COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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January 2012

The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on snowpack, reservoir storage, and precipitation for the winter period of November through April (December 1 through May 1). During the winter period, snowpack is the primary component in all basins except the South Platte basin where reservoir storage is given the most weight.

The statewide SWSI values for December 2011 (January 1, 2012) range from a high value of +1.5 in the South Platte Basin to a low value of -2.6 in the Yampa/White Basin. Two of the basins (South Platte and Rio Grande) experienced no change from the previous month's value, while the remaining five basins (Arkansas, Gunnison, Colorado, Yampa/White, and San Juan/Dolores) experienced a loss from the previous month's value. The western half of the state shows a dramatic contrast in SWSI value from last year at this time, due to December 2010's significantly above average snowpack and this year's lagging snowpack.

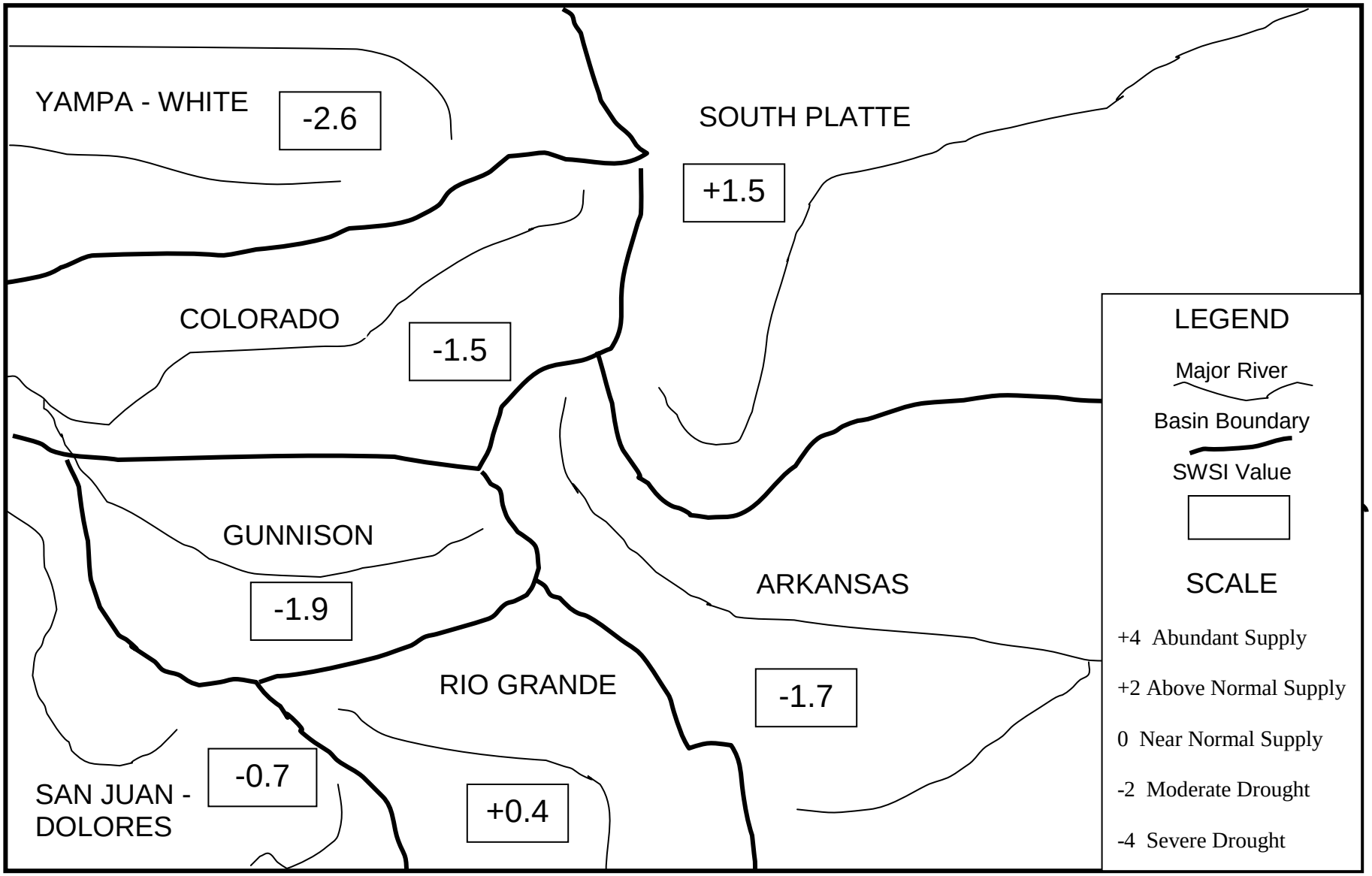
The following SWSI values were computed for each of the seven major basins for January 1, 2012, and reflect the conditions during the month of December 2011.

Basin	January 1, 2012 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+1.5	0.0	- 1.0
Arkansas	- 1.7	- 1.5	- 3.0
Rio Grande	+0.4	0.0	- 1.3
Gunnison	- 1.9	- 0.9	- 5.5
Colorado	- 1.5	- 2.0	- 4.3
Yampa/White	- 2.6	- 3.6	- 6.3
San Juan/Dolores	- 0.7	- 0.1	- 3.6

Scale

-4	-3	-2	-1	0	1	2	3	4
Severe Drought		Moderate Drought		Near Normal Supply		Above Normal Supply		Abundant Supply

