



SCHOOLYARD NATURE NOTES

Issue 4, First Quarter, School Year 2015-2016

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



Outreach Goal: Provide teachers with useful tools, relevant resources, and practical tips for nature-based studies across the curriculum.



Wild About Birds (and Monarchs) at School!



This fall, the 18 schools that chose to participate in our new **Wild About Birds at School** program will receive habitat and educational materials based on their answers to the schoolyard surveys returned to us last spring.

Each of the 18 schools will receive a 4"x4"x8' wooden post that can be used to support various bird-friendly amenities, one or more bird guides, an insect hotel, and a reference binder with loads of information about schoolyard habitat. In addition, other items will be delivered this fall to improve the school grounds for wild birds and/or outdoor instruction. Since some of these materials require instruction, an outreach partner will contact the school to set up a meeting for delivery of the materials.

Once again, we want to **thank the two organizations that provided funding** for this added habitat focus on wild birds:

askHRgreen.org

GreenWorks! Grant from **Project Learning Tree**, secured by the **York County Beautification Committee**



What's Habitat-ing at Our Schools?



The **Green Apple Day of Service** coincides with the **National Public Lands Day** on Saturday, 26 September 2015. What a great reason to host a habitat workday, making school grounds improvements for education and wildlife!

SPOTLIGHT on York HS...Its Habitat is Hopping!!

Contributed by Barbara Dunbar, Outreach Partner

In Fall 2014, YHS students spotted a frog in their butterfly habitat. It surprised them since their habitat is deep inside a double courtyard, enclosed almost entirely by the school building, with just a short fenced opening at the far end. They decided right then that their habitat needed a pond!

So last spring, YHS science teachers Amy Holtschneider and Amber LaMonte secured a \$500 NOAA B-WET grant for frog pond construction. The bulk of the money was used to purchase a large flexible pond liner.

Under the guidance of Larry Riddick, a local Master Gardener and Virginia Master Naturalist, students planned and

constructed their pond. First, they dug a 6 ft. diameter hole with level edges, about 8 inches deep. A section in the center was further excavated to a depth of 2 ft., leaving a shelf about 15 inches wide. 10 layers of newspaper were used as an underlayment for



the liner. Stones (donated by Yorktown Materials) were placed all the way around the outside of the pond. The pond was filled with water. Pots of aquatic plants (donated by Peasley Middle School in Gloucester) were set in place on the underwater shelf.

Much to the delight of all, the work was finished by Friday afternoon. A frog was spotted swimming in the pond the following Monday morning, and it has been attracting frogs ever since. Teachers plan to utilize the pond for studies of macroinvertebrates, the carrying capacity of the pond, frog and insect classification, food web research, and more! Follow on Instagram: YHSSCIENCE

YHS students are also raising and tagging monarchs and propagating plants from their pollinator habitat. Recently, teachers from the new Page Middle School in Gloucester visited the YHS courtyard seeking ideas. YHS students decided to donate some plants from their habitat to Page MS!





FEATURED CITIZEN SCIENCE

Monarch Watch is a “nonprofit education, conservation, and research program based at the University of Kansas that focuses on the monarch butterfly, its habitat, and its spectacular fall migration.” (<http://www.monarchwatch.org/about/index.htm>)

The program provides guidance for building Monarch Waystations to support monarchs (**community service**) and also distributes and guides the use of adhesive Monarch Watch tags that volunteers affix to monarch wings in an international effort to collect additional data about monarch migration east of the Rocky Mountains (**citizen science**). During Fall 2015, fifteen YCSD and PCPS schools participated in this citizen science project, collectively tagging and reporting data for 552 monarch butterflies. Monarch Watch has posted its pre-migration newsletter for 2015: <http://www.monarchwatch.org/tagmig/2015-newsletter.pdf>

Taxonomy of a Monarch

Kingdom: Animalia	(Animals)
Phylum: Arthropoda	(Arthropods)
Class: Insecta	(Insects)
Order: Lepidoptera	(Butterflies, Moths+)
Family: Nymphalidae	(Brush-footed Butterflies+)
Genus: Danaus	(Monarchs)
Species: <i>Danaus plexippus</i>	(Linnaeus, 1758)



Monarch Larva Monitoring Project is citizen science that aims to “aid in conserving monarchs and their threatened migratory phenomenon, and advance our understanding of butterfly ecology in general.” The project, based at the University of Minnesota, provides online training for volunteers to monitor milkweed and monarch densities, monitor monarch caterpillars for parasitism, and track rainfall at the site being monitored. Program staff count on dedicated citizen scientists to provide weekly data, though there is also a reporting option for anecdotal observations.

