

## The Woods In Your Backyard

### Creating Natural Areas from Existing Lawn or Pasture

Are you a homeowner with a blanket of lawn you wish was occupied with natural vegetation and trees? You are not alone. Many homeowners find themselves with the home of their dreams and acres of lawn that takes time and money to maintain.

Our dream homes are often situated on subdivided land. This land was once part of a larger property such as a natural forest or farm. The resulting lawns do not provide the myriad benefits of natural cover alternatives such as woods or old fields. Many studies find that small acreage owners value their woods and natural areas for their ecological and amenity values, and in many cases, just a place to escape stress.

Wildlife viewing is one of the most popular outdoor activities in the United States. With the right habitat, you can watch wildlife from your own windows. In most cases, you can change the areas around your home to provide better habitat for wildlife, improve water quality, provide privacy and solitude, and be aesthetically pleasing and acceptable to your neighbors.

This publication is a supplement to *The Woods in Your Backyard: Creating and Enhancing Natural Areas Around Your Home*. It will help you...

- ...understand some basic principles of forest succession giving you a long-term idea of what to expect when converting lawn to natural areas;

- ...use habitat management techniques to create natural areas. Consider this a type of toolbox where you choose different approaches, depending on your objectives and resources; and,

- ...find resources from the Woods in Your Backyard Program that will help you develop and implement a plan for your property.

Many homeowner attitudes toward large lawns have changed. They are expressing environmental concerns over fertilizer and pesticide use and mowing costs for large areas. As well, homeowners are recognizing the time it

takes away from family and other useful outdoor activities. On the other hand, many properties have existing woodland. If so, consideration should be given to improving the existing woodland for ecology and/or aesthetics.



**Figure 1**  
Large lot subdivision with acres of lawn



**Figure 2**  
Nature area on small acreage property

## Framing the Land Use of Your Property

Aerial imagery allows you a birds-eye view of your property, how your property lies in the landscape, and the basic types of land use in your neighborhood. There are three basic types of land use:

- **Intensive use** – comprised of buildings, sheds, paved areas, etc.,
- **Intermediate use** – such as lawns, garden, pasture, and orchards, which are prime candidates for converting to natural areas; and,
- **Natural use** – existing forested and/or un-mowed areas with small trees & shrubs, meadows, etc.

Figure 3 shows two adjacent three-acre rural lots with very different land use. Property one (orange perimeter on left) is mostly woodland, with a small area of open land, while property two (red perimeter on right), is mostly grass. The red property has many opportunities for converting intermediate use areas to natural use with options discussed later.



**Figure 3**  
Different Land Uses Around the Home

## Benefits of Natural Areas

Natural areas, whether a forest, field, or meadow, provide many amenity values important to most homeowners such as scenery, nature trails, privacy, and shelter from the summer sun and winter winds. Other values include:

- enhanced wildlife habitat for a different species;
- improved water quality for creeks, streams or rivers that receive flow from the property;
- financial and time savings for lawn mowing and maintenance; and,
- potential hobby or enterprise opportunities for wood and forest products such as firewood, saw logs, and shiitake mushrooms or ginseng.

Creating and enhancing natural areas can also create some conflicts and challenges. Improving habitat for wildlife

may increase deer numbers and brushy areas can increase the number of ticks and other insects. Yet, by maintaining wide trails and learning to live with wildlife, the benefits far outweigh the costs.

## Planning to Convert Lawn to Natural Area

The question arises, “How much yard do I really need?” That depends on your objectives and your needs. Perhaps the real question is, “Are there **intermediate use areas** that I use very little and I would be happy to convert to **natural use**?”

There are some lawn areas that have limited conversion options. For example, your septic field can be maintained as a meadow, but you can’t allow trees and shrubs there as they will affect the septic field’s ability to work properly and could result in costly repairs.

If wildfires are a concern where you live, lawns are a defensible space and should not be converted to meadow, shrubs, or trees. When a wildfire meets a mowed lawn it usually slows down or stops. Other vegetation cover may have sufficient fuel to carry the fire to your home.

Once you identify some possible areas to convert to natural area, consider how a new natural area will enhance existing natural areas. In other words, how does your property fit into the landscape? See Figure 4. Viewing your property using Google Earth ([www.google.com/earth](http://www.google.com/earth)) on a computer is one of the best tools to see how your property fits in the surrounding landscape. Look critically at other land uses and existing habitat features.



