



**CHESAPEAKE ENVIRONMENTAL PROTECTION ASSOCIATION, INC.**  
P.O. Box 117, Galesville, Maryland 20765

## NEWSLETTER

Spring 2008

### **PRESIDENT'S MESSAGE**

Al Tucker, President, 2008



This past quarter brought three important issues before the CEPA Board of Trustees that directly or indirectly impact the Chesapeake Bay.

First, if you did not have the opportunity to attend our Groundwater Symposium, you can go to the CEPA website ([www.cepaonline.org](http://www.cepaonline.org)) and read a synopsis

there. Over a hundred people attended the event on a Friday evening. Also on the website you can peruse a copy of the presentation made by Robert Summers, Ph.D., Deputy Secretary, Maryland Department of the Environment.

The presentations at the symposium indicated that, although there is no current lack of lack of water, the drought of 2002 showed that several Maryland communities have reached their capacity to serve new growth or to sustain a long period of drought. In Mt. Airy, for example, no new wells can be drilled since the aquifer cannot support further water withdrawal. In Central Maryland, the Aquia is below management level, forcing new wells to be drilled deeper into the Magothy aquifer, which has poorer water quality. These problems are driven mainly by population growth, but looming on the horizon are new intensive water uses, such as irrigation and aquaculture on the Eastern shore. These new uses, coupled with rather explosive growth in Central Maryland and the Upper Eastern Shore will severely impact the available potable water. The general public should be alarmed! Initiatives introduced in the state legislature failed to rise above the clamor of falling state revenue for existing state government operations. CEPA will continue its efforts to inform legislators about the gravity of this situation and the necessity of managing our fresh water resources.

The second issue, the construction of a high voltage power transmission line through Southern Maryland, brings back memories of the environmental concern that was instrumental in the founding of CEPA. The Mid Atlantic Power Pathway (MAPP), an initiative of Pepco Holdings Inc., will link power plants from Northern Virginia across to Prince Georges County, to the Calvert Nuclear plant, across the Bay to Delaware and up the Eastern Shore to New Jersey.

Although the Virginia and Maryland portions will use existing rights of way, the portion under the Bay and up the Eastern Shore will traverse some very sensitive wetlands. The presentation made to the board was very preliminary; it showed an extremely aggressive schedule that seems almost impossible to meet, given the number of regulatory hurdles to be satisfied. One key piece of information the presenters were unable to give the Board was the "statement of need" for the project. Hence, we are not able to weigh the environmental impact versus societal need. Pepco has promised to give us a copy as soon as it is filed with the Maryland Public Service Commission. As soon as we receive a copy of the statement of need, we will be able to give our members and regulators an opinion of the relative risk vs. benefit of the project.

Finally, the issue of raising impact fees in Anne Arundel County has come to an unsatisfactory conclusion. The advisory committee to the county has recommended a fee schedule that recovers only a small fraction of the true costs of growth. In the next five years, the fees will be phased in to 80% of the estimated costs for residential buildings and to 20% for commercial buildings. Even the estimate of the true costs seems low compared to neighboring jurisdictions, where building materials and labor costs are similar to Anne Arundel County. The recommendations would place much of the cost squarely on the shoulders of existing taxpayers, and do little to help the existing funding shortfalls for infrastructure that are already reaching untenable levels. The county needs over \$120M for the Department of Public Works to refurbish our roads, but that is not in the budget. Stormwater management is part of that process, so the net result is that without upgrading roads, stormwater management will not be improved and existing run-off will not be curbed. Managing stormwater will require funding and this action places the issue into the unfunded liability column.

In conclusion, decreasing groundwater supplies, degradation of wetlands, and stormwater run-off remain as top-level concerns of CEPA.

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## RIVERKEEPER'S REPORT

Bob Gallagher, West/Rhode Riverkeeper, Inc.



