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Watershed Stewardship in Action: Deaf Students on the Estuary

Project Location

Waquoit Bay National Estuarine Research Reserve

Project Duration

June 1, 2017 to May 31, 2019

Project Lead

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Project Type

Science Transfer – promoting the use of science

Project Partners

- Boston University Graduate Program in Deaf Education
- The Center for Research and Training and Marie Philip School at The Learning Center for the Deaf, Inc. (MA)
- Governor Baxter School for the Deaf (ME)
- Horace Mann School for the Deaf (MA)
- Narragansett Bay National Estuarine Research Reserve
- READS Collaborative (MA)
- Rhode Island School for the Deaf
- Waquoit Bay National Estuarine Research Reserve
- Wells National Estuarine Research Reserve

Overview

This project will promote watershed stewardship by developing video modules in American Sign Language, providing professional development for teachers of the deaf and hard of hearing, and field experiences for their students. The project team will develop an American Sign Language video module focusing on the concepts and vocabulary of watersheds and estuaries. Education coordinators from the Wells, Waquoit Bay, and Narragansett Bay reserves, along with content experts, will provide training for teachers and interpreters at a Teachers on the Estuary workshop at the Waquoit Bay reserve.

After receiving training, participating teachers will infuse the curriculum in their classes and bring their students to the reserve in their state for an estuary field study experience. The American Sign Language STEM module will be embedded in the new ASL Clear, an online STEM educational resource made possible through funding from the Massachusetts Department of Elementary and Secondary Education, and developed by researchers at the Boston University School of Education and The Center for Research and Training at The Learning Center for the Deaf. The modules will be posted online for future use by other teachers of the deaf and hard of hearing, as well as for American Sign Language interpreters. This project has great potential to produce systemic change for deaf and hard of hearing students, their teachers, and interpreters on issues related to watersheds and coastal/marine habitats, furthering the Science Collaborative's goal to address critical management issues identified by the reserves in order to improve the long-term stewardship of the nation's resources.

Anticipated Benefits

- Teachers and American Sign Language interpreters of deaf and hard of hearing students will deepen their understanding and appreciation of estuarine and watershed concepts and improve their skills to communicate and teach about them.
- Teachers will incorporate estuary and watershed science materials into their classroom activities.
- Reserve education coordinators will be trained to work with deaf and hard of hearing students and their teachers and interpreters.
- Teachers and students will become more estuarine-literate and act as stewards of estuaries.

Project Approach

Drawing from their collective experience, the project team will adapt existing estuary and watershed teacher training approaches and techniques for the education of deaf and hard of hearing students. Educators from The Center for Research and Training at The Learning Center for the Deaf and Boston University will provide training for reserve educators on best practices when working with deaf and hard of hearing teachers and students and American Sign Language interpreters. In consultation with reserve education coordinators, the team will develop a series of content and vocabulary modules about estuaries and watersheds, to be made available to participating schools and students. These video modules will also be publicized and delivered to a national network of educational programs serving deaf students.

After the training is piloted with Boston University graduate students in the Deaf Education program, teachers and interpreters will attend a two-day Teachers on the Estuary/American Sign Language workshop at the Waquoit Bay Reserve. This workshop will be based on previous teacher training workshops with a mixture of classroom, online, and field activities in the estuary, and will include an estuary immersion experience visit to a salt marsh. During the school year, teachers will introduce their students to activities and resources gained through this training, and in the spring of 2019, students will visit the reserve in their state for field study, which will include observation, measurement, and data collection. Trained graduate students will be assigned a school or class to work with to help with follow-up in the classroom.

Targeted End Users and Anticipated Products

- Teachers of the deaf and hard of hearing will have access to a new American Sign Language video module focusing on estuaries and watersheds, available through ASL Clear (*aslclear.org*).
- Graduate students enrolled in a deaf and hard of hearing professional development program will participate in weekend teacher-training workshops.
- In-service teachers and American Sign Language interpreters will participate in a Teachers on the Estuary workshop.
- Up to 175 students from five schools for the deaf and hard of hearing will participate in estuary and watershed activities in their classrooms and field studies at participating reserves.

About the Science Collaborative

The National Estuarine Research Reserve System's Science Collaborative supports collaborative research that addresses coastal management problems important to the reserves. The Science Collaborative is managed by the University of Michigan's Water Center through a cooperative agreement with the National Oceanic and Atmospheric Administration (NOAA). Funding for the research reserves and this program comes from NOAA. Learn more at coast.noaa.gov/nerrs or graham.umich.edu/water/nerrs.