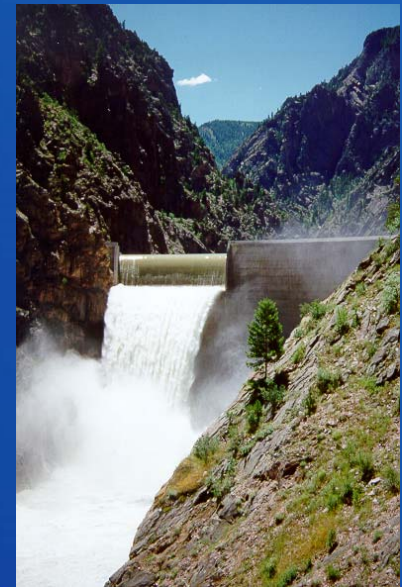
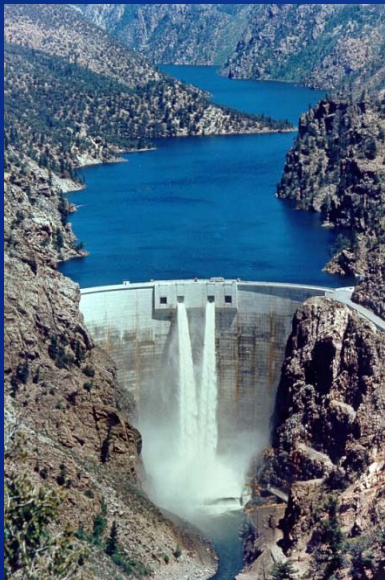


Aspinall Operations Meeting

August 16, 2018

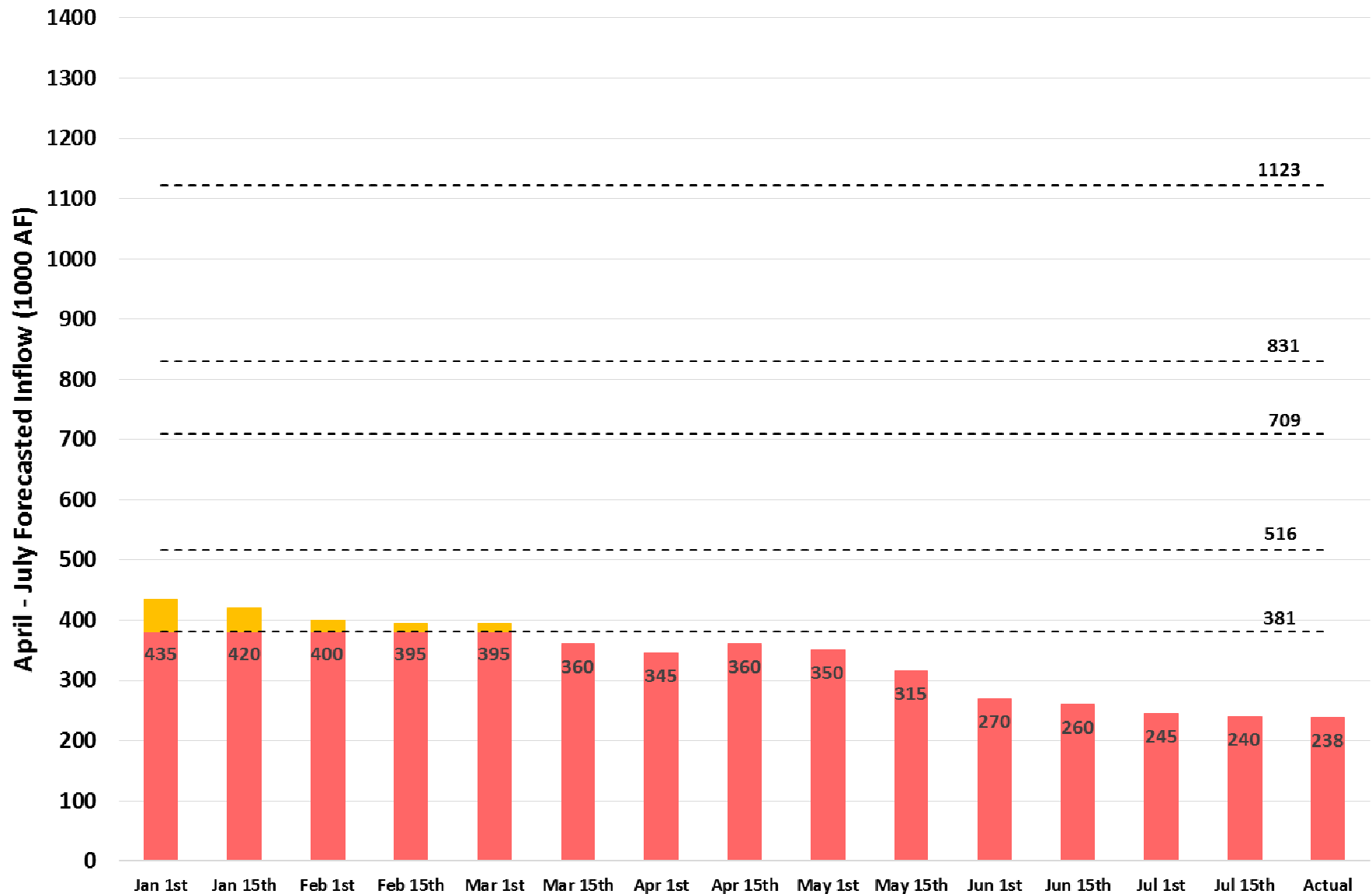


RECLAMATION

FORECASTS AND ACTUAL RUNOFF

RECLAMATION

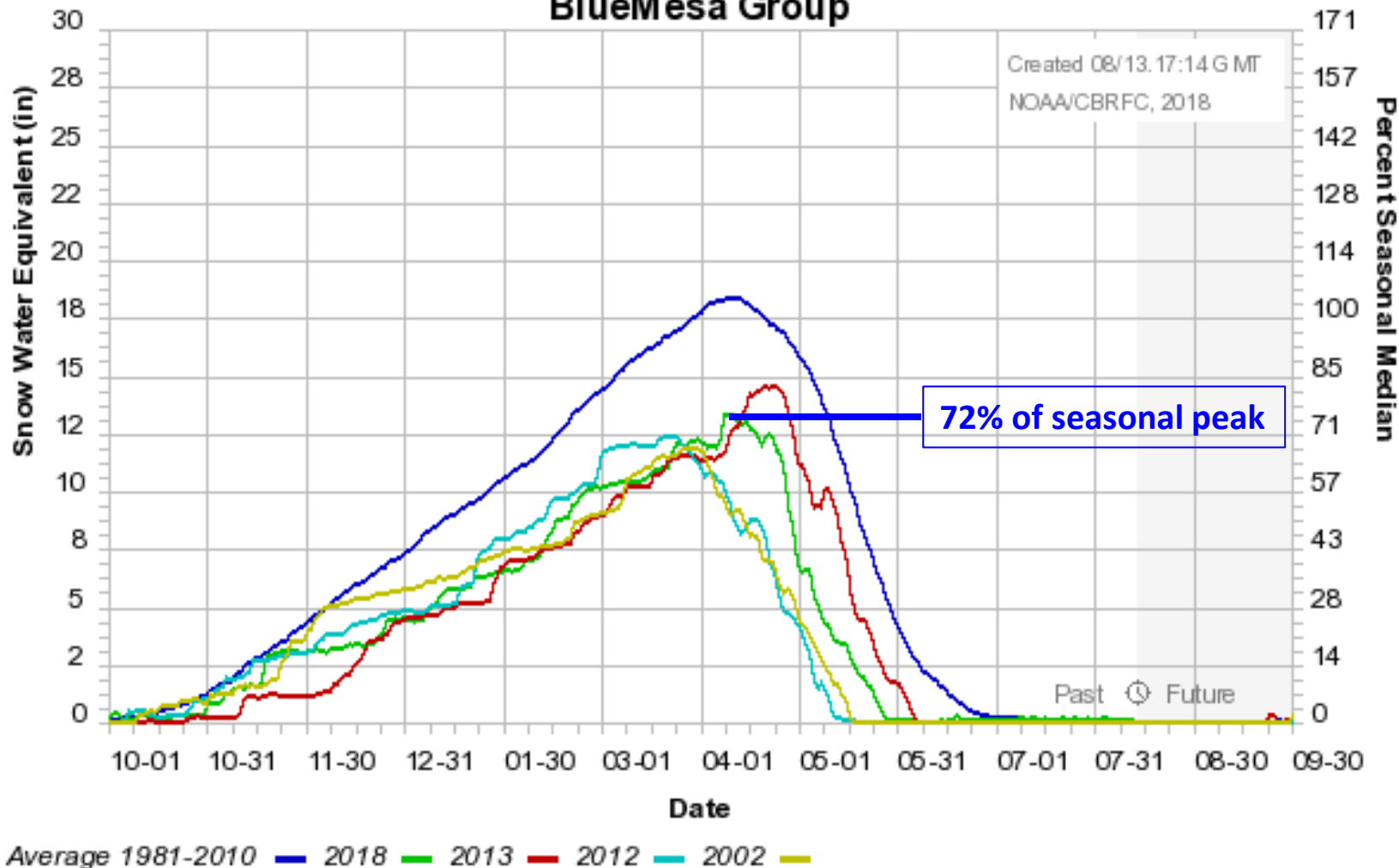
Aspinall Unit Forecasted Unregulated Inflow



