

Chapter 6

VEGETATION

General

The vegetation of a natural area is an expression of its soils, topography, geology and climate. The eastern part of the United States enjoys thick deep humus soils, when compared to the geologically newer western coast Eastern soils can support heavy vegetation, forests, understory trees, shrubs, and herbaceous material. Rutherford Platt, self-taught naturalist, wrote about the singularity of the eastern United States' vegetation. Because the Appalachian Mountains run from the northeast to the southwest, the glaciation of our area brought seeds from the arctic into the temperate zone. Plants dwarfed by weather conditions in the arctic, flourish further south.

Local conditions bring vegetative variety. Where bedrock is close to the surface, pioneer plants such as birch, andropogon grasses, and mosses can predominate. Where wetlands and floodplains prevail, cattails, rushes, swamp maple, and spice bush are common.

Climate Modification

Vegetation is an important climate modifier. Vegetation can decrease wind velocities and turbulence, cool slowly, warm slowly, conserve moisture, produce oxygen for air replenishment and produce a clean air shed (Figure 14). The presence of vegetation is also a key factor in tempering climate on a smaller scale such as a house lot. A single tree transpiring 100 gallons-of water a day is equivalent to the cooling effect of five average room air conditioners, each of which runs 20 hours a day (Federer, 1970). Temperatures over grass are 10 degrees to 14 degrees cooler than over exposed soil on a sunny summer day. Vegetation can also play a variety of other climate-related roles, many of which are discussed in *Plants, People and Environmental Quality* by G.O. Robinette (1972).

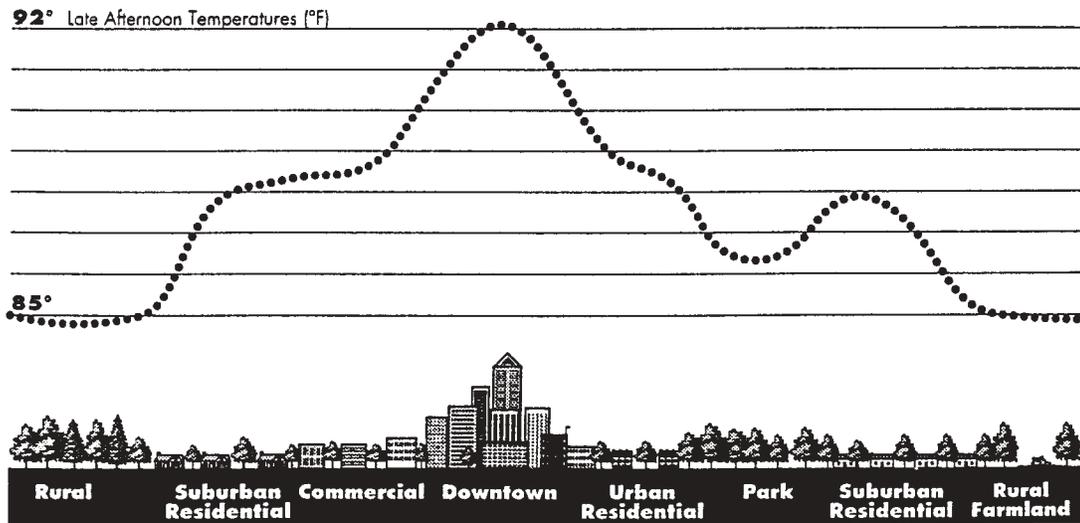


Figure 14—Temperatures by Vegetation Cover

Source: U.S. Environmental Protection Agency, 1992.

Social and Aesthetic Values

“Vegetation softens lines and brings out the beauty of architectural forms. Seasonal changes of color continually renew every day scenes” (Madison Environmental Resource Inventory). It is vegetation that provides the picture frame for our built areas. It is not surprising that cities and towns take pride when they are honored with the title of being a Shade Tree City. Comparing a raw subdivision with no trees to a mature subdivision that is softened and shaded tells us much about the aesthetic importance.

Chatham Township's Naturally Occurring Vegetation

Chatham Township lies in the Piedmont physiographic region of New Jersey which is part of the vegetational formation known as the Eastern Deciduous Forest. This region is typified by the list of trees, shrubs and plants listed in Appendix A.

Vegetation by Area

The floodplain along the Passaic River and the Loantaka Brook contains typical floodplain vegetation - red maple, white ash, pin oak, white oak, and grey birch. Native floodplain shrubs found here are spice bush, arrow-wood, witch hazel, some varieties of viburnum, dogwood, and blueberry. The western slopes of Long Hill were characterized by oak forest - remnants of which remain on the developed streets. The Great Swamp and Black Brook area contain typical wetland as well as floodplain vegetation. Areas of wetland can be identified by a predominance of skunk cabbage - only growing in wetlands. Other wetland vegetation includes cattails, spice bush, swamp azalea, and reeds. Other upland areas on lands surrounding the Great Swamp contain typical piedmont vegetation. One area across the northerly section of the Township is characterized by sandy soils. Vegetation here is characterized as pioneer because of the poor nutrient content of the soil. Andropogon grass, grey birch, and horsetail are commonly found.

Vegetation and Deer

Vegetation, both native and ornamental, never before threatened, has become the favorite forage for an increasing population of white-tailed deer. Touch-me-not, azalea, day lily, rhododendron, and many perennials must be fenced if they are to survive. Shrinking habitat and absence of predators all contribute to the imbalance represented by the deer herds in the area -vegetation is not the only victim. Our area is now recognized as a hot spot for lyme disease.

BIBLIOGRAPHY

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