Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
September 9-10, 2008

Agenda Item

Basin Hydrology and Operations

Action Requested

√ Information item only; we will answer questions but no action is requested.

Presenters

Rick Clayton, Acting Lead Hydrologist, Water Resources Group, Upper Colorado Region, Bureau of Reclamation

Previous Action Taken

√ N/A

Relevant Science

√ N/A

Background Information

The presentation is intended to provide pertinent information to AMWG members on the hydrology of the Upper Colorado River Basin and projected reservoir operations at Lake Powell/Glen Canyon Dam. Such information is provided to assist the AMWG in developing recommendations to the Secretary on the operation of Glen Canyon Dam, particularly when such recommendations are near-term in nature.

The presentation will cover current reservoir storage conditions in the Upper Colorado River Basin and drought status. The presentation will also cover the implementation of the *Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations of Lake Powell and Lake Mead* and equalization releases from Lake Powell in water year 2008.

RECLAMATION

Managing Water in the West

Upper Basin Hydrology and Operations 2008-2009

Adaptive Management Work Group
September 9, 2008

U.S. Department of the Interior
Bureau of Reclamation

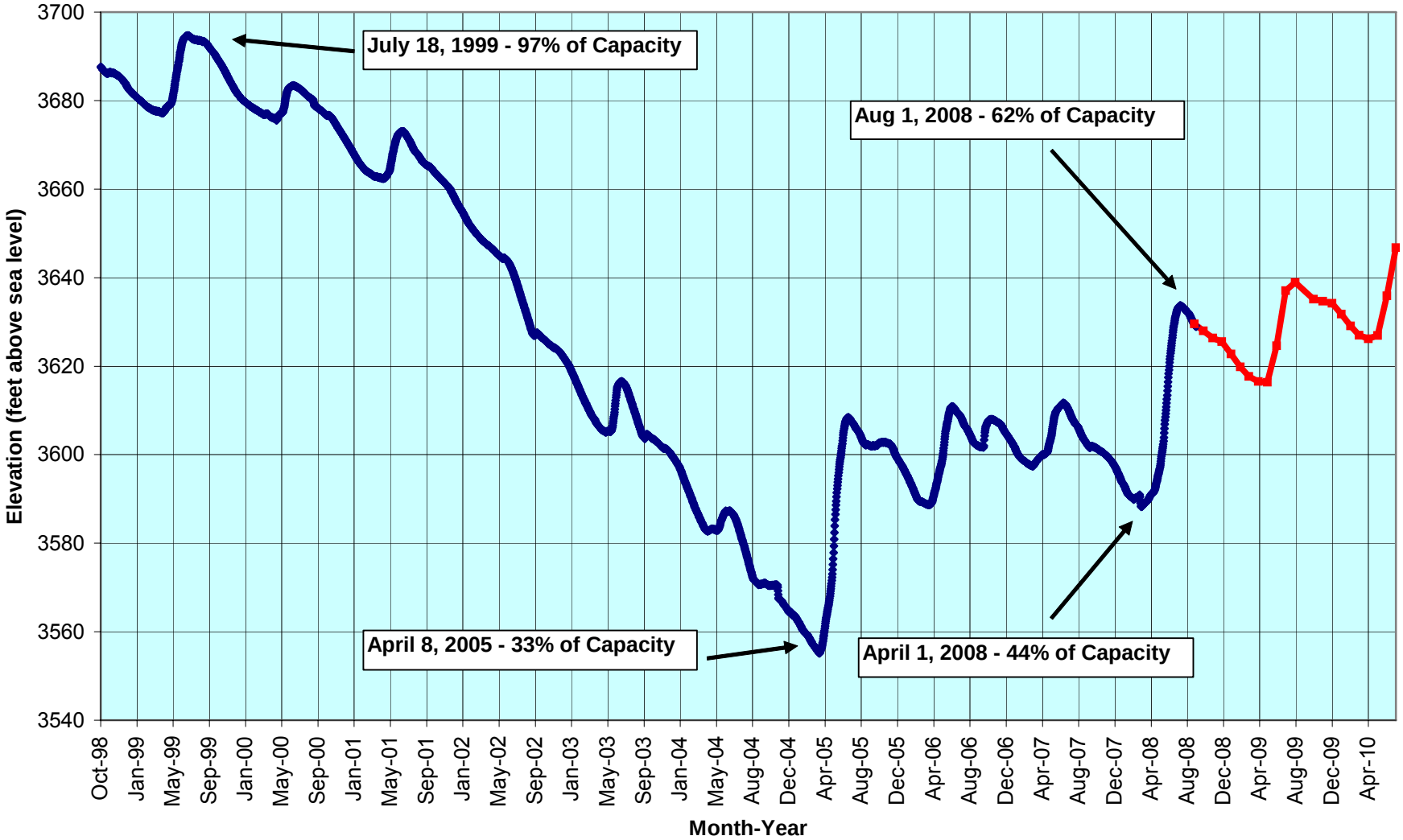
Lowest Consecutive Years of Natural Flow Lees Ferry, Arizona (average is 15.0 maf)

1906-2008*

Consecutive Years	Driest Period (Natural flow)
5	2000-2004 (9.6 maf)
6	1999-2004 (10.8 maf)
7	2000-2006 (11.05 maf)
8	2000-2007 (11.14 maf)*
9	2000-2008 (11.70 maf)*
10	1999-2008 (12.2 maf)*
11	1954-1964 (12.3 maf)

