

RECLAMATION

Managing Water in the West

Upper Basin Hydrology and Projected Operations 2010

Adaptive Management Work Group
August 12, 2009



U.S. Department of the Interior
Bureau of Reclamation

Projected CRSP Storage

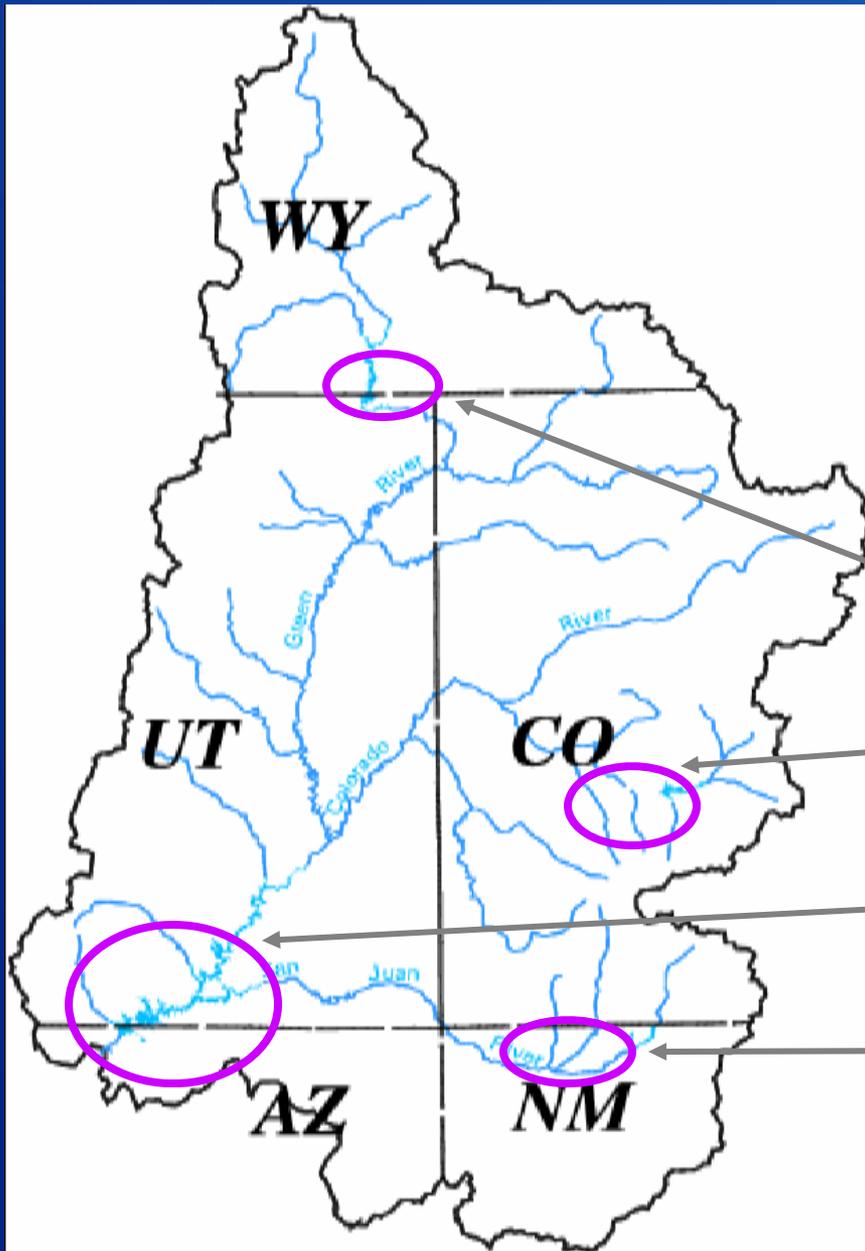
April 1, 2009 Conditions

Percentage of Live Capacity

September 30, 2009 Conditions

Based on July 2009

24-Month Study



Flaming Gorge —	79.6% (2.99 maf)
	<i>89.6% (3.36 maf)</i>
Blue Mesa —	65.4% (0.54 maf)
	<i>83.2% (0.69 maf)</i>
Lake Powell —	52.5% (12.76 maf)
	<i>65.8% (16.02 maf)</i>
Navajo —	75.6% (1.29 maf)
	<i>87.0% (1.48 maf)</i>

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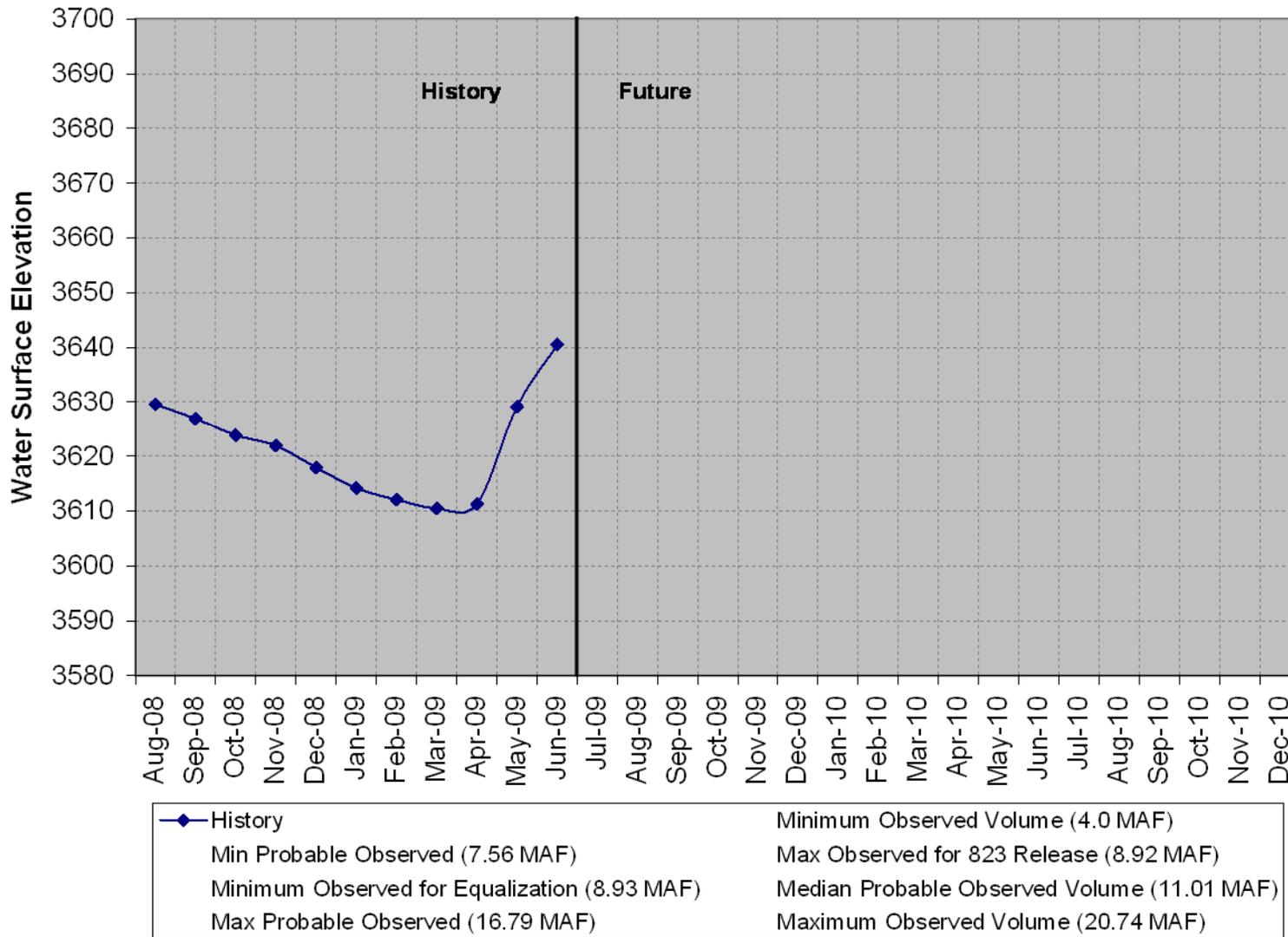
Lake Powell Operational Tiers
(subject to April adjustments or mid-year review modifications)

Lake Powell Elevation (feet)	Lake Powell Operational Tier	Lake Powell Active Storage (maf)
3,700	Equalization Tier equalize, avoid spills or release 8.23 maf	24.32
3,636 – 3,666 (see table below)	----- Upper Elevation Balancing Tier release 8.23 maf; if Lake Mead < 1,075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	15.54 – 19.29 (2008 – 2026)
3,575	----- Mid-Elevation Release Tier release 7.48 maf; if Lake Mead < 1,025 feet, release 8.23 maf	9.52
3,525	----- Lower Elevation Balancing Tier balance contents with a min/max release of 7.0 and 9.5 maf	5.93
3,370		0

