission. The most recent, *"Chesapeake Biofuel Policies: Balancing Energy, Economy and Environment,"* was released in January. It recommended promoting winter grain crops, establishing harvest guidelines and developing a regional protocol to cope with potentially invasive species while exploring the economic potential that could be realized by development of a state-specific production goal.

The beauty of the Chesapeake region, according to Matuszeski, is that there's plenty of acreage to grow biofuel feedstocks without taking any existing row crops out of production. Among other land that's been identified: recently abandoned cropland in the Shenandoah and former mine sites in Pennsylvania. Other possible sources of biofuels are forests that need thinning and forest slash, the branches and leaves left after a timber harvest.

The challenge now is what Matuszeski calls the "chicken-egg issue:" How does one create an end user for the emerging biofuels industry?

"Will people make the investment to encourage localized use of biofuel feedstocks or biomass? Most gets burned locally for heat or electric generation on a farm. Over time, as that builds, you begin to have a reservoir of biomass," he says. "Then you start building a basis for refineries." The Chesapeake region is particularly well-positioned, he adds, because it is within overnight shipment of the Wilmington/Philadelphia/Camden (N.J.) corridor, the second-largest petroleum refining complex in the nation after Texas.

"As people get more familiar with this and see the opportunities, and as technology improves, they will be open to a variety of feedstocks much beyond corn—and we've got them," notes Matuszeski. "But it's got to happen locally first."



Mary Procter

Date:
Thursday, June 17

Speaker:
Bill Matuszeski

Topic:
"Next-generation Biofuels: A New Way of Thinking about the Chesapeake Landscape"

Place:
Litrenta Lecture Hall, John S. Toll Science Center, Washington College

Time:
7:30 p.m.

Free and open to the public.
Join us for snacks at 7 p.m.

Matuszeski retired in 2001 after 33 years of federal service in environmental programs. A graduate of Harvard Law School, where he specialized in land use law, he was the first staff member hired at the President's Council on Environmental Quality in 1970. After six years, he moved to the National Oceanic and Atmospheric Administration, where he was in charge of coastal zone management programs. He also served as executive director of the National Marine Fisheries Service. Moving to the Environmental Protection Agency in 1989, he was deputy for water programs before being tapped to head the Chesapeake Bay clean-up.

"The Bay Program was a place where a lot of people worked hard to set goals. The downside is that when you don't meet the goal everyone thinks you failed. Yet if you don't set aggressive goals, you don't really put the shoulder to the wheel," he said. "We set tough goals. Sometimes we met them, sometimes we failed. It's a way of doing business and making progress."

Looking ahead, Matuszeski said he is hopeful about the Bay's future.

"If we can turn the corner on the Chesapeake Bay, no one else in the world has an excuse," he observes. "I think we are making progress, and as we do we have real lessons for others."

Ellen Uzelac

Our Water Supply: *Is It Enough?*

By Ellen Uzelac

For people in the Chester River watershed, the big headline has always been about water quality. And that's not surprising, considering where we live. But what about water quantity?

Given the pace of development and other changes, can the aquifers that lie beneath us continue to support the surge in demand that is certain to come?

As Joe Hankins, director of The Conservation Fund's Freshwater Institute in Shepherdstown, W.Va., puts it: "Water, particularly the kind of clean water we get from the tap, is often taken for granted on the East Coast. On the Chesapeake Bay, we focus on water quality but we don't think too much about water quantity. That's a unique circumstance: to live in an environment where you don't on a daily basis think about where your water is going to come from."

The issue hasn't escaped the notice of the state's policy wonks. Two years ago, an advisory committee submitted to Gov. Martin O'Malley a report, *"Water for Maryland's Future: What We Must Do Today."* Produced after five years of review and evaluation, it called Maryland's investment in water resources management "inadequate." If the problem continues to go unaddressed, the report warned that severe droughts, such as those in 1999 and 2002, will likely result in threats to public health, parched aquatic systems, building moratoria, stressed communities, stagnation of irrigation-dependent farming on the Eastern Shore, and fewer new water-using commercial and industrial facilities.

In an interview with CURRENTS, Brigid Kenney, director of planning for the Maryland Department of the Environment, said recently: "We wrote the report in order to spur action. We didn't exaggerate anything."

During the past two years, MDE and its funding partners have moved forward on some of the report's recommendations—and not others. Notably, the 2010 state legislature allocated $500,000 toward the project. In one move that could affect local farmers who use grey water for spray or drip irrigation, the state is working to expand the land eligible for discharges involving "water reuse."

"I think we have the same sense of urgency today that we did two years ago," Kenney said. "It is an extremely important issue. I think we're also making progress and taking steps to make sure these dire consequences don't occur."

