

NEW JERSEY'S PRIVATE WELL TESTING ACT: GEOGRAPHIC SUMMARY AND RECENT COMMUNITY INTERVENTION ACTIVITIES

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New Jersey Department of Environmental Protection

Raritan Headwaters Association:
Watershed Tools for Local Leaders Seminar Series
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Private Wells in New Jersey

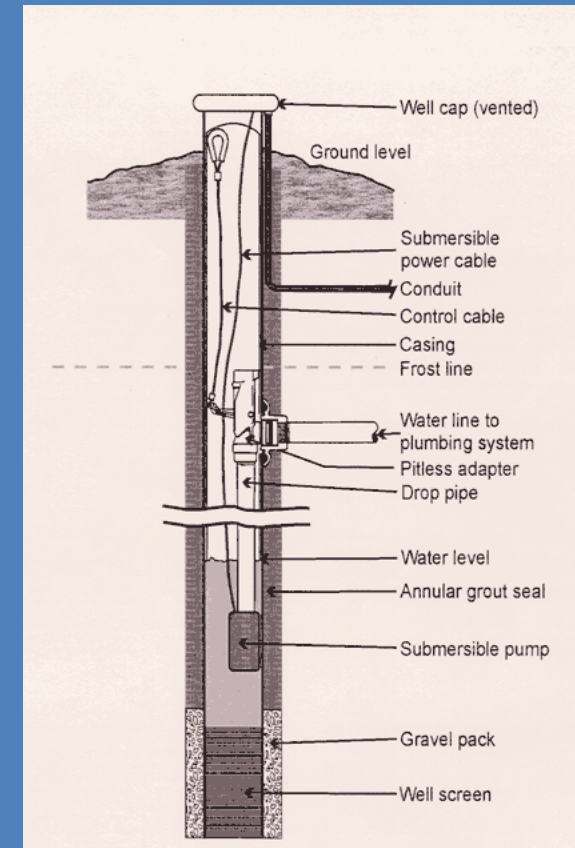
- **NJ Population: 8.9 million (2015 est.)**
 - **13% of the population (1,150,000 people) have private wells for their drinking water supply.**
- **An estimated 400,000 private (domestic) wells in New Jersey.**
- **No federal regulations cover private wells.**
- **Before 2002: state regulations applied only to newly-constructed wells.**





NJ Private Well Testing Act

- Became effective 9/16/2002.
- Real estate with wells. Untreated well water must be tested during real estate transactions for up to 35 parameters (county-dependent).
- Testing done by private, state-certified labs. Cost paid by seller or buyer (currently \$450-600).
- Results provided to client and submitted electronically to the NJDEP.
- No action required if a parameter limit is “exceeded” (a right-to-know law).



What does New Jersey's PWTA Measure?

PRIMARY STANDARDS

- Total Coliform (if positive, fecal or E. coli)
- 26 Volatile Organic Chemicals
- Inorganics
 - Arsenic (12 northern counties)
 - Mercury (9 southern counties)
 - Nitrates
 - Lead
- Radiological
 - Gross Alpha (12 southern and central counties)

