



SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2021.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

PROGRAM INFORMATION

County: County of Henrico
Program Title: Watershed Challenge
Program Category: Environmental

CONTACT INFORMATION

Name: Victoria Davis
Title: Public Relations Specialist
Department: Public Relations
Telephone: 804-501-4933 Website: www.henrico.us
Email: dav127@henrico.us

SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: Brandon Hinton
Title: Deputy County Manager for Administration
Signature: *Brandon Hinton*

Program Overview

The Watershed Challenge was created in response to Henrico County Public Schools (HCPS) moving to virtual instruction due to the coronavirus pandemic. Students were unable to participate in person or execute on-campus investigations, which would have led them to create positive action projects to help improve their watershed, and ultimately the Chesapeake Bay.

The goal of the challenge was to get students outdoors to explore their environment, think critically, discover issues, and research, find and implement solutions. This allowed students to take positive action toward improving our watershed and ultimately helped students become more aware of their surroundings and their impact on those surroundings.

The results were amazing. Four hundred and seventy-one students voluntarily participated in the challenge, representing all 12 HCPS middle schools. In a time when everything would have simply stopped, this challenge allowed us to pivot and engage students in environmental stewardship. It also provided students with opportunities to demonstrate the “four pillars” of the [Henrico Learner Profile](#), which state that learning is student-owned; authentic and connected; happens anytime, anywhere; and is community-supported.

Problem/Challenge/Situation Faced by Locality

Schools abruptly closed in March 2020 due to the coronavirus public health crisis. Original plans for on-campus outdoor field experiences and the implementation of schoolwide action projects were unable to be completed and were halted. The creation of the Henrico County Public Schools Watershed Challenge allowed educators to pivot and help guide students to engage in outdoor exploration and creation of an action project on their own.

Virginia requires all public school students to have a meaningful Chesapeake Bay educational experience: once each in elementary, middle and high school. The HCPS Watershed Challenge helped address the requirement for middle school students to receive their meaningful Chesapeake Bay educational experience.

How Program Fulfilled Awards Criteria

The HCPS Watershed Challenge was an innovative solution reaching 471 students in a time when in-person instruction abruptly stopped. The program was not mandatory, and participation shows that this also helped involve, uplift and connect students with something tangible during a very confusing time for students and the larger community.

In addition to the students and teachers who participated, this innovative program gave hope to environmental educators and was the first example shared at a NOAA video meeting. The final product was also reported by Virginia Public Media and posted on their “Science Matters” page, including a version for VPM patrons to use and other divisions to replicate. These meaningful collaborations served to enhance the quality of the project and provide an informational outlet for the program to be replicated. The creation also gave inspiration to a similar program that will be executed in the Commonwealth of Pennsylvania in the coming school year.

How Program Was Carried Out

The HCPS Watershed Challenge objectives were to have students complete a meaningful watershed educational experience all on their own. The program helped replace the on-campus action projects and exploration that were to occur during spring 2020 but were suddenly stopped because of the coronavirus pandemic.

The school division was already executing a grant funded by the National Oceanic Atmospheric Administration's Bay Watershed Education and Training Grants, called BWISE, or Bay Watershed in Science Education. In the fall of 2019, students were introduced to their watershed with classroom outreach initiatives and a field experience to Maymont, a large park and historic estate owned by the City of Richmond. At Maymont, students participated in dip netting and chemical water quality testing. Henrico teachers planned to use this experience to help students connect with the watershed near students' school campuses. Students would learn to explore their school grounds, locate problems on their campuses, research ways to remedy the problems, and ultimately create schoolwide action projects to improve their campuses. These improvements would ultimately lead to improvements "downstream" in the Chesapeake Bay. Unfortunately, the pandemic caused the original plan of on-campus investigations and action projects to halt. That is when the innovative idea of the HCPS Watershed Challenge was created.

The HCPS Watershed Challenge was posted to the BWISE website and created a way for students to explore the outdoors, guided by a survey. First, students would select an outdoor location to explore. This first step was a huge accomplishment: just getting the students outside would help to connect them to nature and their watershed. Next, students were provided with a survey to help guide them to explore and investigate their outdoor spaces. Students would inventory what they noticed, as well as things that were missing from their outdoor spaces. A Google form helped show students possible problem areas or issues. Students would analyze their observations and were then given resources to guide them in researching the issues and possible solutions to the problems they had discovered. Students were then guided by an action plan template to design a plan to help resolve or improve the issue. Students then took action: they implemented their plan. Finally, students shared their plan with fellow classmates, along with a picture of their problem or themselves in action, helping to protect and improve the Chesapeake

Bay. Not only did this enable students to act as good stewards, but it allowed them to connect with their classmates.

