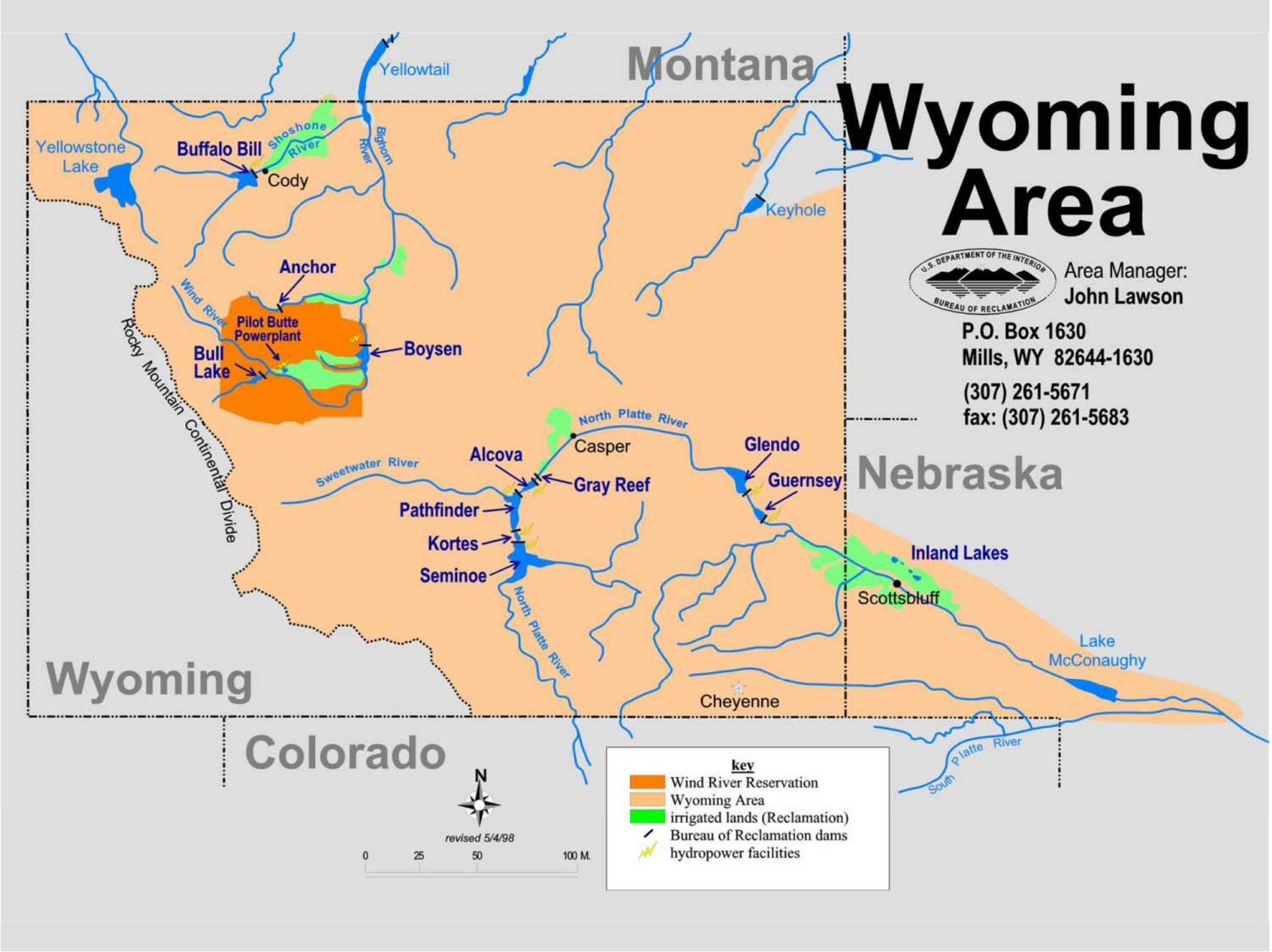
RECLAMATION

Managing Water in the West

Climate Issues Committee

John H. Lawson
Area Manager
Wyoming Area Office

May 19, 2011



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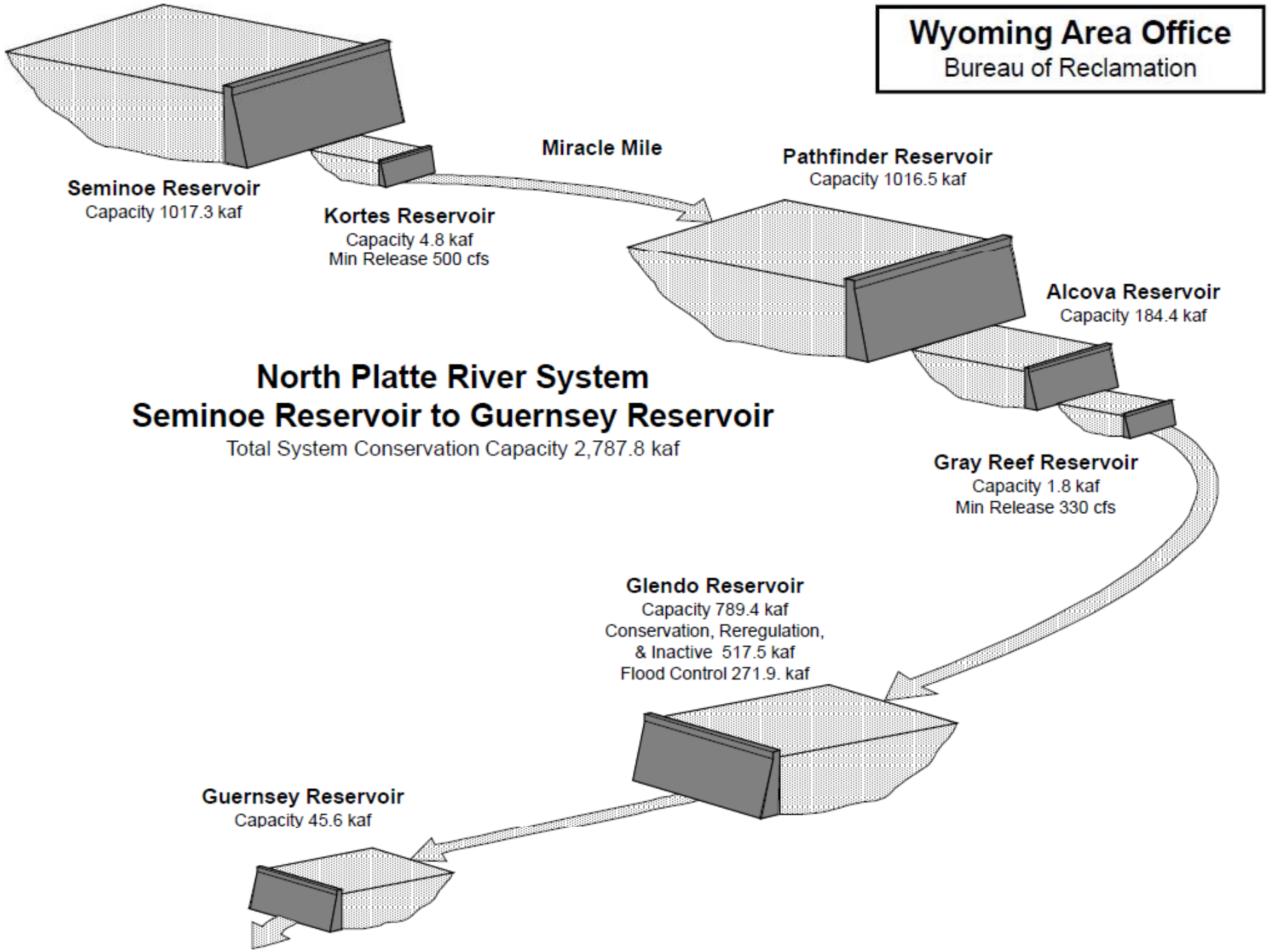

Wyoming Area Office
Bureau of Reclamation
Seminoe Reservoir
Capacity 1017.3 kaf
Kortes Reservoir
Capacity 4.8 kaf
Min Release 500 cfs
Miracle Mile
Pathfinder Reservoir
Capacity 1016.5 kaf
Alcova Reservoir
Capacity 184.4 kaf
North Platte River System
Seminoe Reservoir to Guernsey Reservoir
Total System Conservation Capacity 2,787.8 kaf
Gray Reef Reservoir
Capacity 1.8 kaf
Min Release 330 cfs
Glendo Reservoir
Capacity 789.4 kaf
Conservation, Reregulation,
& Inactive 517.5 kaf
Flood Control 271.9. kaf
Guernsey Reservoir
Capacity 45.6 kaf

North Platte Estimated April-July Runoff

NORTH PLATTE ESTIMATED MAY-JULY RUNOFF

The May 1, 2011, water supply forecast indicates above average April - July runoff for Seminoe Reservoir, Sweetwater, 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	May 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	2,050	1,750	1,450	714	245	1242	964	956	425
Sweetwater River Above Pathfinder Reservoir	100	80	60	59	136	91	48	52	24
Alcova to Glendo	290	220	150	131	168	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.