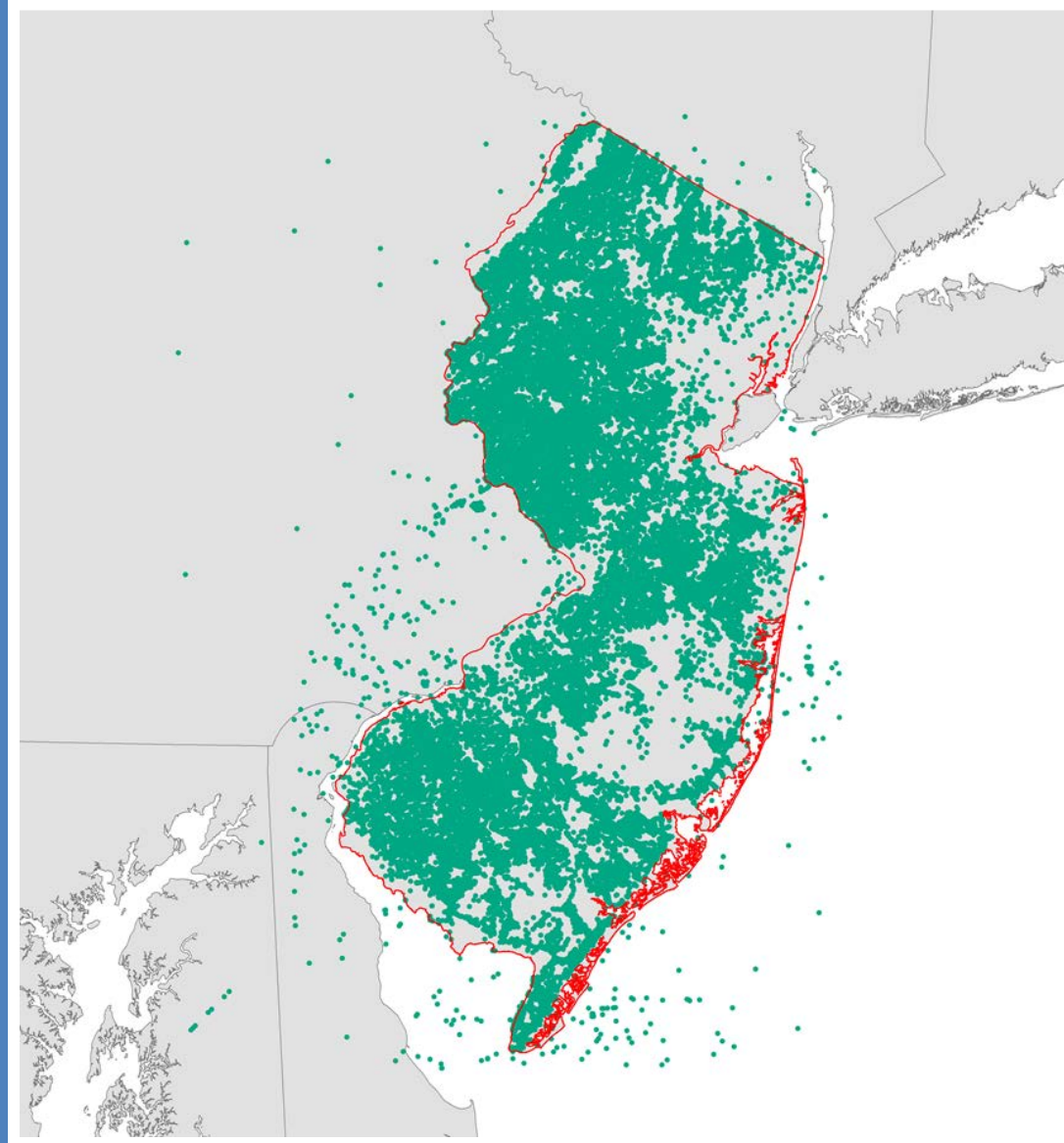
SECONDARY STANDARDS

- Iron, Manganese & pH



Uncorrected Well Locations

Several People, Several Years To Correct Well Location Information



Regional Data Analyses

- As part of the PWTA any analysis must protect confidentiality of the homeowner
- Data were summarized by:
 - Municipality and County
 - a 2 mile x 2 mile grid
 - It was desired to evaluate data at a non-political boundary level.
 - A minimum sample size of 10 wells per grid was deemed acceptable for analysis.
 - A 2x2 mile grid provided for the retention of 98% of all wells sampled for statewide parameters.
 - In other words, 2.0% of wells were in grids with less than 10 wells.

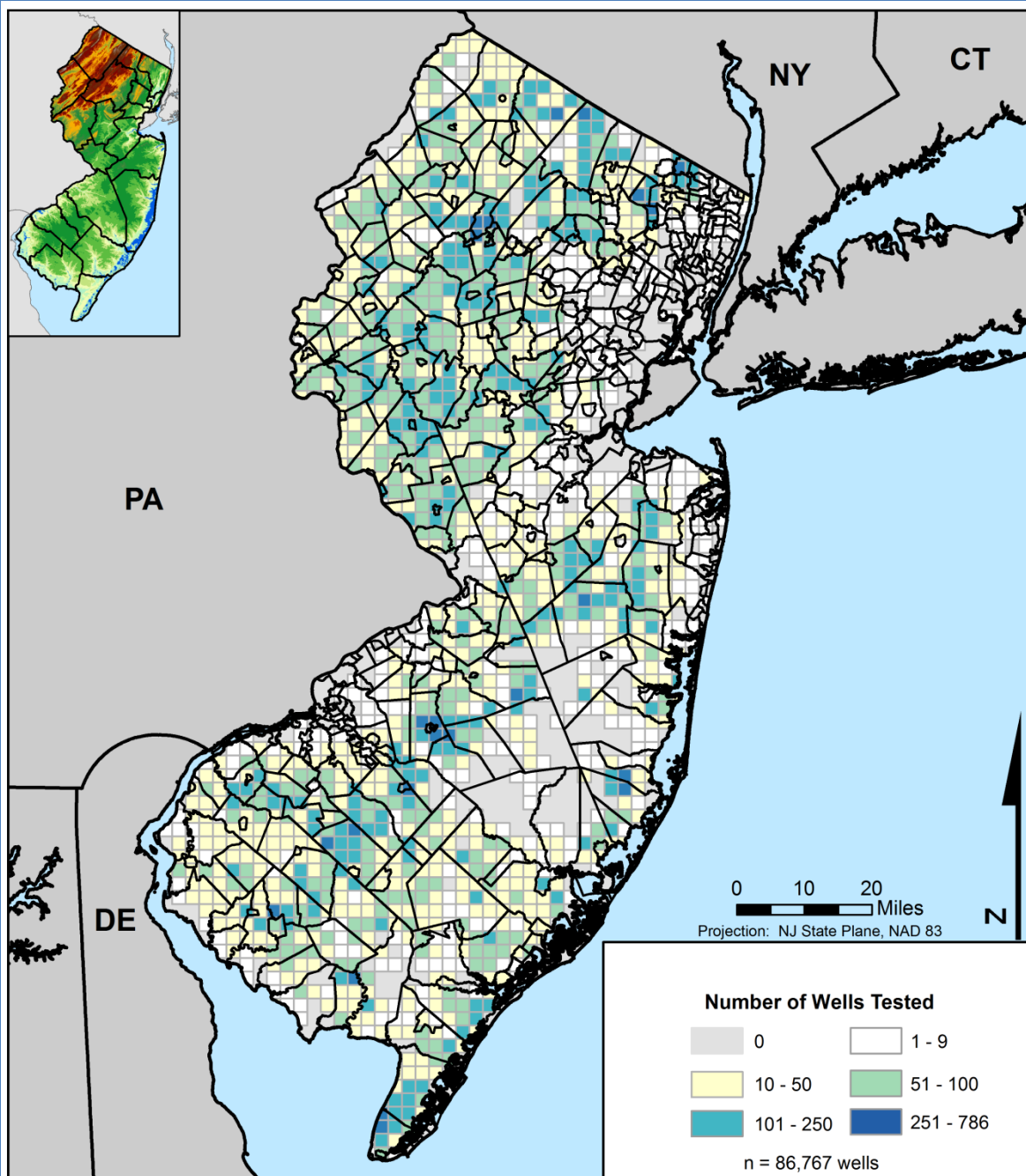


What the data tell us...

- Lends to the development of vulnerability maps.
 - Identification of “hot spots”
- Helps public outreach efforts.
 - Inform the public about the quality of their drinking water.
 - Test, test, test!



