COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203
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April 2010

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 March (April 1) range from a high value of +1.8 in the Rio Grande Basin to a low value of -3.5 in the Yampa/White Basin. Two of the basins (Rio Grande and Gunnison) experienced a gain from the previous month's value, four of the basins (South Platte, Colorado, Yampa/White, and San Juan/Dolores) experienced a loss from the previous month's value, and one of the basins (Arkansas) remained unchanged from the previous month's value.

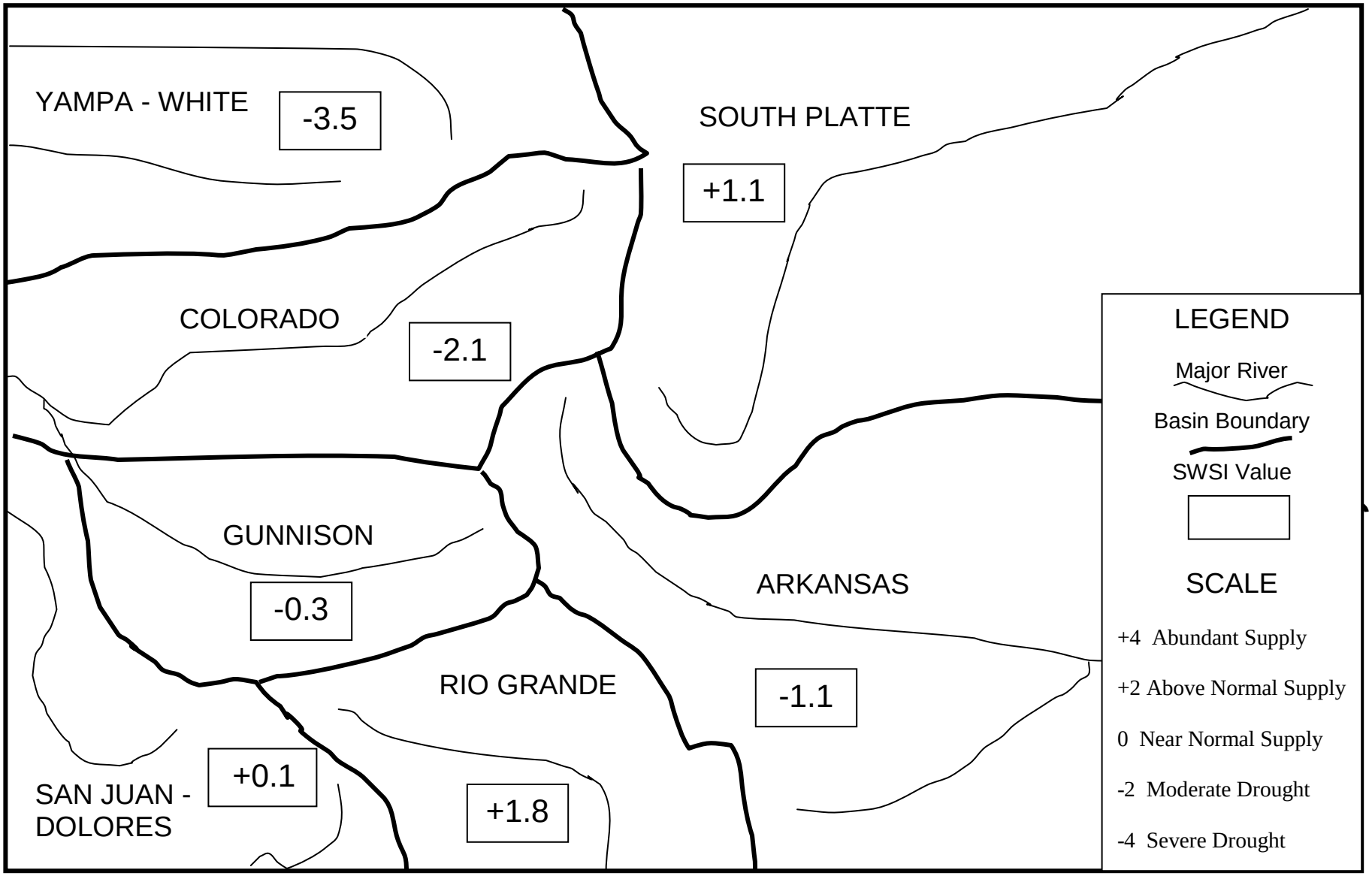
The following SWSI values were computed for each of the seven major basins for April 1, 2010, and reflect the conditions during the month of March.

Basin	April 1, 2010 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+1.1	- 0.1	+0.9
Arkansas	- 1.1	0.0	- 1.5
Rio Grande	+1.8	+0.2	+0.7
Gunnison	- 0.3	+0.5	- 0.7
Colorado	- 2.1	- 0.3	- 2.0
Yampa/White	- 3.5	- 0.3	- 2.7
San Juan/Dolores	+0.1	- 0.2	0.0