SURFACE WATER SUPPLY INDEX FOR COLORADO



January 1, 2012

Basinwide Conditions Assessment

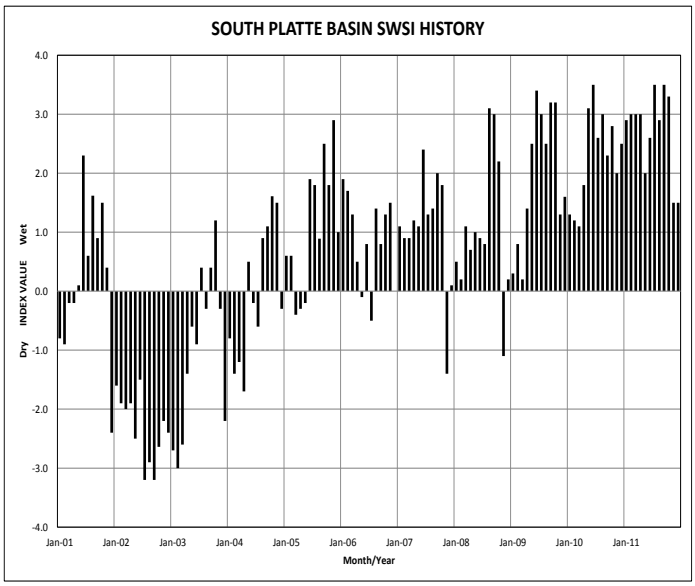
The SWSI value for the month was +1.5. The Natural Resources Conservation Service (NRCS) reports that January 1 snowpack is 80% of normal. Reservoir storage in Dillon, Horsetooth, Eleven Mile, Cheesman, Jackson, and Barr Lake, the major component in this basin in computing the SWSI value, was 117% of normal as of the end of December. Cumulative storage in the major plains reservoirs (Julesburg, North Sterling, and Prewitt) is at 91% of capacity. Cumulative storage in the major upper-basin reservoirs (Cheesman, Eleven Mile, Spinney, and Antero) is at 95% of capacity. Flow at the gaging station South Platte River near Kersey was 922 cfs, as compared to the long-term average of 684 cfs (110 years of record). Flow at the Colorado/Nebraska state line averaged 800 cfs, as compared to the long-term average of 402 cfs (109 years of record).

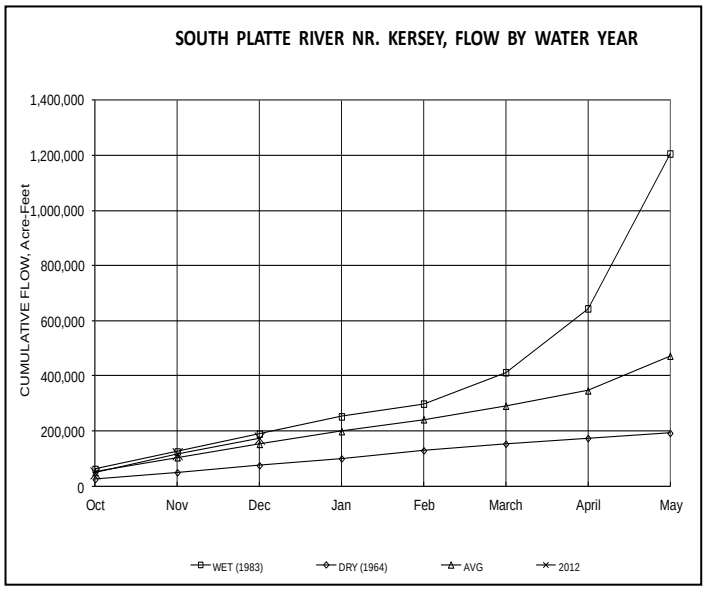
Outlook

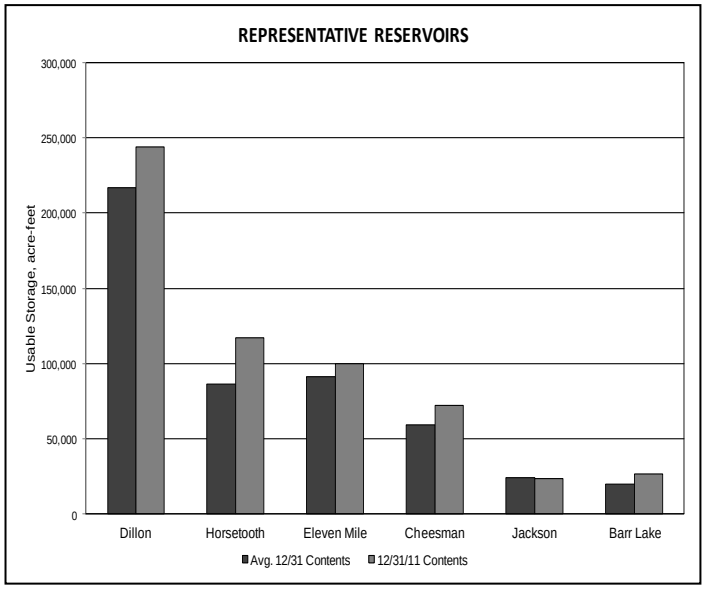
December continued the very good start of the 2011-12 Irrigation Year. There was a call on the South Platte mainstem above Chatfield Reservoir from December 6 through the 22 and the normal storage calls on Clear and Boulder Creeks for the entire month. However, the usual storage calls from lower on the South Platte mainstem and on the other major tributaries were absent. While still early in the snow season, the continued below average snow pack numbers are starting to create some concern.

The stream flows recorded by the key South Platte index gages at Kersey and Julesburg continued the well above average trend from November with Kersey at 135% of its December average and Julesburg at 201% of its December average. Storage in the basin also remained above average with end of December reservoir contents at 112% of average.

The January - March outlook for the South Platte basin is for equal chances of above or below average precipitation and temperatures. The longer term forecasts do show the South Platte basin shifting to warmer and drier than average conditions through the spring.







