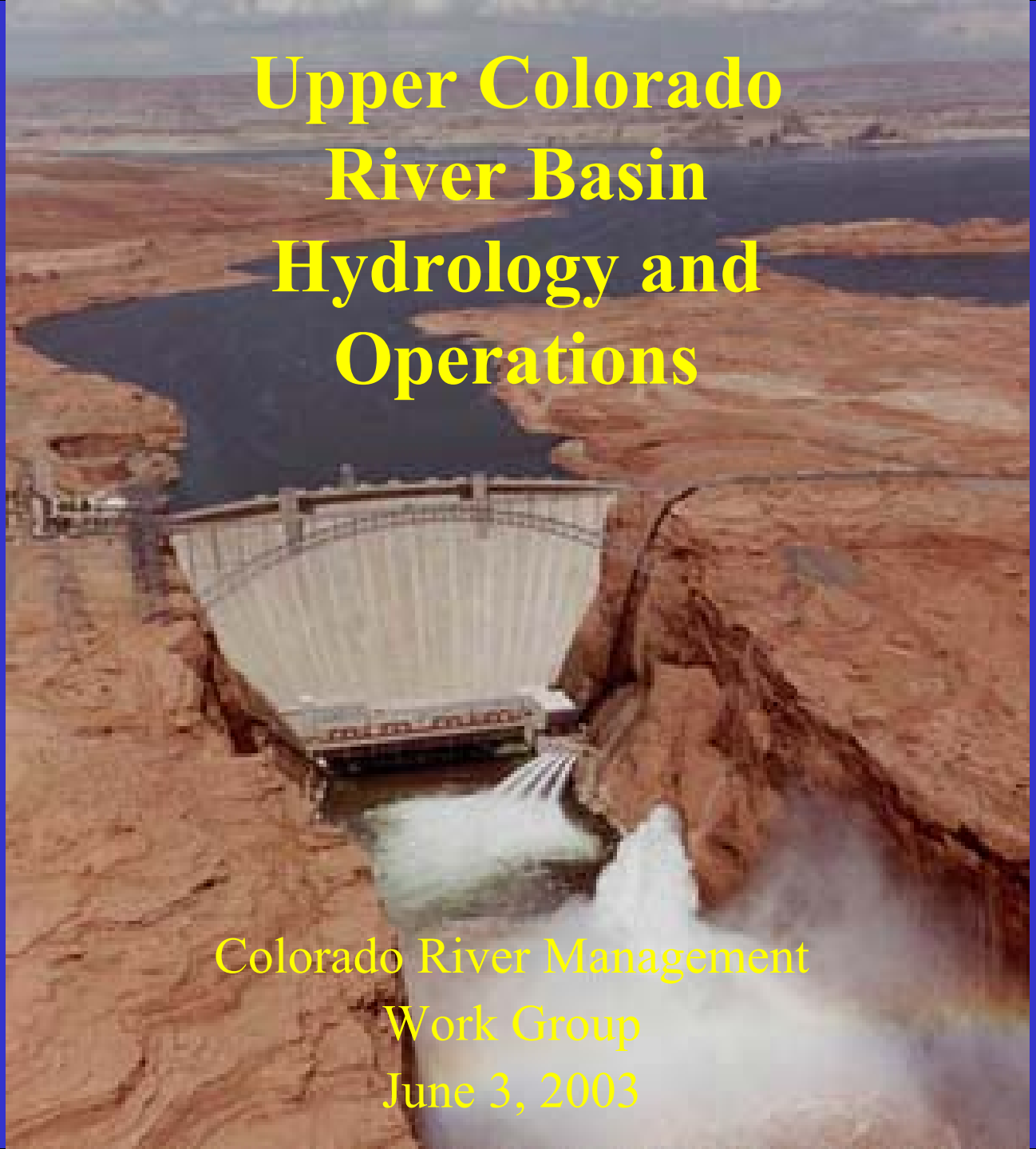
Upper Colorado River Basin Hydrology and Operations

