



SGM Fall Forum October 30, 2009

A Colorado River Interstate Compact Call,
Implications for the Western Slope Water Provider

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Colorado Water Conservation Board



What this talk is NOT...

- A hysterical rant about how the end of the world as we know it is approaching...
- A position statement on future trans-basin diversions from the West slope to the front range.
- A waiver in any way, shape or form, of Colorado's potential legal arguments...

What this talk is...

- Background on the Law of the Colorado River.
- Recent hydrology and other basin issues.
- Focus on Phases of Dealing with curtailment.
 - 7 basin states issues
 - Upper Basin issues
 - Colorado issues.
- Colorado's current work.
- Implications for Western Slope Water Providers.

Colorado River Allocations

UPPER BASIN - 7.5 MAF

Upper Basin Allocations
Established by Upper Colorado
Basin Compact - 1948

LOWER BASIN - 7.5 MAF

California – 4.4 MAF

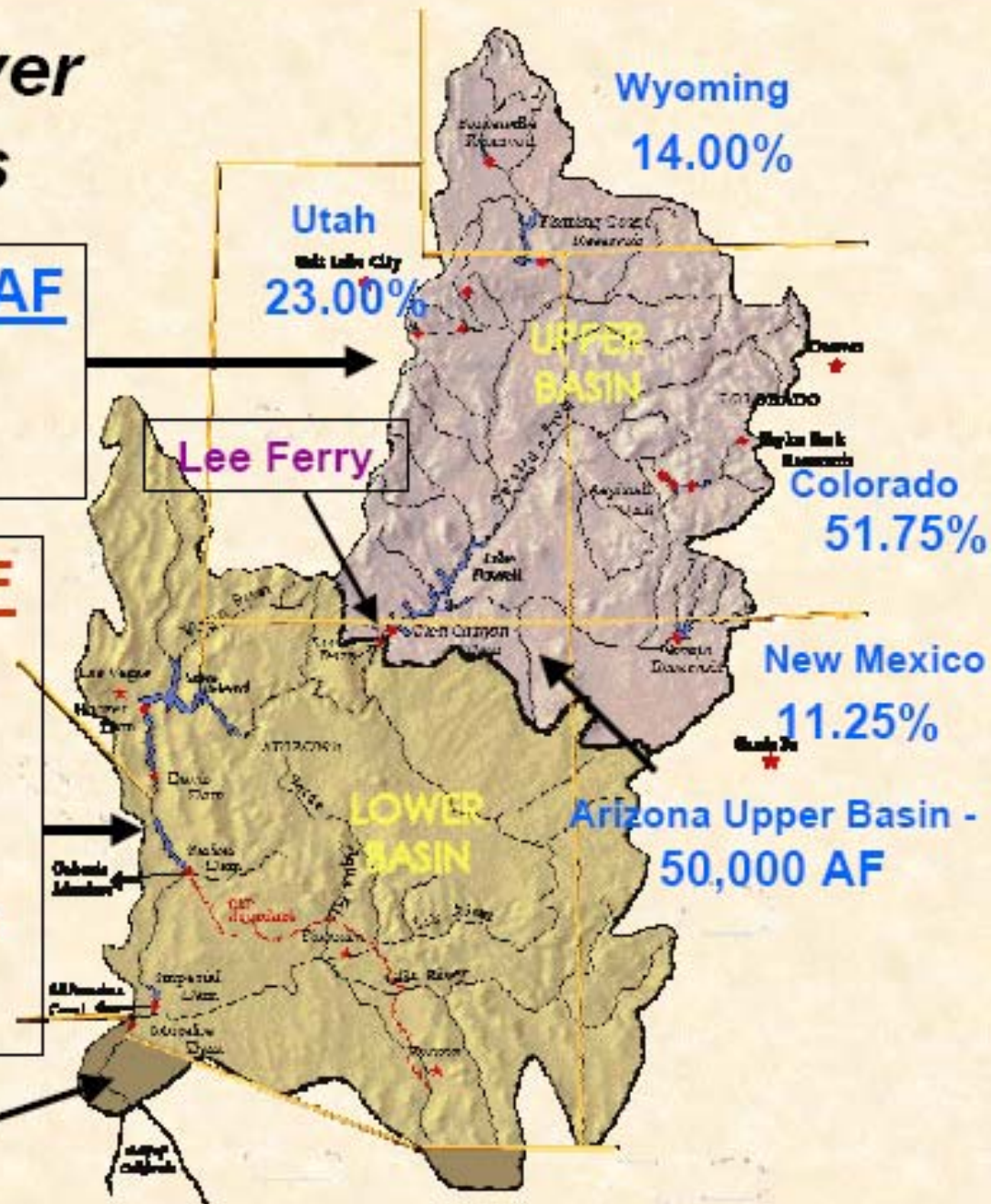
Arizona – 2.8 MAF

Nevada – 0.3 MAF

Lower Basin Allocations Established
by the Boulder Canyon Project Act -
1928

Mexico - 1.5 MAF

Established by Treaty
with Mexico -1944



Colorado River Overview

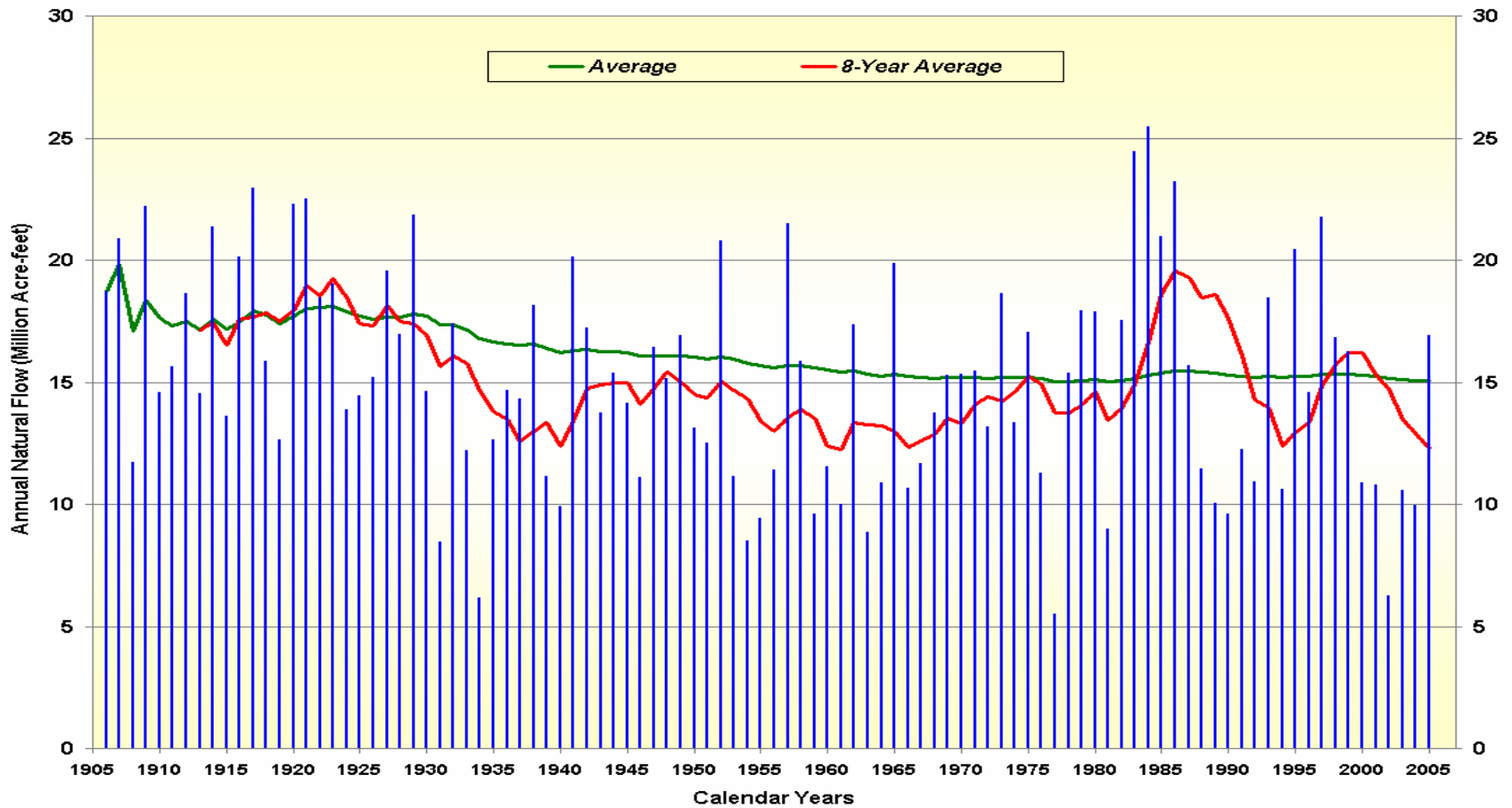
- Up to 17.5 million acre-feet (MAF) allocated annually – 7.5 MAF to Upper Basin and 7.5 MAF plus an additional 1 MAF to Lower Basin and 1.5 MAF under the 1944 Treaty to Mexico.
- 13 to 14.5 MAF of consumptive use occurs annually within the U.S. (14.5 to 16 MAF including Mexico).
- 60 MAF of storage
- 15.1 MAF average annual “natural” runoff over past 100 years
- U.S. Bureau of Reclamation serves as “water master” for the Lower Basin.