*2007 and 2008 are provisional estimates of Natural Flow

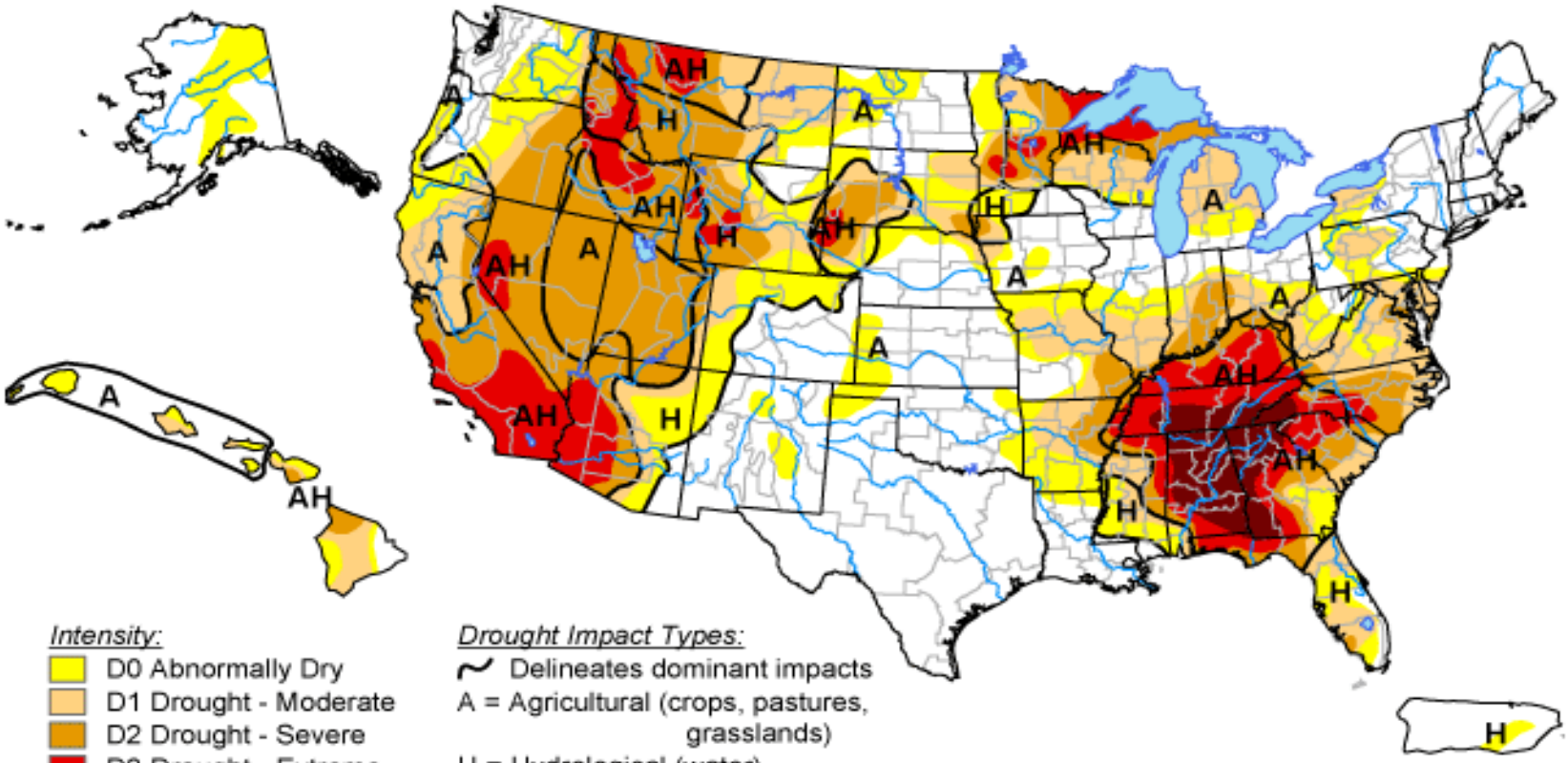
Lake Powell Water Surface Elevations
October 1998 through April 1, 2008