**Figure 4**  
Aerial image from Google earth serves as a good basic map to identify intermediate use area to convert to natural use, as well as how your property fits within the landscape.

## Options for Converting Lawn and Other Intermediate Use Areas to Natural Areas

There are options for establishing a forest, each with its own advantages and disadvantages.

### Converting to Forest Over Time by using Natural Succession

With time, all un-mowed lawn and pasture will revert to forest cover through a process called *natural succession*. Left alone, the vegetation communities and their accompanying wildlife will change naturally as a new forest forms (Figure 5 & 6). Grasses will be replaced by thousands of woody trees and shrubs which will compete for space, light, water, and nutrients. Eventually, this competition produces a new forest.

#### Succession of Habitat

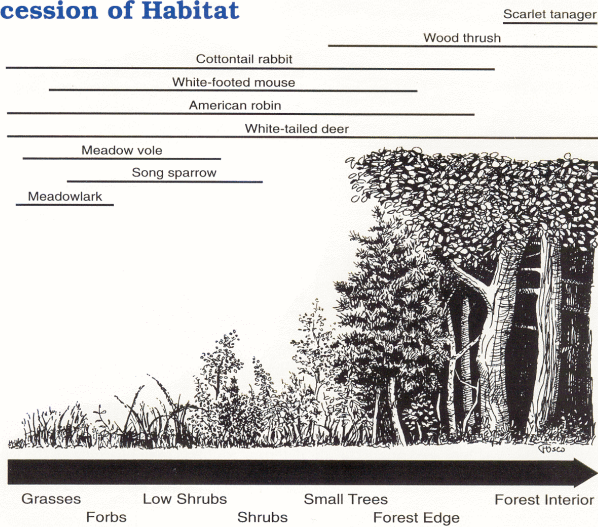


Figure 5  
Old field habitat



Figure 6  
Each stage of succession provides habitat for different wildlife

Proper management is an important consideration during natural succession. Wind, birds, and animals will transport seeds into the area, and existing seeds dormant in the soil will germinate and contribute to new habitat development. Some of these seeds will produce invasive species (e.g., multiflora rose, tree of heaven, bush honeysuckle). Learning to identify invasive species and eliminating them using herbicide or mechanical controls will keep their presence under control. Otherwise, the new natural area may be occupied mostly by invasive plants and trees.

In areas with significant deer populations, preferential browsing on preferred species such as oak, hickory, and poplar will impact the future composition of the forest. If this is the case, plastic tree shelters can protect individual trees that regenerate naturally.

As trees and shrubs establish themselves, usually in dense thickets, the canopy will close and block sunlight from reaching the ground. When a forest is young (trees in the 3 to 6 inches in diameter), you can easily select those trees you want to make up the main canopy in the new woods. Remove the competing trees with chainsaw (Figure 7) or herbicides using a technique called “hack ‘n squirt” (Figure 8). Using a chainsaw, you have several options for the young trees:

- girdling the trees to produce a snag that is beneficial for wildlife such as woodpeckers;
- felling the trees to use as firewood
- felling the trees and allow them to decay on the forest floor, producing valuable nutrients for other vegetation.



Figure 7  
Remember personal protection equipment. This person has no leg protection.

## Maintain Old Field Areas

Old field areas with intermixed openings and scattered trees are a unique habitat type (Figure 9). Fields fill in with trees and become a closed canopy woods in a few years. Old field areas provide excellent habitat for a variety of bird and mammal species. Old field habitat is often lacking in many areas. Consider identifying old fields on your property and begin maintaining them as natural habitat by killing native and invasive trees and shrubs that become established. The diversity of wildlife inhabiting old fields is typically very high. Establishing a trail through the area improves access and viewing opportunities.

## Tree Planting

Compared to planting costly balled & burlap trees, planting hardwood or pine seedlings is a low cost option for homeowners. Tree seedlings are usually grown one or two years in a nursery and then sold as “bare root” stock. These trees are easily planted using a shovel or planting bar. In much of the mid-Atlantic area it is necessary to protect them from deer browsing with a plastic tree shelter. The basic steps for tree planting are:

- Measure area to be planted (in acres or square feet) and select species adapted to the site conditions. Order the seedlings from the state forest or private nursery the fall prior to spring planting. If you wait until December or later, many tree species may be unavailable.
- Prepare the site before planting by removing competing vegetation (especially turf) within a 2-3 foot radius around the seedling to be planted. This is usually accomplished by spraying rows 10 to 12 feet apart depending on the spacing being used. Spray with a broad spectrum herbicide (such as glyphosate, or control vegetation mechanically with a tractor and disk. A shovel or tiller can be used for small areas. Any mechanical tilling will usually result in germination of many weed seeds that will require more effort to control. Herbicide weed control is best done in the late summer or early fall for spring planting to allow the turf to break down over the winter. However, herbicide spraying in early spring prior to planting can be effective.
- Plant trees in March or early April and install tree shelters, fencing, or apply repellents to protect the seedlings from deer browsing. Tree shelters are typically only used for hardwood planting. Planting pine trees is not recommended in areas with high deer pressure.



Figure 8

Hack 'n squirt herbicide application is safe, contained, and very effective for use by homeowners



Figure 9

Old field habitat with excellent habitat value



Figure 10

Tree planting on right reduced lawn and expanded an existing wooded stream area.

- Maintain tree shelters and control competing vegetation and invasive species for 3-5 years after planting. Tree shelters may get blown over, stakes broken, or filled with weeds and should be inspected once a year and problems corrected. Broad spectrum herbicides such as glyphosate (Roundup®) are available at home centers but only control the weeds that have germinated, requiring an additional 1-2 applications during the growing season to control newly emerged vegetation. Other pre-emergent herbicides give seasonal control but must be purchased from special dealers. Purchase herbicides in concentrate form to reduce cost. Ready-to-use (RTU) formulas are expensive.



**Figure 11**

**Tree seedlings protected by tree shelters. Strips around trees sprayed to eliminate competing vegetation.**

Tree seedlings are usually planted on a 12' X 12' or 10' X 10' pattern, resulting in about 300 to 430 trees per acre. Sometimes less formal spacing makes the planting appear more "natural." However, the trade off is that it is more difficult to control competing vegetation. Recall, you want to control competition for 3 to 5 years after the planting. Trees can be planted manually using a planting bar purchased from forest supply companies, or by using a mechanical tree planter pulled by a tractor.

In recent years, hardwood plantings with seedlings have become more common, but in general, hardwood trees require more planning and care to attain success.

An excellent source of information for tree planting is the publication, "*Riparian Forest Buffer Design and Maintenance*" by the Maryland Department of Natural Resources (DNR) Forest Service. This publication explains all the steps involved and includes easy-to-use tables and forms for designing your planting area, installing the plants, controlling invasive plants with herbicides or mechanical methods, cost comparisons, tree establishment techniques and installing tree shelters.

## Natural Areas Without Tree Cover

### Occasional Mowing

If you simply stop mowing, you can create a more natural environment with benefits for wildlife. Most lawns inhabit dense fescue, which has poor wildlife value. More desirable grasses include orchard and brome grasses, which produce clumps of grass that wildlife use for cover and nesting. To create a more diverse habitat, increase the amount of time between mowing. This will allow other types of vegetation (i.e., woody and herbaceous) an opportunity to grow, replacing the fescue. Avoid mowing from April through July, if possible. This is nesting season and birds and their young need escape cover.

If the time between mowing extends more than a month during the summer, most conventional homeowner riding mowers will not efficiently cut the vegetation. You may have to hire a local farmer with a tractor mounted bush hog. Some occasional mowing options include:

- Make arrangements with a local farmer to cut your lawn or pasture a few times annually for hay.
- Cut the vegetation every 2 to 4 years.
- For more information see the publication in the resource section, *Mowing and Wildlife: Managing Open Spaces for Wildlife Species*.



**Figure 12**

**Mowing a field area with a tractor and bush hog.**

### Warm Season Grasses & Native Wildflower Fields

Establishing and managing warm season grasses and wildflower areas provides an opportunity to create a unique habitat for a variety of wildlife species. The requirements for these areas include: complete removal of present cover for site preparation, purchasing seed, intensive

management, special equipment for planting, and patience the first two to three years while the vegetation becomes established. Continued annual maintenance is essential.

The Maryland DNR Wildlife Division provides information on their web site on establishing warm season grasses for wildlife habitat (<http://www.dnr.state.md.us/wildlife/Habitat/warmseason.asp>). See also the *Landowner's Guide to Native Warm Season Grasses* in the resource list.

In recent years, the availability of seeds of flower species suitable for meadows has increased. Wildflower seed is expensive, slow to establish, and requires careful management to maintain. *Establishing and Maintaining Ornamental Flower Meadows for Low Maintenance Sites* is a good source of information and is available online and included in the resource list.

