

# RECLAMATION

*Managing Water in the West*

**Fontenelle Working Group Meeting**

**April 25, 2013**



U.S. Department of the Interior  
Bureau of Reclamation

**Heather Hermansen**  
Upper Colorado Region  
Hydraulic Engineer

# Fontenelle Reservoir Current Status

As of 4/24/13

## Storage

Live Capacity	345,000 AF
Capacity on 4/24/13	<u>130,300 AF</u>
	(38% full) <i>typical for April</i>

## Pool Elevation

Top of reservoir	6506.0 ft
Elevation on 4/24/13	<u>6472.73 ft</u>
Elevation below top	33.3 ft

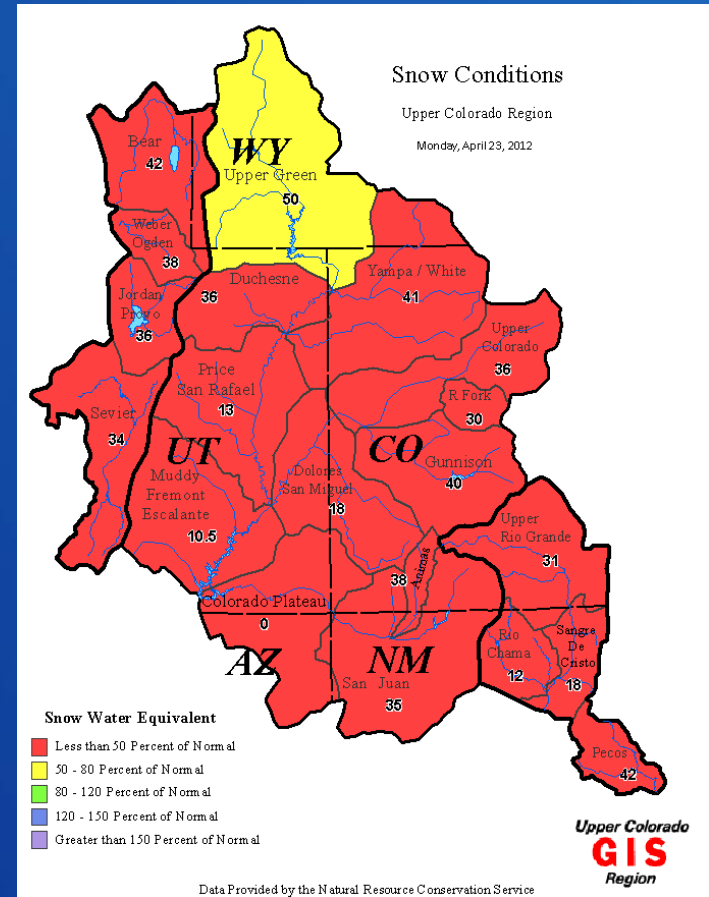
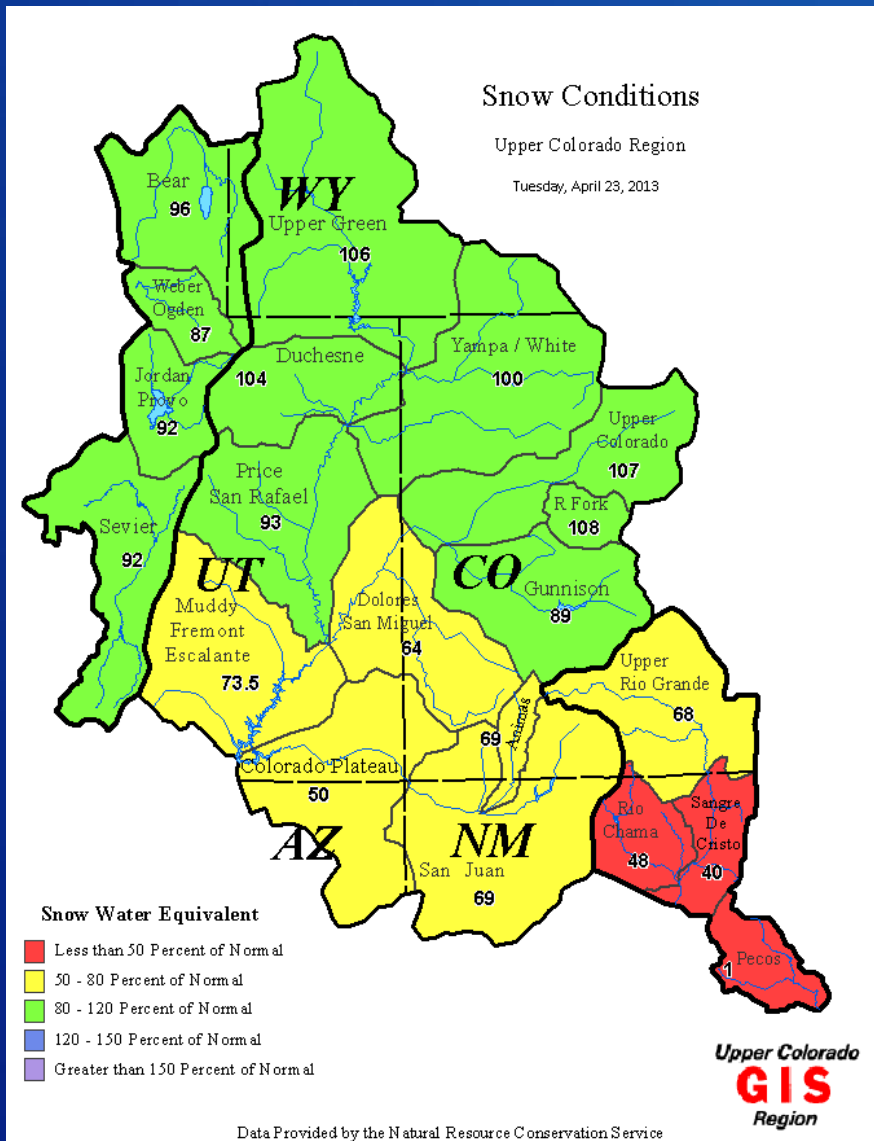
## Inflow and Release

