



SCHOOLYARD NATURE NOTES

Fourth Quarter, School Year 2015-2016, Issue 7

Sharing news and resources for outdoor nature-based education with K-12 school communities in York County and Poquoson.



What's Habitat-ing at Our Schools?

SPOTLIGHT on Waller Mill ES, Contributed by Outreach Partner Patty Maloney and WMES Teacher Roger Searles

Back in 2008/2009, Roger Searles, a Fifth Grade teacher at Waller Mill Elementary School (WMES), and Stephanie Burton, a William & Mary student, brainstormed ways to enhance the science curriculum and encourage students to become more environmentally responsible citizens. They developed a vision for a nature trail with several field classrooms that would allow students to experience nature firsthand and conduct field work and science experiments.



The path for the trail followed an existing deer trail that meandered through the wooded area behind the school. Over the years and with help from many in the local community, the trail was

raked and mulched, plants were identified, bird houses and feeders were hung, and four field classrooms with picnic tables were created. Each classroom provides a rigid and vast surface area for hands-on experiments and activities related to soil and water quality, meteorological observation and testing, investigation of native flora and fauna, and observation and maintenance of bird and squirrel houses.

The goal for 2016 is to add four additional picnic tables and two footbridges for easy safe access across a stream and deep ravine. To raise the estimated \$5,000 needed, several grants are being pursued, and a GoFundMe site was initiated: gofundme.com/92my96ws

Mr. Searles' class, also known as the "Waller Mill Birders," participates in the Cornell Lab of Ornithology's Bird Sleuth

Program. Each student chose a native bird species common to the WMES habitat and is becoming the resident expert on that bird. Students are developing field journals that include bird research, photos, and drawings.



(See page 4 for several of these student illustrations.) The Birders are learning how to identify native birds by sight, sound, color, size, comparisons, behavior, and habitat.

Equipped with binoculars, students participate in weekly bird walks at WMES led by members of the Williamsburg Bird Club. The student citizen scientists then tally birds by species and input their data into eBird. The Birders also fill and maintain eight birdfeeders throughout the week.



In the spring of 2015, a bluebird trail with six boxes was installed at WMES. Students monitor the bluebird trail and check the boxes each week. All bluebird activity is recorded to include nest building, egg laying, incubating, hatching, and the final fledging of the young birds. At the end of each breeding season, data is forwarded to the Virginia Bluebird Society.

Meanwhile, ospreys nest on the cell tower behind WMES! Students monitor the nest and report osprey activities to the Project Osprey Watch database, a program of the Center for Conservation Biology. Students report the dates when the ospreys returned to the nest, lay eggs, incubate, hatch, and finally fledge.



The WMES trail and field classrooms provide an easily accessible location for hands-on, multi-disciplinary, environmental education and Virginia SOL-structured activities for students in grades K-5. The trail promotes a healthy active lifestyle and provides students with a better understanding of nature and their responsibilities and relationship to the natural environment of Eastern Virginia.



BIRD OF THE QUARTER: Osprey

(Bird photos and written passages excerpted directly from Cornell Lab of Ornithology's informative [All About Birds](#) website.)

“Unique among North American raptors for its diet of live fish and ability to dive into water to catch them,

Ospreys are common sights soaring over shorelines, patrolling waterways, and standing on their huge stick nests, white heads gleaming. These large, rangy hawks do well around humans and have rebounded in numbers following the ban on the pesticide DDT. Hunting Ospreys are a picture of concentration, diving with feet outstretched and yellow eyes sighting straight along their talons.



Size & Shape. Ospreys are very large, distinctively shaped hawks. Despite their size, their bodies are slender, with long, narrow wings and long legs. Ospreys fly with a marked kink in their wings, making an M-shape when seen from below.

Color Pattern. Ospreys are brown above and white below, and overall they are whiter than most raptors. From below, the wings are mostly white with a prominent dark patch at the wrists. The head is white with a broad brown stripe through the eye. Juveniles have white spots on the back and buffy shading on the breast.

Behavior. Ospreys search for fish by flying on steady wingbeats and bowed wings or circling high in the sky over relatively shallow water. They often hover briefly before diving, feet first, to grab a fish. You can often clearly see an Osprey's catch in its talons as the bird carries it back to a nest or perch.

Habitat. Look for Ospreys around nearly any body of water: saltmarshes, rivers, ponds, reservoirs, estuaries, and even coral reefs. Their conspicuous stick nests are placed in the open on poles, channel markers, and dead trees, often over water.”