Wells Sampled:



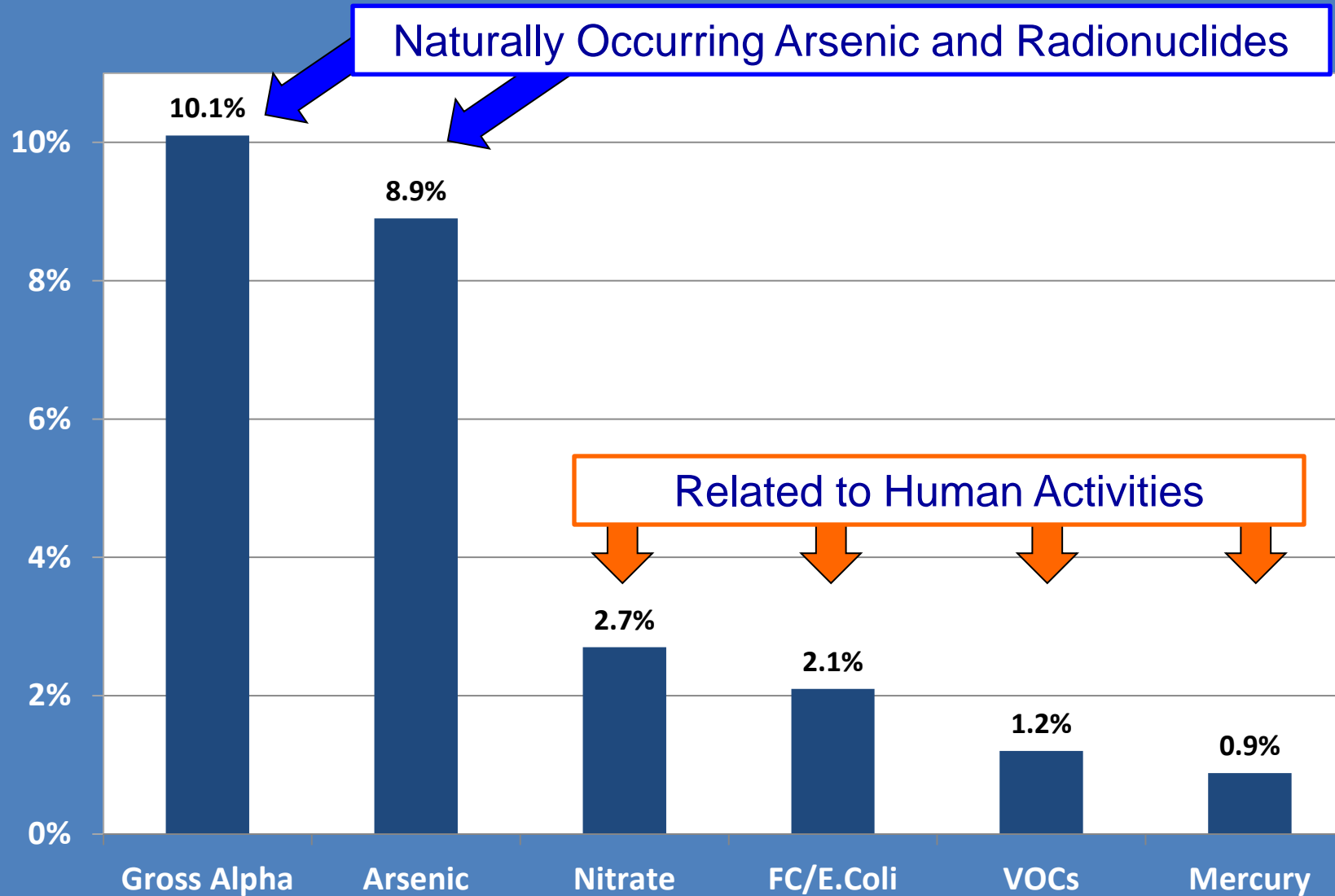
Most Frequently Sampled:

Municipality	County	Wells
West Milford Twp	Passaic	2,316
Franklin Twp	Gloucester	1,938
Vernon Twp	Sussex	1,808
Lower Twp	Cape May	1,780
Jackson Twp	Ocean	1,741
Raritan Twp	Hunterdon	1,466
Hopewell Twp	Mercer	1,443
Middle Twp	Cape May	1,417
Hopatcong Boro	Sussex	1,289

County	Wells
Sussex	8,810
Hunterdon	8,456
Morris	7,923
Burlington	7,528
Gloucester	5,690
Ocean	5,598
Cape May	5,015
Atlantic	4,995
Cumberland	4,938
Somerset	4,796
Monmouth	4,613
Warren	4,187
Passaic	3,586
Salem	2,879
Mercer	2,413
Bergen	2,195
Camden	2,185
Middlesex	757
Essex	139
Union	60
Hudson	4



