

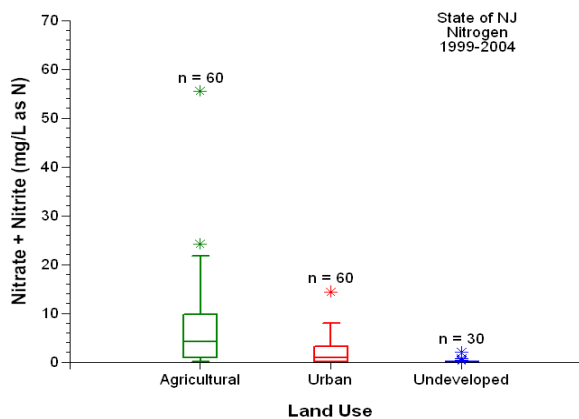
Ambient Ground Water Network - DEP/USGS

The first Ambient Ground Water Monitoring Network was established by NJDEP and USGS in 1983. The original network was designed to determine the concentration range of chemical constituents as a function of rock type. Having addressed that goal, the network was redesigned in 1998 to address the following objectives: (1) assess status and trends in newly recharged ground water; (2) define ground water quality by land use type (urban/suburban, agricultural and undeveloped); (3) determine potential ground water impacts on surface water quality; and (4) identify emerging ground water quality issues.

The redesigned network is comprised of 150 shallow wells. Network installation and the first round of sampling was completed in 2004. Well locations were identified using a stratified random approach, based on land use type. Sixty wells are located in urban/suburban settings, sixty wells are located in agricultural settings and thirty wells are located in undeveloped settings. With a sampling rate of 30 wells per year, sampling frequency for network wells is once every 5 years.

Parameters monitored:

- ♦ Field Parameters : Specific conductance, pH, alkalinity, D.O., water temperature and turbidity.
- ♦ Laboratory Parameters : Dissolved major ions and trace elements (metals), dissolved nutrients, volatile organic compounds, pesticides and gross alpha / beta.



Nitrate + nitrite concentration data for 150 well

The ground-water quality data are currently available in an NJDEP I-MAP format at:

<http://www.state.nj.us/dep/gis/depsplash.htm>,

in annual USGS Water Resources Reports for

New Jersey and online at the USGS NWIS database at, <http://waterdata.usgs.gov/nwis/>.

Data summaries are available in: (1) The Integrated Water Quality Monitoring and Assessment Report, <http://www.state.nj.us/dep/wmm/sgwqt/wat/integratedlist/integratedlist2004.html> (2) the references listed below, (3) In subsequent NJDEP/USGS Informational Circulars, (4) the USGS annual reports “Water Resources Data – New Jersey”, and (5) on the NJGS web site (Piedmont data only) (www.nj.gov/dep/njgs). Applicable data updates are ongoing.

References:

- Serfes, M.E., 2004, Ground Water Quality in the Bedrock Aquifers of the Highlands and Valley and Ridge Physiographic Provinces of New Jersey: New Jersey Geological Survey Report no. 39, 29p.
- Serfes, M.E., 1994, Natural ground-water quality in bedrock of the Newark Basin, New Jersey: New Jersey Geological Survey Report no. 35, 29p.

New Jersey's Ambient Groundwater Quality Monitoring Network 1999 - 2004

