



4th National Conference on Ecosystem Restoration

The Spirit of Cooperation



AUGUST 1-5, 2011 | BALTIMORE, MARYLAND • USA | BALTIMORE MARRIOTT WATERFRONT

### Field Trip Opportunities – Wednesday, August 3, 2011

#### Urban Stream Restoration Site Tour *(Tour is limited to 20 people)*

**Itinerary:**

11:30am	Depart Baltimore Marriott Hotel Eat box lunch on bus in transit to site
12:30pm-1:30pm	Arrive at Spring Branch and tour site
1:30pm	Leave for Mine Bank Run
1:45pm-3:45pm	Arrive Mine Bank Run and tour site
4:00pm	Leave for Stony Branch
4:15pm-5:15pm	Arrive Stony Branch and tour site
5:30pm	Leave tour site
5:45pm	Arrive at Brewers Art (dinner on your own) <a href="http://www.thebrewersart.com/housebeer.html">www.thebrewersart.com/housebeer.html</a>
7:30pm	Bus returns to hotel

The final stop will be Stony Branch, a more recent approach to stream restoration involving the removal of legacy sediments and restoration of the relationship between the stream and its floodplain. This project was controversial and occupied the local news for weeks as a result of the removal of the forested riparian cover to restore floodplain connection.

**What to Wear & Bring:** Dress for walking—long pants and lightweight long sleeved shirt (ticks, scratchy plants, and poison ivy). Hats, sunscreen and sturdy walking shoes are a must.

**Food Offered:** Water and lunch will be provided. A dinner stop will be included to The Brewer’s Art so bring money for dinner. The location for the restaurant is: [www.thebrewersart.com/location.html](http://www.thebrewersart.com/location.html)

**Description:**

The first stop at Spring Branch, an eroding headwater stream system, will focus on a more than 10-yr old restoration project which included the restoration of a concrete trapezoidal channel.



The second stop will be at Mine Bank Run, a restoration project which has been the focus of years of research and monitoring. In addition to describing the restoration, we will discuss the results of the University of Maryland’s site studies.



**Driving Distance:** Is approximately 15 miles from Baltimore.  
<http://urban-map.notlong.com>

**Cost of Tour: \$75.00 per person**  
*(Fees include lunch and transportation)*

**For Questions about the Tour Site, Contact:**

**Joe Berg**  
Biohabitats, Inc.  
Phone: 410-554-0156 | Email: [jberg@biohabitats.com](mailto:jberg@biohabitats.com)

**For Questions about Tour Logistics, Contact:**

**Sharon Borneman**  
UF/IFAS Office of Conferences & Institutes  
Phone: (352) 392-5930 | Email: [spb@ufl.edu](mailto:spb@ufl.edu)

**Tour Leaders:**

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#### Tidal Wetland and Vernal Pool Restoration Site Tour (*Tour is limited to 20 people*)

**Itinerary:**

11:30am	Depart Baltimore Marriott Hotel Eat box lunch on bus in transit to site
12:30pm-2:30pm	Arrive at Cox Creek Mitigation Site and tour
2:45pm	Leave for Hollyneck Mitigation Site
3:00pm-5:00pm	Arrive at Hollyneck Mitigation Site and tour
5:15pm	Leave for Dinner
5:30pm	Arrive at Al's Seafood Restaurant <a href="http://www.als-seafood.com">www.als-seafood.com</a>
7:30pm	Bus returns to hotel

**Description:**

The Cox Creek mitigation site is associated with the Cox Creek Dredged Material Management Facility (DMMF). The reconstruction of the Cox Creek DMMF resulted in the need for mitigation. The 12-ac mitigation site was an 8-ac monotypic *Phragmites* stand and a four-acre still pond (both above the influence of tide). The mitigation project involved the excavation and removal of the *Phragmites*, lowering the site into the intertidal range.



The mitigation target was to create a mosaic of unvegetated open water, vegetated marsh, and a beach strand dominated by supra-tidal shrub community. This was accomplished through over-excavation of areas to create sub-tidal ponds, grading of other areas to intertidal marsh elevations for both *Spartina alterniflora* and *Spartina patens* communities, and either retention of beach strand or building-up of beach strand to an elevation above normal tidal influence. A tidal channel connection was created, and the site was planted. The presence of Canada geese led to erection of exclusion fencing across the site.

Within one month of project construction and planting, the remains of Hurricane Isabel tore across the site with more than an 8-ft tidal surge, carrying debris (e.g., boats, trees, etc.) into the site and then back out, tearing out goose exclusion fencing. Remarkably, little evidence of storm damage was apparent and the vegetation seemed to be doing well after the storm. However, over the next growing season we witnessed a widespread loss of vegetation. A study was conducted and it was determined that the storm had modified the tidal channel to limit the tide's ebb flow, drowning the vegetated wetland. The site was returned to the initially designed flood dominated tidal regime (tide ebbs to MSL). Almost 10 years later, the tidal marsh is host to a diversity of avian, reptile, fish, and invertebrate life. Mosquito monitoring has documented the site is not a significant source of mosquito production, and the project has been accepted as a successful mitigation project.

