

# **Domestic-Wells Under Heat and Pressure**

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## **Grant County District Court Emphasizes Role of OSE Hearing Process**

- About one in a thousand applications to OSE for administrative permits leads to a full hearing and decision.
- The hearing process applies to a subset of well categories in a subset of aquifers, those in OSE declared basins.
- Protested hearings cost tens to hundreds of thousands \$, and 2 to 20 years to process, some through the NM Supreme Court.

**“ ...the same as all other applications to appropriate water”?**

- The San Lorenzo ditch site of the Grant County decision, serves acreage in a basin that was declared by the OSE in 1970.
- Mimbres wells for all purposes (domestic, stock, irrigation or municipal) older than 1970 were then exempt from the application process.
- Major parts of New Mexico were not declared until recently (16 new or extended basins in years 2000-2005). In those areas the administrative review process was not in place to satisfy the Grant County court standard.
- The bulk of New Mexico water rights were initiated in time and place outside OSE declared basins and have not depended on the application and hearing process.

## KEY TO OSE WELL ADMINISTRATION BY ADVERTISEMENT AND HEARING

<u>Category</u>	<u>Advertisement and Hearing</u>	
	(x = no, ✓ = yes)	
	<i>Pre-Basin</i>	<i>Declared Basin</i>
<b>Domestic household</b>	x	x
<b>Livestock</b>	x	x
<b>Temporary 3 AF</b>	x	x
<b>Mineral</b>	x	x
<b>Other Uses</b>	x	✓
<b>Declared<sup>1</sup> well</b>	x	x
<b>Existing 1931</b>	x	x
<b>Licensed driller</b>	x	<b>Required</b>
<b>Driven wells 2 3/8"</b>	x	<b>Not required</b>
<b>Replacement well within 100 feet</b>	x	x
<b>Replacement well over 100 feet, with OSE okay</b>	x	x
<b>Supplemental well, with OSE okay</b>	x	x
<b>Non-Potable over 2500 feet</b>	x	x (if not re-decl)
<b>Exploration (no appropriation)</b>	x	x
<b>Monitoring (no appropriation)</b>	x	x

*Note: new appropriation allowed in declared basins, unless policy 'Guideline' against.*