RECLAMATION

2002: Peak Snow = 65% avg | 157 KAF (4/1 forecast 310 KAF)
2012: Peak Snow = 67% avg | 206 KAF (4/1 forecast 330 KAF)
2018: Peak Snow = 72% avg | 238 KAF (4/1 forecast 345 KAF)

Colorado Basin River Forecast Center BlueMesa Group



Blue Mesa
April 1st
Forecast

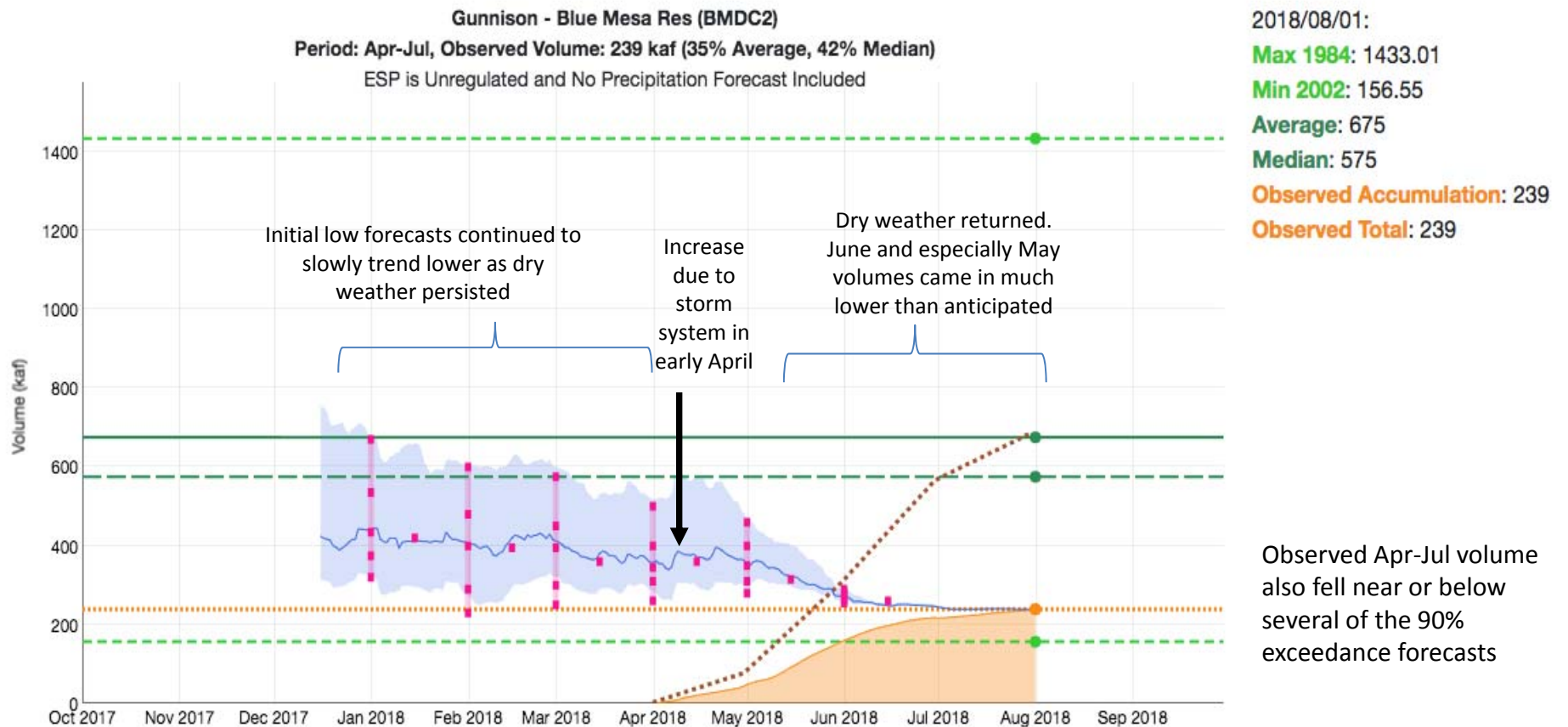
50%: 345 KAF
70%: 310 KAF
90%: 260 KAF

Observed
238 KAF

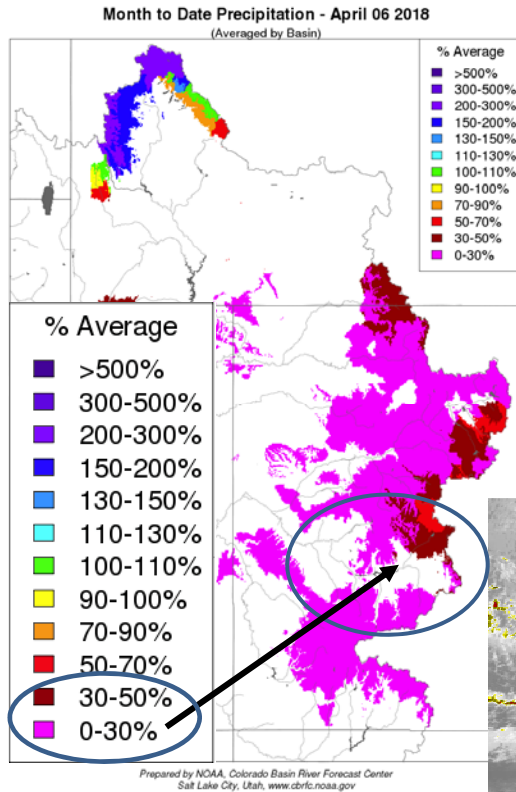
RECLAMATION

Breaking down the Forecast: Seasonal Forecast Progression for Blue Mesa Reservoir Inflow

Water Supply Forecast



RECLAMATION

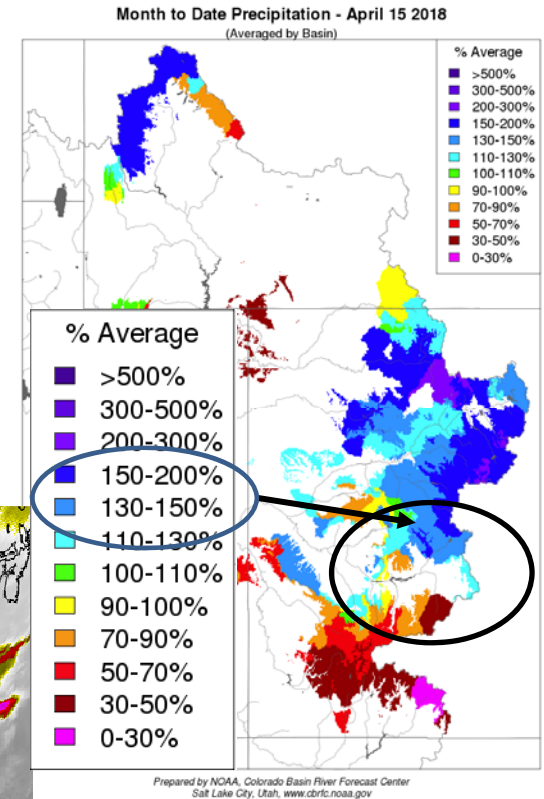
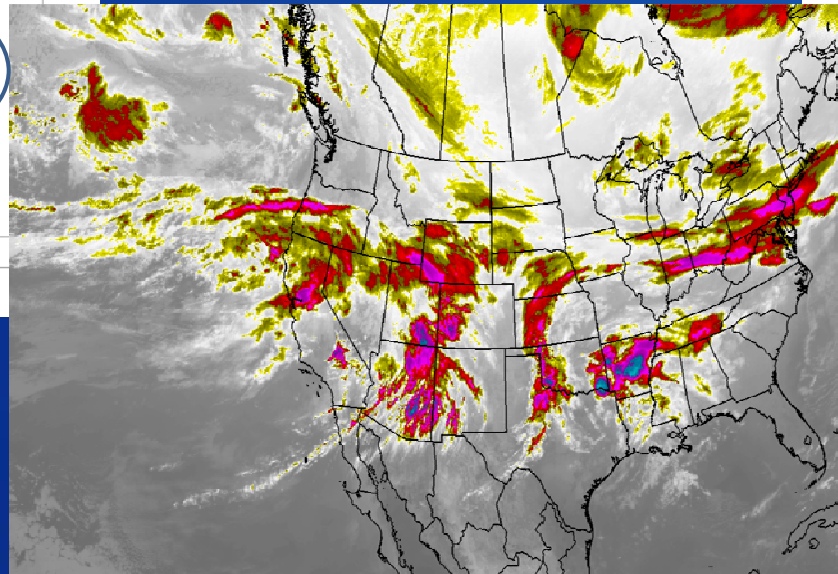


Very dry through the first 6 days of April

A good early April storm resulted in increased forecasts in mid April.

Another storm system was advertised by weather models that suggested April could end up wetter than normal over southwest Colorado.

