



Shore Conserver

Eastern Shore Soil & Water Conservation District • *promoting locally led conservation*
22545 Center Parkway • Accomac, VA 23301 • (757)787-0918

November 2012

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Groundwater: The Water We Drink

Turning on the faucet or grabbing a bottle of water out of the fridge may seem second nature, but have you ever wondered where that water originates? Groundwater, the water we drink, is held in layers of soil beneath the Eastern Shore. It is water that has seeped into place from rainfall and snow. Much of this water was stored from thousands of years ago. Our drinking water is pumped into our homes from a well. On the Shore, we have shallow wells and deep wells. Shallow wells are drilled a few feet to about 300 feet deep. Deep wells range from 300 to 350 feet deep. Below this 350 foot depth is only saltwater. Even though the water is more plentiful in the Columbia Aquifer than the Yorktown-Eastover Aquifers, most homes on the Shore use deep wells due to the possibility of contamination of our drinking water.

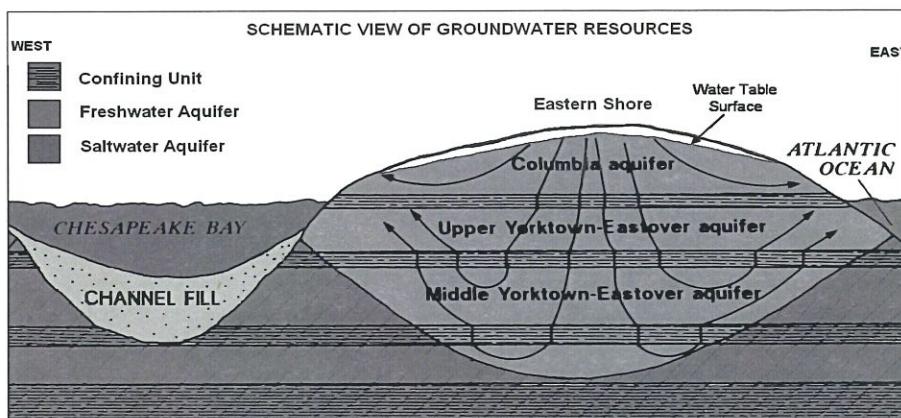
As you can see in the diagram below (not drawn to scale), freshwater, because it is less dense, floats like a lens-shaped bubble on top of the surrounding salt water within the layers of soil. The wet soil that holds our groundwater is found in layers called aquifers. The Eastern Shore's aquifers are comprised of sand, gravel and shell material with fresh water stored in between the soil particles. The uppermost Columbia Aquifer is the water table. When you dig down a few feet and hit water, you have reached the Columbia Aquifer which reaches as deep as approximately 300 feet. It reaches a depth of about 300 ft. The Yorktown-Eastover Aquifers (Upper, Middle and Lower) are situated right below the Columbia with a confining unit or impermeable barrier of very fine soil sediments that slow any passage of water between them. This aquifer recharges at a much slower rate, about 0.7 inches per year. This aquifer runs

about 300-350 feet deep.

The water table aquifer is replenished by rainwater alone. Our water supply is an EPA designated sole source aquifer. Water in the aquifer is a limited resource with no significant freshwater streams or rivers feeding the supply. The aquifer absorbs about half of our rainfall. The other 50% is lost due to runoff and evaporation. It is considered an unconfined aquifer because there are no dense layers of sediments on top of the water table to slow down absorption. If a well is installed too close to a freshwater/saltwater border, excessive pumping can cause saltwater to be drawn out. Due to the shape of the "freshwater bubble" as seen in the diagram, the depth to the saltwater varies and saltwater is closer to the surface in the necks and near the coastline.

When a well is pumped, the water levels directly around the well are lowered. If pumping rates are too high or if wells are too close to each other, it can reduce the amount of water available to neighboring groundwater users. The water levels can also drop so low that it deters the aquifer and the soil sediments consolidate or compress leaving no empty space to hold filtrating water. The amount of water that can be pumped from that well may be permanently reduced due to the reduction of holding space.

In your everyday life, and as it turns out, in the grand scheme of things, it is important to do your part by conserving water, picking up litter and using best management practices. For more information contact the Eastern Shore Soil and Water Conservation District at (757)787-0918 or also check out A-NPDC's website at www.a-npdc.org/groundwater/index.html.



Extension Farm Tour Day

Since 1998, Farm Tour Day has been held at Duncan Farms located in New Church, VA near the Maryland/Virginia State line. On September 25, 2012 over 600 third graders from Accomack County schools, Broadwater Academy, Shore Christian Academy and home-schoolers had an exciting field day on a farm outside the classroom learning about daily operations that occur. They learned how farmers play a major role in how food gets on their table.