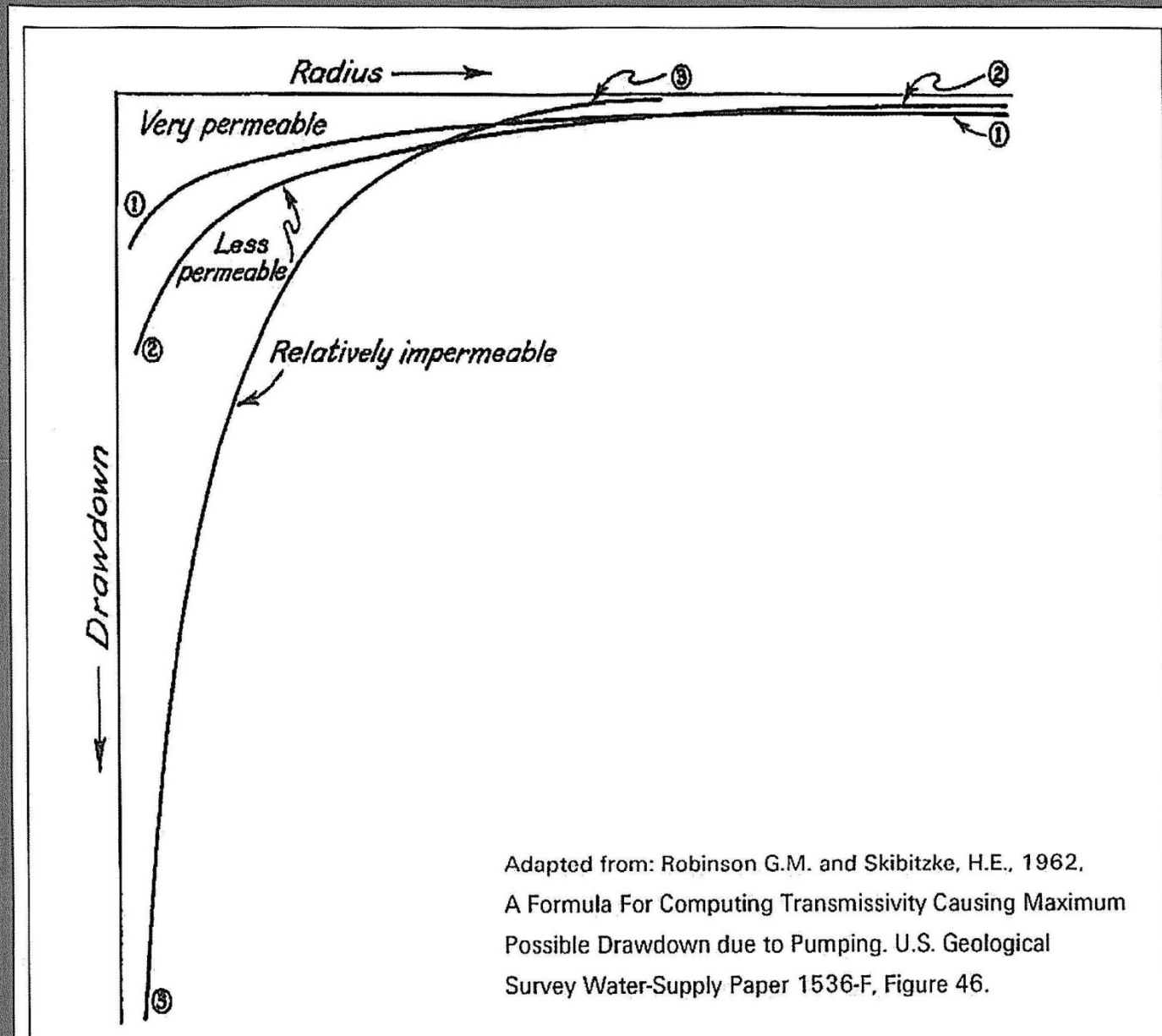
## Hydrology of well impacts

At mid-century, the U.S. Geological Survey published a formula used around the world for policy regarding *“the maximum effects of proposed or predicted pumping in a region”*

(Robinson, G.M and Skibitzke, H.E., 1962, A Formula for Computing Transmissivity Causing Maximum Possible Drawdown Due to Pumping: U.S. Geological Survey Water-Supply Paper 1536-F, Figure 46.)

