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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JANUARY 2002

Low SWSI values throughout the state are influenced by low January 1, 2002 snowpack figures. The Natural Resources Conservation Service (NRCS) reports a statewide average snowpack of 65% of normal. The Rio Grande basin has the lowest snowpack at 48% of normal, while the Gunnison River basin has the highest at 77% of normal. Reports from the Division Engineer's offices are that conditions were dry during December with little precipitation occurring during the month to boost the low snowpack that existed at the start of December. Reservoir storage and stream flows are also below normal across the state. Early NRCS stream flow forecasts for the irrigation season are for below normal flows.

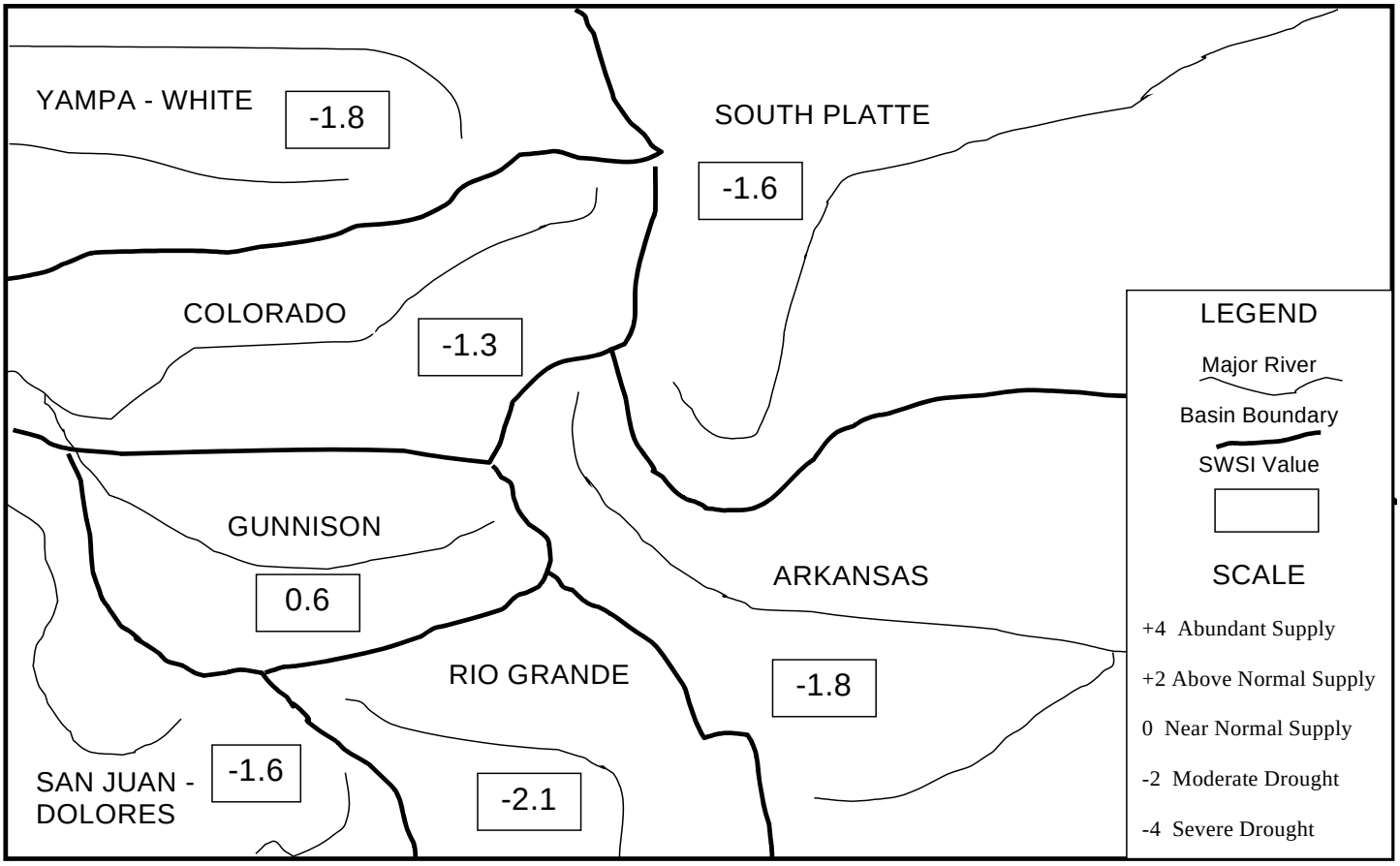
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on snowpack, reservoir storage, and precipitation for the winter 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 January 1, 2002, and reflect the conditions during the month of December 2001.