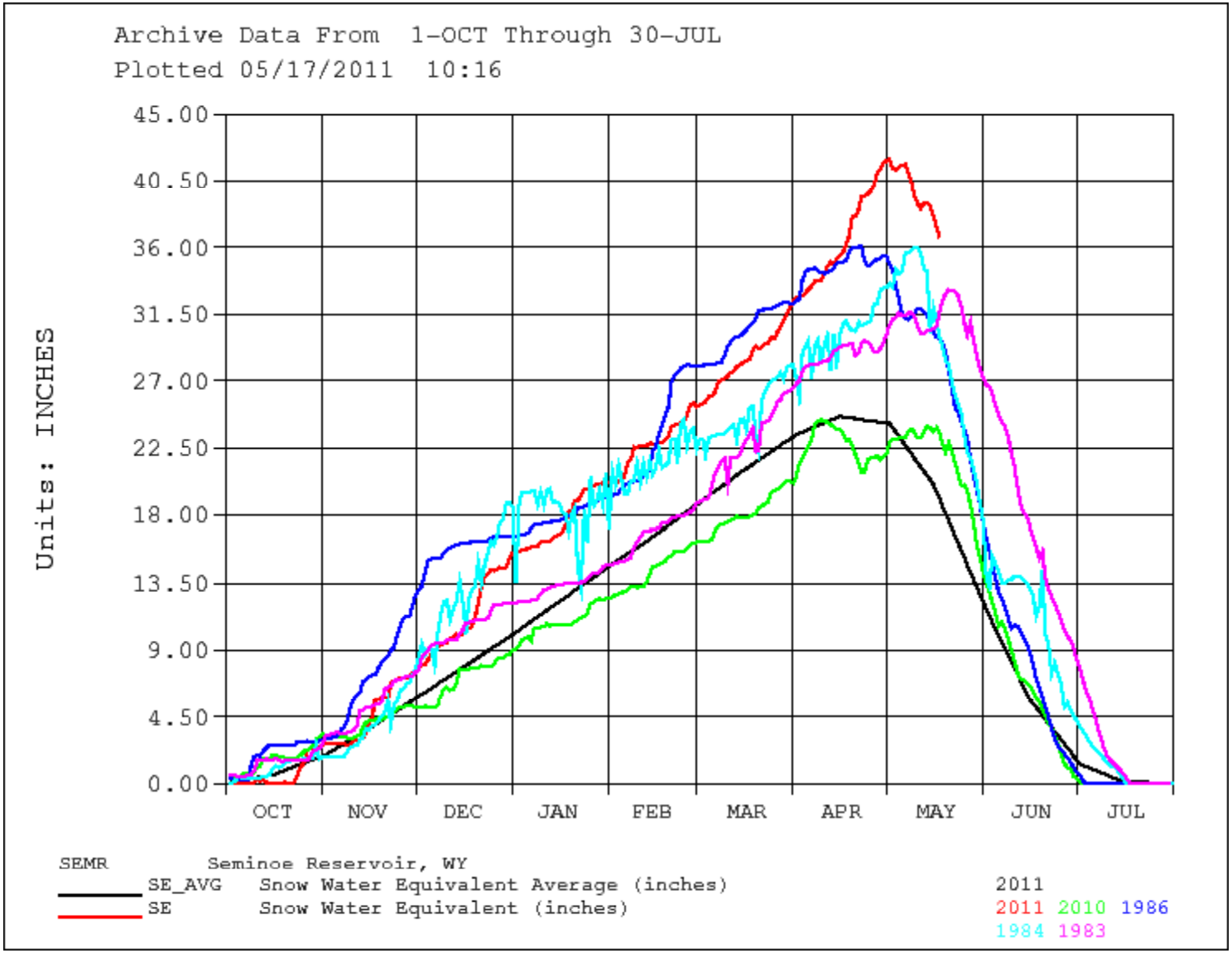
[2] Average is based on the 1981-2010 period.

[3] Actual inflows are as follows.

	April (KAF)
Seminoe Reservoir	171.7
Sweetwater River	7.5
Alcova to Glendo	44.4

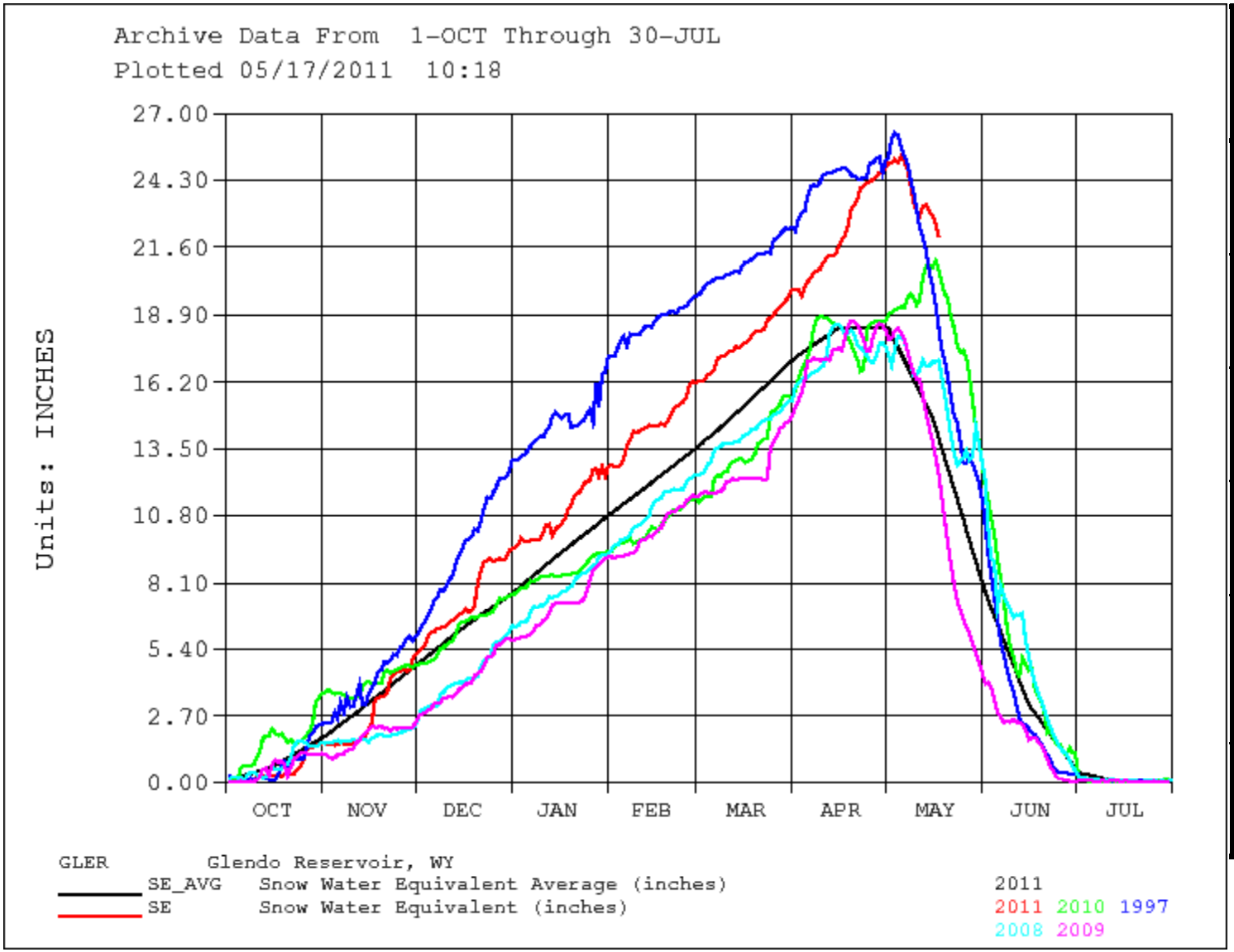
Snow pack	May 2	May 17
Upper North Platte	172 %	196 %
Lower North Platte	137 %	157 %

