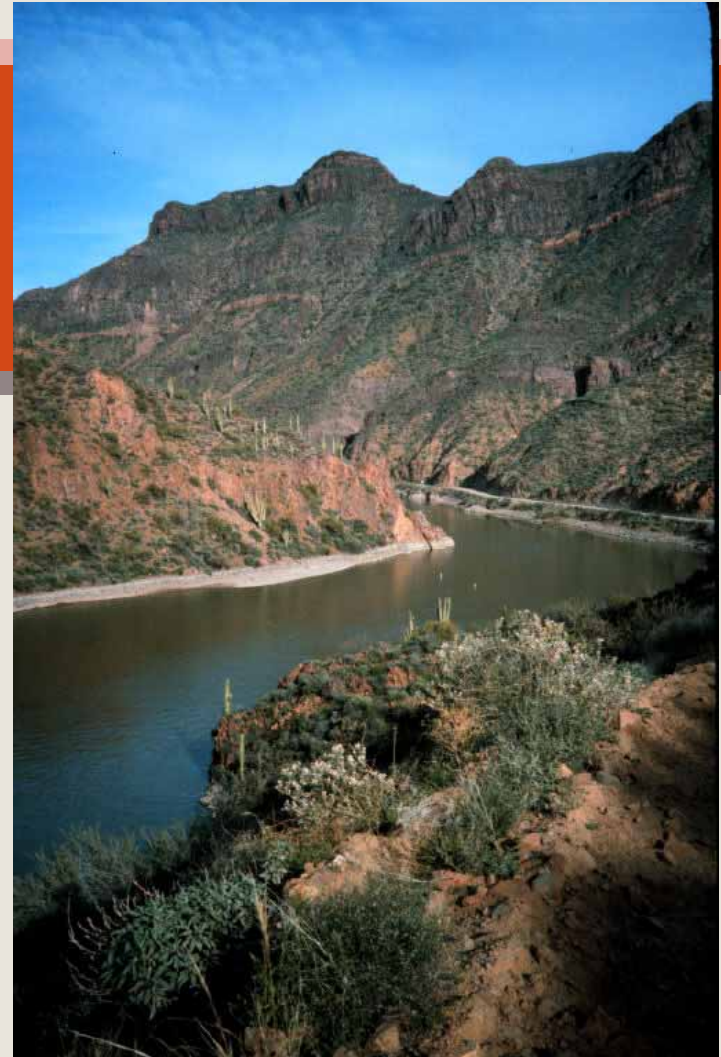




Climate Change Adaptation and Water Rights

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Policy
Workshop
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OUTLINE:

Climate Change and Water Rights

- A few observations about the climate change adaptation and water rights nexus
 - What does the WGA “Next Steps” report say (and not say) about water rights and climate change adaptation
- *New Research*: Interplay of earlier snowmelt on the functioning of prior appropriation water rights

Change

(connections mentioned in the WGA “Next Steps” report)

Issue Areas

- Water transfers (esp. “creative” mechanisms such as leases, water banks, options, land fallowing, ...)
- Integration of land-use (growth) and water decision-making
- Water reuse
- Incentives for conservation
- Environmental protection
- Conjunctive use (of groundwater and surface-water) and aquifer storage and recovery (ASR)
- Jurisdictional issues

