

## Chapter 9

### REGIONAL RELATIONSHIPS AND RECOMMENDATIONS

Chatham Township's municipal boundaries bear little relationship to the physical relationship it shares with other municipalities in the region. The physical relationship of our towns is important because we share natural resources like the Great Swamp. We also share responsibility for the impact each town causes. These impacts are most commonly caused by zoning and development decisions which affect our physical resources. The water resource is the resource of most concern in this region. It is a shared resource that is critical both as water supply, as quality of life, as open space, and as habitat for a large diversity of life.

Chatham Township's land use decisions can contribute to downstream flooding and water quality changes just as our upstream neighbors can affect the level of flooding and water quality for us. Chatham Township's land use decisions can affect the water supply for towns dependent on the Buried Valley Aquifer system for water supply. Chatham Township's land use decisions can affect air quality.

#### **Great Swamp**

Chatham Township is one of eleven municipalities (Figure 16) that share the 55.4 square mile watershed of the Great Swamp in the Upper Passaic River Basin. All precipitation that falls in the watershed flows through the municipalities and into the Great Swamp. Most of the Great Swamp is protected as a federal wildlife refuge. The U.S. Fish and Wildlife Service is actively pursuing a land acquisition program from willing homeowners to buy private lands of the swamp to be included in the refuge. The eastern most part of the refuge is the first Wilderness Area in the United States. This status gives it special protection from encroachment.

#### **Streams**

Two of the swamp's four major feeder streams flow through Chatham Township. Loantaka Brook originates in Morristown, flows through Morris, Harding, and Chatham Townships and into the Great Swamp. In the Great Swamp, the brook joins Great Brook and flows into Harding and Long Hill Townships before exiting into the Passaic River.

Black Brook receives stormwater drainage from part of Madison as well as Chatham Township. The Brook had two major tributaries until a drainage ditch was built in the easterly side of the Great Swamp in the 1950's. This easterly ditch carries stormwater and wastewater effluent for about two miles to Black Brook in the Great Swamp. From there it joins the Passaic River through Harding and Long Hill Townships.

#### **Passaic River**

The Passaic River forms the southerly border of Chatham Township. On the opposite banks of the river, we share borders with Berkeley Heights, New Providence, and Summit.

#### **Geological**

Chatham Township shares with Madison in being the terminus of the Wisconsin Glacier in this area. Part of that regional geological relationship carries over into the Township's being in the Buried Valley Aquifer system.

Chatham Township lies in the Buried Valley Aquifer recharge area and stream zone. The aquifer is designated as a Sole Source Aquifer by the U.S. EPA. The neighboring towns of Madison, Chatham Borough, and Florham Park rely solely on wells that draw from the Buried Valley Aquifer for their water supply.

The New Jersey Geologic Survey identified a band of land running across northerly Chatham Township, just beyond the terminus area of the Wisconsin glaciation as a prime recharge area for the Chatham Valley Buried Valley Aquifer, part of the Buried Valley Aquifer system.



## **RECOMMENDATIONS**

Because of Chatham Township's location almost surrounding the Wilderness Area of the Great Swamp National Wildlife Refuge, in the recharge area of the Buried Valley Aquifer and in the upper Passaic River basin, planning and development decisions have the potential to impact a far greater area beyond Chatham Township's borders. The potential impacts relate to open space and water resources and include:

- loss of open space that provides forested areas and groundwater recharge to the Buried Valley Aquifer
- contamination of groundwater recharge to the Buried Valley Aquifer in already developed areas
- increased flooding due to stormwater runoff from increased development
- increased flooding due to loss of open space and loss of trees with their evapotranspiration function

To address these potential undesirable impacts, Chatham Township Environmental Commission recommends that Chatham Township:

- aggressively pursue preservation of privately owned open land through outright purchase or broad encouragement and acceptance of conservation easements
- include natural features that enhance stormwater control as a criteria for open space acquisition
- classify lawn as impervious surface for purposes of stormwater runoff calculations (Najarian Study, see page 22)
- institute an educational drive to promote preservation of mature trees and consider formation of a Shade Tree Commission