Basin abv Seminoe Reservoir SWE

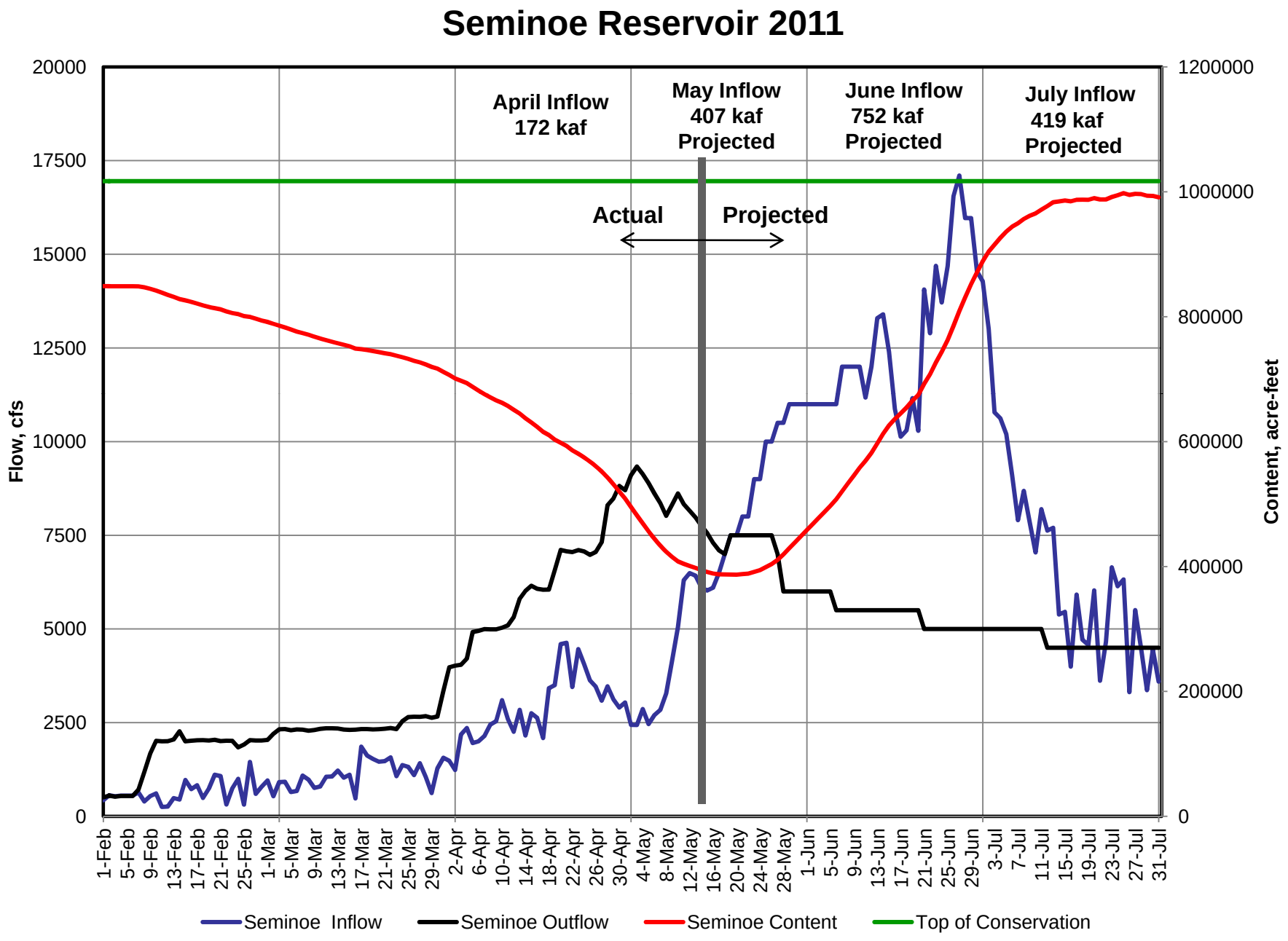


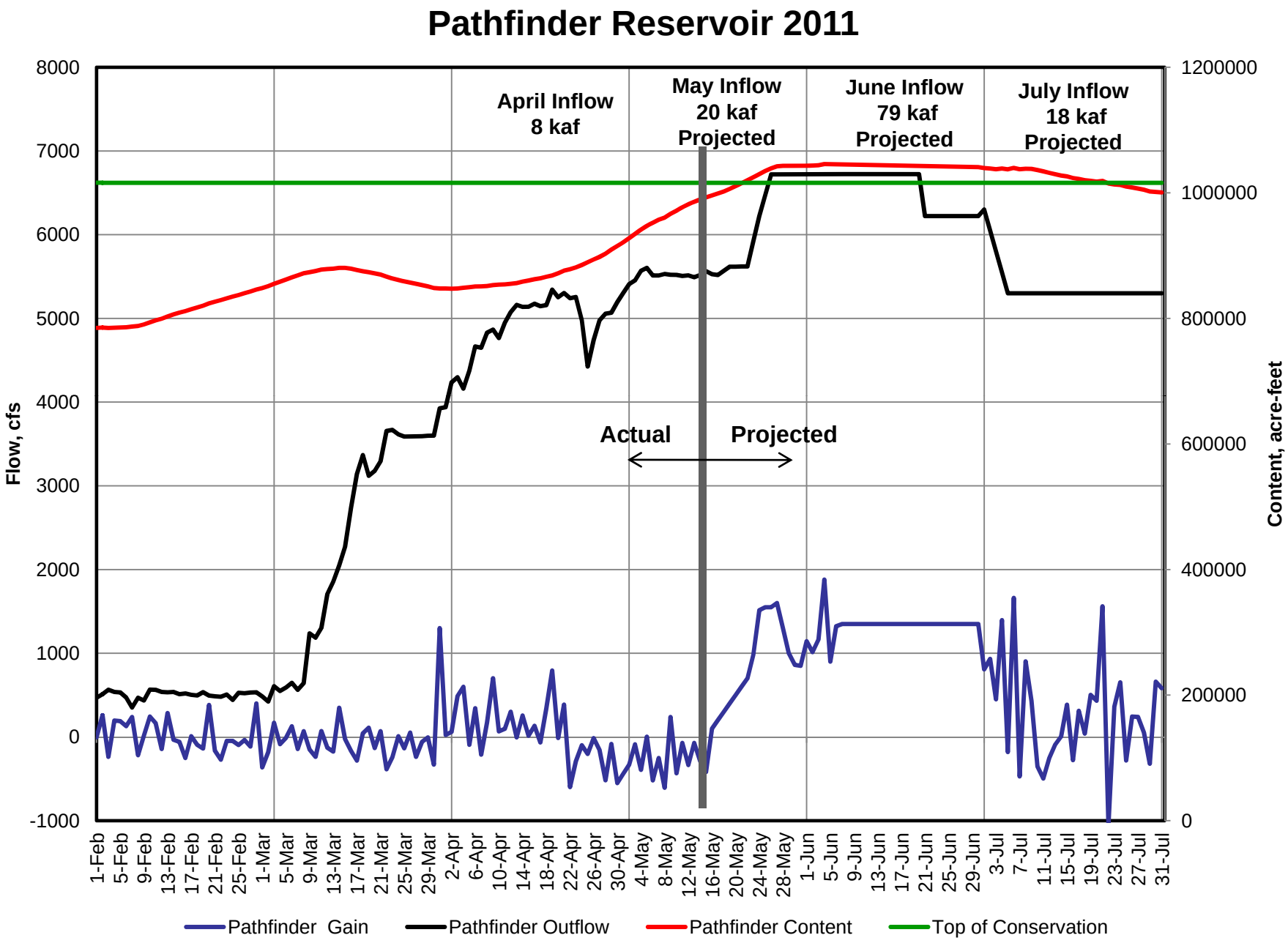
Water Year	April-July Inflow (kaf)
1983	1,529,500
1984	1,549,900
1986	1,215,800
2010	1,241,900
2011	Forecasted 1,750,000
Average 714,000	

