

Colorado Division of Water Resources

2013 Annual Report

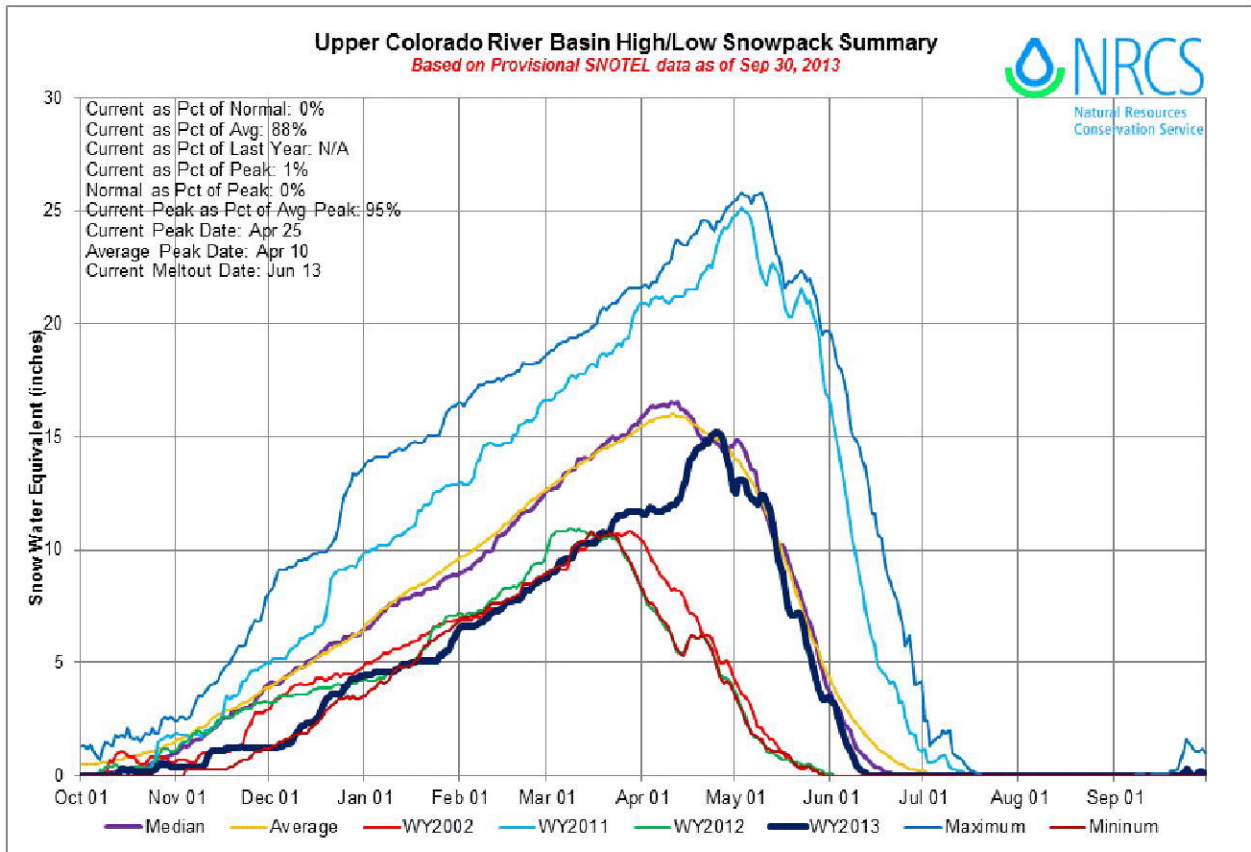
Water Division 5 –Colorado River Basin



Alan C Martellaro
Division Engineer

Surface Water Supply

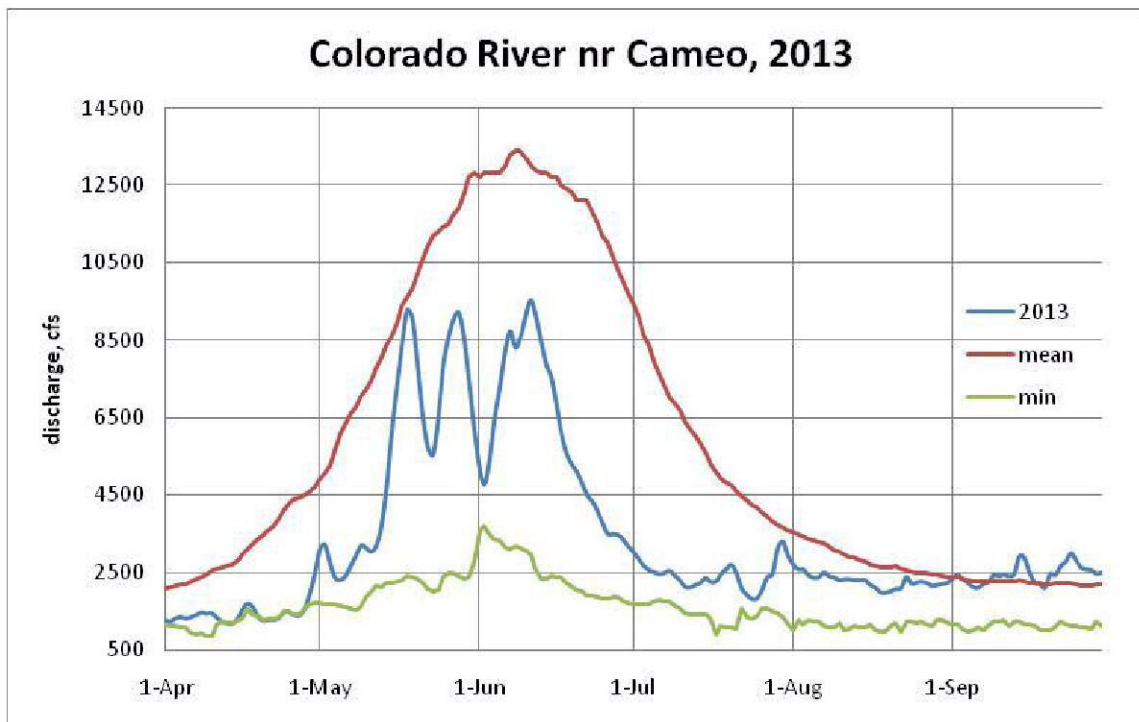
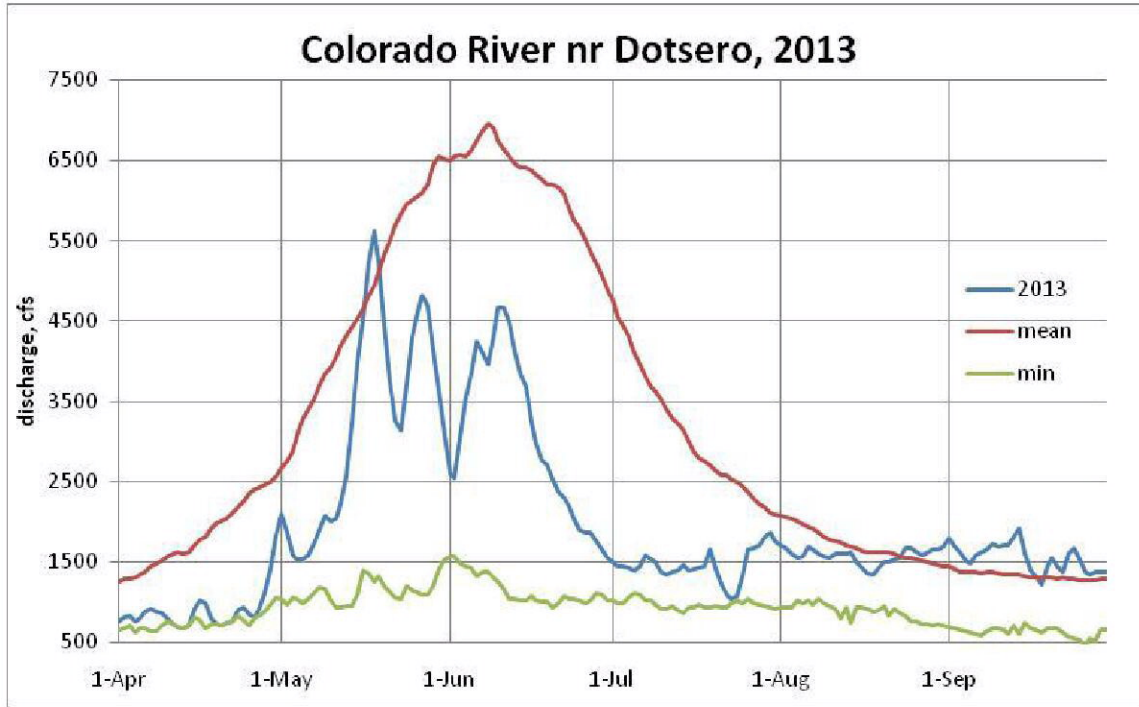
The very dry conditions of the previous irrigation year cause carryover storage on November 1, 2012 for the basin’s reservoirs to be 66% of average. Conditions did not improve with 34% of normal precipitation in November. December 2012 did grant some relief, however, each of the months of January, February and March produced below average precipitation. Snowpack water equivalents were near record lows much of the winter with the period from mid January through mid March setting the daily all-time record lows. The snowpack did improve from late March through late April. Eventually the snow water equivalent peaked approximately two weeks after the average basin wide peak date at 92% of the average peak with the snow water equivalent for the remainder of the runoff trending near average. Thus, spring of 2013 began with very dire expectations, and ended much more hopeful.