The Hollyneck mitigation site is a 125-ac property on the eastern neck peninsula in eastern Baltimore County. The site is 110-ac of preserved forested wetlands and 15-ac of agricultural fields converted to vernal pool habitat.

The site has a shallow perched water table resulting from fine grained surficial soils and an annual precipitation rate which exceeds annual evaporation losses. Four to five feet below the surficial soils, the site is underlain by well drained sand. Vernal pool hydrology was created through surface grading to provide a range of different drainage areas and pool depths an attempt to ensure reliable spawning and rearing habitat year after year, regardless of the significant natural variation in climate conditions.

This project was not planted after grading, based on the relationship between the high interspersion of forested edge with vernal pool edge. Vegetation monitoring is ongoing and minor efforts have been undertaken to supplement natural recruitment and to suppress the distribution of undesirable, non-native or invasive species.

The site has been shown to provide significant habitat for a variety of salamander and frog reproduction and rearing, based on the results of a monitoring effort designed to answer this question.

**What to Wear & Bring:** Dress for walking—long pants and lightweight long sleeved shirt (ticks, scratchy plants, and poison ivy). Hats, sunscreen and sturdy walking shoes are a must.

**Food Offered:** Water and lunch will be provided. A dinner stop is included to Al's Seafood so bring money for dinner. The location to the restaurant is: [www.als-seafood.com/contact.html](http://www.als-seafood.com/contact.html)

**Driving Distance:** Is approximately 15 miles from Baltimore. [www.tidal-map.notlong.com](http://www.tidal-map.notlong.com)

**Cost of Tour: \$75.00 per person**  
(Fees include lunch and transportation)

**For Questions about the Tour Site, Contact:**

**Joe Berg**

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**For Questions about Tour Logistics, Contact:**

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**Tour Leader:**

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### Field Trip Opportunities – Wednesday, August 3, 2011

#### **Patapsco River Dam Removal Projects: NOAA and American Rivers (Tour is limited to 20 people)**

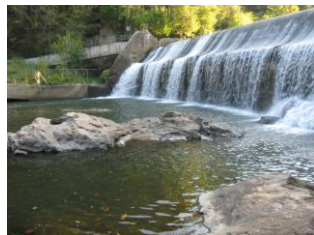
**Itinerary:**

11:30am	Bus departs Baltimore Marriott Hotel
11:30am-12:15pm	Travel to Patapsco Valley State Park
12:15pm-1:30pm	Picnic lunch at Patapsco Valley State Park (Bloede Dam site) presentations by Mary Andrews and Serena McClain
1:30pm-2:00pm	Tour of Bloede Dam site
2:00pm-2:15pm	Travel to Simkins Dam Site
2:15pm-3:15pm	Tour of Simkins Dam site with demonstration by Maryland Biological Stream Survey
3:15pm-3:30pm	Travel to Union Dam Site
3:30pm-5:00pm	Union Dam Site Visit
5:00pm-5:30pm	Bus returns to Hotel

**Description:**

National Oceanic and Atmospheric Administration (NOAA) and American Rivers, working in partnership with the Maryland Department of Natural Resources (MD DNR) and the Friends of the Patapsco Valley State Park, removed the Union and Simkins dams, located on the Patapsco River near Ellicott City under the American Reinvestment and Recovery Act. Removal of these blockages is part of a larger suite of removals on the Patapsco River aimed at restoring more than 30 miles of free-flowing habitat. The project reconnects and restores eight miles of spawning habitat for American eel, alewife, blueback herring, yellow and white perch, and American shad. The project provides access to nearly 300 square miles of the Patapsco River watershed for American eels. Moreover, it has increased recreational opportunities and removed two significant public safety hazards.

Upon arrival at the Patapsco Valley State Park, we will enjoy a picnic lunch at the Bloede Dam site. Mary Andrews and Serena McClain will provide background information on the three dams (Simkins and Union dams will have been removed) that will be visited during this field trip. The design for Bloede Dam removal is



underway and a discussion on the historical importance of the dam will commence. Bloede Dam is 220 feet long, 40 feet wide at the base and has a drop of 26 ½ feet. It is an Amburson Hydraulic Construction Company (Boston type) reinforced concrete slab and buttress dam. It was the first known instance of a submerged hydroelectric plant where the power plant

was housed under the spillway. It is also recognized as one of the earliest dams constructed of reinforced concrete.