5 Day Average Inflow	650 cfs
Current Release on 4/24/13	850 cfs

*\* Expect steady releases throughout the season*

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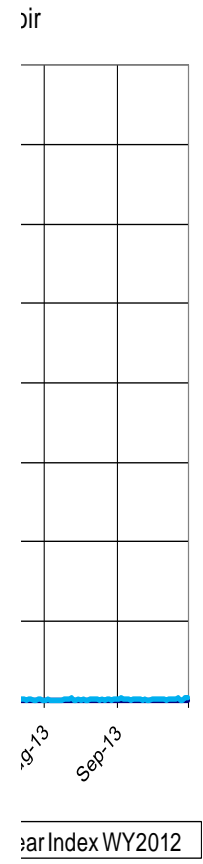
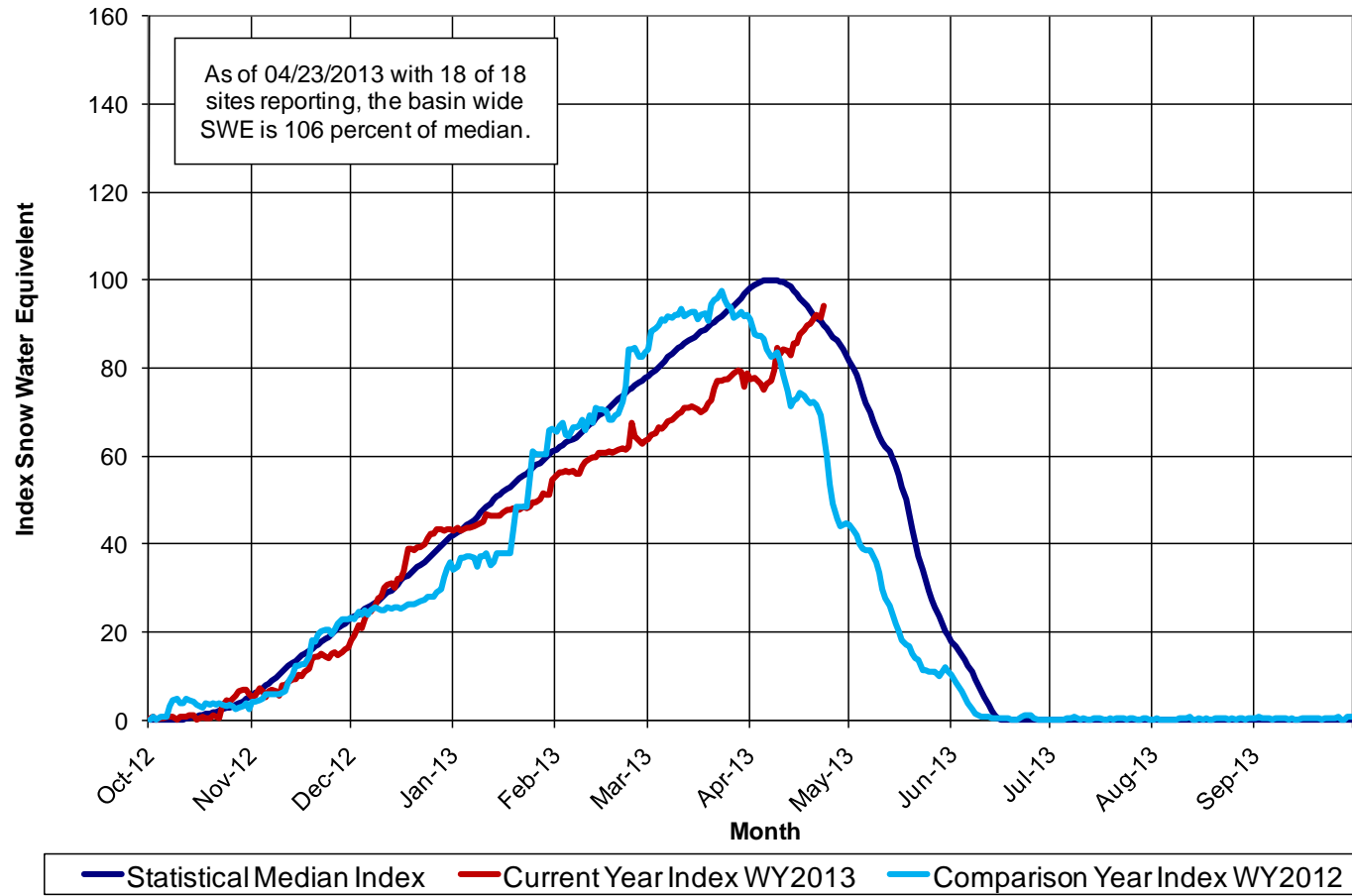
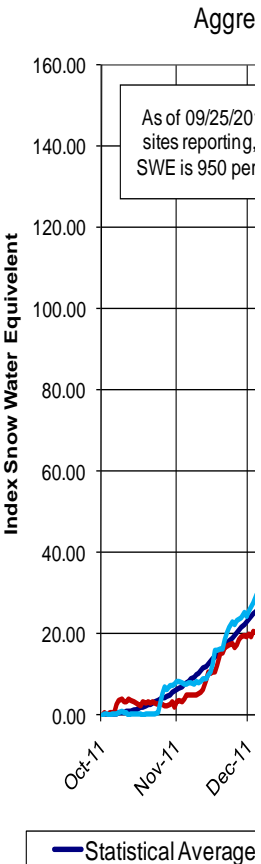
# Upper Colorado Basin Snow Conditions



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# Upper Green Basin Snow Conditions

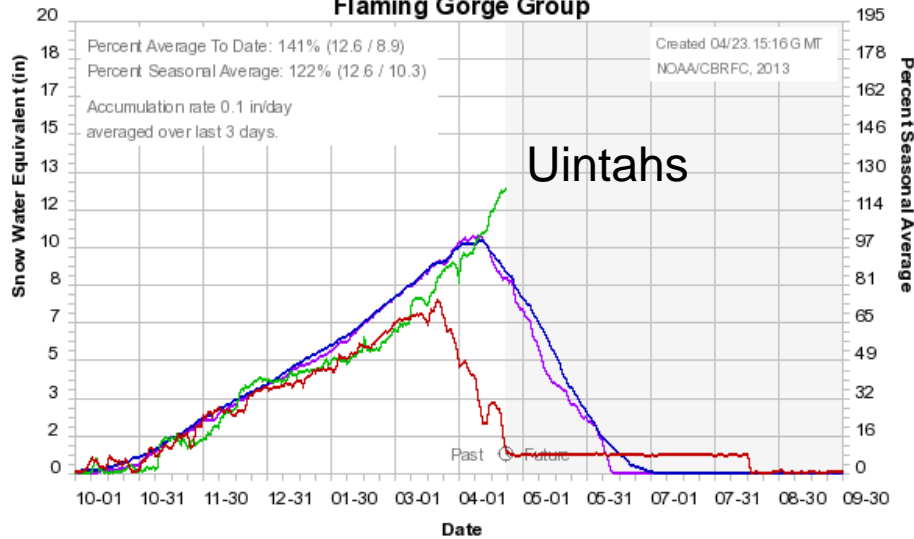
**Upper Green River Basin Snotel Tracking**  
 Aggregate of 18 Snotel Sites above Flaming Gorge Reservoir



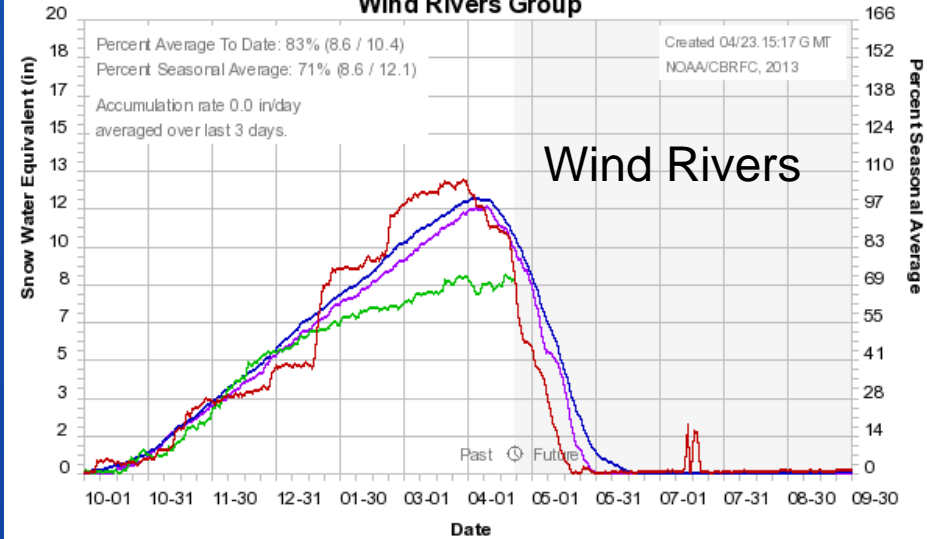
Data Provided by the Natural Resource Conservation Service

