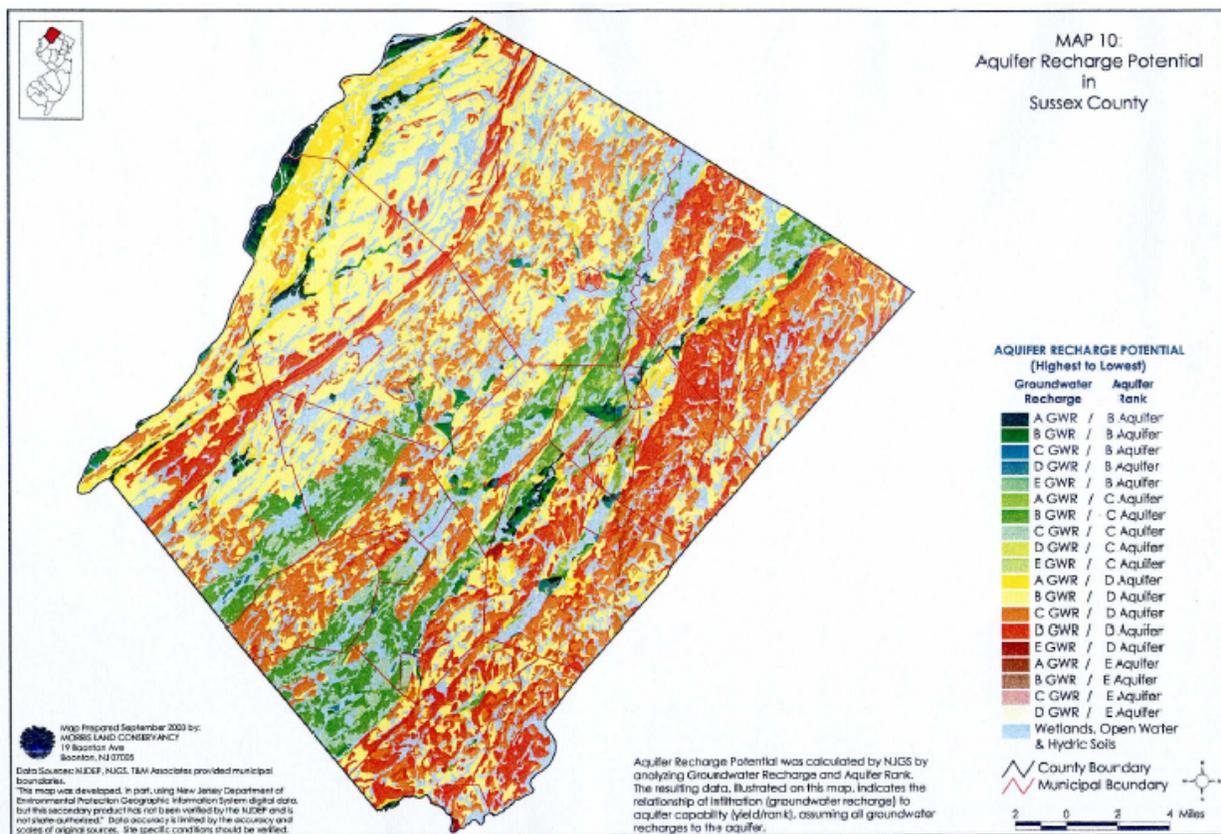


The highest potential aquifer recharge areas are located along the Delaware River, and along the run of the Big and Little Flat Brook, extending north into Montague Township. Western Sparta and western Hardyston Townships also contain the highest potential aquifer recharge. Several small, isolated patches in the central valley round out the highest areas of potential aquifer recharge.

Two large belts, which correspond almost exactly with the aquifer rank data, provide a second tier of potential aquifer recharge. One belt runs northeast through eastern Stillwater, central Hampton and southern Frankford Townships; another runs along the base of Allamuchy, Sparta, Hamburg and Wawayanda Mountains, becoming patchy and discontinuous towards the northern end of the county. See **Map 10: Aquifer Recharge Potential in Sussex County**.



## Land Use

The New Jersey Department of Environmental Protection has developed a Geographic Information System (GIS) data layer called 1995/97 Landuse/Landcover. This layer was created from the analysis and interpretation of color infrared (CIR) imagery from 1995/97 and contains detailed information regarding vegetation type and land use in New Jersey. At present this GIS data layer is the most accurate and up-to-date source for land use/land cover information in New Jersey. **Maps 11, 13, 15 and 17**, as well as the



information and statistics that follow are all derived from this data layer (except where noted), which lists the total acreage of Sussex County as 343,445 acres. (Please note: any changes in land use that have occurred after 1997 are not reflected in the following information.)