RECLAMATION

U.S. Drought Monitor

August 21, 2007
Valid 8 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

USDA National Drought Mitigation Center

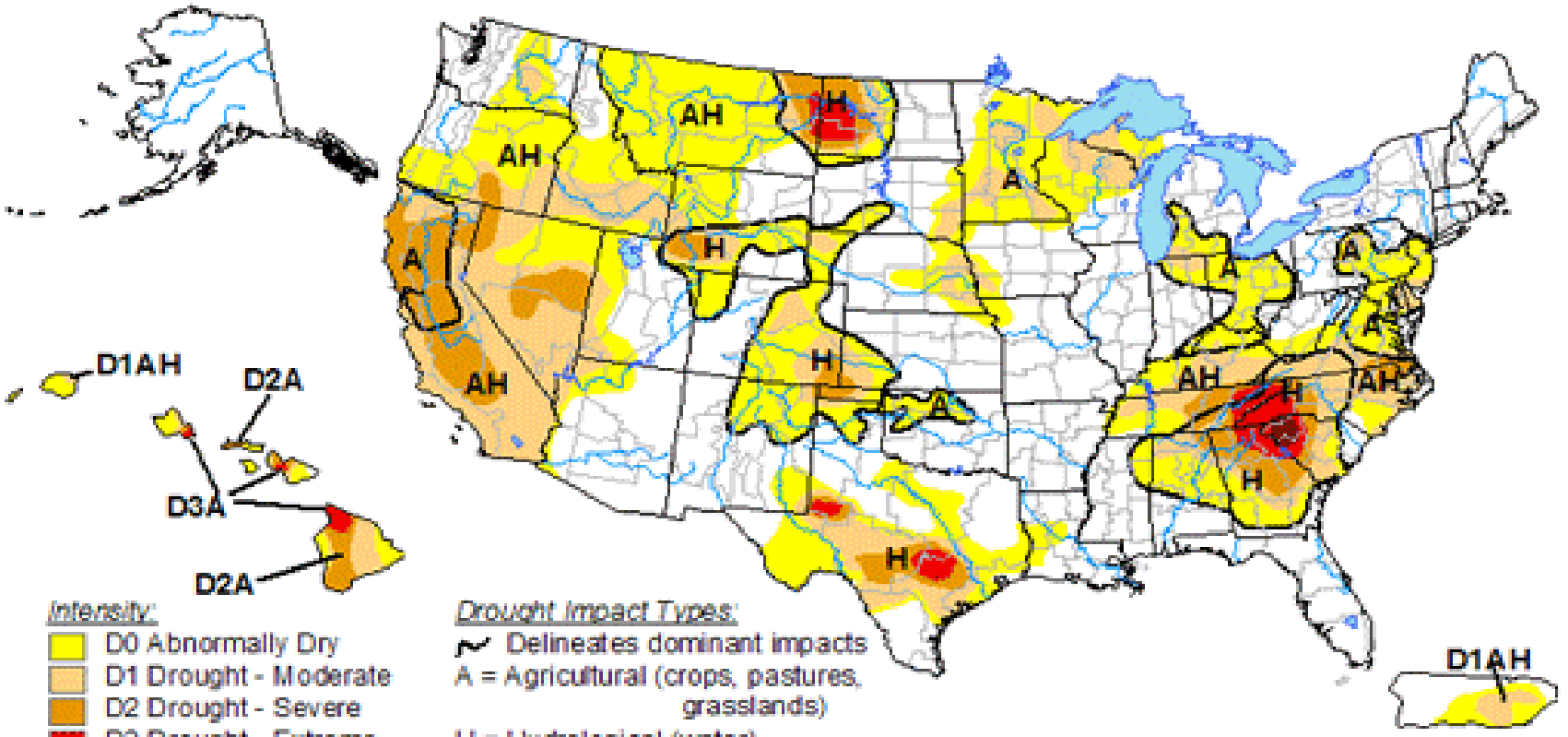
Released Thursday, August 23, 2007

Author: Richard Heim/Jay Lawrimore/Liz Love-Brotak, NOAA/NESDIS/NCDC

RECLAMATION

U.S. Drought Monitor

September 2, 2008
Valid 8 a.m. EDT



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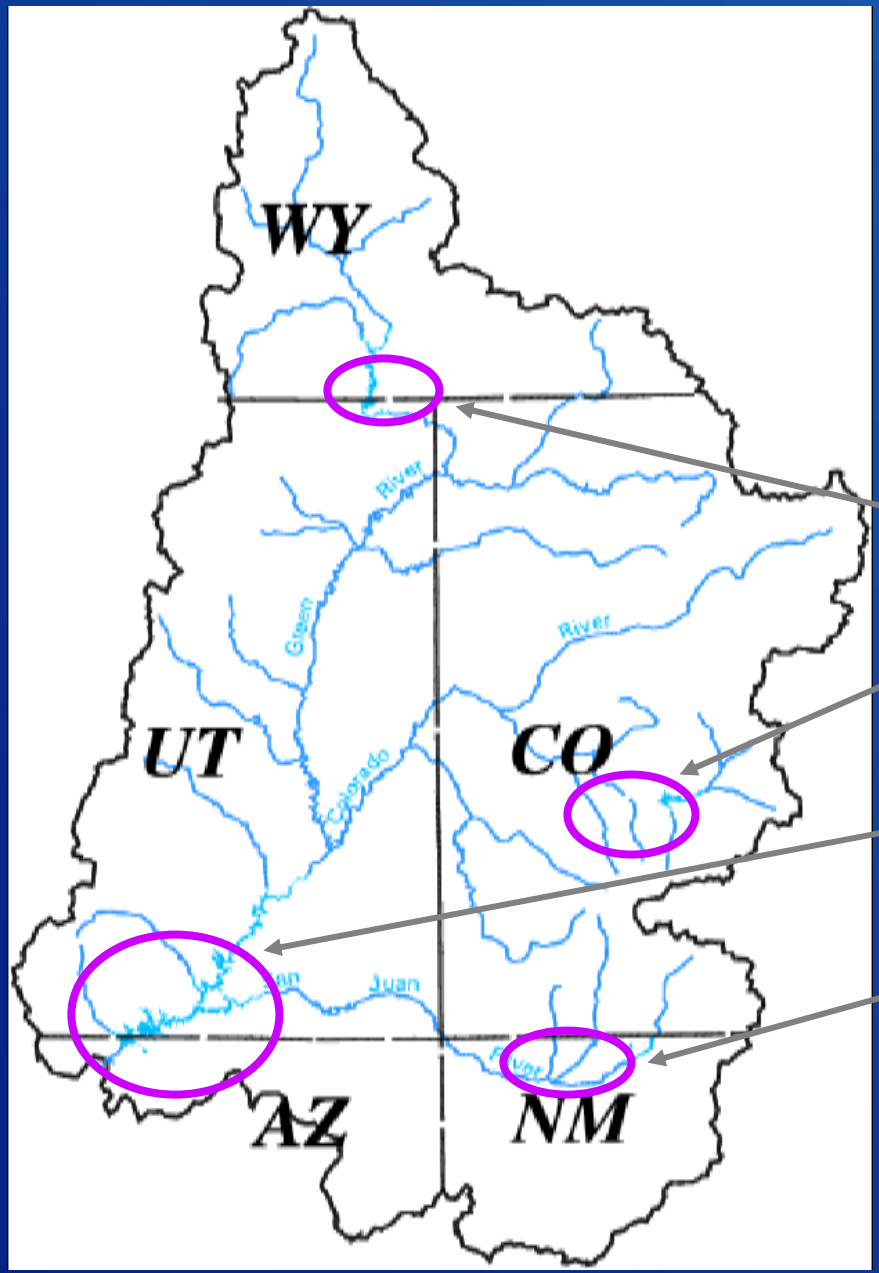
http://drought.unl.edu/dm

