

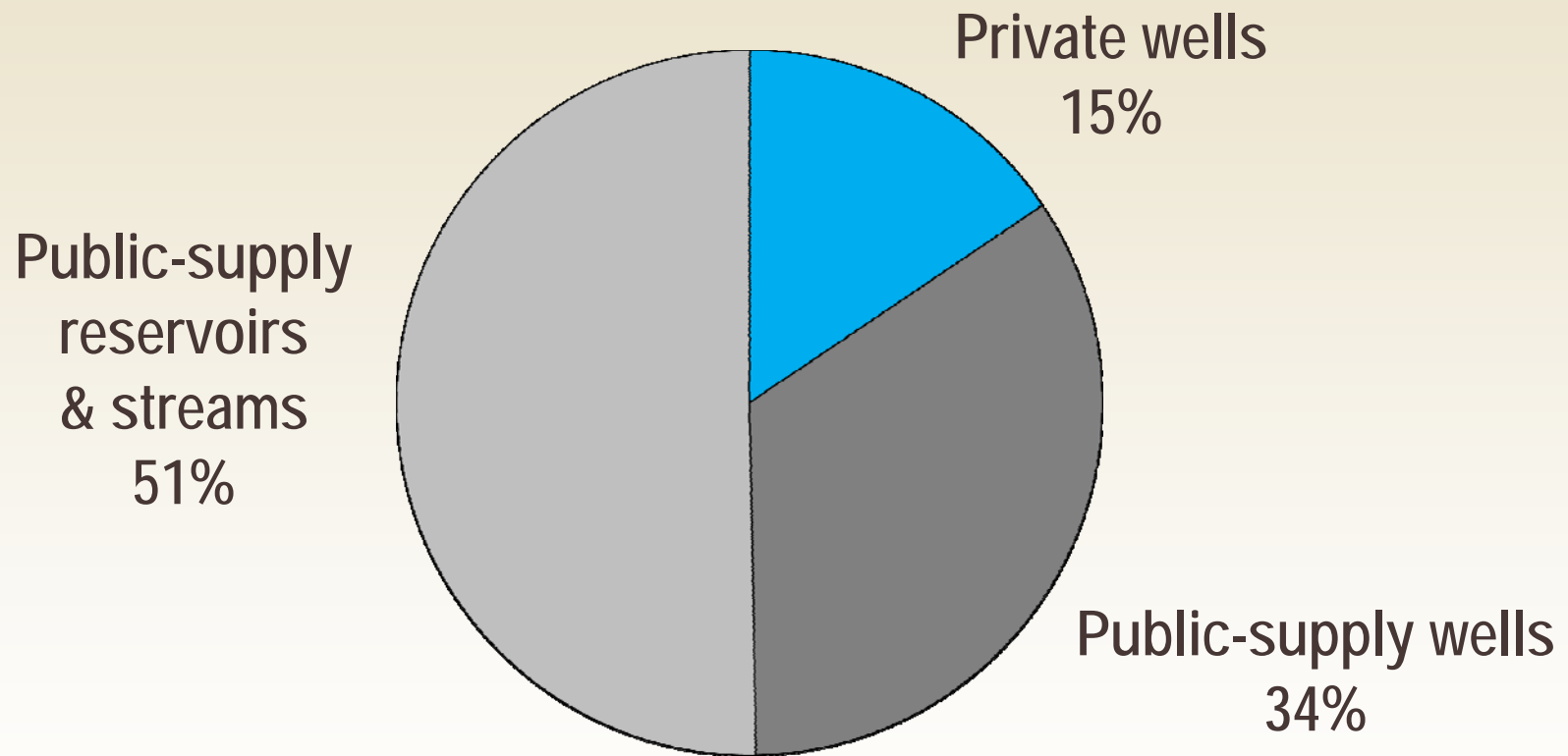


National Water-Quality Assessment (NAWQA) Program

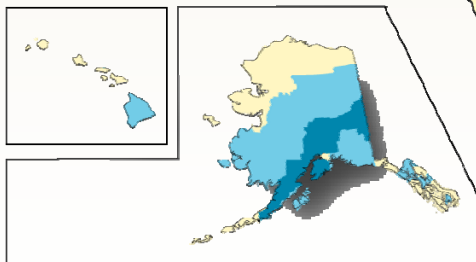
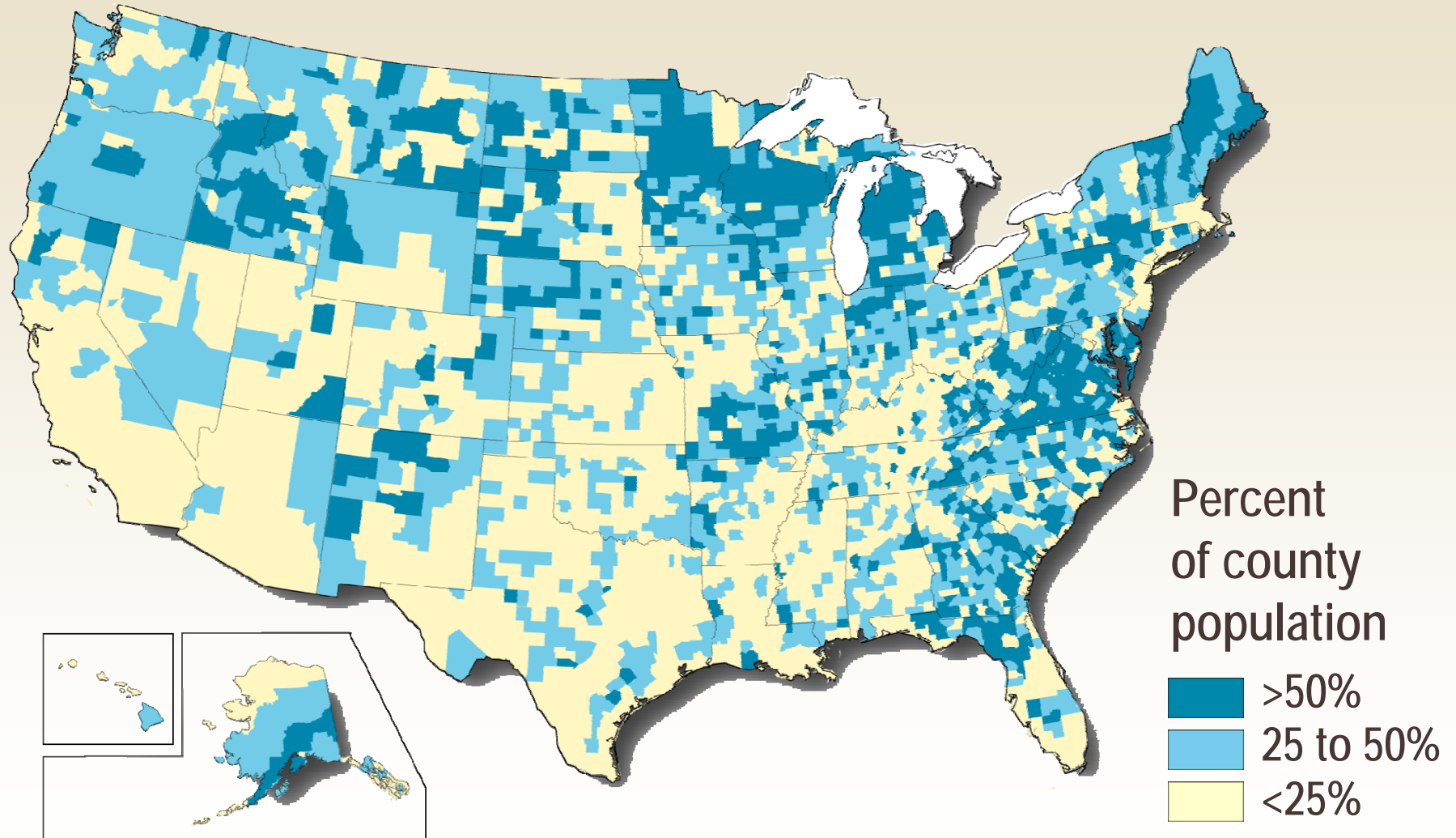
# Quality of Water from Private Wells in the United States



