



MANAGEMENT OF WATERFRONT PROPERTIES FOR HOMEOWNERS

Living along the shoreline brings many rewards for the property owner: a great view, a closeness to nature and a tranquil setting for your family. It also brings responsibility. Property owners need to take great care to help protect water resources. Owners must plan their activities and improvements on their property with consideration for the environment. Your actions can have a real impact on the river, the shoreline and the community's sources of drinking water. This brochure provides guidelines and recommendations to help property owners become better stewards of their land. You will learn more about:

- **Shoreline protection and stabilization**
- **Life along the shoreline**
- **Resource Protection Areas (RPAs)**
- **Wetlands**
- **Sea Levels and Sustainable Shorelines**
- **What you can do to protect your property and water resources**

SHORELINE PROTECTION & STABILIZATION



Natural Buffer along the
Occoquan River

There are many types of waterfront property: some are nestled in quiet coves or along small creeks, while other front open water and wave or current action. Some properties are suffering loss of land from the effects of steady erosion, while other are stable or even growing from accumulated sand. In the past, despite the differences in shoreline types, there has mostly been a “one-size-fits-all” approach to shoreline protection—building bulkheads or rip-rap revetments (stone embankments).

In recent years we have learned much about the conditions that make for a healthy river and bay environment. Recent studies have shown that vegetated shorelines can provide for erosion protection while allowing the natural shoreline ecosystem to flourish. Natural shoreline ecosystems include the vegetation along the shorelines as well as bottom-dwelling organisms and any aquatic life which inhabits the area.

LIVING SHORELINES

In many cases, where waterfront is subject to waves of low to moderate energy, there are effective alternatives to shoreline hardening (use of rocks and riprap). These methods of shoreline protection employ plants, grading and the use of natural materials such as live trees and matting and are referred to as “soft” or “living” methods of shoreline protection. Some of the benefits to this approach are:

- Lower construction costs when compared to bulkheads or revetments
- Reduce both sediment and pollutant flow into the creek or river
- Maintain a link between the aquatic and upland habitats
- Create a natural shoreline appearance
- Restore or maintain a spawning or nursery area for fish and aquatic life



Lake Jackson

RESOURCE PROTECTION AREAS (RPAs)

RPAs are corridors of environmentally sensitive lands that lie alongside or near the banks of streams, rivers and other waterways in tidal areas of Virginia. The RPA buffer extends 100 feet inward from the shoreline and protects the wooded buffer along the stream, which in turn helps to filter out pollutants and prevent erosion along the shoreline. All waters in Prince William County eventually flow into the Potomac River then into the Chesapeake Bay, so safeguarding these areas is critical for water quality protection.

Virginia enacted the Chesapeake Bay Preservation Act in 1988. This Act required local governments to adopt water quality protections into County Ordinances and enact stringent local requirements to protect RPAs as a means to safeguard the Chesapeake Bay from nutrient and sediment pollution. Violations and fines may be imposed for RPA disturbance without prior authorization.

For additional information on activities permitted and not permitted within the RPA, please visit our website at www.pwcgov.org and click on protecting water resources. You can also call Watershed Management at (703) 792-7070.



Neabsco Creek Restoration Project



NON-TIDAL WETLANDS AND STREAMS

Some of our important shoreline resources include non-tidal wetlands and streams, which can be found throughout the fresh water areas in the Potomac River watershed. These non-tidal wetlands may also border coastal tidal zones and tidal wetlands. Non tidal wetland areas are dominated by grasses, shrubs, and forest that have adapted to the wet conditions present in a wetland.

Non tidal wetlands and streams are protected by the Clean Water Act and are regulated by the U.S Army Corps of Engineers (USCOE) and Virginia Department of Environmental Quality (VADEQ). They are important resources to protect since they can be a habitat and nursery ground for a wide variety of coastal creatures, including fish, amphibians, reptiles, waterfowl and birds. These wetlands act as a filter of storm water runoff and improve the quality of water feeding into our coastal region by breaking down and removing pollutants in the storm water. They also act as a sponge and help prevent flooding during large rain events by storing floodwaters and slowly releasing them into our streams.

