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; water.state.co.us

AUGUST 2000

The drop in SWSI values shows the reduction in water supplies across the state, following the hot dry weather the state has experienced since late spring. The southern basins of the Rio Grande and San Juan/Dolores have the lowest SWSI values, as they have some of the lowest stream flows and have been experiencing dry weather for many months. The higher SWSI value in the South Platte River basin, and to a limited extent in the Arkansas River basin, are being supported by reservoir storage.

Stream flows statewide are much less than normal, with quite a few being under 50% of average flow. The low river flows leave only enough water to allow senior water rights to divert, with junior right holders being curtailed. Those water users who have reservoir water are utilizing it, as storage in nearly all reservoirs is dropping. Many reservoirs now have less than average storage levels, where as at the end of May most had above average levels.

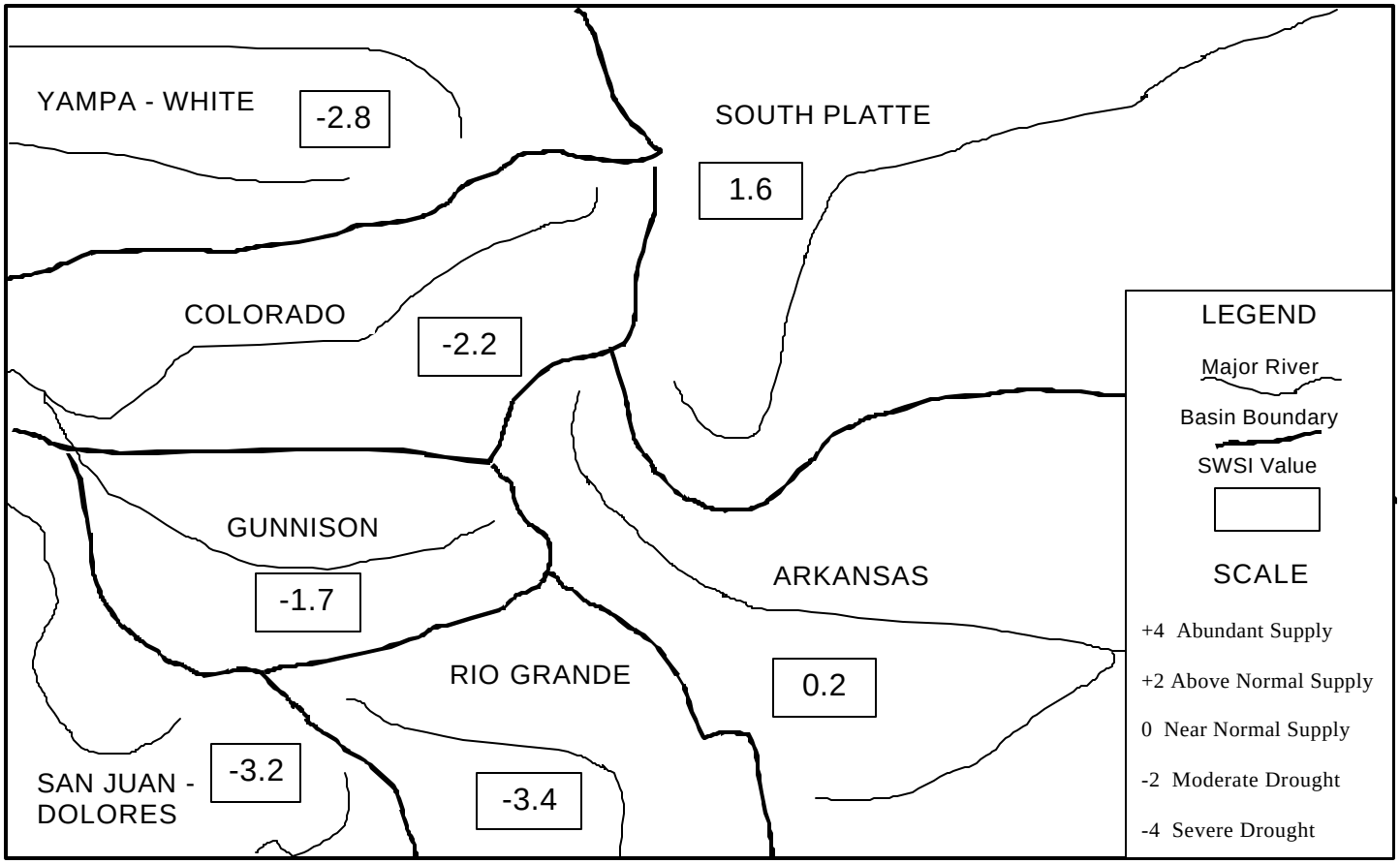
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on stream flow, reservoir storage, and precipitation for the summer 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 August 1, 2000, and reflect the conditions during the month of July.