Chris Trumbauer grew up on the Chester River. After he got a degree in chemistry, his love of the water brought him to the Department of Natural Resources. At DNR he has spent a lot of time on water quality monitoring including on the West and Rhode Rivers. I met Chris in his capacity as a volunteer and board member for the South River Federation. I was struck by his conviction, expressed shortly after I

met him, that he wanted to be a Riverkeeper

On July 7, 2008, Chris will become West/Rhode Riverkeeper and will focus on enforcing environmental laws and on restoration and education efforts. I will become executive director with responsibility for overall direction of the organization, organizational development and advocacy.

This is a huge milestone for the West/Rhode Riverkeeper organization. It means that we will now have an expert set of eyes and ears watching the rivers. We will be able to greatly expand our restoration and education efforts. But most importantly, it means we are very much closer to our overriding goal of creating an organization that will be a voice for the rivers for years to come.

Please come meet Chris and support West/Rhode Riverkeeper at Rhythm on the River at Hartge Yacht Yard on June 21<sup>st</sup>. Bid on some super auction items and buy raffle tickets for Rosy Tosal, the prettiest dinghy I have ever seen. For event tickets and raffle tickets click on <http://www.westrhoderiverkeeper.org/tickets.shtml>.

Water temperatures are now in the swimming range and recreational crabbers are getting out their gear. About this time of year, we receive many questions about public health issues associated with water contact activities and consumption of local seafood. Here is a summary of our best advice on the subject.

The main public health risk from swimming and water contact is infection from water-borne bacteria. The most common type

of infection comes from fecal bacteria that enter the water through human and animal waste. The bacteria that most of us have read about are E. coli and Salmonella. When these bacteria infect a healthy adult, the person usually suffers gastro-intestinal symptoms, but the infection isn't life-threatening. People with impaired immune systems and some other diseases may suffer more severe consequences.

The Anne Arundel County Health Department conducts a bacterial testing program for public beaches. The County tests for Enterococcus bacteria. Enterococcus is easier to test for than E. coli and is a reliable indicator of fecal contamination of water. The results of the County testing program are available at <http://www.earth911.org/waterquality/default.asp?cluster=24>. Sites tested by the County may be tested weekly, bi-weekly or monthly depending on the County's estimate of how many people swim at the site.

West/Rhode Riverkeeper conducts its own Enterococcus testing program during the swimming season. We test some sites not tested by the County; we test some sites more frequently than the County and we test some sites as a check on the County testing program. We sample on Wednesday mornings. We usually get the results back on Thursday or Friday and post them on the website on Friday. You can view the results at: <http://www.westrhoderiverkeeper.org/bacteria2008.shtml>.

The standard set by the Environmental Protection Agency for heavily used beaches is 104 colonies or less per 100 milliliters of water. For beaches used by fewer people (community beaches, for example), the EPA standard is 158 colonies or less per 100 milliliters of water. Because bacterial levels can change dramatically and quickly, typically due to contaminants transported by runoff during rain storms, a "safe" reading from a Wednesday test doesn't necessarily mean that it is safe a few days later. High bacterial levels after a storm generally dissipate after two or three days.

Other more dangerous bacteria are in the group of bacteria classified as vibrio. Vibrio bacteria are normally present in marine waters in low numbers. However, oysters can concentrate these bacteria in their guts and the organisms proliferate in warm water. While vibrio infections are rare, they are on the increase. And, vibrio infections can be very dangerous, especially for people with impaired immune systems or certain diseases. There are several types of vibrio. Infections by one type can be contracted by swallowing contaminated water or eating contaminated shellfish. Contracting this type of vibrio can result in severe gastro-intestinal illness. Another type of vibrio infects cuts or other breaks in the skin. Contracting vibrio through the skin can result in infections of the blood or a flesh-eating infection and can be life-threatening. The vibrio that infects cuts is particularly dangerous to people with diabetes or cirrhosis of the liver.

Here is our advice for protecting yourself from infection from water contact.