Natural Flow

Colorado River at Lees Ferry Gaging Station, Arizona

Calendar Year 1906 to 2005



Provisional data, subject to change



F. R. Mosher
Yuma

State of the System 1999-2008 from USBR

Water Year	Unregulated Inflow to Powell (% of avg)	Powell and Mead Storage (MAF)	Powell and Mead (% capacity)
1999	109	47.59	95
2000	62	43.38	86
2001	59	39.01	78
2002	25	31.56	63
2003	52	27.73	55
2004	49	23.11	46
2005	104	27.24	54
2006	72	25.80	51
2007	68	24.43	49
2008	102	26.52	53

LOW LEVELS AT POWELL



RECENT HYDROLOGY

- **2000-2008 has been the driest 9-year period in the 100-year historical record.**
- **Tree-ring reconstructions show more severe droughts have occurred over the past 1200 years (e.g., drought in the mid 1100's).**
- **Climate Change**
- **Today Lake Mead is at elevation 1095 feet. At 1075 shortages in the lower basin begin.**

LOW LEVELS AT LAKE MEAD



Clark County population Approaches 2 million people

Year	Clark County Population	Nevada Population	Percentage of Nevada residing in Clark County
1970	277,230	496,960	55.79%
1975	351,300	621,975	56.48%
1980	463,087	800,508	57.85%
1985	562,280	955,810	58.83%
1990	770,280	1,236,130	62.31%
1995	1,055,435	1,611,593	65.49%
2000	1,394,440	2,023,378	68.92%
2001	1,485,855	2,132,498	69.68%
2002	1,549,657	2,206,022	70.25%
2003	1,620,748	2,296,566	70.57%
2004	1,715,337	2,410,768	71.15%
2005	1,796,380	2,518,869	71.32%
2006	1,874,837	2,622,753	71.48%
2007	1,954,319	2,716,975	71.93%

Data Source: Nevada State Demographer.

States Are Pursuing Collaboration

- Interim Shortage and Coordinated Reservoir Operation Guidelines
- Vegetative management (tamarisk removal)
- Augmentation Study (desalinization, importation, other options)
- Weather Modification (cloudseeding)
- U.S. Mexico bilateral negotiations

Compact Curtailment Has Steps

- 1- Litigation may be possible, probable, or down right inevitable.
 - 1922 Compact legal issues.
- 2- Upper Colorado River Compact Commission has a role.
 - Litigation may occur here also.
- 3- The State of Colorado has a role.
 - Oh yeah....litigation may occur here also...