Released Thursday, September 4, 2008

Authors: Jay Lawrimore/Liz Love-Brotak NOAA/NESDIS/NCDC

RECLAMATION



Projected CRSP Storage

September 30, 2008

Percent of Live Capacity
Based on August 2008
24-Month Study

Flaming Gorge — 81%

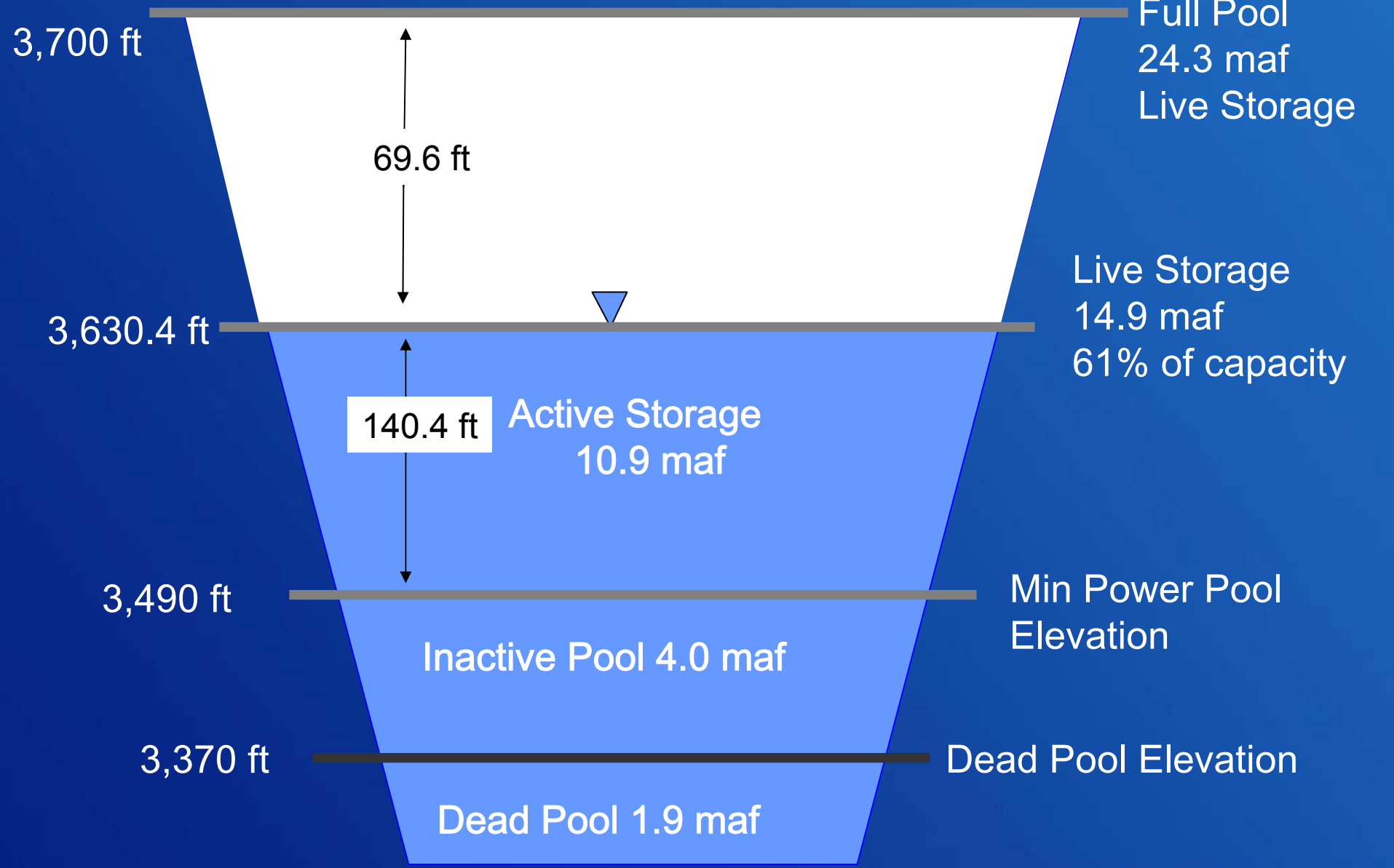
Blue Mesa — 82%

Lake Powell — 61%

Navajo — 80%

RECLAMATION

Lake Powell Capacity



Not to scale

Sep 30, 2008

RECLAMATION

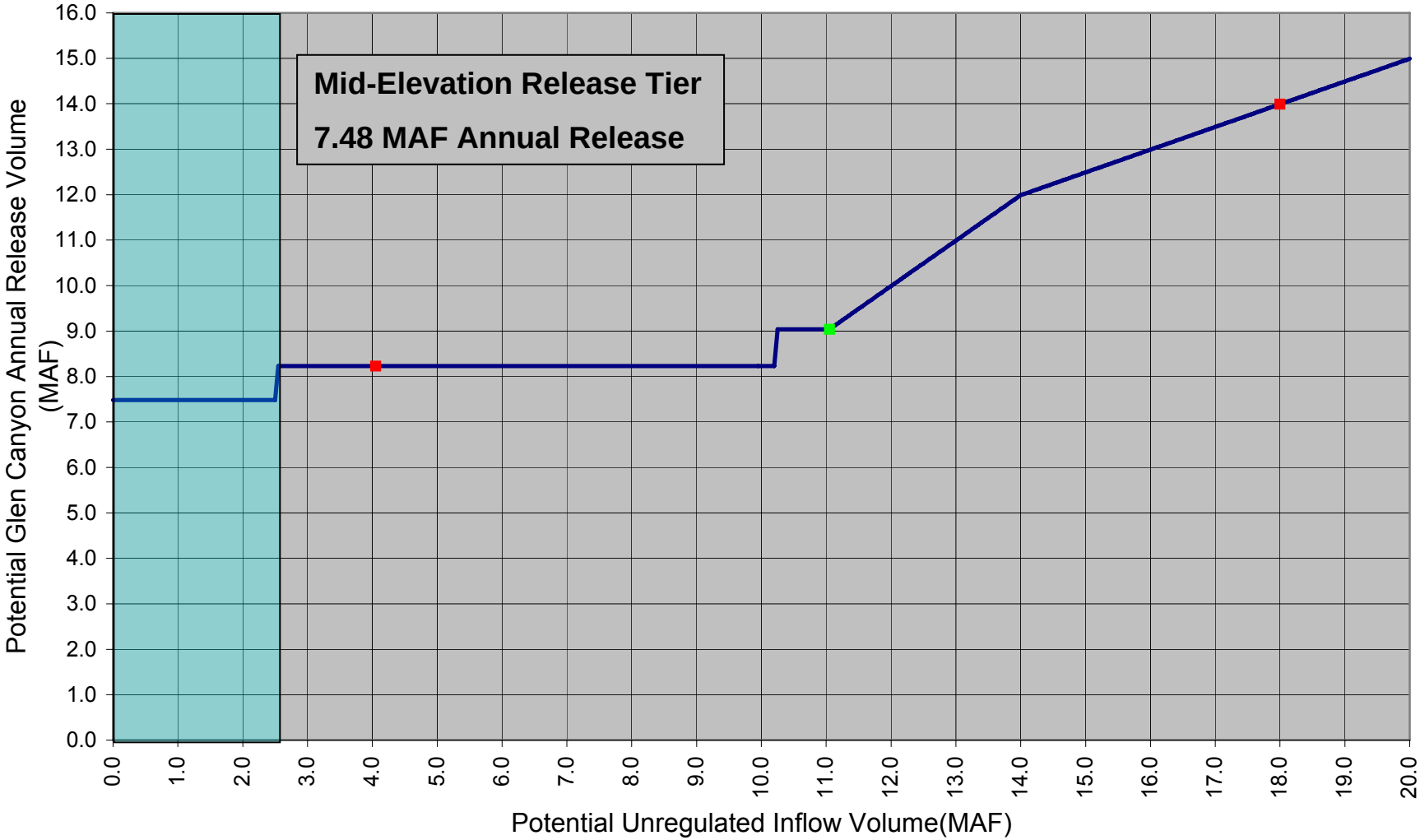
Annual Operating Plan
Lake Powell Inflow Scenarios