### Forest

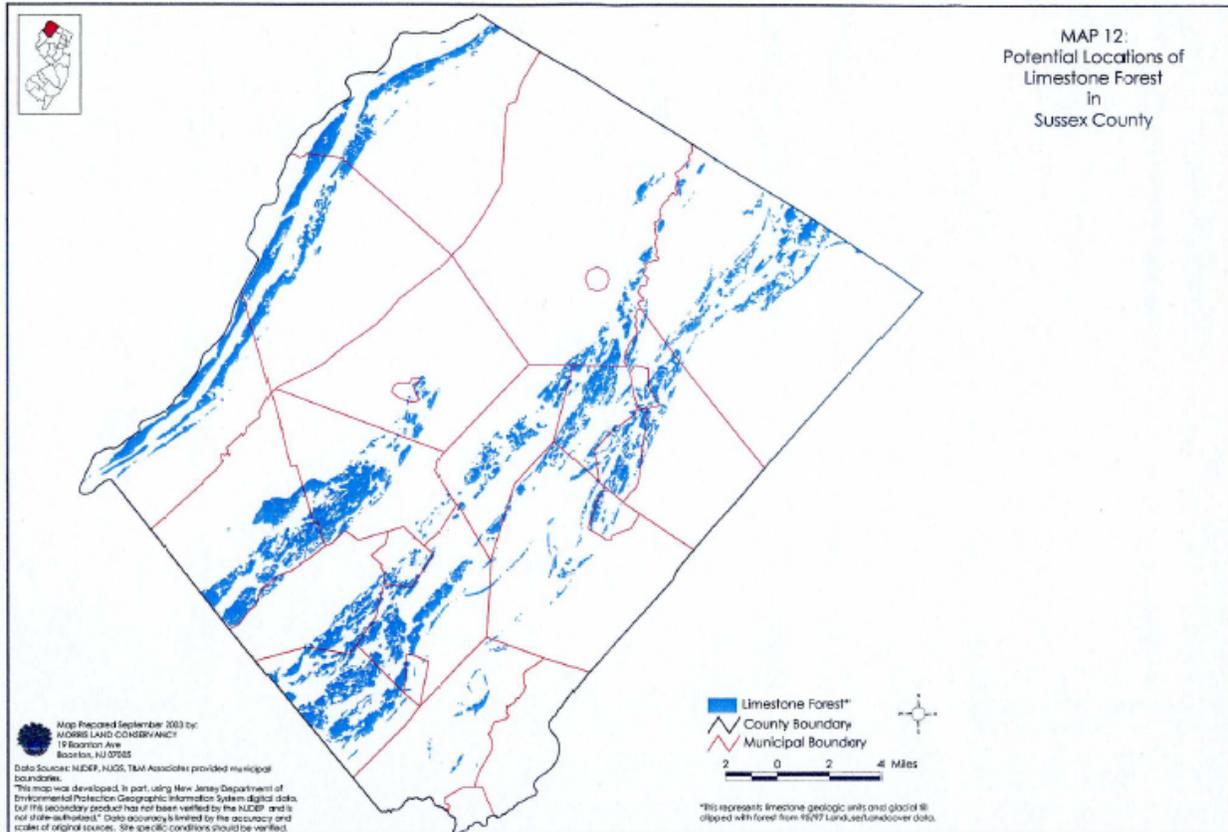
In 1995/97 Sussex County had 194,259 acres in upland forest; this amounts to 57% of the County's land area. This is the largest land cover type in Sussex County. These forested areas include upland forest only, and do not include forested wetlands. Sussex County is the most forested county in New Jersey by percentage of land in forest. According to **Map 11: Upland Forest in Sussex County**, the majority of upland forest falls within the state and federal parks in the eastern and western section of the county. Throughout the county's central section, forested areas are less frequent, occurring in discontinuous patches.

### Limestone Forests

Although forested areas in general provide wildlife habitat and water quality protection, limestone forests have unique characteristics that make them especially important. Limestone forests occur in karst landscapes, which are underlain by limestone bedrock and contain sinkholes, sinkhole ponds, caves and springs. These communities support

rare plant and animal species adapted to the soils and water cycle of the hydrogeologically dynamic region. Limestone outcroppings within the forests provide habitat for ferns, worts and other rare native plants as well as migratory birds and raptors.

Data for **Map 12: Potential Locations of Limestone Forest in Sussex County**, is sourced from NJGS's geologic data and the NJDEP's 1995/97 Landuse/Landcover data. It represents all forested lands that overlie limestone bedrock and thin glacial till. This map has not been field verified and provides an indication of potential areas where limestone forest is located.



