

Caring for Our Watersheds Proposal Creating Shade for Our Local Creek

Our proposal is to add more plants around the creek on the edge of our school property and in the local county park next to our school. Currently, our creek is mostly stuck inside a storm drain. Our ultimate goal is to daylight the creek. However, when we daylight the creek there cannot be too much sunlight on the water or the water temperature will be too high for plants and animals. Our proposed solution is to plant native plants around the water that is currently above ground to make that portion of the creek healthier.

Our creek is located in the Chesapeake Bay Watershed, which is 64,000 square miles and contains 18 million people (Chesapeake Bay Program, 2022). Locally, our subwatershed address is the Middle Potomac-Anacostia-Occoquan (United States Geological Survey, 2020). The Potomac River is one of the major rivers that empties into the Chesapeake Bay (Chesapeake Bay Program, 2022). According to Elenor Hodges, the Executive Director of EcoAction Arlington who did a presentation of watersheds with our class (personal communication, February 18, 2022), our creek may be part of Pimmit Run Stream, which empties into the Potomac River. In our community our drinking water comes from the Potomac River, so keeping the water that enters the Potomac River clean is very important to us. The creek is located mostly below ground in a sewer pipe on school property and partially above ground on school property and county park property (Gary Shinnars, personal communication, February 4, 2022). Elenor Hodges (personal communication, February 18, 2022) did not know the name of our creek so we gave it the name Jamestown Creek as we were researching our issue.



The west entrance of the storm drain. The creek is above ground outside this storm drain on county park property.

Our creek has many issues. We learned about these issues and potential solutions by hearing a presentation and taking a tour of the creek with a local Master Naturalist, Gary Shinnars, who volunteers on the school grounds and at the county park our creek is located in. Currently, our creek is stuck mostly inside a storm drain and there is no sunlight to the portion in the drain pipe. There is barely any water above ground. The water that is above ground is not flowing, algae is growing, it has trash in it (including glass, bottles, and plastic), no animals live there that we could see, and leaves are blocking the water. In addition, since the creek is stuck in a storm drain, stuff from the street washes off, gets in the creek, and pollutes it (Gary Shinnars, personal communication, February 4, 2022).



This is the area we would like to daylight. The storm drain runs underneath this field on school property to the street.

We need to make the creek healthier. Ultimately, we would like to daylight the creek. This means we would excavate the storm drain and redevelop the creek above ground. However, Gary Shinnars (personal communication, February 4, 2022) shared that daylighting the creek would cost thousands of dollars and require county approval due to part of the creek being on county park property. We submitted the video we attached to this application to our county Parks and Recreation Department as a proposal to include daylighting our creek in their upcoming Forestry and Natural Resources Plan (Arlington County Virginia, 2022). While we await support from the county, we can begin planting along the side of the existing above ground portion of the creek. This is important because when we daylight the creek there cannot be too much light on the water or the water temperature will be too high. If the water temperature becomes too high, the animals could die. In addition, we learned from Gary Shinnars that stagnant water can overheat which causes too much algae to form and blocks the sunlight from reaching small animals in the water. Since the water above ground is not flowing,

providing shade with plants would help reduce the overheating until we can help the water to flow through by daylighting the creek. Adding plants along the side of the creek would also encourage animals to use the creek as a habitat because they would have a new food source and shelter near the creek (Gary Shinnars, personal communication, February 4, 2022). In addition, new plants would provide other environmental benefits such as making the soil better and making our park and school prettier.

Our specific proposal is to add trees, shrubs, and other plants along the side of the creek. Our list of proposed plants comes from the list of mostly native plants that Earth Sangha (2022) provided Gary Shinnars for his landscape design for the school grounds and county park near the creek and plants that we researched as native to our area. For example, we would like to add native plants like milkweed, flat topped white aster, and black-eyed susan. We already have permission from our principal to complete this project on the portion of the creek bed that is on school grounds. Gary Shinnars has been communicating with the county Parks and



The east entrance of the storm drain. The creek is above ground on school property outside this storm drain.

Recreation staff regularly about a landscape design he is working on in the county park and school grounds next to the creek. He offered to communicate for us to gain approval of our planting on county park land and help us on the day of planting. We plan to conduct the planting in the final month of the school year during our weekly science special times.

