

HOME PRACTICES TO PROMOTE WATER QUALITY

There are four major watersheds in the Mid-Atlantic: the Ohio River basin draining to the Gulf of Mexico, the Delaware Bay, the Roanoke and Chowan River basins draining to the Ablemarle-Pamlico Sound, and the Chesapeake Bay. All of these watersheds have stream segments identified as impaired by nutrients. The nutrients nitrogen and phosphorus cause eutrophication, which results in excessive algal growth and low oxygen conditions in rivers and estuaries, often resulting in local fish kills. Nutrients can also threaten drinking water supplies, especially in rural areas with poorly protected drinking water sources.



Source: Edwin Remsburg – USDA, CSREES

Chemical pollution is also a problem in many of the rivers within the Mid-Atlantic region. Chemicals can come from a variety of sources, and can harm plants, animals, fish and humans in different ways. Certain kinds of chemicals can affect the reproduction, development and survival of fish and other living resources. Some chemicals can accumulate in fish and other animal tissues, and in bottom sediments in rivers and estuaries.

Developed areas and household activities can contribute both nutrients and chemical contaminants to local waterways, and ultimately to major estuaries, like the Chesapeake Bay. Nutrients and chemicals from septic systems, lawn fertilizers, household cleaners and pest treatments, and automobile exhaust can contribute to water pollution. Stormwater running off from paved surfaces like roads, driveways and parking lots funnel many of these pollutants directly to waterways.

There are a variety of choices that the average homeowner can make in order to reduce the movement of nutrients and chemical contaminants from the residential landscape to our region's waterways. The Cooperative Extension Services in Delaware, Maryland, Pennsylvania, Virginia and West Virginia have numerous publications and fact sheets that can help homeowners make educated decisions about nutrient, pesticide and water management in the residential environment. This document highlights some of these publications.



LANDSCAPING FOR THE ENVIRONMENT

When caring for your lawn, it is important to be informed about the environmental consequences of your actions, as well as environmentally friendly alternatives to some common practices. Minimizing surface water runoff and soil erosion, correct use and timing of fertilizer applications, and even the choice of plants and grasses in your yard or garden can substantially reduce impacts to local water quality.

Home Lawn Fertilization in Virginia: FAQs (VA Coop. Ext. Pub. 430-003)

<http://pubs.ext.vt.edu/430/430-003/430-003.html>

Lawn Fertilization in Virginia (VA Coop. Ext. Pub. 430-011: 2004)

<http://pubs.ext.vt.edu/430/430-011/430-011.html>

Lawns and the Chesapeake Bay (MD Coop. Ext. Fact Sheet 702: 2003)

<http://www.agnr.umd.edu/MCE/Publications/PDFs/FS702.pdf>

Fertilizing the Vegetable Garden (VA Coop. Ext. Pub. 423-323: 2002)

<http://pubs.ext.vt.edu/426/426-323/426-323.html>

Establishing Lawns (VA Coop. Ext. Pub. 426-718: 2001)

<http://pubs.ext.vt.edu/426/426-718/426-718.html>

Summer Lawn Management (VA Coop. Ext. Pub. 430-010: 2004)

<http://pubs.ext.vt.edu/430/430-010/430-010.html>

Erosion Control and Conservation Planting on Non-Cropland (PSU 1997)

<http://turfgrassmanagement.psu.edu/pdf/uc150.pdf>

Home Landscape Practices to Protect Water Quality (VA Coop. Ext. Pub. 426-723: 2001)

<http://pubs.ext.vt.edu/426/426-723/426-723.html>

Groundwater Quality and the Use of Lawn and Garden Chemicals by Homeowners (VA Coop. Ext. Pub. 426-059: 1996)

<http://pubs.ext.vt.edu/426/426-059/426-059.html>

Environmental Horticulture: Guide to Nutrient Management (VA Coop. Ext. Pub. 426-613: 1996)

<http://pubs.ext.vt.edu/426/426-613/426-613.html>

Using Compost in Your Landscape (VA Coop. Ext. Pub. 426-704: 2001)

<http://pubs.ext.vt.edu/426/426-704/426-704.html>

Landscapes That Help the Chesapeake Bay (MD Coop. Ext. Fact Sheet 701:1998)

<http://www.agnr.umd.edu/MCE/Publications/PDFs/FS701.pdf>

Soil Sampling for The Home Gardener (VA Coop. Ext. Pub. 452-129: 2002)

<http://pubs.ext.vt.edu/452/452-129/452-129.html>



Source: Edwin Remsburg – USDA, CSREES



Lawn Care Calendar (WVU Ext.)