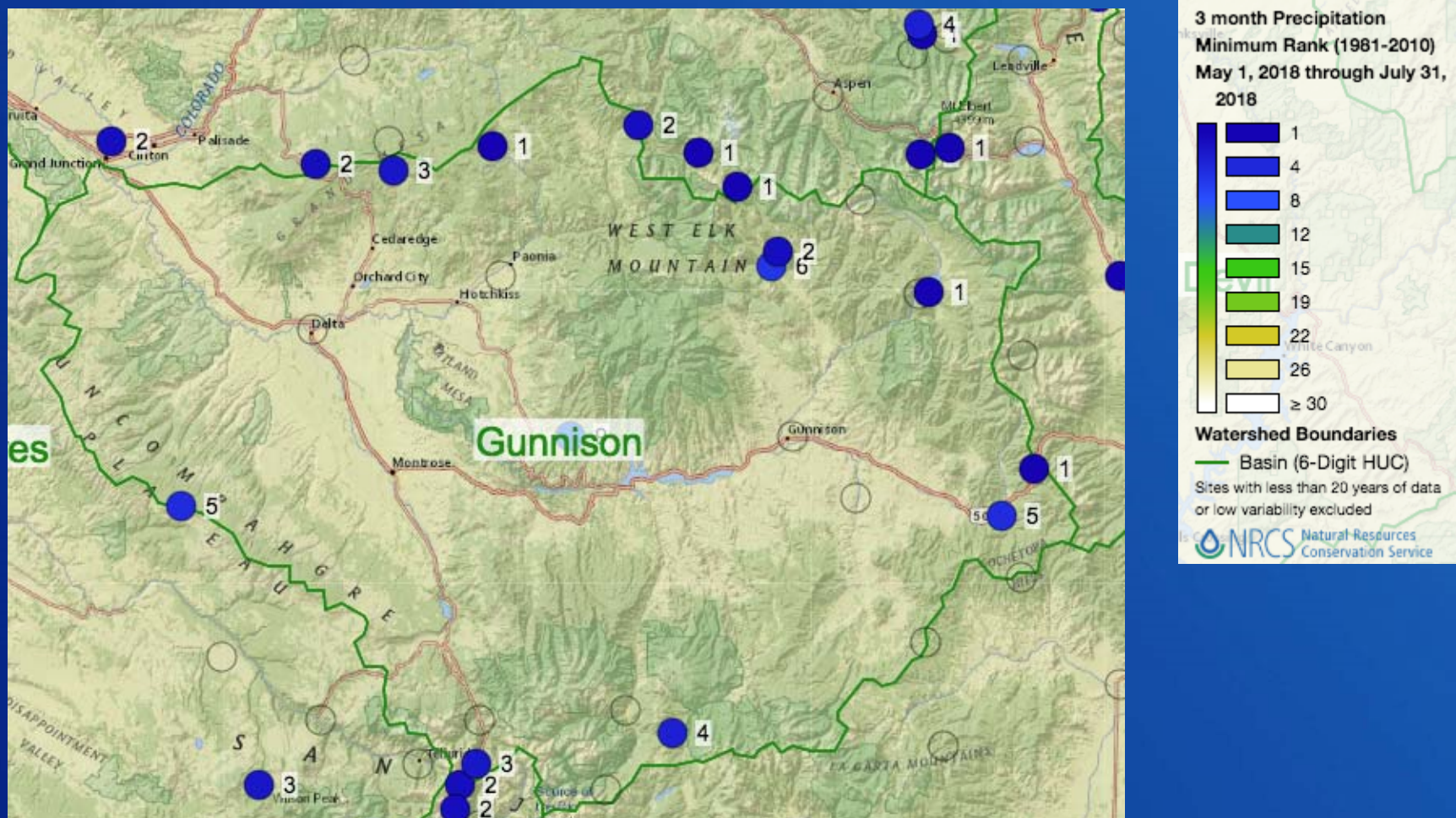
That system did not materialize and April ended up near to below average for precipitation.



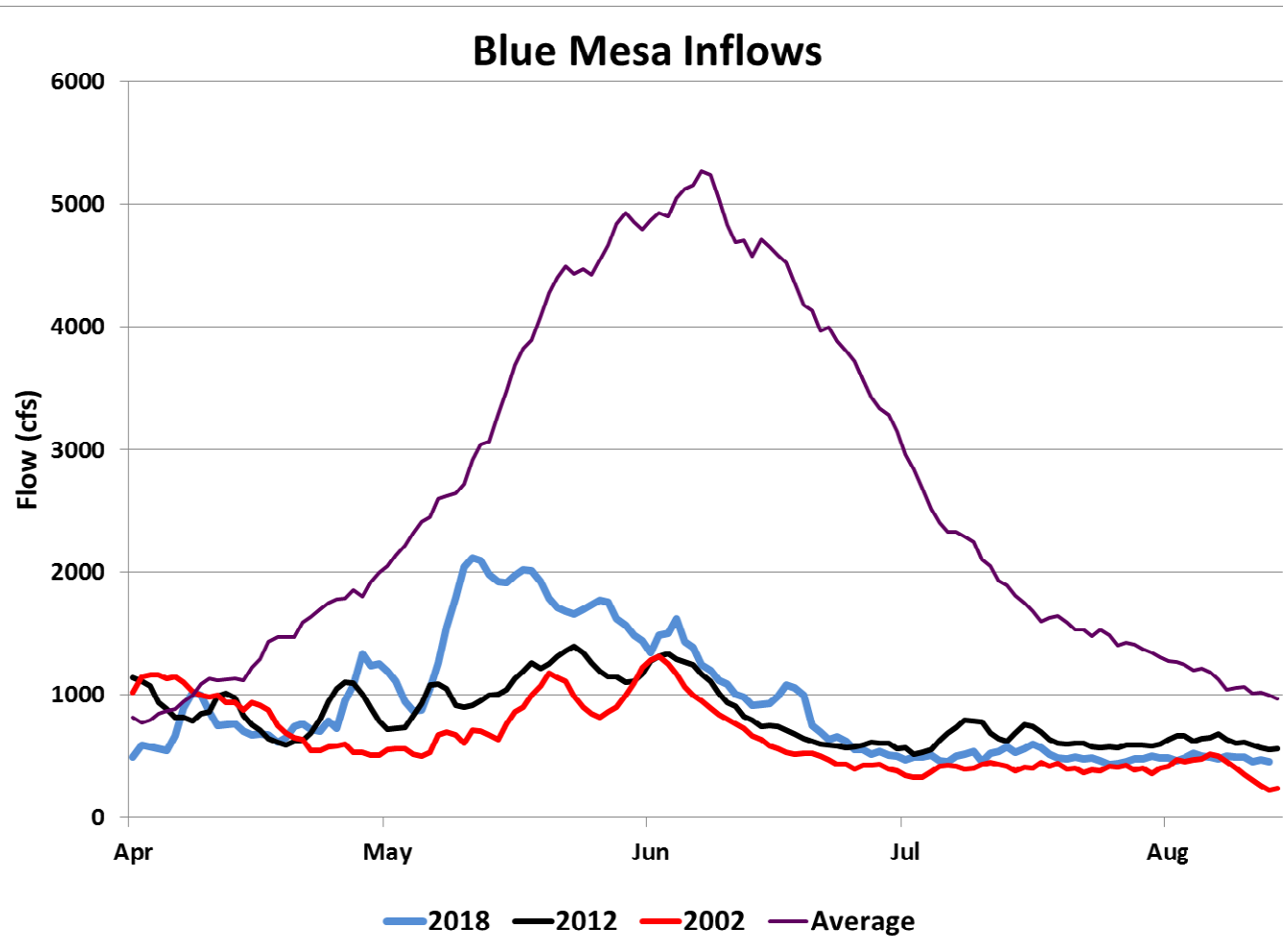
By mid April precipitation was running above average. Then things dried out again

RECLAMATION

May – July precipitation for several sites were the lowest on record. The model does not have this type of scenario therefore it is not unreasonable that resulting observed streamflow volumes would fall below the 90% exceedance forecasts



