

RECLAMATION

Managing Water in the West

Platte River Basin Advisory Group Meeting

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Area Manager
Wyoming Area Office

April 26, 2011



Montana

Wyoming Area



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Nebraska

Inland Lakes

Scottsbluff

Lake
McConaughy

South
Platte River

Cheyenne

key

- Wind River Reservation
- Wyoming Area
- irrigated lands (Reclamation)
- Bureau of Reclamation dams
- hydropower facilities



revised 5/4/98

0 25 50 100 M.

Yellowstone
Lake

Buffalo Bill

Cody

Anchor

Pilot Butte
Powerplant

Bull
Lake

Boysen

Sweetwater River

Alcova

North Platte River

Casper

Gray Reef

Glendo

Guernsey

Pathfinder

Kortes

Seminole

North Platte River

Wyoming

Colorado

Rocky Mountain Continental Divide

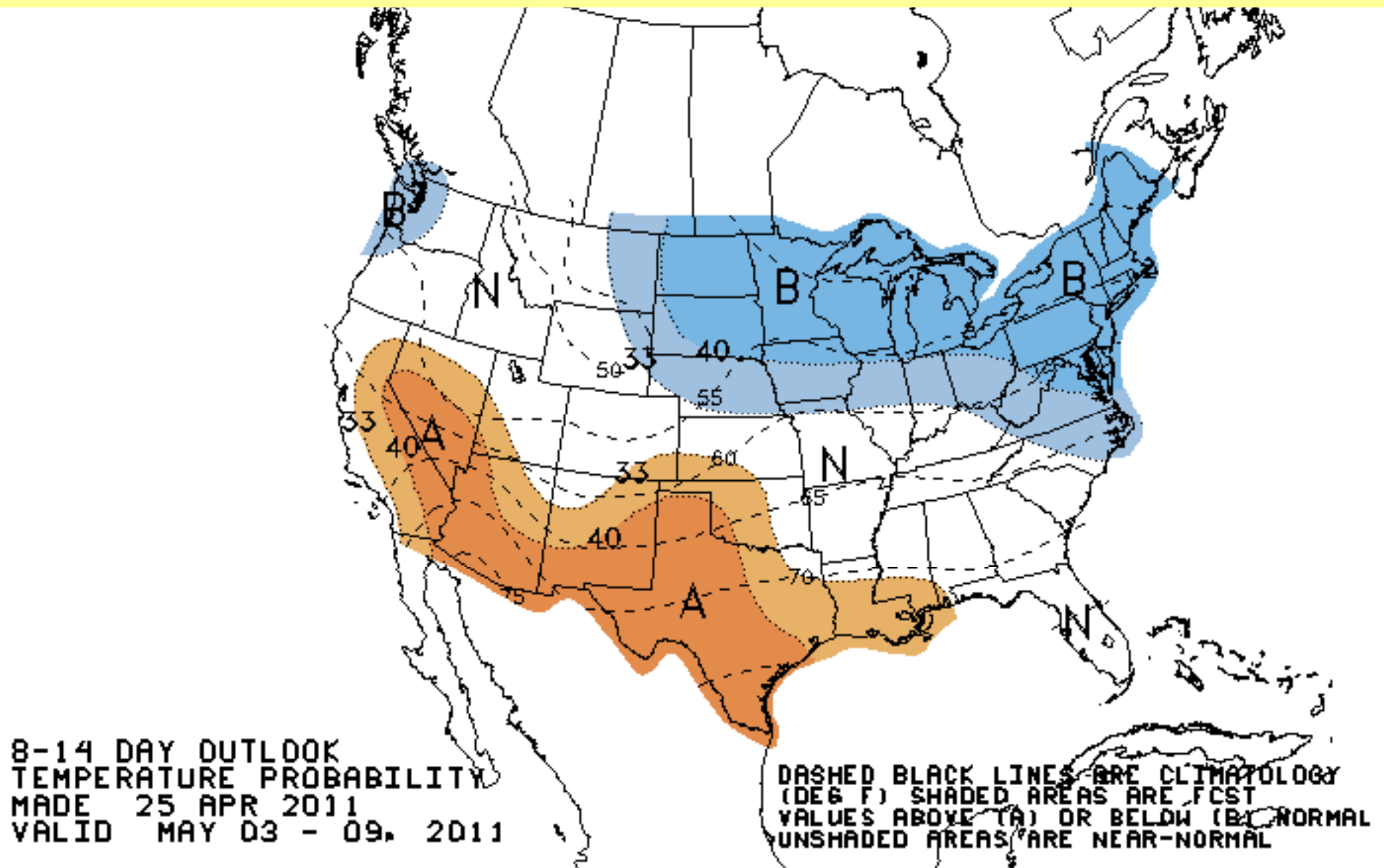
Yellowtail

Big Horn

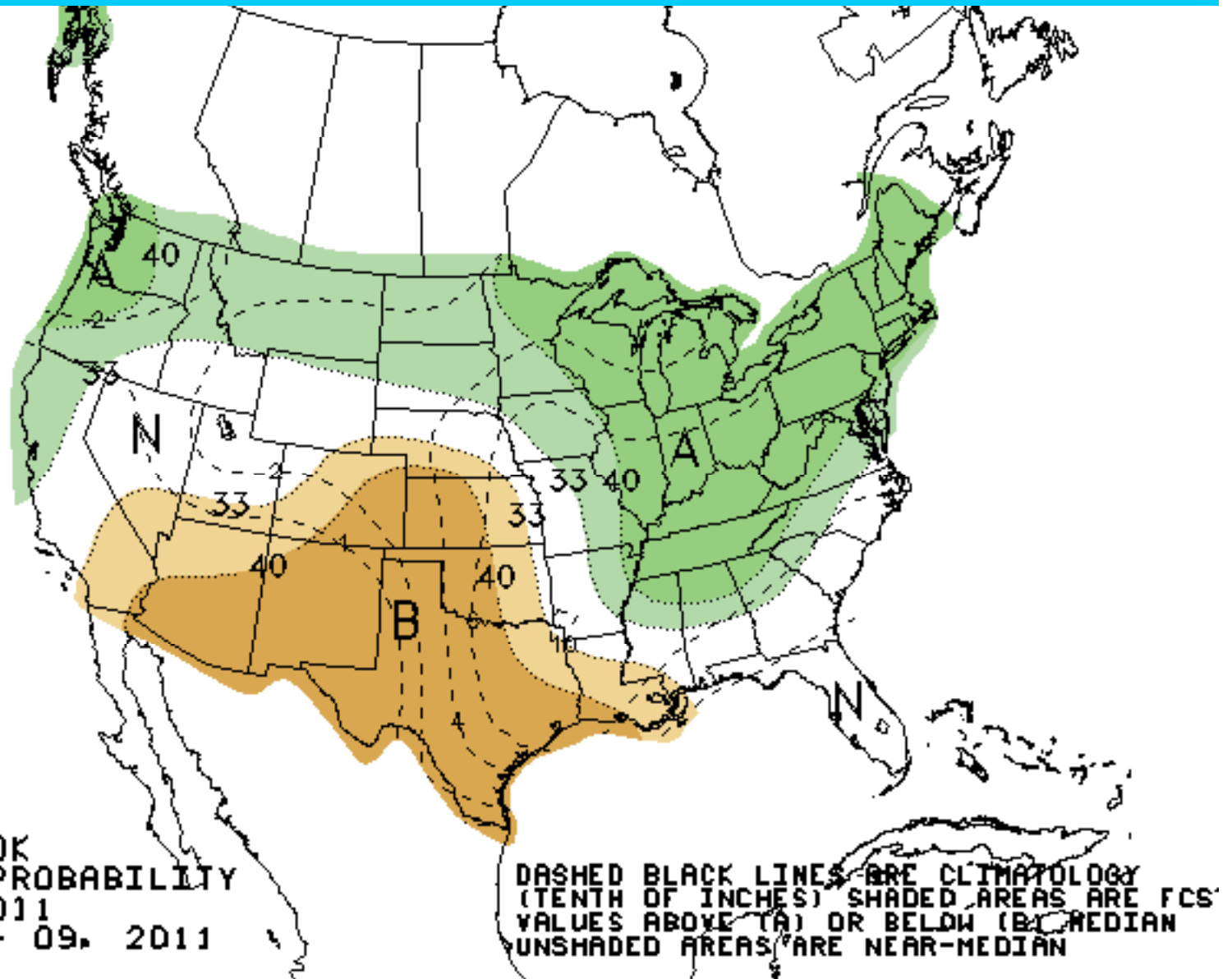
Shoshone
River

Keyhole

Temperature 8 – 14 Day Outlook



Precipitation 8 -14 Day Outlook



SNOW WATER EQUIVALENT - % AVERAGE

DRAINAGE BASIN	4/25/2011	4/18/2011	4/11/2011	4/25/2010	4/18/2010
SNAKE RIVER	149	139	129	56	62
UPPER YELLOWSTONE	142	136	130	56	64
WIND RIVER	121	120	115	91	92
BIGHORN BASIN	136	128	121	60	70
SHOSHONE	133	127	121	56	64
POWDER - TONGUE	133	122	115	66	78
BELLE FOURCHE	144	103	100	2	49
UPPER NORTH PLATTE	163	150	143	88	93
LOWER N PLATTE,SWT	129	122	116	99	97
LITTLE SNAKE RIVER	174	145	137	91	99
UPPER GREEN RIVER	147	137	130	51	58
LOWER GREEN RIVER	144	128	124	67	74
UPPER BEAR RIVER	173	156	148	60	67
Weighted State Average	141	129	122	68	77

