



# Shore Conservor

Eastern Shore Soil & Water Conservation District • promoting locally led conservation  
22545 Center Parkway • Accomac, VA 23301 • (757)787-0918 • [www.esswcd.org](http://www.esswcd.org)

**November 2015**

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## Horseshoe Crabs Could Save Your Life

Horseshoe Crabs have been around a long time, even before dinosaurs. The earliest horseshoe crab fossil dates back 450 million years. They have not evolved much and little has changed about them, so they are considered a living fossil. Even though called a crab, they are more closely related to arachnids and scorpions than to crustaceans like lobsters or the Blue Crab. They are also related to the Trilobite which are extinct marine arthropods found fossilized.



*Horseshoe crab*

Horseshoe crabs are carnivorous eating mollusks, carrion (dead animals) and sea worms such as annelids or dust feathers. Horseshoe crabs look for these animals on the ocean floor. They also eat crustaceans and small fish. Horseshoe crabs normally swim upside down using their tail to change direction. Their tail is not dangerous. They also use their tail to flip themselves over if turned upside down on their backs, so if a horseshoe crab's tail is broken, it may be left defenseless because its outer shell is its protective armor. If the underside of the crab is exposed, it is vulnerable to predators such as sharks and sea turtles in the ocean and some coastal birds when the horseshoe crabs are in shallow water or on beaches. Horseshoe crabs live primarily in shallow ocean waters on soft sandy or muddy bottoms. They come to shore to mate around June or July. They lay 60,000-120,000 eggs after they mate! The female digs in the soft sand or mud to lay the eggs in the furrow while the male goes behind her and fertilizes the eggs. Migratory shorebirds like the Red Knot eat horseshoe crab eggs during their stopovers along their long journey. When the population of horseshoe crabs is threatened, so is the population of many shorebirds because as much as 50% of migratory shorebirds rely on the eggs for much of their diet. The eggs are a rich source of protein for the birds.

Horseshoe crabs have 10 eyes! Two compound eyes on either side of the top of their shell, 2 simple eyes located on the front of their shell, five on the bottom side and one on its tail. But their eyes are not the most incredible thing about them. Horseshoe crabs have hemocyanin rather than hemoglobin in their blood. Their blood is blue because of the amount of copper in hemocyanin. The amebocytes in the blood is used to make Limulus Amebocyte Lysate (LAL). Harvesting the blood of horseshoe crabs involves collecting the animals and bleeding them taking about 25% of their blood. This process normally does not kill the crab and they are tagged and released back into the ocean.

Their blood is used to test for sterility of medical equipment, surgical equipment, medicines and virtually all intravenous drugs in every hospital across the country. If these items are not sterile, the bacteria can make you very sick or kill you. Whenever LAL comes in contact with a bacterial contamination, it clots immediately. So if you have ever had an IV, a surgery, or been stitched up, you have benefitted from the use of horseshoe crab blood.



*The underside of a horseshoe crab.*

## **Cover Crop Planting Reports due to the District as soon as planting is complete**



## Clean Water Farm Award



Darryl Glover of DCR, on right, presented the Clean Water Farm award to Steve Sturgis, on the left.

This year's Clean Water Farm Award was presented to **Steve Sturgis of Tri-S Farms**. The Clean Water Farm Award, is a State sponsored award given by VA Dept of Conservation and Recreation, to Virginia farmers who are exemplary in their protection of the State's soil and water resources. Tri-S Farms has almost 1,000 acres of a corn/wheat/soybean rotation as well as providing custom work for another 2,000-3,000 acres of agricultural land. Steve has worked with the District by implementing cover crops using no-till planting methods as well as maintaining a current Nutrient Management Plan. Steve participated in a grant opportunity with the District having several of his fields assessed for Chesapeake Bay Preservation Act compliance. Steve works with NRCS on implementing several best management practices under the Conservation Stewardship Program and has planted an 11.8 acre Pollinator Habitat. Last fall he planted a high-residue cover crop mix with tillage radish, vetch and small grain to promote weed suppression and improve soil health. Steve is converting 950 acres to a precision agriculture program called the VERIS System where advanced technology is used to analyze soil conductivity to assess soil conditions across his fields to target nutrient application to his crops. Steve's farms are conservation friendly with healthy buffers along all waterways, a sediment retention pond and water control structures to regulate water quality. He and his family have a 79 acre farm held in an easement with the Virginia Outdoor Foundation. DCR chooses a Grand Basin Award Recipient from the pool of Virginia Clean Water Farm Award recipients, up to 10 grand winners representing Virginia's major river basins. Steve Sturgis has been awarded the Coastal Grand Basin Award and will be presented the award at the Virginia Association of Soil and Water Conservation Districts Annual Conference, in Richmond, VA, Monday, December 7, 2015.