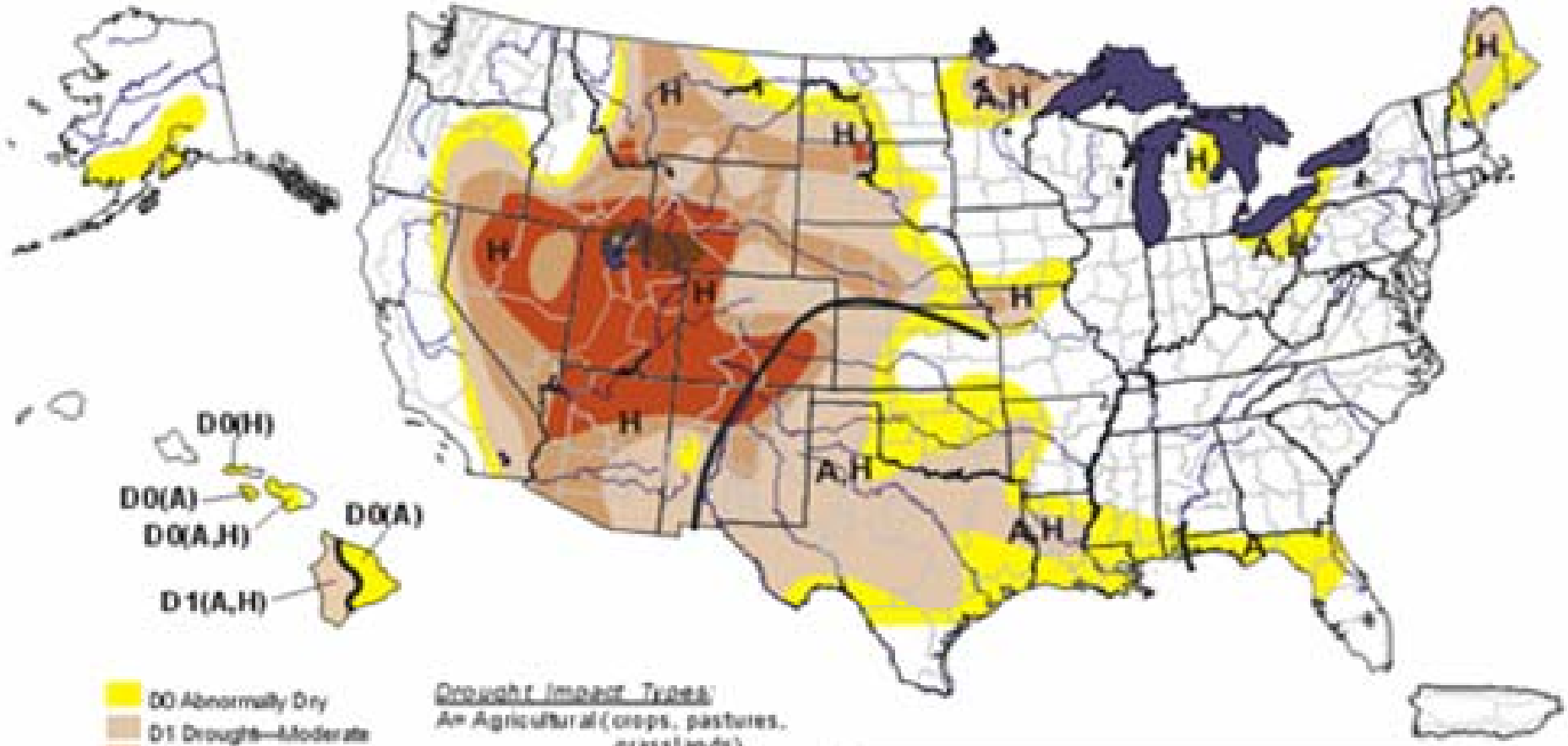


Colorado River Management Work Group

June 3, 2003

U.S. Drought Monitor

May 13, 2003
Valid 8 a.m. EDT



D0 Abnormally Dry
D1 Drought—Moderate
D2 Drought—Severe
D3 Drought—Extreme
D4 Drought—Exceptional

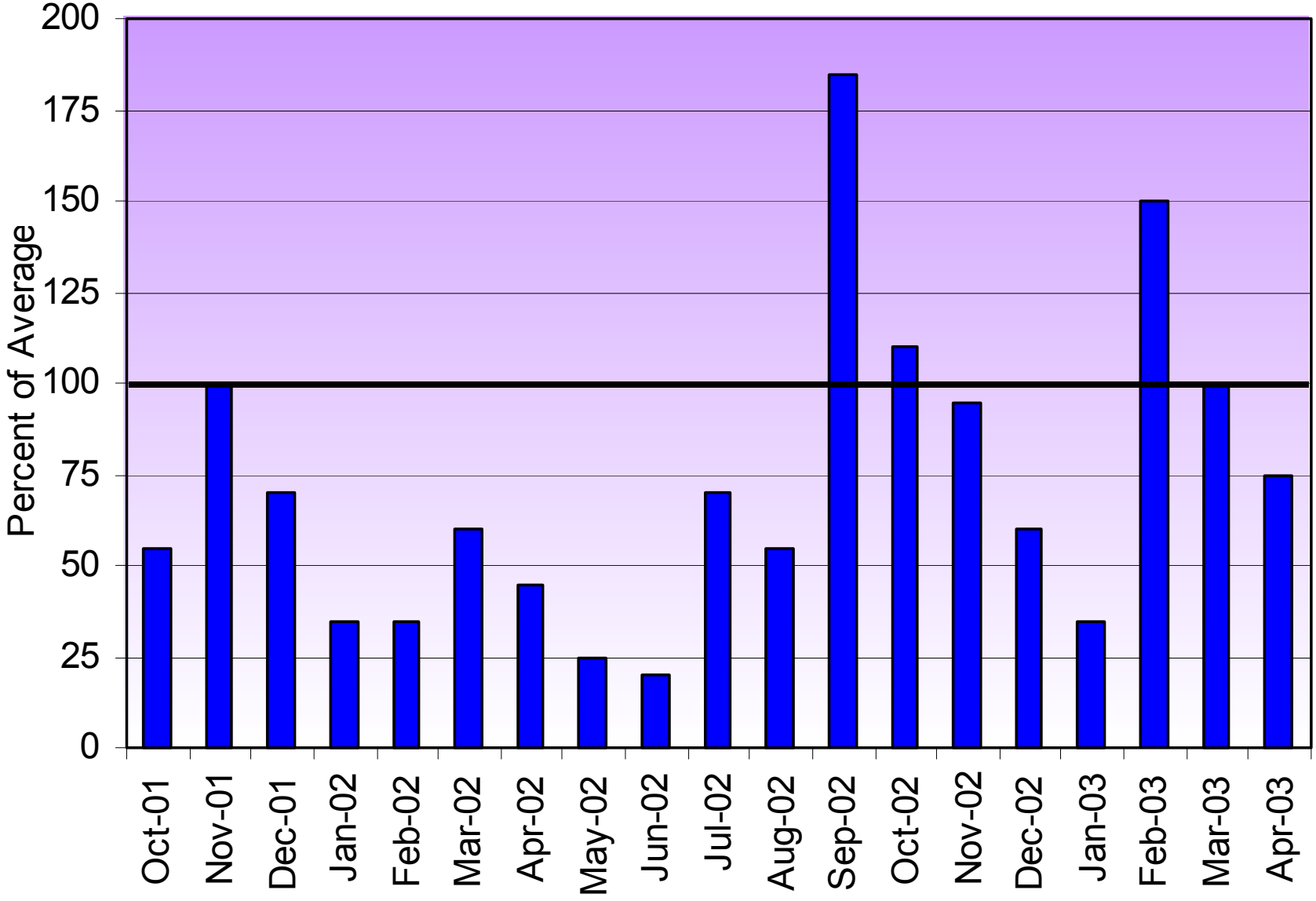
Drought Impact Types:
A= Agricultural (crops, pastures, grasslands)
H= Hydrological (water)
Delineates dominant impacts
(No type = both impacts)