The HCPS Watershed Challenge was developed in the weeks after schools closed to in-person instruction because of the pandemic. The development took a few weeks before being shared with teachers.

The program served all sixth grade HCPS students and their teachers. The end results will help serve all people that depend on safe and healthy water from the Chesapeake Bay watershed and beyond.

Dedicated HCPS teachers played a huge role in the success of the challenge. They were able to use the challenge as part of their ingenious remote learning lessons and encouraged and inspired their students to participate. Teachers quickly shared the challenge with their students and even participated in the challenge themselves. Science and other specialists, and instructional learning coaches continued to share and encourage HCPS students to participate in the challenge by sharing it with teachers in Schoology (our learning management system), via email and through Twitter.

The Henrico County Department of Recreation and Parks provides wonderful, clean parks for our students and their families to visit. This is a resource that students were encouraged to use during their outdoor explorations.

After the conclusion of the HCPS Watershed Challenge, the director of Virginia Public Media's (VPM) "Science Matters" show shared what Henrico County sixth-graders and their teachers had

accomplished. HCPS' environmental educator worked with VPM to document the challenge and created a version of the HCPS Watershed Challenge for VPM to share with its viewers.

Financing and Staffing

The cost of the development and implementation of the program was extremely low. It was created using software to which the county already had access. Students only required the laptop provided by the school division. The only real cost was the time of the employees, who would have received compensation either way. The Watershed Challenge is virtual and can be copied and shared with other organizations.

The project was conceived and created when a problem arose: the cessation of in-person instruction and the halting of student action projects. The creation of the form and webpage took only a couple of weeks. After the creation, the maintenance was minimal and was limited to updating photos with completed projects and maintaining the growing spreadsheet with student responses.

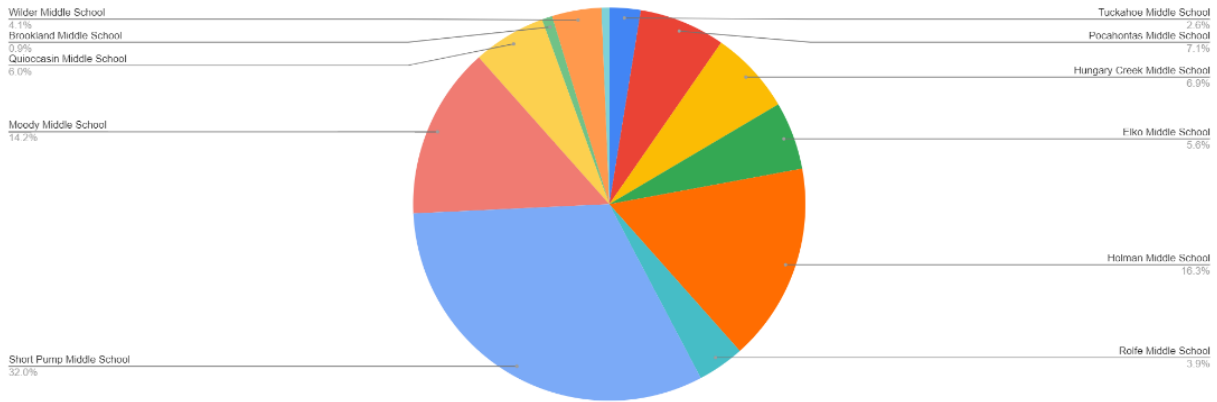
Program Results

Four hundred and seventy-one students participated in the HCPS Watershed Challenge. This challenge was completely optional and work was not graded. It was just a way for students to independently rise to a challenge and move forward with a purpose. Photos are available of the projects that students completed.

Additionally, the student responses to their field investigation surveys are also available. Below is the participation by school. All 12 HCPS middle schools had students participate. Interestingly,

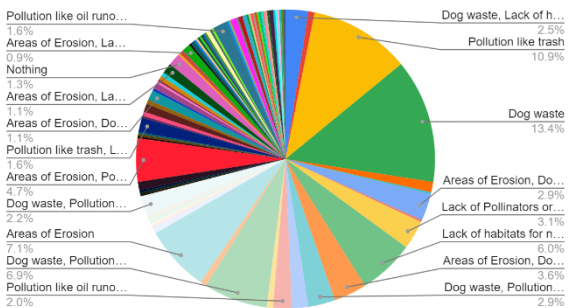
four of the schools had not yet participated in the BWISE grant — but their students still chose to rise to this challenge.