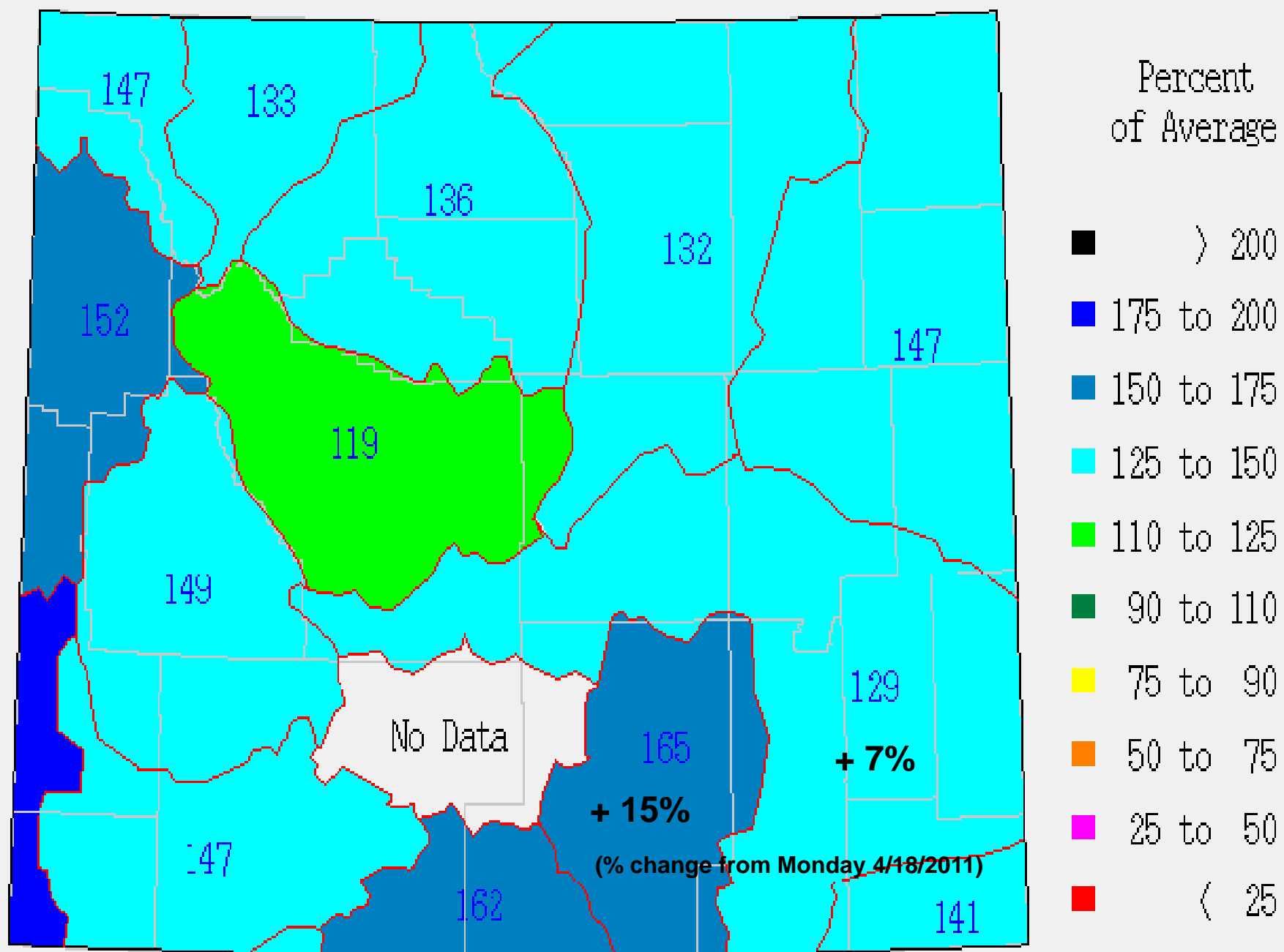
* red = down

* blue = up

* green = even

Natural Resources Conservation Service - Monday MORNING SNOW REPORT (No. 24) April 25, 2011

SWE % of Average as of Tuesday, 26 April 2011



* = Data may not provide a valid measure of conditions

North Platte Estimated April-July Runoff

The April 1, 2010, water supply forecast indicates below average April - July runoff for Seminoe Reservoir, Sweetwater River and Alcova to Glendo gain. The forecast for the North Platte River system is shown in the two tables below.

(1000 acre-feet)

Forecast Points	April 1, 2011 Forecast of April-July Runoff			30 Yr. April-July Runoff Avg. ²	Expected % of Avg.	Comparative Actual April - July Runoff			
	Reasonable Maximum ¹	Expected	Reasonable Minimum ¹			W. Yr. 2010	W. Yr. 2009	W. Yr. 2008	W. Yr. 2007
Seminoe Reservoir	1600	1,450	1200	714	203	1242	964	956	425
Sweetwater River Above Pathfinder Reservoir	95	65	45	59	110	91	48	52	24
Alcova to Glendo	280	180	100	131	137	304	161	209	102

¹ The probability is estimated to be 9 chances in 10 that the actual volume will fall between the reasonable minimum and reasonable maximum.

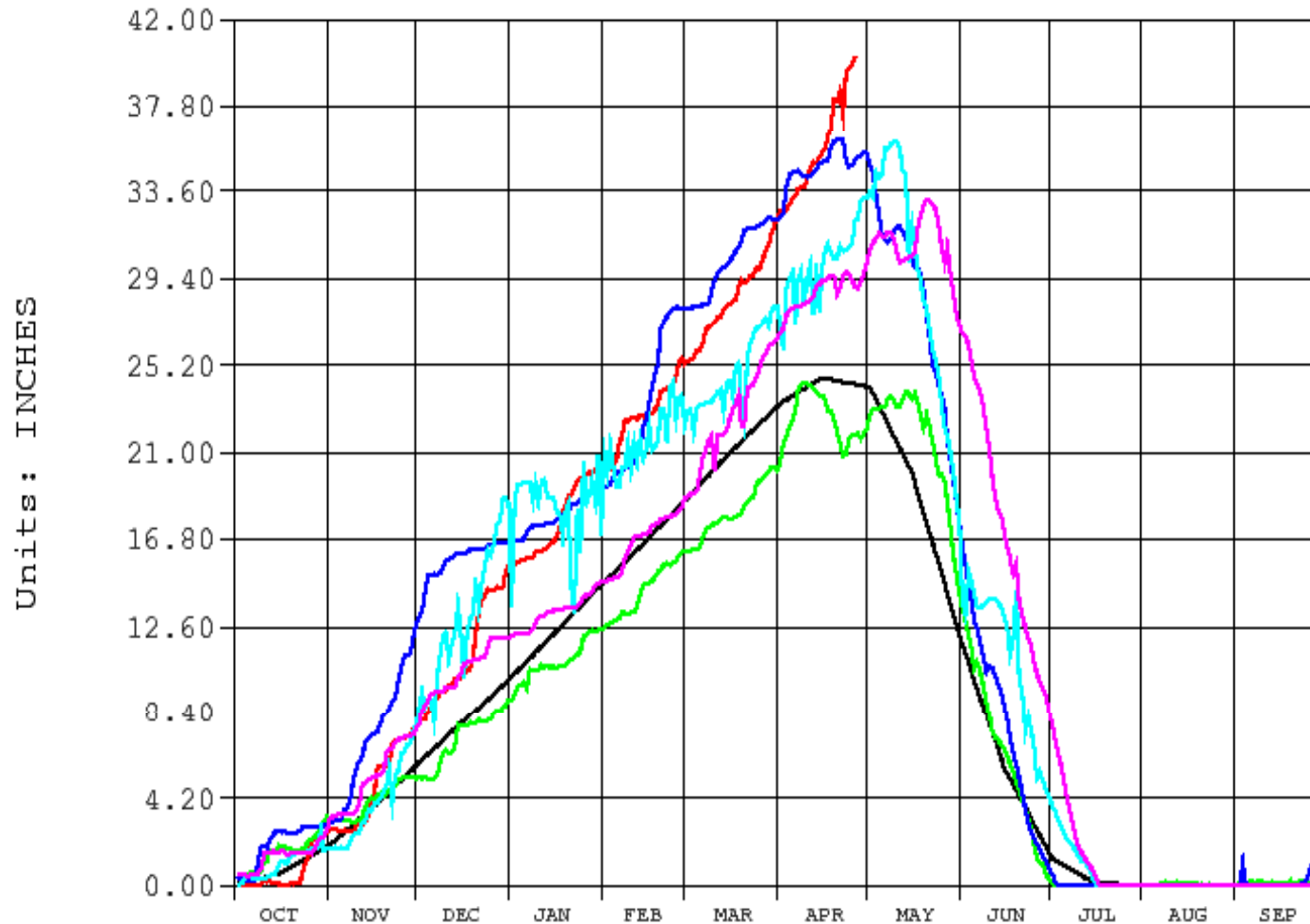
² Average is based on the 1981-2010 period.

