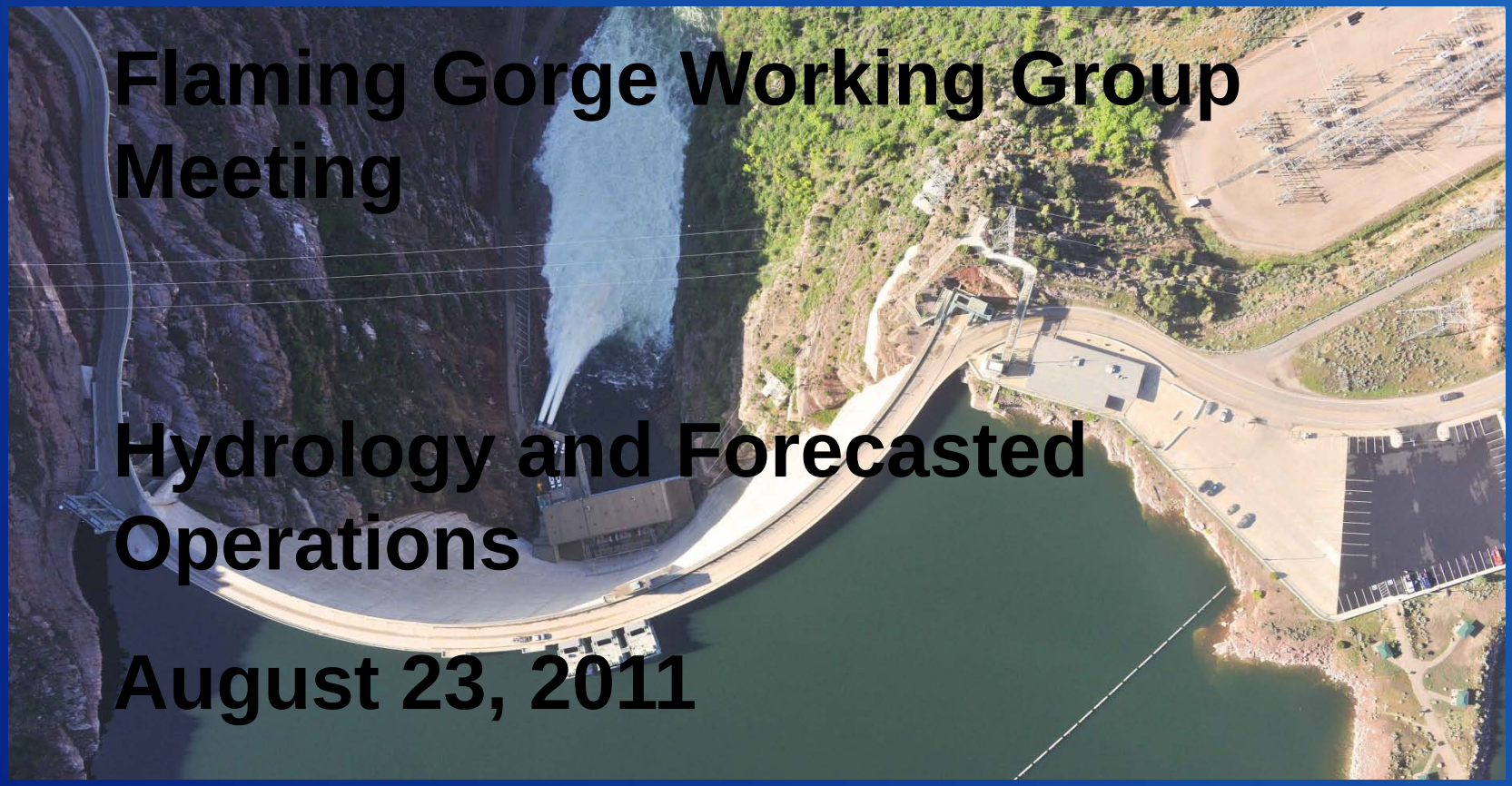
RECLAMATION

Managing Water in the West



Flaming Gorge Working Group Meeting

Hydrology and Forecasted Operations

August 23, 2011

U.S. Department of the Interior
Bureau of Reclamation

Flaming Gorge Working Group Meeting August 2011

- Spring and Summer Operations
- Projected Hydrology and Operations
- Flaming Gorge Process
- 2006 Record of Decision Operating Criteria

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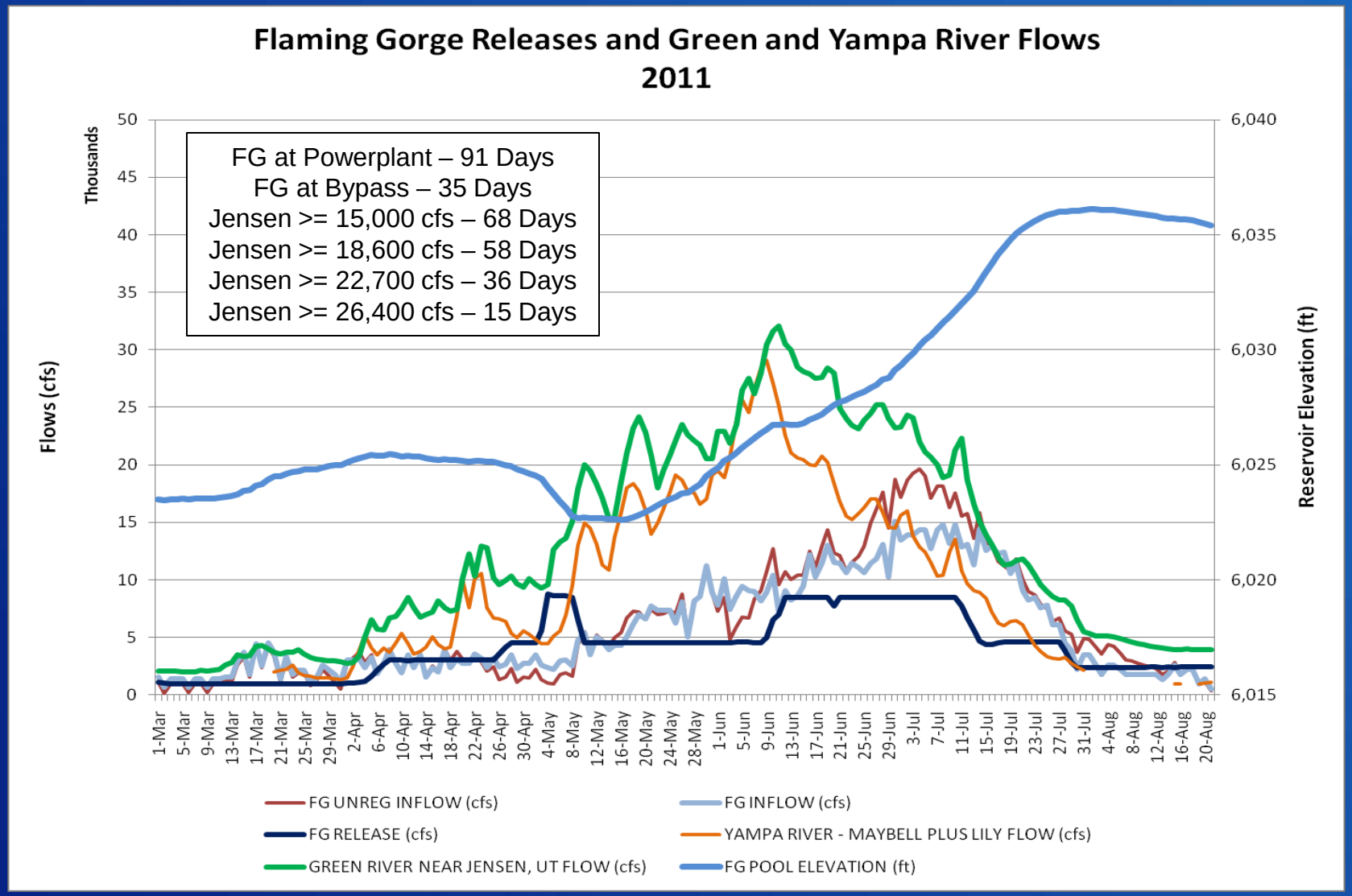
Flaming Gorge Working Group Meeting August 2011