A precious resource

What exactly is at risk? The region's aquifers. The Columbia, Aquia, Monmouth, Magothy, Upper Patapsco, Lower Patapsco, Miocene, Piney Point—these are the aquifers beneath Kent and Queen Anne's counties that supply us with perhaps our most precious resource: water.

The aquifers are part of the Atlantic Coastal Plain, the primary water supplier for the Eastern Shore and southern Maryland. Some extend into Virginia, Delaware and New Jersey.

At the moment, the issue locally isn't water shortage but water resources management. As David Bolton,

David Bolton measures water level of aquifer on Route 213 near Chestertown.

Measuring an aquifer

chief of the hydrogeology and hydrology program for the Maryland Geological Survey, observes: "We're not Arizona or anything." But the droughts in 1999 and 2002 got Marylanders thinking about water supply. "It certainly made people realize that water is a finite resource in Maryland," he added. "It's definitely something we need to look at and think through. Most people don't think too much about what's underground. There's a lot to it."

First, some background.

The current rate of withdrawals from the Maryland Coastal Plain aquifers is about two feet per year. The declines are especially sizable in southern Maryland and parts of the Eastern Shore, where groundwater pumpage is projected to increase by more than 20 percent between 2000 and 2030. The upshot, according to Bolton: Continued water-level declines at current rates could affect the long-term sustainability of groundwater resources in heavily populated communities as well as the agricultural areas of the Eastern Shore.

Adding to the challenge, Queen Anne's is one of seven counties in Maryland expected to grow by 50 percent or more between 2000 and 2030. And here's an interesting bullet point: Although irrigation comprises only three percent of total water use statewide, roughly 36 percent of the water withdrawn on the Eastern Shore is used for irrigation during an average year. Even as the amount of farmland decreases, the amount of irrigated acreage has increased—and sharply.

On top of that, water quality in the Coastal Plain aquifers is a cause of concern. Contamination by "saltwater intrusion," as the experts call it, has been documented in several of Maryland's waterfront communities, including Kent Island. Some areas, like Queen Anne's County, have problems with naturally occurring high concentrations of trace-element contaminants such as arsenic. Also in play: elevated concentrations of nutrients and agricultural chemicals in shallow aquifers.

The bottom line: Maryland needs more comprehensive data than it has now to plan accurately for the future demands and stresses on its water supply.

Aquifer assessment

In order to give water resource managers the tools they need to make the proper planning and permitting decisions, the Maryland Geological Survey and the U.S. Geological Survey are conducting a far-reaching assessment of the aquifers in the Coastal Plain and in the so-called Fractured-Rock area of Maryland. The Fractured-Rock region, which has a different hydrologic makeup than the Coastal Plain, essentially covers central and western Maryland. Fully funding the two studies was a key recommendation of *"Water for Maryland's Future: What We Must Do Today."*

The Coastal Plain study is divided into three phases. The just-ending first phase involves data gathering. Basically, all information on record about the aquifers has been put into an "electronic filing cabinet," as Bolton calls it, which will give decision-makers instant access to key data.

"When MDE evaluates an application for groundwater withdrawal, they need information like the depth of the aquifer, the hydrologic characteristics of the aquifer. In the old days, you would sit at a desk and sift through 14 reports," he says. "Now, we've got a digital map covering the 15 major aquifers in the Coastal Plain. You just click on it. It's night and day." (Note: MDE oversees the state's water supply program. A withdrawal of more than 10,000 gallons a day requires an MDE permit.)

In the second phase of the study, now under way, researchers will develop a regional groundwater flow model that will enable water managers and planners to play "What if?" games with the water supply.

This is a big deal in Maryland water resource circles. First, it's never been done before except in bits and pieces. Second, it will include critical data missing

> "*This is not some far off galaxy. These are real issues today that we need to think about.*"
>
> *— Joe Hankins*

until now in an information gap. Among the questions the research seeks to answer: How quickly is water transmitted through the clay layers that separate the aquifers themselves? ("No one wants to spend $100,000 to drill into clay that doesn't produce water," Bolton notes.) How old is the water? Typically, the deeper the aquifer, the older the water.

Continued on page 14

Making a Case for Capt. John Smith —*and the Chester River*

By John Lang

Capt. John Smith apparently never put an oar in the Chester River when he set out on June 2 of 1608 on his quest to explore the Chesapeake region, discover a passage to the Western Ocean, locate survivors of the Lost Colony of Roanoke and find gold.

He looked at the mouth of it, trending southeast before winding northeast, and it didn't look promising. Well what did he know? Not a whole lot, by definition, as he was, after all, exploring.

At long last, however, the gutsy little captain's 402-year-old oversight may be corrected—thanks to a proposal before the National Park Service to expand the Capt. John Smith Chesapeake National Historic Trail to include the Chester River.

