

# An Update on Colorado River Basin Issues Affecting Wyoming

### Presentation By Patrick T. Tyrrell, Wyoming State Engineer

#### at the

January 29, 2008 Meeting of the Green River Basin Advisory Group Held at the City Hall in Kemmerer, Wyoming

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# **Topics:**

- Record of Decision signed / Colo. R. Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead are now in effect
- Current Snowpack and Runoff Projections
- Proposed March 2008 Glen Canyon Dam BHBF
- Colorado River Compact Administration Project – update
- Eden Valley Pipeline Salinity Control Project



#### Hoover Dam and Lake Mead



#### Final

Environmental Impact Statement



Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Volume I



U.S. Department of the Interior Bureau of Reclamation Upper and Lower Colorado Regions

October 2007

#### The Bureau of Reclamation issued the FEIS on November 2, 2007.

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#### Glen Canyon Dam and Lake Powell

# **Objective:**

# Minimize shortages in the Lower Division States and avoid risk of curtailment of use in the Upper Division States.

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On December 13, 2007, Secretary of the Interior Dirk Kempthorne signed the Record of Decision document. This approval put the Colorado River Interim Shortage Guidelines and Coordinated Reservoir Operations into effect immediately.

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The Governors' Representatives for the seven Colorado River Basin States joined the Secretary of the Interior on the dais and all signed an affirmation document during the ceremony.

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"By the undersigned Governors' Representatives of the Colorado River Basin States,

The Seven Colorado River Basin States recognize that the adoption of the Colorado River Interim Guidelines ... and Coordinated Operations ... represent a historic milestone reflecting the continuation of the consultative approach to river management between the federal government and the affected states on the Colorado River, thereby successfully implementing the principles of federalism."



The States of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming Governor's Representatives on Colorado River Operations December 13, 2007

Whereas, the States of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming rely on and have a vital interest in the waters of the Colorado River;

Wherves, ongoing drought in the Colorado River Basin has resulted in increased attention to facilitating cooperative efforts regarding Colorado River water management;

Whersas, the U.S. Department of the Interior has sponsored a public process for development and adoption of Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead;

Whenas, the seven States have provided important input, in the form of public comments, regarding the development of these Guidelines with submission of information for consideration by the Secretary of the Interior; Whenas, the seven States conveyed the importance of protecting their respective interests on the Colorado River,

whereas, the seven States conveyed the importance of protecting their respective interests on the Colorado inver including reservation of any and all legal rights regarding the Colorado River;

Whenus, the Secretary of the Interior has memorialized a decision regarding the adoption of Colorado River Interim Guidelines for Lower Basin Shortages and Cocyclinated Operations for Lake Powell and Lake Mead;

By the undersigned Governors' Representatives of the Colorado River Basin States,

The Seven Colorado River Basin States recognize that the adoption of the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead represents a historic milestone reflecting the continuation of the consultative approach to river management between the federal government and the affected states on the Colorado River, thereby successfully implementing the principles of federalism:

Herbert R. Guenther Governor's Representative State of Krizona

Scott Balcomb Governor's Representative State of Colorado.

Estevan R. López Governor's Representative State of New Mexico

Dennis J. Strong Governor's Representative State of Utah

Attest:

Dana B. Fisher, Jr.

Dana B. Fisher, Jr. Governor's Representative State.of California

Patricia Mulse Governor's Representative State of Nevada dun

Patrick T. Tyrrell Governor's Representative State of Wyoming

DIRK KEMPTHORNE Secretary of the Interior



*"I am convinced that 50 or 100 years from now, the people of the basin will look back on 2007 in the same way they do on 1922. This is truly historic."* 

Interior Secretary Dirk Kempthorne December 13, 2007, Las Vegas, NV

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The April 2007 Basin States Agreement, as implemented through the Interim Shortage Guidelines, provides definite benefits to Wyoming:

- Seven States' commitment to pursue water supply augmentation
  - Creates real and specific incentives for conservation and augmentation in the Lower Basin
- Greatly reduces the risk of interstate litigation on the Colorado River through 2026
- Reduces the likelihood of Compact administration (under Article IV of 1948 UCRB Compact) requiring the curtailment of uses in Wyoming or the other Upper Basin States during the interim period
- Mutual recognition of right to use and develop Compact apportionments