Water Year 2011

Spring and Summer Operation

RECLAMATION

Spring 2011 Hydrograph



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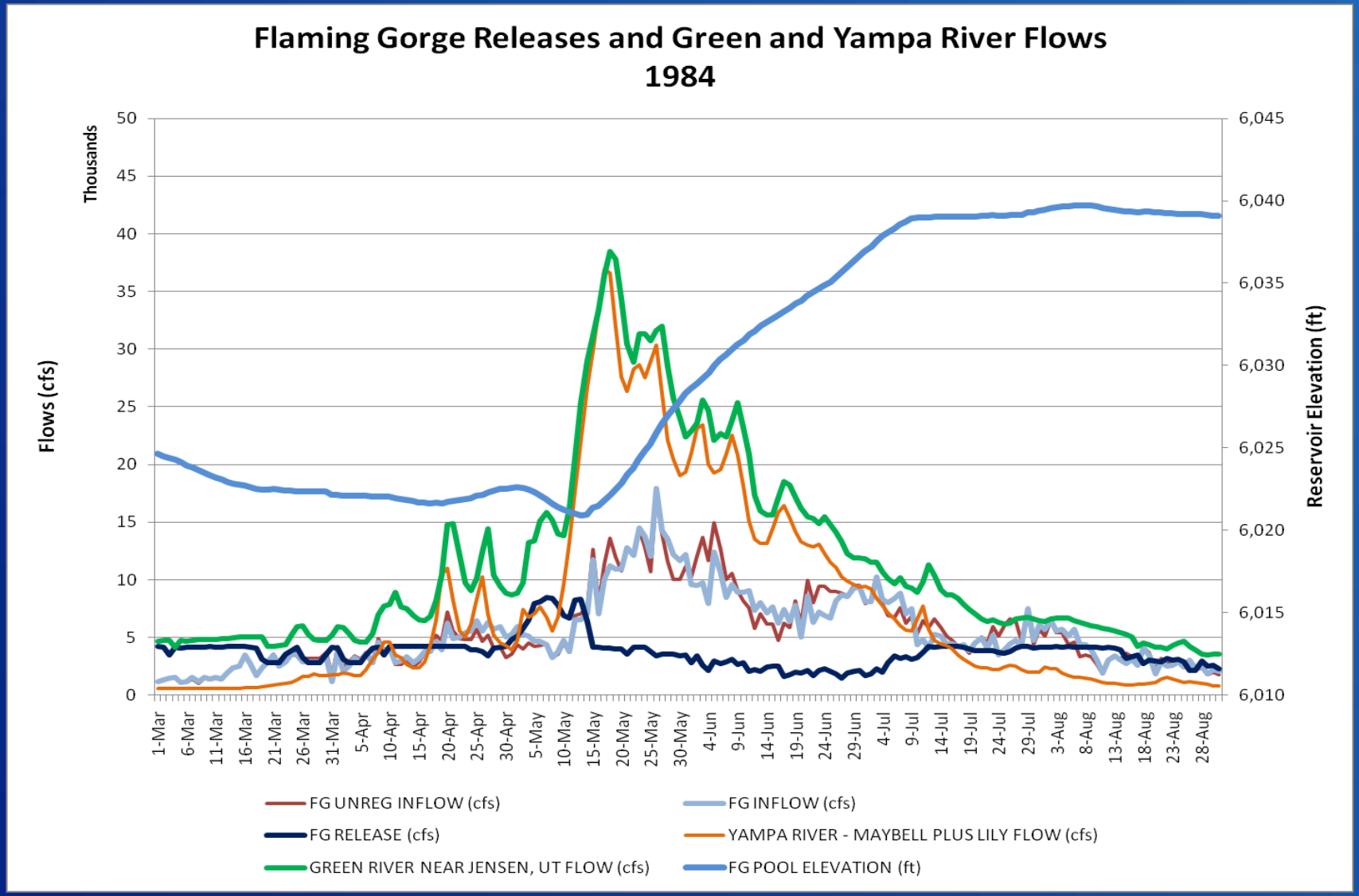
Spring1984 Comparison



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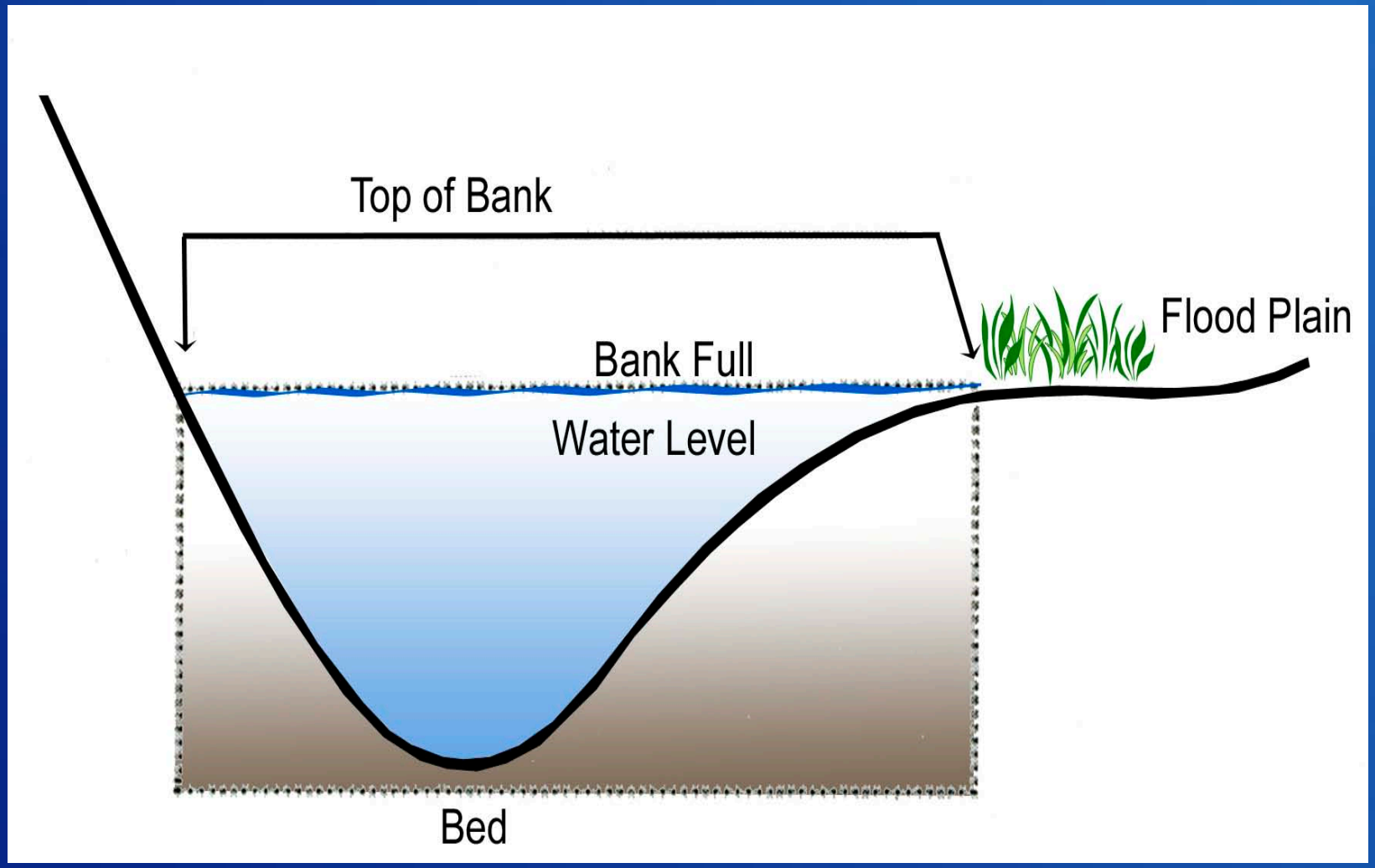

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Current Hydrology

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Live Capacity	3.752	MAF
Capacity on 8/22/11	3.562	MAF
Available Space	.190	MAF
Percentage of Full	95	%

Reservoir Elev. (Min Power)	5908.00	feet
Elevation on 8/22/11	6035.39	feet
Elevation above (Min)	127.39	feet

