But Aren’t Fertilizers Good for Plants? Fertilizers are killing the Pine Barrens. This may seem paradoxical, but it’s true. The Pine Barrens is distinctive because its natural soil and water conditions are very acidic and low in nutrients (nitrogen, potassium and phosphorous). Native plants and animals are those that have adapted to these conditions. Adding nutrients or neutralizing the naturally acidic soil changes the chemical properties of the conditions that make this area the Pine Barrens. This not only suppresses many native species, but also opens the door to invasive species that can suppress or even replace native plant and animal communities. In and around the Pinelands, it is best to allow nature to take its course and put away the fertilizers and lime.

Critter Control If you live in a characteristic Pine Barrens area, one of the biggest keys to successful native landscaping is controlling the animals — especially deer — that want to eat your plants. You probably have a wonderful diversity of native plants in and around your landscape, but if deer visit your property you may need to take steps to control deer browsing. Since deer will eat virtually any native plant, the most effective strategy is to exclude them from the portions of your yard that you want to cultivate.

Deer can be excluded (or at least effectively discouraged) either by setting up electric fencing or by installing a 7-8 foot high fence. Various types of deer fencing are available commercially. One deer can be excluded (or at least effectively discouraged) either by setting up electric fencing or by installing a 7-8 foot high fence. Various types of deer fencing are available commercially. One

Why Go Native in the Pinelands? Your yard is a part of the wider landscape in which you live. It can be a haven for native plants and animals, or an island of alien species living here only because we have created artificial conditions in which they can survive and displace native flora. Your lawn can be at one with the natural Pinelands ecosystem, or it can be a beachhead for invasive species and an opening through which human pollutants flow into the soil, the aquifers, streams, and wetlands.

Most of our yards will fit both pictures to some degree. This guide aims to help you make your property an asset to the natural community of the Pinelands, while avoiding harm as much as possible. There are lots of reasons to plant native plants anywhere you live - but these reasons are even stronger if you live in and around the Pinelands. In this region, our acidic, low-nutrient soils make it all the more important to go native. Native species do better because they are adapted to our unusual soil conditions and taking care of these plants does not cause the environmental harm that fertilizing and watering non-natives generally brings to our aquifers and the vulnerable Pine Barrens ecosystem.

There’s No Place Quite Like It: The Pinelands’ Unique Botanical Heritage The New Jersey Pinelands is home to plant communities found nowhere else on earth, and a growing number of individual species can be found only in our Pinelands, because they have been or are being wiped out in the rest of their natural range. The community of plants found here also does not exist anywhere else; as the New Jersey Pinelands is a unique mixture of southern and northern species that found a haven here after the last ice age and the warming cycles of the past 10,000 years. All this means that we have something very special to protect - and even cultivate.

The New Jersey Pine Barrens isn’t barren at all. It’s just different from most other regions of North America. It was called barren by early European settlers who found they could not grow their row crops in the sandy, droughty, low-nutrient upland soils. The negative epithet stuck, creating the false impression that things don’t grow in the Pine Barrens.

In fact, beyond the familiar pines and oaks of our forests, the New Jersey Pine Barrens ecosystem has about 800 species of flowering plants and 25 species of fern. We have beautiful wildflowers – some common, some very rare even in the heart of the Pinelands – and we have several species of carnivorous plants, like the pitcher plant and sundews. Numerous species are commercially available and easily cultivated. We have beautiful and useful shrubs, like Highbush Blueberry and Low Blueberry, Swamp Azalea, and Mountain Laurel.

(Many species that could be cultivated are not yet easily available, but organizations like the Pinelands Preservation Alliance and some nurseries are working to expand the supply.) Even when you have common native species, you are helping conserve the rarer species by using plants that are compatible with - will not displace - other natives.