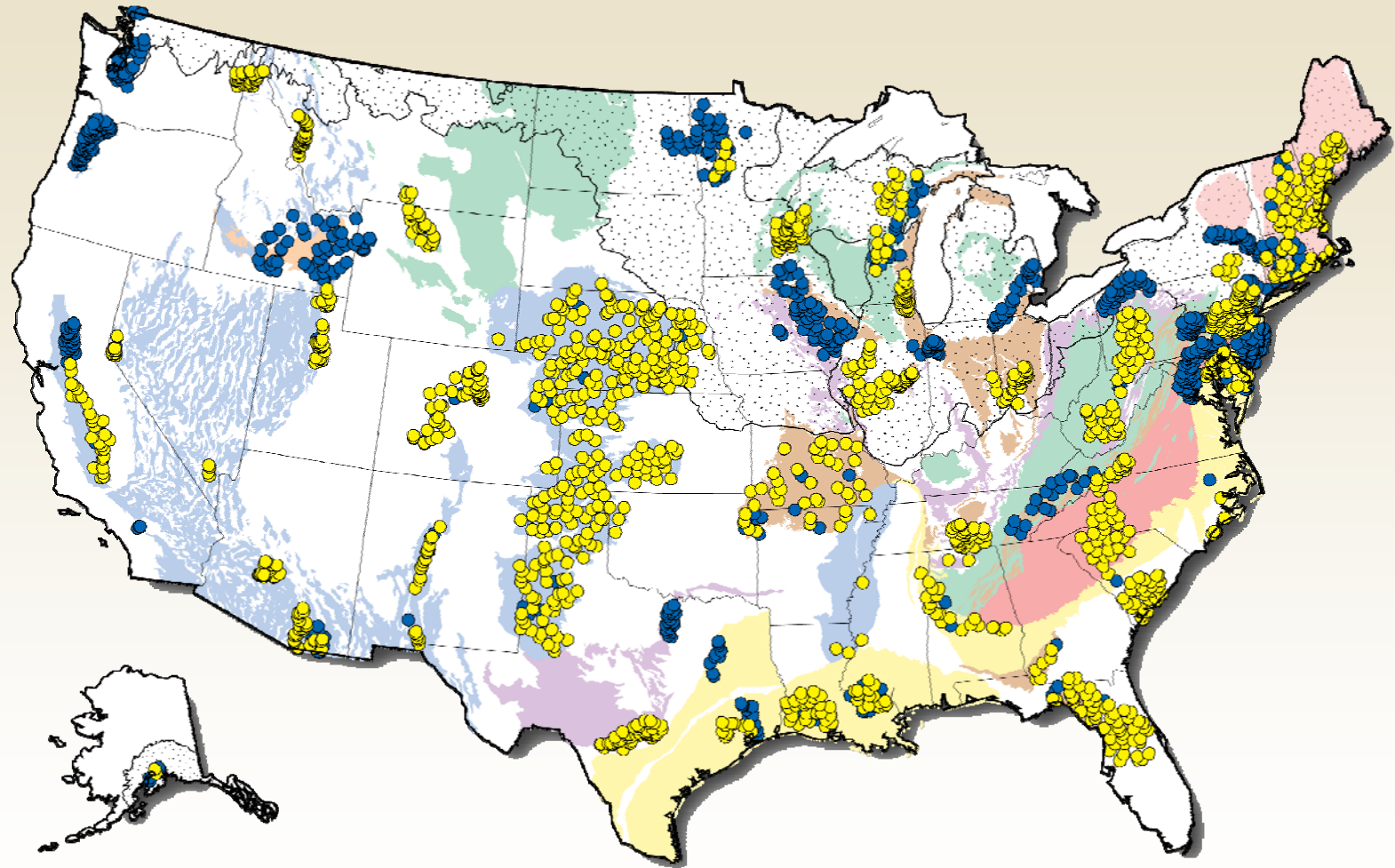
# Drinking-Water Sources Serving the U.S. Population



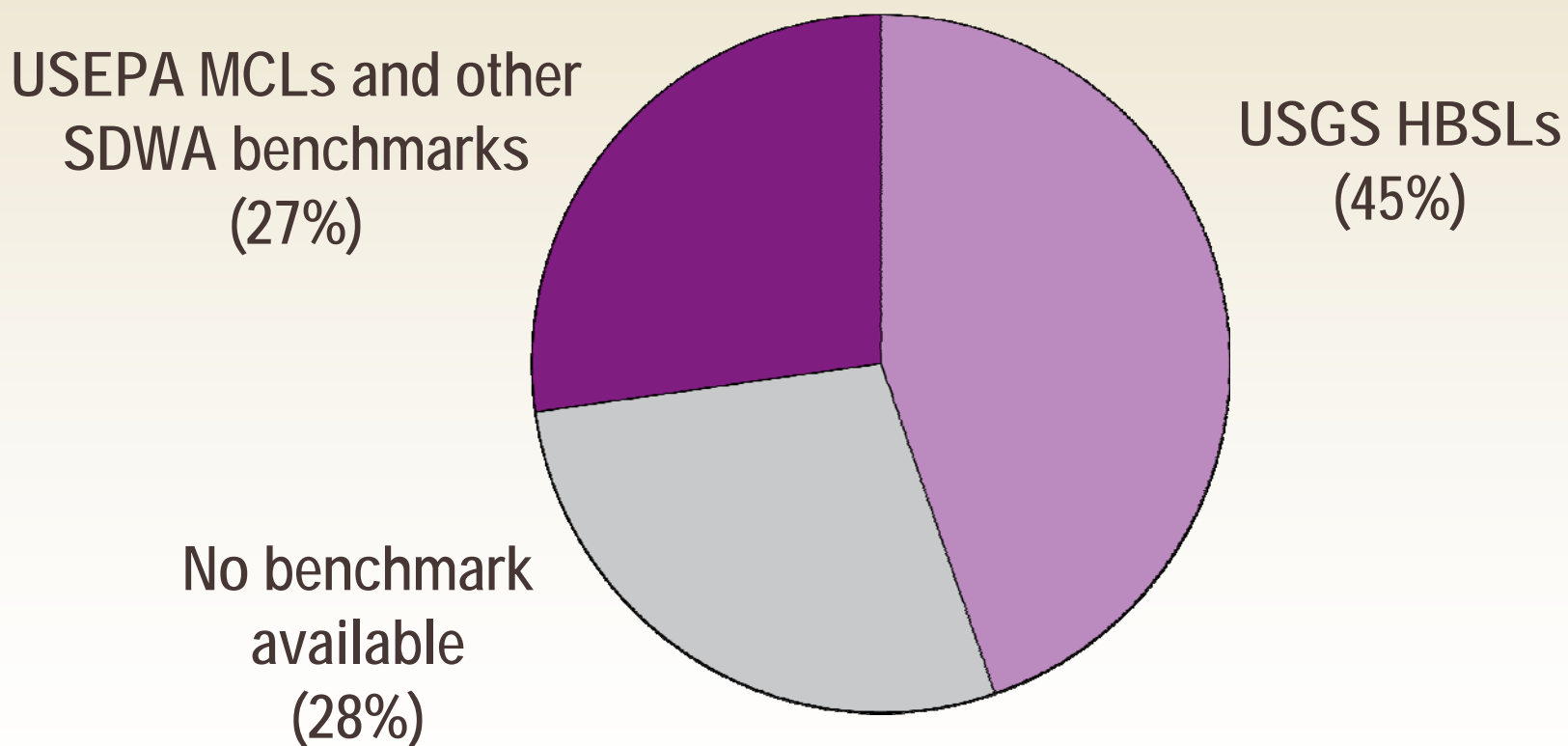
# Private Wells are the Primary Source of Drinking Water in Many Counties