The March 1 forecasted runoff for 2013 was well below the March 1 forecasts for the extremely low runoff of 2012. With basin wide March precipitation at 96% of average the April 1st forecasts were slightly below the March 1st forecasts. With April precipitation at 140% of average and May at 115% the forecasts became more optimistic. The table below shows the two key gages in the basin, the Colorado River near Dotsero and the Colorado River near Cameo.

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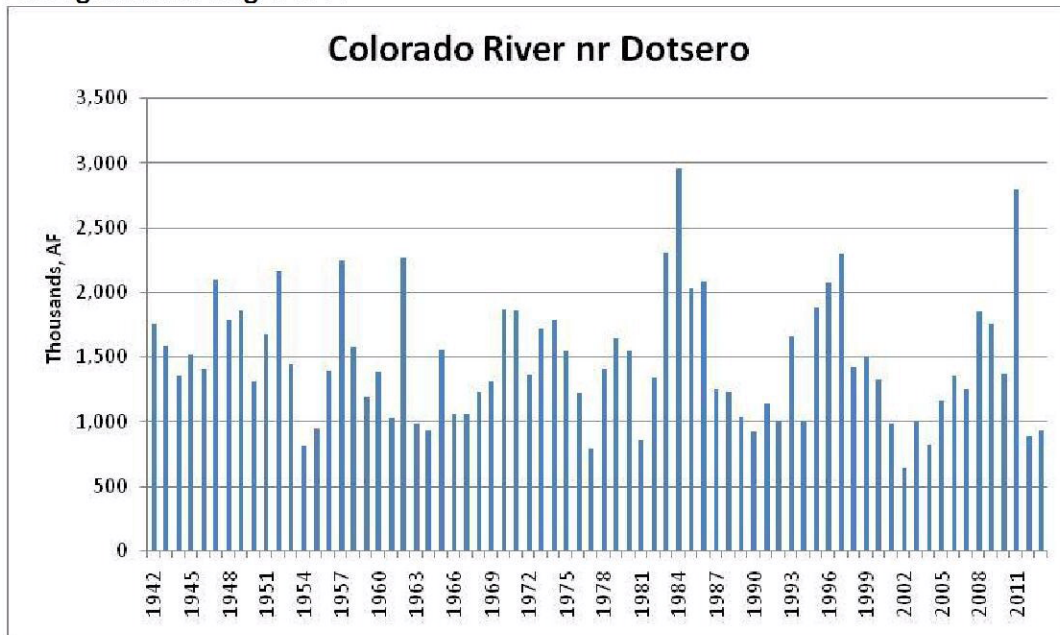
The following hydrographs for the Colorado River near Dotsero, and the Colorado River near Cameo reveal the changing water supply conditions for 2013, with record April, May and June snowmelt runoff well below average but much better than forecasted, and as summer progressed into fall