## Conservation Farmer Award



Robin Rich-Coates, Eastern Shore Soil and Water Conservation Chair, presented Jimmy Smith, on left and Fred Smith on right with the Conservation Farmer Award

The District's 2015 Conservation Farmer Award was presented to a father and son team- **Jimmy and Fred Smith of J.E. Smith & Son**. The Smith family farm, located along Craddock Creek, is a 285 acre operation primarily consisting of a corn/wheat/soybean rotation. Healthy buffers are voluntarily maintained along their crop borders and agricultural ditches on the property are protected by thick vegetation. They work with the District to ensure their Nutrient Management Plan is always up to date and are successful participants in the District's annual cover crop programs using no-till planting methods. Fred is also pursuing oyster aquaculture and holds leases through Virginia Marine Resources Commission which enables him to grow oysters on Craddock Creek. He's currently growing 1 ½ million oysters and involved in the cultivation until the oysters reach harvestable size. With the oysters filtering algae, water clarity has improved and Fred has seen an increase of submerged aquatic vegetation. In 2013, the Smiths participated in a joint program with NRCS, VA Tech and the Chesapeake Bay Foundation that utilized new GreenSeeker technology to precisely apply nitrogen to over 140 acres of no-till wheat. Their willingness to experiment with innovative precision ag technology further demonstrates their commitment to conservation and the environment.

## Forestry Conservationist Award



Roy Custis, 2015 Forestry Conservationist

The VA Dept of Forestry, Eastern Shore Office nominated **Roy Custis** for the District's 2015 Forestry Conservationist Award. Roy manages OK Farms, where he and his family manage timber land near Nandua Creek, for timber production, wildlife habitat enhancement, soil and water conservation, hunting and recreation. Roy has conducted timber stand improvement, pre-commercial thinning of loblolly pine, and timber harvesting. Wildlife habitat has been enhanced during each of these practices with the establishment of early succession forest cover benefitting game animals such as quail, deer, and turkeys.

The District honors local students, teachers, farmers and community members for their efforts in the conservation of our natural resources. The District would like to thank the farmers, landowners, teachers, students and other partners whose contributions to conservation help assure clean water and productive soil for the future.



# Snapshots of the Watershed Festival 2015

## Watershed Festival 2015

The Eastern Shore Environmental Education Council partnered with Accomack County Schools to bring all of their sixth graders to the Watershed Festival. This event would not be possible without the help of the Master Gardeners who volunteered to serve as group guides, funding from the Eastern Shore Soil & Water Conservation District, and members of the Eastern Shore Environmental Education Council. The Watershed Festival was also partially funded through a grant from Toyota TogetherGreen. Toyota TogetherGreen, a conservation initiative of the National Audubon Society and Toyota, selects high-potential local leaders annually to receive a grant to support work in their community.

There were 370 sixth graders from Arcadia Middle School, Chincoteague Combined School and Nandua Middle School. The Watershed Festival serves as a Meaningful Watershed Education Experience (MWEE), where the students investigate more about their watershed. In this case they learned how the watershed of the 1600's differs from the watershed of today. Students visited different exhibitors where they learned about the effects of pollution, the importance of pollinators, the complexity of groundwater, the benefits of limiting water usage, the variety of wildlife, sea life and plants, and much, much more. For one of the stations, the sixth graders were able to visit the Watermen's Museum which is located within the Historic Onancock School. There were 18 exhibitors:

- Kiptopeke State Park
- Chesapeake Bay Foundation
- Eastern Shore Beekeepers Guild
- SPARK
- Reptiles & Amphibians
- Watermen's Heritage Museum
- VIMS Lab at Wachapreague
- The Nature Conservancy
- Chincoteague Bay Field Station
- Accomack/Norhampton 4-H Extension Agents
- VA Department of Game & Inland Fisheries
- Assateague Coastal Trust
- Native Plants of Eastern Shore
- The WARD Museum of Waterfowl Art
- USDA Natural Resources Conservation Service
- Eastern Shore Soil & Water Conservation District
- VA Tech ES Agricultural Research & Extension Center and
- Erica Head, a senior at Northampton High School, VASWCD Youth Conservation Leadership Institute Participant.





### Conservation Educator of the Year Award



For her outstanding commitment to educating and inspiring youth and community members about the environment around them, **Anne Armstrong** was awarded the District's 2015 Conservation Educator Award. Anne oversees the Chincoteague Bay Field Station's Education Department, adult & family programs, and staff. She was awarded a Toyota Together Green Fellowship to do extensive environmental education outreach. Anne has worked with the District overseeing the Aquatics portion of the Local Eastern Shore Dominion Envirothon for the past 4 years. She works with SPARK on projects such as Creek Watchers which is a nature-based family learning program that Anne helped create. Anne headed up the Living Shoreline Stabilization Project in Greenbackville involving local partner agencies, local groups, volunteers and community members to help restore eroding shoreline.

