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
303-866-3581; www.water.state.co.us

March 2008

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 March). 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 February range from a high value of +3.9 in the Gunnison and the San Juan/Dolores Basins to a low value of +0.2 in the South Platte Basin. All of the basins experienced a gain from the previous month's values with the exception of the South Platte and Yampa/White Basins.

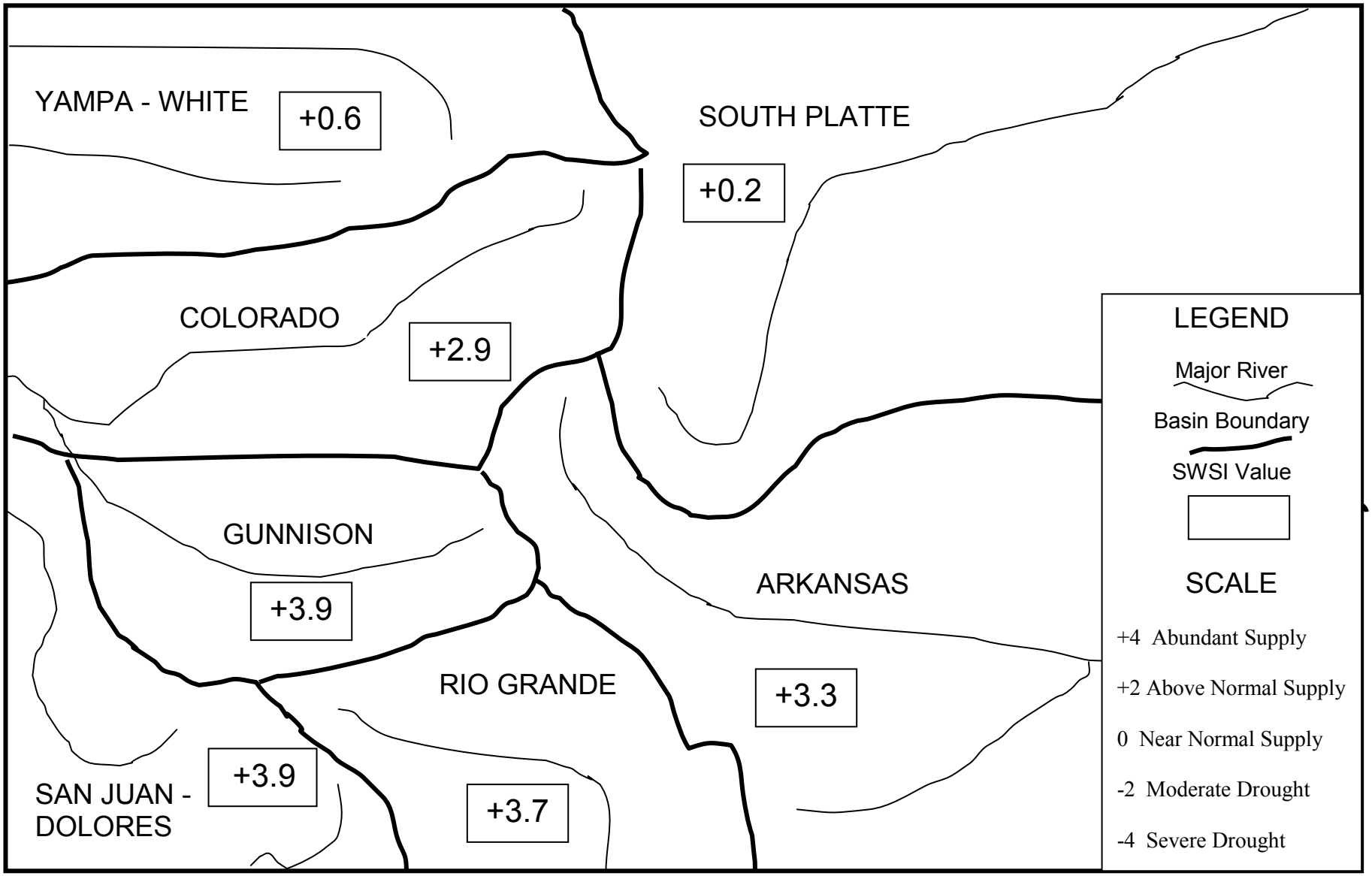
The following SWSI values were computed for each of the seven major basins for March 1, 2008, and reflect the conditions during the month of February.

Basin	March 1, 2008 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+ 0.2	- 0.3	- 0.7
Arkansas	+ 3.3	+ 0.3	+ 3.3
Rio Grande	+ 3.7	+ 0.2	+ 2.9
Gunnison	+ 3.9	+ 0.6	+ 5.0
Colorado	+ 2.9	+ 0.6	+ 2.3
Yampa/White	+ 0.6	- 1.0	+ 2.5
San Juan/Dolores	+ 3.9	+ 0.5	+ 4.2