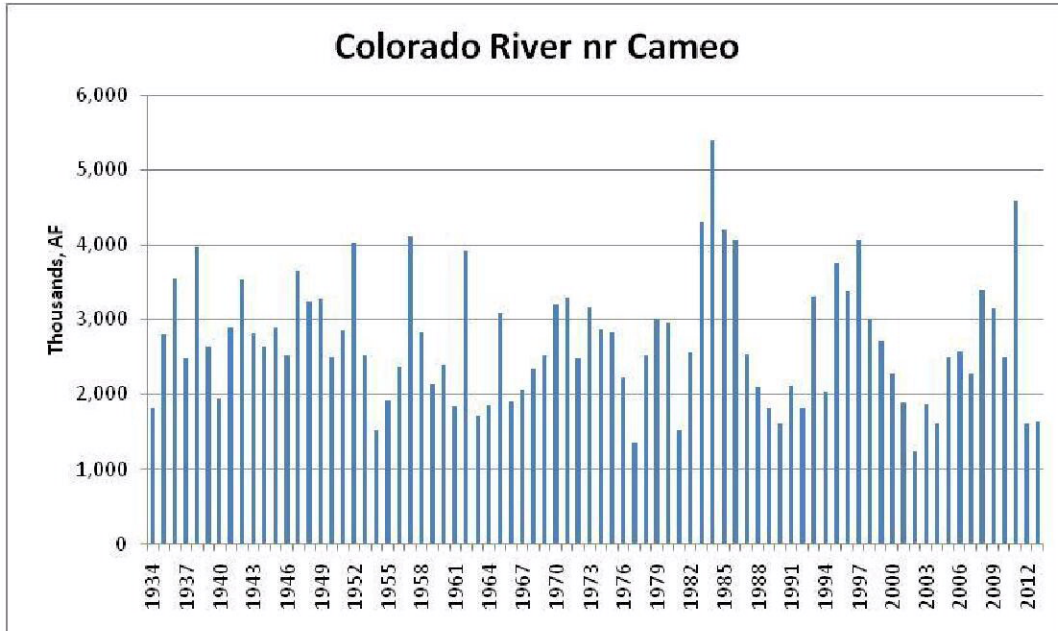


Storage at Green Mountain Reservoir was maintained on June 13, 2013, with physical storage of 105,610 acre-feet and 49,035 acre-feet owed by Denver and Colorado Springs. Green Mountain continued to store pursuant to the 2013 Interim Policy and by July 23, 2013 had stored an additional 40,544 acre-feet, leaving 8,491 acre-feet owed by the cities. Maximum storage in Green Mountain Reservoir was reached on July 22, 2013 with 142,104 acre-feet. As with 2012, 2013 was a wet year in 2013. Maximum content was reached on July 20, 2013 with 95,630 acre-feet. Wolford Mountain Reservoir Maximum Wolford storage was attained on July 1, 2013 with 52,505 acre-feet. Storage for 2013 in Granby reached 365,167 acre-feet on July 8, 2013 and began to be drawn down providing deliveries to the east slope. The drawdown was due to the decreased demand. The historic low flow in the South Platte basin during September 2013 curtailed Adams Tunnel deliveries. With no call on the Colorado River, Granby storage was at 384,300 acre-feet. This is well short of the 539,800 acre-foot capacity, but a tremendous improvement over the anticipated end of year storage. Reoperation of the dam was made to allow storage against the lower 1/3 of the dam face. 4000AF was stored prior to June, which by August was all released to investigate concerns with the new asphalt facing.

In summary, the 2013 Water Year ended with eight lowest year in 80 years of record for the Colorado River near Cameo gage and the seventh lowest year in 72 years of record for the Colorado River near Dotsero. Both rank just ahead of 2012. The gaged flows for the entire Water Year were 61% of historic average at the Colorado River near Cameo gage, and 63% of average at the Colorado River near Dotsero gage (see histograms below).

Colorado River near Dotsero, and Colorado River near Cameo Histograms through 2013





Surface Water Administration

Coordinated Reservoir Reoperations for the Endangered Fish Recovery Program (CROS) were not conducted in 2013. An early decision to call off CROS this year. On June 11th the river peaked at 9,540 cfs, the highest flow in the basin. The CROS program is an element of the Recovery Program for the Endangered Fish in the 15-mile reach. When operated the participating reservoirs modify their operations, without impacting yield to enhance the peak at Cameo for a 7-10 day period, which will not cause damage (25,000cfs).

With warm temperatures and water supplies at historically low levels at the beginning of March water users prepared for a water short summer. On the mainstem canals in the Grand Valley turned on early; the Shoshone Relaxation Agreement was implemented; and operators took measures to conserve reservoir storage. On our tributaries, water users prepared to squeeze every drop out of the system. The gage at the Colorado River below the Grand Valley Canal at Palisade. The gage recorded a flow of 9,540 cfs on June 11th, the highest flow in the basin. The event has been dubbed the “April Hole.”