Basin	August 1, 2000 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	1.6	+0.1	-1.4
Arkansas	0.2	-0.7	-1.8
Rio Grande	-3.4	-0.3	-5.9
Gunnison	-1.7	-0.3	-3.6
Colorado	-2.2	-1.3	-3.7
Yampa/White	-2.8	-0.2	-3.2
San Juan/Dolores	-3.2	-1.5	-6.0

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

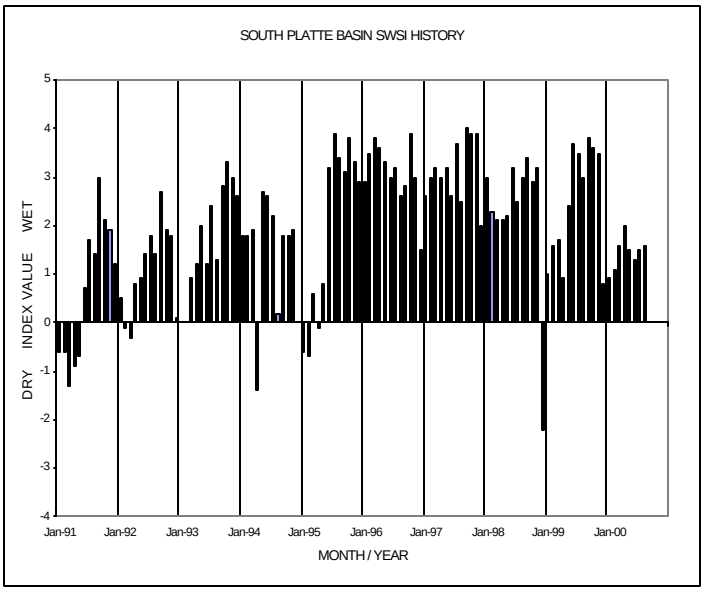


AUGUST 1, 2000

Basinwide Conditions Assessment

The SWSI value of 1.6 indicates that for July the basin water supplies were slightly above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 82% of normal as of the end of July. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 38% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 82% of capacity. Flow at the gaging station South Platte River at Kersey was 383 cfs, as compared to the long-term average of 1,085 cfs. Flow at the Colorado/Nebraska state line averaged 34 cfs.

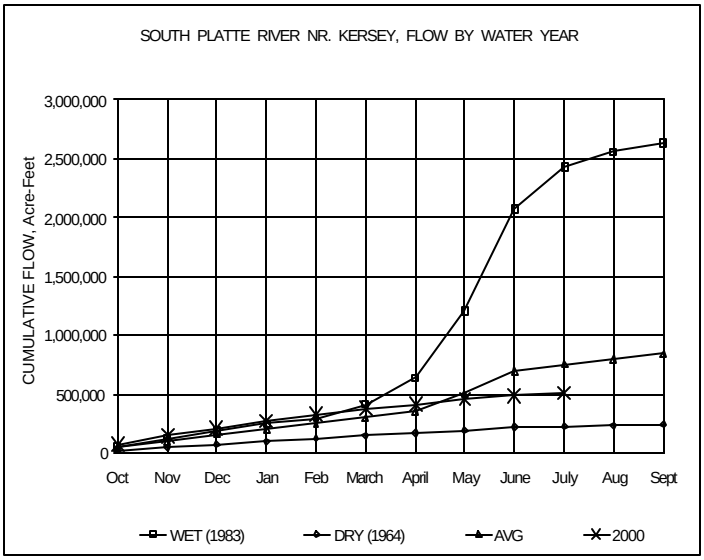
As has been experienced all spring and summer, dry warm conditions continued throughout July. Stream flow was significantly below average throughout the basin, including the South Platte mainstem. One significant rainstorm occurred in the Denver area that created high flows through much of the basin, with the South Platte at Kersey reaching over 2,500 cfs. Even with this storm, plus other isolated events that helped supply conditions in local areas, flows at the state line never reached 60 cfs during the month. This is unusual when the mean July stateline flow for the period of record is 314 cfs.



Outlook

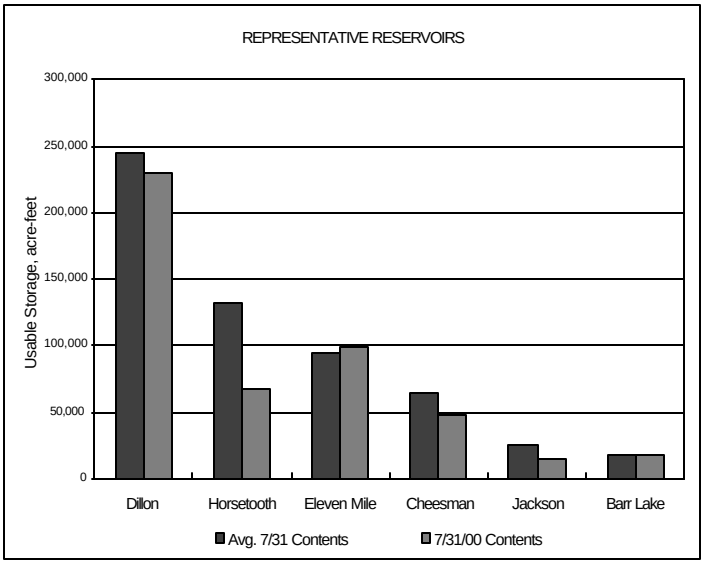
Because of senior river calls and the lack of direct flow supply, irrigators depended heavily on their reservoir supplies. Thus, reservoirs were lowered significantly and are expected to be drawn on even more heavily in the upcoming month. Without adequate rain later this summer, it could be difficult for users to fill the main irrigation reservoirs.