Average Inflow	1,400	cfs
Average Release	2,450	cfs

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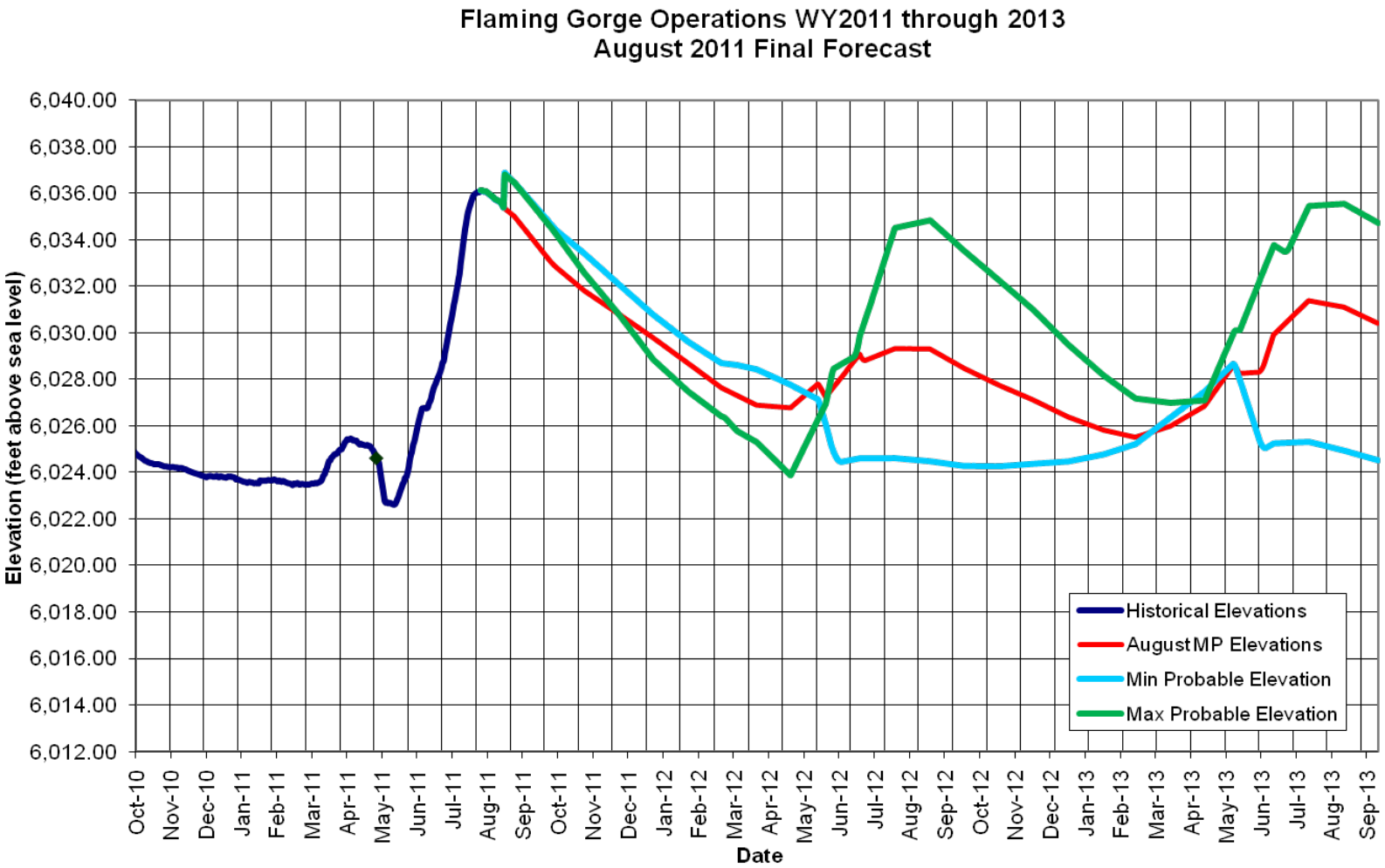

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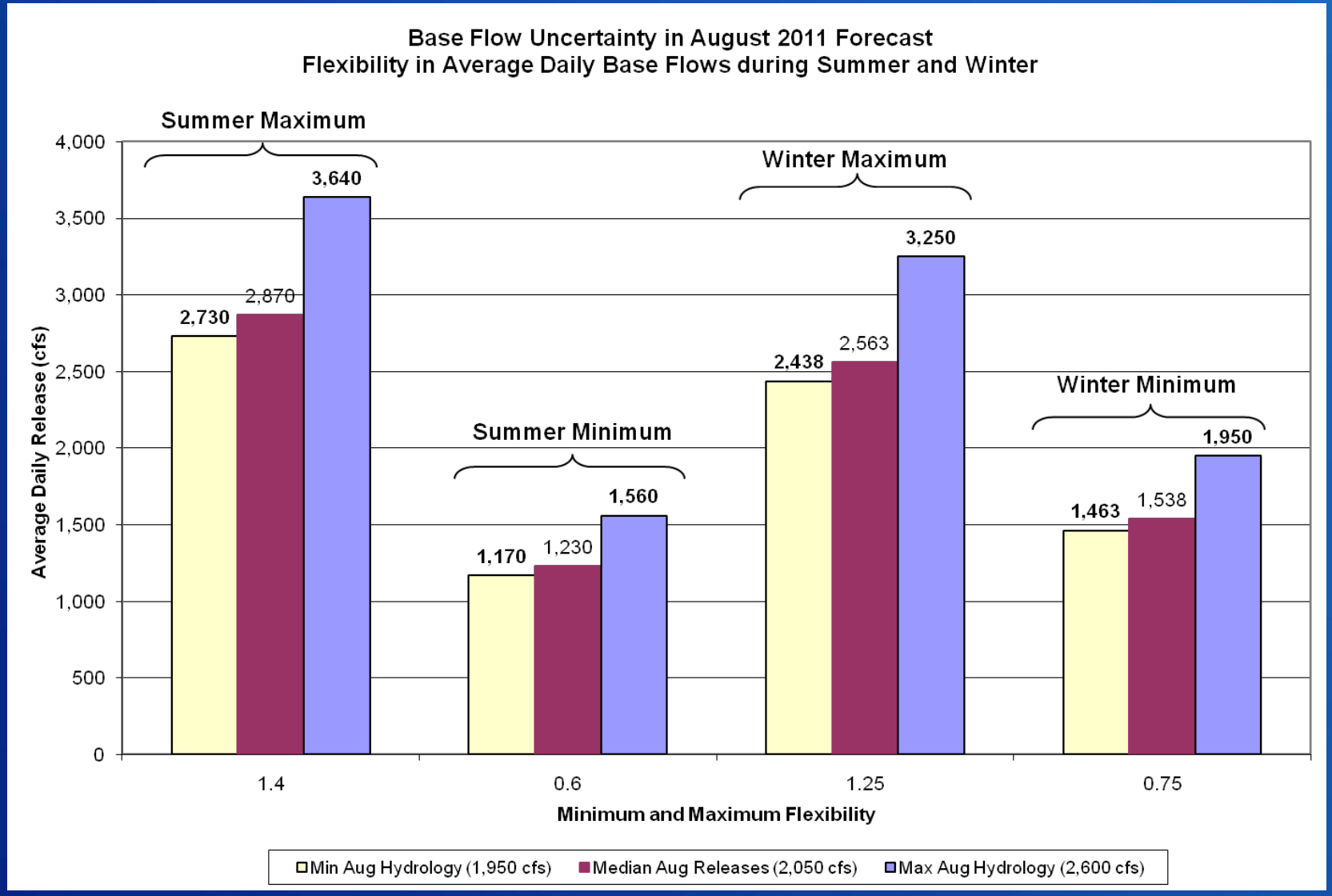

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2006 Record of Decision
Operating Criteria