Watershed Challenge: Student Participation by School

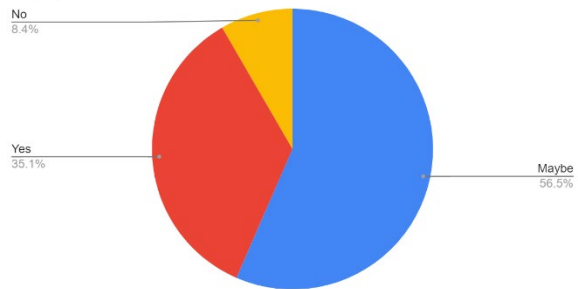


Here we can see the problems that students noticed during their exploration.

Count of What problems do you see?



Count of Do you think you will be able to come up with a way to help your watershed?



Finally, we have seen how comfortable students were with taking control and making a positive change to their watershed, all on their own. It is amazing to see students being empowered to make a positive impact on our environment. The Henrico County Public Schools Watershed Challenge was created to enable all HCPS students to participate. The program educated and involved all participating students in understanding the importance of maintaining the Chesapeake Bay and our surrounding watershed.

Brief Summary

The HCPS Watershed Challenge provided an opportunity for students in Henrico County to complete a meaningful independent watershed educational experience in the spring 2020. The program helped replace the on-campus action projects and exploration that were to occur during this time but were suddenly stopped because of the coronavirus pandemic.

Students selected an outdoor location to explore and were provided with a survey to help guide them to explore and investigate their outdoor spaces. They were encouraged to utilize the extensive public park system in Henrico County to conduct their research. Students inventoried what they noticed, as well as things that were missing from their outdoor spaces. A Google form helped show students possible problem areas or issues. Students analyzed their observations and were then given resources to guide them in researching the issues and possible solutions to the problems they had discovered. Utilizing an action plan template to create a plan to help resolve or improve the issue, students designed and implemented their plan. Finally, students shared their plan with fellow classmates, along with a picture of their problem or themselves in action, helping to protect and improve the Chesapeake Bay.

Four hundred and seventy-one students participated in the HCPS Watershed Challenge, representing all 12 HCPS middle schools. Survey results indicated that students viewed this as a positive experience and felt empowered to take action as environmental stewards. After the conclusion of the HCPS Watershed Challenge, HCPS' environmental educator worked with Virginia Public Media to document the challenge and created a version of the HCPS Watershed Challenge for VPM to share with its viewers. The program was available for other Virginia school divisions to utilize and is being replicated by the Commonwealth of Pennsylvania.

Watershed Challenge Supplemental Material

[HCPS Watershed Challenge Webpage](#)

[An article about the HCPS Watershed Challenge posted on the VPM Website](#)



Here are some photos showing students in action or what they created.

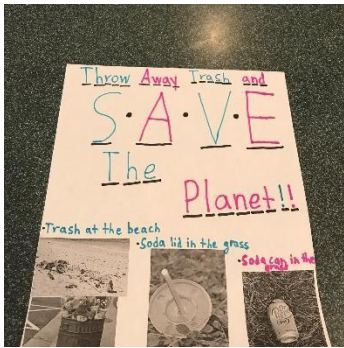
Picture 1: Pocahontas Middle School students in action helping clean up a stream behind their home.



Picture 2: Elko Middle School students planting a garden.



Picture 3: Birdhouse habitat created by an SPMS student.



Picture 4: Collage designed by an SPMS student.



Picture 5: HCPS teacher shares what she found during her exploration.

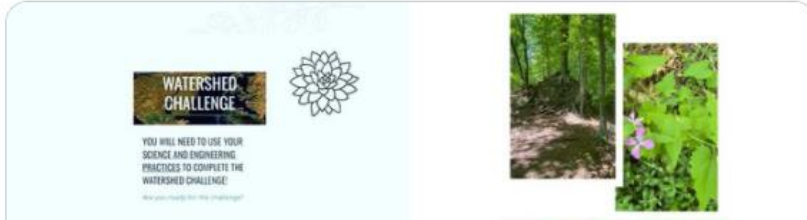


4theluvofteaching
@4theluvofteach1



Quioccasin representing! Watershed exploration completed. Take the challenge with me.

#hcpswatershedchallenge @QMSGriffins



Picture 6: Tweet from HCPS Quioccasin Middle School teacher

HCPS Watershed Challenge webpage: <https://sites.google.com/henrico.k12.va.us/bwise/watershed-challenge>

Article about the HCPS Watershed Challenge posted on the VPM website:

<https://vpm.org/articles/15574/join-henrico-county-public-school-students-in-a-watershed-challenge>