



## SER Mid-Atlantic Chapter Conference 2015 Presents

### Three Field Trip Options

**Saturday March 28, 2015**

**9:15 AM (depart) to 3:45 PM (arrive)**

**Buses/Van depart from and return to:**

**Clayton Conference Center at UD – Newark**

**100 David Hollowell Drive - Newark, Delaware 19716**

**GPS: 100 New London Road**

**(Field trips have limited capacity)**

SER Mid-Atlantic is pleased to announce three field trips to be held in conjunction with the 2015 conference. Please register for the field trip of your choice when you register for the conference. Field trips require some walking on hilly and uneven terrain, unpaved surfaces and possibly wet ground. Sturdy, water-resistant shoes and weather-appropriate apparel are recommended. Participants may want to bring binoculars, cameras, and note-taking supplies.

**Boxed lunches are provided. Vegetarian options are available upon request at registration.**

### Field Trip# 1- Three Restoration Projects in the White Clay Creek Watershed at Delaware Park, Newark, DE

This field trip will begin at the U Delaware Clayton Conference Center and proceed to a classroom for a short presentation. A bus/van will take participant just a few miles to the field trip location at Delaware Park. The Delaware Park facility encompasses a country club and golf course, horse racing track and facilities, and a casino. The White Clay Creek, part of a National Wild and Scenic Watershed, and Mill Creek flow through portions of the facility. During the original construction of the facility and golf course, restoration took place along the streams, some of it compensatory and some to protect the new infrastructure. The field trip will visit three locations that have been restored since 2010. **Field Trip hosts are: Mr. Doug Janiec, Natural Resources Program Manager, Sovereign Consulting, Inc.,** who was the lead designer on all three projects and is also member of the White Clay Creek Anadromous Fish Restoration Advisory Committee (WCCAfrac) and **Dr. Gerald (Jerry) Kauffman, Director, University of Delaware Water Resources Agency (WRA).** Dr. Kaufman also chairs the WCCAfrac, and was modeler and project manager for the recent American River-funded dam removal.

**Limited to the first 15 participants who register for Field Trip #1. / Golf carts will be used to shuttle to the three stops described below.**



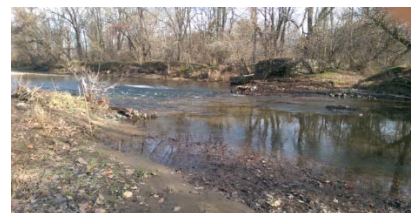
#### Stop 1: WCC Stream Bank Restoration and Enhancement at Hole 1

This significant stream bank stabilization project introduced a new Coastal Plain high bank stabilization technique using "stunted log vanes". The process was published in a 2011 article in *Land & Water Magazine* and won the 2012 American Council of Engineering Companies–Delaware (ACEC-DE) Conceptor Award.



**Stop 2: WCC Stream Bank Restoration and Enhancement at Hole 12** showcases a large boulder weir reconfiguration that was implemented in order to eliminate rapid bank loss. The weir provided necessary adjustments to previously deployed stream work and serves as an example of how Rosgen technique standards need to be adjusted for Coastal Plain applications. The photo is an example that a weir installed in the coastal plain can go wrong. At the field trip you will learn about the corrective action.

**Stop 3: WCC Dam 1 Removal Project.** This is the first dam that has been removed in Delaware with the purpose of restoring habitat for anadromous fish. The dam had been built in the 1770s. It is associated with a temporary headquarters for then General George Washington during the American Revolutionary War. The dam was removed in December 2014 using funding sources that were provided through American Rivers.



## Field Trip # 2 – Restorations at Red Clay and Brandywine Areas of Delaware's Piedmont

**Matt Sarver, of Sarver Ecological, LLC**, who serves on Boards for SER Mid-Atlantic, the Mid-Atlantic Invasive Plant Council, and the Delmarva Ornithological Society, has put together a field trip that will weave through the Red Clay and Brandywine Piedmont Region of Northern Delaware.