That way nature lovers and history buffs can paddle the route Smith no doubt *would* have taken, with other priorities and better information, to discover anew the river that holds wonders good as gold, and which, if no Pacific passage, does lead well beyond Duck Neck.

A key to the inclusion of this little river to nowhere much: It *looks* today more like what John Smith saw than just about any other stream or shoreline on the Chesapeake. It is arguably the least built upon during the previous four centuries—in contrast to the Severn River across the bay, riprapped and bulkheaded most of its length. As the outside consultants brought in by advocates put it: here, on the Chester, is one of the "last great colonial landscapes left in North America."

In 2006 Congress established the trail, a national water park that traces his 1,700-mile journey. The initiative to expand it now is led by Friends of the John Smith Chesapeake Trail and strongly supported by Sultana Projects, Washington College's Center for Environment & Society and Chester River Association. The signals they are getting, from the Secretary of the Interior and the Director of the U.S. Park Service, have been encouraging so far.

And so what if Smith actually did bypass the river? Well, as Sultana's Chris Cerino admits, "It's kind of a bummer."

One of the arguments for adding the Chester to the water trail park are Smith's notations about the river's mouth, his descriptions of an area rich with game, fields and forests, and his indication of an Indian tribe—the *Ozinies*—living somewhere up its flow. It was enough, anyway, to draw settlers to the Chester's banks because as the Europeans understood, Native Americans built their villages on highly habitable land.

Study pushes Chester connection

A feasibility study for making the Chester a connector trail, written by John Seidel of the Center for Environment & Society, points out that Smith's map, published in 1612, was relied on by his contemporaries, first as a trading region and then for farming. By 1631 William Claiborne had established Maryland's first English settlement, on Kent Island. By 1642 Kent County had been carved out of the Eastern Shore. By 1664 a ferry was crossing far upriver at today's Millington.

"The process was fast and not just in title," Seidel points out. Citing the rapid spread of population, Seidel writes, "We therefore assess the Chester River's association with the voyages of John Smith as indirect, but moderately strong."

A second criteria for inclusion is the long history on the Chester of Native Americans—who were critical to the John Smith saga, but whose former presence here remains little understood by those living along its banks today.

Smith stayed for several days at a village of the

On the Chester, at Spaniard Neck

Tockwogh on the Sassafras River. They told him of a tribe to the south who Smith called the *Ozinies*, likely the same people as the *Wicomiss,* identified by later explorers on the Chester. Smith, and apparently the *Tockwogh*, too, were vague about the location of this other tribe.

Seidel observes that the *Tockwogh* were trying to ally themselves with the English and, "It might not have been to their advantage to tell Smith that a large group—or a bountiful river—lay just to the south."

That many Indians did live along the Chester is evident from the middens of oyster shells at various sites along its banks. As Seidel says, "Archeological evidence indicates that the Chester River was an ideal habitat for American Indians."

Archeological surveys during the 1990s found intensive Indian presence on the Queen Anne's County side, notably between the Corsica and Southeast Creek at Indiantown Farm. That, Seidel suggests, is one likely site for the village of the *Ozinies*.

Very little archeological surveying has been done on the Kent County side, but Seidel reports that Washington College has been working on a predictive model for site locations. This, he says, "clearly indicates the potential for higher density of Native American occupation than has been previously uncovered along the Chester.

Testing public sentiment

What could be decisive in putting the Chester on the John Smith Trail is how that will be viewed by those who replaced the *Ozinies:* all of us. The next step is an outreach to local communities to test sentiment.

"When people hear National Park Service, they have visions of a taking—federal government coming in with eminent domain," Seidel says. "But this is a water trail, so there's none of that, no taking of land or impact on shoreline owners at all.

"What it would do is open up preservation tax credits to those landowners, if they want to take advantage of it."

Sultana's Cerino says designation of the Chester as part of the trail doesn't mean anything would greatly change. He says it could open funding opportunities to enhance public access to water, create soft landings for paddling, and distribute brochures to get the word out and establish the river as a destination.

"More than most rivers of the bay, whole stretches of the Chester allow you to imagine what the waters were like centuries ago," says Cerino.

The embrace of the Park Service could also bring the Chester "smart buoys" that you can call up on your cellphone to get weather information or hear author John Page Williams of the Chesapeake Bay Foundation share historical nuggets.

Just so, on the Chester, you might dial the number and hear, "You are close to where John Smith turned back." Or at a further buoy, "There, on the rise of the south bank, lived a vanished people John Smith called *Ozinies*."

And Cerino says, "You can picture yourself in John Smith's time."

—John Lang is a freelance writer who lives in Chestertown.