<u>Snow pack</u>	<u>April 1</u>	<u>April 26</u>
Upper North Platte	140 %	165 %
Lower North Platte	116 %	129 %

Basin abv Seminoe Reservoir SWE

Archive Data From 1-OCT Through 30-SEP

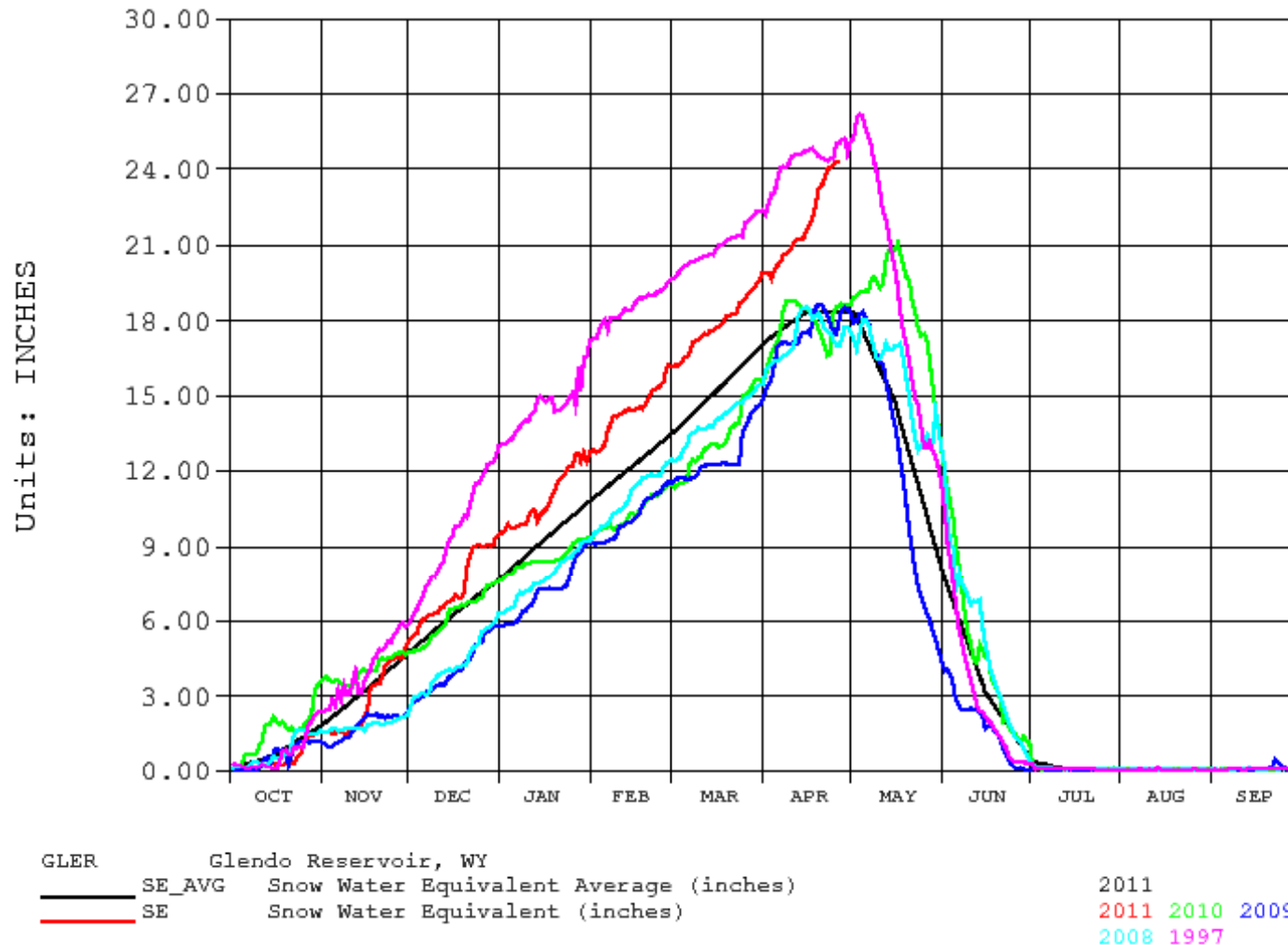
Plotted 04/26/2011 12:24



Water Year	April-July Inflow (kaf)
1983	1,529,500
1984	1,549,900
1986	1,215,800
2010	1,241,900
2011	Forecasted 1,450,000
Average 714,000	

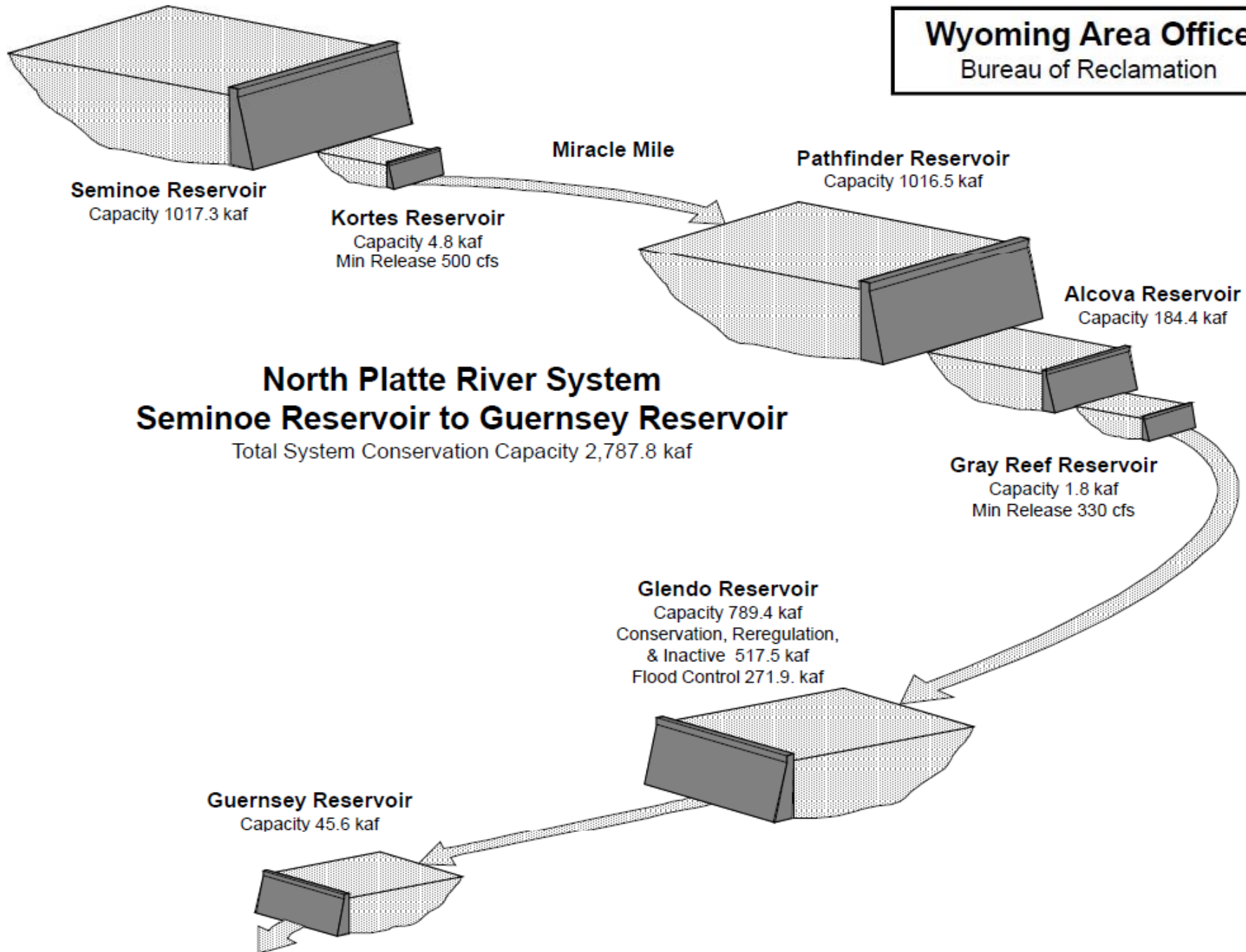
Alcova to Glendo Reach Snow Water Equivalent