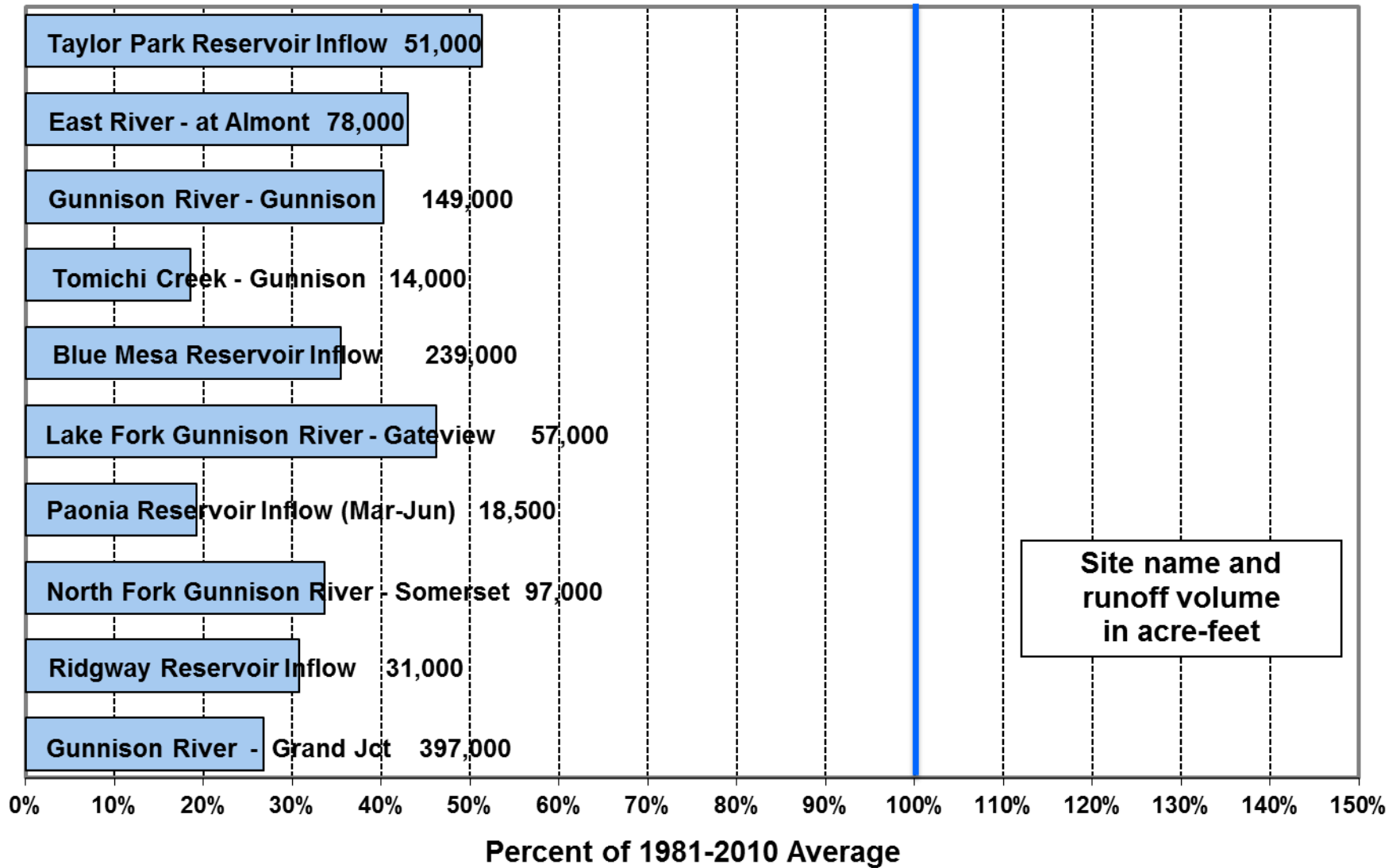
RECLAMATION



	APR	MAY	JUNE	JULY	RUNOFF
2018	59%	50%	23%	25%	34%
2012	65%	33%	20%	32%	34%
2002	63%	25%	17%	20%	26%

RECLAMATION

Actual April-July Runoff



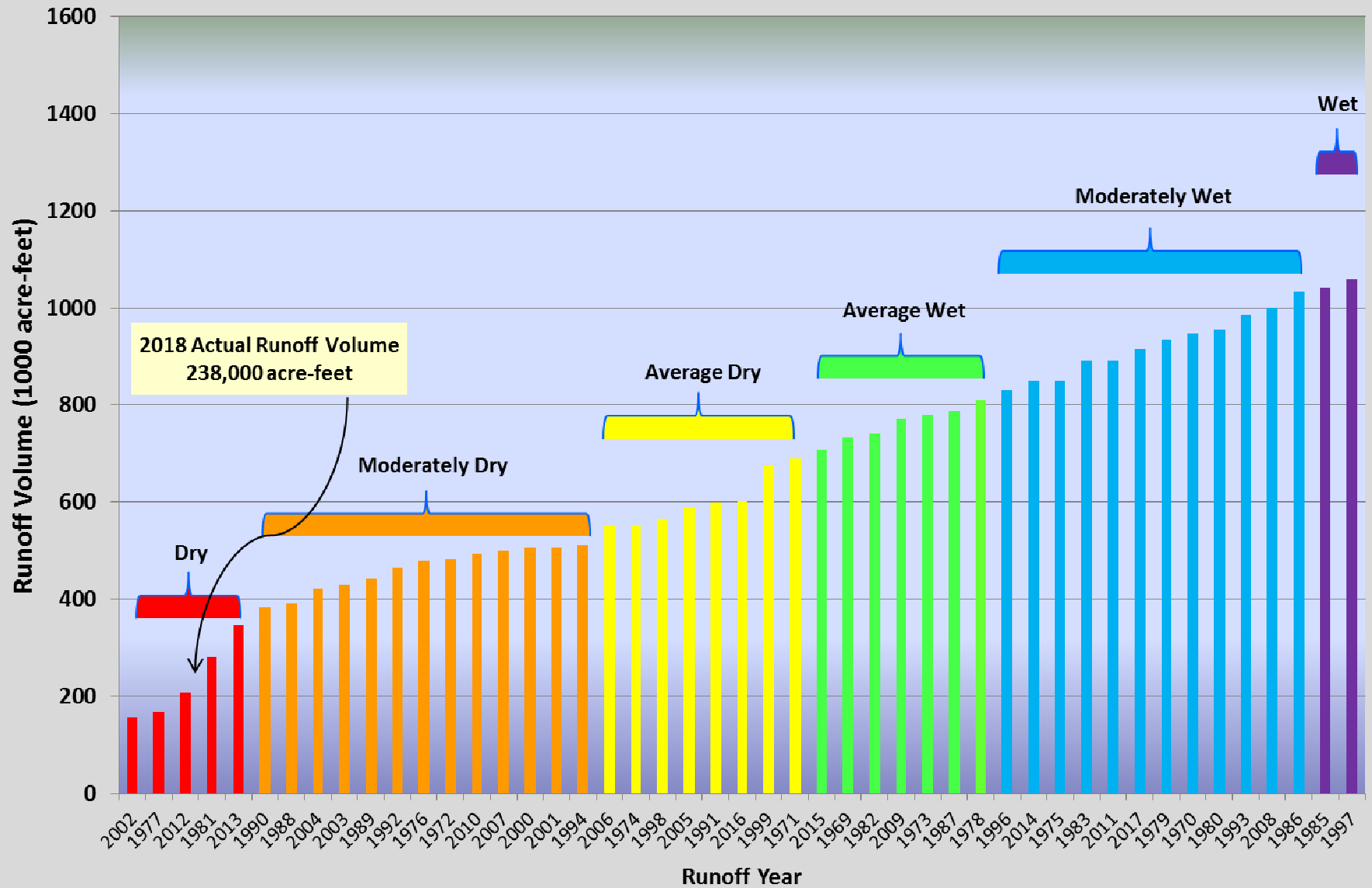
RECLAMATION

BLACK CANYON PEAK AND LOWER GUNNISON RIVER TARGETS

RECLAMATION

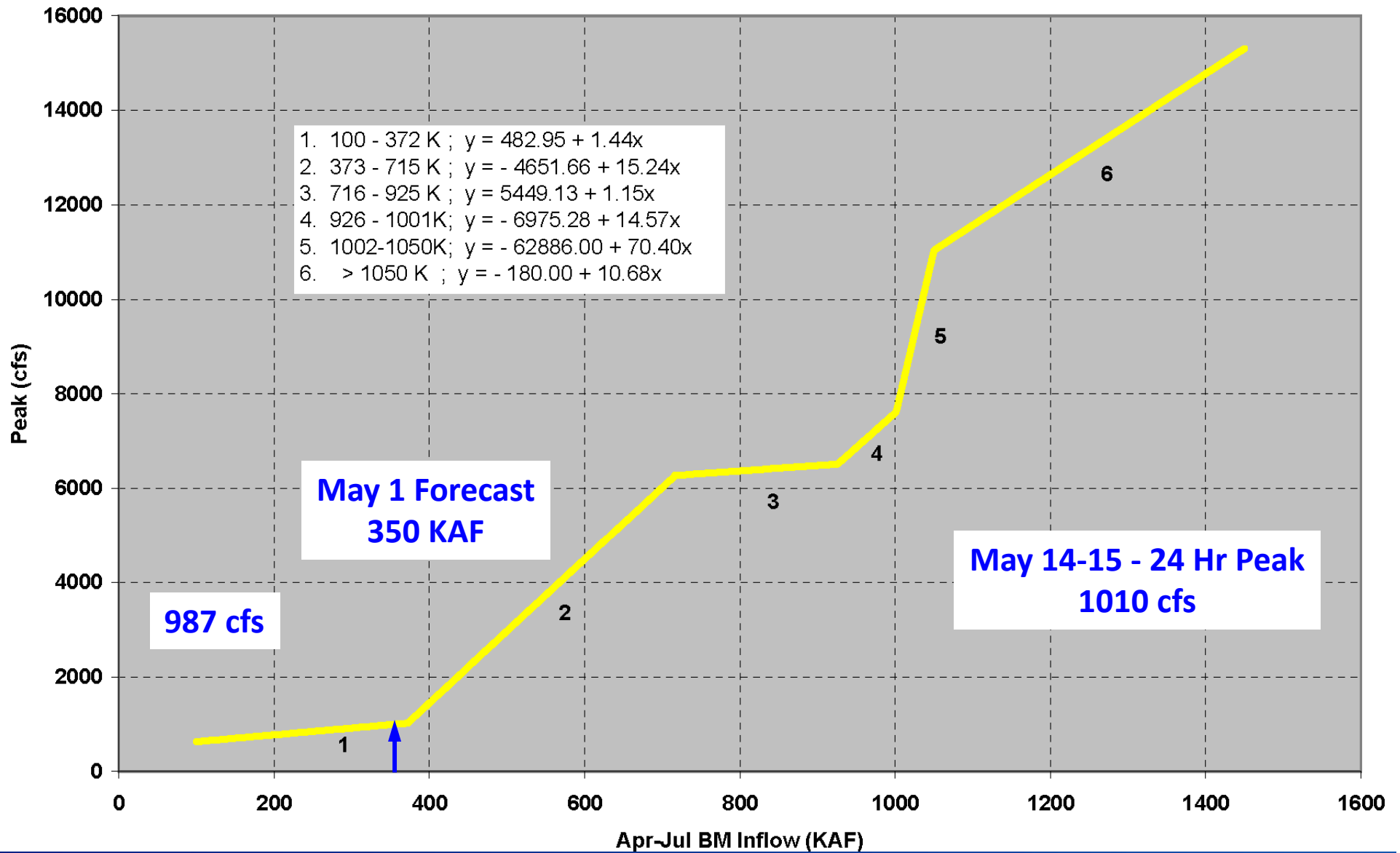
Blue Mesa Reservoir

Historic Apr-July Unregulated Inflow Volume Ranking (1969-2017)