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# Key Elements of Interim Shortage Guidelines & Coordinated Reservoir Operations:

- Shortage determinations (when and how much shortage) will be made based on specific storage content levels in Lake Mead Coordinated operation of Lakes Powell and Mead
  - Shortage declared when Lake Mead elevations fall to 1075, 1050 and 1025 feet (400,500 and 600,000 AF of shortage)
- Releases from Lake Powell determined by storage in Powell and Mead
- Mechanism for storage and delivery of conserved system and non-system water in Lake Mead – through the creation and use of Intentionally Created Surplus (ICS) water
- Modify and extend the Interim Surplus Guidelines

## Interim Shortage Guidelines and Coordinated Reservoir Operations:

- <u>Specific water levels in Lake Mead</u> will determine a shortage condition (the availability of less than 7.5 million acre-feet of water) in the Lower Basin, and how that shortage will be shared by Arizona, California and Nevada;
- <u>Specific reservoir conditions at Lakes Powell and Mead</u> will determine the annual reservoirs operation to minimize shortages in the Lower Basin and avoid the risk of water delivery curtailments in the Upper Basin;
- Intentionally Created Surplus (ICS) provides a mechanism to encourage and account for augmentation and conservation of water supplies in Lake Mead to minimize the likelihood and severity of potential future shortages and provide additional flexibility to meet water use needs under low reservoir conditions; and
- the Interim Surplus Guidelines established in 2001 have been modified and extended through 2026.

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Under Coordinated **Reservoir Operations**, Powell and Mead's content will stay more nearly equal – and will function to make sure that during dry conditions that Lake Mead doesn't just draw Lake Powell further and further down – and likewise when more favorable inflows return that Lake Mead will gain storage too.

		Preferred Alternative	Storage (maf)
Preferred Alternative	Lake Powell Storage (maf)	Flood Control or 70R Surplus	25.9
Equalize, avoid spills or release 8.23 maf	24.3	Domestic Surplus	22.9
Upper Equalization Line	Equalization		- 15.9
if Lake Mead < 1,075 feet msl, balance contents with a min/max release of 7.0 and 9.0 maf		Normal Operations	13.9
	11.3		11.5
Release 7.48 maf; if Lake Mead < 1,025 feet msl, release 8.23 maf	9.5		9.4
	8.3	Shortage 333 kaf <sup>1</sup>	- 7.5
			5.8
Balance contents with a min/max release of 7.0 and 9.5 maf	5.9	Shortage 500 kaf <sup>1</sup> and Consultation <sup>2</sup>	4.3
	4.0		
			0
	0		
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Lake Mead

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## **Intentionally Created Surplus:**

- ICS would be created or credited to a water user through actions that conserve water and increase Lake Mead storage – and thus work to obtain the objective of avoiding water supply shortages (and reducing their magnitude and duration).
- Up to 95% of the ICS can be recovered in future years with additional deductions for evaporation and losses.

# Current Snowpack and Runoff Projections

Mid-month Forecast January 15<sup>th</sup> by the Colorado Basin River Forecast Center, National Weather Service, Salt Lake City:

	Observed			Dec	Forecast		Outlook			
	Sep	Oct	Nov	Dec	%Avg	Jan	Feb	Mar	Apr-Jul	%Avg
Lake Powell	296	468	397	398	92%	325/	400/	650/	8000/	101%
Fontenelle	25	33	32	27	83%	23/	22/	40/	695/	81%
Flaming Gorge	23	35	33	<u>2</u> 1	53%	25/	30/	75/	875/	74%

## Monthly Precipitation for December 2007 Averaged by Hydrologic Unit



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# Upper Green River Basin Conditions Percent of 1971-2000 Average as of January 1, 2008



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# National Weather Service Colorado Basin River Forecast Center January 2008 Water Supply Outlook Report



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#### National Weather Service

# Colorado Basin River Forecast Center January 2008 Water Supply Outlook Report



# Wyoming's Snowpack Situation as of January 28, 2008 Data from the USDA NRCS



🛎 = Data may not provide a valid measure of conditions -

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## Proposed March 2008 Glen Canyon Dam Beach Habitat Building Flow (BHBF):

