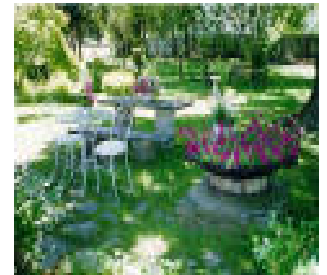
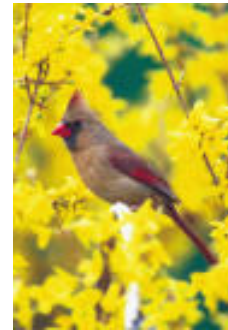


# **A Homeowner's Manual for Backyard Conservation**



**The St. Mary's River Watershed  
Legacy Coalition**



# Introduction

As a homeowner, you have ample opportunity to make a difference in your watershed by voluntarily adopting **best management practices** in your own home.

You can beautify your landscaping **cost-effectively** while mitigating negative impacts on the watershed.

Your sense of **stewardship** will not only help conserve the natural environment but also cultivate a mindset of conservation in your neighborhood and social circle.

This is crucial in order to counter-balance the population and development pressures mounting in your watershed.

# Introduction Continued

This booklet contains **tips and resources** on practices that you can easily adopt for the management of your home and yard.

The practices are extremely **cost-effective** and we hope you will enjoy implementing them in your own backyard.

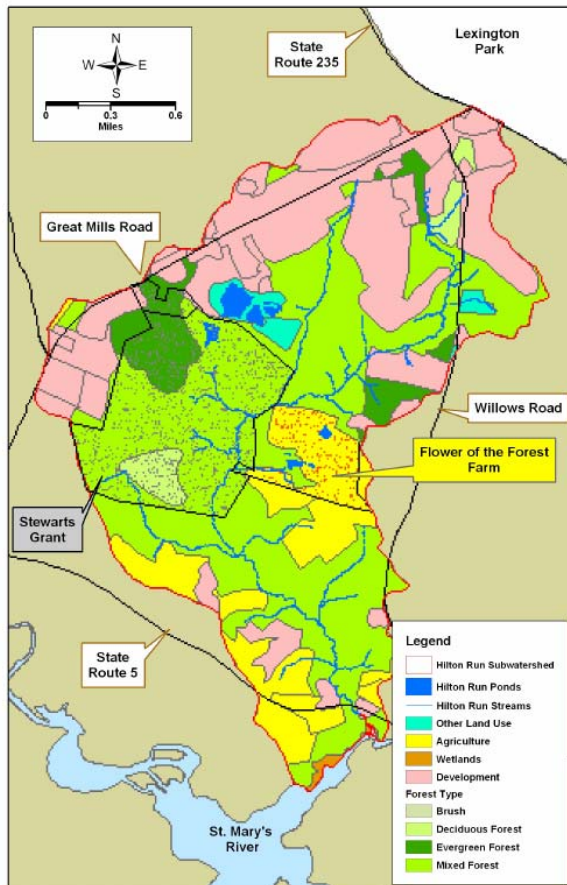


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# Hilton Run – Your Subwatershed



The 2,230 acre Hilton Run Subwatershed originates in the commercial heart of Lexington Park, in the central area of the greater St. Mary's River Watershed.

The subwatershed is bounded by State Route 5, Great Mills Road and Willows Road. It has development in the upland periphery with a forested core that surrounds the stream and tributaries.

Land uses in Hilton Run include residential, commercial, farmland, forests and wetlands.

The subwatershed lies in a transition zone with elevations over 100 feet in the northern part down to sea level where it joins the Potomac River. This feature makes the soils moderately eroded or erodible in the subwatershed.

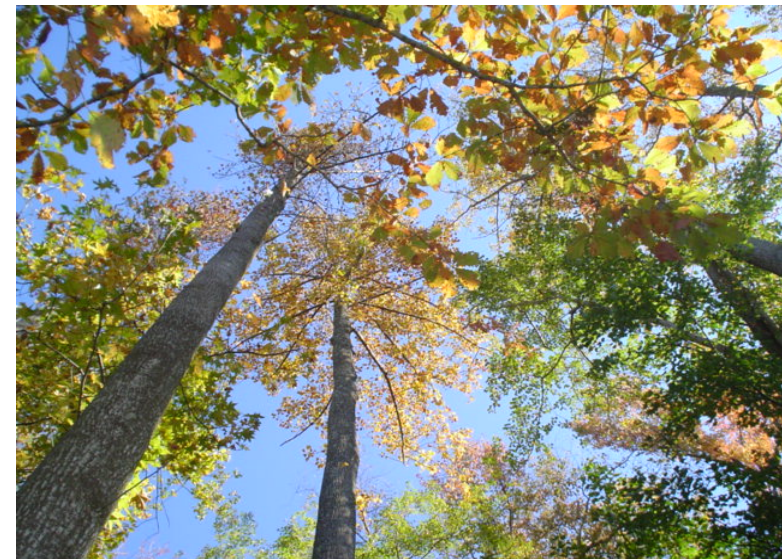
Between June 1999 and May 2003, the subwatershed was intensely monitored and sampled by the St. Mary's River Project (<http://www.smcm.edu/smrp>). The project provides the best source of information on water quality and nutrients.

