
COLORADO

WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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MARCH 2003

A wetter February boosted the SWSI and snowpack values over most of the state. The March 1 statewide snowpack is 83% of average. The Colorado River basin has the highest value at 93% of average, and the Rio Grande basin has the lowest at 73% of average.

The SWSI values are negative, but not in the sever drought category that covered the state through most of 2002. However, water users should take care in viewing this index because although the index (and current snowpack) are higher than last year, spring and summer stream flows are still anticipated to be well below average because the runoff will have to build from the current low winter base flows, and dry soil and low ground water levels will take up some snow melt before it reaches the streams.

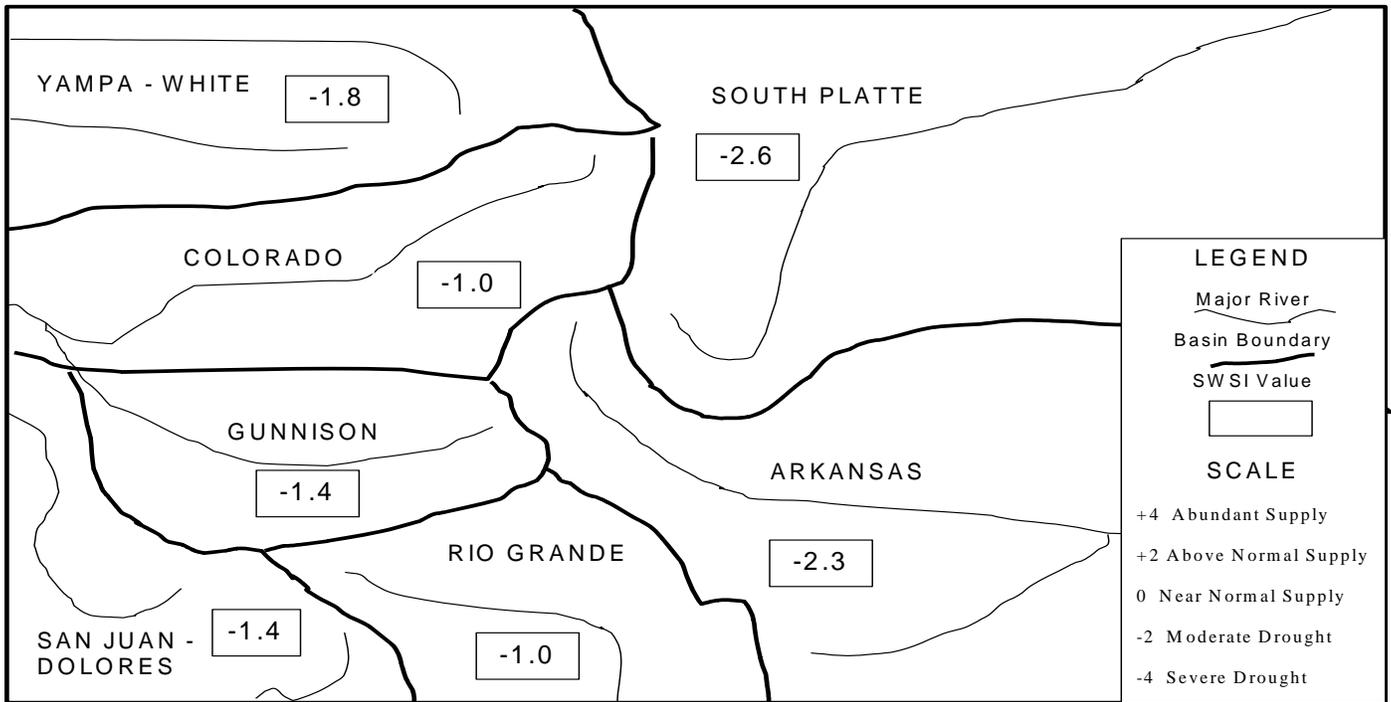
The three eastern slope index stream flow gages shown in this report had lower flows this February than they did in February 2002, the western slope index stream gages had about the same flows. Total reservoir storage in Colorado is at about one-half of normal. Reservoirs are storing what they can during the winter, but low winter flows mean less water is being stored than in a normal year.

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 (November through April). 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 following SWSI values were computed for each of the seven major basins for March 1, 2003, and reflect the conditions during the month of February.

<u>Basin</u>	<u>March 1, 2003 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	-2.6	+0.4	-0.6
Arkansas	-2.3	-0.3	+0.2
Rio Grande	-1.0	+1.0	+2.1
Gunnison	-1.4	+0.5	+1.3
Colorado	-1.0	+0.8	+1.8
Yampa/White	-1.8	+0.3	+1.4
San Juan/Dolores	-1.4	+0.9	+1.7

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



March 1, 2003

Basinwide Conditions Assessment

The SWSI value of -2.6 indicates that for February the basin water supplies were below normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 54% of normal as of the end of February. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 46% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 43% of capacity. The Natural Resources Conservation Service reports that March 1 snowpack is 79% of normal. Flow at the gaging station South Platte River near Kersey was 576 cfs, as compared to the long-term average of 858 cfs. Flow at the Colorado/Nebraska state line averaged 40 cfs.

