

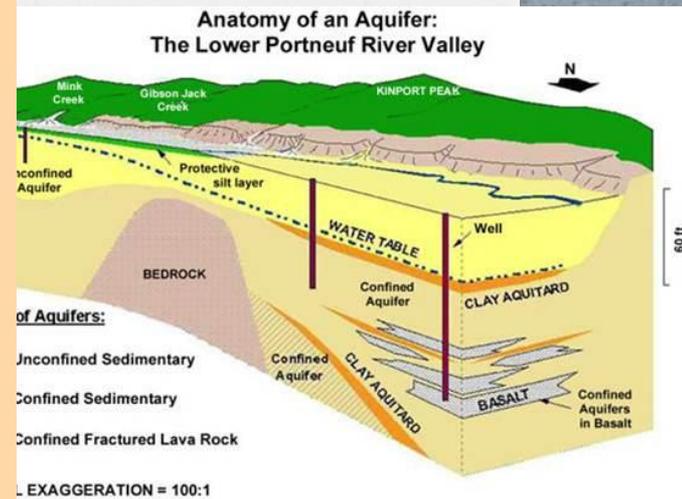
Source Water Vulnerability  
and Degradation  
in Southeast Idaho

**What We All  
Need To Know**

# One size does not fit all

The rocks and soils beneath you control the movement of ground water and influence the potential for your water to become contaminated (aka vulnerability).

What is protective in one area may not be as protective in another location.



# Vulnerability is tied to

- **Geology**
  - Type of rock material that contains groundwater
  - Soils, thick or thin
  - Soils, sandy or clayey
  - Depth to groundwater
- **Well construction**
- **Land-use practices**



# Vulnerable aquifer types



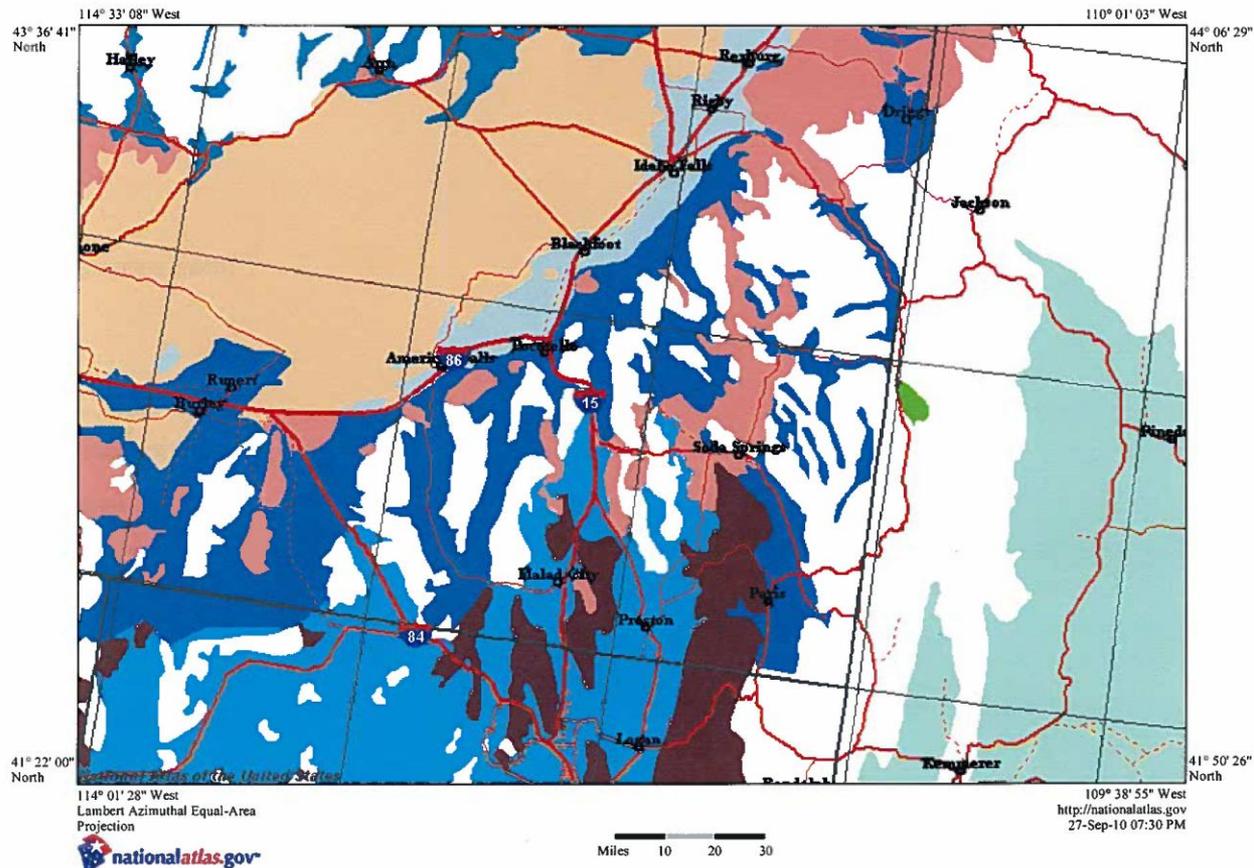
- Gravel or sandy aquifers
- Fractured rock aquifers
- Karst (limestone) aquifers
- Shallow aquifers

