

## The Regional Garden section of the National Garden

The Regional Garden showcases the beauty and diversity of mid-Atlantic native plants in a setting that is inspired by natural plant communities. The fact that Washington, DC resides on the fall line is responsible for the inclusion of flora from both the Atlantic Coastal Plain and the Piedmont.

**Plant selections** chosen for the garden are those for which at least part of their natural range lies in the coastal plain and/or piedmont between New Jersey and North Carolina. This specifically includes NJ, PA, DE, MD, VA, and NC.

Both “wild-type” species and cultivated forms can be found in the garden. Many plants (especially herbaceous) are of known local provenance (origin). Cultivated forms highlight the importance of these plants in horticulture; often exhibiting special characteristics such as increased bloom size or duration, color variance, disease resistance, dwarf stature, or improved vigor.

**Arrangement** of the plantings along moisture gradients in different soils gives the garden a look and feel that evokes nature. Plants with high moisture needs are concentrated in low areas and next to the water feature, upland natives are placed on higher ground. The home gardener comes away with the message “right plant, right place” as it situates plants appropriately, greatly reducing the need for supplemental irrigation.

### The Piedmont section

The word piedmont is derived from an Italian term meaning “to the feet of the mountains.” In the eastern U.S. the piedmont begins in New Jersey and runs south to eastern Alabama, at the eastern foot of the Appalachian range. The land itself is characterized by rolling hills that range from 200 to 1,000 feet above sea level, formed by the erosion of a formerly giant coastal mountain range. The geology is complex, meaning that the soils are therefore varied.

- Note the rocks used within this area of the garden. Rocks containing minerals such as calcium tend to buffer acidic soils, increasing the soil pH and making more nutrients available.
- The soils in this section include much more clay loam than in the coastal plain section. They are limed to a pH of 6.0-6.5 (slightly acid).

Varied soils translate into a diverse array of native plants, of which the mixed broadleaf forest is considered the climax plant community.

- Eastern North America and eastern Asia are the only areas of the world with significant displays of fall foliage. Maples (*Acer spp.*), Black Gum or Tupelo (*Nyssa sylvatica*), Sweet Gum (*Liquidambar styraciflua*) are all in the garden, and exhibit excellent fall color. Shrubs such as Huckleberries (*Gaylussacia spp.*), Blueberries (*Vaccinium spp.*), and Viburnums help color the understory.

### The Atlantic Coastal Plain

To the east of the fall line lies the relatively flat coastal plain. The soils of the coastal plain are sandy and loose, supporting the theory that the land was once ocean floor. Little exposed rock exists as seen in the piedmont, so the soils are not buffered, and may be very acidic.

- The soils in the coastal plain section are made with only a little clay loam, and are comprised mostly of sand, peat moss, and composted pine bark. The pH is in the range of 4.5-5.5 (strongly acidic).
- While most plants have some way of adapting to these acidic, nutrient poor soils, carnivorous plants demonstrate a different approach to obtaining nutrition, they are in the wetter areas of the garden.

The climax plant community may also be broadleaf forest, but often are naturally held in a subclimax community of pineland by the action of fire. Particularly in the case of longleaf pine (*Pinus palustris*), fire is essential. Longleaf pine savannas once dominated the coastal plain from VA