1. Don't swim after a rain storm. The general rule is to wait 48 hours after a storm, but the bigger the storm, the longer you should stay out of the water.
2. Wash off with warm water and soap when you come out of the river or the bay

3. Don't swim where there are posted beach closings or advisories.
4. Don't swim if you have open cuts, sores or scratches.
5. Don't swim in water that is very warm (mid 80s) or water that looks polluted, such as with trash, algae or a film on the surface.
6. If you have an impaired immune system or any of the diseases mentioned above, check with your doctor about swimming in the bay.
7. If you notice a particularly red, swollen or blistered skin infection after swimming in bay water, seek qualified medical help immediately.
8. If you develop gastrointestinal disease symptoms after swimming in the bay or eating shell fish, seek medical help.

Eating contaminated seafood also can present serious health risks. Most fish caught in local waters contain some level of mercury and some may contain PCBs. The state of Maryland publishes consumption advisories that indicate the maximum amounts that should be consumed with separate recommendations for women and children. These are at: [http://www.mde.state.md.us/assets/document/Fish\\_Advisory\\_Table\\_2007\(2\).pdf](http://www.mde.state.md.us/assets/document/Fish_Advisory_Table_2007(2).pdf), see "Recommended Maximum Meals Each Year." The site also recommends avoiding consumption of the "mustard" from crabs caught in certain areas because of potential concentrations of PCBs.

Handling fish and crabs can involve the risk of infections. Be careful not to handle fish if you have cuts; wear gloves to avoid getting cuts; and wash your hands thoroughly after handling fish.

Eating raw shell fish also presents the potential risk of bacterial infections. Those risks are dramatically reduced by thorough cooking. I don't eat raw shellfish anymore unless I know where it came from and that it has been handled properly. People with impaired immune systems or any of the diseases discussed above should never eat raw shellfish.

During the past few years the number and duration of instances where we have seen large patches of reddish brown water has increased. Without testing the water, we don't know exactly what causes it. In a few instances where testing has occurred, the discoloration was determined to have been caused by algae and has been generally referred to as "mahogany tide." Scientists tell us that mahogany tide should not be harmful to people, though in high concentrations it may be toxic to marine life. "Red tide", another form of algae that is rare in our waters, can be toxic to people and pets. It is similar in appearance to mahogany tide but can only be identified by sample testing. Any type of reddish brown discoloration of the water is a condition that would cause me to avoid water contact.

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## CEPA FORUM ON GROUNDWATER

On Friday, February 29<sup>th</sup>, the CHESAPEAKE ENVIRONMENTAL PROTECTION ASSOCIATION (CEPA) held a forum on Ground Water at the South River High School Auditorium in Edgewater. The forum was moderated by CEPA Trustee Rich Romer, and the keynote speaker was Dr. Robert Summers, Deputy Secretary, Maryland Department of the Environment (MDE). Dr Summers started by explaining the differences in the hydrology and water usage in different parts of the state. Western Maryland has mostly fractured rock aquifers, and, due to the relatively low population density, the water is predominately used for thermoelectric and industrial purposes. Thermoelectric refers to cooling water for coal, oil, and nuclear power plants. The limited amount of water in fractured rock is running out. In Central Maryland, which includes Baltimore and north and west of Baltimore, the water is used mostly for public supply and thermoelectric purposes. Southern Maryland gets most of its water from several aquifers, and uses it primarily for public supply and domestic use. The water levels in the aquifers have been declining significantly over the last 30 years or more. And the recharge zones in the northern and western parts of the area are being paved over. On the Eastern Shore, water is used primarily for irrigation.

Governors Bob Ehrlich and then Martin O'Malley appointed the Water Resources Advisory Committee on which Dr. Summers serves. The Committee has studied demands for water and made a number of recommendations for management of our water supply. In 2004, it issued its first report, recommending a comprehensive evaluation of existing aquifer and watershed water supplies. This involves adding stream gauges, observation wells, and other monitoring mechanisms to what already exists. For example, the number of observation wells should be increased from 141 to 240. Such a study has already been initiated in Southern Maryland, but has been hampered by lack of funding.