Scenario	2008 AOP WY 2008	2009 AOP WY 2009 Developed August 2008
Minimum Probable	4.10 maf (34 %)	4.00 maf (33 %)
Most Probable	9.81 maf (81 %)	11.00 maf (91 %)
Maximum Probable	16.50 maf (137 %)	18.00 maf (149 %)

RECLAMATION

Coordinated Operation of Lake Powell and Lake Mead

Potential Annual Release Volumes from Glen Canyon Dam in WY2009 as a Function of Potential Unregulated Inflow Volume to Lake Powell under the Interim Guidelines



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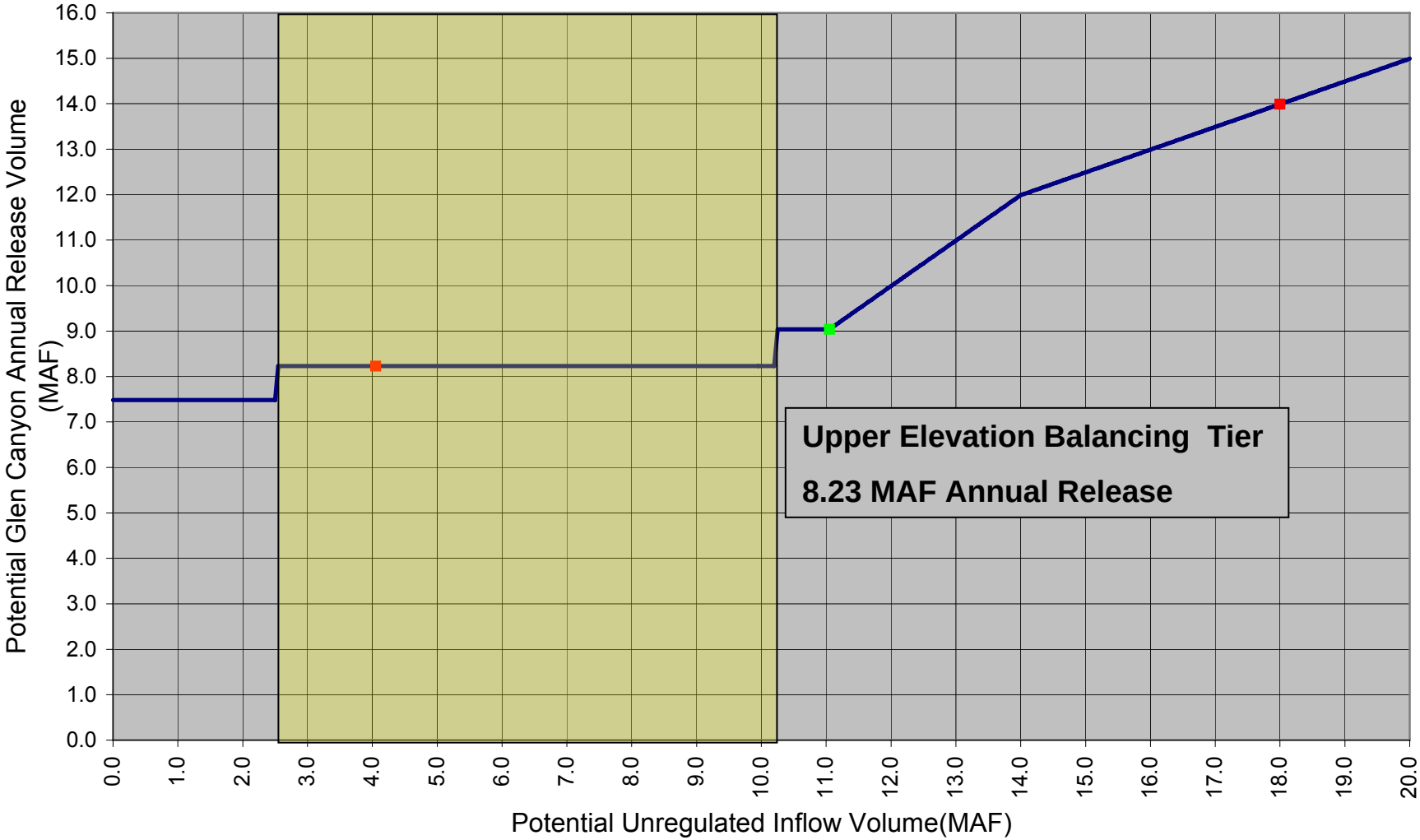

