

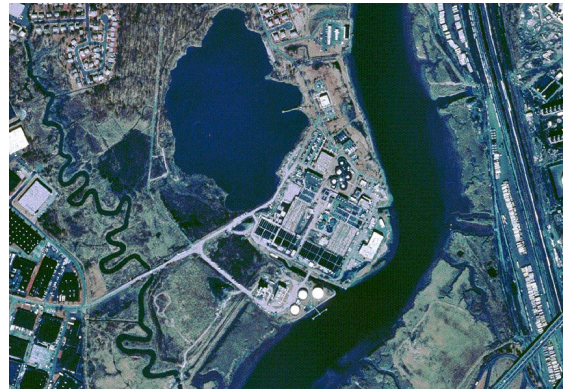
PROJECT TITLE: WATER QUALITY IMPACT OF A WASTEWATER DISCHARGE ON THE HACKENSACK ESTUARY (WATER QUALITY MODELING)

Contractor: [Najarian Associates](#)
 Client: Bergen County Utilities Authority

Amount: \$1,000,000

Completion Date: June, 1992

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The USEPA's SWMM4 model was used to simulate stormwater discharges from CSO's and storm sewers; the MIT-DNM model was used to simulate the tide and water quality regime of the Hackensack River and adjacent Newark Bay.

The adapted models reproduced observed trends in the field data. Also, the models quantified the relative impacts of various loading sources on the Estuary's DO regime. Study results were used to evaluate the environmental effectiveness of STP upgrading versus the mitigation of other pollutant sources.

This study analyzed the impact of a 70-mgd wastewater discharge on the water quality of the Hackensack River Estuary. Due to cost considerations related to the expansion and upgrade of this discharge, all secondary water quality influences were explicitly considered, including landfills, municipal wastewater discharges, industrial treatment facilities, thermal discharges, combined sewer overflows, storm sewer discharges, tidal marsh drainage and flow manipulation for water supply. An extensive water quality monitoring program was designed to characterize such sources.

