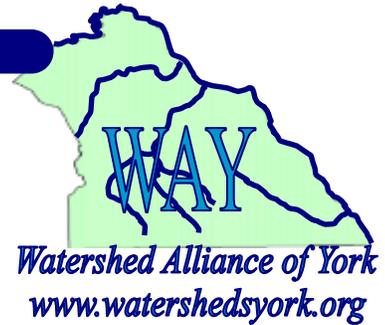


WAY E-NEWS

A coalition of stakeholders committed to being innovative leaders
encouraging watershed-based planning, restoration and protection



December 20, 2010

A PUBLIC-PRIVATE PARTNERSHIP

Volume 10, Issue 25

Wishing You a Happy, Healthy and Prosperous New Year!

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- Foundation for Pennsylvania Watersheds Convening Grants – Feb 25
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- William Penn Foundation Grants
- WREN 2011-12 Grant Application Guidelines
- Maryland DNR Grants and Loans
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- The Maryland Urban and Community Forest Committee (MUCFC) Grants
- PennVEST Loans – Pennsylvania Infrastructure Investment Authority
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- Pennsylvania Department of Conservation and Natural Resources Electronic Grants System
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- PA Resource Enhancement and Protection Program (REAP)
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- Pennsylvania Conservation Programs
- Coldwater Conservation Planning Grants
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- PA DEP: Environmental Education Grants
- PA Conservation Corps Grant Program
- NFWF Innovative Nutrient and Sediment Reduction Grants – Feb 18
- NOAA Environmental Literacy Grants for Formal K-12 Education – Jan 12
- USDA Rural Development Water & Waste Disposal Loan and Grant Program for Rural Areas
- USDA Technical Assistance and Training Grants for Rural Areas
- USDA Solid Waste Management Grant Program for Rural Areas
- USDA Chesapeake Bay Watershed Initiative
- USDA's NRCS Grants to Protect Private Forest Land in Pennsylvania
- USDA – Healthy Forests Reserve Program (HFRP)
- USEPA Wetland Grants Database (WGD)
- USEPA Sustainable Chesapeake: Urban Stormwater Management – Jan 31

WATERSHED CONTACTS

COUNTY PLANNING – (717) 771-9870

CONSERVATION – (717) 840-7430

- Agricultural conservation planning
- Environmentally sensitive dirt & gravel road maintenance
- Environmental stewardship and watershed protection
- Erosion & sediment control
- Stormwater complaints

24-HR EMERGENCIES – (877) 333-1904

- Chemical and oil spills from transport trucks, trains and industrial facilities

ENVIRONMENTAL – DEP-SCRO

- General Info 717-705-4700
- Director SCRO 717-705-47047
- Air Quality 717-705-4702
- Energy & Technology 717-705-4703
- Environmental Cleanup 717-705-4705
- Mining (800) 541-2050
- Radiation Protection 717-705-4704
- Waste Management 717-705-4706
- Water Supply Management 717-705-4708
- Water Management 717-705-4707
- Watershed Management 717-705-4704

FISHERIES – (800) 541-2050

- Wildlife (fish, reptiles, amphibians) nuisance problems or to report violations

GAME & WILDLIFE – (888) 742-8001

- Wildlife (mammals or birds) to report violations or nuisance problems

ILLEGAL DUMPING

- Illegal dumping on state forest and park lands (877) 772-3673

- Illegal dumping York County 840-7687

MUNICIPAL (Phonebook Blue Pages)

- Air pollution by burning household garbage
- Dumping waste in surface waters
- Floodplain disturbances
- Municipal and residential septic/sewage problems
- Stormwater management

NOXIOUS PLANTS – (717) 772-5209

RECYCLING – (717) 845-1066

WETLANDS – (717) 249-2522

Updated 8/17/2010

WATERSHED FACILITATION ASSISTANCE...Page 10

- iSTREEM(tm) Webinar – Model Predicts Chemical Concentrations in Waterways – Jan 13
- NCSE 11th National Conference on Science, Policy and the Environment – Jan 19-21
- National Green Infrastructure Conference 2011 – Feb 23-25
- Mark Your Calendars - GardenWise 2011 – Mar 12
- Balancing Nature and Commerce in Communities that Neighbor Public Lands – Apr 18-20

WATERSHED TECHNICAL ASSISTANCE...Page 10

- Many Coastal Wetlands Likely to Disappear This Century, Scientists Say
- Rain Gardens Are Sprouting Up Everywhere
- Front End Solution to a Back End Problem
- Eutrophication Makes Toxic Cyanobacteria More Toxic
- Phosphorus export from a restored wetland ecosystem in response to natural and experimental hydrologic fluctuations
- Ecological Outcomes and Evaluation of Success in Passively Restored Southeastern Depressional Wetlands
- DEP Publishes Riparian Forest Buffer Guidance
- EPA Launches Website to Increase Transparency of Regulatory Activity
- EPA Seeks Comments on New Web-based Tool for Accessing Wastewater Pollutant Discharge Information: “Beta” Version Now Available
- EPA to Hold Listening Session to Obtain Input for the Next Vessel General Permit
- EPA's Sustainable Finance Tools
- DEP Notices of Regulation Updates



WATERSHED ALLIANCE NEWS

Ag Land Preservation Board of York County - www.york-county.org

<> For information about farmland preservation in York County contact Patty McCandless at pmccandless@york-county.org or call 717-840-7400.

Carroll Citizens for Sensible Growth - <http://carrollcitizens.com/>

<> Contact: Deana Weaver at (717) 432-2211 or admin@carrollcitizens.com

Codorus Creek Watershed Association - www.codoruscreek.net

- Jan 10 – CCWA Meeting of Members and Board, 7:00 pm, at York Water Co. (Mt. Rose Ave.)
- <> Contact: Jim Leaman at 843-2929

Codorus Endowment Implementation Committee - www.yccf.org

Codorus State Park - www.dcnr.state.pa.gov

Conewago Canoe Club - www.conewagocanooclub.org

- Jan. 6 – Club Meeting – Mount Zion United Church of Christ, 7:00 pm, at Ridgewood Road in Pleasureville
 - Red Lion High School Paddling Instruction Schedule online
- <> Questions or comments e-mail me oc1mike@comcast.net, but remember you catch more flies with honey than vinegar.

Deer Creek Watershed Association - <http://deercreekwatershed.com/>

<> Contact Lee McDaniel at ldmcdaniel@aol.com.

Farm & Natural Lands Trust of York County - www.farmtrust.org

<> Contact: Sean Kenny at Farm & Natural Lands Trust of York County • 156 North George Street • Suite 300 • York, PA 17401 • Phone (717) 843-4411 • Fax (717) 854-7452 or skenny@farmtrust.org

Friends of Codorus State Park - www.friends-of-codorus.org/

<> For more information contact Becky Miller at 632-6747 or email beckymill1@juno.com or Dave Carbaugh at 637-9875 or email carbaugh3@embarqmail.com

Gifford Pinchot State Park - www.dcnr.state.pa.us/stateparks/parks/giffordpinchot.aspx

- Event calendar <http://www.dcnr.state.pa.us/Calendar/list.asp>
- <> Contact Elizabeth Kepley, Environmental Education Specialist, DCNR Bureau of State Parks/Gifford Pinchot State Park, 2200 Rosstown Road, Lewisberry, PA 17339. Phone: 717-432-5011

Gunpowder Valley Conservancy - www.gunpowderfalls.org

<> TO VOLUNTEER OR REGISTER FOR FREE or for more information contact Peggy Perry, Program Director for Gunpowder Valley Conservancy at 410-668-0118 or email little-owl@msn.com.

Horn Farm Center for Agricultural Education - www.hornfarmcenter.org

Get involved with the Center! We are looking for Board and Committee members and Center volunteers who have the drive and desire to help move this exciting project forward. If you would like to help, please call or contact: Horn Farm Center 4945 Horn Road York, PA 17406 Phone: (717) 757-6441 Email: info@hornfarmcenter.org If you're interested in:

- History
- Education
- Agriculture
- Preservation.....then the Horn Farm Center is the place for you!