Overall conditions improved in February with significant mountain snowfall especially toward the end of the month. Snowpack in the Upper Colorado River that serves as a source of several transbasin diversions into the South Platte also improved dramatically during February

Outlook

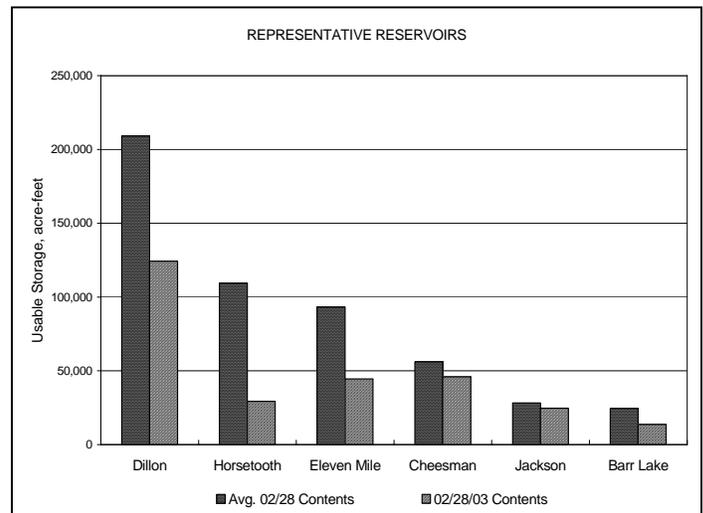
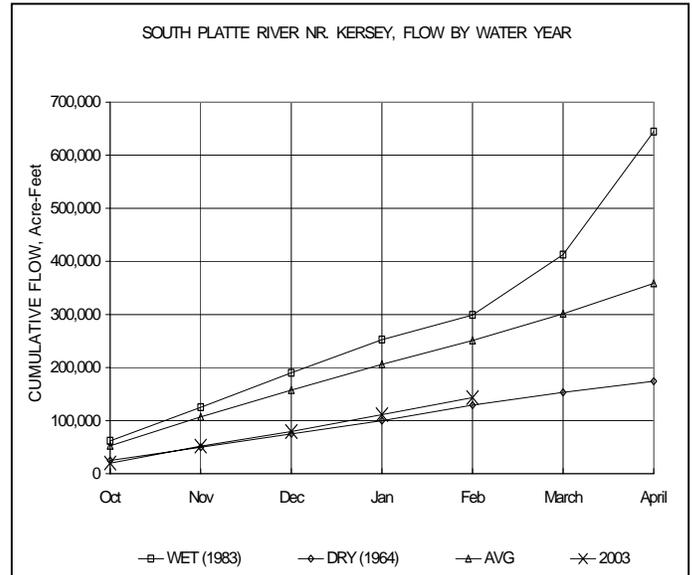
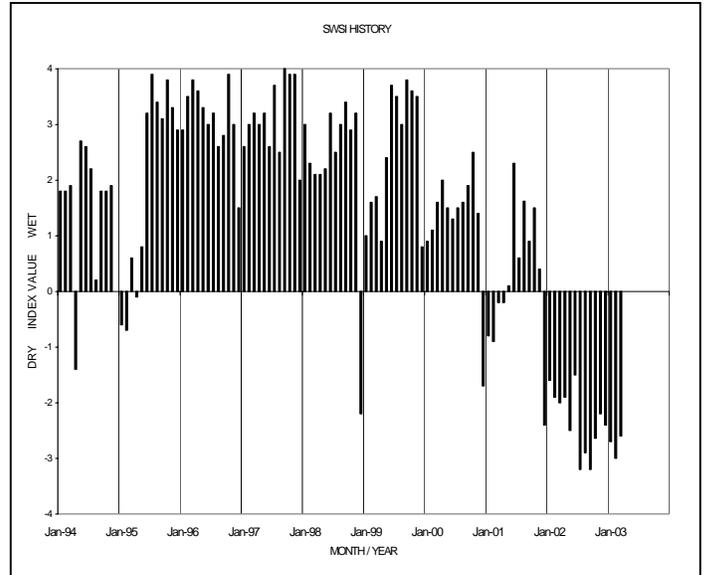
Unless we have a wet spring, it still does not appear many major reservoirs along either the mainstem or tributaries will fill this year. Without full reservoirs, there is a high likelihood that many users who are used to receiving a full supply will not get that supply.

Administrative/Management Concerns

The primary purpose of diversions except for domestic uses continued to be for reservoir storage along the mainstem and tributaries. The storage call continued along the length of the South Platte except in District 64 at the lower end of the river. In that area, users were able to complete significant recharge for replacement purposes for irrigation wells. We anticipate that the storage call along remainder of the South Platte will continue until a direct flow call for irrigation occurs.

Public Use Impacts

The better snowpack conditions may reduce the severity of restrictions that municipal suppliers will have to impose, but almost all municipalities are still planning on restrictions regardless unless conditions change dramatically in the next couple of months.



Basinwide Conditions Assessment

The SWSI value of -2.3 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 83% of normal. Flow at the gaging station Arkansas River near Portland was 196 cfs, as compared to the long-term average of 361 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 43% of normal as of the end of February.

