Emerging Water Resource Conflicts

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> Burke W. Griggs Washburn University School of Law burke.griggs@washburn.edu

The United Watershed States of America



Why Water Law is not Uniform



Water Law 101

- Eastern States: Riparian
 - Wet
 - Riparian: right to use water part of land ownership
 - Slow to protect rights in times of shortage; follows rules of equity
- Western States: Prior Appropriation
 - Dry
 - Prior Appropriation: First in Time, First in Right
 - Right to use water separate from land
 - Fast: follows priority

The Legal and Historical Background

- "Classical" water law based on surface water assumptions. Because that was the water we used.
- Most water law is state law; with some exceptions, federal law defers to state water law.
- By 1945 or so, most legal issues seemed settled:
 - State water law mature and effective
 - Federal Law (Reclamation Act) established (and amended)
 - Interstate compacts and decrees over most important river basins

Peace in our time?



Technological revolutions render traditional warfighting obsolete.



The Groundwater Revolution.



Frank Zybach's first center-pivot irrigation system, near Strasburg, Colorado. He started with a low pipe that was later raised to run over corn fields. UNL.

Groundwater: Legal Doctrines

- Groundwater behaves differently than surface water, and responds to regulation more slowly.
- Groundwater law does not necessarily harmonize with surface water law. And this can be a problem.
- Some Western States: Prior Appropriation
 - KS, CO, WY, ND, SD, NM
- Other Western States: Correlative Rights/Reasonable use
 - NE, CA, OK
- Maine and Texas: Rule of Capture.
- Most Eastern States: riparian/reasonable use doctrine

Groundwater: Jurisdictions

- Many states grant rights to, regulate, and manage groundwater centrally, at the state level.
- Other states have ceded/delegated the regulation and management of groundwater to local water and natural resources districts.
- Some states have attempted to strike some middle ground in terms of jurisdiction and authority.
- The surface water/groundwater jurisdictional divide is a serious problem in water politics. In Nebraska, it led to *Kansas v. Nebraska* (2008-15).

Interstate Water Conflicts

- Wetter Areas under increasing water stress:
 - Missouri River Basin
 - MS v. TN
 - Great Lakes States
 - North Texas, Oklahoma, and Oklahoma Tribes
 - Even FL, AL, and GA
- Interstate Compact Fights
 - KS v. NE
 - TX v. NM
 - MT v. WY
 - SC v. NC
 - Great Lakes Compact
- The resolution of these conflicts often has important consequences for state water policy. Colorado.

4 Emerging Conflicts

- 1. Chickens Coming Home to Roost: the Surface-Groundwater Interface
- 2. Doing what's right vs. sticking to one's rights: management plans vs. water right adjudications
- 3. Buy and Dry: Ag-to-Urban transfers, especially across the West
- 4. Boundary Issues: Sustainable vs. nonsustainable groundwater supplies

Chickens coming home to Roost: the Groundwater-Surface Water Interface

- Where groundwater pumping depletes streamflows and water levels over a long time, the connection between these two supplies can become tenuous and even severed, with very serious consequences.
- Groundwater-dependent ecosystems and the Endangered Species Act. (Quivira NWR, KS)
- Platte River Recovery Implementation Program (WY, CO, NE)
- Edwards Aquifer (TX)
- Bay Delta, California
- Interstate Compact situations
- Lesson: Avoiding this problem is vastly easier than repairing it.

Doing what's right v. sticking to one's water rights

- Recent major legislation on water (but esp.) groundwater conservation avoids modifying the current legal regime for water rights.
- But owners of water rights still have the power to force the implementation of these conservation programs into court. Because they own property.
- Some areas to watch:
 - California and the SGMA
 - Nebraska and the Republican River
- Manage Cooperatively, Adjudicate, or both?
- What can legislatures do? Set clear, deliberate rules.

Buy and Dry: Ag to Urban Transfers

- In the West, water rights can generally be severed from their place of diversion/origin, and used elsewhere. (think *Chinatown.*) This can "dry up" farm areas, with serious consequences.
- Some current hot (and dry) spots:
 - San Diego (and the Imperial Irrigation District)
 - Las Vegas (and northern NV groundwater supplies)
 - Denver (and the Arkansas River Basin)
- How can the agricultural community best respond to this changing water dynamic? *Creatively and with legislative guidance- to avoid either/or results.*

Boundary issues: renewable vs. non-renewable groundwater

- Many aquifers are rechargeable and can be managed sustainably (CA, ID, alluvial systems).
- Others, such as large parts of the Ogallala, Dakota, and other aquifers, are not rechargeable.
- The central challenge: if water rights are permanent real property rights, what happens when we realize that the supplies upon which those legal rights depend are in a state of permanent decline?
- We will need to establish boundaries and limits.

The Ogallala as an Interstate Resource?



- 276 MAF withdrawn
- 8.3 MAF/year– half of the Colorado River
- Declines as high as 150 feet– permanent
- Compact?
- National Aquifer?

In the End: Whose Property has been Taken?

Major Perennial Streams 1961 and 2009



 $\sim\!\!\sim\!\!\sim$ Streams regarded as perennial in both 1961 and 2009

Stream Data provided by the Kansas Department of Health and Environment. 1961 coverage (USGS: special surveys) 2009 coverage (KDHE: long-term observations)

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Note: Some of the smaller streams shown on this map lacked recent observational data but were carried over as perennial systems pending further study. The standing body of water located near the center of the map and just north of the Arkansas River is Cheyenne Bottoms, which is normally a terminal basin.

Perennial: containing water throughout the year except for infrequent periods of severe drought (USGS, 1996). Justice Oliver Wendell Holmes, Jr. (to Harold Laski)

"I always say, as you know, that if my fellow citizens want to go to Hell I will help them. It's my job."

