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Managing Water in the West

The Colorado River: Current Conditions and Proposed Operational Guidelines

Colorado River Commission of Nevada Conference
Las Vegas, Nevada
April 26-27, 2007



U.S. Department of the Interior
Bureau of Reclamation

Agenda

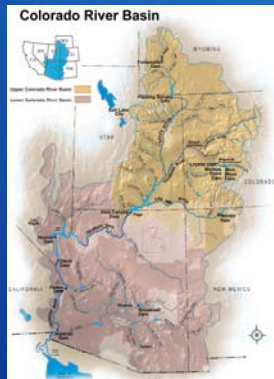


- Overview of the Basin
- Operation of the Lakes Powell and Mead
- System Status
- Need for Additional Operational Guidelines

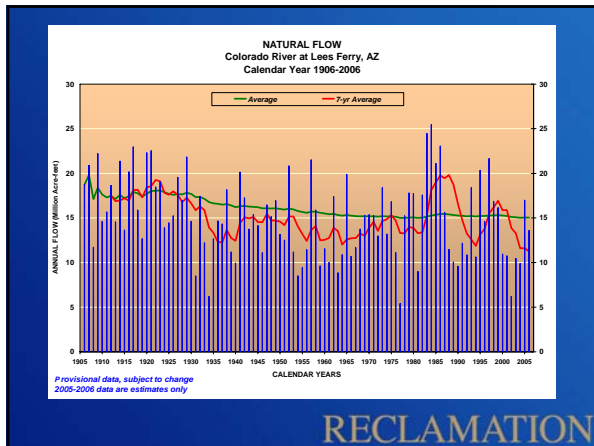
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Colorado River Basin Hydrology

- 16.5 million acre-feet (maf) allocated annually
- 13 to 14.5 maf of consumptive use annually
- 60 maf of storage
- 15.1 maf average annual "natural" inflow into Lake Powell over past 100 years
- Inflows are highly variable year-to-year



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Operation of Lake Powell

- Three modes of governing annual releases from Lake Powell
 - Minimum objective release – 8.23 maf
 - Equalization (if Powell storage > Mead and the 602(a) storage criteria is met)
 - Spill avoidance
- For 2007, the minimum objective release governs the operation

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Operation of Lake Mead

- Two modes of governing annual releases from Lake Mead
 - Flood control operations
 - Meet downstream requirements (or demands)
- For 2007, meeting downstream demands governs the operation

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Operation of Lake Mead Downstream Requirements

- Downstream demands include:
 - California 4.4 maf
 - Arizona 2.8 maf
 - Nevada 0.3 maf
 - Mexico 1.5 maf
 - Regulation of Lakes Mohave and Havasu
 - System gains and losses
- Deliveries can be larger or smaller pursuant to the Consolidated Decree in *Arizona v. California*

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Water Budget at Lake Mead

- Given current demands in the Lower Basin (including Mexico), and minimum objective release from Lake Powell, Lake Mead storage will continue to decline
 - Inflow (release from Powell + side inflows) = 9.0 maf
 - Outflow (LB and Mexico apportionments + downstream regulation, gains and losses) = - 9.5 maf
 - Mead evaporation loss = - 0.8 maf
 - Balance = - 1.3 maf

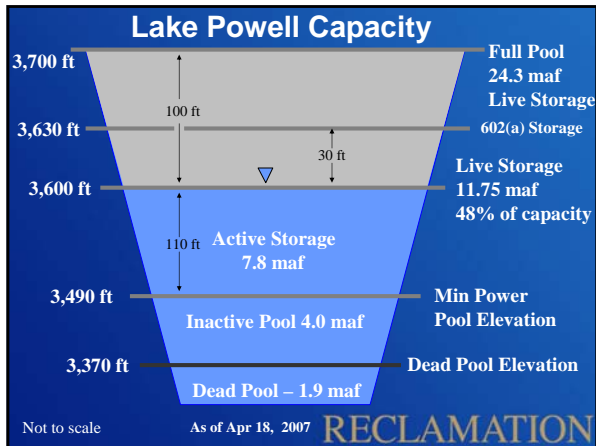
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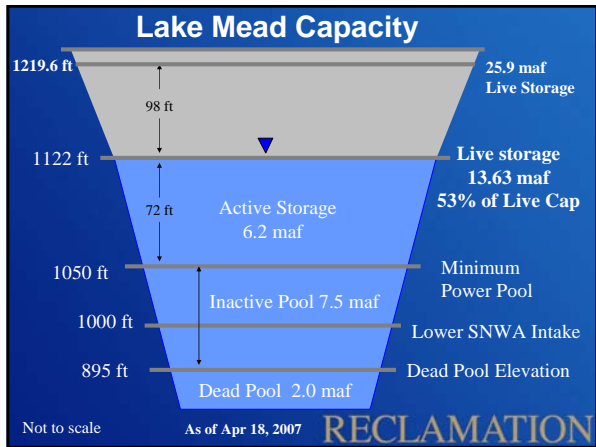
Colorado River Basin Storage (as of April 18, 2007)

| Current Storage | Percent Full | MAF | Elevation (Feet) |
|----------------------|--------------|-------|------------------|
| Lake Powell | 48% | 11.75 | 3600 |
| Lake Mead | 53% | 13.63 | 1122 |
| Total System Storage | 56%* | 33.23 | NA |