**Due to the Van Capacity, Field Trip #2 is limited to the first 30 participants who register.**

**Stop # 1 Mt Cuba Center** is a renowned botanical garden with a focus on native plants and ecosystems. In addition to 50 acres of display gardens, Mt. Cuba Center's Natural Lands consist of nearly 550 acres of steeply rolling hills, stream valleys, rock outcrops, and deciduous forests. 35 state-rare flora species and 3 state-rare fauna species are found here. **Host Nathan Shampine, Natural Lands Manager, Mount Cuba Center**, will discuss data-driven restoration and land management, native plants, and invasive species management.



**Stop # 2 Coverdale Farm Preserve** consists of 352-acres scenic rolling hillsides, fields, floodplain meadows, mature woodlands, a pond, and the beautiful stream valley. It is recognized for abundant birdlife, butterflies, and wildflowers, and a 196-acre preserve that includes the Burrows Run valley. Managed by the Delaware Nature Society, it has permanent protection as part of the state System of Nature Preserves and is maintained as a model for biodiversity management; the valley is the location of various ecological surveys and offers a venue for scientific research. **Hosts Jim White, Associate Director of Land Management at Delaware Nature Society, and Rick McCorkle, Wildlife Biologist, Delaware Bay Estuary Project, US Fish and Wildlife Service**, will showcase recent projects including native meadow creation and improvement, riparian woodland and wetland restoration, and management for species of special concern.

**Stop # 3 Flint Woods Preserve** is a 170-acre, private estate situated in the Piedmont region of Delaware. The property's unique topography and rock outcroppings did not lend itself to farming, thus preserving what are now some of the state's oldest forests. Lying beneath the trees in this forest is a wide variety of spring ephemerals, seventeen species of ferns, several seeps and streams that provide habitat to a wide array of rare herps, and an understory that provides cover to nesting songbirds that comprise part of the 171 species of birds that have been observed on the property. Outside of the forests are 70 acres of meadows, 35 of which were recently established from no-till grain fields. **Hosts Jared Judy and Mike Weaver, Flintwoods Preserve Land Managers**, will present recent restoration projects and adaptive management strategies, such as deer management, prescribed fire, invasive species control and native meadow establishment.



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## Field Trip# 3- A Day at Stroud™ Water Research Center (SWRC) with Three Restoration Site and a Tour of the Center

**Field Trip #3 is limited to the first 30 participants who register. For this Field Trip only, participants may drive independently to SWRC at 970 Spencer Road, Avondale, PA. For those driving to the SWRC (and not taking the bus), please notify Yousuf Nejati (yousufnejati@gmail.com) or Sue Anne Alleger (saalle54@aol.com) before the morning of the field trip.**



**Stroud™ Water Research Center (SWRC)** is located on the banks of White Clay Creek (WCC), a Wild and Scenic River (WSR) corridor. SWRC has several ongoing research and restoration activities along this section of the creek. This field trip will tour SWRC's site for NSF-funded Long-Term (1988-present) Research in Environmental Biology (LTREB) that is focused on understanding stream and riparian zone ecological response to reforestation of the riparian zone and seeds to document the temporal dynamics of a stream ecosystem restoration trajectory.

The tour will visit restoration sites that serve as research sites. Studies are arranged around three stream-side experimental treatments: a meadow (maintained as such in perpetuity), an afforesting segment (reforested in the mid-1980s), and a mature forest segment (75-150 year old trees). Finally, attendees will tour SWRC facilities that include best management strategies for managing stormwater runoff, rainwater capture for reuse, and a novel method for wastewater treatment (a wetland wastewater treatment system). **Hosts from SWRC include Dave B. Arscott (Asst. Dir and Research Scientist), Melinda Daniels (Fluvial Geomorphologist), of Matt Ehrhart (Dir. of Watershed Restoration).** For more information about FT #3, a copy of the field trip abstract is provided on the conference website.