Links to more information about the Osprey:

Osprey FAQs: http://www.fws.gov/uploadedFiles/Region_5/NWRS/Central_Zone/Montezuma/OspreyFacts.pdf

Osprey Watch, Center for Conservation Biology: <http://www.osprey-watch.org/>

Osprey Migration: <https://www.allaboutbirds.org/backpacking-ospreys-following-their-migration/>

Additional Resources:

http://www.biokids.umich.edu/critters/Pandion_haliaetus/

<http://www.chesapeakebay.net/fieldguide/critter/osprey>

<https://www.audubon.org/field-guide/bird/osprey>

<http://animals.nationalgeographic.com/animals/birds/osprey/>

http://www.vims.edu/bayinfo/ospreycam/about_ospreys/

Osprey Cams: <http://www.chesapeakeconservancy.org/osprey-cam>

http://www.alcoa.com/global/en/eco_alcoa/info_page/ospreycam.asp

<http://www.fws.gov/chesapeakebay/ospreycam/>

<http://www.vims.edu/bayinfo/ospreycam/index.php>

Bay 101: Ospreys in the Chesapeake Bay, an info-packed quick video from the Chesapeake Bay Program (1:37): <https://vimeo.com/90694540>



Taxonomy of the Osprey

Kingdom: Animalia	(Animals)
Subphylum: Vertebrata	(Vertebrates)
Class: Aves	(Birds)
Order: Accipitriformes	(éperriers, Hawks)
Family: Pandionidae	(Ospreys, aigles pêcheurs)
Genus: Pandion	(Ospreys)
Species: <i>Pandion haliaetus</i>	(Linnaeus, 1758)

Connecting with the York HS Teacher of the Year

Amber LaMonte teaches Biology, AP Environmental Science, and Ecology/Environmental Science at York HS and was recently honored as the YHS Teacher of the Year. She and her students are actively engaged in the maintenance and expansion of their schoolyard habitat. Ms. LaMonte also sponsors the YHS student “Green Team.”

Ms. LaMonte wrote a synopsis of the YHS habitat’s installation timeline along with ways she and her fellow teachers have used and plan to use the habitat to teach SOL’s. This document was provided to the VA Department of Education’s Ecology Institute as a supplement for their field trip to the YHS courtyard habitat on 28 July 2015.

As with most of our participating schools, the YHS habitat was initially targeted to support monarch butterflies.

Students observed the monarch life cycle and tagged them in the fall. After students spied a frog in their courtyard, they were intrigued and asked many questions. Ms. LaMonte encouraged them to research what it would take to build a pond for frogs, and that spring, students installed one! More recently, students discussed the environmental impact of disposable water bottles. Following research and student surveys, they recommended installation of a water bottle refill station. Ms. LaMonte obtained grant funding for it.

As one student told Barbara Dunbar, outreach partner for YHS, “Mrs. LaMonte makes our class want to be proactive about current environmental issues.”

We salute Ms. LaMonte and all teachers who value and incorporate nature-based education on a regular basis.



Springtime Weeding

What is a weed? Simply put, a weed is any plant that grows where it is not wanted. The problem with weeds is that they compete with other plants—often quite successfully—for sunlight, water, and nutrients. Weeds that take over a schoolyard habitat often spread quickly, up and over our native plants that emerge from the ground later and slower.

How do I know what is a weed? *Gardeners often joke that you can easily tell the difference between a weed and a plant you want to keep by pulling it up out of the ground. If it comes up easily, it was likely a keeper. Oy.*

For those relatively new to gardening, we encourage you to seek help from someone with more experience...like an outreach partner! Ask your habitat advisor to point out **three** of the most prolific weeds in your habitat. Once you are comfortable with identifying these three weeds, it is time to get to work!

One weed at a time. Many hands make light work, and community gardening makes all the difference.

Weeding requires pattern matching and fine motor skills; gardeners of any age may help with weed removal. With any single group, we recommend you target **one specific weed**. Point out the weed and demonstrate how to ease it out of the ground. A digger or trowel is often helpful. The goal is to pull the entire root system out with the stem, not to break it off at ground level (though that will happen often enough).

Next, send out environmental stewards in pairs in search of this weed. Initially, have them await your confirmation. Encourage them to ease the weed out of the ground. Make a contest out of finding the longest intact root system.

