

HYDROLOGY

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Watersheds

There are two (2) watersheds or drainage basins located within West Cape May. Pond Creek drains into the Delaware Bay, while Cape Island Creek discharges into the Atlantic Ocean via Cape May Harbor. Using roadways as landmarks, the drainage divide runs approximately along Bayshore Road from Stimpson Lane south to Stevens Street, and then along Stevens Street west to Sunset Boulevard.

Stormwater Runoff

When it rains hard or for a prolonged period of time, stormwater from streets, rooftops, yards and farms begins to flow overland, eventually winding up either in Pond Creek or Cape Island Creek. As the stormwater travels across the land surface, it picks up animal waste, sediment and contaminants. At present, this mixture of pollutants receives no treatment. Stormwater runoff is a concern because it can contaminate the receiving water body.

Aquifers

An aquifer is defined by the US Geological Survey as a water bearing zone that will yield water in a usable quantity to a well or spring. In the West Cape May area, freshwater from precipitation passes through pervious surface areas and is stored in five underlying aquifers. Those aquifers are as follows: Holly Beach Water Bearing Zone, Estuarine Sand Aquifer, Cohansey Aquifer, Rio Grande Water Bearing Zone and Atlantic City 800 Foot Sand.

Desalination

Saltwater from the ocean has moved into the aquifers beneath Cape Island, contaminating most of the groundwater with high levels of sodium. Cape Island's municipal system now gets the bulk of its drinking water from a single pocket of fresh ground water left in one aquifer. New Jersey's only desalination plant had to be built in 1998 to supplement the supplies from this source. The plant pumps brackish ground water through a filter that removes the salt. Public water on Cape Island is expensive due to the cost of constructing, operating and maintaining this facility.

Aquifer Recharge Areas (Shallow Wells)

Aquifer recharge occurs from freshwater infiltration through pervious, non-tidal areas. Ultimately, the freshwater infiltration into these aquifers is due to precipitation. The area receives a mean annual precipitation of approximately 42 inches per year and a significant portion of that precipitation recharges the aquifers.