### Student of the Year Award



**James Teeling**, an exceptional student who participated in environmental studies and conservation outreach was awarded the 2015 Conservation Student Award. He received the VA State Parks Youth Conservation Corps Emmitt Award for Outstanding Crew Member in 2014. James Teeling graduated from Northampton High School in June and is attending James Madison University this fall to pursue a degree in Environmental Biology. James has worked for a Seafood company that produces sustainably raised oysters and clams. He also worked at the Natural Tunnel State Park as a member of the Youth Conservation Corp and was selected by the District to represent the Shore for the 2012 VASWCD Youth Conservation Camp at Virginia Tech.

### Wildlife Conservationist Award

Nominated by Natural Resources Conservation Service Accomack Office, **Gary Breeding** was recognized for his outstanding efforts in wildlife conservation and management with this year's 2015 Wildlife Conservationist Award. In 2012 Gary enrolled 152 acres of forested wetland in the NRCS Wetland Reserve Program. This is a voluntary conservation easement program that gives landowners the opportunity to restore and enhance wetlands on their property. Program participation includes a restoration plan and wetland protection in perpetuity. On Gary's acreage, several ditches that were draining the wetland were plugged to restore the site's wetland hydrology. Once the hydrology is restored, the wetland can perform many important functions from improving water quality to providing a home for wetland plants and animals. Gary is receiving this year's Conservation Wildlife Award, because the restored vernal pools on his property provide essential – and diminishing – habitat important in the life cycles of frogs, turtles and salamanders.

## District Education Director- Conservationist of the Year



From left to right, Robin Rich-Coates, Bonnie Mahl, Mark Reiter and Carmie Savage

The Virginia Chapter of Soil and Water Conservation Society is a non-profit scientific and educational organization that gives out an Honor Award, Outstanding Service Award and Conservationist of the Year Award annually for exceptional service in advancing the science and art of good land and water use. The Soil and Water Conservation Society Mission is to be a multidisciplinary Society that advocates the protection, enhancement and wise use of soil, water and related natural resources. Through education and example, they promote an ethic that recognizes the interdependence of people and the environment.

Dr. Mark Reiter of the Virginia Tech Agriculture Research Extension Center of Painter, VA nominated **Bonnie Mahl**, ESSWCD Education Director for the Soil and Water Conservation Society's 2015 Conservationist of the Year Award. Ms. Mahl received the 2015 Conservationist Award and was recognized on October 28, 2015 for all of her hard work and achievements she has accomplished in her three short years of employment with the Eastern Shore District since June 2, 2012.



## District Awards Scholarships for 2015



This year, the District's Endowment Committee awarded two W. Foster Fletcher Scholarships in the amount of **\$1,000** each to **Emily Haugh** of Chincoteague High School who is attending the University of Virginia majoring in Environmental Studies; and **James Teeling** of Northampton High School who is attending James Madison University majoring in Environmental Science and Biology.



...continued from page 4

## Watershed Festival 2015

This Watershed Festival is part of a three part program called a MWEE which is a Meaningful Watershed Educational Experience. The first part, the students were given a lesson in the classroom of what a watershed is and learned their watershed addresses. The actual Festival was the second component of the MWEE. The third component is a reflection where the students view a documentary "Watermen" produced by the Barrier Island Center. Students took turns being reporters of each exhibit. We took snapshots of the students at each exhibit which are the pictures in this article. A big thank you to the Master Gardener volunteer group leaders, EE Council members and all 18 exhibitors who were instrumental in bringing the information to the students.



Sarah Cashwell of Broadwater Academy painted this Peregrine Falcon.



Flight of the Raptor Program at Broadwater Academy

## 23<sup>rd</sup> Annual Birding Festival

The 23<sup>rd</sup> Annual Eastern Shore Birding and Wildlife Festival experienced excellent attendance and great viewing of birds, butterflies and dragonflies during peak Fall migration during October 8-11, 2015. The Festival proceeds funded an ambitious education program which brought "Flight of the Raptor", a live birds of prey program, to every elementary and middle school on the Eastern Shore except Chincoteague, Accomack and Metompkin Elementary. Vendor exhibits and festival headquarters were located at the Fire Station in Cape Charles as in past years. The Festival included:

- 82 Field Trips and Boat Tours which require pre-paid registration. Thirty-seven (37) field trips sold out;
- Free educational programs for children at Kiptopeke State Park and the Cape Charles Fire Station;
- Free public programs such as the Social Hour and Keynote Speaker, Jeff Bouton of Leica Sport Optics on Friday, all weekend long vendor exhibits, and the Flight of the Raptor demonstration on Saturday and
- an Oyster Roast on Saturday night in Oyster, VA.