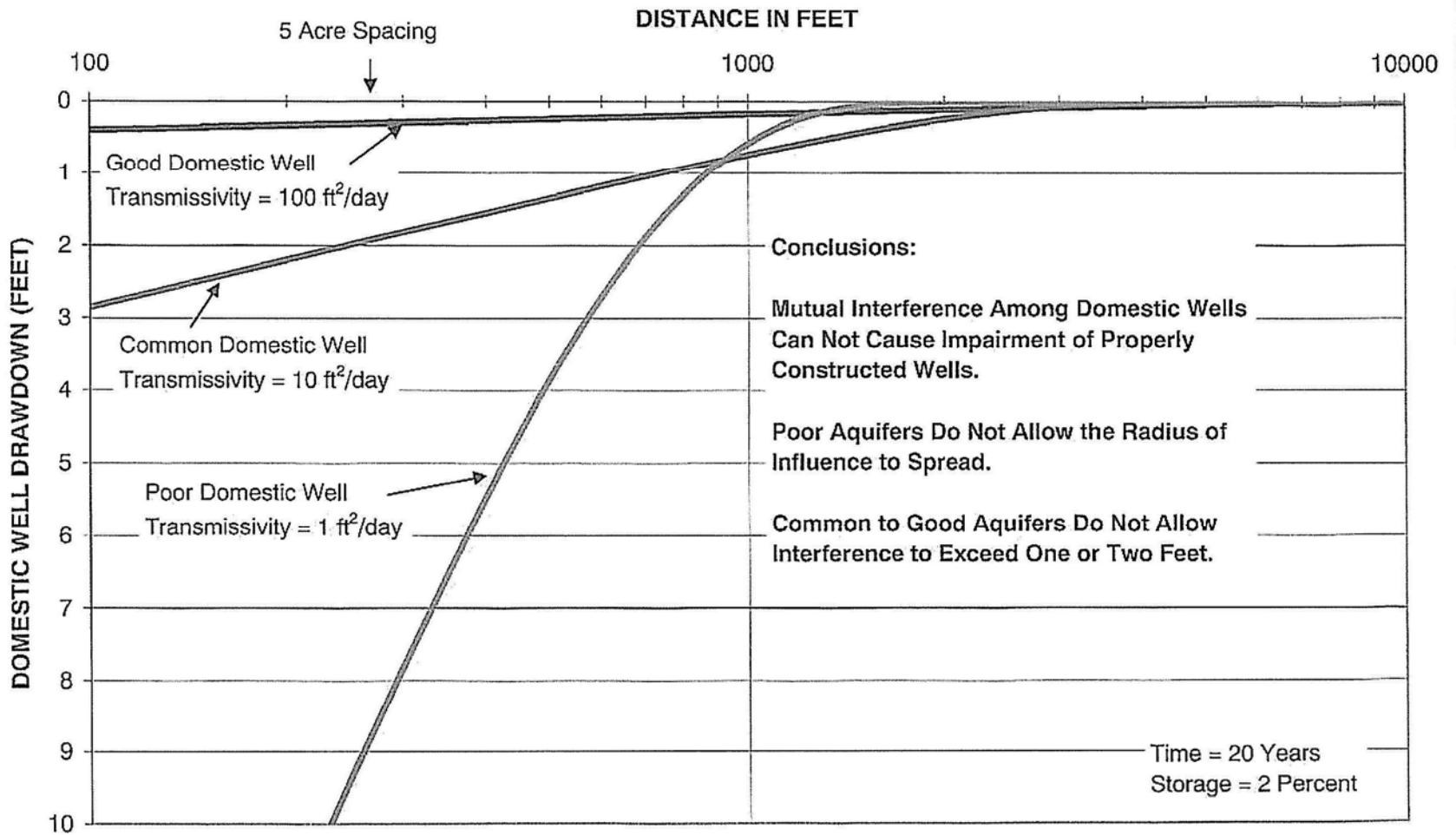
It was understood by professional hydrologists at mid-century that there was no prospect of domestic wells impairing one another, or the aquifer resource.