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

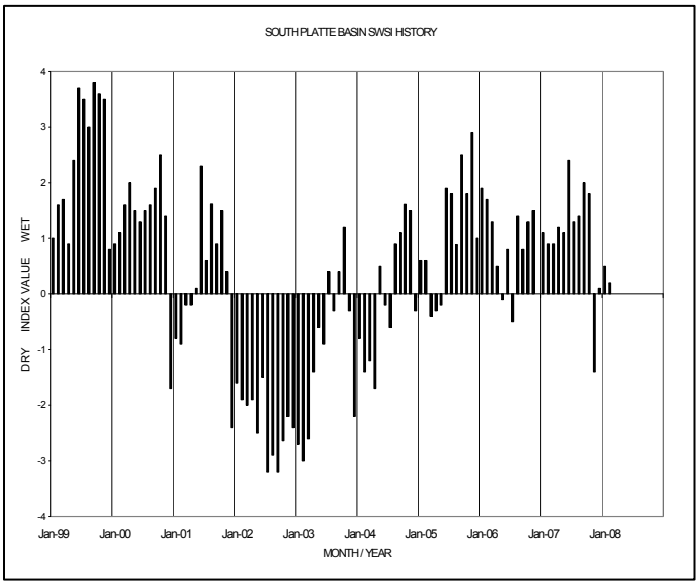


March 1, 2008

Basinwide Conditions Assessment

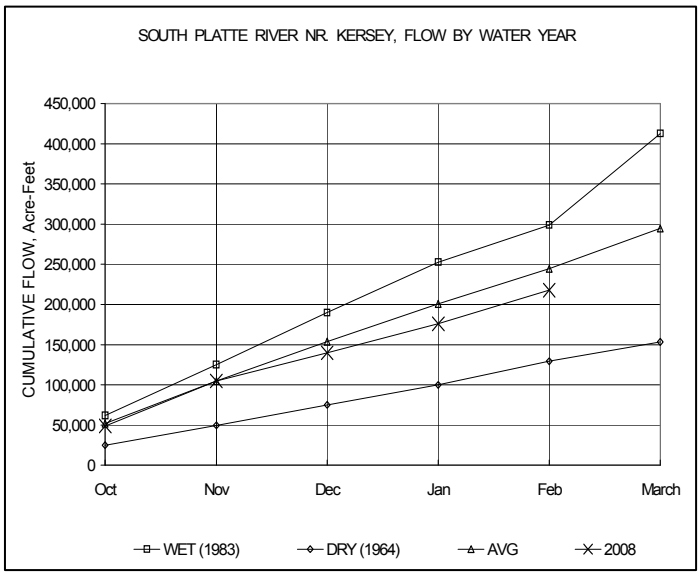
The SWSI value for the month was 0.2. Cumulative storage for the six reservoirs graphed on this page was 114% of normal as of the end of February. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 77% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 92% of capacity. The Natural Resources Conservation Service reports that March 1 snowpack is 109% of normal. Flow at the gaging station South Platte River near Kersey was 751 cfs, as compared to the long-term average of 672 cfs. Flow at the Colorado/Nebraska state line averaged 320 cfs.

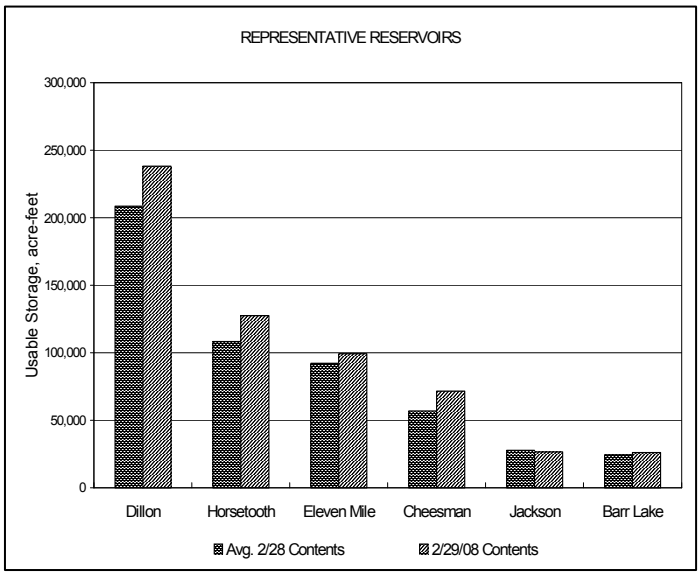
The main diversions in the South Platte continued to be for reservoir storage with lesser amounts for municipal purposes. By the end of February, the conditions had warmed eliminating the restrictions on storage that had existed for parts of the winter due to icing conditions. Storage along the mainstem is approximately 15 or 20 days ahead of last year and it appears that all major reservoirs along the mainstem of the South Platte will fill this year. Storage conditions on tributaries also were equal or better than last year at this time.



Outlook

With positive storage conditions and slightly above average snowpack, every indication thus far is that this will be a good water year with adequate supplies for users. The final adequacy of supplies, especially for farming interests, will be dependent on spring snows in the mountains and rain on the plains as is usually the case.