Percent of Tested Wells that Exceeded Specific MCLs in NJ



Arsenic Exceedances*

Overall 8.9% of wells exceeded the NJ MCL and
3.0% exceed the Federal MCL

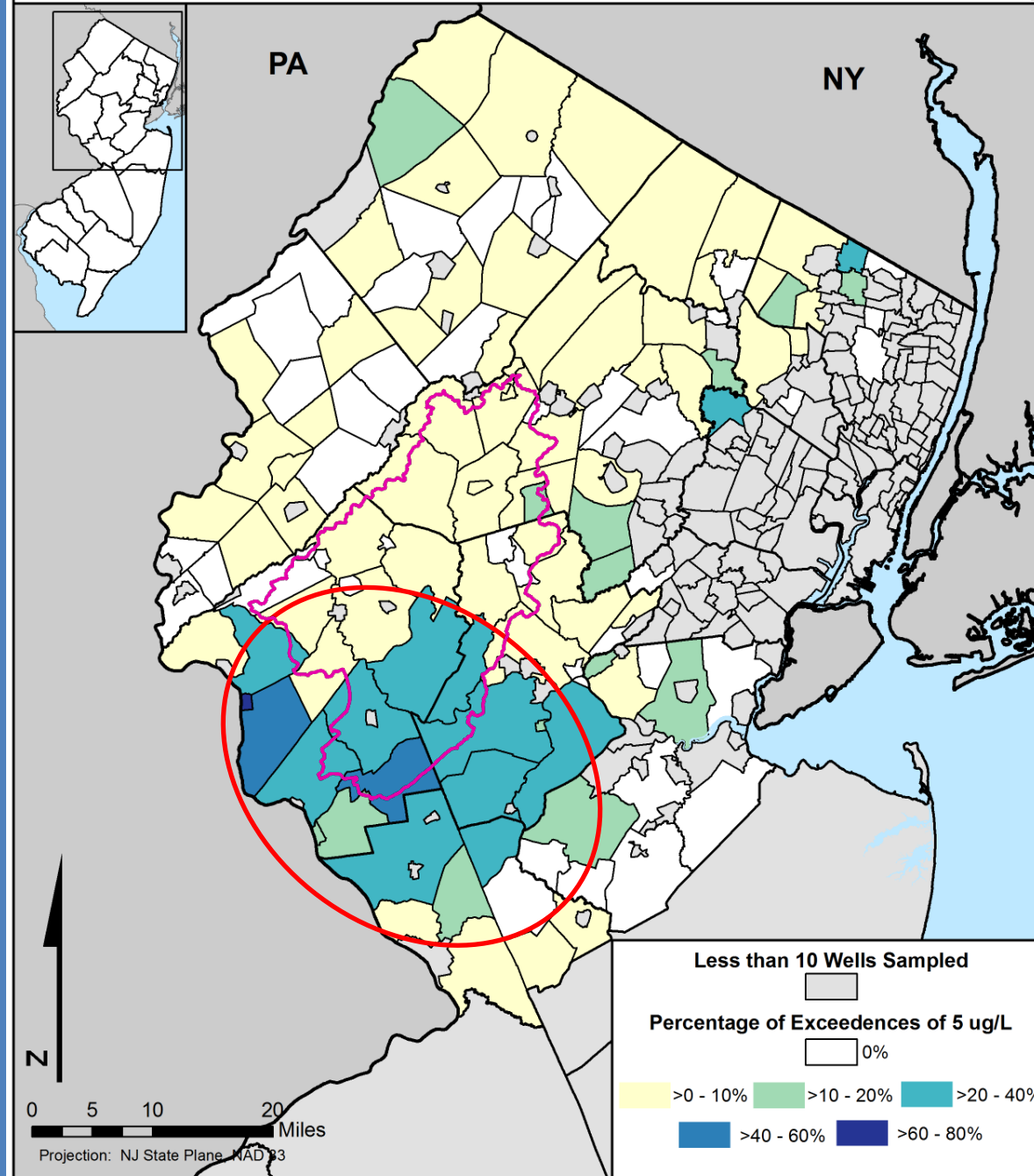
Province	Exceedance of NJ Standard (5 ug/l)	Exceedance of Federal Standard (10 ug/l)
Valley and Ridge	2.0%	0.5%
Highlands	1.1%	0.5%
Piedmont	17.1%	5.7%
Coastal Plain	1.0%	0.6%

