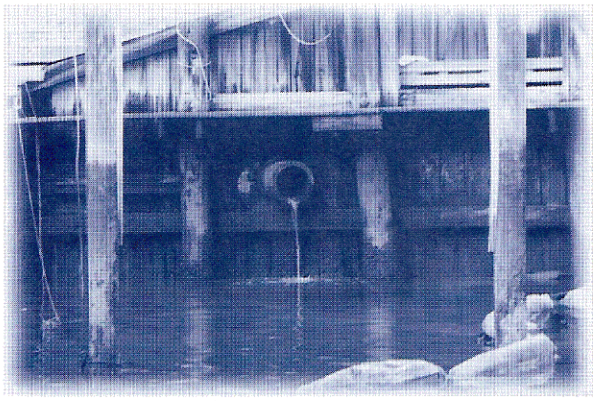
Manasquan River Water Quality & Quantity

WATER QUALITY

While water quality has shown significant improvements in recent years, the Manasquan River is still degraded by fecal contamination and continues to be threatened by historic chemical inputs. Persistent sources of fecal contamination have perplexed resource managers and continue to limit shellfish harvesting in the River. Also of concern is the growing number of parking lots and roadways that accelerate rainwater runoff, erode stream banks, and carry sediment loads downstream.

Storm Drain



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In 1989, New Jersey DEP conducted a study to identify waterways impacted by non-point source pollution. Non-point source pollution is generally anything that runs off the land and into waterways having a negative impact on water quality. Common sources of non-point source pollution include fertilizers, pesticides, animal waste, motor oil, septic system leachate, and household hazardous products.

The study found that the main stem of the Manasquan River, Marsh Bog Brook, Mac's Pond and Stockton Lake were being impacted by non-point source pollution. Suspected sources of non-point source pollutants included agriculture runoff from pastureland and animal holding areas, leachate from landfills and hazardous waste sites, runoff from roads and other developed areas, leachate from septic systems, siltation from streambank erosion, and high densities of resident waterfowl. Water quality problems associated with these conditions can result in reduced oxygen for aquatic organisms, elevated bacterial levels that can close swimming areas and shellfish beds, and contamination of river bottom sediments.

In 1992 and again in 1996, the State conducted a Water Quality Inventory Report that showed improvements since 1989 and rated the Manasquan River as "generally having good water quality." However, some problem areas persisted. Long Brook and Marsh Bog Brook were identified as having excessive levels of fecal coliform bacteria. Further downstream, Squankum Brook was identified with excessive levels of fecal coliform bacteria but also contained excessive levels of nutrients, lead and copper. Of more concern are Debois Creek and Turkey Swamp Brook that were listed as severely impaired by NJDEP and are suspected of containing toxic substances.

Monmouth County Health Department confirmed these findings in 1999 by reporting fecal coliform problems in Marsh Bog and Squankum Brooks. They also report that the Glimmer Glass area, Debbie's Creek, and Watsons Creek are particularly troubled by fecal coliform problems.

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WATER QUANTITY

Prior to the operation of the Manasquan reservoir in July 1990, drinking water for the region was pumped from underground aquifers. Population increases in the watershed in the '60's and '70's strained drinking water supplies and aquifer levels. In less than 20 years, aquifer levels dropped 140 feet allowing saltwater to rush into these underground formations and contaminate the region's drinking water. Growing concern about drinking water supplies led to the construction and operation of the 770 acre Manasquan Reservoir. The reservoir is replenished by the Manasquan River during periods of high river flow at an intake facility in Wall Township. The reservoir has the capacity to store 4.7 billion gallons of water and can supply a safe yield of 30 million gallons per day to area residents even during repetition of the drought of record.

Manasquan Reservoir

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The Manasquan Reservoir Water Supply System provides the region with a safe, dependable, and renewable water supply capable of reducing the region's dependence on depleted groundwater supplies. However, most water users in the Manasquan watershed still rely on groundwater sources since the majority of reservoir water is supplied to areas north of the watershed. Therefore, water recharge is a central issue for watershed residents. Recent study indicates that groundwater withdrawals exceed recharge needs and creates a groundwater deficit of nearly 2 million gallons per day.

The spring and summer seasons of 1999 provided very little rain to the region and eventually led to an emergency drought declaration that would last until September 27, 1999. In late June, area water purveyors sought voluntary reductions in outdoor water use and designed alternative watering schemes throughout area neighborhoods to reduce consumption. Unfortunately, this water conservation method provided little relief to already strained reservoirs. On August 5th, Governor Whitman issued a state-wide drought emergency that prohibited the use of automatic lawn and garden sprinkling systems as well as other miscellaneous outdoor watering activities such as car washing. From this declaration, New Jersey-American, one of several area water purveyors, reported a 30% reduction in water demand revealing the alarming amount of water dedicated to lawn and garden systems. The Manasquan reservoir, used primarily as a supplemental water supply system, operated near capacity at 28 million gallons per day during the drought, once again, raising concern about the region's water supply capabilities.

Water Consumptive Lawns

Freehold Soil Conservation District

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