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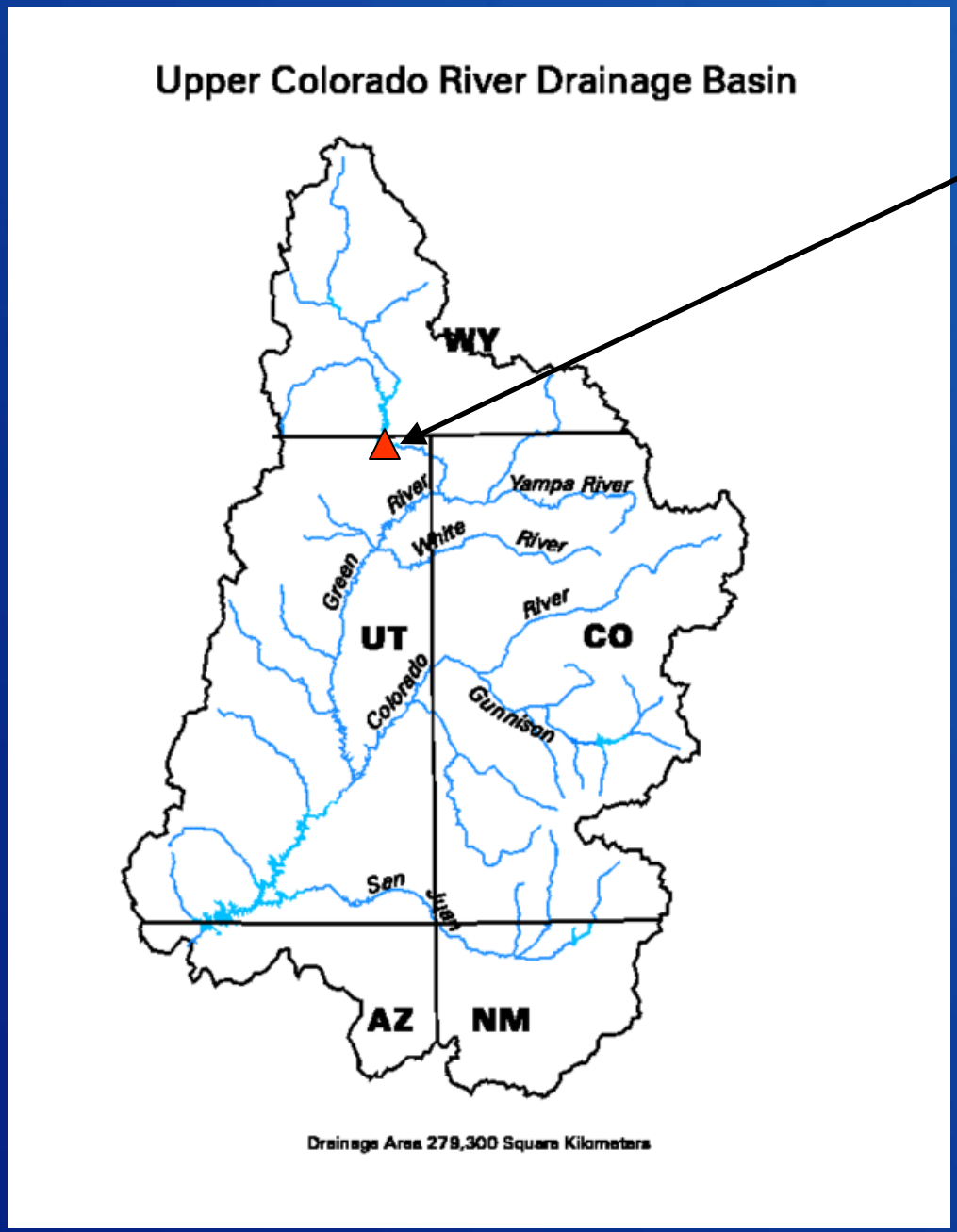


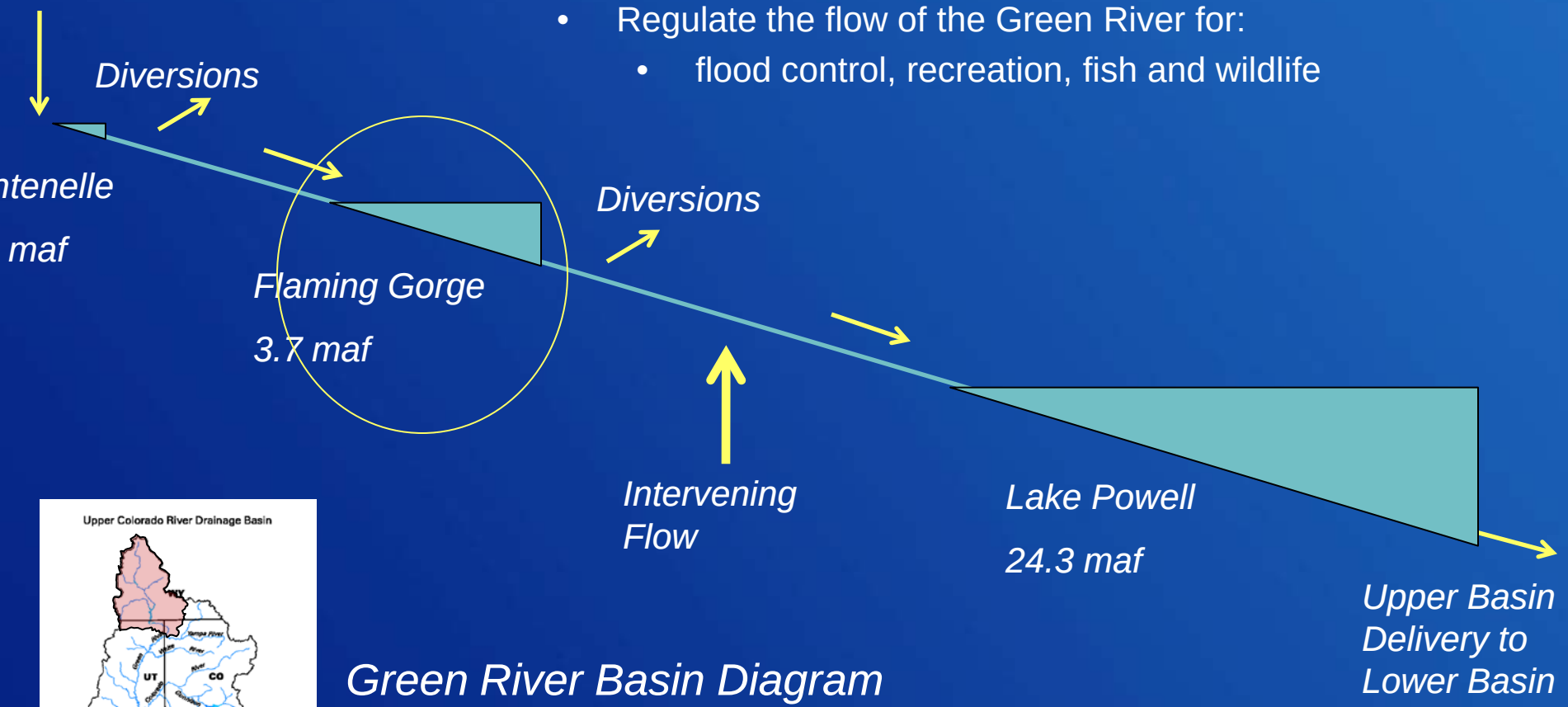
Flaming Gorge Reservoir

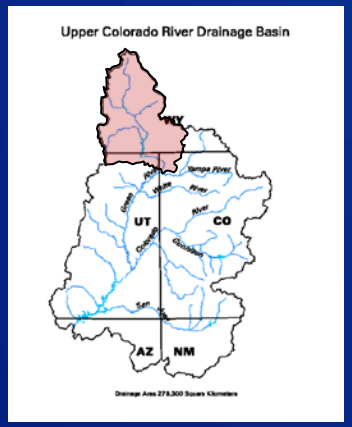
Reservoir Capacity	3.75 maf
Annual Inflow	1.71 maf/yr

RECLAMATION

Flaming Gorge Operational Objectives

- Fill reservoir annually for water supply
- Generate hydropower
- Achieve environmental flow requirements (endangered fish)
  - Adaptive management
- Regulate the flow of the Green River for:
  - flood control, recreation, fish and wildlife