Alcova to Glendo Reach Snow Water Equivalent

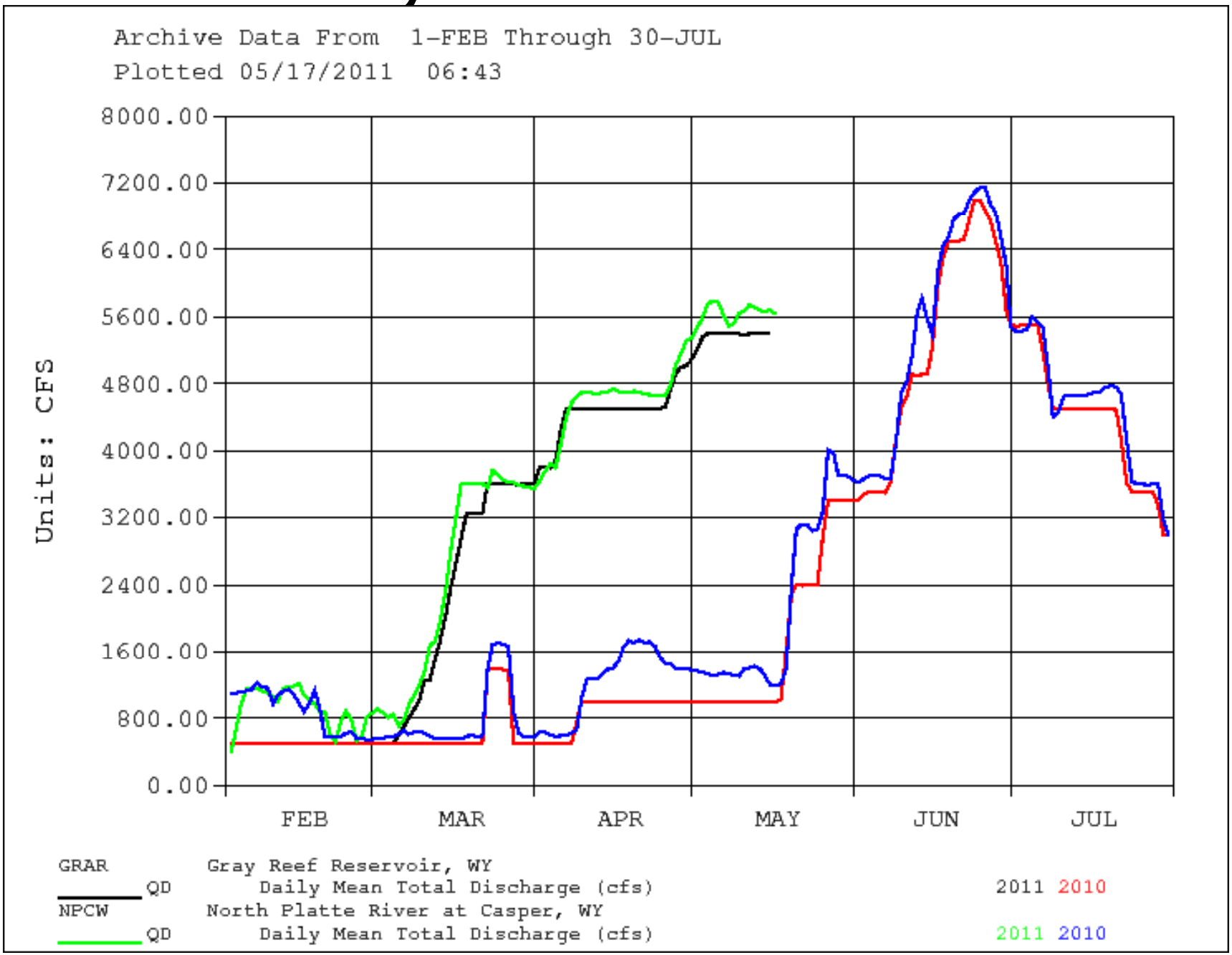


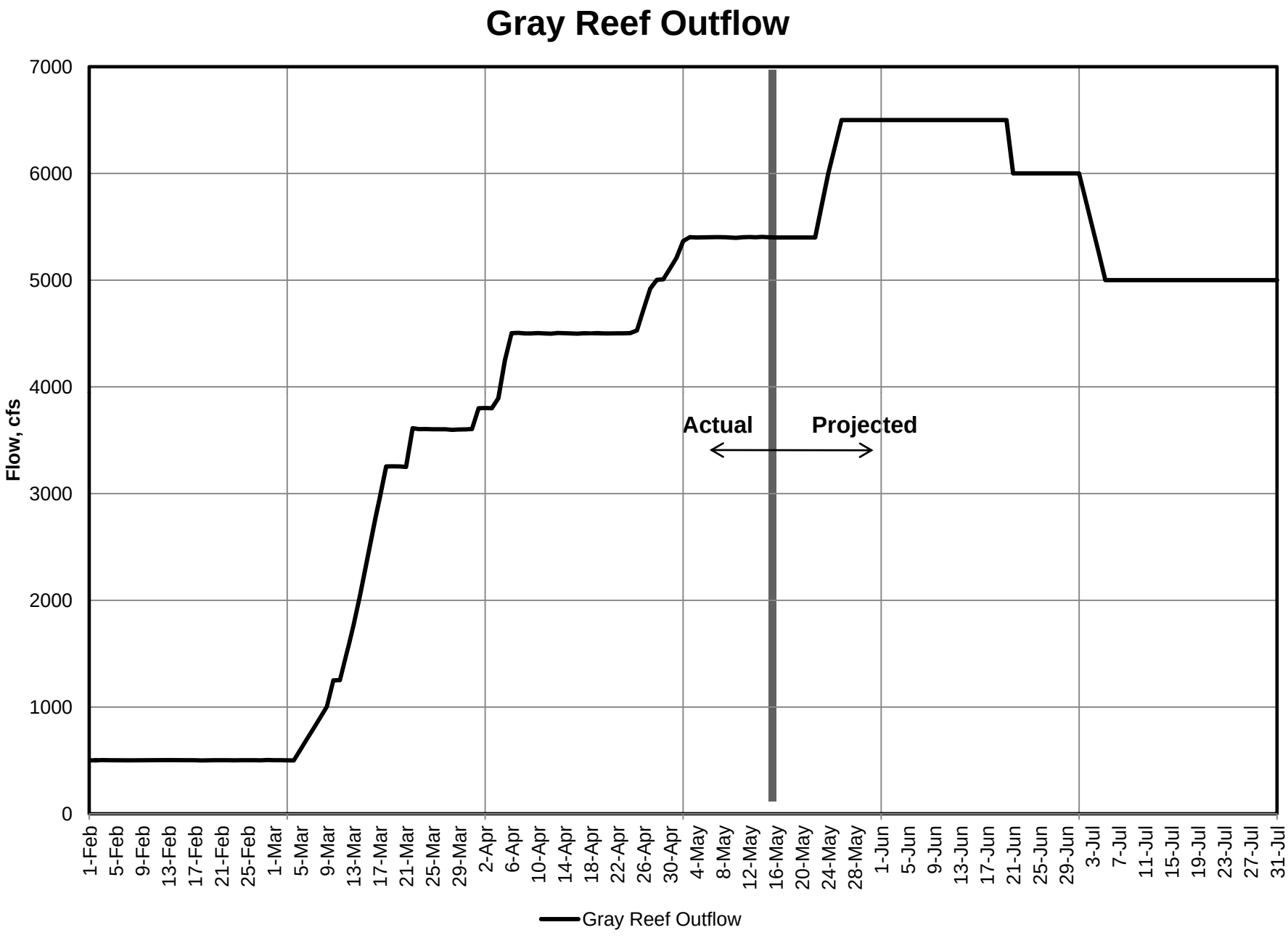
Water Year	April-July Inflow (acre-feet)
1997	237,000
2008	209,300
2009	160,600
2010	303,800
2011	Forecasted 220,000
Average 131,400	

