

Comparative Water Laws

Characteristics	Prior Appropriation (Western U.S.)	Common Law Riparianism (Eastern U.S.)
Permit	State Water Board issues permit	Not required
Ownership	Private ‘usufructuary’ right to publicly-owned water	Private ‘usufructuary’ right to publicly-owned water
Qualifications	<ul style="list-style-type: none"> • Diversion to appurtenant land • Beneficial Use <ul style="list-style-type: none"> -- Determined by Water Board before permit issued -- Restricts type of use 	<ul style="list-style-type: none"> • Ownership of riparian land • Reasonable Use <ul style="list-style-type: none"> -- Determined by courts in response to use conflicts -- Courts look at correlative impact on other riparians
Quantity under right	Water Duty: Diversion irrigating average mix of crops with irrigation technology prevailing when right perfected	Determined by courts in response to use conflict
Forfeiture	‘Use it or lose it’	No forfeiture for nonuse
Security of right	Perpetual right to water duty	Reasonable-use quantity subject to perpetual challenges by fellow riparians
Water shortages	Prior Appropriation: First in time, first in right	Pro-rata Distribution: Riparians share limited supply
Protection	Property Law: Seniority established before permit issued <ul style="list-style-type: none"> • Senior appropriators protected against out-of-turn use by Juniors • Juniors protected against expanded use by Seniors 	Tort Law: Protection against unreasonable use provided by courts after conflict
Transferability	Requires permit to assess 3 rd party impacts	Illegal

Tradeoff between water-right security and flexibility in responding to changing conditions

Pressure in Eastern U.S. to Modernize Common Law Riparianism

- Increasing pressures on water supplies
 - Severe droughts in many eastern states
 - Record population growth
 - Geographic mismatch of supply and demand
- ‘Regulated’ Riparianism
 - Combine stability of prior appropriation with flexibility of common law riparianism
- Three approaches (The Model Water Code, University of Florida (1972))
 - Establish a permit system of short duration (problem: discourage investment in water development)
 - Grant a long-term permit but provide for involuntary transfers through a preference system ranking social importance of uses
 - Grant a perpetual permit but provide for voluntary water transfers

Comparative Water Laws

Characteristics	Prior Appropriation	Common Law Riparianism	Regulated Riparianism (Florida Water Statute)
Permit	Issued by State Water Board	Not required	State Board issues Consumptive Use Permit (CUP)
Ownership	Usufructuary right	Usufructuary right	Usufructuary right
Qualifications	<ul style="list-style-type: none"> • Diversion to appurtenant land • Beneficial Use Standard -- Determined by water board before permit issued 	<ul style="list-style-type: none"> • Ownership of riparian land • Reasonable Use Standard -- Determined by courts after conflict 	<ul style="list-style-type: none"> • Permit not tied to riparian land • Reasonable-Beneficial Use -- Determined by Board before permit issued • Permit application reviewed on three criteria: -- Type of use -- Will not interfere with existing right -- Consistent with public interest
Quantity under right	State Board sets water duty before permit issued	Determined by courts after conflict	State Board sets reasonable-beneficial use quantity before permit issued
Forfeiture	‘Use it or lose it’	No forfeiture for nonuse	Permit may be revoked after 2 years of nonuse
Security of right	Perpetual right	Perpetual court challenges	<ul style="list-style-type: none"> • CUP permits granted for 20 years • Permit Renewal -- Can be awarded to different permittee -- Issuing board can modify terms
Water shortages	Prior Appropriation	Pro-rata Distribution	Pro-rata Distribution
Protection	Property Law: Seniority established before permit issued	Tort Law: Protection against unreasonable use provided by courts after conflict	Reasonable-Beneficial use established before permit issued
Transferability	Requires permit	Illegal	Illegal

Transfusing Prior Appropriation into Repararianism Carries the Risk of Infection

- Parameters delimiting prior appropriative rights are not well defined
 - Priority date; water duty; place, purpose and timing of use
- Parameters don't reflect changing circumstances
 - Changes in consumption use and irrigation return flows not reflected
 - Transfers of diversion rights can impair 3rd party water rights
 - Improvements in on-farm irrigation efficiency can impair 3rd party water rights
- Consumptive use permits in Florida's water statutes do not quantify rights in terms of consumptive use