Principles for Your Garden To Live By

• Each plant in the right place: be sure to follow our guidance on the right conditions for each plant, whether sun or shade, wet or dry soil.
• Design with nature by creating habitats through your gardening.
• Remove exotic and invasive species wherever you can (see below).
• Water only when you are establishing a planting, or when your plants show signs of stress.
• If you use a sprinkler system, install an automatic rain gauge to prevent watering when it’s raining or when the soil already has adequate moisture.
• Install drip irrigation or soaker hoses for more efficient use of water and to prevent excessive watering and loss of water through evaporation from overhead sprinkler systems.
• Eliminate the use of fertilizers, lime, and pesticides, or reduce their use as much as you can.
  - Tolerate low levels of insects (it’s natural!)
  - If you use pesticides, do focused spot treatments of infected plants and
  - Try the least-toxic method, such as horticultural oil, insecticidal soaps, or biological controls (Bacillus thuringiensis -BT), and vinegar (to kill or suppress weeds).
• Mulch: Use composted wood chips or pine needles for mulch. They don’t add chemicals to the environment, and they provide a natural, slow release of nutrients.
• Recycle your clippings by making compost and leave grass clippings in place to naturally fertilize your lawn. Avoid cutting your lawn too low (scalping) to improve lawn vigor and reduce weed competition.
Creating Pinelands Habitats

One of the most interesting and enjoyable ways to landscape is to create genuine characteristic native Pinelands habitats on your property. The easiest and most natural approach is simply to help your property - or portions of it - return to the natural habitat it once was. You can promote the species you most enjoy seeing and remove or discourage those you do not want.

If the soils on your property have not been chemically altered (to raise the pH or add more nutrients), then you may want to just manage existing vegetation to suit your tastes. If you have extensive mowed lawn, you can stop mowing some areas and let the local native plants move back in. Mowing once a year or once every other year, in the late winter can be an excellent way to reintroduce the native diversity to your property, without letting the area grow back into brush land or forest.

In areas where non-natives have been cultivated, especially if lime and fertilizer have been added, the process takes a little more time and effort. The best way to begin is to compare your property with adjacent or nearby natural areas. Tour a variety of local natural areas at various times of the year and take note of the wildflowers and shrubs. A wide variety of field guides are available to help you identify these species. Make a list of the plants you like. Cultivating these natives will probably involve reverse-conditioning of the soil, agressive control of non-natives, and re-introduction of the natives.

If you have conditioned your soil with lime and fertilizer, it will take time - probably a few years - to reverse-condition it. You may find that some characteristic Pineland plant species will not do well in enriched soil since they are better adapted to growing in acidic soils and under low nutrient levels. Also, Pineland plant species that have been enriched with compost or rich topsoil are likely to retain more moisture, and dry, upland Pineland species (such as Bearberry) need well-drained conditions.

You can hasten the process of returning to native conditions by repeatedly cutting to the ground and removing the existing non-natives. Removing the cut vegetation (such as grass clippings) during the growing season helps to weaken the unwanted plants, and it pulls some of the excess nutrient out of the soil. In time, the soil will tend to return to its more natural state.

You can also remove non-natives by uprooting and discarding them (or transplanting them to a non-Pine Barrens location). It’s important to not simply plow them under, as this will add nutrient to the soil. Once you have removed most of the non-native plants, you will probably need to follow up by controlling the seedlings that are likely to emerge. This can be accomplished by covering the area with black plastic or a spell. You may need to do this several times, as different seeds will germinate at different times during the growing season.

Another effective, non-chemical technique for controlling unwanted plants involves covering them with newspapers. Once most of the plants have been removed or scalped, cover them with three thicknesses of ordinary newspaper (avoid glossy material, as this is likely to contain higher levels of heavy metals), and then cover the newspapers with a few inches of sterile sand. You can arrange the newspapers around plants you wish to preserve or come back later and cut through the newspapers to put in the plants you want.

When you re-introduce native plants, pay special attention to the light and moisture conditions of the area. Some Pineland plants thrive in the shade, while others will prefer a location with partial sun. Some like it dry, others are adapted to constant moisture. All the skills of landscaping and cultivating plants need to be employed when re-creating native Pineland habitats.