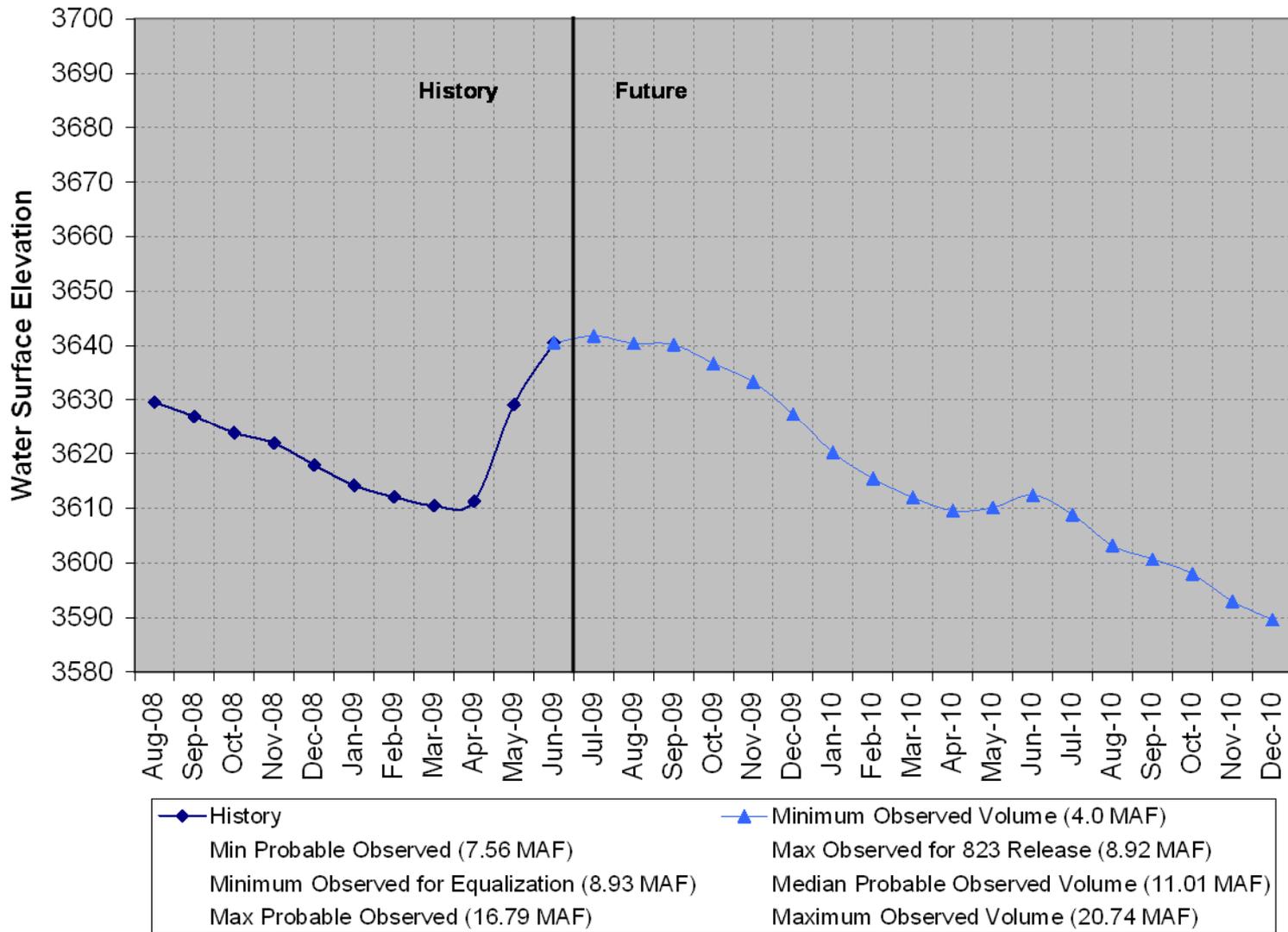
Coordinated Operations of Lake Powell and Lake Mead Upper Elevation Balancing Tier

- If Lake Powell is projected to reach the Equalization Elevation in the April 24-Month Study at the end of the water year, the Equalization Tier shall govern operations of Lake Powell for the remainder of the water year.

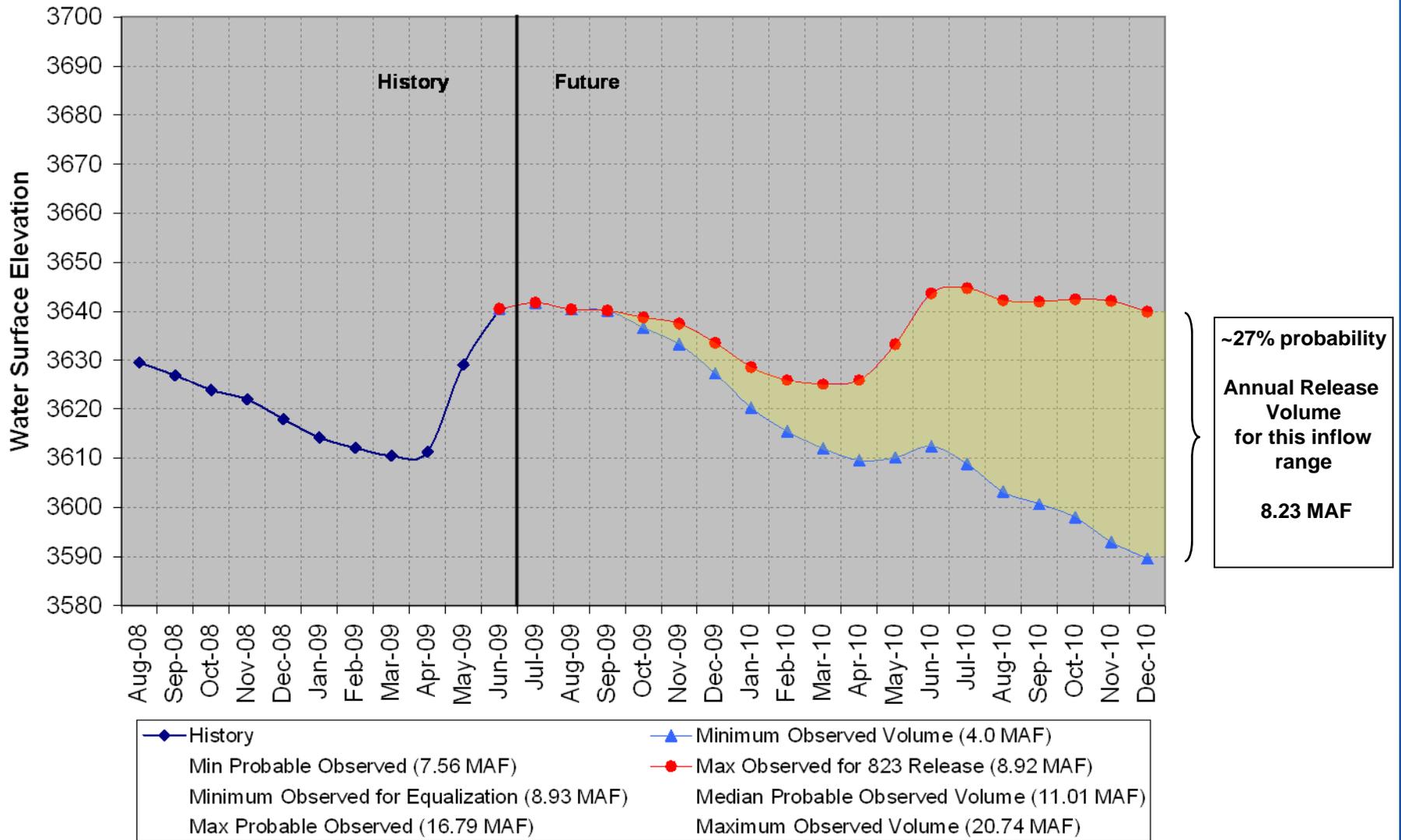
Potential Lake Powell Elevations in Water Year 2010