Green River Basin Diagram

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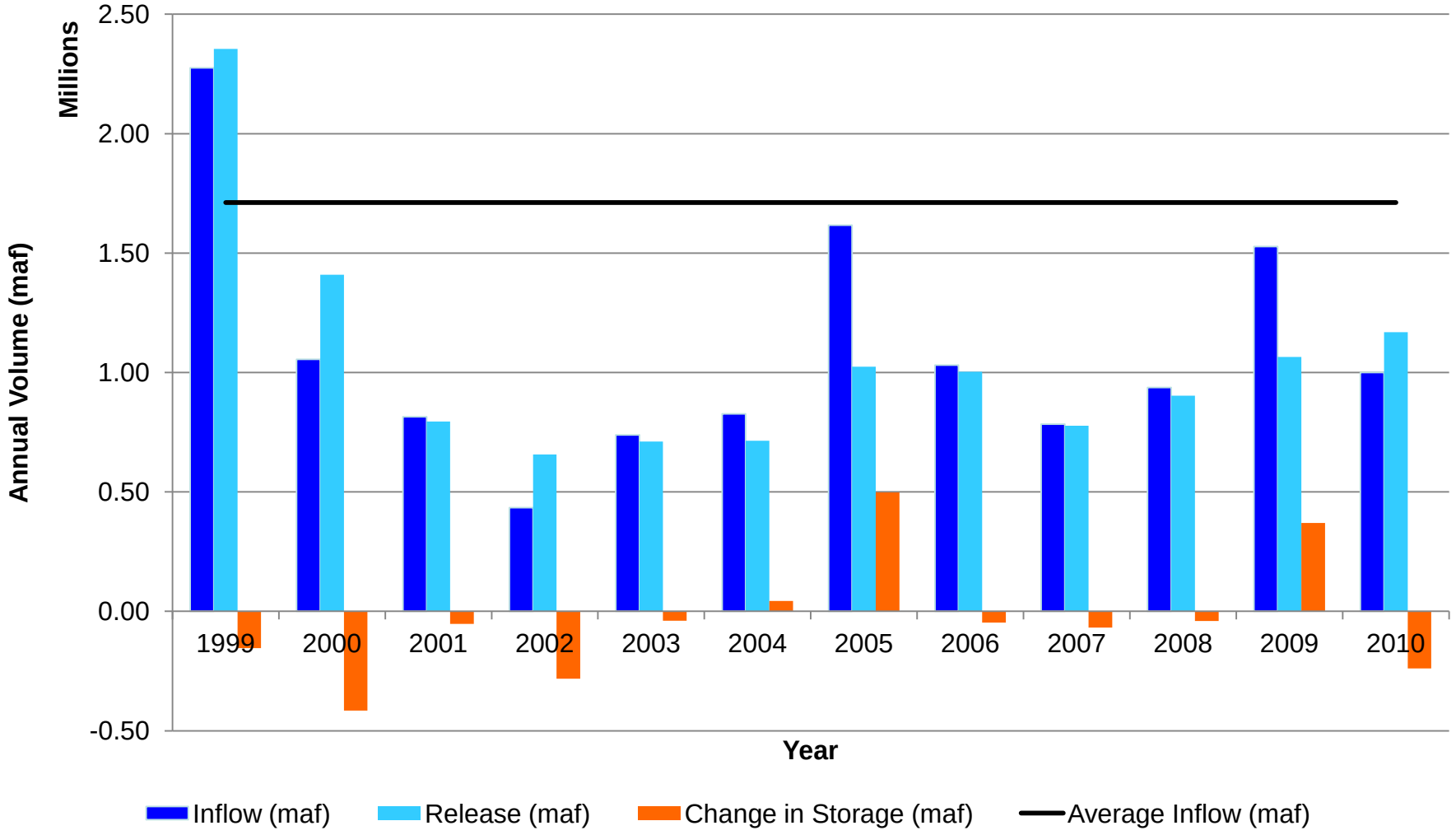
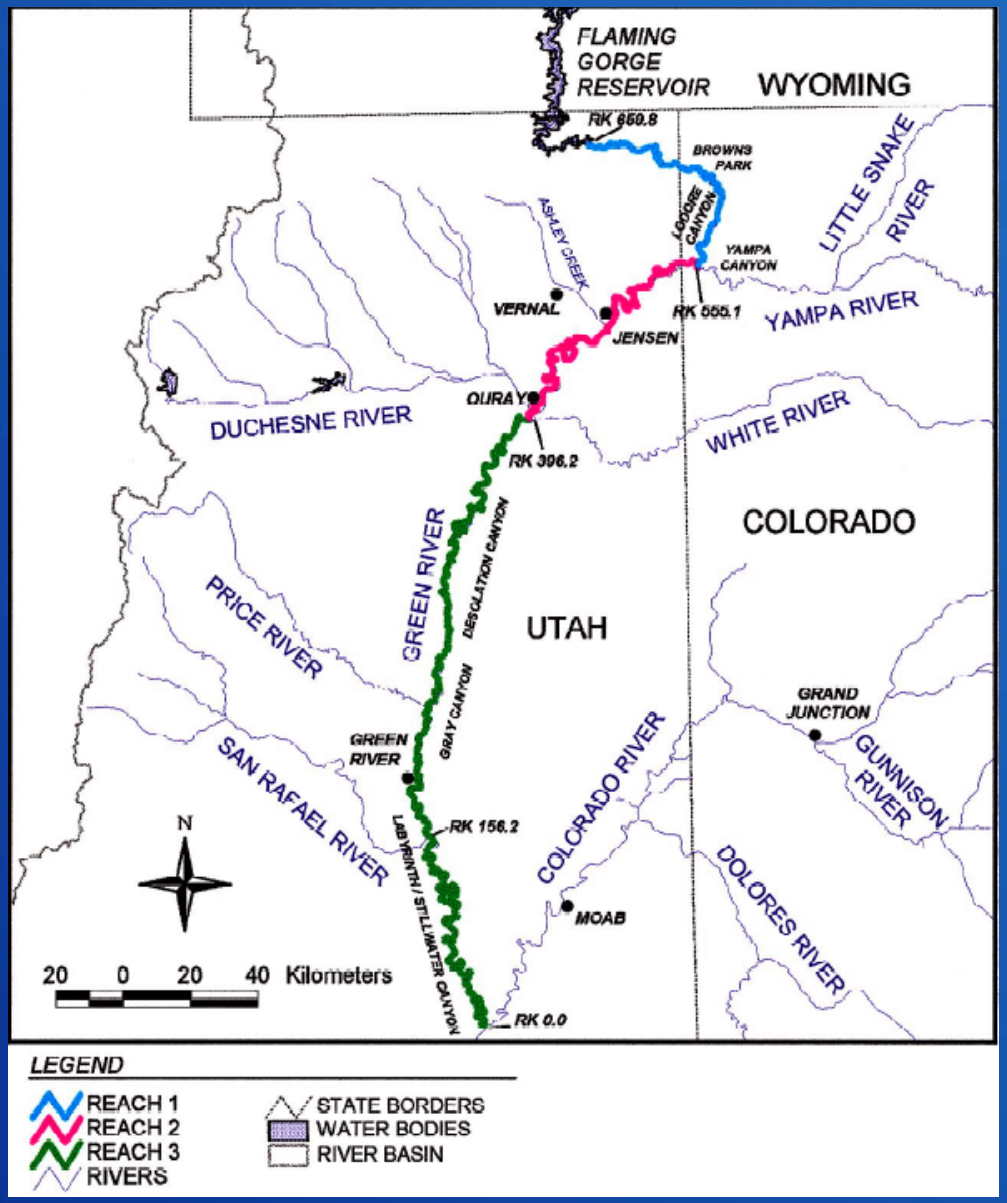
Flaming Gorge Reservoir
Inflow, Release and Change in Storage
1999-2010



RECLAMATION

Geographic Scope

- Reach 1
  - Flaming Gorge Dam to Yampa River Confluence
- Reach 2
  - Yampa River Confluence to White River confluence
- Reach 3
  - White River confluence to confluence of Green and Colorado Rivers



RECLAMATION

Spring Flow Operations (May—July)

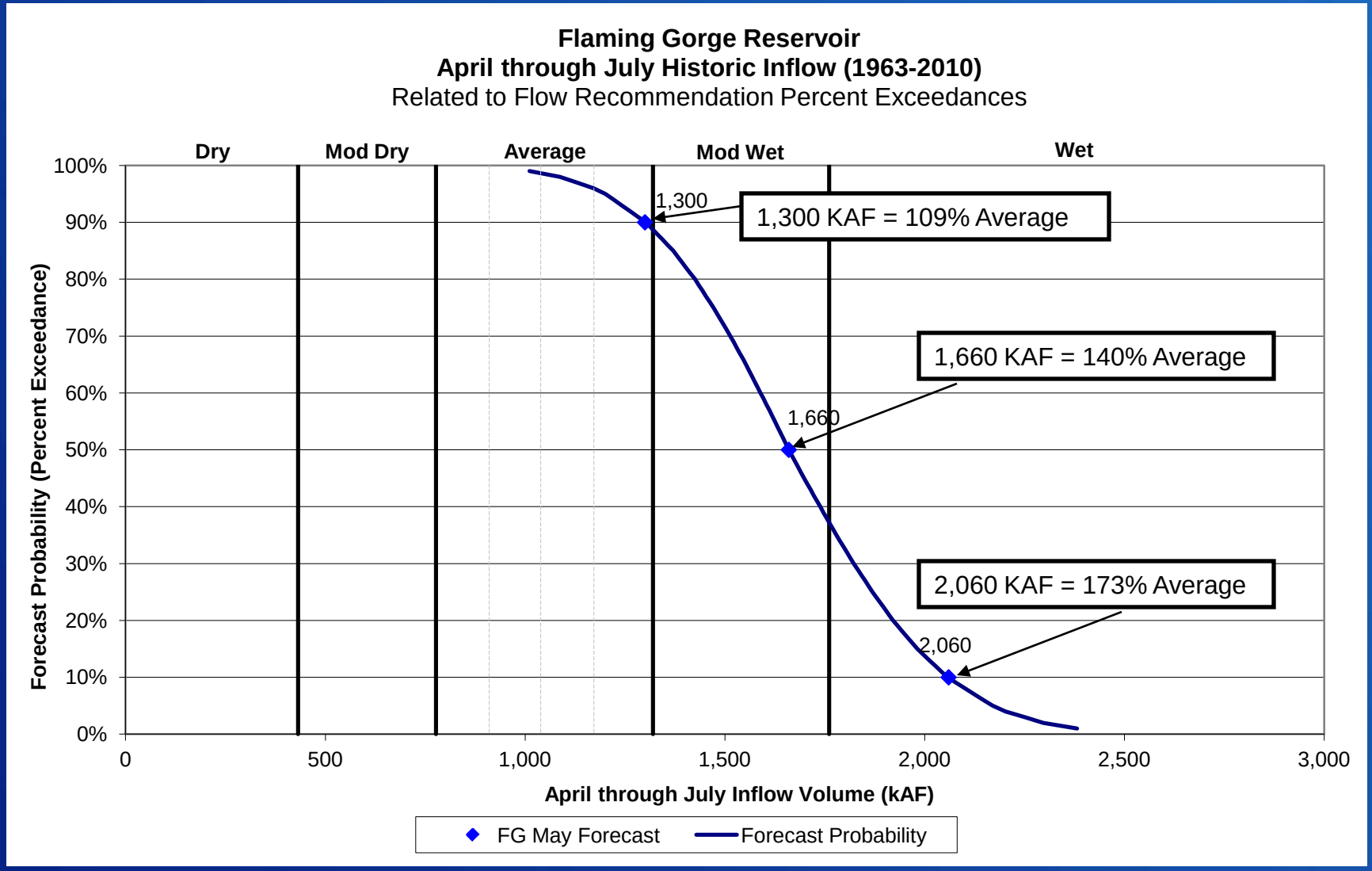
- Hydrologic Classification based on April through July unregulated inflow forecast into Flaming Gorge Reservoir
- Spring flow magnitudes and durations associated with each hydrologic category
- Releases timed coincident with the Yampa River peak and immediate post-peak period