Basin	January 1, 2002 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	-1.6	+0.8	-0.8
Arkansas	-1.8	+0.2	-0.8
Rio Grande	-2.1	+0.7	-3.1
Gunnison	+0.6	+1.8	+1.9
Colorado	-1.3	+0.5	-0.8
Yampa/White	-1.8	-0-	-2.3
San Juan/Dolores	-1.6	-0.5	-1.0

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

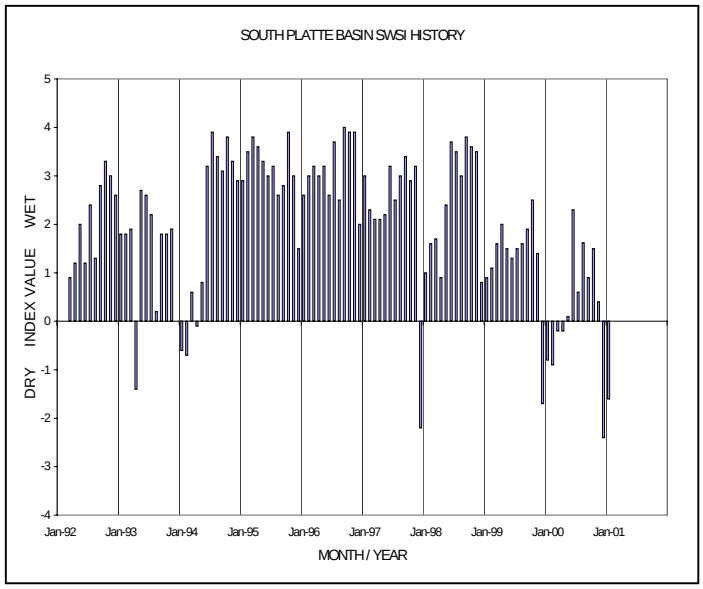


JANUARY 1, 2002

Basinwide Conditions Assessment

The SWSI value of –1.6 indicates that for December the basin water supplies were slightly below normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 81% of normal as of the end of December. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 61% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 82% of capacity. The Natural Resources Conservation Service reports that January 1 snowpack is 54% of normal. Flow at the gaging station South Platte River near Kersey was 689 cfs, as compared to the long-term average of 874 cfs. Flow at the Colorado/Nebraska state line averaged 188 cfs.

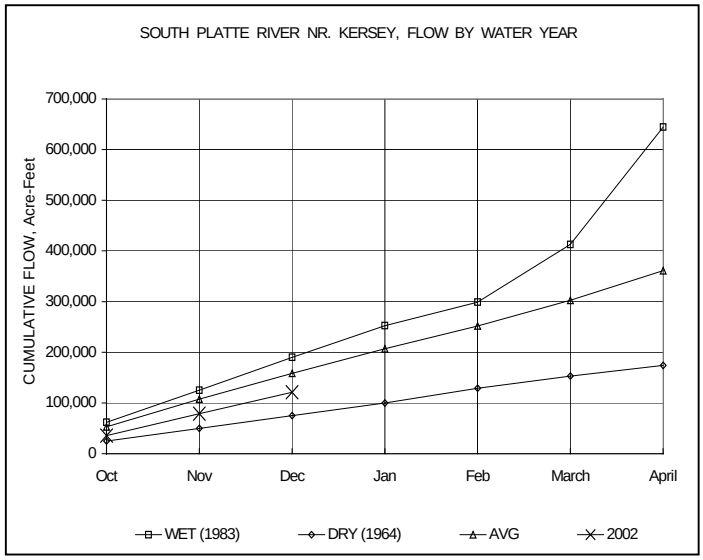
Reservoir storage continued in December for the plains reservoirs on the South Platte. Of note, storage began in Jackson Reservoir the end of the month. This reservoir had been evacuated to allow maintenance of the dam.



Outlook

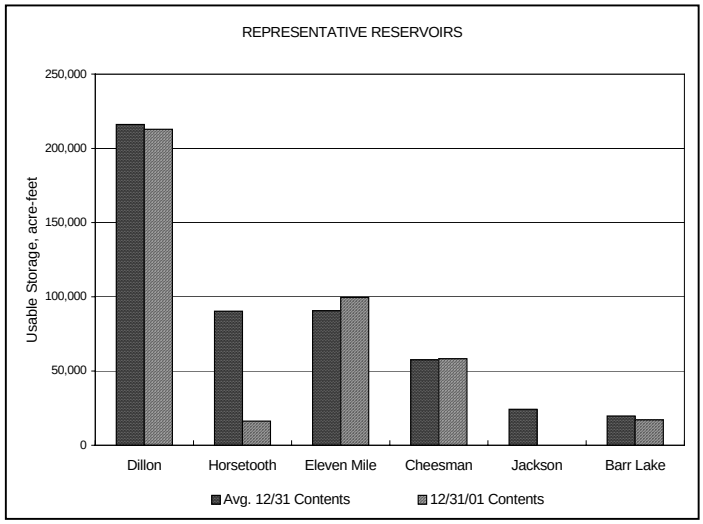
While cumulative reservoir storage slightly trails last year's storage levels (due to the emptying of Jackson Reservoir), there is not a large concern with filling the South Platte reservoirs this year as most plains reservoirs are nearing their winter storage levels. In addition, weather conditions in general have not required that reservoirs curtail filling because of ice problems.

Continued significantly below average snowpack in the mountains throughout the basin is beginning to create some concern for water supplies next year. Likewise, it has been unseasonably dry on the plains this fall and winter causing flows to be less than normal on both the South Platte and the tributaries. Precipitation will be necessary to help assure an adequate winter wheat crop this year. Like always, we are extremely dependent on the late winter and early spring snow and rain to assure an adequate supply throughout the basin for next summer's irrigation. Municipal supplies continue to be adequate as they are not as sensitive to weather conditions in one particular year.