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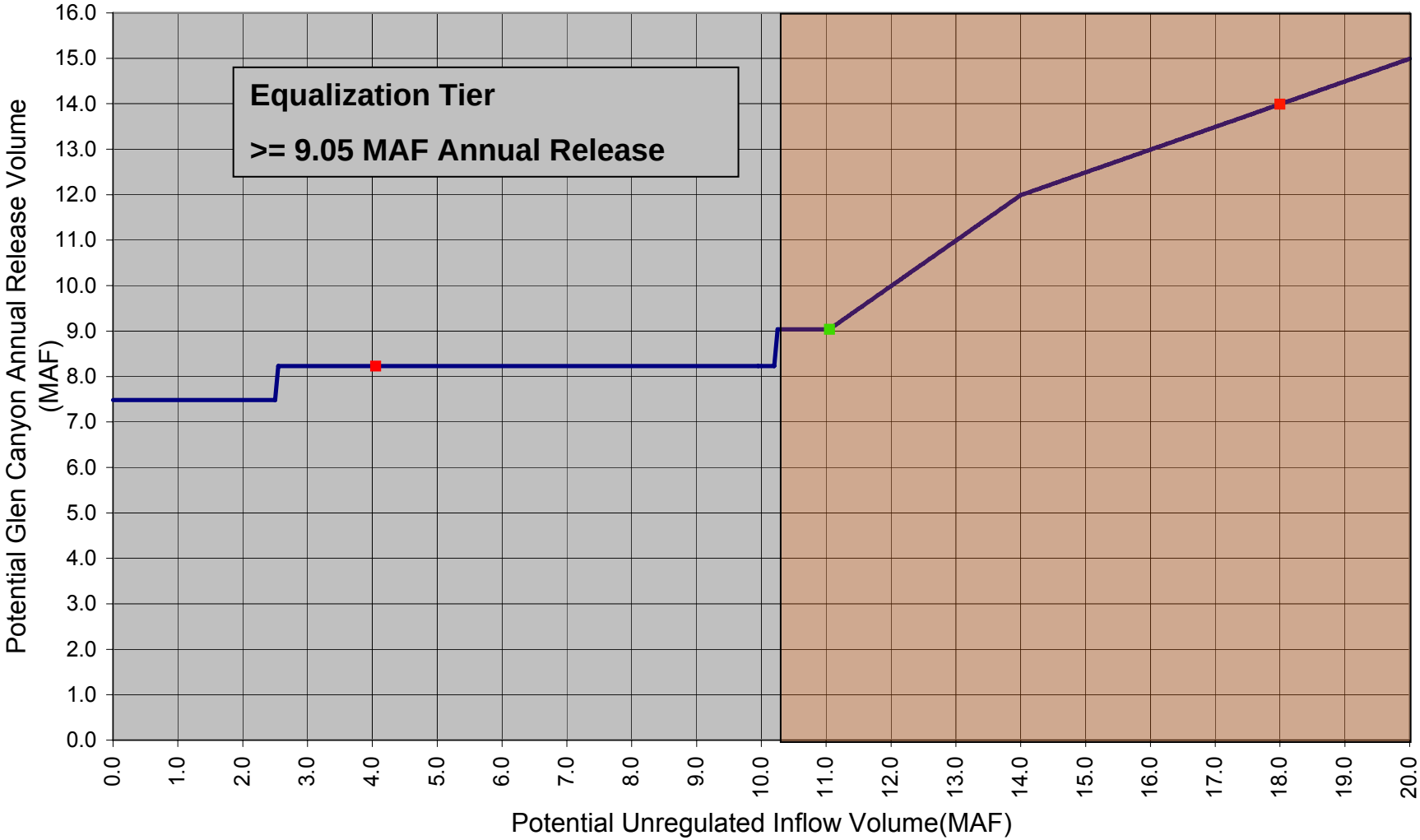