Farm Field Day is sponsored by the Virginia Cooperative Extension Office. The Eastern Shore Soil and Water Conservation District and several partner agencies gave presentations to over 12 groups of students. These included sessions on electricity, fire safety, forestry, farming in colonial times, local crops complete with a demonstration of a crop-dusting.

The Eastern Shore SWCD did a presentation focused on several of the Standards of Learning concepts for 3rd graders. It demonstrated the important role soil has in our everyday life and what local farmers do to protect it.

Duncan Farms, is owned by Bruce and Fred Holland. We extend our appreciation for their dedication to the youth of the Eastern Shore.



Bonnie Mahl, ESSWCD Education Director, gives a presentation on soil to third-graders.

2012 Watershed Walk: Superheroes of Our Watershed



Virginia Oyster

The Watershed Walk, in partnership with the Onancock Harborfest, was held on Saturday, September 8th from 10:00 am to 3:00 pm. It was a fun-filled event of discovery and hands-on activities for children and adults alike with over 1,000 in attendance.

Sponsored by the Environmental Education Council through the Eastern Shore Soil and Water Conservation District, the Watershed Walk had approximately 20 exhibitors from across the region including the Virginia Department of Game and Inland Fisheries, the Chesapeake Bay Foundation, Waste Watchers, Citizens for a Better Eastern Shore, and ES Master Naturalist, to name a few.

Exhibitors had interactive displays which highlighted the wonders of the Chesapeake Bay and the Eastern Shore. Visitors discovered the exciting creatures that call the sea their home, learned how unique the Eastern Shore is and why it is so valuable to wildlife. They observed live critters and learned about how much of rainwater goes into our groundwater. Visitors learned their watershed address, and took advantage of

numerous other activities.

This educational event helped children get a head start at school this year by focusing on the Science Standards of Learning (SOL's) for grades 3-6. It provided plenty of fun and lots of super activities for everyone. It incorporated a super hero theme with comic book maps guiding you to the different activities. Musicians singing theme music from superhero cartoons and other jingles were strolling about. Along the path, children were able to pick up a "watershed walk token medallion" at each activity/booth they participated. After collecting these medallions, they were able to head to the gazebo to receive a prize of sunglasses, bug-catching nets, super-totes or some other reward for taking this quest. There was also an opportunity for children to take a picture as a superhero. Children were encouraged to dress up as their favorite superhero and some got creative and came in costume showcasing a superhero of our Watershed (an animal that lives in the area), and received a small prize.

The Watershed Walk was funded through a whole community watershed restoration grant awarded from the National Fish and Wildlife Foundation, with funds from the U.S. Environmental Protection Agency through the Innovative Nutrient and Sediment Reduction Grant Program. For further information, contact Bonnie Mahl, Education Director, at Eastern Shore Soil and Water Conservation District at (757) 787-0918 x129.

Four of the newest 2012 Watershed Tokens are pictured here.



Watershed Token



Five-lined Skink



Green Darner Dragonfly



Black-eyed Susan

District Says Goodbye...

To Tamsey Ellis, Education Director and Addison Nottingham, Conservation Specialist

The District would like to thank Tamsey Ellis, Education Director from 2004-2012 and Addison Nottingham, Conservation Specialist, 2006-2012 for their years of service and dedication. Tamsey's deep dedication to environmental education on the Eastern Shore and Add's unique 30+ years of farming experience and knowledge will be deeply missed. Tamsey and Add both retired from the District on June 30, 2012 and were recognized by the District at its Annual Awards Banquet in July. We wish them both the best.

and Welcomes...

Bonnie Mahl, New Education Director

As a daughter of an Air Force Medic, Bonnie grew up living all over the world instilling in Bonnie a sense of adventure. After graduating Virginia Tech with a B.S. in Environmental Science, she went to the South Pacific as a Peace Corps Volunteer. She worked with villagers to help them manage their natural resources. Bonnie became an AmeriCorps/VISTA volunteer, moved to Lebanon Virginia and worked with the Clinch Valley Soil & Water Conservation District as a Watershed Coordinator. Once again she was able to work with members of the community on environmental issues. Wanting to get more education in the field of Natural Resources, she attended graduate school studying Natural Resources and Sustainable Development at American University & the University for Peace. In June 2012, Bonnie was hired as the ESSWCD's new education director and is eager to work with the community to share her passion for the environment and to learn more about the Shore.