# Hilton Run

Water quality is quite good in Hilton Run with average conditions better than other local subwatersheds indicating better environmental conditions. Nutrient and sediment levels are quite low. Most of the central areas of the subwatershed are classified as “excellent” for habitat condition by the Center for Watershed Protection. However, the northern part is classified as “poor” and the lowest section as “fair-good” according to the survey. Overall the biological diversity in Hilton Run is fairly good.

Of the 46,000 people living in the St. Mary’s River watershed, 25,329 people live in the Hilton Run Subwatershed and the greatest population density (almost 4,500 people/square mile) lies in Lexington Park. Residential housing is strongly concentrated along the major traffic routes.

A decline in traditional farming has brought an upswing in business, commercial and professional activities within the county and subwatershed.





# Why Adopt Best Management Practices?

## Threats to the Hilton Run Subwatershed:

The headwaters are most susceptible to stress due to runoff because of their small volume and their proximity to the commercial area of Lexington Park. Habitat assessments indicate that upper portion of the subwatershed is impacted by development in the Lexington Park area and by erosion in the lowermost portion.

The elevation of Hilton Run allows for the soil to be eroded and washed toward stream channels and ultimately to the St. Mary's River. The soils of Hilton Run are moderately erodible and give an indication of the potential for suspended solids and dissolved nutrients to enter receiving waters.

Removal of the forested core of the subwatershed and increase in impervious surfaces will likely cause serious deterioration in the biological diversity.



# Threats

An increase in impervious surfaces will cause less absorption of storm water into the ground and will cause water to travel at a greater velocity into the streams causing increased sedimentation.

Intense storms and continued human impacts will overwhelm the system's capacity to rejuvenate itself.

Current imperviousness in the upper segments are at 13.2% and 16.7% respectively. However, 1,279 acres, 61% of the subwatershed, is designated as a development zone. If development occurred, it would place the impervious cover between 20.4% and 28.7%, well above the classification of impacted systems and close to non-supporting stream quality.

Timber harvesting and mining activities in the subwatershed will more than likely lead to damaging sediments entering the stream.

Mitigating ecological problems before they are serious is much more effective than trying to reverse them later. Residents of Hilton Run should adopt conservation practices in their own homes and backyards to contribute to the sustainable development of the watershed.





# Erosion Control and Soil Improvement

High sedimentation rates negatively impact biodiversity and the overall health of waterways. Controlling erosion helps reduce the amount of sediment that washes into local streams.

- ❑ **Keep soil covered** with leaves, mulch, compost, or cover crops that enrich the soil and prevent erosion.
- ❑ Construct **terraces** on steep slopes and plant gardens in raised beds to reduce soil loss.
- ❑ **Seed bare slopes** and use **netting** to hold soil and seeds on steep slopes (winter rye and oats grow well in southern Maryland). **Grass** is the cheapest and most effective method of controlling erosion.
- ❑ Top-dress with **compost**. This will help restore the balance necessary for healthy soil and grass.



## Additional Resources:

**The Association of Bay Area Governments**

<http://www.abag.ca.gov/bayarea/enviro/erosion/erosion.html>

**National Wildlife Federation**

<http://www.nwf.org/backyardwildlifehabitat/organiclawn.cfm>

**Vermont Public Interest Research Group**

[http://www.vpirg.org/campaigns/environmentalHealth/organic\\_lawn\\_care.html](http://www.vpirg.org/campaigns/environmentalHealth/organic_lawn_care.html)

**Natural Resource Conservation Service**

<http://soils.usda.gov/use/urban/>

**The Organic Lawn Care Guide**

<http://www.extremelygreen.com/lawncareguide.cfm>

# Composting

Composting is the controlled decomposition of organic material such as yard trimmings, kitchen scraps, wood shavings, cardboard and paper. The decay of these materials yields compost, a humus-rich substance that contributes nutrients to the soil, improves soil structure and helps reduce runoff. The compost material also contains beneficial microorganisms that protect plants from diseases and pests, thereby reducing or eliminating the need for chemical pesticides.