### Financial Assistance for Converting to Natural Areas

Various federal and state cost-share programs can help reduce the cost of improving existing woodland and converting lawn and pasture to forest. To obtain cost-share funding apply to the appropriate agency for specific practices (such as tree planting). If your project is approved, you can implement the practice yourself or employ

private contractors. After successfully installing the practice, a percentage of the project cost that is returned to you, typically 50 to 75



Figure 14

Judicious use of herbicides is essential for controlling invasive species

percent. Each program has specific conditions and requirements. The minimum acreage required for most practices is 5 acres so small acreage projects are difficult to fund. To learn more about available cost-share programs for conservation practices go to Maryland Department of Natural Resources Forest Service web page:

[www.dnr.state.md.us/forests/programapps/stewcon.asp](http://www.dnr.state.md.us/forests/programapps/stewcon.asp), scroll down the page to find cost-share assistance.

- **Natural Resource Conservation Service (NRCS)**  
Each county in Maryland has a field office usually located with other federal farm service agencies. To find the field service center in your county go to: [www.md.nrcs.usda.gov/contact](http://www.md.nrcs.usda.gov/contact)

- **Maryland Department of Natural Resources (DNR) Forest Service**

Each county in Maryland has a field office with a state forester who can provide information on available programs. To contact your county field office go to: [www.dnr.state.md.us/forests/county\\_map.asp](http://www.dnr.state.md.us/forests/county_map.asp)

### Long Term Management

After you make the decision to stop mowing, challenges will exist. Below are descriptions of these challenges and suggested responses.

- **Providing access**

Maintaining a trail system or road access through a natural area is important for practical considerations, but also for recreation—wildlife viewing, hunting, discovery, solitude, etc. It is best to determine the location and width of your access trail and/or road during the planning stages and continue to mow and keep it open. Planning and continual maintenance saves money, time, and labor, compared to having to cut trees later to provide access. An excellent practical guide to designing and building trails is the publication, *Trail Design for Small Properties*, found in the resource section.



Figure 12  
Access provides opportunities

- **Controlling invasive species**

Invasive species are here to stay and new ones continually arrive. Learning how to identify invasive species and controlling them is essential. They are more aggressive and difficult to control in young forest areas and old fields. The judicious use of herbicides is effective on properties of even an acre. Learning how to use herbicides and purchasing the proper equipment are good investments. A three-gallon backpack sprayer is adequate for most landowners. Other equipment may be helpful and prudent when handling herbicides. Refer to the resource section for some good practical guides.

- **Revisiting and refining your goals**

The *Woods in Your Backyard* manual has a section on identifying and implementing goals for your property. Going through this process will bring to light new ideas and perspectives. Whether you are interested in wildlife, recreation, forest health, forest products such

as firewood, or just plain aesthetics, setting goals will help.

## Sources of Assistance & Materials:

University of Maryland Extension Forest Stewardship Education website provides access to free quarterly newsletter, webinars, publications, videos and all forest stewardship education programs, including The Woods In Your Backyard.

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

University of Maryland Extension County Offices have educational programs and resources. To find your county's office, go to:

<http://extension.umd.edu/local/index.cfm>

Maryland Department of Natural Resources Forest Service – provide assistance for forest stewardship plans (10 acres or more), tree planting plans, referrals to consulting foresters, cost-share information and assistance for sign-up. Fees for some services. [www.dnr.state.md.us/forests/county\\_map.asp](http://www.dnr.state.md.us/forests/county_map.asp).

John S. Ayton State Forest Nursery – operated by the Maryland DNR Forest Service. Order seedlings online and you will be notified a few days prior shipment so you can be prepared to plant them when they arrive.

[www.dnr.state.md.us/forests/nursery](http://www.dnr.state.md.us/forests/nursery)

Tree shelters can be purchased by a number of vendors on the internet. Some companies have local salespersons. Google the term “tree shelters” and you will find various vendors. Tree shelters can be expensive (\$3-4 each with an oak stake). Check locally with landowners or state foresters that may be willing to allow removal of older shelters that can be reused.

Forest herbicides – sources of forest herbicides are available on an information sheet.

<http://www.naturalresources.umd.edu/Documents/Webinars/20110223Converting/ForestryHerbicideManufacturers.pdf>

## Resources

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