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 2000

This month's SWSI values, which indicate very low water supply conditions, are a result of low snowpack at the end of December. Well below normal snowpack existed across the state during the month, with an end of December statewide average of 45% of normal. The Rio Grande, Gunnison, and San Juan/Dolores basins had both the lowest SWSI values and the lowest snowpacks. Much of the winter snowpack accumulation season is still ahead.

Stream flows are still holding at acceptable levels. Reservoir storage is average to above average in most of the reservoirs across the state.

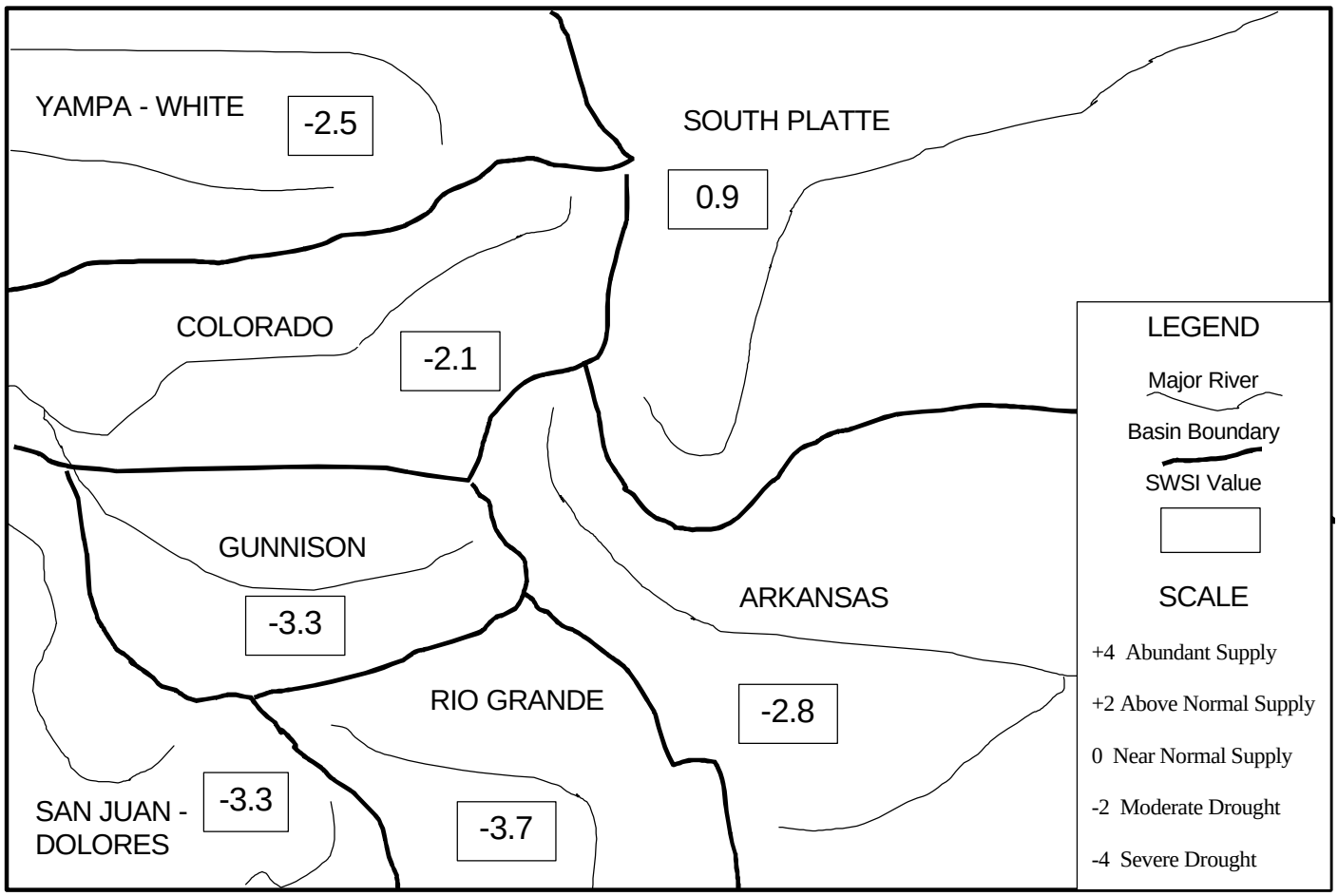
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on snowpack, reservoir storage, and precipitation for the winter 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, 2000, and reflect the conditions during the month of December.

