COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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NOVEMBER 2004

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 stream flow, reservoir storage, and precipitation for the summer period (May through October). During the summer period, stream flow 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 November 1, 2004, and reflect the conditions during the month of October.

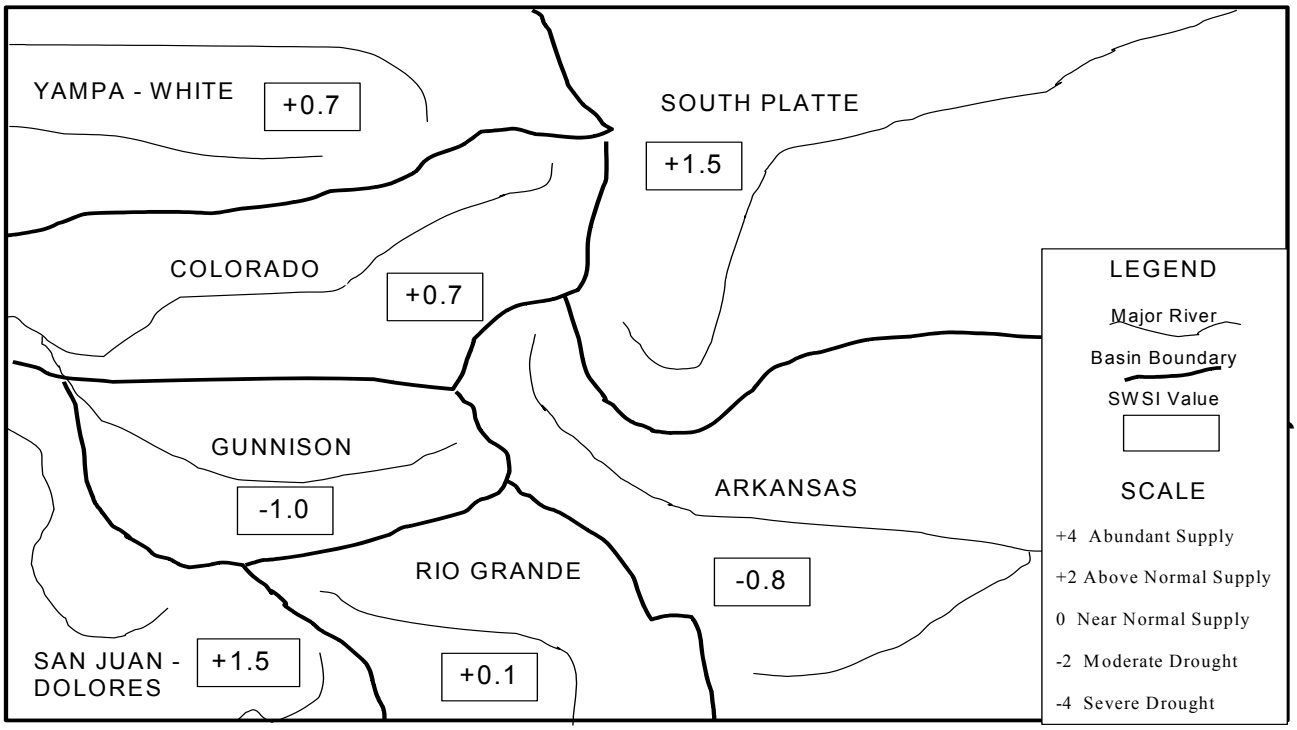
Reports from most of the basins indicate that stream flows during October 2004 were improved over October flows over the past several years. Demand for direct flow irrigation water generally ceases during October, except in limited areas where irrigators continue to apply water during into the late fall to build up soil moisture as they look forward to next spring. With the reduction in direct flow irrigation diversions and the calls by those direct flow rights, diversions to storage increase. Statewide, at the end of October, reservoir storage was at approximately 85% of average.

Basin	November 1, 2004 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+1.5	-0.1	+1.8
Arkansas	-0.8	+0.8	+1.0
Rio Grande	+0.1	-1.2	+2.1
Gunnison	-1.0	+0.9	+2.4
Colorado	+0.7	+1.4	+0.6
Yampa/White	+0.7	+1.8	+3.9
San Juan/Dolores	+1.5	-0.4	+3.2