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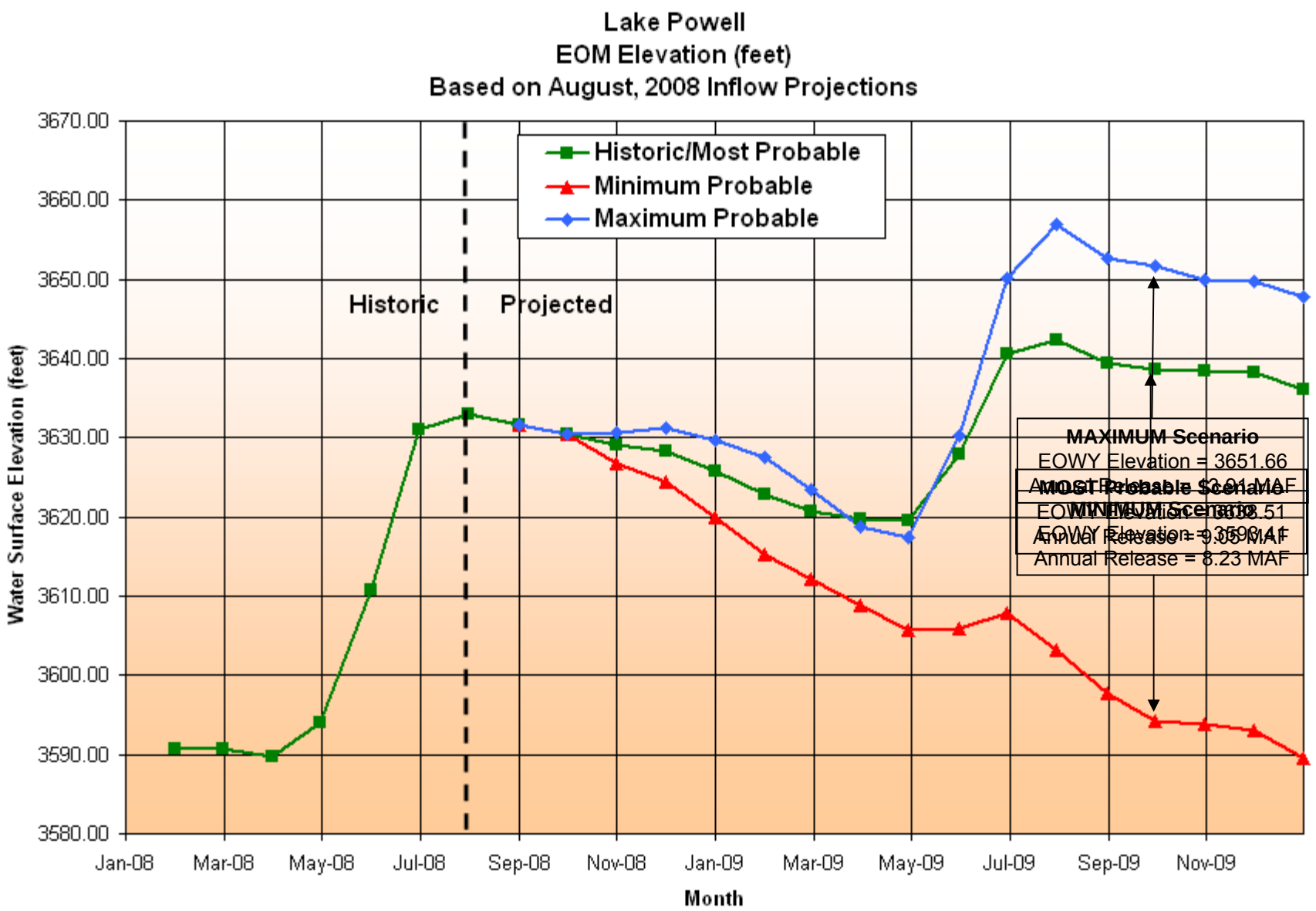