# Upper Green Basin Snow Conditions

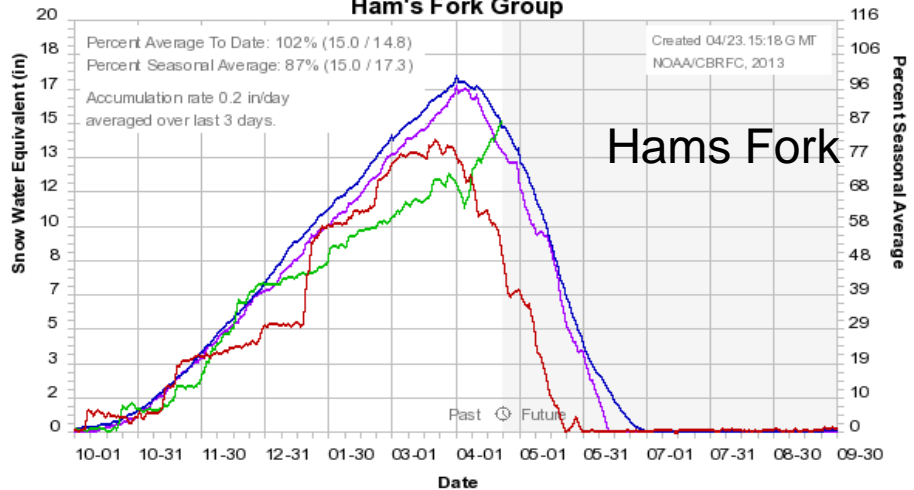
Colorado Basin River Forecast Center  
Flaming Gorge Group



Colorado Basin River Forecast Center  
Wind Rivers Group



Colorado Basin River Forecast Center  
Ham's Fork Group



# Drought Conditions

## U.S. Drought Monitor

April 16, 2013

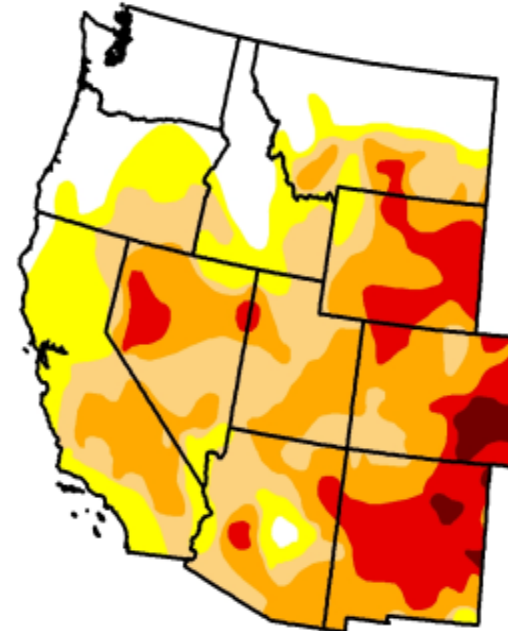
Valid 7 a.m. EST

### West

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	19.84	80.16	63.67	41.05	14.73	1.64
Last Week (04/09/2013 map)	19.71	80.29	63.56	41.59	16.73	2.41
3 Months Ago (01/15/2013 map)	24.75	75.25	68.24	44.51	17.27	2.15
Start of Calendar Year (01/01/2013 map)	24.39	75.61	69.31	45.04	18.01	2.15
Start of Water Year (09/25/2012 map)	15.12	84.88	77.15	43.65	16.85	1.77
One Year Ago (04/10/2012 map)	31.33	68.67	48.44	24.87	3.77	0.93

Intensity:



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

<http://droughtmonitor.unl.edu>



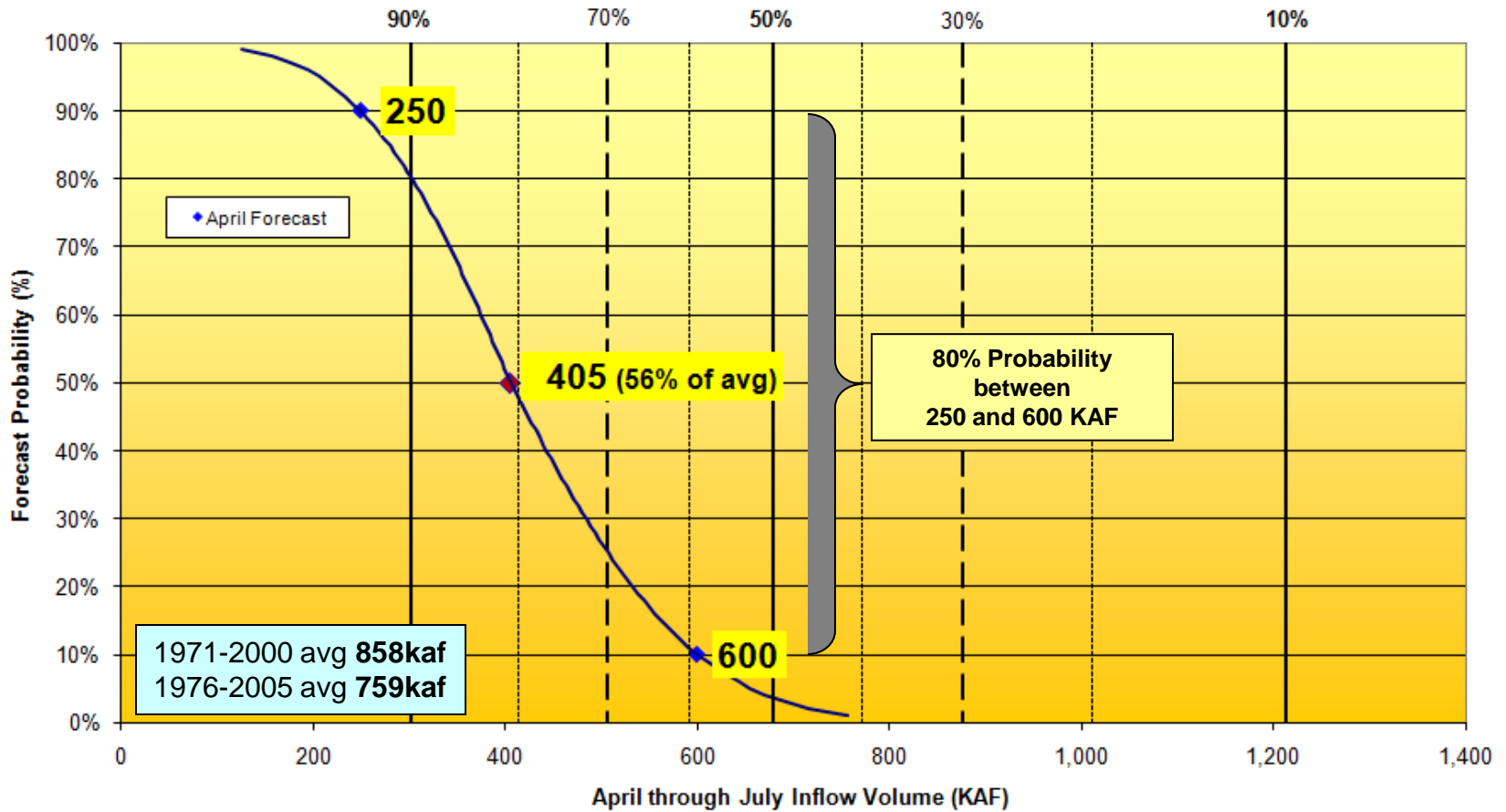
Released Thursday, April 18, 2013

David Miskus, NOAA/NWS/NCEP/Climate Prediction Center

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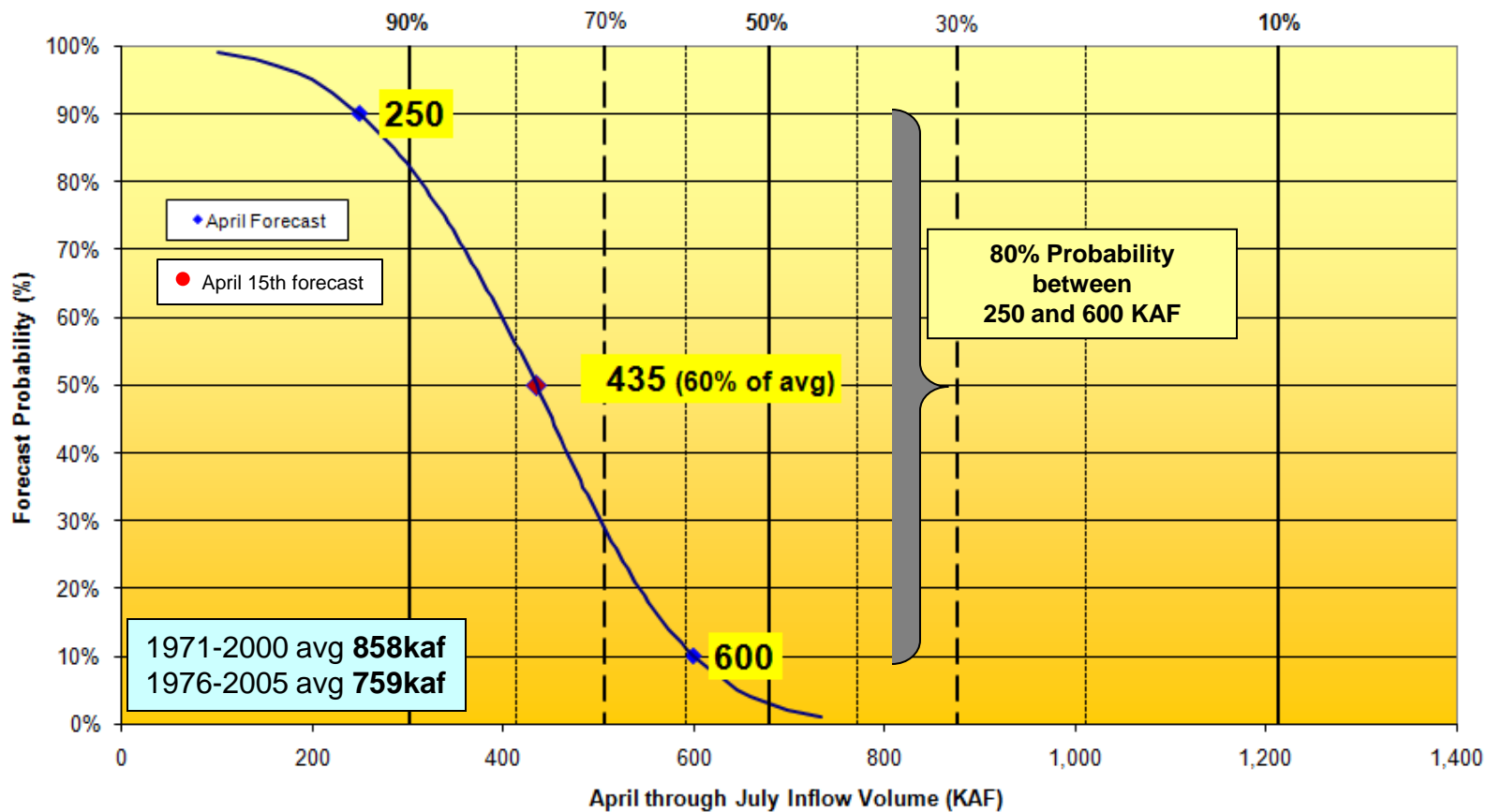
# April Official Forecast

Fontenelle Reservoir  
April - July Forecasted Inflow  
Related to Exceedance Percentages for Historic Period (1981-2010)



# April 15<sup>th</sup> Forecast

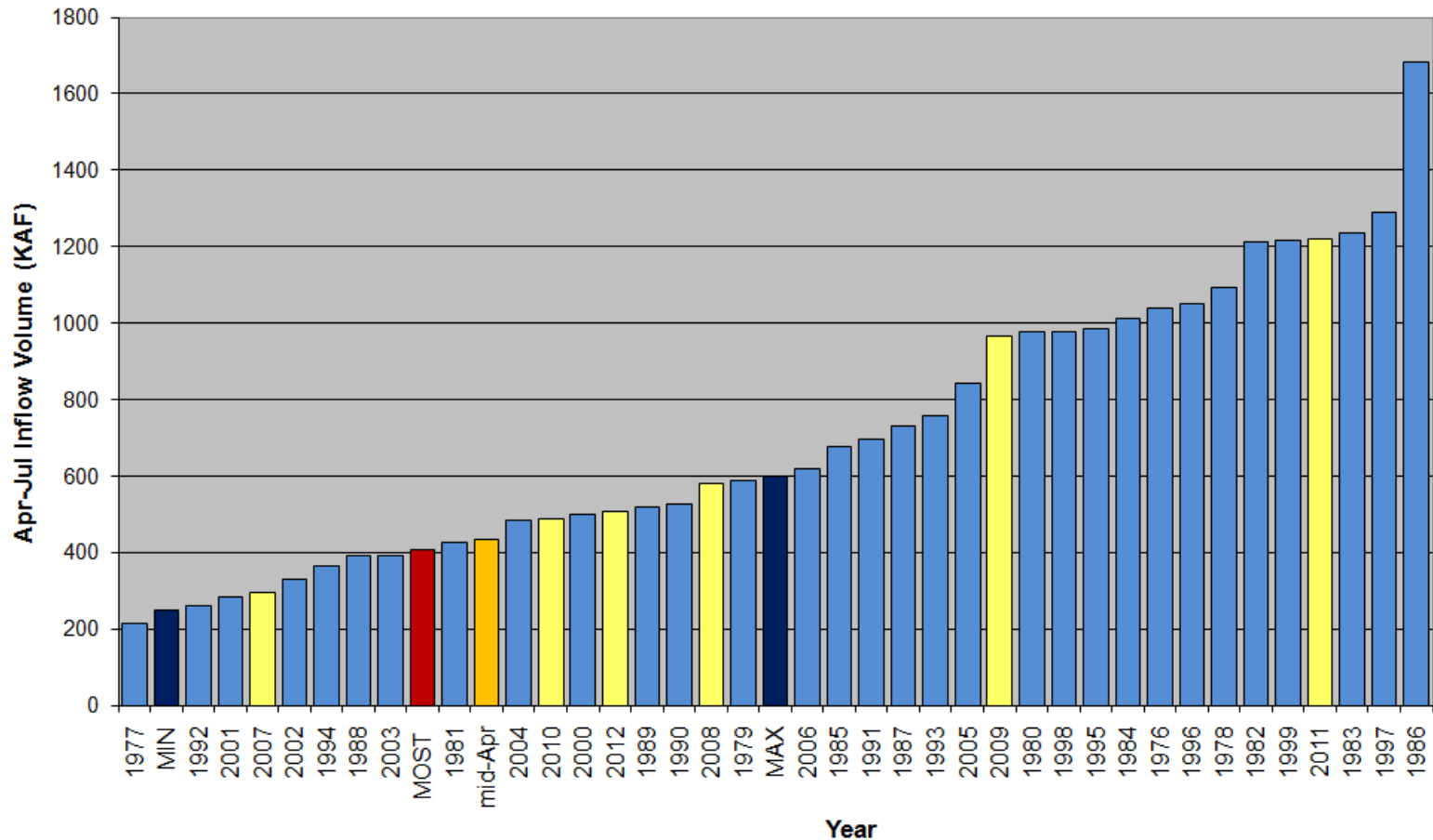
Fontenelle Reservoir  
April - July Forecasted Inflow  
Related to Exceedance Percentages for Historic Period (1981-2010)