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

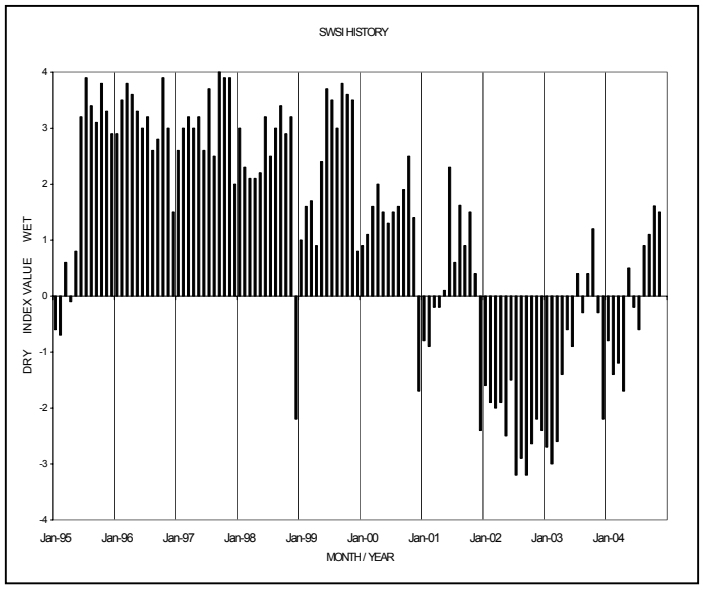


NOVEMBER 1, 2004

Basinwide Conditions Assessment

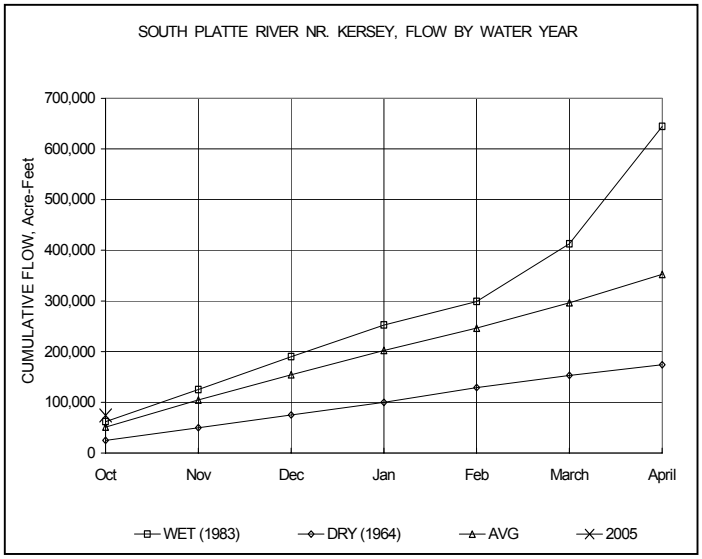
The SWSI value of 1.5 indicates that for October the basin water supplies were above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 100% of normal as of the end of October. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 31% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 75% of capacity. Flow at the gaging station South Platte River near Kersey was 1,207 cfs, as compared to the long-term average of 832 cfs.

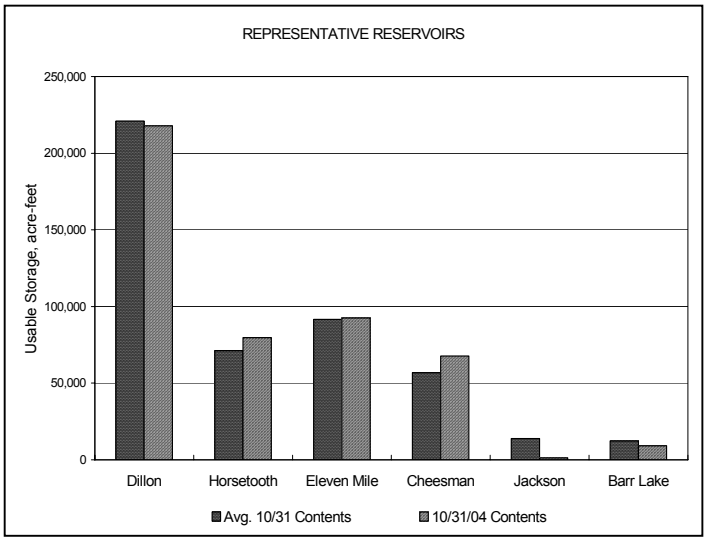
Generally supplies were adequate for all irrigation and municipal users on the South Platte and tributaries as the irrigation season wound down. Because of these conditions, there was sufficient water to fill reservoirs rights that had not been filled in the spring and sufficient water eventually to allow limited recharge. Though storage still remains very low for this time of year along the mainstem of the South Platte, it is better than last year at this time.



Outlook

The limited storage that occurred in October will be helpful in filling South Platte mainstem reservoirs next spring. On the tributaries, storage conditions are excellent compared to the previous few years. Thus, the initial outlook for next year is much better at the end of October than it has been in a few years.

