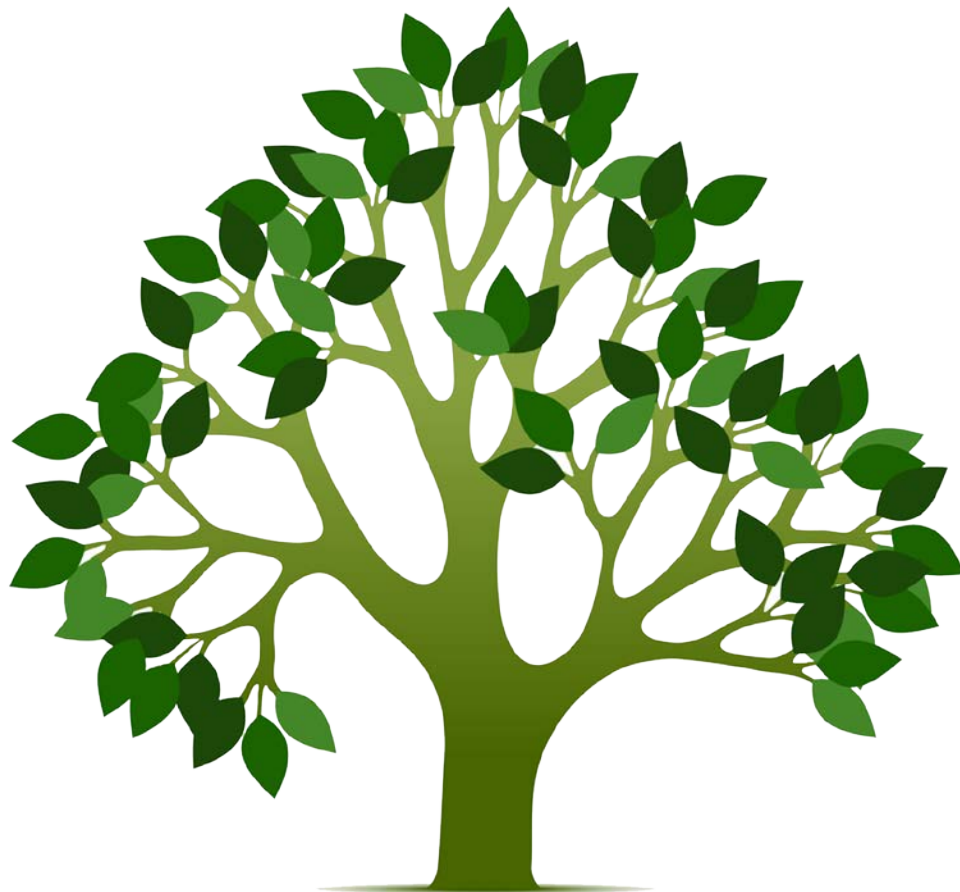


“Strengthening Youth Involvement
Through Conservation”

C E T Y

Annual Report

🍂 2018 🍂



Calvert Environmental Trust for Youth



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P.O. Box 3348 • 489 Main Street
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MISSION STATEMENT:

The mission of Calvert Environmental Trust for Youth is to provide a financial mechanism whereby projects that have positive influence on youth and/or the environment can be adequately funded through a local entity.

VISION STATEMENT:

The vision of Calvert Environmental Trust for Youth is to see an increase and improvement in quality-based youth and environmental activities throughout the region.

In 1996 the Environmental Trust for Youth was formed to provide a funding mechanism that would support environmental and youth activities in Calvert County. Over \$100,000 was raised from local contributors within our first year. An additional \$373,850 has been contributed since then. The interest earned from these funds is used to support environmental projects throughout the county. Since its inception, the Trust has awarded \$229,990 in grants. This year, we had requests for over \$20,599 in grants. The Trust appreciates all funding received from local contributors and is now in the process of applying for major foundation funding to match local support.



Calvert Environmental Trust for Youth has 501(c)3 status as a nonprofit organization.

All Calvert Environmental Trust for Youth programs and services are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status or handicap.



Calvert Environmental Trust for Youth Projects Fiscal Year 2018

2018 Calvert County Envirothon	\$3,713
CHESPAX 7th Grade Mosquito Unit	\$1,104
Northern High School WOE Day Lorax Club	\$1,128
Fly Like and Eagle Scout Project	\$1,000
Ag Research & Development Senior Project (Brianna Parker)	\$80
Ag Research & Development Senior Project (Autumn Hughes)	\$488
4-H Livestock Auction at the Calvert County Fair	\$6,611
Friends of JPPM Plant & Habitat Restoration Project	\$975
Spider Hall “Little Hands on the Farm”	\$5,500
TOTAL	\$20,599

C E T Y 2018 P R O J E C T S

Envirothon 2017-2018 ~ Success in Soils



The Calvert High School team at the State Competition. Front row, from left are Vincent Sullens, Kristina Dubé and Grace Miller. In the second row are Ben Springer, left, and Michael Deffinbaugh. In the back is teacher and coach Chuck Gustin.