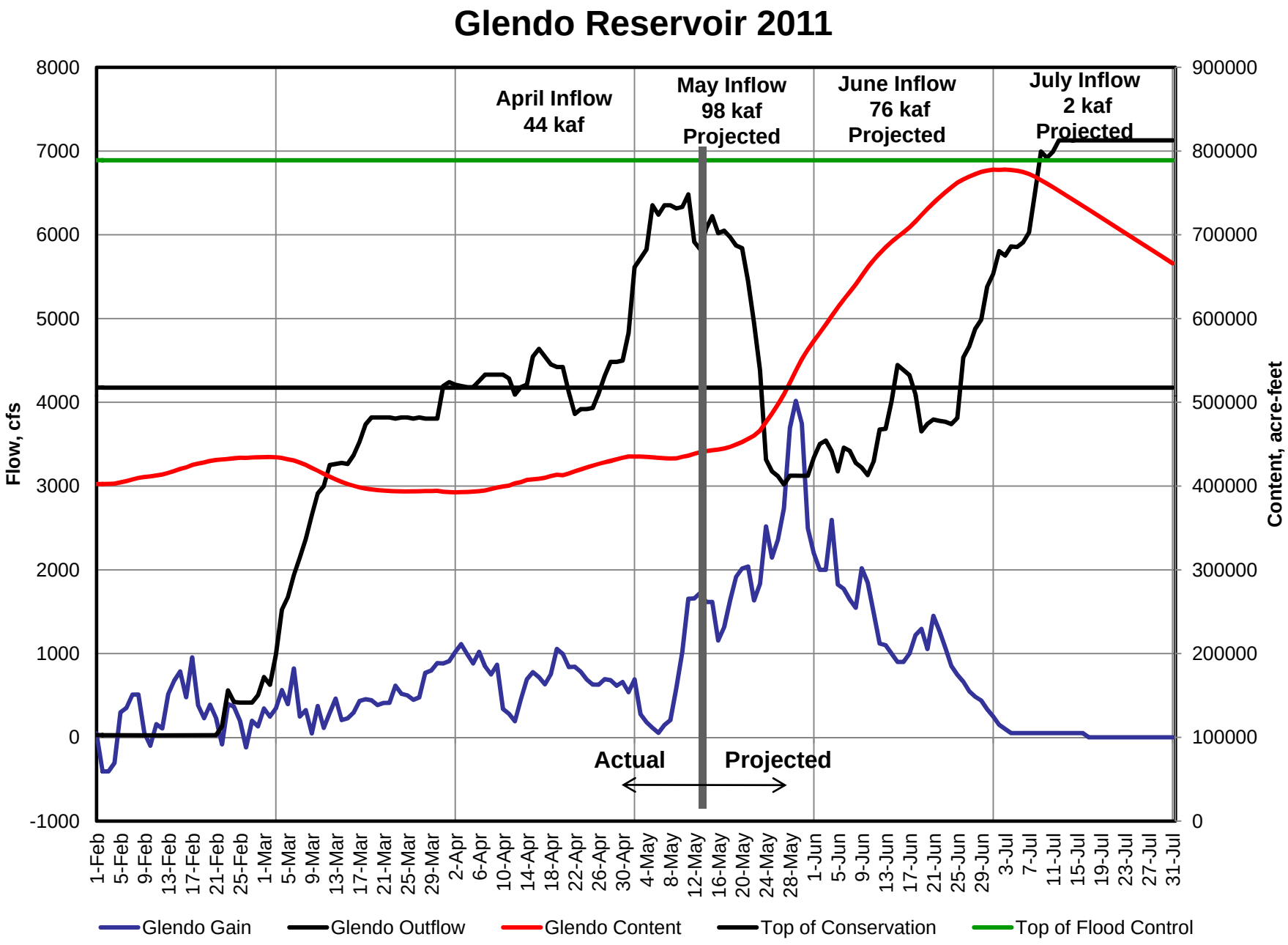

Seminoe Reservoir 2011
April Inflow
172 kaf
May Inflow
407 kaf
Projected
June Inflow
752 kaf
Projected
July Inflow
419 kaf
Projected
Actual
Projected
Flow, cfs
Content, acre-feet
20000
17500
15000
12500
10000
7500
5000
2500
0
1200000
1000000
800000
600000
400000
200000
0
1-Feb
5-Feb
9-Feb
13-Feb
17-Feb
21-Feb
25-Feb
1-Mar
5-Mar
9-Mar
13-Mar
17-Mar
21-Mar
25-Mar
29-Mar
2-Apr
6-Apr
10-Apr
14-Apr
18-Apr
22-Apr
26-Apr
30-Apr
4-May
8-May
12-May
16-May
20-May
24-May
28-May
1-Jun
5-Jun
9-Jun
13-Jun
17-Jun
21-Jun
25-Jun
29-Jun
3-Jul
7-Jul
11-Jul
15-Jul
19-Jul
23-Jul
27-Jul
31-Jul
Seminoe Inflow
Seminoe Outflow
Seminoe Content
Top of Conservation


Pathfinder Reservoir 2011
April Inflow
8 kaf
May Inflow
20 kaf
Projected
June Inflow
79 kaf
Projected
July Inflow
18 kaf
Projected
Actual
Projected
Flow, cfs
Content, acre-feet
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
1200000
1000000
800000
600000
400000
200000
0
1-Feb
5-Feb
9-Feb
13-Feb
17-Feb
21-Feb
25-Feb
1-Mar
5-Mar
9-Mar
13-Mar
17-Mar
21-Mar
25-Mar
29-Mar
2-Apr
6-Apr
10-Apr
14-Apr
18-Apr
22-Apr
26-Apr
30-Apr
4-May
8-May
12-May
16-May
20-May
24-May
28-May
1-Jun
5-Jun
9-Jun
13-Jun
17-Jun
21-Jun
25-Jun
29-Jun
3-Jul
7-Jul
11-Jul
15-Jul
19-Jul
23-Jul
27-Jul
31-Jul
Pathfinder Gain
Pathfinder Outflow
Pathfinder Content
Top of Conservation