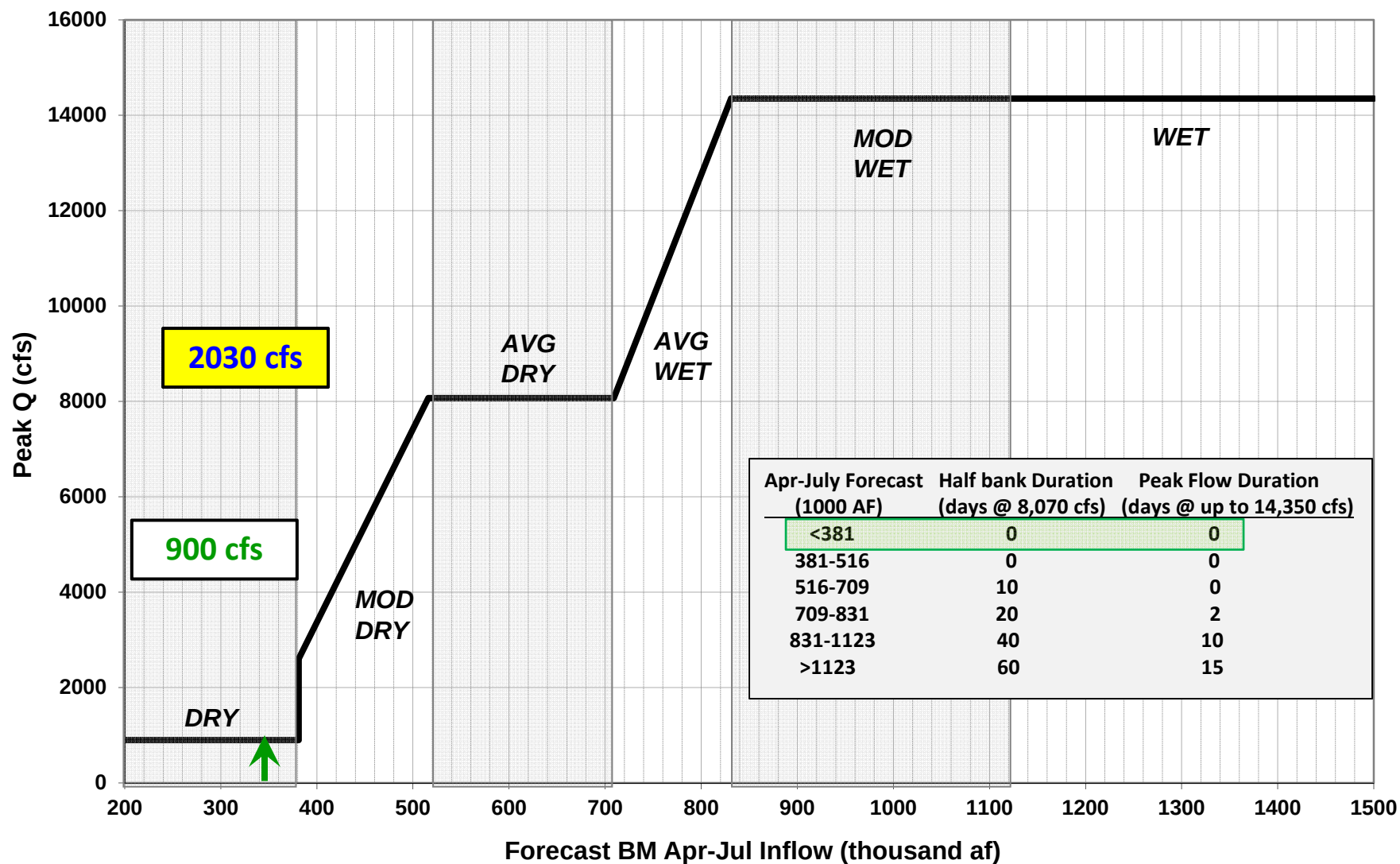
RECLAMATION

Black Canyon Peak Flow Determination based on Blue Mesa May 1 forecast



RECLAMATION

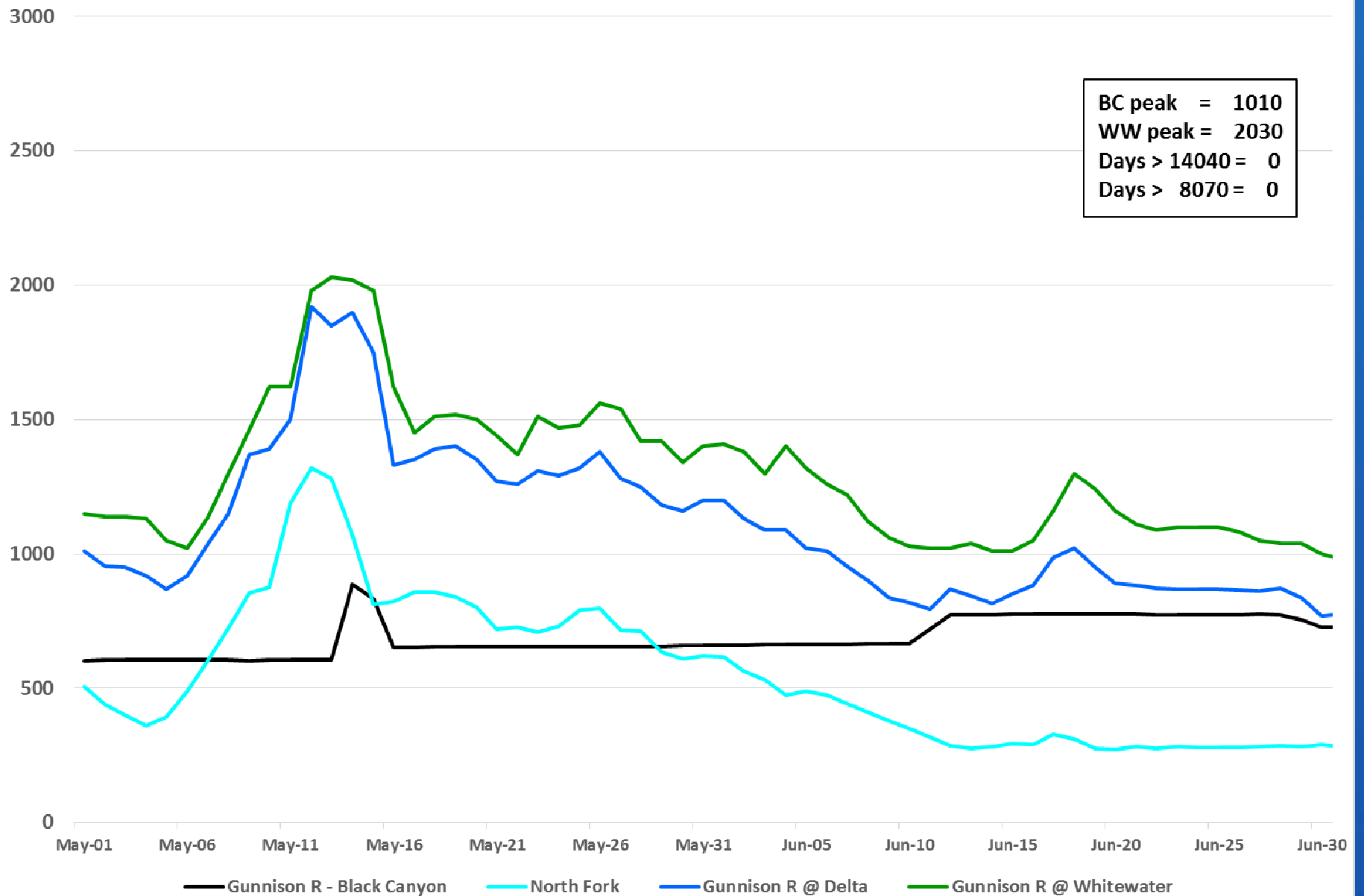
Peak Flow and Duration Day Targets at Whitewater