<> Contact: Horn Farm Center for Agricultural Education, 4945 Horn Road, York, PA 17406. Phone: (717)654-0571. Email: info@hornfarmcenter.org. Web: www.hornfarmcenter.org.

Izaak Walton League York Chapter #67 - www.yorkchapter67iwla.org/

- Calendar of events 2010 - www.yorkchapter67iwla.org/id21.html
- Club Open Meetings are held the Third Tuesday of each month at 7pm in the Clubhouse.

<> Contact: York Chapter #67 IWLA, 7131 Ironstone Hill Road, Dallastown, PA 17313. Club Grounds Phone: 717-428-2000 *Leave a message for the Committee Contact or Club Officer you are trying to reach. Committee Contacts & Club Officers are listed on the Club Information Page. If no phone or email address is listed contact club grounds phone number.

Lower Susquehanna Riverkeeper - www.lowersusquehannariverkeeper.org

<> Contact: Michael Helfrich, Lower Susquehanna RIVERKEEPER®, York, PA. Cell phone: 717-779-7915 E-mail: lawsusriver@hotmail.com.

Maryland's Upper West Shore Trib Team - http://www.dnr.state.md.us/bay/tribstrat/upper_west/up_west_shore.html

- Tree-Mendous Maryland still has trees available for plantings on public lands in Maryland. Green schools receive a 1:1 match up to 20 trees. The prices have been reduced for trees which previously cost \$28 or \$32. The order form can be downloaded by clicking [here](#). Contact Lindsay Major, 410.260.8510 or lmajor@dnr.state.md.us if you need additional information.
 - The final Phase I WIP document has been submitted to EPA and is available on the MDE website for your review. You can access it at the following link http://www.mde.state.md.us/programs/Water/TMDL/TMDLHome/Pages/Final_Bay_WIP_2010.aspx
- <> Contact: Mike Bilek, Tributary Team Coordinator, MD DNR, Tawes Office Building, Annapolis, MD 21401. Ph: 410-260-8988. E-mail: mbilek@dnr.state.md.us

Mason-Dixon Trail System, Inc. - <http://www.masondixontrail.org/>

<> Contact: James Hooper at 717/252-3784 or j.e.hooper@ieee.org

Mid-Atlantic Ecological Landscapes Partnership [MAEscapes] - www.maescapes.org

- Jan 24 - Advisory Board meeting, 6:30 pm, York County ANNEX
- <> Contact: 717-840-7408 or Connie Schmotzer at cxs51@psu.edu

Peach Bottom Concerned Citizens Group Inc. - www.pbccg.com

Thanks for attending, speaking or networking yesterday at the York JCC. We are working on pics and video...coming soon!

- Please come to see Gasland Thurs Nov 18th at 7 at the Shrewsbury Municipal Building.
- <> Contact Maria Payan by email pbccg@hotmail.com or mail: Peach Bottom Concerned Citizens Group, P.O. Box 307 Delta, PA 17314. PBCCG, Inc is a nonprofit organization supported solely by volunteers and donations.

Prettyboy Watershed Alliance - www.prettyboywatershed.org

<> Contact: Nancy Shaper at nshaper@ihmi.edu

Sierra Club - Gov. Pinchot Group of PA - <http://pennsylvania.sierraclub.org/pinchot/>

- New 2010 Meeting Location! Monthly meetings will be held the last Tuesday of the each month at 6:30 pm in the Community Room at the Giant at 2300 Linglestown Rd, Harrisburg, PA 17110. All members are welcome!
 - 12/28 - Annual Planning Meeting - 6:30 pm in the Community Room at the Giant at 2300 Linglestown Rd, Harrisburg, PA 17110. All members are welcome!
 - Green Drinks - 5:30 pm happy hour on the second Wednesday of every month at a local pub. For Green Drinks locations click [here](#) or on Twitter @HBGGreenIrene, or on [Facebook](#)
 - City Outings (ICO) - find out [more](#) about this great local Sierra Club program
- <> Kim Anderson at sgfornyc@aol.com.

Spoutwood Farm Center for Sustainable Living - www.spoutwood.com

<> Contact Rob & Lucy Woods at Spoutwood Farm at 717-235-6610 or spoutwood@comcast.net.

Susquehanna Gateway Heritage Area - <http://www.susquehannaheritage.org/>

We are currently developing our 2011 Calendar of Events. The following events have been scheduled:

- Wednesday, January 5, 2010 - Historic 12th Night Celebration and Zimmerman Center Open House - 3pm-8pm
- Wednesday, April 13 - Susquehanna Heritage Lecture Series - 6:30pm Rocks and Mining History along the Lower Susquehanna River, Presented by Jeri Jones, Jones Geological Services
- Saturday, April 23 - Guided walking tour - Shenk's Ferry Wildflower Preserve - Lead by Mark Arbogast, Park and Recreation Expert - 10am-11:30am

Questions? Please contact Marie Cartwright, Outreach & Communications Coordinator mcartwright@susquehannaheritage.org or 717-252-0229 ext. 4

<> Contact Mark Platts, Susquehanna Heritage Corporation, 1706 Long Level Road, Wrightsville, PA 17368. Office: 717-252-0229. E-mail: info@lyhr.org.

Susquehanna Greenway Partnership - www.susquehannagreenway.org

<> For more information about the Susquehanna Greenway, please contact: The Susquehanna Greenway Partnership, 201 Furnace Road, Lewisburg, PA 17837. Phone: 570-522-7211. Email: greenway@susquehannagreenway.org

Trout Unlimited Codorus Chapter #558 - www.codorustu.org

- Jan 12 – Monthly Chapter Meetings 2nd Wednesday, 7:00 p.m., at Gander Mtn. (winter)
- Contact: Tom Finenze at 840-1372 or tom@codorustu.org. Cancellations due to winter weather will be announced here, and on WSBA Radio, 910 AM.

Trout Unlimited Muddy Creek Chapter #575 - <http://muddycreektu.org/>

- Jan 19 – Chapter Meeting at [Collinsville Fish & Game](#)
- Contact: Ron Heuston, President MCTU, 244-1851 or Heuy1955@aol.com

Watershed Alliance of Adams County - <http://www.adamswatersheds.org/>

- Meet the 3rd Wednesday @5pm.
- Contact: Adam McClain, Ph: 717-334-0636; E-mail: stilden@adamswatersheds.org

Watershed Alliance of York - www.watershedsyork.org

- Jan. 5 – Annual Meeting of WAY Board of Directors, 7:00 PM, at 324 W. Market St., York, PA.
- WAY E-News – Published by the Watershed Alliance of York, Inc. to inform the public about news and information that affect York County watersheds and beyond. PLEASE SHARE WITH YOUR MEMBERSHIP AND E-MAIL LIST. Contributions of news, events and information relating to watershed education, funding, planning, restoration, protection, and stewardship welcome. Send contribution to and contact us for mailing list additions/changes to the e-mail address below. Distribution: electronic (1,850). Frequency: bi-weekly. Subscription: No charge. Editor: Gary R. Peacock.
- You can make www.goodsearch.com and be sure to enter WAY as the charity you want to support.
- Contact: Watershed Alliance of York, Inc. (WAY), C/o York County Conservation District, 118 Pleasant Acres Road, York, PA 17402. Phone: (717) 840-7430. Facsimile: (717) 755-0301. E-mail: gpeacock@yorkccd.org

Yellow Breeches Watershed Association - www.ybwa.org

<> Contact: John Eby, President, at john_eby@lower-allen.pa.us

York-Adams Regional Smart Growth Coalition - www.yorkadamssmartgrowth.org

- Dec 22 – YARSGC-BOD meet, 9:00 am, at RAYAC, York, PA.
- Contact Shanna M. Wiest, Government Affairs Director, REALTORS Association of York & Adams Counties, Inc. 901 Smile Way York, PA 17404. Phone: (717) 843-7891. Fax: (717) 854-0720. <http://www.rayac.com>

York Audubon Society - <http://www.yorkaudubon.org/>

- Monday, January 9, 2011: Member's best night.
- Monday, February 14, 2011: Donald and Marion Wilson present "Our Best Pictures"
- Monday, March 14, 2011: Harry Campbell presents "From Pennsylvania to the Bay: Challenges and Solutions for Restoring Our Streams and the Chesapeake"
- Contact Tom Smith at 717-246-9767 or tls35@psu.edu.