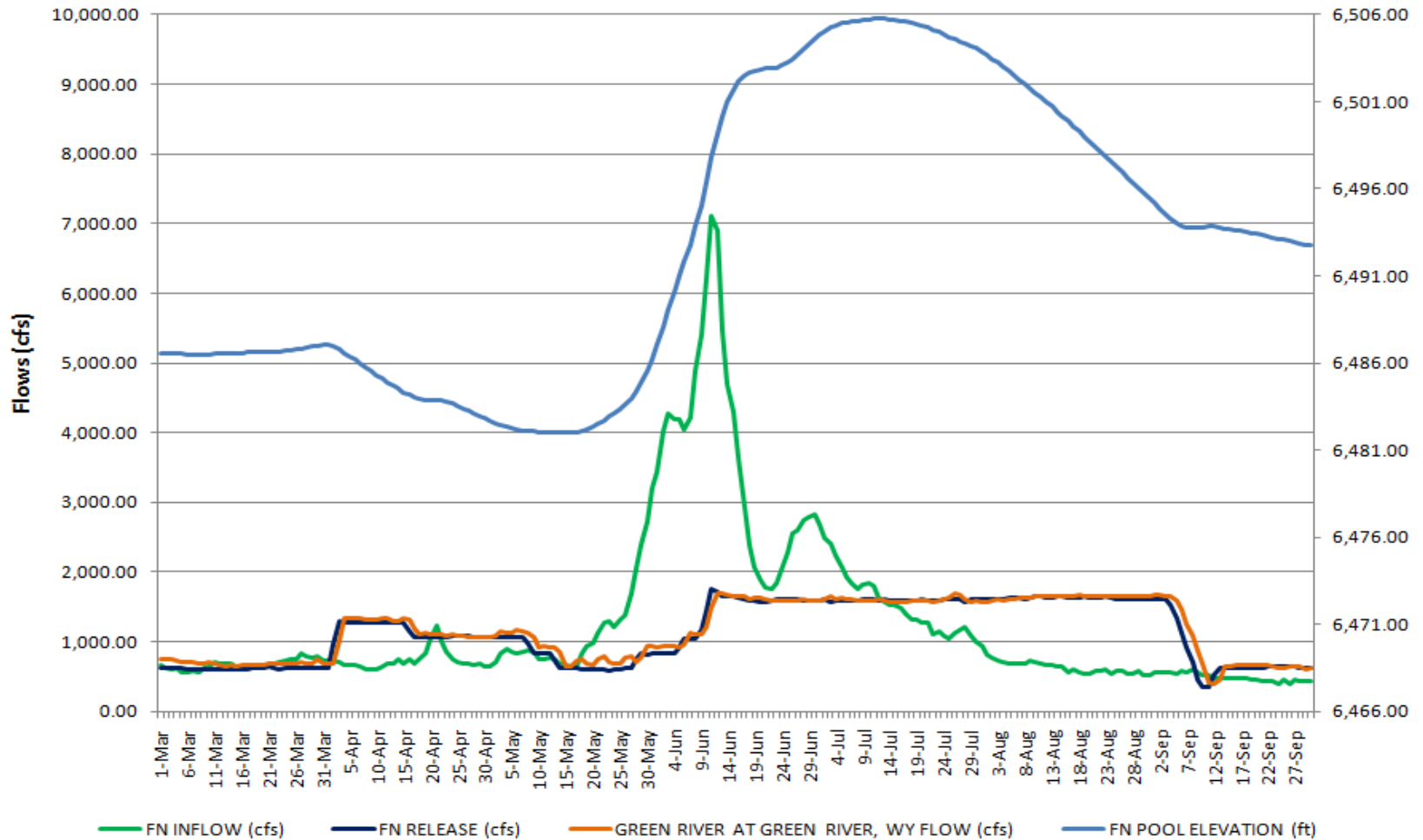
# 2013 Forecast

**Fontenelle Apr-Jul Forecast 2013**  
Comparison with History



# 2003 Hydrology

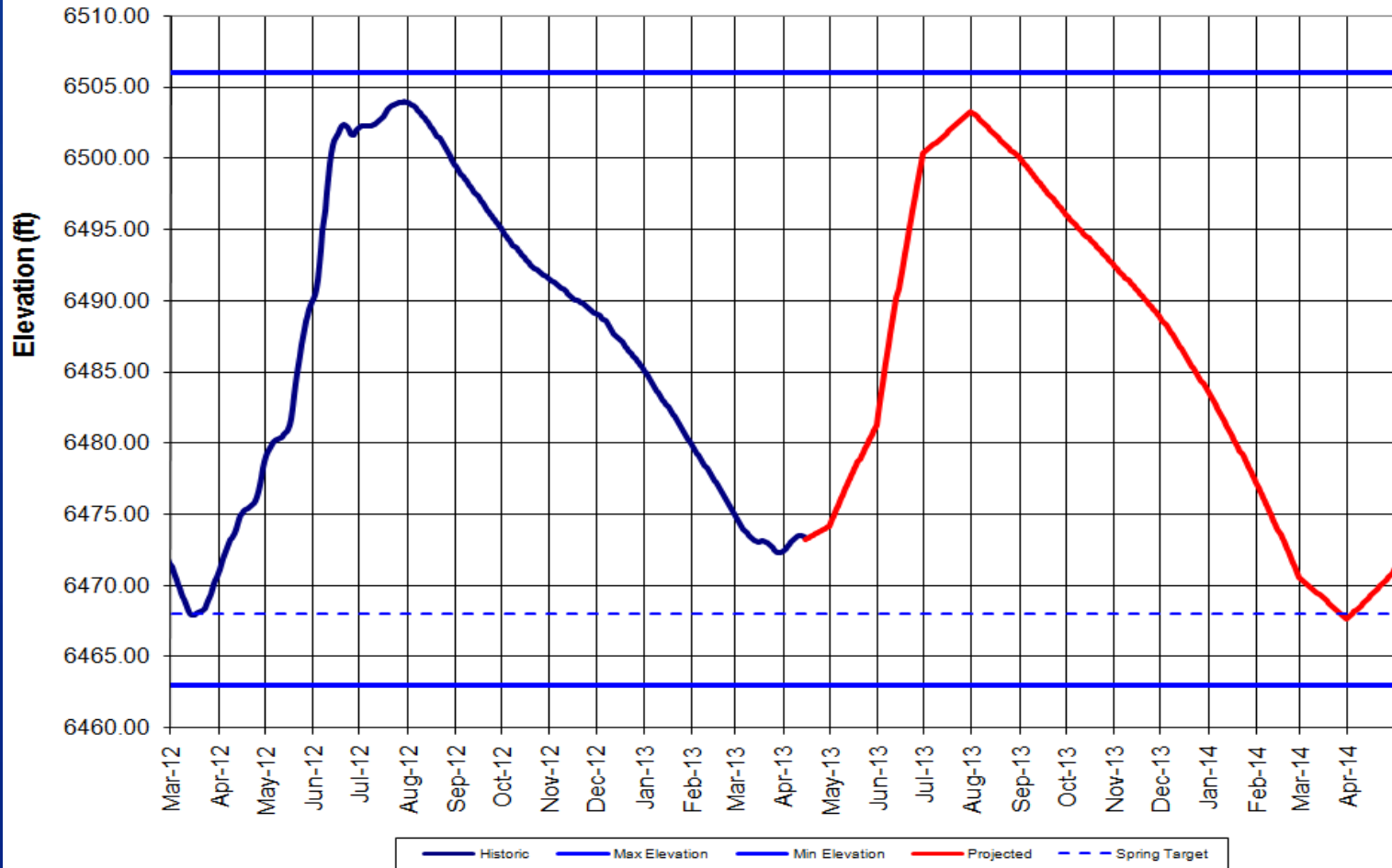
## Fontenelle Dam Inflow & Releases and Green River Flows 1981