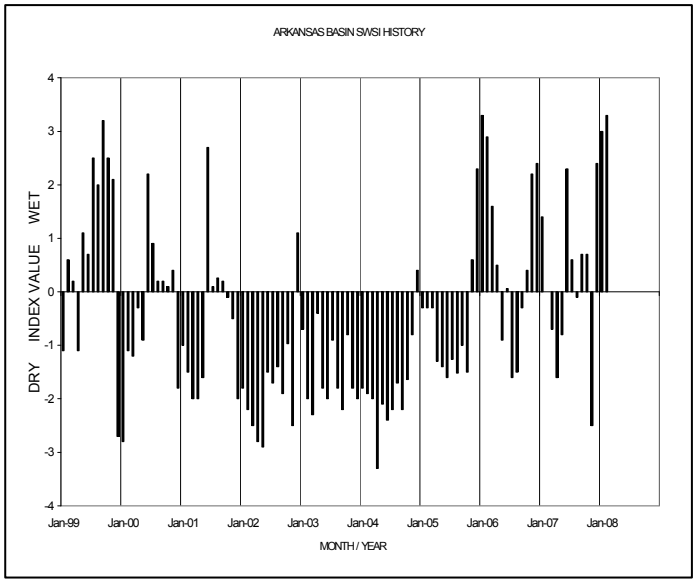
Basinwide Conditions Assessment

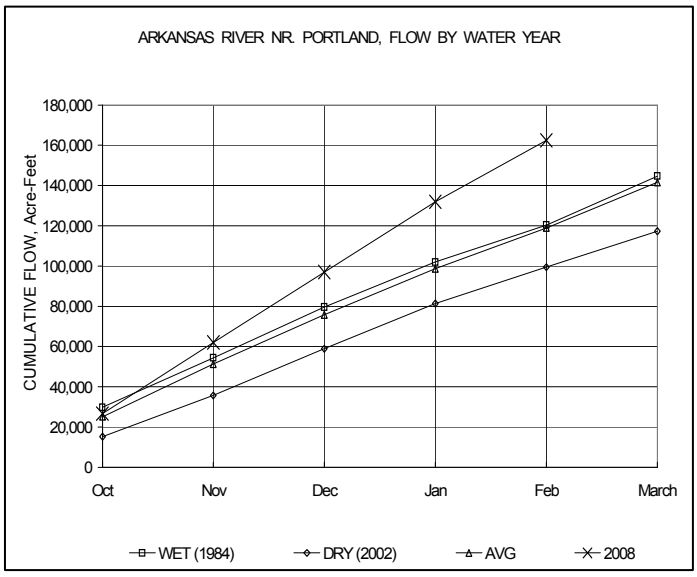
The SWSI value for the month was 3.3. The Natural Resources Conservation Service reports that March 1 snowpack is 152% of normal. Flow at the gaging station Arkansas River near Portland was 550 cfs, as compared to the long-term average of 361 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 101% of normal as of the end of February.

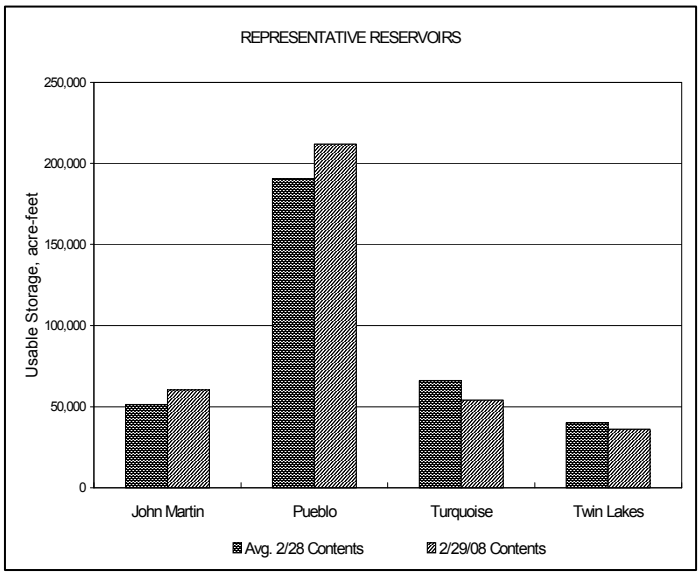
Reservoir storage in the Pueblo Winter Water Program totaled 137,153 acre-feet as of the end of February. This storage amount is slightly higher than last year's storage to date and represents 144% of the past five-year average. Conservation storage in John Martin Reservoir has accumulated 20,820 acre-feet versus 30,605 acre-feet as of the end of February last year, but still ahead of the 1950-1975 (Pre-Winter Water) average of 17,810 acre-feet.

Administrative/Management Concerns

Pueblo Reservoir storage of 242,632 acre-feet at the end of February was nearing the top of conservation storage (256,949 acre-feet), but storage was expected to hold just under the flood pool by the end of the Winter Water Program on March 14, 2008.