*Current through March 2014

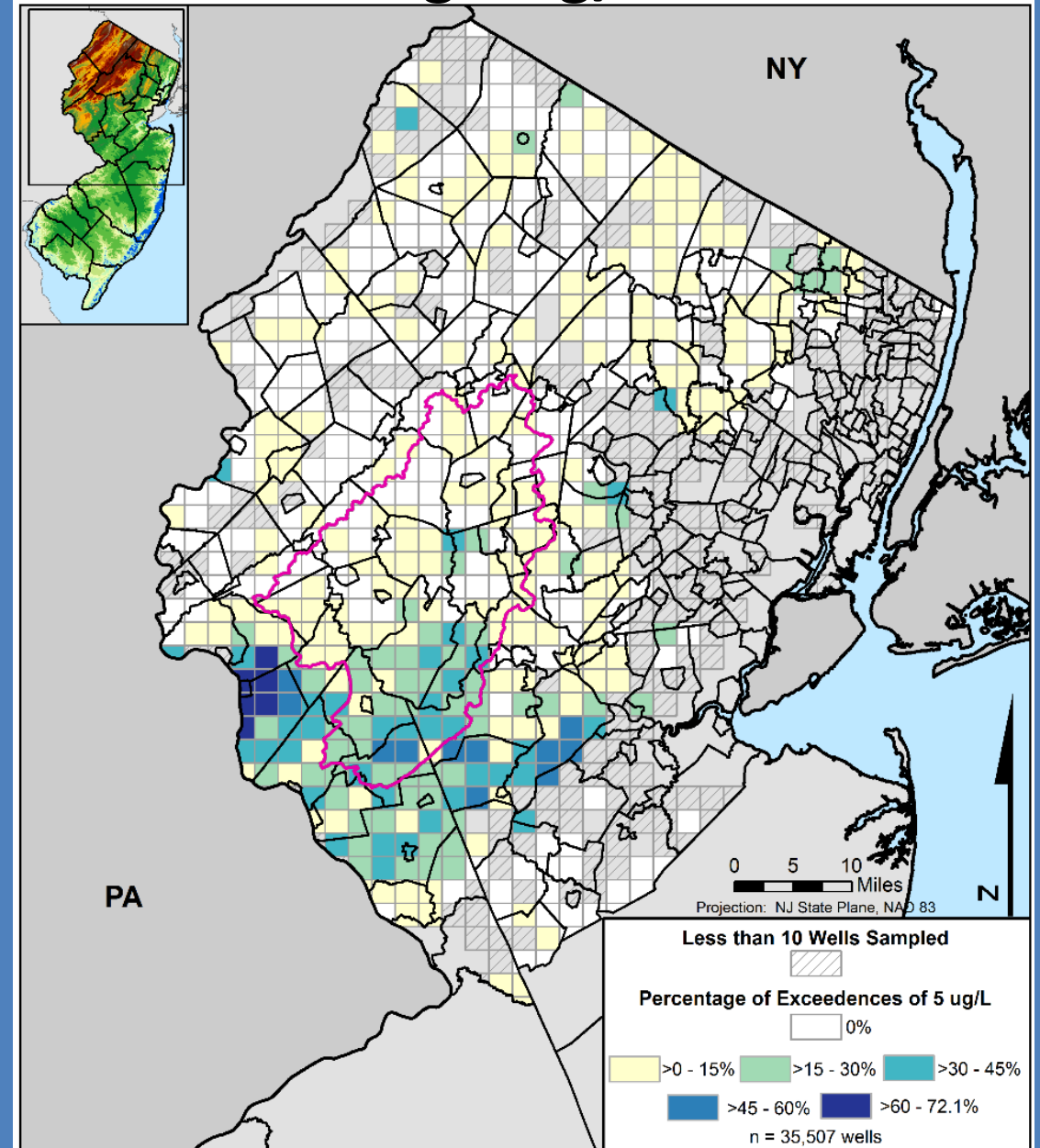
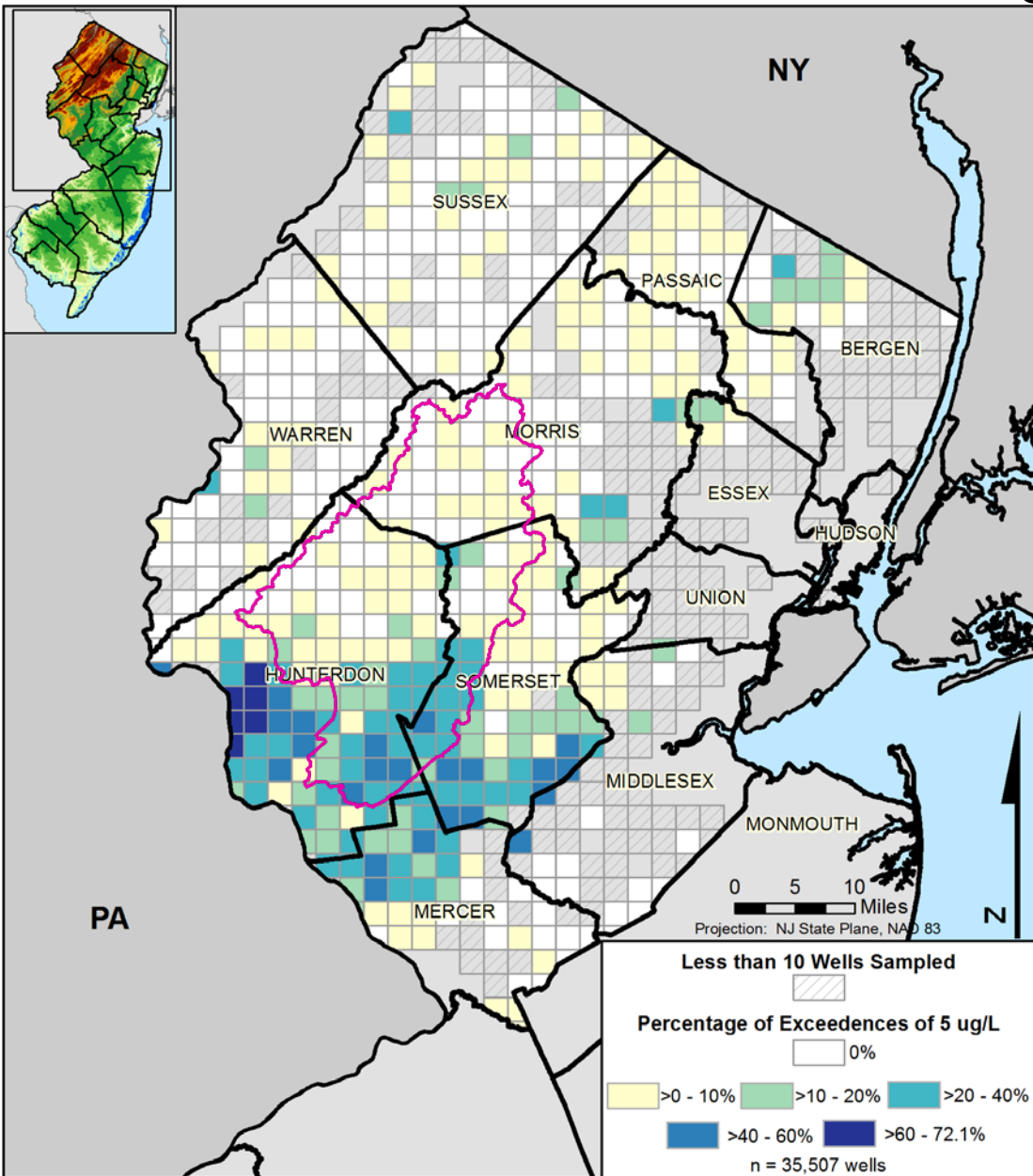