Basin	January 1, 2000 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	0.9	+0.1	-0.1
Arkansas	-2.8	-0.1	-1.7
Rio Grande	-3.7	0.0	-5.2
Gunnison	-3.3	+0.4	-2.4
Colorado	-2.1	+1.0	-1.5
Yampa/White	-2.5	+1.0	+0.9
San Juan/Dolores	-3.3	0.0	-2.4

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, 2000

Basinwide Conditions Assessment

The SWSI value of 0.9 indicates that for December the basin water supplies were near normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 108% of normal as of the end of December. The Natural Resources Conservation Service reports that January 1 snowpack is 64% of normal. Flow at the gaging station South Platte River at Kersey was 1,010 cfs, as compared to the long-term average of 857 cfs.

Although snowpack is significantly below average throughout the basin, the supply conditions remain good due to present storage and flow conditions.

Stream flow conditions continue to be average or above average for most of the South Platte basin.

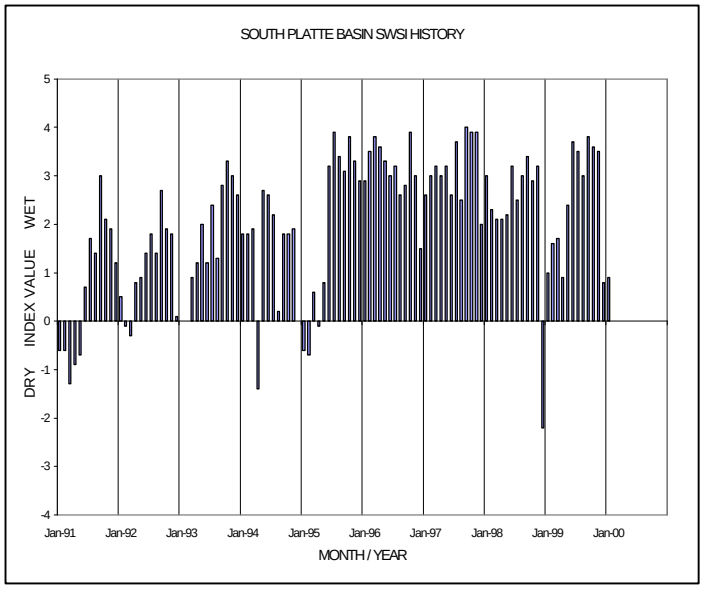
Reservoir storage continued as the primary diversion in December, along with diversions for municipal and recharge uses. Many reservoirs have already been filled to their winter storage levels.

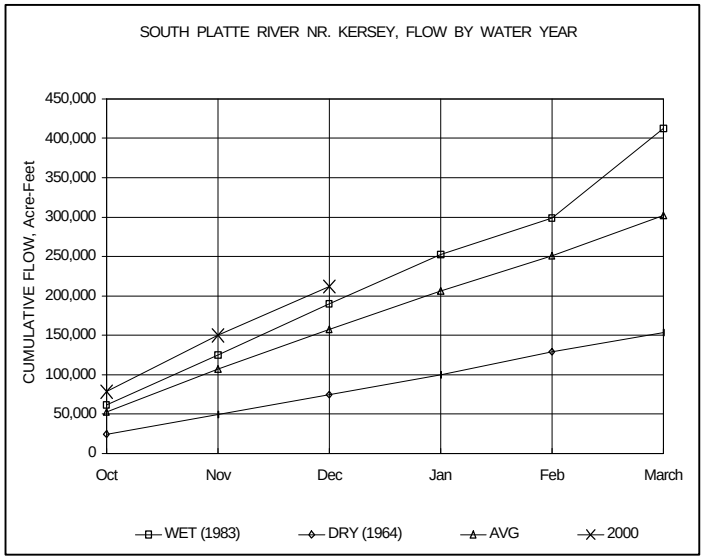
Outlook

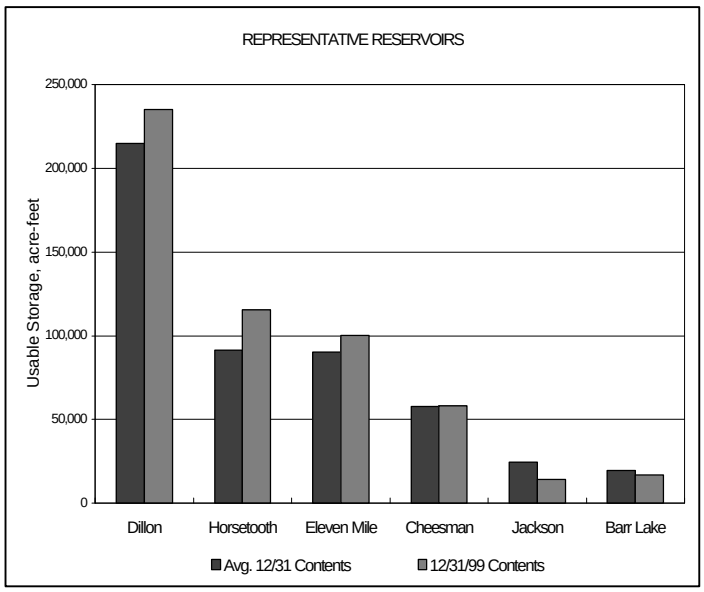
It appears that most reservoirs which have not filled, both on the mainstem and on the tributaries, will fill this winter and spring.