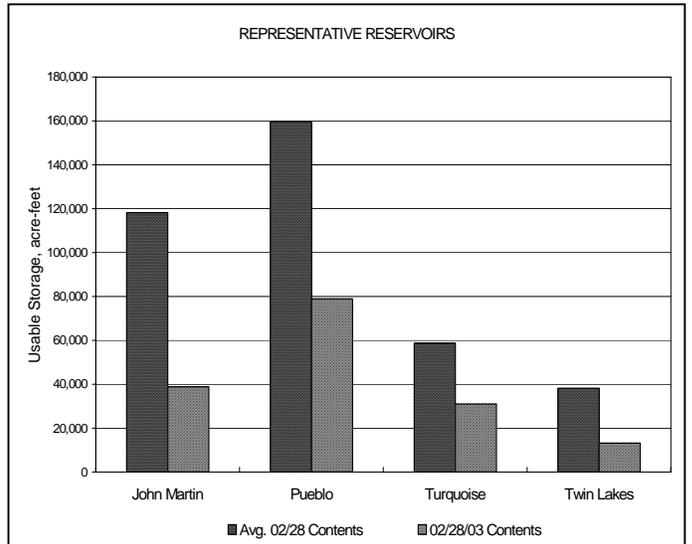
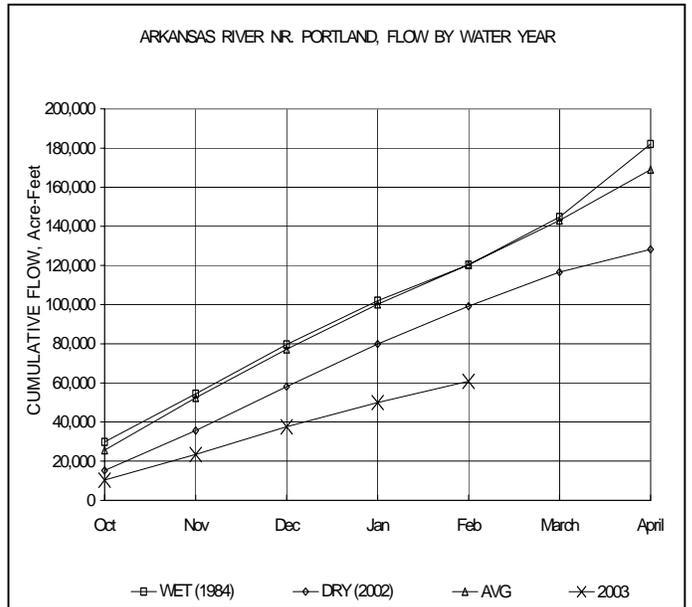
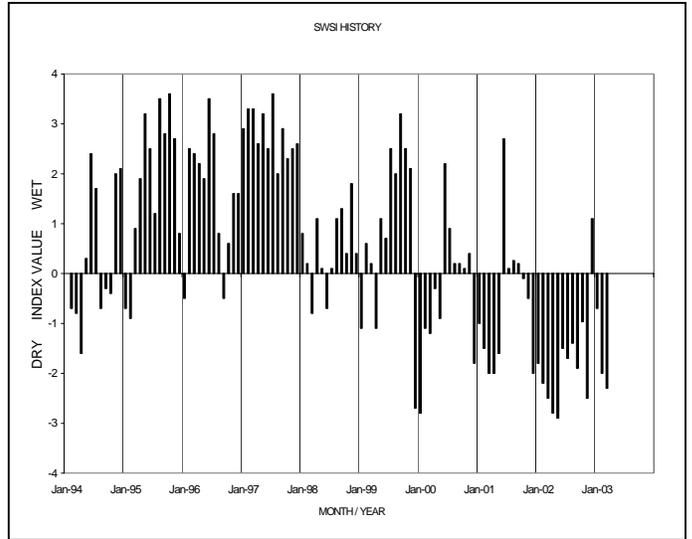
Outlook

Drought conditions continued to have a profound effect on storage in the major reservoirs throughout February even though snowpack conditions improved significantly during the month.

Administrative/Management Concerns

The Division Engineer's Office worked extensively with the Southeastern Colorado Water Conservancy District (SECWCD) as well as with the Upper Arkansas Water Conservancy District and the newly formed Lower Arkansas Water Conservancy District in planning related to the Arkansas Basin's continuing drought conditions. In particular, the SECWCD sought considerable input in refining their allocation policies related to the allocation of Fryingpan-Arkansas Project water and return flows for the upcoming year in the face of considerable demand for this fully consumable resource.

Colorado's legal team completed Colorado's Closing Brief in the Kansas v. Colorado Supreme Court Case with primary areas of the litigation being whether or not Colorado's well rules and well replacement plans will work to prevent depletions to usable stateline flow in the future, whether Colorado was in compliance with the Compact for the years 1997-1999, and how the case should be resolved with respect to either the appointment of a River Master or the use of binding arbitration. Also in dispute is whether the Colorado State Engineer should require flow meters on all wells subject to the Measurement Rules in the Arkansas River Basin rather than allowing pumping to be determined using a power conversion coefficient.



