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

December 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 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 statewide SWSI values for December range from a high value of -1.1 in the South Platte and Arkansas Basins to a low value of -2.6 in the Gunnison Basin. All of the basins experienced a loss from the previous month's values largely due to the switch from using streamflow information in the calculation to using snowpack information in the calculation.

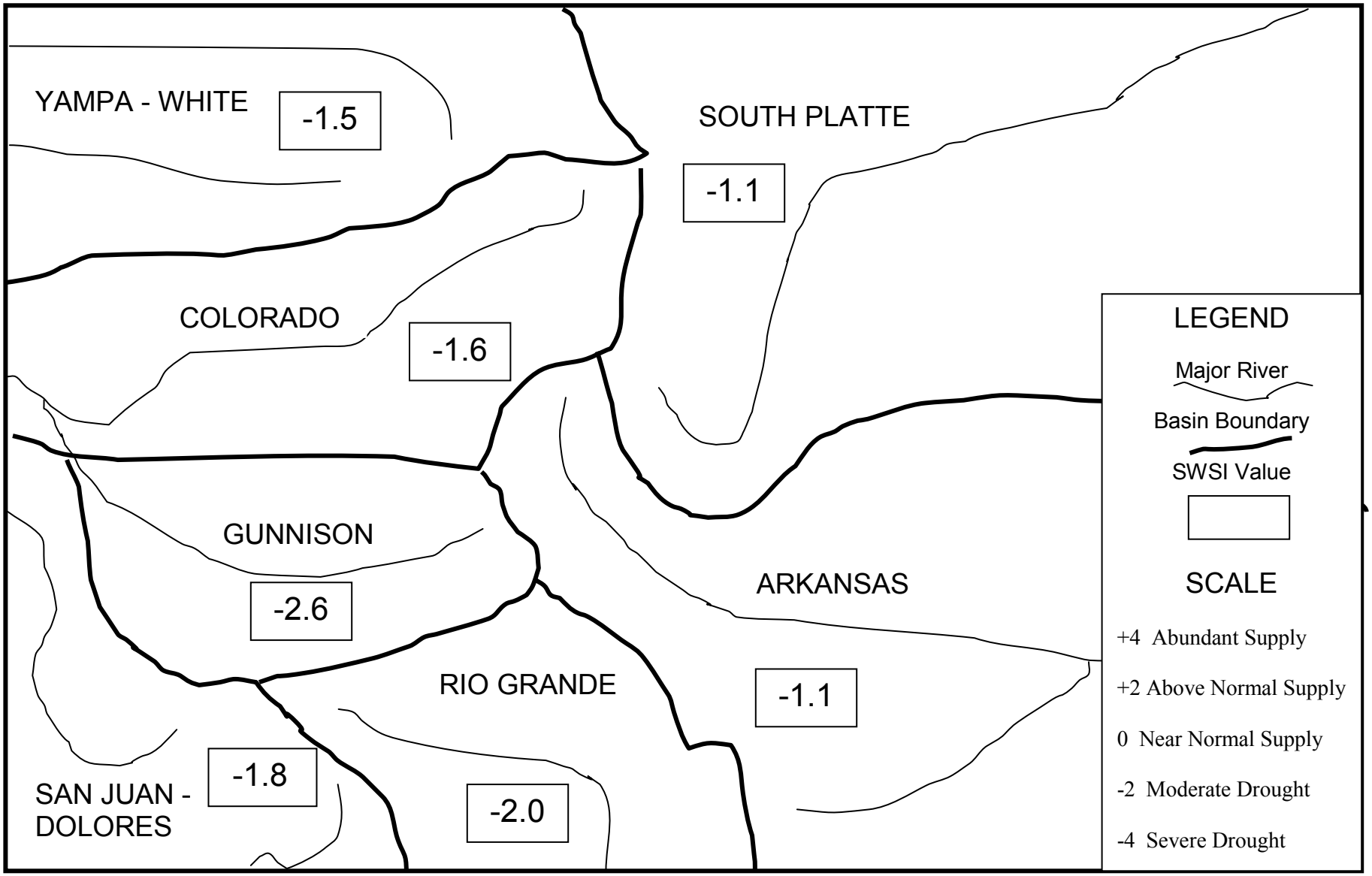
The following SWSI values were computed for each of the seven major basins for December 1, 2008, and reflect the conditions during the month of November.

Basin	December 1, 2008 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	- 1.1	- 3.3	+0.3
Arkansas	- 1.1	- 0.7	+1.4
Rio Grande	- 2.0	- 2.1	+0.6
Gunnison	- 2.6	- 0.4	+0.0
Colorado	- 1.6	- 2.6	+0.1
Yampa/White	- 1.5	- 1.1	+1.8
San Juan/Dolores	- 1.8	- 0.6	+0.3

