

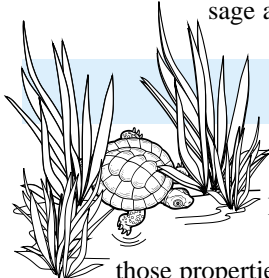
Encourage Wildlife



Maryland has a great diversity of wildlife. Providing adequate food, water and shelter can increase the number and variety of species that visit your yard.

Actions:

- Plant flowers, vines, shrubs and trees that provide cover, nesting areas or food sources for birds, butterflies and other desirable wildlife. *Credit: 3 inches*
- * Provide, and properly maintain, a water source, such as a birdbath or small pond, for wildlife. (Note: Change birdbath water every other day if mosquitoes are a problem.) *Credit: 1 inch*
- Provide, and properly maintain, wildlife shelters such as a bat house*, birdhouse or a dead tree (snag). *Credit: 1 inch*
- * Some feel that bat houses tend to attract mud daubers better than they do bats.
- Many plants that attract & feed beneficial insects are edible. Plant at least one or two in the garden to do double duty: anise, basil, carrot, coriander, dill, fennel, mints, anise hyssop, kale, Asian greens, parsley, sage and thyme. *Credit: 1 inch*



Protect The Waterfront

Waterfront property owners realize the special contribution our waterways and the Bay make to their quality of life. They should also understand how fragile these natural treasures can be. Waterfront property includes those properties that border even the smallest streams.

Actions:

- * Establish a border of low maintenance vegetation along the shoreline to absorb nutrients, slow runoff, and provide wildlife habitat. *Credit: 3 inches.*
- Do not fertilize within 25 feet of the shoreline. *Credit: 2 inches*
- Keep grass clippings, other yard waste and animal waste away from stream banks, waterways or the rivers edge. *Credit: 2 inches*

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Area Educator - Environmental Management

Have a pest or gardening question?
Call the Home and Garden Information Center (HGIC) **1-800-342-2507**
or visit us at www.hgic.umd.edu



The Maryland Cooperative Extension's programs are open to all citizens without regard to race, color, gender, disability, religion, age, or national origin.

Are you a Bay-Wise homeowner?

Homeowners can contribute to a cleaner local waterway, Chesapeake Bay and environment by using several environmentally sound approaches.

- **Fertilize Wisely**
- **Water Efficiently & Mow Properly**
- **Control Stormwater Runoff**
- **Mulch Appropriately**
- **Recycle Yard Waste**
- **Manage Yard Pests with Integrated Pest Management (IPM)**
- **Plant Wisely**
- **Encourage Wildlife**
- **Protect the Waterfront**

Directions: Listed in this brochure are management practices and approaches designed for individual home landscapes. Read through the choices carefully. Select those actions that you have already taken in your yard. Mark off your credits on the yardstick (on the front page) as you complete each action. Your goal is to equal or exceed 36 inches.

For specific information on how to pursue an action contact:

Maryland Cooperative Extension
Home & Garden Information Center (HGIC) **1-800-342-2507**
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You can order any of the following fact sheets by phone or on-line:

FS	701	Landscapes That Help the Chesapeake Bay
FS	702	Lawns and the Chesapeake Bay
FS	703	Pet Waste and Water Quality
FS	704	Saving Your Soil and the Chesapeake Bay
FS	707	Melting Ice Safely
FS	553	Mulches for the Home Garden
Leaflet	245	Home Composting
HG	12	IPM Series: Dogwood
HG	23	Fertilizing Ornamental Trees & Shrubs
HG	25	Xeriscaping and Conserving Water in the Landscape
HG	37	Lawn Renovation
HG	42	Soil Amendments and Fertilizers
HG	51	IPM Series: Azaleas & Rhododendrons
HG	51A	IPM Series: Disease & Insect Resistant Plants
HG	52	IPM Series: Boxwood
HG	54	IPM Series: Pines
HG	58	IPM Series: Birch Trees
HG	61	IPM Series: Shade Trees
HG	62	IPM Series: A Common Sense Approach
HG	63	IPM Series: Turf
HG	85	Watering Tips for Drought Conditions
HG	93	IPM Series: Ornamental Fruit Trees
HG	94	IPM Series: Annuals & Perennials
HG	23	Fertilizing Ornamental Trees and Shrubs
HG	42	Soil Amendments & Fertilizers
HG	120	Native Plants of MD (\$3.00)
HG	306	How to Measure Your Yard
HE	90-80	Woody Landscape Plants for Attracting Birds
AM	77	Turfgrass Cultivar Recommendations
AM	88	Irrigation and Water Conservation on Home Lawns

Bay Wise



Maryland yardstick

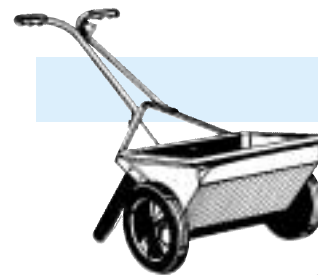


The Chesapeake Bay, its rivers and tributary streams play an important role in the lives of Marylanders. They provide us with food, recreation and commerce. Our waterways are declining due, in part, to air pollution and to fertilizer and other pollutants running off Maryland homes and landscapes, farms, sewage treatment plants and industry.