Video introduction to this citizen science project: <http://www.mlmp.org/Training/Video.aspx?ID=1>

Very helpful videos describing monarchs, milkweed, and project protocols: <http://www.mlmp.org/Training/Videos.aspx>

Check out their poster, “What’s on a milkweed plant?” http://www.mlmp.org/Resources/Displays/mlmp_sign.pdf

BIRD OF THE QUARTER: Downy Woodpecker

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



“The active little Downy Woodpecker is a familiar sight at backyard feeders and in parks and woodlots, where it joins flocks of chickadees and nuthatches, barely outsizeing them. An often acrobatic forager, this black-and-white woodpecker is at home on tiny branches or balancing on slender plant galls, sycamore seed balls, and suet feeders. Downies and their larger lookalike, the Hairy Woodpecker, are one of the first identification challenges that beginning bird watchers master.

Size & Shape. Downy Woodpeckers are small versions of the classic woodpecker body plan. They have a straight, chisel-like bill, blocky head, wide shoulders, and straight-backed posture as they lean away from tree limbs and onto their tail feathers. The bill tends to look smaller for the bird’s size than in other woodpeckers.

Color Pattern. Downy Woodpeckers give a checkered black-and-white impression. The black upperparts are checked with white on the wings, the head is boldly striped, and the back has a broad white stripe down the center. Males have a small red patch on the back of the head. The outer tail feathers are typically white with a few black spots.

Behavior Downy Woodpeckers hitch around tree limbs and trunks or drop into tall weeds to feed on galls, moving more acrobatically than larger woodpeckers. Their rising-and-falling flight style is distinctive of many woodpeckers.

In spring and summer, Downy Woodpeckers make lots of noise, both with their shrill whinnying call and by drumming on trees.

Habitat. You’ll find Downy Woodpeckers in open woodlands, particularly among deciduous trees, and brushy or weedy edges. They’re also at home in orchards, city parks, backyards and vacant lots.

Feeding Tips. Where they occur, Downy Woodpeckers are the most likely woodpecker species to visit a backyard bird feeder. They prefer suet feeders, but are also fond of black oil sunflower seeds, millet, peanuts, and chunky peanut butter. Occasionally, Downy woodpeckers will drink from oriole and hummingbird feeders as well.”



Taxonomy of the Downy Woodpecker

Kingdom: Animalia	(Animals)
Subphylum: Vertebrata	(Vertebrates)
Class: Aves	(Birds)
Order: Piciformes	(Woodpeckers +)
Family: Picidae	(Woodpeckers +)
Genus: Picoides	(Pied Woodpeckers)
Species: <i>Picoides pubescens</i>	(Linnaeus, 1766)

Links to more information about the Downy Woodpecker:

Downy Woodpecker FAQs: <https://www.audubon.org/field-guide/bird/downy-woodpecker>

More resources to explore: http://www.biokids.umich.edu/critters/Picoides_pubescens/

<http://animals.nationalgeographic.com/animals/birding/downy-woodpecker/>

Indoor Eco-Research: The Downy Woodpecker is a year-round resident in our area. Many other birds migrate for various reasons. Read how **Journey North** tracks hummingbird migration: <https://www.learner.org/jnorth/tm/humm/AboutFall.html>

Fall Habitat Care and Stewardship

NEW plantings (*less than two years in their present location*) are still getting established. From **mid-March through October**, if Mother Nature provides less than an inch of water during the week, please **water** your habitat. Even established plants benefit from a watering during an extended drought. Suitable activity for stewards of all ages!!

Mulching helps your habitat retain moisture, reduces weed germination, and makes weeding easier. Need mulch? Your front office may be able to order a delivery for you. Again, students of all ages are capable of filling up a small empty pot with mulch and placing it in the habitat where the soil is exposed. Students with mobility or developmental challenges might be able to dump some mulch near the habitat's edge. Smiles all around!