Archive Data From 1-OCT Through 30-SEP
Plotted 04/26/2011 12:28



Water Year	April-July Inflow (acre-feet)
1997	237,000
2008	209,300
2009	160,600
2010	303,800
2011	Forecasted 180,000
Average 131,400	

Wyoming Area Office
Bureau of Reclamation



Current Reservoir Conditions

As of April 24, 2011

<u>Reservoir</u>	<u>Content</u>	<u>% of Full</u>	<u>% of Avg</u>	Feb 28 <u>% of Avg</u>
Seminole	574,650	56%	118%	161%
Kortes	5,276	111%	113%	106%
Pathfinder	885,003	87%	144%	145%
Alcova	180,791	98%	103%	101%
Gray Reef	1,709	95%	126%	113%
Glendo	422,166	82%	97%	123%
Guernsey	22,503	49 %	79%	141%
Total Storage	2,092,098	75%	120%	141%

Current Conditions — April 26, 2011

Snowpack

April 1

Upper North Platte	165% of average	140% of Avg
Lower North Platte	129% of average	116% of Avg

Forecasted Inflow (April 1)

Seminoe	203% of average	1,450 KAF
Sweetwater	110% of average	65 KAF
Alcova to Glendo	137% of average	180 KAF

April 24

Total System Storage	120% of average	2,092 KAF
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Total System Conservation Storage of 2,787 KAF

Reservoir Releases

Reservoir

Release

Seminole

Mar. 10	2,300 cfs
Mar. 24	2,600 cfs
Apr. 1	4,000 cfs
Apr. 4	5,000 cfs
Apr. 14	6,100 cfs
Apr. 19	7,100 cfs

Gray Reef

Mar. 5	600 cfs
Mar. 10	1,250 cfs
Mar. 18	3,250 cfs
Mar. 22	3,600 cfs
Mar. 31	3,800 cfs
Apr. 5	4,500 cfs
Apr. 26-28	5,000 cfs

Reservoir Releases (Cont'd)

Reservoir

Release

Guernsey

Feb. 28	500 cfs
Mar. 10	3,000 cfs
Mar. 12	3,400 cfs
Mar. 16	3,600 cfs
Mar. 18	3,800 cfs
Mar. 31	4,200 cfs
Apr. 15	4,700 cfs
Apr. 22	4,100 cfs
Apr. 26	4,400 cfs

Interstate Canal

Mar. 31	400 cfs
Apr. 15	900 cfs

Presently Passing Whalen Dam	3,300 cfs
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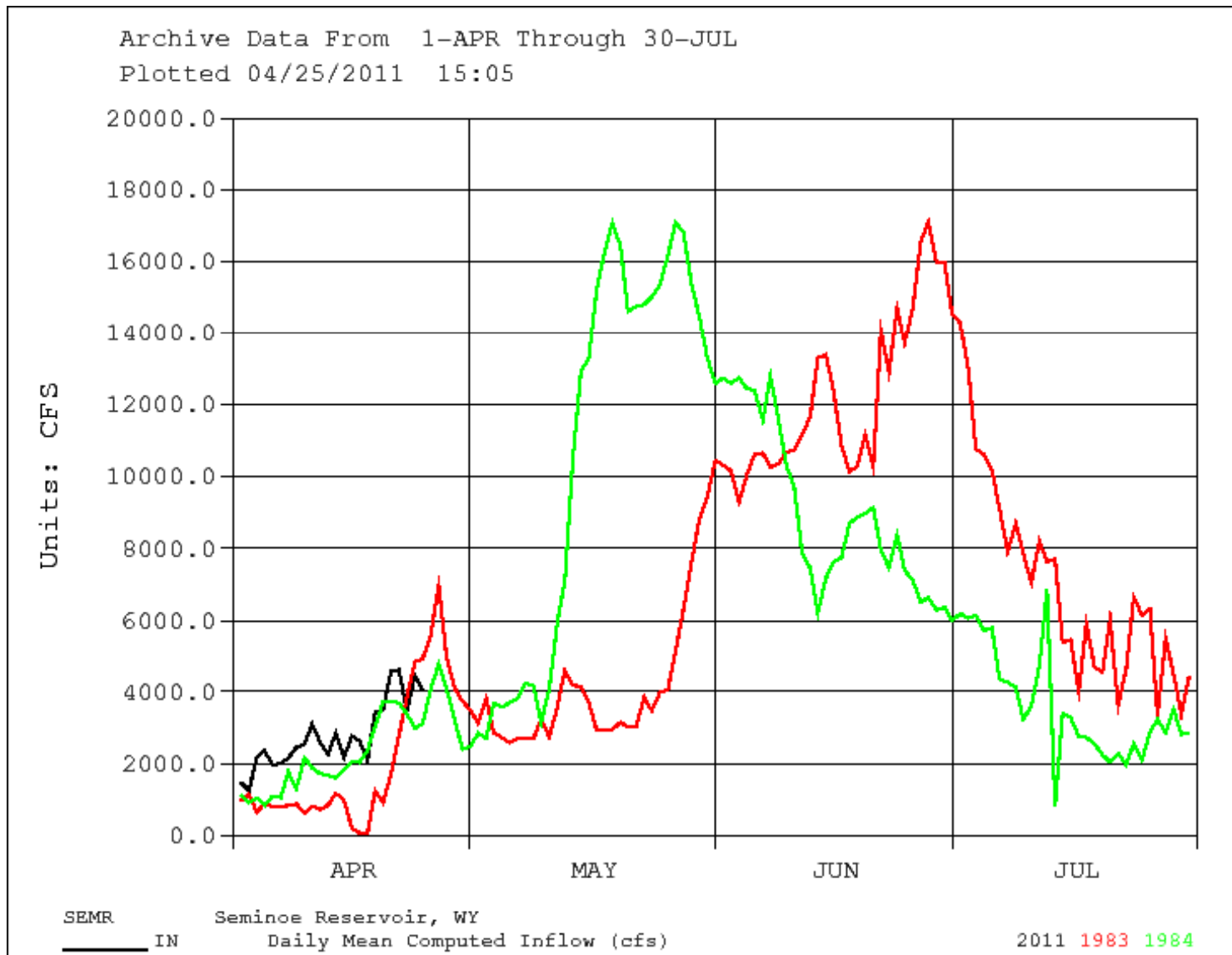
Current Stateline Gauge Target	4,700 cfs.
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Seminole April – July Runoff (KAF)

	April	May	June	July	Total
2011 Plan	215.7	455.7	600.0	178.6	1,450.0
2011 Adj.	196.2	474.5	599.4	178.9	1,448.9
2010	154.4	293.9	672.2	121.4	1,241.9
1986	198.8	318.6	521.0	177.4	1,215.8
1984	141.0	656.4	532.9	219.6	1,549.9
1983	122.1	258.7	729.9	418.8	1,529.5