York County Conservation District - www.yorkccd.org

- Board meets 2nd Friday, 11:30 a.m. (December-March) and 2nd Thursday, 7:00 p.m. (Apr.-Nov.), at the York County ANNEX
- Wonderful opportunity for everyone to consider as an Envirothon contribution. We offer original artwork each year as a gift to anyone contributing at the \$250.00 level and above during the Envirothon Sponsor Drive. For the first time this year, artist Millicent Neill Decker, is allowing the District to directly offer her limited edition print, Persimmon Buck, at its normal retail price of \$90.00. That means that the Envirothon receives half of every print sold! This is another way for the Envirothon to raise money and perhaps brings the gift of artwork to someone who cannot afford to make a \$250.00 donation (like most of us). Please look over the attached order form. If you or anyone you know is interested in this beautiful piece of artwork - painted especially for this year's Envirothon - please pass the information on. It would make a lovely holiday gift and help the Envirothon as well. If you have any questions about the piece, just contact Kim J Young, Education & Communication Coordinator, York County Conservation District, 118 Pleasant Acres Road, York PA 17402. kyoung@yorkccd.org / 717-840-7190.
- Rain barrels for sale! Visit our website for more information and prices.
- Contact: YCCD at 717-840-7430 or yorkccd@yorkccd.org

York County Planning Commission - www.ycpc.org

- Meets 1st Tuesday at 7:30 p.m., except Wed. Nov. 1 at 7:30 and Tues. Dec. 1, 6:00 p.m., at 28 E. Market St., 2nd Floor.
- Contact YCPC at 717-771-9870 or planner@ycpc.org



WATERSHED EDUCATION & OUTREACH

Water Resources Played Important Role in Patterns of Human Settlement

ScienceDaily (Dec. 2, 2010) — Once lost in the mists of time, the colonial hydrology of the northeastern United States has been reconstructed by a team of geoscientists, biological scientists and social scientists, including University of New Hampshire Ph.D. candidate Christopher Pastore. The results, which extend as far back as the year 1600, appear in the current issue of the journal *Environmental Science & Technology*. The findings provide a new way of uncovering the hydrology of the past and will lead to a better understanding of hydrologic systems now and in the future, the scientists say. Throughout American history, water resources have played an integral role in shaping patterns of human settlement and networks of biological and economic exchange. The scientists divided their study area into three geographic and socio-political subregions: New England; the Middle Colonies; and the Chesapeake. They then looked at the ways in which physical variables—such as soil, vegetation, and climate—combined with socio-political factors to influence each subregion's hydrologic environment. In New England, for example, close-knit religious communities with strong central governments concentrated their economic efforts on fur-trading and timber extraction. The Chesapeake region, on the other hand, was settled largely by young, unskilled men who cleared trees and planted tobacco fencerow to fencerow. This caused extensive erosion, which dramatically altered rivers. The Middle Colonies were characterized by diverse social, cultural, and religious traditions and feudal-style estate agriculture. Integration of human decision-making into analyses of land-cover change, engineering and climate change is fundamental to understanding subregional hydrologic patterns and how they interact, the scientists say. They recommend two metrics for quantifying hydrologic change. The first, which they call a simple water balance, takes into account precipitation, evapotranspiration, and water storage, which can be used to track changes in annual river discharge. The second, termed mean water residence time, or the average time a water molecule spends in one place, can also be used to calculate the amount of water moving through a system. The resulting information helps determine past water residence times, which in turn allow scientists to infer changes in the biogeochemistry of rivers and streams. Many pathogens, or disease-causing organisms, are linked to water flows. An understanding of historical water residence times may lead to new insights into how diseases are transmitted today. Our colonial past may be hydrologic prologue.

Report Shows Inconsistencies in Chesapeake Bay Data Modeling

WASHINGTON, D.C.—Dec. 9, 2010—A new report calls into question the merit of data used by the U.S. Environmental Protection Agency (EPA) as the basis for its Chesapeake Bay “pollution loads” model. Prepared by LimnoTech, a leading water sciences and environmental engineering consulting firm, the report compared EPA's Total Maximum Daily Loads with those in the draft U.S. Department of Agriculture (USDA) report, *Assessment of the Effects of Conservation Practices on Cultivated Cropland in the Chesapeake Bay Region*, and found inconsistencies in assumptions about conservation practices and other data. EPA's modeling potentially underestimates the good progress that farmers and landowners are making in the Bay region. According to the report, “USDA estimates that seven percent of cropped acres are under conventional tillage, five percent of cropped acres have a level of tillage between conservation tillage and conventional tillage, and 88 percent of cropped acres are under conservation tillage (mulch till or no-till) practices...EPA estimates that 50 percent of cropped acres are under conventional tillage and 50 percent are under conservation practices. In general, the cultivated cropland conservation practices incorporated in USDA's model framework are documented and statistically valid in sufficient detail to allow a general understanding of practices accounted for in the modeling, the assumptions made regarding specific conservation practices, and the level of implementation. A similar level of detail and documentation is not, however, available for the EPA model framework.” To address concerns about the accuracy of EPA's modeling, NACD recently entered into an agreement with USDA's Natural Resources Conservation Service (NRCS) to coordinate the design of a system to reliably track the voluntary conservation practices that farmers are already implementing in the Bay region. NACD is working with the six Bay-region states, NRCS, EPA and other stakeholders to design a protocol for the characterization and collection of best management practices (BMPs) installed by agriculture producers – with the ultimate goal of ensuring these BMPs are counted in the EPA model. Read report... http://nutrientpolicy.org/ANPC_News.html.

Dark and Gross and Measured in Barrels”

An article in last Sunday's *Virginian-Pilot* (<http://hamptonroads.com/2010/12/when-it-rains-pollutants-pour-chesapeake-bay>) does a good job of explaining the stormwater pollution problem in the Chesapeake Bay: the sources of pollution, why it's harmful to the bay, and what residents can do to help—or at least what they can do to stop contributing quite so much to the problem. Stormwater is still a growing source of pollution to the bay, particularly the nutrients that cause algae blooms. And still it's difficult to get the public to understand the concept of nonpoint-source pollution—here in the six states and Washington DC that are part of the Chesapeake Bay watershed, just as much as in areas that don't border such a sensitive receiving water. Part of the problem is that it just looks so darned innocuous. The article quotes a scientist with the Chesapeake Bay Foundation: “If stormwater was dark and gross and measured in barrels, you wouldn't have to do this. Usually it just looks like fast water with bubbles in it.” Articles like this one, though, that cover the effects of stormwater in a thoughtful and engaging way, can do a lot to increase public understanding. The article even touches on the concept of the airshed, explaining that atmospheric deposition contributes pollutants, especially nitrogen, either directly to the bay or onto surfaces in the 64,000-square-mile watershed, from which they can be washed into the bay. The paper is running a series of articles focusing on the bay and on new federal guidelines for cleaning it up. Over the last few months, the EPA has been holding “listening sessions” and webcasts on the potential new Chesapeake Bay requirements, and it has another listening session scheduled for this week. You can find more on the potential new regulations and information on how to submit your comments to EPA here <http://cfpub.epa.gov/npdes/stormwater/rulemaking.cfm>.