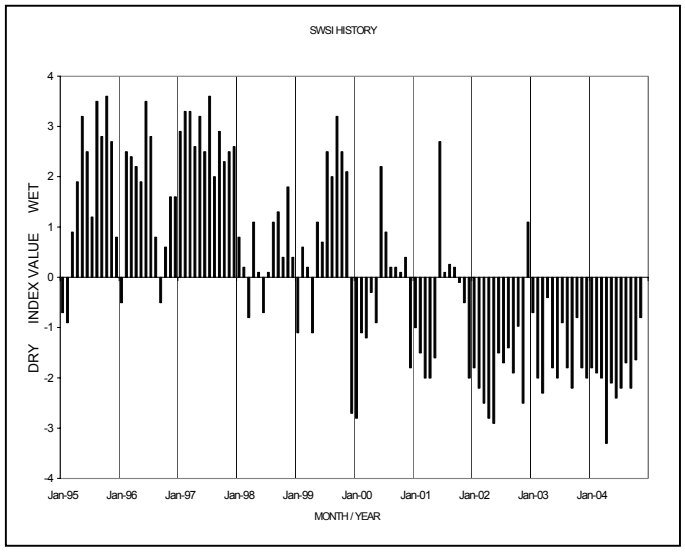




Basinwide Conditions Assessment

The SWSI value of -0.8 indicates that for October the basin water supplies were near normal. Flow at the gaging station Arkansas River near Portland was 311 cfs, as compared to the long-term average of 406 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 61% of normal as of the end of October.

The river call for October stayed relatively senior. The month began with the call on Fort Lyon Canal's April 15, 1884 water right and then shifted to Catlin Canal's December 3, 1884 and Lamar Canal's November 4, 1886 water rights for the latter part of the month.

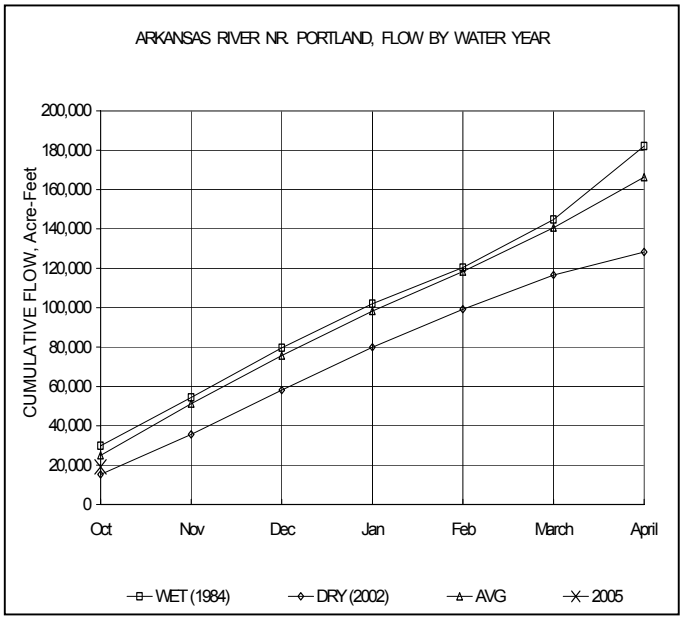


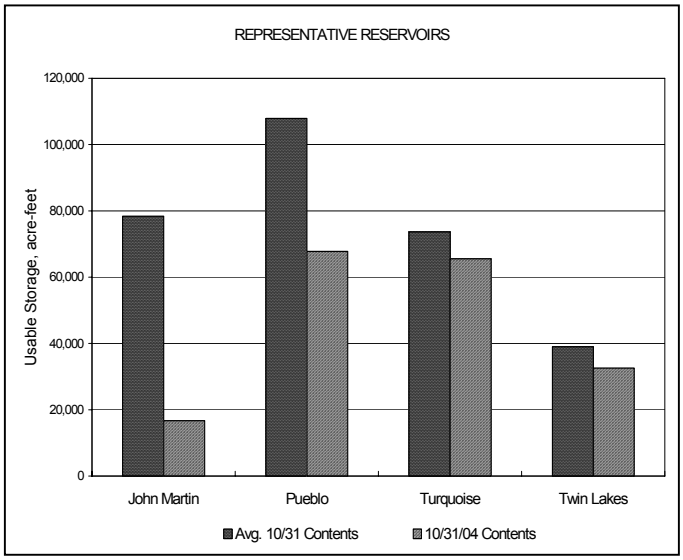
Outlook

River flows into John Martin Reservoir were improved over the past few winters for the start of Conservation storage.

Administrative/Management Concerns

An unusual occurrence during October was the disruption of irrigation due to a significant problem with tumbleweeds blown into a number of the ditches. The Highline, Catlin and Oxford Canals all experienced problems with an unusually high amount of weed accumulation in their ditches that required enormous expenditure of man-hours to try to alleviate.