- ❑ Collect vegetables, food scraps, etc. in a re-sealable container in your kitchen.
- ❑ Make your own compost - mix together, moisten and turn occasionally until dark and crumbly (several weeks to a year); 1 part "green" = fresh grass clippings, manure, garden plants, and fruit and vegetable scraps and 3 parts "brown" = dried leaves and plants, branches, and woody materials
- ❑ Make your compost on a level, well-drained area and **over soil** instead of asphalt.



- ❑ Use the compost around trees, shrubs, perennials, and even houseplants to deter weeds, improve soil structure and **retain moisture**.
- ❑ Keep your compost **aerated** and slightly moist. However, don't let it be too wet so that it starts smelling bad.

## Additional Resources:

### EPA's Green Gardening

<http://www.epa.gov/reg3esd1/garden/comp.htm>

### The Government of Harford County, MD

[http://www.co.ha.md.us/public\\_information/pressview.cfm?ID=](http://www.co.ha.md.us/public_information/pressview.cfm?ID=)

[1040](http://www.co.ha.md.us/public_information/pressview.cfm?ID=1040)

# Nutrient Management

Applying the correct amount of nutrients to encourage plant growth helps both the plants and you. Over-application causes nutrients to leach through soil into groundwater or local waterways.

- Limit** your fertilizer use and don't apply before storms.
- Pump out septic tanks regularly.
- Pump boat waste to an onshore facility.
- Use **native plants** since these plants thrive in the existing soils.
- Use **organic fertilizers**, such as compost, manures, or high quality wastewater biosolids to add humus material to the soil and improve soil structure.
- 'Grasscycle!'** Grasscycling is a way of leaving grass clippings on the lawn to decompose into the soil. It saves time and money, due to reduced lawn fertilizer requirements. Grasscycling benefits the watershed by cutting down on the amount of chemicals and nutrients running off of lawns and into local streams.



## Additional Resources:

**USFWS Chesapeake Bay Field Office**

<http://www.fws.gov/r5cbfo/nutrient.htm>

**The Chesapeake Bay Program**

<http://www.chesapeakebay.net/>



# Water Conservation

Water conservation is necessary as droughts and water restrictions are becoming common. Gardens that require less watering are important for water conservation. Proper watering promotes healthier vegetation and deeper root growth, which in turn improves water quality by reducing erosion and storm water runoff.

- ❑ **Mulch!** The use of mulch and/or fiber cloth helps retain moisture in gardens.
- ❑ Water early in the morning. This gives plants a chance to absorb the water before it evaporates during the hottest parts of the day.
- ❑ Try **drip irrigation** systems that greatly reduce water usage and runoff and bring water directly to the plant.
- ❑ Use **native species** in the landscape. This promotes water conservation as these species require little to no additional water beyond normal rainfall.
- ❑ Use a **rain gauge** and timers to avoid overwatering.
- ❑ Try **xeriscaping** your landscape. For more on xeriscapes visit <http://aggiehorticulture.tamu.edu/extension/xeriscape/xeriscape.html>



## Additional Resources:

### The Harwich Water Department

<http://www.harwichwater.com/resources/resources17.html>

### The EPA

<http://www.epa.gov/reg3esd1/garden/natres.htm>

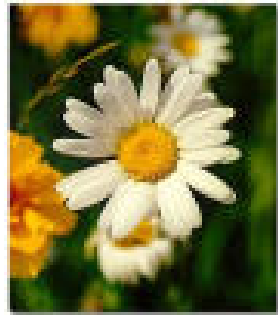
### Tucson Water

[http://www.ci.tucson.az.us/water/conservation/conservation\\_general/Homeowner.pdf](http://www.ci.tucson.az.us/water/conservation/conservation_general/Homeowner.pdf)

# Native Species



Native plants require less maintenance by the homeowner and are beneficial to local wildlife. Use of native plants in the landscape requires less trimming, watering and fertilizing. Because of this, you can save time, labor and money.



- Provide the growth conditions that native plants prefer in the wild and also try to create a **natural habitat**.
- Select plants that bloom or fruit at different times to provide food for **wildlife**.
- Some native plants are maidenhair fern, broomsedge, wild ginger, common milkweed, rose mallow, black huckleberry, flowering dogwood, and trumpet creeper. For a complete list, check out the additional resources.
- Avoid using non-native or **invasive species** that might decimate your native collection.