Overall, this was an exceptionally successful year for soils. The fall and spring trainings emphasized hands-on activities, and as a result, the competition scores were a lot closer this year. In November students constructed models of soil profiles and learned about how to use a soil survey in the land use planning process. In March students compared two actual soil profiles, textured soil from those profiles and completed a soil description sheet to record their observations and inferences.

Four teams from three high schools participated in the April competition at Kings Landing Park. Unfortunately, Patuxent High School was not able to successfully maintain a team this year. The District looks forward to seeing them again in the future. The District would like to congratulate all the teams for their continual learning and effort. Their enthusiasm and support is greatly appreciated.

The overall winning team was from Calvert High School, who also won three out of four resource category top prizes. This team went on to the state competition in June at Garrett County's 4-H

Education Center, where they placed second overall! This is a fantastic accomplishment for Calvert High School and Calvert County since this is the first time Calvert County has attained that level of achievement at state competition. We are proud of their hard work, competitive spirit and passion for the environment. The District would also like to thank its own employees and partners from Calvert County Public Schools, Maryland Department of Agriculture, Natural Resources Conservation Service and St. Mary's Soil Conservation District for their assistance with supplies and instruction.

Senior Agricultural Research Project

Calvert High School senior Brianna Parker used the grant money to purchase four male Khaki Campbell ducklings for her project. She was to determine whether a manmade or natural diet is better for the ducklings' growth. The ducklings were weighed every Monday for two months, then every other Monday for the last month of the experiment. Brianna hypothesized that the ducklings eating a manmade diet would weight more than the ducklings eating a natural diet. This was proven correct by each duckling's overall weight. All five ducks were fed the same diet the first three weeks (waterfowl starter crumbles). Then they were given different diets. The ducks eating a manmade diet grew the most. The ducks that stayed on the starter crumble diet for an additional three weeks had stunted growth once starting their natural diet. Brianna concluded that ducklings should not be kept on starter crumbles for too long due to its high protein levels.



CHESPAX: 7th Grade Mosquito Science Unit

Have you ever noticed that some people always seem to get bitten by mosquitos and others do not? Why is this? CHESPAX has partnered with the Calvert County Mosquito Control program to develop a new seventh grade science unit in which students can answer this question and learn more about these amazing insects.

Students learn about many aspects of mosquito biology through videos, reading, and various laboratory activities. By the end of the unit students will know about the role of mosquitoes within the ecosystem, the diseases mosquitoes transmit, and the various means used to control the population within the ecosystem.

Through one of the lab activities, students learn how mosquitoes detect their host for a blood meal through heat, odor, CO₂ and visual cues. Students use a CO₂ meter to detect how much CO₂ is emitted when they are standing still versus when they exercise. They then use this information to help understand why mosquitoes are attracted to people who have been exercising or working outside. Since mosquitos are attracted to heat, students use a temperature gun to measure various locations on the body such as hands, arms, legs, the back of the neck and the back of the head. Doing this helps the students identify where and who mosquitoes are most likely to bite. Once students have completed these activities, they will use this knowledge to help protect themselves from mosquito bites thereby disrupting the mosquito life cycle.



Students use a heat gun to check the temperature of their hands.



Students measure how much CO₂ is being emitted from their bodies.

Senior Agricultural Research Project - Soil Testing

Autumn Hughes, a senior at Calvert High School, used the grant funds to test soils contaminated with heavy metals and used several methods to remediate them to determine which works the best. She determined that there are many techniques to remove cadmium from soil and these can vary in cost and effectiveness. The hypothesis for the experiment was that soil flushing would be the most effective at short term remediation while phytoremediation would be the worst at short term remediation. The experiment used four pots of soil to test three different remediation techniques.



Autumn Hughes holds one of the pots used to test the soil.

The results of her experiment showed for short term remediation of a minorly contaminated site the soil flushing had the best results and was the most expensive option. Soil washing was also very effective and cheaper than soil flushing. The use of groundwater may result in salinization, or leeching nutrients from the soil potentially making soil washing the most expensive choice.

Phytoremediation, while the least expensive, is also the least effective, especially in the short term. The cost and effectiveness can vary, much like soil flushing, depending on the plants used and the type of soil. However, for the most remediation in a short period of time and only mild contamination, soil flushing would be the best choice, depending on the budget for the site.

Native Wild Food Plants and Habitat Restoration Project at Jefferson Patterson Park & Museum

In 2016 a new boardwalk was constructed at Jefferson Patterson Park & Museum (JPPM) running from the Kings Reach field across a marsh to the Woodland Indian Village. To mitigate the boardwalk construction, a project was undertaken to restore habitat by removing invasive non-native plants and adding native nut and fruit species to the interpretive village and pollinator gardens. A selection of historically accurate native nut and fruit plants that benefit wildlife, help improve educational programming, and maintain a level of visual aesthetic for visitors was planted in an area along the south end of the new boardwalk. A grant from the Calvert Environmental Trust for Youth helped fund this project while youth volunteers and JPPM staff supplied the labor.