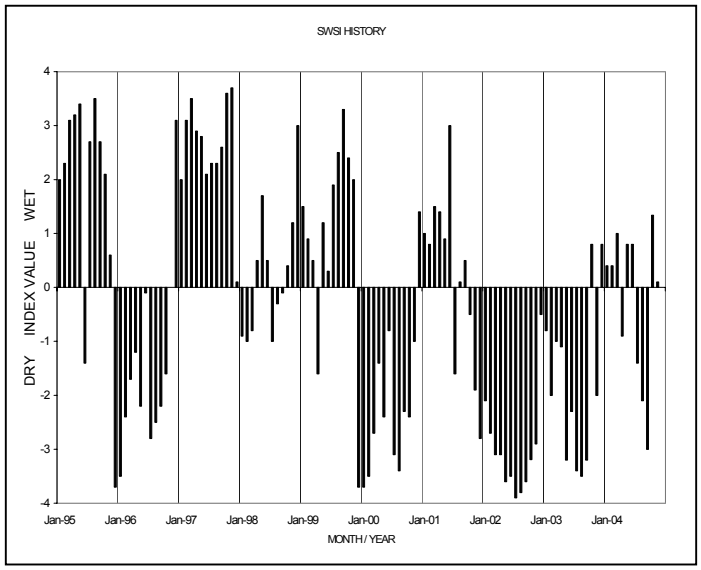


Basinwide Conditions Assessment

The SWSI value of 0.1 indicates that for October the basin water supplies were near normal. Flow at the gaging station Rio Grande near Del Norte averaged 471 cfs (97% of normal). The Conejos River near Mogote had a mean flow of 153 cfs (132% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 49% of normal as of the end of October.

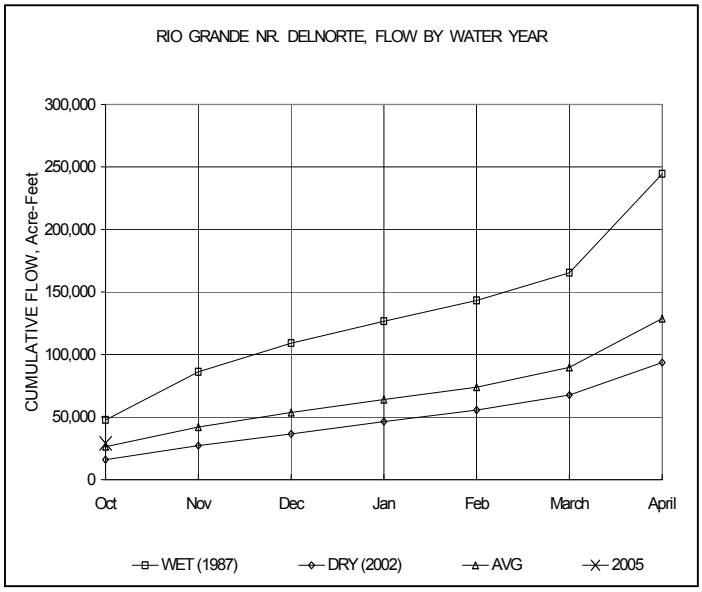
Precipitation in Alamosa was 0.60 inches, 0.07 inches below normal. Temperatures ranged from 9 degrees to 71 degrees in Alamosa where the average monthly temperature was 42.9 degrees, 0.1 degrees above normal.

Soil moisture conditions in the basin are now generally good.



Outlook

Snow pack in the higher elevations got a strong start with significant snowfall at the higher elevations during the third week of October. Corresponding with the increased precipitation during September and October were stream flow levels much closer to historic averages. Local streams are still benefiting from rainstorms in September. Runoff in area streams had been well below average in the basin since May.

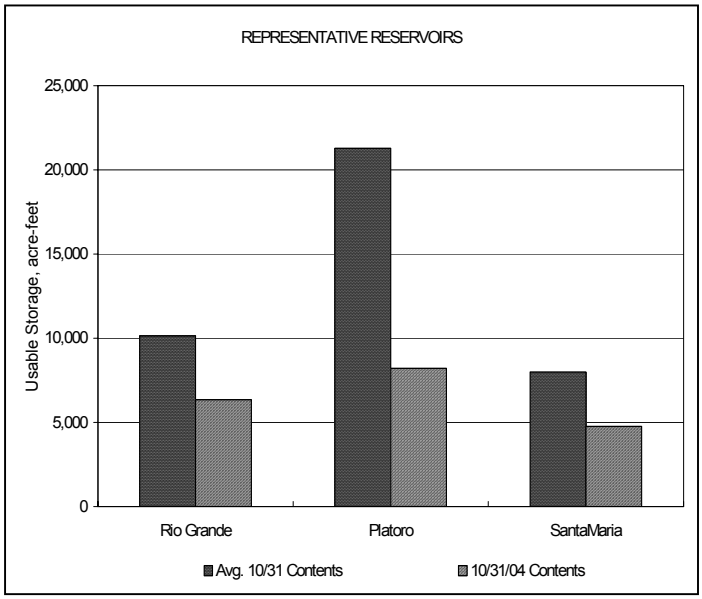


Administrative/Management Concerns

Reservoirs in the basin reduced outflows and began storing inflow as the month came to a close. Index flow on the Rio Grande is now being routed to the State Line to meet Rio Grande Compact delivery requirements. Water rights drawing from the Conejos River and its tributaries will be allowed to divert in-priority until about mid-November.