RECLAMATION

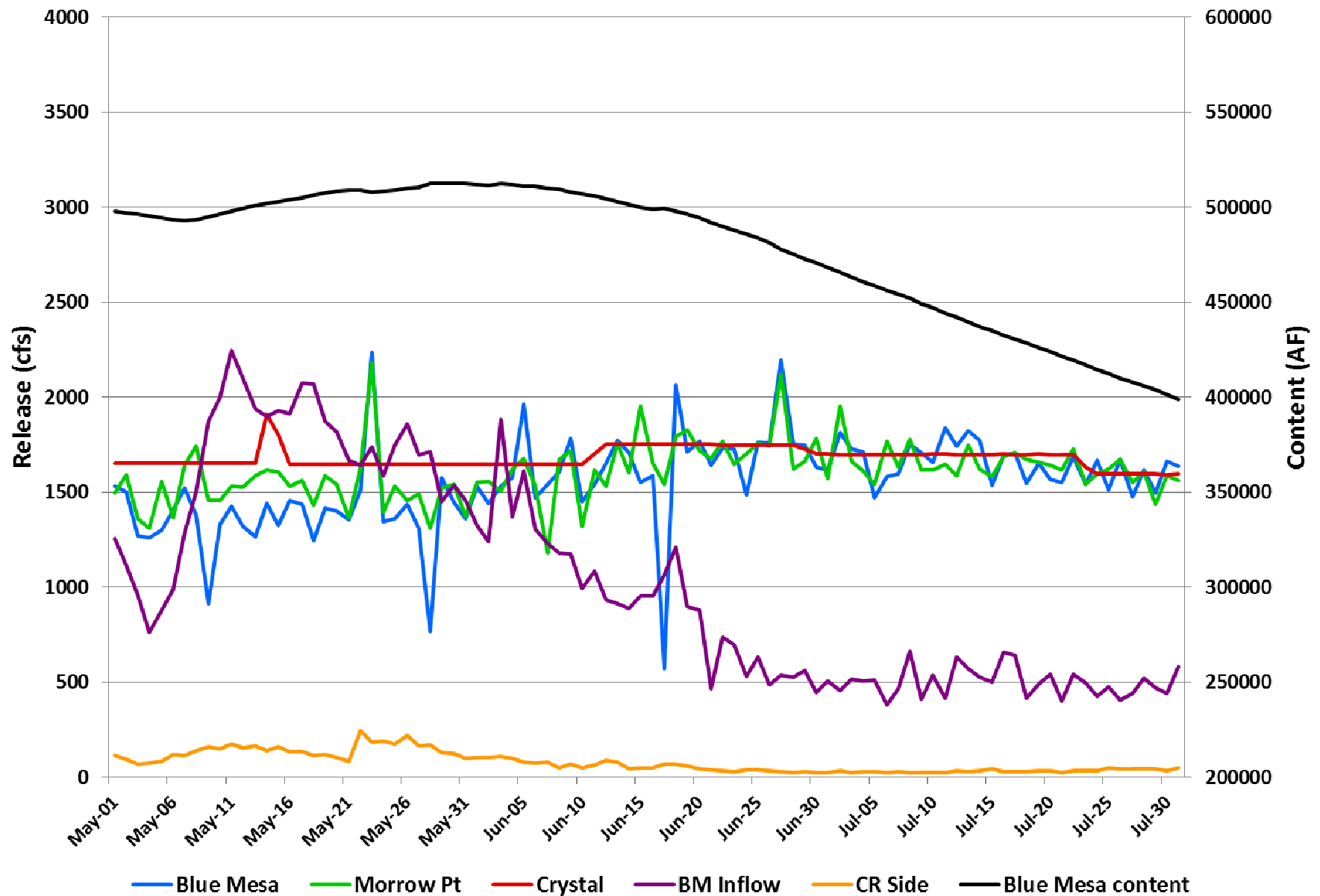
Gunnison River Flows

BC peak = 1010
WW peak = 2030
Days > 14040 = 0
Days > 8070 = 0



RECLAMATION

Aspinall Unit Operations

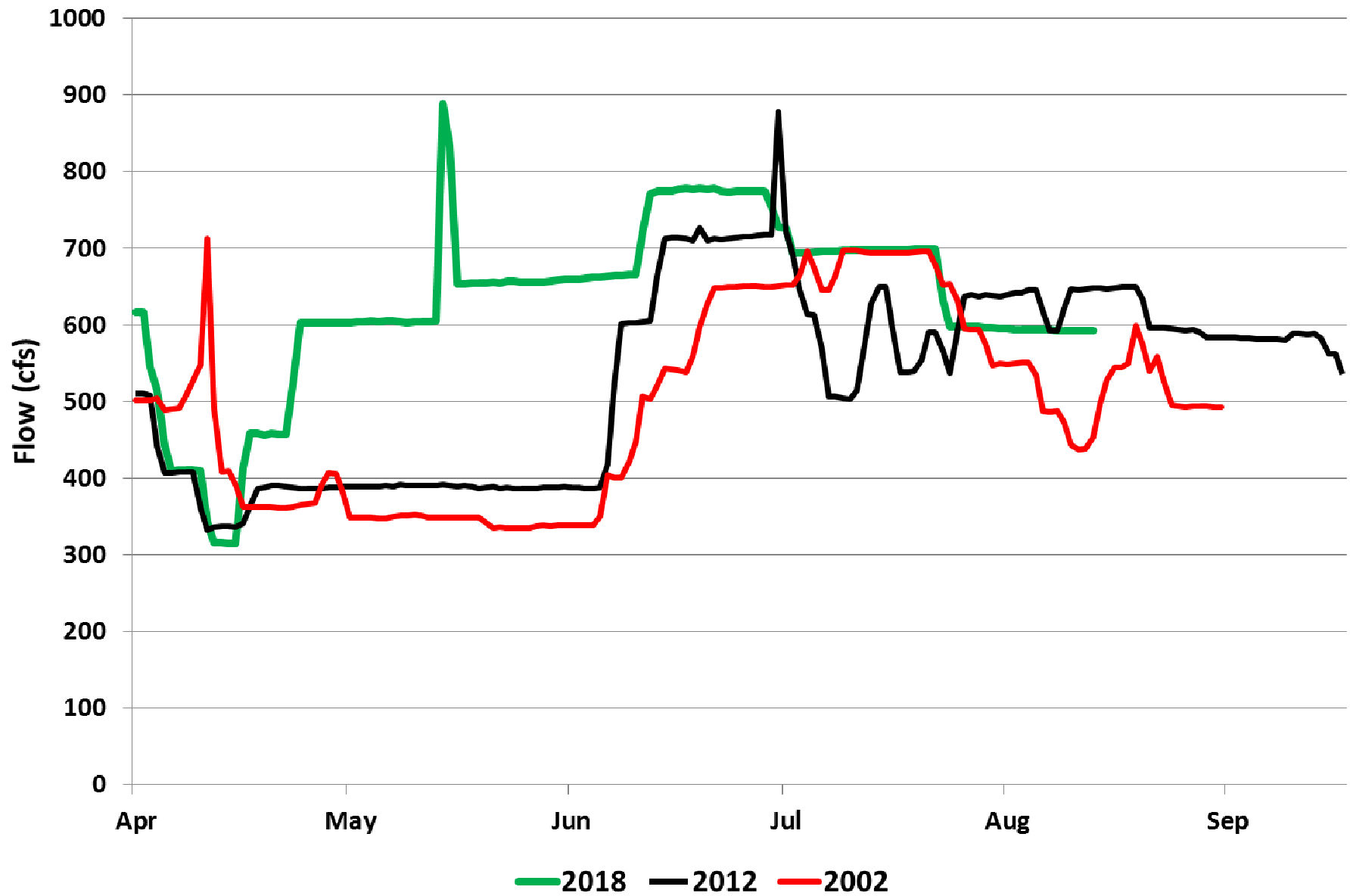


RECLAMATION

SUMMER/FALL OPERATIONS

RECLAMATION

Black Canyon Flows



RECLAMATION

Baseflow Targets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wet	1050	1050	1050	1050	1050	1500	1500	1500	1050	1050	1050	1050
Mod Wet	1050	1050	1050	1050	1050	1500	1500	1500	1050	1050	1050	1050
Avg Wet	1050	1050	1050	1050	1050	1500	1500	1050	1050	1050	1050	1050
Avg Dry	1050	1050	1050	1050	1050	1500	1500	1050	1050	1050	1050	1050
Mod Dry*	750	750	750/790	750/890	750/890	1050	1050	1050	750/890	750/790	750/790	750
Dry*	750	750	750/790	750/890	750/890	1050	1050	750/890	750/890	750/790	750/790	750