DEP Issues Updated Fish Consumption Advisories for 2011

HARRISBURG – The Department of Environmental Protection today released an updated list of fish consumption advisories that includes nine new advisories, but also eases or lifts seven other advisories. The advisories are only for fish caught recreationally and do not apply to fish raised for commercial purposes or those bought in stores or restaurants. While fish can be part of a healthy, balanced diet, some fish caught in Pennsylvania may contain chemicals of concern such as mercury and PCBs. These contaminants exist in some waterways due to unregulated industrial practices of the past. Consumers can reduce the potential risk of exposure to organic contaminants by properly cleaning, skinning, trimming and cooking fish. Proper preparation generally includes trimming away fat and broiling or grilling the fish to allow remaining fat to drip away. Juices and fats that cook out of the fish should not be eaten or reused for cooking or preparing other foods. All of Pennsylvania remains under a blanket advisory that recommends limiting consumption of any recreationally-caught fish to one meal per week.

This advisory is designed to protect against eating large amounts of fish from waters that have not been tested, or for certain species that have not been tested or fish that may contain other unidentified contaminants. One meal is considered to be one-half pound of fish for a 150-pound person. Consumption advisories have been lifted for the following:

- West Conewago Creek in York County for Smallmouth Bass;

More information on fish consumption advisories and the most current advisories are available online at www.depweb.state.pa.us, Keyword: "Fish Advisories" and <http://www.fishandboat.com/fishpub/summary/sumconsumption.pdf>.

State Preserves 83 Rural Legacy Acres Along Deer Creek

Governor Martin O'Malley recently announced Board of Public Works (BPW) approval to preserve 83 acres of Maryland's landscape on two properties in Harford County in the Deer Creek Rural Legacy Area. One easement, known as the Williams Property, will permanently protect 66 acres of forest land in Harford County, and lies immediately adjacent Rocks State Park. The forest land on this property will be managed under a Forest Management Plan, and will extinguish five development rights. Another easement, known as the Porter Property, will permanently protect 17 acres of forest land in Harford County, and will establish a conservation protection along a stretch of Deer Creek now largely unprotected. This easement completes protection of a series of parcels owned by the same family. The Deer Creek Rural Legacy Area totals 66,701 acres, of which approximately 32,360 acres are protected. Maryland's Rural Legacy Program provides funding to preserve large tracts of forestry and agricultural land and natural resources, and for environmental protection while sustaining land for natural resource-based industries. Enacted by the General Assembly in 1997, Maryland's Rural Legacy Program has to date provided over \$207 million to protect 68,675 acres of valuable farmland, forests, and natural areas. The 11-member Rural Legacy Advisory Committee and the Rural Legacy Board, which is comprised of Maryland's Agriculture, Natural Resources and Planning Secretaries, reviews grant applications annually. For additional information, visit <http://www.dnr.maryland.gov/land/rurallegacy/>.

Investing in Nature, for People's Sake

Ecosystem services is still jostling to find its place in the crowded landscape of conceptual frameworks that seek to define sustainable development. Many, particularly international policymakers, conflate ecosystem services with payments or markets for ecosystem services. While payments and markets have their place, the real power of ecosystem services lies in its ability to provide an overarching framework for both ecosystems and economic development. In systematically making these links, an ecosystem services framing can inform decisions that are more likely to be sustainable for people and nature. Read more...<http://www.wri.org/stories/2010/12/investing-nature-peoples-sake>

Birth Control Pills Not a Major Source of Estrogen in Water Supply

Oral contraceptives account for just 1% of the estrogen found in our drinking water supply, according to a new report in Environmental Science & Technology, contradicting previous beliefs. Read article... http://women.webmd.com/news/20101209/birth-control-pills-not-a-major-source-of-estrogen-in-water-supply?src=RSS_PUBLIC

EPA Region 3 Land Revitalization Update

Welcome to our "Life, Liberty, and Sustainability" issue:

- Learn why thousands will flock to Philly for Brownfields 2011;
- Take a visual tour of a Virginia city that has gone from scraps to scrubs;
- Read about a post-industrial railway town getting back on track, and much more!

Click here to read our Winter 2010 Special: <http://www.epa.gov/reg3hwmd/bf-lr/newsletter/2010-Winter/newsletter.pdf>

Subscription to this popular resource is free, please forward to interested colleagues! Contact Kristine Matzko, Land Revitalization Team Leader, Brownfields and Land Revitalization Branch, U.S. EPA Region 3, 1650 Arch Street (3HS51), Philadelphia, PA 19103.

New Opportunity for Combining Education and Community Service

A brand new 4-H project book, Riparian BUFFers - Making Our Riparian Areas Strong is now available from Penn State Cooperative Extension and the Pennsylvania 4-H Program. Learn more... <http://extension.psu.edu/water/discovery-watersheds/newsletter/news/2010/new-opportunity-for-combining-education-and-community-service>

Public Space Sponsorship

Naming rights for sports arenas and other private structures are typically given to the highest bidder. The same is starting to happen in public places. Naming rights are up for sale across the country at schools, parks, government buildings and boat launches, as municipalities raise money from sponsors. www.smartgrowth.org/news/article.asp?art=7866

ITSI Project Needs Teachers

The Pennsylvania Department of Education, in partnership with the Concord Consortium has been awarded an extension to the ITSI project from the NSF to create SAS lessons based on the ITSI activities. We are looking for teachers who are interested in assisting the department in creating lessons needed in the Materials and Resources section of Pennsylvania's Standards Aligned System (SAS) for secondary science standards. Participating teachers will be compensated for lessons and be able to publish lesson plans on the SAS website. We are creating a committee to review the thousands of ITSI Activities that have already been created, select activities that would satisfy the needs of SAS, and enter them into the SAS lesson plan format to be included in the Materials & Resources element of SAS (see attachment). We are looking for up to 27 teachers to collaborate in this effort. Each teacher will earn \$600 for participating in the following:

1. A two day kick-off face-to-face workshop on January 7 (Friday) from 10am - 6pm and January 8 (Saturday) from 8am - 2pm in State College, Pa. for \$200.
2. Participate in online collaboration, peer review, editing of lessons 3 hours a week for the following 5 weeks. (January 10 - February 18) for \$200.
3. A two day wrap-up workshop to polish and submit final lesson drafts to the SAS website. This workshop will be scheduled on February 25 (Friday) from 10am - 6pm and February 26 (Saturday) from 8am - 2pm for \$200.

Grant money can NOT be used to pay for substitutes. Your school district would need to cover this. Travel, accommodations, & meals will be covered by the Concord Consortium with receipts. Unfortunately, no alcohol will be reimbursed. If you are interesting in being a member of this

committee, please let us know by November 24th. Further details will be provided when we know who is coming. There's a lot to do in Happy Valley. We and we hope to plan some fun for the meetings. Please RSVP ASAP to kmauro@state.pa.us. Check this out! Publish Your Best (PYB) <http://www.pdesas.org/module/content/pyb/>. We look forward to hearing from you and working with you to provide the best lesson plans and materials possible in the SAS portal. Sincerely, Edward Vollbrecht, PhD.

WATERSHED FINANCIAL ASSISTANCE

1675 Foundation

This foundation offers support to organizations for arts/culture, education, the environment, health, human services and history. Priority is given to Philadelphia and Chester Counties. Grants ranging from \$2,000 to \$50,000 are available to organizations that are tax exempt under IRS Code 501(c)(3) or public charities under IRS Code 509(a). Applications are due March 1 and October 1 of each year.

<http://www.1675foundation.org/guidelines.htm>

Bridgestone Americas Trust Fund

This Trust provides charities with funding to support education, the environment/conservation, or children's programs.

<http://www.bridgestone-firestone.com/trustfund.asp>

Chesapeake Bay Trust Mini Grants

This program provides up to \$5,000.00 for projects that focus on the Chesapeake Bay Trust's priorities. These grants are typically used for educational purposes, small projects, and public awareness initiatives. Grant applications will be considered until funds are exhausted.

http://www.cbtrust.org/site/c.enJKQNoFiG/b.2028473/k.BBF6/Mini_Grant_Program.htm

Cora L. Brooks Foundation announces the availability of 2011 grants for watershed projects – Jan 10

The Foundation provides annual, anonymous grants for the purpose of environmental conservation, restoration or education within the watersheds of the Delaware and Susquehanna Rivers, with particular emphasis on environmental protection issues relating to clean water and water related ecologies. Grant amounts range from \$1,000-\$15,000 and may be used for a variety of purposes including the need for matching funds. To apply for a grant, the organization must contact the Foundation no later than December 20 to request an application package. The grant application itself is then due on January 10. Grant notifications and awards are mailed in late May, 2011. For further information, please consult www.foundationoffices.org or call 610-954-7737.