Volunteers from the Calvert High School National Honor Society, students from a Calvert Middle School class earning citizen science credit, Boy Scouts, Girl Scouts, and students needing Calvert County Public Schools service learning hours all helped clear the invasive plants from the project area and then planted fruit and nut shrubs and trees. Types of plants range from the well known blueberries and black walnuts to lesser known species such as pawpaws, serviceberries, chinquapins and huckleberries.

Labels and interpretive signs will be placed in the newly planted area to provide educational opportunities to museum visitors. JPPM educational staff plans to include this area in future educational programming about historic native plants and also hopes visitors will enjoy the visual impact of these plants as they grow.



Overgrown area at the beginning of the project.



Removing invasive plants.



Preparing the area for planting.



Planting blueberries.

Northern High School Lorax Club: Wonders of the Earth (WOE) Day

On April 11, 2018 the Northern High School Lorax Club held WOE (Wonders of the Earth) Day at the North Beach Wetlands Overlook Park. One hundred and ten third graders from Sunderland Elementary School attended. Five stations were set up for the students to rotate through during the day. Each station had an activity for the students that taught them about the environment and the role they can play to make it better. We had



a soil group talk about the importance of bees and composting and students were able to plant a flower for their class. Students also painted butterfly houses to take back to school with them. The stream group talked about habitats, pollution in the water, and wildlife, and students participated in a watershed simulation activity. The forestry group acted out a food chain and took a short hike on a trail through the woods. The Lorax group did face painting while Northern High School students read



“The Lorax” to the students. The recycling group talked about the benefits of recycling, reusing and reducing. Students got a reusable bag and customized it by coloring on the front of it. Each station is run by a group of students from the Northern High School Lorax Club. Afterwards the Sunderland Elementary School students sent thank you letters to the Northern High School students. They really enjoyed having the high school students take the time to interact with them and teach them about the environment.



Fly Like An Eagle at Calvert County Nature Parks

In 2018 the Calvert Environmental Trust for Youth funded Grant #190 - "Fly Like an Eagle," which supported several Eagle Scout candidates. Working with Senior Naturalist Andy Brown and the park managers, local Eagle Scout candidates identified several projects for the year. The projects took place at the county's nature parks, from the boardwalks of the Cypress Swamp and Flag Ponds Nature Parks to the fields of Kings Landing Park and throughout the county with our owl monitoring program.

This year's projects were varied and offered significant benefit to the nature parks, including:

- Several Eagle Scouts repaired the Battle Creek boardwalk, which was a major undertaking.
- Kings Landing Park was the site of invasive removal projects, including bamboo and stilt grass. More than 200 Western Shore Boy Scouts and several Girl Scout troops contributed to the effort.
- April 2018 was a busy month for the Scouts: one scout from Troop 789 completed Bluebird Trail renovations at the Naval Research Laboratory in Chesapeake Beach and Eagle Scout Jonathan Davis (Troop 347) repaired a trail boardwalk at Flag Ponds Nature Park.
- Summer projects included small tree removal from the Meadow Maze at Kings Landing Park. Scout John Tilton completed the construction of 14 predator guards for his Eagle Scout project and installed them at the Calvert Nature Society's Keim Forest.

Generally, Eagle Scouts are responsible for the bulk of the expense for their projects but the Society is happy to support the projects. Also, the scouts recruit volunteers to assist with their projects.

Seven Eagle Scouts and almost two dozen volunteers repaired the boardwalk at Battle Creek Cypress Swamp in a 200-hour effort. The nest box and predator guard project comprised several different work days. The project was led by two Scouts and ten volunteers for more than 36 hours. The stilt grass and bamboo removal racked up a large number of hours, with more than 200 Scout volunteers working more than 350 hours. The Flag Ponds boardwalk repair required eight volunteers and 66 hours.

Thanks to CETY for supporting this project. Your support benefits the participants, the parks, and the community and helps the Society fulfill its long-term goal of creating a cadre of engaged youth that continue their stewardship of the parks into adulthood.

Bluebird Predator Guards



Before



During



After

Flag Ponds Boardwalk Construction



Before



During



4-H Club at the Calvert County Fair

The 4-H Youth Livestock Auction is held each year during the Calvert County Fair. This is the time when animals that 4-H youth have cared for are sold to the public. It is the final step in their livestock project where the educational marketing aspects are put into action. Each year Calvert Environmental Trust for Youth supports the 4-H Club by purchasing animals and donating them back to the club at the 4-H Livestock Auction. 4-H is an excellent way to learn about agriculture, the value and reward of work, and the importance of good land and livestock management.