The former site of the Simkins and Union Dams will also be visited. Union Dam was removed from Oct 2009 – Sept 2010 using a heavily engineered approach with multiple river diversions and realignment of the stream channel. In contrast, the Simkins Dam removal using a passive sediment management approach with release of approximately 80,000-

100,000 cubic yards of sand and gravel that was stored behind the dam. Intensive monitoring of the site has been conducted with its removal and data will be shared at the site visit.

**What to wear and bring:** Dress for walking—long pants and lightweight long sleeved shirt (ticks, scratchy plants, and poison oak). Hats, sunscreen and sturdy walking shoes are a must. Access to the Union Dam site is limited and hence, a 0.5 mile hike over steep terrain will be necessary.

**Food Offered:** Water and lunch will be provided.

**Driving Distance:** Is approximately 13 miles to the Patapsco Valley State Park.

[www.patapsco-map.notlong.com](http://www.patapsco-map.notlong.com)

**Cost of Tour: \$75.00 per person**  
(Fees include lunch and transportation)

**For Questions about the Tour Site, Contact:**

**Mary P. Andrews**, National Oceanic and Atmospheric Administration, Environmental Engineer  
Phone: (410) 267-5644 | Email: [Mary.andrews@noaa.gov](mailto:Mary.andrews@noaa.gov)

**Tour Leader:**

**Serena McClain**, American Rivers, Director, River Restoration Program, Washington, DC  
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Field Trip Opportunities – Wednesday, August 3, 2011

Smithsonian Environmental Research Center (SERC) (Tour is limited to 20 people)

Itinerary:

11:30am	Depart Baltimore Marriott Hotel
11:30am-12:15pm	Travel to SERC
12:30pm-2:00pm	Picnic Lunch and Presentation by Dr. Pat Megonigal with a visit to the CO2 study site
2:15pm-3:15pm	Talk by Dr. John Parker
3:15pm-4:00pm	General SERC Talk by Karen McDonald
4:15pm-6:00pm	Bus returns to Hotel

Description:

Participants will be introduced to the research conducted at the Smithsonian Environmental Research Center by meeting with two research scientists and then will be presented with a general overview of all the research conducted at the 18 different laboratories housed onsite. The first speaker, Dr. Pat Megonigal works in the Biogeochemistry lab and will discuss the impacts of global climate change on plants and intertidal zones, relating specifically to CO2 and sea level rise. During this talk participants will be shuttled to the world's longest running CO2 study site to look at the chambers used for this research. Next Dr. John Parker will discuss the impacts of invasive species on ecosystem landscapes, and herbivory by large mammals. His research speaks directly to human impacts on native ecosystems. The last talk of the day will be an overview of the other 16 laboratories at SERC and their global and local research. Laboratories discussed will include the Fish and Invertebrate Lab, Plant Ecology Lab, Plant and Animal Interaction Lab (Mangroves), Nutrient Ecology Lab, Marine Invasive Species Lab and more!



The Smithsonian Environmental Research Center (SERC) is one of nine field research sites of the Smithsonian Institution. Established in 1964, SERC houses some of the longest continuous ecological studies in the world and has been creating new technology that expands the horizons of science for more than 40 years. The center lies along the western shores of the Chesapeake Bay, just 25 miles from the Nation's Capital, and includes nearly 3,000 acres of wildlife conservation area, and 16 miles of undeveloped shoreline. It serves as a hub for research that extends around the globe. An active Internship and Fellowship program inspires the next generation of young scientists, and our Education and Outreach Department helps school children and members of the public to understand important environmental issues of the 21st Century.

Some highlights at SERC are:

- The world's longest running field experiment on atmospheric increase in carbon dioxide (CO2) affecting the world's plant communities.

- The National Ballast Water Information Clearinghouse and the national center for research on biological invasions in marine ecosystems.
- International leader in watershed research on the flow of nutrients through coastal landscapes.
- The world's largest research team analyzing mangrove forests.
- National leader in the analysis of wetlands and riparian ecosystems inland use management.
- Longest record of acid rain and its chemical impacts in the mid-Atlantic regions.
- 28-year database on species composition and population dynamics of plants and animals in the Nation's largest estuary and watershed, the Chesapeake Bay.
- 1,300+ Scientific Publications
- \$6,500,000 in current grants and contracts.

**What to Wear & Bring:** Dress for walking---long pants and lightweight long sleeved shirt (ticks, scratchy plants, and poison oak). Hats, sunscreen and sturdy walking shoes are a must.

**Food Offered:** Water and lunch are provided.

**Driving Distance:** Is approximately 30 miles east of D.C. [www.smithsonian-map.notlong.com](http://www.smithsonian-map.notlong.com)

**Cost of Tour: \$95.00 per person**  
(Fees include lunch, transportation, and SERC fees)

**For Questions about the Tour Site, Contact:**

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