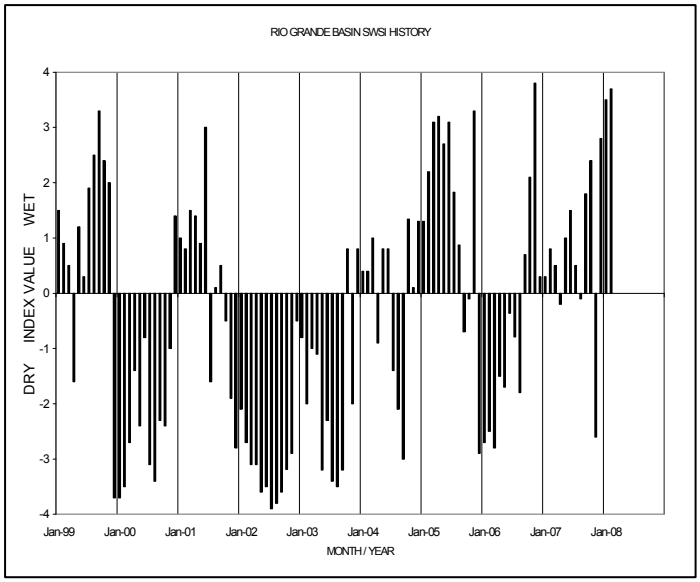






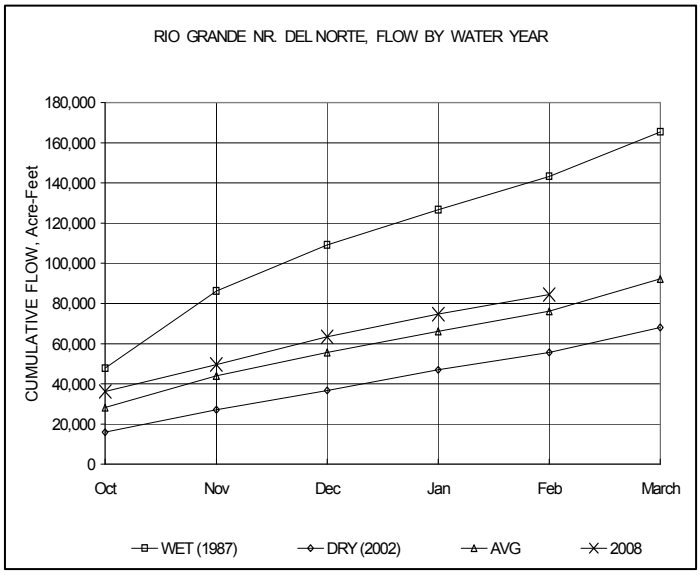
Basinwide Conditions Assessment

The SWSI value for the month was 3.7. The Natural Resources Conservation Service reports that March 1 snowpack is 169% of normal. Flow at the gaging station Rio Grande near Del Norte averaged 183 cfs (101% of normal). The Conejos River near Mogote had a mean flow of 58 cfs (111% of normal). Flow to the state line was 105% of normal. Temperatures were low enough during February to hold off any significant melt of the abundant snowpack. Weather conditions in the San Luis Valley were colder and wetter than normal during February. Alamosa received 0.57 inches of precipitation during the month, 0.36 inches above normal. This precipitation kept a layer of snow on the Valley floor and temperatures cold. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 109% of normal as of the end of February.



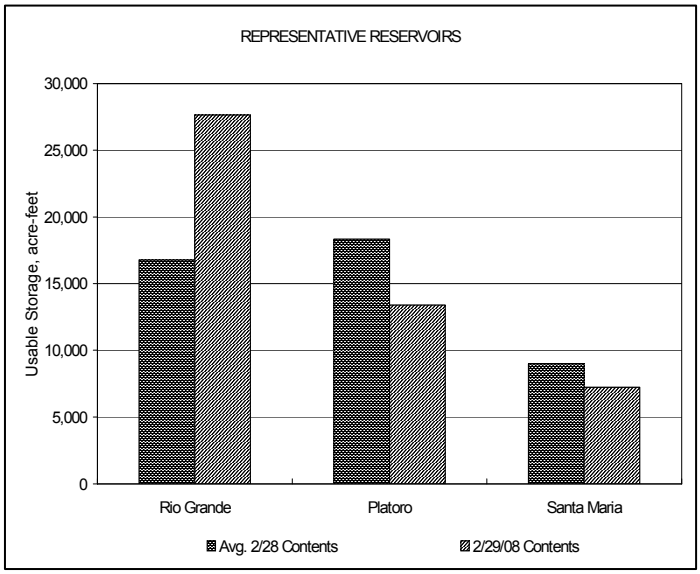
Outlook

Heavy snowfall continued throughout February in the upper Rio Grande basin. The current snowpack in the basin is the highest early March level since 1979. Recent NRCS stream flow forecasts are calling for 135% (Sangre de Cristo Range) to 201% (Rio San Antonio drainage) of average runoff this year. Expected runoff at the Rio Grande near Del Norte gaging station is 160 percent of normal and 165 percent of average for the Conejos near Mogote. There is a very good chance all reservoirs in the basin may fill with the exception of Sanchez Reservoir and those with storage restrictions: Terrace and Continental. Platoro Reservoir will be for flood control operations this spring.



Administrative/Management Concerns

Local officials are beginning the process of preparation for high runoff and potential flooding. Sandbags have been ordered and stream channel clearing and headgate maintenance are a serious concern. Depending on the severity of the melt-out, runoff levels might easily exceed the last high runoff year, 1995. The 69th annual meeting of the Rio Grande Compact Commission will be held at Apodaca Hall in Santa Fe, New Mexico on March 27, 2008 at 9 a.m. The public is invited to attend. The 2008 annual meeting of the Costilla Creek Compact Commission will be held at the Clarion Inn of the Rio Grande in Alamosa on May 8, 2008 at 10 a.m. The public is invited to attend.