Foundation for Pennsylvania Watersheds Convening Grants – Feb 25

Grants up to \$2,000 are provided to 501(c)(3) nonprofit organizations to support project collaboration and special needs. The primary focus areas are located from the Ohio border to the Susquehanna River's mainstem. Spring LOIs are due February 25, 2011, and full proposals are due March 22, 2011. Fall LOIs are due August 26, 2011, and full proposals are due September 30, 2011.

http://www.pennsylvaniawatersheds.org/?page_id=20

Gannett Foundation – Community Action Grants – Feb 16

Funds are granted to provide education/neighborhood improvement, economic development, youth development, community problem-solving, assistance to disadvantaged people, environmental conservation and cultural enrichment. Applications are due February 16 and August 17 of each year. <http://www.gannettfoundation.org/guidelines.htm>

RBFF National Youth Fishing & Boating Initiative Education Grants – Dec 27

The Recreational Boating & Fishing Foundation (RBFF) National Youth Fishing & Boating Initiative is providing education grants for youth-focused boating, fishing and conservation organizations. Key requirements include introducing boating and fishing to minorities and underserved communities. Applications are due by December 27, 2010. <http://www.rbff.org/page.cfm?pageID=376>

William Penn Foundation Grants

This foundation provides grants that protect, conserve, and restore water resources that drain to the Delaware and Schuylkill Rivers.

http://www.williampennfoundation.org/info-url_nocat3569/info-url_nocat.htm

WREN 2011-12 Grant Application Guidelines

WREN will have both Watershed Protection and Source Water Protection grants available for the 2011-2012 grant cycle. Guidelines and application forms have been posted on the WREN website. WREN grants are funded by the League of Women Voters of Pennsylvania Citizen Education Fund through a Section 319 Federal Clean Water Act grant from the US Environmental Protection Agency administered by Pennsylvania Department of Environmental Protection. Download the guidelines and application forms at the WREN Grants page

http://wren.palwv.org/grants/grants_wren.html.

Maryland DNR Grants and Loans

Visit this site for a comprehensive list of Maryland Department of Natural Resources Grants and Loans.

<http://www.dnr.state.md.us/land/grantsandloans/index.asp>

Maryland DNR Tree-Mendous Program – Trees for Schools Project

The Trees for Schools Project assists teachers and students in Montgomery County Public Schools to plant native trees in their school yards. Six-foot tall native trees are provided at no charge to the schools with educational fact sheets on how trees benefit the environment.

<http://www.dnr.state.md.us/dnrnews/pressrelease2009/081809a.asp>

The Maryland Urban and Community Forest Committee (MUCFC) Grants

The Maryland Urban and Community Forest Committee (MUCFC) is providing maximum grants of \$1,500 to projects for tree planting and care. Grants are reviewed on or about September 15, February 15 and June 15.

<http://www.dnr.state.md.us/forests/programs/urban/grantapp.pdf>

PennVEST Loans – Pennsylvania Infrastructure Investment Authority

Loans are provided for drinking water, wastewater and stormwater loans, on-lot sewage disposal funds, and Brownfield redevelopment.

<http://www.pennvest.state.pa.us/pennvest/cwp/browse.asp?A=4>

Keystone HELP Loan Program to Help Homeowners Install Geothermal Systems

The new Keystone Home Energy Loan Program offers low-interest loans combined with companion loans in anticipation of federal tax credits for utilizing geothermal systems. <http://www.keystonehelp.com/index.php>

<http://www.portal.state.pa.us/portal/server.pt/community/newsroom/14287?id=14950&typeid=1>

Pennsylvania Department of Conservation and Natural Resources Electronic Grants System

The Department of Conservation and Natural Resources provides eGrants, an electronic grants system that contains all available DCNR grants. Applications can be submitted online. <https://www.grants.dcnr.state.pa.us/index.aspx>

Pennsylvania Historical and Museum Commission Grants Page

The PHMC offers many grants covering topics such as Historical Markers, Technical Assistance, Certified Local Governments, and more.

<http://www.portal.state.pa.us/portal/server.pt?open=512&objID=3748&&SortOrder=200&level=2&parentid=3741&css=L2&mode=2>

PA Resource Enhancement and Protection Program (REAP)

This program provides farmers and business with tax credits in exchange for Best Management Practices (BMPs) on agricultural operations to enhance production and protect natural resources. Applications will be accepted till fiscal year 2009-2010 appropriations are committed to projects.

[http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_24476_10297_0_43/http%3B/10.41.0.36/AgWebsite/ProgramDetail.aspx?name=Resource-Enhancement-and-Protection-\(REAP\)-&navid=12&parentnavid=0&palid=22&](http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_24476_10297_0_43/http%3B/10.41.0.36/AgWebsite/ProgramDetail.aspx?name=Resource-Enhancement-and-Protection-(REAP)-&navid=12&parentnavid=0&palid=22&)

H2O PA – High Hazard Unsafe Dam Projects

Grants between \$500,000 and \$20,000,000 are provided to municipalities, municipal authorities, the Commonwealth and independent agencies for projects that repair, rehabilitate, or remove all or some of a high hazards unsafe dam.

<http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/funding-detail/index.aspx?progId=190>

Pennsylvania Conservation Programs

To find the best conservation program for you, visit <http://www.pa.nrcs.usda.gov/programs/>

Coldwater Conservation Planning Grants

Grants are awarded to help develop conservation plans to identify the values and threats to the health of Pennsylvania's coldwater ecosystems that have naturally reproducing trout. Grants average approximately \$6,000 for outlining strategies to best conserve and protect coldwater fisheries. Applications are due December 17, 2010. <http://www.coldwaterheritage.org/grantapplication.htm>

Coldwater Conservation Implementation Grants

Grants are awarded to help implement projects identified in the 65 Coldwater Conservation Plans funded since 2003. Projects should enhance, conserve or protect the coldwater stream as stated in the already completed Coldwater Conservation Plan. Awards average approximately \$7,000. Applications are due December 17, 2010. <http://www.coldwaterheritage.org/grantapplication.htm>

PA DEP: Environmental Education Grants

Grants are provided up to \$7,500 to create or develop projects that support environmental education in Pennsylvania. Topics include sustainable energy sources and technologies, carbon capture and storage/climate change, air quality, watersheds and wetlands, and Chesapeake Bay watershed education. Applications are due December 17, 2010.

For more information, visit http://www.portal.state.pa.us/portal/server.pt/community/environmental_education/13903/grants/588549

PA Conservation Corps Grant Program

Grants are available to political subdivisions for providing work experience and educational opportunities to unemployed young adults on projects on public lands in this Commonwealth. Funds can be used to purchase construction materials and contracted services. Political subdivision must provide a 25 percent cash match. Applications are due January 7, 2011. For more information, visit

NFWF Innovative Nutrient and Sediment Reduction Grants – Feb 18

The National Fish and Wildlife Foundation (NFWF) issued an RFP this week for Innovative Nutrient and Sediment Reduction Grants. NFWF, in partnership with EPA and the Chesapeake Bay Program, will award grants on a competitive basis of between \$200,000 and \$1 million each to support the demonstration of innovative approaches to expand the collective knowledge about the most cost-effective and sustainable approaches to dramatically reduce or eliminate nutrient and sediment pollution to the Chesapeake Bay and its tributaries. A total of up to \$5.8 million will be awarded through this solicitation. The RFP can be found at www.nfwf.org/chesapeake. Applicants are encouraged to participate in a webinar on Friday, Feb.18. Registration information is available at the site above.