Percent Exceedances and Hydrologic Classifications

Hydrologic Classification	Percent Exceedance Range
Wet	<10
Moderately Wet	30 to 10.1
Average	70 to 30.1
Moderately Dry	90 to 70.1
Dry	>90

RECLAMATION

Flaming Gorge ROD Classification



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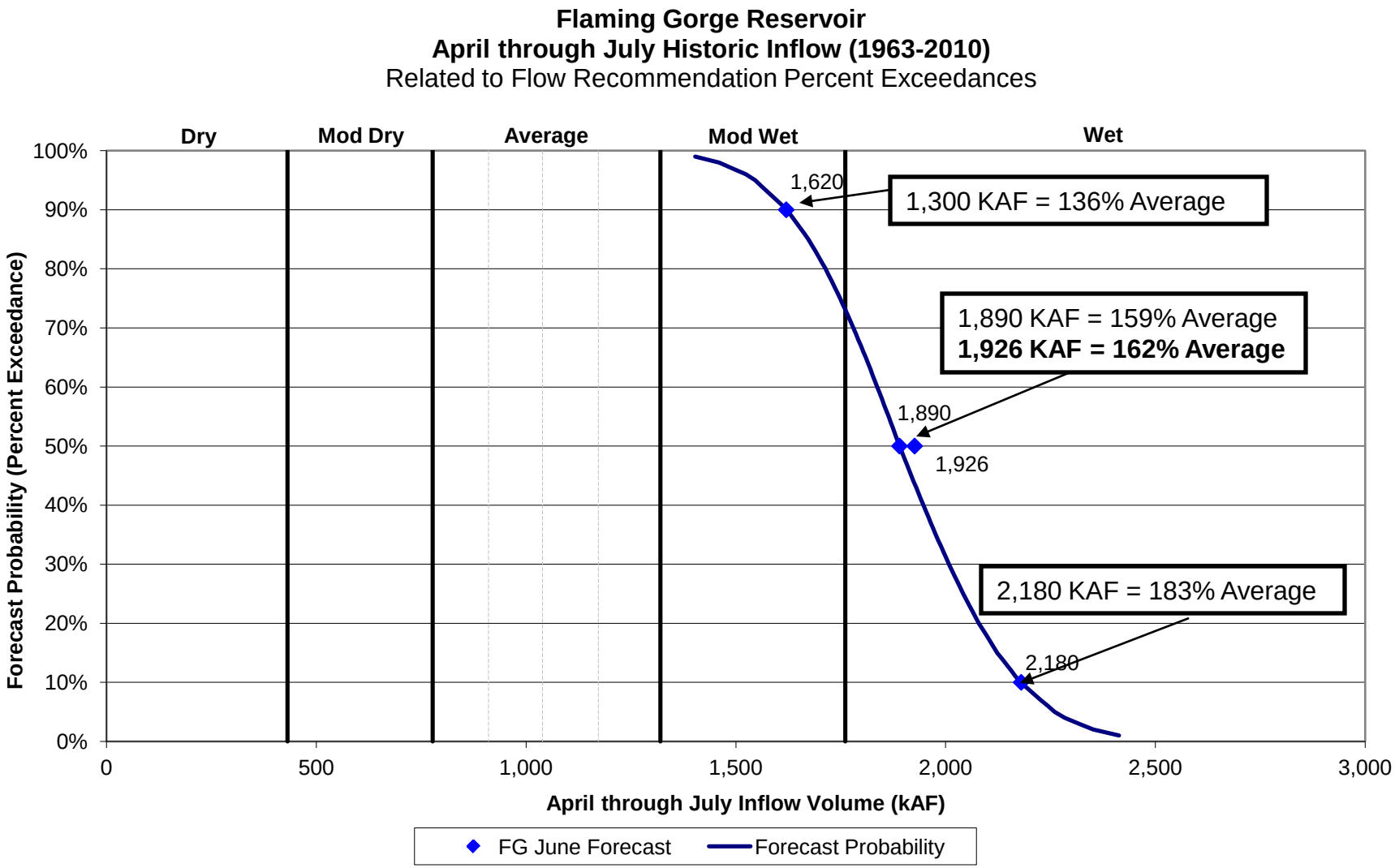
Flaming Gorge ROD Classification



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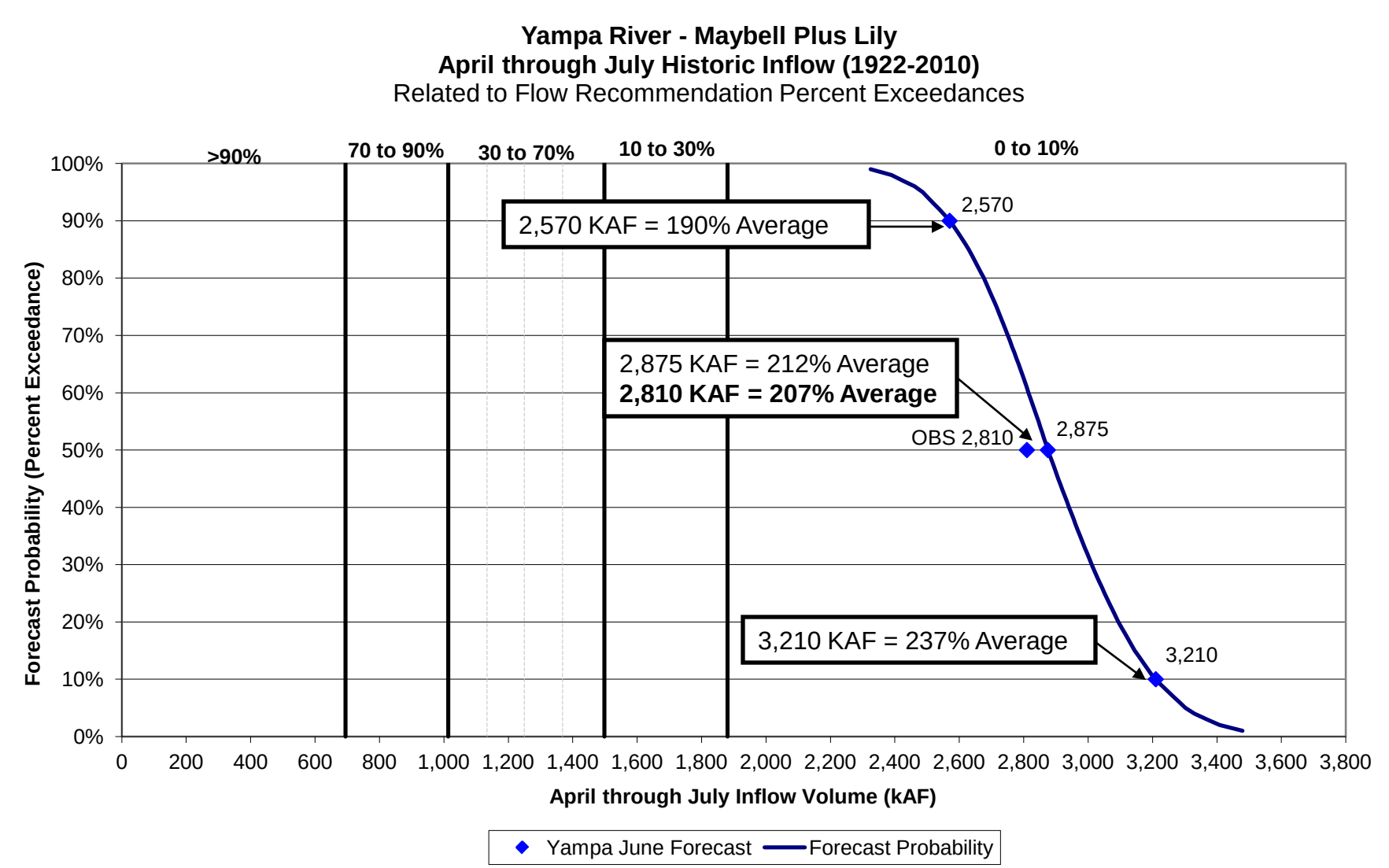
Yampa Hydrology