Administrative/Management Concerns

Unlike last year there was no call for reservoir storage on the lower end of the river. Similar to most years, the call on the upper river at Denver and above was to fill Barr Lake.



Basinwide Conditions Assessment

The SWSI value of –1.8 indicates that for December the basin water supplies were slightly below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 55% of normal. Flow at the gaging station Arkansas River near Portland was 378 cfs, as compared to the long-term average of 402 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 78% of normal as of the end of December.

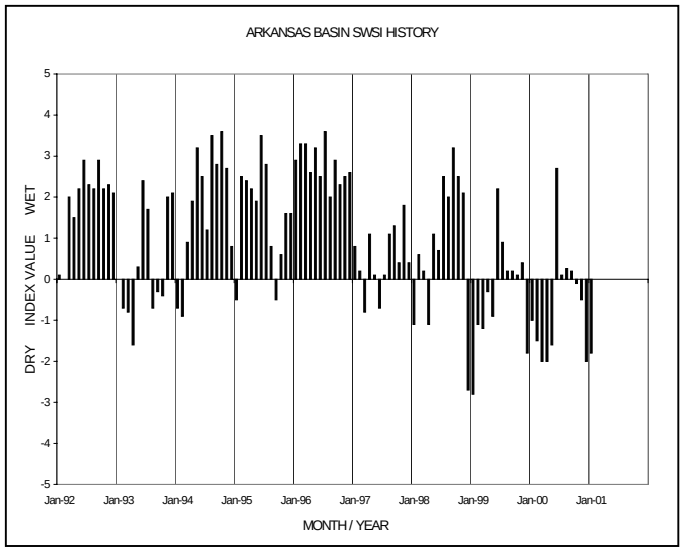
Administrative/Management Concerns

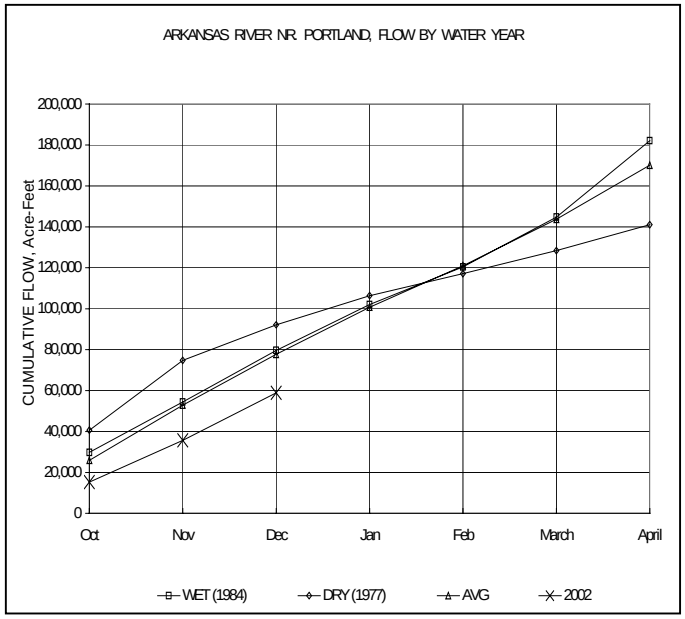
The Winter Water storage program is continuing with six of the sixteen weeks completed. The first six weeks have yielded a system grand total of 59,162 acre-feet. Last year's storage at this time was 69,415 acre-feet, while the previous five year average is 76,018 acre-feet.

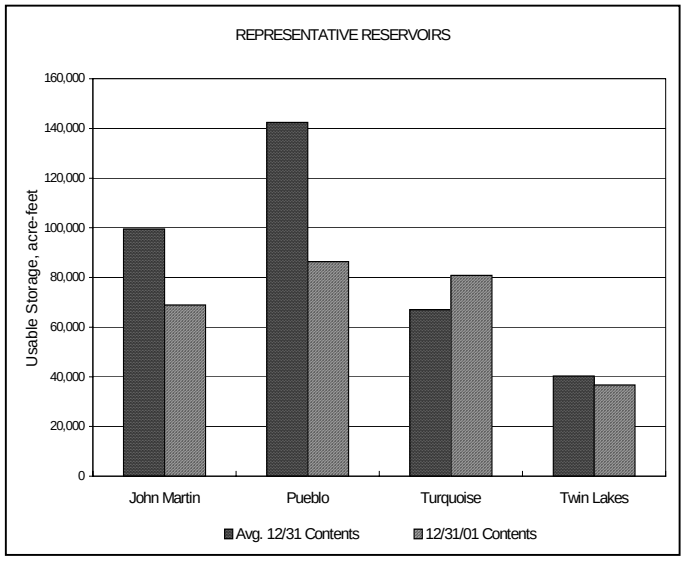
Ongoing meetings between Division 2 staff and the major well associations have occurred through the winter period in an attempt to plan for anticipated dry year or drought conditions. These meetings have resulted in plans to issue appropriate press releases in area newspapers and agricultural media to encourage farmers relying on well augmentation to carefully plan for the potential of a reduced augmentation supply. Also planned are one or more public meetings to provide information and education to the agricultural user of wells on methods to manage limited supplies and maintain compliance with the Arkansas River Basin well rules.

