

Prince William Soil and Water Conservation District

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OUR MISSION...

The mission of the Prince William Soil & Water Conservation District is to provide leadership in the conservation of soil, water, and related resources to all Prince William County citizens, through technical assistance information and education.

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Ducks Unlimited, Inc.: A Valuable Watershed Partner

Wetlands come in a variety of types and sizes and are among the most productive systems on the planet. They are not only important to waterfowl but to other species and to the quality of life on earth. The importance of protecting and restoring wetlands has never been more urgent as states in the Chesapeake Bay watershed have lost much of their historical wetlands. Virginia has lost nearly 40 percent of its wetlands.

Ducks Unlimited, Inc. (DU) is a non-profit organization that works across North America in collaboration with private landowners and multiple state and federal partners completing restoration projects. Wetlands provide great value to our environment because of the multitude of benefits they provide to society, including outdoor recreation, wildlife watching, increased flood storage, scenic natural habitats, improved water quality, environmental study, and education.



DU and its partners have completed numerous wetland and upland restoration projects throughout the Chesapeake Bay watershed. Between 2002 and 2006, DU was involved in the protection, restoration, or enhancement of over 8,000 acres of wetlands in VA alone.

In Northern Virginia, DU completed the 10-acre Riverside wetland restoration project in Front Royal. DU designed and delivered this excellent project through U.S. Forest Service funds provided to the Potomac Watershed Partnership. The hydrology was restored to a poorly drained agricultural field by plugging a ditch and installing a low-level berm. The newly restored site is now capturing water draining from adjacent crop fields, retaining excess nutrients and sediments from entering the Shenandoah River and ultimately the Chesapeake Bay.

Everybody can help protect and restore wetlands and stop the loss of these critical areas. The first thing you can do is let us know if you or someone you know has a potential wetland restoration site. How do you know if you have a suitable site? As you might imagine, areas that used to be wetlands, or still are but have been degraded, are often wet at least part of the year. It is common to see a low spot with a ditch that moves water away from the area to make it dry and solid enough for agricultural practices like row crops or pastures. The exact location of the site, its size, and whether it qualifies as a wetland are what determine the specific program that would apply to fund potential restoration work. Ducks Unlimited can help determine eligibility, find funding, as well as design and deliver wetland restoration projects. If you have an area that fits this description, please use the information below to contact Ducks Unlimited and learn more about what you can do to help protect and restore vital wetlands and wildlife habitat.

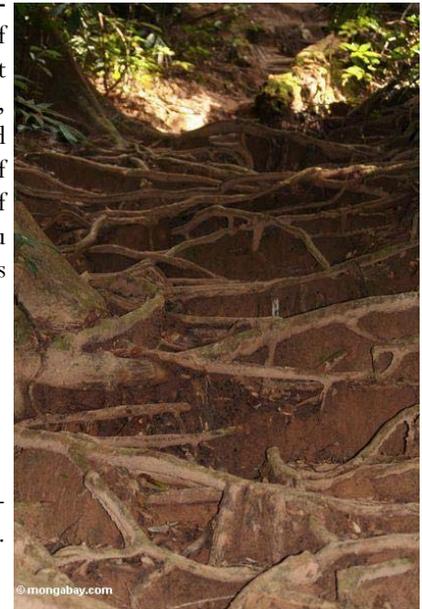
Brian Smith, Ducks Unlimited, Inc. Regional Biologist VA, e-mail: bsmith2@ducks.org
or phone: (703) 971-1074 <http://www.ducks.org/>

Trees can Help with Erosion!

Erosion problems are common for landowners with stream channels located on or adjacent to their properties. There are many solutions to this problem such as using large rocks to prevent the soil from eroding into the stream channel. This solution does not always work and it can change the flow of the stream and/or add extra sediments. A natural solution to this issue would be to plant trees or bushes alongside the stream bank. These plants would help stabilize the ground and help reduce erosion. Roots from these plants absorb the water in the stream and soil making themselves a permanent entity to the stream channel. Common trees and bushes that like wet soils which help stabilize stream banks include the Bald Cypress, Willow Oak, which is also known as the Pin Oak, Swamp Chestnut Oak, and the Common Buttonbush (*note: the Common Buttonbush is poisonous to livestock*).