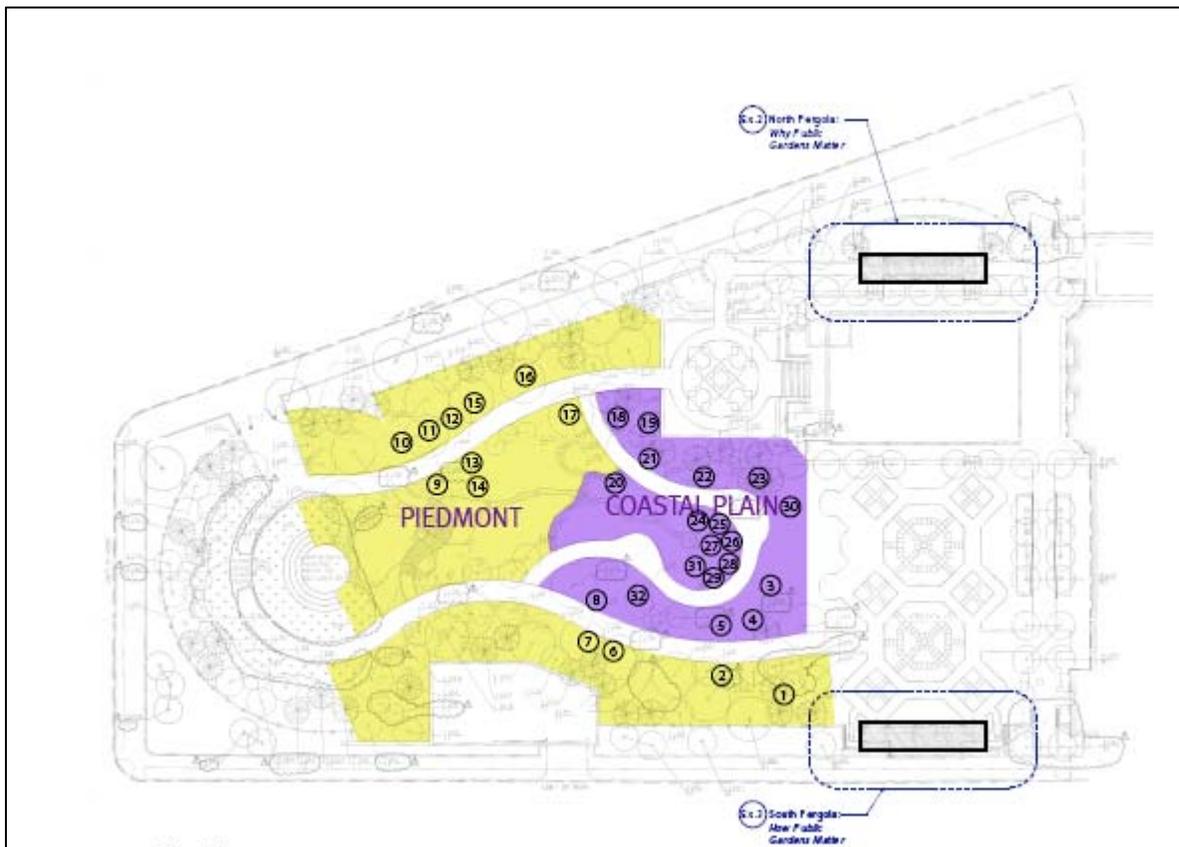
to eastern TX; after exploitation (lumber, naval stores) they were reduced to less than 5% of their former area. Subsequent fire suppression efforts have further degraded these habitats. High quality longleaf pine savannas can contain 50 or so species within a square meter, making them one of the most floristically diverse habitats in the world.

- We have three small longleaf pines, and one seedling in the “grass stage.”
- There is some toothache grass (*Ctenium aromaticum*) which is an indicator of the most diverse type of pine savanna community.

Some longleaf pinelands are now benefiting from prescribed burns. These simulate the lightning-strike fires that would naturally burn areas every 3-10 years.

- Fire resistance is built-in to many native pineland plants: thick bark on pines insulates the trunk; for shrubs and herbs it is underground roots or stems that survive the heat, and provide speedy re-growth.

**Throughout the Regional Garden**



Many plants grow across boundaries in nature. Plants are included both sections represent flora found in either the coastal plain or piedmont in nature. Certain plants that can fix their own nitrogen can be found on poor, rocky outcrops or exhausted farm fields in the piedmont, but also in the nutrient poor sands of the coastal plain. Examples: legumes like bush clover (*Lespedeza spp.*) and the shrubs sweetfern (*Comptonia peregrina*) and New Jersey tea (*Ceanothus americanus*). Other examples of adaptability include sourwood (*Oxydendrum arboreum*) which lives wherever it finds free-draining acidic soils, winterberry holly (*Ilex verticillata*) which lives in alluvial (water-carried) soils, and several grasses which are not particular to soils, needing mainly abundant light. Plants on the Regional Garden Map