Public Use Impacts

Several issues have gathered substantial public interest in the Arkansas River Basin, including discussions on the potential sale of shares of several of the major ditches in the lower valley and the impact on local economies should the sales result in transfer of water to non-agricultural uses.







Basinwide Conditions Assessment

The SWSI value of –2.1 indicates that for December the basin water supplies were below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 48% of normal. Flow at the gaging station Rio Grande near Del Norte was 157 cfs, as compared to the long-term average of 193 cfs. The Conejos River near Mogote had a mean flow of 39 cfs (76% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 80% of normal as of the end of December.

Alamosa received only 0.13 inches of precipitation during December, 0.31 inches below normal. Alamosa's total precipitation of 9.87 inches in calendar year 2001 was 2.3 inches above the annual average. For the fourth consecutive year, the average annual temperature was well above normal.

Outlook

Stream flow in the basin should be below average for the next few months. 2001 saw an unusually high runoff in May. But, as soon as the abundant rain in July and August passed, stream flow dropped to levels below even those of the 2000 drought.

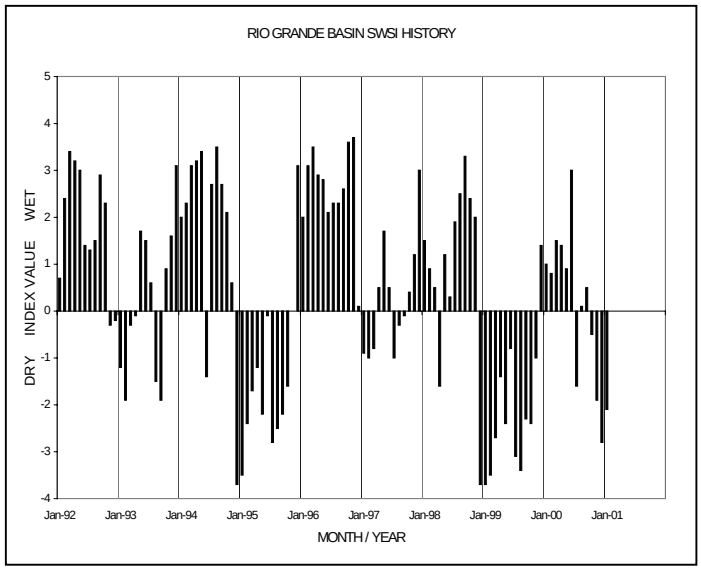
Administrative/Management Concerns

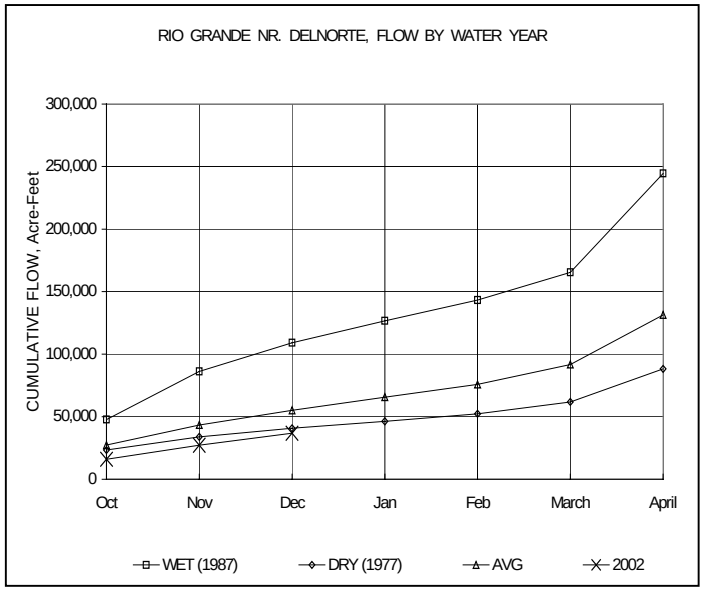
Pursuant to the provisions of the Rio Grande Compact, Colorado under-delivered approximately 13,000 acre-feet of the 313,000 acre-feet delivery obligation to New Mexico and Texas in 2001. This was done in an effort to use a portion of the 27,000 acre-feet of delivery credit carried into 2001. Although reduced by evaporative losses from Elephant Butte Reservoir, an estimated 11,000 acre-feet of delivery credit remains available to offset Colorado's obligation in 2002.