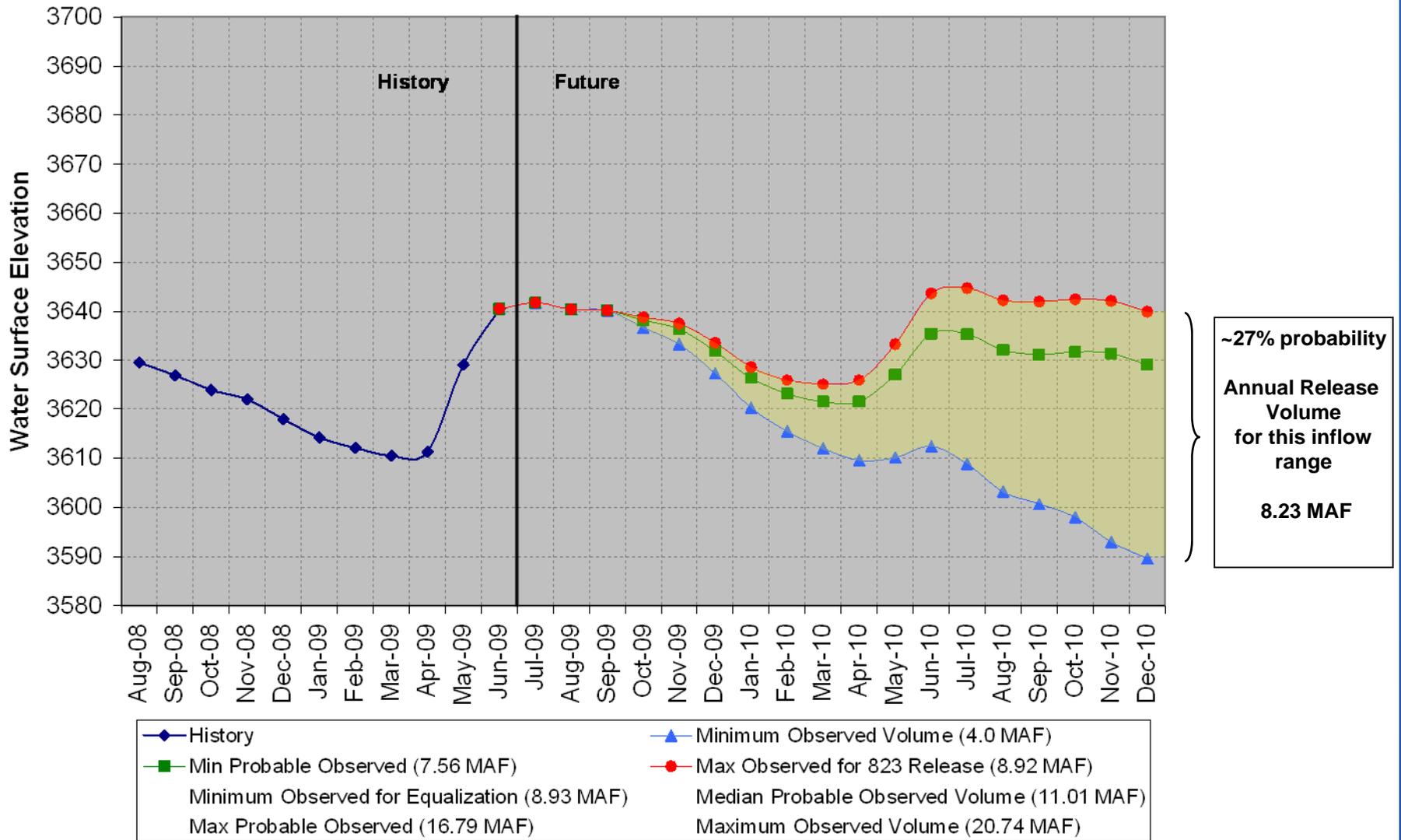
Potential Lake Powell Elevations in Water Year 2010



