



Understanding the Health of Our Watersheds Clean Water is Not Enough



Sign up now for the October 23 Race for Rivers! Don't miss out on all the fun!



Dave Cadogan

Enter next year's Natural Wonders Photography Contest and you too could be a winner like Dave Cadogan who took this photo of house finches in his backyard in winter!



Barbara Augustson

Clean water helps to provide economic value to all of us! To learn about how, read inside!

Even the drafters of our water protection laws knew that the end goal is not strictly “clean water.” The goal is to restore and maintain the chemical, physical and biological conditions of our waters. In fact, it’s not just the water – it’s the forces at work at all levels throughout the watershed that create the food, habitat, and conditions that make life in and human use of water possible. It’s the health of our watersheds.

To restore and maintain healthy watersheds, we need to understand what healthy watersheds are! So what should we look for?

Watershed health can be seen in the chemical, biological and physical conditions of our waters. So first, waterways are healthy if they can support critters as they are battling against interference from humans. We look at things like aquatic insects including stoneflies, mayflies,

caddisflies and true flies that can be excellent indicators of water quality. For example, if you find a stonefly in your local stream, it indicates excellent water quality but you definitely don’t want to find a true fly because then the water quality is very poor!

We also want to make sure that the chemical makeup of the water allows our waterways to support life. Our waterways are made up of a complex “soup” of water and the materials dissolved or suspended in it. As they run over the land, the water picks up a variety of materials such as heat, bacteria, dissolved gases, nutrients, toxic chemicals and metals. So it’s very important to sample our waterways to find out what it has in it.

Healthy watersheds also need to be physically stable. They need to be able

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**Appoquinimink
River Association**

www.apporiver.org





Critter Corner

Southern Flying Squirrel

Chances are you've never seen a southern flying squirrel in person because they are nocturnal animals that are awake when we are usually asleep. The southern flying squirrel is one of two flying squirrels found in North America with the other being the larger northern flying squirrel. They glide from tree to tree on a flap of skin called



a patagium found between the front and hind legs. When it's gliding, the squirrel uses its tail as a rudder to change direction.

The southern flying squirrel lives in deciduous and mixed forests and wetlands with lots of old trees with cavities for

nesting. They especially like areas with seed bearing hardwood trees like hickory, maple, beech and poplar. They often nest communally, especially in winter, when huddling gives them significant energy savings. These squirrels also prepare for winter by storing food, especially acorns.

While their eyes don't open until they are 24-30 days old, the southern flying squirrel has substantial homing abilities. They can return to their nests even if artificially removed to distances up to a kilometer.

Join the Appoquinimink Technical Monitoring Team!

If you want to learn more about the health of your community's waterways, become a citizen scientist and collect water quality data that is used to protect Appoquinimink watershed. We will provide all the equipment and training. The Appoquinimink watershed is one of 6 watersheds currently monitored by volunteers in our technical monitoring program. This volunteer collected data is used and published by the state of Delaware's Department of Natural Resources and Environmental Control (DNREC).

Find out more about this program by looking on our Watersheds of Delaware webpage at

<http://www.delawarenaturesociety.org/watersheds/index.html>

OR

Contact Ginger North at 302-239-2334 ext.100 or email at ginger@delawarenaturesociety.org.



Third Annual Race for Our Rivers

Come Run or Walk for a Good Cause

The Appoquinimink River Association (ARA) is excited to present the 3rd Annual Race for Our Rivers. The past two races have been wonderful successes with over 160 racers participating and nearly \$6,000 has been raised for the Appoquinimink River Association! This year's race will take place Saturday, October 23 at 9:00am at the Blackbird Creek Reserve (801 Blackbird Landing Road, Townsend). To sign up for this race, download and print a race brochure from www.apporiver.org, contact the ARA for a brochure to be mailed to you, or visit www.active.com to sign up and pay online. The ARA plans to use this event to promote our mission to preserve, protect and enhance the rivers and related natural resources of Southern New Castle County.



2010 Cross Country 5K
Blackbird Creek Reserve

- Enjoy the beautiful Blackbird Creek Reserve as the 5K Race will follow the **scenic cross country course by the Blackbird Creek, local farm land and wonderful forests!**
- All participants in the 5K Race and Fun Run/Walk receive a **free t-shirt!**
- Be sure to bring your cash because we will be having a **silent auction** for some great donated items!
- Awards will be presented to overall top male and female runners, and the top three male and female runners in each age group as follows: **13 & under, 14-19, 20-29, 30-39, 40-49, 50-over.**
- Join us after the race festivities for the **FREE Blackbird Fall Festival!** There will be live music, hayrides, canoe trips, kids activities, demonstrations, local food vendors and more. Visit www.dnerr.org for more information on the Festival.