<http://www.wvu.edu/~agexten/hortcult/turf/calendar.htm>

Creating Healthy Landscapes (PA Coop. Ext.)

http://hortweb.cas.psu.edu/pubs/lscpe_pubs.html

Minimum Chemical Gardening (VA Coop. Ext. Pub. 426-366: 1996)

<http://pubs.ext.vt.edu/426/426-366/426-366.html>

Landscape Management (DE Coop. Ext. NPS Fact Sheet No. 10: 1999)

<http://ag.udel.edu/extension/Information/nps/nps-10.html>

Fertilizer Basics (DE Coop. Ext. NPS Fact Sheet No. 2)

<http://ag.udel.edu/extension/Information/nps/nps-02.html>

Source: Edwin Remsburg – USDA, CSREES



HOME USE OF PESTICIDES

Improper use, storage or disposal of pesticides and herbicides can lead to water quality contamination and unintentional consequences for the environment.

Pest Management for Water Quality (VA Coop. Ext. Pub 426-615: 1996)

<http://pubs.ext.vt.edu/426/426-615/426-615.html>

Applying Pesticides Safely (VA Coop. Ext. Pub. 426-710: 2001)

<http://pubs.ext.vt.edu/426/426-710/426-710.html>

Storing Pesticides Safely (VA Coop. Ext. Pub. 426-705: 2001)

<http://pubs.ext.vt.edu/426/426-705/426-705.html>

Understanding Pesticide Labels (VA Coop. Ext. Pub. 426-707: 2001)

<http://pubs.ext.vt.edu/426/426-707/426-707.html>

Choosing Pesticides Wisely (VA Coop. Ext. Pub. 426-706: 2001)

<http://pubs.ext.vt.edu/426/426-706/426-706.html>



Source: Edwin Remsburg – USDA, CSREES

IPM: A Common Sense Approach to Managing Pests (WV Coop. Ext. 2000)

<http://www.wvu.edu/~agexten/hortcult/homegard/ipmpests.htm>

Read the Label First (WVU Ext.)

<http://www.wvu.edu/~agexten/ipm/pestprog/educate/readlbl.pdf>



Source: Edwin Remsburg – USDA, CSREES

Before You Buy a Pesticide (WVU Ext.)

<http://www.wvu.edu/~agexten/ipm/pestprog/educate/buypestic.pdf>

Pesticide Application, Equipment Calibration, and Spray Patterns (DE Coop. Ext. NPS Fact Sheet No. 4: 1995)

<http://ag.udel.edu/extension/Information/nps/nps-04.html>

Pesticide Basics (DE Coop. Ext. NPS Fact Sheet No. 5: 1995)

<http://ag.udel.edu/extension/Information/nps/nps-05.html>

WASTE MANAGEMENT

There are numerous wastes generated within a typical household. Proper waste handling and disposal will reduce the likelihood of contaminating groundwater, local rivers and streams, and even local drinking water sources.

Pet Waste and Water Quality (MD Coop. Ext. Fact Sheet 703: 2003)

<http://www.agnr.umd.edu/MCE/Publications/PDFs/FS703.pdf>

Septic Records and Maintenance Guidelines (MD Coop. Ext. MEP 321: 2002)

<http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=507&cat=N>

Septic Tank Advice (VA Water Resources Research Center)

<http://www.vwrrc.vt.edu/advisor/septic.htm>

“Leave” Them Alone: Lawn Leaf Management: VA Coop. Ext. Pub. 430-521

<http://pubs.ext.vt.edu/430/430-521/430-521.pdf>



Alternatives for Household Products: Helpful Hazardous Waste Reduction Hints (MD Coop. Ext. HW-1: 1998)

<http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=76&cat=N>

Household Toxics Disposal (MD Coop. Ext. HW-2: 1998)

<http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=83&cat=N>

Melting Ice Safely (MD Coop. Ext. Fact Sheet 707: 1998)

<http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=75&cat=N>

Planting on Your Septic Drain Field (VA Coop. Ext. Pub. 426-617: 2000)

<http://pubs.ext.vt.edu/426/426-617/426-617.pdf>

Guide to Home Composting (PA DEP)

<http://www.dep.state.pa.us/dep/deputate/airwaste/wm/recycle/compost/Home1.htm>

Septic & Sewage Disposal Fact Sheets (PA Coop. Ext.)