Potential Lake Powell Elevations in Water Year 2010

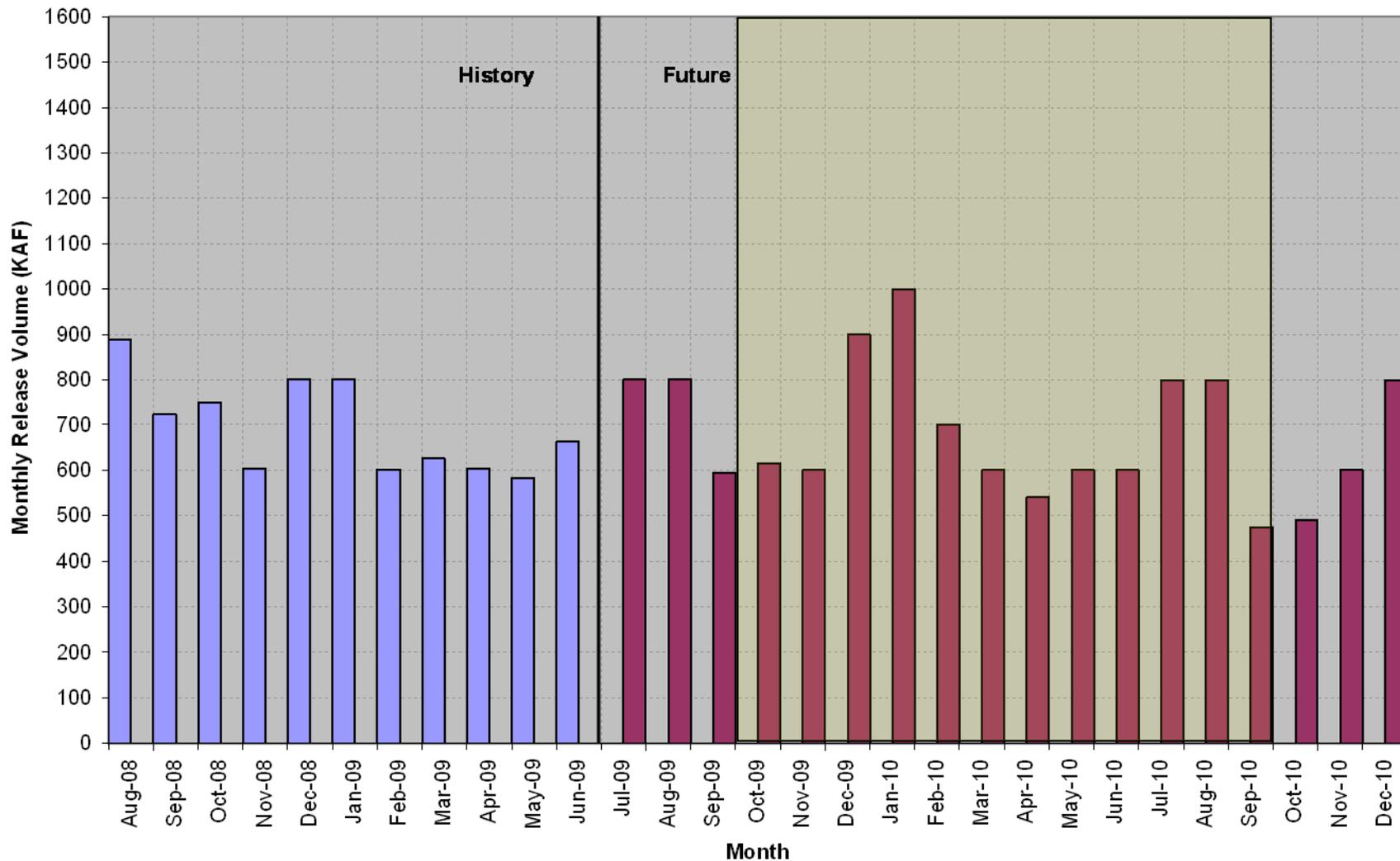


Potential Lake Powell Elevations in Water Year 2010



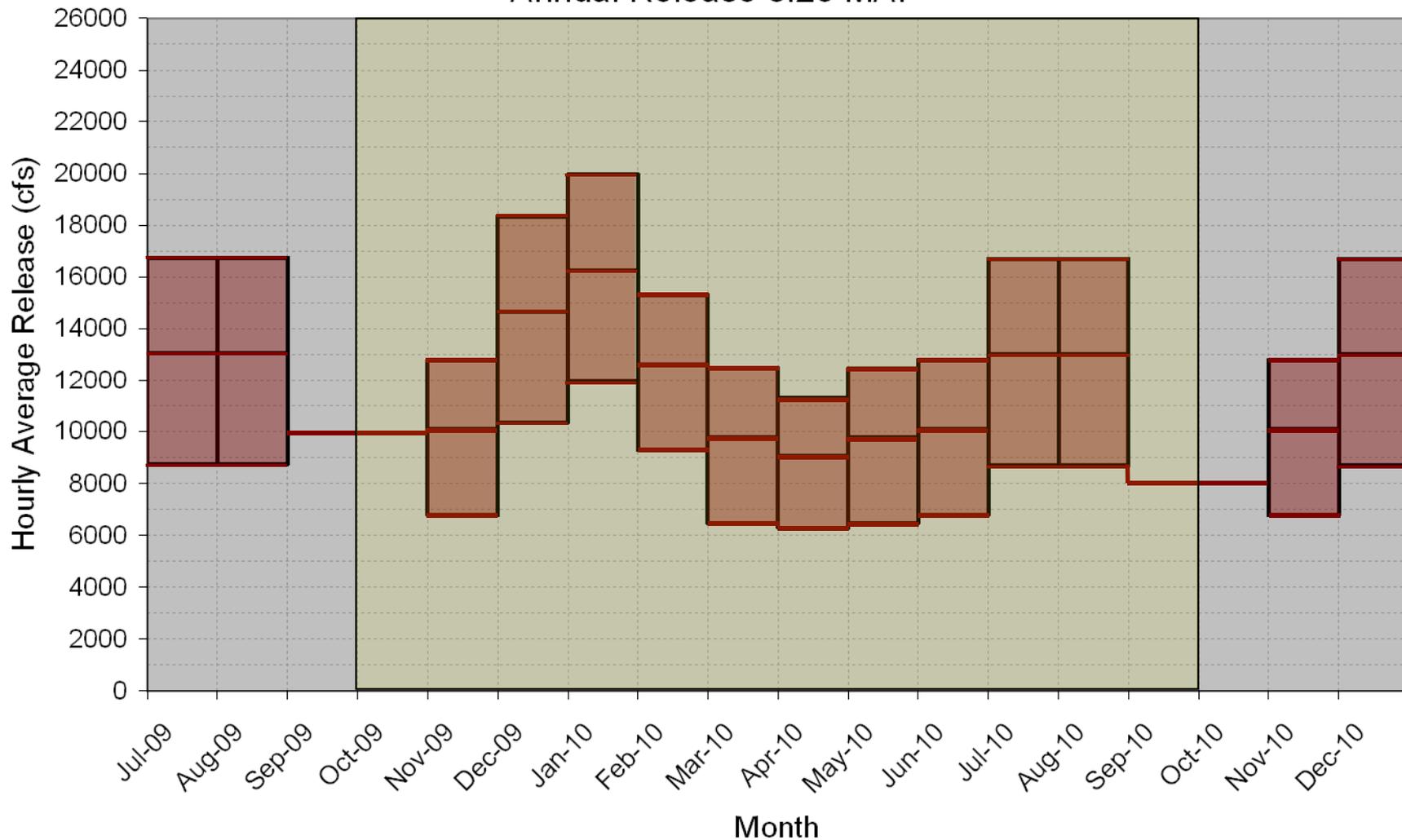
Glen Canyon Dam Monthly Release Distribution

