

SHNA Special Meeting: Hydrology Issues in Taos County

Presenters: Stacy Timmons and Geoffrey Rawling

Wednesday, May 27, 2026, 5:00 P.M. (Mountain)

SHNA President Tyler Kollenbroich opened the meeting with a welcome to attendees and introduction of presenters Stacy Timmons and Geoffrey Rawling from the New Mexico Bureau of Geology, who were scheduled to discuss groundwater hydrology and water well concerns in Taos. Tyler explained that the meeting focused on addressing community questions about how new wells and water table health might be affected by the dry year and increased drilling in the area, particularly for those relying on private wells.

Stacy and Geoffrey explained that the Taos region sits within the Rio Grande Rift's San Luis Basin, where groundwater moves slowly through complex geologic formations including sedimentary layers and volcanic basalt flows. They discussed how most wells in the area contain old water with minimal modern recharge, with groundwater flowing from east to west toward the Rio Grande Gorge. The presenters covered ongoing aquifer mapping and monitoring efforts, including airborne electromagnetic surveys and plans to establish 100 new groundwater monitoring sites across New Mexico by 2037. Community members asked questions about the Abeyta settlement's deep wells, potential impacts on local aquifers, and methods to prevent cascading effects between different aquifer layers. Stacy encouraged the neighborhood to consider getting their wells monitored to track groundwater levels and better understand potential impacts from future development or changes in water usage.

Aquifer Mapping Program Overview: Stacy presented an overview of the Bureau of Geology's Aquifer Mapping and Monitoring Program, explaining that the agency is a non-regulatory state geologic survey focused on understanding New Mexico's complex groundwater resources. She described how the state's geology, with its multiple rock types and fault lines, creates challenges for groundwater management and exploration. Stacy noted that the program's work, which involves combining geology, geophysics, and hydrological data, is publicly available and funded through state and federal sources.

New Mexico Aquifer Systems Overview: Stacy provided an overview of New Mexico's aquifer systems, explaining that the state primarily has sediment aquifers composed of rounded rock materials and fractured rock aquifers in crystalline formations. She discussed the challenges of groundwater management, including the fact that groundwater recharge is slower than pumping rates in many areas, and presented data from a recent water and climate report predicting 25-30% less water availability in surface water bodies over the next 50 years due to temperature increases and aridity. The presentation concluded with information about the Rio Grande Rift, a geologic feature affecting central New Mexico that has created multiple sub-basins including the San Luis Basin where the work is being conducted, with the Bureau of Geology having conducted hydrogeology studies in the region since 2005.

Taos Geology and Hydrology Overview: Geoffrey, a geologist at the Bureau of Geology, provided a detailed overview of the geology and hydrology of the Taos area, located in the Rio Grande Rift and San Luis Basin. He explained the formation of the basin, the presence of interlayered sediments and basalt lava flows, and the importance of faults in understanding groundwater hydrogeology and river courses. Geoffrey also discussed geophysical methods, including gravity and magnetic surveys, used to interpret the geology beneath the surface and highlighted the presence of faults, such as the Los Cordovas fault zone, in the area.

Taos Valley Groundwater Analysis: Geoffrey presented detailed geological and hydrological information about the Taos Valley area, explaining the distribution of aquifers, water levels, and groundwater flow patterns. He described how the shallow and deep aquifers behave differently, with groundwater flowing from east to west and discharging at the airport fault zone. Geoffrey also shared data about groundwater age, noting that deeper wells and springs in the gorge contain little modern water, indicating they are "mining water" with no significant recharge on human timescales.

New Mexico Groundwater Analysis Results: Geoffrey presented stable isotope analysis results showing how water samples from northern New Mexico reveal information about precipitation patterns and groundwater recharge. The data indicates that deep wells in the Taos Valley contain old water (over 50 years old) that was likely recharged thousands of years ago during the ice ages, consistent with tritium data. Stacy outlined the agency's goals to improve aquifer mapping and monitoring across New Mexico, including identifying and characterizing major and minor aquifers by 2032 and developing 100 new groundwater monitoring sites by 2037, with work currently focused on filling data gaps through airborne electromagnetic surveys and new well drilling.

Helicopter EM Survey for Groundwater: Stacy presented a helicopter-based electromagnetic survey technique that maps subsurface rock resistivity and water content across New Mexico, explaining how the method helps identify aquifers, faults, and potential brackish water lenses. She described ongoing surveys in various regions including the Tularosa Basin and plans to expand to the Taos Southern San Luis Basin area as early as fall. Stacy also discussed their groundwater level monitoring program, which began in 2016 and is supported by the Healy Foundation, noting that while Taos has some measured wells, many locations lack sufficient monitoring and offering to visit private wells for measurements.

Taos Valley Groundwater Assessment: Stacy and Geoffrey explained that groundwater levels in the Taos Valley are primarily from old water sources, with recharge occurring very slowly over long time scales, making it unlikely for recent rainfall to affect well water within 50 years. They discussed the limitations of their expertise, noting that specific details about well drilling plans under the Abeyta settlement would need to be obtained from the State Engineer's office. When asked about the aquifer's capacity to support additional people, Stacy indicated that while models could provide estimates based on water usage and rights, precise answers were not available and would require complex hydrogeological assessments.

Groundwater Modeling and Monitoring: The group discussed groundwater modeling and its application to understanding potential impacts from new wells and development in their area. Stacy recommended that the community get groundwater levels measured and monitor wells to establish baseline data, noting that protests during new development applications could trigger state engineer evaluations. The discussion addressed concerns about deep wells from the Abeyta settlement and their potential connection to shallow aquifers, with Stacy emphasizing the importance of monitoring both deep and shallow aquifers given the complex geology and potential climate change impacts.

ABEYTA Mitigation Wells Discussion: Stacy and Geoffrey explained that the Abeyta mitigation wells are designed to be deep enough to prevent impacts on existing wells in the Taos Valley, with proper well construction techniques like casing and sealing to prevent cascading effects between aquifer layers. The group discussed that while regional water systems might have less immediate impact on local wells compared to multiple private wells, the proximity of the Abeyta wells (about a mile away) could affect this assessment. Stacy offered to help measure local well water levels and potentially set up monitoring networks. She also mentioned that Taos Soil and Water offers a program to pay half the cost of well water quality testing.

ACTIONS:

1. Post minutes on SHNA website and include PDF of presentation (Rhonda).
2. Forward information on contaminants in area (Geoffrey).
3. Forward information on the number of supply wells, mitigation wells, and deep wells (Stacy).
4. Forward information on future surveys (Stacy).
5. Residents are encouraged to contact Stacy for groundwater level measurements of wells.
6. Residents monitor new development applications and consider submitting protests if concerned to trigger State Engineer review.
7. Residents reach out to State Engineer's office for regulatory and modeling questions regarding new wells and developmental impacts.

ATTENDEES:

Tyler Kollenbroich, Charles Morris, Gary Hillman, Mary Lane Leslie, Doug Leslie, Bonnie Taylor, Lydia Ruffin, Roberta Salazar, Doug Bridgers, Rhonda Vanderhoff, Doug Daubert, Sherry Popham, Terry Thompson, Linda Thompson, Lynn Antonopolis, Roland Jacobs, Carolyn Long, Irene Laleuf, Carolyn Kahn, Jim Wilkins, Nick Stollard, iPhone (?), Dale Cherry, Hannah Mattison, L.H. Petron (?), Randy Carlson, Tom Matthews, Celia Liaberia