# 2,167 Private Wells Sampled in 30 Principal Aquifers

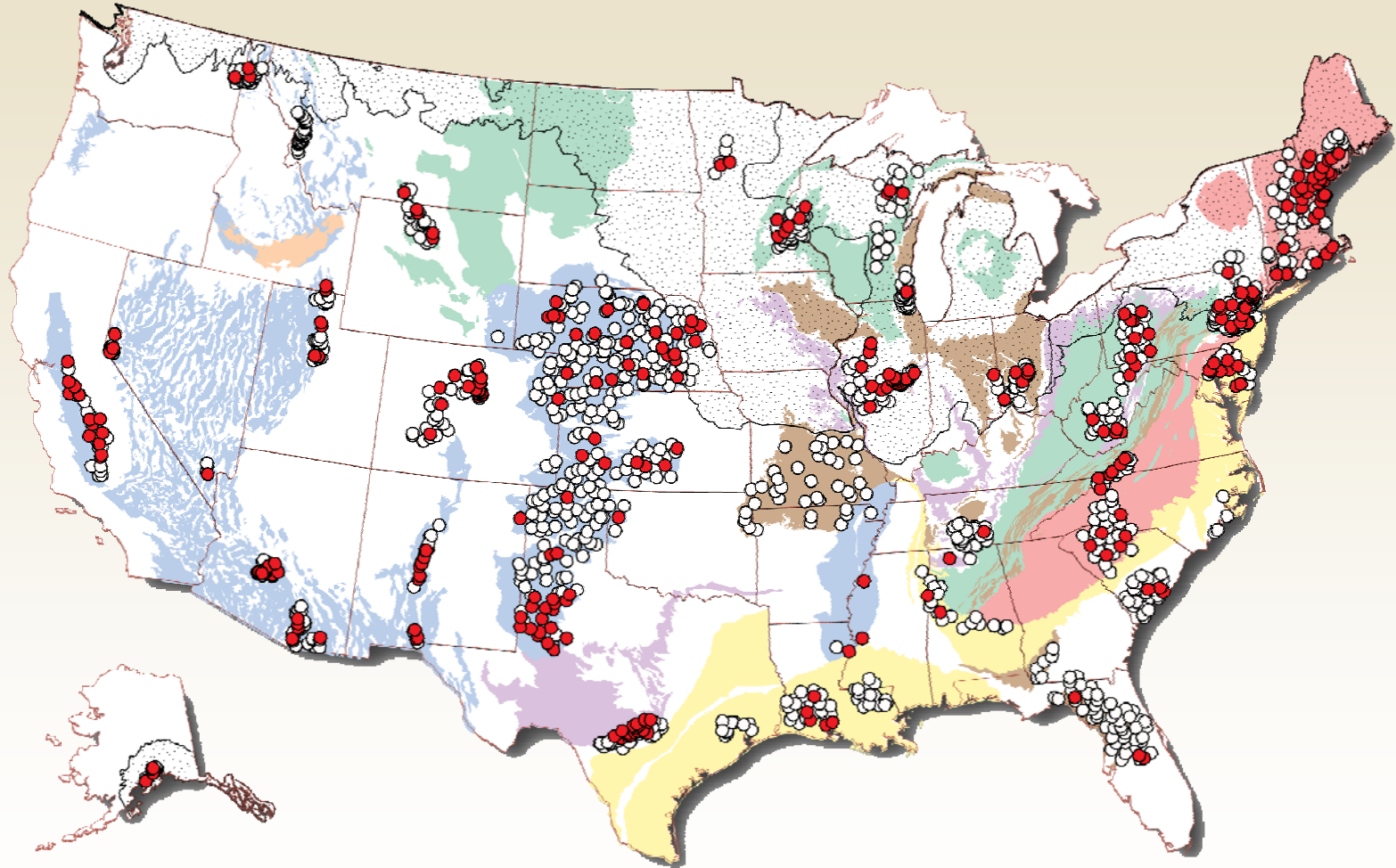


# Human-Health Benchmarks Are Available for 154 of 214 Contaminants

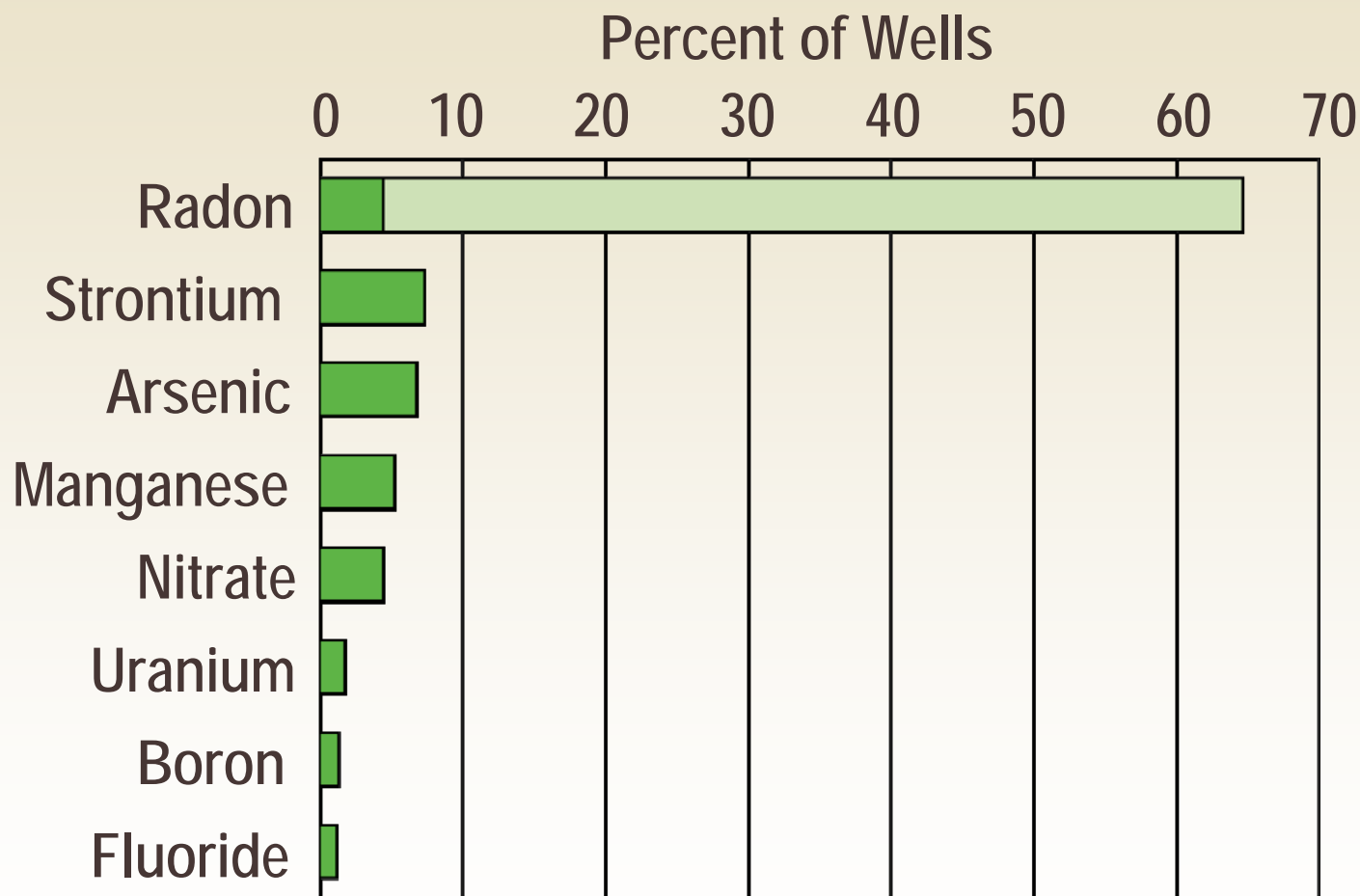


- **How often are contaminants a potential human-health concern in private wells?**
- **What contaminants are primary concerns and where do they occur?**
- **Do these contaminants occur alone or together with other contaminants as mixtures?**