Basinwide Conditions Assessment

The SWSI value for the month was -1.7. The NRCS reports that January 1 snowpack is 96% of normal. Flow at the gaging station Arkansas River near Portland was 468 cfs, as compared to the long-term average of 405 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 96% of normal as of the end of December.

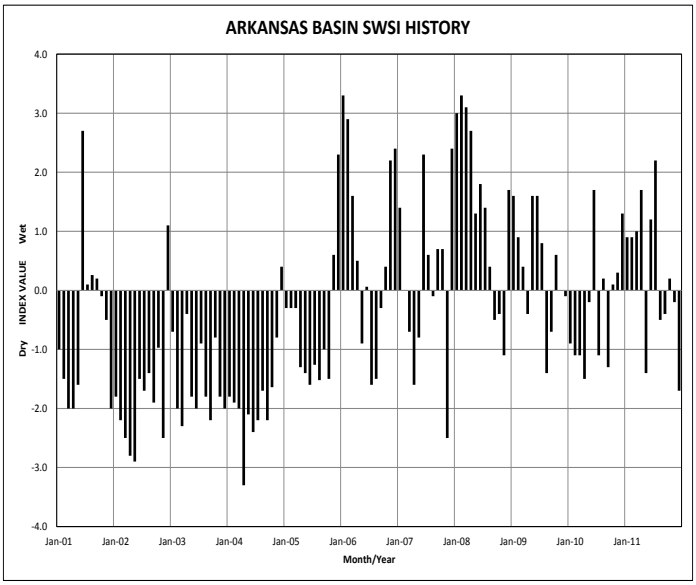
Outlook

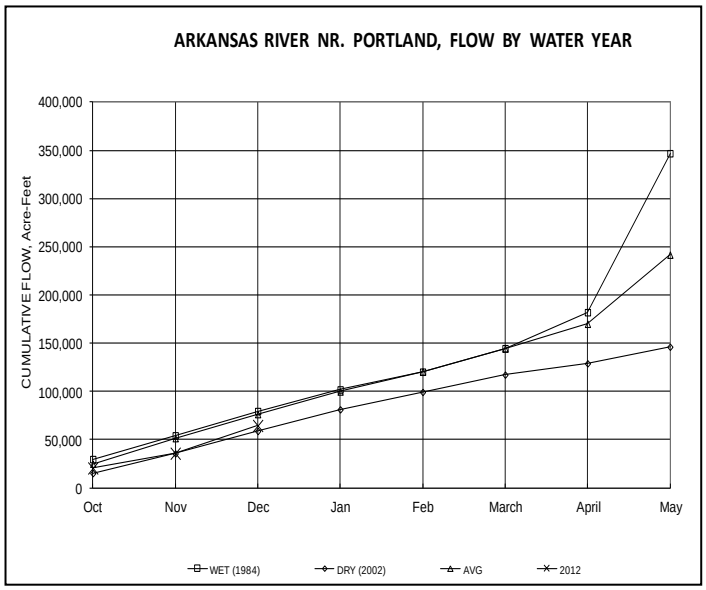
The Pueblo Winter Water system grand total was 50,823 acre-feet at the end of December representing a slight increase from last year's storage to date, which was 49,143 acre-feet. The previous five-year average for this period is 57,518 acre-feet and the average since 1990 for this period has been 62,232 acre-feet.

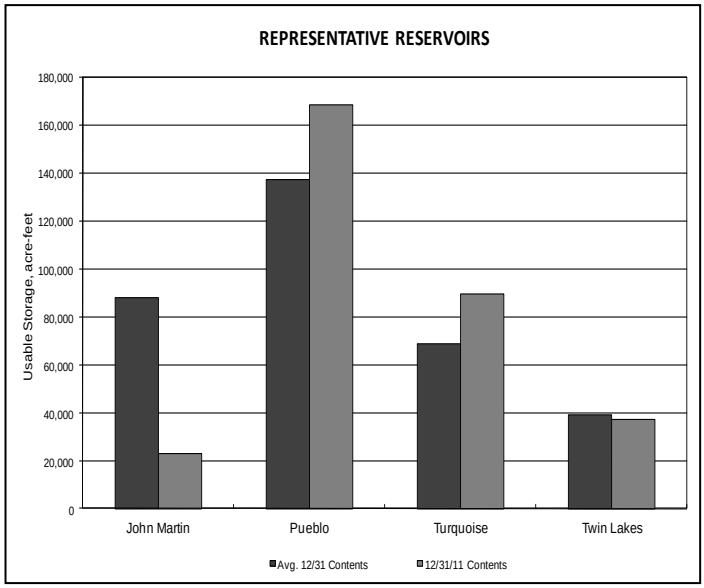
Conservation storage in John Martin Reservoir is about 35% below last year. Storage since November 1st has been 7,068 acre-feet while storage a year ago for the same time period was 9,554 acre-feet.

Administrative/Management Concerns

The Arkansas River Compact Administration meeting was held in Lamar, Colorado on December 7th and 8th.







Basinwide Conditions Assessment

The SWSI value for the month was +0.4. The NRCS reports that January 1 snowpack is 92% of normal. Flow at the gaging station Rio Grande near Del Norte averaged 157 cfs (81% of normal) during December. The Conejos River near Mogote had a mean flow of 45 cfs (86% of normal) during the month. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 92% of normal as of the end of December.

Alamosa received 0.27 inches of precipitation during December, 0.06 inches below normal. Alamosa's total precipitation of 4.60 inches during 2011 was 2.65 inches below the annual average. For the year, the average temperature was 1.5 degrees above normal and included an all-time record warm July.