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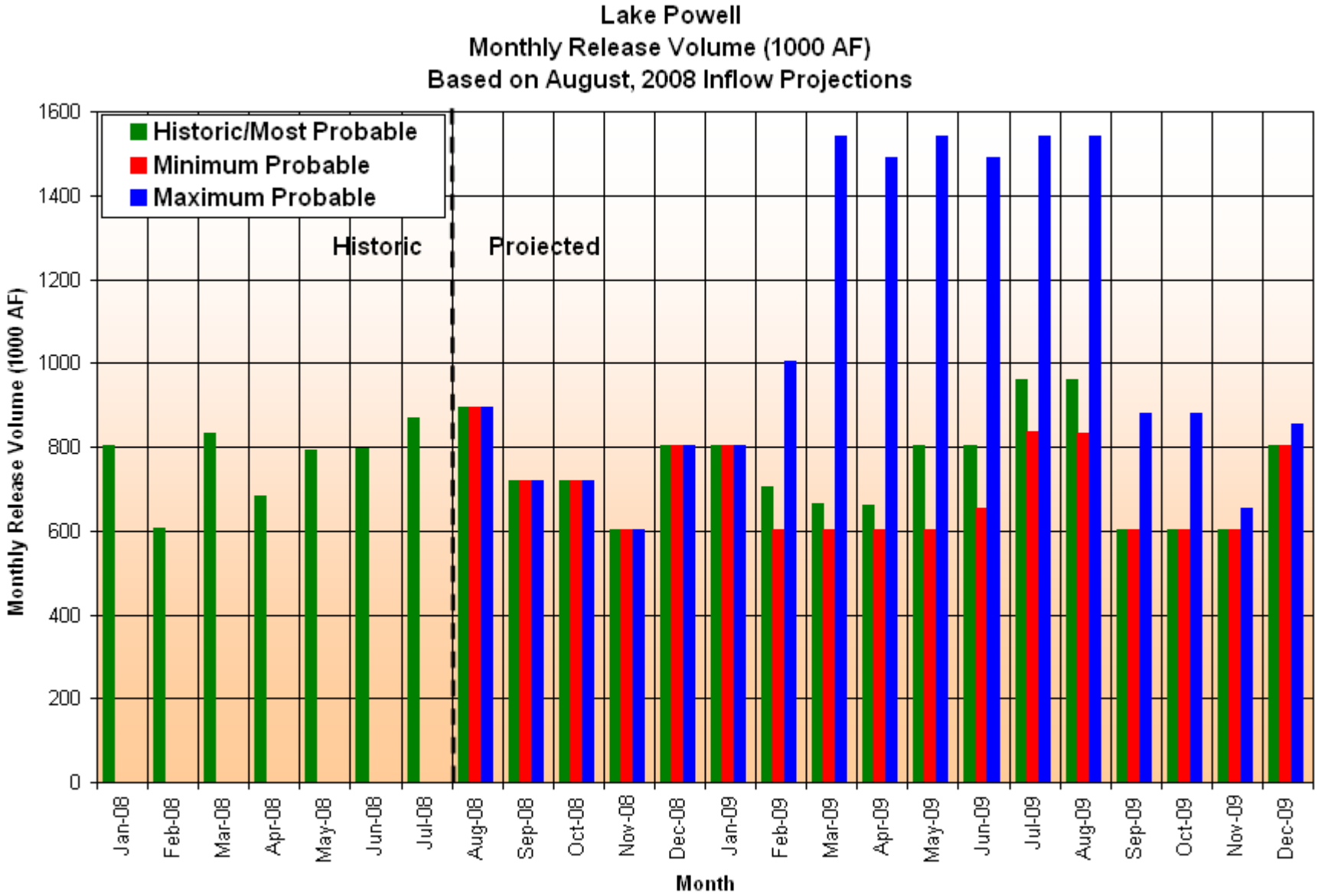
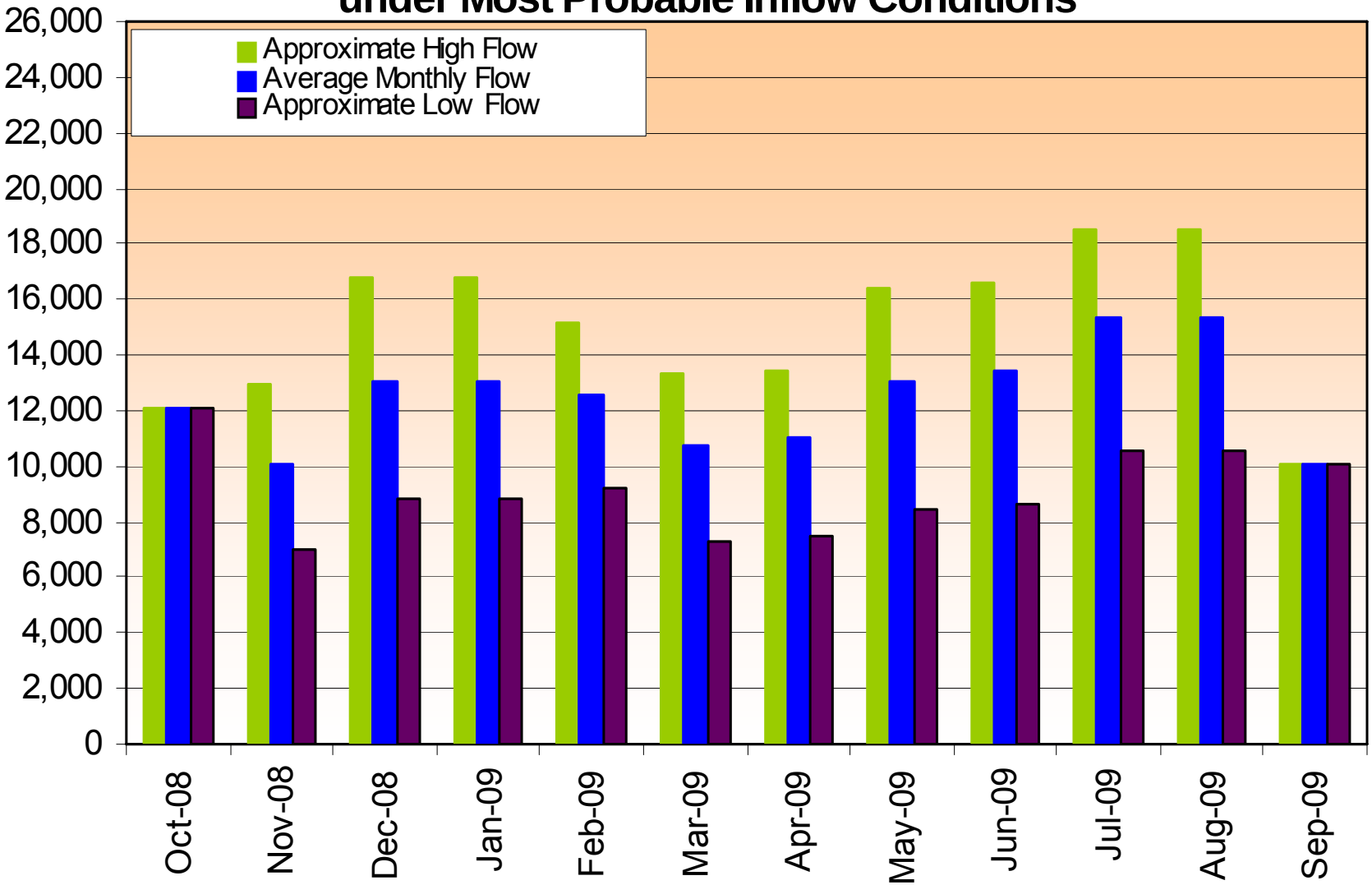


RECLAMATION

Proposed WY 2009 Lake Powell Releases (CFS) under Most Probable Inflow Conditions



RECLAMATION