Mulch immediately! Once your group weeds a small patch, take a few minutes to cover any patches of bare soil with mulch. In our area, it does not take long for weeds to fill in bare patches. Mulch will help inhibit weed germination and retain moisture. Take care not to bury any native plants, and keep mulch at least 3" away from the trunks of trees and shrubs.

FEATURED CITIZEN SCIENCE PROJECTS

The Second **Virginia Breeding Bird Atlas (VABBA2)** is a five-year study that seeks to “document the occurrence and prevalence of bird species” in Virginia, to include “whether birds are utilizing Virginia’s habitats for reproduction.”

<http://ebird.org/content/atlasva/about/>

VABBA2 officially kicked off in March 2016 and will continue through the 2020 breeding season. A similar study was conducted in Virginia from 1985 to 1989. Researchers will compare data collected from the two surveys. “By conducting a thorough second atlas, we can assess how bird communities are responding to [climate change and other anthropogenic causes] and what further steps may be taken to protect the ecological integrity of our state.”

VABBA2 is a collaboration between the Virginia Department of Game and Inland Fisheries and the Virginia Society of Ornithology. Partners include the Conservation Management Institute at Virginia Tech and the Appalachian Mountain Joint Venture. They will rely heavily on citizen science volunteers to collect data in the field.

As with the first study, Virginia has been divided into twelve regions (we are in Region 11). Within each region, priority blocks are identified and may be explored at this link: <https://vafwis.dgif.virginia.gov/BBA2/BlockExplorer/>

Bill Williams, a member of the VABBA2 Steering Committee, met with York/Poquoson outreach partners in January 2016 to introduce the project to us and to encourage student involvement with the citizen science.



Project Squirrel

The Project Squirrel citizen science project asks for help monitoring squirrels, which we certainly have plenty of here in our area. Project Squirrel got its start in Chicago in 1997. In addition to reporting numbers, they offer an opportunity to conduct foraging experiments by following instructions in the guide referenced on this page:

<http://www.projectsquirrel.org/participate.shtml>

Project Squirrel FAQs: <http://www.projectsquirrel.org/faq.shtml>

Project Squirrel APP for iOS and Android:

<https://play.google.com/store/apps/details?id=org.projectsquirrel.observational&hl=en>



Featured Fine Arts

During art class at **Tabb ES**, students in grades 2-5 created works of art based on a designated symbol or emblem of Virginia. The PTA reached out to the community for prizes and organized a panel of judges to select five works from each grade for recognition. Prizes for the top two contest winners in each grade were donated by **Anderson's Home & Garden Showplace**. In addition, gift cards to **Mellow Mushroom** and the **Virginia Living Museum** were awarded to the top two overall winning entries. We salute TES PTA members **Annika York** and **Douglas Dodge** and TES Art Teacher **Mimi Carter** for collaborating on this artistic endeavor celebrating local nature! Artwork selections went on display in the Tabb ES cafeteria, Anderson's H&GS, and the Tabb Library.

Grade 2: Virginia Big-Eared Bat (State Bat)



Grade 3: Dogwood Tree (State Tree/State Floral Emblem)



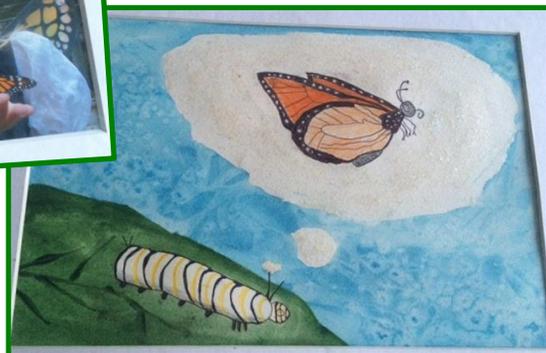
Grade 4: Northern Cardinal (State Bird)



Grade 5: Butterfly (Students were given the option to depict the Eastern Tiger Swallowtail, which is the state insect, or the Monarch Butterfly)



From siblings at **Grafton Bethel ES**, artwork by Sarah and a poem by Helen.
Photo of the backyard log taken by their dad.



An Old Wise Friend

I walked across the lawn,
 Where the grass was wet with dew,
 The birds were chirping in the trees,
 When I saw a face staring at me.

The face of an old tree,
 Sitting there in a pile of firewood,
 The knotted eyes were old and wise,
 The cracked mouth was thoughtful.