The Division Engineer has requested all owners of irrigation wells to cease diversions from the wells as of November 1. This request will remain in place until next spring in an effort to prevent further draft from the basin's depleted aquifers.

Now that the 2004 irrigation year is over, Water Commissioners are busy creating diversion records.



Public Use Impacts

The weather was mild enough to allow a few ditches to continue diversions for irrigation throughout the month. However, enough snow fell in the mountains that Wolf Creek ski area opened for business.

Basinwide Conditions Assessment

The SWSI value of –1.0 indicates that for October the basin water supplies were slightly below normal. Flow at the gaging station Uncompahgre River near Ridgway was 110 cfs, as compared to the long-term average of 87 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 90% of normal as of the end of October.

Outlook

October was another good month for moisture on the western slope. Some of the snotel sites are showing twice the normal snowpack for this time is the year. Of course, it's a very small amount in comparison to the total for the year, and it's still way too early to get a good indication of the snow pack for the entire winter season.

Administrative/Management Concerns

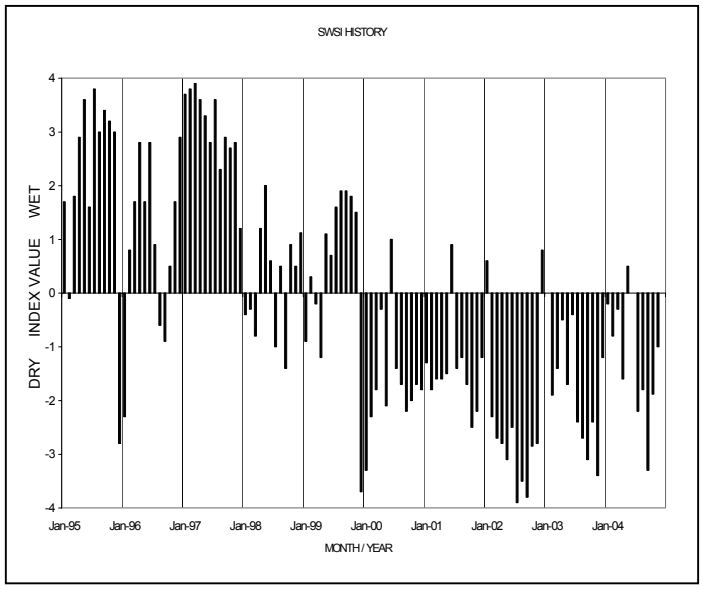
In the Grand Mesa area, where reservoir storage is so critical, the abundant moisture has reduced the demand for stored water, and irrigators have been able to leave the water in the reservoirs and save it for next year. In addition, the rain and snow created some additional in-priority storage that can also be carried over for next irrigation season. It gives the irrigators an optimistic perspective when they have significant carry over storage.

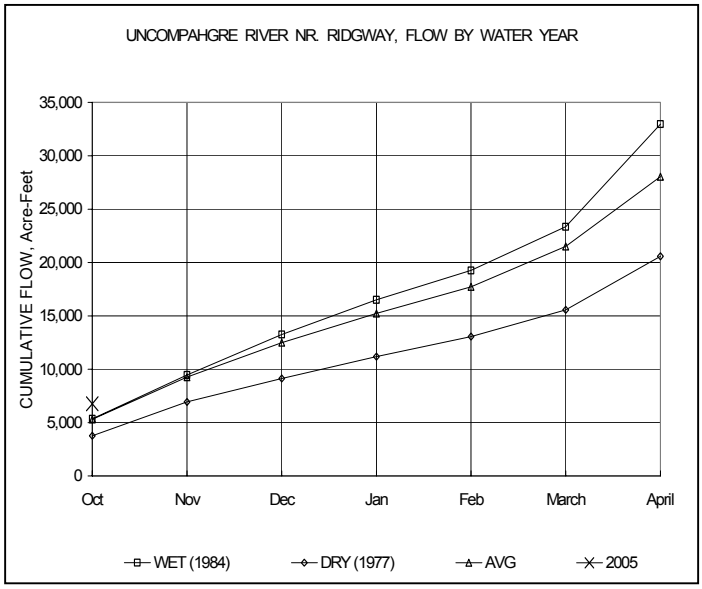
In other areas, the moisture boosted river flows and provided an abundant supply for those that still wanted to complete some fall irrigation. However, most were satisfied and shut off their diversions earlier than normal.