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



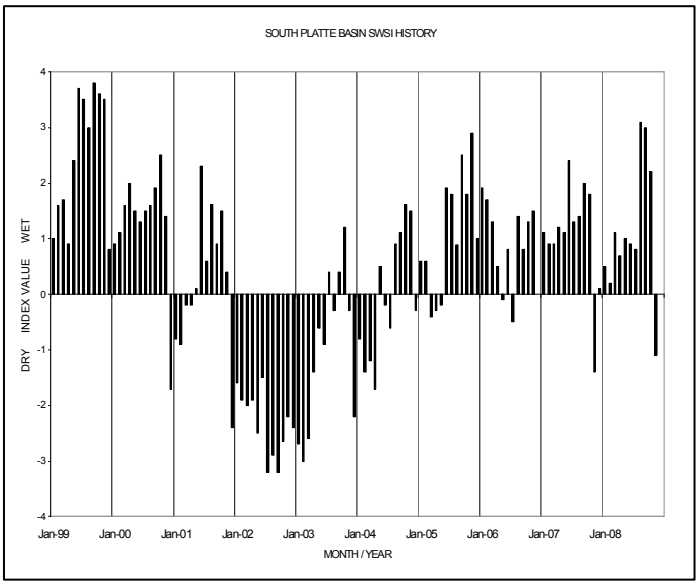
December 1, 2008

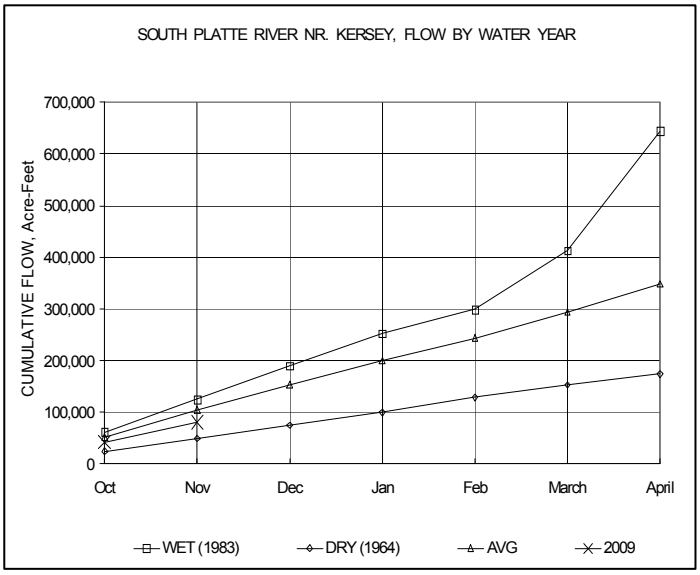
Basinwide Conditions Assessment

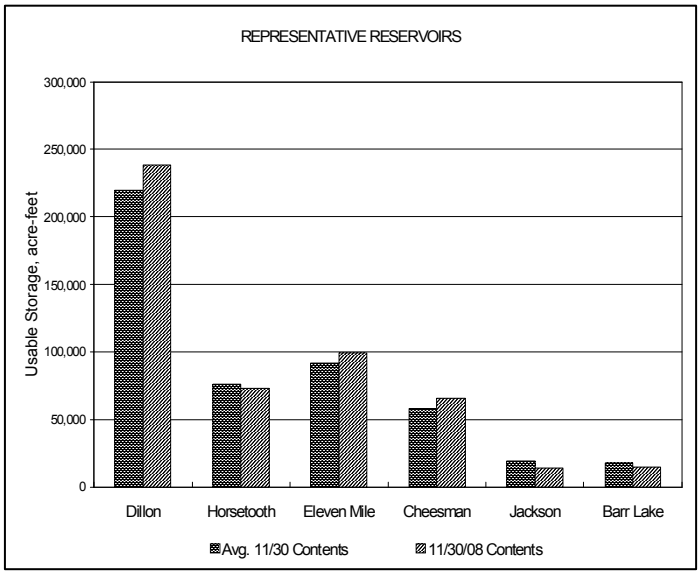
The SWSI value for the month was -1.1. Cumulative storage for the six reservoirs graphed on this page was 107% of normal as of the end of November. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 51% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 91% of capacity. The Natural Resources Conservation Service reports that December 1 snowpack is 80% of normal. Flow at the gaging station South Platte River near Kersey was 649 cfs, as compared to the long-term average of 737 cfs. Flow at the Colorado/Nebraska state line averaged 64 cfs.

Outlook

Flow conditions along the mainstem and tributaries were approximately average for this time of year. Diversions and calls for water in November below Denver along the South Platte were for storage as the irrigation season ended. Upstream diversions on the mainstem and tributaries were also primarily for storage purposes with continued diversions for direct flow municipal use for water providers. Reservoir storage levels are similar to last year at this time with slightly higher levels of storage above Kersey than last year and slightly lower levels of storage below Kersey than last year.