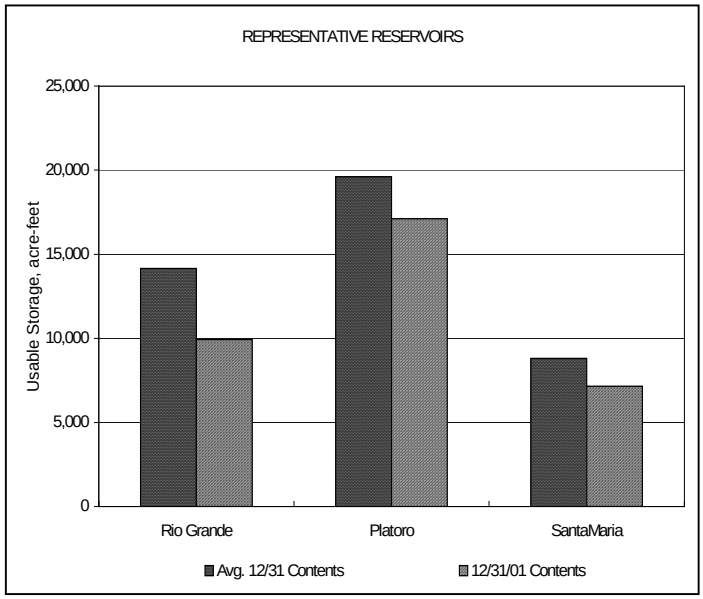
Bolstered by a record runoff in May, the Rio Grande and its tributaries generated about 725,000 acre-feet through the gate near Del Norte during 2001. The long-term average is 655,000 acre-feet. Although the total was above normal, it fell short of NRCS forecasts and resulted in difficulty administering water rights for compact delivery requirements.

The Conejos River and its tributaries also experienced an abundant runoff in May, but that was the only period of above average flow for the year. Indexed flow on the Conejos River near Mogote totaled 205,000 acre-feet in 2001, compared to an average of 241,000 acre-feet.

Closed Basin Project delivery to the Rio Grande totaled about 16,600 acre-feet in 2001. All project canal deliveries met water quality standards.



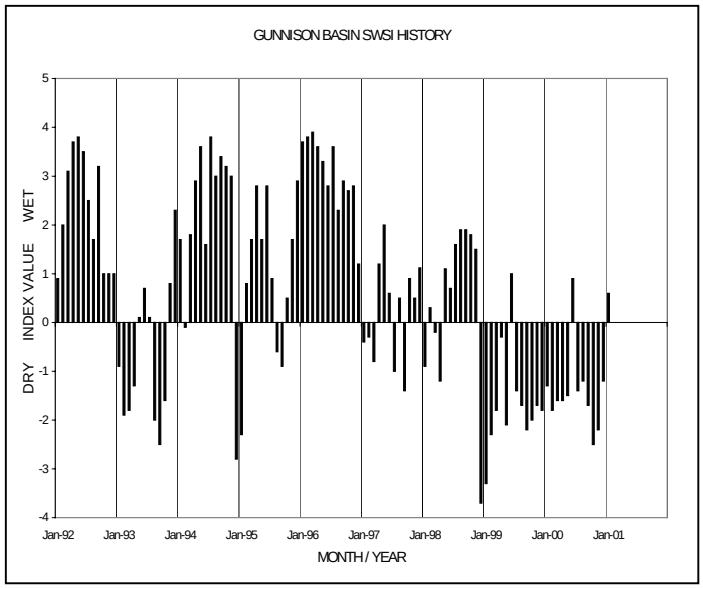




Basinwide Conditions Assessment

The SWSI value of 0.6 indicates that for December the basin water supplies were near normal. The Natural Resources Conservation Service reports that January 1 snowpack is 77% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 48 cfs, as compared to the long-term average of 53 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 94% of normal as of the end of December.

December yielded some record low temperatures as well as seasonably warm temperatures. The Gunnison area at times seemed almost balmy for the time of year. The lower elevations saw some snow melt as if in spring-like conditions.



Outlook

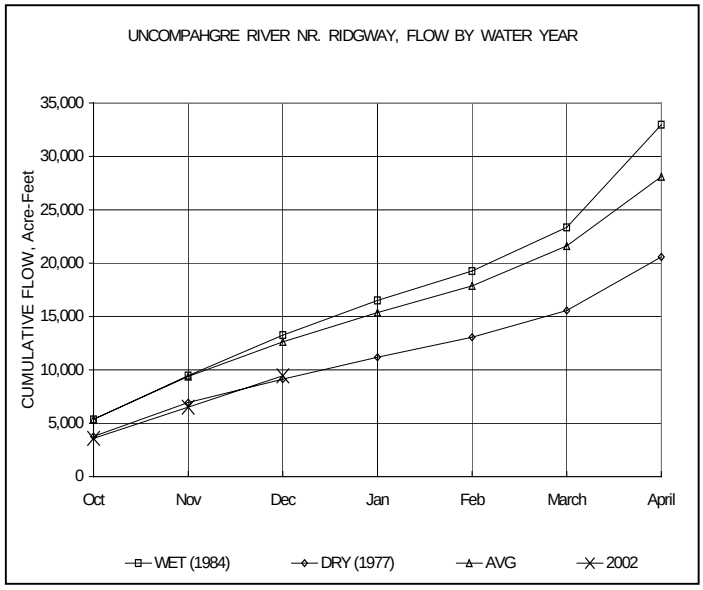
Snowpack continued to decline as a percent of average throughout the month of December. At this rate there may be another dry year in 2002.

Administrative/Management Concerns

Administrators will continue to monitor and maintain an awareness of water companies for potential shortages of both irrigation and domestic supplies as the irrigation season approaches.

Well permitting continues to increase year to year. The number of permit issued in the year 2001 was up approximately 7% from the year 2000, and 2000 was up approximately 15% from 1999.

Low snowfall along with lower storage amounts on the Grand Mesa are causing concern in the North Fork area.