Administrative/Management Concerns

Due to the excellent storage and flow conditions, there was no call for water downstream of Chatfield Reservoir during December.

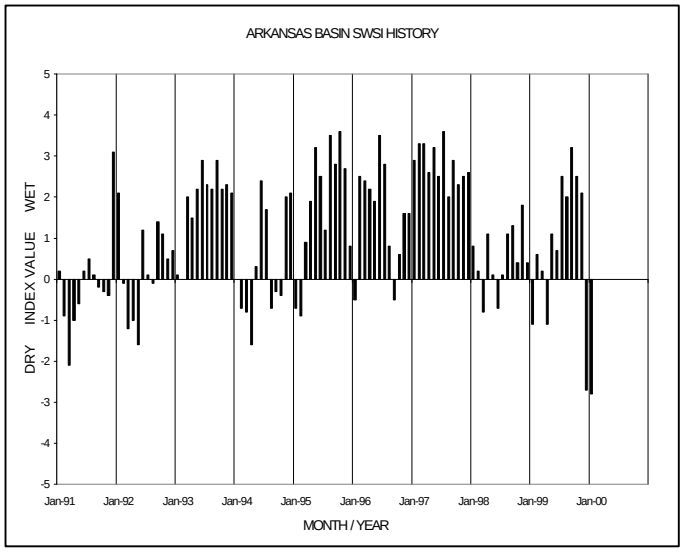


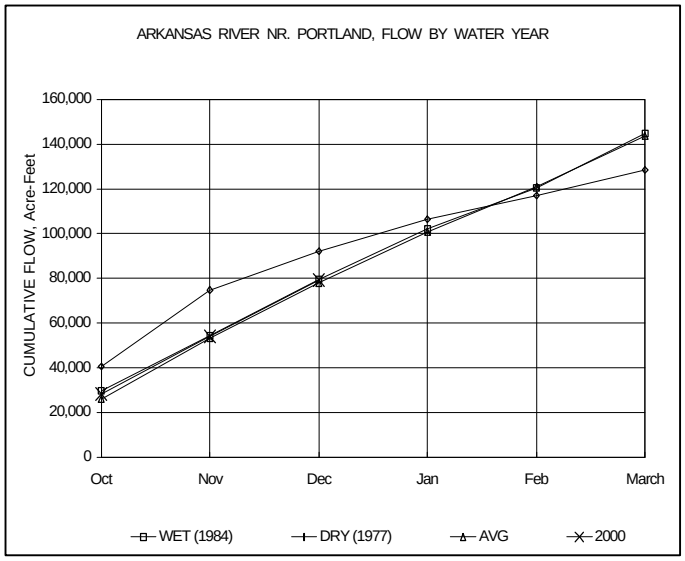


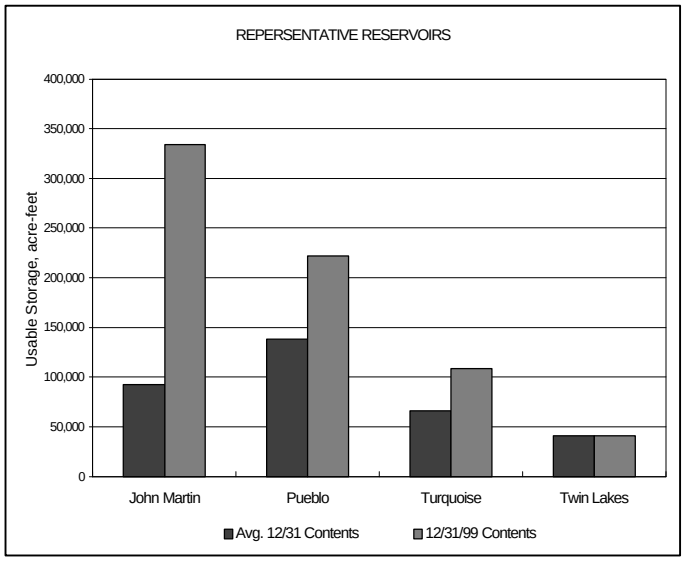


Basinwide Conditions Assessment

The SWSI value of –2.8 indicates that for December the basin water supplies were well below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 62% of normal. Flow at the gaging station Arkansas River near Portland was 410 cfs, as compared to the long-term average of 394 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 209% of normal as of the end of December.







Basinwide Conditions Assessment

The SWSI value of –3.7 indicates that for December the basin water supplies were well below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 19% of normal. Flow at the gaging station Rio Grande near Del Norte was 215 cfs, as compared to the long-term average of 188 cfs. The Conejos River near Mogote had a mean flow of 34 cfs (65% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 124% of normal as of the end of December.

