

Kings County, New York—The history of ground-water development in Kings County (Brooklyn), Long Island, New York since the early 1900's is a well-documented example of a complete cycle of intensive development with significant decreases in heads and reduction in storage in the unconfined aquifer accompanied by intrusion of saline ground water, followed by a decrease in total pumpage and a gradual recovery of heads. In 1903, total ground-water withdrawals in Kings County were about 30 million gallons per day. Available information on the altitude of the water table indicates no obvious cones of depression at this time (Figure 21). Total pumpage in Kings County peaked in the 1920's to early 1940's (maximum annual pumpage about 75 million gallons per day). As shown in Figure 21, water levels in 1936 were near or below sea level throughout Kings County, and the cone of depression extended into southwestern Queens County. In 1947, public-supply pumpage ceased in Kings County. The source of water for public supply changed to the upstate surface-water system that supplies New York City through water tunnels. Furthermore, legislation was implemented during this period that required "wastewater" (including air-conditioning water) from some industrial/commercial uses be recharged to the aquifer system through wells. Concurrently, and partly as a result of these changes, industrial pumpage declined to a long-term stable rate of slightly less than 10 million gallons per day. These changes are reflected in the water-table map of 1965 shown in Figure 21 in which heads have risen throughout Kings County and are at or below sea level only in northern parts of the county. Subsequent maps show a small but continuing recovery of the water table.

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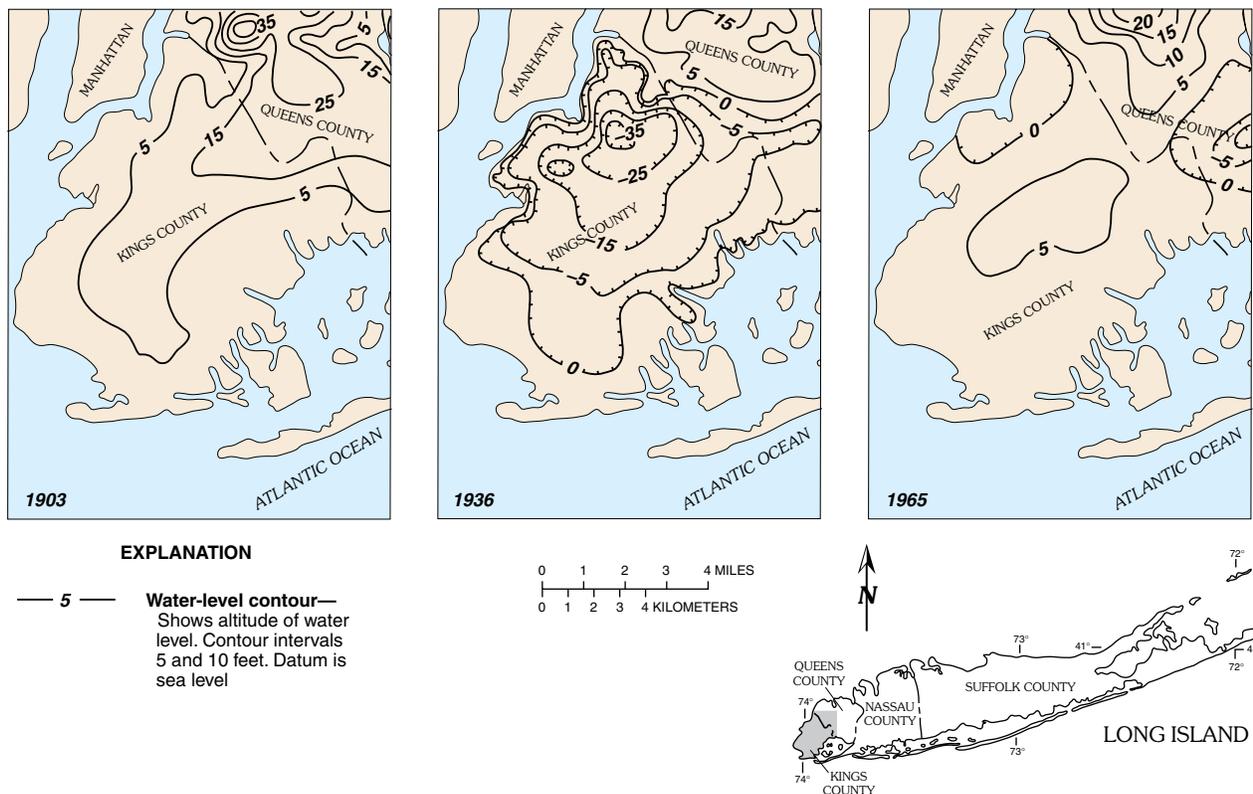


Figure 21. Water-table altitudes in Kings and part of Queens Counties, Long Island, New York in 1903, 1936, and 1965. (Modified from Franke and McClymonds, 1972.)