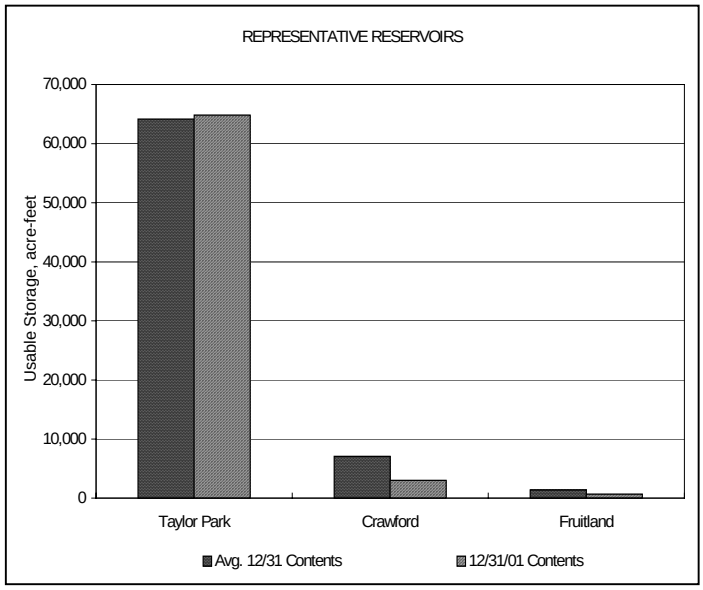


Public Use Impacts

The varying temperatures in the Gunnison area have left Blue Mesa Reservoir with little icepack. The reservoir is frozen by the inlet where ice fishermen are out taking advantage of the conditions. The remainder of the reservoir, with a few exceptions, remains free of ice.

Paoina Reservoir remains volatile as the presence of methane either keeps warm water infiltrating the reservoir or creates bubbling which keeps the water moving. The reservoir may not be safe to access for recreational purposes.

While normally summer recreational uses such as rafting on the Taylor River remain fairly steady as the flow of the Taylor River is controlled by reservoir releases, this year's low snowfall may hinder the summer fun.



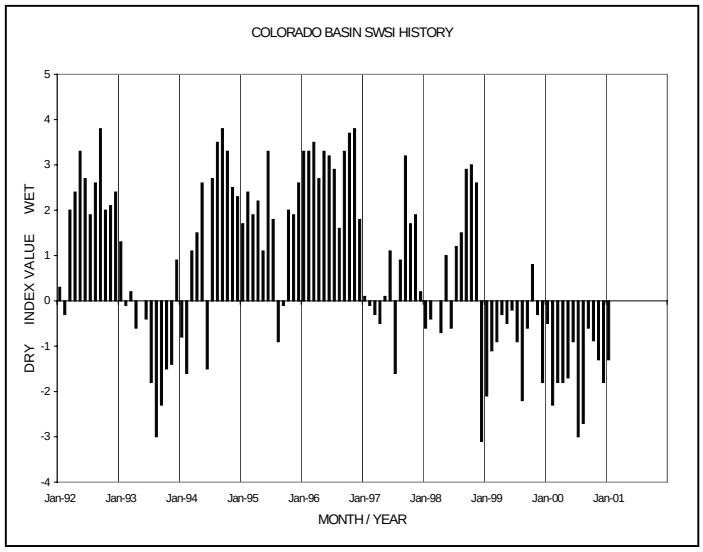
Basinwide Conditions Assessment

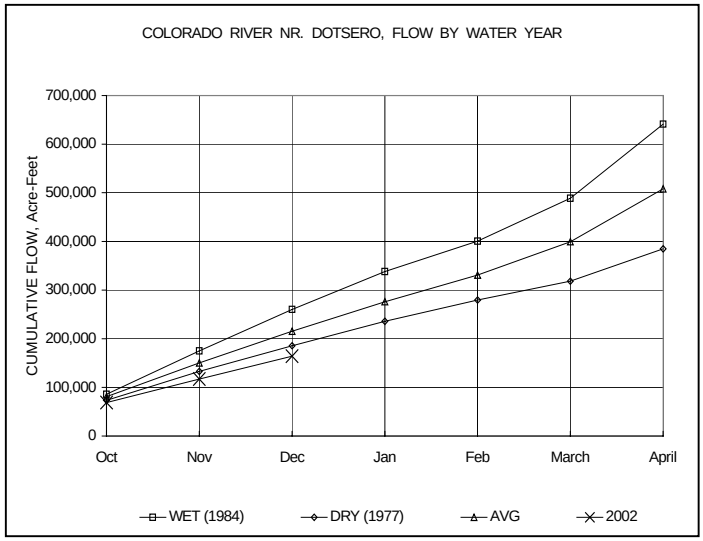
The SWSI value of –1.3 indicates that for December the basin water supplies were slightly below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 72% of normal. Flow at the gaging station Colorado River near Dotsero was 768 cfs, as compared to the long-term average of 985 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 88% of normal as of the end of December.

