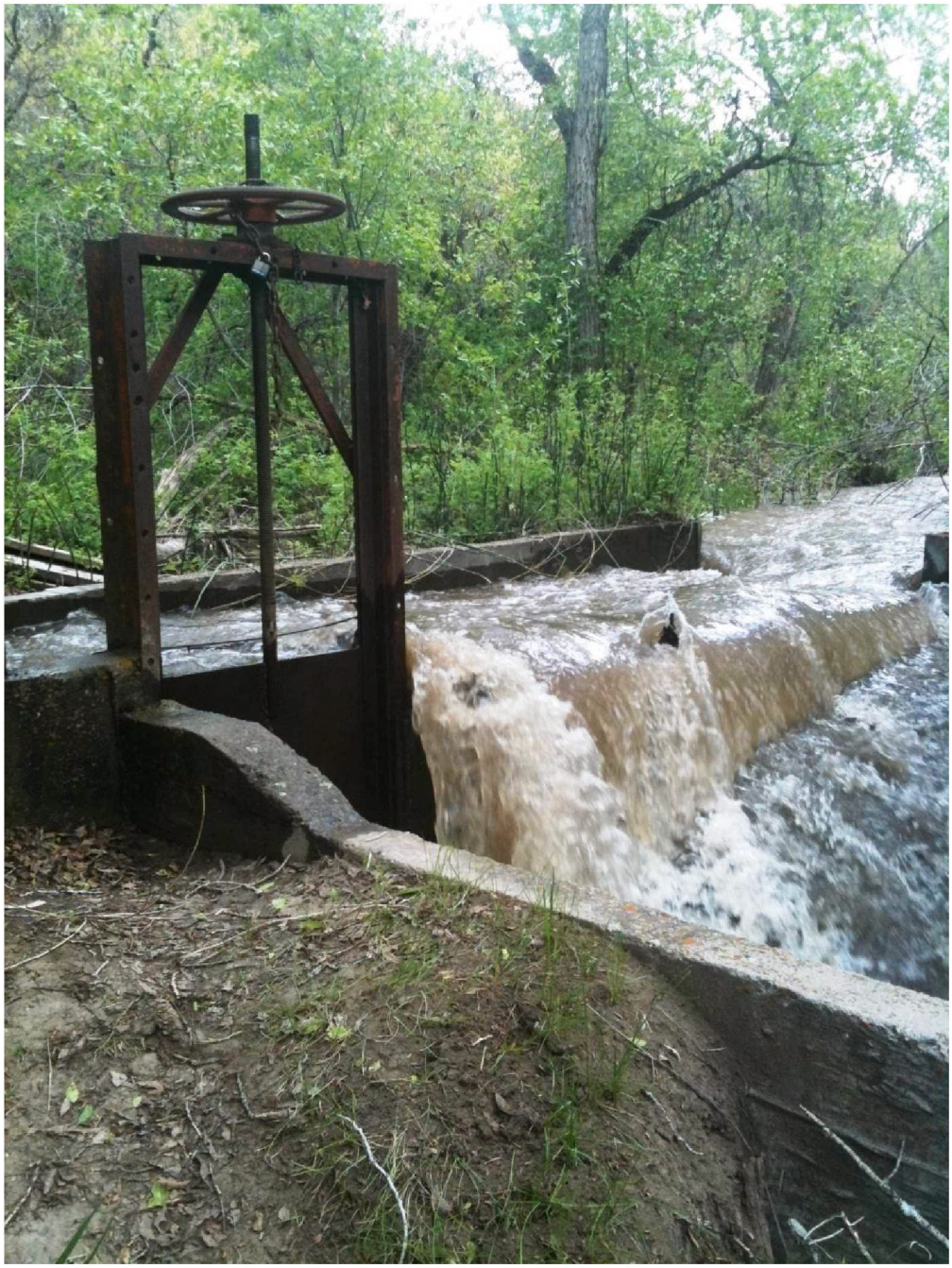
Colorado Division of Water Resources

2014 Annual Report

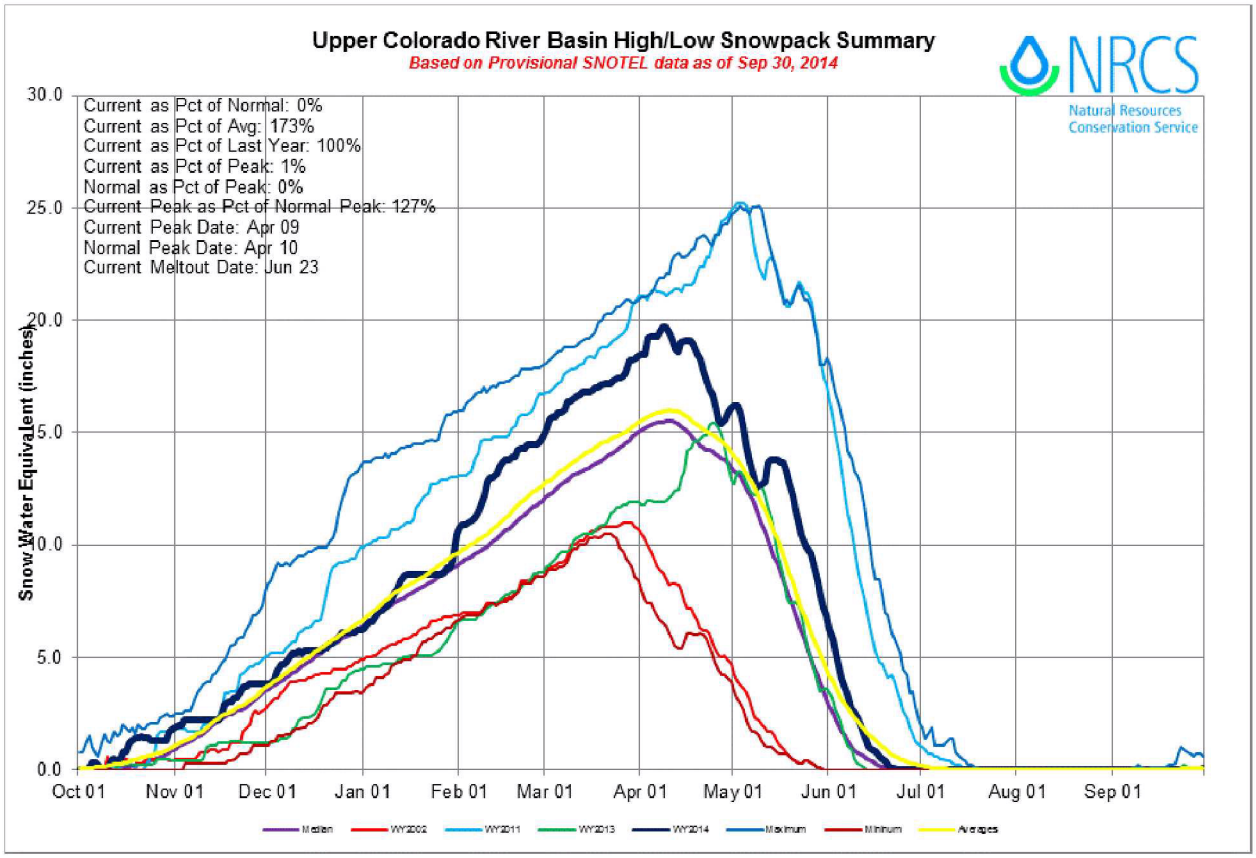
Water Division 5 –Colorado River Basin



Alan C Martellaro
Division Engineer

Surface Water Supply

The very wet late summer of 2013 improved reservoir carryover storage over the previous year with 93% of average on November 1, 2013 compared to the previous year with 66% of average. Precipitation for the fall continued the late summer wet trend, though the month of December had below average snowfall, leaving the basin with a snowpack of 102% of average on January 1, 2014. Each of the next three months produced well above average precipitation improving basin-wide snowpack to 130% of average on April 1, 2014. In spite of a dry April with 82% of average for the entire basin, it was followed by a very wet May at 133%, leaving the basin's water users optimistic. The basin-wide progression of the snow water equivalent is depicted in the graph below. As the graph demonstrates, though the peak for 2014 was well below the fantastic snowpack of 2011 it was a vast improvement over 2013. Reservoir storage entered the runoff with 95% of average storage at 65% of capacity. Colorado River supplies were enhanced by South Platte storage at 94% of capacity by June 1st, reducing the available for transmountain diversions.



Naturally, the forecasted runoff for 2014 trended with the improving snowpack throughout the winter. With the greater snowfall in the northern and eastern sub-basins of the Upper Colorado the forecasts similarly varied. On March 1 the forecasted flow for the Roaring Fork River was 107% of normal, while for Willow Creek it was 147%. This trend continued for the remainder of the winter and spring when on June 1 the low and high forecasted sub-basins were 105% for the Roaring Fork and 183% for Muddy Creek above Wolford

Mountain Reservoir. The variation from the upper reaches to the lower can be observed in the 155% forecast for the Dotsero gage and the 137% for Cameo.

Colorado River near Dotsero, and Colorado River near Cameo

2014 forecast 50% exceedence (most probable), April-July in KAF

	1-Mar flow	%ave	1-Apr flow	% ave	1-May flow	% ave	1-Jun flow	% ave	average
Dotsero	1900	136	2010	144	1950	139	2170	155	1400
Cameo	2890	123	3010	128	2880	123	3230	137	2350