Outlook

Stream flow in the basin should be below average for the next few months. Currently, the Natural Resources Conservation Service (NRCS) forecasts the 2012 runoff to be slightly below normal for key streams in the Upper Rio Grande Basin. At the midpoint of January, 2012, snowpack at index sites in the San Juan and Sangre de Cristo mountains was in the range of 47% to 99% of normal.

Recent National Weather Service climate forecasts call for warm and dry conditions in the San Luis Valley for the remainder of the winter.

Administrative/Management Concerns

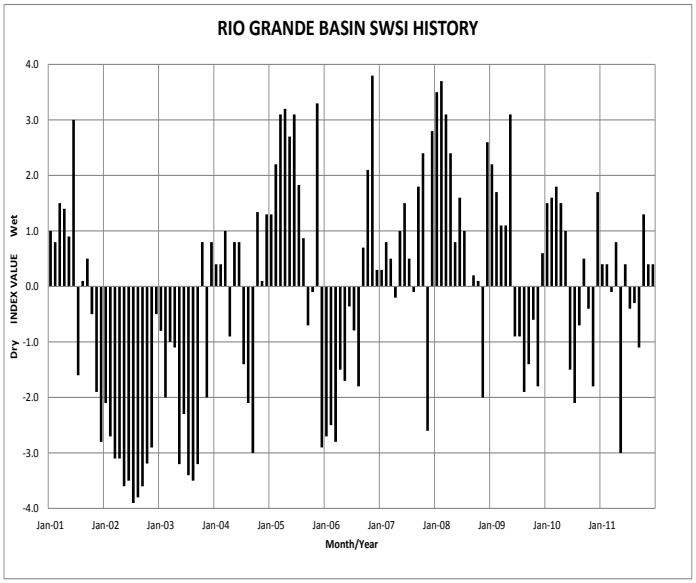
Pursuant to the provisions of the Rio Grande Compact, Colorado delivered approximately 200,000 acre-feet to New Mexico and Texas during 2011. A small delivery credit will be available for 2012. Closed Basin Project delivery to the Rio Grande totaled 11,600 acre-feet.

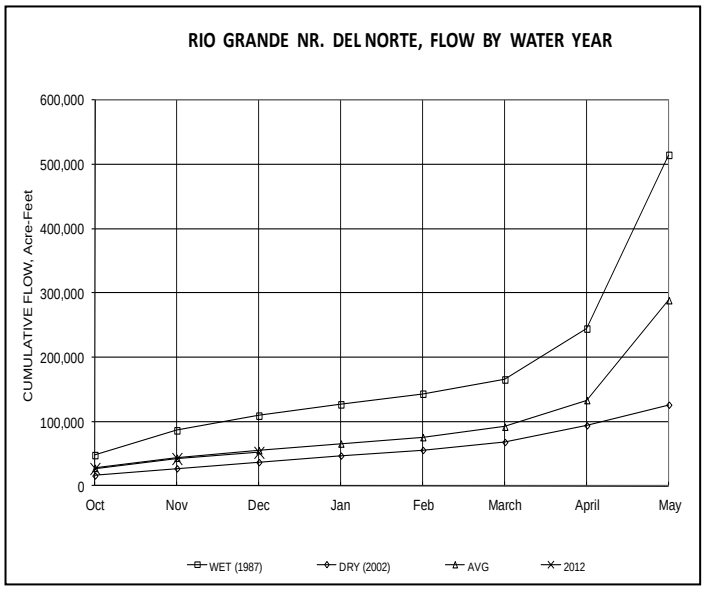
2011 saw far below average runoff during March, April and May throughout the upper Rio Grande basin as little low-elevation snowpack existed. June was near-average for some drainages as the high snow melted out. Thereafter, most were on the sharp decline. Streamflow in the basin was generally very poor from July through September. There was no normal monsoonal activity during July, August, and September. A snowstorm in early October brought desperately needed moisture to the basin. In the end, the Rio Grande near Del Norte had annual flows of 80% of normal. The Conejos near Mogote annual volume was 90% of normal. The smaller drainages in the basin were not so fortunate and recorded annual runoff at 40 to 70% of normal.

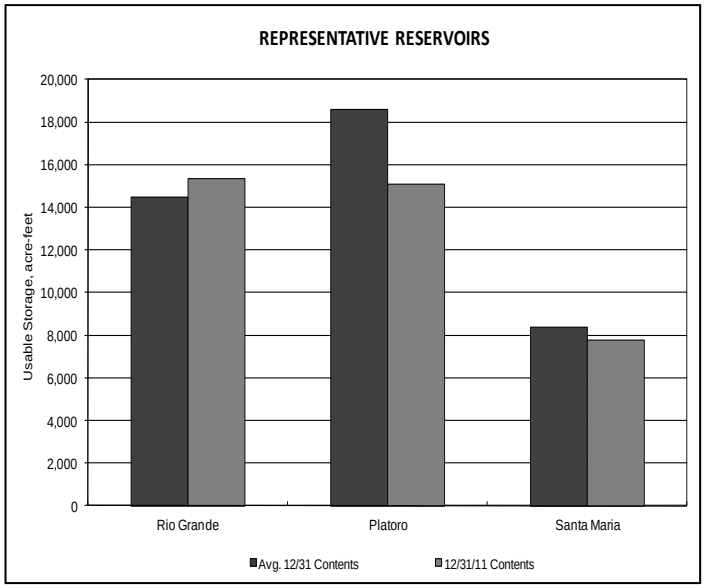
On December 19, 2011, the Colorado Supreme Court upheld the decision of the local Water Court to approve the management plan of the groundwater management subdistrict no. 1 in Case No. 10SA224. The State Engineer will likely file rules and regulations for non-exempt well use in Division 3 during the second half of 2012.