In contrast to irrigators, many municipal reservoirs continued to be relatively full because of the greater safety factor in city supplies. In isolated situations, a few municipal suppliers have experienced water supply problems. In general, the dry conditions would have to continue for several more months before major municipal suppliers might experience some impact.



Administrative/Management Concerns

Conditions created direct flow calls in the entire basin every day of the month. The call on the South Platte above Kersey was 10-5-1871, and the call below Kersey was 10-14-1882. Both of these are senior calls in their respective reaches.

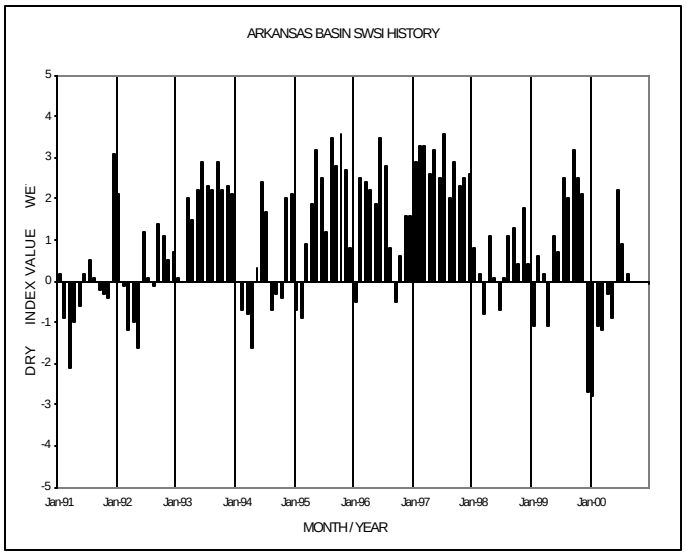


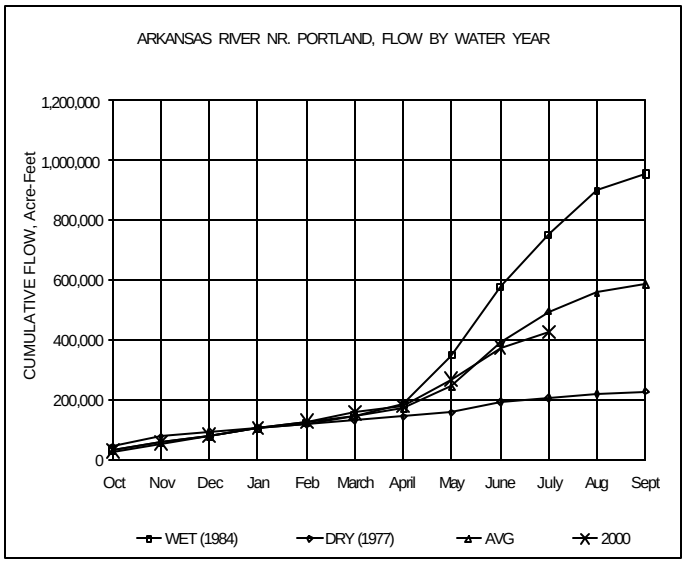
Public Use Impacts

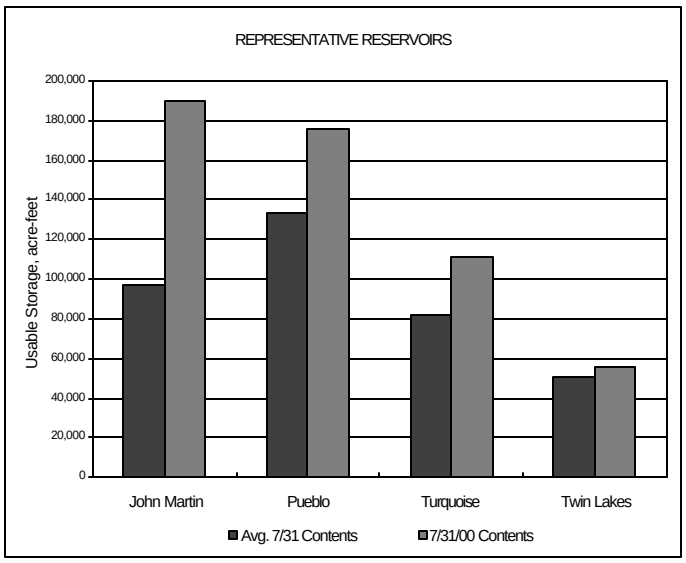
Low storage levels have caused fish to be removed from Julesburg Reservoir.