Alamosa received 0.03 inches of precipitation during the month, 0.41 inches below normal. For the year 1999, Alamosa's total precipitation of 7.58 inches was very near the annual average. Alamosa's temperature averaged 42.8^{o} during the month, the highest December average in over 20 years.

Outlook

Stream flow in the basin should be slightly below average for the next few months. Lack of significant precipitation will bolster dust storms when the wind picks up.

Administrative/Management Concerns

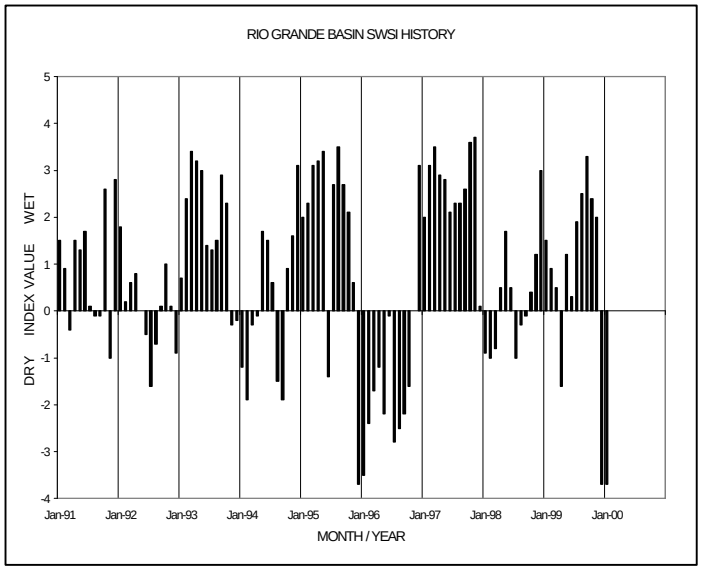
Colorado exceeded the Rio Grande Compact delivery obligation to New Mexico and Texas in 1999 by approximately 5,000 acre-feet. This amount was very close to hitting the target considering the unusual year the basin experienced. Early forecasts of a drought due to low snowpack changed dramatically as late spring snow storms and heavy summer rains reversed the early trend. A very dry autumn forced stream flow back to normal levels. The result was about 910,000 acre-feet indexed at the Rio Grande near Del Norte gaging station. Stream flow in an average year totals 655,000 acre-feet.

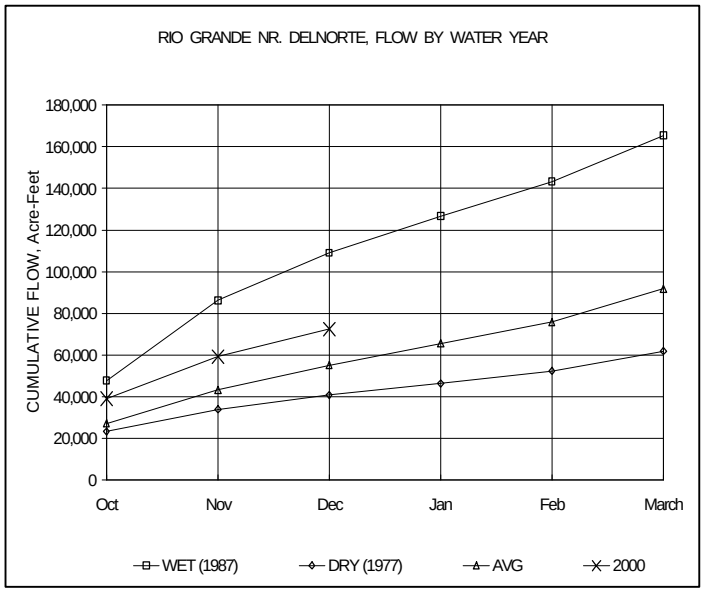
The impact of the rain was not felt as strongly in the Conejos River drainage. Indexed flow on the Conejos River near Mogote totaled 223,000 acre-feet in 1999, compared to an average of 241,000 acre-feet.

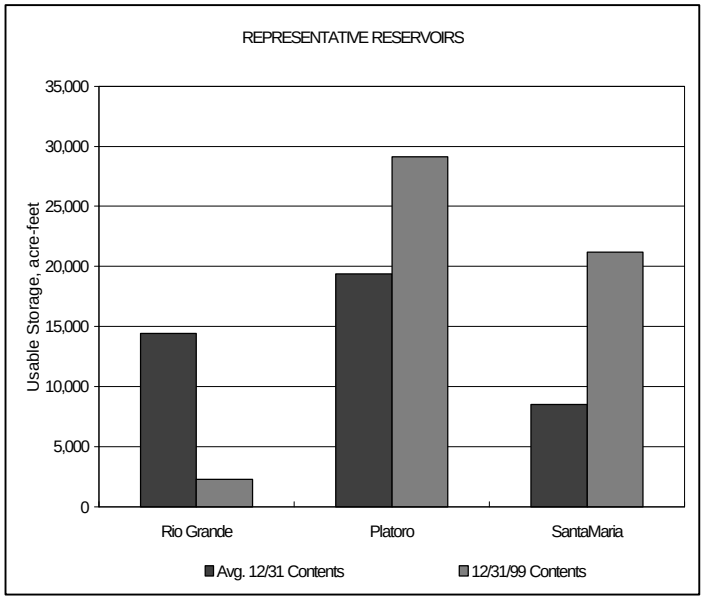
Closed Basin Project delivery to the Rio Grande totaled 20,400 acre-feet. All project canal deliveries met water quality standards.