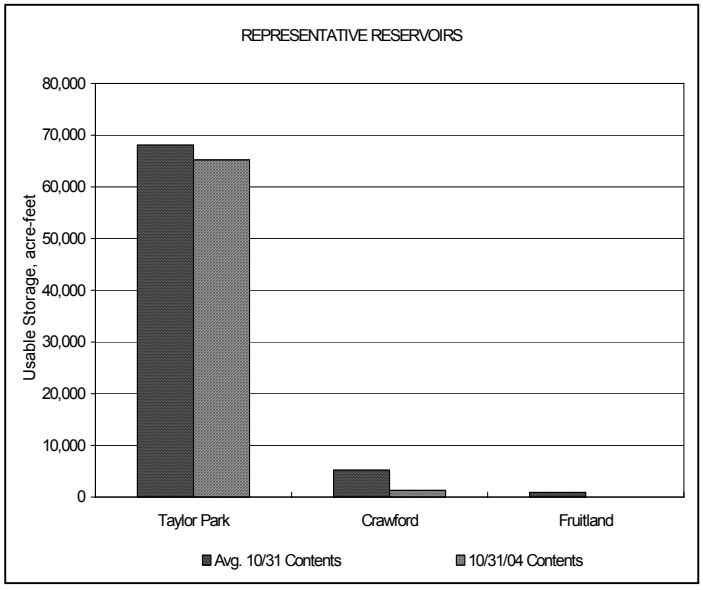
The work is now underway to install a fish screen in the Redlands Canal. This screen is designed to keep endangered fish from entering the canal. The current schedule is to finish the work and turn the canal back on in April 2005.

Public Use Impacts

The ski areas have been excited to see all the snowfall, and are making snow to supplement and pack the base so they can open earlier. The hunters have also been helped with the snow. For the last two years, the conditions have been very warm and dry. The storms and moisture move the animals and provide better hunting conditions.

