

SW: Riparian Doctrine

common property

- only *riparians* can use water
- water rights are not quantitatively specified
- each riparian's use must be "reasonable"
- conflicts are judicially resolved
- "rights" are not transferable (except via land)
- not suitable for elevated water scarcity

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SW: Eastern Permits

state property

- next-step reform of an ailing Riparian Doctrine
- water use requires a state-approved permit
- permits might be quantified
- permits expire (called term permits)
- permits are renewable (maybe)

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SW: Prior Appropriations Doctrine

private property

- seniority: "first in time, first in right"
- quantified (on paper) as af/yr or cfs
- transferable, apart from land (severed)
- a two-fold opportunity for traders
 - ★ trading for water quantity & reliability

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SW: Prior Appropriations Doctrine

private property

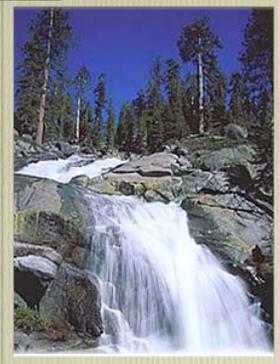
- long hailed in econ literature as efficient as long as these rights are transferrable
 - originally, in many jurisdictions, trade of these rights was/is prohibited
- historically, these rights list allowed diversions rather than allowed consumptive use

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SW: Prior Appropriations Doctrine

private property

- commonly has associated, anachronistic attachments
 1. beneficial use requirements
 2. preference orderings
 3. forfeiture clauses for nonuse
 - ★ “use it or *lose* it”
- all three are inefficient & dispensable



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SW: Correlative Shares

private property

- no seniorities
- annual flow uncertainty handled as ownership of shares: a ratio of flows
- transferable

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SW: Correlative Shares

private property

- seniorities vs. shares
 - If you represented a city buyer?
 - different trading behavior
 - not so different when sales opportunities are complemented by leasing opportunities

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SW: Streamflow Protection

- individual water users (i.e. diverters) are not especially interested in streamflow preservation
 - neither are diversion-linked business interests
- what inst's address the balance between water that is to be left instream and that that is diverted?
 - social interests can't rely on self-interest or markets

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SW: Streamflow Uses

- recreation
 - fishing, floating, skiing
 - camping, picnicing
- habitat, biodiversity
- hydropower
- waste assimilation/transport



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GW: Reasonable Use

common property

- the common = overlying land owners
- water rights are not quantitatively established
- each use must be “reasonable” but not necessarily in relation to others’ use (like for riparian doctrine)
- reasonability tests don’t examine depletion
- not suitable for elevated water scarcity

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GW: Correlative Rights

common property

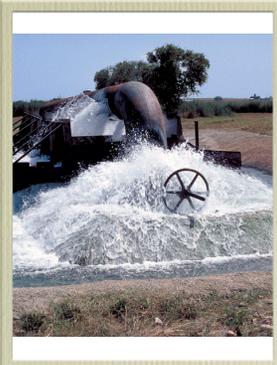
- the common = overlying land owners
- equitable shares allegedly based on safe yield
- absent or very limited transferability (water use is tied to land ownership)
- better than some other choices when water scarcity is elevated, but reallocation is difficult

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GW: Prior Appropriations Doctrine

incomplete private property

- As with SW, rights are quantified and have a specified seniority.
- may or may not be transferable
- little formalized attention to depletion



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GW: Smith Two-Deed System

advanced private property

- not used anywhere
- distinct rights to 2 things are allocated
 - ★ 1. recharge (flow); 2. stored (stock)
- both transferable
- could/should utilize seniority for the flow deed
- highly suitable for elevated water scarcity

GW↔SW: Conjunctive Institutions?

- surface flows and ground flows are well linked, so why not link the laws tightly too?
- strong SW rules can be thwarted by weak GW rules and vice versa