The Shoshone Power Plant began the 2013 irrigation year on March 19th the Power Plant repairs were complete and a call was placed for its full water rights. Based on water availability the call was honored for its senior 1250cfs right. On March 15, 2013 the Shoshone Relaxation Agreement was implemented and the senior call was reduced to 704 cfs. The agreement between the plant operator and Denver Water reduces the demand at the plant whenever Denver’s system wide storage and runoff forecasts the

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Plant exceeded 704 cfs and the call was removed. The call was in place for only 3 days before it was removed. The river then ran without a call until July 22nd. From July 22nd through September 14th the call moved through various rights at Shoshone and Cameo. During the second week of September a series of storms moved through the basin, removing the call for the period September 14-16. The storms continued until on October 2nd the call was removed for the remainder of the irrigation year.

**SUMMARY OF COLORADO RIVER MAIN STEM CALLS
2013 IRRIGATION YEAR**

STATUS OF CALL AT THE SHOSHONE POWER PLANT

DATE ON	THRU	DAYS CALL ON/OFF	CALLING RIGHT	DECREED AMT.	SWING PRIORITY	SWING PRIORITY ADMIN. NO.
11.01.12	12.18.12	48	Free River	---	---	---
12.19.12	03.14.13	86	Shoshone Power Plant	1,250 cfs	----	20427.18999
03.15.13	03.29.13	14.5	Shoshone Power Plant	704 cfs	C-BT Project	31258.00000
03.29.13	04.12.13	14.5	Free River	---	---	---
04.13.13	04.15.13	3	GVWUA	730	Williams Fork Res	31359.00000
04.16.13	06.30.13	76	Free River	---	---	---
07.01.13	07.01.13	1	Shoshone Power Plant	158 cfs	Wolford Mtn. Res	50386.00000
07.02.13	07.02.13	1	Free River	---	---	---
07.03.13	07.04.13	2	Shoshone Power Plant	158 cfs	Wolford Mtn Res	50386.00000
07.05.13	07.18.13	14	Shoshone Power Plant	158 cfs	Green Mtn Res	38628.00000
07.19.13	07.21.13	3	Free River	---	---	---
07.22.13	07.22.13	1	GVIC	119 cfs	Green Mtn Res	38628.00000
07.23.13	07.23.13	1	GVIC	119 cfs	---	---
07.24.13	07.29.13	6	GVWUA	730 cfs	Moffat Tunnel	30870.26117
07.30.13	08.07.13	9	GVIC	119 cfs	Green Mtn Res	31258.00000
08.08.13	08.08.13	1	GVIC	119 cfs	---	30895.23491
08.09.13	08.11.13	3	GVWUA	730 cfs	---	22729.21241
08.12.13	08.12.13	1	Shoshone Power Plant	1,250 cfs	---	20427.18999
08.13.13	08.13.13	1	GVWUA	730 cfs	---	22729.21241
08.14.13	08.16.13	3	GVIC	119 cfs	----	30895.23491
08.17.13	09.09.13	24	GVWUA	730 cfs	---	22729.21241
09.10.13	09.12.13	3	GVIC	119 cfs	---	30895.23491
09.13.13	09.13.13	1	GVIC	119 cfs	Green Mtn Sr/CBT	31258.00000
09.14.13	09.16.13	3	Free River	---	---	---
09.17.13	09.18.13	2	Shoshone Power Plant	1,250 cfs	Green Mtn Sr/CBT	31258.00000
09.19.13	10.02.13	14	Shoshone Power Plant	158 cfs	Blue River Div Proj	35238.00000
10.03.31	10.31.13	29	Free River	---	---	---

STATUS OF CALL IN THE GRAND VALLEY

DATE ON	THRU	DAYS CALL ON/OFF	CALLING RIGHT	DECREED AMT.	SWING PRIORITY	SWING PRIORITY ADMIN. NO.
11.01.12	04.12.13	162	Free River	---	---	---