Article III

- (c) Any treaty obligation will first be met with Colorado River **system waters which are surplus** over and above the aggregate of the quantities specified in paragraphs (a) and (b). If not enough surplus exists, then **the deficiency** shall be equally borne by the Upper Basin and the Lower Basin, and **whenever necessary** the States of the Upper Division shall deliver at Lee Ferry water to supply one half of the deficiency so recognized in addition to that provided in paragraph (d).
- Tributary issue...

MEXICAN TREATY

- “In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) a year, the water allotted to Mexico under subparagraph (a) of this Article [10] will be reduced in the same proportion as consumptive uses in the United States are reduced.”
- Mexican Water Treaty, Treaty Series 994, 59 Stat. 1249, November 14, 1944., Article 10 (b).

Article III

(d) ““The States of the Upper Division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre aggregate acre-feet for any period of 10 consecutive years...””

THIS IS NOT A DELIVERY OBLIGATION!

(e) The States of the Upper Division shall not withhold water, and the States of the Lower Division shall not require the delivery of water, which cannot be reasonably applied to domestic and agricultural use.

Article IV - Curtailment

- If the Upper Division States have to curtail use to keep the flow of the river at Lee Ferry from being depleted below 75 maf/10 yrs, the Upper Colorado River Commission will determine the quantity each state owes and the timing based on three principles:
 - (a) Curtailment must assure full compliance with Article III of the 1922 Compact (Hammer Clause);
 - (b) Overusing states must payback the amount of their overuse in the last ten years first;
 - (c) If overuse payback is insufficient to meet the flow target, then the states must deliver at Lee Ferry an amount of water that is proportionate to their use in the year immediately preceding the curtailment year.
- Note that present perfected rights are excluded from curtailment.

Upper Colorado River Commission Powers:

- Adopt rules and regs
- Engage in cooperative studies
- Collect and analyze river data
- Make findings as to Upper Basin water use, Lee Ferry deliveries, and reservoir losses
- Make findings as to necessity for and extent of curtailment (if necessary)
- Make findings as to "extraordinary drought" in the Upper Basin



Upper Colorado River Compact Commission

- Currently exploring at the work group level how to implement a curtailment between the upper basin states.
- Agreement on many issues.
- Disagreement on some key issues.

Colorado's Role

- Water availability.