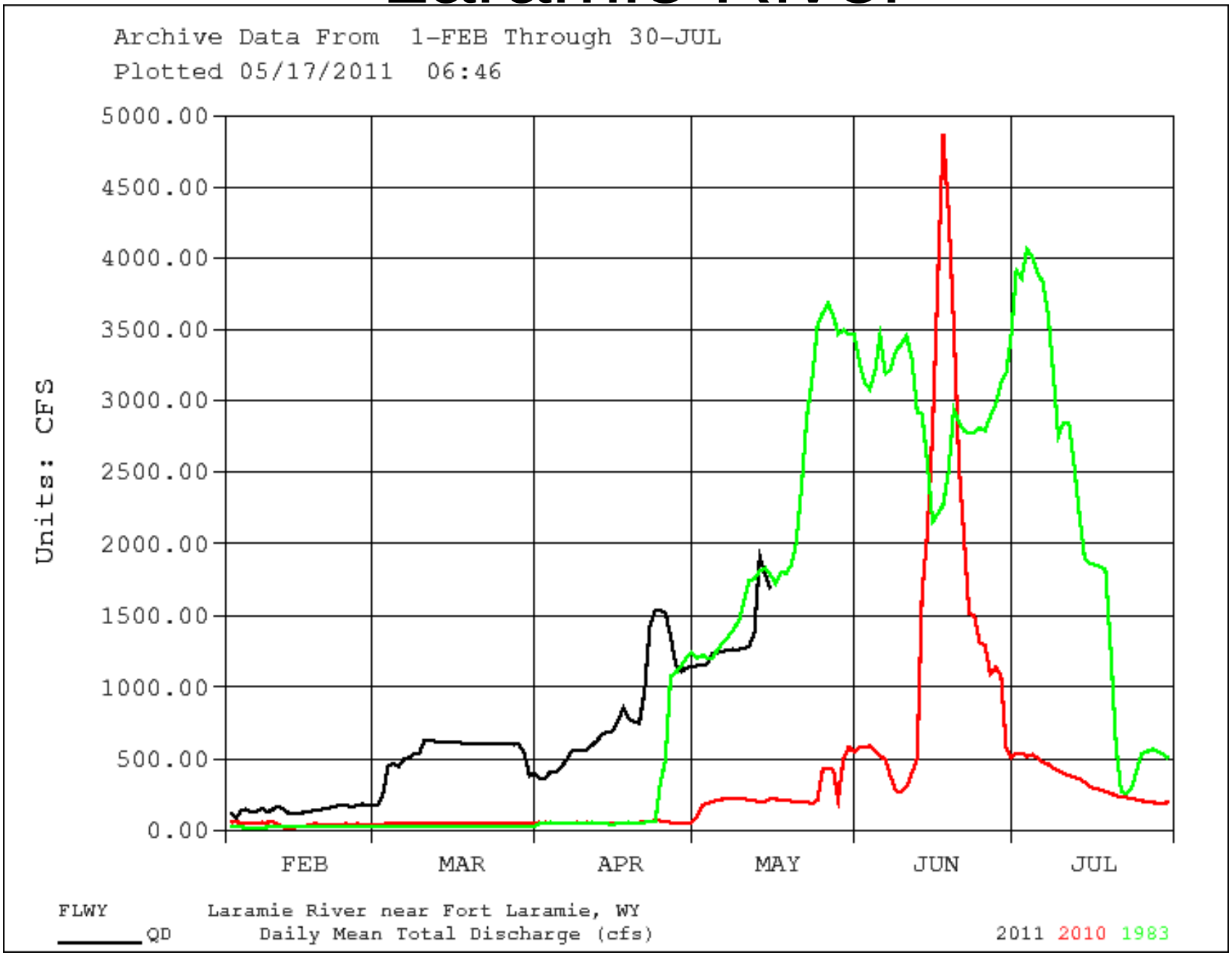
Gray Reef Outflow



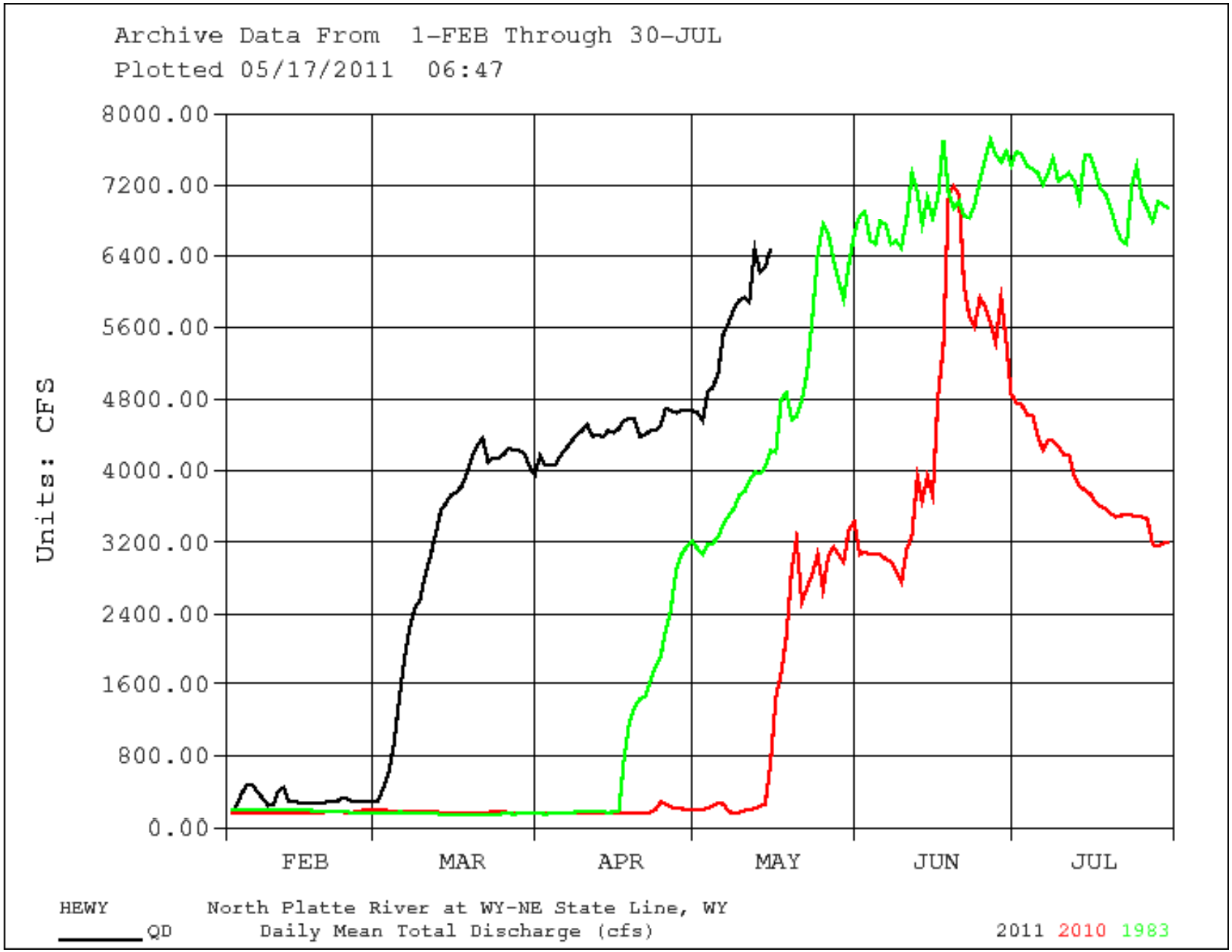

Gray Reef Outflow
Flow, cfs
7000
6000
5000
4000
3000
2000
1000
0
Actual
Projected
1-Feb
5-Feb
9-Feb
13-Feb
17-Feb
21-Feb
25-Feb
1-Mar
5-Mar
9-Mar
13-Mar
17-Mar
21-Mar
25-Mar
29-Mar
2-Apr
6-Apr
10-Apr
14-Apr
18-Apr
22-Apr
26-Apr
30-Apr
4-May
8-May
12-May
16-May
20-May
24-May
28-May
1-Jun
5-Jun
9-Jun
13-Jun
17-Jun
21-Jun
25-Jun
29-Jun
3-Jul
7-Jul
11-Jul
15-Jul
19-Jul
23-Jul
27-Jul
31-Jul
Gray Reef Outflow


Glendo Reservoir 2011
April Inflow
44 kaf
May Inflow
98 kaf
Projected
June Inflow
76 kaf
Projected
July Inflow
2 kaf
Projected
Actual
Projected
Flow, cfs
Content, acre-feet
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
1-Feb
5-Feb
9-Feb
13-Feb
17-Feb
21-Feb
25-Feb
1-Mar
5-Mar
9-Mar
13-Mar
17-Mar
21-Mar
25-Mar
29-Mar
2-Apr
6-Apr
10-Apr
14-Apr
18-Apr
22-Apr
26-Apr
30-Apr
4-May
8-May
12-May
16-May
20-May
24-May
28-May
1-Jun
5-Jun
9-Jun
13-Jun
17-Jun
21-Jun
25-Jun
29-Jun
3-Jul
7-Jul
11-Jul
15-Jul
19-Jul
23-Jul
27-Jul
31-Jul
Glendo Gain
Glendo Outflow
Glendo Content
Top of Conservation
Top of Flood Control

Laramie River



WY - NE State Line



Maximum North Platte System Storage

2010 v. 2011 Projected

Values in Acre-Feet

Reservoir	June 28, 2010	July 9, 2011
Seminoe	1,003,145	962,005
Kortes	5,111	5,243
Pathfinder	1,057,417	1,039,608
Alcova	179,888	180,987
Gray Reef	1,742	1,753
Glendo	716,625	783,681
Guernsey	28,142	29,084
Total Storage	2,992,070	3,002,361

Total System Conservation Capacity 2,787,800 acre-feet

Bighorn Basin Estimated April-July Runoff

The May 1, 2011, water supply forecast indicates above average April - July runoff can be expected at all forecast points in the basin.