Basinwide Conditions Assessment

The SWSI value of 0.2 indicates that for July the basin water supplies were near normal. Flow at the gaging station Arkansas River near Portland was 819 cfs, as compared to the long-term average of 1,664 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 147% of normal as of the end of July.







Basinwide Conditions Assessment

The SWSI value of –3.4 indicates that for July the basin water supplies were well below normal. Flow at the gaging station Rio Grande near Del Norte was 319 cfs, as compared to the long-term average of 1,408 cfs (22% of normal). The Conejos River near Mogote had a mean flow of 170 cfs (36% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 79% of normal as of the end of July.

Precipitation in Alamosa was once again below normal during July. This marks the 3rd consecutive month of below average precipitation in the San Luis Valley.

Outlook

The hot, dry conditions are expected to continue. Without a significant change in the current weather patterns, the Upper Rio Grande Basin will continue to experience drought like conditions.

Junior water right owners should expect senior calls to keep them out of priority for the rest of the irrigation season.

Administrative/Management Concerns

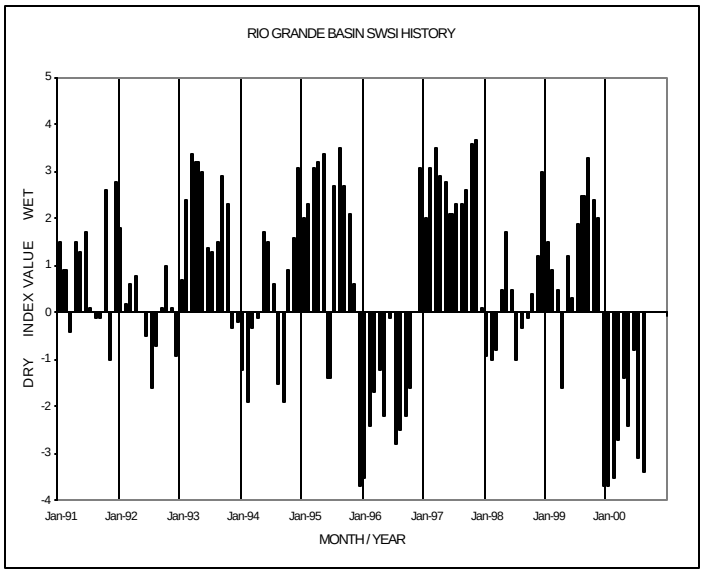
Usable reservoir storage in the Rio Grande basin is dropping quickly.

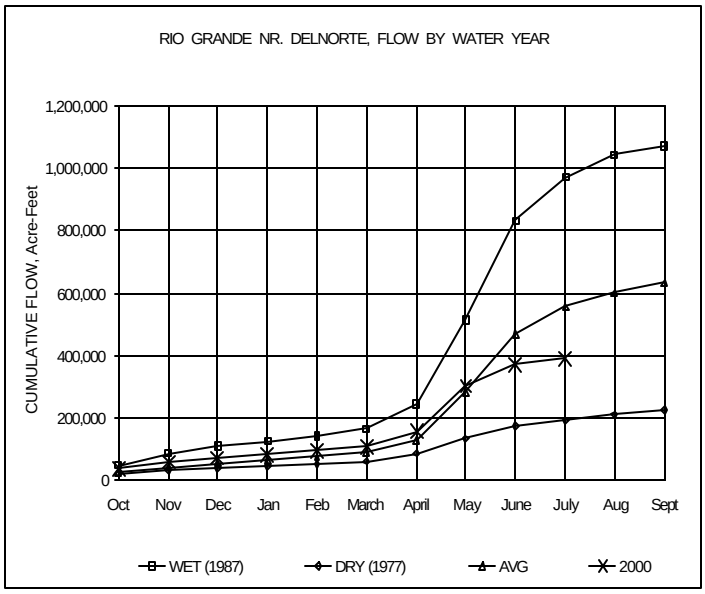
Although very low, the delivery of water to the State line has been more than adequate to meet Colorado's obligation to New Mexico and Texas under the Rio Grande Compact.

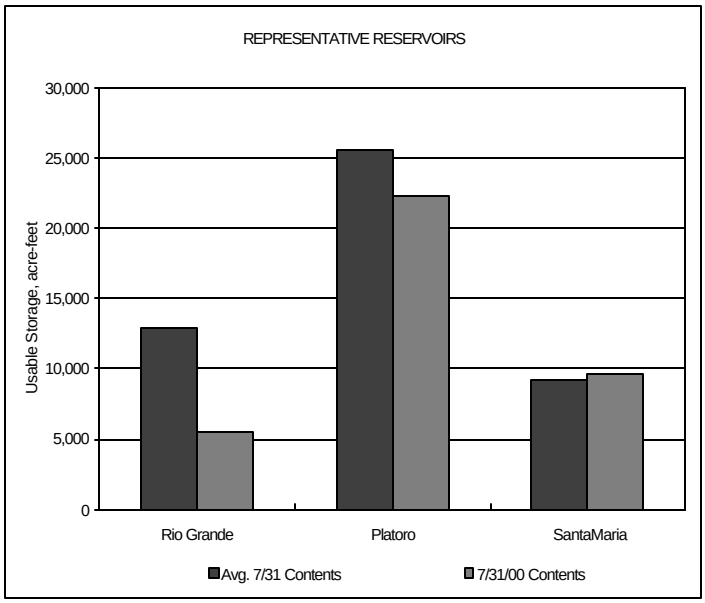
Well production from the Closed Basin Project during July was routed mostly to the San Luis Lakes area and the Alamosa National Wildlife Refuge. Very little of the production is currently reaching the Rio Grande.