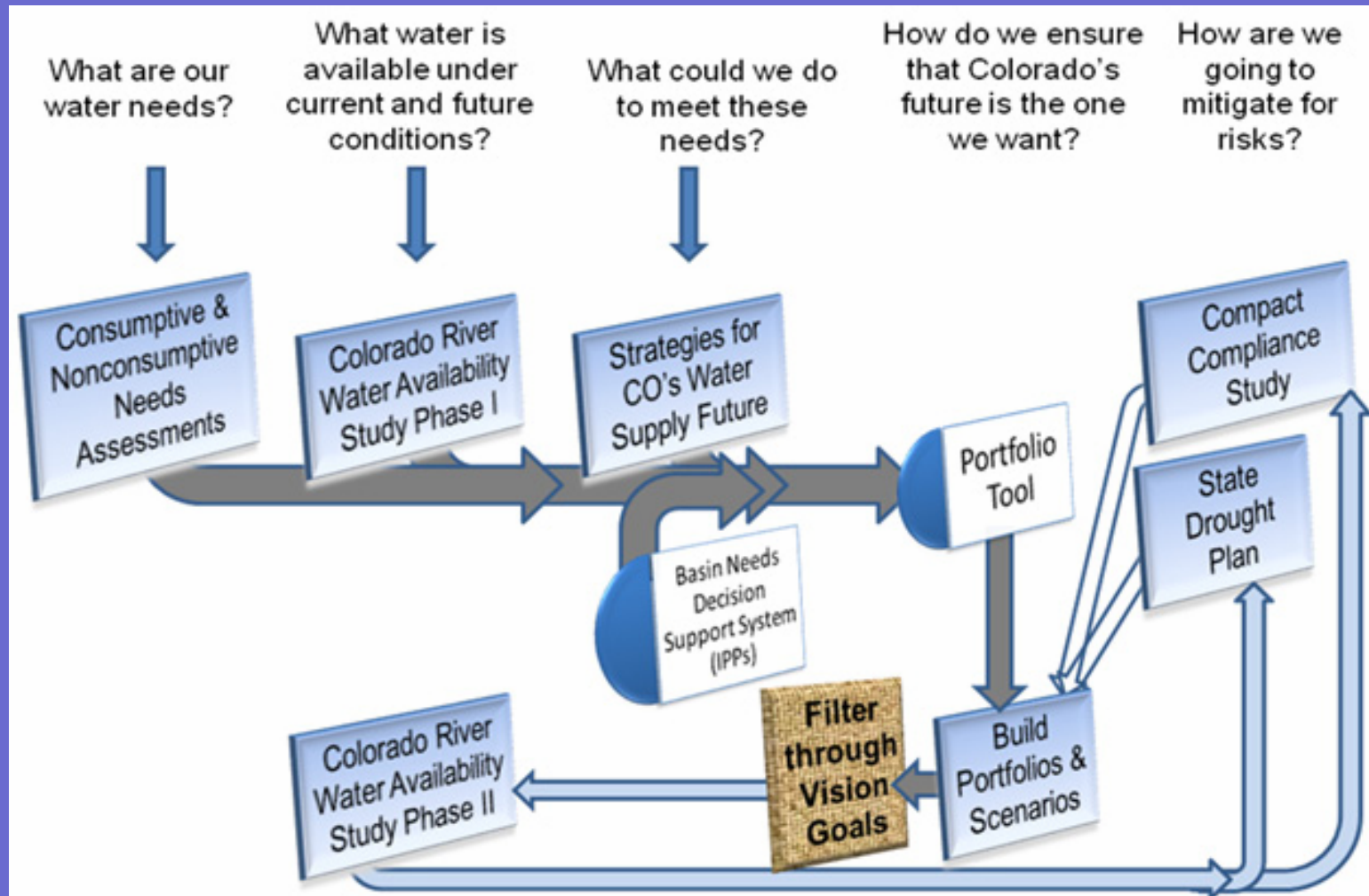
Water Availability Study

- Phase I-Water Availability under current water supply infrastructure, currently perfected water rights, and current levels of consumptive and non-consumptive water demands.
 - Completed in December 2009.
- Phase II-Water Availability under projected demands from existing, conditional, and new water rights and for additional consumptive and non-consumptive water demands.
 - Now in scoping.

Water Availability

- Historical Hydrology
- Alternative Hydrology (tree rings, etc.)
- Climate Change/Forest changes

How the WAS fits in...



Colorado's role

- Colorado, and the other upper basin states, then are charged with administering the compact call.
- Administration.
 - Calls could be administered by priority across the basins?
 - Basin by basin administration.
 - Type of Use?
- Storage issues.
 - Do the Colorado River sub-basins have to be administered based on a 10 year rolling average?
- Pre-1922 rights.
- How does Colorado appropriately deal with and allocate risk?
- Over-development vs. Under-development

Colorado's Compact Administration Study

- \$500,000 appropriated to undertake a study to identify issues associated with administration of water rights in the Colorado River basin in accordance with the law of the river and to evaluate options to avoid curtailment of use, and explore options for curtailing use in an equitable manner.
- State Engineer rules to avoid curtailment and administer curtailment, if necessary.

Compact Administration Study

- Implemented in 2 phases. Phase 1 – in scoping.
- Data collection
 - Pre-1922 rights
 - Appropriated
 - Changed
 - Abandoned
 - Critical water supply needs.
- Explore alternatives to minimize, avoid, or delay curtailment.

Implications for West Slope Water providers...

- Don't panic.
- Pay attention to new water rights applications.
- Pay attention to state legislation.
- Pay attention to the CWCB's study results.
Coming to a neighborhood near you.
- Pay attention to the River District's water bank proposal.
- Pay attention to any pre-1922 water rights.

For more information

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