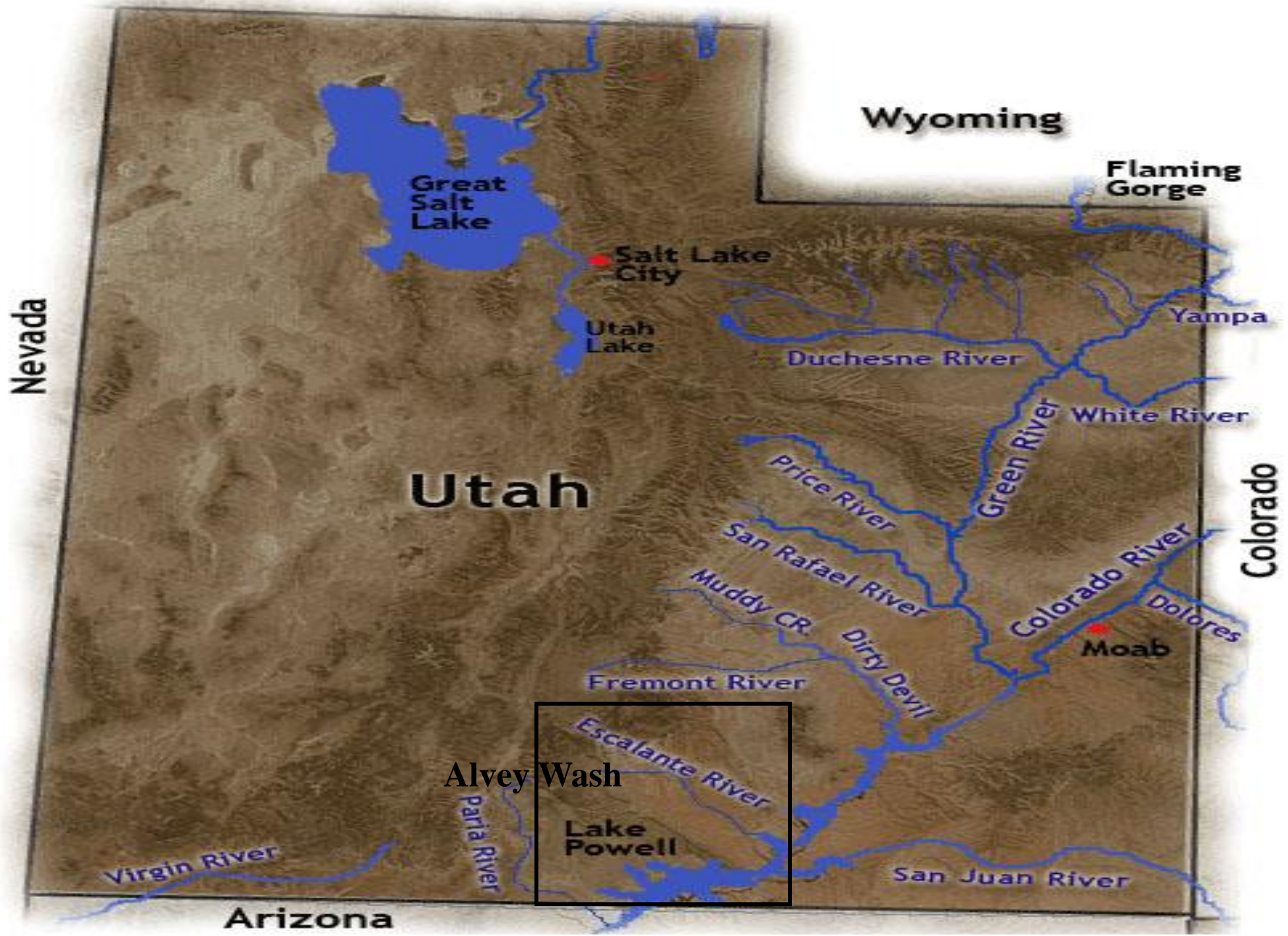
Increased Conservation in Irrigation Can Increase Water Use

Frank A. Ward and Manuel Pulido-Velazquez PNAS 105(47): 18215-18220 (November 25, 2008)

Table 1: Water Use Patterns in Irrigated Agriculture for Selected Water Conserving Subsidies, Lower Rio Grande, USA, 2007-2012

Subsidy (% capital)	Subsidy (\$/ac/yr)	Hydrologic Outcome (1000 af/yr)										Economic Outcomes				
		Upstream Reservoir	On Farm			River			Aquifer	Water Conserved	Irrigated Acres (1000s)			Farm Income (\$1000/yr)	Program Cost (\$1000/yr)	
			Release to River	Water Applied	Crop ET	Water Pumped	Stream Diversions	Surface Return Flow			River Gains from Aquifer	Flow to Downstream Users	Change in Storage			Drip
0	0	408	372	173	174	198	160	-40	329	-94	0	9	73	82	32,272	0
10	36	399	372	173	179	193	160	-42	324	-97	0	9	73	82	32,397	325
20	73	399	372	173	179	193	160	-42	324	-97	0	9	73	82	32,397	325
30	109	399	369	173	176	193	157	-41	322	-96	0	10	72	82	33,100	1,139
40	146	399	348	180	155	193	134	-36	303	-85	-8	30	54	84	33,744	4,356
50	182	399	274	183	80	193	73	-19	260	-44	-10	57	27	84	35,245	10,380
60	219	399	274	183	80	193	73	-19	260	-44	-10	57	27	84	37,321	12,456
70	255	399	281	192	88	193	71	-21	256	-49	-19	63	26	89	39,481	16,068
80	291	399	281	192	88	193	71	-21	256	-49	-19	63	26	89	41,776	18,363
90	328	399	281	192	87	193	71	-21	256	-49	-19	63	26	89	44,082	20,790
100	364	399	281	192	87	193	71	-21	256	-49	-19	63	26	89	46,392	23,100

Case Study: Estate of Sneed v. New Escalante Irrigation Co. [846 P.2d 1223 (Utah 1992)]



Wyoming

Flaming Gorge

Great Salt Lake

Salt Lake City

Utah Lake

Yampa

Duchesne River

White River

Utah

Price River

Green River

Colorado

San Rafael River

Colorado River

Dolores

Muddy CR.

Dirty Devil

Moab

Fremont River

Alvey Wash

Escalante River

Lake Powell

Virgin River

Paria River

San Juan River

Arizona

Nevada