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



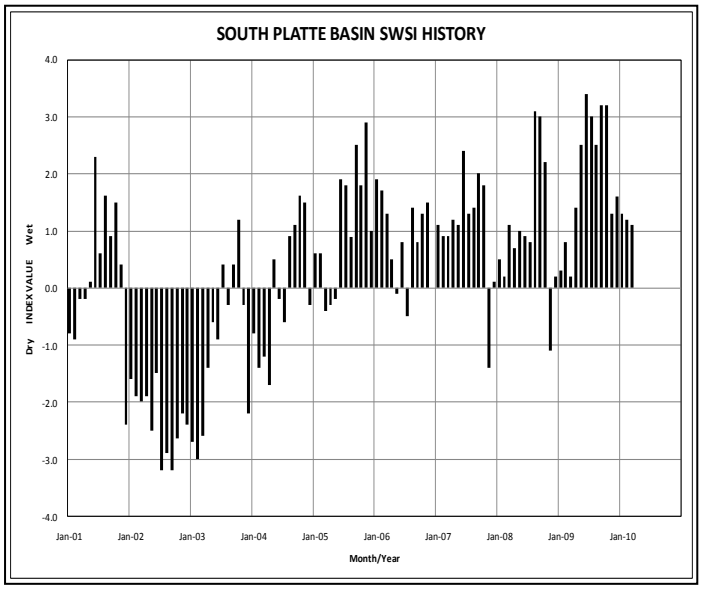
April 1, 2010

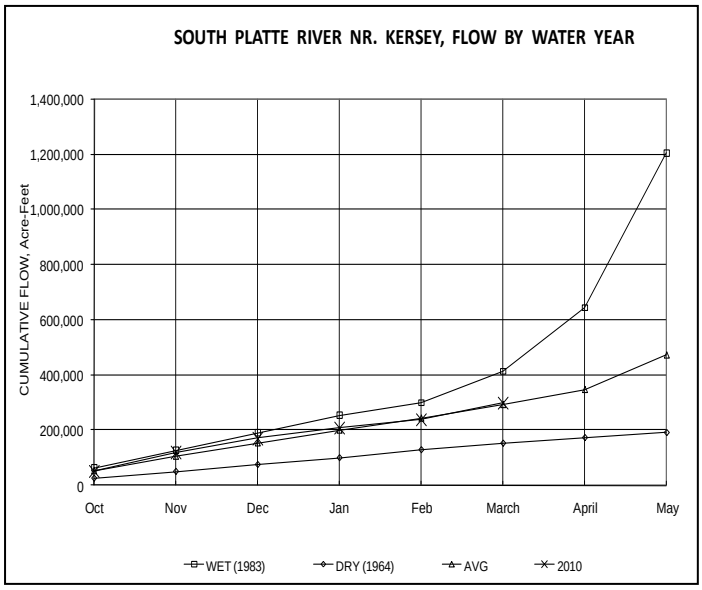
Basinwide Conditions Assessment

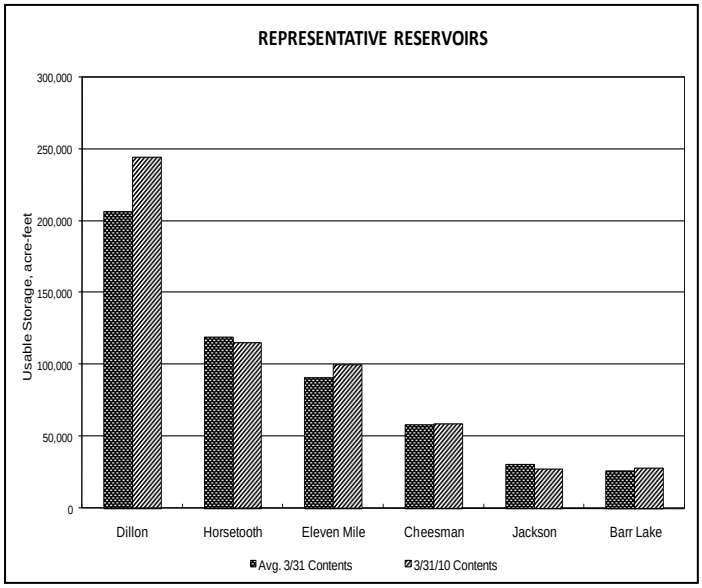
The SWSI value for the month was +1.1. The Natural Resources Conservation Service reports that April 1 snowpack is 83% of normal. Flow at the gaging station South Platte River near Kersey was 977 cfs, as compared to the long-term average of 688 cfs. Flow at the Colorado/Nebraska state line averaged 353 cfs. Cumulative storage for the six reservoirs graphed on this page was 108% of normal as of the end of March. Cumulative storage in the major plains reservoirs (Julesburg, North Sterling, and Prewitt) is at 100% of capacity. Cumulative storage in the major upper-basin reservoirs (Cheesman, Eleven Mile, Spinney, and Antero) is at 87% of capacity.

Outlook

Storage and municipal use continued as the primary diversions on the tributaries in March. Most of the diversions on the mainstem downstream of Denver were for recharge as all the major reservoirs in this area finished filling. The overall storage levels along the tributaries and mainstem are as high as they have been in 40 years. This includes the Poudre drainage, a system where all the reservoirs do not generally fill except in wet cycles. In addition to positive storage conditions, spring precipitation on the plains has made soil moisture favorable for this year's irrigation season. The only area of concern is snowpack which continues to lag significantly below average throughout the basin.







Basinwide Conditions Assessment

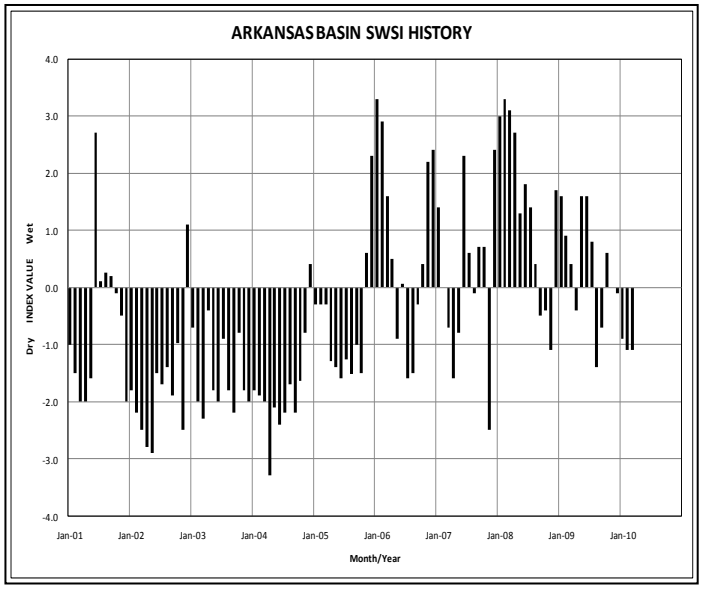
The SWSI value for the month was -1.1. The Natural Resources Conservation Service reports that April 1 snowpack is 108% of normal. Flow at the gaging station Arkansas River near Portland was 383 cfs, as compared to the long-term average of 381 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 113% of normal as of the end of March.