# 23% of Wells had One or More Contaminants Exceeding Health Benchmarks

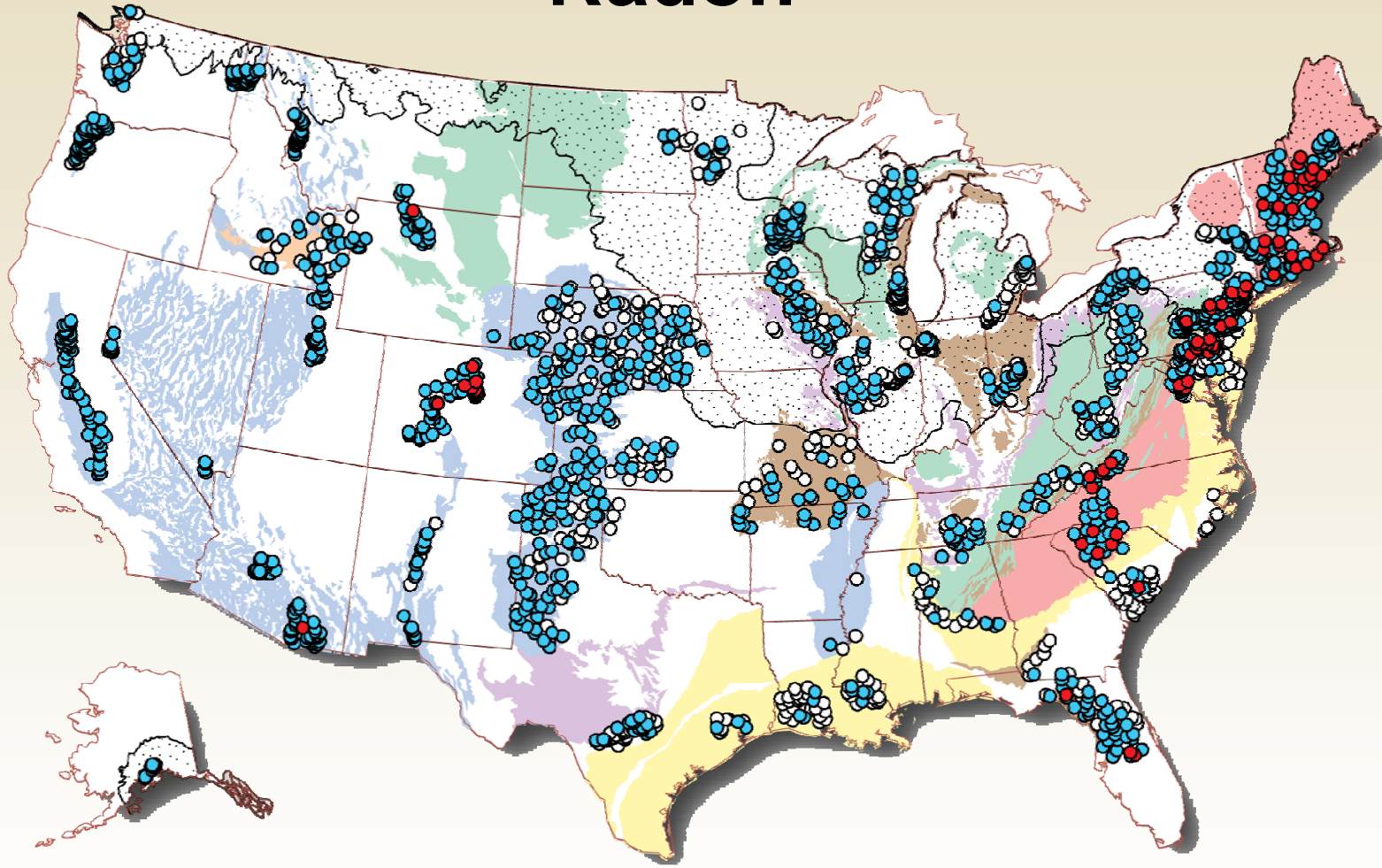


# Most Contaminants that Exceeded Benchmarks are Naturally Occurring





# Radon



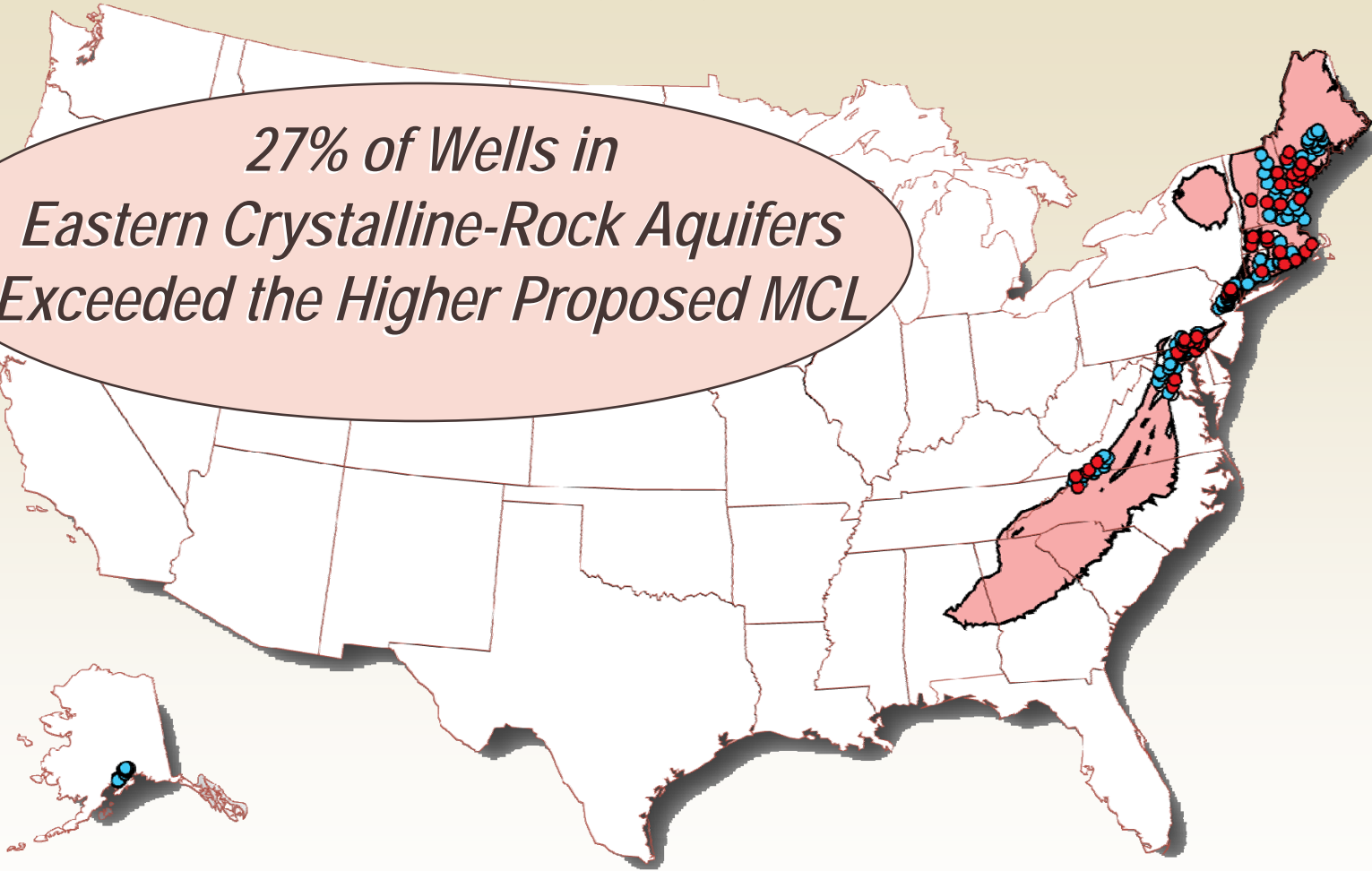
● Exceeds higher proposed MCL (4.4%)

● Exceeds lower proposed MCL (65%)



# Radon

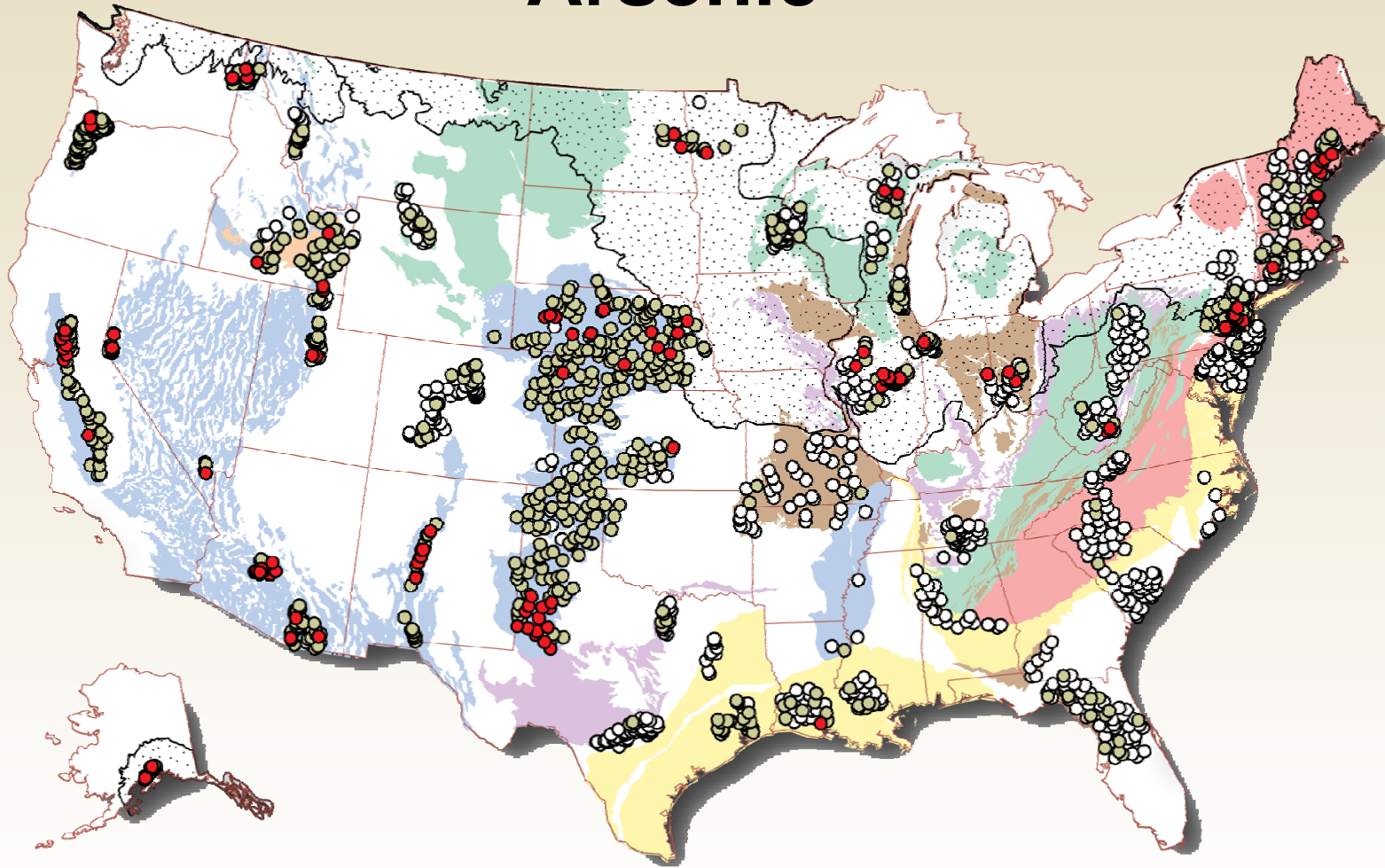
*27% of Wells in  
Eastern Crystalline-Rock Aquifers  
Exceeded the Higher Proposed MCL*



● Exceeds higher  
proposed MCL

● Exceeds lower  
proposed MCL

# Arsenic

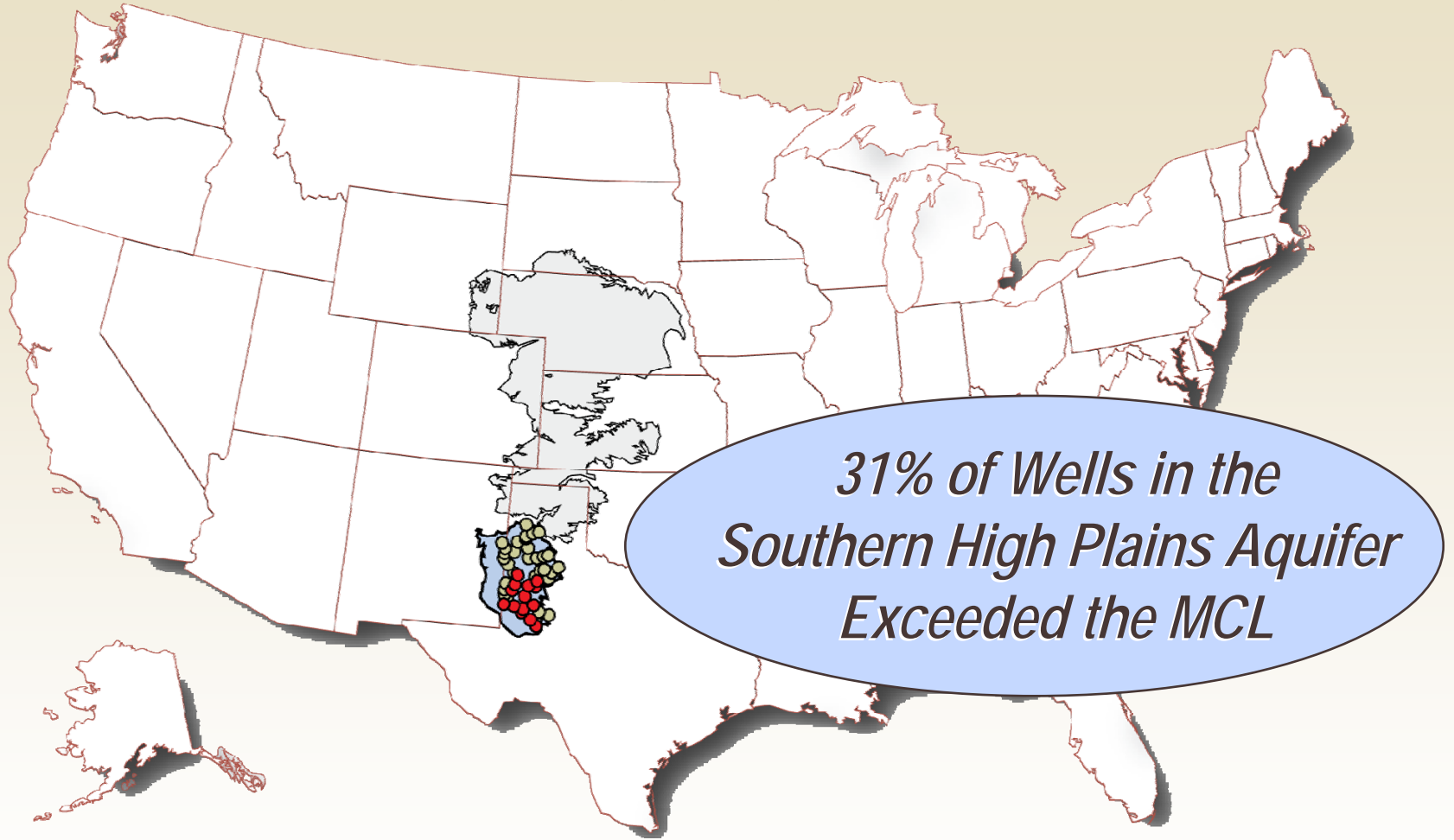


● Exceeds MCL  
(6.8%)