Many Maryland residents live within a half-mile of a storm drain, stream or river. Most of those waterways eventually drain into the Chesapeake Bay. What we do in our own yards can affect the health of our local waterways, the Bay and the environment.

We all need to do our part to take care of our waterways. By changing a few simple practices, you and your family can help keep our Maryland water healthy.

Does your yard or landscape measure up?



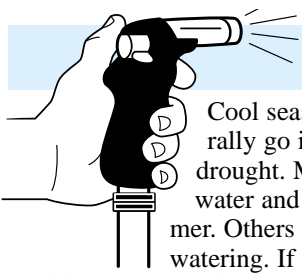
Fertilize Wisely

Fertilizers can be harmful to the environment and your yard if not used properly. When applied at the wrong time or over-applied, fertilizers can create salt problems in the soil, affect winter hardiness, exaggerate pest problems and make plants grow excessively (which can mean more mowing too!) Excess nitrogen and phosphorus (two components of fertilizers) can leach out of the soil and pollute groundwater or wash off landscapes and pollute surface waters and eventually, the Chesapeake Bay.

Actions:

- * Test your soil every 3 to 5 years. Fertilize and lime according to the soil test recommendations. Call the Home and Garden Information Center (HGIC) at 1-800-342-2507 or your county extension office, to obtain a soil test kit. *Credit: 2 inches*
- Use a fertilizer with the proper balance of nutrients for landscape plants. Trees and shrubs need a ratio of 3:1:1 of Nitrogen, Phosphorous, Potassium, lawns need a fertilizer high in Nitrogen, low in Phosphorous and moderate in Potassium, while flowering plants need a higher amount of Phosphorous than Nitrogen and Potassium. *Credit: 1 inch*
- Fertilize only as needed to maintain the health and quality of lawns. Do not over-fertilize. The University recommends using no more than 1 pound of actual Nitrogen per 1,000 square feet of lawn per application and no more than 2 to 3 applications per year. *Credit: 1 inch*
- * Fertilize cool season grasses only in the Fall (September through early November) unless your lawn does not look healthy in the Spring. In that case, apply an additional 0.5 pounds of actual Nitrogen per 1,000 square feet in late May (Warm season grasses such as Zoysia and Bermudagrass should only be fertilized from mid May to early June). *Credit: 1 inch*
- * Use slow release or natural organic fertilizers. Buy fertilizers that contain 30% or more of the nitrogen in slow release forms. Look for words such as water insoluble nitrogen (WIN), controlled release nitrogen, sulfur coated urea (SCU), IBDU, ureaformaldehyde (UF) or resin-coated urea to indicate slow release forms. *Credit: 1 inch*
- Avoid using granular fertilizer on lawn if heavy rain is forecast. *Credit: 1 inch*
- Avoid spilling/leaving granular fertilizer on paved surfaces. Sweep it back onto the lawn or collect it for use later. *Credit: 1 inch*
- During autumn, mow lawn lightly covered with fallen leaves with a mulching mower. Leave finely shredded leaves on lawn to decompose and release nutrients to the lawn. *Credit: 3 inches*
- Check here if you never fertilize your lawn. *Credit: 7 inches*

* This is a very important practice.



Water Efficiently / Mow Properly

Cool season grasses (fescues, bluegrasses, ryegrasses) naturally go into a semi-dormant state during summer's heat and drought. Many Bay-Wise Marylanders take steps to conserve water and mimic Mother Nature by not watering during summer. Others try to keep their lawns growing during this time by watering. If you choose to irrigate, do so only when your lawn and landscape need water. Efficient watering is an important key to reducing runoff and maintaining a healthy Maryland landscape.