As we mentioned before, this creek is part of a stream that leads to the Potomac River, which is where our community gets its drinking water (Elenor Hodges, personal communication, February 18, 2022). According to Gary Shinnars (personal communication, February 4, 2022), a creek should serve as a filter to remove pollution before the water reaches the Potomac River and if we fix the creek then our drinking water would be cleaner. Through adding plants to restore the habitat around the creek, we would be beginning the process of helping the creek filter pollution. This supports Sustainable Development Goal 6 “ensure availability and sustainable management of water and sanitation for all,” especially target 6.6 “by 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes” (United Nations Department of Economic and Social Affairs, 2021). In addition, by submitting our proposal to daylight the creek to our county Parks and Recreation Department, we are also engaging in target 6.b “support and strengthen the participation of local communities in improving water and sanitation management” (2021).

We need to save the creek near our school! If we do not, that is one less habitat we have in our community. There are a lot of animals that depend on creeks like this and if we do not give it to them they may not survive. If we come together as a community to add plants to create shade to lower water temperatures, make new habitats, and create food for animals next to the creek, that could save the animals’ lives and help our creek filter pollution to make our drinking water cleaner.

References

Arlington County Virginia. (2022). *Forestry and natural resources plan*.
<https://www.arlingtonva.us/Government/Projects/FNRP>

Chesapeake Bay Program. (2022). *Facts & figures*.
<https://www.chesapeakebay.net/discover/facts>

Earth Sangha. (2022). <https://www.earthsangha.org>

United Nations Department of Economic and Social Affairs. (2021). *Goal 6. Sustainable Development*. <https://sdgs.un.org/goals/goal6>

United States Geological Survey. (2020, July). *Locate your watershed*. Science in your watershed. <https://water.usgs.gov/wsc/cat/02070010.html>

Budget

Object	Price	Purchase Location	Notes
Plants	\$550 <ul style="list-style-type: none"> ● \$250 for trees and shrubs <ul style="list-style-type: none"> ○ Earth Sangha: \$10 per tree or shrub for public lands ● \$300 for wildflowers/forbs and grasses/sedges <ul style="list-style-type: none"> ○ Earth Sangha: \$4 per herbaceous plant for public lands ○ Native woodland fern mixture: \$12.70 (Home Depot) 	Earth Sangha's Native Plant nursery (https://www.earthsangha.org/wpn) and/or Home Depot, Lowes, a local plant nursery	Plants are from the Northern Virginia Riparian Plants list (shown below the budget) provided from the Master Naturalist (Gary Shinnners) Additional Plant List <ul style="list-style-type: none"> ● asclepias tuberosa (Butterfly Weed) ● Flat topped aster Specific plants would depend on seasonal and nursery availability
12 Shovels with Handles	\$9.98 each \$119.76 total	Home Depot	Adding additional shovels to increase the current school collection so every student in our class can use a shovel at one time
12 Trowels	\$9.98 each \$119.76 total	Home Depot	Adding additional trowels to increase the current school collection so every student in our class can use a trowel at one time
27 Pairs of Gardening Gloves	\$5.98 per 3-pack \$53.82 total	Home Depot	Purchasing one new gardening glove pair per student in our class in neutral colors
20 bags of	\$3.48 per bag	Home Depot	

Mulch	\$69.60 total		
2 bags of Organic Environmentally Safe Compost	\$29.28 per bag \$58.56 total	Home Depot	
Total: \$971.50			

NORTHERN VIRGINIA RIPARIAN PLANTS

TREES

River Birch
Sycamore
Red Maple
Black Willow
Eastern Redbud
Black Walnut
(American) Red Mulberry

SHRUBS

Silky Dogwood
Swamp Rose
Virginia Sweetspire
Swamp Rose
Buttonbush
Blueberry
Arrowwood Viburnum

WILDFLOWERS/FORBS

Swamp Milkweed
Jewelweed
Scarlet Bee Balm
Cardinal Flower
Joe Pye Weed
Swamp Mallow
Goldenrod
Black-eyed Susan
Golden Ragwort
New York Ironweed
Swamp Mallow
White Turtlehead
Great Blue Lobelia

GRASSES/SEDGES

River Oats
Fox Sedge
Virginia Wild Rye

WATER/BOG PLANTS

Marsh Marigold
Northern Blue Flag
Skunk Cabbage
Pickerel Weed

FERNS

Southern Lady Fern
Royal Fern
Christmas Fern