Basinwide Conditions Assessment

The SWSI value of -1.0 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 73% of normal. Flow at the gaging station Rio Grande near Del Norte was 116 cfs (59% of normal), as compared to the long-term average of 183 cfs. The Conejos River near Mogote had a mean flow of 32 cfs (62% of normal). Flow that the state line was 64% of normal. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 89% of normal as of the end of February.

Further proof of the lingering effects of the drought is seen in the poor winter-time stream flows.

Temperatures during February were again above normal in the San Luis Valley. Alamosa received 0.28 inches of precipitation during the month, 0.07 inches above normal. The San Juan and Sangre de Cristo mountains received generous amounts of snowfall the last ten days of the month.

Outlook

Although snowpack conditions improved slightly during February, the upper Rio Grande basin continues to carry well below normal snowpack for this time of year. In many areas of the basin, the snow depth is near normal, but the snow is very dry, holding only two-thirds of the normal water content. However, with the two snowiest months yet to come, there is still hope the snowpack can approach average levels.

Recent NRCS stream flow forecasts are calling for well below average conditions in the entire upper Rio Grande basin this year. Expected runoff in the Rio Grande near Del Norte is just 59 percent of normal and only 66 percent of average for the Conejos near Mogote.

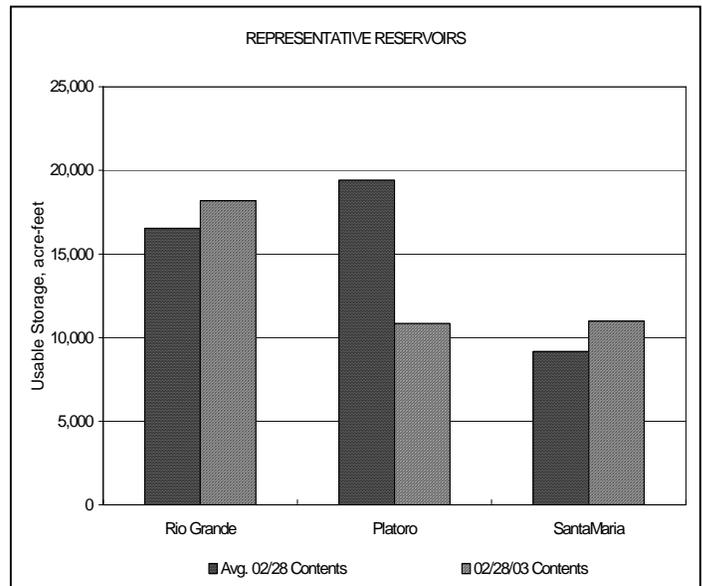
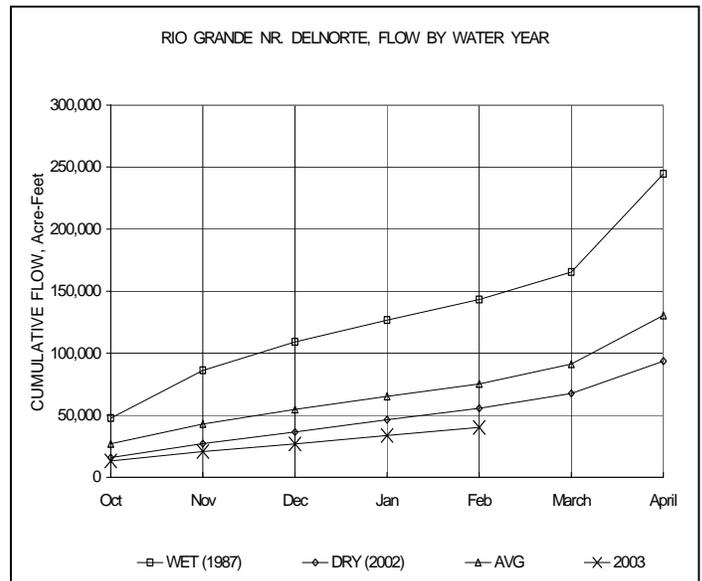
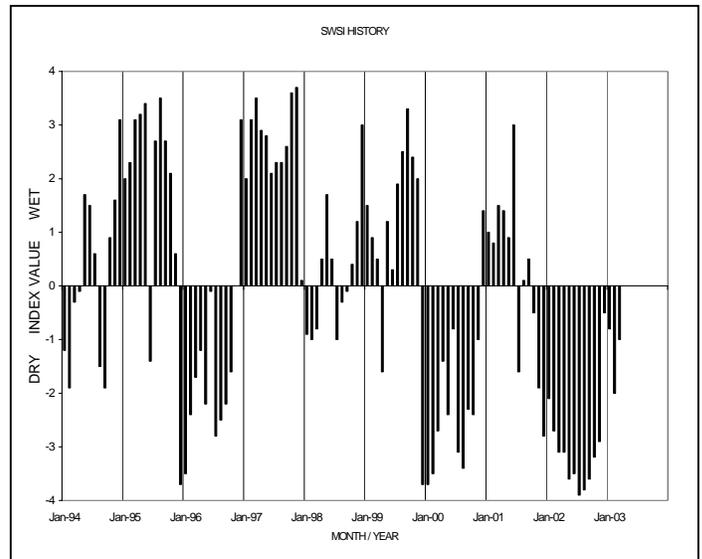
Administrative / Management Concerns

The annual meeting of the Rio Grande Compact Commission will be held at the Hilton Inn – El Paso Airport on March 27, 2003. The public is invited to attend.