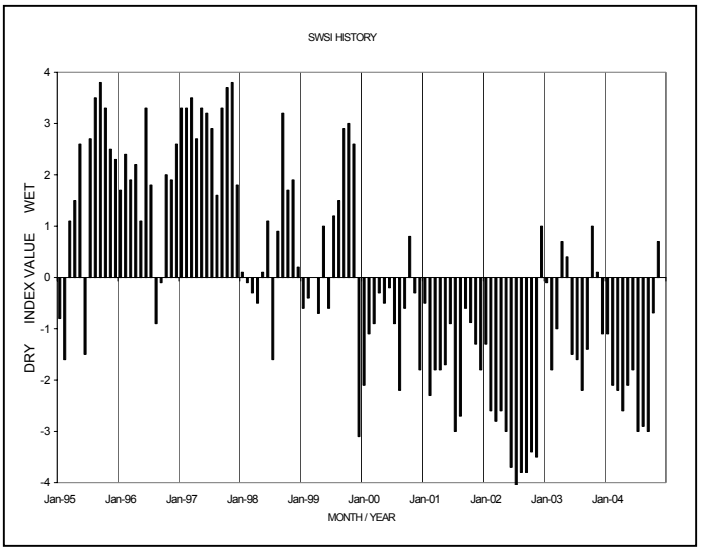


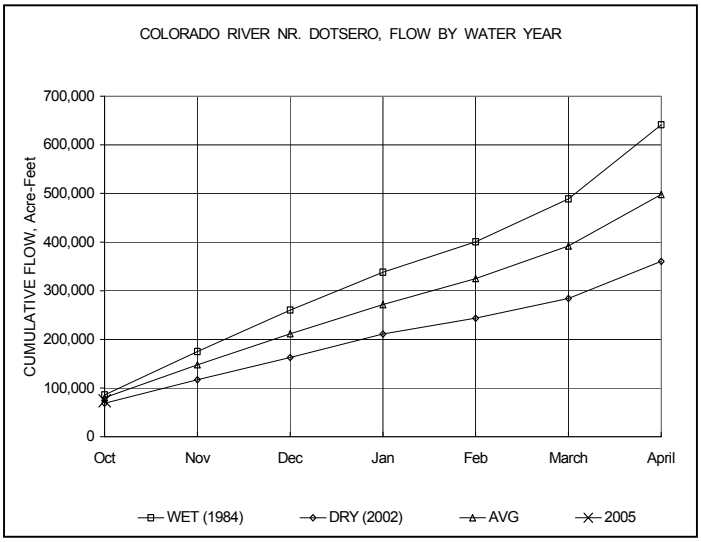


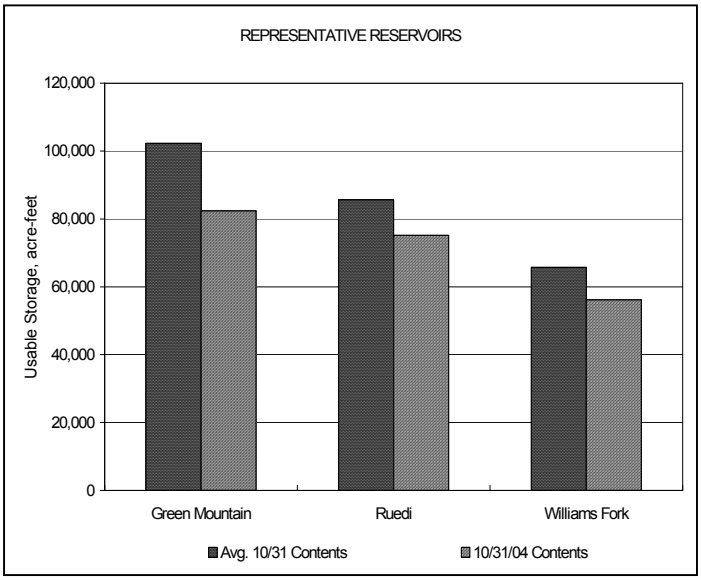


Basinwide Conditions Assessment

The SWSI value of 0.7 indicates that for October the basin water supplies were near normal. Flow at the gaging station Colorado River near Dotsero was 1,197 cfs, as compared to the long-term average of 1,303 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 84% of normal as of the end of October.





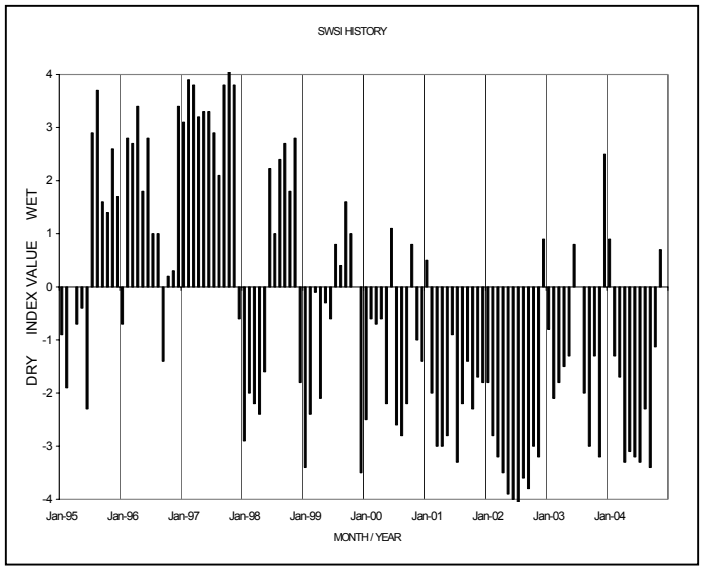


Basinwide Conditions Assessment

The SWSI value of 0.7 indicates that for October the basin water supplies were near normal. Flow at the gaging station Yampa River at Steamboat was 176 cfs, as compared to the long-term average of 136 cfs.

Precipitation in October continued to be well above average for the second month in a row. Basin wide, precipitation totals as measured at the NRCS snotel sites were 127% of average for the White, Yampa, and North Platte Basins, and 36% of values for last October. Much of this moisture fell in the form of snow, especially at the higher elevations.

At the end of the month, the snotel sites for the Laramie/North Platte Basins were reporting the water equivalent at 153% of average. In the White/Yampa Basins this measure was 146% of average. While still early in the winter of 2004, these numbers represent a very good start for the season.

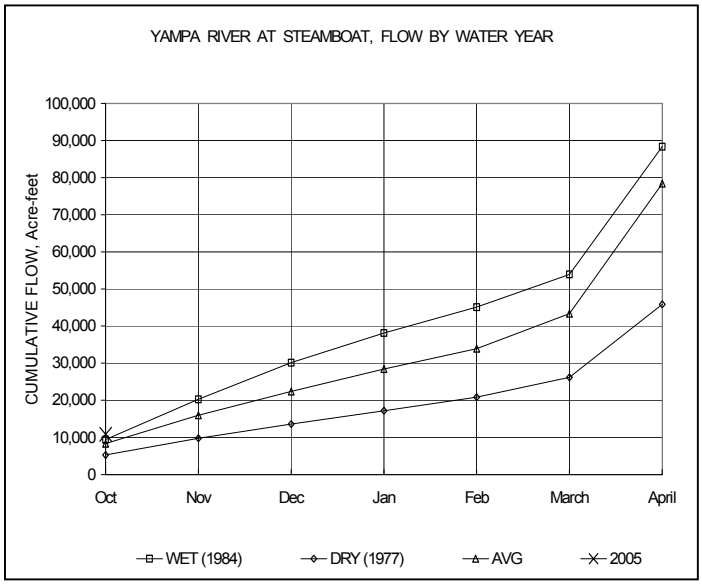


Outlook

River flows are expected to remain at, or near, normal levels.

Administrative/Management Concerns

Irrigation season has ended and no streams are under administration at this time.



Basinwide Conditions Assessment

The SWSI value of 1.5 indicates that for October the basin water supplies were near normal. Flow at the gaging station Animas River near Durango was 501 cfs, as compared to the long-term average of 376 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 89% of normal as of the end of October.

Water conditions in southwestern Colorado were maintained at good levels throughout the month.