Any construction or development activity in areas identified as non tidal wetlands or streams will require a permit. If the development activity or construction results in impacts to these resources, mitigation for these impacts may be required. Violations and fines may be imposed for activity conducted without permits. Property owners should contact these agencies **prior** to any land disturbance:

U.S. Corps of Engineers

703-221-6575 www.usace.army.mil

Virginia Department of Environmental Quality

703-583-3800 www.deq.virginia.gov



Photos taken at the Wetland Mitigation
Site near Manassas Airport

TIDAL WETLANDS

If you live by the water in Tidewater Virginia, you probably live near tidal wetlands. You'll find tidal wetlands along salty, brackish or fresh water, where tides influence the flow in the water body. In Prince William, our tidal wetlands are fresh water. Generally speaking, these are the marshes, sand beaches, mudflats and the shallow waters of our rivers and creeks. Tidal wetlands directly benefit our waterways, the community and the environment:

- Filter storm water from uplands
- Provide beautiful vistas for our viewing pleasure
- Provide flood control by acting as a sponge
- Slowly release storm water
- Provide habitat to plants, fish, birds, reptiles, amphibians and mammals



Powells Creek Tidal Wetlands

There are two types of tidal freshwater wetlands in Prince William County:

- vegetative wetlands
- non vegetated wetlands (ex. mudflats)

These areas are controlled by a number of federal and state laws. Projects proposed within the Tidal Wetlands of Prince William County are reviewed by the Prince William County Wetlands Board and the Virginia Marine Commission (VMRC) in the form of a Joint Permit Application. These applications are submitted for approval before the project can be undertaken.

Impacts to wetlands from various projects such as the construction of a bulkhead, rip rap revetment or commercial pier will not only require a permit but often a mitigation fee per square foot for impacts.

For more information on freshwater tidal wetlands, please call Public Works at (703) 792-7070 or the VMRC at (757) 247-2256.

Copies of the joint permit application form and additional information about Tidal Wetlands can be obtained directly from VMRC at www.mrc.state.va.us.



Coastal Primary Sand Dunes and Beaches Act

Prince William County also has valuable coastal sand dunes and beach resources. These vital areas provide wildlife habitat, buffer areas for water resources and a recreational amenity for residents.

The Virginia Institute of Marine Science (VIMS) conducted a number of studies on dune and beach resources. They found shoreline structures designed to control shoreline erosion can threaten, damage or impact these beach resources.

As of July 2008, a law was enacted to protect Virginia's coastal sand dunes and beaches. This law applies to all tidal Virginia localities. Currently, VMRC regulates all the development or construction activities that may impact dunes and beaches in Prince William County.

For more information about this regulation or proposed projects that may impact beaches, please contact VMRC at (757) 247-2256 or visit their website at <http://www.mrc.state.va.us/regulations/regindex.shtm>.



Potomac River Shoreline

SEA LEVEL RISE/ SUSTAINABLE SHORELINES



Occoquan Reservoir

One of the threats to shorelines has always been the rise of water levels and the effects of storm surges or flooding from large coastal storms. Rising sea levels inundate wetlands and other low-lying lands, erode beaches and shorelines and increase salinity in rivers, bays and groundwater tables. Recently these issues have received more prominence due to concerns about possible climate change and higher temperatures. Some are predicting further sea level rise due to expanding ocean water, melting of glaciers and the partial melting of large ice sheets. Shoreline property owners should be aware of these concerns and monitor their shorelines for evidence of water level rise such as excessive shoreline erosion and previously dry areas becoming flooded by higher water levels. More information on these issues can be obtained from EPA at www.epa.gov.

Locally, a program that is addressing issues of sea level rise and storm surge flooding is entitled **Sustainable Shorelines and Community Management Project**. This project is overseen by Northern Virginia Regional Commission (NVRC) and addresses the local impacts of sea level rise to Northern Virginia communities including Prince William County. More information is available from the NVRC at www.novaregion.org.

What You Can Do To Help Protect Your Property and Our Water Resources

You know the monetary and intrinsic value of your property on the water. We want to provide you with tools and tips to protect the value of your land, as well as safeguard our water resources. You have the opportunity and responsibility to be the primary steward in the protection and preservation of water resources and our source of drinking water.

Please help by:

- Prevent erosion from your property by planting cover on bare soils and maintaining a buffer of trees and shrubs along the shoreline
- Do not disturb or remove plants, ground cover and natural materials along the shoreline (pruning dead material is permitted)
- Inspect your property often for signs of erosion or other sources of soil loss from your property
- Pick up litter and debris on your property to prevent it from blowing into the river
- Secure materials and debris that could become litter
- Consult with local experts and the County before you undertake any stabilization along the shoreline
- Use soft or living methods of shoreline protection when needed
- Protect and provide habitat for animals living along the shoreline
- Honor the RPA designation and rules along the river
- Keep an eye on your property for signs of a change in the water level and take steps to offset damage created by flooding



Tree Planting Project to protect stream at Cloverdale Park



Learn more about your opportunity to help protect water resources!

Prince William County Department of Public Works
Environmental Services, Watershed Management Branch
5 County Complex Court, Suite 170
Prince William, VA 22192

(703) 792-7070
www.pwcgov.org