

# PLANTS THAT TOLERATE WET SOIL

A species' tolerance to wet soil depends in part on type of soil; for example, wet mineral soils high in clay are much different in important physical and chemical properties than soils high in organic matter, and soils high in organic matter generally are better aerated, even when fairly wet, compared to wet soils high in clay. The lack of oxygen is the primary reason so many plant species cannot survive in saturated soils, although many important plant physiological processes are also significantly affected by these conditions. Soils high in organic matter are higher in nitrogen especially, although it is not readily available to the plant when the soil is saturated; additionally, these soils generally are acidic, although in some regions they can be heavily influenced by underlying calcareous bedrock or glacial deposits, as is the case in upstate New York.

Most species that seem to thrive in wet and even flooded soils actually grow much better on well-drained soils if they do not have to compete with other plants (of course, aquatic plant species are an exception and have not been included in this book). The best single source of information about a plant species' affinity to wet soils is the USDI Fish and Wildlife Service's National List of Plant Species that Occur in Wetlands. This list was developed for all wetland and aquatic plant species in each region and is best accessed via the USDA PLANTS Database Web site (<http://plants.usda.gov>). Once reaching this site, one should click on the "Wetland Indicator Status" choice on the main page. The regions most pertinent to the

geographical scope of this book are regions 1, 2 (northernmost portion), and 3.

Many species that tolerate wet soil naturally occur on mineral soils along streams within floodplains that are flooded to various depths and durations, especially early during the growing season. Many of these same species—*Fraxinus pennsylvanica* (green ash) and *Platanus occidentalis* (American sycamore), for example—tolerate the extremes of streetside conditions, thus are often selected for such use. Some species—*F. nigra* (black ash) and *Picea mariana* (black spruce), for example—occur naturally on both wet mineral and organic soils. Species names followed by a ✓ are those that thrive on wet organic soils (i.e., those that typically occur naturally on peat and generally grow best under these conditions). The species included in this "Wet Soil" category are excellent candidates for wetland restoration projects, as well as planting in wet spots in one's garden. While numerous manuals and books are available on restoring wetlands, those by Keddy (2000) and Mitsch and Gosselink (2000) provide the strongest foundation on which to engage in these activities.

## SUN

### Ferns and fernlike plants

- Diplazium pycnocarpon* (narrow-leaved spleenwort)
- Dryopteris celsa* (log fern)
- Dryopteris cristata* (crested wood fern)
- Equisetum fluviatile* (water horsetail)
- Equisetum hyemale* (scouring rush)