Public Use Impacts

Snowfall at the beginning of January helped a bit, but the basin is getting another poor start on snowpack this year.







Basinwide Conditions Assessment

The SWSI value of –3.3 indicates that for December the basin water supplies were well below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 32% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 50 cfs, as compared to the long-term average of 51 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 113% of normal as of the end of December.

Some Water Commissioners report that springs that had been dry in the past were running well as a result of the rains over the past year. The ground water situation appears to be stable.

Outlook

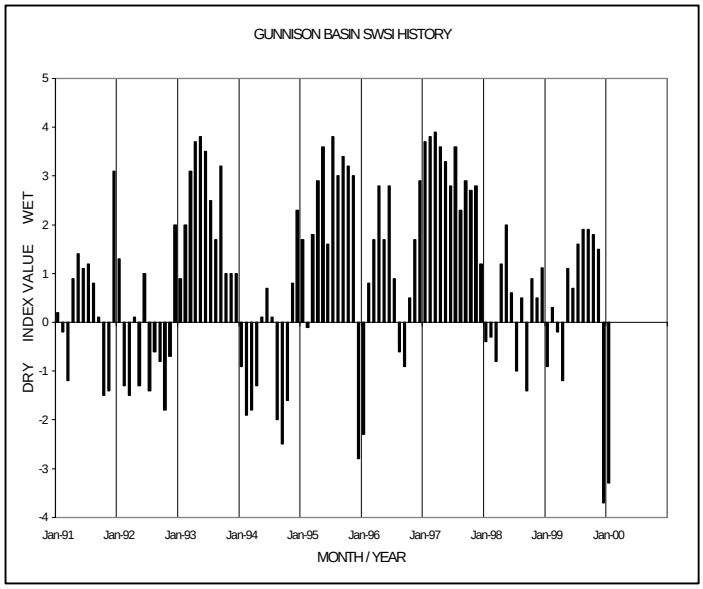
Time still allows for the possibility that the snowpack will rebound.