Seminoe Inflow

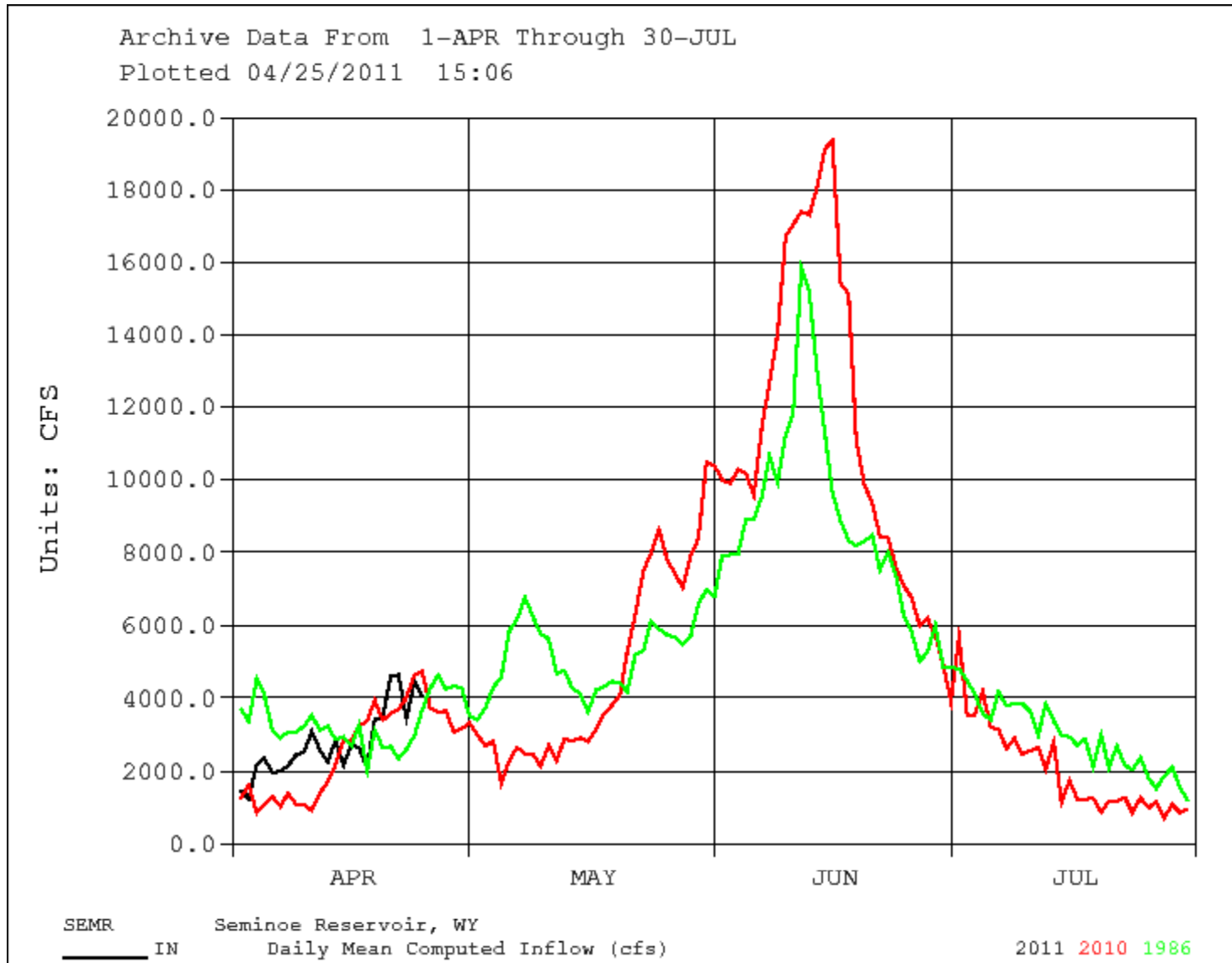
April through July (Daily Flow cfs)



Water Year	April-July Inflow (kaf)
1983	1,529,500
1984	1,549,900
2011	Forecasted 1,450,000
Average 714,000	

Seminoe Inflow

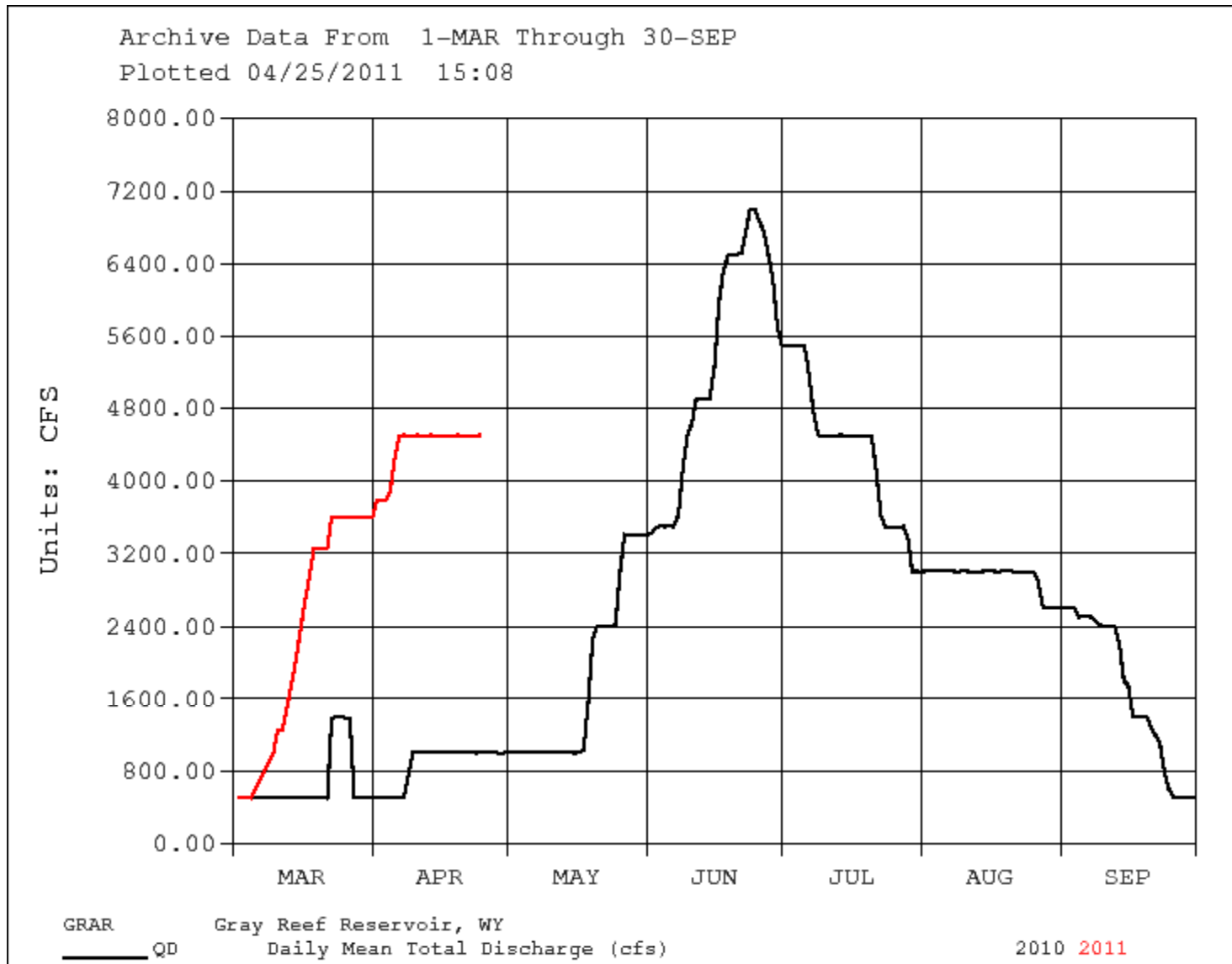
April through July (Daily Flow cfs)



Water Year	April-July Inflow (kaf)
1986	1,215,800
2010	1,241,900
2011	Forecasted 1,450,000
Average 714,000	