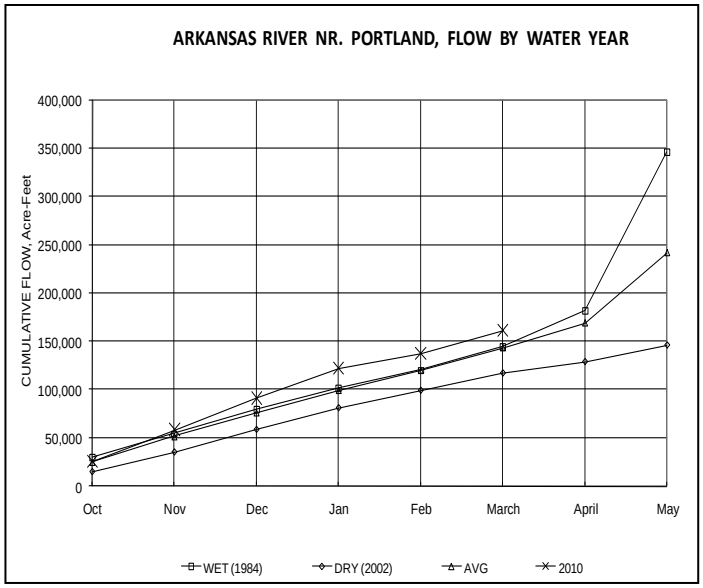
Outlook

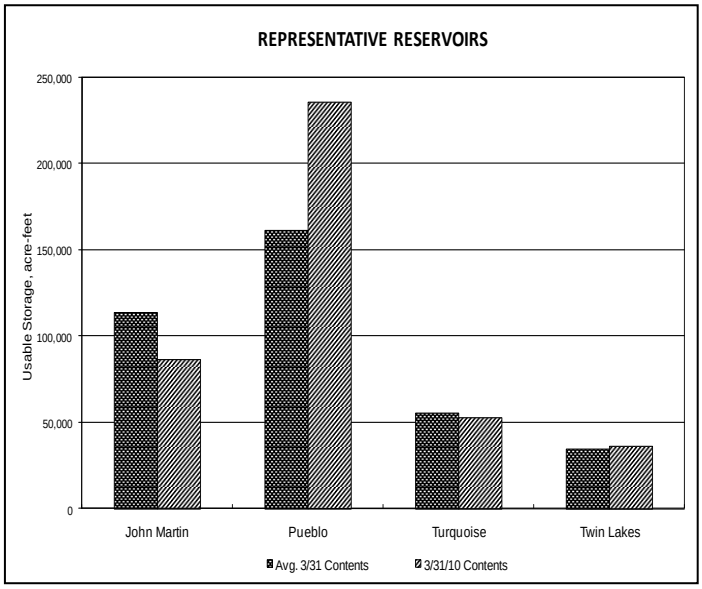
Total distributed reservoir storage following the Pueblo Winter Water Program was 149,528 acre-feet, including 50,012 acre-feet in Pueblo Reservoir, 76,180 acre-feet in off-channel reservoirs, and 23,336 acre-feet in John Martin Reservoir (after distribution to accounts). Conservation Storage in John Martin Reservoir through March 31, 2010 totaled 39,594 acre-feet.

Administrative/Management Concerns

Snowpack conditions improved in March considerably following a good increase in February. The outlook remained near average or above in March.







Basinwide Conditions Assessment

The SWSI value for the month was +1.8. The Natural Resources Conservation Service reports that April 1 snowpack is 113% of normal. Flow at the gaging station Rio Grande near Del Norte averaged 277 cfs (104% of normal). The Conejos River near Mogote had a mean flow of 64 cfs (81% of normal). Flow at the state line was 114% of normal. Throughout the upper Rio Grande basin, streamflow during March was near normal. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 113% of normal as of the end of March.

Weather conditions in the San Luis Valley were much wetter than normal during March with 1.01 inches of precipitation measured at the Alamosa weather station. Precipitation at Alamosa totaled 1.01 inches for the month, which was 0.55 inch above normal.

A recent study of SNOTEL sites in the upper Rio Grande basin showed the existing snowpack began to decline around April 1, about 10 days before the normal peak of the snowpack. Local snow course readings taken near the end of March showed above normal snowpack conditions in the southern and eastern mountains, while the northern and western mountains near average. Most high elevation sites were near normal but the mid-elevation sites were very promising with about 120% of normal snowpack water content.

Outlook

Current NRCS streamflow forecasts predict the April through September runoff to be 94% of average on the Rio Grande near Del Norte and 100% of average for the Conejos near Mogote. Other streams in the basin are forecast as low as 91% of normal for the inflow to Rio Grande Reservoir and as high as 135% for the creeks near Fort Garland and Costilla Creek near the Colorado/New Mexico state line.

