

Further Assistance: The following organizations offer information and assistance in planning your forest.

- Forestry for the Bay
www.forestryforthebay.org
- National Association of Conservation Districts
www.nacdnet.org
- National Association of State Foresters
www.stateforesters.org
- American Forests
www.americanforests.org
- National Wildlife Federation's Backyard Habitat
www.nwf.org/backyard
- USDA Natural Resources Conservation Service
www.nrcs.usda.gov

Reference Materials:

- A Guide to Wildlife Food Habits
by Martin, Zim, Nelson
- A Field Guide to the Ecology of Eastern Forests
by Kricher / Morrison
- A Field Guide to Trees and Shrubs
by George A. Petrides
- Eastern Deciduous Forest by Richard H. Yahner
- Forest and Thicket by John Eastman
- Landscaping with Native Trees
by Sternberg, Wilson
- Manual of Woody Landscape Plants
by Michael A. Dirr
- Native Trees, Shrubs, and Vines for Urban & Rural America by Gary L. Hightshoe

Web Publications:

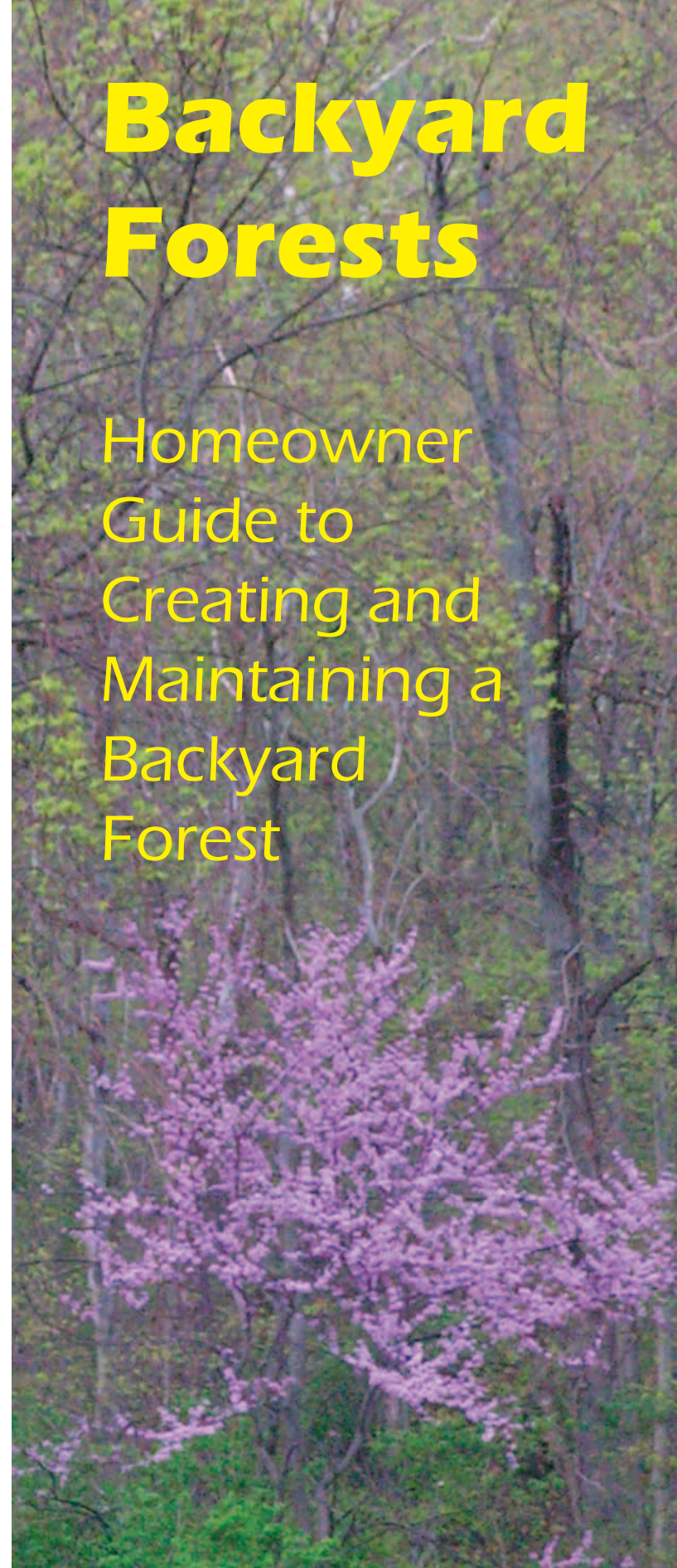
- Forest Stewardship Bulletin Series
www.dcnr.state.pa.us/forestry/publications
- Invasive Plant Guide; BayScapes for Wildlife Habitat
www.alliancechesbay.org/pubs
- How To Plant A Tree
www.americanforests.org/planttrees
- Backyard Woods
www.na.fs.fed.us/spfo/pubs