- The Department of the Interior is proposing to conduct a high flow experiment (BHBF) in early March 2008
  - If approved, flows would be increased on March 4, 2008 with powerplant bypass flows beginning on March 5, 2008.
  - Release of 41,500 cfs for 60 hour period
- Grand Canyon Trust (GCT) filed a lawsuit on 12/7/07 against the Bureau of Reclamation and Commissioner of Reclamation Robert Johnson alleging Reclamation has violated the 1994 Glen Canyon Dam Operations Biological Opinion, NEPA and ESA in its operations of Glen Canyon Dam
- On 11/13/07 Reclamation requested re-initiation of formal ESA Section 7 consultation on the operation of Glen Canyon Dam. Per the Biological Assessment sent to the USFWS in 12/07, "this request is based on the acquisition of new scientific information about the status and trends of federally listed species and effects of dam operations on the species and critical habitat."

## Proposed March 2008 Glen Canyon Dam Beach Habitat Building Flow (BHBF) - continued:

- DOI says the 2008 test would be different than previous highflow tests conducted in 1996 and 2004:
  - "... scientists have concluded that more sand is needed to rebuild sandbars throughout the 277-mile reach of Grand Canyon National Park than was available in 1996 or 2004. Currently, sand supplies in the river are at a 10-year high (2,500,000 metric tons) with a volume about three times greater than the volume available in 2004 due to tributary inflows below the dam over the past 16 months."
- Upper Basin States concerned about:
  - Funding Impacts on the Upper Colorado River Basin Development Fund (Basin Fund) due to this test – and the likelihood of future tests
  - Legal ramifications bypassing of the powerplant is not by the Law of the River or the express language found Operation of Glen Canyon Dam Record of Decision
    - Experiment versus "management action"
    - March 2008 Experimental Flow may buttress DOI's legal de

## Proposed March 2008 Glen Canyon Dam Beach Habitat Building Flow (BHBF) - continued:

- Conduct of proposed BHBF is dependent on NEPA and ESA compliance
- USBR's environmental assessment expected to be available for public review in early February 2008.
- Department of the Interior decision to be made in late February 2008
- BHBF costs: \$3.3 M to power users due to lost power generation and \$3.7 M in GCMRC in science costs plus \$0.4 M for a synthesis report – total of \$3.3 M + \$4.1 M = \$7.5 M
- US DOI proposes to fund the BHBF costs with \$1.5 M in GCAMP carryover funds and \$0.5 M next year from UCRBD (Basin) Fund. The rest of the \$3.7 M in science cost will come from USBR (\$1.3 M) & National Park Service (\$0.4 M) Fiscal Year 2008 appropriations
- The Upper Colorado River Commission apprised DOI in 12/07 that if DOI intends to do of these more of these experimental, flows, then a change in the law, would be

# Colorado River Compact Administration Program Update

- Program was initiated in 2006 due to long-term drought conditions in the Colorado River basin
- The overall purpose of the program is to ensure the State of Wyoming will be the leading authority on the allocation and use of water in the Colorado River Basin of Wyoming
- First objective was to develop and implement a plan to acquire the tools and subsequent data necessary to protect Wyoming's apportionments
  - Plan has been completed and is available from the SEO River Basin Advisory Group
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Colorado River Compact Administration Program Update – continued:

- Components addressed within the Plan include: 1) climate and hydrology,
  - 2) diversion and consumptive use,
  - 3) water rights attribution,
  - 4) reservoir operation,
  - 5) groundwater,
  - 6) administration/decision support tools, and
    - 7) outreach

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## Colorado River Compact Administration Program Update – continued:

- Implementation of plan components are dependent on FY09-10 budget request
- Will be installing new instrumentation throughout basin in coming years – streams, diversions, climate and reservoirs
- Ongoing coordination/cooperation with WWDC

# Eden Valley Pipeline Salinity Control Project

- Will replace 11.2 miles of open ditch lateral with pipeline system
- Eden Valley Irrigation and Drainage District obtained \$1,508,000 from 2005 Wyoming Legislature for this project – 50% of project cost
- Colorado River Basin States Salinity Control Cost-sharing (Parallel) Program – Cooperative Agreement between USBR and WY SEO providing the other 50% of project cost
- Bid opening is scheduled for February 5<sup>th</sup> in Farson

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# Questions?

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