<http://www.abe.psu.edu/extension/factsheets/f/index.html>



Source: Edwin Remsburg – USDA, CSREES

WATER CONSERVATION

While it might seem that we have plenty of water in our region, water demand for irrigation, human consumption and waste transmission has been steadily rising. Don't wait for drought to begin using water more wisely.

Landscape Design for Water Conservation (DE Coop. Ext. NPS Fact Sheet No. 8: 1995)

<http://ag.udel.edu/extension/Information/nps/nps-08.html>

Plant Selection for Water Conservation (DE Coop. Ext. NPS Fact Sheet No. 9: 1995)

<http://ag.udel.edu/extension/Information/nps/nps-09.html>

Lawn Management for Water Conservation (DE Coop. Ext. NPS Fact Sheet No. 11: 1995)

<http://ag.udel.edu/extension/Information/nps/nps-11.html>

Creating a Water-Wise Landscape (VA Coop. Ext. Pub. 426-713:2004)

<http://pubs.ext.vt.edu/426/426-713/426-713.html>

Xeriscaping and Conserving Water in the Landscape (MD Coop. Ext. HG25: 2001)

<http://www.agnr.umd.edu/users/hgic/pubs/online/hg25.pdf>



Source: Edwin Remsburg – USDA, CSREES

Water Conservation in the Home (MD Coop. Ext. HW-4: 200)

<http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=87>

Strategies for Saving Drought Plagued Lawns and Gardens (WVU Ext.)

<http://www.wvu.edu/~agexten/hortcult/homegard/vegdrout.htm>

Drought and Water Conservation Publication (PA Coop. Ext.)

<http://www.sfr.cas.psu.edu/water/drought%20publications.htm>

USEFUL SITES FOR HOMEOWNERS

In addition to these useful Cooperative Extension resources, many state and federal agencies also have tips for homeowners on reducing pollution from the residential environment.

Lawn and Landscape Care Companies (DE Coop. Ext. NPS Fact Sheet No. 7: 1995)

<http://ag.udel.edu/extension/Information/nps/nps-07.html>

NPS Pollution & You

<http://www.dcr.state.va.us/sw/nps.htm>

Preventing Pollution at Home

http://www.dep.state.pa.us/individuals_families/default.htm

Non-Point Source Pollution Education Campaign

http://www.dnr.state.md.us/bay/tribstrat/nps_pollution.html

Online Publications From UMD Home and Garden Information Center

<http://www.hgic.umd.edu/>

Chesapeake Bay Program-How You Can Help the Bay

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

Chesapeake Bay Foundation-Environmentally Friendly Practices

http://www.cbf.org/site/PageServer?pagename=action_simple_ways_index

Natural Resources Conservation Service

http://www.nrcs.usda.gov/partners/for_homeowners.html

EPA Do's and Don'ts Around the Home

<http://www.epa.gov/owow/nps/dosdont.html>

Backyard Conservation (USDA NRCS)

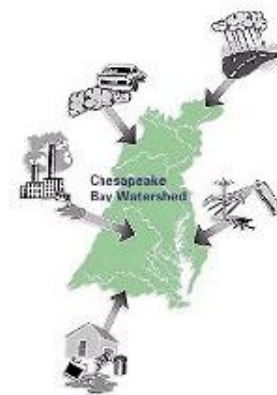
<http://www.nrcs.usda.gov/feature/backyard/>

Bay Wise Maryland Yardstick (MD Coop. Ext., MD HGIC)

<http://www.hgic.umd.edu/pubs/online/bw2.qxd.pdf>

Home and Garden Tips (USDA NRCS)

<http://www.nrcs.usda.gov/feature/highlights/homegarden/>



Source: Chesapeake Bay Foundation

Be sure to check out the
CSREES Mid-Atlantic Regional Water Quality Program
website for updates and additional information.

<http://www.mawaterquality.org>

Land Grant Universities and USDA's Cooperative State Research, Education and Extension System (CSREES), working with EPA Region 3, have formed a partnership to advance water quality protection and restoration efforts in the Mid-Atlantic by providing water quality science support, training and education.