This year, 311 paid registered participants from all over the country participated in field trips, with 184 bird species seen during the Festival weekend. This year's registration of 311 is a significant (37%) increase over last year's 227 paid registered participants. There were 178 people counted at Kiptopeke State Park during the Festival and 190 children participated in the Family Wildlife Explorer Program. The Flight of the Raptor program was viewed by 2,838 local students on the Shore.

Coastal Zone Management of DEQ sponsors a poster contest in the local high schools on the Shore and the winning artwork is the Birding Festival's yearlong signature logo. Sarah Cashwell, a senior at Broadwater Academy was this year's winner. She painted a Peregrine Falcon on a tree branch as seen in the top picture.

Article written in part by Roberta Kellam

## SAVE THE DATE—Eastern Shore Agricultural Conference & Trade Show, January 26-27, 2016

The ES Ag Conference and Trade Show will be held at the Eastern Shore Community College, Workforce Development Center, 29300 Lankford Highway, Melfa, VA 23410. For more information contact: Ursula Deitch, Northampton County VCE at 757-607-6133 or [utankard@vt.edu](mailto:utankard@vt.edu) or Theresa Long, Accomack County VCE at 757-709-2342 or [tmjlong@vt.edu](mailto:tmjlong@vt.edu).



## Pollinator Habitat Workshop Series

### Fall Workshop — Wednesday, December 2, 2015

9am—11am; Registration begins at 8am  
Breakfast Meal provided; to be served at 8am

Please join us for the first of a two part workshop series  
focused on establishing and maintaining pollinator habitats

Please email your RSVP by November 24th to [tmjlong@vt.edu](mailto:tmjlong@vt.edu)



#### Come learn more about:

- Why are pollinators important?
- Site preparation
- Site Assessment
- Seed Selection/mixes
- Pollinator Species
- Good pollinator habitats
- Resources for Pollinators

#### Location:

**Eastern Shore Agricultural  
Research & Extension Center**  
33446 Research DR, Painter, VA

#### Contact:

**Theresa Long:**  
[tmjlong@vt.edu](mailto:tmjlong@vt.edu)/757-787-1361  
**Jane Corson-Lassiter:**  
[Jane.lassiter@va.usda.gov](mailto:Jane.lassiter@va.usda.gov)/  
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If you are a person with a disability and desire any assistive devices, services or other accommodations to participate in this activity, please contact Theresa Long at 757-787-1361 ext. 14 during business hours of 8:30 a.m. and 5 p.m. to discuss accommodations 5 days prior to the event. \*TDD number is (800) 628-1120.



Join us for

## Specialist Day

**Tuesday, November 17th 2015**

**10:00 AM – 12:00 PM**

**10:00am -11:00am - New Herbicides: Application Technology & Stewardship – Dr. Charlie Cahoon – Weed Scientist, ESAREC** Dr. Cahoon will discuss new herbicide technology that will be released within the next year.

**11:00am -12:00pm – Combating Italian Ryegrass in Wheat – Dr. Charlie Cahoon – Weed Scientist, ESAREC** The most effective Italian Ryegrass control measures. Growers will go to the field to see plot research showing the effectiveness of these herbicides.

**12:00pm – Catered Lunch Served** Growers will have an opportunity to meet with Dr. Cahoon and other specialist's at the ESAREC one-on-one.

To be held at:

**Eastern Shore AREC, Virginia Tech**  
**33446 Research Drive, Painter, VA 23420**

Please RSVP to either:

Ursula Deitch – [ursula@vt.edu](mailto:ursula@vt.edu) / 757.607.6133 or  
Theresa Long - [tmjlong@vt.edu](mailto:tmjlong@vt.edu) / 757.709.2342



If you are a person with a disability and desire any assisted devices, services, or other accommodations to participate in this activity, please contact Ursula Deitch at the Northampton County Extension office, 757-678-7946 x 25, during regular business hours (8:30- 5) to discuss necessary accommodations no later than 5 days prior to the event. TDD 1-800-828-1120. Virginia Tech does not discriminate against employees, students, participants, or applicants on the basis of race, gender, disability, age, veteran status, national origin, religion, sexual orientation, or political affiliation.

Invent the future



The Shore Conservor 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 x101.

The Commonwealth of Virginia supports the Eastern Shore Soil and Water Conservation District through financial and administrative assistance provided by the Department of Conservation and Recreation.

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.

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