The Division Engineer has received early calls for irrigation water on some of the tributaries. Diversions from the Rio Grande are expected to begin around the middle of March.

Public Use Impact

Winter sports enthusiasts and concerned water users had a reason to be optimistic as the month came to a close.



Basinwide Conditions Assessment

The SWSI value of -1.4 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 85% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 42 cfs, as compared to the long-term average of 45 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 61% of normal as of the end of February.

February brought a long-overdue respite to the dry climate pattern in the Gunnison and San Miguel Basins, as most areas finally reported above-average precipitation for the month. The last week of the month saw three successive storms cross the region. During that week, the higher elevations of the Grand Mesa and San Juan Mountains received between three and five feet of snow. Monthly total snowfall was 41.0 inches at Crested Butte, 16.6 inches at Glade Park, 12.7 inches at Gunnison and 22.3 inches at Norwood. The San Miguel Basin snowpack is at 86 percent of normal.

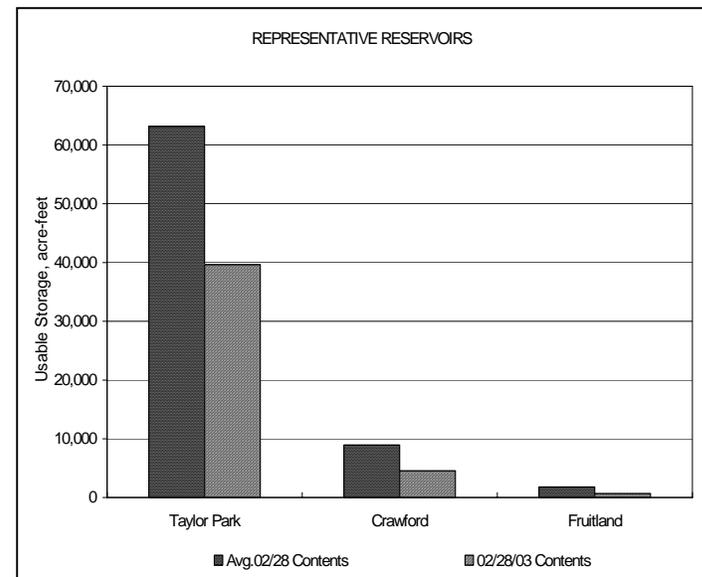
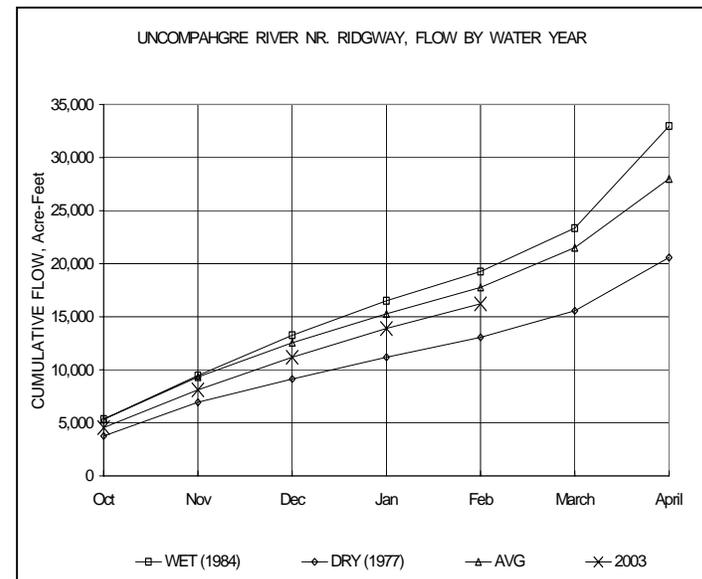
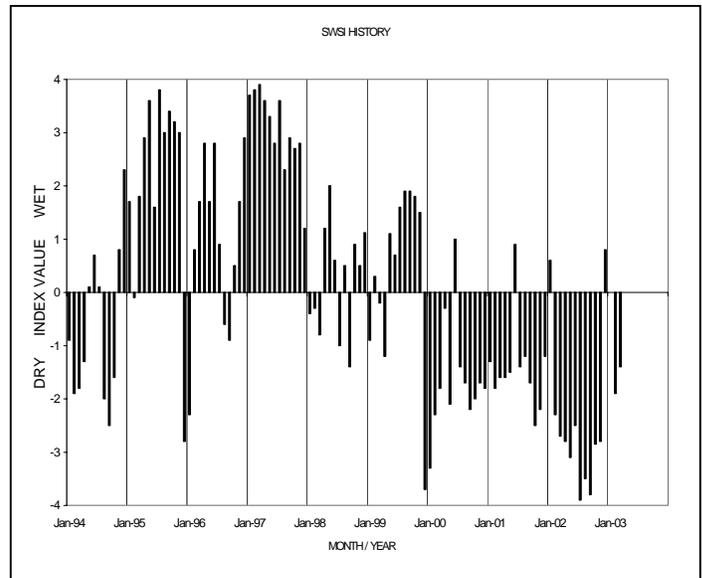
Precipitation totals were below average for the south-central portion of the Gunnison Basin, as Lake City and Cochetopa Creek received only 52 and 88 percent of their monthly normal, respectively. Other areas were more fortunate, as Taylor Park, Norwood and Ridgway picked up 166, 199 and 204 percent of normal.