Gray Reef Outflow

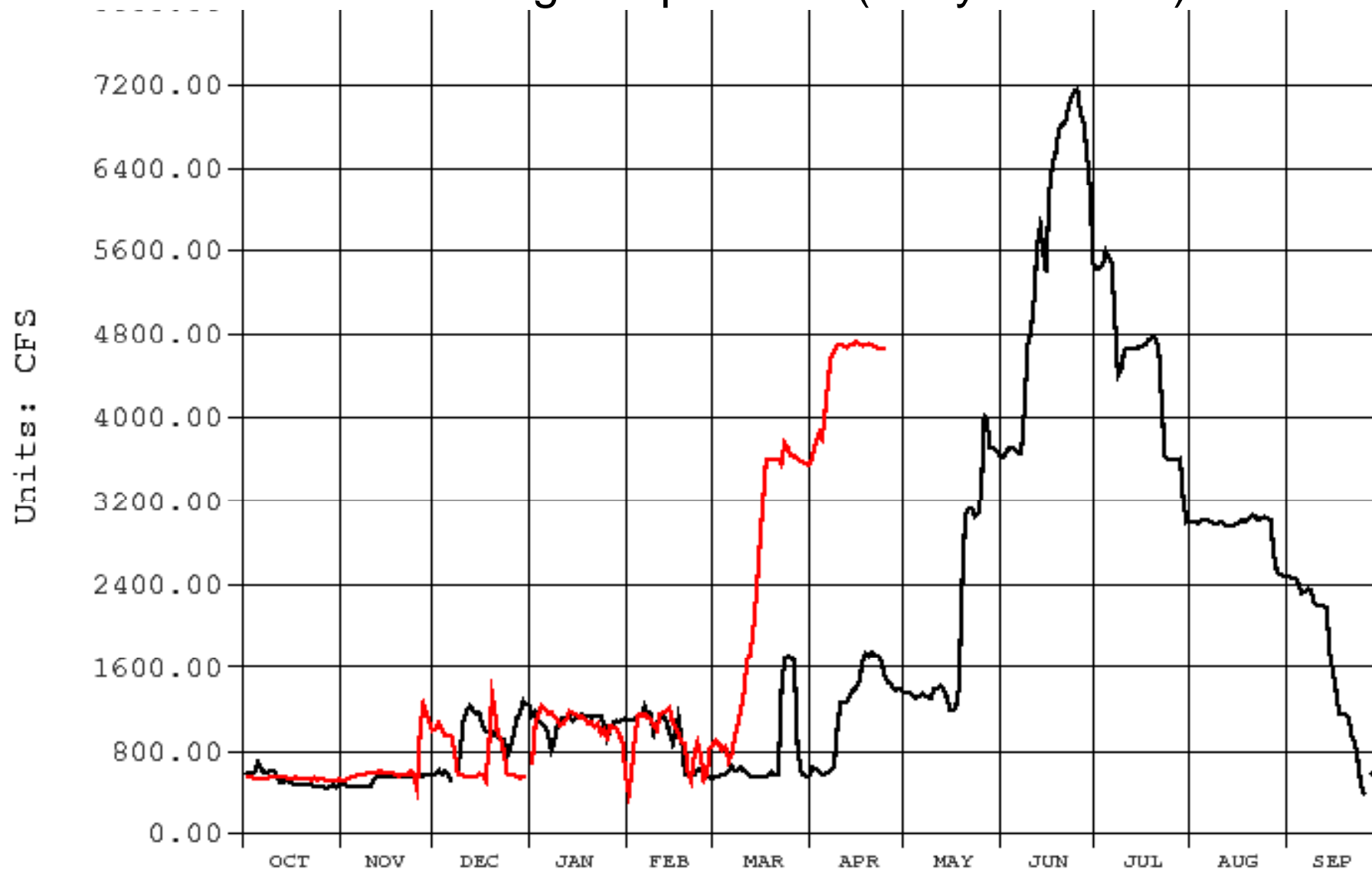
March through September (Daily Flow cfs)



Water Year	April-July Inflow (kaf)
2010	1,241,900
2011	Forecasted 1,450,000
Average 714,000	

North Platte River in Casper

October through September (Daily Flow cfs)



NPCW

North Platte River at Casper, WY

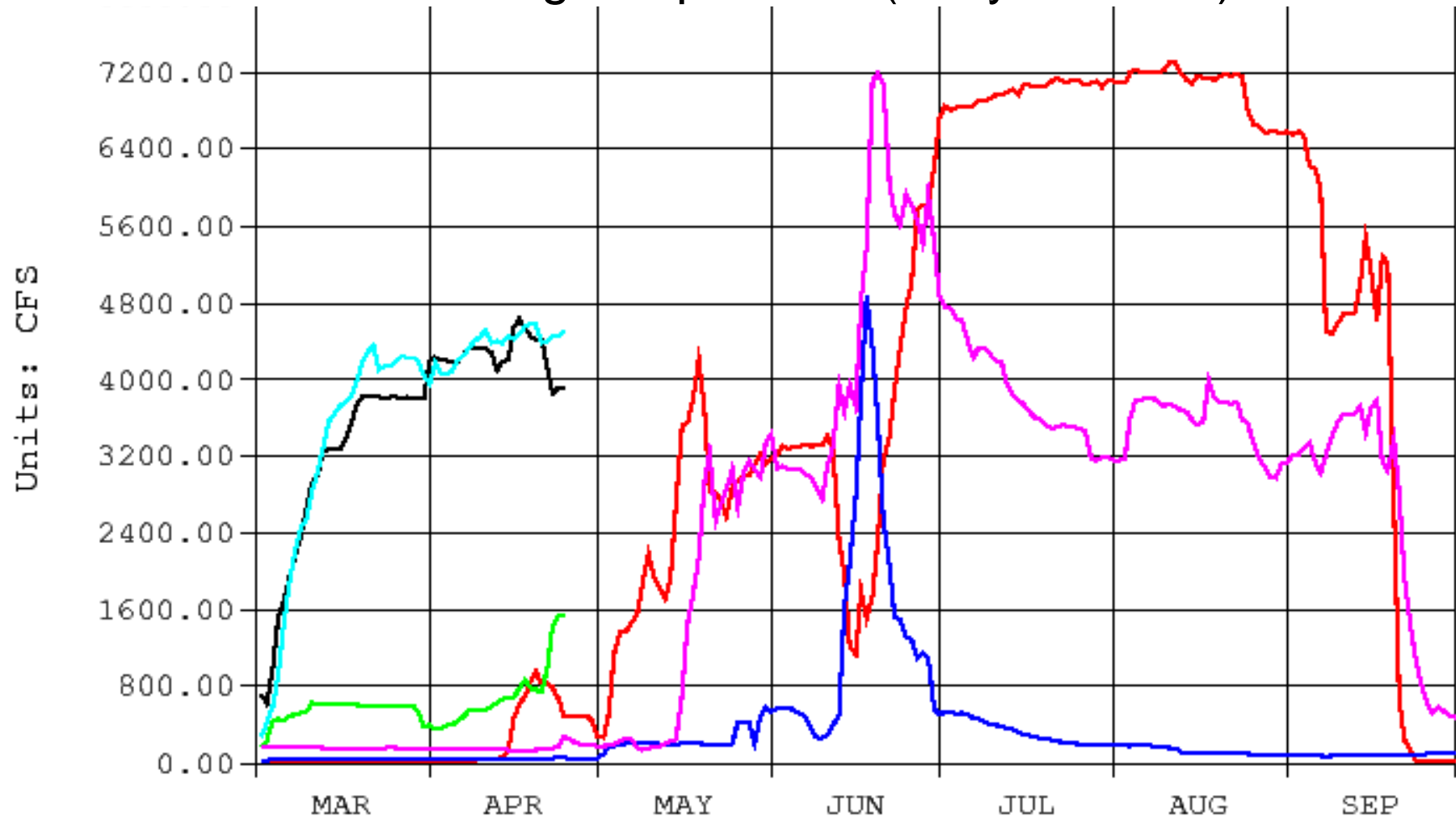
QD

Daily Mean Total Discharge (cfs)

2010 2011

Glendo Outflow

March through September (Daily Flow cfs)



GLER	Glendo Reservoir, WY		
QD	Daily Mean Total Discharge (cfs)	2011	2010
FLWY	Laramie River near Fort Laramie, WY		
QD	Daily Mean Total Discharge (cfs)	2011	2010
HEWY	North Platte River at WY-NE State Line, WY		
QD	Daily Mean Total Discharge (cfs)	2011	2010

Water Released 2011

Oct 1 Storage	System Gain	Released March 31	Released Apr 1-24	Total Release	Apr 24 Storage	Change
2,024,608	460,788	187,905	205,393	393,298	2,092,098	67,490