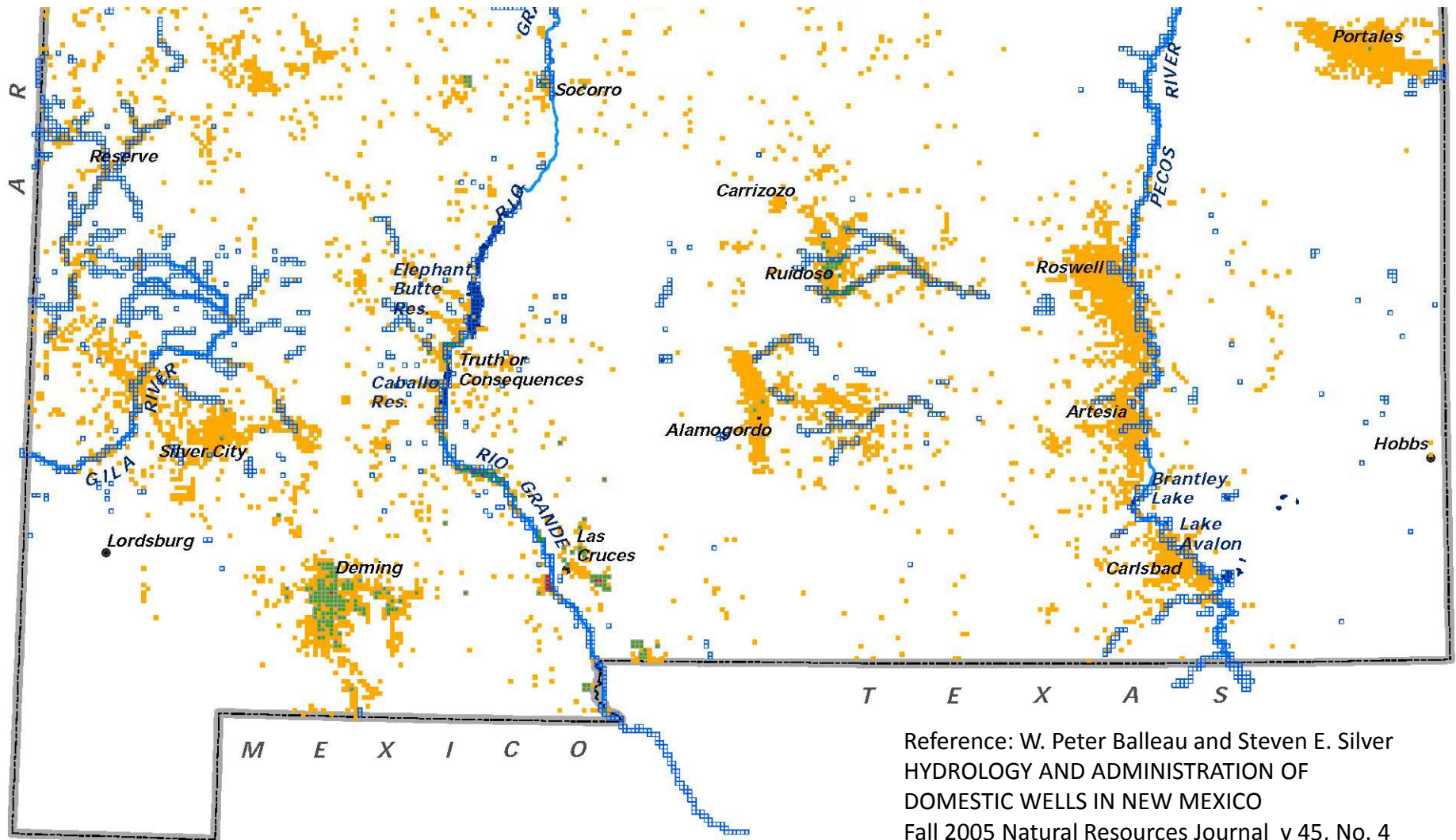
# MAXIMUM POSSIBLE DRAWDOWN FROM PUMPING



Adapted from: Robinson G.M. and Skibitzke, H.E., 1962.  
A Formula For Computing Transmissivity Causing Maximum  
Possible Drawdown due to Pumping. U.S. Geological  
Survey Water-Supply Paper 1536-F, Figure 46.

**FIGURE 3  
RADIUS OF INFLUENCE AROUND DOMESTIC WELLS**

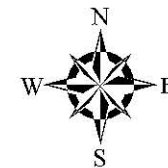
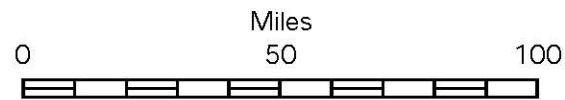