## Additional Resources:

### Native Plants for Wildlife Habitat and Conservation Landscaping in Maryland

<http://www.nps.gov/plants/pubs/nativesMD/info.htm>

### Virginia Natural Heritage

<http://www.dcr.state.va.us/dnh/native.htm>

# Rain Gardens

Rain gardens are an attractive landscaping feature designed to absorb storm water runoff from roofs and parking lots. A wetland or mini-garden in your backyard could help prevent pollution by allowing rain water to absorb into the ground instead of running directly into a storm drain.

- Pick a spot in the direction of **water flow** from your property.
- Make sure the spot is away from your foundations and will not cause problems for adjacent properties. Also check with local authorities in case a clearance is needed.
- Evaluate the **soil type** in your yard and its water absorbing potential.
- Establish **native plants** that are suited for the local conditions and soil type. These will attract and create a habitat for wildlife.
- Maintain and care for your rain garden.



## Additional Resources:

**Rain Gardens of West Michigan**  
<http://www.raingardens.org/Index.php>

**Back Yard Wetland Tips from Natural Resource Conservation Service (USDA)**  
<http://www.nrcs.usda.gov/feature/backyard/BakWet.html>

**University of Wisconsin-Extension**  
<http://www.nrcs.usda.gov/feature/backyard/BakWet.html>

**Friends of Bassett Creek**  
<http://www.nrcs.usda.gov/feature/backyard/BakWet.html>



# Mulching

Mulch enriches soil by adding nutrients and protects from soil erosion. Mulch is effective in suppressing weeds in the landscape, retaining moisture, giving winter protection and has aesthetic values.

- ❑ Mulch can be **organic** such as grass clippings, leaves, sawdust, and newspaper. or inorganic such as stone, and plastics.
- ❑ Mulch materials may be found in the home or yard - like lawn clippings and newspaper.
- ❑ **Compost** also makes good mulch material.
- ❑ Mulch during summer to **keep soil cool** and during winter to keep ground from freezing.
- ❑ Remove weeds before mulching.
- ❑ Keep some distance between the plant and the mulch material to avoid diseases.



## Additional Resources:

### Natural Resource Conservation Service

<http://www.nrcs.usda.gov/feature/backyard/Mulching.html>

### Heyne's Garden Center

<http://www.heyne.com.au/gardencentre/factsheets/factsheet.php/Mulches.htm>

### Virginia Cooperative Extension

<http://www.ext.vt.edu/pubs/envirohort/426-724/426-724.html>

### Ohio State University Extension Fact Sheet

<http://ohioline.osu.edu/hyg-fact/1000/1083.html>

# Pest Management

Pest management will help you deal with pests effectively without excessive application of pesticides that may run off into your local streams as pollutants.

- ❑ Regularly **monitor** your lawn and garden. It will help you stay abreast with potential problems.
- ❑ Remove pests by hand if possible – **physical/mechanical control**. **Biological control** with other organisms that control pest populations such as ladybugs eat aphids. **Chemical control** with pesticides.

- ❑ An **integrated pest management** method can be used to reduce the use of chemicals in order to reduce the risk of pesticide pollution in the surrounding environment.

- ❑ Pest **identification** is essential to determine the type of strategy to be adopted.



## Additional Resources:

### Natural Resource Conservation Service

<http://www.nrcs.usda.gov/feature/backyard/PestMgt.html>

### Vermont Agency of Agriculture, Food and Markets

<http://www.vermontagriculture.com/homepest.htm>

### Home and Garden Information Center, Maryland

[http://www.hgic.umd.edu/pubs/online\\_alpha.html#Integrated%20Pest%20Management%20Series](http://www.hgic.umd.edu/pubs/online_alpha.html#Integrated%20Pest%20Management%20Series)

# Minimize Paved Surfaces

Paved surfaces increase the volume, rate and temperature at which water enters the watershed since rainwater does not get a chance to percolate into the ground. Water entering the watershed will have picked up contaminants, fertilizers and pollutants, that contribute to the degradation of the stream.

❑ When installing a new driveway or surface, consider **alternatives to the usual concrete asphalt.**

❑ Try using paving blocks, gravel, flagstones, permeable concrete, wood decks, etc. for paving new surfaces.