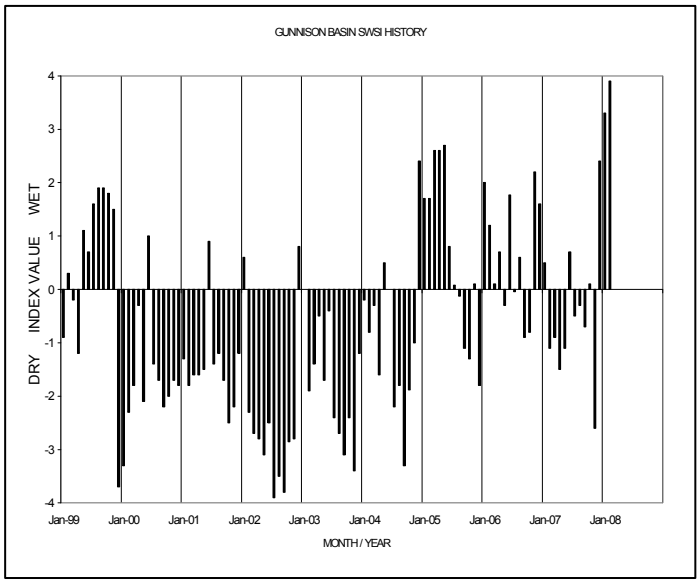


Public Use Impacts

Winter sports enthusiasts reliant on snowcover enjoyed the bounty of a very snowy month.

Basinwide Conditions Assessment

The SWSI value for the month was 3.9. The Natural Resources Conservation Service reports that March 1 snowpack is 151% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 50.5 cfs, as compared to the long-term average of 45.4 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 118% of normal as of the end of February.

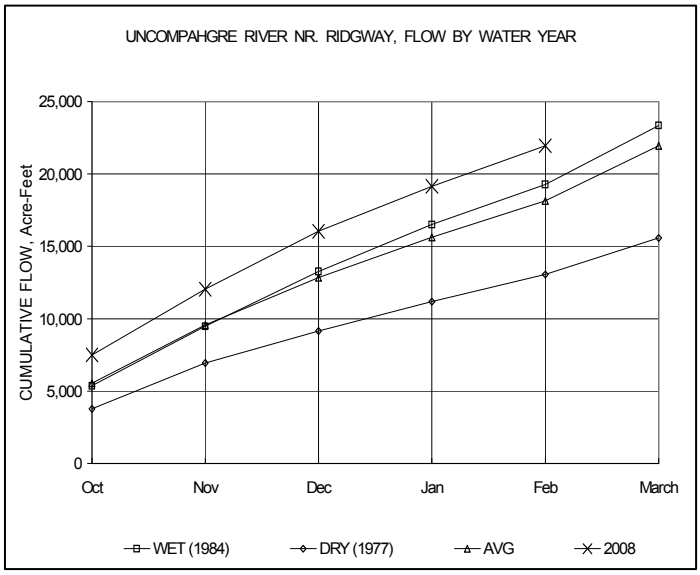


Outlook

February in the Gunnison Basin proved to be another good one with NRCS SNOTEL sites reporting a slight increase in the average snow water equivalent measurements from 144 percent of average on January 31st to 146 percent of average on February 29th. Supply conditions will be excellent for 2008. However, weather conditions this spring will determine how early or late runoff will occur and how long runoff conditions will exist before reservoir storage is relied on for irrigation needs.

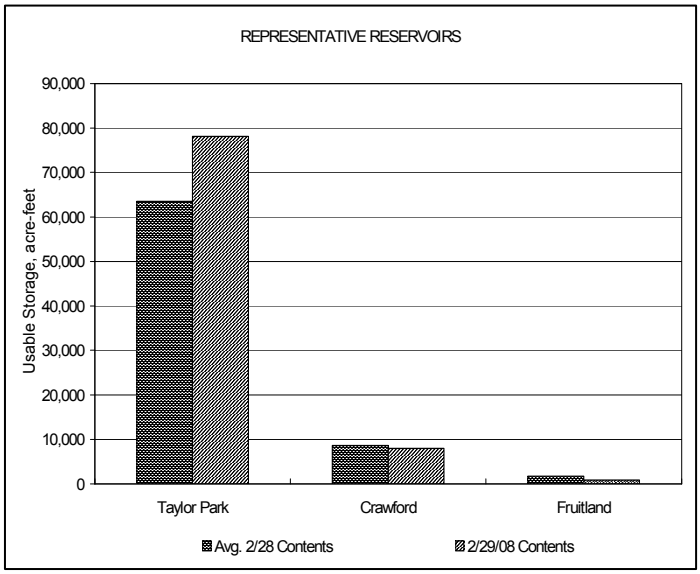
Administrative/Management Concerns

The Bureau of Reclamation has scheduled maintenance operations at the stilling basins below Crystal Dam and Blue Mesa Dam during the month of March. To accommodate maintenance activities during these events, flows will be reduced significantly below the dams. The Bureau of Reclamation has procedures in place to protect flows in the Gunnison Gorge as a result of the maintenance activities.



Public Use Impacts

Spring skiing remains excellent. Telluride and Crested Butte ski areas have record snow levels. These communities have limited places to put the snow removed from streets and parking lots and have even resorted to hauling snow out of town.



Basinwide Conditions Assessment

The SWSI value for the month was 2.9. The Natural Resources Conservation Service reports that March 1 snowpack is 128% of normal. Flow at the gaging station Colorado River near Dotsero was 1557 cfs, as compared to the long-term average of 958 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 123% of normal as of the end of February.

