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

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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

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A Conversation about Water from Duckboy.com
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

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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

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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

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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

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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

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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