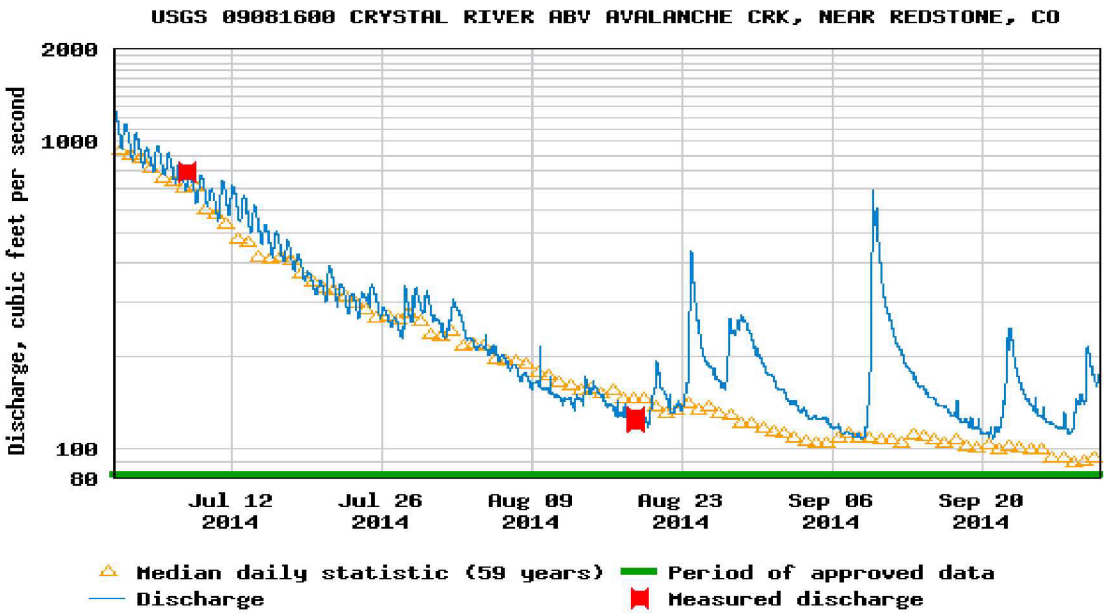
The month of June was the driest of the year for the entire basin with less than 50% of average precipitation. However, the remainder of the summer was above average in July to much above average August through October. Ultimately, actual gaged flow as a percent of average was very comparable to the runoff forecasts for undepleted flow. For comparison with the forecasts through June 1st of undepleted flow, the table below depicts actual gaged (depleted) flow for the same gages in the forecast table above. The April-September gaged flow for the Colorado River was 1MAF more in 2014 than in 2013.