# Projected Reservoir Elevation

## Based on April 15th Forecast

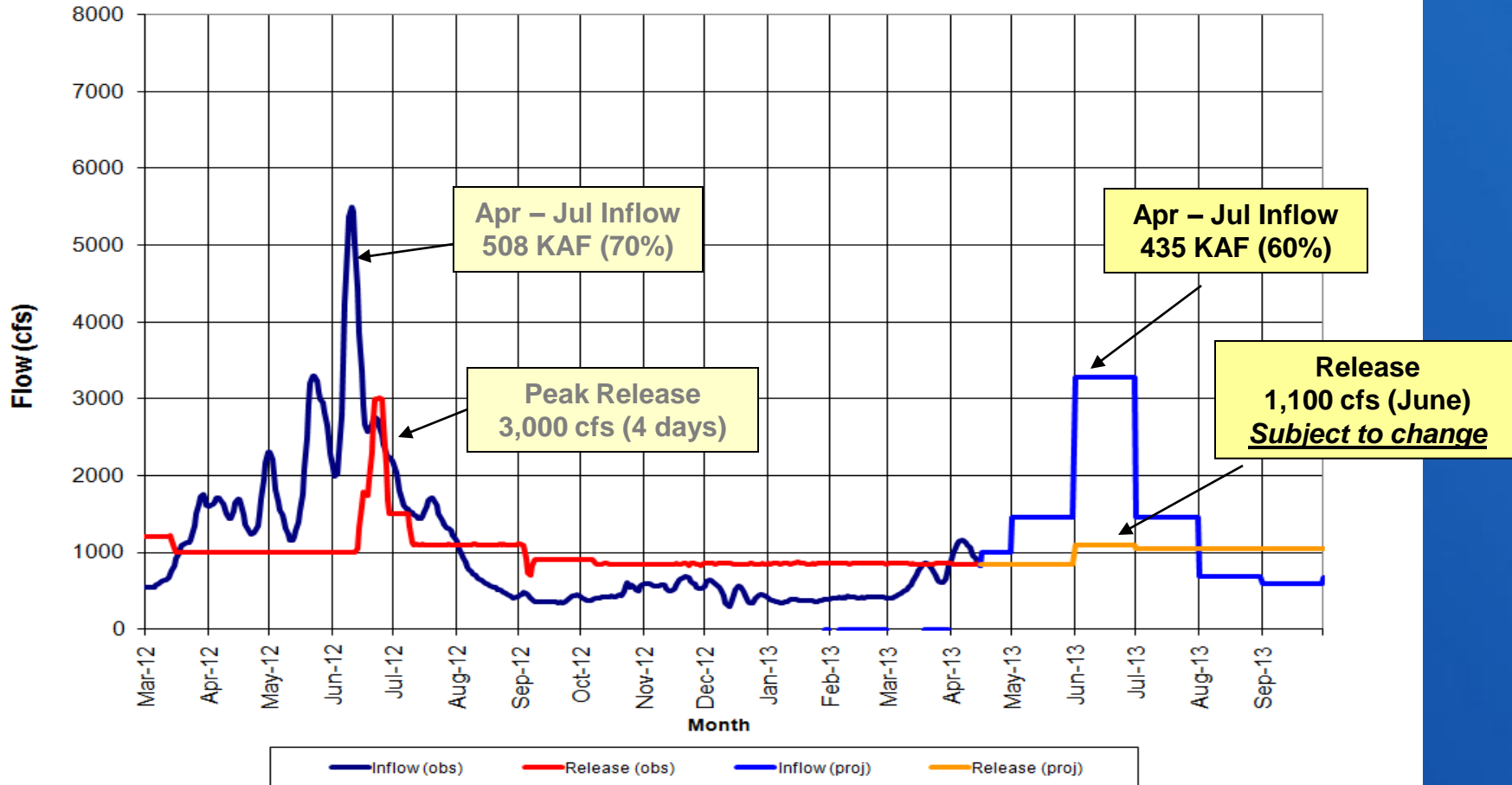
Fontenelle Elevations  
2013 April Midmonth Most Probable Operations