1. **Virginia red cedar ‘Burkii’ (*Juniperus virginiana*):** grows in piedmont, early successional species; aggressive; rot-resistant wood used for pencils, lining closets (aromatic), etc.; provides food for cedar waxwing; is nesting site for many birds; alternate host of cedar apple rust (towns have to choose cedars or apples to prevent infection), in commerce since 1905, ;named in 1932
2. **Witch hazel (*Hamamelis virginiana*):** Grows on coastal plain and piedmont. Flowers in fall and winter; powerfully dehiscent seed capsules (you can hear seeds shooting around in woods); inner bark is astringent and is used to make medicinal compound for toning skin; prefers moist soil.
3. **Waxmyrtle (*Morella cerifera*):** grows in coastal plain; three species of bayberry or waxmyrtle in the garden; has a savory aroma; wax from fruit used for bayberry candles. This species and *M. carolinensis* are evergreen, Northern (*M. pensylvanica*) is deciduous, the others are evergreen.
4. ***Juniperus virginiana* var. *silicola*):** coastal plain subspecies of red cedar, *silicola* means sand-loving.
5. **Yellow wild indigo (*Baptisia tinctoria*):** grows on the coastal plain, used as dye plant, hence “tinctoria.” Grows well in nutrient-poor soil; is a legume, fixes nitrogen.
6. **New Jersey tea (*Ceanothus americanus*):** Grows on both piedmont and coastal plain (and mountains). Small, open shrub; cylindrical clusters of tiny fragrant white flowers pollinated by midges, gnats, other tiny insects; hummingbirds feed on these insects and nectar; dried leaves were used as a tea substitute, called liberty tea, during the American Revolution; does not contain caffeine. Fixes nitrogen.
7. **Checkerberry wintergreen (*Gaultheria procumbens*):** Mostly piedmont but some coastal plain. Low-growing evergreen herbaceous plant; used in traditional medicine to treat digestive problems; produces oil of wintergreen that flavors gum, toothpaste, Pepto Bismol
8. **Anise-scented goldenrod (*Solidago odora*):** Primarily coastal plain. Leaves used to make tea; used in traditional medicine to treat digestive ailments; attracts birds and butterflies

**NOT A PLANT: Coir fiber:** long-lasting “logs” (1.5–3 years) made from coconut husks used for erosion control in Regional Garden, especially to keep unwanted material out of the pond

9. **Canebreak bamboo/switch cane (*Arundinaria gigantea*):** only bamboo native to North America; grows well in poorly drained, bottomland soils; grows to 20 feet in height; “runs” slowly and does not clump; disappearing habitat for many animals; bison used it when other foods were scarce. Habitat for extinct Carolina Parakeet and Passenger Pigeon

10. **Pawpaw (*Asimina triloba*):** Primarily piedmont. Fly-pollinated maroon flowers develop into fruits that are important food sources for animals; leaves are toxic to deer, which won't eat them, but are nontoxic to zebra swallowtail butterfly larvae, which feed on them
11. **Arrowwood (*Viburnum dentatum*):** Piedmont. Multi-stemmed shrub whose long, straight shoots were used by Indians for arrow shafts; creamy white flowers; clustered blue fruits are an important food source for animals.
12. **Spicebush (*Lindera benzoin*):** Piedmont. Tiny greenish-yellow flowers bloom on branches in early spring before foliage emerges; birds feed on bright red fruits largely hidden until foliage drops. Larval host for spicebush swallowtail.
13. **Black-eyed Susan (*Rudbeckia fulgida*):** Both piedmont and Coastal Plain. This perennial prefers evenly moist soils. We also have the Maryland state flower, *R. hirta* (annual, dry ground).
14. **Bald cypress (*Taxodium distichum*):** conifer that produces 1–2-inch cones whose seeds are eaten by birds; true wetland plant but can be cultivated in dry soil; “knees” are for stabilization. Common in coastal plain on alluvial (piedmont type) soil. Note: *T. ascendens* (around lawn terrace) would be appropriate for true coastal plain soils.
15. **Sweet gum (*Liquidambar styraciflua*):** produces spiky “gumballs” of value to wildlife; huge native range; brilliant fall color. Ours are nearly sterile cultivar ‘Cherokee’. Used for fall color worldwide in temperate zones. (Eastern North America and Eastern Asia are only locations for massive scale fall foliage).
16. **Dogwood (*Cornus florida*):** Mountains to Coastal Plain. Bright red fall fruits eaten by birds; leaves highly nutritious for soil; can succumb to discoloration anthracnose (fungal disease) when grown in cool, moist shade but does well in Washington area sites with good air circulation.
17. **Persimmon (*Diospyros virginiana*):** Both CP and PM; grows on low land (including along Potomac River) and high land but prefers high; deep taproot makes it hard to move; astringent ripe fruits are eaten after frost; leaves can be used to make tea high in vitamin C; seeds can be used as coffee substitute but has no caffeine; pollinated by midges and wind. Wood is used for golf clubs (drivers), billiard cues, tool handles. Related to tropical ebony wood.
18. **Possumhaw (*Viburnum nudum*):** CP and PM. produces beautiful pink and purple fruits.