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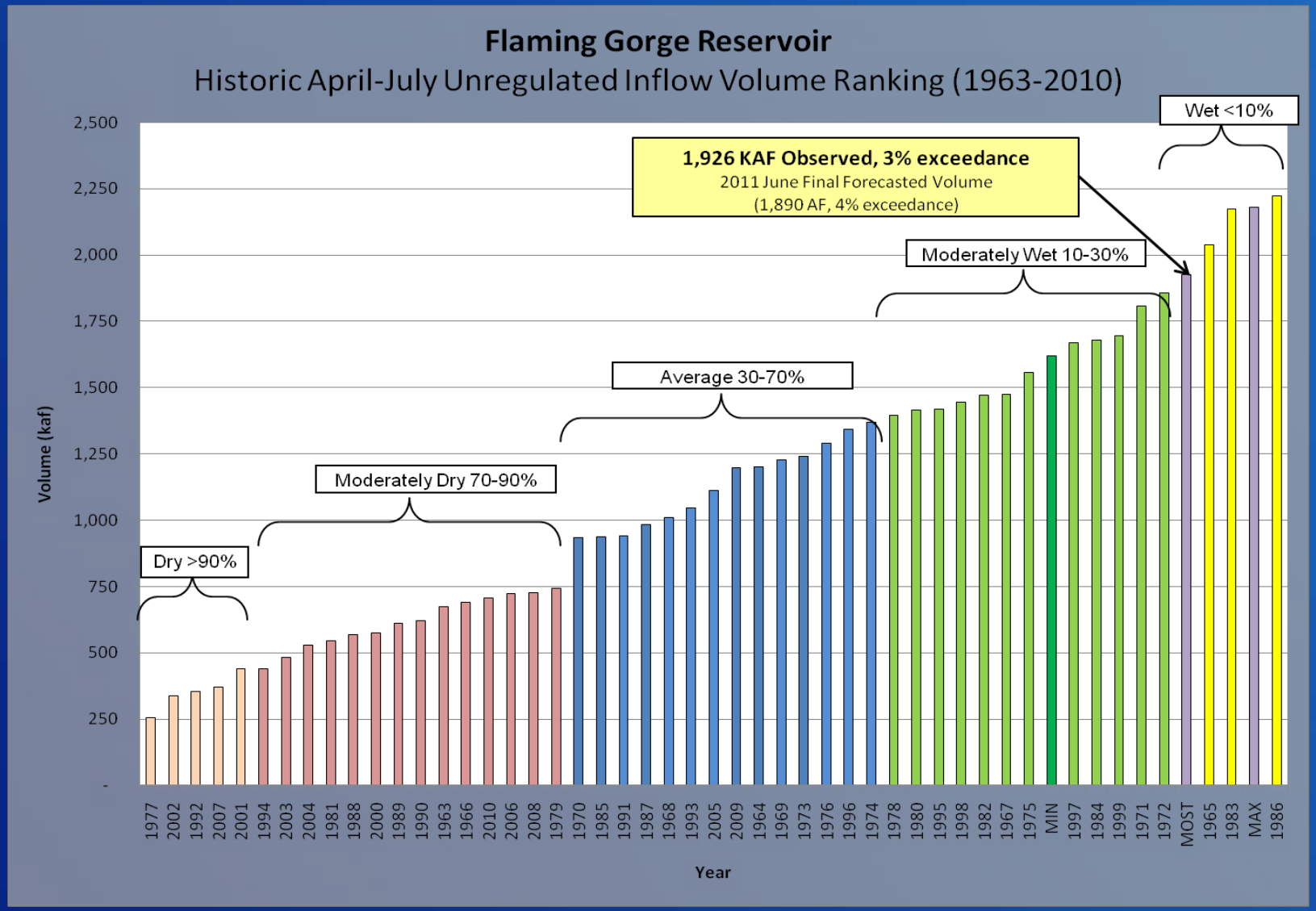
Flaming Gorge Historic Volumes