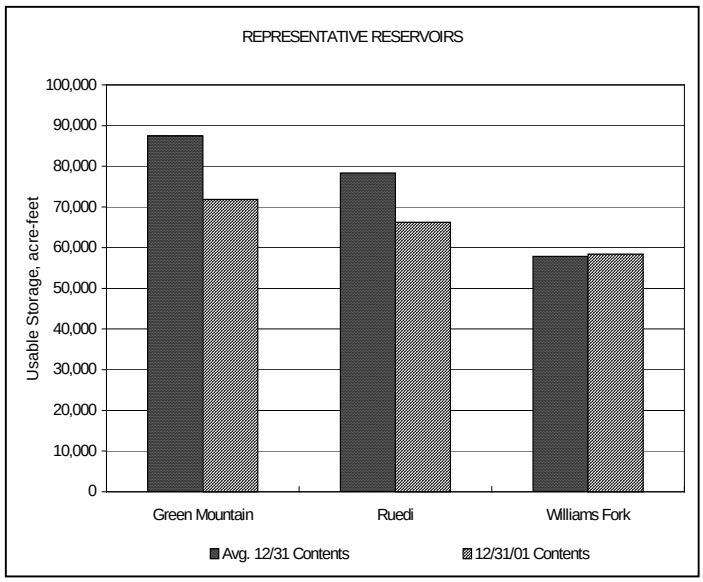
December was drier than normal for the basin, and temperatures were near average. Early January snowpack is as low as 50% in some areas.

Administrative/Management Concerns

The senior Shohone power plant call remained on into January. However, turbine maintenance started January 7 which reduced this call to 700 cfs. At that time river flows were below 700 cfs so the senior call remained on with no swing right.



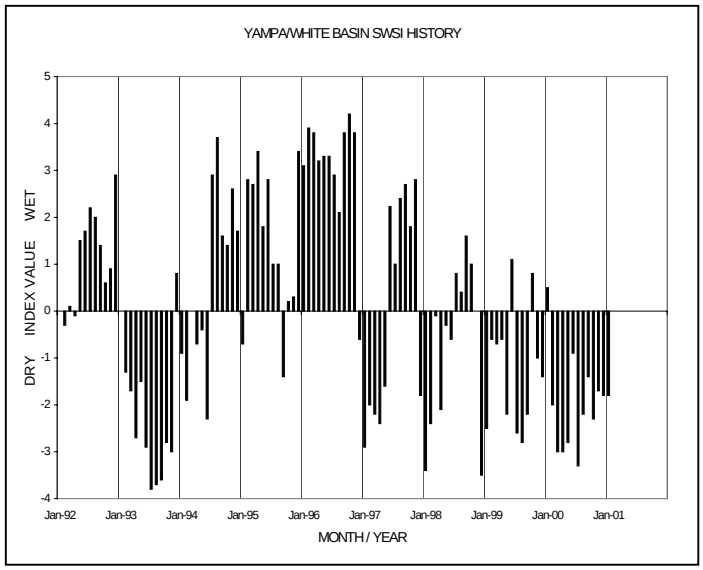




Basinwide Conditions Assessment

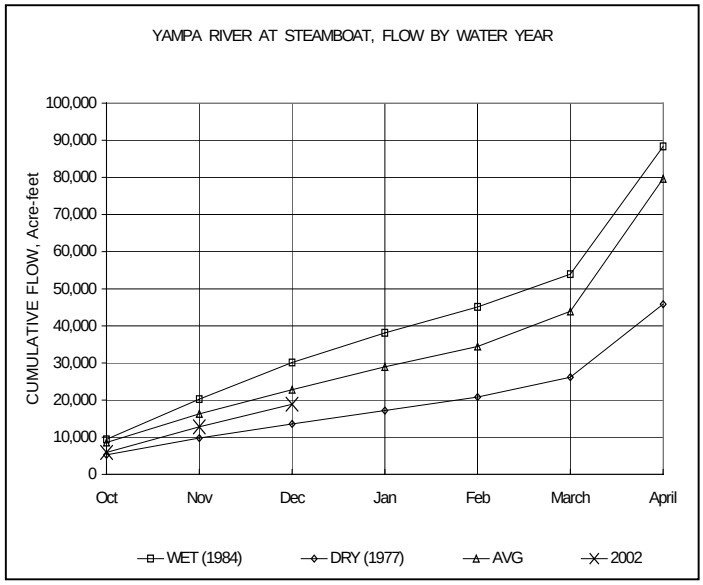
The SWSI value of –1.8 indicates that for December the basin water supplies were slightly below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 70% of normal. Flow at the gaging station Yampa River at Steamboat was 99 cfs, as compared to the long-term average of 106 cfs.

December brought cold weather to the basin, but little else. Snowfall amounts continued to be below average throughout the basin. Precipitation was only 66% of average for the month. At the end of the month SNOWTEL readings showed the North Platte drainage at 61% of average snowpack.



Outlook

The January 1 runoff forecast, provided by the Natural Resources Conservation Service, estimates the most probable spring time runoff will range from 60% of average on the Little Snake River to 80% of average on Elkhead Creek, a tributary of the Yampa. While these early forecasts can change significantly as winter proceeds, they are cause for concern.



Administrative/Management Concerns

The early forecast numbers indicate the basin may be faced with a third consecutive below normal runoff season. If the weather patterns that have been seen so far this winter continue, administration of water rights may again begin earlier than normal in parts of the basin.