# Projected Inflow and Release

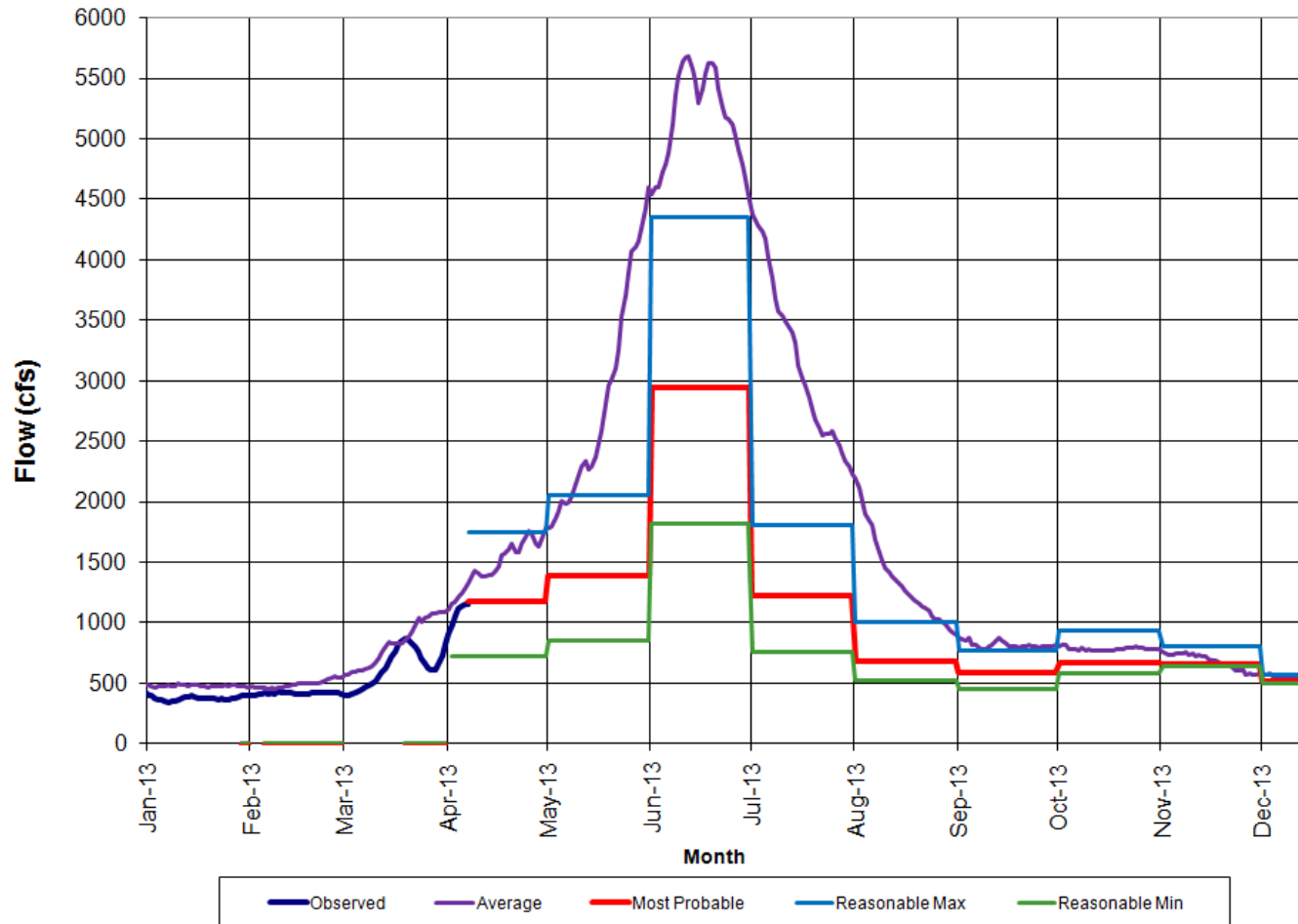
## Based on April 15th Forecast

Fontenelle Inflow and Release  
2013 Most Probable Operations (April Midmonth Forecast)