Wildlife Will Love Your Garden

The New Jersey Pinelands provides habitat for 200+ kinds of birds, including 140 species that nest within the Pinelands. In addition, 31 kinds of mammals and 98 kinds of reptiles and amphibians live here. Among the Pinelands inhabitants, there are about 21 species of birds and 19 species of reptiles and amphibians listed by the state as threatened or endangered. There are many more birds, plants, reptiles, butterflies, and other invertebrates in the Pinelands listed as species of special concern.
animals are specific to one or more level of this ‘house.’ When creating plantings, incorporate structure by adding new levels to the existing ones. A trellis, arbor, or pergola, for example, supporting Wild Grape or Virginia Creeper can create middle-level structure quickly.

**Provide Shelter**

Mix native evergreens such as American Holly, Short-leaf Pine, and Mountain Laurel into your plantings. They help provide shelter for you and your wild friends from both summer sun and winter winds. Plants placed in groups, rather than rows, provide better shelter. Studies have shown that commonly planted exotics such as Japanese Barberry provide inferior protection for nesting birds. Use natives whenever possible.

**Provide Water**

Every living creature needs clean water. Birds need the water to drink as well as for bathing. If a natural source of water is nearby, avoid the use of chemicals that may contaminate it. If a natural source is not nearby, create a pond or supply a birdbath, or mister. If providing a birdbath, be sure to change the water frequently and keep it clean. Special heaters are available to keep birdbaths or ponds from freezing in winter.

**Minimize Toxins**

Everything you do in your yard affects the resident and visiting wildlife. Avoid or minimize chemicals that could injure or kill birds, butterflies, or other wildlife. There are numerous websites that provide information about alternatives to commonly used insecticides and herbicides.

**Don’t Introduce Predators**

According to the U.S. Fish and Wildlife Service, domestic and feral cats may kill hundreds of millions of songbirds and other avian species each year. Scientific studies show that cats, even well fed cats, have a natural instinct to hunt, and will kill birds and other wildlife indiscriminately. For more information on this problem and its remedies go to: <www.njaudubon.org/Conservation/CatsIndoors/FAQ.html>

Every year, New Jersey adds 1,600 acres of new development, destroying 2,600 acres of wetland and 4,200 acres of forest. Studies have shown that the loss of species is proportionate to the loss of habitat. As homeowners, we can make a difference by including a plan for wildlife in our own backyards. The more habitat we create in and around the Pinelands, the better it will be for our native wildlife.

**Lawns in the Pinelands**

Many of us love our lawns, but there is no getting around the fact that, in the Pinelands, lawns of Kentucky Bluegrass and other common cool-season turf species are not good for the environment. Those turf species are not adapted to local soil conditions, so they require an abundance of fertilizers, lime, pesticides, and irrigation. Much of the fertilizer and pesticide we put on the ground ends up getting washed into the aquifer or directly into streams and wetlands, leading to chemical and biological changes that harm native flora and fauna. Irrigation drains the aquifer, as most of the water pumped from natural or man-made wells.

**Supply and Demand**

- **Where Can We Find these Plants?**
  - Because the sources for many of native species is changing, we list reliable sources on the Pinelands Preservation Alliance website, <www.pinelandsalliance.org>. If you do not have access to the web, please call the Alliance to obtain a current list (see phone number below).
  - The Pinelands Preservation Alliance holds an annual native plant sale around Earth Day in April, where the species highlighted here may be available for purchase. Contact the Alliance for details.

Sometimes the native species you want are hard to find, and few local gardening stores carry a variety of native species. This guide highlights species that are normally available in southern New Jersey, though some may be difficult to find in your neighborhood. Many plants are available by mail order. Others are probably growing in your yard right now, and simply need to be noticed and protected.

If you are having trouble, please go to the Pinelands Preservation Alliance website at <www.pinelandsalliance.org> or contact the Pinelands Preservation Alliance at ppa@pinelandsalliance.org or (609) 859-8860.