

The Watershed Management Section Receives Grant to Study Wetlands

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In January 2007, Frederick County Government's Watershed Management Section was awarded a \$247,800 grant from the Environmental Protection Agency (EPA) and the Maryland Department of Environment (MDE) for the Urban Wetlands Program, Bennett Creek Watershed Pilot project to develop a nontidal wetland program in the pilot watershed. A watershed is the area of land that drains to a body of water, in this case - Bennett Creek. The goals of the project include the development of a more accurate map of the wetlands in the watershed; the development and implementation of assessment protocols to monitor amphibians, birds, and vegetation in wetland areas; the installation of two wetland construction projects; and the development of complimentary wetland education materials. The mapping of wetlands in Frederick County was done on a very broad scale and is not completely accurate. There are many areas that no longer exist due to factors such as land use change and there are many areas that exist but have not been mapped.

Wetlands can be classified into two general categories: tidal, occurring along the coast where the ocean and land meet, or nontidal, occurring further inland where streams, lakes, ponds, or springs interact with the surrounding landscape. They are further divided within these two categories based on where in the landscape they occur, how water moves in and out of the system, and what kind of vegetation is present. According to maps from the Maryland Department of Natural Resources (DNR) and the U.S. Fish & Wildlife Service (FWS), Frederick County has over 13,000 acres of nontidal wetlands that include marshy areas that one might find in their backyard or on their farm.

The Watershed Management Section hopes to develop a replicable program that can be used in the rest of Frederick County or even other jurisdictions to catalog the location of and evaluate the quality of wetland areas. The focus of the study is amphibians, birds, and vegetation because they can be an indicator of the health of the wetland. There are many species that are sensitive to pollution and human impacts. Over time, the appearance or disappearance of certain species gives insight into whether the quality of the wetland is improving or degrading.

Call surveys will be one of the primary methods used to identify frogs, toads, and birds. This process involves visiting each monitoring site on the same day, listening for a specified length of time, and recording the species that the observer hears calling. This can be very time consuming as the number of sites to monitor increases. In order to decrease the effort necessary to monitor all of the sites, project leaders have constructed "wetland audio recorders". The devices are rather inexpensive to build and can be made

using a small piece of PVC pipe, a funnel, a microphone, and a digital audio recorder. They are placed at the monitoring site, programmed to turn on at a specific time during the day and record for a specific length of time. The sound recordings are downloaded to a computer where sound analysis software is used to assist in the identification of the species calling.

Eight sites have been identified where monitoring for amphibians, birds, and vegetation will occur during the length of the project.

Key site partners include Windsor Knolls Middle School, Urbana Elementary School, Friends Meeting School, the Monocacy National Battlefield and the Worthington Manor golf course to name a few. The three schools were selected as monitoring sites in order to get students involved in the project. By participating in the monitoring efforts taking place on their properties, students will be able to learn about the critters their wetland supports and how their wetland plays an important role in the surrounding ecosystem.

Why are wetlands important? They provide habitat for a variety of plants and animals, many of which humans consume or use on a daily basis; they act as a sponge, helping to lower the impact of flooding; they act as a filter, absorbing excess nutrients from polluted water that runs off of the land; and they provide numerous recreational opportunities. According to the EPA (http://www.epa.gov/owow/wetlands/pdf/fun_val.pdf):

- An acre of wetland can store 1-1.5 million gallons of floodwater
- Up to one-half of North America bird species nest or feed in wetlands
- Although wetlands constitute only 5% of the land surface in the lower 48 states, they are home to 31% of our plant species

What can you do to make a difference? Here are a couple of things listed on EPA's wetland website (<http://www.epa.gov/owow/wetlands/vital/protection.html>), that you can do to help protect wetlands.

- Find out where wetlands exist near your home, try to learn more about them, and support educational efforts.
- Support wetlands and watershed protection initiatives by public agencies and private organizations.
- Purchase federal duck stamps from your local post office to support wetland acquisition.
- Encourage neighbors, developers, and state and local governments to protect the function and value of wetlands in your watershed.
- Rather than draining or filling wetlands, seek compatible uses involving minimal wetland alteration, such as waterfowl production, fur harvest, hay and forage, wild rice production, hunting and trapping leases, and selective timber harvest.
- Select upland rather than wetlands sites for development projects and avoid wetland alteration or degradation during project construction.
- Maintain wetlands and adjacent buffer strips as open space.
- Learn more about wetland restoration activities in your area; seek and support opportunities to restore degraded wetlands.

For more details on the Urban Wetlands Program, Bennett Creek Watershed Pilot project, contact Jessica Hunicke at 301.600.1350 or jhunicke@fredco-md.net.