19. **Loblolly pine (*Pinus taeda*):** long leaves (needles); fast-growing member of the yellow pine group; early-succession tree (is a pest tree in Hawaii); grows in piedmont and coastal plain but more numerous on latter; commercially grown for its wood, which contains knots; creates a fine windscreen.
20. **Atlantic white cedar/ false cypress (*Chamaecyparis thyoides*):** Coastal Plain. Grows on low ground from New Jersey southward along the coast; lumber is rot resistant; cultivars for form, color, compactness are available.
21. **Yaupon holly (*Ilex vomitoria*):** Coastal Plain. Caffeine-containing plant known to Native Americans; colonists thought Native Americans drank it to induce vomiting, hence the name. Used to prepare for hunts, increased mental acuity. Note: Yerba Mate (*Ilex paraguariensis*) of S. America has similar uses.
22. **Longleaf pine (*Pinus palustris*):** Coastal Plain. Leaves (needles) are 8–18 inches long; grows to 150 feet; grows in “fire-based communities” from southeast Virginia to eastern Texas; in precolonial times occupied vast acreage; long-lasting wood is used for ship masts, wide plank flooring; heartwood is immune to decay and termites; sap is used to make turpentine and resin; seedlings germinate on open mineral-rich ground cleared by fire, and look like tufts of grass, remaining close to ground for years until conditions are right, when trees shoot up 3–5 feet a year; burn cycles occur at 3- to 10-year intervals; fire kills a brownspot fungus that affects seedlings, which are fire resistant; birds feed on nutritious pine seeds.
23. **Loblolly bay (*Gordonia lasianthus*)** Southern Coastal Plain. Evergreen relation to camellias and also the deciduous *Franklinia alata* (Franklin tree) which is extinct in wild. Needs acid soil and moisture with good drainage.
24. **Bay gallberry (*Ilex coriacea*):** Coastal Plain. Waxy leaves for slow loss of water during drought; wax promotes fast, hot fire. Larger scale growth than related inkberry holly (*I. glabra*) used around First Ladies Water Garden.
25. **Sweetgrass (*Muhlenbergia filipes*):** Coastal Plain. leaves used to make baskets for rice threshing and carrying goods; sweet grass baskets are a traditional African American art form, collectable. Much of the coastal land along Georgia and Carolinas on which it grows is being drained.
26. **Carnivorous plants: pitcher plant (*Sarracenia* spp.), Venus flytrap (*Dionaea muscipula*), sundew (*Drosera* spp.):** Coastal Plain. grow in nutrient-poor, very acidic soils
- **pitcher plants**, semi-evergreen, lure insects with nectar scent; insects are trapped by combination of slippery surface and downward pointing hairs; false windows lull insects into sense of security; specialized cells allow transport of nutrients into the plant; long stem can contain numerous insect exoskeletons
  - Venus flytrap is native to the Carolinas

- sundew prefers mosquitoes and other small insects

27. **Toothache grass (*Ctenium aromaticum*):** an indicator plant along with longleaf pine for the wet pine savanna; some areas of wet pine savanna contain up to 50 species of plants per square meter; Toothache grass has an aromatic rhizome, smells like citrus; Native Americans used its numbing properties when chewed to ease dental pain hence the common name.

**NOT A PLANT:** Pocosin (Native American for “swamp on a hill”) regions are wet in winter and dry in summer; soil is acidic, peaty, and nutrient poor. Fire-adapted ecosystem, includes pond pine, sweetbay magnolia, many broadleaf evergreens. Wax coated leaves thought to promote fires. Plants of this habitat able to re-grow quickly from underground parts.

28. **Dwarf witchalder (*Fothergilla gardenii*):** Coastal Plain. native to pocosin region of eastern North Carolina; uncommon in nature but now a popular garden shrub adaptable to regular garden soil; fragrant flowers in spring; outstanding fall foliage

29. **Zenobia:** Coastal Plain. Wonderful fall foliage; not well adapted to regular garden soil

30. **Swamp titi (*Cyrilla racemiflora*):** Coastal Plain. Grows from Virginia to South America; important honey plant in Georgia, handsome large shrub, garden adapted.

31. **Dwarf palmetto (*Sabal minor*):** Coastal Plain. never produces a trunk; grows in shady wet woods; very adaptable

32. **Pond pine/pocosin pine (*Pinus serotina*):** Coastal Plain. grows from New Jersey southward; commercial source of turpentine; survives periodic watery conditions and fire (sometimes is the only tree to survive intense fires); cones require fire to open; cones often stay on tree a long time and wood can grow around them; wood is used only for pulp