Colorado River near Dotsero, and Colorado River near Cameo

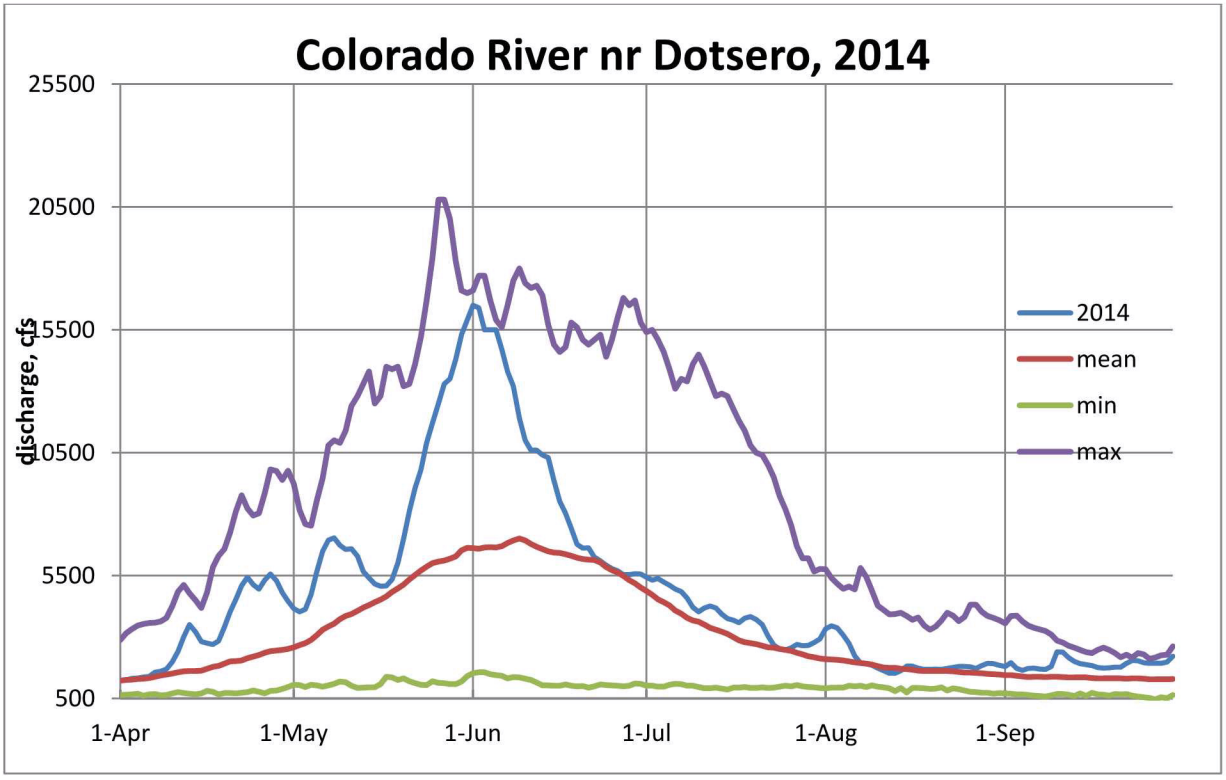
2014 Gaged (depleted) flows

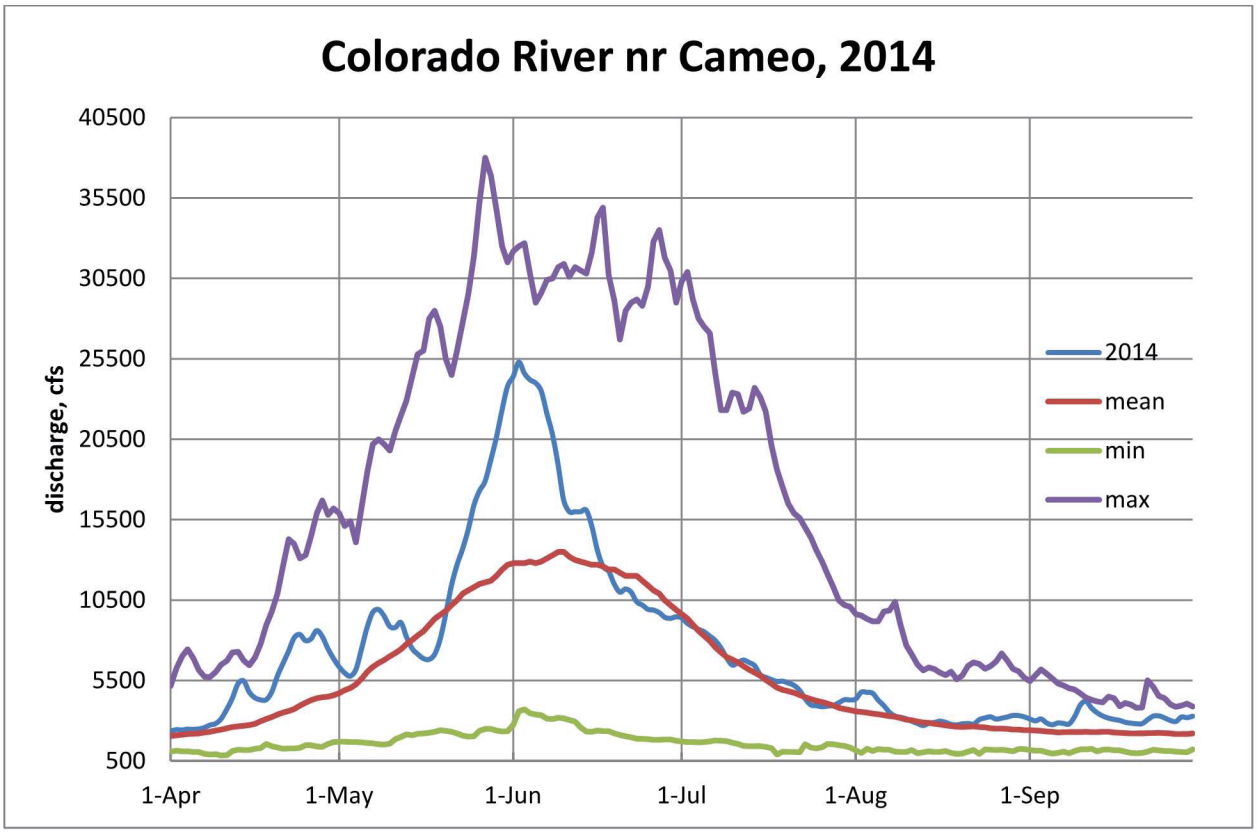
	apr-jul flow	%ave	apr-jul historic ave	apr-sep flow	%ave	apr-sep historic ave
Dotsero	1,495,540	156%	959,915	1,731,9933	151%	1,146,146
Cameo	2,287,411	126%	1,813,435	2,680,005	126%	2,126,133

Graphically the effects of summer rainfall for 2014 can be seen in the data from the Crystal River above Avalanche Creek. The gage monitors a basin of significant size yet very little upstream depletion, including no reservoir operations. Obvious are the major rain events beginning in late August continuing through September.



The following hydrographs of daily average flows for the Colorado River near Dotsero, and the Colorado River near Cameo reveal the a very good water supply for 2014. The flows were near average to much above average each day of the irrigation season. Of note in 2014, are the flows on the mainstem that coincide with the rainfall events depicted in the Crystal River gage above.