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Backyard Forests

Homeowner Guide to Creating and Maintaining a Backyard Forest

Create a Backyard Forest and Watch It Grow!

The purpose of this guide is to provide information about creating or enhancing a healthy, sustainable forest in your own back yard.

In the Chesapeake Bay Watershed, forested land is being converted to other uses at the rate of one hundred acres per day. As these wooded acres are cleared, many of the vital ecological services they provide are lost or disrupted. Among these are wildlife habitat and travel corridors, stormwater and air quality mitigation, and carbon sequestration. In addition, trees reduce energy use by shading our homes in the summer and buffering them from winter winds.

The most important benefits of a backyard forest are:

- Increased property values
- Removal of air pollution through particulate reduction and respiration
- Enhanced habitat diversity for song birds and wildlife
- Increased oxygen production
- Filtration of excess nitrogen and phosphorus in runoff
- Regulation of local stream flow and flood mitigation
- Soil erosion prevention

Increasing numbers of new homeowners seek forested land because they enjoy the aesthetic benefits and the privacy that a forested setting provides. Unfortunately, many of these new homes are being built on converted farmland or land that has been cleared of trees to facilitate construction. Older communities can suffer from tree and canopy loss as over-mature or ill-sited trees decline and are replaced by smaller species, or not at all.

Even a small forest, on less than ten acres, can reap many benefits for both the homeowner and the environment. Small forests play an important role in connecting wildlife corridors and in removing air and water pollution. Trees sequester carbon by using the carbon dioxide in the air in photosynthesis, storing it in tree trunks, branches, leaves and roots. If you live in an urban area or near a major highway, planting a backyard forest will lower the carbon levels. The root system of your trees will work just as hard by absorbing and slowing the flow of rainwater, while the overhead canopy of leaves and branches disperse the force of rain, sun, wind and snow.

Where do I begin?

Mapping Your Backyard

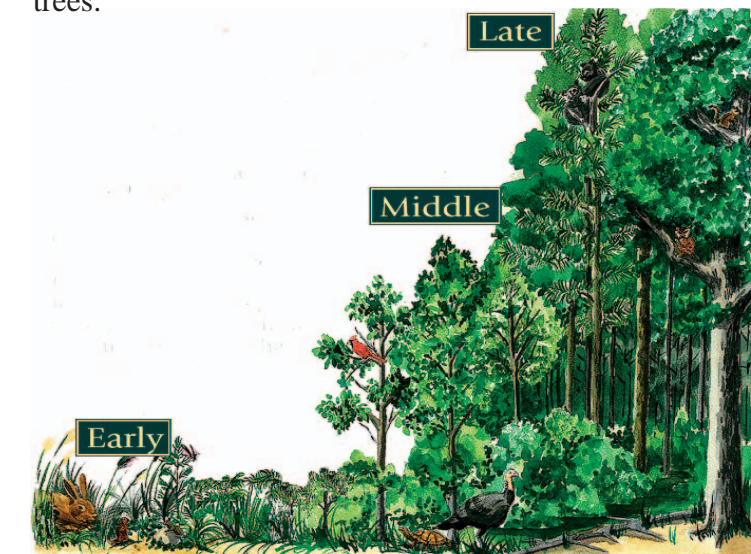
The first step in planning your backyard forest is to make a map of your land as a reference tool. Walk your land, note the characteristics, and inventory the existing features. Think about what is important to you. What features do you like? Which would you like to change? How will you use your land? Would trails enhance your enjoyment of your property? Will you use it for recreation, harvesting firewood or lumber, or for conservation?

