Stormwater Information
Ferguson, Bruce. Introduction to Stormwater: Concept, Purpose, Design. 1998.
Stormwater Managers’ Resource Center. www.stormwatercenter.net
Law Impact Development Center. www.lawimpactdevelopment.org/EPAA3.htm
Center for Watershed Protection. www.cwp.org

Rain Gardens and Rain Barrels
Rain barrel may be purchased at local nurseries, hardware, garden centers or from local community groups. If not available in your local area, search the internet for sources to purchase a rain barrel. The Alliance for the Chesapeake Bay and other conservation organizations often coordinate rain barrel workshops. Check our Web site or contact one of our offices for more information.

Clean Virginia Waterways (How to Build A Rain Barrel). http://www.longwood.edu/CLJANNA/rainbarrels.htm

Resources

Roof Gardens/Greenroofs
Urban Agriculture Notes. www.cityfarmer.org/sub-rooftops.html

Conservation Landscaping
Alliance for the Chesapeake Bay. www.AllianceChesBay.org
National Wildlife Federation. www.nwf.org

Taking Care of Stormwater
A BayScapes Guide for Homeowners

This publication was developed by the Alliance for the Chesapeake Bay, a regional, non-profit organization that builds and fosters partnerships to restore and protect the Bay and its rivers.
This publication is funded by the Chesapeake Bay Restoration Fund, http://dls.state.va.us/cbfac.htm

Ferguson, Bruce. Introduction to Stormwater: Concept, Purpose, Design. 1998.

Website: www.acb-online.org

Water quality issues that can reduce their recreational value and harm wildlife and insects that depend on them to survive.

What is stormwater runoff?
Stormwater runoff is water from rain, melted snow or irrigation that does not soak into the ground but flows directly into local waterways without being treated.

Impervious surfaces are non-porous areas such as parking areas, streets and rooftops that prevent or retard water from entering the soil. Compacted soils beneath lawns, sports fields and pastures also create unexpected impervious areas.

Why is stormwater a problem?
Highly developed urban and suburban areas have a large percent of impervious surfaces such as rooftops, driveways, sidewalks and parking lots. Many streams in these communities have water quality issues that can reduce their recreational value and harm wildlife and insects that depend on them to survive.

Traditional drainage systems concentrate and quickly remove runoff with gutters, curbs, storm sewers, pipes, and paved channels. These systems create a large flow of fast-moving and sometimes highly polluted water discharging into local rivers — causing erosion, flooding and unstable stream channels. Pollutants can include litter, pet waste, vehicle fluids and lawn fertilizers and pesticides.

What can you do?
You can adopt and implement conservation landscaping in your backyard and community.
BayScapes is a program developed by the Alliance for the Chesapeake Bay and the U.S. Fish and Wildlife Service to teach landscaping and conservation practices that will help protect the Chesapeake Bay watershed.
BayScaping reduces air and water pollution by limiting the need for mowing and reduces pesticide, herbicide and fertilizer use. BayScaping also provides food and shelter for wildlife. BayScaping requires less water, fertilizer, pesticides and maintenance than non-native plant varieties in ornamental gardens.

Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system. Grass swales are an alternative to the curb and gutter system.

Decks, patios and pathways
These areas can be constructed with pervious materials that allow water to be absorbed into the ground. Wood, stone, cobble, loosely laid brick and paving blocks are some of the materials that can be used in the landscape.

www.acb-online.org
THE VOICE OF THE BAY
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Roof Gardens

Rain Barrels

Benefits:
- Reduced stormwater runoff (up to 50%),
- Improved air and water quality,
- Reduced energy consumption (by insulating buildings),
- Increased habitat for birds and beneficial insects,
- Sources of urban food production,
- Enhanced building value and extended roof life,
- Reduced heat island effects and sound barrier.

Design and Plant Material

The slope of your roof will determine what kind of roof garden you can have. Consult a licensed engineer regarding the load carrying capacity of the roof to ensure that the structure will support your garden design. A low-cost way to start a rooftop garden on a flat roof is to use containers, such as plastic swimming pools.

Plant material for a roof garden should tolerate dry, hot and sunny growing conditions. Certain native wildflowers, grasses and shrubs will also survive in a raised bed containing at least eight inches of soil (i.e. plastic swimming pool). Vegetables for human consumption can be grown if a heavy layer of organic mulch is applied.

Before planting, consider the following:
- Can the roof support a garden? Consult an engineer to determine if your roof can support the weight.
- Will the roof garden consist of a variety of containers or a greenroof that is professionally designed and installed?
- If planning a roof garden consisting of containers, what type of plants will be planted?
- If the plants last more than one season, is there a way to protect them from freezing temperatures and drying winter winds?
- Who will maintain the garden?

Roof areas may represent up to 50% of the impervious surface in an urban or suburban community, but planting vegetation on a specially designed rooftop can capture rooftop runoff. The vegetative layer retains water both in the soil and the vegetation. This water is later released through evapotranspiration. Plants can be installed in containers to make up a simple roof garden. Greenroofs, on the other hand, involve planting vegetation directly on a specially constructed roof surface and require engineering expertise.

Why have a rain barrel?

Lawn and garden watering make up nearly 40 percent of a typical household’s water use during the summer growing season. A rain barrel could save most homeowners about 1,300 gallons of water during the summer months, lowering water bills significantly. The water collected and stored in the rain barrel can also be used for washing cars and cleaning windows, but not for drinking.

Where can I get a rain barrel?

You can purchase or order a rain barrel at most local lawn and garden centers. You can also make your own using a large plastic barrel or learn how to make one.