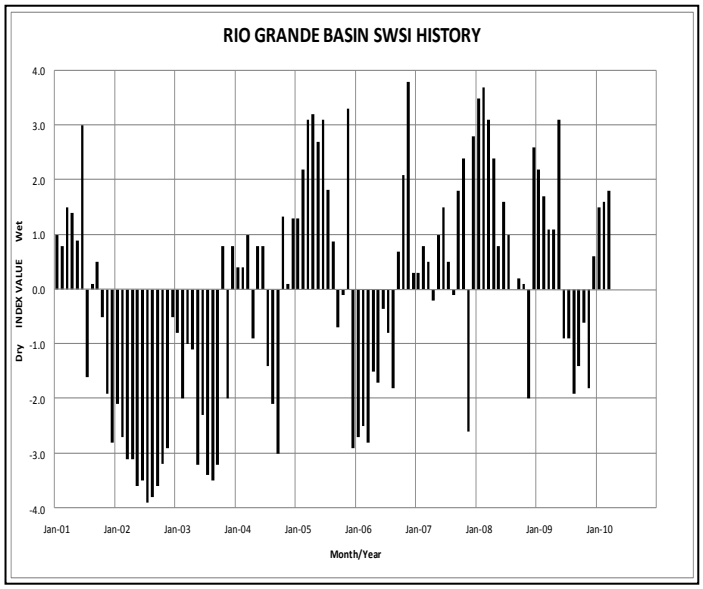
Soil moisture conditions are good in most locations around the basin due to good winter precipitation.

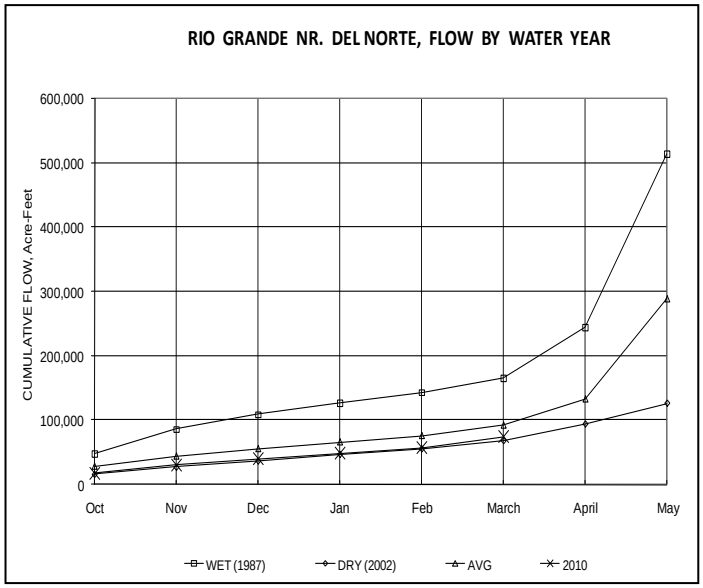
Administrative/Management Concerns

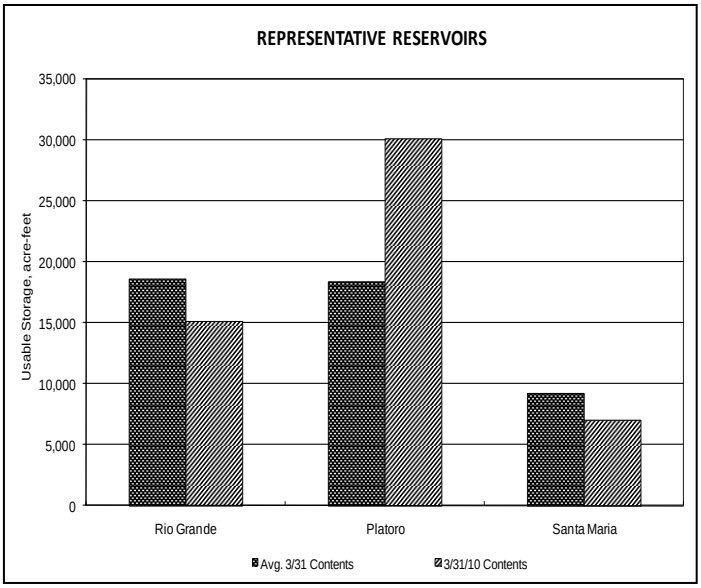
Based on the current forecast, there will be delivery targets on the Rio Grande of approximately 15% and for the Conejos River system approximately 28% this irrigation season. Diversions from the Rio Grande for irrigation purposes began on April 5. Most other drainages were holding off for a few more days to let the ice melt out of their headgates and ditches.

Special Note

San Luis Valley residents and water officials throughout the State mourned the loss of two integral and dynamic leaders in the community during March. Ray Wright and Doug Shriver succumbed to an avalanche-related accident on March 19, 2010 near Creede.