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

http://drought.unl.edu/dm

Released Thursday, May 15, 2003
Author: *Rich Tinker, NOAA's Climate Prediction Center*

Upper Colorado River Basin Precipitation
October 2001 - April 2003



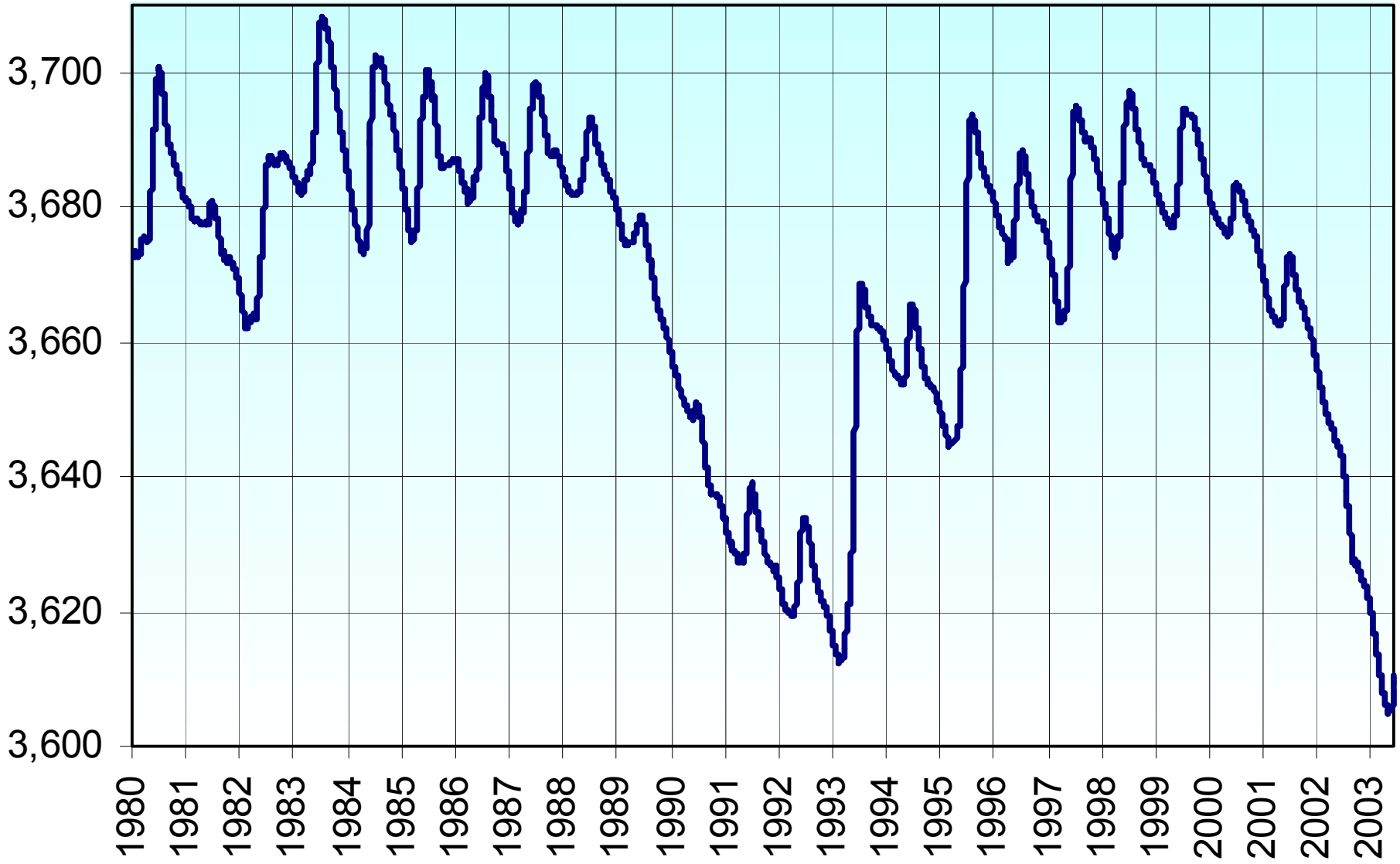
Droughts - Colorado River

(Average Natural Flow 15.0 maf)