## Field Trip Host Biographies:

### Field Trip 1: Three Restoration Projects in the White Clay Creek Watershed at Delaware Park

**Douglas Janiec**, Natural Resources Program Manager and Senior Restoration Ecologist at Sovereign Consulting, Inc. have more than a quarter of a century of stream assessment and restoration experience. He was the lead designer on all three stream projects being presented on this field trip, one of which was both published in the Land and Water Magazine and was the recipient of the 2012 Engineering Excellence Conceptor Award from the American Council of Engineering Companies of Delaware. In addition to stream restoration, his experience extends to ecological risk assessment, toxicology, regulatory issues, climate change, and coastal living shoreline design. He is an active Board member for the SER Mid-Atlantic Chapter, the Partnership for the Delaware Estuary, the Water Resource Association for the Delaware River Basin, and the White Clay Watershed Association, on the Steering Committee for the White Clay Creek Wild & Scenic Program, and a member of the White Clay Creek Shad Restoration Advisory Committee.

**Dr. Gerald Kauffman**, Director, University of Delaware Water Resources Agency and Assistant professor of Public Policy and Administration at the University of Delaware. Dr. Kaufman received his PhD in Marine Policy at the University of Delaware 2014 in Marine Policy and MPA in Watershed Policy at the University of Delaware in 2003. His research interests are watershed policy, planning, and management, water resources engineering, hydrology, and hydraulics. Dr. Kaufman chairs the White Clay Creek Anadromous Fish Restoration Advisory Committee (WCCAFRAC), part of the restoration team which included the University of Delaware's Water Resources Agency, DNREC's Division of Fish and Wildlife, Duffield Associates, Delaware Park, New Castle Conservation District and was modeler and project manager for the dam removal project along the White Clay Creek. Also, Dr. Kauffman is presently Vice Chairman of the Water Supply Use Charge Committee at Delaware River Basin Commission and Board Member at the Partnership for the Delaware Estuary, Wilmington, Delaware.

### Field Trip 2: Restorations at Red Clay and Brandywine Areas of Delaware's Piedmont

#### **Stop 1: Mount Cuba Center**

Nathan Shampine, Natural Lands Manager, Mount Cuba Center - Nathan is the Natural Lands Manager at Mt. Cuba Center. He has a degree in Environmental and Forest Biology from the State of New York College of Environmental Science and Forestry. His work at Mt. Cuba Center focuses on promoting ecosystem health and function, supporting environmental education and scientific research, creating habitat and species diversity, increasing interior forest, and maximizing connectivity of habitats within the landscape. Nathan follows the Adaptive Management framework of planning, implementing, monitoring, and evaluating management actions to guide and inform future management decisions.

#### **Stop 2: Coverdale Farm Preserve**

**Jim White**, Associate Director of Land Management at Delaware Nature Society. Jim is a native Delawarean, a graduate of the University of Delaware and has worked for the Delaware Nature Society for over 25 years. He has led natural history field trips to many areas of the East Coast, from Maine to Florida, and has also led extended trip to numerous tropical areas from Costa Rica to Peru. In addition to birds, insects, and nature photography, Jim's primary interest is herpetology (amphibians and reptiles). He teaches herpetology at the University of Delaware and, along with his wife Amy, co-authored a 250-page field guide, *Amphibians and Reptiles of Delmarva* (2002: rev. 2008). Jim is a native Delawarean and. He has worked for the Delaware Nature Society for 32 years, is currently serving as the Senior Fellow for Land and Biodiversity Management. Jim oversees the management of just over 2,000 acres of land in Delaware.

**Rick McCorkle**, Fish & Wildlife Biologist, U.S. Fish & Wildlife Service (FWS) - Rick earned his bachelor's degree in Wildlife Management from Unity College, in Maine, and his master's degree in Applied Ocean Science from the University of Delaware. He has worked for FWS for 25 years. During this time his primary focus has been habitat restoration, including wetland restoration, reforestation, streambank stabilization, and, more recently, stream channel restoration. Rick also led the effort to develop habitat models and map the geographic distributions of all breeding birds, mammals, reptiles and amphibians in Maryland, Delaware and New Jersey, under the National Gap Analysis Program. Most recently Rick has been involved in efforts to recover the bog turtle which is listed as threatened under the federal Endangered Species Act. His role in this recovery effort has mostly involved wetland restoration, invasive species control, and development of site management plans for the species.