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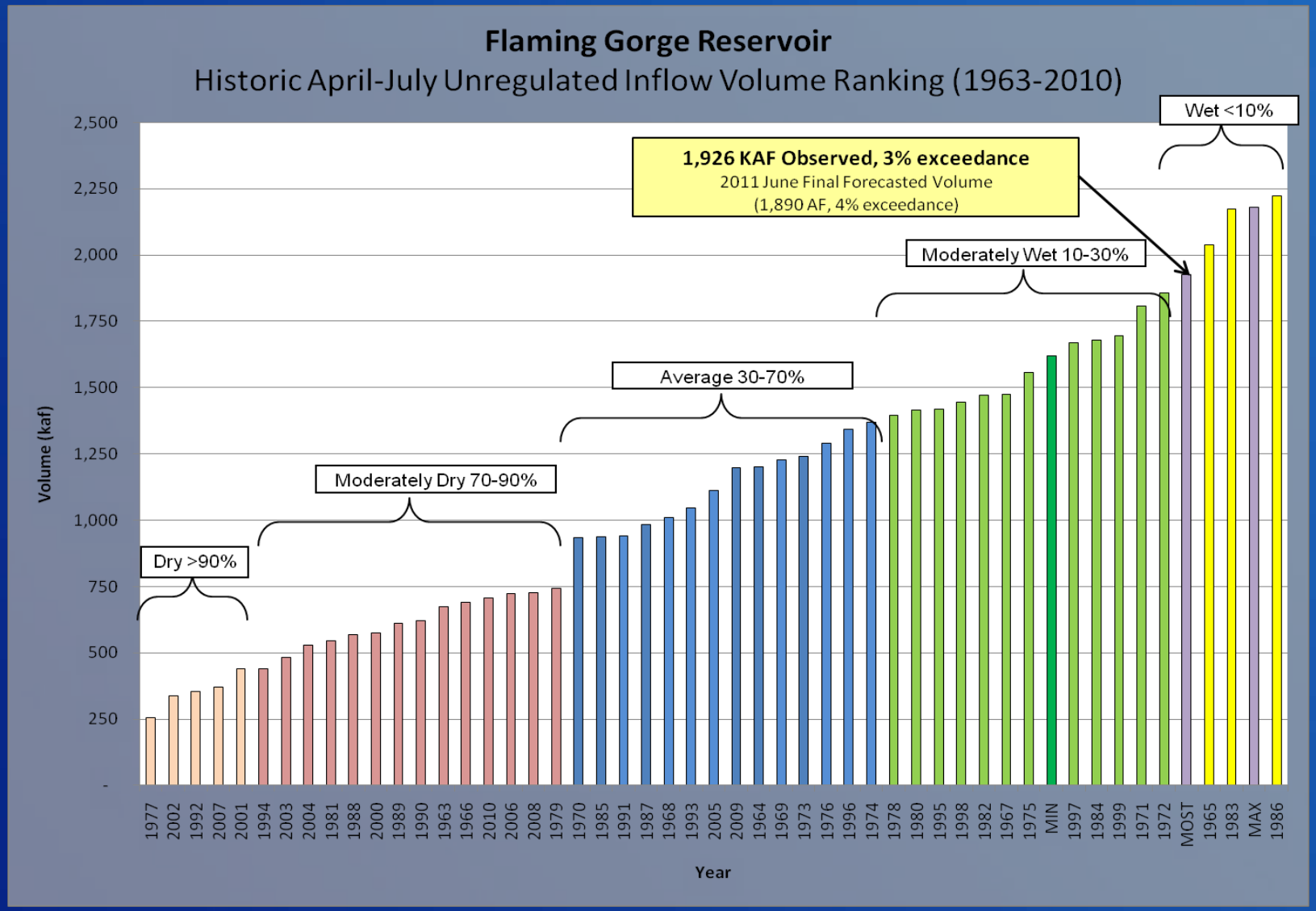
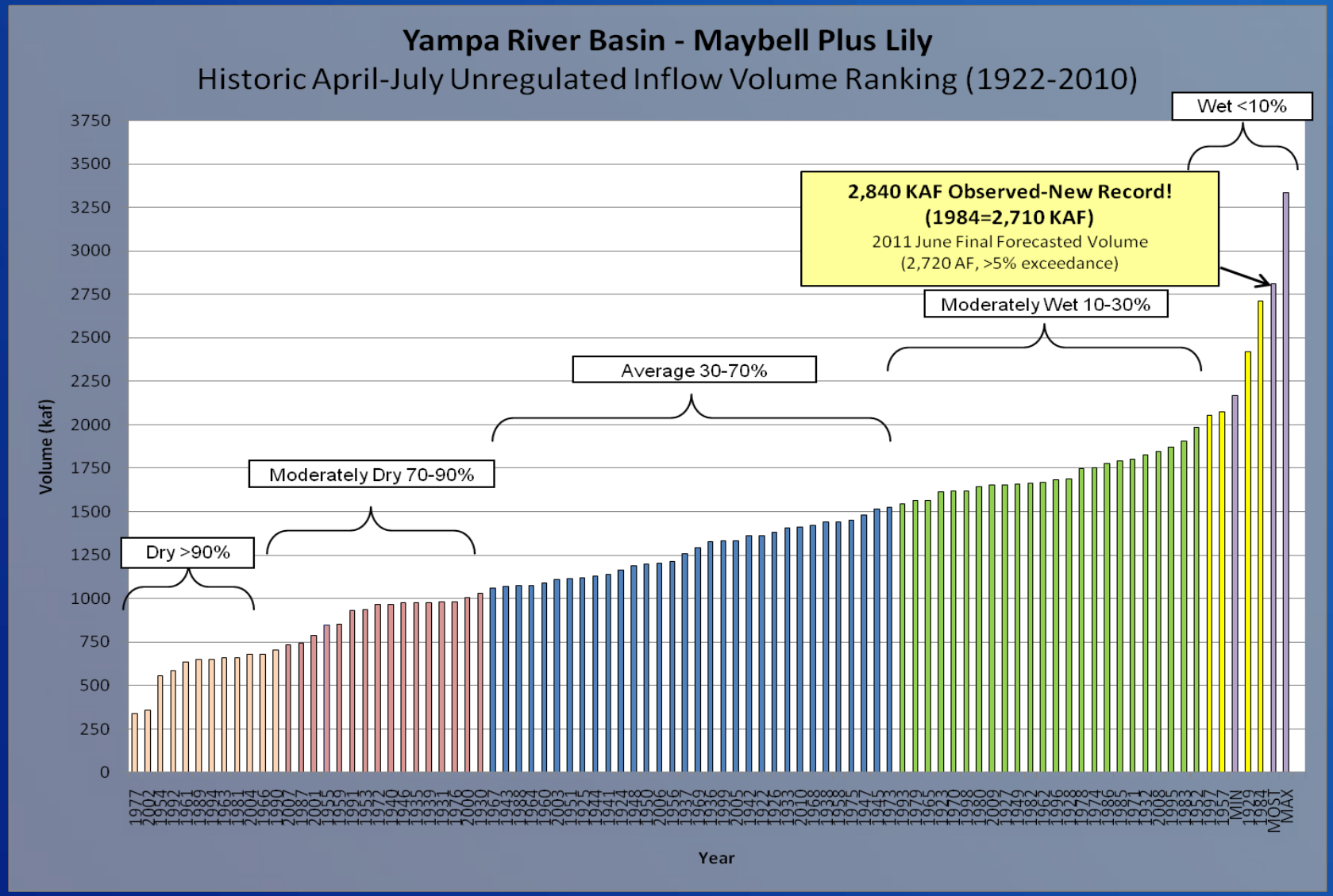
Flaming Gorge Historic Volumes



RECLAMATION

Yampa Historic Volumes



RECLAMATION

Base Flow Flexibility

- Beginning about June-August and continuing through November
  - Variation of 40% around the annual mean base flow
- December through February
  - Variation of 25% around the annual mean base flow
- Consecutive daily change limited to 3%
- Hydropower generation at Flaming Gorge limited to produce no more than 0.1 meter daily stage change at Jensen, Utah

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Flaming Gorge Process

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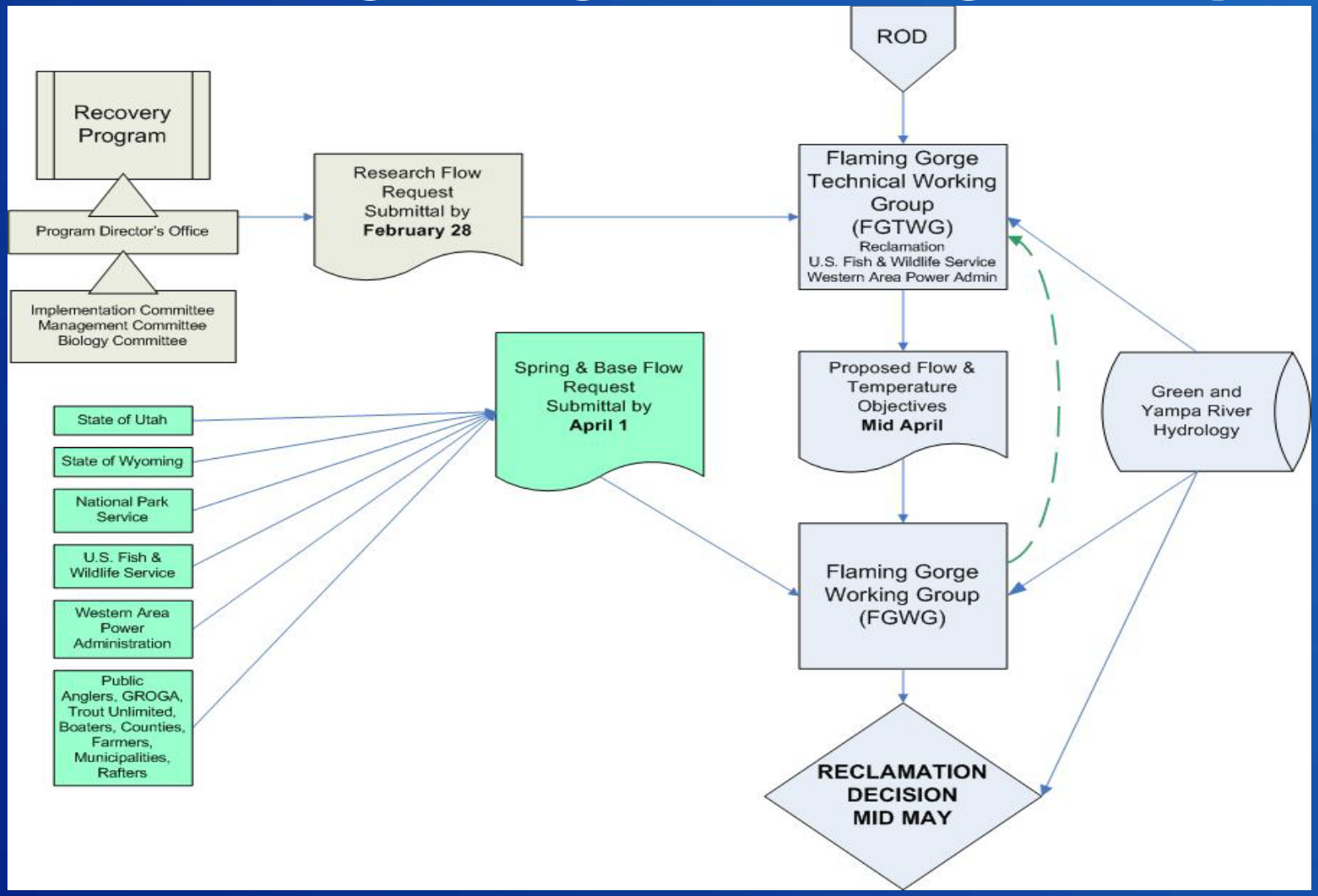

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Flaming Gorge Working Group
August 2011

- Questions?

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- hhermansen@usbr.gov
- (801) 524-3883

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