Years	Duration	Average Flow
• 1931-1935	5 years	11.4 maf
• 1953-1956	4 years	10.2 maf
• 1959-1964	6 years	11.4 maf
• 1988-1992	5 years	10.5 maf
• 2000-2003*	4 years	10.7 maf

*** Estimated**

Lake Powell Water Surface Elevations
1980 through Present

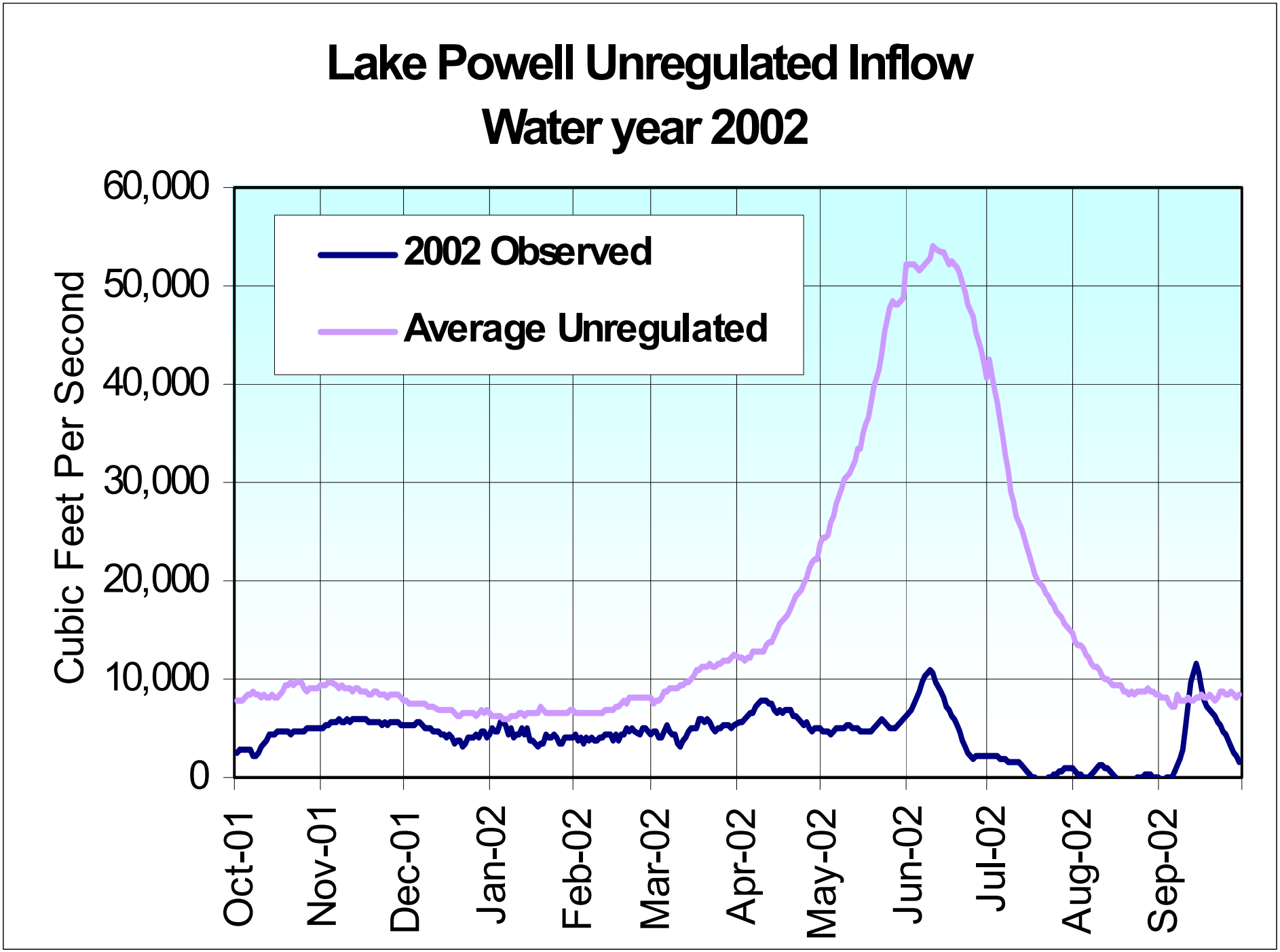


Four Years of Drought

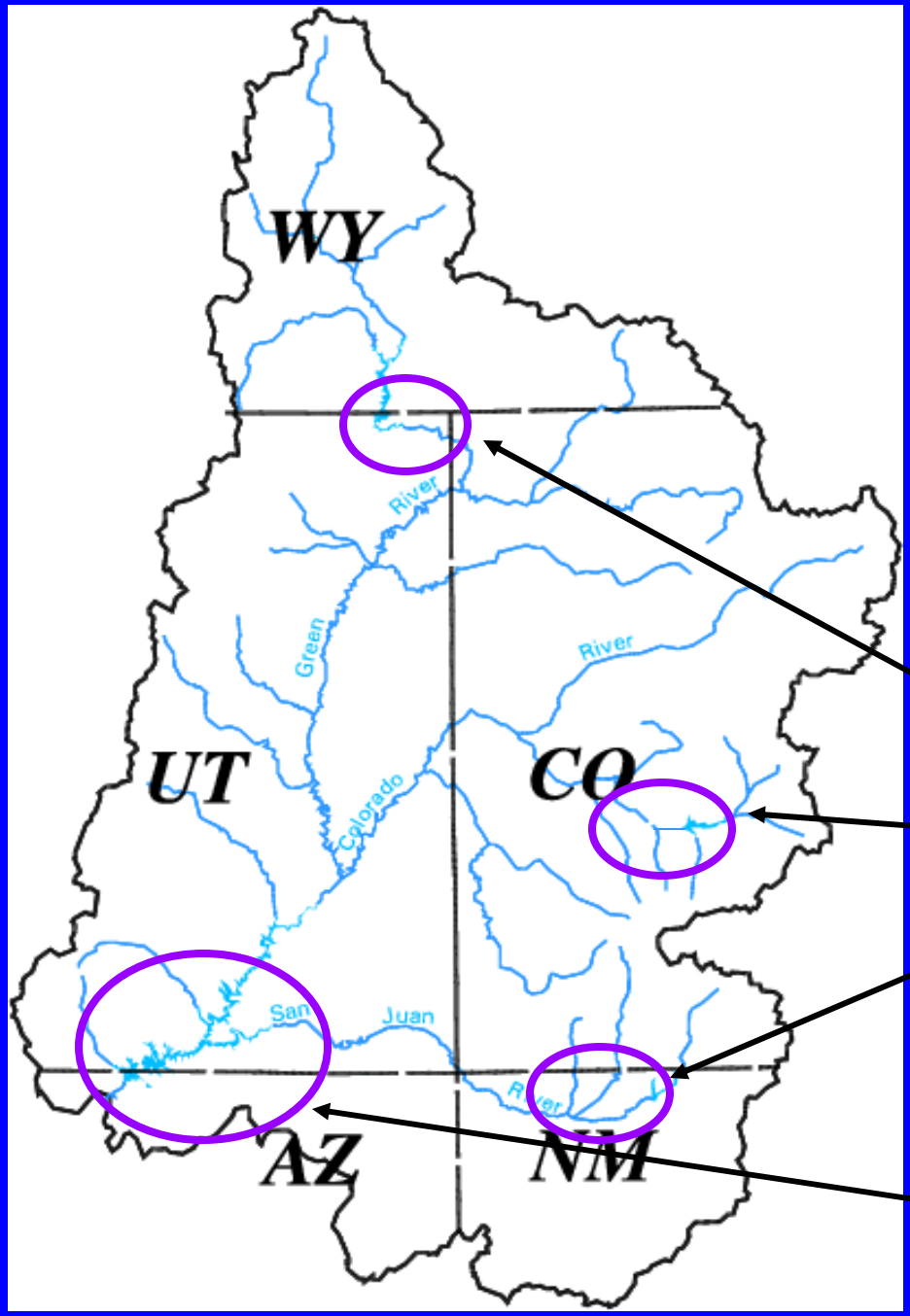
Lake Powell Unregulated Inflow 2000-2003

- WY 2000 — 62 percent of average
- WY 2001 — 59 percent of average
- WY 2002 — 25 percent of average
- WY 2003 — 57 percent of average*

*** Estimated**


Lake Powell Unregulated Inflow
Water year 2002
2002 Observed
Average Unregulated
Cubic Feet Per Second
60,000
50,000
40,000
30,000
20,000
10,000
0
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02