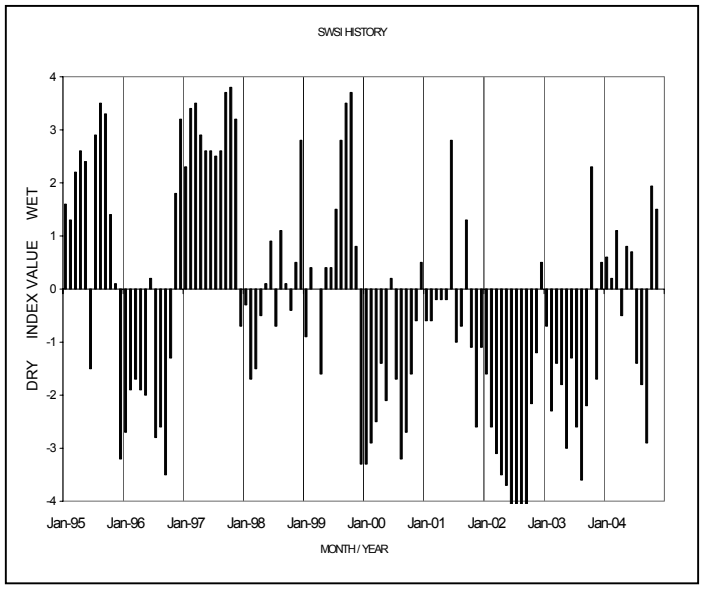
Although the lower elevations did not receive average precipitation, several storms came through the area and left new snow in the higher elevations.

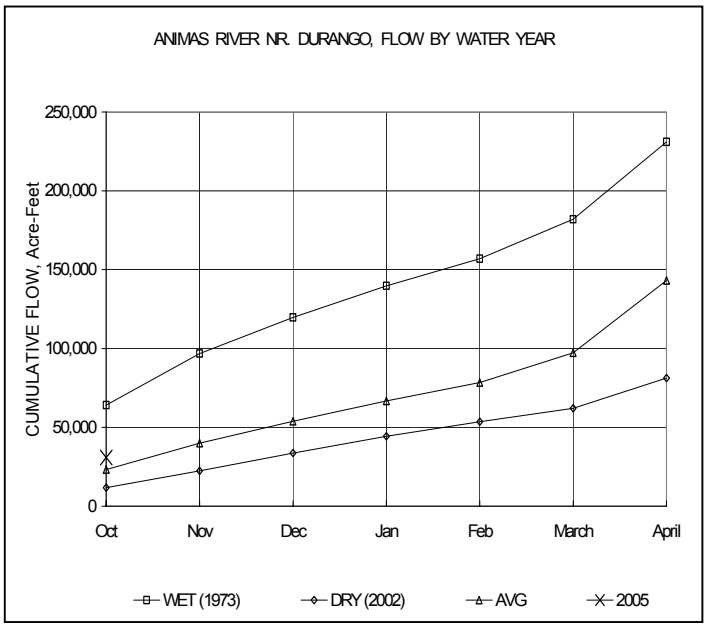
The river flows held up subsequent to the precipitation, with some base flow increases and most streams showing flows exceeding the averages. The high flows on the major rivers occurred after a storm on the 29th. The coldest day of the month was the following day (23° in Durango).

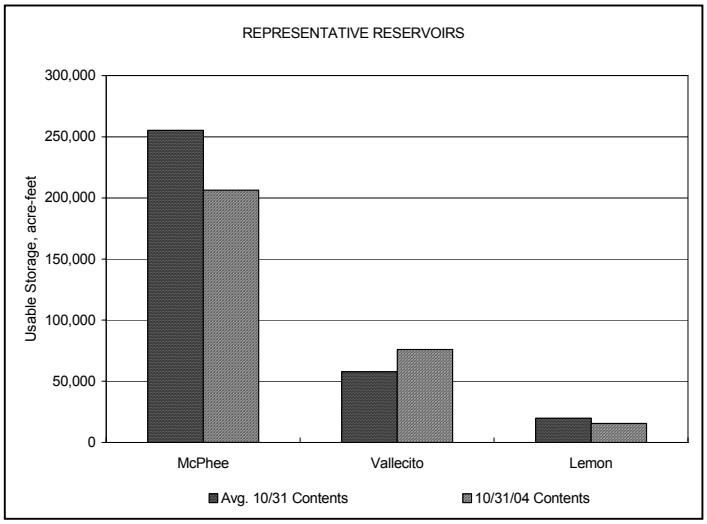
Reservoir storage was below 80% of normal at Lemon and McPhee. Vallecito Reservoir contained an excellent carryover with 76,000 acre-feet or 152% of normal. Groundhog Reservoir was undergoing outlet repairs as it was drained out. Red Mesa Reservoir was almost dry, but Jackson Gulch contained a significant carryover amount.

Outlook

The soil moisture and existing snow pack have made for a positive outlook on the first of the new irrigation season.







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