An interim report issued by the Advisory Committee in 2006 recommended conservation measures, wastewater recycling technologies, and studied desalination and water storage methods (reservoirs). Such measures will be necessary with the population of Maryland expected to increase by more than one million (to 6.3 million) in the next 25 years.

In 2007, a bill passed the General Assembly (House Bill 1141) which requires that water resources be an element in the comprehensive development plans of local governments, i.e. Counties and municipalities. Along with other committee recommendations, this would cost an average of \$7 million per year for the next 7 years. That funding is not in place at this time, and the Advisory Committee is trying to identify possible funding sources.

During the Question and Answer period, Mike Shay cited the example of a particular golf course in Anne Arundel County which uses great amounts of water, and he asked Dr. Summers why that sort of thing is not controlled by water appropriation permits. Dr. Summers would like to see that sort of water usage controlled, but stated that there is public resistance to controlling something that historically was free for everybody.

Dr. M. Gordon Wolman, Professor of Environmental Engineering at Johns Hopkins University and Chairman of the Water Resources Advisory Committee, was the next

speaker. He said that it is no longer possible for everybody to use the aquifers and tributaries without restrictions. He feels that the recommendations of the Advisory Committee are necessary for managing the water supply, but says that the two reports they have issued so far were met with "a deafening silence from the political world."

Dr. Wolman feels that the legislation currently being considered, and the present state of mind in the Maryland General Assembly is such that no significant progress will be made this year. He feels that the major hurdle is to educate the legislature and persuade them that the Advisory Committee's recommendations must be put into effect. That would include the funding necessary to establish a structure for fees and permits and for ensuring that water resources are considered in local comprehensive plans.

Dr. Wolman indicated that the issue of how much water can be withdrawn from our rivers without adversely affecting the environment or other uses such as fishing, boating, and swimming remains to be settled. A compromise will probably be necessary.

Robert Shedlock, Associate District Chief & Supervisory Hydrologist, US Geological Survey went into greater detail on the types and characteristics of aquifers in different parts of Maryland. He spoke about USGS efforts to establish an Aquifer Information System, which would map the depths, thicknesses, etc. of all our aquifers, and model the soils with respect to, among other things, how easily water passes through them. The results should allow a determination of where wells can be dug, how deep, and how much water can be withdrawn without detriment. At present, the process is largely trial and error. With this data on hand, the permitting process could be controlled and managed. The system is being developed, but, again, adequate funding has been lacking. Shedlock stated that the earliest a working aquifer model could be available was 2013.

The speakers and several audience members mentioned the severe droughts in our region in 2002 and again in 2007 which resulted in water restrictions and/or development limitations in several Maryland locations. In addition to much better water allocation, several new water "sources" could be utilized:

- Enhanced conservation
- Expanded wastewater use
- Possible desalination
- Additional storage facilities

All agreed that water use based on the assumption of continued plentiful supply can no longer continue in much of our area.

## ETHANOL

Ethanol is expected to reduce our dependence on imported oil, but there have been some negative aspects of ethanol that have received a lot of exposure in the media recently. Many facts about ethanol, however, are not well publicized. Ethanol is primarily produced from corn in this country. It is renewable, it can be domestically produced, and it burns cleaner than gasoline. Also, ethanol can replace the gasoline additive MTBE, a chemical used to oxygenate fuel. MTBE can contaminate drinking water, but ethanol does not.

The world's largest producers of ethanol are the U.S. and Brazil. Brazil makes it from sugarcane. The 2005 energy bill requires that the U.S. boost its ethanol production to 7.5 billion gallons by 2012, up from about 4 billion in 2005. Compare that to the almost 140 billion gallons of gas used in the U.S. last year.