Arsenic - Percentage of Wells Exceeding 5 ug/L

Northern New Jersey



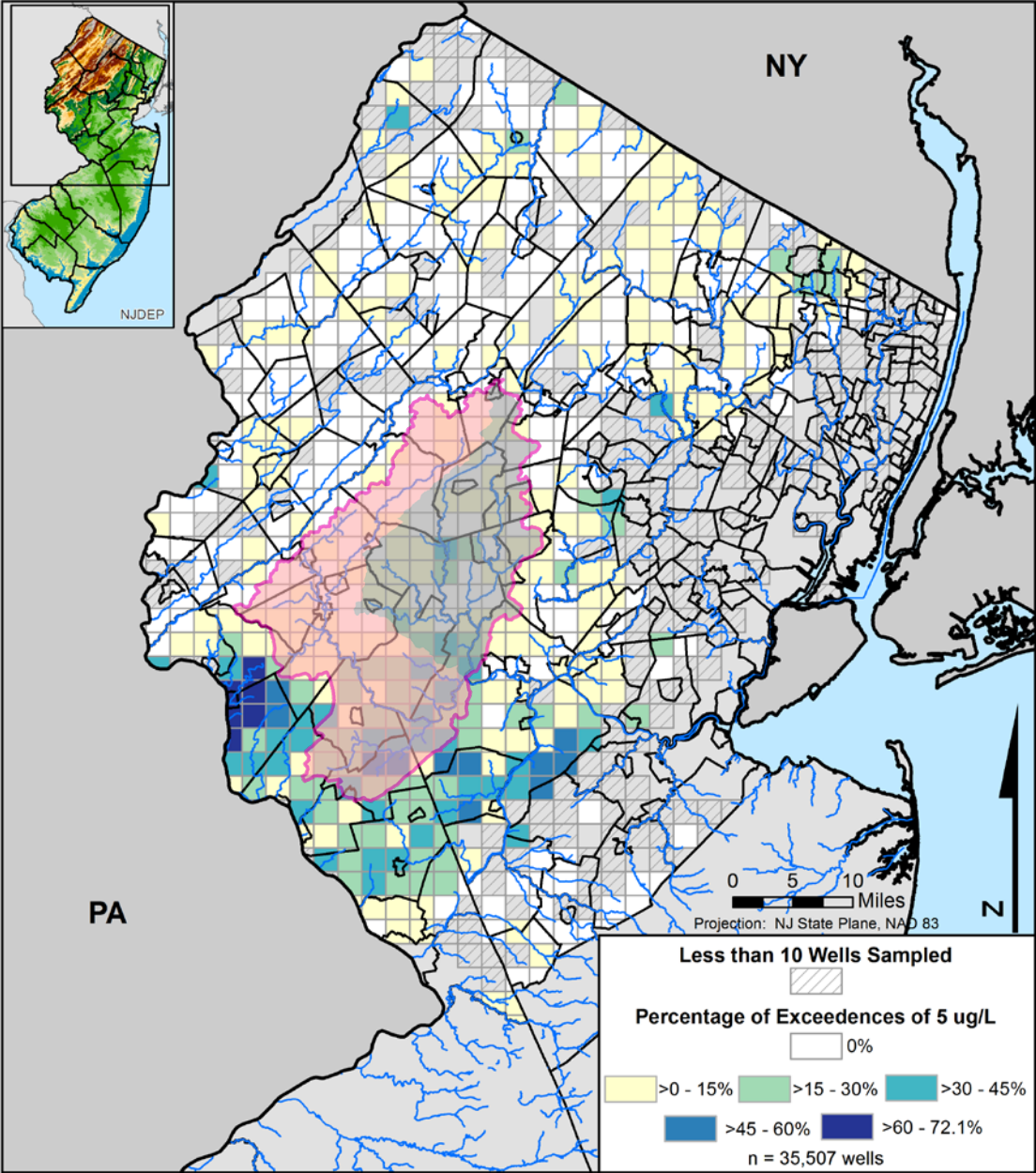
Arsenic: Percentage of wells exceeding 5 ug/L



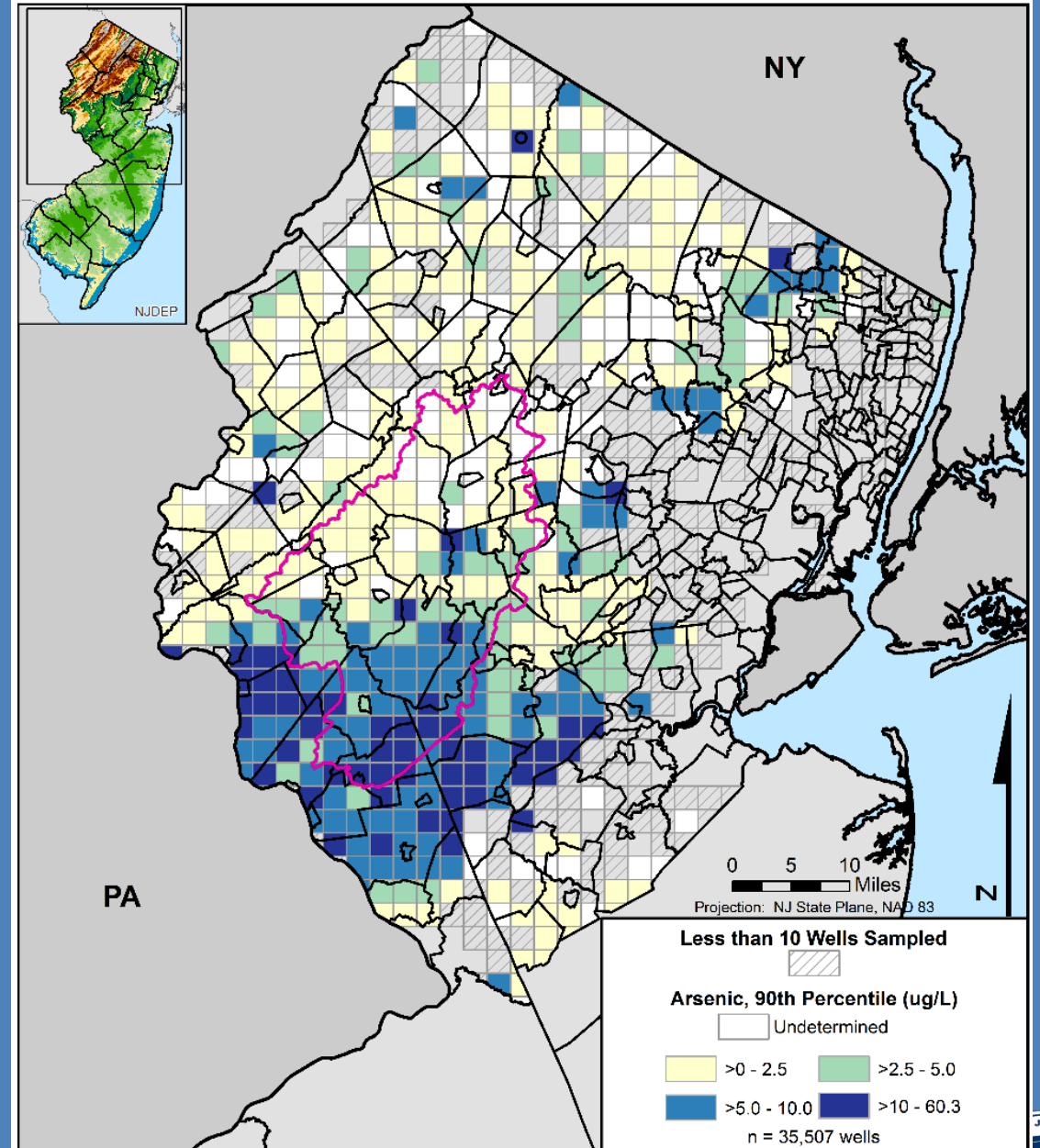
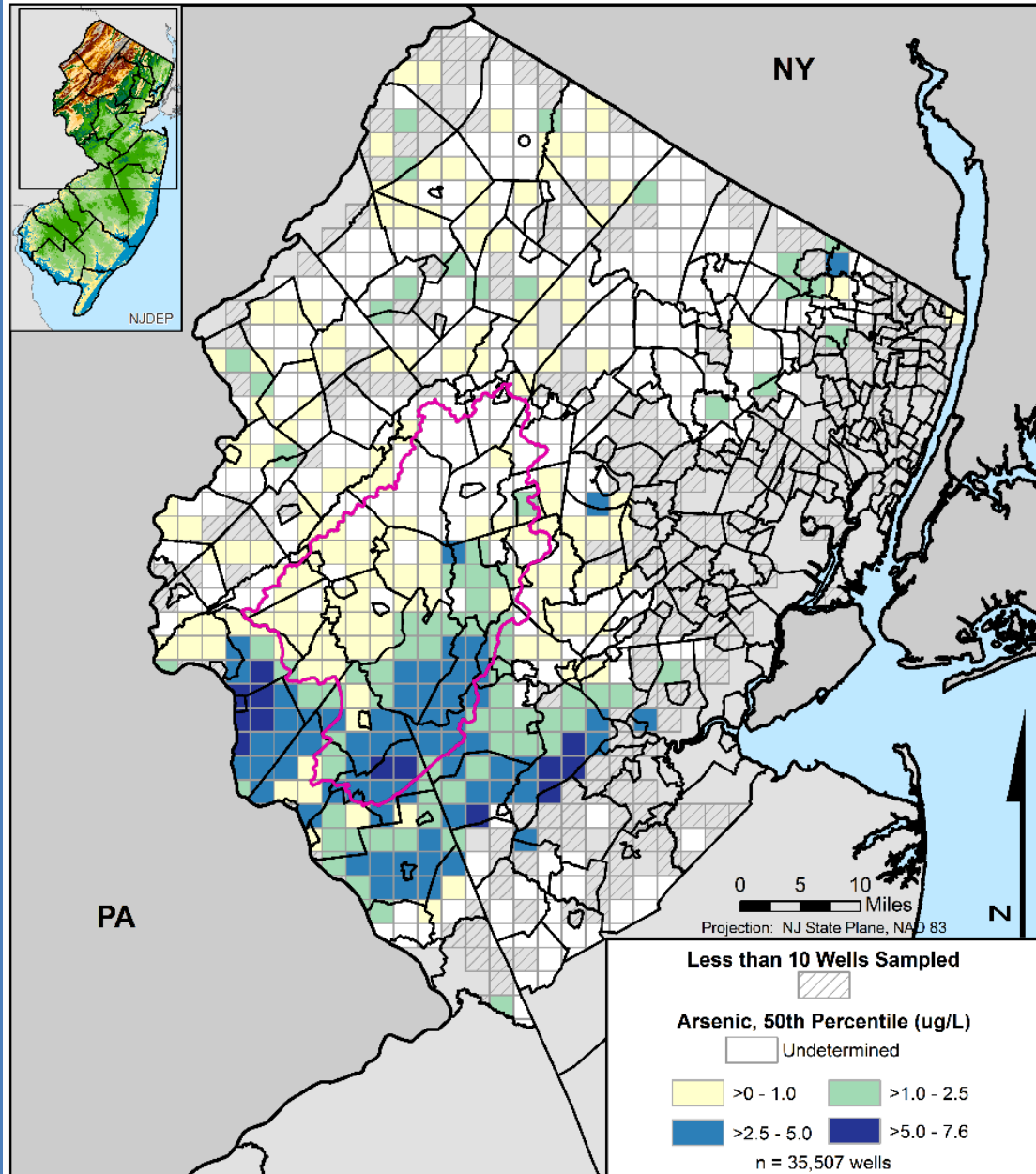
2 mile x 2 mile grids; county and municipal overlay



