

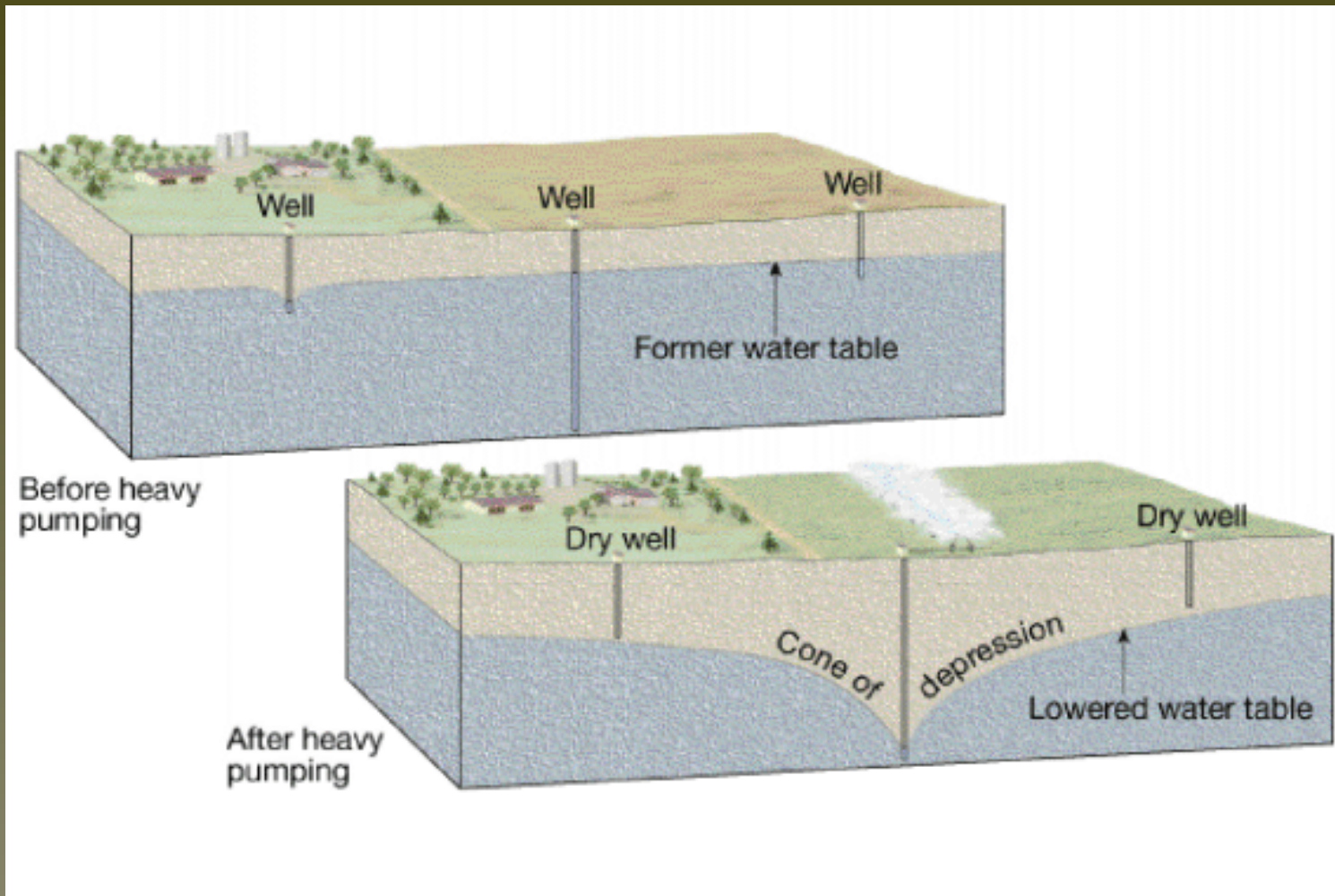
# A Primer on Groundwater Law in the United States