● Detected (above 1 ppb)  
but less than MCL



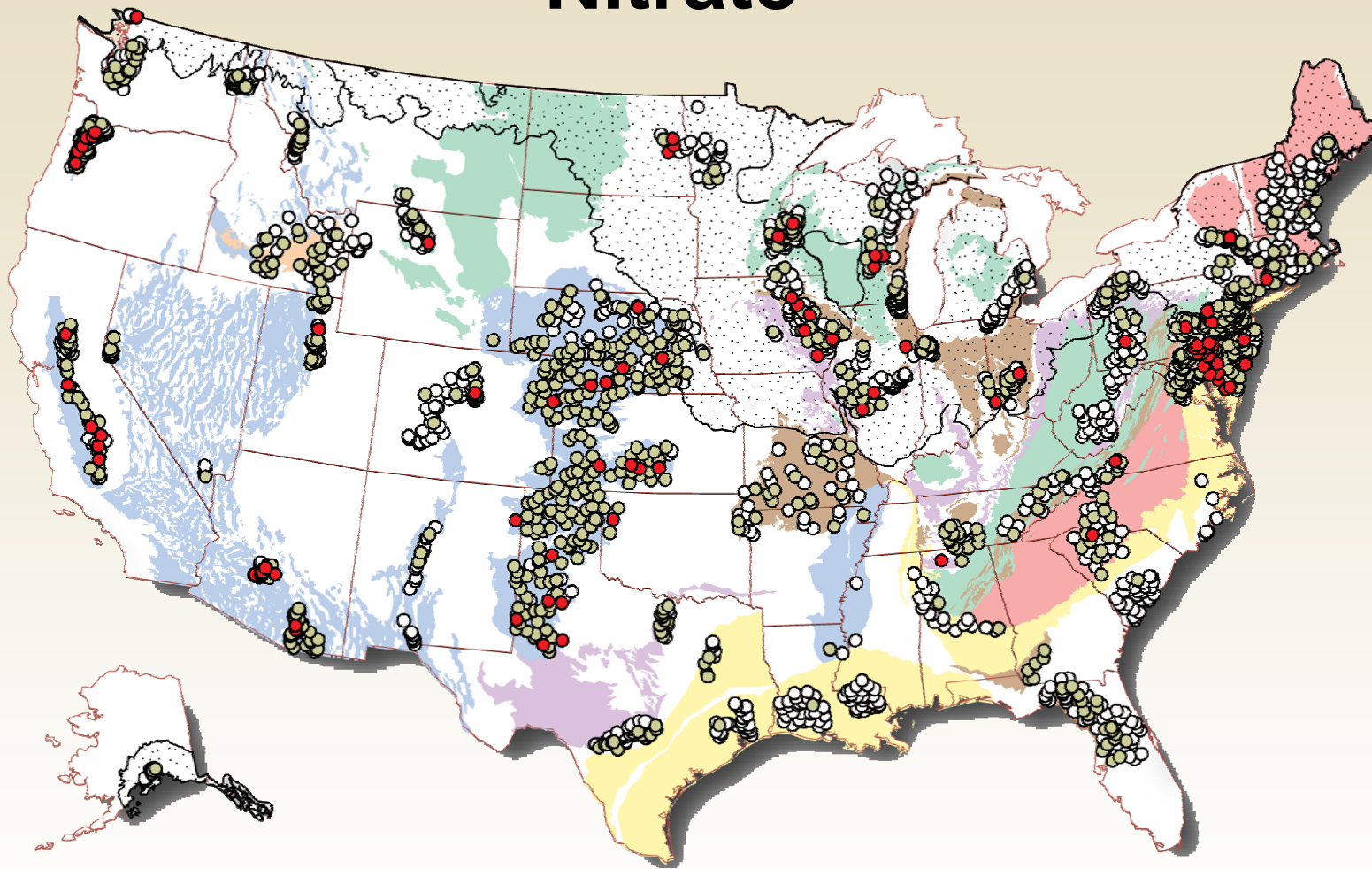
# Arsenic



● Exceeds MCL

● Detected (above 1 ppb) but less than MCL

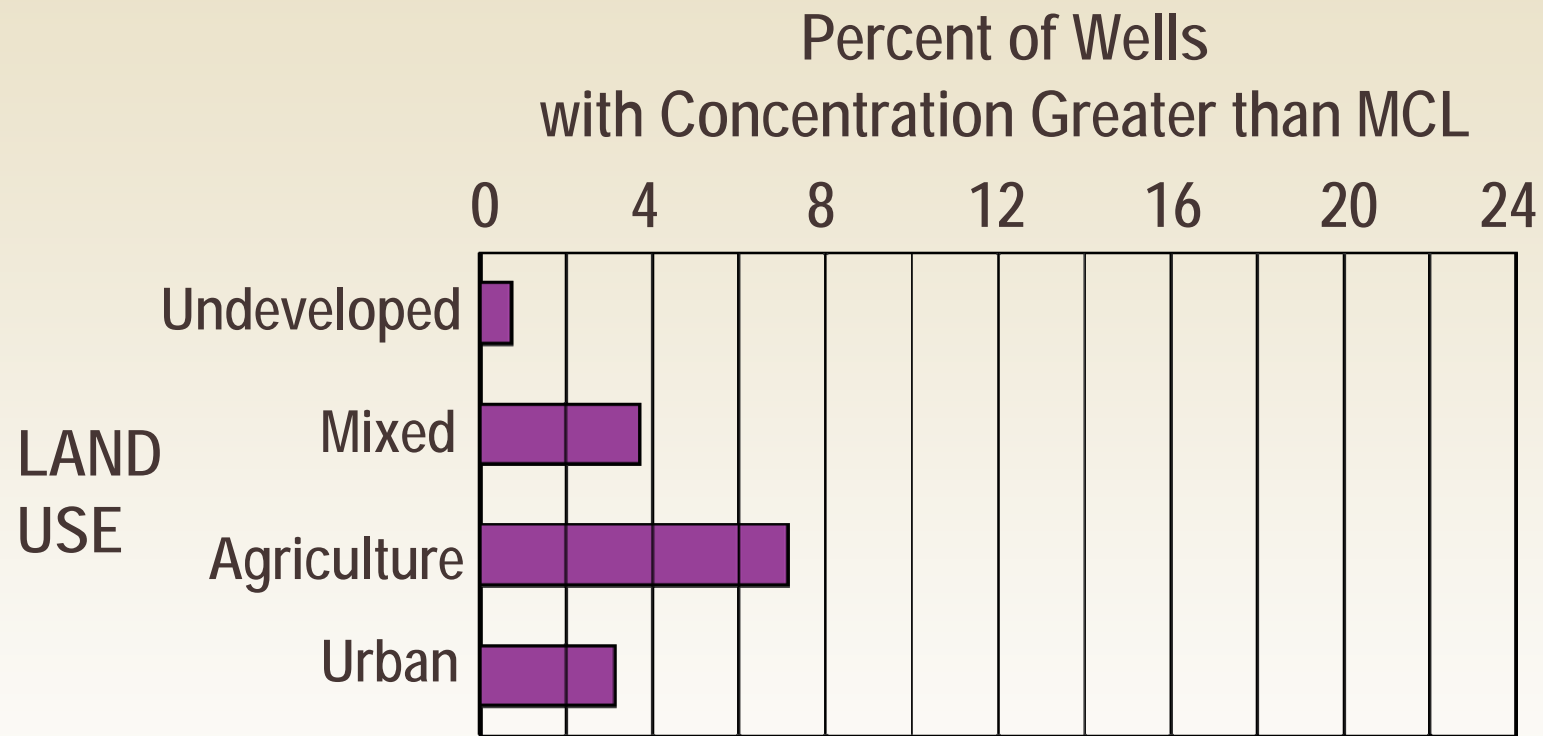
# Nitrate



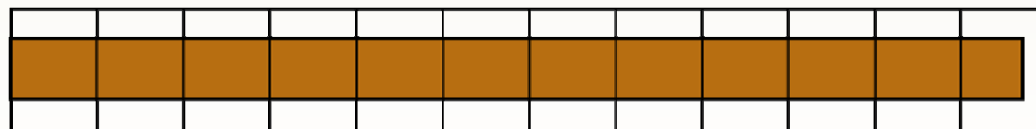
● Exceeds MCL  
(4.4%)