Weeding reduces competition for water in the habitats, and this is also an appropriate responsibility for all ages. The key is to make weeding accessible. Kindergarten or First Grade class? Identify and pull just one easily-recognizable weed, and have pairs of students fan out in search of a matching plant. Instruct them to wait for your permission to pull their weed. Challenge them to gently pull up as much of the root as they can. Then **use the weeds to teach plant parts!** Your class only pulled 10 weeds? Thank them. Imagine if every class did the same!

Non-Native Invasive Invaders!!

The two pesky plant invaders featured in this section like to move in when soil has been disturbed. If you find them on school grounds, your students might try to guess how they arrived (in the mulch, from a bird dropping, with the wind, etc.). Have either these on your school grounds? Permission granted to remove on sight!!

If your school has a composting system set up, **DO NOT COMPOST THESE WEEDS!** Bag and place in trash.

Japanese stiltgrass looks rather innocent, but is in fact a bully, capable of steamrolling even Bermuda grass. Eek.

Mulberry weed is a master propagator, capable of seed production within 12 days of sprouting its first true leaves!

Japanese Stiltgrass, http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_010258.pdf



Mulberry Weed, <http://edis.ifas.ufl.edu/pdffiles/EP/EP51700.pdf>

FALL OUTDOOR EDUCATIONAL ACTIVITIES

Fall is a perfect time for 15-minute nature walks!

In 15 minutes, your students can make a difference by

- checking milkweed for caterpillars,
- cleaning and refilling a water feature for the birds,
- noting which trees are starting to drop leaves,
- reading a thermometer, recording the temperature,

- using a composition book to jot down questions,
- pulling weeds from the schoolyard habitat,
- adding an entry to an ongoing nature journal.

Check out the attached **fall scavenger hunt checklist**. Use it as a springboard for sparking natural curiosity and acquainting students with nature.



Guest Speakers at School



We are so lucky to know a number of local nature experts who enjoy delivering presentations to various audiences. Topics include vermicomposting (indoor composting with red wiggler worms), birds, butterflies, bees, and much more!! Contact an outreach partner or a program coordinator with your request, and we will connect you with one or more possible resources.

NATIVE PLANT INVESTIGATIONS

The Bureau of Land Management is our “nation’s largest land manager.” As part of their educational outreach, they published a free resource for educators in September 2014, *Classroom Investigation Series: Native Plants*. While their area of responsibility is primarily out west, the teaching guide is applicable for classroom use across the USA. (Takes time to load.) http://www.blm.gov/style/medialib/blm/wo/Law_Enforcement/nlcs/education_interpretation/teachers_page.Par.77635.File.dat/CI_native_plants.pdf



How Will September 2015 Measure Up?



Tracking outdoor temperatures and weather over time yields data suitable for graphing and comparative studies. Several weather sites archive historical data inviting comparisons of current temperatures with previous averages. WeatherSpark/Newport News Airport: <https://weatherspark.com/averages/31252/Newport-News-Virginia-United-States> WeatherSpark/Williamsburg: <https://weatherspark.com/averages/30641/Williamsburg-Virginia-United-States> Intellicast/Yorktown: <http://www.intellicast.com/Local/History.aspx?location=USVA0856> Intellicast/Williamsburg: <http://www.intellicast.com/Local/History.aspx?location=USVA0832> Historical graphs at USA.com/York County: <http://www.usa.com/york-county-va-weather.htm> Historical graphs at USA.com/Poquoson: <http://www.usa.com/poquoson-va-weather.htm>



SOUNDS OF ZEN

Bernie Krause has been recording wild soundscapes for 45 years. Visit his Wild Sanctuary website, <http://www.wildsanctuary.com/> to enjoy snippets of nature sounds he has recorded. His TED talk explains how a soundscape is worth a thousand pictures when evaluating the health of an ecosystem: http://www.ted.com/talks/bernie_krause_the_voice_of_the_natural_world?language=en



Check out this map from the National Park Service: <http://earthsky.org/earth/map-shows-loudest-quietest-places-in-u-s> They also developed an *Interpretive Handbook* to teach about soundscapes: <http://www.nature.nps.gov/sound/teaching.cfm>

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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