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# Water Rights and “Fracking”

- ◆ Fracking uses large quantities of water mixed with sand and various chemicals
  - So much water is needed that fracking poses serious challenges to the law regulating water use
  - These problems go beyond issues of protecting water quality
- ◆ Where to obtain the necessary water?
  - Surface water sources
    - ◆ Appropriative rights requires the identification of unappropriated water of the successful acquisition of existing water rights
    - ◆ Riparian rights and regulated riparianism have their own problems
  - Subsurface water sources
    - ◆ The absolute dominion doctrine allows the landowner to do whatever it wants to do with the groundwater, but at the risk of being “out-pumped” by one’s neighbors
    - ◆ Other theories of groundwater law each has significant legal problems where fracking is concerned
  - Trucking in water or trucking out waste water are legally vulnerable strategies

# A Cone of Depression



# The Origins of Groundwater Law

- ◆ A near complete lack of knowledge regarding groundwater
  - [T]he existence, origin, movement and course of such waters, and the causes which govern and direct their movements, are so *secret, occult and concealed*, that an attempt to administer any set of legal rules in respect to them would be involved in hopeless uncertainty, and would be, therefore, practically impossible.—*Frazier v. Brown*, 12 Ohio St. 294 (1861) (emphasis added)
  - Similar expressions common from courts throughout the world in the nineteenth century
- ◆ Courts declined to provide a remedy, allowing whosoever obtained the water to keep it
  - Often described as the absolute ownership or absolute dominion rule
  - Sometimes referred to as the rule of capture



# A Conversation about Water from Duckboy.com



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# Technical and Other Developments

- ◆ Groundwater has been exploited on a small scale since prehistory with generally small impact on aquifers or other water users
- ◆ The major transformation: Large scale dewatering
  - Efficient dewatering of mines and construction sites began with Watt's steam pump (1776)
  - The invention of high-pressure turbine pumps (1937)
  - Result: The most powerful pump wins
- ◆ The need for information generated steady improvements in the ability to gather and analyze groundwater data

# The Emergence of Alternative Approaches to Groundwater Law

- ◆ Five approaches to groundwater law now found in the United States
  - Absolute dominion (the rule of capture)
  - Correlative rights
  - Reasonable use
  - Appropriative rights
  - Regulated riparianism
- ◆ The law applicable to surface water applies to “underground streams”
  - Often there is no correlation between the law applied to surface waters and the law applied to groundwater
  - The law applicable to surface waters is relatively simple by comparison
    - ◆ Riparian rights (reasonable use)
    - ◆ Appropriative rights
    - ◆ Regulated riparianism

# Absolute Dominion Today

- ◆ In 1900, apparently followed in every state except New Hampshire
- ◆ Today, somewhat attenuated by limiting legal doctrines
  - Liability for malicious injuries to other water users
  - Liability for negligent injuries to other water users
  - No right to create a “nuisance” that injures other water users
- ◆ Followed most strongly in Texas
- ◆ Apparently also the law in Indiana and Maine



# The Struggle over Groundwater in Texas

- ◆ A vast increase in the use of groundwater in Texas
- ◆ The Texas Supreme Court repeatedly reaffirmed the rule of capture in the last 30 years
  - In *Sipriano v. Great Springs Waters of America* (1999), the state Supreme Court reaffirmed the rule, declaring the rule a property right that cannot be reduced without “just compensation”
  - Is the rule really a property right?
- ◆ The legislature has repeatedly modified the rule of capture without abandoning it
  - The legislature in the 1980s enacted statutes authorizing the creation of groundwater conservation districts with some regulatory authority
  - A federal court forced the legislature in 1993 to create the Edwards Aquifer Authority with broad regulatory powers
    - ◆ Frequent legal challenges largely failed, until
    - ◆ *Edwards Aquifer Auth’y v. Day* (2012), in which the state Supreme Court ordered a trial on whether the regulations amounted to a compensable taking of property
  - In *South Plains Lamesa RR Ltd. v. High Plains Underground Water Dist.* (2001), the Court of Appeals held that while the district could cap pumping for the district as a whole, it could not cap pumping by any individual well owner
  - Result: T. Boone Pickens seeks to sell massive amounts of Panhandle groundwater to Dallas or elsewhere in Texas