● Detected (above 1 ppm)  
but less than MCL

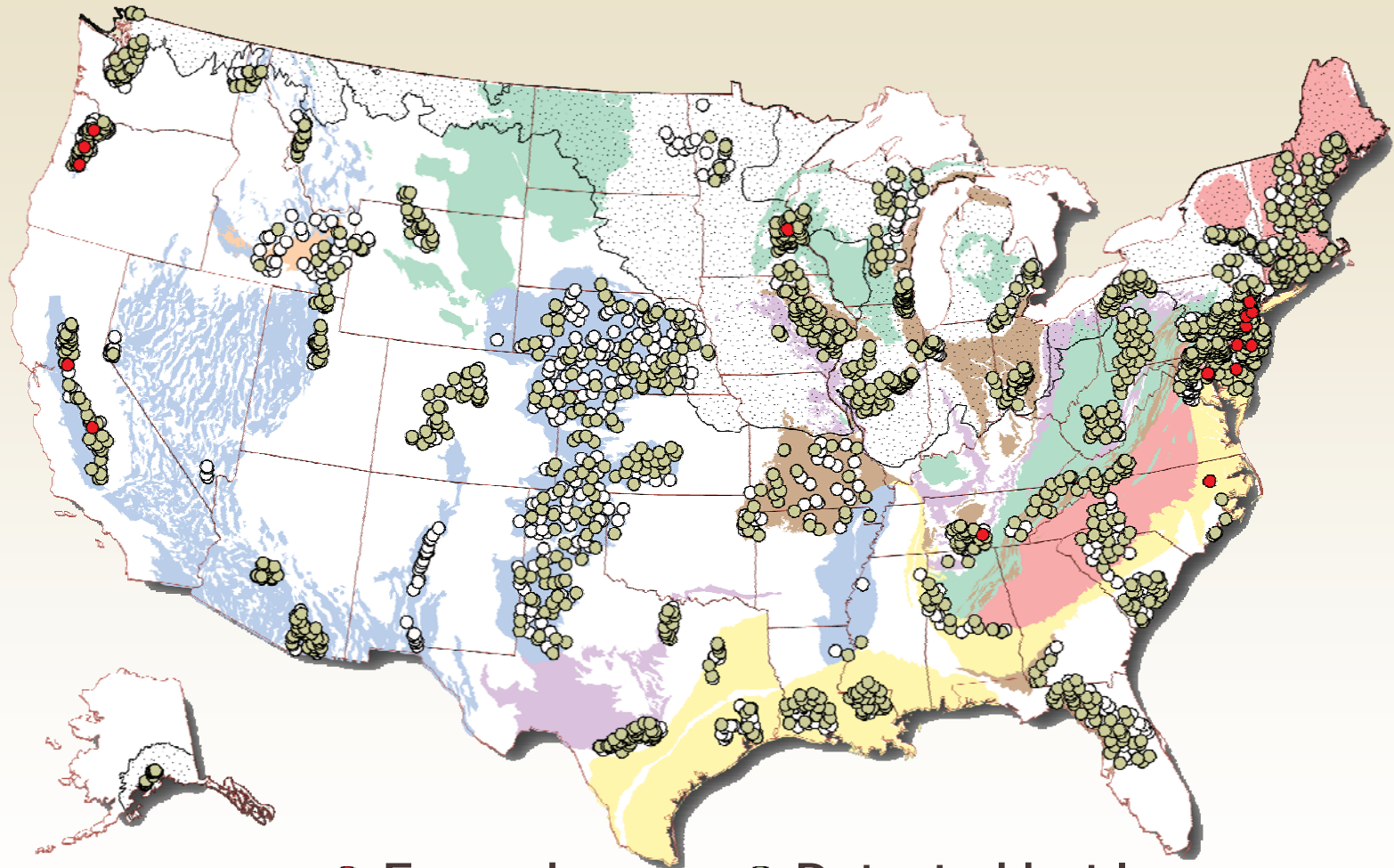
# Nitrate Highest in Agricultural Areas



*Special studies of agricultural areas*



# Pesticides and VOCs Seldom Exceeded Benchmarks

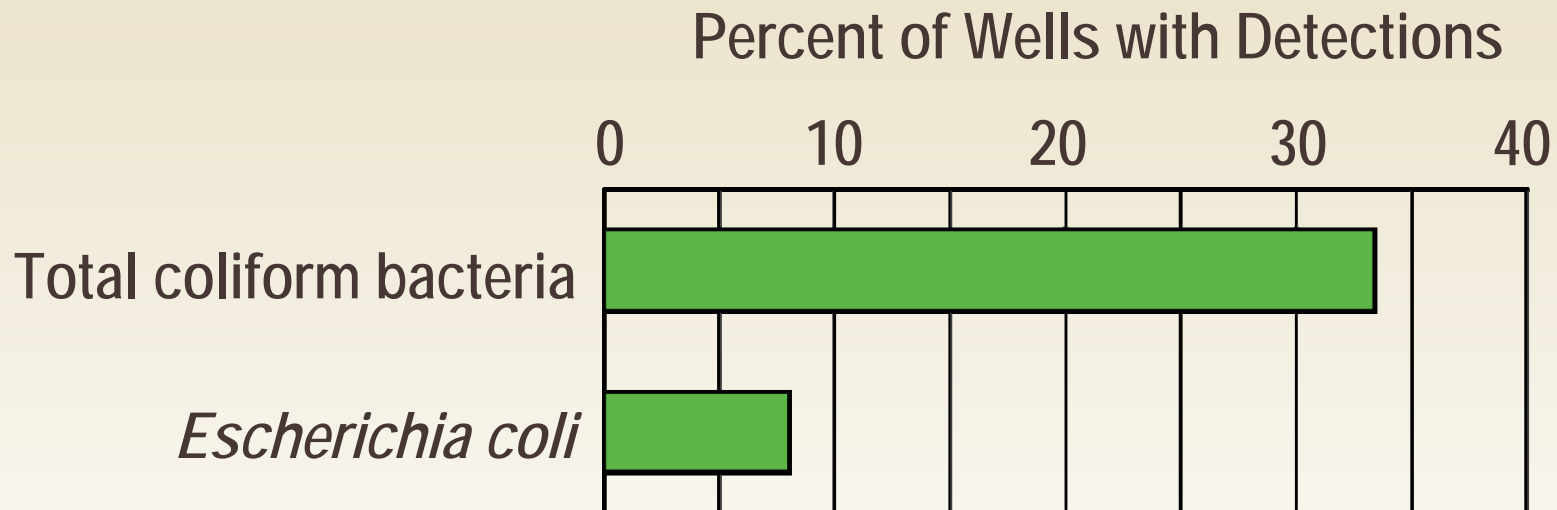


● Exceeds  
MCL or HBSL