Legal Terms / Areas of Law

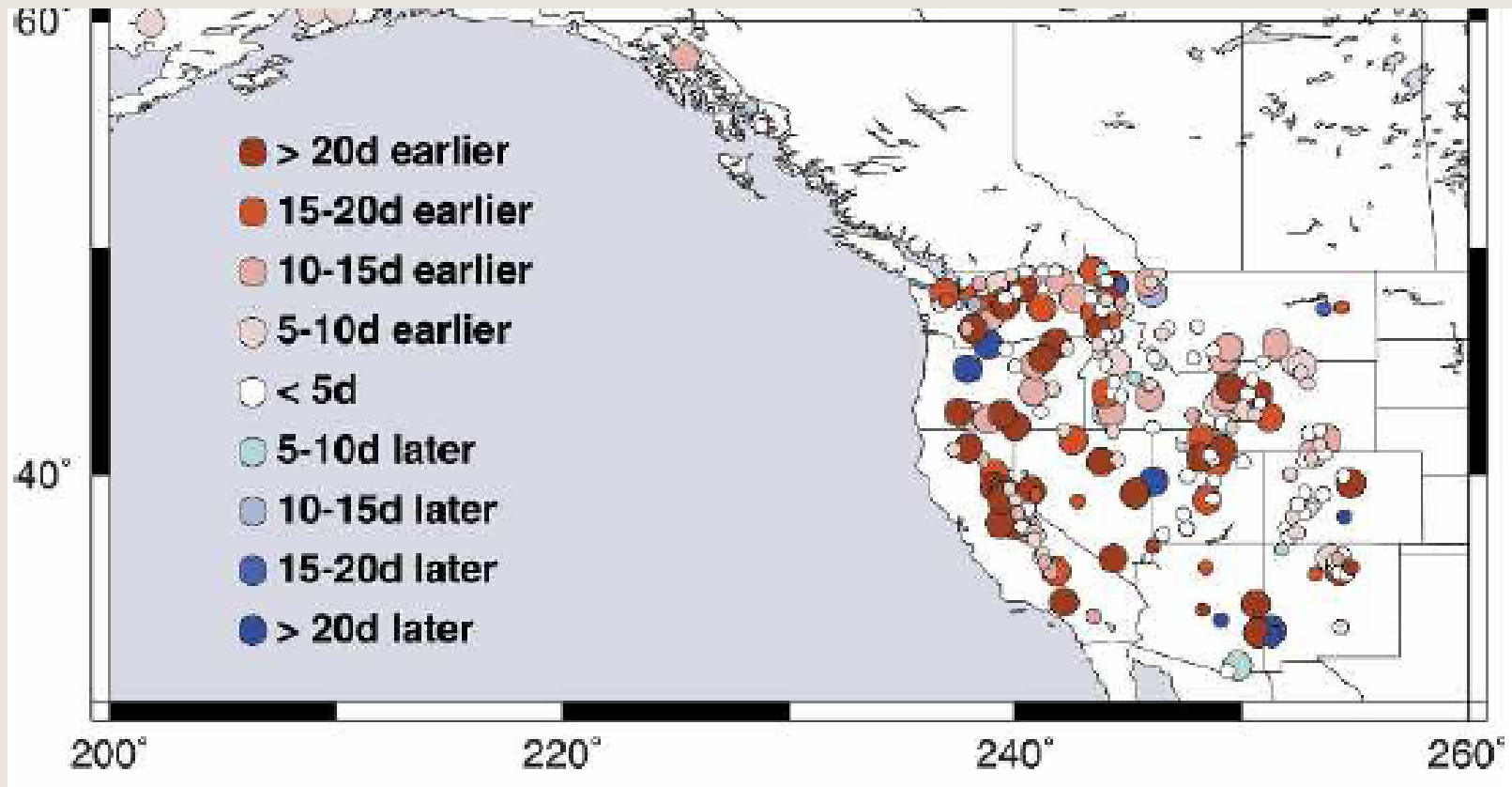
- Public interest (relating to land-use/water integration and transfers)
- Forfeiture & Abandonment (transfers and conservation)
- Instream flow programs (as a preferred alternative to ESA compliance)
- No injury rule (transfers)
- Area of origin protection (transfers)
- Liability (e.g., regarding weather modification)

- Federal interests also mentioned with respect to tribal water rights/settlements and E

3 Ways to View Water Rights with Respect to Climate Change

- A Constraint to Problem-Solving: Water rights as an impediment to overcome when implementing adaptation strategies and options
- An Adaptation Mechanism: Water rights & administrative reform as mechanisms for solving the region's water problems
- A Contributor to the Problem: The role of water rights in creating/shaping water system vulnerabilities

Question: How Might Changes in Streamflow Timing (i.e., earlier runoff) Impact the Functioning of Water Rights in Western States?



Stewart et al., 2005

Potentially important factors that may shape the “situation” in a given state/basin

- Does the water right have *calendar dates*?
- Is the region experiencing a strong or weak earlier snowmelt signal?
 - Generally, the lower the altitude, the greater the movement of the snowmelt date
- How is water really administered in your state?
 - Do administrators follow the letter of the law?
 - Are there multiple rights on important streams?
 - Are calls and curtailments a normal part of administration?

What do state water laws say about timing in water rights?

- Some are silent on the issue (i.e., don't mention specific dates)
- Some require calendar dates on water rights
- Some require dates on some types of rights and not others
- Some require dates on water right applications but not necessarily on the eventually decreed right

Table 2. Hydrologic and Legal Trends in Streamflow Timing in the 11 Western States