Do trees have feelings inside their rough bark?
 Did it hurt to be cut down?
 I wondered how long it had lived
 And all the stories it could tell.

All these questions lingered in my brain,
 Mixed emotions in my heart,
 Happy to have discovered a wise old friend,
 Sad to see that it had come to its end.

WMES Booklet Illustrations

In Roger Searles' Fifth Grade class at **Waller Mill ES**, students are each creating a booklet about their target bird. Here are a few samples of the illustrations that will be included in these booklets.



Osprey



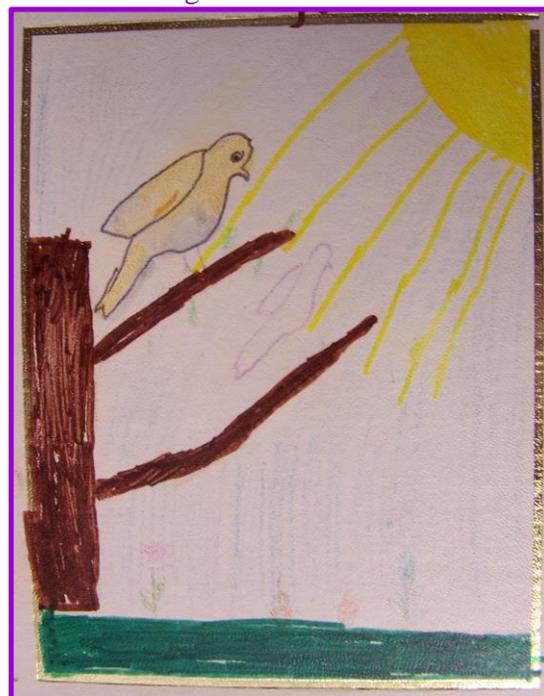
Turkey Vultures



Carolina Chickadee



Canada Goose
with goslings



Mourning Dove



2016 Earth Day Grants

Congratulations to the 2016 recipients of **York County Beautification Committee's School Earth Day Grants!** Each of the following schools will receive \$100 toward a project as described below.

Yorktown ES, Joel Argall. Expand the school's butterfly habitat by planting host plants for other native butterflies to include Spice Bush Swallowtails, Zebra Swallowtails, Buckeyes, Pearl Crescents, and Tiger Swallowtails.

York HS, Amber LaMonte. Build a large insect hotel similar to ones at Sandy Bottom Nature Park to provide food for birds such as the bluebirds currently nesting in the school's courtyard habitat. YHS students will also expand their composting bins and use plexiglass in order to be able to observe the decomposition of vegetation from insect and microbial activity.

Waller Mill ES, Roger Searles. Enhance the school's nature trail, which provides students with a better understanding of nature, their responsibilities and relationship to the natural environment of Eastern Virginia.

Grafton Bethel ES, Carol Bauer. Purchase binoculars for bird watching at the school, and purchase plants to help improve the school's nature trail. Binoculars will allow students to participate in advocacy for our native birds through population counts, which in turn will further expand students' conservation education.

Dare ES, Kris Wessler, outreach partner working with teachers at Dare ES. Purchase an official CoCoRaHS Rain Gauge so that students have the opportunity to participate in the national citizen science program where they enter precipitation data for DES online. They also plan to purchase the official Monarch Waystation Sign for their butterfly habitat.

THIS AND THAT

Include Native Trees and Shrubs When Planting for Pollinators, Birds, and Other Wildlife
<http://blog.wildlife.virginia.gov/2016/04/holly-flowers-attract-bees-and-butterflies/>
<http://www.pollinatorsnativeplants.com/uploads/1/3/9/1/13913231/treesshrubsposter.pdf>



The Pollinator Partnership's 2016 Pollinator Poster is titled, "Trees for Bees."

<http://www.pollinator.org/Images/posters/2016/Trees-For-Bees-2016-Poster.jpg>



Meanwhile, Beta testing is underway on the new Monarch SOS Citizen Science App. Read more here:

<http://monarchjointventure.org/our-work/monarch-sos-citizen-science-app>



Every Day is Earth Day!



4-H SCHOOLYARD NATURE NOTES

4-H Schoolyard Nature Notes is produced expressly for YCSD and PCPS communities by VCE-York/Poquoson's **4-H Schoolyard Habitats Outreach** volunteers. The newsletter is distributed each quarter of the school year via email to principals and PTA/PTSA/PTO representatives.

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4-H SLOGAN: Learn By Doing



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