Between Skillet Point and Fyingpan Point

The River Poems

We've all rhapsodized about the Chester River from time to time—maybe even thought about writing a poem about it. These three people did just that as part of the First Annual Pat Nielsen Commemorative Open Mic Poetry Night at The Bookplate in Chestertown last March. Sponsored by Chester River Association, the contest drew several dozen entries and was judged by Mark Nowak, director of the Rose O'Neill Literary House at Washington College. The contest honors the late Pat Herold Nielsen, a poet who was a founding member of CRA.

December

There ain't no cold like cold on the water.
When your knuckles wrench shut like rusted
hinges.
Always wet.
The humid air burns your face.
Thirty degrees below at twenty above.

She heels hard
slicing
through the three and a half foot trough.

We are bundled through
core layer of cotton and wool
followed by sweaters, pullovers, and
flannel.

Overtop you have oil-skins and
rubber, sealing
your warmth in
only allowing your innards to feel around
for the money in your pocket,
that ain't there.

John Andrew McCown
First Prize

Elegy

Somewhere in forgotten boatyards
dismasted hulls
imprisoned in wooden cradles,
shrouded,
are the boats we sailed together.
Their spars are racked against shed walls
halyards coiled. There is no song,
no chime of steel against aluminum.

In this season when dark
smothers daylight,
I remember heading down
the Chester, past Love Point
and out into the Bay,
and a blue and brilliant passage
to Solomon's, reefed down.

Tomorrow's forecast is freezing rain.
An asphalt front paves the Western sky,
And yet, the dying sun is hoisting
red defiant banners in the sailor's night.

Mary Wood
Honorable Mention

Distant Thunder

Across the placid creek,
Predawn to past dusk,
Dull thuds of death
Resound from distant woods
Mingling with explosions from
Aberdeen across the Bay
While family flocks of geese
Drifting with the tide,
Float past as if pulled
By some unseen string.
The heron stretches her long neck
And bends to her reflected image
Engrossed in what is beneath the surface
Unconcerned with punctuations
Separating life from death.

The town tabloid tallies
What, how many birds may
Be killed, bagged, daily
With an approved license:
2 hen mallards, 1 pintail,
2 wood ducks, 1 redhead,
1 fulvous tree duck, 1 mottled duck,
1 canvasback, and 1 black duck.
The county paper reports
Six hundred thirty deer
Have been harvested
And pick ups drive by,
Carcasses strapped to fenders,
Dainty hoofs stiffly protruding.

News of slaughter overseas
In the Far East, Africa
Comes to our doorstep.
As the sunlight dapples our morning,
The chaos comes closer
While we peruse the pages,
Over cups of coffee
Selecting only our own images,
Denying what is beneath the surface:
That killing is a way of life.

Joanne S. Scott
Runner Up

Chester River Association wishes to recognize those River Guardians who have supported our work with donations of $1,000 or more each year. Our thanks go to:

Andrew and Marci Aerenson
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Anonymous (5)

Whither the Black Duck?

Banding Project Launches at Eastern Neck

By Ellen Uzelac

No one is sure exactly what's caused the decline in the American black duck population, but biologists at Eastern Neck National Wildlife Refuge are participating in a new project that aims to find out.

In February, when the fields were blanketed with snow, U.S. Fish & Wildlife Service biologist Matt Whitbeck led a team that tracked, trapped and banded 86 of the iconic ducks on Eastern Neck Island, at the mouth of the Chester River.

"You've got to watch the way the birds move: where they're roosting, whether they're eating. You've got to understand the natural history of the species you are working with, that's really key," says Whitbeck. "You've really got to listen to the birds."

This marks the first year in a five-year effort underwritten by the Black Duck Joint Venture to band the ducks while they winter along the Atlantic Flyway, from North Carolina up into southern Canada. Historically, the black ducks have been banded only in late summer on their breeding grounds in Canada.

This second banding period holds huge promise, according to Whitbeck. "This is cutting edge science," he says. "These birds have such a dynamic life cycle; a lot of things happen in that one year. It will help us find the weak link in the chain." New models on late winter behaviors will give scientists more accurate survivability rates, establishing what Whitbeck calls "a finer resolution" of their life cycle. The data, for example, should help pinpoint when the ducks are most vulnerable—and why.

Matt Whitbeck

Managing for vulnerability

"When you combine the banding from the two periods, it will allow us to identify what period of the year is most critical for black ducks. Are they more vulnerable during the winter or during breeding season? If we identify winter as the most critical time, we know we need to emphasize habitat management during winter season," notes the U.S. Fish & Wildlife Service's Patrick Devers, science coordinator for the Black Duck Joint Venture. "Alternatively, if the problem is with the breeding grounds, maybe we focus on habitat restoration. Every bird we band is going to give us more information."