*Total system storage was 33.54 maf or 56% this time last year

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State of the System (1999-2006)

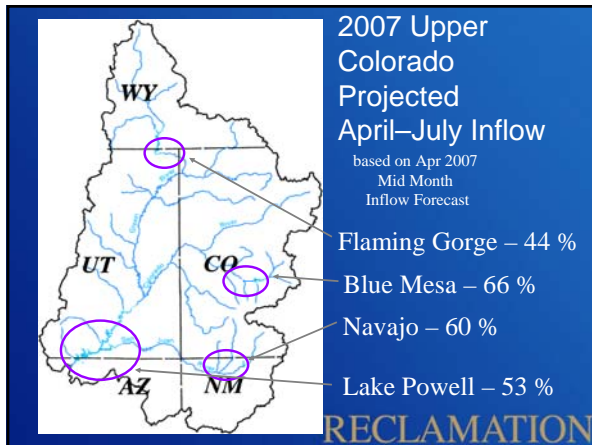
| WY | Inflow to Powell % of Average | Powell and Mead Storage, maf | Powell and Mead % Capacity |
|------|-------------------------------|------------------------------|----------------------------|
| 1999 | 109 | 47.59 | 95 |
| 2000 | 62 | 43.38 | 86 |
| 2001 | 59 | 39.01 | 78 |
| 2002 | 25 | 31.56 | 63 |
| 2003 | 52 | 27.73 | 55 |
| 2004 | 51 | 23.11 | 46 |
| 2005 | 105 | 27.24 | 54 |
| 2006 | 73 | 25.80 | 51 |

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Drought Conditions

- 2000-2006 was the driest 7-year period in the 100-year historical record
- Not unusual to have a few years of above average inflow during longer-term droughts (e.g., the 1950's)
- Current 2007 April through July runoff forecast 53% of average

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Need for Additional Guidelines



- Seven years of unprecedented drought
- Increased water use
- Increased tension among the Basin States
- To date, there has never been a shortage in the Lower Basin and there are currently no shortage guidelines
- Operations between Lake Powell and Lake Mead are currently coordinated only at the higher reservoir levels (“equalization”)

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Secretary's Decision May 2005



- Affirmed authority to adjust Lake Powell releases
- Tasked states to come up with a consensus plan
- Directed that guidelines be completed by December 2007

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Key Considerations (Identified through Scoping Process)

- Importance of encouraging conservation of water
- Importance of considering reservoir operations at all operational levels
- Guidelines for an interim period (assumed to be 2008 through 2026)

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Elements of Proposed Federal Action

- Shortage strategy for Lake Mead and the Lower Division states
- Coordinated operation of Lakes Powell and Mead
- Mechanism for the storage and delivery of conserved system and non-system water in Lake Mead
- Modification/extension of the existing Interim Surplus Guidelines

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Alternatives Analyzed in the Draft EIS

- Alternatives
 - No Action Alternative
 - Basin States Alternative
 - Conservation Before Shortage Alternative
 - Water Supply Alternative
 - Reservoir Storage Alternative
- No preferred alternative is identified in the Draft EIS and will be identified after the public comment period

Project website:
<http://www.usbr.gov/lc/region/programs/strategies.html>

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Geographic Scope

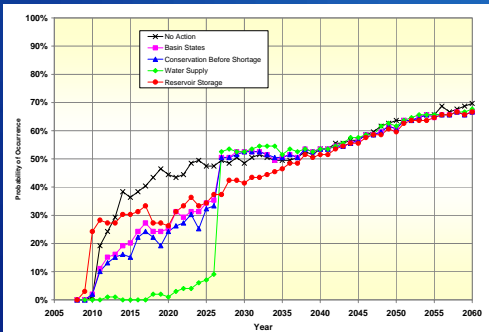


- Domestic Action
- River Corridor from Lake Powell to SIB
- Affected service areas of water users
 - Arizona – lower priority water users along river and CAP users
 - California - MWD service area
 - Nevada - SNWA service area

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Probability of Lower Basin Shortage

Probability of Occurrence of Any Amount



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Project Schedule

- ✓ Summer 2005
 - Solicited public comments on proposed content, format, mechanisms and analysis
- ✓ Fall 2005
 - Announced intent to initiate NEPA process, solicited public comments on scope and alternatives development
- ✓ March 2006
 - Published Scoping Summary Report
- ✓ June 2006
 - Published the proposed alternatives
- ✓ February 2007
 - Outreach meetings with key stakeholders
 - Published Draft EIS on February 28th

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Next Steps

- March - April 2007
 - Accept public comments through April 30
 - Feedback will inform development of a preferred alternative
- May - June 2007
 - Identify and publish a preferred alternative
- September 2007
 - Publish Final EIS
- December 2007
 - Publish Record of Decision

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Current Conditions and Proposed
Operational Guidelines**

For further information:
<http://www.usbr.gov/lc/region>

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