Basinwide Conditions Assessment

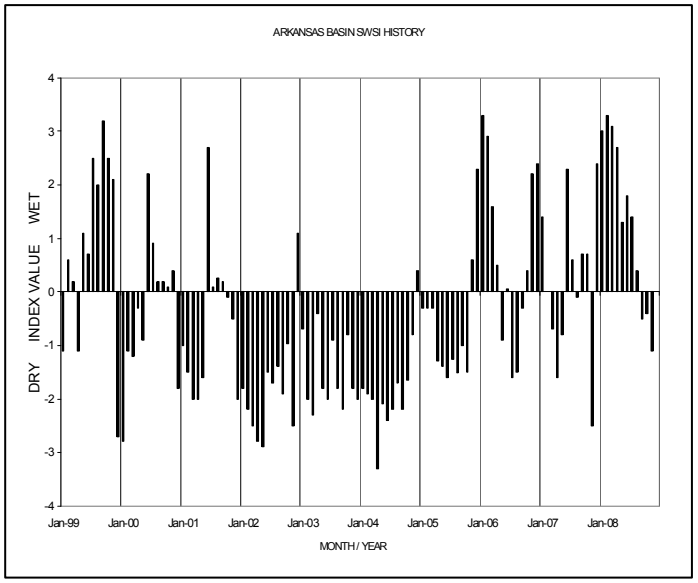
The SWSI value for the month was -1.1. The Natural Resources Conservation Service reports that December 1 snowpack is 62% of normal. Flow at the gaging station Arkansas River near Portland was 423 cfs, as compared to the long-term average of 441 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 104% of normal as of the end of November.

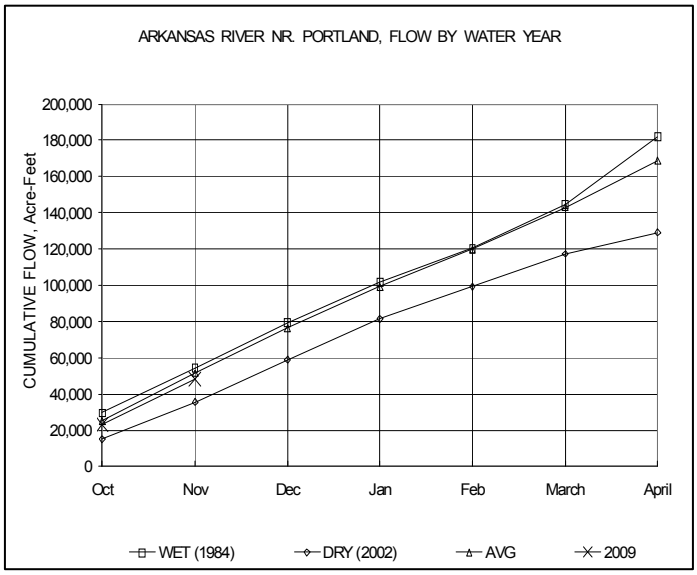
Outlook

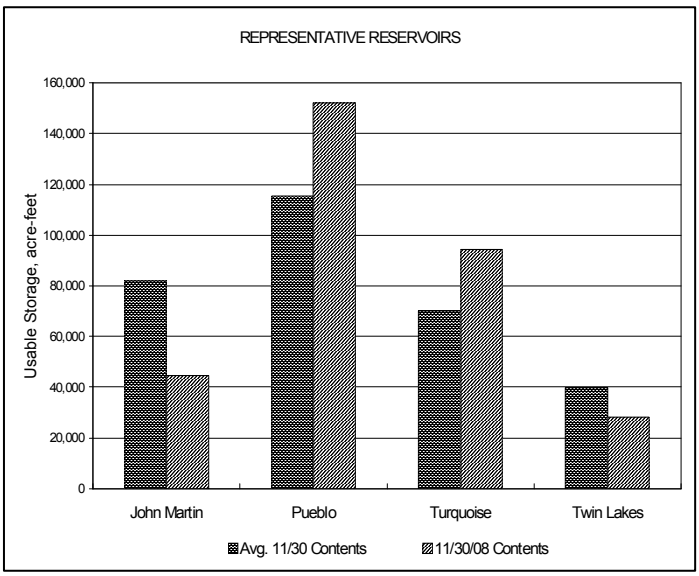
Winter Compact storage began in John Martin Reservoir on November 1, 2008. The Pueblo Winter Water Program began operation on November 15, 2008 with storage taking place initially in Pueblo and John Martin Reservoirs and under the Fort Lyon Canal system in Adobe Creek Reservoir. Storage in John Martin Reservoir during November totaled approximately 8,900 acre-feet for Conservation Storage and 3,650 acre-feet for Winter Water participants. Storage overall under the Pueblo Winter Water Program in November totaled approximately 22,350 acre-feet in all storage locations.

Administrative/Management Concerns

An Advisory Committee to the State Engineer continued to work on shaping the Irrigation Consumption Rules for the Arkansas Basin. These rules are designed to regulate irrigation efficiency improvements in a manner that allows improvements to be made, but ensures compliance with the Arkansas River Compact.