Annual Release 8.23 MAF

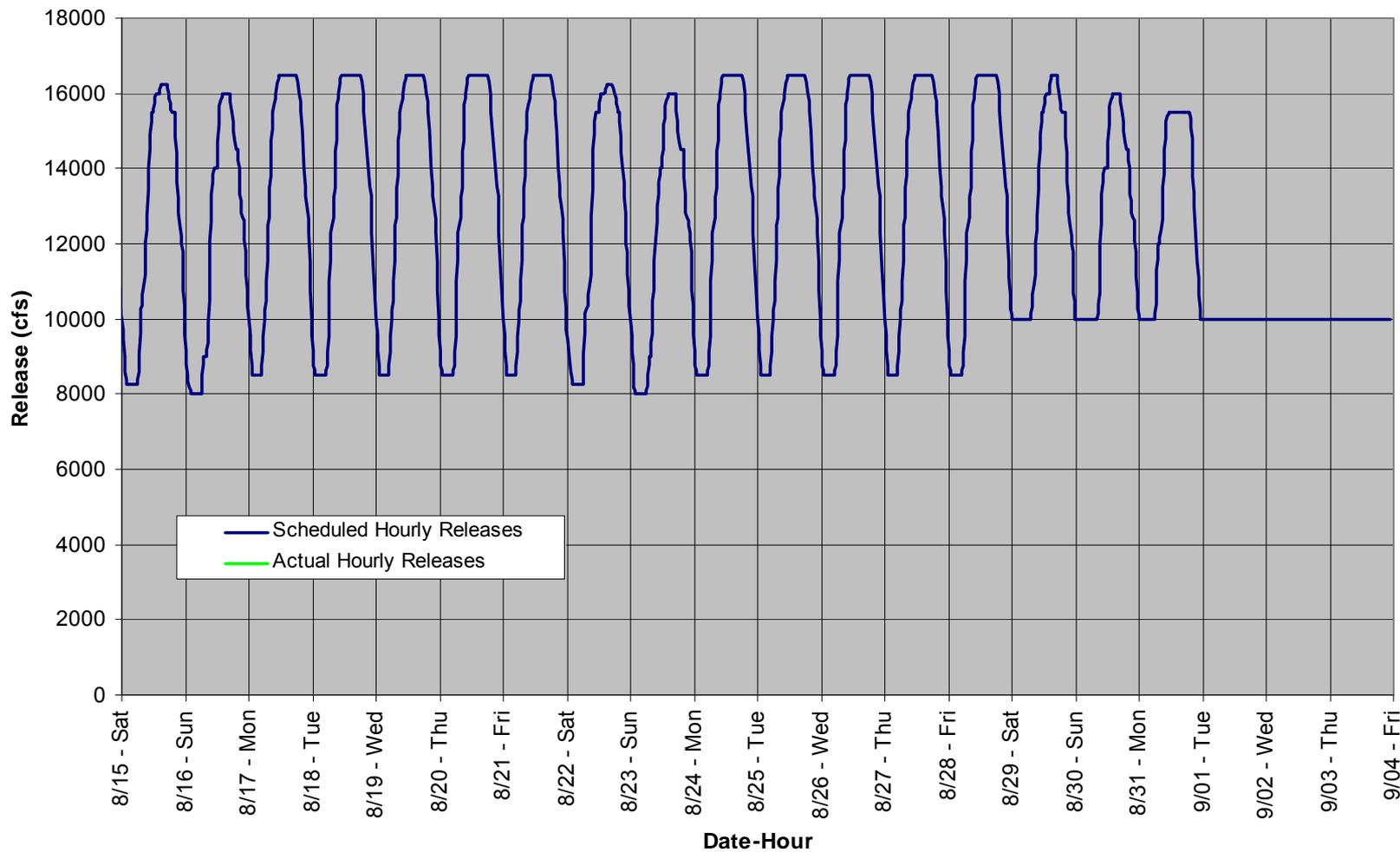


Glen Canyon Daily Fluctuation Range

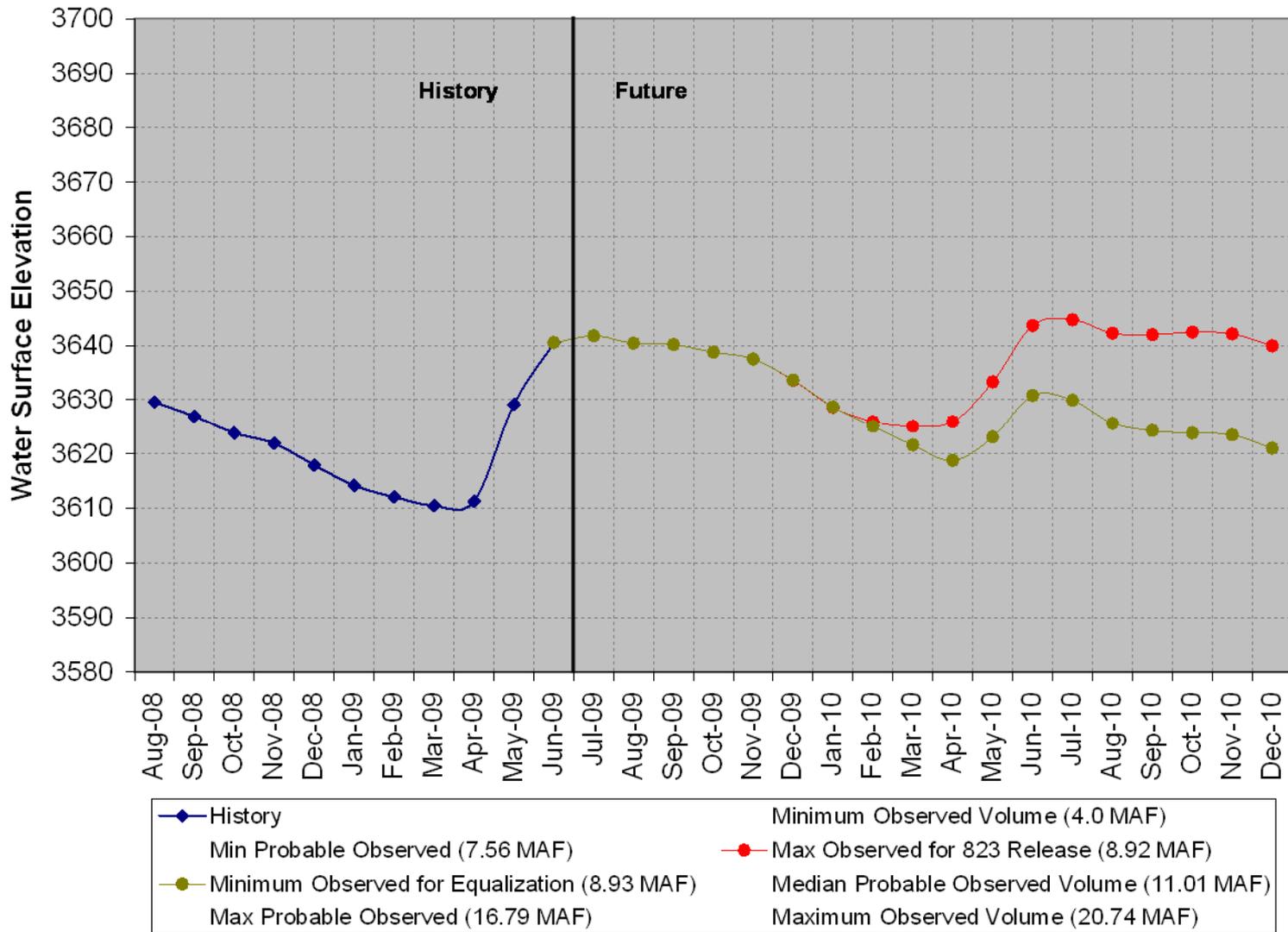
Annual Release 8.23 MAF



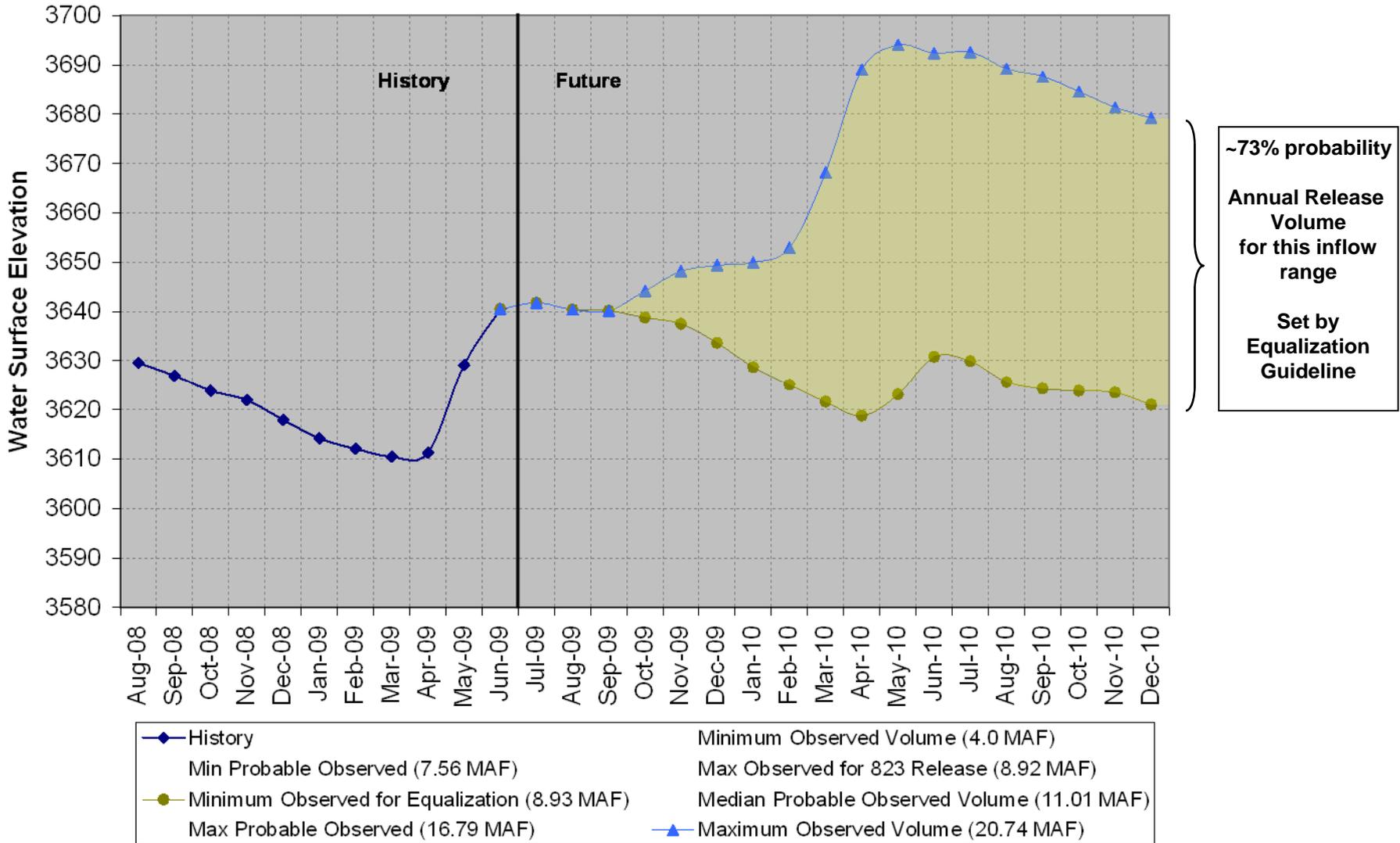
Glen Canyon Dam Hourly Release Pattern



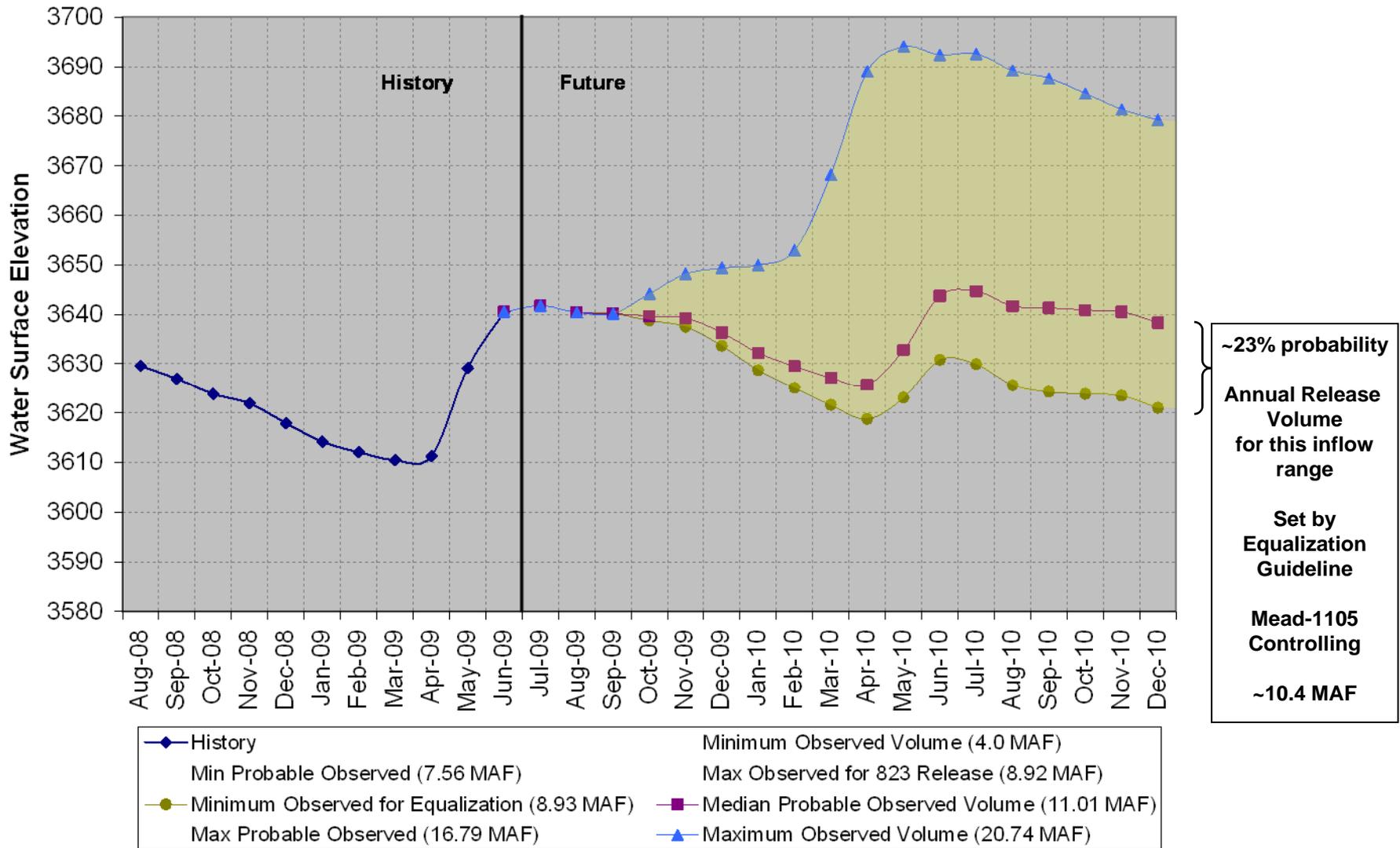
Potential Lake Powell Elevations in Water Year 2010



