FAIRFAX WATERSHED WATCH

The Newsletter of the Fairfax County Volunteer Stream Monitoring Program

Northern Virginia Soil and Water Conservation District

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Winter & Spring 2004

NEW SOFT-BOTTOM COASTAL STREAM MONITORING PROTOCOL

Fairfax County is composed of three physiographic provinces: the Triassic Basin, the Piedmont Upland and the Coastal Plain. The Coastal Plain is located generally east of I-95. Streams located in the Coastal Plain are different because they lack the rocky bottom and faster flow due to less steepness in the topography. There are no rocks to disturb, therefore the sampling focuses on disturbing woody snags, overhanging banks, and submerged aquatic vegetation.

Until this spring, our program only monitored streams with a rocky bottom that are located in the Triassic and Piedmont areas of Fairfax County. We will now be using a new protocol to monitor coastal streams. Thanks to Stacey Brown who came out from Virginia Save Our Streams to lead the intial training. Any volunteers interested in monitoring a site east of I-95?

Monitors collect macroinvertebrates using a smaller net and a bucket with a mesh bottom.

MASTER WATERSHED STEWARD PROGRAM

The Potomac River Greenways Coalition's Master Watershed Steward Program has attracted many residents interested in learning about their watersheds and how to protect them. The Northern Virginia Soil and Water Conservation District (NVSWCD), Fairfax County Department of Public Works and Environmental Services (DPWES), Audubon Naturalist Society, and Potomac Conservancy are partners in this effort. Eight, two-and-a-half-hour workshops will introduce citizens to different watershed topics, such as stream restoration, ecology, and management plans. Experts from the EPA, the Center for Watershed Protection, the River Network, and other organizations lead the sessions.

To become a certified Master Watershed Steward, participants must attend six of the eight workshops and complete 24 hours of watershed-related community service. Workshops will be held on the second and fourth Mondays of each month.

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WORKSHOP SCHEDULE

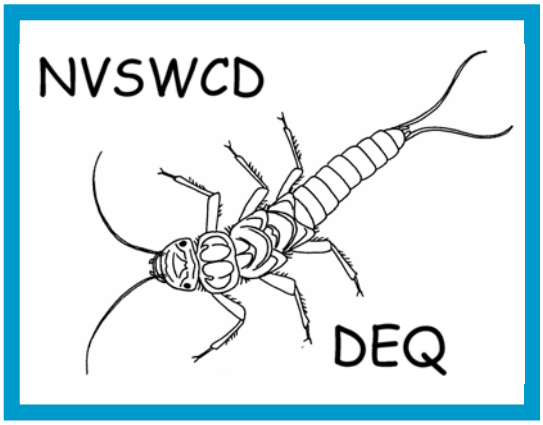
Date	Module	Presenters
March 8	Introduction to watershed management	Potomac River Greenways Coalition
		Citizen Activist
March 22	Why watersheds	Chesapeake Bay Foundation
		Center for Watershed Protection
April 12	Measuring watershed health	EPA; Fairfax County; NVSWCD
		Audubon Naturalist Society; NVSWCD
April 26	Watershed Management Planning and Practical Activities to Mitigate the Effects of Urbanization: Pt. I	Clean Water Action
		Reston Association
		Fairfax County Water Authority
		Virginia Department of Forestry
May 10	Watershed Management Planning and Practical Activities to Mitigate the Effects of Urbanization: Pt. II	Friends of the Rappahannock
		NVSWCD
		Fairfax County
		Virginia DOF
May 24	Reaching Out to Communities and Stakeholders	University of Virginia's Institute for Environmental Negotiation
		Potomac Conservancy
		Virginia Department of Conservation and Natural Resources
June 14	Watershed Management in Fairfax County	DPWES
June 28	Forming and Strengthening Community Watershed Organizations	Panel discussion from Friends of Groups
		River Network

OUR WEBSITE HAS BEEN UPDATED!

Check out the changes. All comments are appreciated. What else would be helpful to have for easy reference?

STREAM MONITORS' T-SHIRTS

Thanks to a DEQ grant, we now have t-shirts for our stream monitors. Unfortunately, due to limited funding, we do not have enough t-shirts for all new monitors. T-shirts are waiting for stream monitors who either (1) have monitored their own site for 4+ seasons or (2) have assisted with monitoring of 8+ sites or (3) volunteered 40+ hours on special projects. Shirts are available in deep blue or forest green and can be picked up from the NVSWCD office or from Joanna. Please send an email to jcornell@gmu.edu if you plan to pick up your shirt. Shirts also will be available at the summer picnic (date and location will be announced).



FRONT DESIGN (STONEFLY)
T-Shirt Design by Charlotte Seid

FIRST MASTER WATERSHED STEWARD WORKSHOP

The first Master Watershed Steward Workshop took place March 8th at the Mason District Government Center with sixty participants. The workshop opened with a video narrated by wildlife expert Jim Fowler, who grew up in Northern Virginia and has fond memories of playing in the local creeks. The video traced the history of Four Mile Run, from its discovery in 1608 by John Smith to its present condition. Four Mile Run has faced many threats over the years, such as the loss of the beaver, sedimentation from tobacco farms, deforestation

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during the Civil War, and now, with the advent of automobiles, polluted stormwater runoff. Only recently has there been a "gradual awakening" of citizens and the beginning of watershed management planning.