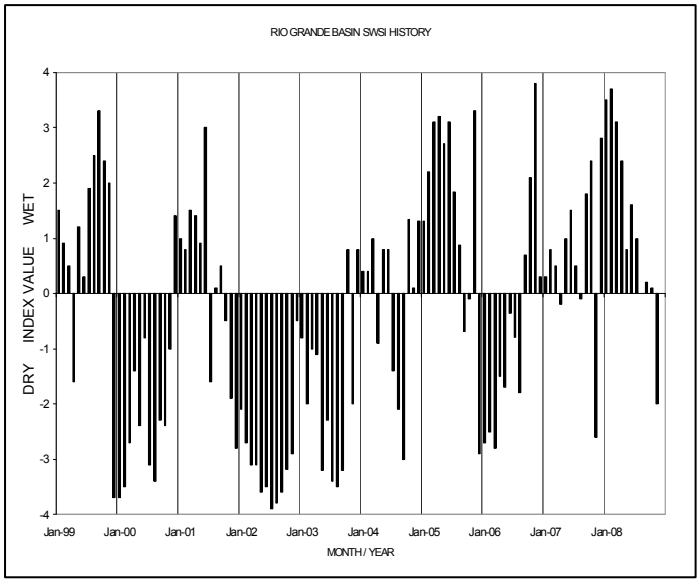


Basinwide Conditions Assessment

The SWSI value for the month was -2.0. The Natural Resources Conservation Service reports that December 1 snowpack is 46% of normal. Flow at the gaging station Rio Grande near Del Norte averaged only 244 cfs (88% of normal). The Conejos River near Mogote had a mean flow of 55 cfs (57% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 87% of normal as of the end of November.

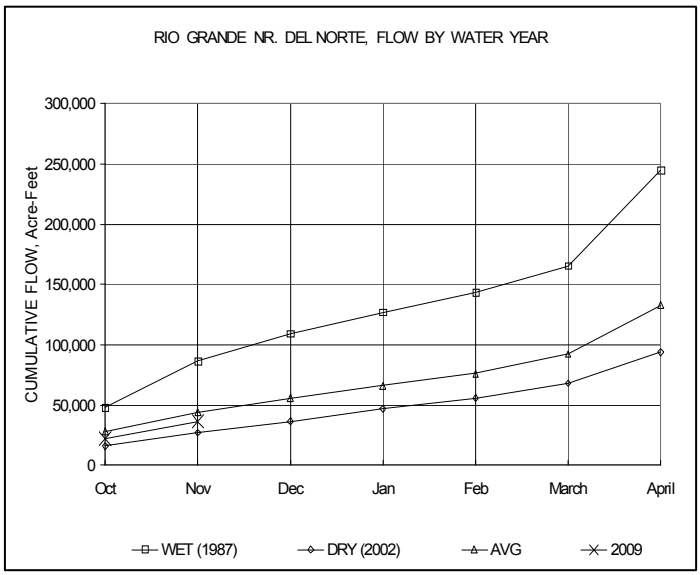
Precipitation during October in Alamosa was 0.60 inches, 0.12 inches above normal. A spotty snowstorm on November 10 blanketed parts of the valley floor.

Streamflow levels in most drainages of the upper Rio Grande basin continued to be below normal during November. But some melting of that early snow brought most streams up to normal levels as the month came to a close. Hopefully, the general trend of below average streamflow since July has been reversed.



Outlook

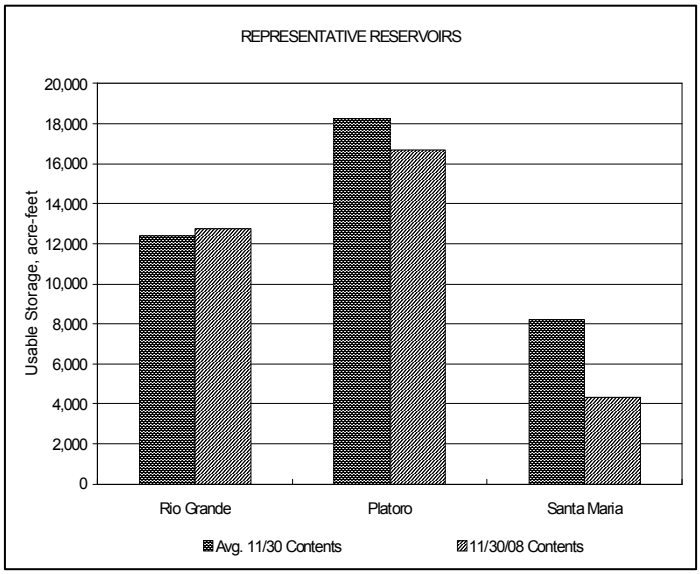
Weather conditions have been generally very pleasant with sunny days and mild temperatures this autumn. However, a glance at the snowpack conditions during the first week of December indicates most of the upper Rio Grande basin is lagging well behind average.



Administrative/Management Concerns

Colorado will slightly over-deliver on the amount required to meet the Rio Grande Compact delivery requirement to New Mexico and Texas during 2008. Individually, the Conejos basin is just about dead-on with their delivery requirement, while the Rio Grande is paring down its over-delivery via decreed diversions for recharge purposes after November 1st.

December 1st was the deadline for annual submittal of meter readings on irrigation wells in Water Division 3. Compliance has been generally good, with a few stragglers still working out data submittal issues with the staff.



Public Use Impacts

Mild weather conditions hampered the success of hunters this fall and slowed the open of ski season.

Basinwide Conditions Assessment

The SWSI value for the month was -2.6. The Natural Resources Conservation Service reports that December 1 snowpack is 58% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 60.1 cfs, as compared to the long-term average of 67.9 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 107% of normal as of the end of November.