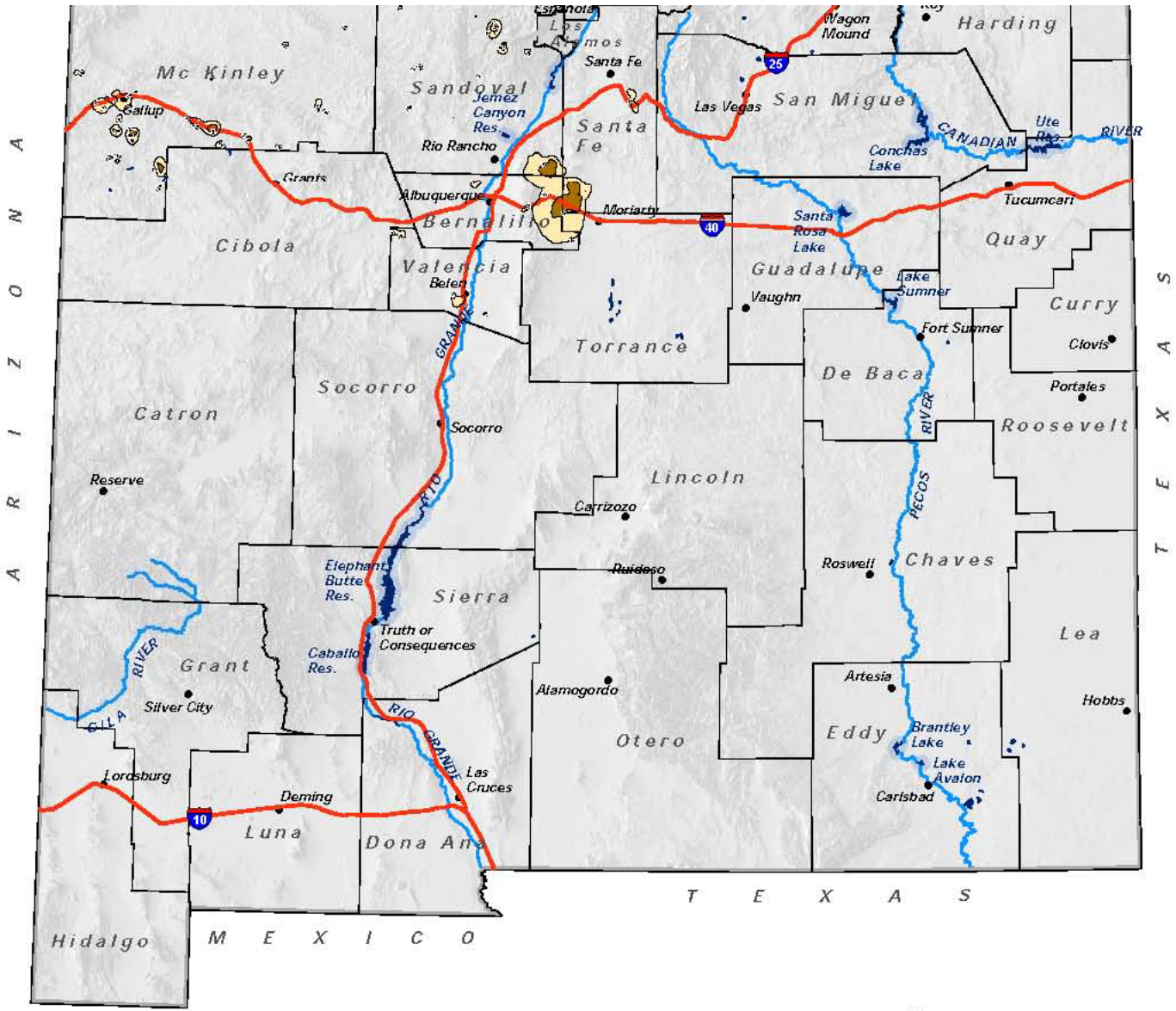
363 Columns

Reference: W. Peter Balleau and Steven E. Silver  
 HYDROLOGY AND ADMINISTRATION OF  
 DOMESTIC WELLS IN NEW MEXICO  
 Fall 2005 Natural Resources Journal v 45, No. 4  
 Statewide Model at:  
[http://www.balleau.com/materials/Dom\\_Wells.pdf](http://www.balleau.com/materials/Dom_Wells.pdf)

-  Model Cells Representing Perennial Water Features
- Simulated Growth of Domestic Well Density to Year 2040**
-  50 - 313 Wells/Sq-Mi
-  5 - 50 Wells/Sq-Mi
-  1 - 5 Wells/Sq-Mi







Water Level Change (Feet)