Use an internet mapping tool such as Topozone or Google Earth to zoom in and print an aerial photo of your land. Add your property lines, water features, drainages, existing trees and buildings to the map. If the land has existing trees, use a field guide to identify the type of trees and shrubs; or ask for assistance from your Conservation District. Master Gardeners, who volunteer with the districts, are experts on local flora. Native species should be noted and tagged for future ease of identification.

Designing Your Backyard Forest

Perhaps you plan to start growing your new forest from a mowed, grassy area and prefer to allow nature to replenish the area naturally through succession. To begin a forest at this most basic level, the first step is to simply stop mowing. This step may take advance discussion with neighbors who regularly mow up to the edges of your shared property lines and with your local government or homeowner associations who may have regulations or ordinances governing your yard.

Succession involves a series of growth stages as your lawn reverts into a forest. Early stages foster development of fast growing wildflowers, shrubs and short-lived trees, while later phases of succession feature the growth of slow growing but long-lived evergreens and hardwood trees.

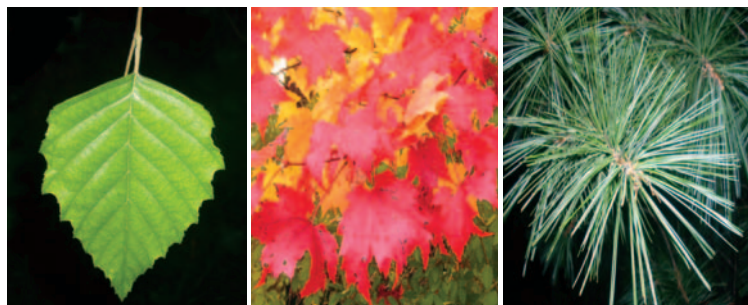


While this natural form of forest succession can evolve into a more complex and diverse forest than a planted forest, monitoring needs to take place on a regular schedule to ensure that invasive or non-native trees, shrubs and plants do not become established.

If you choose to create your backyard forest by purchasing trees, utilize reference materials for design ideas and tree suggestions. An alternative is to allow a grassy area to slowly evolve into a forest with the addition of select species from a local nursery. By carefully selecting the right tree for the right space, you will save steps in removing a tree that has grown too large for the space or is intolerant of existing soil or light conditions. Local tree nurseries and your Conservation District can advise you on the most appropriate native trees to plant in your locale. Many Conservation Districts sell bundles of native trees and plants in the spring, around Arbor Day.

At the borders of your forest, where it meets mowed areas or a hard surface, try to design a flowing edge. A hard, straight edge of a forested area can have a negative effort on wildlife. A meandering edge, that flows and ebbs across your property, benefits not only wildlife, but makes for a more satisfying visual sight line.

As you create the paper design for your new forest, draw in the existing trees or shrubs that you plan to preserve, as well as the new additions. As your forest grows, this original drawing along with “before” photographs, will be a valuable tool for determining successful species as well as a historical record of what you created.



River Birch

Sugar Maple

White Pine

Choosing Trees

It is important to select trees that will meet your design and management goals. It is also important to plant only native species. Choose trees that are appropriate for the place they will be planted; take into consideration their mature height and preference for light, moisture and wind. If your goal is to provide food and habitat to encourage wildlife, choose fruit or nut-bearing trees such as paw-paw, oaks, and berry-producing shrubs; for colorful foliage or spring blossoms, choose trees such as sugar maple, aspen, black cherry or redbud. When selecting

trees include both deciduous and evergreen species. For the border of your woodland, use smaller trees such as redbud or native dogwoods. To keep a varied, undulating forest edge, intersperse medium size trees with shrubs.

Planting

If purchasing nursery stock, take care to plant the tree at the same depth as it was grown. Separate the roots and dig a hole twice as deep and as wide as the root system. When filling the hole after placing the tree, leave a shallow depression to catch water. If deer or other animals are a problem in your area, newly planted young trees may need protection for a few years. Tree shelters protect and enhance growth of new trees, but must be monitored and removed when the tree becomes too large for the shelter. Many new trees cannot tolerate competition from grasses, weeds or other vegetation. The first three years are critical for tree establishment, so weed control in young forests must be part of a regular maintenance program

Tree planting should be done in the spring or in the fall, when rain falls more frequently and heat will not dry out newly planted root systems. If planting nursery stock, it is important to water the trees, until they become established. A newly planted tree needs approximately ten gallons of water per week. When watering, soaking the soil deeply to root depth, and not just frequent surface watering, is the key to tree survival. If using the succession method of growth, young trees will cycle in or out naturally with the amount of rainfall.