Arsenic:
Percentage of
wells exceeding 5
ug/L



Arsenic: median and 90th Percentiles estimates



So what to do...?

- Test, Test, Test!



So what to do...?

How often should you test?

- Test annually for bacteria and nitrates.
- Test periodically for other chemicals including iron, manganese, arsenic, radionuclides (gross alpha), mercury, lead, and total dissolved solids, as well as pesticides and VOC.

http://www.nj.gov/dep/watersupply/pw_pwta.html

For list of certified labs



So what to do...?

Treatment options are available and include:

- Point-of-use (in line with a faucet) and point-of-entry (whole house) treatment systems
- Each uses adsorption media, ion exchange, filtration, distillation, disinfection, and/or reverse osmosis techniques.



Private Well Testing and Outreach Efforts



PWTA Data Display

Interactive set of web maps – website launched November 2015

<http://arcg.is/1CPkHyC>

Maps summarized by county, municipality, and 2 x 2 mile grids
Presents the number and percent of tested wells that exceed an MCL

NJ Private Well Testing Act Data Summary (Sep. 2002 to Apr. 2014)

Click a tab for more information then click a location on the map for data.

New Jersey Department of Environmental Protection

Background Counties Municipalities Grids Arsenic Fecal coliform or E. coli Gross Alpha Iron Manganese Mercury Nitrate pH Volatile Organic Compounds (VOCs)

Governor Chris Christie • Lt. Governor Kim Guadagno

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DIVISION OF WATER SUPPLY AND GEOSCIENCE

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Private Well Testing Act (PWTA)
Required when selling or leasing a home or multi-unit dwelling with private well

- An Overview
- Free online lessons developed by the National Ground Water Association with support from the U.S. Environmental Protection Agency.
- Frequently Asked Questions
- Statutory and Regulatory Authority
 - Private Well Testing Act, N.J.S.A. 58:12A-26 et seq.
 - Private Well Testing Act regulations, N.J.A.C. 7:26 et seq. - Full text of the rules that implement the Act
 - Regulations Governing the Certification of Laboratories & Environmental Measurements, N.J.A.C. 7:18 et seq.
- List of New Jersey Certified Laboratories
- Additional Resources: educational, remediation/treatment funding, treatment devices and health effects
- Technical Resources
 - Required Parameters for Private Well Testing
 - Global Positioning System (GPS) Requirements for Spatial Data Collection
 - Office of Information Resources Management (OIRM), Bureau of Geographic Information Systems (BGIS)
 - US Army Corps of Engineers - Army Geospatial Center
 - New Jersey Private Well Water Test Reporting Form - A form used exclusively by laboratories reporting well test results to their clients.
- Directory of New Jersey Health Departments
- PWTA data
 - Initial Well Test Results for September 2002 - March 2003
 - Well Test Results for September 2002 - April 2007
 - Addendum to Well Test Results for September 2002 - April 2007
 - Well Test Results, September 2002-April 2014
- Laboratory Reporting of Results
- Contact us

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Click a tab for more information then click a location on the map for data.