Public Use Impacts

Water users and recreators should expect below average stream flows and reservoir levels through the end of the summer.







Basinwide Conditions Assessment

The SWSI value of –1.7 indicates that for July the basin water supplies were below normal. Flow at the gaging station Uncompahgre River near Ridgway was 133 cfs, as compared to the long-term average of 338 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 81% of normal as of the end of July.

Outlook

Reservoir storage will be utilized until the irrigation season has come to an end. Taylor Reservoir is sitting at about normal for this time of year, although they will be lowering water levels by sending water to Blue Mesa Reservoir as they build a boat ramp in later summer or early fall. Still, the outlook continues to look rather grim.

Administrative/Management Concerns

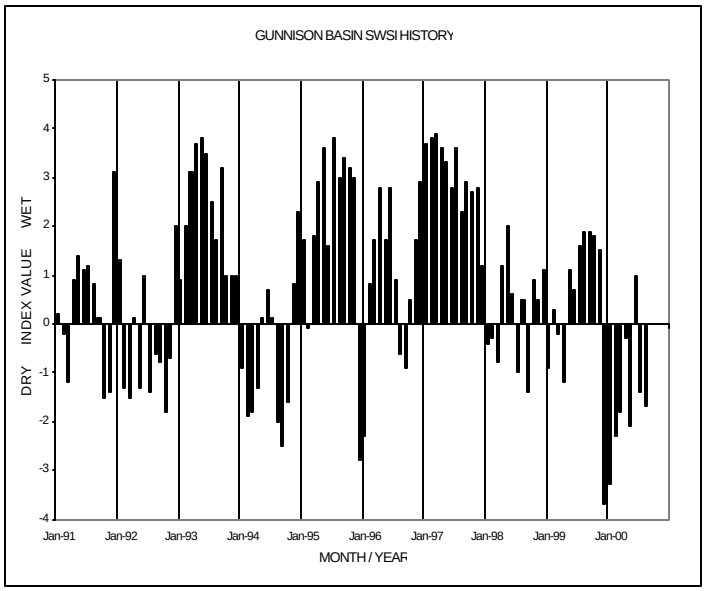
The East River went on call on July 31.

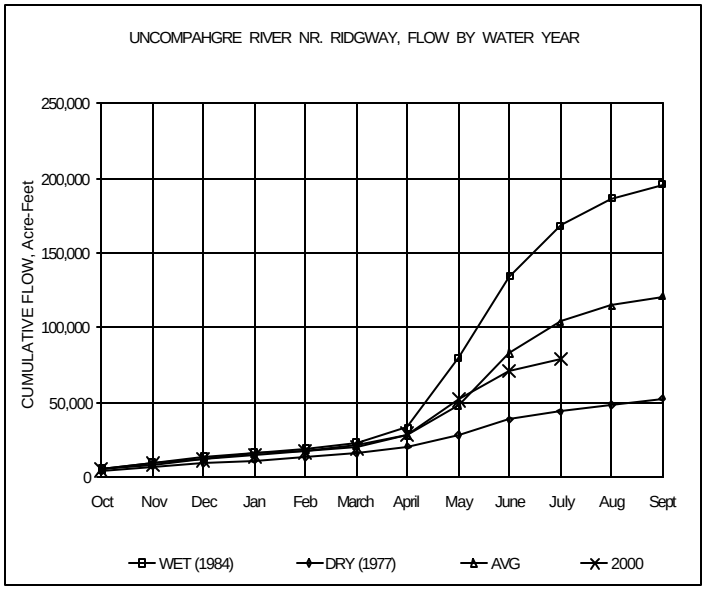
The Uncompahgre Water Users Association has dropped back to delivering 80% of normal. They will use their Uncompahgre water to continue to hold at 80% until the irrigation season is over.