Inclusion of Timing Elements in Water Rights	Trend Toward Significantly Earlier Spring Snowmelt	
	Strong	Weak / Inconclusive
<p><u>(A) Explicit Timing Requirement.</u> Statutes, rules and/or case law explicitly require time of year limitations in documents establishing water rights</p>	<ul style="list-style-type: none"> ▪ Washington ▪ California (post-1914) ▪ Idaho (post-May 1967) ▪ northern Utah ▪ northwestern Montana (stream adjudications) 	<ul style="list-style-type: none"> ▪ New Mexico ▪ Utah (except northern) ▪ Montana stream adjudications (except northwest)
<p><u>(B) Some Attention to Timing.</u> Statutes, rules and/or state-prescribed application forms require that time of year be stated in the application for a right, but are silent as to whether time of year must be included in documents establishing water rights</p>	<ul style="list-style-type: none"> ▪ eastern Oregon ▪ eastern Arizona ▪ northwestern Montana (permits) ▪ Nevada (permits) ▪ western Wyoming (transfers) 	<ul style="list-style-type: none"> • Oregon (except eastern) • Arizona (except eastern) • Montana permits (except northwest) • Eastern Wyoming (transfers)
<p><u>(C) Silent on Timing Issues.</u> Neither statutes, application forms, nor case law generally require time of year limitations as an element of water rights (though exceptions exist such as transfers and recreational rights)</p>	<ul style="list-style-type: none"> ▪ western Wyoming (except transfers) ▪ Nevada (stream adjudications) ▪ California (pre-1914) 	<ul style="list-style-type: none"> ▪ Colorado ▪ Eastern Wyoming (except transfers)

How is water really administered?

- We reviewed a sample of water decrees in the 4 selected states
- Conducted interviews with administrators, lawyers, and so on
- Search of the literature & cases

Themes and Findings

- **Many Irrigation Water Rights Appear to Be Lengthening (and Growing).**
 - Diversions occur earlier and end later
 - This happens in states *with* and without calendar dates (i.e., dates not enforced)
 - Expansion is seen as reasonable as long as use is beneficial

Themes and Findings

- **A Lot of Administrative Flexibility is Being Exhausted.**
 - Natural flexibility is part of the system (since no two years look exactly alike)
 - Many of the “Gentleman’s agreements” (about when and how to divert) are being eroded
 - Late season calls are becoming more common and contentious, however

Themes and Findings

- **Legal Disputes Associated with Water Rights Timing are Not Yet Apparent**
 - No active cases; not much in the literature
 - Injured parties may not be complaining because they don't know about what is happening regarding the exercise/expansion of more senior rights

Themes and Findings

- **Winners and Losers Are Tough To Predict, but....**
 - In states without timing restrictions (or with such restrictions that are not enforced), then seniors can use more water, presumably at the expense of juniors
 - Strict enforcement of calendar dates may help maintain the status quo or may hurt all users (as everyone's rights are increasingly out of synch with the hydrograph)
 - The interplay of direct flow v. storage rights, and the role of return flows, can further complicate the situation

Themes and Findings

- **Looking forward**
 - We are in a period of calmness; many interviewees think lawsuits are coming (likely initiated by juniors experiencing deficient late-season flows in states that use rights with calendar dates)
 - In states without timing requirements, the problem may more likely manifest itself as a water management issue than a legal issue
 - Compact issues may be particularly difficult to solve (given the unanimity requirement for revisions)

Timing Elements in Selected Western Water Allocation Compacts			
Compact			Comments & Notes
Basin	States	Year	
Arkansas	CO, KS	1948	Defines winter storage season dates (Nov 1 to March 31) and summer storage season dates (April 1 to Oct 31).
Costilla Creek	CO, NM	1944, 1963	Defines irrigation season from May 16 to September 30; storage season from October 1 to May 15.
La Plata	CO, NM	1922	Defines a period of unrestricted use (Dec 1 to Feb 15) and an apportionment period (Feb 15 to Dec 1).
Rio Grande	CO, NM, TX	1938	Some delivery obligations tied to flows from April 1 to Oct 31 or Oct 1 to June 30.
South Platte	CO, NE	1923	An irrigation season apportionment is defined from April 1 through Oct 15.
Upper Niobrara	WY, NE	1962	Multiple storage seasons defined, beginning on Oct 1, and ending on either May 1, June 1, or Sept 30 depending upon the project and direct flow rights.
Yellowstone	WY, MT, ND	1950	Apportionment between MT and WY is based on annual water-year basis measured from Oct 1 through Sept 30, while the MT-ND apportionment runs from May 1 to Sept 30.

Plus: Some compacts require maintenance of minimum streamflows at all times

Themes and Findings

- **Recommendations**

- Keep an eye on this issue; try to integrate this issue in water system modeling
- Prepare for increased demands on water rights administrators

“States should anticipate an increased need to address the forecasted effects of climate change in administrative, regulatory, and legal agreements involving water resources.” (“Next Steps” report; Recommendation 40; page VII)

**The Impact of Earlier Spring Snowmelt on
Water Rights and Administration: A
Preliminary Overview of Issues and
Circumstances in the Western States**



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Final Project Report
(review draft): Sept. 3,
2008



Thank You

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[http://wwa.colorado.edu/western_water_law/docs/WRCC Complete Draft 090308.pdf](http://wwa.colorado.edu/western_water_law/docs/WRCC_Complete_Draft_090308.pdf)