Watersheds

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to transport water and sediment produced so as not to create problems such as erosion. They also have to have the ability to adjust to disturbances. This requires the system to be able to maintain its original form and return to this form relatively quickly after a disturbance.

Natural Wonders Photography Contest

Showcasing the Beauty of Southern New Castle County

The Appoquinimink River Association's Natural Wonders Photography Contest was a grand success! At the May 12 awards ceremony at the Gibby Center for the Arts in Middletown, there was a wonderful celebration of the beauty of southern New Castle County as participants and their families gathered for the unveiling of winners. The photo contest received many striking photographic images of Southern New Castle County's rivers, native natural surroundings, and native wildlife that will be used for education and outreach projects.

The winners were as follows:

Category: Landscapes

- 1st Place – Dawn Eby, Taylors Bridge Lighthouse
- 2nd Place – Lane Montesano, Reflections
- 3rd Place – Lane Montesano, 120 Years of Growth

Category: Waterscapes

- 1st Place – Jane Mruk, Sunset at Blackbird Creek
- 2nd Place – Barbara Augustson, Winter Water
- 3rd Place – Barbara Augustson, Pond with Water Lilies

Category: Native Wildlife

- 1st Place – Dave Cadogan, Backyard Wildlife Birds
Weathering the Winter
- 2nd Place – Jane Mruk, Muskrat Floating on Reeds
- 3rd Place (tie) – Dave Cadogan, Backyard Wildlife Young
Junco
- 3rd Place (tie) – Dave Cadogan, Backyard Wildlife Cardinal

Category: Native Plants

- 1st Place – Jane Mruk, White Heath Asters
- 2nd Place – Jane Mruk, Obedient Plant
- 3rd Place – Barbara Augustson, Black Eyed Susan
Gone Awry

Category: Protecting Our Waterways

- 1st Place – Jane Mruk, Middletown Stream in Winter
- 2nd Place – Bob Haferl Sr., Trash in the Marshes

GRAND PRIZE WINNER

Jane Mruk, White Heath Asters



*Grand Prize Winner, Natural Wonders Photography Contest:
White Heath Asters by Jane Mruk*

The Value of Clean Water

The enormous economic value of clean water and additional social benefits all improve a community's quality of life. Here are some great benefits that have been found throughout the country:

- One New Hampshire study estimates that water-based recreation collectively generates \$320-\$340 million in annual household income, 9,000-15,000 full and part-time jobs, \$850 million to \$1.2 billion in annual total sales.
- Seattle's 2007 Urban Forest Plan estimates that increasing tree canopy from 18 to 30 percent would yield more than \$44 million in annual benefits, including stormwater mitigation, air cleaning, carbon sequestration, energy savings, aesthetics and other values.
- A University of Pennsylvania study found that tree planting raised property values 10 percent and greening of otherwise vacant city land raised values as much as 30 percent.
- The University of Illinois Landscape and Human Health Laboratory looked at the influence of trees and green space at some of Chicago's most disadvantaged housing projects. That study found that compared with areas that had little or no vegetation, buildings with high levels of greenery had 52 percent fewer crimes. Families living near greener spaces reported less stress and domestic violence.
- Studies in Minnesota and Maine found that property values are higher on lakes having higher water clarity.
- Delaware residents and businesses use 100 million gallons per day for drinking water with a raw value of \$36 million per year. Farm irrigation sustains the \$900 million agricultural economy in Delaware. The blue crab fishery in the Delaware Bay is worth \$4 million per year.

Keep taking photographs for next year's contest and you too could see your photography throughout the ARA's materials!

Just for Fun

Jewelry Fit for a Witch

(from Puddles and Wings and Grapevine Swings by Forte and Frank)

What to Use:

- Pumpkin seeds
- Orange and black food coloring
- Two small jars with tops
- Water
- Paper towels or newspapers
- Heavy needle
- Heavy thread

What to Do:

1. Wash the pumpkin seeds and spread them on paper towels or newspapers to dry. (Overnight is better, but an hour or two will do.)
2. Put some pumpkin seeds in each of the two jars. Put a little orange food coloring in one and some black in the other. Add ½ teaspoon of water to each jar.
3. Shake the jars until the seeds are colored.
4. Spread the seeds on paper to dry.
5. String them in several lengths to make witch's jewelry – rings, bracelets, and necklaces. You can twist or braid several strands or wear single strands of many lengths, or use your imagination to create an original design all your own.



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