The key to selecting the right plant is to determine if the plant is **obligate** or not. An **obligate** plant, such as the Bald Cypress and the Common Buttonbush, like to have lots of water all the time. Therefore, obligate plants are wonderful for erosion issues. The best way to determine if a plant is obligate is to visit the USDA's plant guide website, <http://www.plants.usda.gov/>. This website will give you plenty of information you need on a specific plant. On the left hand side, all you need to do is type the common name of the plant, make sure 'Common Name' is selected below, and click 'Go.' If you get a list of different plants, select the one that best matches your choice. Scroll down below until you see something that says "**Wetland Indicator Status.**" You should see a chart that looks like this:

Nat. Ind.	Reg. 1	Reg. 2	Reg. 3	Reg. 4	Reg. 5	Reg. 6
FAC+, FACW	FAC+	FACW-	FACW	NO	NO	FACW



If there is no chart, then the plant you are looking at is an upland plant and would not survive in wet soils. Virginia is located in Reg. 1, so you can disregard the rest of the regions. Below the chart is a link that contains a list of the above codes. The chart looks like this:

Indicator Wetland Type Code

Comment

Indicator Wetland Type Code	Indicator Wetland Type	Comment
OBL	Obligate Wetland	Occurs almost always (estimated probability 99%) under natural conditions in wetlands.
FACW	Facultative Wetland	Usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
FAC	Facultative	Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
FACU	Facultative Upland	Usually occurs in non-wetlands (estimated probability 67%-99%), but occasionally found on wetlands (estimated probability 1%-33%).
UPL	Obligate Upland	Occurs in wetlands in another region, but occurs almost always (estimated probability 99%) under natural conditions in non-wetlands in the regions specified. If a species does not occur in wetlands in any region, it is not on the National List.

Trees and plants that are good for stream bank erosion will more than likely have OBL or FACW underneath Reg. 1. FAC plants, such as the Willow Oak, can also be good plants, though this depends on the particular plant. Plants that are classified as FACU or UPL like dry soils and would be poor choices in helping with erosion along a stream bank. For more information on what trees to plant for erosion issues, you can contact your local forester from the Virginia Department of Forestry (VDof) or you can contact the Prince William Soil and Water Conservation District.

WETLAND TYPES: MARSH, BOG, SWAMP, FEN

At some level all of us know in general about the value of wetlands as the home of a variety of wildlife and its significance in water quality. Wetlands have a special atmosphere and life. Swamp, marsh, bog and fen are the types of wetlands. These types of wetlands have been formed and created by soil types, landscape, vegetation, climate, water regime chemistry and also human disturbance. Below you will read the definition and types of marshes, swamps, bogs and fens. Information provided is from the US Environmental Protection Agency (EPA) website (www.epa.gov) and from the Kildeer Countryside Virtual Wetland Preserve website (<http://www.twingroves.district96.k12.il.us/Wetlands/Wetlands.html>). Excerpts have been re-printed with their permission.

- Marshes** are periodically saturated, flooded, or ponded with water and are characterized by non-woody vegetation adapted to wet soil conditions. Marshes have two subcategories known as tidal marshes and non-tidal marshes. *Tidal marshes* occur along coastlines and are influenced by tides and often by freshwater from runoff, rivers, or ground water. Salt marshes are the most prevalent types of tidal marshes and are characterized by salt-tolerant plants such as smooth cordgrass, saltgrass, and glasswort. Salt marshes have one of the highest rates of primary production associated with wetland ecosystems because of the inflow of nutrients and organics from surface and tidal water. They are located upstream of estuaries. Tides influence water levels but the water is fresh. The lack of salt stress allows a greater diversity of plants to thrive. *Non-tidal marshes* are typically freshwater and are not affected by the rise and fall of the ocean tide. The inflow of water comes from groundwater, streams, lakes, or rivers. They are the most common type of wetland in North America. For example you can find non-tidal marshes around the Great Lakes area and in Florida. Freshwater marshes, wet meadows, wet prairies, prairie potholes, playas and vernal pools are all types of non-tidal marshes.