The Black Duck Joint Venture, organized in 1989, designed the five-year banding project, which is being implemented in cooperation with U.S. Fish & Wildlife, the Canadian Wildlife Service and the Atlantic Flyway and Mississippi Flyway councils. [The project also includes ducks banded on the Mississippi Flyway.]

Duck after banding

Black ducks, similar to mallards in size, are most common on the two flyways and are particularly fond of the Atlantic states up into Canada's Maritime provinces. Wary in nature, they favor shallow, isolated coves like those found at Eastern Neck, and they feed on underwater grasses and small aquatic animals. But the birds, once the most abundant freshwater duck in eastern North America, have been in decline since the 1950s.

Between the 1950s and 1980s, the population experienced a decline of 50 to 60 percent. Experts believe the ducks may have been adversely impacted by wetlands habitat loss to timbering and development, the decline of habitat quality, and landscape level issues. Also in play: the mallard. Recent studies suggest mallards have pushed into black duck breeding grounds

resulting in mallard/black duck hybrids and competition between the two breeds for nesting and food.

Devers said the Black Duck Joint Venture was formed because "we didn't know a whole lot of what was going on with black ducks." Until that point, conservation resources had traditionally been spent on other populations. Since its inception, the organization has supported more than 75 research projects in the black duck's migratory footprint. At the moment, there is an estimated breeding population of 470,000 black ducks—a number that has remained stable over the last decade. "We're not declining anymore but we're not increasing either," says Devers. "The goal is to identify factors that are limiting growth."

An estimated 25,000 black ducks winter in Maryland. This year, a total of 250 of the birds were banded as part of the project. In addition to Eastern Neck, birds were banded at the Blackwater National Wildlife Refuge in Cambridge and along the coast in Worcester County. Natural resource management areas in Queen Anne's and Talbot counties will be added to the mix in 2011.

Not a 'typical' year

"This year we're learning about capability. How many can we band? What should the banding quota be to get a reliable measure of seasonal survival? This wasn't a typical year," observes Larry Hindman, waterfowl project leader for the Maryland Department of Natural Resources. "Without the snow, I would have expected 450 to 500 birds. That's what we'll be looking for next time around."

Biologists faced enormous challenges this past February, when Whitbeck and his team inaugurated the pilot project locally. For starters, the two historic storms that poured record snowfall on the region put a crimp in things. Parts of Eastern Neck where the ducks tend to gather froze solid, redistributing the birds to unfamiliar areas. The changing weather conditions also made it hard for the biologists to lure them so that they could start banding. Some days, the refuge itself was impassable.

By Feb. 25, Whitbeck and his assistants had banded a total of 67 black ducks. On that day, a clear one, they got lucky. There are 11 impoundment ponds on Eastern Neck to hold waterfowl. Two of the ponds last winter were outfitted with four wire traps used to attract the ducks, which feed at first light and just before dusk. The traps were baited with corn. "You essentially make them an offer they can't refuse," Whitbeck said as he, Nate Carle and Rick Walls ran up to one of the ponds. Carle and Walls, dressed in hip boots, waded into the water, threw their dip nets into a trap and pulled out nine ducks, which they quickly deposited into an orange plastic poultry crate.

On shore, Whitbeck examined the birds. Of the nine, one was already banded and one was injured. He placed an aluminum band, with an identification number, on the seven remaining birds and then released them. When someone kills or captures a banded bird, he or she is to report the number to the bird banding laboratory at the Patuxent Wildlife Research Center in Laurel. The data stream includes information about how long the bird lived, its migration route, perhaps even what killed it. There is an 80 percent reporting rate nationwide.

"Some is better than none," Whitbeck said as he climbed back into his truck. "This is the reward after many, many days of nothing. I'd be happy to catch 250 birds in a season. We've got a long way to go. In my mind, the most important thing we can hope to get out of this project is to determine the most efficient use of conservation dollars to help the species out. Every bird matters. This first year out is our learning curve."

Nate Carle collects ducks in a dip net while Rick Walls looks on.

Q&A | *Catching up with Briggs Cunningham*

As climate action coordinator for Washington College's Center for Environment & Society, Briggs Cunningham has an impressive to-do list: Reduce the college's greenhouse gas emissions to net zero by 2050. Improve the tree canopy in the Chester River watershed's communities. Help create a local market for biofuels.

For the 52-year-old Cunningham, the overarching objective can be summed up in a single question: "Don't we all want to leave the world a better place than we found it?"

While much of the response to climate action lies in science and technology, Cunningham says social and cultural change will play an equally important part. "As we get more into it, you'll see a shift in cultural sensitivity. Certainly, more and more of our young people are growing up with that kind of sensitivity," he observes. "Change behaviors like this and the ripple effect is enormous."