Forest Stewardship

Management Plan

In a successful forest, a management plan, as well as regularly scheduled maintenance, plays a key role. While letting a forest evolve naturally and allowing it to develop without a human touch is one option, a forest can be made more productive, for wildlife, water filtration, and carbon reduction by specific management techniques.

Too many trees in your forest can be as bad as too few trees. Overcrowding can lead to stands of weakened, thin trees. Selective thinning reduces competition for water, light and canopy space, resulting in healthier trees. In spaces where selected trees are carefully harvested, with measures taken to prevent erosion and runoff, new grasses, wildflowers and shrubs will quickly fill in and provide diversity in wildlife habitat. Sapling sized trees, which naturally replace those grasses and shrubs, can absorb much more carbon dioxide from the atmosphere than mature trees; making them more effective at removing air



pollution than older trees.

Cutting trees for firewood is a renewable, carbon neutral process and is an excellent use of damaged, bent or weakened trees. When selecting trees to remove for firewood, leave the straight trees standing and mark the others for firewood. Typically, one acre of good hardwood trees can produce up to two cords of firewood per year. Ten acres of trees can provide a homeowner with multiple cords of wood per year, using tree thinning to first eliminate the weaker, understory trees.

If the goal of your backyard forest is not to selectively harvest trees, sections can be set aside as a preserve, which you maintain in its natural state. Areas around streams and wetlands should be buffered from activities to minimize and potential impacts, to serve as a filter strip for stormwater runoff, and to establish and maintain a corridor for wildlife species to travel through the area.

Maintaining

Growing a new forest is easy. Maintaining it will take planning and effort. Regularly scheduled weed monitoring and removal is necessary to ensure young tree success rates. Identification and regular removal of invasive species must be conducted before a rampant species such as mile-a-minute, kudzu, knotweed, tree of heaven, or garlic mustard takes hold. For information on identifying and removing invasive species, use the materials listed in the references.

Refrain from removal of every snag, fallen log or decaying tree in your existing wooded areas. These provide shelter and habitat for birds, insects and mammals, as well as replenish the soil as they decompose. A forester can identify any safety risks from leaving a snag or a decaying tree standing, if you have concerns.

Where to go for help

Forestry for the Bay is a web-based program that guides landowners through a checklist of management practices aligned with forest stewardship principles. It was developed through a collaborative process between the U. S. Forestry Service, the Chesapeake Bay Program, and the Alliance for the Chesapeake Bay. The goal of the Forestry for the Bay program is to provide small and medium sized forest landowners with a wide range of information on financial incentives and technical assistance for implementing sustainable forestry practices on their land..

By becoming a Forestry for the Bay member, participants gain access to a members page that serves as an “on ramp” for information on incentives, from tax breaks to carbon credits, that may exist for certain forest management practices as well as help to direct participants to programs where they can get technical assistance aligned with their forest objectives.

Only a small percentage of small forest landowners in the Chesapeake Bay watershed have forest management plans. The goal of this program is to increase the number of landowners who are managing their forested land. People with no such information may fall prey to “high grading” timber practices a “cut the best and leave the rest”— practice in which the largest, most valuable trees are cut, leaving the poorest quality trees behind; a practice that greatly diminishes the future value of the property.

Become a Forestry for the Bay Landowner

By becoming a Forestry for the Bay member, landowners can realize their personal goals and objectives for their land, while helping to improve the overall health of the Chesapeake region. Member benefits of the Forestry for the Bay program are:

- Free Forestry for the Bay membership sign
- Resource Map of Property:
- Management Plan Outline for Property
- Awards and Recognition
- Forestry for the Bay Resource Page
- Forestry for the Bay Mentoring Program
- Forestry for the Bay Hotline
- Increased access to local forestry groups

For more information on the assistance that the Forestry for the Bay program can provide in creating and sustaining your backyard forest, go to: www.forestryforthebay.org.