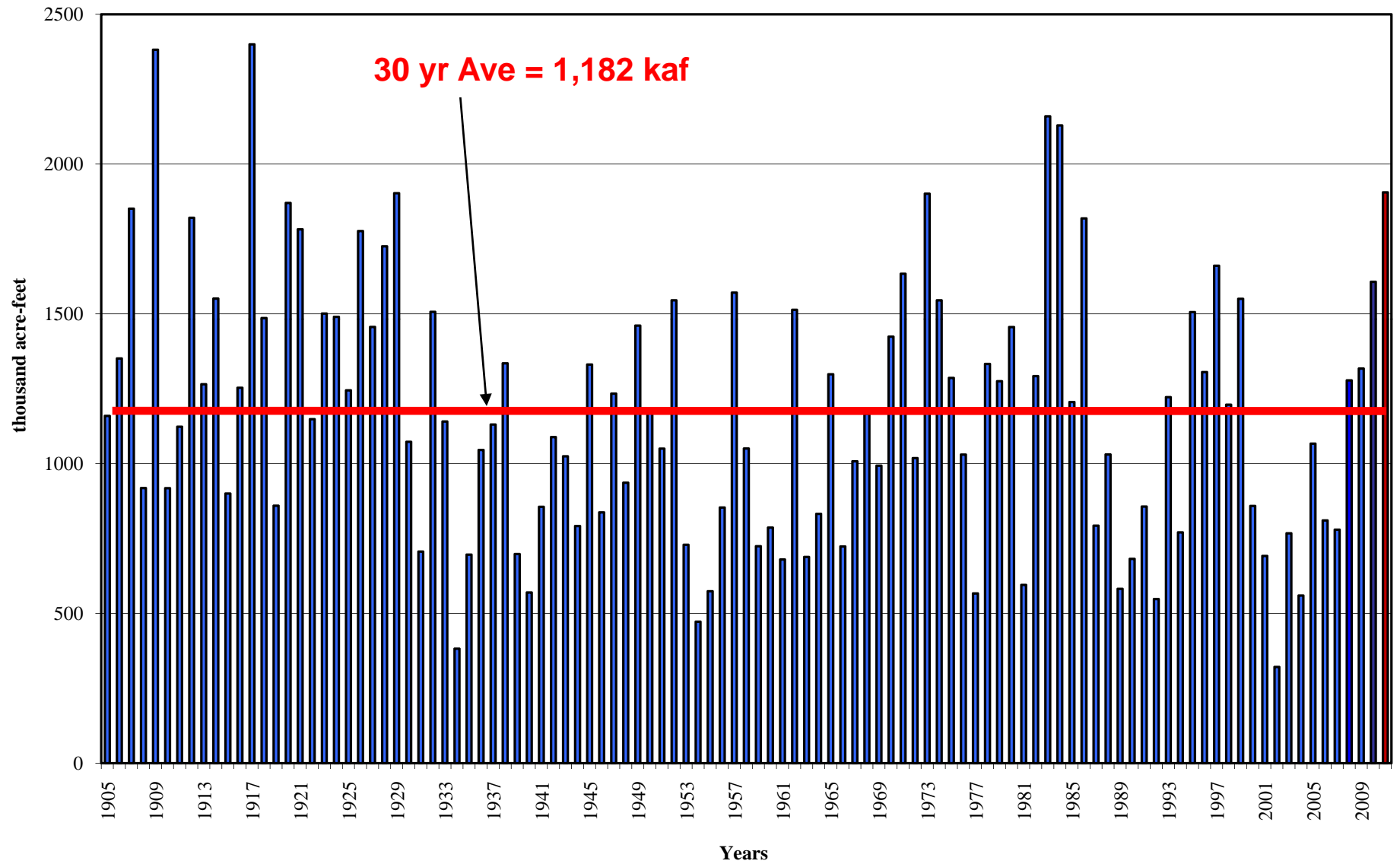
Total System Storage April 24, 2010 2,172,430 AF