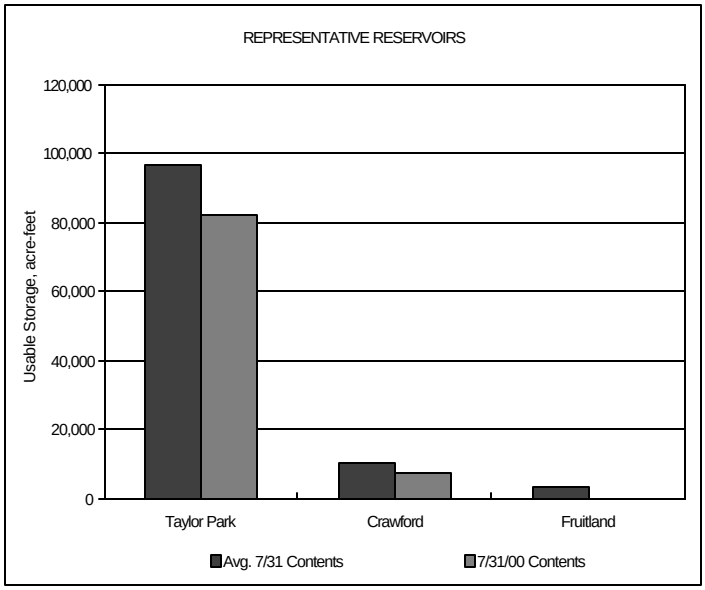
Many areas are down to delivering water to only the earliest priorities.

Public Use Impacts

The Taylor River is flowing about 100 cfs lower than last year at this time, but the rafters are still able to enjoy their sport. Fishing has deteriorated due to the low stream flows. Recreation on the major reservoirs will be able to continue.

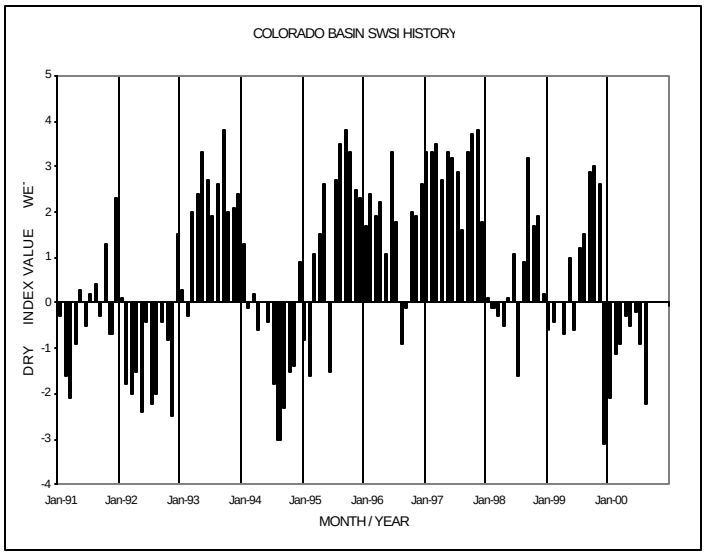


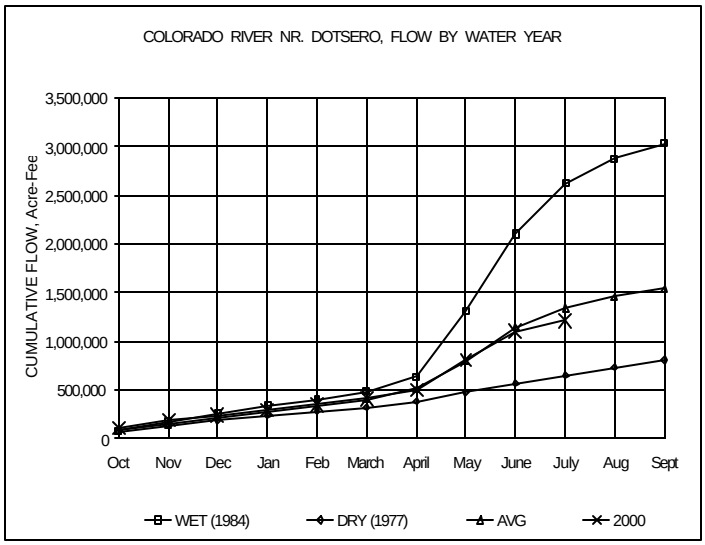


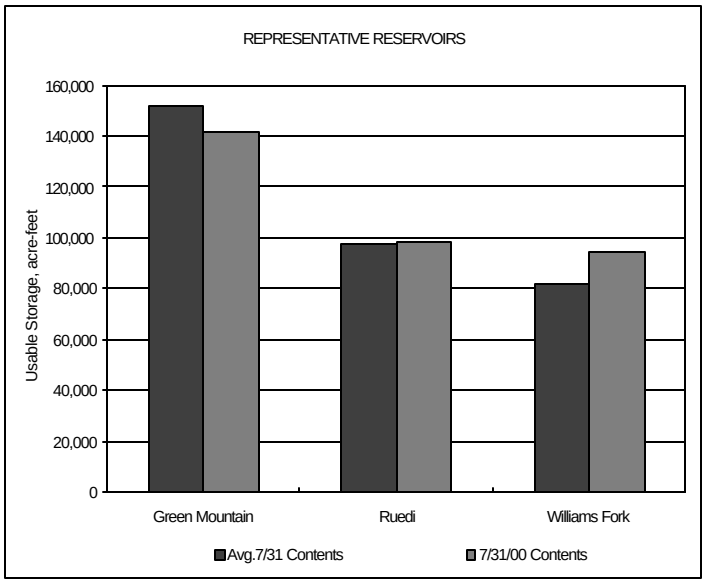


Basinwide Conditions Assessment

The SWSI value of –2.2 indicates that for July the basin water supplies were below normal. Flow at the gaging station Colorado River near Dotsero was 1,723 cfs, as compared to the long-term average of 3,063 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 101% of normal as of the end of July.