Actions:

- * Mow cool season grasses high (2½ - 3½ inches) to encourage a deeper, more drought- and pest-tolerant root system. A higher cut also shades out weeds. Remove no more than a third of the grass blade when you mow. *Credit: 2 inches*
- Allow lawn to go dormant during summer months. *Credit: 3 inches*
- Irrigate your lawn only when it begins to wilt. Be sure to follow local water ordinances. Apply ½ to 1 inch per application (to a soil depth of 6 inches), but never more than the soil will absorb. Stop watering when water begins to run off. Long, slow soaking applications are good; avoid short, frequent, shallow applications, which can actually do more harm than good. *Credit: 1 inch*
- Water in the morning to conserve water (watering during the heat of the day causes high losses to evaporation). Morning watering also reduces potential disease problems (evening watering encourages diseases). *Credit: 1 inch*
- Direct water to the soil at the base of the landscape plant. Excess water on the leaves increases the potential for foliar diseases. *Credit: 1 inch*
- Occasional overhead watering, during hot, dry weather, can help to cool the plants and provide moisture for beneficial insects & spiders. Water overhead in the morning only. This allows time for the leaves to dry before disease can set in. *Credit: 1 inch*
- Design and maintain a landscape that, once established, will survive on natural rainfall amounts. *Credit: 1 inch*

For landscapes that use an irrigation system (in-ground or hose-end sprinkler)

- Give your irrigation system a check-up. Replace broken and mismatched sprinkler heads. Redirect sprinkler heads so that water falls only on lawn and garden areas, not on paved surfaces. *Credit: 1 inch*
- * Calibrate your irrigation/sprinkler system to apply no more than 1 inch of water per application. *Credit: 1 inch*
- * Install a rain shut-off device on your automatic sprinkler system. The shut-off device will override your system's timer when an adequate amount of rain has fallen. *Credit: 1 inch*
- Design or modify your irrigation system to water lawn areas separately from plant beds. *Credit: 1 inch*
- Use a drip- or micro-irrigation system to conserve water in plant and flower beds. *Credit: 1 inch*

Control Stormwater Runoff

Any rain and irrigation water that runs off carries soil, debris, fertilizer and pesticides from your yard into neighborhood storm drains that lead to local streams, rivers, drinking water reservoirs and the Bay. These substances can harm living organisms, habitats and water quality.

Reducing runoff from your property minimizes these problems.

Actions:

- * Direct down spouts and gutters to drain onto the lawn, plant beds or containment areas where rain will soak into the soil rather than running off. However, direct this water away from the house to avoid wet basement and foundation problems. *Credit: 1 inch*
- Decrease erosion by planting groundcovers on thinly vegetated areas under trees or on slopes. *Credit: 1 inch*
- Use brick or paving stone set in sand, gravel, mulch or other porous surfaces for walkways, patios and driveways. *Credit: 1 inch*
- Create swales (low areas) or terracing to catch and filter stormwater. *Credit: 1 inch*
- Plant mulched beds containing trees, shrubs, or groundcovers along the low edges of your property to catch the run off. *Credit: 1 inch*
- Keep grass clippings, fallen leaves and other yard waste out of storm drains, waterways and drainage areas. *Credit: 1 inch*



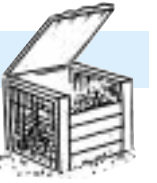
Mulch Appropriately

Mulching retains soil moisture, moderates soil temperature and helps prevent erosion and weeds. By using mulch you'll use less water, have healthier plants and fewer weeds. (Note: Never use freshly ground organic material, like brush or hardwood bark, as mulch. It robs nitrogen from the soil and can cause plant yellowing. Allow these materials to age for at least 6 months before using.)

Actions:

- * Maintain no more than a 2- to 3-inch layer of organic mulch over the roots of trees, shrubs and in planting beds. Deeper mulch may prevent water from filtering down to the plant roots. *Credit: 2 inches*
- Prevent wood mulch from coming in contact with tree or shrub bark. The same microorganisms that break down the mulch will damage and destroy woody plants over time. Leave at least 1 inch of space between the base of the tree or shrub and the mulch. *Credit: 1 inch*
- Create self-mulching areas under trees and shrubs where non-diseased leaves can remain where they fall. *Credit: 2 inches*
- Use by-product mulches such as shredded hardwood, pine bark, or pine bark nuggets. These are available from your community or check your local garden center. (Caution! Excessive use of hardwood mulch can cause manganese toxicity in acid-loving plants, like azaleas.) *Credit: 1 inch*

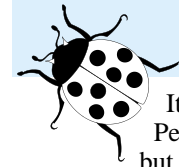
Recycle Yard Wastes



In a Maryland landscape, grass clippings, leaves, yard trimmings, and organic kitchen scraps, such as vegetable & fruit peelings, egg shells and tea & coffee grounds, should be recycled rather than thrown away.

