

National Estuarine Research Reserve Education Change on the Ground in 2019

Connects

People to Estuaries

**1 million+
ACRES**

of natural classrooms & living laboratories with



**29 INTERPRETIVE
CENTERS**



**613,152
VISITORS**

learn about estuaries through Research Reserve outreach & education



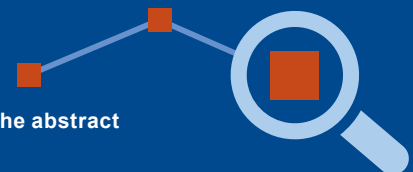
Aloha to our Hawai'i Reserve, designated in 2017!

Prepares

the Next Generation

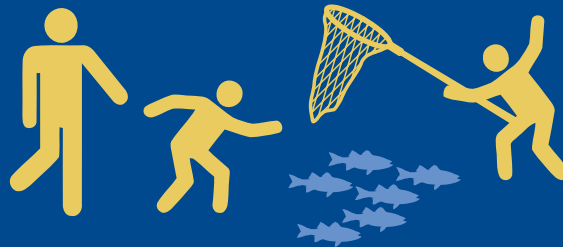
**93,916
STUDENTS**

take learning out of the abstract & into the outdoors



**4,784
TEACHERS**

are trained in the estuary & supported in the classroom



SKILLS BUILT

- ✓ Observation
- ✓ Asking research questions
- ✓ Problem solving
- ✓ Data driven decision making

ESTUARY SCIENCE

LOCAL DATA

LAB WORK

FIELD INVESTIGATION

Improves

the Environment

**13,704
CITIZENS**

are trained & inspired to protect their coasts & estuaries



VOLUNTEER ACTIONS

- ✓ Protect wildlife
- ✓ Monitor water quality
- ✓ Plant native species
- ✓ Clean up the coasts

**29 RESEARCH RESERVE
EDUCATORS**

lead programs that foster coastal stewardship in communities in 23 states



Creating value through education
25,934 volunteer hours = \$640,310*

Chesapeake Bay-VA Research Reserve Education is Change on the Ground



2019

Connect



1,834 public program
attendees

973 hours of volunteer time



Prepare

361 teachers trained

2,338 students engaged

4,442 student contact hours

TOTE



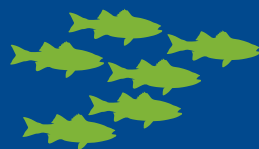
448 hours training TOTE teachers

1,773 students expected to use

TOTE resources

"I love having those resources, especially because I was new to science. My philosophy is that these standards are not a ceiling, they're a floor. There's nothing in my standards that talk about ocean acidification, but they do mention something like human impact."

Rhonda Taylor
VASEA Lesson Plan
Expo Attendee



"Thank you for the opportunity to see and learn about this watershed so that I can use this information to teach about our area watershed."

Dawn Williams
TOTE Teacher

CBNERR Education Programs Succeed During Covid-19

With many other environmental education organizations moving online due to the COVID-19 pandemic, the Chesapeake Bay National Estuarine Research Reserve in Virginia (CBNERRVA) education team followed suit, developing two new online programs. "Story Time" is geared towards younger audiences and includes a reading of a marine related children's book followed by a demonstration, activity, or craft for participants to do at home. "What's Going On At CBNERR" shares resources and informational videos on current projects conducted by our research and stewardship departments. While informal environmental education values hands-on learning, CBNERR has been successful at continuing to connect with our audiences through virtual programming.

VASEA Brings Marine Science to Classrooms

The Virginia Scientists and Educators Alliance, a collaboration between the CBNERRVA and the VIMS Marine Advisory Program, translates graduate student research into digestible lesson plans for middle and high school students. Graduate students are trained on science communication, including how to write lesson plans, and then Virginia teachers are able to access these lesson plans, containing real data graphs and research topics, for their classrooms. The VASEA lesson plans have been downloaded over 2,100 times in nearly 100 countries.

Hollings Scholar Ties Education to Research

CBNERR has created a lesson plan and an Esri Story Map to teach students about marshes and thin-layer placement restoration techniques. The Story Map is a digital tool where students explore videos and images to analyze CBNERR marsh experiment plots. Using this tool, students graph different treatments, determining which could be used as restoration techniques to combat sea level rise in marshes. These resources were developed by Stephanie Letourneau, a NOAA Hollings Intern, under the direction of CBNERR education and stewardship staff in conjunction with an experiment funded through the National Estuarine Research Reserve System Science Collaborative.

Virginia's Chesapeake Bay Reserve is one of 29 sites in the National Estuarine Research Reserve System. Each site is a state federal partnership that combines research, monitoring, and education to advance the understanding and management of estuarine environments.

