

Preliminary results from Rockland Arsenic Groundwater Survey

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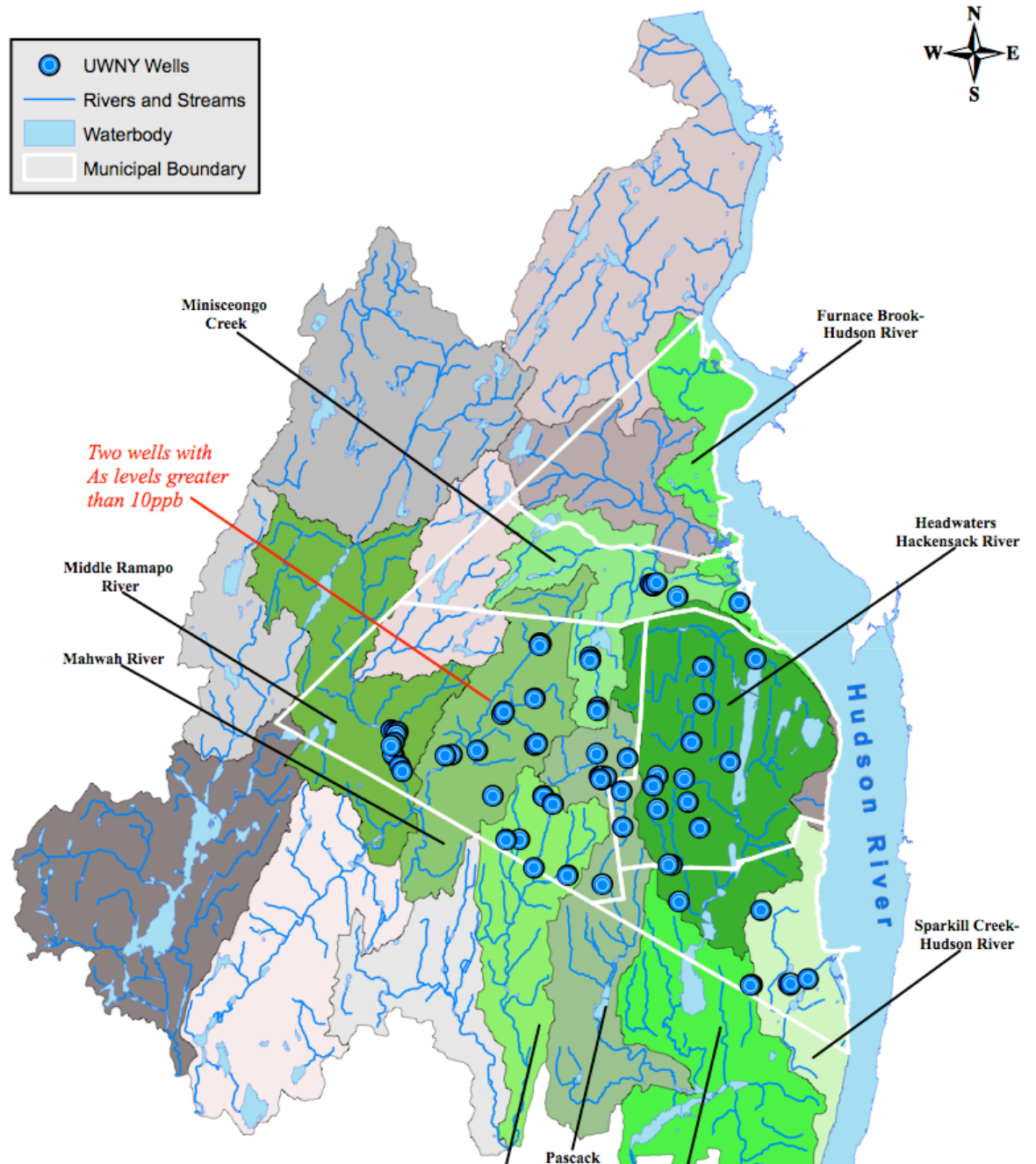
Joint study with separate funding
Rockland County Department of Health
United Water
LDEO of Columbia University

Current Standards for Arsenic in Drinking Water (2008)

World Health Organization	10 ppb
US	10 ppb
Australia	7 ppb
Bangladesh	50 ppb
India	50 ppb
NJ	5 ppb

- Treatment system for 2 wells
- Joint study on groundwater arsenic
 - Quarterly Sampling
 - Roughly 60 wells (private and UW)