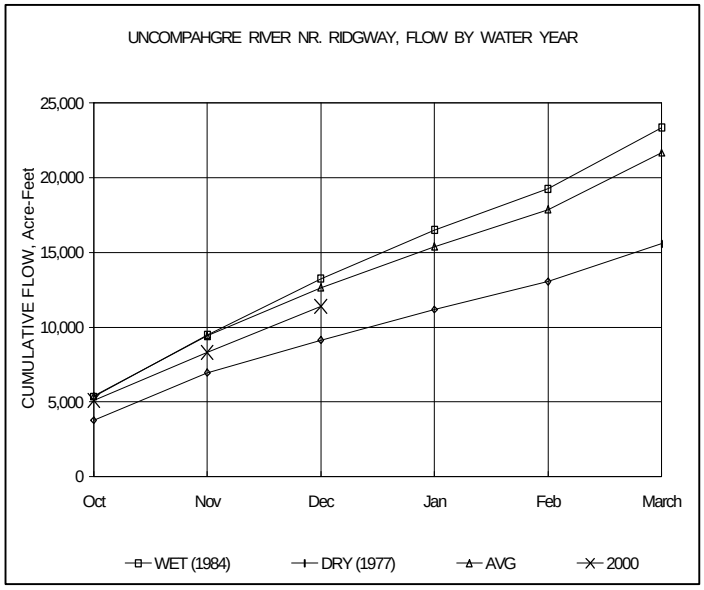
Administrative/Management Concerns

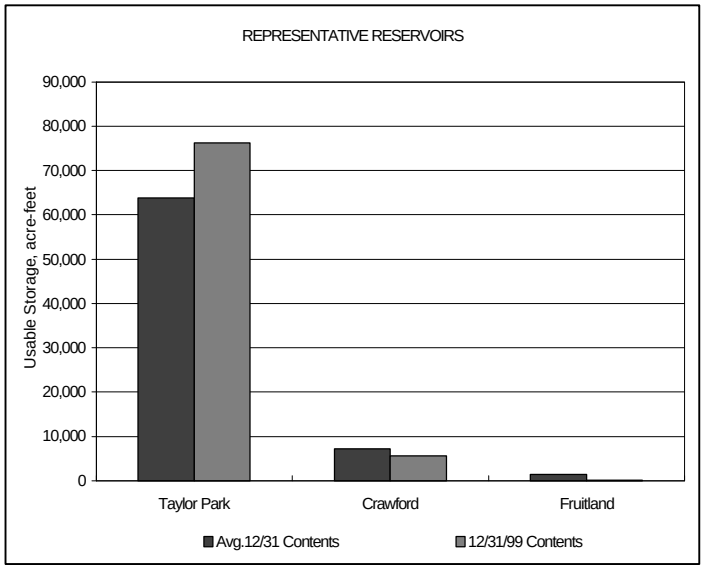
Basin administrators have no real concerns at the moment, as this is a quiet time of year in terms of water use.

Public Use Impacts

Ski areas have been able to open up more runs. There were complaints that the holiday season did not offer the best conditions for playing in the snow.







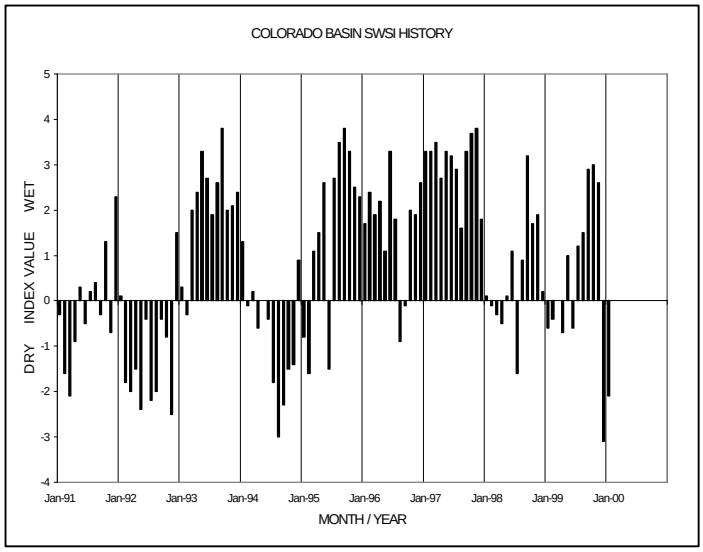
Basinwide Conditions Assessment

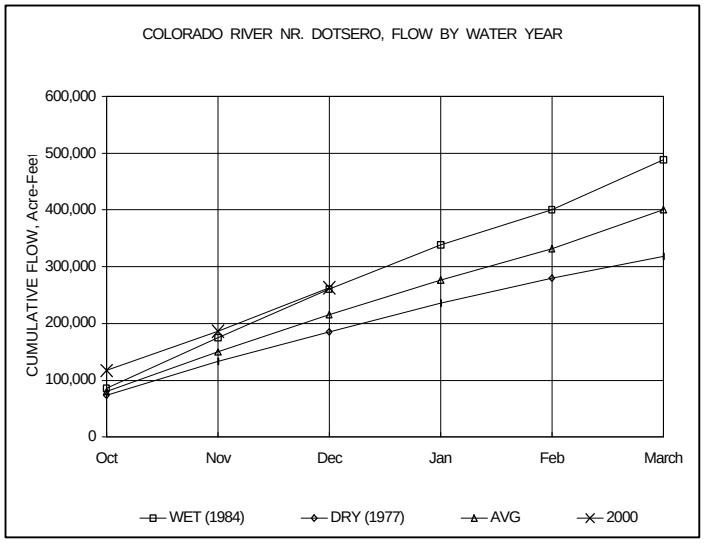
The SWSI value of –2.1 indicates that for December the basin water supplies were near normal. The Natural Resources Conservation Service reports that January 1 snowpack is 51% of normal. Flow at the gaging station Colorado River near Dotsero was 1,256 cfs, as compared to the long-term average of 1,054 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 109% of normal as of the end of December.

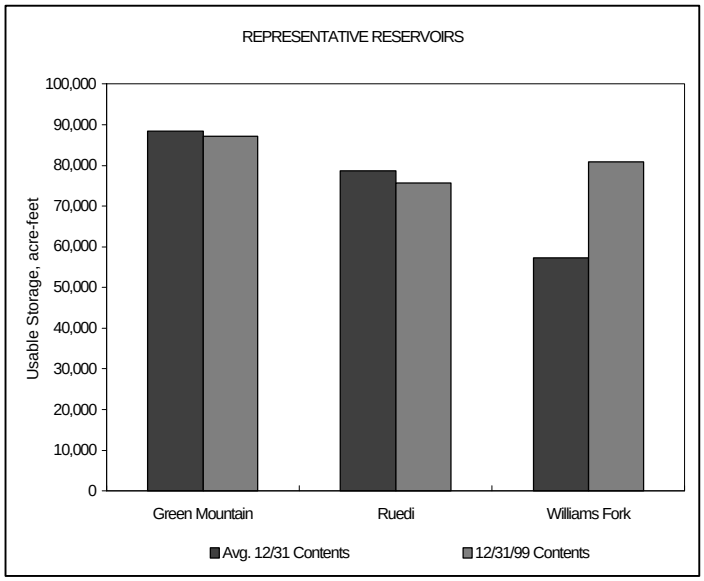
The NRCS snowpack survey in the upper Colorado River basin shows a 57% snow water equivalent. Extremes for the basin as a whole range from 44% at McClure Pass (south of Carbondale), to 91% at Buffalo Park (northwest of Kremmling). On the brighter side, historically 60% of the snowpack accumulation is yet to come.