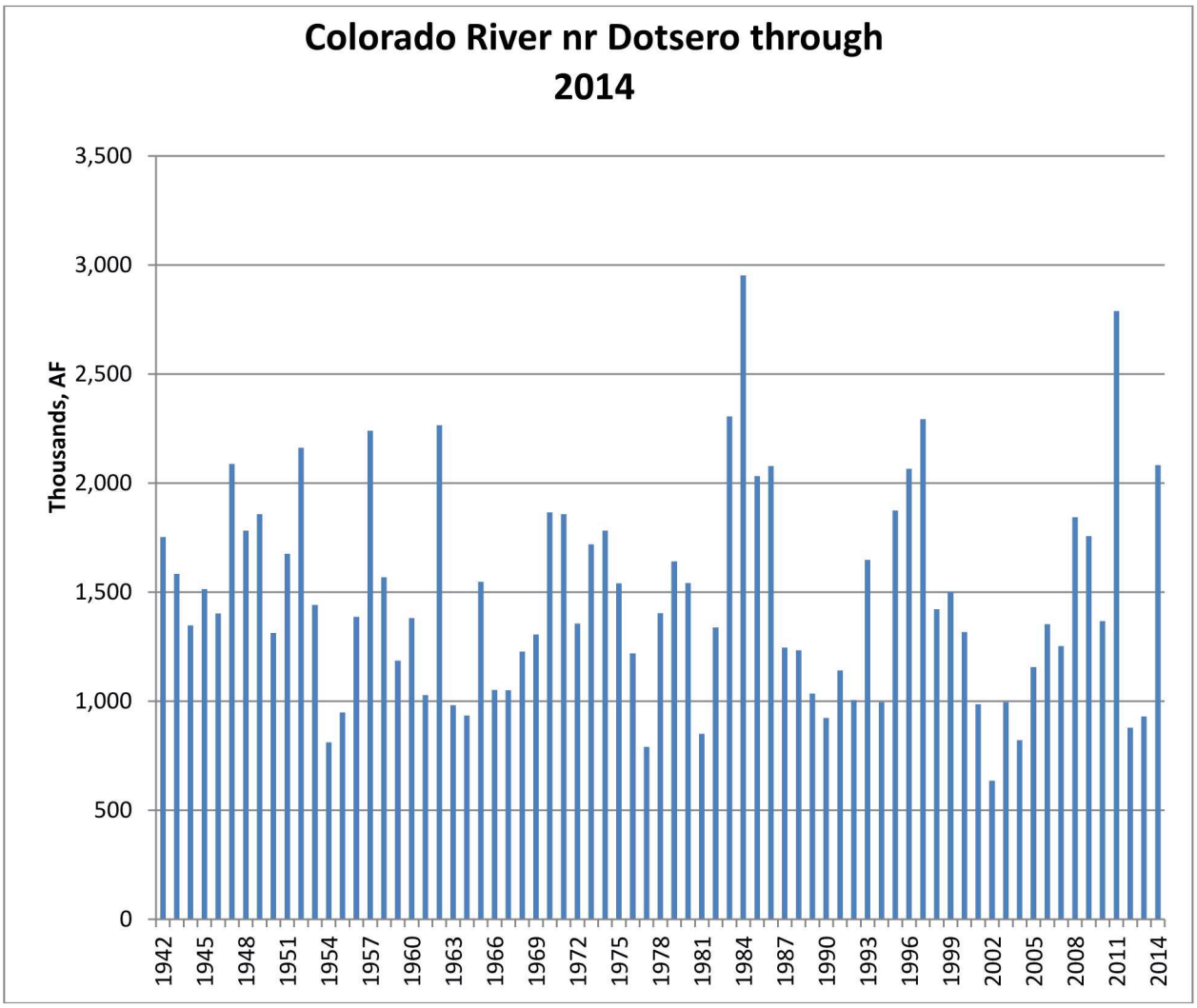


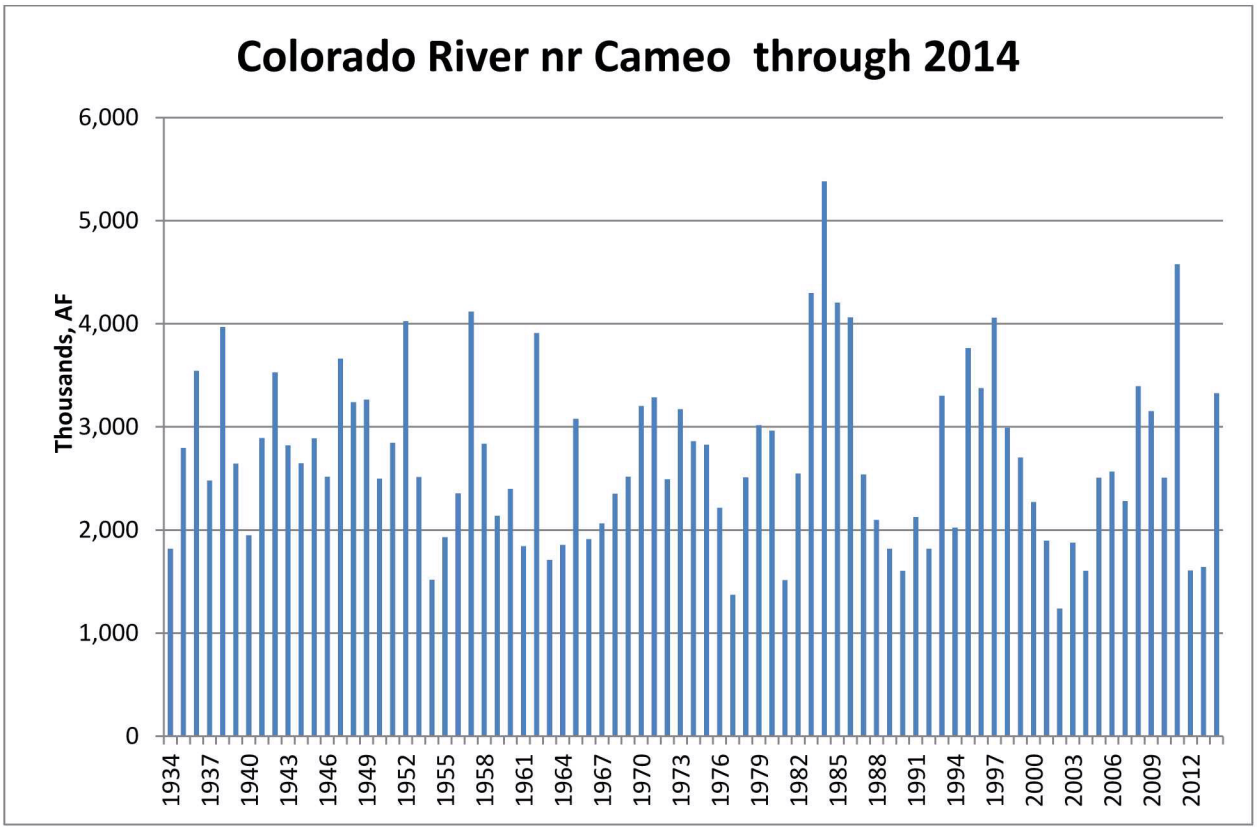


Green Mountain Reservoir start of fill is declared each year between April 1 and May 15. Generally, the wetter the year the later start of fill is declared. For 2014 the start of fill was on May 15 with 78,412AF in storage. The reservoir attained a paper fill on June 12, 2014 with an owed to account from Denver Water and Colorado Springs Utilities of 25,767. The owed to account was eliminated by July 4 using the provision in the Green Mountain Reservoir Fill Protocol allowing storage under a 1955 priority after a paper fill of its senior 1935 storage right. Eventually Green Mountain Reservoir achieved a physical fill of 152,685 AF on July 25, 2014. On July 2, 2014 Ruedi Reservoir physically filled for the first time since 2011 with 101,726AF in storage. Wolford Mountain Reservoir did fill in 2014 on May 24 and remained full and spilling until June18. Wolford Mountain Reservoir reach a maximum content on May 29th at 68,562AF. Williams Fork Reservoir also filled on June 12, 2014 and continued to spill into mid July reaching a maximum storage of 99,723AF on July 13th. As with most average and above years Dillon Reservoir filled and spilled much of June and July, but more significant for Division 5 was storage at Granby Reservoir where large releases were made in June and July to prevent a major spill. The reservoir did spill from July 16 through August 11, reaching maximum storage on July 17 at 536,565AF. After a few weeks of drawdown rains threatened another spill at Granby, and additional inflows were bypassed to the river. Repairs at Homestake Reservoir continued in 2014. After last year's setback storage was eventually allowed up to the 10,200 foot elevation, though storage only reached 10,133.8 or 20,111AF by October 31, 2014. As of the end of the construction season the reservoir is ready for full storage in 2015.

The water supply for 2014 in summary was a reverse of 2013 and 2012. Record of the total volumetric flow for the Colorado River near Cameo for 2013 was the 8th worst runoff in 80 years of record, while gage flow for 2014 was the 17th highest. For the Colorado River near Dotsero 2013 was the seventh lowest year in 72 years, while 2014 was the 9th best. The gaged flows for the entire Water Year were 123% of historic average at the Colorado River near Cameo gage, and 141% of average at the Colorado River near Dotsero gage (see histograms of annual gaged flow).

Colorado River near Dotsero, and Colorado River near Cameo gaged flow histograms for comparison of the 2014 irrigation year with previous years of record.