### **Stop 3: Flint Woods Preserve**

**Jared Judy**, Flint Woods Preserve Land Manager is a land manager at Flint Woods Preserve in Centerville, Delaware. He received his M.S. from the University of Delaware in Applied Ecology and has 12 years of land management experience working in New Jersey, Texas, and Delaware. Much of his work has focused on grassland establishment and management, with a focus on improving or creating habitat for avian species.

**Mike Weaver**, Flint Woods Preserve Land Manager – Mike graduated from Harrisburg Area Community College with an AA degree in Liberal Arts and completed the two-year Professional Gardener Training Program at Longwood Gardens. He has over forty years of experience in horticulture and property maintenance and has worked the past 13 years as a Land/Property Manager at Flintwoods Preserve, a 170 acre private estate that is primarily maintained as a nature preserve.

### **Field Trip 3: Stroud Research Center Tour of Freshwater Habitat Restoration Sites**

**Dave B. Arscott**, PhD., Assistant Director and Research Scientist at Stroud™ Water Research Center and Adjunct Professor of Biology at the University of Pennsylvania - Dr. Arscott received his PhD. in Freshwater Ecology at the Swiss Federal Institute of Technology in Zurich, Switzerland and MS at the University of New Hampshire. His research has focused on distribution and diversity of aquatic macroinvertebrates, ecohydrology, aquatic primary production, and the ecology of rivers and flood plains. His research has focused on aquatic primary production, distribution and diversity of aquatic macroinvertebrates, ecohydrology, and the ecology of rivers and flood plains. Broad interests include riverine landscape ecology and dynamics, aquatic invertebrate and algal ecology, aquatic food web structure and dynamics, habitat conservation, and land-water interactions. Present projects focus on development of an educational tool to better understand the physical, chemical, and biological connections between wetlands and downstream water, proposed Rulemaking by the PA Environmental Quality Board, and a collaborative effort to produce an Expert Report and Witness to determine the physical, chemical, and biological connections between a headwater wetland complex and downstream waters as legal deliberation for New Castle County, DE.

**Melinda Daniels, PhD.**, Fluvial Geomorphologist and Associate Research Scientist at the Stroud Center - Dr. Daniels received her PhD from the University of Illinois and MS from University College London, United Kingdom. Her research program focuses broadly on the fluvial geomorphology, hydrology and stream ecosystem ecology of both “natural” and human-modified river systems from reach to watershed scales. These interests include fields such as river restoration, watershed management and stream ecosystem science. Dr. Daniels research program focuses broadly on the fluvial geomorphology, hydrology and stream ecosystem ecology of both “natural” and human-modified river systems from reach to watershed scales. These interests include fields such as river restoration, watershed management and stream ecosystem science. In addition to long-term research at the White Clay Creek examining stream and watershed characteristics associated with a riparian zone. Dr. Daniels works with a scientific team to utilize the Christina River Basin as their laboratory to determine how, and how rapidly, soil erosion and sediment transport through rivers impact the exchange of carbon between the land and the atmosphere, and affect climate.

**Matthew J. Ehrhart, PhD.**, Director of Watershed Restoration at the Stroud Center - Mr. Ehrhart received a Masters of Engineering Science from Penn State University and was Pennsylvania Executive Director for the Chesapeake Bay Foundation from 2002-2012. His work is focused primarily on water quality, watershed restoration, agricultural conservation and preservation, and the associated policy and implementation issues. Matt received the PA Governor’s Award for Watershed Stewardship and was named to the 2011 Pennsylvania Governor’s Marcellus Shale Advisory Commission.