



UTAH GEOLOGICAL SURVEY

Utah's National Ground-Water Monitoring Network Effort

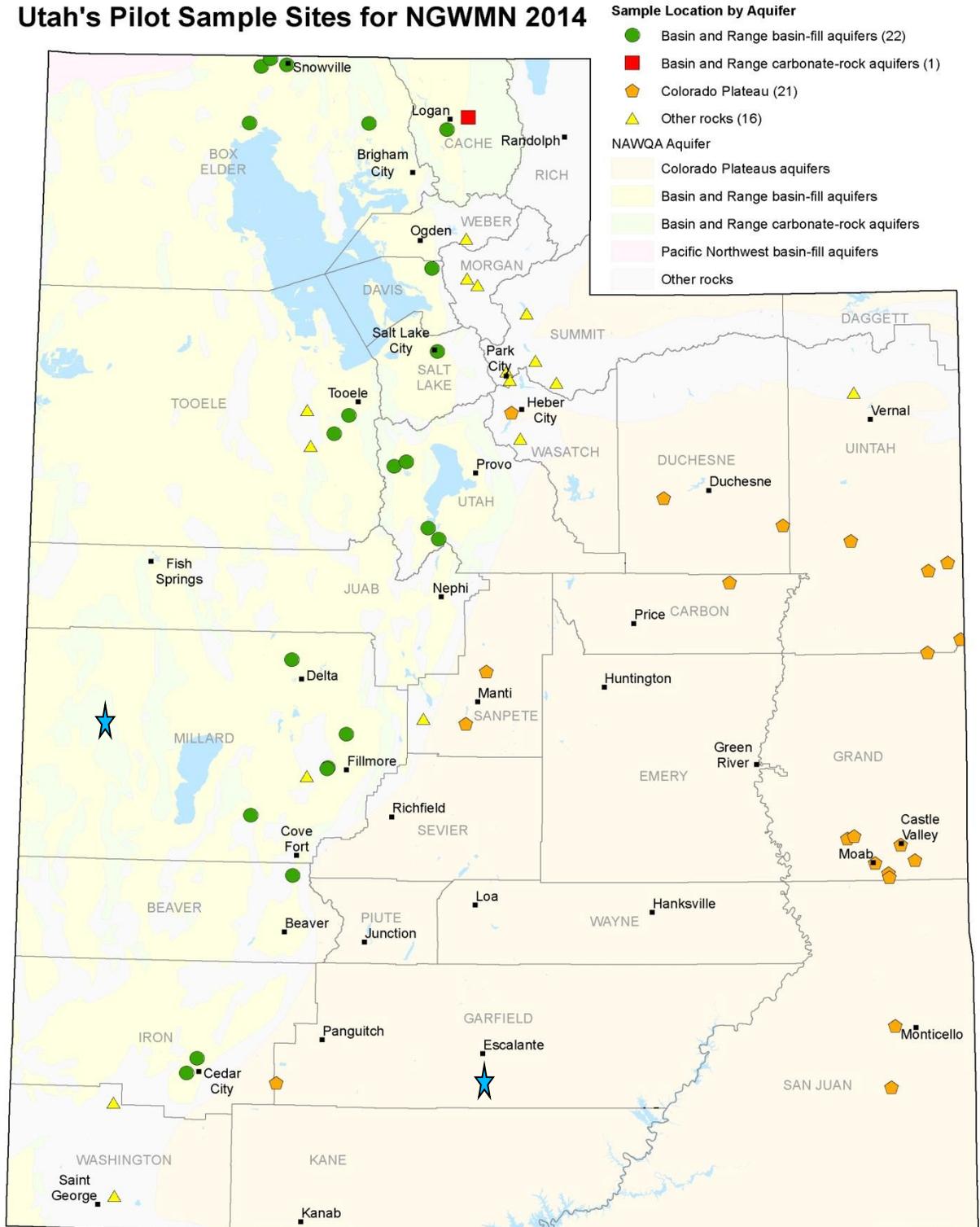




Selection Criteria

- USGS Principle Aquifer (e.g., Basin & Range Carbonate, Basin Fill, etc.)
- Prior Sampling Data
- Accessibility
- Geographic Spread
- Aquifer Importance

Utah's Pilot Sample Sites for NGWMN 2014



★ South-central and western Utah will be sampled in October



AGENCIES INVOLVED

Input from:

- Utah Division of Water Quality
- Utah Division of Drinking Water
- Utah Division of Water Rights

Invited

Utah Department of Agriculture
and Food

USGS



SITE STATISTICS

- 36 wells
- 21 springs
- 24 bedrock
- 36 alluvial
- 3 carbonate aquifer
- 20 basin and range
- 21 Colorado plateau
- 16 transition zone and other



Sampling Status

- May to September - Sent 57 samples to EPA lab for water quality testing (data for May samples compiled)
- ~10 to 15 samples to be collected in October



Estimated Costs (~May to August)

- Personnel - \$26,176
- Mileage - \$610
- Per Diem - \$413
- Chemistry - \$17,046 (57 samples based on Utah State Lab costs) for 75 chemistry costs will be \$22,430
- Total - \$27,199(excludes chemistry)



Side benefits

- Contact with well owners for future Utah groundwater studies
- Implementation of Data Collector device via field tablet
- Impetus for staff to work together on one state-wide project
- Develops and enhances our GIS skills
- Complements our EPA-funded EN (program to analyze compiled statewide water chemistry data for notable spatial and temporal trends)



Unexpected Hurdles

- Incomplete/poor records from DWRi (older wells and springs)
- Well owners' reluctance to establish an annual sampling agreement (though most support the idea and longevity; concern that data may be used against them in the future)
- 3-day sampling workweek and deadline to overnight samples to Colorado (remote rural areas)
- Lack of access to measure water levels
- Glitches in mobile technology (tablet collection and sampler inconsistencies in entering field data while in the field)



Future/observations

- Include gaps in coverage by County (or HUC)
- Intend to sample at least one site per county or HUC
- Intent to collect from April to October
- Include alternate sites to sample and measure



Uinta Basin



Pahvant area stock well



Black Spring



Rush Valley agricultural well





Castle Valley





Overall experience

- Organized sample bottles provided by EPA and framework instructions
- Discovering varieties in groundwater quality previous not known
- Covering more areas in the state (not a site specific study) to establish a baseline where samples have not been collected prior to the pilot
- Consider the GW in entirety of state to understand changes in water quality/quantity