Administrative/Management Concerns

The Division 4 office began sending out letters to potentially affected subdivisions, warning them that their domestic water supply was insufficient to protect them in the event of a Gunnison Tunnel and/or local irrigation call. The letters urged homeowners to locate secure sources of replacement water to allow continued use of out-of-priority wells. Fortunately, heavy snows late in the month reduced the threat of an early April call, but unless the wet trend continues, summer shortages are likely to return.

Public Use Impacts

The late February snowfall was a boon to local outdoor enthusiasts. Telluride Ski Resort reported measurable snowfall on 18 of the 28 days, resulting in excellent skiing conditions and a boost to the local economy.



Basinwide Conditions Assessment

The SWSI value of -1.0 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 93% of normal. Flow at the gaging station Colorado River near Dotsero was 569 cfs, as compared to the long-term average of 985 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 45% of normal as of the end of February.

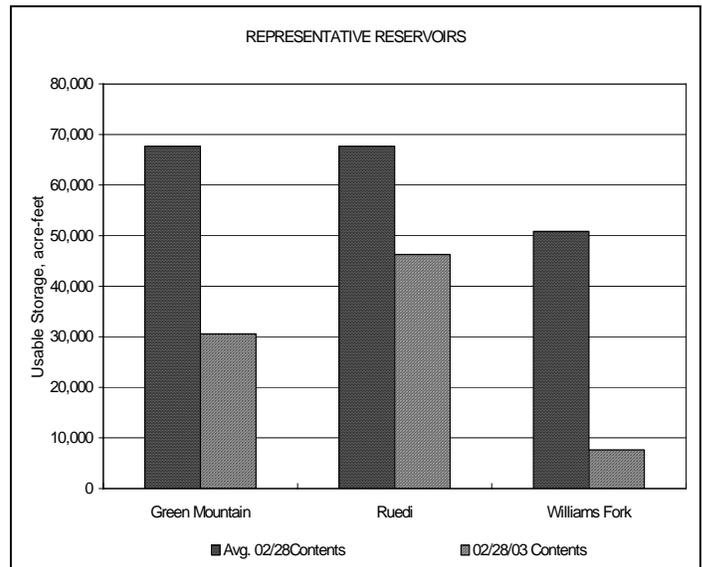
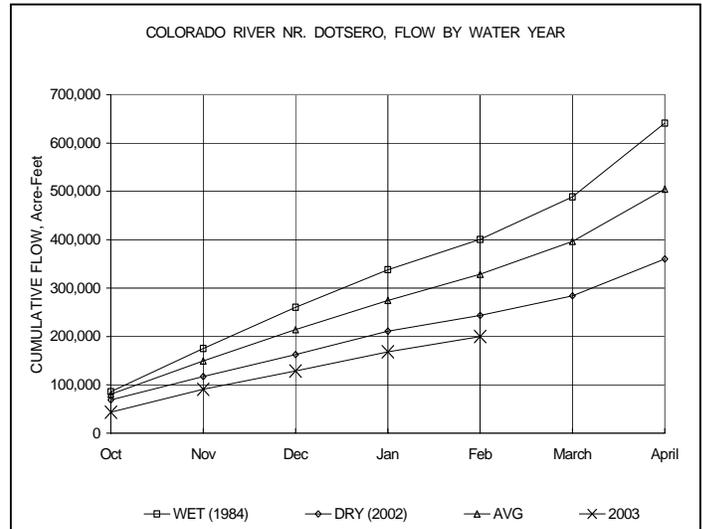
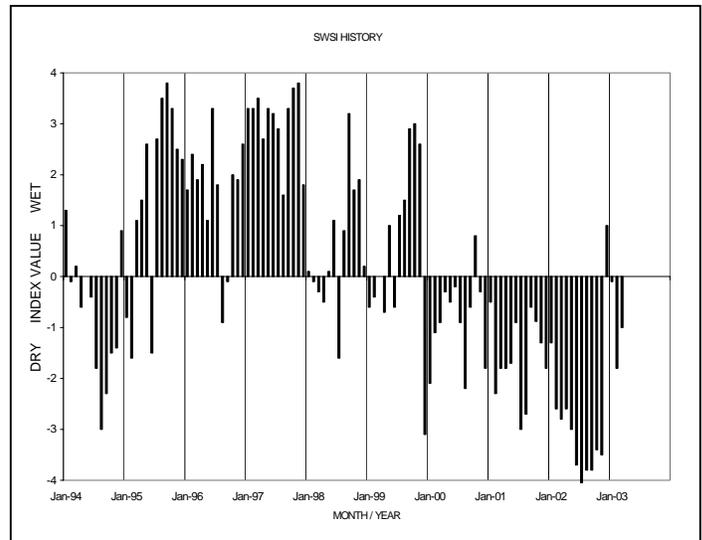
February precipitation was well above average for the Colorado River Basin.