Outlook

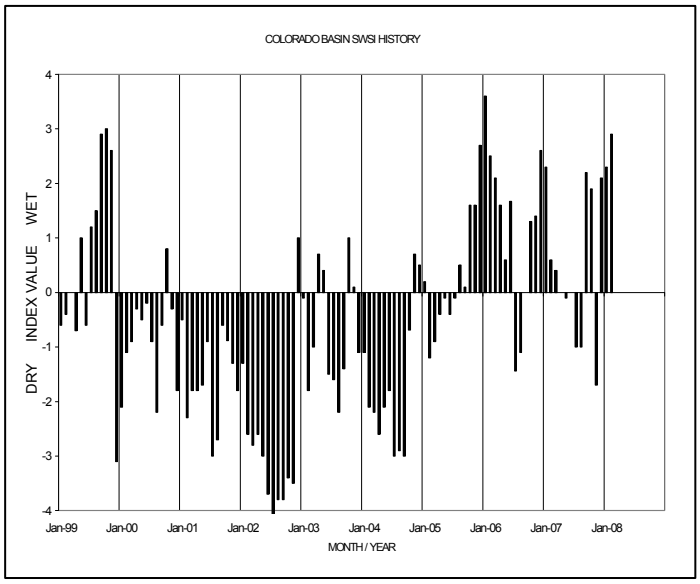
Total Colorado River Basin precipitation levels increased slightly from 121 to 125 percent of average during the month of February. All upper–basin sites now register well over 100 percent of average. Ruedi Reservoir release has not changed since its increase of 30 cfs on January 17th. The release rate of Green Mountain Reservoir was just increased on March 1st.

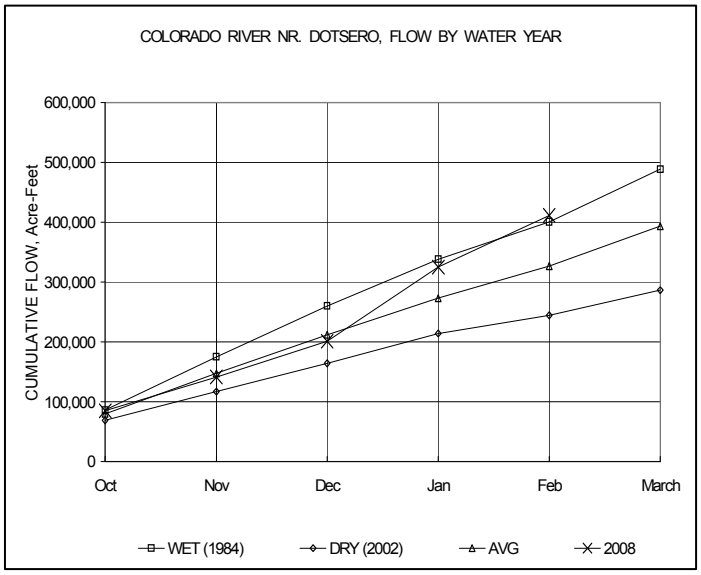
Administrative/Management Concerns

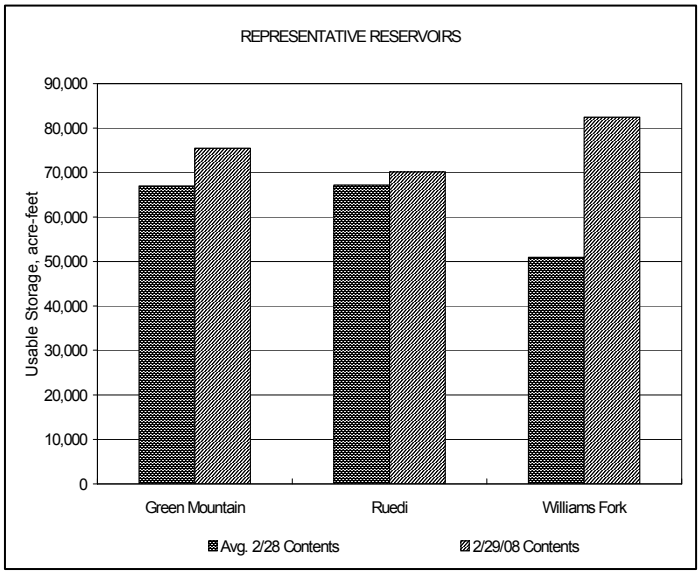
Although nowhere near record levels, the Colorado River Basin snowpack is the highest since drought conditions began in 1999. Combined with high soil moisture and near capacity upstream reservoir levels, the Bureau of Reclamation is currently forecasting a basin-wide runoff of 120 percent of normal. This would result in a Lake Powell surface elevation increase of 49 feet to 3,639 feet by August (currently 3590 feet). However, precipitation through mid-April, and the impact of springtime wind conditions on snowmelt could impact the forecast runoff considerably.

Public Use Impacts

A "high flow" experiment began today (March 5th) releasing 41,000 cfs over a 60-hour duration from Glen Canyon Dam power plant. This is being done to flush/move upstream channel bottom sedimentation and deposit it along the down-steam beaches which require repair and or re-building. This release, which will raise the river elevation by approximately 4 feet, has raised concern from local outfitters and anglers that the fish will disappear. Researchers for the Arizona Game and Fish Department are tracking fish movements, but contend that fish populations will recover quickly.