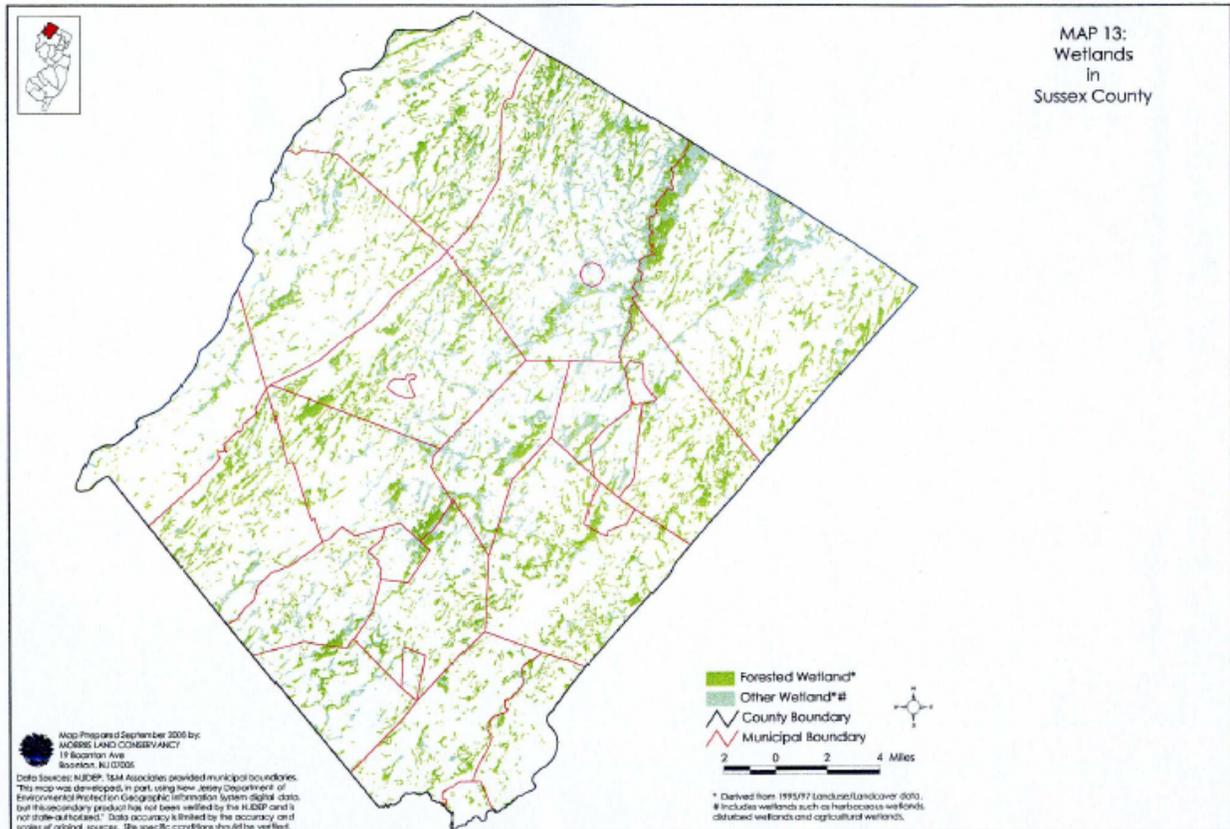
According to **Map 12**, limestone forests occur in three distinct regions in Sussex County. The first is located adjacent to the Delaware River, on the western slope of the Kittatinny Ridge. This area extends from the Walpack Bend north into Montague. The second area extends northward from southeastern Stillwater through Hampton into southern Branchville. The third area extends northward from Green through to Vernon with concentrated areas located in the Green, Fredon, Andover region, the Lafayette, Hardyston, Hamburg, Franklin region and central Vernon.

## Wetlands

Wetlands are the next most frequent land cover. In 1995/97, a total of 47,670 acres, or 14%, of the County land area was wetland. Of this total wetland acreage, 30,744 acres,

or 9% of the County is forested wetland, and 16,926 acres, or 5% of the County is other wetland such as herbaceous wetland, disturbed wetland or agricultural wetland.