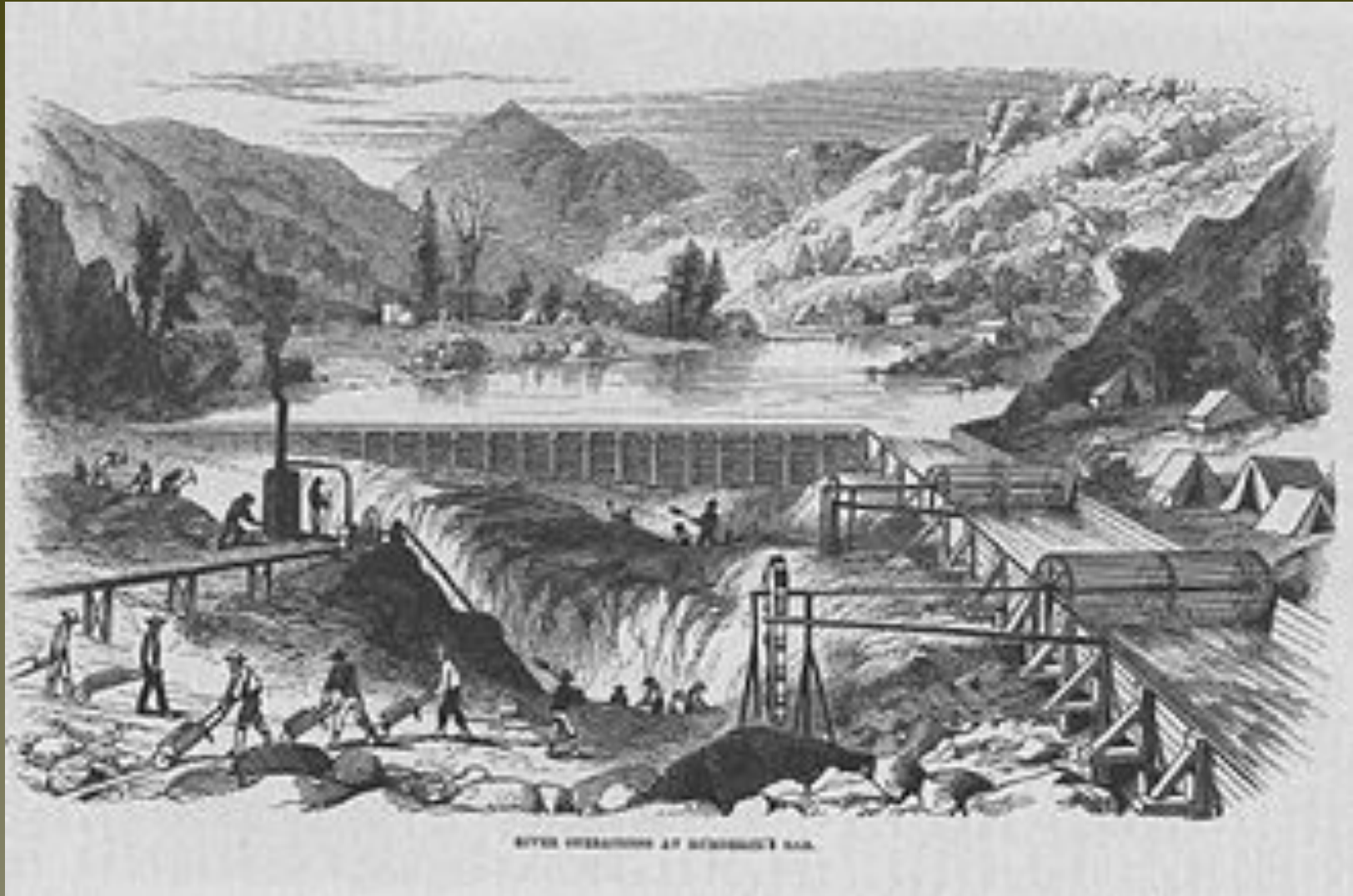
# Correlative Rights

- ◆ Some confusion in the caselaw and scholarly commentary over the meaning of the phrase
  - In one sense, simply a variant name for the “reasonable use” rule
  - More strictly speaking applies a rule of sharing among overlying landowners proportionate to their land holdings
- ◆ Applied only in California, Nebraska, and Oklahoma
  - California law also recognizes several other bases of property rights in groundwater
    - ◆ Appropriative rights
    - ◆ Pueblo rights
    - ◆ Prescriptive rights
  - Nebraska applies the reasonable use rule to disputes between groundwater users (correlative rights) and surface water users (appropriative rights)

# The Reasonable Use Rule

- ◆ First applied in New Hampshire in 1854
- ◆ Some dispute over how it applies
  - One version says that its only function is to limit the use of groundwater to the land overlying the aquifer
  - More modernly understood as requiring courts to balance the social utility of competing uses to enable the use of groundwater for the most socially beneficial use
- ◆ Widely adopted by courts between 1900 and 1990

# Early Gold Miners—1850s





# Hydraulic Mining—1850s



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# Appropriative Rights

- ◆ First in time, first in right
- ◆ Widely adopted in western states by legislation, beginning with New Mexico in 1931
- ◆ Usually a separate legal regime from the appropriative rights applied to surface water
  - Separate regimes creates uncertainty about the interrelation of the two sets of appropriative rights
  - Sometimes resolved by recourse to the concept of “tributary groundwater”
  - Sometimes a single appropriation statute applies to surface waters and groundwater, generally to the disadvantage of groundwater users

# Regulated Riparianism

- ◆ Found in a growing number of states
  - Often covered by the same regulated riparian statute as applies to surface waters (17 states)