Public Use Impacts

Colorado's snowpack is vital for both tourism, from skiers and snowboarders in winter to reservoir recreation in summer, and to agriculture. Although snowpack is below normal, ski areas enjoyed some early year storms to increase their base levels. Most of the basin's ski areas have bases of well over 2 feet.



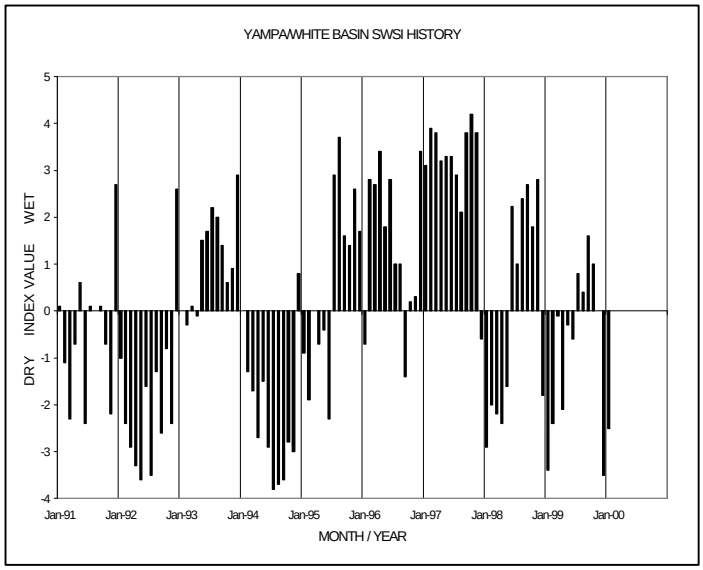




Basinwide Conditions Assessment

The SWSI value of –2.5 indicates that for December the basin water supplies were below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 64% of normal. Flow at the gaging station Yampa River at Steamboat was 106 cfs, as compared to the long-term average of 100 cfs.

Early December continued the abnormally dry fall that is being experienced in the basin. In the middle of December storm tracks finally changed and the area started to receive significant snowfall. For the month, precipitation over the basin was 96% of average.



Outlook

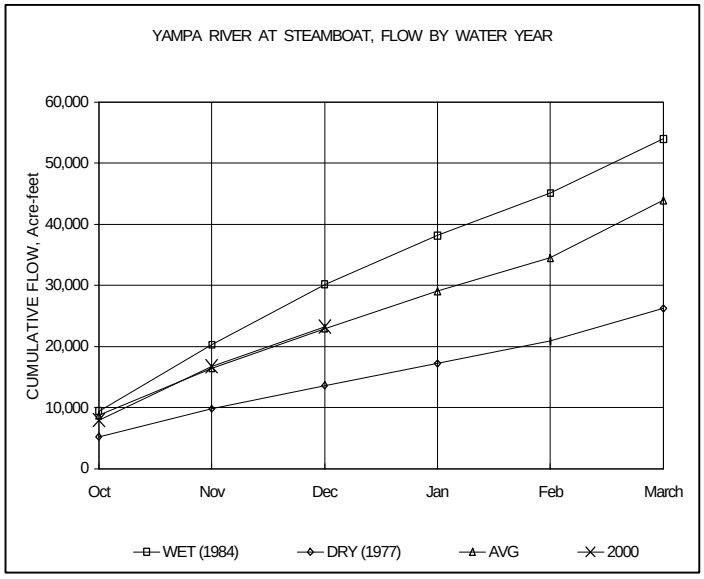
With storms moving through the basin on a regular basis since the middle of December, and a resulting steady increase in snowpack, early concerns of a low snowpack are diminishing.

Administrative/Management Concerns

None at this time.

Public Use Impacts

Winter activities are in full swing throughout the region.



Basinwide Conditions Assessment

The SWSI value of –3.3 indicates that for December the basin water supplies were well below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 17% of normal. Flow at the gaging station Animas River near Durango was 221 cfs, as compared to the long-term average of 227 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 120% of normal as of the end of December.