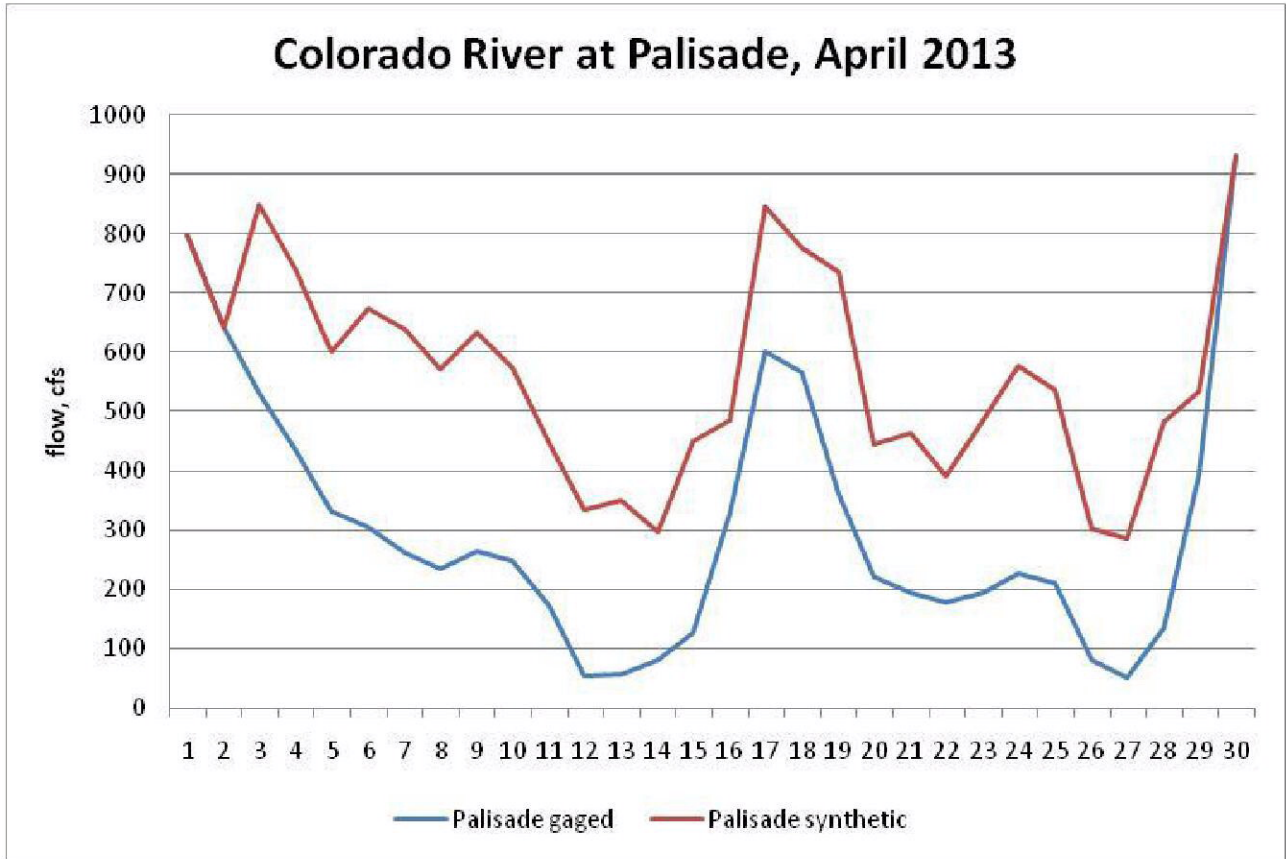
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04.13.13	04.15.13	3	GWWUA	730 cfs	Williams Fork Reservoir	31359.00000
04.16.13	07.21.13	98	Free River	---	---	---
07.22.13	07.22.13	1	GVIC	119 cfs	Green Mtn Reservoir	38628.00000
07.23.13	07.23.13	1	GVIC	119 cfs	Green Mtn Reservoir	31258.00000
07.24.13	07.29.13	6	GWWUA	730 cfs	Moffat Tunnel	30870.26117
07.30.13	08.07.13	9	GVIC	119 cfs	Green Mtn Reservoir	31258.00000
08.08.13	08.08.13	1	GVIC	119 cfs	---	30895.23491
08.09.13	08.13.13	5	GWWUA	730 cfs	---	22729.21241
08.14.13	08.16.13	3	GVIC	119 cfs	----	30895.23491
08.17.13	09.09.13	24	GWWUA	730 cfs	---	22729.21241
09.10.13	09.12.13	3	GVIC	119 cfs	---	30895.23491
09.13.13	09.13.13	1	GVIC	119 cfs	Green Mtn Sr./CBT	31258.00000
09.14.13	10.31.13	48	Free River	---	---	---