2003 Upper Colorado Apr–Jul Inflow



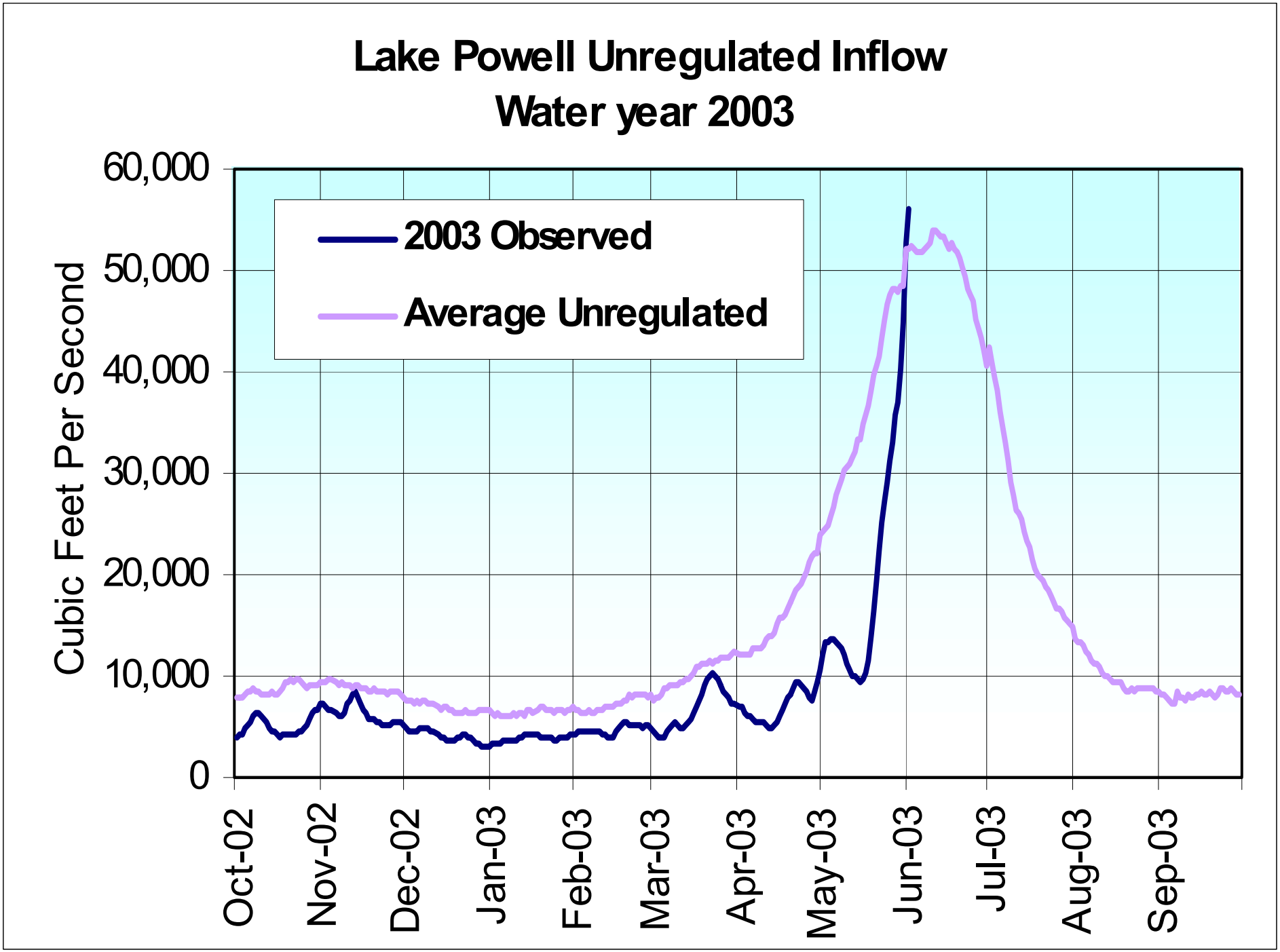
June 2003
Preliminary Forecasts

Flaming Gorge – 45 %

Blue Mesa – 62 %

Navajo – 40 %

Lake Powell – 50 %


Lake Powell Unregulated Inflow
Water year 2003
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Average Unregulated
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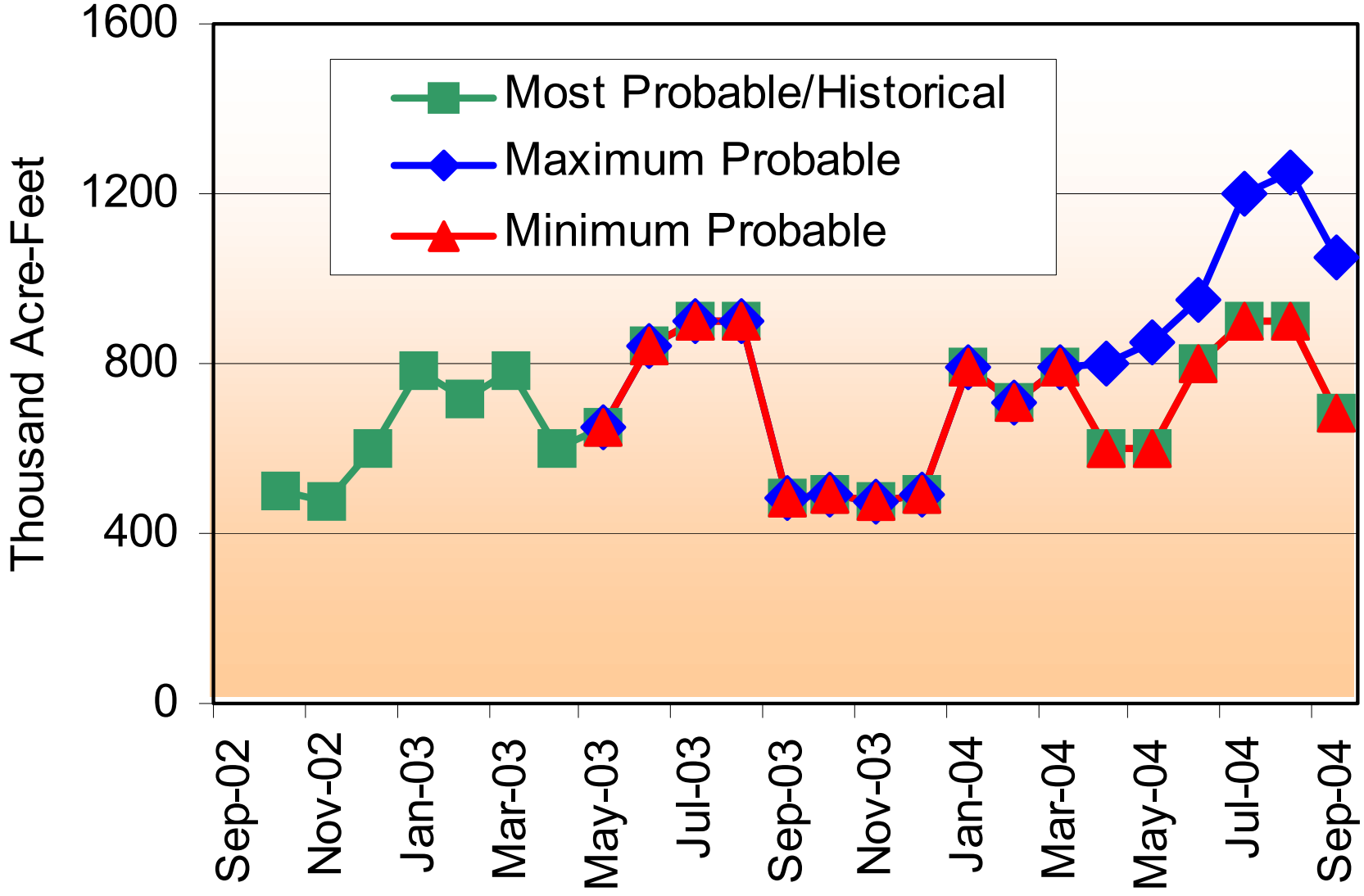
60,000
50,000
40,000
30,000
20,000
10,000
0
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
May-03
Jun-03
Jul-03
Aug-03
Sep-03