NOAA Environmental Literacy Grants for Formal K-12 Education – Jan 12

The goal of this funding opportunity is to support K-12 education projects that advance inquiry-based Earth System Science learning and stewardship directly tied to the school curriculum, with a particular interest in increasing climate literacy. To address this goal, this solicitation will support service-learning and professional development projects related to NOAA's mission in the areas of ocean, coastal, Great Lakes, weather and climate sciences and stewardship. A successful project will catalyze change in K-12 education at the state, regional and national level through development of new programs and/or revision of existing programs to improve the environmental literacy of K-12 teachers and their students. A successful project will also leverage NOAA assets, although use of non- NOAA assets is also encouraged. The target audiences for this funding opportunity are K-12 students, pre- and in-service teachers, and providers of pre-service teacher education and in-service teacher professional development. There is a special interest in projects that address reaching groups traditionally underserved and/or underrepresented in Earth System science. It is anticipated that awards under this announcement will be made by June 30, 2011 and that projects funded under this announcement will have a start date no earlier than July 1, 2011. The closing date for applications is January 12, 2010.

USDA Rural Development Water and Waste Disposal (WWD) Loan and Grant Program for Rural Areas

This program provides loans, grants, loan guarantees and technical assistance for water, sanitary, waste and storm drainage facilities in rural areas and towns of 10,000 or less. Assistance is provided to public entities, non-profit organizations and federally recognized Indian tribes. Applications are accepted continually. <http://www.usda.gov/rus/water/program.htm>

USDA Technical Assistance and Training Grants for Rural Areas

These grants are provided for identifying solutions for water and waste disposal problems, assist in preparing applications for water and waste grants, and improving operations and maintenance of existing facilities. Private non-profit organizations located in rural areas and towns of 10,000 or less are eligible. Applications accepted October 1 through December 31 every year. <http://www.usda.gov/rus/water/tatg.htm>

USDA Solid Waste Management Grant Program for Rural Areas

These grants are provided to public bodies, private non-profit organizations and Native American tribes for reducing/eliminating pollution of water resources and improving planning/management of solid waste sites in rural areas. Applications accepted October 1 through December 31 every year. <http://www.usda.gov/rus/water/SWMG.htm>

USDA Chesapeake Bay Watershed Initiative

Under the Chesapeake Bay Watershed Initiative (CBWI), eligible landowners can use available technical and financial assistance to address soil erosion, sedimentation, and excess nutrients in streams and waterways, as well as other related natural resource concerns such as air quality, wetlands, wildlife habitat, and forestry. Applications for CBWI will be accepted continuously and evaluated on a monthly basis. To apply, farmers must fill out an application form and contact their local NRCS office. Pennsylvania agricultural producers located within the Chesapeake Bay watershed may be eligible to apply. <http://www.pa.nrcs.usda.gov/programs/cbwi/index.html>

USDA's NRCS Grants to Protect Private Forest Land in Pennsylvania

The USDA's Natural Resource Conservation Service (NRCS) is providing grants in Adams, Adams, Armstrong, Beaver, Bedford, Berks, Blair, Cambria, Centre, Huntingdon, Mifflin, Snyder and York Counties to protect Pennsylvania's forest land through the Healthy Forests Reserve Program (HFRP). The HFRP grants will be focused on protecting and improving critical habitat for the Indiana bat (*Myotis sodalists*), a federally listed endangered species. Applications will be accepted on a continuous basis until funding is exhausted.

<http://www.pa.nrcs.usda.gov/programs/HFRP/index.html>

USDA – Healthy Forests Reserve Program (HFRP)

The U.S. Dept. of Agriculture's Natural Resources Conservation Service (NRCS) is providing funds to protect forested land preferred by the Indiana bat, which is a federally listed endangered species. Funding will go to projects in 12 Pennsylvania counties that protect and improve critical habitat. Applications will be accepted continuously until the available \$1.1 million is exhausted. For more information, visit

<http://www.pa.nrcs.usda.gov/programs/HFRP/index.html>.

USEPA Wetland Grants Database (WGD)

The WGD is a database provides information on Wetland Program Development Grants such as project descriptions, grant amounts, final reports, geolocation information, case studies, and more. They also have a "Model Products" section that highlights valuable products. It is meant to be a learning tool for applicants to learn from what others have done. To view the database, visit

<http://iaspub.epa.gov/pls/grts/f?p=101:1> and click on the link that says, "Click here for Public Access (read-only)."

USEPA Sustainable Chesapeake: A Collaborative Approach to Urban Stormwater Management – Jan 31

EPA is seeking proposals for integrated, transdisciplinary research centers that will advance scientific understanding of how to influence human and institutional behavior to prevent pollution from entering Chesapeake Bay. Presidential Executive Order 13508 (Executive Order, 2010) directs the Federal government to lead efforts to restore and protect the Chesapeake Bay. To that end, the U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications for "Sustainable Chesapeake" Research Centers to explore sustainable urban stormwater management. EPA is specifically interested in supporting research to identify new, collaborative approaches to reduce urban stormwater inputs into Chesapeake Bay. Each Center research project should include three components: physical/biological science, social science, and measures of success or progress. Research areas of interest include: applying existing stormwater-reduction techniques in new ways; developing new techniques and technologies; identifying the reasons existing strategies to restore or protect the Chesapeake Bay have succeeded or failed; developing methods and metrics to document water-quality improvements in Chesapeake Bay tributaries; and developing sector-specific strategies such as for residential areas, industrial settings, commercial developments, or transportation infrastructure. The closing date for applications is January 31, 2011.



WATERSHED FACILITATION ASSISTANCE

iSTREEM(tm) Webinar Will Demonstrate Free Model to Predict Chemical Concentrations in Waterways – Jan 13

The American Cleaning Institute (ACI) invites you to join us for a free webinar on iSTREEM™, our web-based computer model that predicts the concentration of a chemical used in a formulated 'down-the-drain' product (e.g., pharmaceuticals and personal care products) in the effluent of more than 12,000 wastewater treatment plants throughout the continental United States, their resultant mixing zones, riverine concentrations and drinking water intake concentrations downstream of wastewater discharges. The webinar will be held on Thursday, January 13, 2011 from 2:00-3:30 pm EST. Space is limited, so reserve your webinar seat now at <https://www2.gotomeeting.com/register/379362435>. ACI is making iSTREEM™ freely available to the public to promote product stewardship and regulatory compliance for formulated consumer products of all kinds. So, feel free to pass this invitation along to associates who you think might also be interested in utilizing this new tool. Presenters will include Dr. Paul DeLeo of ACI, Dr. Scott Dyer of The Procter & Gamble Company, and Dr. Xinhao Wang of the University of Cincinnati.

NCSE to Hold the 11th National Conference on Science, Policy and the Environment: Our Changing Oceans – Jan 19-21

National Council for Science and the Environment (NCSE) to Hold the 11th National Conference on Science, Policy and the Environment: Our Changing Oceans January 19 - 21, 2011 in Washington, D.C. This conference will provide a forum to address the crisis facing our oceans, new knowledge and innovative tools to effectively face the challenge, and the policy and governance needed to restore and protect the oceans. The conference will bring together scientists, professionals, policy makers, university faculty and students, and educated citizens from a wide range of disciplines to share their perspectives and work to address the topic at hand.

National Green Infrastructure Conference 2011 – Feb 23-25

National Green Infrastructure Conference 2011 February 23-25, 2011 in Shepherdstown, West Virginia. The Inaugural 2011 National Green Infrastructure Conference is a gathering of policy-makers, practitioners, and on-the-ground implementers of green infrastructure practices and design from around the country. This is the first official conference of the National Green Infrastructure Community of Practice. Hear nationally recognized speakers from across the country discuss key elements for success and vital lessons-learned in implementing green infrastructure strategies on-the-ground. Explore techniques for planning and design of green infrastructure networks at multiple scales. The Honorable Karl Dean, Mayor of Nashville, Tennessee, will discuss connecting community economic development to green infrastructure planning with the unveiling of the Nashville Open Space Plan. Plus, participate in the development of a national strategy for Green Infrastructure!