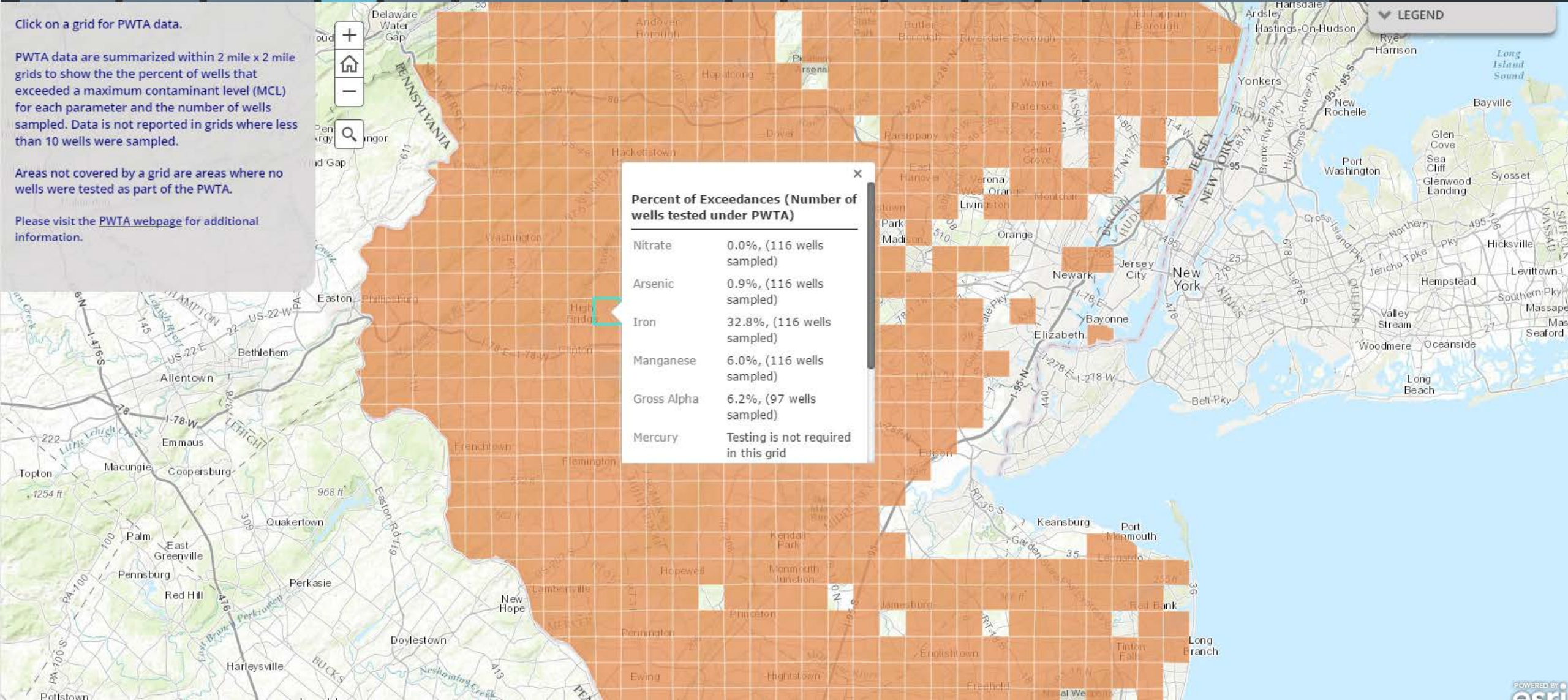
- Background
- Counties
- Municipalities
- Grids
- Arsenic
- Fecal coliform or E. coli
- Gross Alpha
- Iron
- Manganese
- Mercury
- Nitrate
- pH
- Volatile Organic Compounds (VOCs)

Click on a grid for PWTA data.

PWTA data are summarized within 2 mile x 2 mile grids to show the the percent of wells that exceeded a maximum contaminant level (MCL) for each parameter and the number of wells sampled. Data is not reported in grids where less than 10 wells were sampled.

Areas not covered by a grid are areas where no wells were tested as part of the PWTA.

Please visit the [PWTA webpage](#) for additional information.



Private Well Testing and Outreach Efforts

- **Private Well Consortium**
 - Identify emerging and priority issues and develop innovative solutions
 - Encourage partnerships and collaborations to ensure promotion and implementation of evidence-based program activities.
- **Free Arsenic & Boron Testing** - Revisited Kingwood and Alexandria Schools
- **Free Radionuclide Testing** in Vernon Township
- **Free Arsenic and Lead Testing** at Pediatrician and Obstetrician with the Hunterdon County Health Department and Columbia University



Contact Information

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or:

- **PWTA websites:**

<http://www.nj.gov/dep/dsr/pwta>

<http://arcg.is/1CPkHyC>

- **PWTA NJDEP:**

- Kristin Hansen (general calls)
- Sandra Goodrow (database maintenance and analysis)
- Debra Waller (laboratory/method issues)
- Rich Gunoskey (database/software issues)
- Steve Spayd (treatment advice)

- **Health Effects Information:**

- NJDOH: Jessie Gleason, Rebecca Greeley (Environ & Occup Health Surveil Program)
- NJDEP: Gloria Post, Alan Stern (Division of Science, Research, & Env Health)

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Arsenic: Percentage of wells exceeding 10 ug/L