Outlook

Stream flow forecasts, which had dropped to 75% of average for the basin last month increased to 80% of average with the February snowfall. Plateau Creek runoff forecasts continue to lag behind the rest of the basin with only 70% of average expected.

Administrative/Management Concerns

The senior Shoshone power plant call in Glenwood Canyon remained on throughout the month of February. In response to the continuing drought, some irrigators are calling for water very early this year. This forces water administrators to judge whether these early season diversions are being put to beneficial use, i.e. is this cold water really helping a crop grow in March at elevations above 6,000 feet?



Basinwide Conditions Assessment

The SWSI value of -1.8 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 90% of normal. Flow at the gaging station Yampa River at Steamboat was 82.5 cfs, as compared to the long-term average of 98 cfs.

February brought much needed moisture to the basin. Basin-wide, precipitation was 115% of average for the month and totals 89% of average for the water year. This was the first month since November that precipitation has been above average.

At the end of February the snowpack for the North Platte River Basin was 87% of average; for the Yampa River Basin 93% of average; for the White River Basin 84% of average; and for the Little Snake River 88%, all up about 12% from the previous month.

Outlook:

Along with the increase in the snowpack, stream runoff predictions increased for most of the basins. The most probable stream flow forecasts reported by the Natural Resources Conservation Service are 59% of average for the North Platte near Northgate, 80% of average for the Yampa River near Maybell, 74% of average on the Little Snake near Dixon, and the White River near Meeker stayed the same at 66% of average. The forecast runoff predictions are significantly higher for the Yampa and Little Snake Rivers than those published for February 1 of this year, but are still well below average.

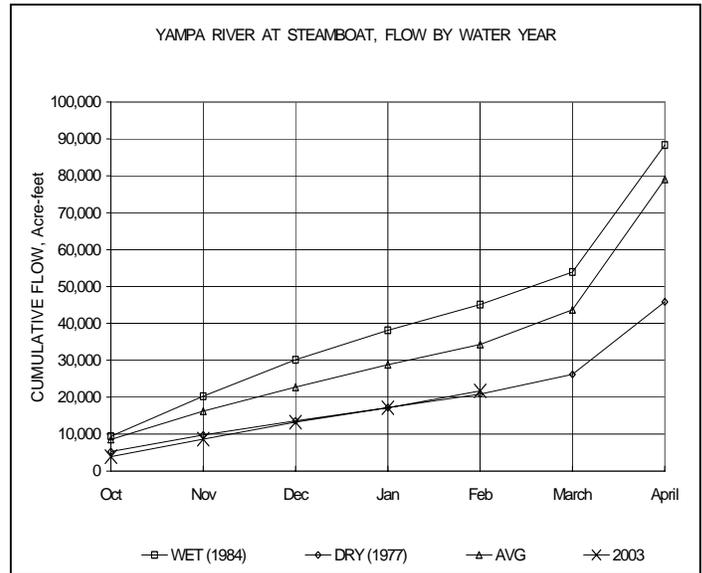
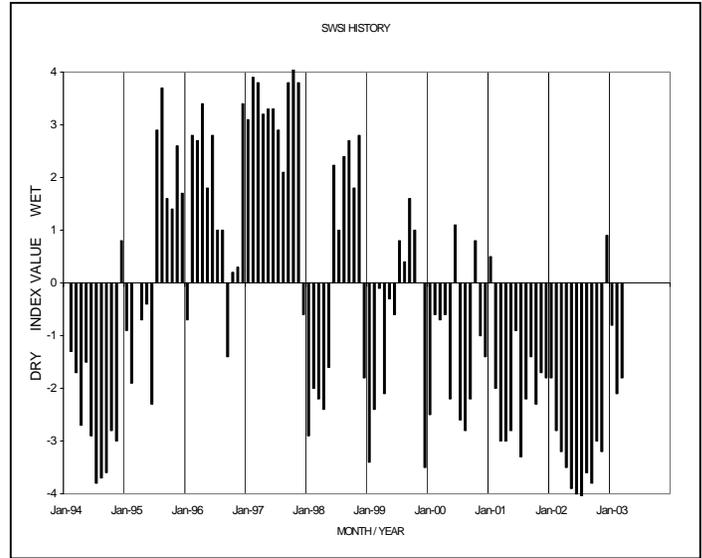
The increase in precipitation in February brought hope that the much talked about El Nino effects have finally arrived. It is hoped that the recent pattern of storms will continue through the rest of the winter season.

Administrative/Management Concerns:

There are still concerns that the irrigation reservoirs that were drawn down last summer will have trouble filling this year. Their ability to fill will depend on the precipitation received in the next two months, spring rains, and how early the calls for administration are placed on the river systems.

Public Use Impacts:

None at this time.