Outlook

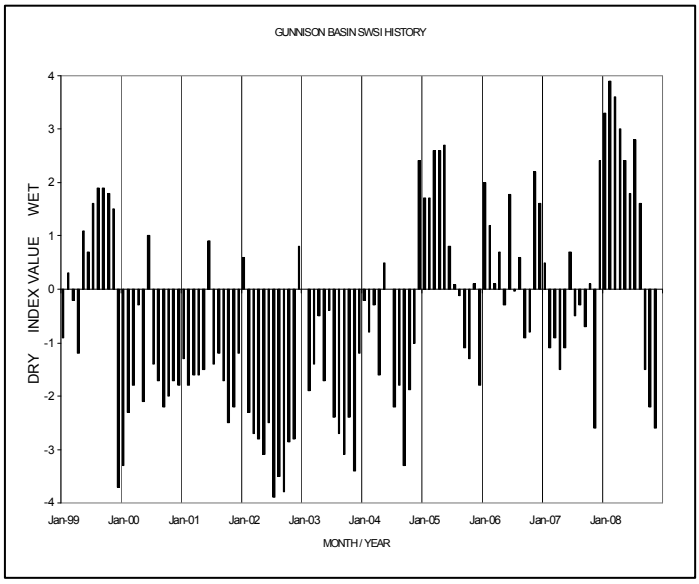
November was another dry month in the Gunnison Basin, with snow and precipitation at below average levels for this time of the year and temperatures above normal as well. As a result, base flows in streams and rivers are below average. However, because of the terrific snowpack of 2007/2008 winter, reservoir storage in the Gunnison Basin will be at normal carryover amounts going into this winter, helping get a good start to next irrigation season's water supply.

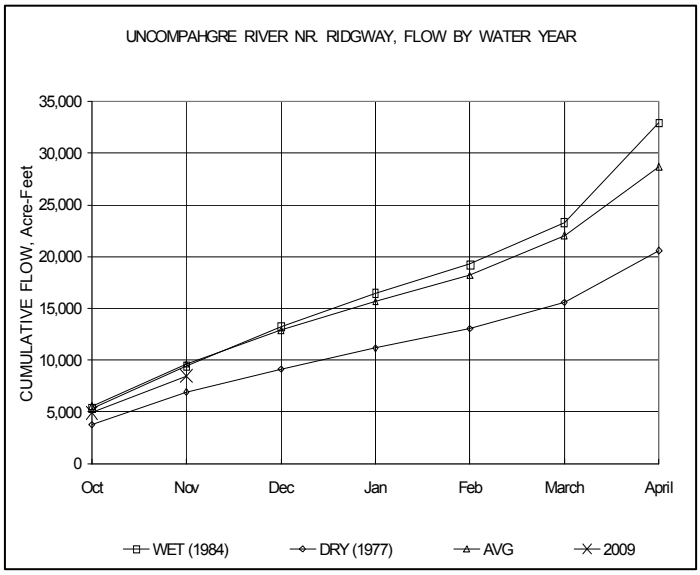
Administrative/Management Concerns

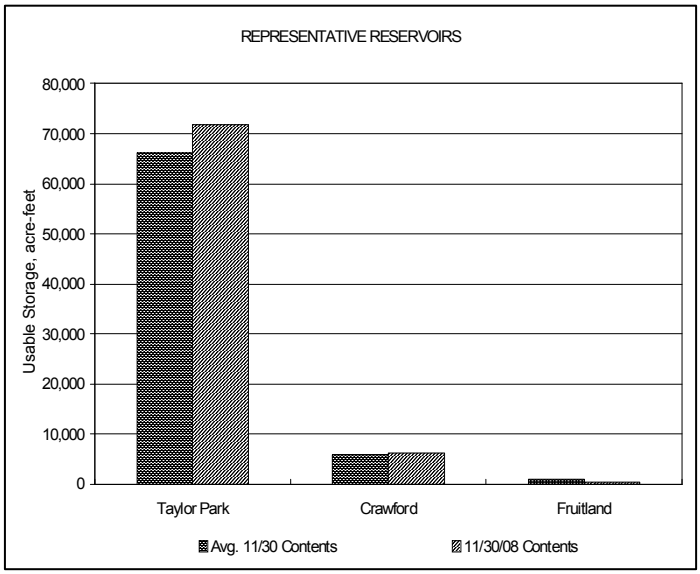
Releases out of the Aspinall Unit are steady at about 665 cfs, which is normal for this time of year. This amount will gradually bring the water surface elevation of the State's largest reservoir, Blue Mesa Reservoir, down to the target level of 7,490 feet, which is necessary to prevent upstream flooding due to river channel clogging by winter ice. The release flow rates will likely be adjusted again in January, after the preliminary runoff forecast comes in, and in response to peak power generation demands.

Public Use Impacts

Everyone is anxiously awaiting this winter's snowstorms that provide our water supply for the next irrigation season and a boost to the economy through skiing and tourism. It is really too early to make any snowpack assessments. But the good news is that early December storms have finally helped to bring snow to the high country and soil moisture to the valleys. We hope the trend continues.