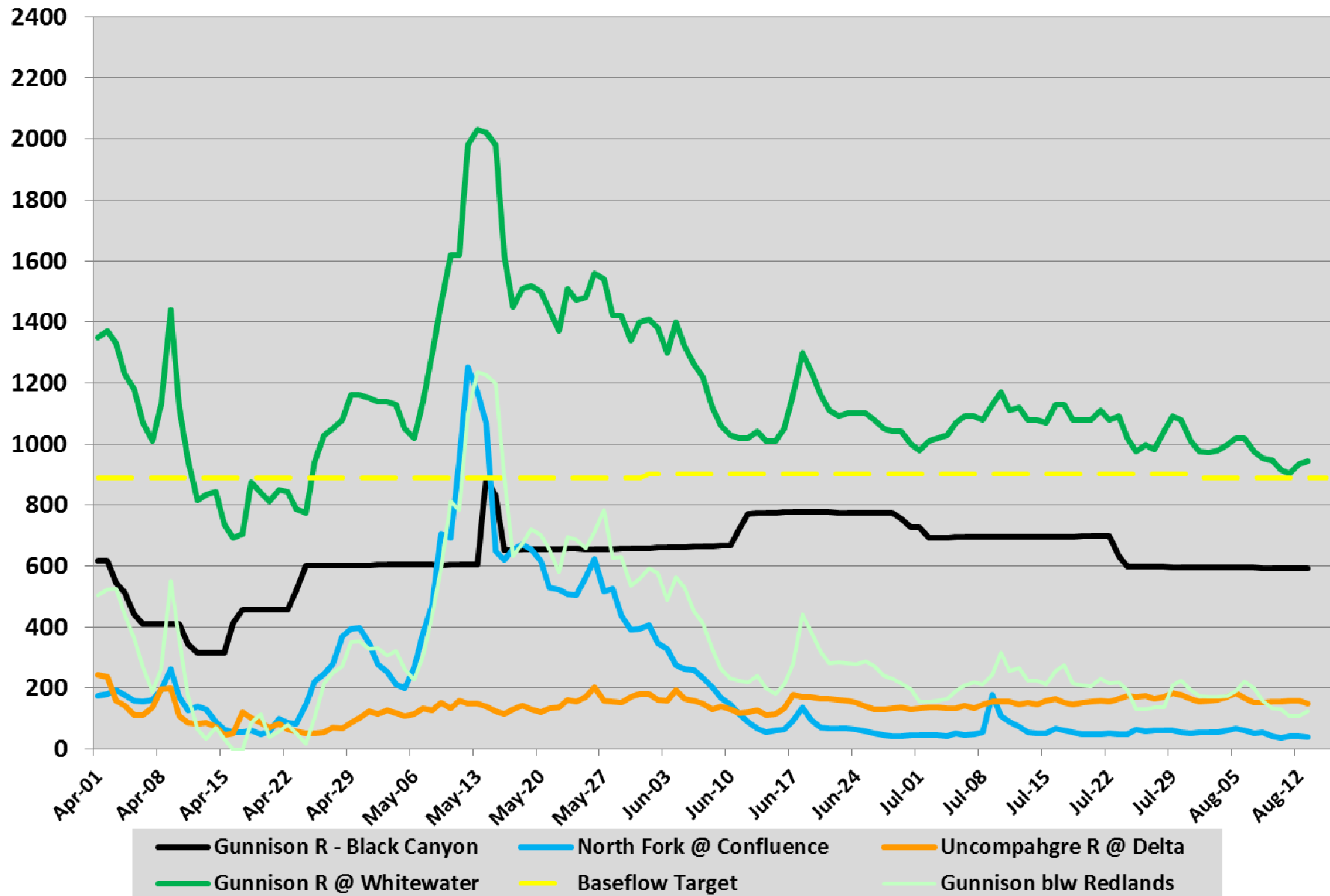
*During March through November in Moderately Dry and Dry type years, additional releases will be made as necessary to provide flows above the 750 cfs anticipated to be diverted by the Redlands Water and Power Company, for the fish ladder and fish screen as shown.

Drought Rules

- During Dry and Moderately Dry years, if Blue Mesa Reservoir content drops below 600,000 af, the Whitewater baseflow target is reduced from 1050 cfs to 900 cfs until Blue Mesa Reservoir content exceeds 600,000 af

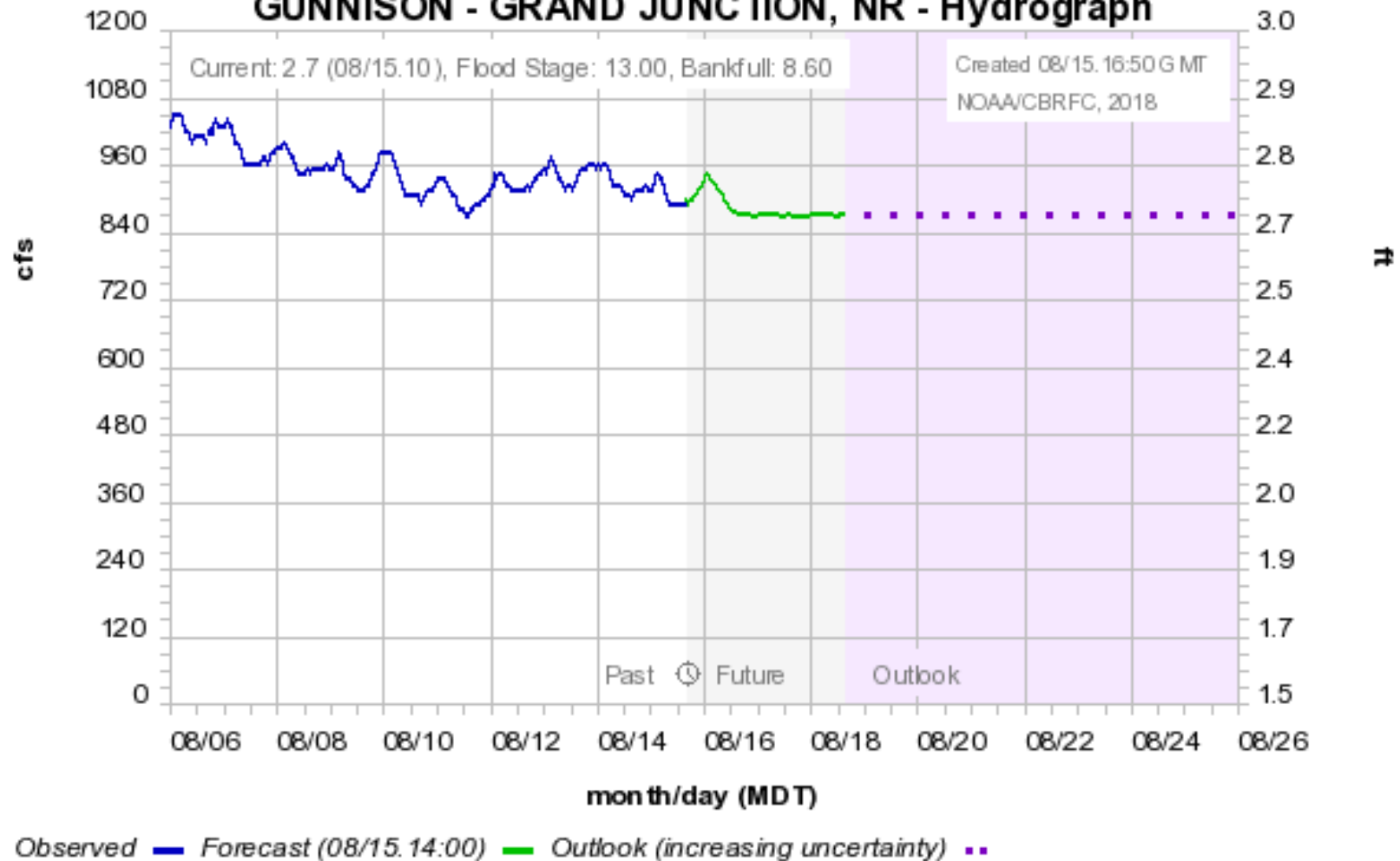
RECLAMATION

Gunnison River Flows



RECLAMATION

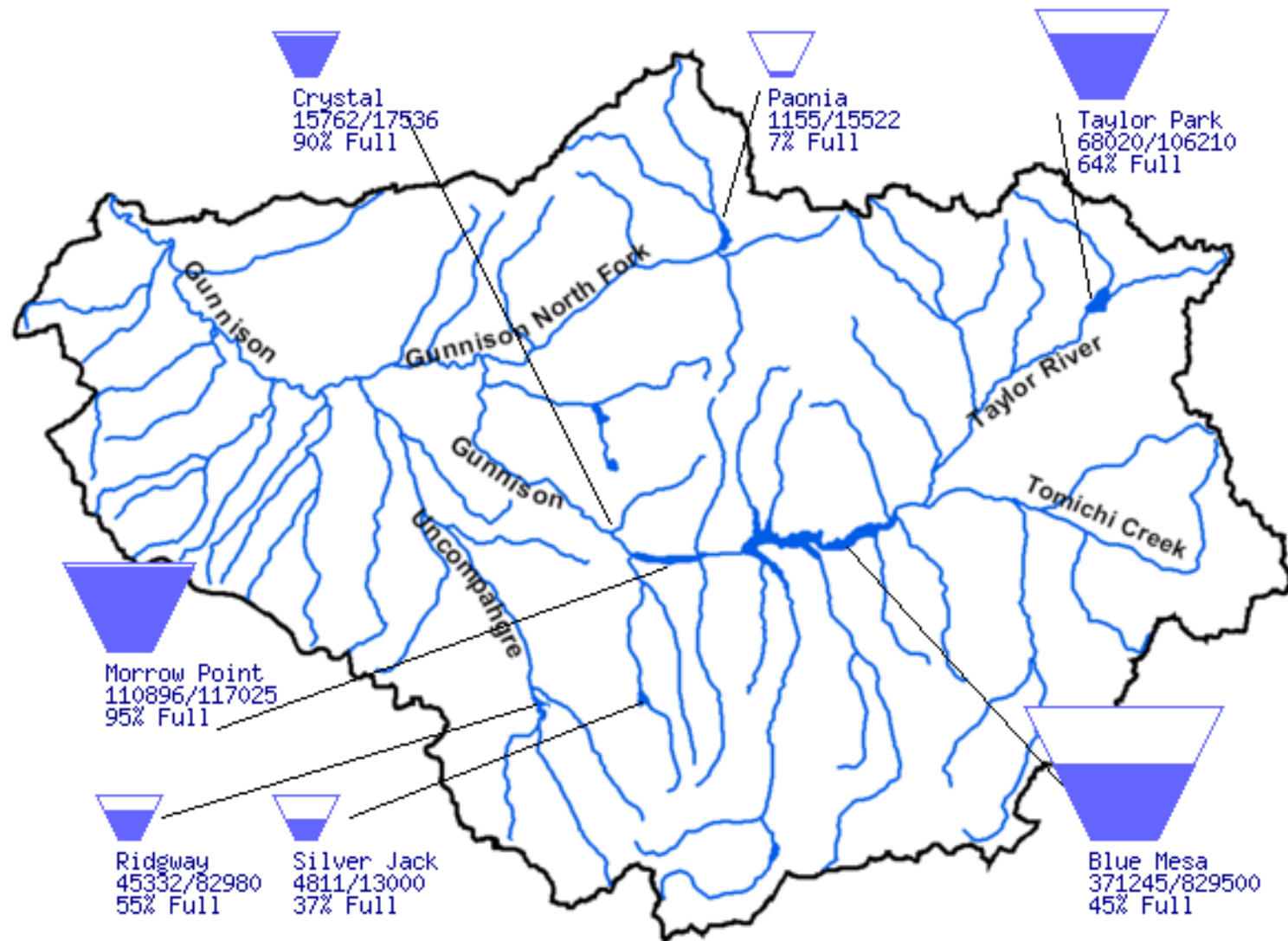
Colorado Basin River Forecast Center
GUNNISON - GRAND JUNCTION, NR - Hydrograph