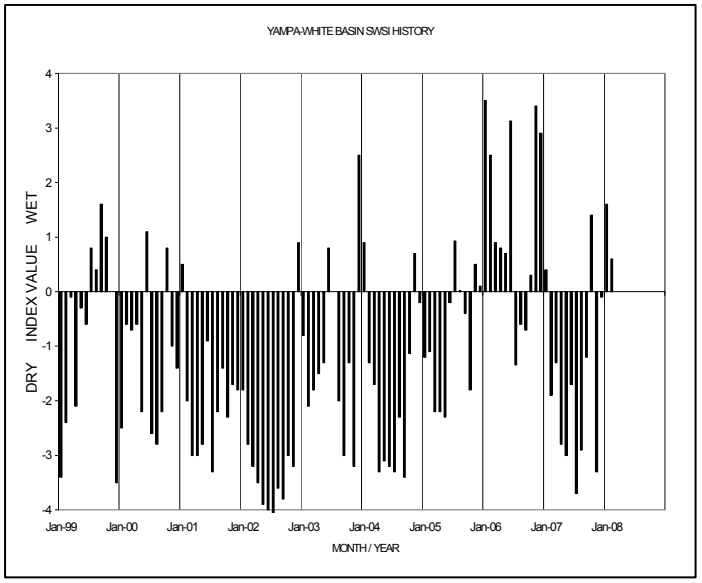
Basinwide Conditions Assessment

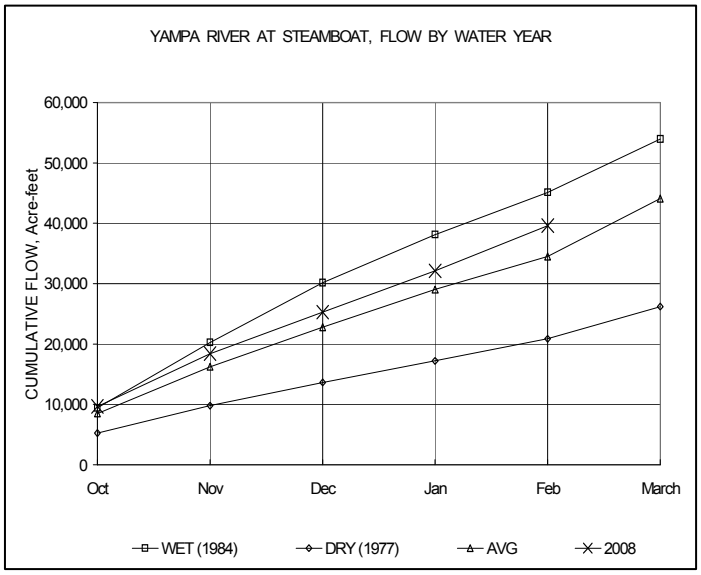
The SWSI value for the month was 0.6. Flow at the gaging station Yampa River at Steamboat was 135 cfs, as compared to the long-term average of 99 cfs. The Natural Resources Conservation Service reports that March 1 snowpack is 113% of normal. Above average precipitation was once again reported for the Yampa, White, and North Platte River basins for the month of February. Precipitation for the month, as measured at the SNOTEL sites operated by the NRCS, was reported at approximately 138% of average for the Yampa/White River basin and 144% of average for the North Platte River basin. Year-to-date precipitation is reported at 115% of average for the combined Yampa, White, and North Platte River basins.

For the individual basins in Division 6, the snowpack at the end of the month was 109% of average for the North Platte River basin, 115% of average for the Yampa River basin, and 97% of average for the White River basin.

As a result of continued precipitation in February, NRCS predicts near average to well above-average runoff in the Yampa, White, and North Platte River basins. The latest runoff forecasts from the NRCS for the April through July period are 120% of average for the North Platte River near Northgate, 111% of average for the Yampa River near Maybell, 126% of average for the Little Snake River near Lily, and 107% of average for the White River near Meeker. Forecast volumes range from 102% of average for the Yampa River at Steamboat Springs to 136% of average for Elkhead Creek below Maynard Gulch.

Due to the continued cold night temperatures, many of the Division 6 stream gages are either closed for the winter season or currently ice-affected.





Outlook

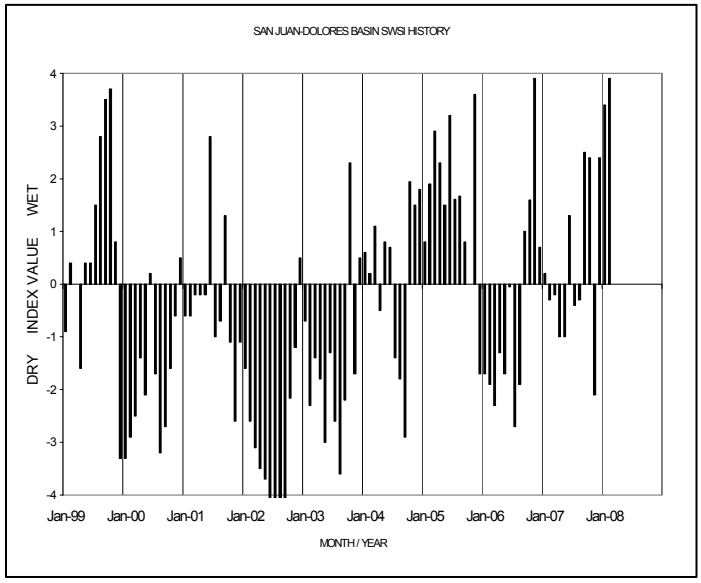
Fish Creek Reservoir storage level was reported at approximately 72% of capacity at the end of February. Yamcolo Reservoir storage level increased in February and the reservoir was at approximately 71% of capacity at the end of the month. Elkhead Creek Reservoir level also continued to increase throughout the month and the reservoir was reported at approximately 70% of its' enlarged capacity at the end of February. 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 recreation purposes, as well as fish recovery releases.