Basinwide Conditions Assessment

The SWSI value for the month was -1.6. The Natural Resources Conservation Service reports that December 1 snowpack is 84% of normal. Flow at the gaging station Colorado River near Dotsero was 936 cfs, as compared to the long-term average of 1130 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 96% of normal as of the end of November.

Outlook

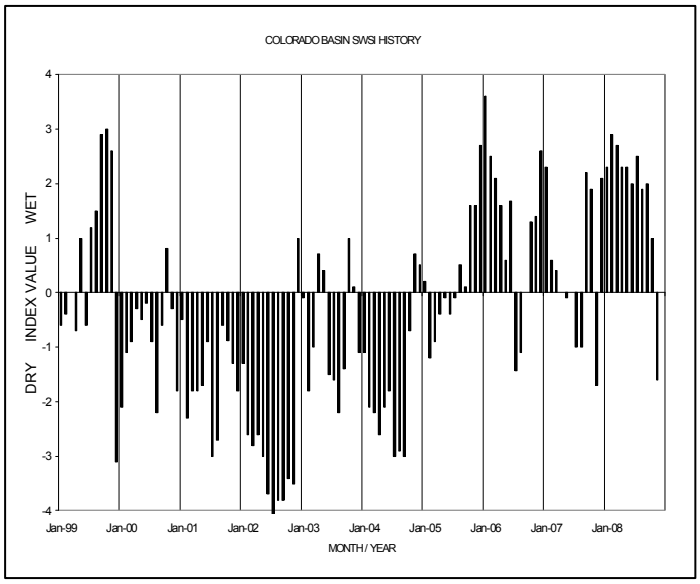
Early December Upper Colorado Basin precipitation and decreased CBT depletions will result in increased Blue River flows. This combined with continued average Roaring Fork River flows and slightly above average Eagle River flows should raise Colorado River flows to average over the month of December.

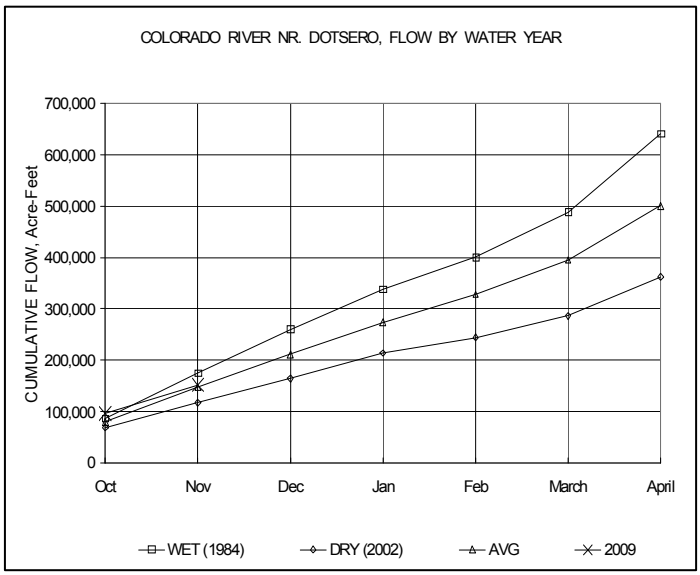
Administrative/Management Concerns

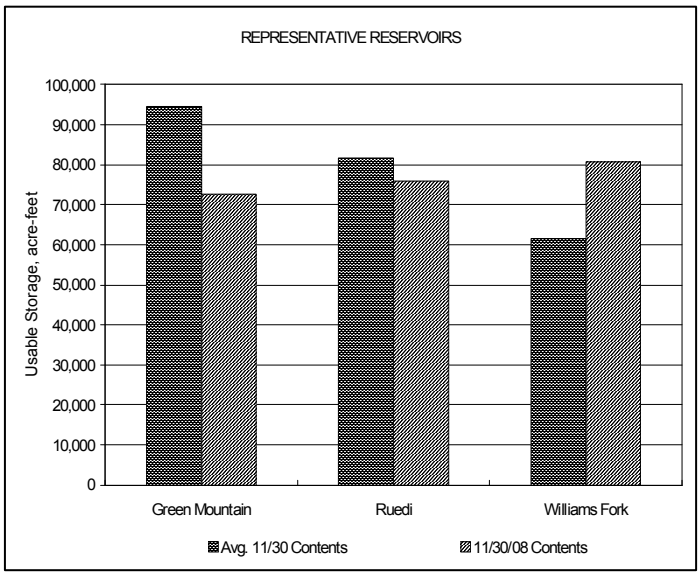
Although Roaring Fork River flows increased to average by November 10th, continued decreasing Green Mountain Reservoir releases from CBT Project depletions and considerably below average Fryingpan River flows kept Colorado River flows slightly below average. The Shoshone Power Plant currently has a call in place with the plant now operational since early November.

Public Use Impacts

The Glenwood Springs City Council is researching the option of filing a water right for the Whitewater Park constructed earlier this year. The right would be defined as a recreational in-channel diversion (RICD), which Glenwood Spring's officials believe could protect the flows through the park from future water-intensive demands such as oil shale development. Ruedi Reservoir releases continue to be substantially below average at around 70 cfs, negatively impacting fishing on the lower Fryingpan.