One disadvantage of ethanol is that it can't travel in pipelines along with gasoline, because it picks up excess water and impurities. Ethanol needs to be transported by trucks, trains, or barges, which is more expensive and complicated. Some experts argue that the U.S. doesn't have adequate infrastructure for wide ethanol use.

Another disadvantage of corn based ethanol is that it uses a lot of fertilizer and therefore would contribute to the Bay's (and other water bodies') nutrient enrichment problem.

Some ethanol skeptics argue that the process involved in growing grain and then transforming it into ethanol requires more energy from fossil fuels than ethanol generates. But [www.businessweek.com/technology/content/may2006/tc20060519\\_225336.htm](http://www.businessweek.com/technology/content/may2006/tc20060519_225336.htm) quotes Michael Wang, a scientist at the Argonne National Laboratory for Transportation Research, who says that the energy used for ethanol production has been reduced by about half since 1980, and now the delivery of 1 million BTUs of ethanol uses 0.74 million BTUs of fossil fuels, whereas the delivery of 1 million BTUs of gasoline requires 1.23 million BTU of fossil fuels. Producing ethanol should get more efficient as new technologies are developed.

Cars in the U.S. can normally drive on E10, a mixture of 10% ethanol and 90% gasoline. A few cars available here are "flex-fuel," meaning that they can run on much higher concentrations of ethanol. The fuel E85 (85% ethanol) is sold at some gas stations.

Ethanol production and distribution are not controlled by market forces only. In addition to heavily subsidizing the ethanol produced domestically, the U.S. government levies a 54 cent per gallon tariff on imports from other countries, such as Brazil, a lower-cost producer. The tariffs are supposed to foster domestic production. Amid the ongoing furor over high gas prices, the idea of repealing the levy is gaining momentum in Washington.

At present commercial corn-based ethanol comes from corn kernels, but there are high hopes for cellulosic ethanol, which can be made from a number of plants and plant by-products, including cornstalks. It's unlikely to be widely available for at least a few years, but cellulosic ethanol eventually can help substantially reduce costs and dependence on imported oil.

[www.technologyreview.com/read\\_article.aspx?ch=specialsections&sc=biofuels&id=18227&a=](http://www.technologyreview.com/read_article.aspx?ch=specialsections&sc=biofuels&id=18227&a=) reports that the company Celunol, based in Cambridge, MA, recently broke ground on a cellulosic ethanol plant in Louisiana that will be able to produce 1.4 million gallons of the fuel each year starting in 2008. Other companies are moving forward as well with plans to build plants. But experts from industry and environmental groups say that without incentives, these companies will fail to produce commercial-scale quantities of ethanol, and it may be impossible to meet President Bush's goal of producing 35 billion gallons of renewable fuels a year by 2017. (5 billion gallons might come from biodiesel fuel.)

Cellulosic ethanol can be made from wheat straw, corn stover, grass, switchgrass, wood chips, municipal wastes, and more. An acre of crops grown specifically to make ethanol could produce more than two times the amount as an acre of corn. That's fortunate because many experts estimate that corn-ethanol producers will run out of land, in part because of competing demand for corn-based food. Many believe that 15 billion gallons of corn-based ethanol is a practical limit. Existing and planned corn-ethanol plants have a capacity of about 11 billion gallons. Cellulosic sources should eventually allow the production of as much as 150 billion gallons of ethanol by 2050, according to a report by the National Resources Defense Council (NRDC). That's the equivalent of more than two-thirds of the current gasoline consumption in the United States.

Scientists must continue to work through some technical hurdles before cellulosic ethanol can be marketed at competitive prices, according to the website [www.seco.cpa.state.tx.us/re\\_ethanol\\_cellulosic.htm](http://www.seco.cpa.state.tx.us/re_ethanol_cellulosic.htm).



The general consensus is that cellulosic ethanol technology is within 5 to 10 years of being fully commercialized. The Energy Policy Act of 2005 has added hundreds of millions of dollars to cellulosic ethanol research, and the President has set a goal of making cellulosic ethanol cost-competitive with corn-based ethanol by 2012.