Cunningham was hired in 2007 to manage three different initiatives: the Chestertown Goes Green campaign, a result of the town's participation in the U.S. Mayors Climate Protection Agreement; programming associated with Washington College's involvement with the American College & University Presidents Climate Commitment; and the Urban Greening Initiative, a Chesapeake Bay Trust project to plant more trees in cities and towns. Chesapeake Bay Trust, the Shared Earth Foundation and Town Creek Foundation fund the job.

Cunningham most recently worked as publications manager for the National Parks Conservation Association and, before that, as production manger for *Smithsonian* magazine, positions that inform the environmental consciousness that shapes him today.

"At *Smithsonian*, we reported on climate change and science stories related to that for years in the 1980s and early 90s. All the early stuff was being reported then," he says. "And a lot of this has special meaning for national parks. We've seen the wholesale degradation of tree species, some animal species, erosion issues, water quality issues. The list goes on and on."

As do the items on Cunningham's to-do list.

CURRENTS: Update us on the work that's taken place at the college.

CUNNINGHAM: First we did an inventory of greenhouse gas emissions—oil, propane, gas, electricity, agriculture compost, plane travel, even staff commutes. We published that inventory with the American College & University Presidents Climate Commitment, which monitors our progress. Last year, we submitted a climate action plan to reduce emissions. This year, we're doing an inventory of our 2009 emissions. The goal is to get to net zero emissions by 2050 as it pertains to electricity usage and on site stationary sources where you're burning fuel like heating oil, propane and gas.

Any results?

We'll know that next year when we compare the two inventories. We believe we will see a reduction in the amount of electricity used and that's big because it accounts for more than 50 percent of the college's energy use. People are more diligent. More and more faculty and staff are keen on the issue and understand that it's important to turn off lights and computers. But we need to do more—like getting motion sensors for bathrooms and locker rooms and classrooms. We have to find ways to offset our uses of traditional electric power.

Which brings up alternatives.

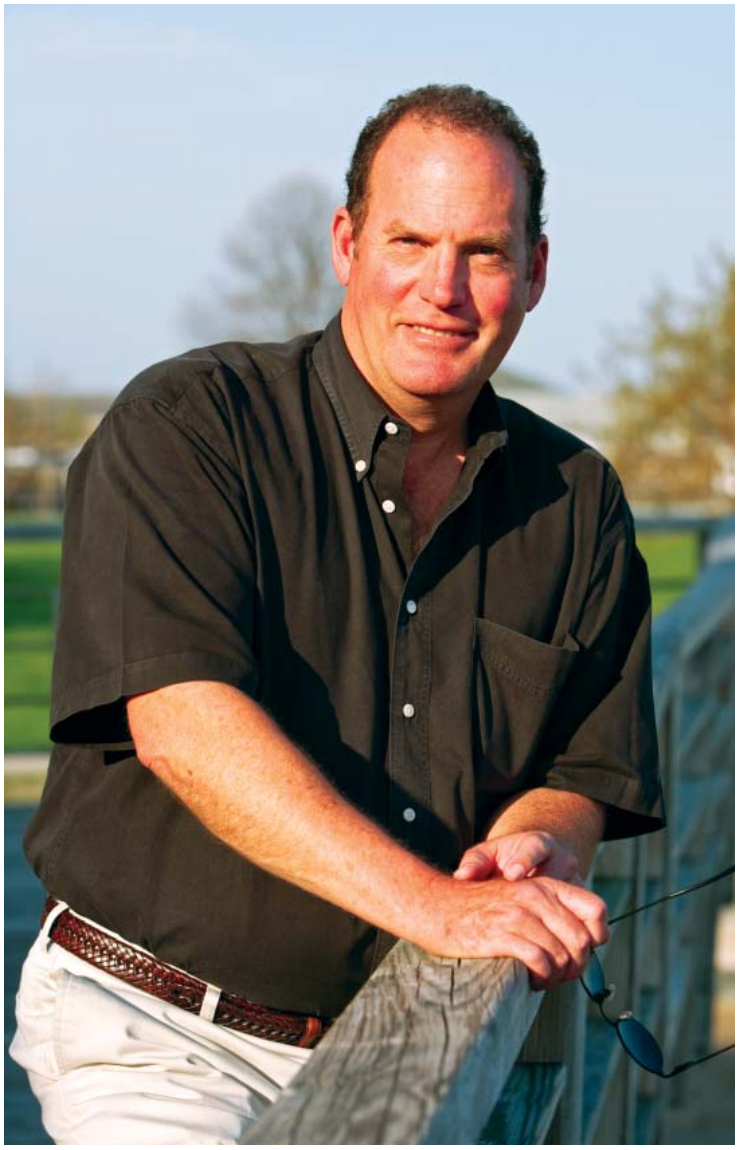
I'd like to see the college put in a ground mount solar array, basically a farm of solar panels. I think wind could easily be a factor. Geothermal already plays a part at the college. The two newer residence halls and dining hall have geothermal systems. One of the things we're looking at is biofuel, which is readily available now. That would replace the No. 2 heating oil or diesel fuel. Of the different oils, diesel represents one-third of the stuff we burn.