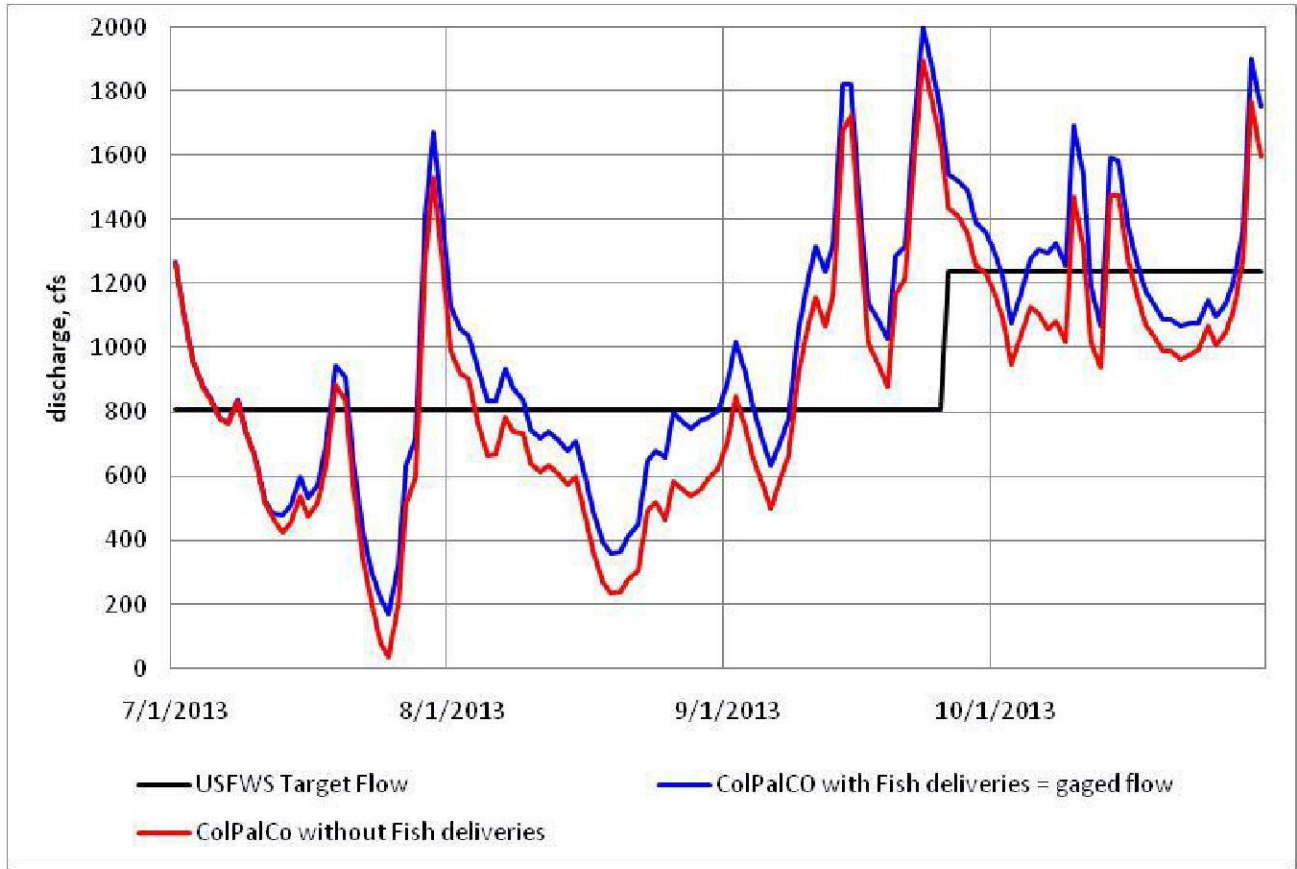
SWING PRIORITY = MOST JUNIOR WATER RIGHT, TOTALLY OR PARTIALLY IN PRIORITY, U/S OF THE CALLING STRUCTURE

On May 1, 2013, the Interim Policy for the 2013 ' was issued with no substantive changes from 2012. It was the 10th Interim Policy issued for the purpose of providing water users with surety, while discussion and negotiations continued to develop a permanent agreement. 4th of Green - due to the extremely low runoff no water was allocated to power at Green Mountain Reservoir and therefore the Interim Fill Policy had no practical impact on the Mountain.