Total System Storage April 24, 2011 2,092,098 AF

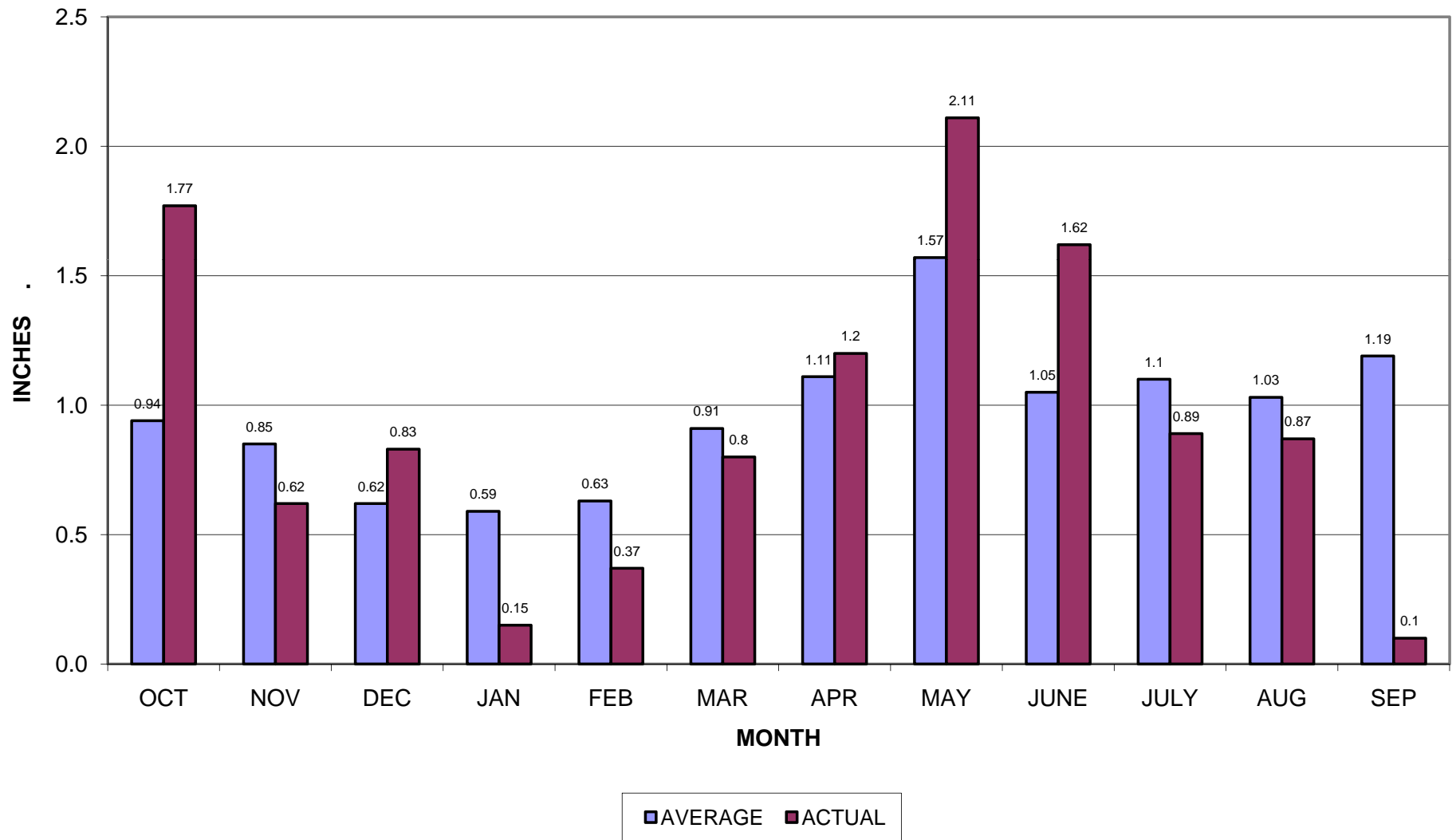
Difference 80332 AF

96%

Historic Pathfinder Watershed Runoff



2010 SEMINOE WATERSHED PRECIPITATION



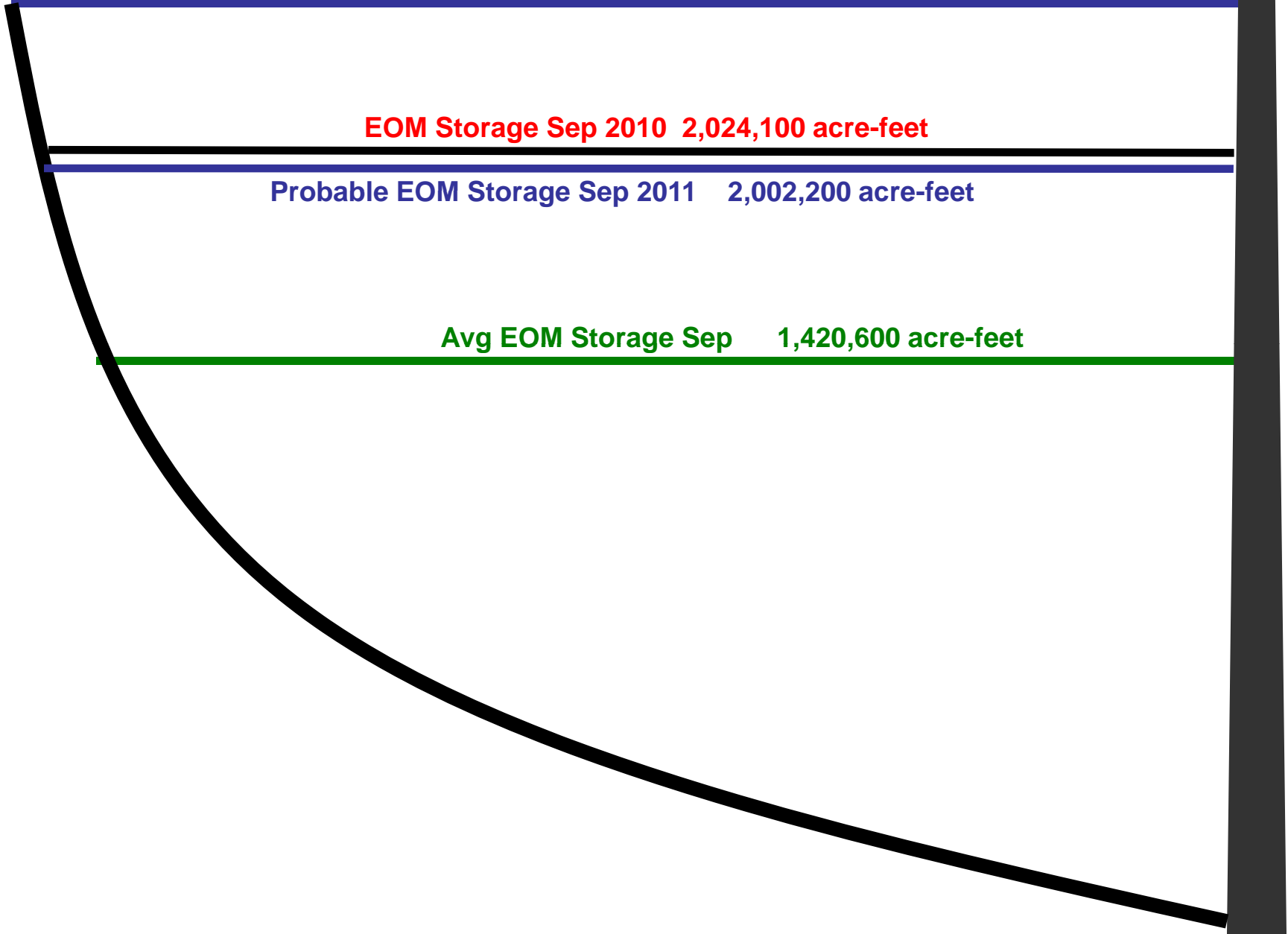
North Platte System Storage

Total Conservation Storage 2,787,800 acre-feet

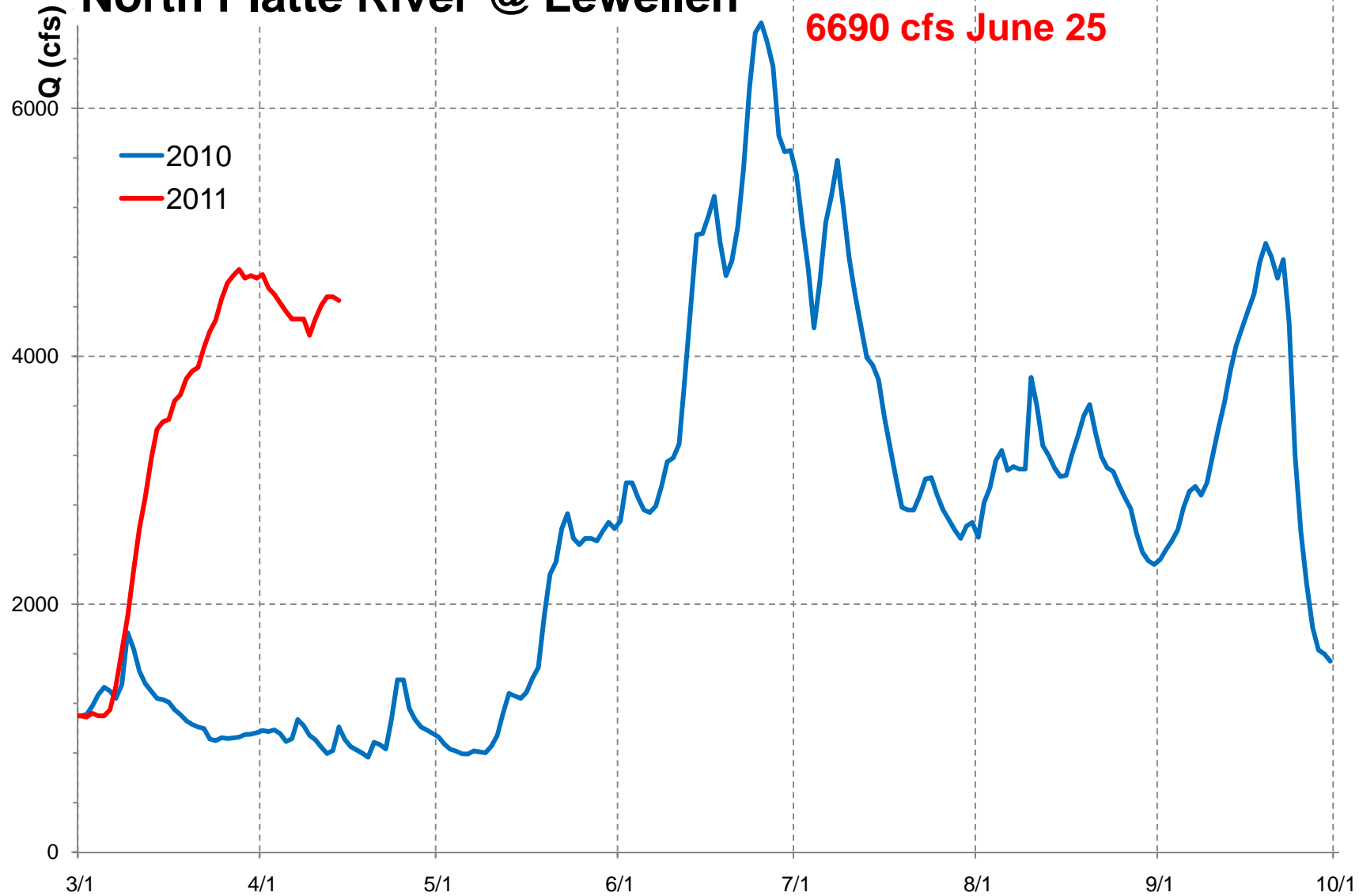
EOM Storage Sep 2010 2,024,100 acre-feet

Probable EOM Storage Sep 2011 2,002,200 acre-feet

Avg EOM Storage Sep 1,420,600 acre-feet



North Platte River @ Lewellen



Historic Daily Peaks

Year	Seminole Inflow, cfs	Seminole Storage, AF	Kortes Outflow, cfs	Pathfinder Storage, AF	Gray Reef Outflow, cfs
1971	11,230 June 24	979,760 July 12	3,800 June 27	915,937 June 1	4,081 June 16
1973	13,219 May 25	999,682 July 22	10,120 May 27	1,056,077 June 6	7,250 June 11
1983	17,099 June 27	1,055,564 July 9	16,225 June 30	1,083,755 July 23	8,100 July 10
1984	17,087 May 26	988,576 August 2	13,059 June 7	1,080,740 June 14	8,877 June 10
2010	19,376 June 15	1,009,383 June 20	14,600 June 14	1,060,142 June 22	7,005 June 23 - 24

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Historic Daily Peaks (Cont'd)

Year	Flow at Casper, cfs	Glendo Inflow, cfs	Glendo Storage, AF	Guernsey Outflow, cfs
1971	- -	11,761 May 5	727,124 May 24	7,720 June 3
1973	- -	14,661 May 21	758,830 May 28	9,990 June 2
1983	8,150 July 8	8,834 July 23	741,463 June 14 - 15	10,280 July 20
1984	9,200 June 13	10,774 May 16	596,018 May 23	9,943 July 1 – 2
2010	7,159 June 25	8,699 June 14	717,125 June 29	7,199 August 13

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Historic Daily Peaks (Cont'd)

Year	Guernsey Outflow, cfs	Flow blw. Whalen, cfs	Laramie R. Inflow, cfs	Flow at Stateline, cfs
1971	7,720 June 3	6,850 June 7	4,150 May 7	9,700 June 6
1973	9,990 June 2	7,430 June 8	5,810 May 10	8,500 May 26
1983	10,280 July 20	6,850 July 23	4,060 July 3	7,710 June 17
1984	9,943 July 1 – 2	6,820 June 19	4,390 May 16	8,540 June 4
2010	7,199 August 13	4,423 June 24	4,868 June 17	7,189 June 19

RECLAMATION

The 5th Wave[®]
PLATTENANT



**“Sorry I’m late, but I had to shovel
about 8 inches of ‘partly cloudy’
out of my driveway this morning.”**

ION

N. Platte River Casper (6/17) 6500 cfs



N. Platte River Casper (6/17) 6500 cfs



Glendo Reservoir (6/17) 4644.86 ft (654 kaf)



Glendo Reservoir (7/2) 4648.52 ft (712 kaf)



Pathfinder Spill –June 16, 2010



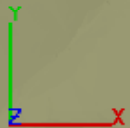
Pathfinder Spillway Modification

New Crest Alignment

Regraded Areas

Existing Spillway Crest

Pathfinder Dam













Pathfinder Spill –June 24, 2010