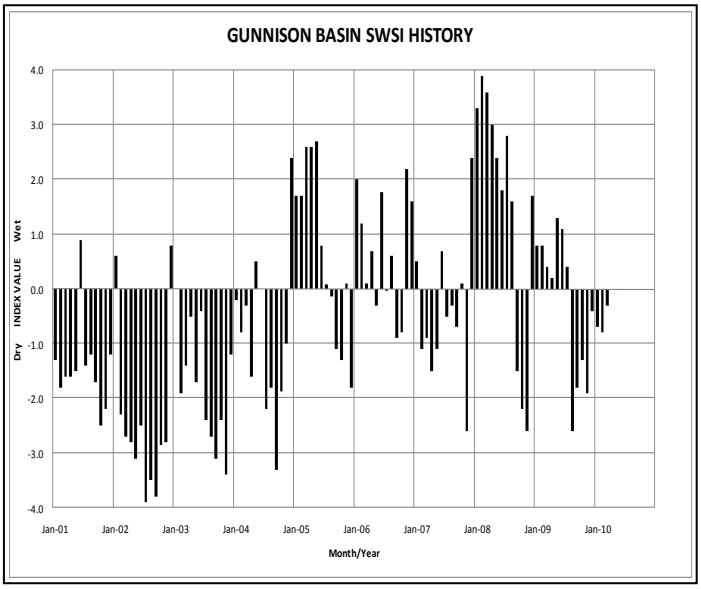




Basinwide Conditions Assessment

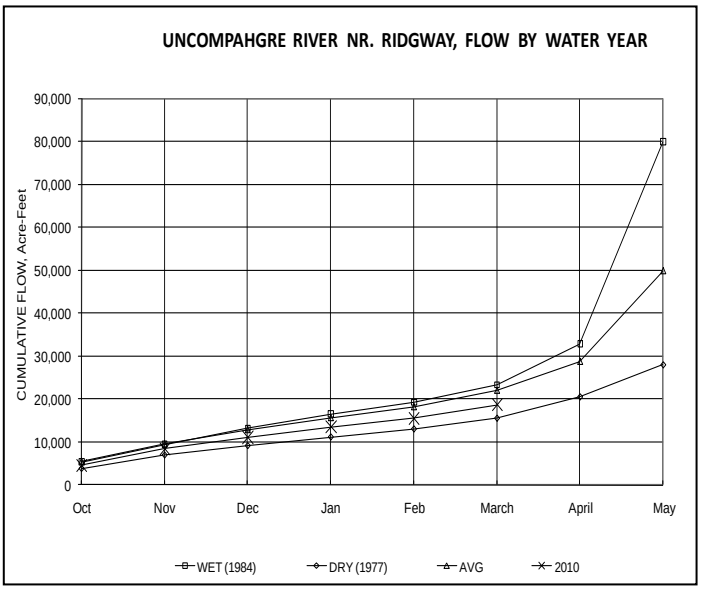
The SWSI value for the month was -0.3. The Natural Resources Conservation Service (NRCS) reports that April 1 snowpack is 96% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 50.4 cfs, as compared to the long-term average of 62.4 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 97% of normal as of the end of March.

The Gunnison Basin has remained the dividing line between above and below average snowpack conditions with areas south of the basin above the average. For example, at the end of March, the San Miguel and upper Uncompahgre Basins respectively contained 96% and 94% of average snow water equivalent (SWE), while the Dolores River Basin was reporting 105% of average according to the Colorado Basin River Forecast Center (CBRFC). Although precipitation in March was slightly below normal (95% of average), lower than average temperatures kept snowpack levels steady in March. However, two significant dust-on-snow events occurred in the Gunnison Basin in early April; one on April 5th and another on April 12th. These events appear to have already impacted the snowmelt as warm temperatures the week of April 11th caused an unusually quick decline in basin-wide snowpack from 102% to 91%.



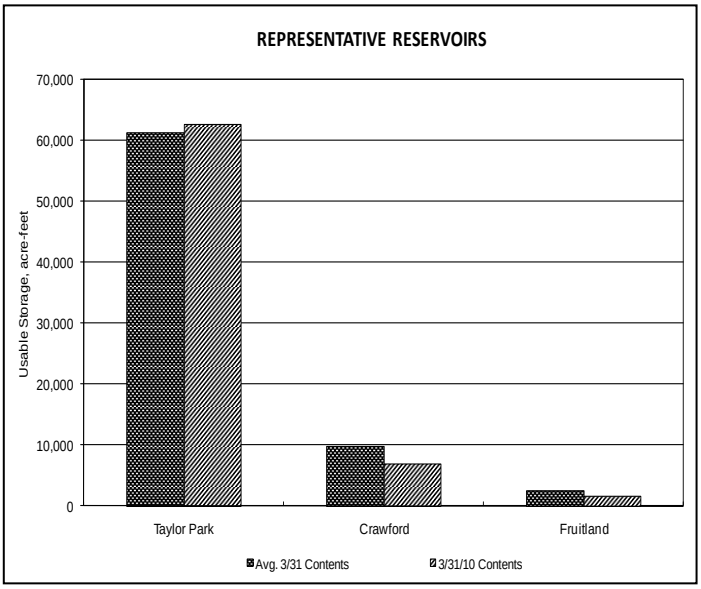
Outlook

Runoff volumes and peak flows are forecast to be below normal for 2010. The CBRFC currently projects a median runoff volume of 80% of average for the Gunnison and Dolores River Basins while spring peak flows are forecast at between 65% and 80% of normal for streams in the Gunnison Basin. Following two good years in a row, carry-over storage in Bureau of Reclamation reservoirs is similar to last year and most are expected to fill again this year. Therefore, irrigators should receive their full allotment of water during this summer. The National Weather Service predicts above average precipitation for the month of May in the Basin, but equal chances of above normal and below normal precipitation for the months of June and July. A wild card that could significantly impact water supply conditions is the effect that dust-on-snow events have on how rapid the snowmelt occurs this spring. The full impact of these dust-on-snow events will not be known until late May.



Administrative/Management Concerns

Due to cooler than average conditions in March, Gunnison Tunnel diversions did not begin until March 30th and at the end of March were running at 250 cfs. Crystal Reservoir releases were adjusted accordingly to produce flows in the Black Canyon of around 600 cfs. March inflow into Blue Mesa was 82% of average, while the storage volume at the end of March was 542,000 acre-feet or 78% of normal. This is similar to the storage level at the same time last year. Inflow for 2010, however, is currently forecast at 530,000 acre-feet or 74% of normal, which means that Blue Mesa is not projected to reach its normal fill target. If the inflow forecast holds, the Black Canyon Water Right would result in a one day peak spring flow of approximately 3,400 cfs.



