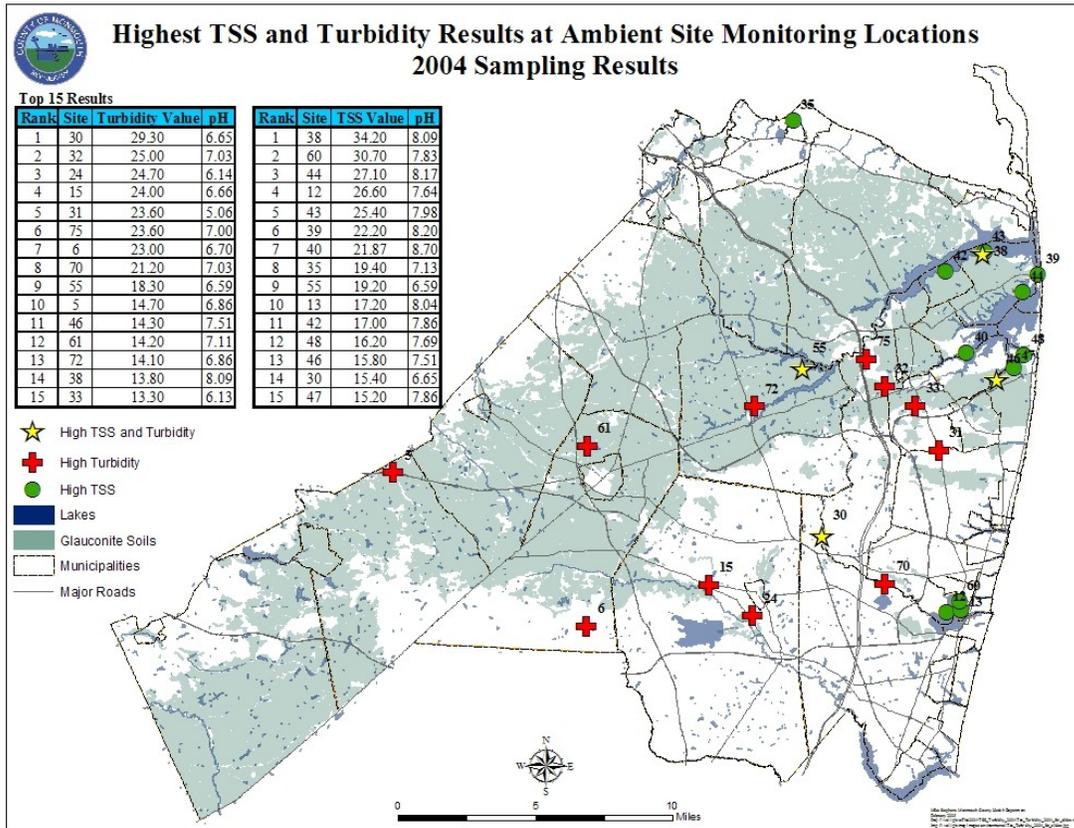


**MONMOUTH COUNTY HEALTH DEPARTMENT
 COUNTY ENVIRONMENTAL HEALTH ACT
 MCHD AMBIENT SAMPLING PROGRAM
 2005**

Monmouth County tests 66 stream sites quarterly for various parameters, including both total suspended solids (TSS) and turbidity analysis. In 2004, the 15 highest TSS and turbidity values during dry weather were plotted over glauconitic and sandy soils on a County GIS coverage .

This results showed that streams in glauconitic soils had more elevated results for both tests as compared with streams in sandy soils. The glauconitic sites during dry weather had more iron floc and humates, which may be primarily characterizing the dry weather 'look' of these streams.

Almost all the TSS results that were elevated were in saline estuary sites instead of freshwater sites. It has been estimated that 80% of the soil particles discharged from freshwater into an estuary remain in the estuary because the fine particles clump together, gain mass and sink due to the ionic attraction of fine particles in saline water. TSS is a weight-based analysis.



to underestimate impacts from runoff because, being weight based, it ignores the biological impacts of the finer soil sizes. Several years ago the USGS determined TSS was inappropriate and stopped using it in their surface water monitoring.