Public Use Impacts

Many area reservoirs are frozen with good ice-fishing reported.

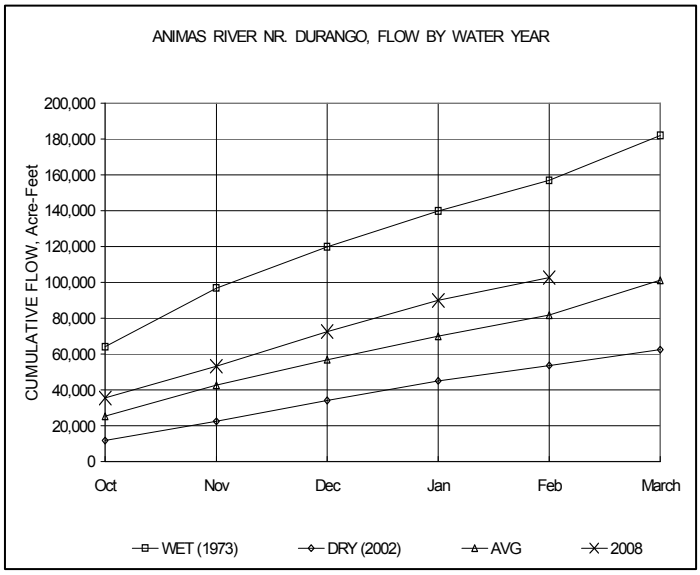
Basinwide Conditions Assessment

The SWSI value for the month was 3.9. The Natural Resources Conservation Service reports that March 1 snowpack is 155% of normal. Estimated average daily flows at the Animas River at Durango were 230 cfs. The estimated average daily flows for Dolores River at Dolores were 82 cfs. The average daily flows at the La Plata River at Hesperus were 5.1cfs. Durango recorded 2.72 inches precipitation for the month which is well above the 30-year average of 1.72 inches (159% of normal). Precipitation in for the month was the 14th highest amount within the last 112 years of record. Precipitation to date in Durango, for the water year, is 13.25 inches which is 160% of the historic average. Temperatures in February were below normal for the month. Durango was 3.2° below its 30-year average high and 1.8° below its 30-year average low. At the end of the month Vallecito Reservoir contained 64,688 acre-feet compared to its normal contents of 54,040 acre-feet (120% of normal). McPhee Reservoir has 286,542 acre-feet compared to its normal contents of 257,514 acre-feet (111% of normal). Lemon Reservoir has 22,660 acre-feet as compared to its normal content of 19,849 acre-feet (114% of normal)



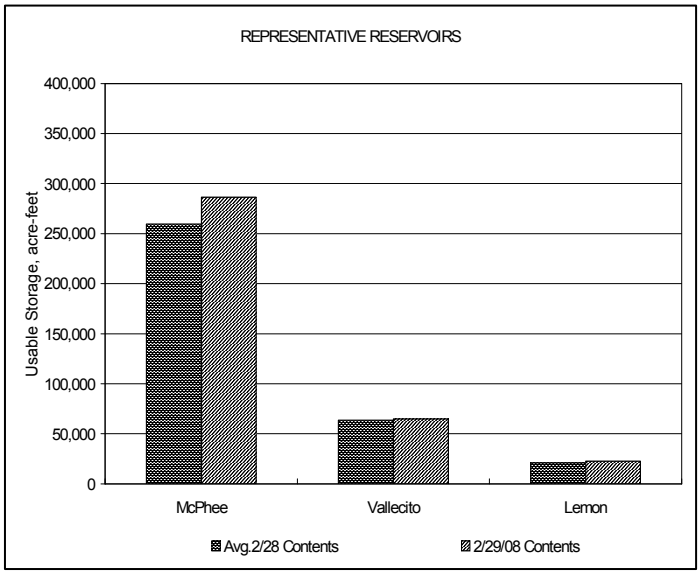
Outlook

Not as much snow and warmer temperatures at the end of February. Many major storm systems have hit the southwest part of Colorado this year and colder than normal temperatures have not had much impact on melting snow left by the storms. To date the total snow-water-equivalent within the basin has exceeded the average snow-water-equivalent for the year with the average peak date occurring in April. The NRCS data on February 29, 2008 reported a snow-water-equivalent of 158% of average. The Pine River Water Conservancy District began releasing water out of Vallecito Reservoir to ensure there is enough available space to hold back the spring runoff.



Administrative/Management Concerns

The compact period on the La Plata between Colorado and New Mexico began on February 15th, but remained off compact call for the month. The compact requires that half the flow and the upper index gage (at Hesperus) must be delivered across the Stateline the following day. The low level snow melting in the La Plata River basin has kept the flow at the Stateline well above the flows at Hesperus.



OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES
1313 SHERMAN STREET ROOM 818
DENVER CO 80203