Surface Water Administration

From 2004 through 2013 the filling of Green Mountain Reservoir was administered through annually issued Interim Fill Policies. The 2013 Interim Green Mountain Reservoir Fill Policy was the last. On April 23, 2014 Notice was issued to the Colorado River Call Notification List and to the parties of Water Court Case No 13CW3077 through the Water Court efiling system that administration of Green Mountain Reservoir would be pursuant to the Green Mountain Reservoir Administration Protocol. The Protocol and Protocol Agreement were signed by the parties to the agreements on February 13, 2013 and the Water Court application requesting the court recognize the Protocol as consistent with the terms of the Blue River Decrees was filed on November 15, 2013. Simultaneously parties to the Blue River Decrees filed a motion with the Federal Court to reopen the Blue River Decrees for consideration of the Protocol. The protest period for the State Water Court application ended on January 31, 2014. Review of the protests found most to be in support of the application with only two in opposition. It was believed that those opposers would not impacted by the filling of Green Mountain pursuant to the protocol, and therefore, notice of administration pursuant to the Protocol went out. No comments against such operation were received. Thus began a new chapter in the administration of the Blue River Decrees. With the tremendous water supply in 2014, it became a good year to go through the motions and while testing the accounting and recording of the diversions effected by the Protocol. The reservoirs of the Blue River Decrees, Green Mountain, Dillon, Upper Blue,

Williams Fork, Granby, Shadow Mountain and Willow Creek all filled physically and legally in 2014 and the filling would not have been impacted by any theory or reading of the Blue River Decrees.

The Shoshone Power Plant operated the entire 2014 irrigation year with the exception of a brief period for minor repairs. This is the first year the Power Plant has operated for essentially an entire year since the 2008 blowout of the penstock. The year began following a very wet September and October with no call in November 2013. The usual winter call followed then transitioned into the tremendous runoff and high summer flows delaying a Shoshone call until mid-August. The call summary for shows the Colorado River was subject to a Shoshone Power Plant call 182 days, while the river was free from a Cameo call the entire year.

