

Encourage Wildlife

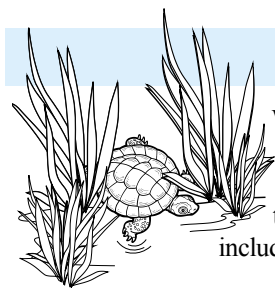
Maryland has a great diversity of wildlife. Providing adequate food, water and shelter can increase the number and variety of species that visit your yard.



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 bird bath or small pond, for wildlife. *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 and 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 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 river's edge. *Credit: 2 inches*

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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

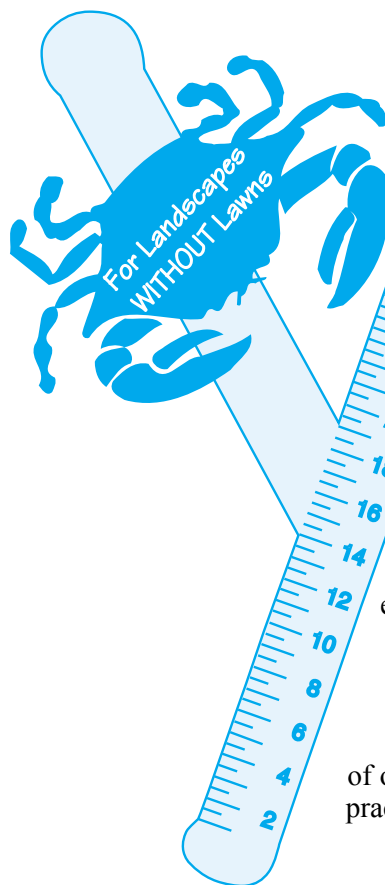


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Bay Wise



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?

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**
- **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
or visit us at www.hgic.umd.edu

You can order any of the following fact sheets by phone or on-line:

FS	701	Landscapes That Help 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	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	85	Watering Tips for Drought Conditions
HG	93	IPM Series: Ornamental Fruit Trees
HG	94	IPM Series: Annuals and Perennials
HG	120	Native Plants of MD (\$3.00)
HG	306	How to Measure Your Yard
HG	90-80	Woody Landscape Plants for Attracting Birds
HE	90-80	Woody Landscape Plants for Attracting Birds

Fertilize Wisely

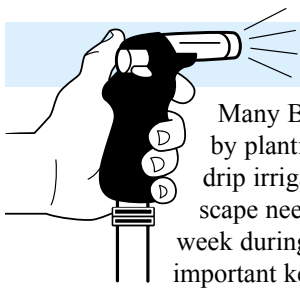
Fertilizers can be harmful to the environment and your yard if not used properly. When applied at the wrong time or over-applied, fertilizers can create salt problems in the soil, affect winter hardiness, make plants grow excessively and exaggerate pest problems. Excess nitrogen and phosphorus (two components 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, while flowering plants need a higher amount of Phosphorous than Nitrogen and Potassium. *Credit: 2 inches*
- 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: 2 inches*
- Avoid using granular fertilizer if heavy rain is forecast. *Credit: 1 inch*
- Avoid spilling granular fertilizer on paved surfaces. Sweep it back onto the planting beds or collect it for use later. *Credit: 1 inch*
- Fertilize trees & shrubs in mid- to late fall (after the leaves have fallen) until early spring (before active growth begins). *Credit: 1 inch*
- Fertilize established trees & shrubs every 3 to 4 years. *Credit: 1 inch*
- Acid-loving plants such as azalea, camellia, heath, leucothoe, mountain laurel, pieris and rhododendron grow best in soils with a pH of 4.5 - 6.0. Fertilize with acid forming fertilizers, but test soil periodically to avoid making the soil too acid. *Credit: 1 inch*
- Check here if you never fertilize your landscape plants. *Credit: 11 inches*

* This is a very important practice.



Water Efficiently

Many Bay-Wise Marylanders take steps to conserve water by planting drought-resistant plants, mulching and using drip irrigation. If you irrigate, do so only when your landscape needs water (watering thoroughly and deeply once a week during the summer months). Efficient watering is an important key to reducing runoff and maintaining a healthy Maryland landscape.

Actions:

- * Irrigate landscape plants only when they begin to wilt. Be sure to follow local water ordinances. Apply ½ - to 1 inch per application (30 to 60 gallons per 100 sq. ft.), 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: 2 inches*
- * 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: 2 inches*
- Direct water to the soil at the base of the plant. Excess water on the leaves increases the potential for foliar diseases. *Credit: 2 inches*
- 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: 2 inches*
- Design and maintain a landscape that, once established, will survive on natural rainfall amounts. *Credit: 4 inches*

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

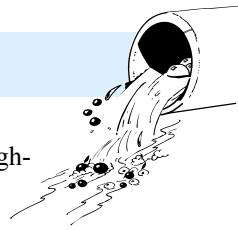
- Give your irrigation system a check-up. Replace broken and mismatched sprinkler heads. Redirect sprinkler heads so that water falls only on landscape and garden areas, not on paved surfaces. *Credit: 1 inch*
- * Calibrate your irrigation/sprinkler system to apply no more than 1 inch of water per application per week. *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*
- Use a drip- or micro-irrigation system to conserve water in landscape 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 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 fallen leaves and other yard waste out of storm drains, waterways and drainage areas. *Credit: 1 inch*



Mulch Appropriately

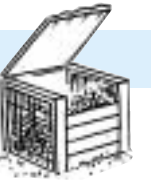
Mulching retains soil moisture, moderates soil temperature and helps prevent erosion and weeds. By using mulch you'll use less water, have healthier plants and fewer weeds. (Note: Never use freshly ground bark as mulch. It robs nitrogen from the soil and can cause plant yellowing. Allow these materials 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 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*

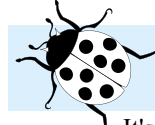
Recycle Yard Wastes

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



Actions:

- * Use fallen leaves 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: 3 inches*
- Create and maintain a compost pile with collected trimmings, 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.

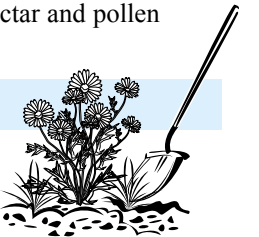
Pesticides provide effective treatment of serious pest problems, but they should not be used routinely or indiscriminately. Improper use of pesticides can result in pest resistance and can harm humans, pets, beneficial organisms and the environment. IPM is a comprehensive process used to manage pests. It involves an understanding of the life cycle of the pest, other organisms, (like beneficial organisms, our pets and ourselves) and the effects of a pesticide on all of these things. The result is, when confronted with a pest, you should consider all possible ways to control it before doing so. Steps of IPM include regular monitoring for signs of plant problems and insect pests (use a hand lens for a closer look and don't forget the leaf undersides), preventing pest problems before they occur, once identified, considering cultural or mechanical means of control and as a last resort, consider trying "bio-rational" materials like insecticidal soap, horticultural oil, and B.t. (for caterpillar pests) first before using traditional pesticides.

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. Spot treat only affected plants rather than spraying your entire landscape. (Ask your 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 you 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*
- Group plants in the landscape according to their water and maintenance needs. *Credit: 1 inch*
- 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 bittersweet, Multi-flora rose, Kudzu and Tree of heaven by removing them from your landscape. *Credit: 1 inch*