Basinwide Conditions Assessment

The SWSI value of -1.4 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 77% of normal. Flow at the gaging station Animas River near Durango was 153 cfs, as compared to the long-term average of 212 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 58% of normal as of the end of February.

The month of February began with generally very warm temperatures. The high in Durango during the month was 57° on the 1st.

The lack of snow across the basin until the 13th resulted in a decline in the mountain snowpack with fears of a second record drought year being voiced by local water users. However, rain on the 13th & 14th served to increase snow water content and soil moisture across the entire area. On the 25th, an additional storm moved in bringing over 1.5 inches of precipitation to Durango. The mountains received additional accumulations with the plateau and mesa areas also receiving significant moisture.

The Dolores drainage and the La Plata mountains show the highest snowpack totals.

Reservoirs remain low at around 60% of normal. Stream flows remain at around 71% of normal and have not changed much since last month.

Outlook

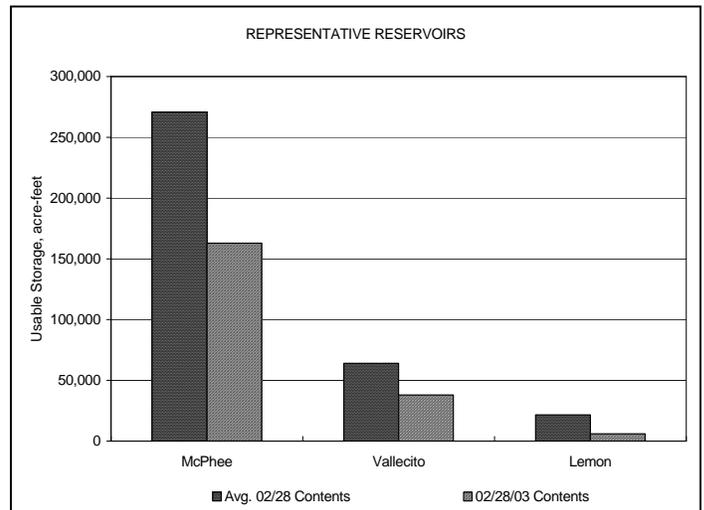
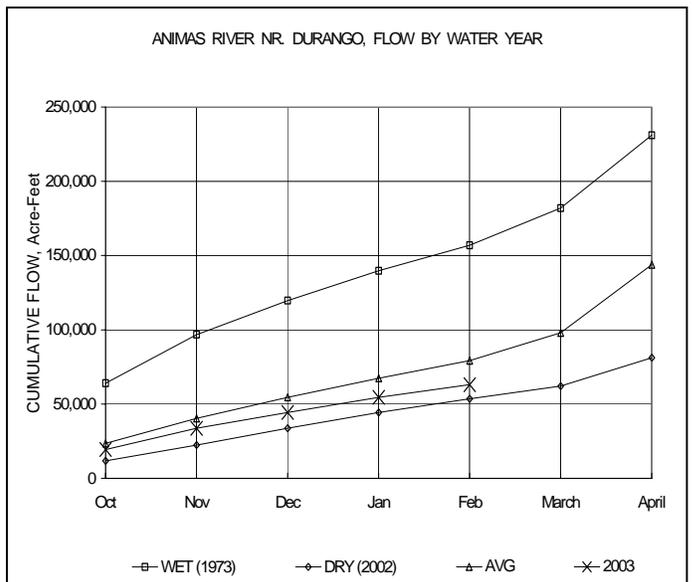
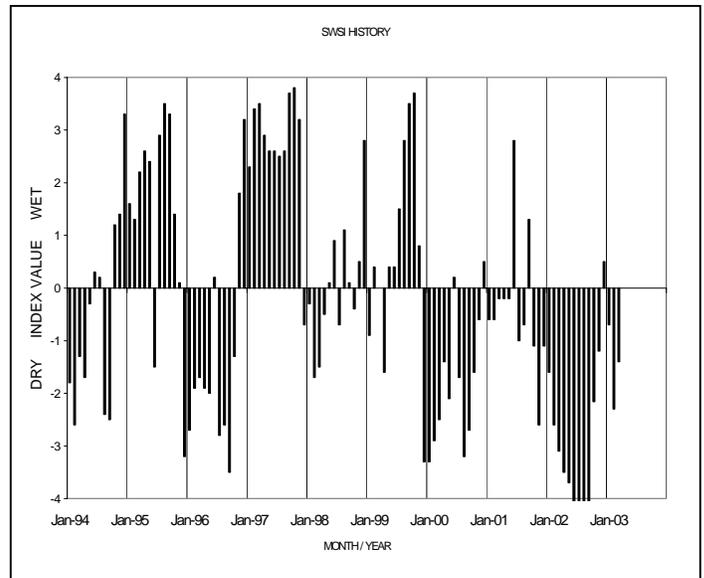
There is hope that water supplies will be sufficient for basic early season irrigation with some storage for a small late season run later in the year.

Administrative/Management Concerns

A call was made to administer the La Plata River compact at the earliest allowed date of February 15. A reservoir call was made a week later for storage water out of the Dolores River.

Public Use Impacts

Snow quality for skiing has improved considerably with the additional snowpack.



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