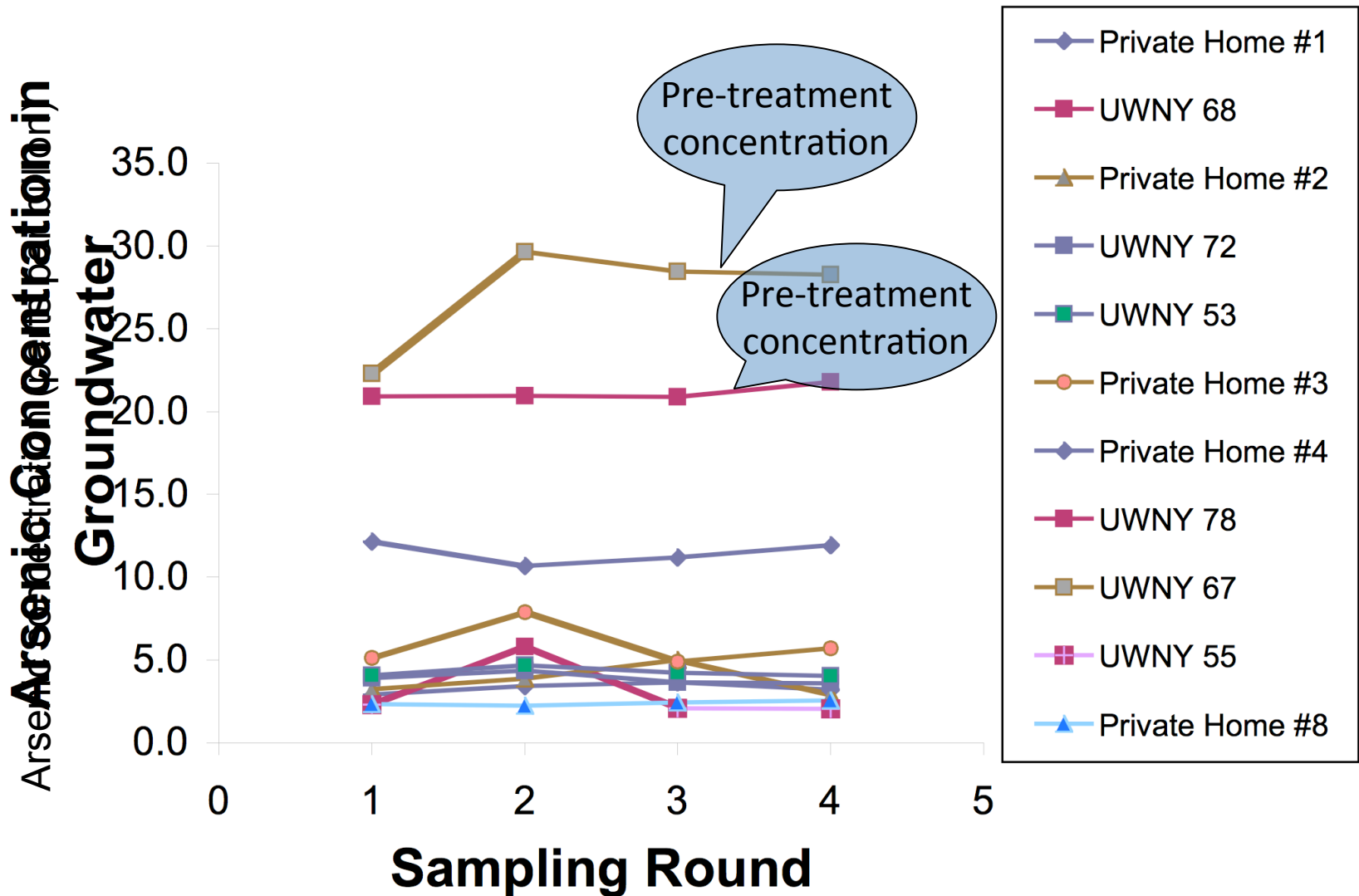
Rockland County Sub-Watersheds Containing UWNY Wells



Goals and Preliminary Findings

- Look at temporal and spatial distribution of arsenic in groundwaters of Rockland County
 - No additional areas with arsenic identified
 - No significant seasonal variation
 - Only in the two affected UW wells has there been a temporal increase in pre-treatment groundwater arsenic
- Test why arsenic is in wells by measuring dissolved oxygen & other parameters
 - No simple mechanisms identified; but consistent with New Jersey wells that have arsenic where arsenic is tied to geology.
- Compare arsenic data from state certified lab and LDEO
 - Very good comparison between labs above state's limit of detection

Seasonal Variation in Wells with Annual Average Arsenic > 2 ppb



Spatial and temporal variability

In wells with annual Arsenic > 2 parts per billion

UWNY Archive Data (2001-2005) and 2006

UWNY and Private Wells 2008-2009 Data