On April 27th of 2013, the "April Hole." The graph below illustrates the impact of the Shoshone Relaxation ! Power Plant maintained a demand for its full water right. The lowest flow occurred on April 27th at 51cfs, and the maximum differential was 377cfs. The "April Hole" is not a new phenomenon solely the result of the Shoshone Relaxation Agreement, but the agreement did enhance the problem. Other contributing factors include: very little low elevation snowmelt runoff; little allocation to power; water users in the Grand Valley desired to not call upstream reservoir to conserve storage in the face of historic low runoff conditions; and dry conditions in the Grand Valley necessitating early deliveries for irrigation. These factors can occur in any year where runoff is expected to be much below average. However, these Endangered Fish Recovery Program, and are problematic for the program. To prevent the severity of the "April Hole" from recurring, the stakeholders have agreed to add the months of March and April to the weekly State of the River meetings that are normally held to operate CROS in May.



The agreement to provide temporary pools in Ruedi, Wolford Mountain and Williams Fork Reservoirs for the Endangered Fish Recovery Program expired in 2012. The 10,825AF pool in Ruedi was eliminated. The West Slope 5412AF in Wolford was moved to Ruedi and made a permanent pool. The East Slope 5412AF pool in Williams Fork was moved to Granby and also made permanent through the retirement of Northern Colorado’s interest in the Red Top Ditch. The net is a permanent loss of 10,825AF of storage for the program. The below average runoff for 2013 reduced the amount stored in other pools for the program, including: the the 4-out-of-5-year 5,000 acre-foot fish pool was not available; of the 6,000 acre-foot fish pool in Wolford only 4,267 acre-feet was stored; and only 2,514 acre-feet was made available from the HUP as surplus. Given the extreme low conditions, the USFS set the target for flows in the 15 mile reach at the minimum target of 810cfs, but was cautious to call for storage to meet the target, causing flows below the target for extended periods July through August. The target remained at 810cfs until September 26th when it was increased to 1240cfs through October 31st. Of the storage available 18,380 acre-feet was released. With transit losses and the addition of 11,545 acre-feet from the Palisade Pipeline, a total of 28,366 acre-feet was delivered to the 15-mile reach. The unimpressive 2013 augmentation of flow in the 15 mile reach is depicted in the flowing graph.



Groundwater

Groundwater permit applications for exempt and non-exempt uses are reviewed and permitting activity increased slightly in 2013 over 2012 with a total of 445 well permit applications received for both exempt and non exempt new and replacement wells. This compares to 424 applications in 2012. It marks the second consecutive year of increase well permit activity. However, it is considerable less than the 1200 annual applications of the late 1990's. Total permits issued for both exempt and non exempt new and replacement wells in 2013 was 373 a slight drop from the total of 397 permits issued in 2012. Only one application was denied, while 37 were withdrawn. There were no geothermal permits applications in 2013. Drilling activity decreased in 2013 with 247 drillers logs received versus 275 in 2012.

Division Engineer's Abandonment List

On order approving a stipulation for last unresolved protest to the 2010 Abandonment List was signed by the Judge on March 6, 2013. A motion to enter a decree in the mother case for the abandonment list, 11CW173, will soon be submitting to the court.

In 2013, a motion to remove a water right from the 1990 abandonment list was filed with the court. Field inspections were conducted and settlement meetings with the owners of the right held. The matter has been resolved with the partial removal of the right from the abandonment list.

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 have agreed to a settlement that would allow for the reopening of the Blue River Decrees in Federal Court. Other pieces to the CRCA include: the main CRCA agreement signed in 2011; the Shoshone Outage Protocol completed in 2013; the water court application by Grand County for RCID's on the Colorado River (10CW298) that has been decreed by the court; the water court application by Denver Water for a right of substitution using Fraser River diversions and Gross Reservoir in Water Division 1 (11CW152) that remains pending with the addition of Denver's diligence application in 06CW255 to include a claim that Dillon Reservoir can be used for West Slope purposes.

Windy Gap Firming.

There are two remaining issues from the carriage contract between the USBR and the Municipal Subdistrict. The second is resolution of concerns of Grand County water users below Windy Gap that believe they were not represented in the Windy Gap IGA. The Division of Water Resources is not involved in these remaining issues, and therefore was inactive in settlement of the Windy Gap Firming Project.

Respectfully submitted for the Staff of Water Division 5,



Alan C Martellaro, Division Engineer