● Detected but less  
than MCL or HBSL

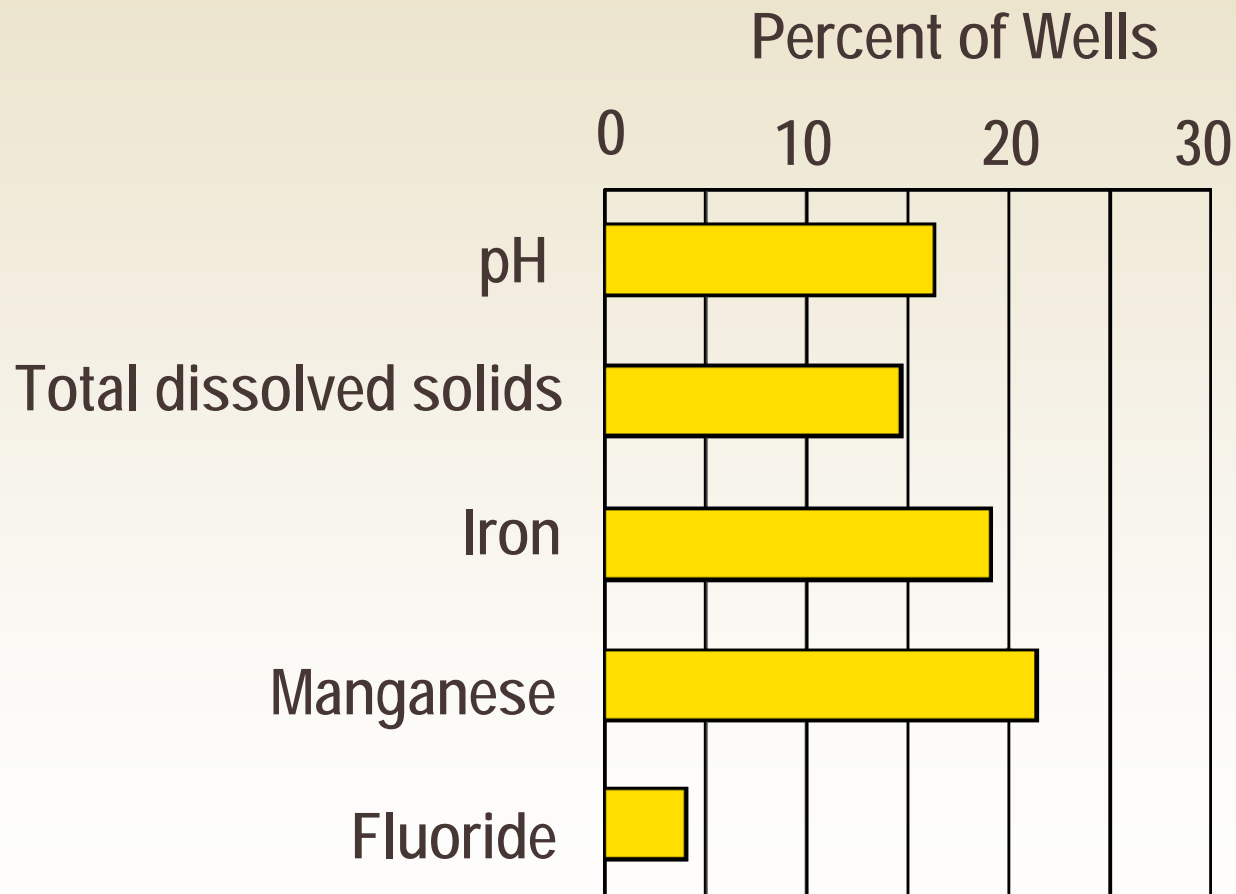


# Microbial Contaminants Detected in 34% of 400 Wells

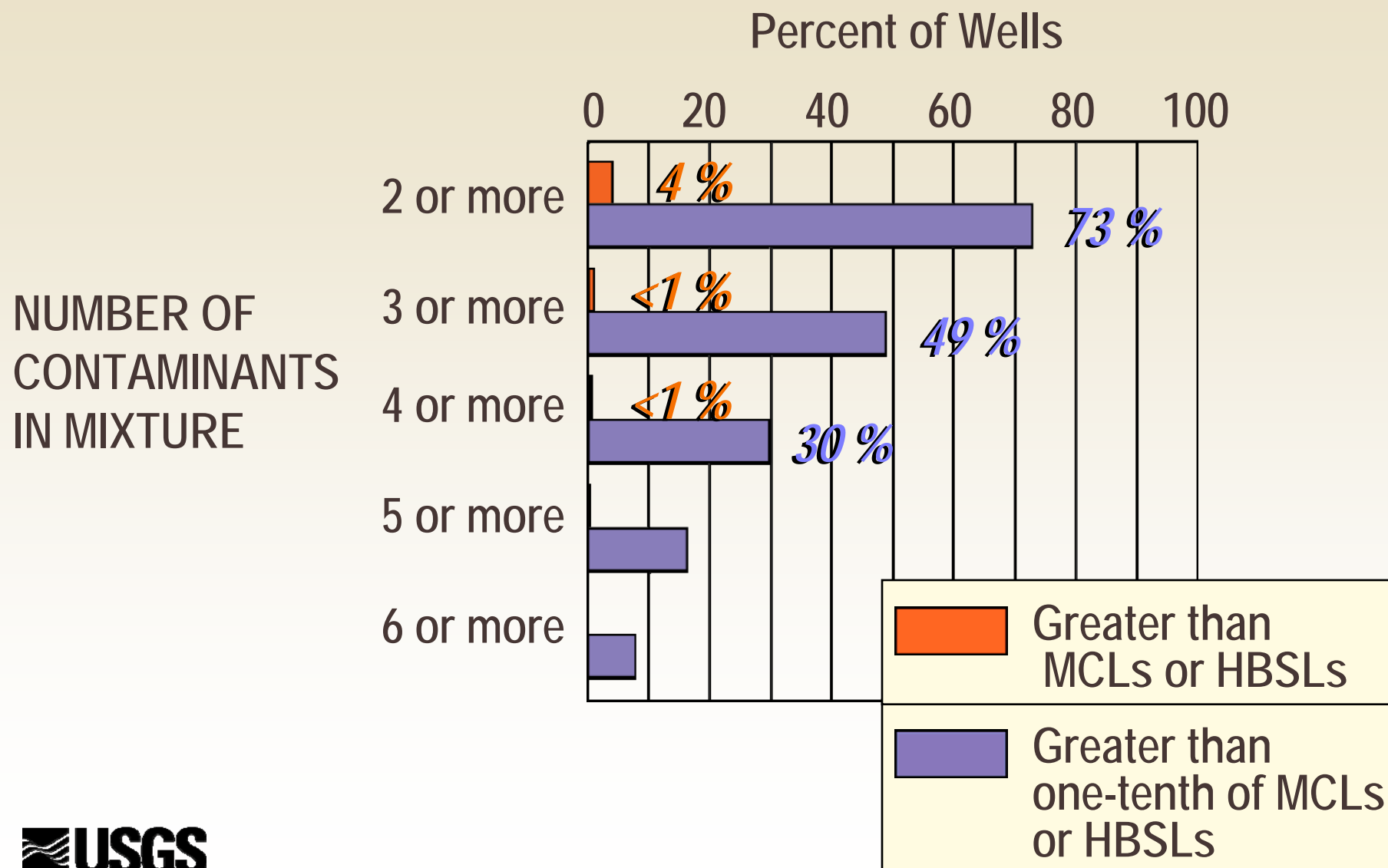




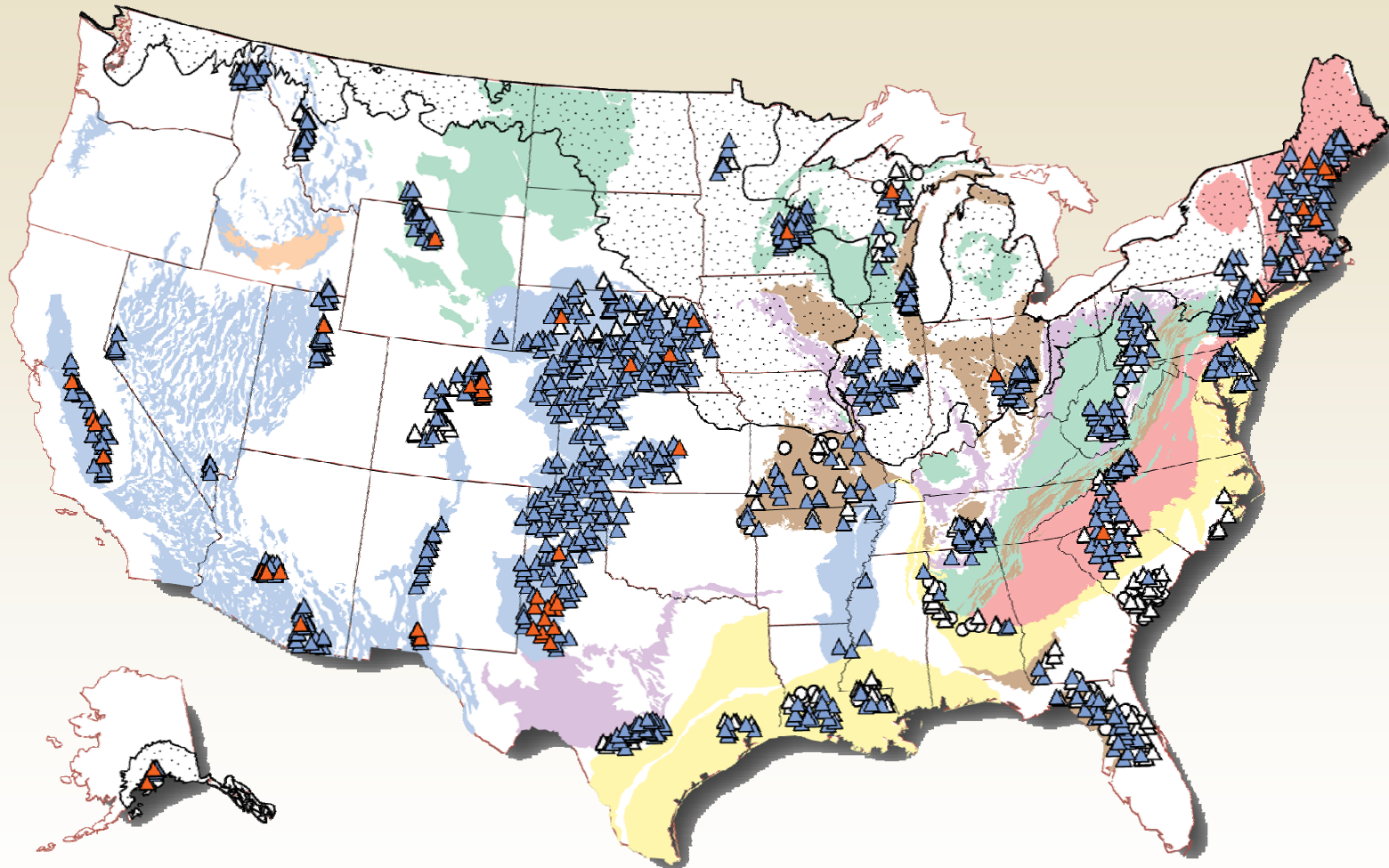
# Secondary Contaminants Outside of Recommended Ranges in 50% of Wells



