

Water Resources Supply Decision Support System For Santa Fe County, New Mexico

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ABSTRACT

INTERA worked with Santa Fe County, New Mexico, to develop a regional groundwater availability model and decision support system (DSS) to assist the County in evaluating potential well locations for groundwater supply sources to supplement surface water in a conjunctive use strategy. The groundwater availability model was used as part of a site suitability analysis DSS using multi-attribute utility theory (MAUT) to determine potential supply well locations. Using a geographic information systems (GIS) approach, the DSS identified potential supply well locations for the County that minimized impacts (and hence proximity) to existing supply wells, streams, and springs, while maximizing proximity to existing infrastructure, population centers, and areas of favorable geology and land ownership using a MAUT approach. As a final step, potential supply well locations were evaluated using the groundwater availability model to further refine the location alternatives to identify the most promising locations. This approach provided County decision-makers and the public with a structured, scientifically defensible, and unbiased method of identifying potential supply well locations.