SUMMARY OF COLORADO RIVER MAIN STEM CALLS
2014 IRRIGATION YEAR

STATUS OF DOTSERO CALL

DATE ON	THRU	DAYS CALL ON/OFF	CALLING RIGHT	DECREED AMT	SWING PRIORITY	SWING PRIORITY ADMIN NO
11-01-13	11-24-13	24	Free River	---	---	---
11-25-14	04-03-14	130	Shoshone Power Plant	1,250 cfs	----	20427.18999
04-04-14	04-06-14	3	Shoshone Power Plant	158 cfs		33023.28989
04-07-14	08-12-14	128	Free River	---	---	---
08-13-14	09-03-14	22	Shoshone Power Plant	175,000 AF	Dillon Res Refill right	50038.49309
09-04-14	09-11-14	8	Shoshone Power Plant	158 cfs	---	33023.28989
09-12-14	09-15-14	4	Shoshone Power Plant	43989.70 AF	Homestake Proj Res	38753.37520
09-16-14	09-30-14	15	Shoshone Power Plant	158 cfs		33023.28989
10-01-14	10-31-14	31	Free River			

STATUS OF CAMEO CALL

DATE ON	THRU	DAYS CALL ON/OFF	CALLING RIGHT	DECREED AMT	SWING PRIORITY	SWING PRIORITY ADMIN NO
11.01.13	10.31.14	365	Free River	---	---	---

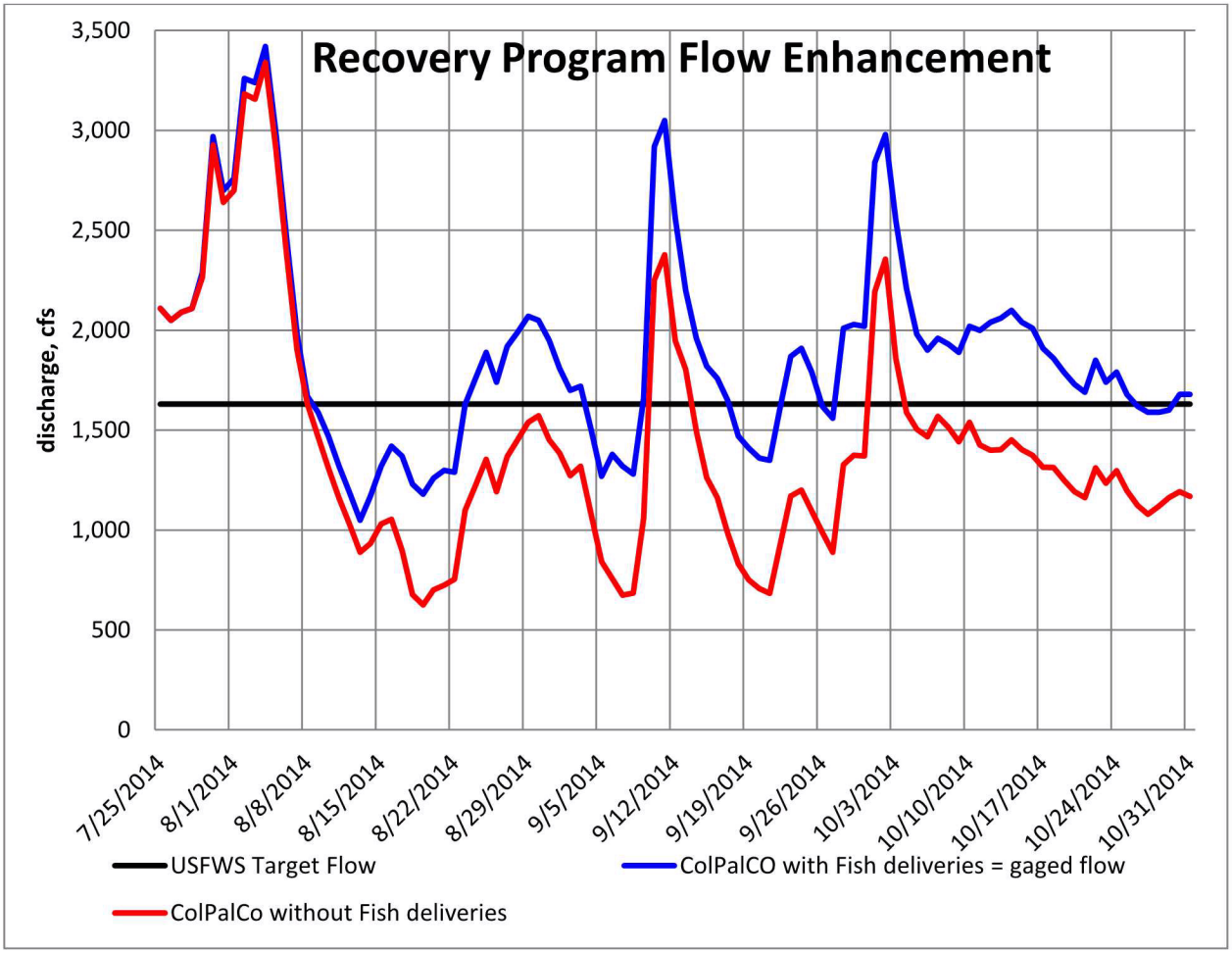
SWING PRIORITY = MOST JUNIOR WATER RIGHT, TOTALLY OR PARTIALLY IN PRIORITY, U/S OF THE CALLING STRUCTURE

Endangered Fish Recovery Program

Coordinated Reservoir Reoperations for the Endangered Fish Recovery Program (CROS) were not conducted in 2014. In 2013, CROS was not conducted due to insufficient flow. For 2014 it was due to concerns for flooding. CROS is conducted whenever operations will not impact the yield of a reservoir and when the reservoir bypasses of storable inflow will result in flows exceeding 12,600 cfs or less than 26,000 cfs. The intent of CROS is to enhance peak flows in the 15 mile reach for 7-10 days for the benefit of the habitat of the endangered species, where the flows are measured at Cameo and less than 12,600cfs provides no benefit and over 26,000cfs may cause flooding damage.