Public Use Impacts

Cooler than average conditions delayed the preparation of fields for planting by two to three weeks, which has delayed the beginning of irrigation season by a similar amount.

Basinwide Conditions Assessment

The SWSI value for the month was -2.1. The Natural Resources Conservation Service reports that April 1 snowpack is 77% of normal. Flow at the gaging station Colorado River near Dotsero was 636 cfs, as compared to the long-term average of 1,078 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 130% of normal as of the end of March.

Outlook

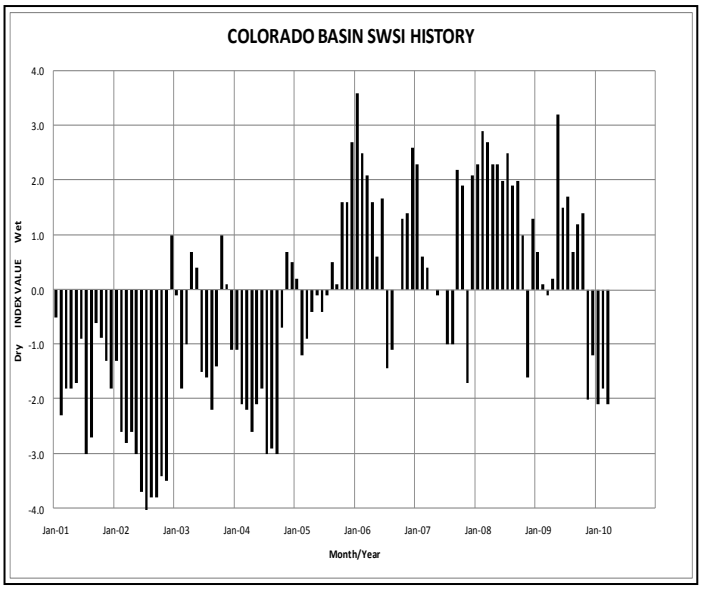
Colorado River flows will likely increase to average or above average throughout April with typical warming temperatures. Green Mountain Reservoir releases, which were increased in late March to void spring runoff storage space, should remain around 100 cfs throughout the month of April. Crystal and Roaring Fork River flows should also increase to average or above average during the month of April. Ruedi Reservoir releases will remain well below average at 70 cfs throughout the month of April. Snowpack in the Upper Colorado Basin decreased further from 81 to 77% (snow water equivalent) as of April 1. Moderate spring storms in early April increased snowpack somewhat, however the Colorado Basin remains significantly below average.

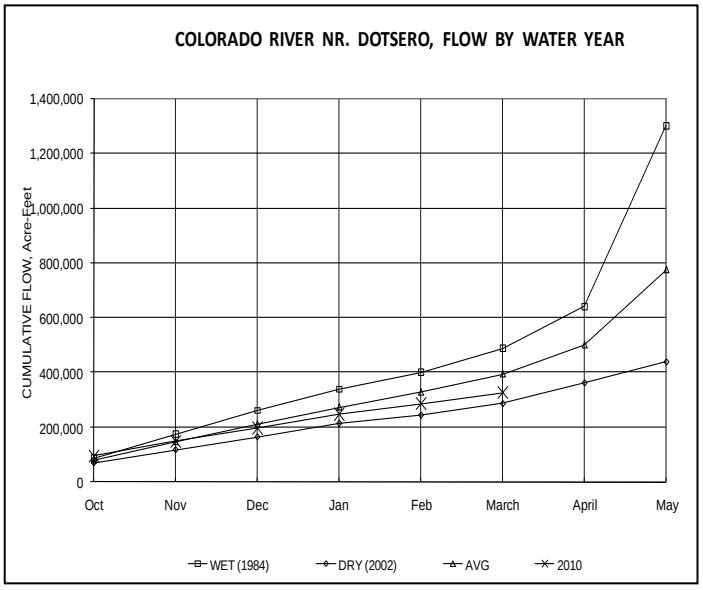
Administrative/Management Concerns

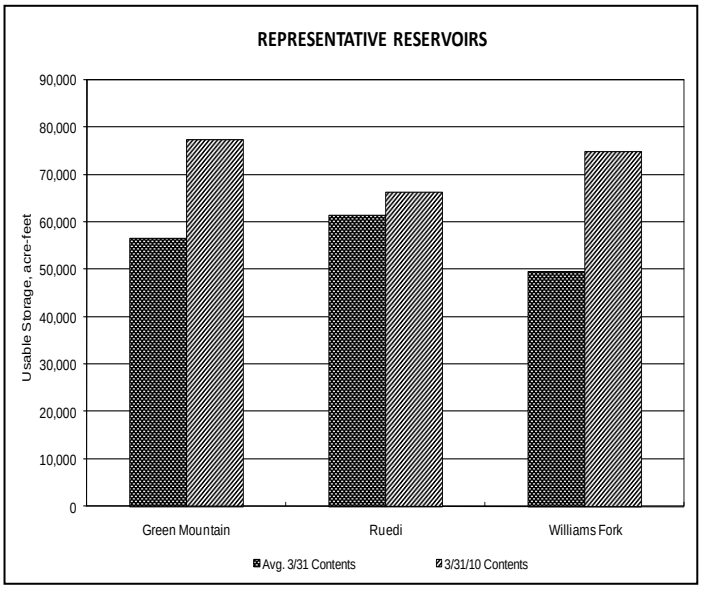
Green Mountain Reservoir releases were increased slightly in late March to open storage space for spring runoff. Shoshone Power Plant continues to run a single turbine. A call remains a possibility once the second turbine is placed on line. Grand Valley irrigators currently have sufficient water to fill their canals for the season.