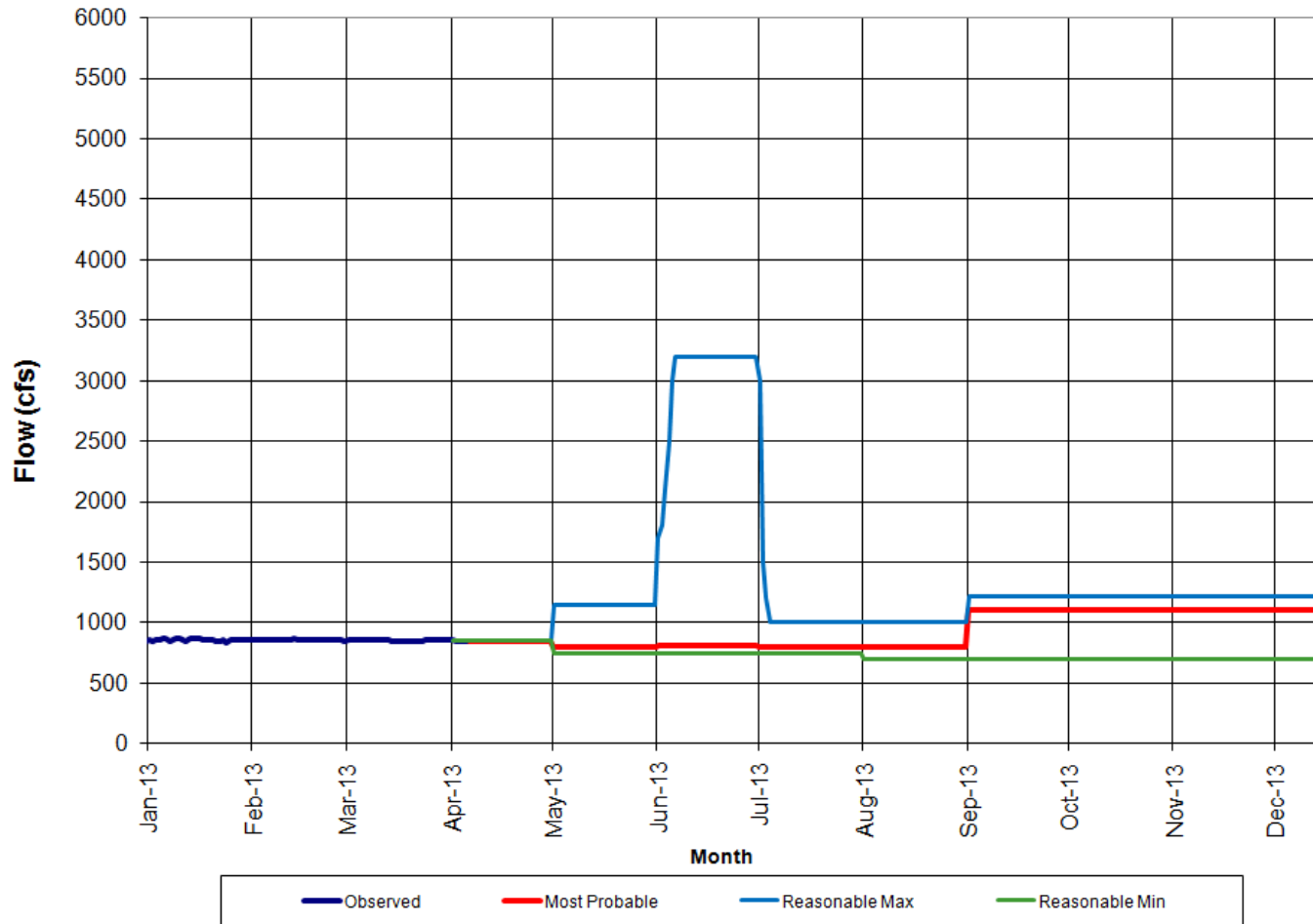
# Inflow Scenarios

Fontenelle 2013 Inflow Scenarios  
Based on April Forecasts

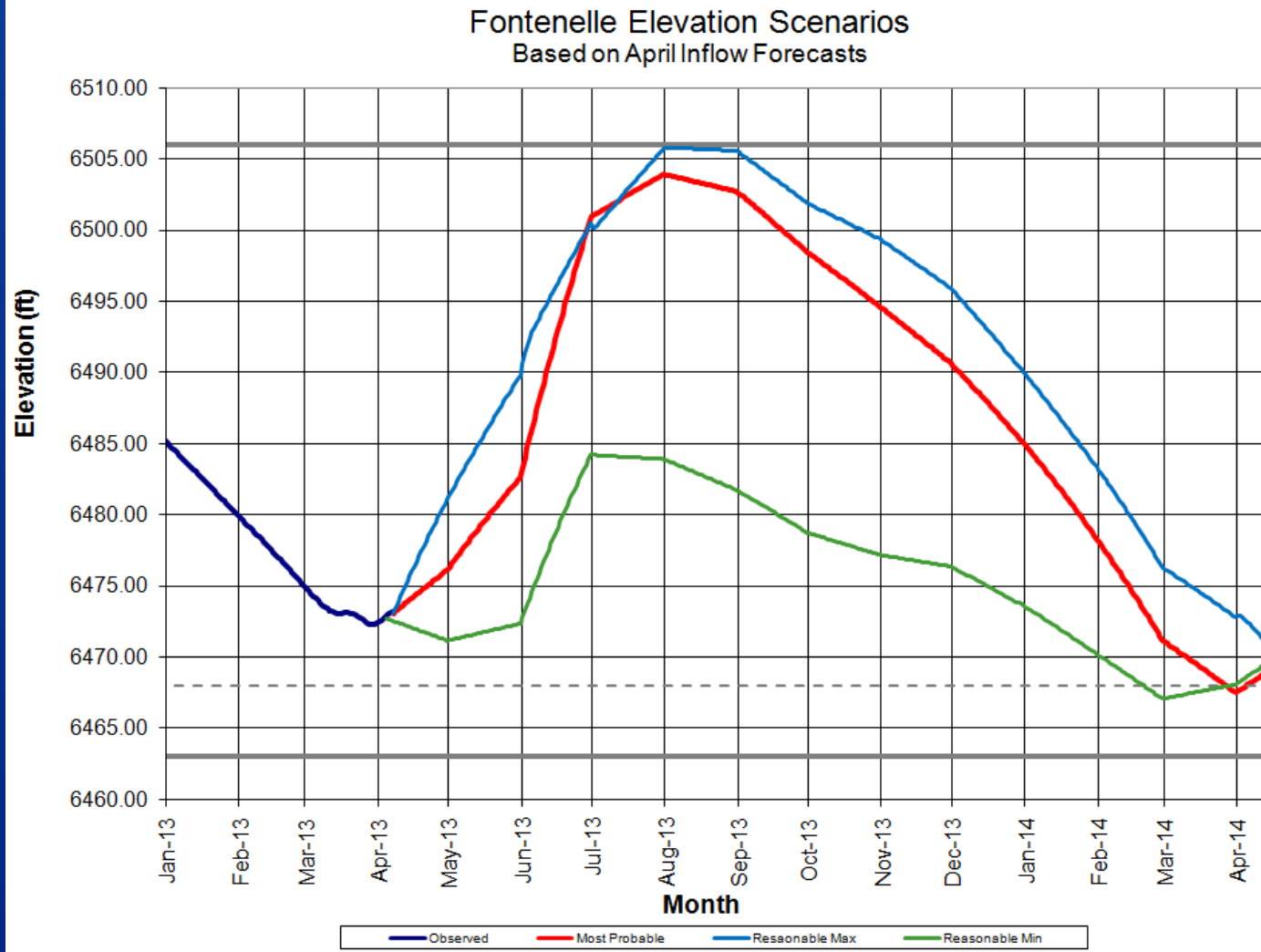


# Release Scenarios

Fontenelle Release Scenarios  
Based on April 1 Forecasts



# Elevation Scenarios



# Fontenelle Working Group Meeting April 2013

Questions / Comments ?

Heather Hermansen

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801-524-3883

<http://www.usbr.gov/uc/water/crsp/cs/ftd.html>

<http://www.usbr.gov/uc/water/crsp/wg/ft/ftcurrnt.html>



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**Additional Slides Follow**

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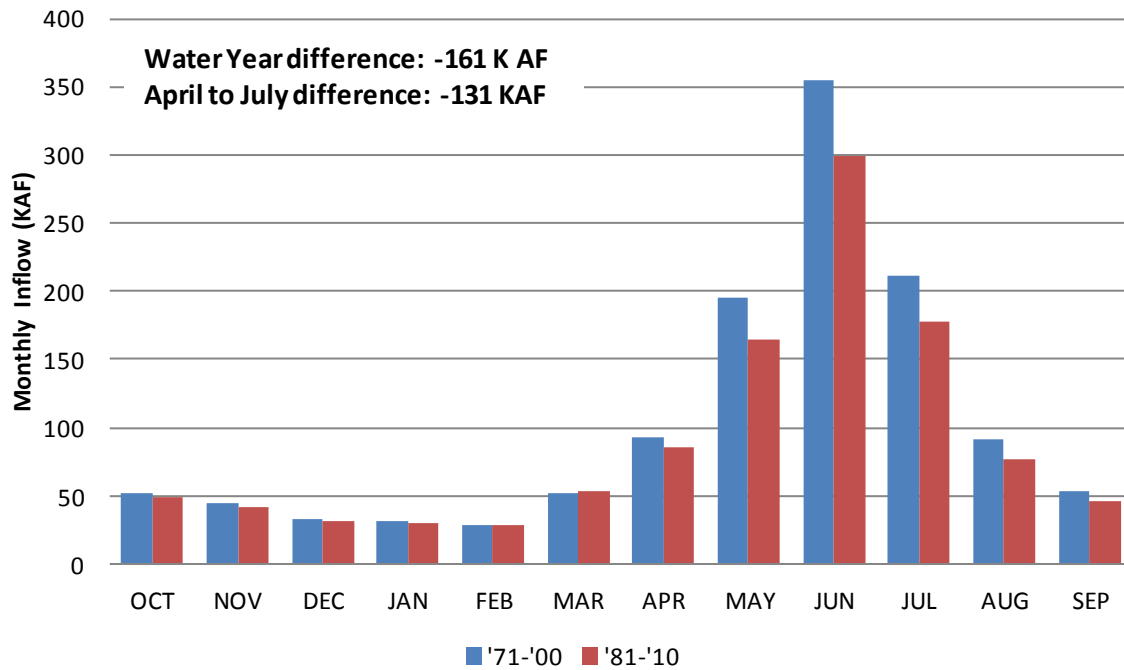
# Historic Inflow Statistics

Period of Record 1971-2000

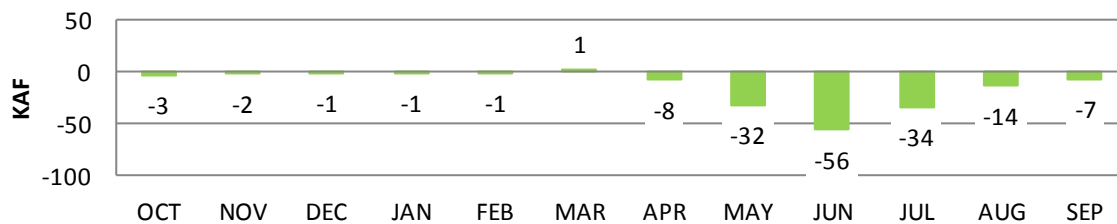
MONTHLY INFLOW VOLUME(THOUSAND-ACRE-FEET)									
%	60%	50%	40%	30%	25%	20%	10%	5%	Average
2	44	48	51	56	59	62	71	80	52
2	44	45	47	48	49	49	51	52	44
3	33	34	35	36	36	37	38	39	33
1	32	32	33	34	34	34	35	36	31
9	30	30	31	32	32	32	33	33	29
7	49	51	53	56	57	59	64	68	52
9	86	92	99	107	111	116	129	141	93
9	189	207	223	240	248	257	280	296	196
51	304	345	388	434	463	491	571	640	355
51	180	207	234	264	282	300	350	393	212
3	83	91	99	108	113	117	130	140	91
6	50	53	57	61	63	65	71	75	53
02	1,123	1,236	1,350	1,473	1,546	1,619	1,824	1,995	1,243
60	758	851	944	1,045	1,104	1,164	1,331	1,471	857

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## Fontenelle Inflow



## Difference



# Historic Inflow Statistics

## Period of Record 1981-2000

### D MONTHLY INFLOW VOLUME (THOUSAND-ACRE-FEET)

70%	60%	50%	40%	30%	25%	20%	10%	5%	Average
37	41	44	49	54	57	60	71	81	49
40	42	44	45	47	48	49	51	53	42
31	32	32	33	34	35	35	37	38	32
29	30	31	32	33	34	34	36	37	30
27	28	29	29	30	30	31	32	33	28
49	51	53	55	58	59	60	64	68	53
68	74	81	88	97	102	108	126	142	85
128	147	164	182	201	212	224	255	282	164
198	234	271	311	358	389	419	514	601	299
112	137	162	189	220	240	259	318	371	178
52	62	72	83	94	101	107	126	141	77
36	40	44	49	54	57	59	68	75	46
806	917	1,028	1,146	1,279	1,363	1,446	1,697	1,921	1,082
506	592	678	770	876	943	1,010	1,213	1,396	726