Projected 2004 Lake Powell Inflow

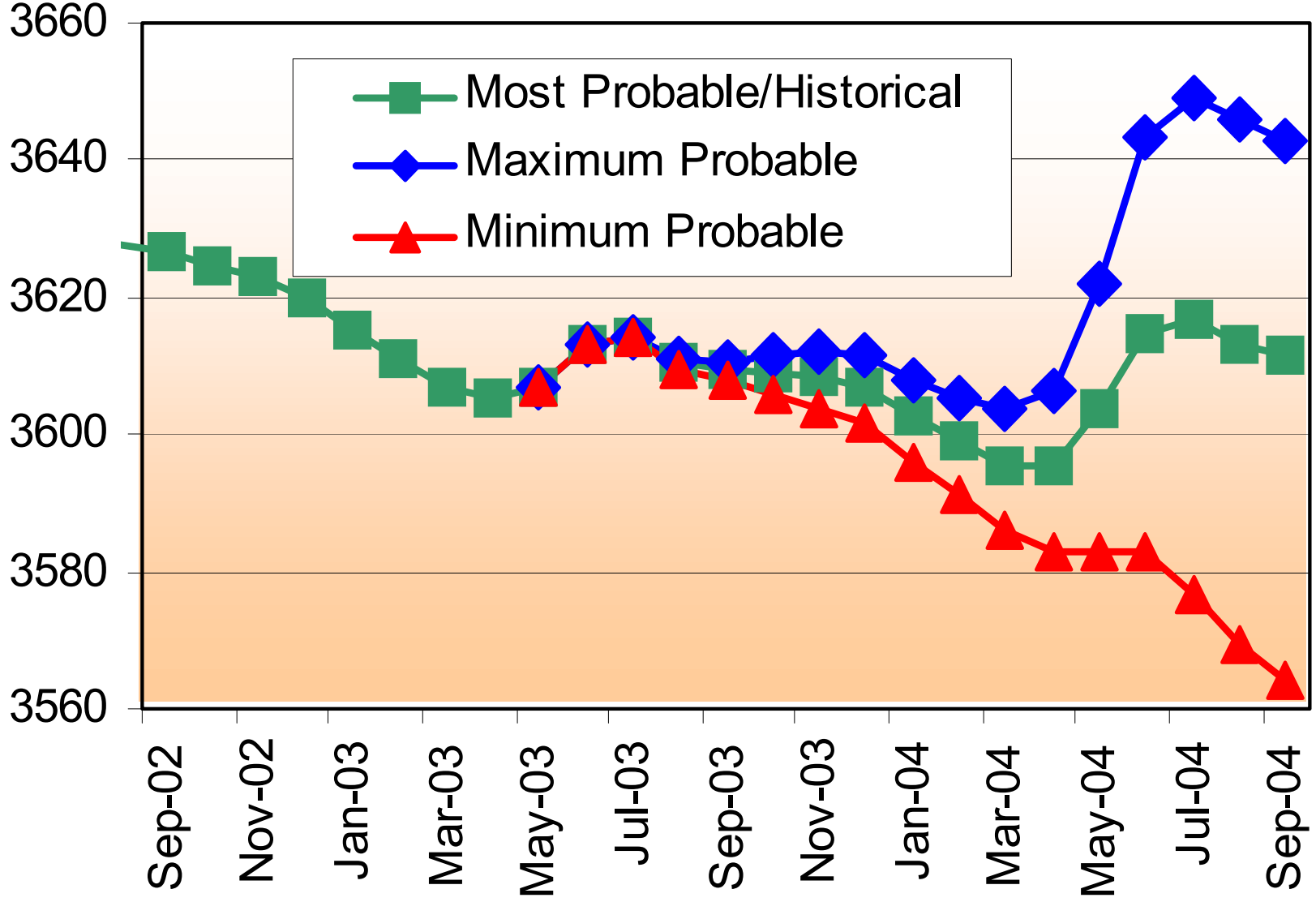
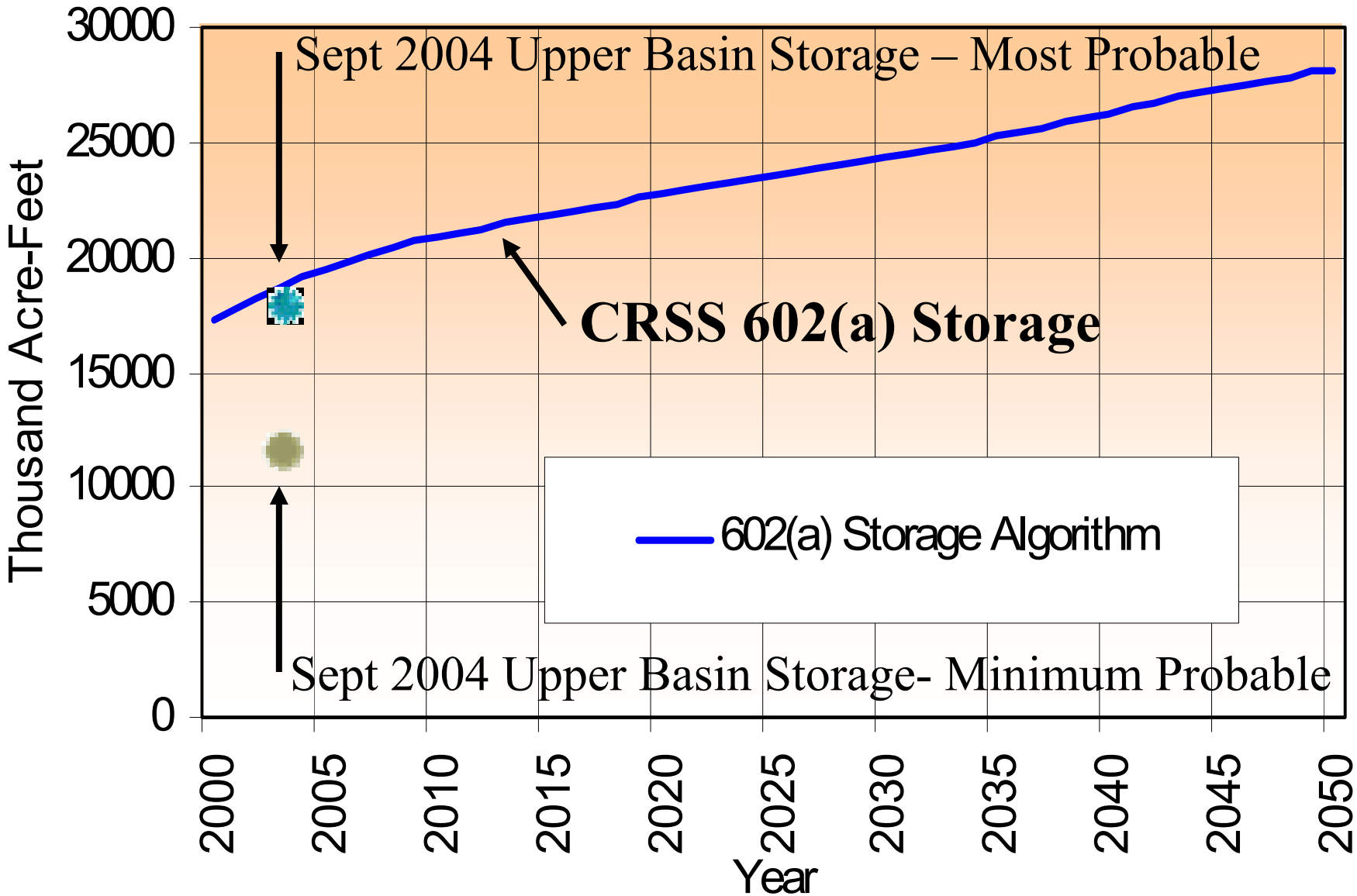
(May, 2003)

Scenario	WY 2004	Historic
Minimum Probable	3.9 maf (32 %)	6.1 maf (51 %)
Most Probable	9.8 maf (81 %)	12.1 maf (100 %)
Maximum Probable	15.9 maf (132 %)	18.2 maf (151 %)

Lake Powell Releases
Based on May, 2003 Inflow Projections



Lake Powell Water Surface Elevations Based on May, 2003 Inflow Projections



602(a) Storage