Public Use Impacts

A two-year project has been initiated to study construction of a 500 mile pipeline from Flaming Gorge Reservoir to the Front Range of Colorado and Wyoming. The project would supply the large population expansion anticipated in the service area. Though drawn from Wyoming, the water would come from Colorado's allocated share of water in the Colorado River System. The project faces opposition from Rock Springs and Green River Wyoming communities that rely on the Colorado River Compact to ensure their water needs. The proposed pipeline mirrors a similar project proposed by Aaron Million currently being considered by the Army Corps of Engineers, to pipe 250,000 acre feet of water annually from the Green River to Colorado Front Range communities as far as Pueblo.







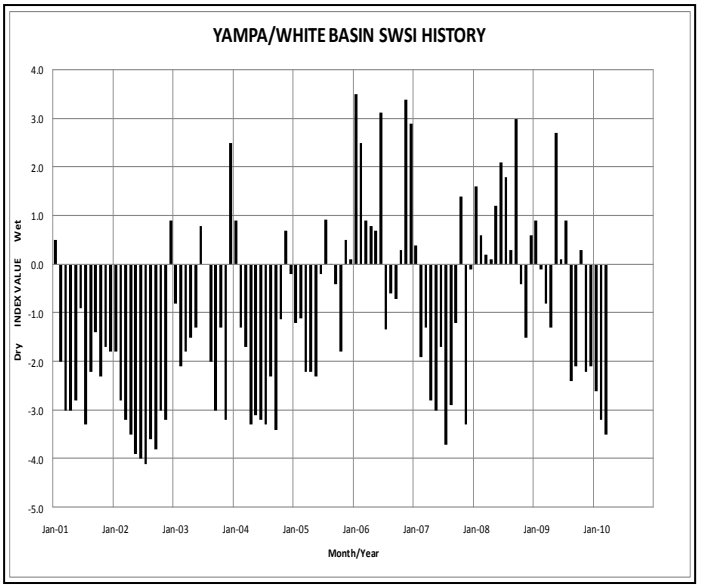
Basinwide Conditions Assessment

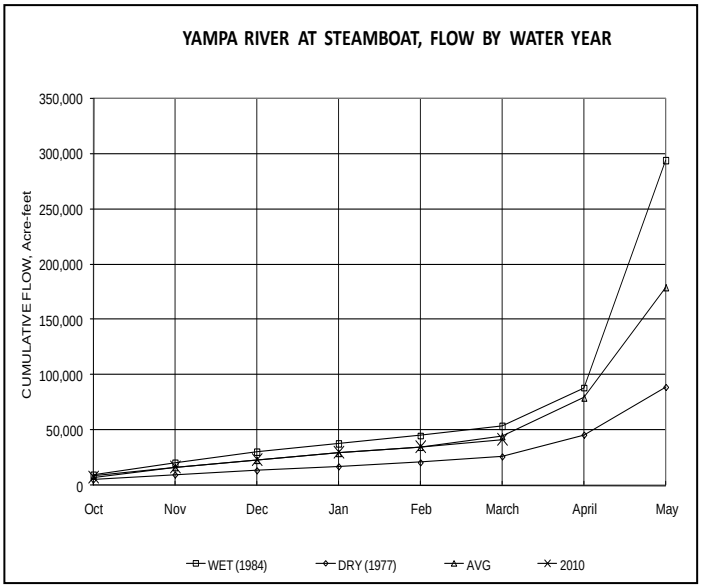
The SWSI value for the month was -3.5. Flow at the gaging station Yampa River at Steamboat was 104 cfs, as compared to the long-term average of 156 cfs. The dry trend continued in northern Colorado throughout March and precipitation was below average for the fifth consecutive month in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by the NRCS, was reported at approximately 68% of average for the Yampa/White River basin and 64% of average for the North Platte River basin. Precipitation for the combined Yampa, White, and North Platte River basins was reported at approximately 68% of average for the month of March and 79% of average for the water year to-date.

The snow water equivalent (SWE) as of March 31, 2010 was 74% of average for the North Platte River basin, 76% of average for the Yampa River basin, and 72% of average for the White River basin.

NRCS predicts below average to well below average runoff this spring and summer in the Yampa, White, and North Platte River basins. The latest runoff forecasts from the NRCS for the April through July period are 54% of average for the North Platte River near Northgate, 58% of average for the Yampa River near Maybell, 71% of average for the Little Snake River near Lily, and 69% of average for the White River near Meeker.

It is anticipated that many Division 6 stream gages, which had been closed for the winter season, will re-open in April.





Outlook

Fish Creek Reservoir storage level continued to decline in March and was reported at approximately 48% of capacity at the end of the month. Elkhead Creek Reservoir level rose slightly during the month and the reservoir was at approximately 81% of its enlarged capacity. Yamcolo Reservoir storage level also increased and the reservoir was estimated at approximately 91% of capacity at the end of March. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Creek Reservoir for municipal, industrial, and recreational purposes, as well as fish recovery releases.

Administrative/Management Concerns

According to NRCS data, snowpack in the combined Yampa, White, and North Platte River basins is the lowest of the major basins in the state. The annual (water year-to-date) precipitation totals were also the lowest of the state's major basins. Due to the low precipitation and snowpack levels, it is anticipated that many Division 6 streams will go under administration this irrigation year and water users will have to prepare for a low runoff season.

Public Use Impacts

Many anglers and kayakers have returned to the Yampa River to enjoy the snowmelt season and higher river flows. With warming temperatures, spring conditions are being reported at the ski area. Lifts and runs remain open through the second week of April.