## Additional Resources:

### Ecocity Smart Growth

[http://www.ecocitycleveland.org/smartgrowth/watershed/urban\\_streams/reduce\\_impervious.html](http://www.ecocitycleveland.org/smartgrowth/watershed/urban_streams/reduce_impervious.html)

### The Rouge River Project Landscape Practices

<http://www.rougeriver.com/getinvolved/individual/landscape.html>

### Information Bulletin Alternative Paving

[http://216.239.37.104/search?q=cache:N6iMELj7UuYJ:brgov.com/dept/planning/pdf/bulletins/bull45\\_alt.pdf+alternative+to+paved+surfaces&hl=en&ie=UTF-8](http://216.239.37.104/search?q=cache:N6iMELj7UuYJ:brgov.com/dept/planning/pdf/bulletins/bull45_alt.pdf+alternative+to+paved+surfaces&hl=en&ie=UTF-8)



## Additional Resources

**Alliance for the Chesapeake Bay** has a program called **Bayscapes**. Bayscaping is a holistic approach to landscaping techniques that will benefit people, wildlife and the Bay.

<http://www.acb-online.org/pubs.cfm>

### **The Lexington Park Library**

For books and resources on the above mentioned tips.

21677 FDR Blvd.

Lexington Park, MD 20653

301-863-8188

Located off Shangri-la Drive

### **USDA Natural Resource Conservation Service “Backyard Conservation”**

Manual

<http://www.nrcs.usda.gov/feature/backyard/pdf/BkYdWeb6.pdf>

### **Hilton Run Subwatershed Assessment**

[http://www.smcm.edu/smrp/stations/hilton\\_home.htm](http://www.smcm.edu/smrp/stations/hilton_home.htm)

# Additional Resources

## **Chesapeake Bay Residential Watershed Program**

<http://www.ext.vt.edu/departments/envirohort/articles/misc/chspkby.html>

**The MD Department of Agriculture** has put out a brochure about steps homeowners can take to maintain a healthy Chesapeake

<http://www.mda.state.md.us/nutrient/stepbrch.pdf>

## **Landscaping for a Healthy Planet, Audubon Society**

<http://www.audubon.org/chapter/pa/pa/envirolandscaping/>

## **Mid-Atlantic Region Green Landscaping, from the EPA**

<http://www.epa.gov/reg3esd1/garden/>

## **Hampton Roads Gardening & Home site**

<http://216.122.176.138/garden/bayscapes/00oct1.htm>

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*Picture 4* - [www.dmitry.com/Sony/my\\_plants/pages/backyard.htm](http://www.dmitry.com/Sony/my_plants/pages/backyard.htm) *Picture 5* - [warrick.in.nacdn.net/BackyardPicturePage.html](http://warrick.in.nacdn.net/BackyardPicturePage.html), *Picture 6* - [www.innsnorthamerica.com/ct/DeaconTPratt.htm](http://www.innsnorthamerica.com/ct/DeaconTPratt.htm)

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*Picture 1* - <http://www.hydroseedman.com>, *Picture 2* - [http://www.jacobsenlandscape.com/project\\_profiles\\_2.html](http://www.jacobsenlandscape.com/project_profiles_2.html)

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*Picture 1* - <http://www.canterbury.nsw.gov.au/environ/compost.htm>, *Picture 2* - <http://www.moea.state.mn.us/campaign/compost>

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*Picture 1* - [www.cityfarmer.org/grass.html](http://www.cityfarmer.org/grass.html), *Picture 2* - [www.harmonyproducts.com/pro5-5-3.htm](http://www.harmonyproducts.com/pro5-5-3.htm)

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*Picture 1* - [www.cabq.gov/waterconservation/xericrebate.html](http://www.cabq.gov/waterconservation/xericrebate.html)

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*Picture 1* - [www.nps.gov/plants/pubs/nativesMD/info.htm](http://www.nps.gov/plants/pubs/nativesMD/info.htm), *Picture 2* - [www.mdcoastalbays.org/plan/native.html](http://www.mdcoastalbays.org/plan/native.html), *Picture 3* - [www.agnr.umd.edu/users/QueenAnnes/home.html](http://www.agnr.umd.edu/users/QueenAnnes/home.html)



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*Picture 1* - [chicagowildernessmag.org/issues/spring2001/raingardens.html](http://chicagowildernessmag.org/issues/spring2001/raingardens.html), *Picture 2* – <http://natsci.edgewood.edu/wingra/management/raingardens>

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*Picture 1* - [www.arkansasplantoutlet.com/mulch.html](http://www.arkansasplantoutlet.com/mulch.html), *Picture 2* - [www.fernlea.com/weeds/weeds.htm](http://www.fernlea.com/weeds/weeds.htm)

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*Picture 1* - [www.pestmanagement.rutgers.edu/](http://www.pestmanagement.rutgers.edu/), *Picture 2* - [www.dowagro.com/sentricon/us/yourpest/](http://www.dowagro.com/sentricon/us/yourpest/)

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