Mark Your Calendars - GardenWise 2011 – Mar 12

March 12, 2011, 8:00 a.m. to 3:30 p.m. York Suburban High School, York, PA 17402. Ever wonder if those home remedies you hear about really work? Keynote speaker Jeff Gillman, professor of horticulture at the University of Minnesota, and author of The Truth About Garden Remedies, and The Truth About Organic Gardening, unravels these questions and gives us practical answers. Look for the registration brochure in the mail or on these websites January 1, 2011. <http://york.extension.psu.edu> or www.maescapes.org.

Balancing Nature and Commerce in Communities that Neighbor Public Lands – Apr 18-20

April 18-20, 2011 in Shepherdstown, WV. During this three-day course teams will focus on the economics, natural resources and community character of their areas and learn valuable partnership-building skills. At the end of the course, teams will leave with a specific action plan for implementing a collaborative project when they return home. We heard you! This year's course offering has been streamlined to allow for the most efficient use of your time without compromising learning, and providing a better economical value! To discuss forming a team, call us! For more information, please contact Margarita Carey at (304) 876-7924 / mcarey@conservationfund.org or Kris Hoellen at (304) 876-7462 / khoellen@conservationfund.org. Learn more...
http://www.conservationfund.org/course/balancing_nature_and_commerce_communities_neighbor_public_land



WATERSHED TECHNICAL ASSISTANCE

Many Coastal Wetlands Likely to Disappear This Century, Scientists Say

ScienceDaily (Dec. 3, 2010) – Many coastal wetlands worldwide – including several on the U.S. Atlantic coast – may be more sensitive than previously thought to climate change and sea-level rise projections for the 21st century. U.S. Geological Survey scientists made this conclusion from an international research modeling effort published December 1 in the journal Geophysical Research Letters, a publication of the American Geophysical Union. Scientists identified conditions under which coastal wetlands could survive rising sea level. Using a rapid sea-level rise scenario, most coastal wetlands worldwide will disappear near the end of the 21st century. In contrast, under the slow sea-level rise projection, wetlands with low sediment availability and low tidal ranges are vulnerable and may drown. However, in the slow sea-level rise projection, wetlands with higher sediment availability would be more likely to survive. Several coastal marshes along the east coast of the United States, for example, have limited sediment supplies and are likely to disappear this century. Vulnerable east coast marshes include the Plum Island Estuary (the largest estuary in New England) and coastal wetlands in North Carolina's Albemarle-Pamlico Sound (the second-largest estuary in the United States). USGS scientists specifically identified the sediment levels and tidal ranges (difference between high and low tide) necessary for marshes to survive sea-level rise. As water floods a wetland and flows through its vegetation, sediment is carried from upstream and deposited on the wetland's surface, allowing it to gain elevation. High tidal ranges allow for better sediment delivery, and the higher sediment concentrations in the water allow wetlands to build more elevation. Coastal wetlands provide critical services such as absorbing energy from coastal storms, preserving shorelines, protecting human populations and infrastructure, supporting commercial seafood harvests, absorbing pollutants and serving as critical habitat for migratory bird populations. These resources and services will be threatened as sea-level rise inundates wetlands. The rapid sea-level rise scenario used as the basis for this study is accredited to Stefan Rahmstorf at Potsdam University, one of the contributing authors of the Intergovernmental Panel on Climate Change Fourth Assessment

Report. The slow sea-level rise projection is from the A1B scenario of the Intergovernmental Panel on Climate Change Fourth Assessment Report.

Rain Gardens Are Sprouting Up Everywhere

ScienceDaily (Dec. 2, 2010) — Rain gardens are increasingly popular with homeowners and municipalities and are mandatory for many communities nationally. U.S. Department of Agriculture (USDA) scientists are finding ways to improve rain gardens so they not only reduce runoff, but also keep toxic metals out of storm drains. Rain gardens are plantings in depressions that catch stormwater runoff from sidewalks, parking lots, roads and roofs. Rain gardens come in various shapes and sizes, from large basins carved by front-end loaders to small artificial streambed-like formations complete with pebbles. Rain gardens not only slow water down to give it time to soak into the ground and be used by plants, but also filter out sediment and chemical pollutants. Plant physiologist Rich Zobel at the Agricultural Research Service (ARS) Appalachian Farming Systems Research Center (AFSRC) at Beaver, W.Va., and research associate Amir Hass, who works for West Virginia State University in Institute, W.Va., and is stationed at Beaver, are working on improving rain gardens. They are collaborating with ARS hydrologist Doug Boyer and ARS soil chemist Javier Gonzalez at Beaver, and colleagues at the ARS Southern Regional Research Center (SRRC) in New Orleans, La., and the ARS Eastern Regional Research Center (ERRC) in Wyndmoor, Pa. ARS is USDA's principal intramural scientific research agency, and this research supports USDA's commitment to agricultural sustainability. The scientists at the SRRC found that poultry litter biochar-activated carbons created from the charred remains of poultry litter-is a powerful pollutant magnet. It can attract heavy metals such as copper, cadmium and zinc, which are ordinarily tough to snag from wastewater. ARS chemists Isabel Lima and Wayne Marshall (now retired) at the SRRC developed the ARS-patented method for turning agricultural bio-waste into biochar. They created the biochar by subjecting poultry litter – bedding materials such as sawdust, wood shavings and peanut shells, as well as droppings and feathers – to pyrolysis, a high-temperature process that takes place in the absence of oxygen. Hass and colleagues are testing the poultry litter biochar as well as other farm and industrial byproducts at two demonstration rain gardens in the Beaver area, as well as at plots at a county landfill and a mineland reclamation site. Read more about this research in the November/December 2010 issue of Agricultural Research magazine at: <http://www.ars.usda.gov/is/AR/archive/nov10/gardens1110.htm>

Front End Solution to a Back End Problem

Precision feeding of dairy cows is a great way to address water quality concerns in local waterways and the Chesapeake Bay. So what is precision feeding? It is feeding dairy cows to most precisely meet their nutrient requirements based on their level of production. Because precision feeding depends on the level of milk production it is a very farm specific practice that can be difficult to identify without evaluating more than just the nitrogen and phosphorus content of the ration. However, the ration is the first place to start when implementing precision feeding and we will start there with more specifically defining precision feeding. Phosphorus is a required nutrient for the cow, but it can be supplied in the ration at levels greater than what she needs. Any excess phosphorus is excreted in the manure and provides no benefit to the cow. In general, a phosphorus level of 0.37% of the ration is enough to meet the needs of most animals. Supplementation of phosphorus in dairy rations is rarely needed and is a quick ration adjustment to make. Many farms are doing better at feeding a lower phosphorus diet, but byproducts (brewer's grains, distiller's grains, etc.) tend to be a cheaper feed alternative to more traditional feedstuffs, but they are also high in phosphorus. Therefore, incorporating byproducts into a ration can lead to higher phosphorus diets than would be recommended. Nitrogen is the other nutrient we are most concerned with and, like phosphorus, excess nitrogen above what the cow needs for her level of milk production will be excreted in the urine. However, unlike phosphorus, nitrogen cannot simply be reduced in the ration without potential negative impacts. The amount of energy in the ration along with a number of other factors greatly impacts how efficiently nitrogen is utilized by the cow and how much needs to be included in the ration. If other aspects of the ration are not balanced correctly or there is a problem with how feed is managed on the farm reducing the protein content of the ration could potentially lead to a loss of milk production. When done correctly precision feeding will not only benefit local water ways, but will also increase the profitability of the dairy farm by reducing feed costs, but if implemented improperly it can lead to a loss of milk production. Therefore, implementation of precision feeding requires that the nutritionists and the farmer be educated on this practice before it should be implemented on the farm. Penn State University along with other organizations have, and continue to, provide education to farmers and nutrition consults on how to best implement precision feeding on a farm. Here is a link to the Penn State Extension website with more information on feeding dairy cattle. <http://www.das.psu.edu/research-extension/dairy/nutrition>