Basinwide Conditions Assessment

The SWSI value of –1.6 indicates that for December the basin water supplies were slightly below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 66% of normal. Flow at the gaging station Animas River near Durango was 190 cfs, as compared to the long-term average of 231 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 75% of normal as of the end of December.

December in southwestern Colorado did not provide the amount of moisture that had been hoped for after the late November storms. There was only 0.62 inch of precipitation in Durango as compared to an average of 1.57 inches (39% of normal). Precipitation totals 61% of normal for the water year (since October 1, 2001).

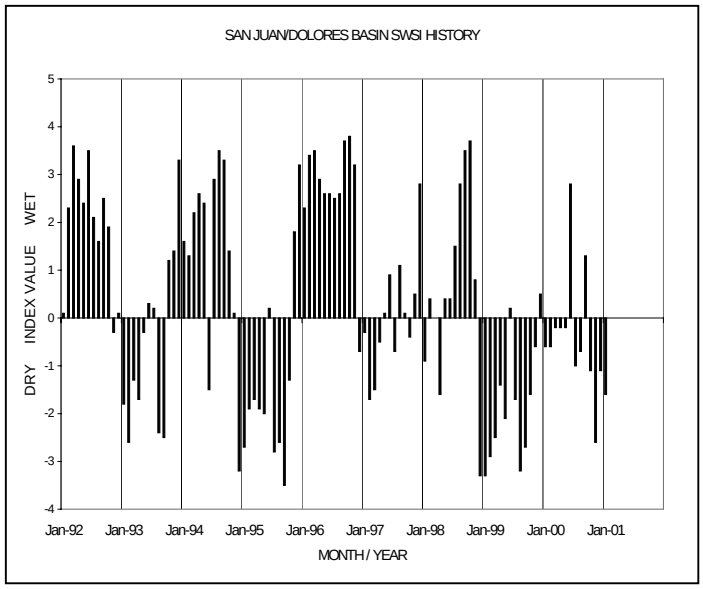
Reservoir storage remained very low at most sites, with the exception of Vallecito Reservoir which was carrying over 52,000 acre-feet (104% of normal).

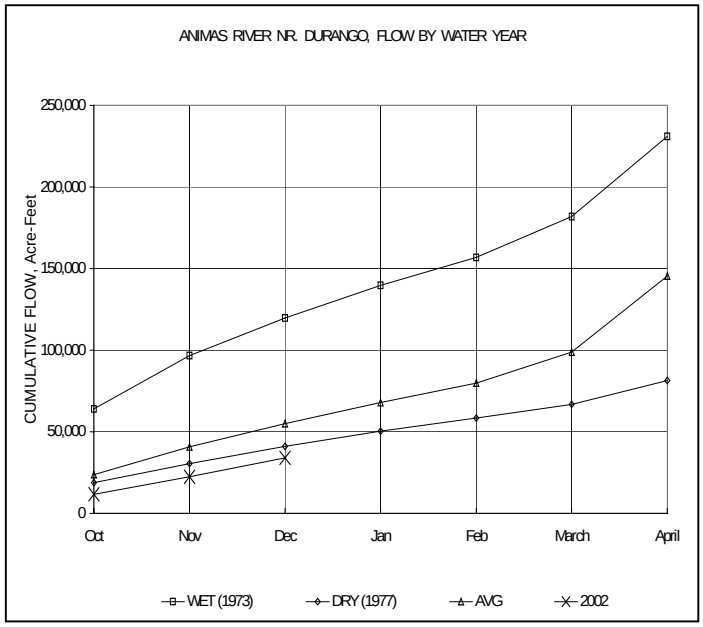
River flows were below historic base levels. The Animas River was running 170 cfs at the end of December, where it would typically average 222 cfs, a flow it did not reached at any time in the month.

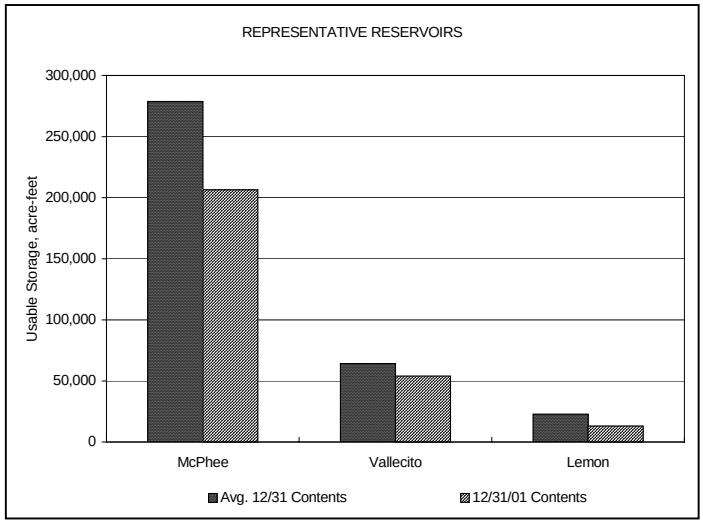
Temperatures were near normal. A low of 3^{o} was measured in Durango three times in December, with a high of 47^{o} also reach three times.

Outlook

The snowpack up to this point is not being well developed. The Dolores River drainage and western San Juan's are better than other areas at 90% of normal. It is early in the snowpack season and more will be known about the outlook in the coming months.







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