

# K to Gray

## Education, Outreach and Broader Impacts at the VCR-LTER

Arthur Schwarzschild  
Science Education Coordinator



- **Education**
- **Professional Development**
- **Outreach**

Serving the Eastern Shore and Beyond

# Northampton County, VA

- Challenges
  - 2<sup>nd</sup> poorest county in VA with a ~ 50 % minority population and ~75% of students on reduced price/free meal plan
  - Middle School closed due to structural problems and students split between Elementary Schools and High School in 2012 (ES = K – 6, HS = 7 – 12)
  - 3 Superintendents, 3 HS Principals and 4 ES Principals in last 5 years
- Two Public Elementary Schools, each with ~500 students
- One Public High School
  - Enrollment ~ 650 HS students
  - 4 full time science teachers (3 out of 4 replaced in 2013)
  - 3 science classes required for graduation
- SLTER program supports 5 of the 6 science courses offered
- **All Northampton County public high school students impacted by SLTER at least twice before graduation.**

## VCR Schoolyard LTER (SLTER)

A partnership between the VCR-LTER, UVA and the local Northampton County Public School system to help further education in science

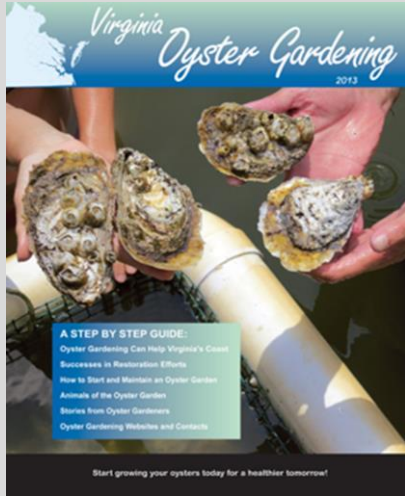
### MISSION:

- To enhance environmental science literacy/ awareness in Northampton County public schools.
- To better prepare students through classroom activities and field experiences.
- To support teachers by providing training opportunities and curriculum resources.



K – 7<sup>th</sup> grade (>175 students/year)

- Talented and Gifted Program
- Oyster Gardening Program (every public and private school in the county)
- Eastern Shore Regional Governor's School
- Summer Ecology Camp with TNC and Chesapeake Experience



Summer 2013



## Eastern Shore Kayak Camp

Learn and Play on the Bay!

Come kayak, fish, crab, collect species with nets, geo cache and play other fun games and more - while gaining a new and exciting appreciation for Chesapeake and Coastal Bays!



No kayak experience is required. Space is limited to 14 participants!

### INFORMATION

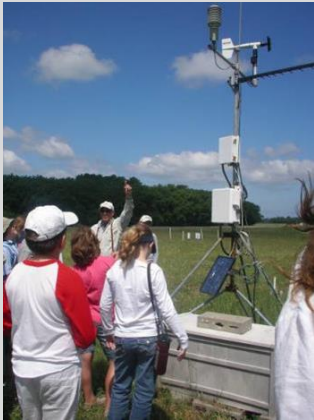
- Who:** 12-14 year olds
- When:** Aug 19-23, 2013  
9 a.m. – 4 p.m. each day
- Price:** Free!
- Location:** Nature Conservancy's Brownsville Farm in Nassawadox



For more information visit: [www.ChesapeakeExperience.org](http://www.ChesapeakeExperience.org) and to register contact Jill Bieri- [jill@chesapeakeexperience.org](mailto:jill@chesapeakeexperience.org)

8<sup>th</sup> – 12<sup>th</sup> grade (>125 students/year)

- Environmental Science and Marine Biology classes
- VCR-LTER Water and Nutrient Cycle Field Trip
- Environmental Monitoring Programs/Training/Equipment
- Guest Lectures
- REHS Program (2 - 4 interns/year)



## Objectives of the REHS Program:

- Provide an opportunity for highly motivated High School students to gain first hand experience in Environmental Sciences, while conducting field research under the direct supervision of a trained scientist.
- Provide graduate students conducting research activities at the VCR-LTER program with enthusiastic and highly capable field assistance and mentoring experience.
- Further the research goals of the VCR-LTER program.



Undergraduate (~90/year)

- College Field Trips
- REU internships (8-10/year) supported by NSF and other grants
- May Term: Intro to Marine Biology (University of Richmond non-science majors)
- January Term: STS 2500 Nature Writing Class (UVa STS Program)

## UVA January Term at the Virginia Coast Reserve

STS 2500(3)

A Sense of Place:

Perceptions of Coastal Ecosystems and the Written Word

Arthur Schwarzschild and Hannah Rogers



- Read the work of naturalists, poets, and fiction writers
- Write creatively
- Field trips to natural and historical locations
- January 2-4 & 6-10, 2014

For more information contact [hsr3c@virginia.edu](mailto:hsr3c@virginia.edu).  
Fees for food and lodging at the LTRC apply.

Graduate

- ~20 VCR-LTER students funded annually
- **Distributed Courses (2 VCR PIs)**
- **LTER Graduate Student Socials at National Science Conferences**
- Mentorship Opportunities and training: REU & REHS Programs
- Public Seminar Series: Provides speaking opportunities

**Fall 2014: Biology and Geomorphology of Coastal Wetlands**

- **Organized by GCE-LTER**
- **Co-Instructed by 7 LTER PIs (Kirwan and Blum from VCR)**
- **~150 participants including:**
  - Graduate students from 30 institutions**
  - Coastal Managers from 9 NERRs Sites**
  - Representatives from 2 Federal Agencies**

**Fall 2015 sea level rise and saline intrusion**

*a distributed graduate course*





LTER Graduate Student Socials held at:

- CERF 2013 Sponsored by the VCR-LTER
- ESA 2014 Sponsored by HFR-LTER
- AGU 2014 Sponsored by VCR-LTER
- ESA 2015 Sponsored by HFR-LTER



# 2015 UVa Department of Environmental Sciences Student Awards earned by LTER Students

- 4 of 6 Distinguished Majors Projects
- Undergraduate Trout Unlimited Award
- Graduate Award in Hydrology
- Graduate Award in Geology
- Graduate Award in Hydrology
- Graduate Interdisciplinary Studies Award