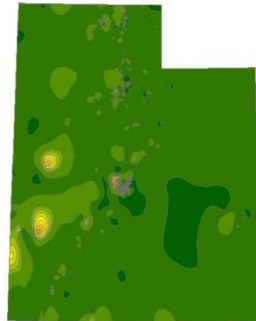


Utah's Nitrate Mapping Tool and 319 Funding

Utah Dept. of Environmental Quality
Division of Drinking Water
Kate Johnson and Mark E Jensen



Why

- Need for project:
 - Several wells in Utah are shut down or must be blended due to nitrate contamination
 - Need a method to see changes and trends in nitrate levels
 - Want to identify areas that show undesirable trends in nitrate groundwater levels and implement Best Management Practices (BMPs) to forestall trend



What

- ❑ Develop GIS tool that is capable of showing changes in nitrate concentrations over time
- ❑ Use tool to identify specific areas for BMP intervention



How

- Partner with agencies with expertise in
 - GIS mapping/programming
 - Geological conditions in the state
 - BMPs for nitrate management
- And with access to
 - Nitrate data



Nitrate Management Project

Partners and Participation

- ❑ Utah Division of Drinking Water: SDWIS data, application of data
- ❑ Utah Geological Survey: data, GIS tool development
- ❑ Utah State University Extension Service: BMP education
- ❑ Utah Division of Water Quality (CWA Agency): funding, data, data interpretation and applications



Funding for tool development

- ❑ Partial funding for tool development through SRF set-asides – wellhead
 - Original intent to do project through state mapping agency, but changed to UGS for added geologic expertise and data
- ❑ Matching funding provided by Utah Geological Survey



Funding for BMP Outreach

- Application for funding for BMP outreach through nonpoint source grants
 - Information and Education subprogram
 - \$30,000 obtained
 - Partnering with Utah State University, which will conduct the outreach portion of the project, and which has considerable expertise in these activities



Where we are now....

- Narrowed down to two-three areas in the state
 - One with better connections to PWS supplies, but apparent mixed sources of nitrate
 - One with poorer PWS connection, but good proof of manmade nitrate problem, so outcome more likely to show connection to BMP implementation



Limitations

- ❑ Sampling may be sporadic or very short term
- ❑ Sampling may be from different depths or aquifers
- ❑ Interpolations may cross hydrogeologic boundaries

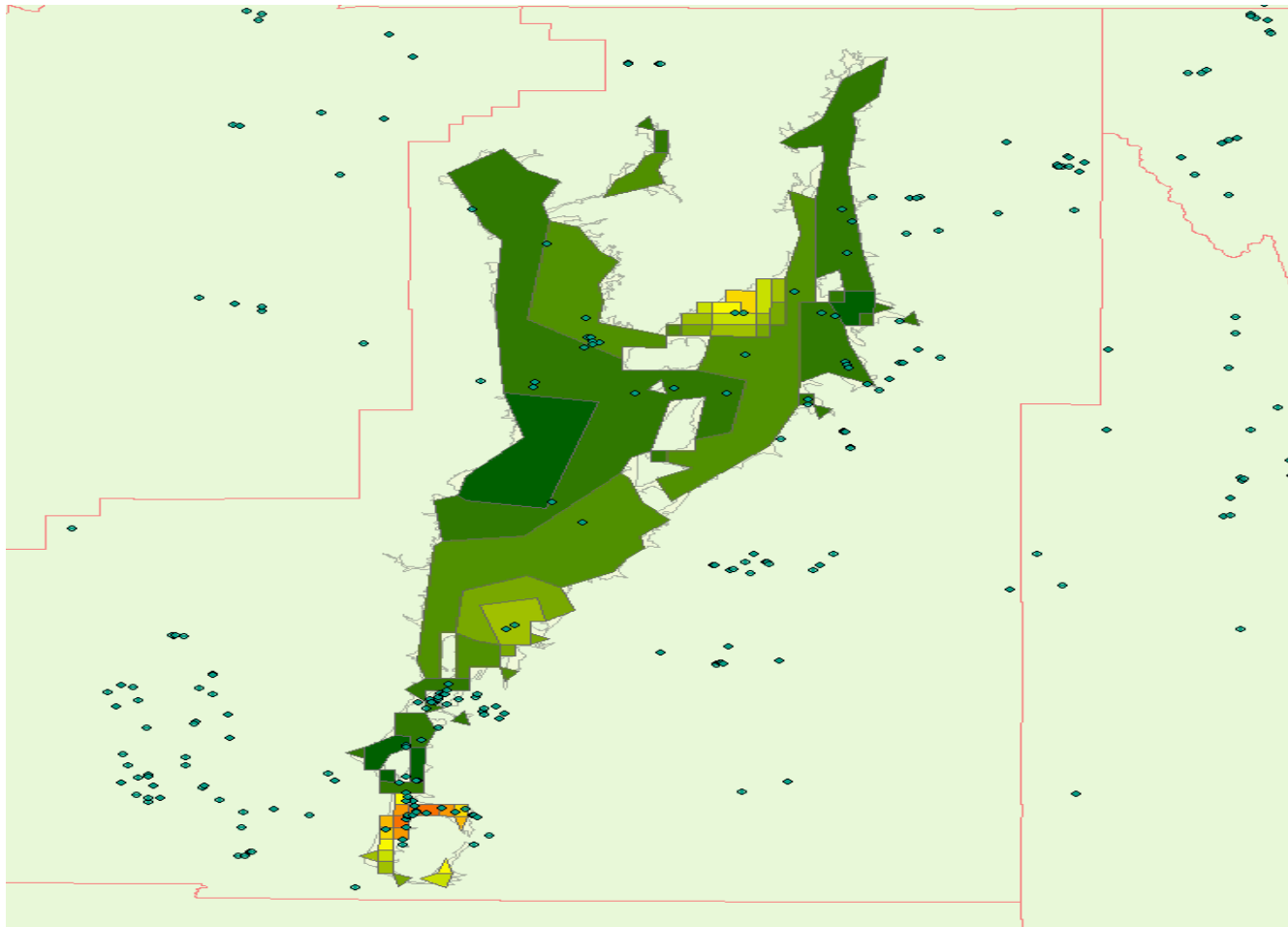


Anticipated Outcomes

- ❑ Implementation of BMPs has been successful elsewhere in state in reducing nitrate levels
- ❑ Hope for same outcome; but acknowledge uncertainty and possible long time frame
- ❑ Caveat-at beginning of effort



Demonstration: Sanpete Valley



Other current coordination activities

- ❑ Participating in revision of CWA agency's (DWQ) onsite wastewater rule
- ❑ Collaborating with DWQ on revision of DDW rules pertaining to proximity of sources and infrastructure to sewer lines
- ❑ Assisting with revisions to state NPS plan, adding components to emphasize drinking water source protection



Questions?

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