**Map 13: Wetlands in Sussex County** illustrates the location of forested wetland and ‘other’ wetland.

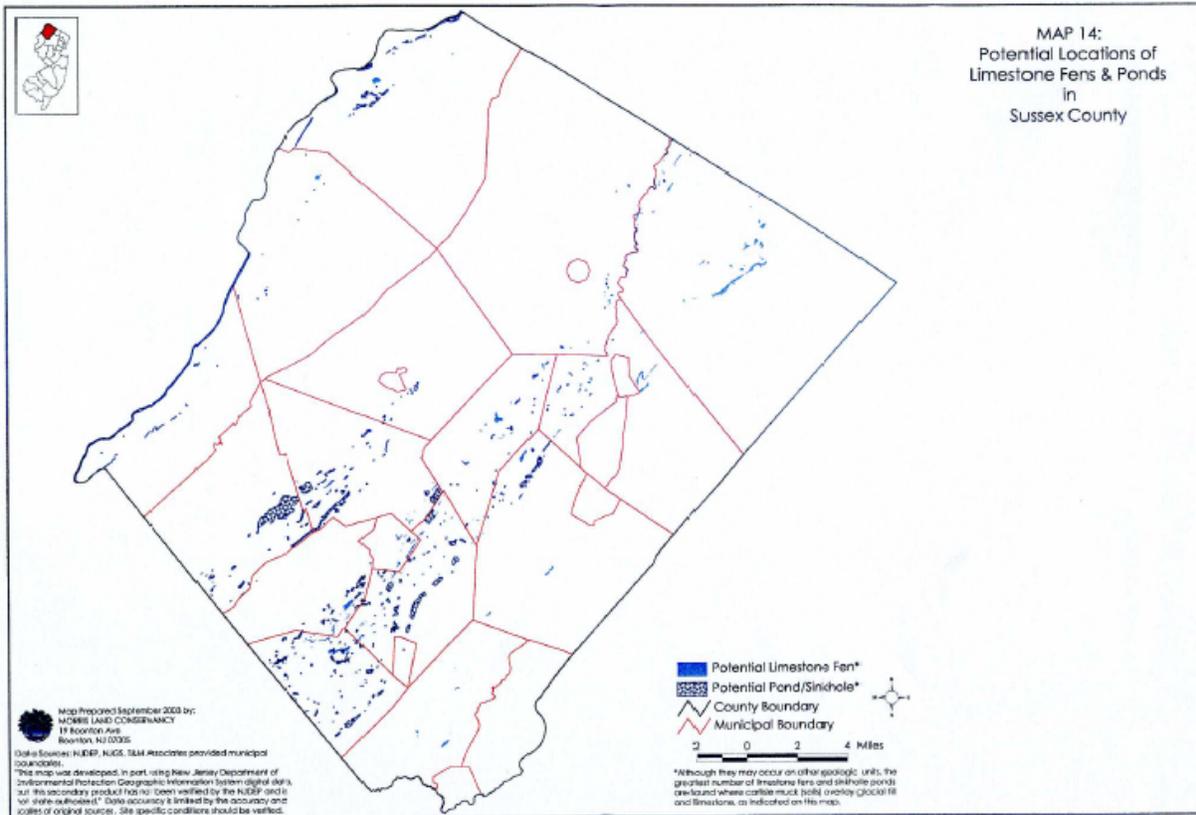


The largest concentration of wetlands occurs along the Wallkill River. Following the river for about 8 miles upstream from its entrance into New York State along the Wantage-Vernon border, the Wallkill River has a large floodplain with wetland areas. Other prominent areas of wetlands include the region surrounding the Paulins Kill in Hampton, Andover Township and Lafayette, the region surrounding Pochuck Creek in central Vernon, the region surrounding the Wallkill River in Sparta and Ogdensburg and along the Papakating Creek in Wantage Township.

### Limestone Fens and Sinkhole Ponds

Portions of the valleys in Sussex County are underlain by limestone, creating the potential for sinkhole ponds and limestone fens. Limestone fens are similar to limestone forests except that they are related to wetland complexes as opposed to forested areas. Although fens can occur on other geologic units, the greatest extent of these unique features are found where glacial till overlies limestone formations in the Ridge and Valley physiographic province. This unique environment supports plants that tolerate alkaline conditions and other species associated with these plants.

**Data for Map 14: Potential Locations of Limestone Fens & Ponds in Sussex County,** is sourced from NJGS's geologic data and NJDEP's soils data. It represents areas where Carlisle muck soils overlay limestone bedrock and thin glacial till (as fen sites are muck based). This map indicates the *possible occurrence* of limestone fens and sinkholes; the data has not been field verified and fens may exist on other geologic units.



As **Map 14** illustrates, potential locations for limestone fen and sinkhole ponds are scattered across the county, although there are three general groupings. The first grouping is scattered along the Kittatinny Ridge from Walpack to Montague. The second area is located from southeastern Stillwater through the central region of Hampton and into Frankford. The last grouping is scattered in a wider northeast trending band from Fredon to Vernon.

## **Agriculture**

### Tilled Agriculture Land

Land in agricultural use occupies almost as much acreage in the county as wetlands. In 1995/97, 44,075 acres, or 13%, of Sussex County consisted of agricultural lands. According to **Map 15: Agriculture in Sussex County**, this land occurs in two general regions. The most prominent region is located in the Kittatinny Valley, in municipalities such as Wantage, Frankford, Lafayette, Hampton, Fredon and Green Townships. The