RECLAMATION

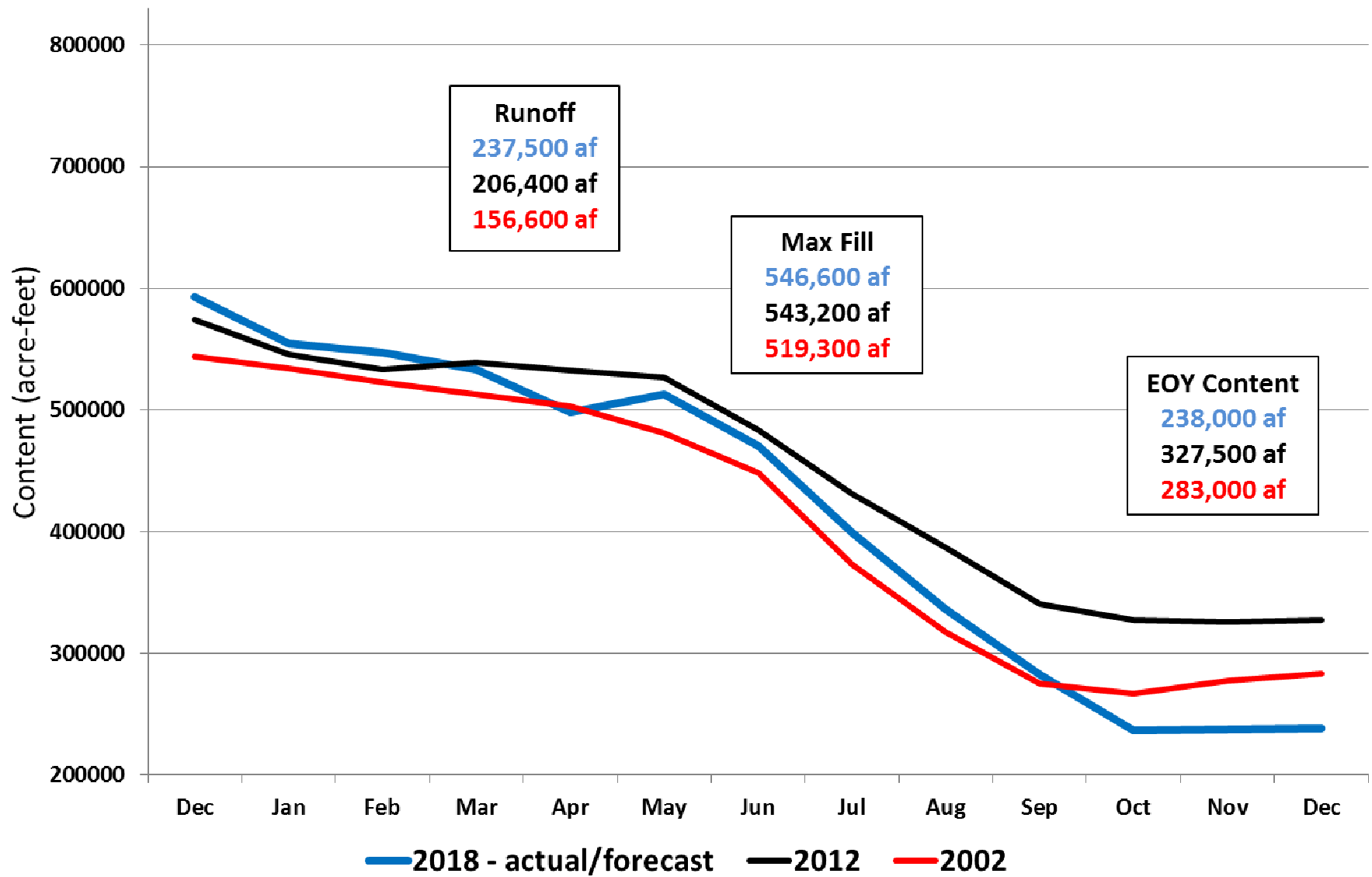
Data Current as of:
08/14/2018

Gunnison River Basin, CO



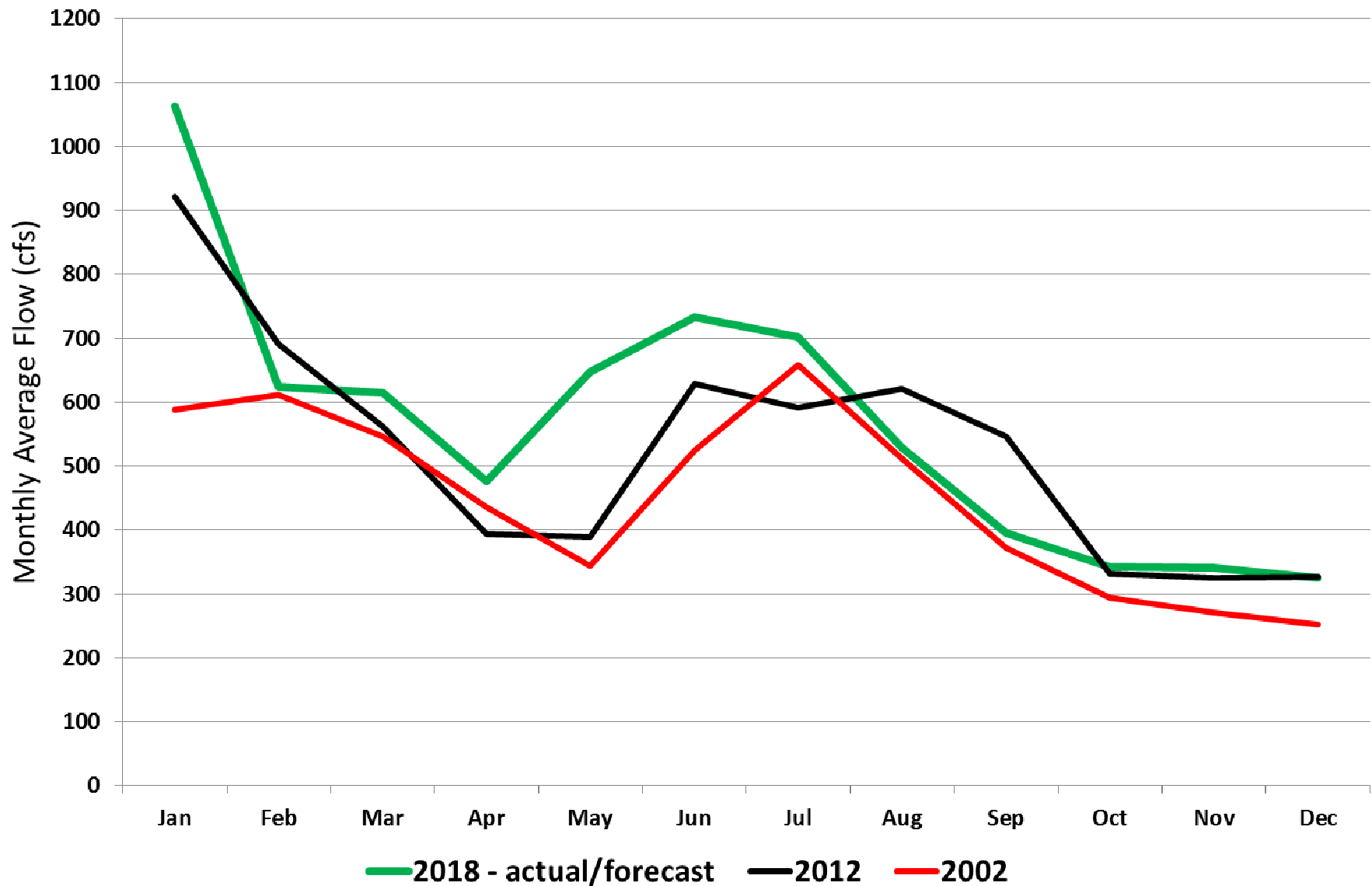
RECLAMATION

BLUE MESA End of Month Content



RECLAMATION

Gunnison River Flows - Black Canyon Monthly Average



RECLAMATION



RECLAMATION