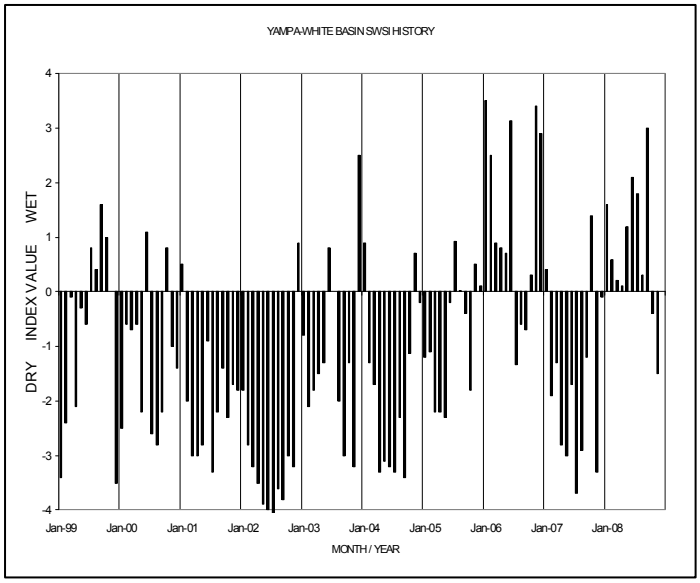
Basinwide Conditions Assessment

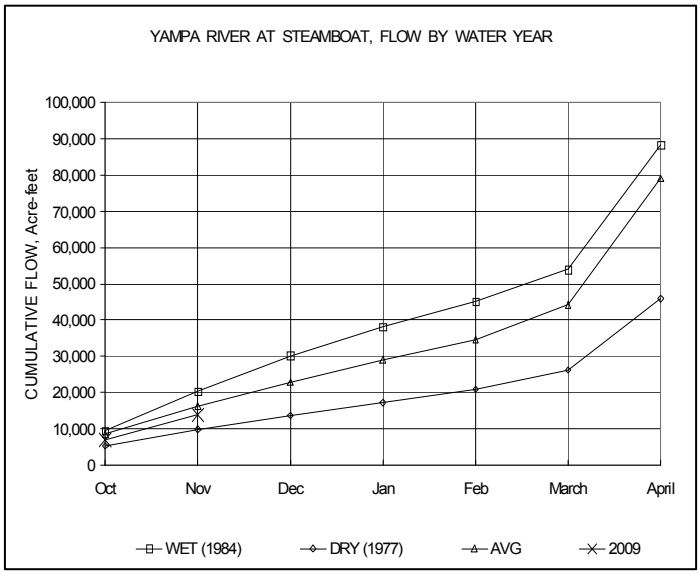
The SWSI value for the month was -1.5. Flow at the gaging station Yampa River at Steamboat was 115 cfs, as compared to the long-term average of 131 cfs.

November precipitation was below average for the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by the NRCS, was reported at approximately 91% of average for the Yampa/White River basin and 88% of average for the North Platte River basin. Precipitation for the combined Yampa, White, and North Platte River basins was reported at approximately 90% of average.

The snow water equivalent (SWE) as of November 30, 2008 for the Yampa and White River basins was 67% of average and for the Laramie and North Platte River basins was 69% of average. For the individual basins, the snowpack at the end of the month was 65% of average for the North Platte River basin, 62% of average for the Yampa River basin, and 81% of average for the White River basin.

Due to the 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 decreased slightly in November and was reported at approximately 66% of capacity at the end of the month. Elkhead Creek Reservoir level increased slightly during the month to approximately 75% of its enlarged capacity. Yamcolo Reservoir storage level also increased in November and the reservoir was at approximately 74% of capacity at the end of the month. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Creek Reservoir for municipal, industrial, recreation, and fish recovery releases.

Administrative/Management Concerns

Remaining calls were released in October and no Division 6 streams remained under administration in November.

The second year of the fish recovery release from Elkhead Creek Reservoir was completed successfully and data collected during the release are being compiled and reviewed by participating agencies. The program was directed by the Colorado River District, on behalf of the Recovery Program, and Division 6 is responsible for protecting this water through the Yampa River critical habitat reach (from Craig to the confluence with the Green River at Echo Park).

Public Use Impacts

Area reservoirs are beginning to freeze. The ski mountain opened, as planned, the day before Thanksgiving, with several runs open. The snowpack has increased over the past several weeks, and additional ski terrain continues to open.

Basinwide Conditions Assessment

The SWSI value for the month was -1.8. The Natural Resources Conservation Service reports that December 1 snowpack is 49% of normal. Flows at the Animas River at Durango averaged 226 cfs (79% of average) with a maximum average daily flow of 252 cfs on November 10th. The Dolores River at Dolores averaged 55 cfs (65% of average) with a maximum average daily flow of 72 cfs on November 27th. The La Plata River at Hesperus averaged 6.7 cfs (63% of average) with a maximum average daily flow of 7.6 cfs on November 5th. Precipitation in Durango was 2.08 inches for November which is slightly above the 30-year average of 1.99 inches. Precipitation to date in Durango, for the water year, is 3.15 inches which is slightly below the average of 3.36 inches. Temperatures were near normal for the month. Durango was 4.5° above its 30-year average high and 1.0° above the 30-year average low.