A few fast-growing trees, shrubs, and grasses stand out as premium candidates for cellulosic conversion. Switchgrass (see photo) and wood from hybrid poplar or hybrid willow require less water and fertilizer, adapt to geographically diverse regions and more adverse conditions, help reduce soil erosion and have larger yields than corn, wheat, or canola. These crops are currently being studied by federal, university and private groups.

Switchgrass stands out among the cellulosic feedstocks because its economic potential appears to be superior to that of woody crops. Another potential energy crop is miscanthus, a relative of sugarcane, which has been evaluated in Europe during the past 5-10 years. It yields 1,500 gallons of ethanol per acre, which is more than switchgrass. This compares to 400 gallons for corn kernels.

Conservation must be a large part of reducing our dependence on oil. At today's prices (\$3.70/gal.), with an average amount of driving (15,000 mi.) a 15 mpg vehicle costs about \$3700. for gas each year, a 25 mpg vehicle costs about \$2200., and a 35 mpg vehicle costs about \$1600. Note that getting 25 mpg instead of 15, a 10 mpg difference, saves about \$1500., while the 10 mpg difference between 25 and 35 saves only about \$600. Each further increase of 10 mpg saves correspondingly less. The point is that the biggest savings and greatest benefit to the environment result from driving a more or less average size car rather than a gas-guzzler.

For those buying cars in the near future, a flex-fuel vehicle may be worth considering. They may not cost any more than regular gasoline cars since manufacturers are being subsidized to produce them. For many other cars, after-market conversion kits are available for about \$300 or \$400, but presently their use will probably void the manufacturer's guarantee. Such kits have been used in Brazil since the '70s, but our EPA has found that the exhaust may be dirtier after conversion, and, unless a kit is certified by the EPA, it is technically illegal to use it. Last fall a company claimed to have obtained the EPA certification. E85 is a little cheaper than gasoline, gets 10 to 20% less mileage, but claims to produce more power.

## PROFILE OF A TRUSTEE

### MICHAEL LOFTON

Mike has recently joined the Board of Trustees of CEPA and



brings a wealth of experience in environmental and local governmental matters. He is immediate Past President of the Harwood Civic Association. He is a current member of the AA County Spending Affordability Committee, serving as Chairman in 2005. He is also a volunteer for the Rhode & West-River Keeper.

Previously, he was a Board Member of a number of organizations: Leadership Anne Arundel, where he was awarded their Community Trustee Award; United Way; Londontown Foundation, where he was Interim Executive Director; Junior Achievement, Scholarships for Scholars; and University of Maryland-Maryland Industrial Partnerships.

He has also served on numerous committees including the General Development Plan Steering Committee, School Maintenance & Renovation Taskforce, Taskforce on Year-Round Schools, Bob Neall Transition Team (Annapolis), and the Anne Arundel County Chamber of Commerce, where he is in their Hall of Fame.

He was Founding CEO of the Anne Arundel Economic Development Corporation, Deputy Secretary of the Maryland Department of Economic & Employment Development, and Executive Director of the Maryland Economic Development Association.

He received a B.A. in Economics from Transylvania University in Lexington, Ky. He attended the Economic Development Institute at the University of Oklahoma. He is certified as an Economic Developer, CEcD, by the International Economic Development Association.

He and his wife, Sherrie have lived in Harwood since the early 1970s. They raised two "wonderful" children, Daniel and Amanda. Sherrie is a regular substitute teacher in all the South County elementary schools. They are both devoted

animal lovers with a current population of two dogs and one cat. Mike spends as much time on the water as possible, usually fishing on his Parker 21 center console. He also manages a few trips each year to fish and camp in the Everglades.

emails when a new newsletter is available and provide the link to go directly to it.

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**2008 CEPA MEMBERSHIP AND/OR RIVERKEEPER CONTRIBUTION**

To support CEPA or the West/Rhode Riverkeeper, please use the form below.  
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