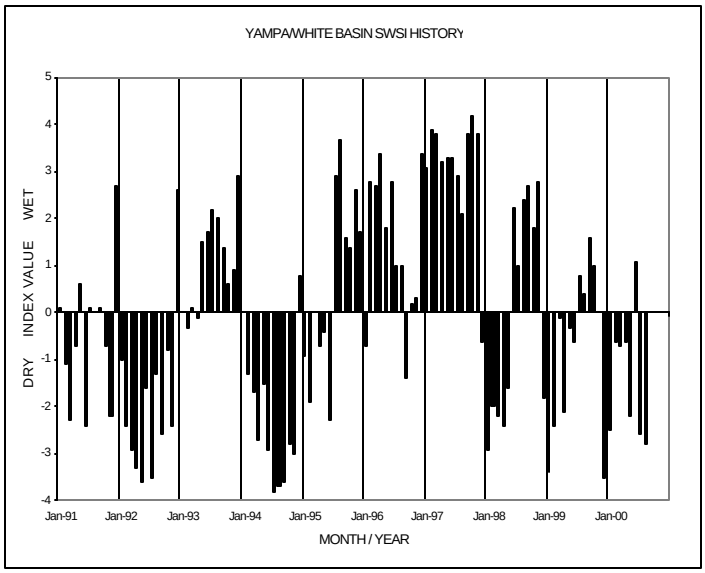




Basinwide Conditions Assessment

The SWSI value of –2.8 indicates that for July the basin water supplies were below normal. Flow at the gaging station Yampa River at Steamboat was 155 cfs, as compared to the long-term average of 407 cfs.

July continued the string of extremely dry conditions in the basin. Soil moisture content continued to drop, aggravated by the hot, dry winds that blew throughout the month. Numerous fires were seen in the western portion of the basin, most caused by lightening strikes. Stream flows continued to drop to below normal levels. Many springs and wells are experiencing reduced flow rates.

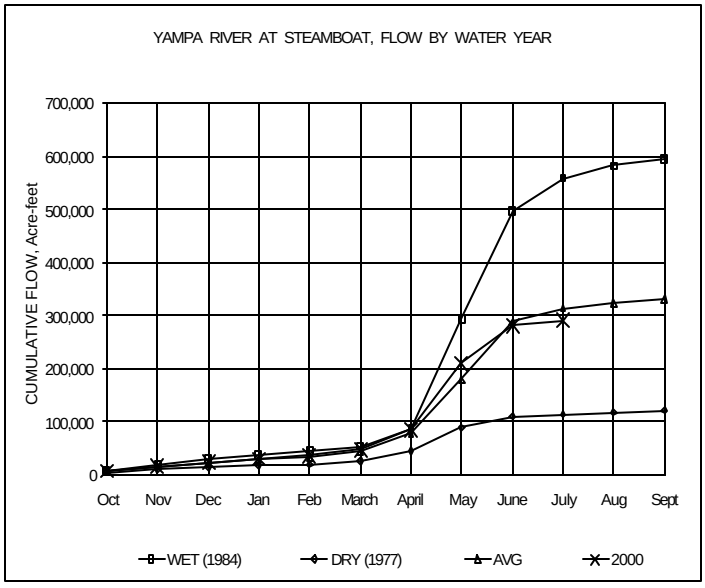


Outlook

The outlook continues to call for above average temperatures and below average precipitation. It is anticipated that stream flows will continue to decrease. Irrigation reservoirs are expected to draw down to minimum levels.

Administrative/Management Concerns

Administration continues on the tributaries of the main rivers. The beginning of the haying season should relieve some of the demand for irrigation water, but this will only be a temporary situation. Late season demand will likely exceed the physical availability of water in many areas, causing active administration to extend into the year longer than normal.



Public Use Impacts

The dry conditions have reduced the crop yields throughout the basin. Early harvests are yielding from 50% to 75% of normal. Dry land crops are especially hard hit. There is growing concern over the combination of lower yields of feed for cattle and limited pasture for the fall and winter.

Basinwide Conditions Assessment

The SWSI value of –3.2 indicates that for July the basin water supplies were well below normal. Flow at the gaging station Animas River near Durango was 350 cfs, as compared to the long-term average of 1,150 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 90% of normal as of the end of July.

July and the summer of 2000 will be memorable for many years. The extreme dry weather and accompanying warm temperatures have led to severe moisture depletion throughout the basin.

Average temperatures were 3 degrees above normal in Durango. The cumulative precipitation for the water year is 68% of normal for Durango.