Eutrophication Makes Toxic Cyanobacteria More Toxic

ScienceDaily (Dec. 9, 2010) — Continued eutrophication of the Baltic Sea, combined with an ever thinner ozone layer, is favouring the toxic cyanobacterium *Nodularia spumigena*, reveals research from the University of Gothenburg, Sweden. As a result, wastewater treatment processes that concentrate on removing nitrogen can make cyanobacterial blooms more toxic. Wastewater therefore needs to be cleared of both nitrogen and phosphorus. Mohlin's research shows that *Nodularia spumigena* can be expected to be most toxic at the beginning of a bloom in July. At that time there is generally more phosphorus than nitrogen in the water, and the cyanobacteria have not yet to float to the surface but are found deeper in the water where they have not yet been exposed to UV light. Surface blooms of cyanobacteria, which are a type of phytoplankton, have increased in both frequency and magnitude in the Baltic Sea in recent decades, and researchers are divided on the cause. Some put it down to eutrophication – an excess of nutrients in the water – caused by human emissions of nitrogen and phosphorus over the past 150 years. Others have studied the Baltic Sea's bottom sediment and argue that this is a natural phenomenon that has been ongoing for more than 7,000 years and is due instead to climate variations. Different species of nitrogen-fixing cyanobacteria bloom at different times. Aphanizomenon species tend to bloom from May to June, but from July to August the toxic species *Nodularia spumigena* normally dominates for as long as the surface water is warm and still. The toxin it produces is called nodularin and is a hepatotoxin – a toxin that attacks the liver. Livestock and dogs around the Baltic Sea have died after consuming large quantities of toxic water during blooms.

Phosphorus export from a restored wetland ecosystem in response to natural and experimental hydrologic fluctuations

Marcelo Ardón et. al, Department of Biology, Duke University, Durham, North Carolina, USA. Wetland restoration is a commonly used approach to reduce nutrient loading to freshwater and coastal ecosystems, with many wetland restoration efforts occurring in former agricultural fields. Restored wetlands are expected to be effective at retaining or removing both nitrogen and phosphorus (P), yet restoring wetland hydrology to former agricultural fields can lead to the release of legacy fertilizer P. Here, we examined P cycling and export following rewetting of the Timberlake Restoration Project, a 440 ha restored riverine wetland complex in the coastal plain of North Carolina. We also compared P cycling

within the restored wetland to two minimally disturbed nearby wetlands and an adjacent active agricultural field. In the restored wetland we observed increased soluble reactive phosphorus (SRP) concentrations following initial flooding, consistent with our expectations that P bound to iron would be released under reducing conditions. SRP concentrations in spring were 2.5 times higher leaving the restored wetland than a forested wetland and an agricultural field. During two large-scale drawdown and rewetting experiments we decreased the water depth by 1 m in ~10 ha of inundated wetland for 2 weeks, followed by reflooding. Rewetting following experimental drainage had no effect on SRP concentrations in winter, but SRP concentrations did increase when the experiment was repeated during summer. Our best estimates suggest that this restored wetland could release legacy fertilizer P for up to a decade following hydrologic restoration. The time lag between restoration and biogeochemical recovery should be incorporated into management strategies of restored wetlands. *JOURNAL OF GEOPHYSICAL RESEARCH*, VOL. 115, G04031, 12 PP., 2010 doi:10.1029/2009JG001169

Ecological Outcomes and Evaluation of Success in Passively Restored Southeastern Depressional Wetlands

Depressional wetlands may be restored passively by disrupting prior drainage to recover original hydrology and relying on natural revegetation. Restored hydrology selects for wetland vegetation; however, depression geomorphology constrains the achievable hydroperiod, and plant communities are influenced by hydroperiod and available species pools. Such constraints can complicate assessments of restoration success. Sixteen drained depressions in South Carolina, USA, were restored experimentally by forest clearing and ditch plugging for potential crediting to a mitigation bank. Depressions were assigned to alternate revegetation methods representing desired targets of herbaceous and wet-forest communities. After five years, restoration progress and revegetation methods were evaluated. Restored hydroperiods differed among wetlands, but all sites developed diverse vegetation of native wetland species. Vegetation traits were influenced by hydroperiod and the effects of early drought, rather than by revegetation method. For mitigation banking, individual wetlands were assessed for improvement from pre-restoration condition and similarity to assigned reference type. Most wetlands met goals to increase hydroperiod, herb-species dominance, and wetland-plant composition. Fewer wetlands achieved equivalence to reference types because some vegetation targets were incompatible with depression hydroperiods and improbable without intensive management. The results illustrated a paradox in judging success when vegetation goals may be unsuited to system constraints. *Wetlands Volume 30, Number 6, 1129-1140, DOI: 10.1007/s13157-010-0100-4*

DEP Publishes Riparian Forest Buffer Guidance

The Department of Environmental Protection published Riparian Forest Buffer Guidance as final in the Pennsylvania Bulletin on November 27, 2010. The guidance outlines recommendations for restoration and protection of riparian forest buffers that are useful in mitigating or controlling point and non-point source pollution to surface waters. The primary purpose of this guidance is to assist DEP staff in developing general buffer recommendations for regulatory, voluntary, and grant programs. It will also serve to assist any interested entities (municipal, regional, state, federal, and others) in understanding the functions and values of riparian forest buffers, the importance of sustaining and enhancing riparian forest buffers, and in developing appropriate science-based guidelines or policies. The guidance can be found at: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-82308/394-5600-001.pdf>

EPA Launches Website to Increase Transparency of Regulatory Activity

The U.S. Environmental Protection Agency (EPA) has launched a new website called Reg Stat. This website will assist the public by providing the number, type, and range of regulatory documents developed each year. The site provides information on EPA documents published in the Federal Register between 2005 and 2009. Summary graphics and searchable data tables are provided. EPA News Release, December 3, 2010. <http://www.epa.gov/regstat>

EPA Seeks Comments on New Web-based Tool for Accessing Wastewater Pollutant Discharge Information: "Beta" Version Now Available

The U.S. Environmental Protection Agency (EPA) has released a "beta" version of a new web-based tool that allows anyone to search and identify the amount, type, and location of wastewater pollutant discharges and the identity of the discharger. EPA is seeking comments on how to improve this tool and on the accuracy of the discharge monitoring data supporting it. This new tool supports the Agency's Clean Water Act Action Plan, which seeks to improve transparency of information and public knowledge about pollutant releases that may cause water quality impairments. EPA will accept comments on the new tool through February 4, 2011. This two-month period will also allow reviewers to submit requests to EPA to correct any data they suspect is in error. To access the "beta" version of the tool go to: <http://www.epa.gov/pollutantdischarges/>. For more information, contact Carey Johnston at johnston.carey@epa.gov.

EPA to Hold Listening Session to Obtain Input for the Next Vessel General Permit

The U.S. Environmental Protection Agency (EPA) will hold a listening session to obtain stakeholder input on suggested improvements for the next Vessel General Permit (VGP). The VGP is a Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit that authorizes, on a nationwide basis, discharges incidental to the normal operation of vessels. EPA seeks the views of the public on requirements currently contained in the 2008 VGP and any changes or additions recommended for the next Vessel General Permit. The 2008 VGP expires on December 19, 2013, and EPA has begun the process of developing the next Vessel General Permit. EPA will accept written comments and relevant information for developing the next permit until December 31, 2010. The listening session will be held on December 15, 2010, from 9:00 a.m. to 5:00 p.m. at EPA Headquarters in the EPA East Building at 1201 Constitution Ave. NW, Room 1153, Washington, D.C. 20004. For more information on the listening session and information on the Vessel General Permit, and to view the Federal Register notice: <http://cfpub.epa.gov/npdes/vessels/programdevelopment.cfm>.

EPA's Sustainable Finance Tools

Committed watershed organizations and state and local governments need adequate resources to achieve the goals of the Clean Water Act and improve our nation's water quality. To support these efforts, the U.S. Environmental Protection Agency (EPA) has created this web site to provide tools, databases, and information about sources of funding to practitioners and funders that serve to protect watersheds. Search through sustainable finance tools, requests for proposals, and training opportunities. In addition, visit the new [Financially Sustainable Water Infrastructure website](#).