Potential Lake Powell Elevations in Water Year 2010

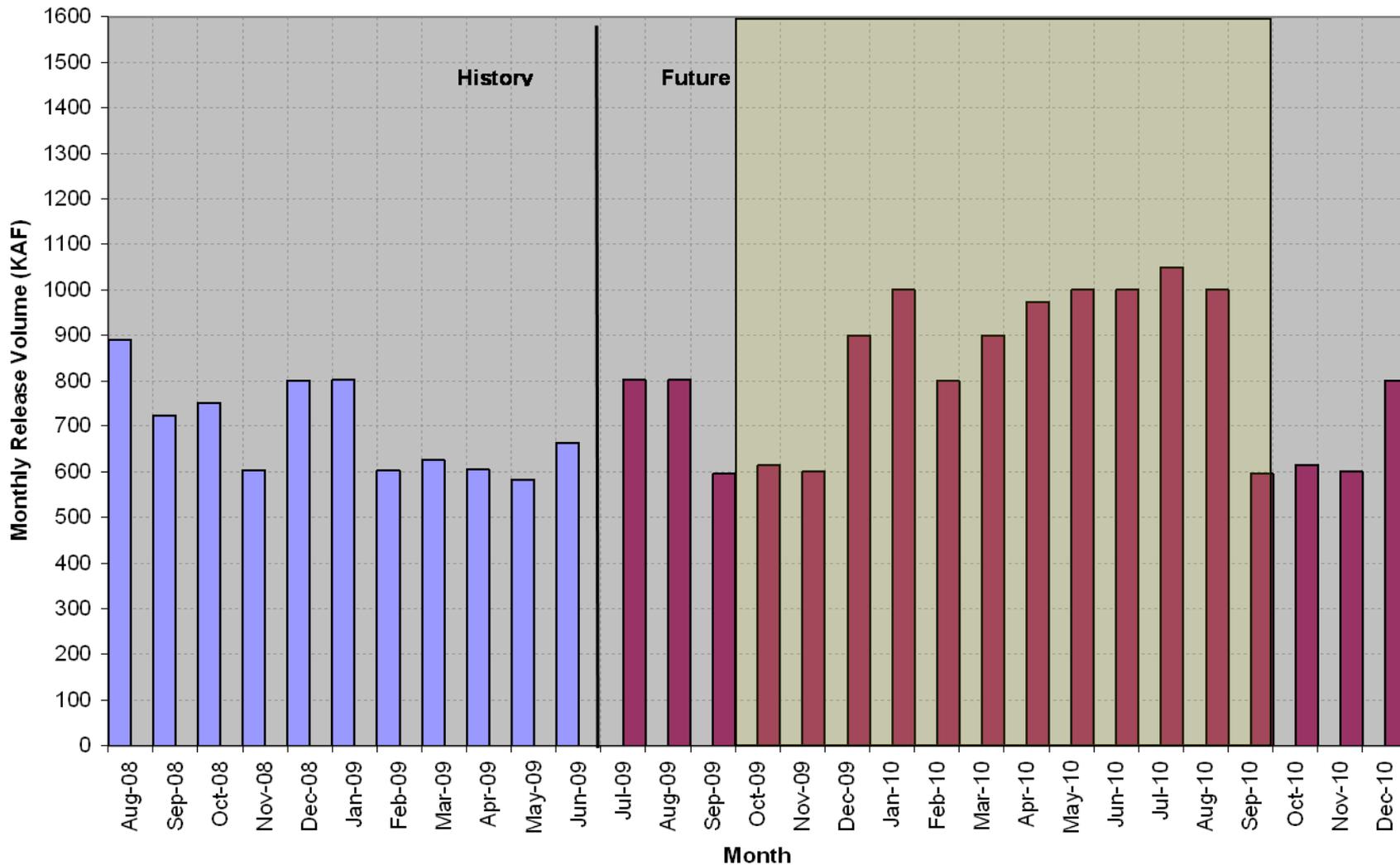


Potential Lake Powell Elevations in Water Year 2010



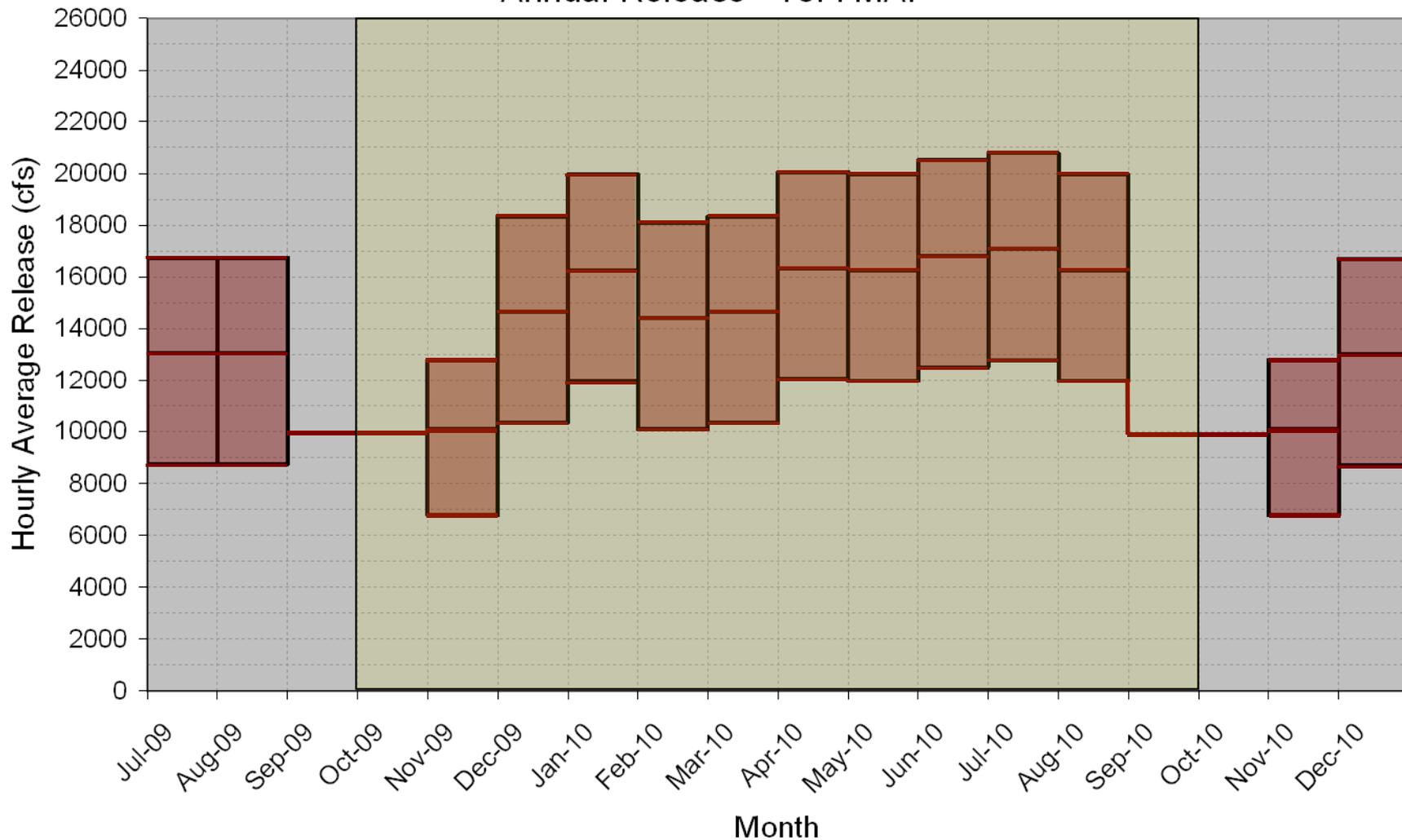
Glen Canyon Dam Monthly Release Distribution