- < 2
- 2 - 5
- 5 - 13.4

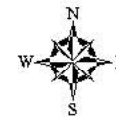
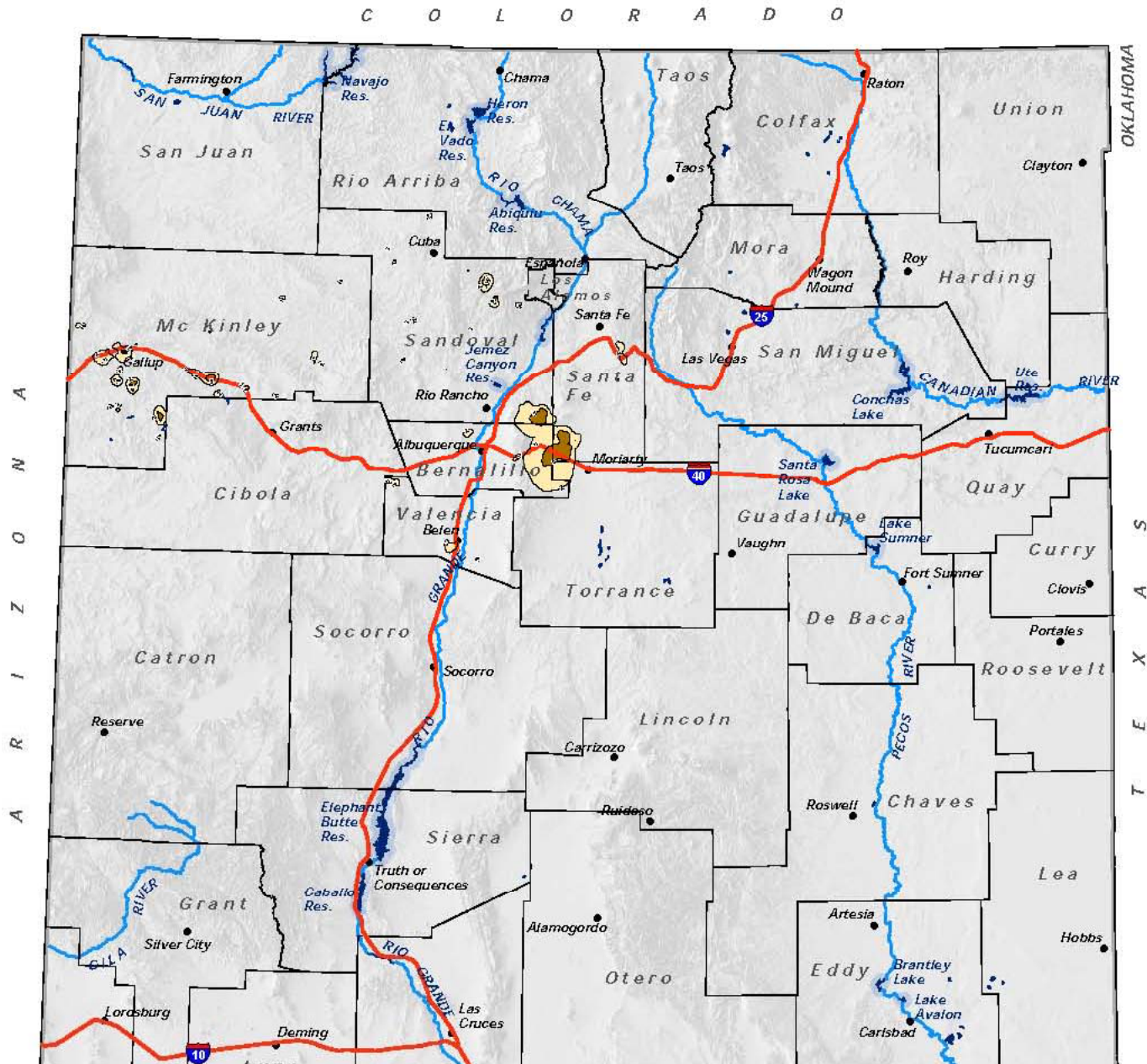


FIGURE 15  
40-YEAR FUTURE DRAWDOWN IMPACT OF CURTAILING GROWTH  
OF WELLS IN NEW MEXICO



## STREAM DEPLETION (AFY)

<u>River Basin</u>	Salvaged Streamflow by Curtailing 40-year Growth of <u>66,200 Wells Producing 19,700 AFY</u>
Rio Grande	4430
Pecos	200
San Juan	250
Gila–San Francisco	160
Canadian	120
<u>Other</u>	<u>-20</u>
Total	5140 AFY

**Interstate Stream  
Year 2000—2040  
Impact Subject to Curtailment  
(66,200 Wells Producing 19,700 AFY)**

	<u>Domestic Well Impact(AFY)</u>	<u>Ratio to Annual Flow</u>
Rio Grande	4430	0.0040
Pecos	200	0.0015
San Juan	250	0.0001
Gila	160	0.0011

## Conclusion:

New Mexico might wish to look again at the elements of hydrology to see if the cost of policing tens of thousands of innocuous water management actions is actually worth the attention of the Courts and Agencies.