- Swamps** are fed primarily by surface water inputs and are dominated by trees and shrubs. They occur either in freshwater or salt-water floodplains on very wet poorly drained soils. They may have water in them for the whole year or for only part of the year. Swamps vary in size and type. Some swamps have soil that is nutrient rich, other swamps have nutrient poor soil. Swamps are often classified as forested, shrub and mangrove swamps. *Forested swamps* are found in broad floodplains of the northeast, southeast and south-central states. Common trees found in these areas are bald cypress, water buffalo, swamp white oak, and red maple. *Shrub swamps* have small trees and bushes like buttonwood, willow, alders and dogwood. *Mangrove swamps* are coastal wetlands characterized by salt-tolerant trees, shrubs, and other plants growing in brackish to saline tidal waters.


- Bogs** are a standing body of water with no underground spring of fresh water to feed them. The water is generally cold, extremely acidic and low in oxygen. A form of moss, especially Sphagnum moss, grows and forms a thick mat of floating plants. These plants, over time, can fill in the pond or small lake with peat that will eventually be firm enough to support trees. The stages in bog development are divided up by a series of circles that can be easily identified as you look out over a bog. In the middle of the bog is an area of open water. Around that is a mat of Sphagnum moss and other plants that are so thick in spots a person can walk on top of the mat without falling into the water. The whole mat moves up and down. As a result, they are sometimes called "quaking bogs". The outside circle is made up of tall shrubs that give way to a forest of tamaracks or other trees. Bogs have very little decomposition of organic matter creating a very acidic soil. In this nutrient-poor soil, some plants have adapted by becoming carnivorous.


- Fens** are wetlands characterized by continuous sources of ground water rich in magnesium and calcium. This groundwater comes from glaciers that have melted, depositing their water in layers of gravel and sand. The water sits upon layers of soil (glacial drift) that are not permeable; thus keeping the water from sinking beneath the surface. The water is then forced to flow sideways along the surface, where it picks up minerals in its path that contribute to the special chemical make-up of fens. Sometimes, there are so many minerals in the water that some of them congregate to make a very porous rock called tufa. Marl, a crumbly kind of rock, can also accumulate from excess calcium mixed with other kinds of minerals. The soil in a fen is made up of peat. The exact make-up of a fen is decided not only by the concentration of minerals, but, also by the amount of water flow, and by the terrain itself. It is different from a bog. Where a bog is more acidic, a fen is very alkaline. The pH of soil in a fen ranges from 7.35 to 8.00. The species of organisms that survive in fens must be able to adapt to these alkaline conditions present in the fens.



Actions Making a Difference

In the past twelve months more than 400 Adopt-A-Stream volunteers have removed close to 6 tons of trash from the waterways of Prince William County. Adopt-A-Stream is a statewide program that aims to reduce litter along Virginia's waterways. The actions of these volunteers improve the quality and health of our watersheds.

You can be part of this beneficial cleanup process. Turn your efforts into a fun community-building activity for youth groups, civic organizations, schools, churches, and businesses. Adopt-A-Stream participants agree to collect litter along at least one-quarter of a mile of stream banks, shorelines or waterways at least once per year for two years. A team of two can cover about a mile of lightly littered stream channel in an hour or two, so we suggest adopting no less than a half-mile. Cleanup groups receive trash bags, work gloves, safety vests, recognition and educational resources. For information about the Adopt-A-Stream program please contact Joan Patterson, at 703.594.3621 or go to www.pwswcd.org for additional information on this program.

Upcoming event

Prince William's Environment and Natural Resources Program announces **The 8th Annual Spring Fling Lawn and Garden Show and Sale with a new date and location this year!** Experience "Lessons in the Garden" in a real garden setting! **Saturday, June 9, 9:00 am - 3:00 pm, rain or shine.** The event is at our Teaching Garden, on the grounds of the St. Benedict Monastery, 9535 Linton Hall Road, Bristow, VA 20136. As always, there will be plant vendors, lectures, demonstrations, and Master Gardener exhibits, children's activities and **free parking and free admission.** Call 703-792-7747 for more information. To view a copy of our flyer, go to our website at www.pwcgov.org/vce/enr.

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The Prince William Soil and Water Conservation District programs and employment are open to all, regardless of race, color, religion, sex, age, veteran status, national origin, disability, or political affiliation.

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