Public Use Impacts

In summary, 2011 was a poor year for runoff. Low precipitation during the irrigation season parched rangeland and forced reservoir releases and massive well pumping from the Valley's aquifers. These aquifers will already be in a stressed condition with little hope of recovery when the next irrigation season kicks into high gear. Crop yields were very good in areas with sufficient water supplies. Commodity prices were very high.



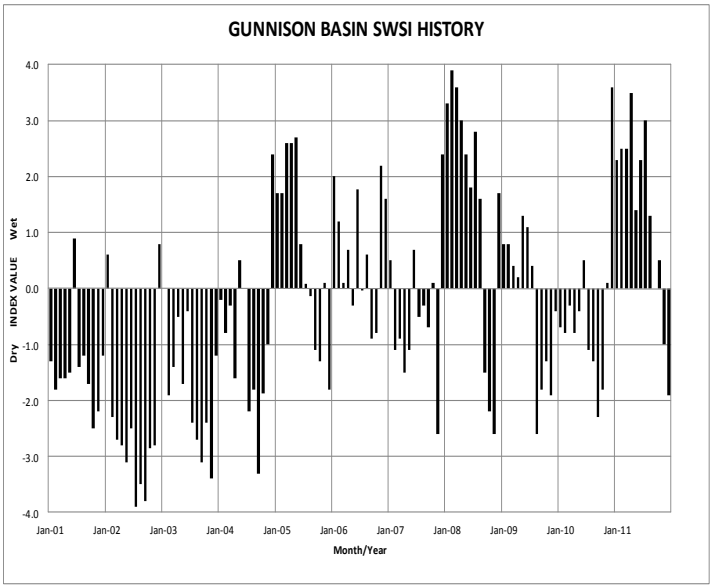




Basinwide Conditions Assessment

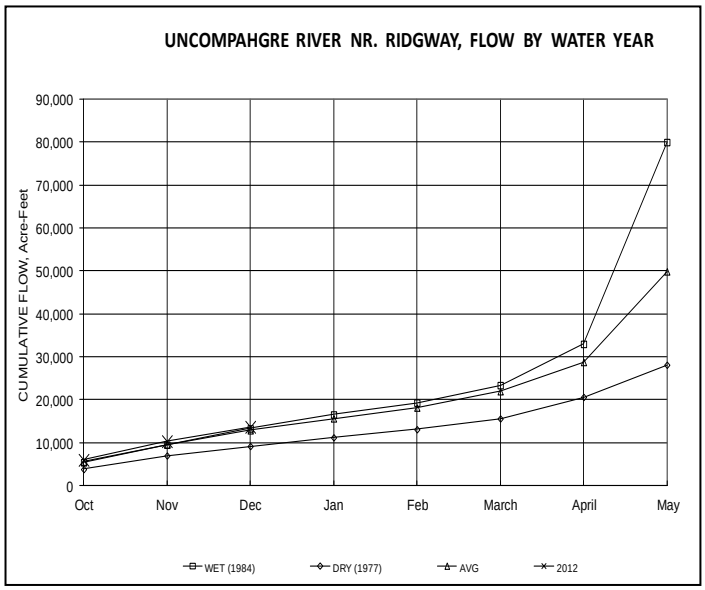
The SWSI value for the month was -1.9. The NRCS reports that January 1 snowpack is 64% of normal. Flow at the gaging station Uncompahgre River near Ridgeway was 54.6 cfs, as compared to the long-term average of 53.3 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 101% of normal as of the end of December.

Although we were hoping for another December like 2011, which was very wet, we have experienced an extremely dry December this year. In fact, precipitation did not exceed 70 percent of normal with areas north such as Crested Butte and the Grand Mesa receiving less than 50 percent of normal for the month of December. As of January 5th the Gunnison basin contains 61 percent of average snowpack, which is actually only 82 percent of the snowpack in 2002 at the same time. Southern areas of the basin such as Red Mountain and Slumgullion Passes have accumulated 74 percent of normal while northern areas such as the Grand Mesa and Crested Butte sit at 44 and 32 percent of average respectively.



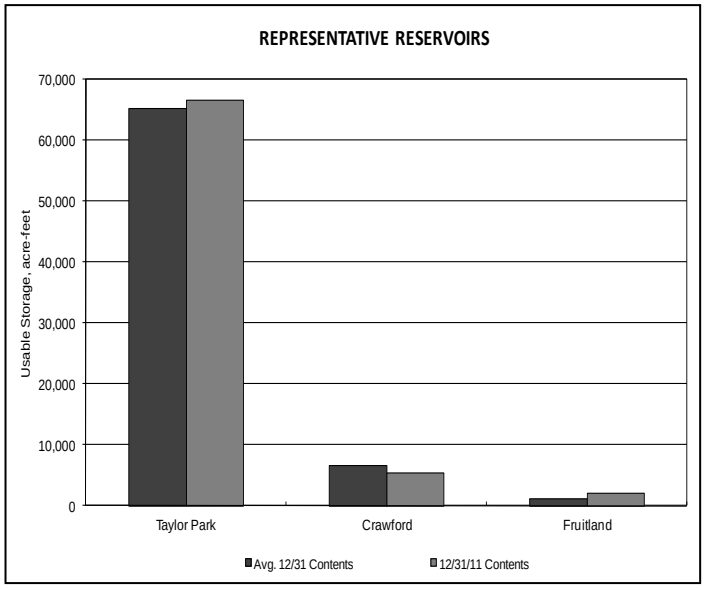
Outlook

The year's first snowpack projections were released by the NRCS on January 5th. Their end of season Gunnison basin snowpack predictions range from 51 to 132 percent of average based on a historical range of what the remaining season could bring. The forecast looks very different than 2011 as this year's prediction is 79 percent of average peak SWE compared with 118 percent at the same time last year. The National Weather Service (NWS) climate forecasts are predicting a change in weather patterns that are expected to bring a greater than equal chance of above average precipitation during the next 30 days and equal chances of above or below average precipitation during the following 60 days.