Tell us about your experiment last January with corn waste.

We burned a biofuel in one of our three boilers that uses diesel fuel and it showed a reduction of 51 percent in nitric oxide and produced no sulfur at all because there's no carbon in the fuel mix. It's a plant oil-based formula that can use either soybean oil or corn oil. Also, the cost per BTU is relatively the same so it's not more expensive. We use roughly 100,000 gallons of diesel a year so we're talking about the possibility of making a significant reduction in our carbon footprint. There's no reason not to do it. Almost no modification of our existing equipment needs to be done. And even if there were a hiccup in the supply chain, you could go back to No. 2 with no problem.

As you know, Chester River Association is a big proponent of using switchgrass as an alternative fuel. In a perfect world, what role could switchgrass—and the local farmers who grow it—play in Washington College's plans?

We are supportive of CRA and its efforts to promote a switchgrass market on the Eastern Shore. We'd like to find and help establish a market for it. I'm not sure if the college is ready to install a brand new boiler that would burn switchgrass and woody biomass but maybe there's one on campus we could retrofit. We've been in touch with the Maryland Environmental Service about assembling a team to help us look at that possibility. Separately, we've been looking at a pelletizing system you could tow behind a truck and tow from farm to farm so that farmers could manufacture the switchgrass pellets on site. We've also looked at a school district near Philadelphia that has installed a biomass switchgrass burner that heats their middle school and high school.



Briggs Cunningham

So it is an idea whose time has come?

It absolutely is. You've still got the chicken and egg issue. Does the market come first or does the product come first? We have to do both. We have to get both under way somehow. Look at the people in this region who are professional growers, not to mention farmers. How can we get them involved in the production of biofuels? It seems like a no-brainer. But it's a cultural shift. People have to want to be in this New World. I commend CRA for its work with the ag community in getting that ball rolling. Therein too lies the initiative of the Center for Environment & Society, which is to connect people to the land and the water. But it's not just environmentalism, it's social and cultural change.

What exactly do you mean by `social and cultural change?'

It's an acceptance by the public in general where good environmental practice becomes part of the culture.

Briefly, what's the latest on your two other initiatives: Chestertown Goes Green and the move to enhance tree canopy in the area?

The Chestertown Goes Green initiative has progressed to the point where many citizens are getting involved so that my participation isn't as needed. The town has received numerous awards, including the Maryland Municipal League Green Award for 2009 for communities with populations between 3,000 and 10,000. And Chesapeake Bay Trust just gave Chestertown its inaugural Melanie Teems Award in recognition of its stewardship community. The town has also received word it's getting additional grant funds to install public rain gardens. As for tree canopy, we just planted 280 tree seedlings—winterberries and dogwoods—at Chestertown Cemetery. We put in 50 trees in Rock Hall and there are plans to put in 48 in Millington and another dozen in Betterton, and hopefully, 500 erosion-reducing shrubs to help the bluff there from eroding. Healthy trees make for a healthy environment.

What do you envision for our watershed going forward?

I think you're going to see continuing collaboration between the college, the town, the county and maybe even the state. As an example, I was recently asked to join the Kent County Renewable Energy Task Force. It's new and we're going to look at renewable energies and how they apply to Kent County and what kind of ordinances we need to amend or adopt for best practices. We can all work very much hand in hand on this effort.

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"When we develop a flow model designed to make estimates of what water levels will look like in the future, we need to tell the model as much as we can about the system now," explains Bolton. "If the model thinks water in the deeper part is only 20 years old, it's going to tell you one thing. If it knows it's 14,000 years old, it can more accurately produce what the reality is."

The second phase of the study will also involve some water quality studies.

In the final phase, researchers hope to produce water management tools to help stakeholders optimize the water supply itself. In fact, there are some methods for managing water that haven't been fully explored yet, according to Bolton. One involves the notion of not letting any one water level get too low.

"There's not a shortage of water. The question is how it's managed," he said. "There's no way to keep people from moving into these areas. These methods and tools will hopefully be able to supply managers with the best options for dealing with that kind of growth."

David Bolton updates aquifer measurements.

Quality and quantity

Water quality and water quantity—in today's world, they are really not separate issues, according to Hankins.