December did not bring any relief to the previous 2 months of dry weather. There were only scattered traces of precipitation in southwest Colorado. Durango's precipitation of 0.13 inches since October 1 is 3% of normal. An early January storm increased snowpack reports from about 10% of normal to 26% of normal.

Base stream flows were below average all across the basin. The flows were not record lows but do show a reduction in spring flow.

Reservoir carryover storage is still above average, and is one positive point on which to base predictions of next season's supply to irrigators.

Temperatures cooled but the averages were still 2-3^{o} above normal. Single digit lows were experienced in most areas during the middle of the month.

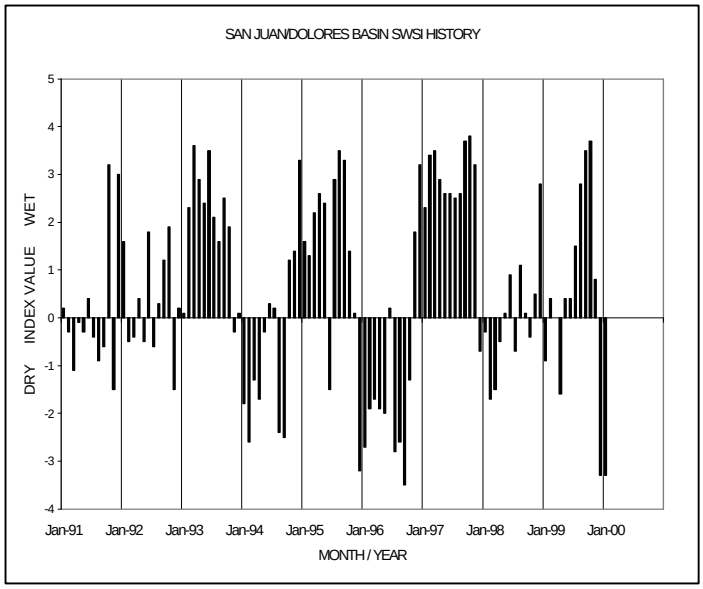
Ground moisture content was very poor.

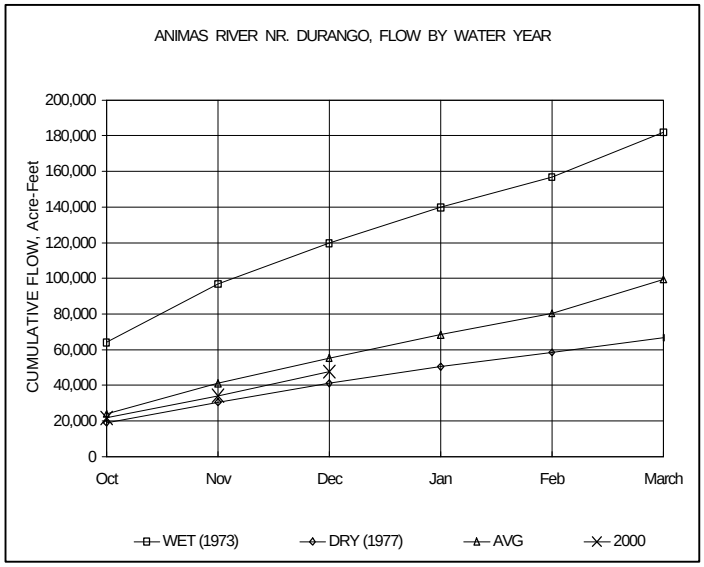
Outlook

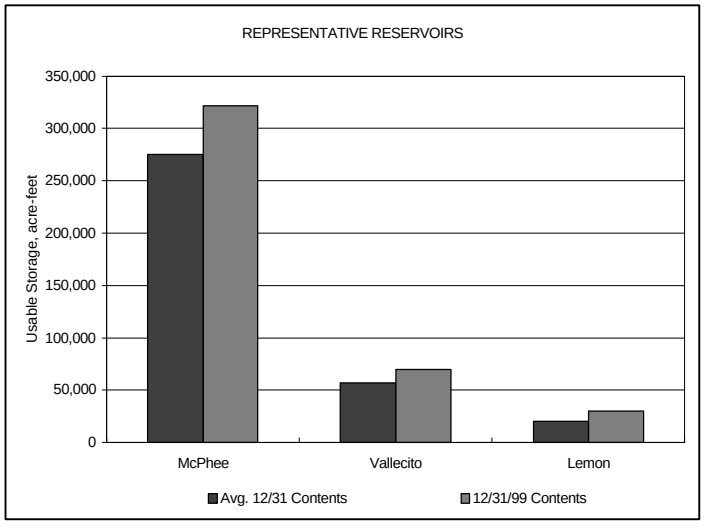
Snowpack is at an early state, and conditions for the next spring and summer runoff cannot be predicted at this point.

Public Use Impacts

Snow recreation was observed, but ski areas were not fully open at the end of December.







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