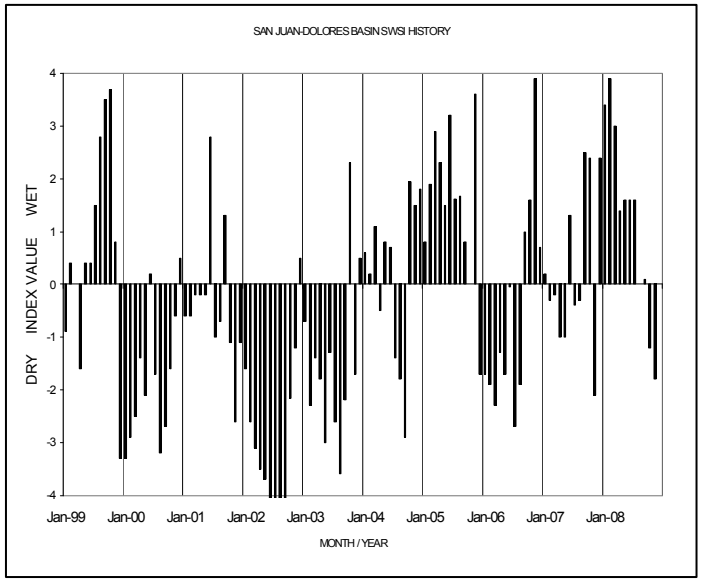
At the end of the month Vallecito Reservoir contained 68,170 acre-feet compared to its normal contents of 52,483 acre-feet (130% of normal). McPhee Reservoir was up to 281,743 acre-feet compared to its normal contents of 257,088 acre-feet (110% of normal), while Lemon Reservoir was up to 18,010 acre-feet as compared to its normal content of 19,897 acre-feet (91% of normal).

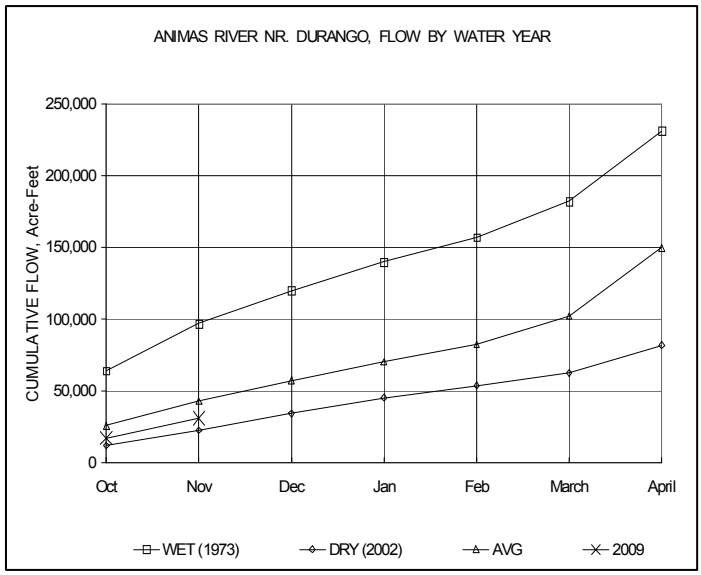
Outlook

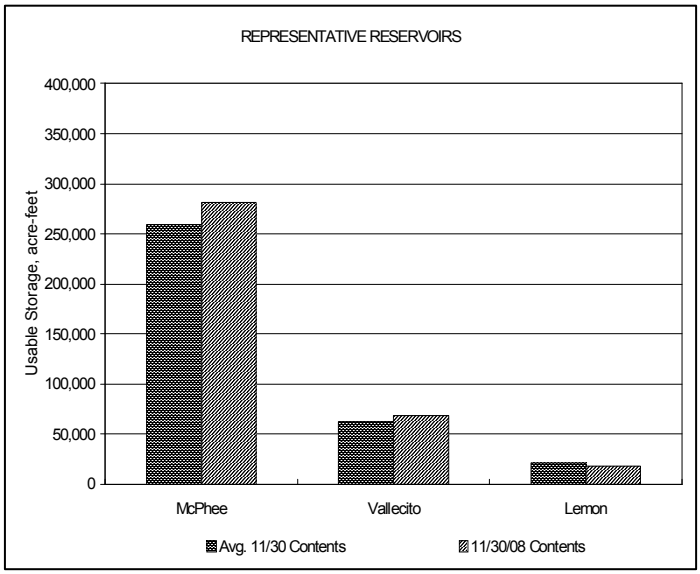
Major rivers within the basin continue to flow below average. With the irrigation season winding down we shift our focus to snow pack and hope we maintain 2008 levels or better.

Administrative/Management Concerns

The La Plata compact continued to be on call the entire month of November. The flows at the upper index gage are low enough that return flows from Long Hollow is sufficient to supply water to meet our compact obligations to New Mexico. The flows on the La Plata River below the mouth of Cherry Creek were near or at 0 for most of the month.







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