Full reservoirs translate into the filling and availability of all pools for the endangered fish totaling 26,825AF, including; Ruedi storage of 5,412AF PBO water and 10,000AF water marketing mitigation (where 5000 is firm and other 5000 is 4 out of 5 year), Granby storage of 5,412AF PBO water, and Wolford storage of 6,000AF from its fish pool. In addition, Green Mountain Reservoir provided 59,594AF from a surplus declaration in the HUP. Also, The Palisade Pipeline provided 14,244AF to the 15 mile reach.

With well above average water supply the USFWS initially set the target flow for the 15 mile reach at 1630cfs. Precipitation and storage supply continue through the summer and fall above average allowing the target flow to remain at this very high target. Of the storage available 83,419AF was released compared to 18,380 AF in 2013. With transit losses 74,113AF was delivered to the 15 mile reach. The addition of 14,244AF from the Palisade Pipeline made the total augmentation in the reach at 88,357AF for the augmentation period of August 6, 2014 through October 31, 2014. The graph below depicts the delivery of this 88,357AF as daily flows gaged at Palisade and the synthetic flow calculated had the delivery not been made.



Water Court

In 2014, 201 new water court applications and 16 amended were filed. Division 5 filed summaries for consultation for all new and amended applications (217) within the statutory deadlines. For applications without findings consultations must be filed within 30 days of consulting with the court. For consultations requiring Findings of Fact for groundwater rights they must be filed within 4 months. All consultations were filed within one week of the meeting with the referee, except for 6 which all required Findings of Fact. Of those 6, 5 were within 26 days and one was 68 days. The consultation that took 68 days to efile was the result of considerable research for wells in a regional umbrella plan. Note the 68 days is well within the 4 months required by statute.

No Statements of Opposition were filed in 2014 for DWR in Water Division 5. One Motion to Intervene was filed; however, at the request of the applicants attorney the motion to intervene was stayed in an attempt to settle the issues without the intervention. Thus actively litigated cases in Water Division 5 continues as new cases are not added to our docket and those on it are settled.

In 2014 Division 5 participated in 2 meetings of the experts and one hearing in front of Judge Boyd.

Groundwater

Groundwater permit applications for exempt and non-exempt uses are reviewed and approved by both staff in Glenwood Springs and at the State Engineers Office. Well permitting activity in 2014 was nearly identical to 2013 with a total of 443 well permit applications received for both exempt and non exempt new and replacement wells. This compares to 445 applications in 2013. Well permit application continues to be considerably well behind the pace of the late 1990's when 1200 applications were received annually. Total permits issued for both exempt and non exempt new and replacement wells in 2014 was identical to the new applications at 443 an increase of 70 permits over 2013. No application was denied, while51 were withdrawn. There was one geothermal permit application and permit issued in 2014. Drilling activity increase in 2014 with 271 drillers logs received versus 247 in 2013.

Colorado River Cooperative Agreement

Negotiation of the Colorado River Cooperative Agreement (CRCA) concluded in 2013 with the signing of the Green Mountain Reservoir Protocol and Protocol Agreement. Remaining is the litigation of several state and federal water right applications. As a result of the Green Mountain Reservoir Protocol and Protocol Agreement the parties to the Blue River Decrees plus Climax filed concurrent applications for in State and Federal Court. The state application was filed in 13CW3077 and has been stayed pending resolution of the motion to reopen the Blue River Decrees in Federal Court. Other pieces to the CRCA include: the main CRCA agreement signed in 2011; the Shoshone Outage Protocol the completed in 2013 though not yet signed by Northern Colorado WCD nor the USBR; the water court application filed in 10CW298 by Grand County for RCID's on the Colorado River has been decreed by the court; the water court application filed in 11CW152 by Denver Water, Grand County and the CWCB for a right of substitution using Fraser River diversions and

Gross Reservoir in Water Division 1 remains pending; Denver's "reverse exchange" application in 11CW21 allowing Dillon storage to be exchanged to Moffatt and Williams Fork remains pending and on a trial track; and Denver's diligence application in 06CW255 to be re-filed to include claims that Dillon Reservoir can be used for West Slope purposes, stored any east slope reservoir in Denver's system, and used anywhere in the Denver Metro Area as defined in the CRCA.

Windy Gap Firming.

The Division of Water Resources is not involved in the negotiation of the remaining issues. Two issues remain, involving a carriage contract between the USBR and the Municipal Subdistrict, and concerns of Grand County ranchers below Windy Gap that believe they were not represented in the Windy Gap IGA.

Respectfully submitted for the Staff of Water Division 5,

Alan C Martellaro, Division Engineer