"For too long, we have thought about drinking water, wastewater, water for nature, water for recreation and there was no connection. It was all a linear thing. In fact these are all related issues," he says. "It's something we all learned in fifth grade but we didn't learn it well from an infrastructure perspective. A smart infrastructure looks at these issues in a circular way, a renewable way."

Consider land use.

As an example, Hankins says the role of forest cover in Maryland isn't only carbon sequestration and water quality protection but aquifer protection.

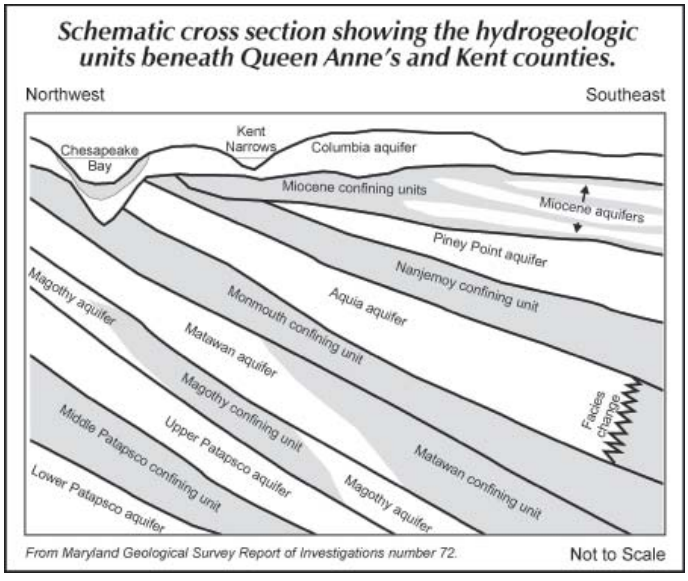
"This gets to the broader issue of a green infrastructure and the way we think about it at a landscape level. The natural land uses this green plumbing to help protect water quality, help provide water quantity protection as well as help with habitat issues and other ecological services," he said.

With the basic hydrology of the East Coast likely to change, Hankins says all of us—individuals, communities, companies—need to consider our water footprint and assess our "water risk." Notably, companies in their filings with the U.S. Securities and Exchange Commission are beginning to report water risk.

A question Hankins says bears asking: What is the water currency involved in certain activities?

"This is a big issue internationally and we need to bring it home. A way of life, a business opportunity, a crop, a community depends on fresh water resources. We don't often appreciate the value of that because we've never spent much time in a situation where we didn't have it," he says. "If you're interested in watershed issues, start asking questions about drinking water. Start asking questions that go beyond the immediate pollution issue you are concerned about and try to link these back up. This is not some far off galaxy. These are real issues today that we need to think about."

—Ellen Uzelac is editor of CURRENTS and Chester **RIVERKEEPER®** Almanac



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Letter from the PRESIDENT

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Another bellwether of Marylanders' desire for clean water was the withdrawal of a proposal to de-fund the University of Maryland's Environmental Law Clinic. Proponents of pulling that state funding contended that public funds should not be allocated to the Law Clinic to assist organizations such as CRA with pursuing polluters in court. The Law Clinic did just that when CRA successfully forced the former Velsicol Chemical Corp., later known as Genovique and now known as Eastman Chemical, to reduce the amount of phosphorus and carcinogens the plant was discharging into a tributary of Morgan Creek. Fortunately, public sentiment prevailed and the threat to de-fund the clinic was dropped.

One last victory from the session worth mentioning is that the new stormwater management rules survived an aggressive effort by developers and the construction industry to repeal them. As a result, they will take effect this spring as planned. The new "Environmental Site Design" techniques are intended to capture stormwater on site rather than funnel it to the nearest body of water. The requirements should slow down the growth of the one major pollution source that has continued to increase in spite of ongoing efforts to reduce it.

Achieving a restored Chester will require more public and private investments in nutrient-reducing measures. As we approach the upcoming elections, I encourage you to look for candidates willing to implement, not just talk about, regulatory changes and funding solutions to make a cleaner Chester River a reality. With your continuing generosity and support of CRA, we will strengthen our effort to galvanize the public's clear demand for action and results now. Thank you for that.

And, finally, I hope you enjoy reading the new issue of CURRENTS, produced for the first time in full color. Let us know what you think.

Michael Moore
President, Chester River Association

CURRENTS is published annually by the Chester River Association, a non-profit organization.

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The Day That Summer Is All About

Is Sunday,
and there's no work
and no humidity,

and everyone you hoped
would go sailing with you
can.

A Northwest breeze,
chilled like Chardonnay,
fills the sails.

Downriver, Deep Point to starboard,
the Corsica, Piney Point,
the Hermitage barn to port.

We are flying like a seagull
past old familiar landmarks,
then gybe, and upriver again.

Thirteen boats behind us,
calls the youngest,
none ahead.

Mary Wood