Administrative/Management Concerns

Water users are not extremely concerned yet, but are anxiously watching the snowpack and hoping, especially in areas without much storage, for a change in weather patterns to occur. It is still early in the year and a review of snowpack accumulation records indicates that during two years that snowpack was this low (1990 & 2000) it recovered to within 80 percent of normal. Hopefully a spring like those years will materialize during the next few months and not a spring like 2002. The U.S. Bureau of Reclamation has reduced flows out of Crystal to 800 cfs in anticipation of a much below normal runoff season. Currently, the USBR predicts an inflow to Blue Mesa Reservoir of 450,000 acre-feet, which is 67 percent of normal and only 50 percent of the 2011 inflow of 893,000 acre-feet.



Public Use Impacts

Low snowpack is affecting ski conditions in the Gunnison basin to the point of reducing revenues for ski areas and towns that depend on the ski economy. For instance, on January 16th Crested Butte still had only an 18 inch base. The Butte snotel station at the beginning of January contains a 30 year (1981 to 2010) low of 2.0 inches of SWE (32 percent of normal).

Basinwide Conditions Assessment

The SWSI value for the month was -1.5. The NRCS reports that January 1 snowpack is 62% of normal. Flow at the gaging station Colorado River near Dotsero was 1,492 cfs, as compared to the long-term average of 1,038 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 114% of normal as of the end of December.

Outlook

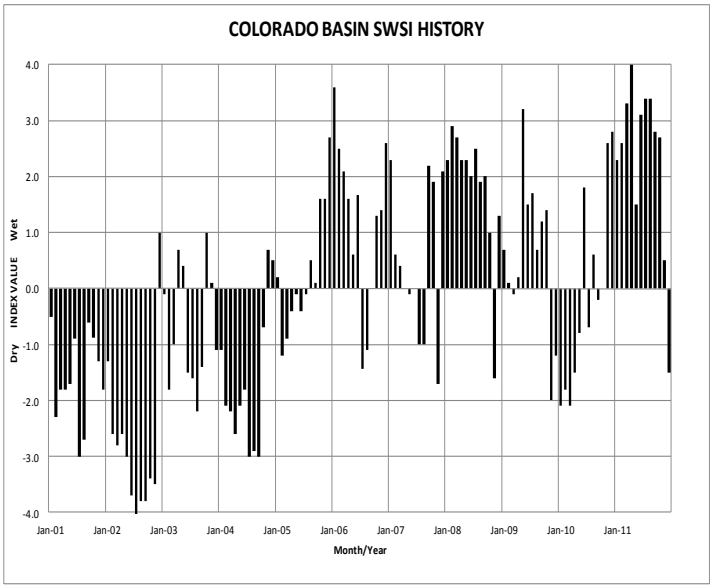
Roaring Fork, Eagle and Colorado River flows will fall below average in January. Blue River flows have and will continue to run slightly above average. Mid-season snowfall has been significantly below average in the Upper Colorado Basin.

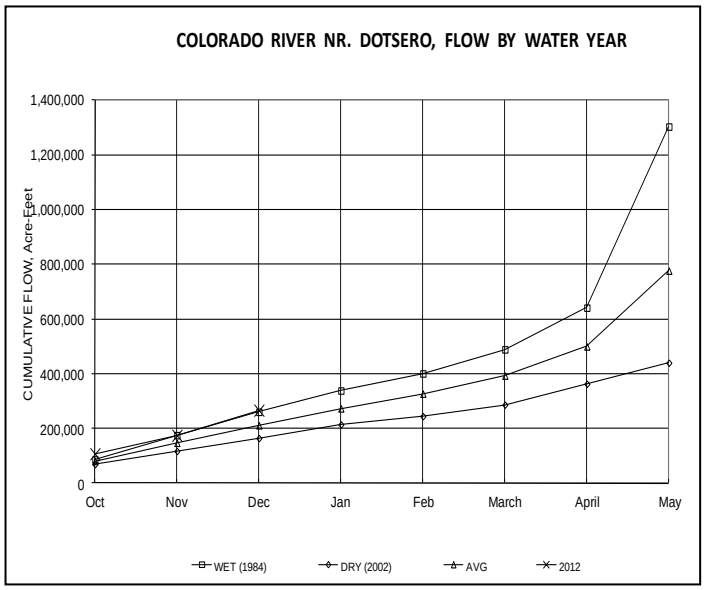
Administrative/Management Concerns

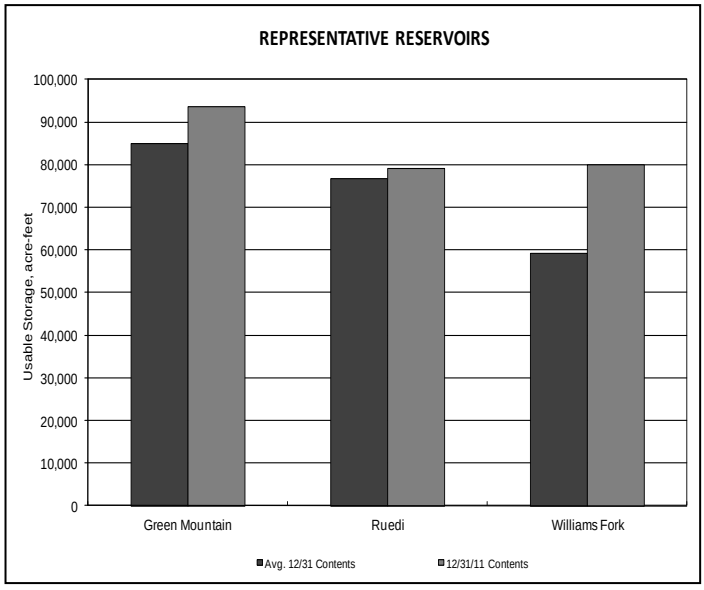
Green Mountain Reservoir releases will be incrementally decreased throughout January with current snowpack and resultant runoff forecast well below average for the Blue River Basin. Ruedi Reservoir releases will likely be decreased below their current 90 cfs in late January as well.