Annual Release ~10.4 MAF

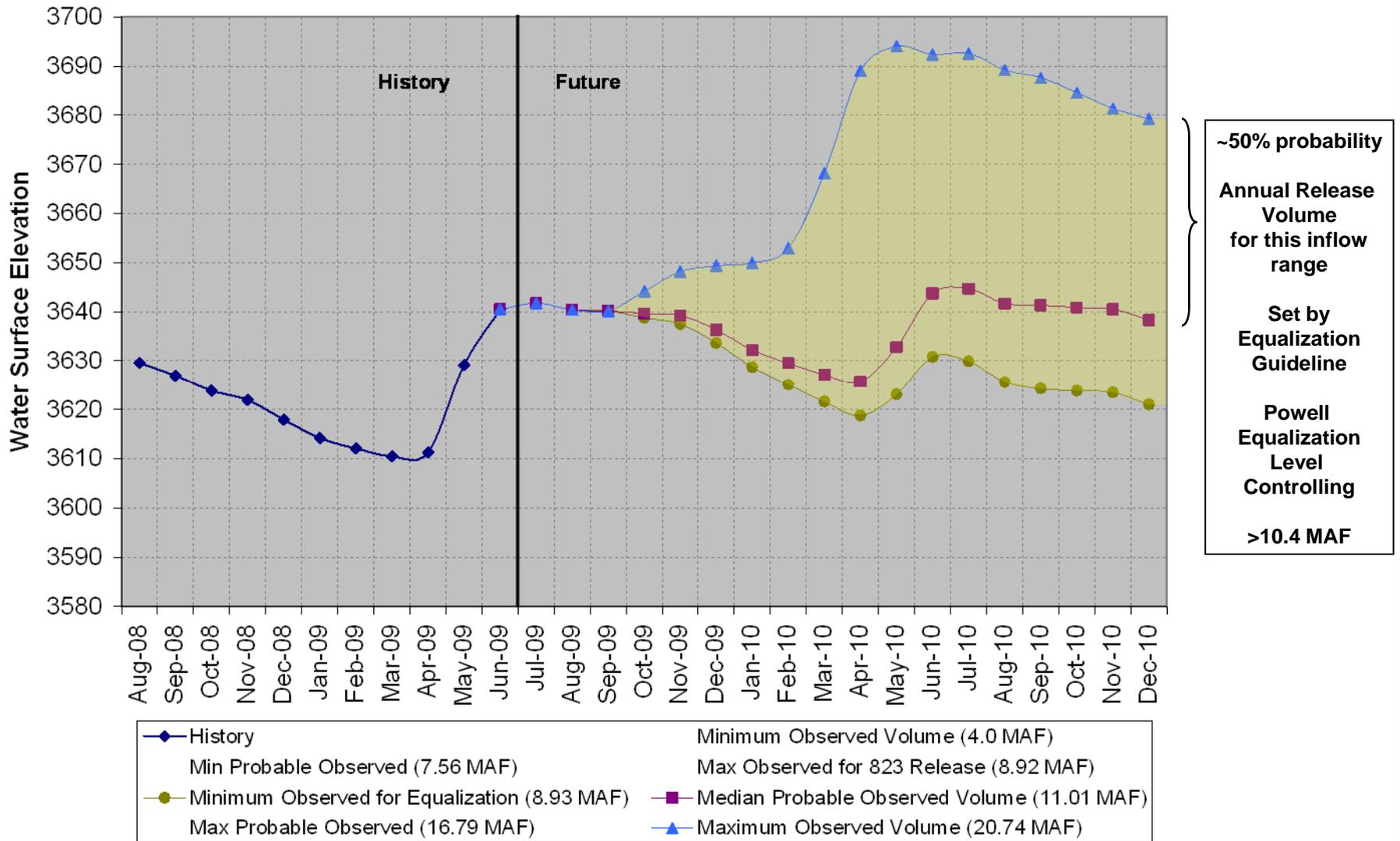


Glen Canyon Daily Fluctuation Range

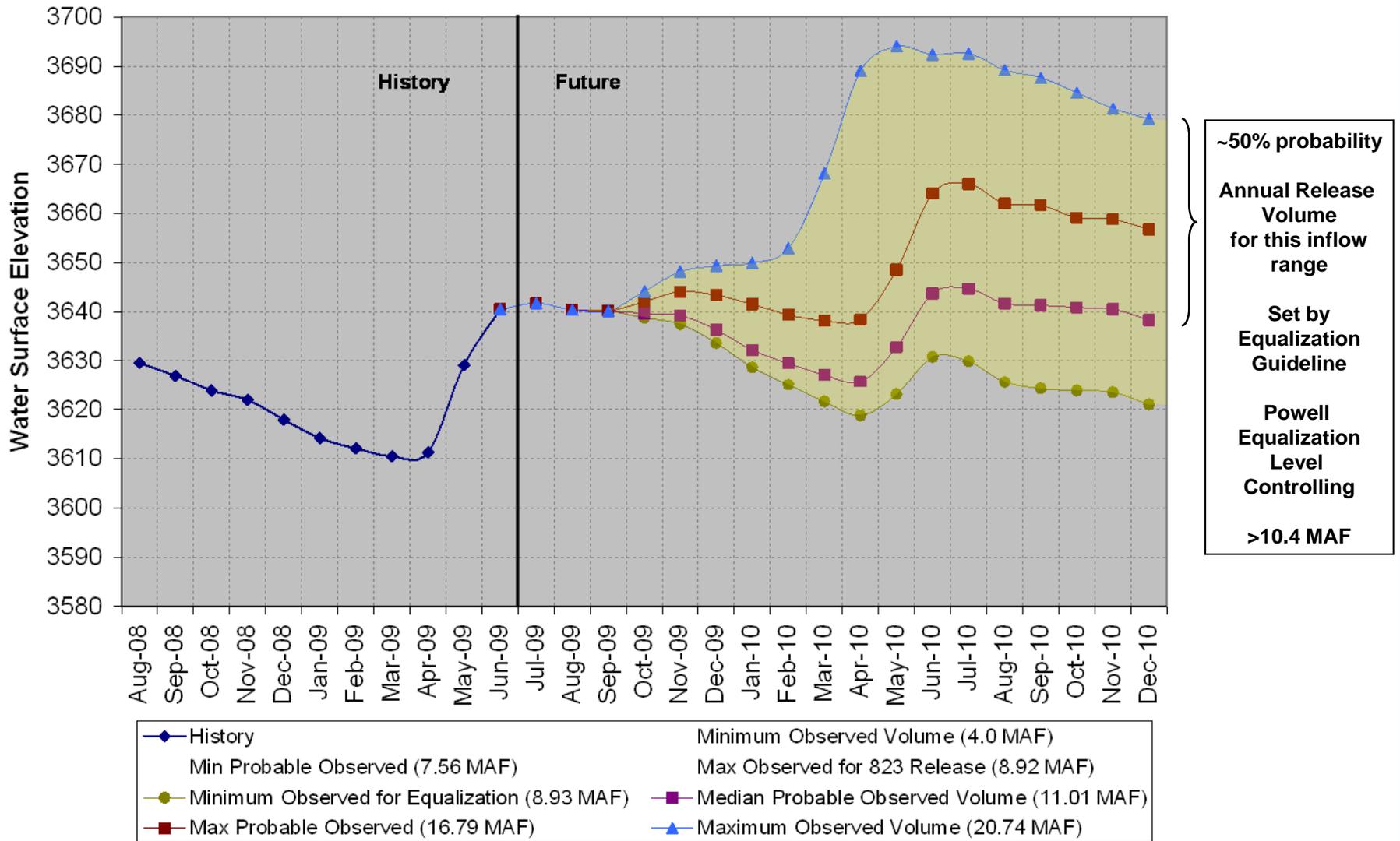
Annual Release ~10.4 MAF



Potential Lake Powell Elevations in Water Year 2010

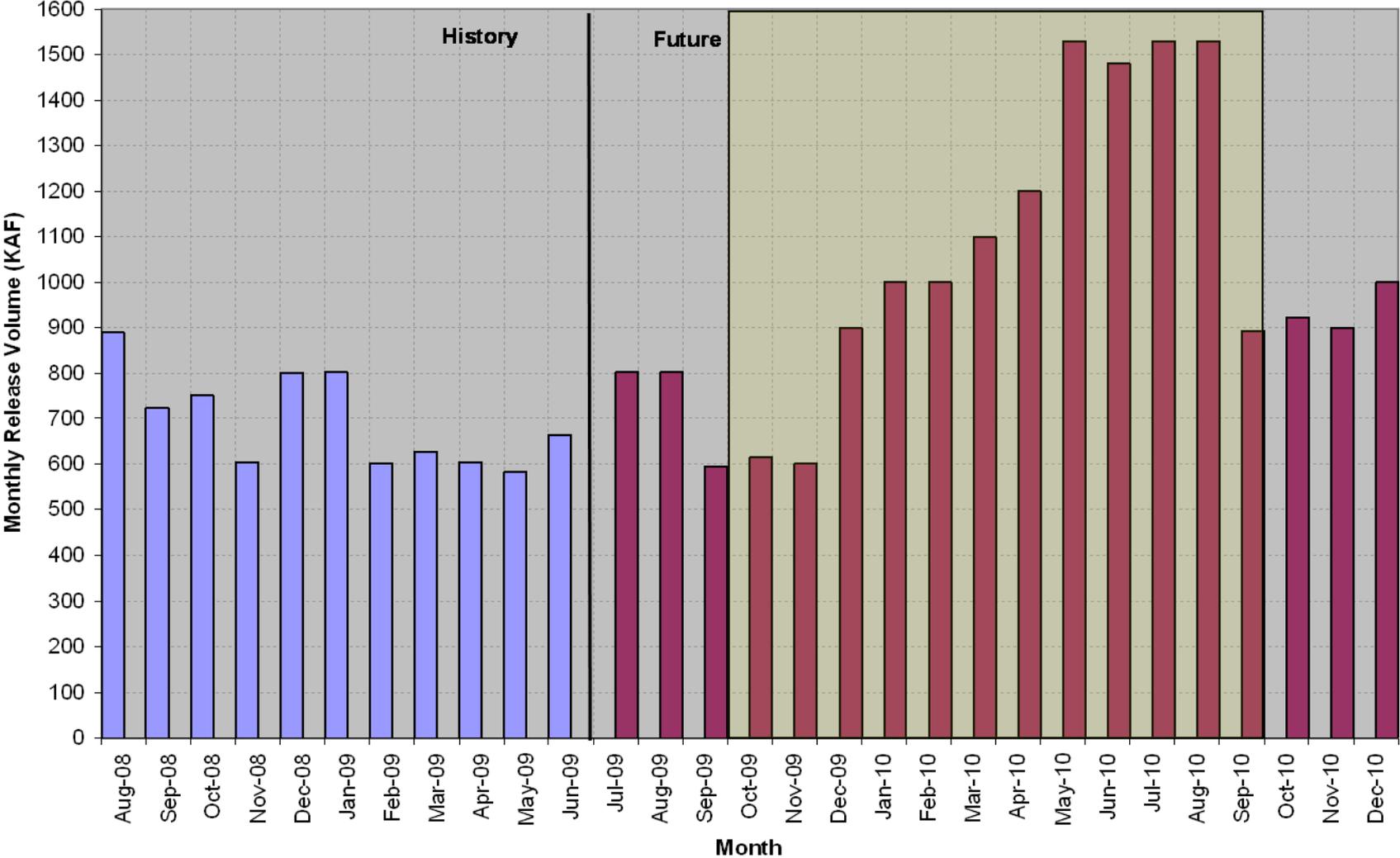


Potential Lake Powell Elevations in Water Year 2010



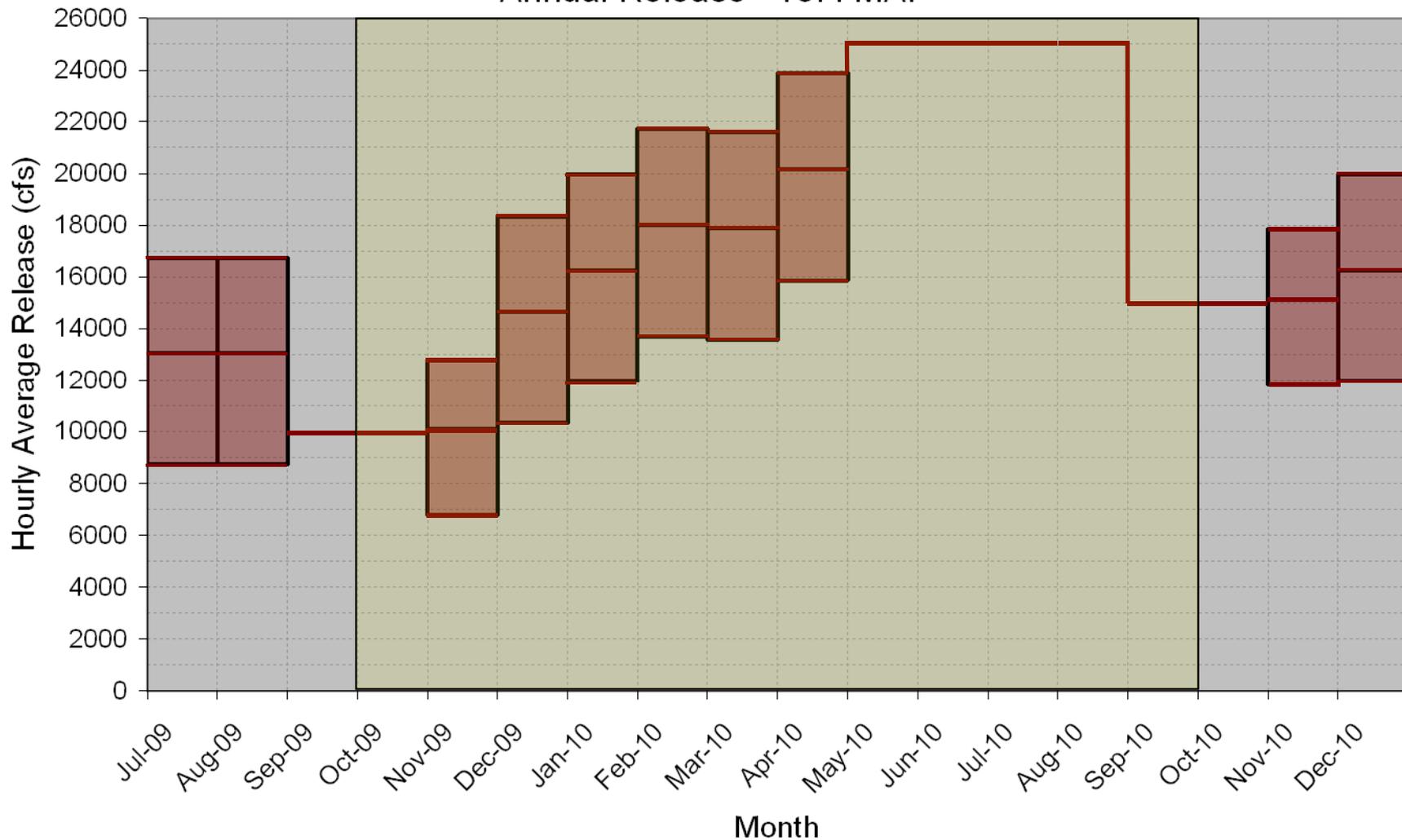
Glen Canyon Dam Monthly Release Distribution

Annual Release ~13.4 MAF



Glen Canyon Daily Fluctuation Range

Annual Release ~13.4 MAF



Glen Canyon Power Plant Planned Unit Outage Schedule for Water Year 2010

Unit Number	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010
1												
2												
3												
4												
5												
6												
7												
8												
Units Available	5	5	7	7	5	6	6	6	7	7	8	5
Estimated Capacity (cfs)	20K	20K	28K	28K	20K	24K	24K	24K	28K	28K	32K	20K

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Unit Number	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010
1		■										
2		■										■
3					■							
4					■							
5	■											■
6	■											■
7	■											
8						■		■				
Units Available	5	5	7	7	5	6	6	6	7	7	8	5
Estimated Capacity (cfs)	20K	20K	28K	28K	20K	24K	24K	24K	28K	28K	32K	20K

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Unit Number	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010
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5												
6												
7												
8												
Units Available	5	5	7	7	5	6	6	6	7	7	8	5
Estimated Capacity (cfs)	20K	20K	28K	28K	20K	24K	24K	24K	28K	28K	32K	20K

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Units Available	5	5	7	7	5	6	6	6	7	7	8	5
Estimated Capacity (cfs)	20K	20K	28K	28K	20K	24K	24K	24K	28K	28K	32K	20K

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