Dave Eckert led discussions of the video and addressed present watershed issues "We overpave everything…and we have a love affair with lawns," he remarked of two major urban problems. People must be aware of alternatives, such as green roofs (a "new" concept 4,000 years old), less pavement, and native plants.

Participants also discussed the flaws of rapid response storm drainageway channeling, a technique once used to divert runoff from the roads into the streams. With 9,000 storm drain entry points and 260 miles of underground pipes in Fairfax County, stormwater rushes through channels at thousands of cubic feet per second. These high speeds cause flooding, stream erosion, and litter transport.

Another unintended consequence of storm drainageway channeling is an increase in fecal coliform bacteria, which originate from wildlife and untreated sewage. The moist drain pipes are an ideal habitat for bacteria to incubate. High contamination can make a stream unsafe for drinking, fishing, and swimming. Many attendees who enjoyed pristine Virginia streams as children have found that their own families do not have the same privilege.

Fortunately, that destructive trend is being reversed. The recent wet season has renewed people's interest and awareness of streams, and experts are realizing that underground pipes and concrete sluices are not the answer to stormwater management. Today's environmentalists and engineers have developed innovative and promising solutions, such as rain gardens, cisterns, and daylighting of streams. These efforts, along with citizen involvement, are key to protecting our waters.

BAY GRASSES FOR THE MASSES

Underwater grasses, or submerged aquatic vegetation (SAV), are essential to the ecosystems of the Chesapeake Bay. Grasses produce oxygen, filter runoff, buffer wave energy, reduce erosion, and provide food and habitat for aquatic life, such as blue crabs and waterfowl. They also absorb nutrients, such as nitrogen and phosphorus thereby preventing harmful eutrophication.

Unfortunately, due to sedimentation and nutrient overloading, the Bay has only 12% of its historical acreage of underwater grasses. Excess nutrients promote algae blooms that cloud the water, while sediment, from eroded banks and construction, blocks sunlight from the grasses. Three major sources of nutrients are sewage treatment plants, runoff from agricultural fields, and over-fertilized lawns.

To help restore SAV, the Chesapeake Bay Foundation and Alexandria Seaport Foundation are organizing the second year of their Bay Grasses for the Masses Program. Volunteers will grow wild celery grass, a native species, and plant it in the Potomac River in June. The grasses should improve water quality and start an "ecological chain reaction" to restore the Chesapeake. To learn more about underwater grasses, visit www.cbf.org.

Many of our stream monitors are participating in this program. SAV growers include: Blythe Merritt, Charlotte Seid, Diana Saccone, Donna West, Griffin Grasso, Jeff Cornell, Judy Albert, Kim Angeli, Luke Marsh, Mia Musolino, Neil Grasso, and Robin Hopes.

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MAGICAL CICADAS

Jil Swearingen,
Entomologist for the National Park Service

We are nearing the time for emergence of that amazing, root-sucking, subterranean insect, the Periodical Cicada, specifically the 17-year cicada—*Magicicada septendecim*. They weren't put in the genus *Magicicada* for nothing! Cicadas are in the Order Homoptera, which includes aphids, leaf-hoppers and scale insects. Although many people call them "locusts," it is incorrect because locusts belong to the Order Orthoptera, which includes grasshoppers.

Photo from www.cicadamania.com

The genus *Magicicada* is found only in eastern North America and includes three species of 17-year cicadas (northern states) and four species of 13-year cicadas (southern states). Cicadas in different regions are not synchronized and may emerge in different years. All periodical cicadas of the same life cycle type that emerge in a given year are known collectively as a single "brood" (or "year-class"). The resulting broods are designated by Roman numerals—there are 12 broods of 17-year cicadas and 3 broods of 13-year cicadas.

The immature stage, called a nymph, spends all those years feeding on the sap of tree roots with the help of straw-like sucking mouthparts. Nymphs emerge every 17 years, crawl up onto vegetation and transform (metamorphose) into adults. Adults have black bodies with orange belly stripes, red eyes and see-through wings.

Brood X will emerge beginning late May and continuing through late June/early July. A few weeks before emergence, you can start looking for the mud tubes that the larvae construct around the base of trees. The Maryland Department of Agriculture has more information at http://www.mda.state.md.us/press/cicada.htm.

Enjoy these amazing creatures and help others understand and enjoy them as well. There's no reason to fear the cicadas, and it's so much fun to celebrate them. Consider them free entertainment. If you miss this emergence, Brood X will reemerge in 2021 and Brood XIX of a 13-year species will occur in 2011 in Maryland and Virginia.

THE WATER PENNY

Sarah Hirsch, Intern

This benthic macro-invertebrate, about 4-6 mm long, is the aquatic larva of a beetle that floats in the current or sticks to rocks or leaves in the water. Commonly known as a water penny because of its penny shape as a larva, the insect is a part of the order Coleoptera and the family Psephenidae. The water penny is an herbivore surviving on small pieces of plants and algae. The round, flat, black or brown organism has all of its body parts hidden beneath the dorsal sclerites, which are covered by a segmented plate-like covering.

Living in cold, fresh running water, the water penny breathes through its five pairs of hair-like gills on its abdomen. Trout are its main predators. The water penny is a Group I water quality indicator, meaning that the stream is very healthy because the organism is very sensitive to polluted water.

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