Public Use Impacts

Upper Colorado River Basin snowfall has been significantly below normal, with snow water equivalent basin-wide percentage at 62 percent of average as of January 1st. Same day Roaring Fork River Basin was even lower with 56 percent of average. Conditions will likely remain below normal with water supply forecast for the month of January predicting 70-90 percent of average precipitation/snow water equivalent for the majority of Upper Colorado River Basin sites.





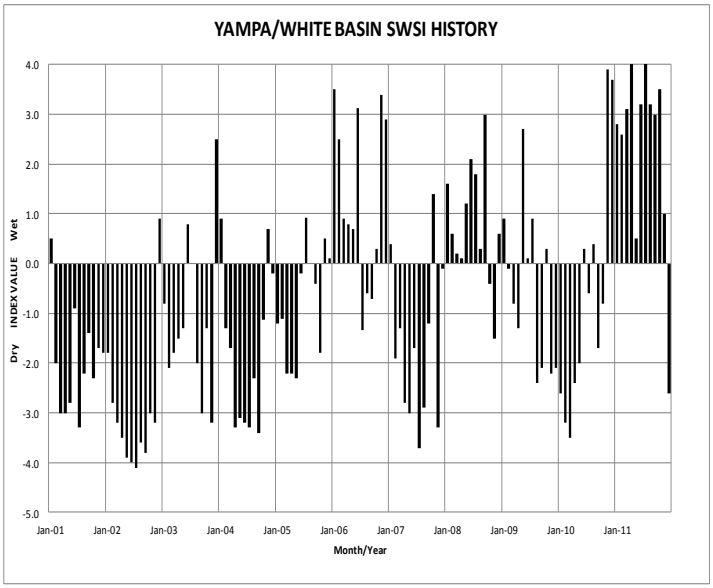


Basinwide Conditions Assessment

The SWSI value for the month was -2.6. The NRCS reports that January 1 snowpack is 61% of normal. Flow at the gaging station Yampa River at Steamboat was 134 cfs, as compared to the long-term average of 107 cfs.

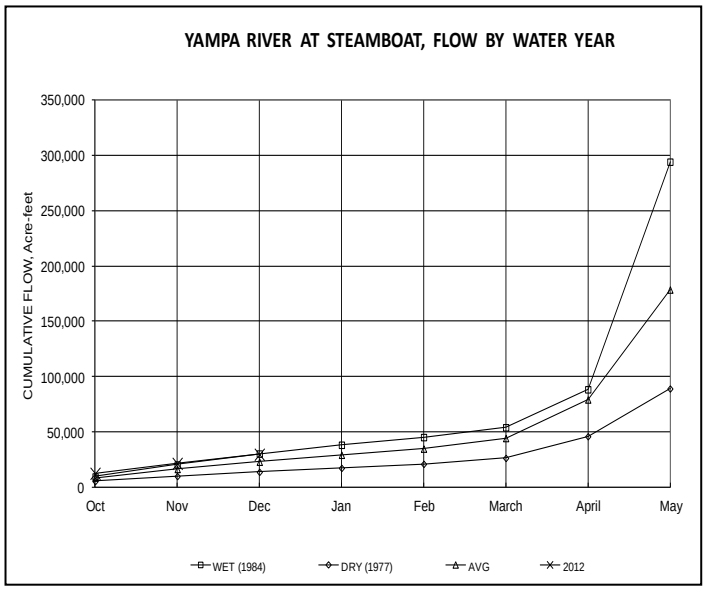
December precipitation was well below average in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by NRCS, was reported at 28% of average for the combined Yampa, White, and North Platte River basins. Total precipitation for the water year to date as a percent of average at the end of December was 75%.

The snow water equivalent (SWE) as of December 31, 2011 was 69% of average for the North Platte River basin and 62% of average for the Yampa and White River basins.



Outlook

As of December 31st Fish Creek Reservoir was storing 2,989 AF, which is equal to 71.8% of capacity. Fish Creek Reservoir is used primarily for municipal purposes. Yamcolo Reservoir was storing approximately 7,411 AF at the end of December 2011. The capacity of Yamcolo Reservoir is 9,580 AF. On December 31st Elkhead Creek Reservoir was storing 22,665 AF. The capacity of Elkhead Creek Reservoir is 24,778 AF. On December 31st, 2011, Stagecoach Reservoir was storing 31,100 AF and at 93.4% of capacity.



Public Use Impacts

Ice at Stagecoach Reservoir is approximately 10-12 inches thick in the coves and at the inlet. There has been open water near the south shore at the inlet so anglers are advised to stay towards the north side. Ice fishing for trout has been steady at Stagecoach.

Steamboat Lake is completely iced over with approximately 12 inches of ice confirmed in the coves near the Marina. Ice conditions may vary dramatically across the lake. Fishing at Steamboat Lake has been good near the marina. Steamboat Lake State Park has a snow base of approximately 6-18 inches. Grooming of cross country ski trails is limited due to the below average snowpack.

Steamboat Ski Resort is reporting a base of 27 inches and snow making is scheduled to end before the end of January. 79.5 inches of snow have fallen at the resort this season to date.