  - Some states have separate regulated riparian statutes applicable to surface water and groundwater
    - ◆ Arkansas
    - ◆ Georgia
    - ◆ Virginia
  - Some states have regulated riparian statutes for groundwater and a different system of law for surface waters
    - ◆ Arizona (appropriative rights)
    - ◆ Illinois (riparian rights)
    - ◆ Pennsylvania (riparian rights; groundwater permits imposed by the Delaware River Basin Commission over one part of the state)
    - ◆ Perhaps Nebraska (appropriative rights)
- ◆ The right to use water depends on a time-limited permit
- ◆ Best conceived of as treating groundwater as public property or at least as a natural resource that must be publicly managed

# Markets Anyone?

- ◆ The third party problem
- ◆ Recent so-called markets
  - The California Water Bank
    - ◆ Only one lawful seller and only one lawful buyer
    - ◆ No negotiation over prices
  - The Imperial Valley Irrigation District “sale” to San Diego
    - ◆ Rejected by the District’s board
    - ◆ Imposed by the Secretary of the Interior
  - The Chilean Water Code
    - ◆ Water redefined as strictly private property without regard to third party rights during the Pinochet regime
    - ◆ Highly touted as proof that markets work
    - ◆ In fact, almost no market activity except in one small valley and even there it has mostly stopped because of popular resistance—  
Carl Bauer, *The Siren Song* (Resources for the Future 2004)
- ◆ Regulatory intervention masquerading as a market
  - The state chooses to ignore third-party effects for itself
  - Although it continues to protect third parties from private transfers
  - Results in a transfer of wealth from the poor to the rich
- ◆ Economic incentives are critically important, but should not be confused with markets



# Ric Masten, Stark Naked in '69 and '79 (1980)

To Nuke  
or Not to

is it not disturbing to consider  
that everything in and about  
a nuclear power plant  
will be furnished  
by the lowest bidder