Cole Charnock, New Conservation Specialist

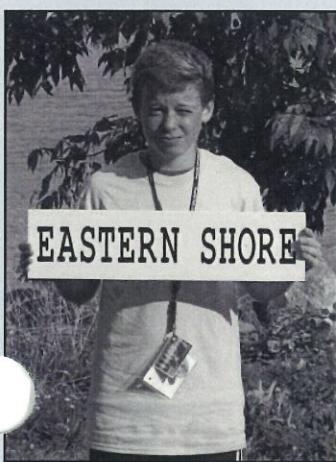


Cole Charnock was hired as the new Conservation Specialist at ESSWCD in June 2012. Born and raised on his family's farm, Cole attended Broadwater Academy and graduated from Old Dominion with a B.S. degree—Geography with an emphasis in Environmental Science specializing in ArcGIS.

As the new Conservation Specialist, Cole looks forward to strengthening his relationships within the local farming community and helping to promote conservation on the

Shore. Since the Chesapeake Bay and her waterways have been a playground for Cole for the past 25 years, he understands the impact people have on the surrounding watersheds and the responsibility for environmental health for all.

2012 Youth Conservation Camp



James Teeling, Northampton High School

The Virginia Association of Soil and Water Conservation Districts (VASWCD) has sponsored the Youth Conservation Camp located on the campus of Virginia Tech annually for 36 years. This year Ye Accawmacke Garden Club sponsored James Teeling of Northampton High School for the 2012 Conservation Camp to attend a weeklong adventure. The Eastern Shore Soil and Water Conservation District's Endowment Committee provided funds towards transportation expenses. Campers spend a week learning about VA's natural resources from conservation professionals and faculty from Tech.

Youth Conservation Camp is a great opportunity for local students to see the western part of the state and meet other kids interested in the environment. James said, "The week was a great way to learn about how to protect our environment....This program was great...since it covered a wide range of [science] topics." Most of the instruction is hands-on and outdoors including a hike to the famous Cascades Waterfalls, a dairy science tour, canoeing on the New River and activities about shoreline erosion, karst topography, dendrology, stream morphology, and lake ecology. For more information on Youth Conservation Camp, contact the District at (757)787-0918.



Rain Barrel Workshop— Barrels of Fun

The Eastern Shore Soil and Water Conservation District in partnership with the Eastern Shore Networking will be sponsoring a Rain Barrel Workshop.

Where: Barrier Island Center,

When: Saturday, December 1, 2012

Time: 10am-12pm

Cost: Only \$25 per barrel

This includes the rain barrel!

To sign up: Contact Bonnie Mahl, ESSWCD Education Director at (757)787-0918 x129 or Bonnie.mahl@esswcd.org.

Hurry, space is limited! Register by Wednesday, November 28, 2012.

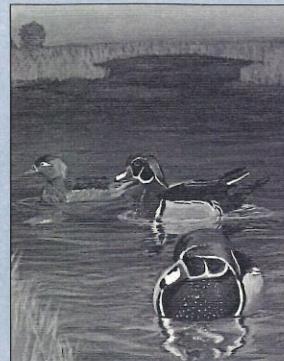
Rain barrels are very useful in storing rain water to use at a later time to water your garden, flowers or to use to wash off your sidewalk or patio.



The Shore Conserver is published quarterly by the Eastern Shore SWCD to provide information to land users. The District customarily meets monthly on the second Wednesday of the month at 5:00pm at the USDA Service Center in Accomac, VA. The public is welcome to attend. To be added to the mailing list, please contact the District office at 757-787-0918 x119.

All programs and services of the Eastern Shore Soil and Water Conservation District and the Natural Resources Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status or handicap.

20th Annual Wildlife BIRDING FESTIVAL



Artwork by Hartley Pruitt of Nandua H.S.

The Wildlife Birding Festival is a three day internationally recognized festival beginning on the first Friday of October each year. The Birding Festival celebrates the arrival of migratory birds to the Shore. Coastal Zone Management of DEQ sponsors a poster contest between the local high schools on the Shore and the winning artwork is used as the Birding Festival's signature

logo. Hartley Pruitt of Nandua High School, Onley, VA was this year's winner with a painting of Wood Ducks.

The artwork is also featured on the front cover of the 2012 Family Passport created by ESSWCD. The Family Passport Program was started by the District in 2003 to get more children involved with the festival. The passport booklet has always been designed like a real passport with pages for stamps, but this year it had somewhat of a fresh new look with the edge to edge picturesque cover, a scavenger hunt, a page for a favorite exhibit, beginning birding tips and some great websites for birding videos like "The Little Nature Shows". The District also had a booth set up at the festival where children could create fish-prints of local fish.

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