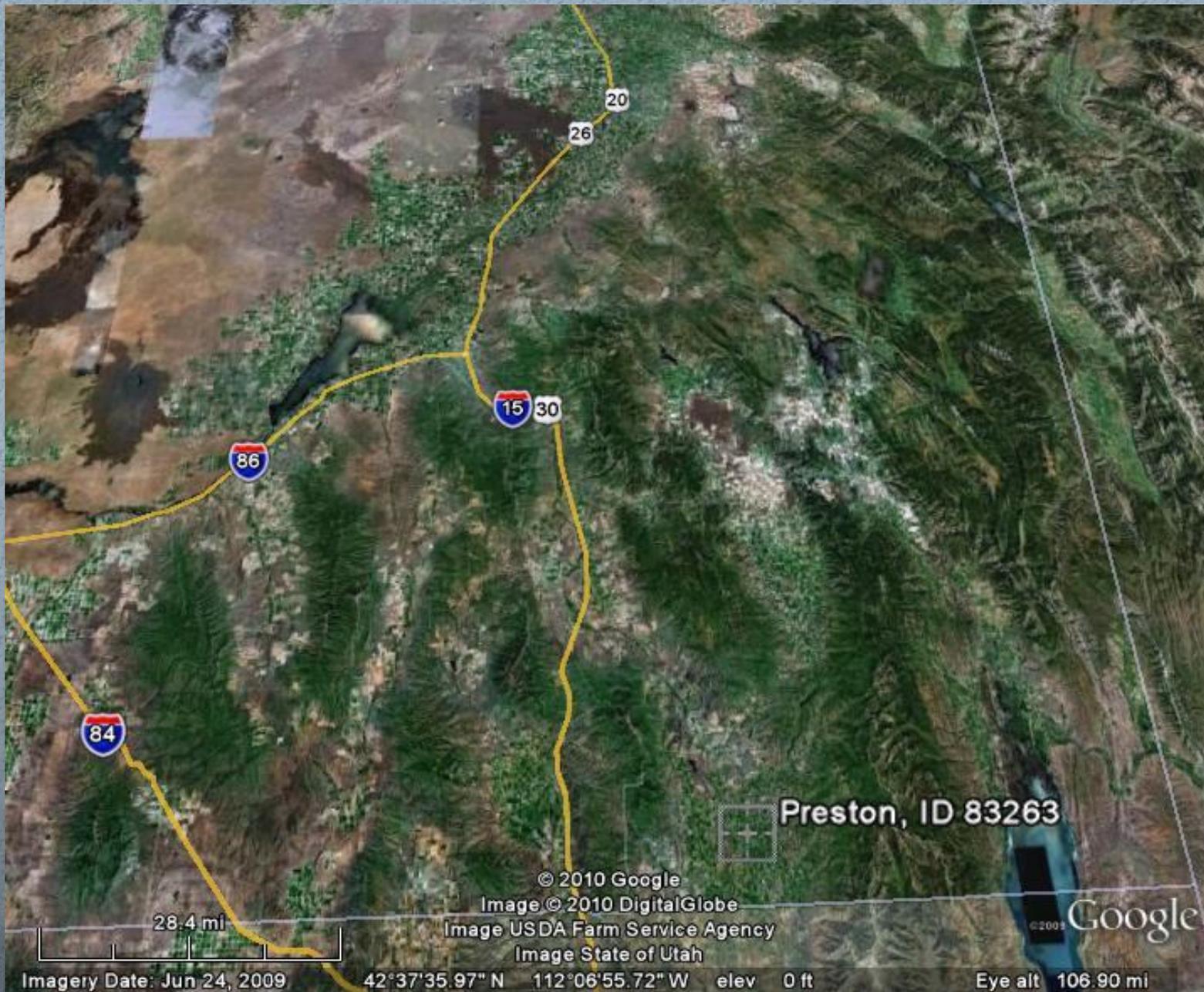
# Southeast Idaho Aquifers

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## Southeast Idaho Aquifers (2)





# Well construction

- Annular seal not deep enough
- Annular seal placed improperly
- Cheap is not good
- Shallow is not good, generally



# Land Use

- Well location
- Confined animals
- Septic density
- Fertilizer application
- Grazing
- No backflow prevention on irrigation wells
- Spring recharge areas
- Historical land use
- Mining – active and historic



# Dangers to vulnerable aquifers

- Contaminants and pathogens (bacteria and viruses) can enter the groundwater system quickly
- Rapid movement to public and private water supplies
- Flow velocities increase in the vicinity of pumping wells
- Once contaminated, an aquifer is very difficult and expensive to remediate



# Degraded groundwater affects everyone and everything

- Nitrate
- Chemical spills and leaks
- Landfills
- Industry
- Mining
- Agriculture
- Residential land use



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