(1000 acre-feet)

Forecast Points	May 1, 2011 Forecast of April-July Runoff [3]			30 Yr. April-July Runoff Avg. [2]	Expected % of Avg.	Comparative Actual April - July Runoff			
	Reasonable Minimum[1]	Expected	Reasonable Maximum[1]			W. Yr. 2010	W. Yr. 2009	W. Yr. 2008	W. Yr. 2007
Bull Lake Reservoir	130	160	190	139.5	115	151	159	135	102
Wind River above Bull Lake Creek	480	580	680	401.6	144	408	546	412	199
Boysen Reservoir	600	800	1000	555.9	144	861	803	522	211
Buffalo Bill Reservoir	870	970	1120	660.9	147	674	954	955	427

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

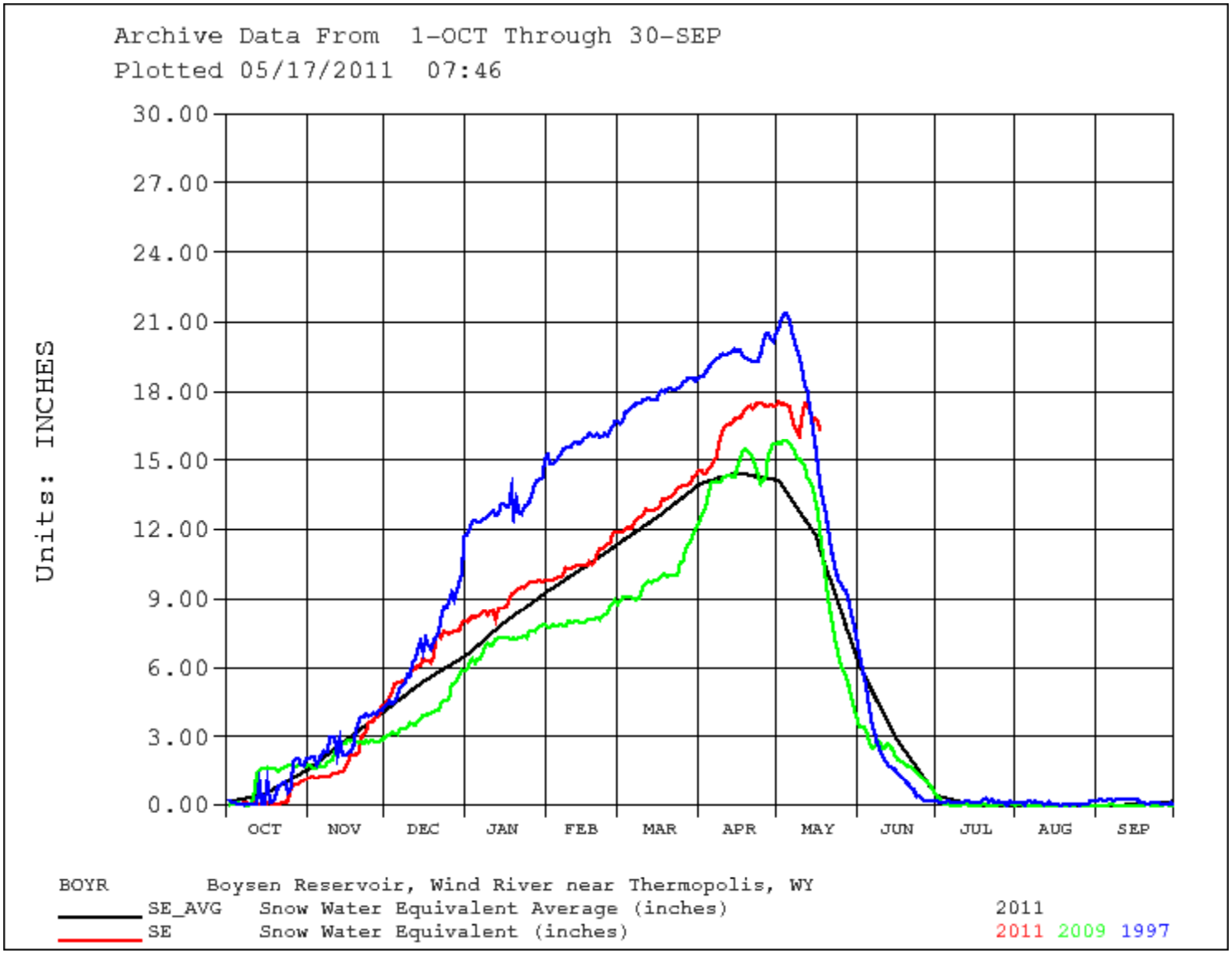
[2] Average is based on the 1981-2010 period.

[3] Actual inflows are as follows:

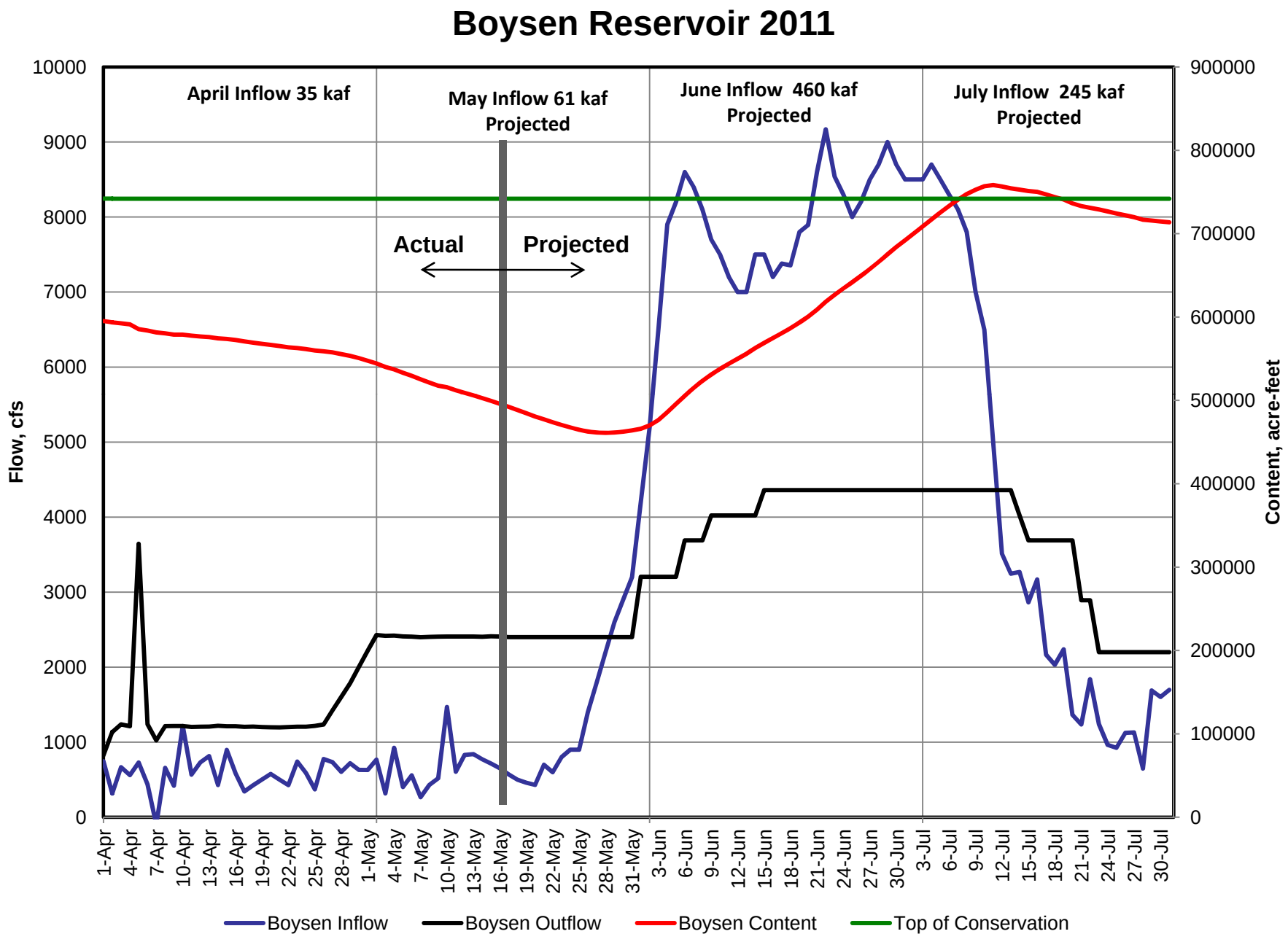
	April (kaf)	May (kaf)
Bull Lake	2.3	
Wind River above Bull Lake Creek	16.9	
Boysen	34.9	
Buffalo Bill	20.3	

Snow pack	May 2	May 16
Boysen Watershed	125 %	145 %
Buffalo Bill Watershed	137 %	145 %