Basinwide Conditions Assessment

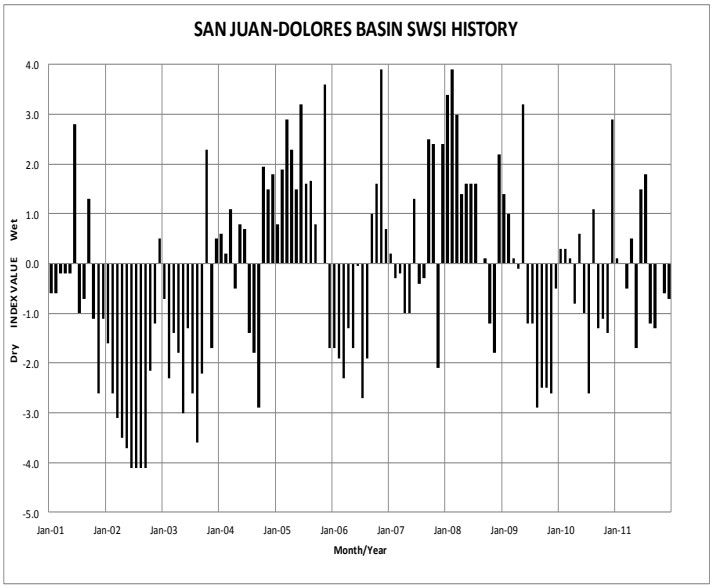
The SWSI value for the month was -0.7. The NRCS reports that January 1 snowpack is 73% of normal. Flow at the Animas River at Durango was estimated to average 202 cfs (91% of average). The flow at the Dolores River at Dolores was estimated to average 50 cfs (86% of average). The La Plata River at Hesperus averaged 8.1 cfs (99% of average). Precipitation in Durango was 0.83 inches for the month, 47% of the 30-year average of 1.77 inches. Precipitation to date in Durango, for the water year, is 5.18 inches, 102% of the 30-year average of 5.09 inches. The average high and low temperatures for the month of December in Durango were 41° and 11°. In comparison, the 30-year average high and low for the month is 41° and 15°. At the end of the month Vallecito Reservoir contained 74,920 acre-feet compared to its average content of 53,204 acre-feet (141% of average). McPhee Reservoir was up to 289,372 acre-feet compared to its average content of 257,890 (112% of average), while Lemon Reservoir was up to 14,150 acre-feet as compared to its average content of 19,320 acre-feet (73% of average).

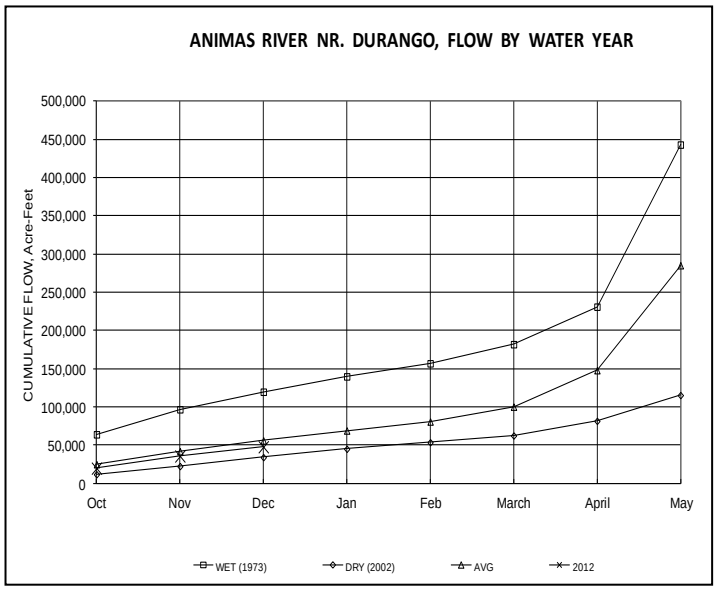
Outlook

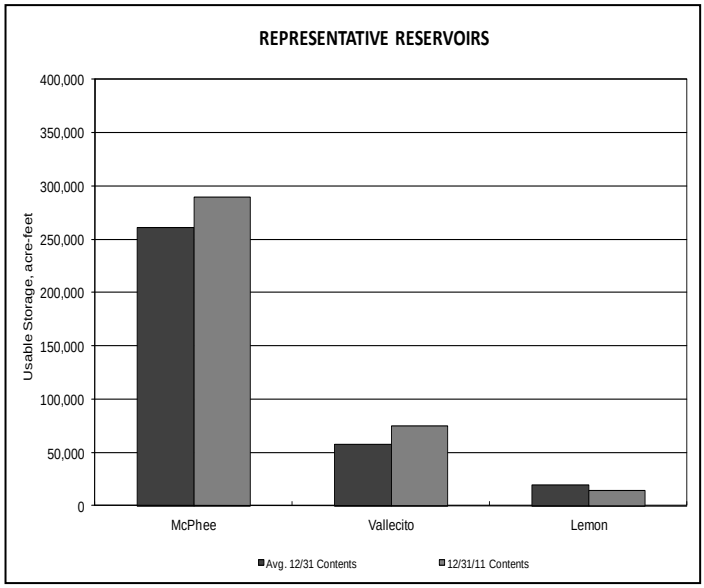
Precipitation (0.83-inches) was below average for the month of December in Durango. There are 83 years out of 117 years of record where there was more precipitation than this year. We hope we will have an above average snowpack season to fill the reservoirs again. On December 31 the NRCS SNOTEL sites reported an average snow-water equivalent within the basin at 74%. Last month the snow-water- equivalent was 69%.

Administrative/Management Concerns

The La Plata River compact call started on April 7, 2011 and will remain on call for the rest of the season. The La Plata River compact call ended on November 30.







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