Actions:

- * Recycle grass clippings by allowing them to remain on the lawn. This is called grass-cycling. *Credit: 2 inches*
- Use fallen leaves, dried grass clippings and pine needles found in your yard as mulch under trees, shrubs and in flower beds rather than bagging and discarding them. Pine needles are great in beds of acid-loving plants like azaleas, Japanese pieris and rhododendron. They make an attractive, natural mulch and they're free. *Credit: 1 inch*
- Create and maintain a compost pile with collected clippings, leaves and kitchen scraps (no animal products, please). (Check your local county ordinances to see if kitchen scraps can be used.) *Credit: 2 inches*



Manage Yard Pests with Integrated Pest Management (IPM)

It's unrealistic to strive for an insect and disease-free landscape. Pesticides provide effective treatment of serious pest problems, but they should not be used routinely or indiscriminately. Improper use of pesticides can result in pest resistance and can harm humans, pets, beneficial organisms and the environment.

Actions:

- * Check plants regularly. Make it a habit to walk around your yard at least every two weeks and observe your plants for signs of problems. Look at leaf undersides for egg masses and spider mites. *Credit: 1 inch*
- * Avoid routine applications of pesticides. Treat only affected plants or lawn areas rather than spraying your entire lawn and landscape. (Ask your lawn and landscape maintenance company to follow these strategies if they maintain your landscape). *Credit: 1 inch*
- Learn to identify three beneficial insects that provide natural control of harmful pests. List them _____, _____ & _____. (Hint: a praying mantid is not necessarily beneficial - it will eat beneficial insects as well as pests; but it does indicate an environment where few harsh pesticides are used). *Credit: 3 inches*
- * When necessary, use environmentally friendly pesticides such as horticultural oils and soaps, botanical insecticides like neem, *Bacillus thuringiensis*, (B.t.) and other beneficial organisms, whenever possible, as an alternative to harsher pesticides. These effective, safer materials can control many pests in your landscape. *Credit: 2 inches*
- Use attractants (like slug traps), barriers or other non-toxic means to control pests. *Credit: 1 inch*
- Avoid using the Japanese beetle traps in your landscape. They will actually attract more beetles to your landscape than what were originally there. *Credit: 1 inch*
- Hand pick insect pests and diseased leaves off plants rather than using a pesticide. *Credit: 1 inch*
- Hand pull weeds where possible. If removed when they are young and tender, it requires less effort. This is a non-toxic means to control weeds. *Credit: 1 inch*
- Remove plant debris and diseased plants to prevent the spread of disease from one season to the next. *Credit: 1 inch*
- Choose resistant varieties to reduce potential need for pesticides in the garden. *Credit: 1 inch*
- If deer, groundhogs or rabbits are a problem in your garden, use fencing or repellents to deter or repel them. *Credit: 1 inch*
- Attract beneficials to your garden by planting beds with members of the mint, aster, Queen Anne's lace and cabbage families. These plants produce small flowers that provide habitat and a nectar and pollen source for beneficials. *Credit: 1 inch*

Plant Wisely

Plants suited to your site will require minimal amounts of water, fertilizer and pesticides, and may provide benefits to your home.

Actions:

- Replace problem-prone plants with low-maintenance, native, adapted or non-invasive species. *Credit: 1 inch*
- Incorporate more native plants into your landscape. Give yourself credit if you have at least 4 different species. List them _____ . *Credit: 2 inches*
- * Plant drought-tolerant grass species such as turf-type tall fescue, fine fescue, or zoysiagrass instead of higher-maintenance species like Kentucky bluegrass. In areas with no foot traffic, consider planting native grasses, ground covers or shrubs. *Credit: 1 inch*
- Group plants in the landscape according to their water and maintenance needs. *Credit: 1 inch*
- Determine how much grass you need for children, pets, recreation or ornamental purposes. Where possible, replace unneeded grass areas with beds of low or no maintenance ground covers, perennials, shrubs or trees. *Credit: 2 inches*
- Save energy by using trees and shrubs to shade the southern and western walls of your home and your air conditioner compressor. *Credit: 1 inch*
- Use deciduous trees on southern exposures to allow the sun to passively heat your home in winter. *Credit: 1 inch*
- Use evergreen trees and shrubs on northwestern exposures to protect your home from cold winter winds. *Credit: 1 inch*
- Help stop the spread of invasive, exotic plants such as Purple loosestrife, Japanese honeysuckle, Norway maple, Russian olive, Chinese bitter-sweet, Multi-flora rose, Kudzu and Tree of heaven by removing them from your landscape. *Credit: 1 inch*