Basinwide Conditions Assessment

The SWSI value for the month was +0.1. The Natural Resources Conservation Service (NRCS) reports that April 1 snowpack is 98% of normal. Flows at the Animas River at Durango averaged 200 cfs (66% of average). The flow at the Dolores River at Dolores was estimated to average 90 cfs (67% of average). The La Plata River at Hesperus averaged 5.6 cfs (35% of average).

Precipitation in Durango was 1.10 inches for March, 70% of the 30-year average of 1.57 inches. Precipitation to date in Durango, for the water year, is 13.38 inches, compared to the average of 10.01 inches. The average high and low temperatures for the month of March in Durango were 50° and 22°. In comparison, the 30-year average high and low for the month is 54° and 25°.

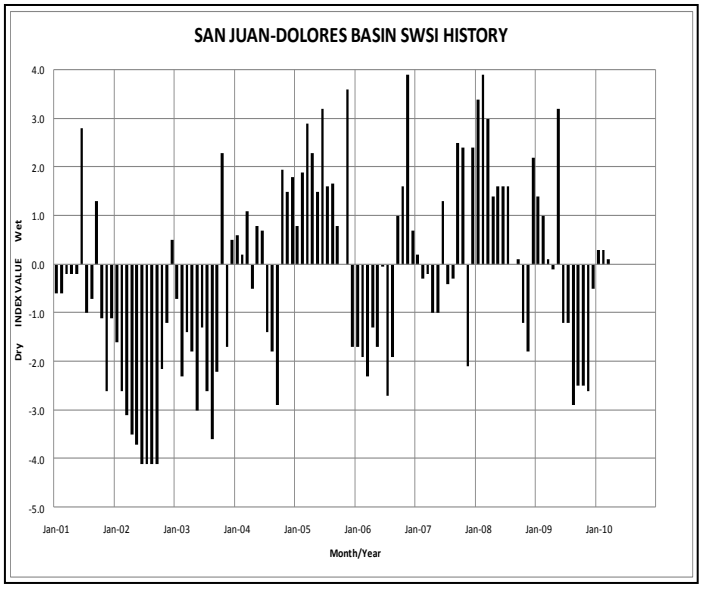
At the end of the month Vallecito Reservoir contained 42,220 acre-feet compared to its average content of 55,461 acre-feet (76% of average). McPhee Reservoir was up to 251,535 acre-feet compared to its average content of 271,508 (93% of average), while Lemon Reservoir was up to 9,690 acre-feet as compared to its average content of 20,213 acre-feet (48% of average).

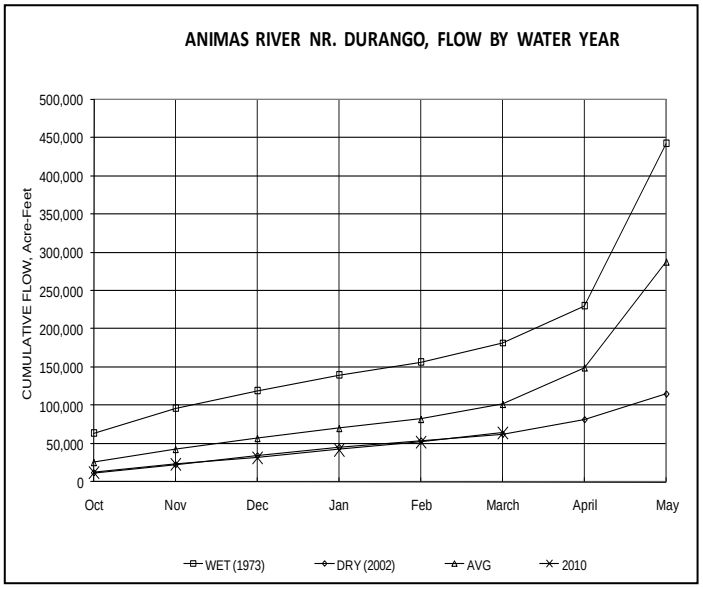
Outlook

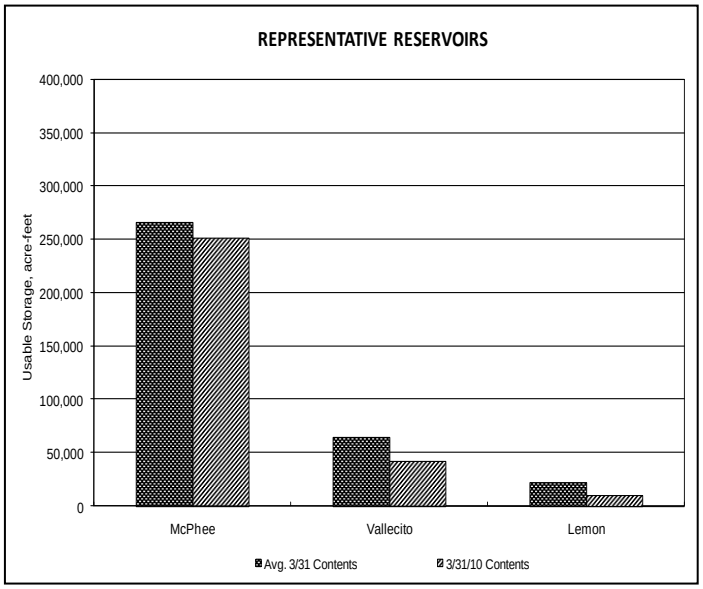
March temperatures remained below average for the month. On March 31st the NRCS SNOTEL sites are reporting a 99% snow-water equivalent within the basin.

Administrative/Management Concerns

Pumping into Ridges Basin Reservoir began again on March 4th. In March, 2,830 acre-feet were pumped into the reservoir. Total content at the end of the month is 27,570 acre-feet.







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