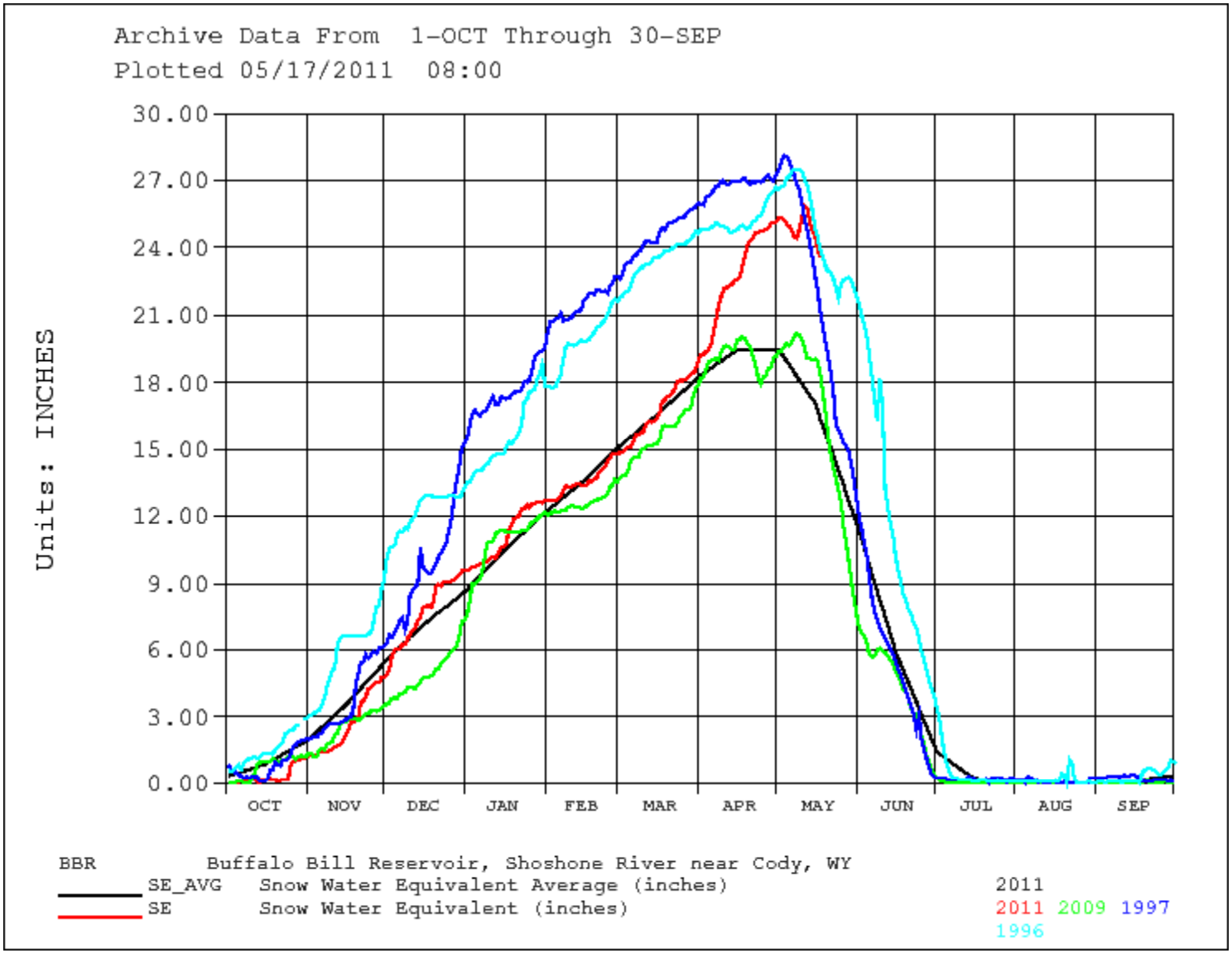
Basin above Boysen Reservoir Snow Water Equivalent



Water Year	April-July Inflow (acre-feet)
1997	937,200
2009	803,000
2011	Forecast 800,000
Average 555,900	

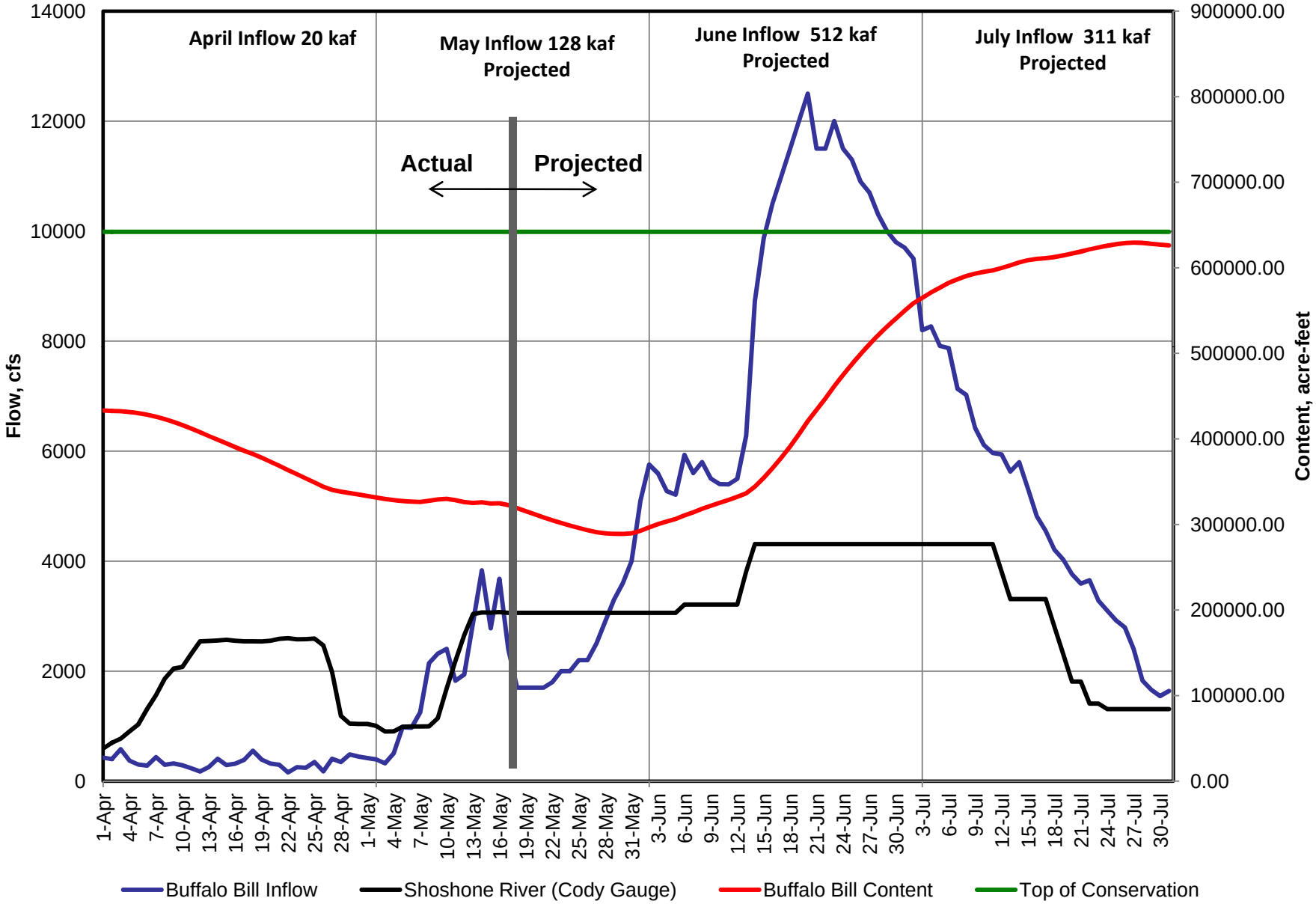

Boysen Reservoir 2011
April Inflow 35 kaf
May Inflow 61 kaf
Projected
June Inflow 460 kaf
Projected
July Inflow 245 kaf
Projected
Actual
Projected
Flow, cfs
Content, acre-feet
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
1-Apr
4-Apr
7-Apr
10-Apr
13-Apr
16-Apr
19-Apr
22-Apr
25-Apr
28-Apr
1-May
4-May
7-May
10-May
13-May
16-May
19-May
22-May
25-May
28-May
31-May
3-Jun
6-Jun
9-Jun
12-Jun
15-Jun
18-Jun
21-Jun
24-Jun
27-Jun
30-Jun
3-Jul
6-Jul
9-Jul
12-Jul
15-Jul
18-Jul
21-Jul
24-Jul
27-Jul
30-Jul
Boysen Inflow
Boysen Outflow
Boysen Content
Top of Conservation

Basin above Buffalo Bill Reservoir
Snow Water Equivalent



Water Year	April-July Inflow (acre-feet)
1996	1,114,100
1997	1,136,000
2009	954,200
2011	Forecast 970,000
Average = 660,900	

Buffalo Bill Reservoir 2011



Pathfinder Spill – June 19, 2010