# Mixtures of Contaminants



# Mixtures of Contaminants

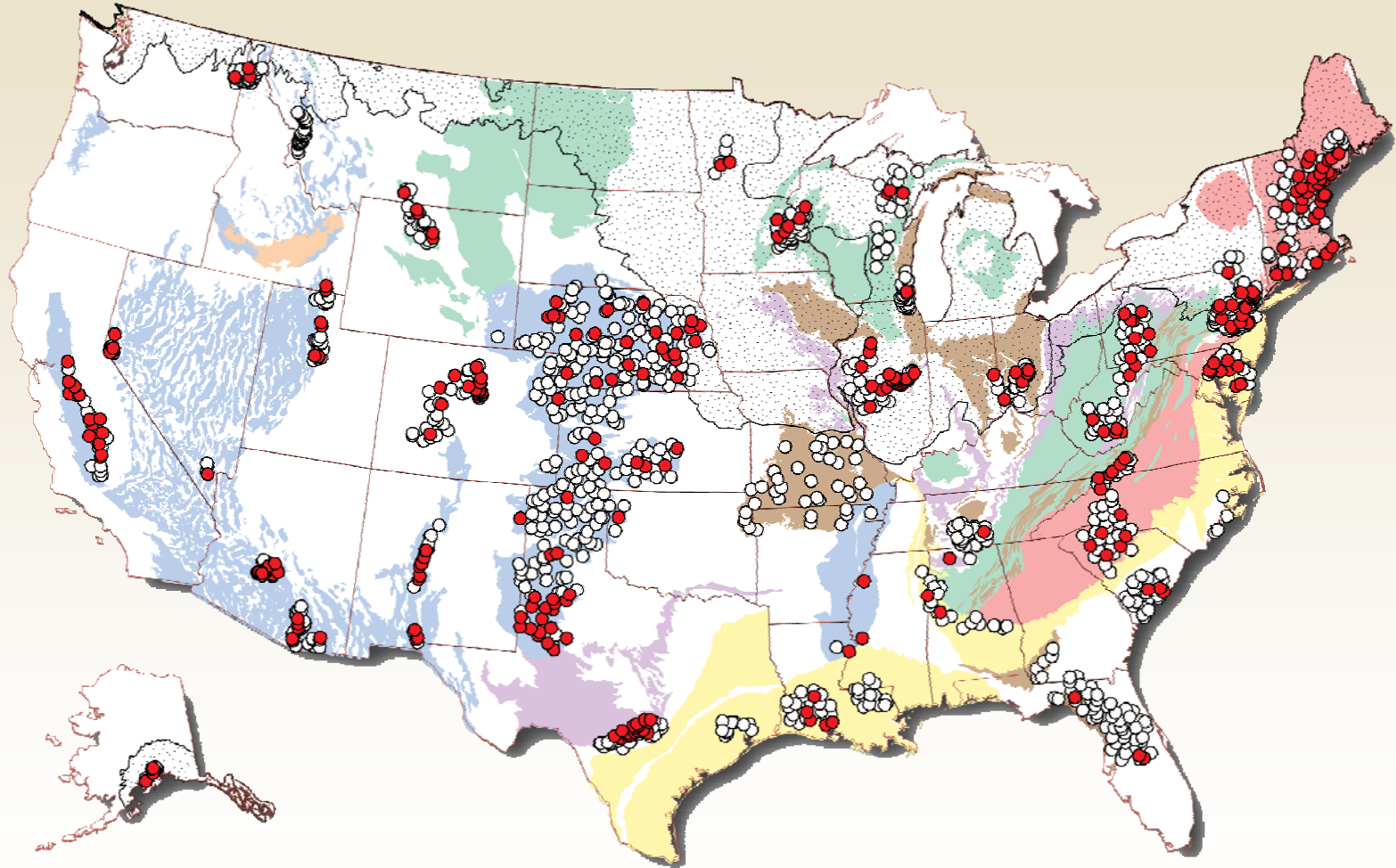


▲ Mixtures of contaminants > MCLs or HBSLs

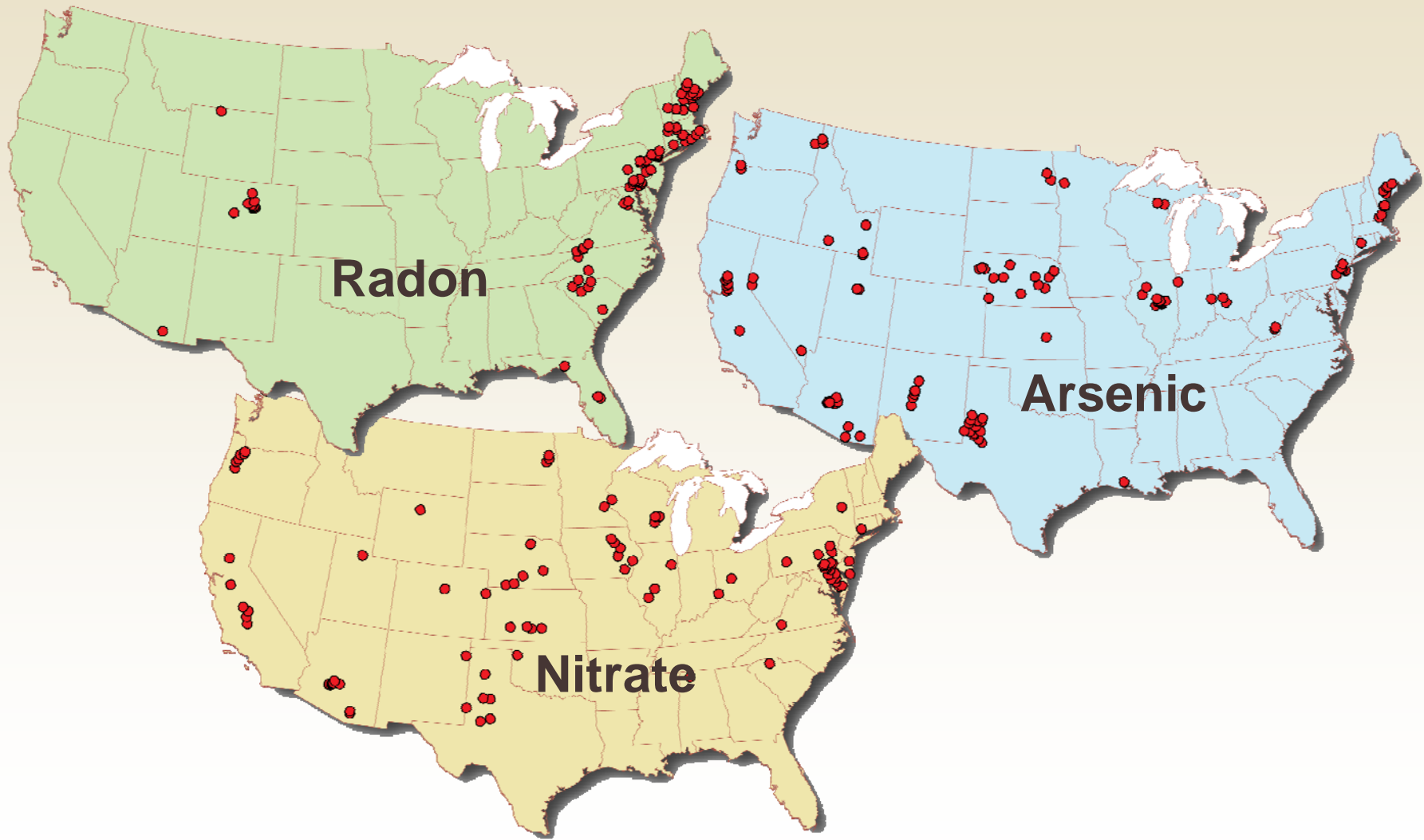
▲ Mixtures of contaminants > one-tenth of MCLs or HBSLs



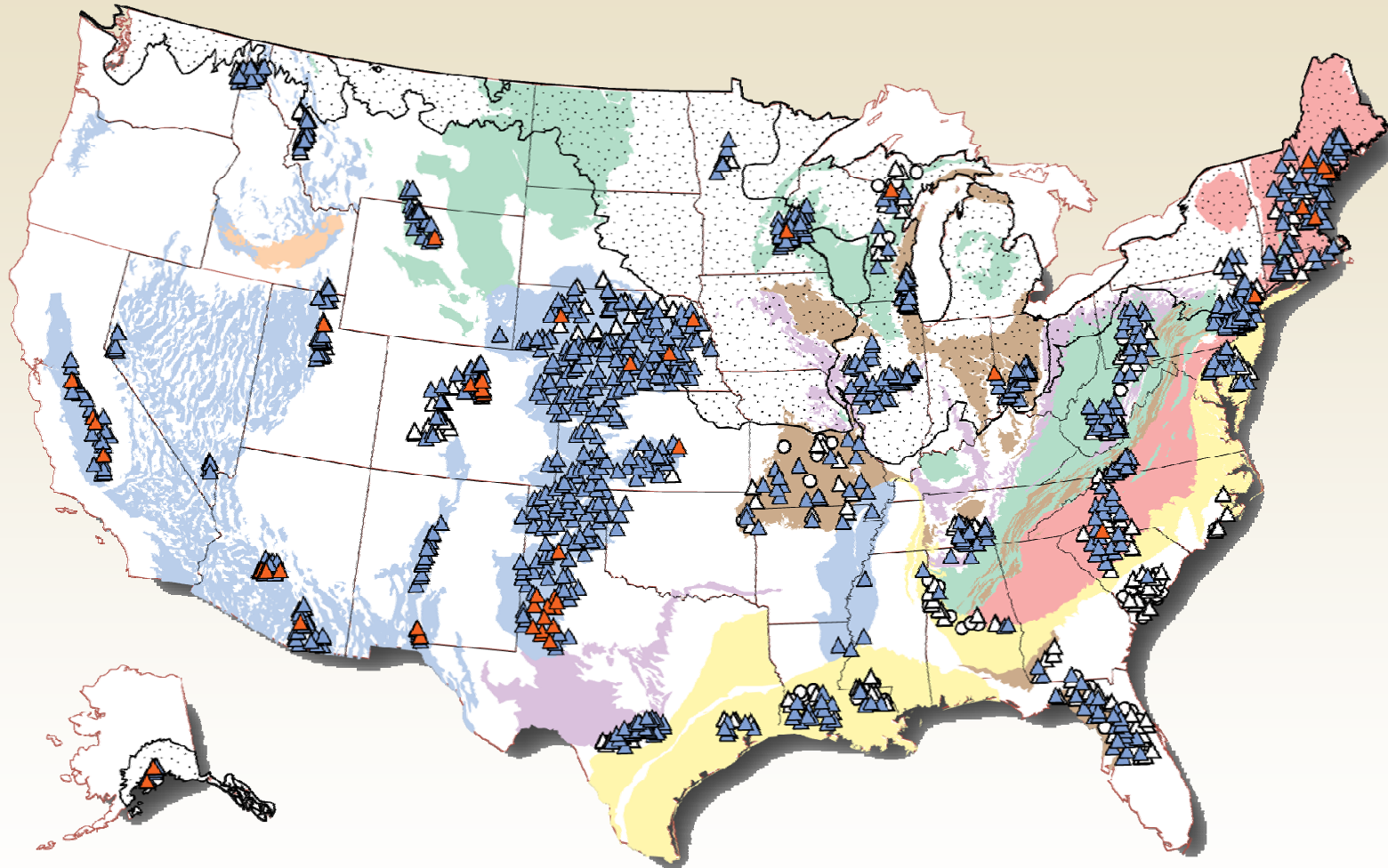
# *More Than 1 in 5 Wells Had At Least One Contaminant Exceeding a Health Benchmark*



# *Regional Geographic Patterns Focus Attention on Areas of High Contaminant Concentrations*



# ***Contaminants Usually Occur in Mixtures with Other Contaminants***





## The Quality of Water From Private Wells in the United States



- For more information:

*[http://water.usgs.gov/nawqa/domestic\\_wells](http://water.usgs.gov/nawqa/domestic_wells)*