Stream flows remained well below normal with the San Juan drainage in Archuleta County reaching lows that rivaled 1996 levels. The Animas and La Plata Rivers fell to 29% and 28% of July normals respectively. The Dolores River was slightly better but only 34% of normal.

Reservoir storage fell to below normal. Lemon, Vallectio, and McPhee Reservoirs were all being drawn down. Many area ponds dried up or were being drawn down.

Outlook

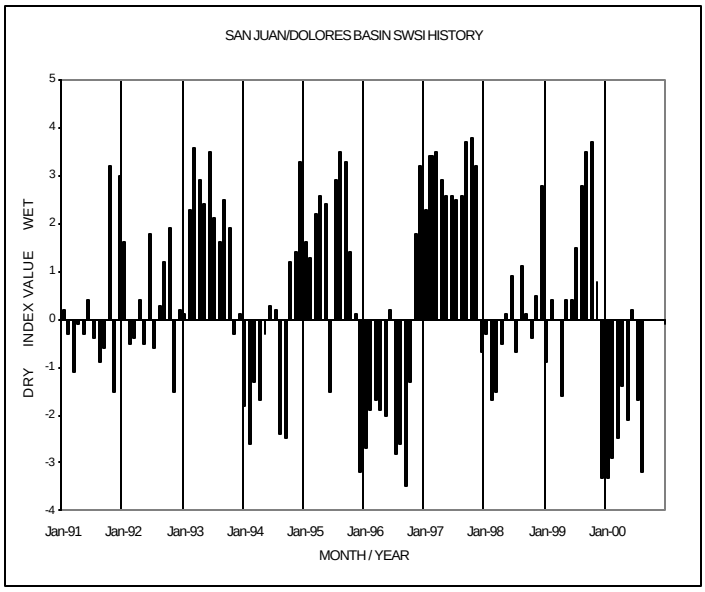
Prospects for relief from the dry conditions did not appear to be good as the weather pattern developed thunderstorm formations daily but produced very little precipitation. Only windy weather and dry storm lightning were the outcome.

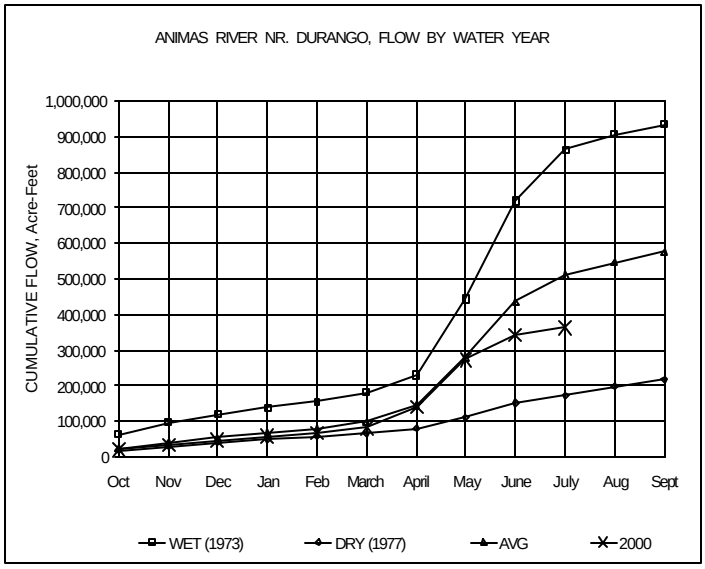
Public Use Impacts

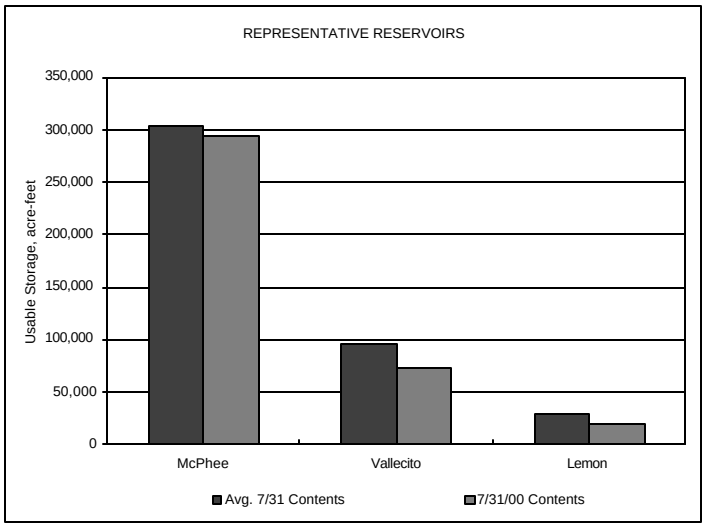
Over 23,000 acres have burned and engulfed 35% of Mesa Verde National Park. With the fire came smoke and dry heat.

The fruit production was excellent this year. Hay production was good in quality but off in quantity.

Fishing began early and rafters were diversifying to smaller craft such as tubes and kayaks.







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