

October 24, 2002

MONTHLY REPORT

DROUGHT MONITORING COMMITTEE

BY

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Leader of Committee

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## Drought Status for October, 2002

*National Weather Service, Albuquerque, NM*

**Discussion:** A late return of the monsoon along with a few other storm systems made September a pretty good month across much of New Mexico. Especially noteworthy was the week of September 8-14, when rainfall averaged 3 inches in climate divisions 3 and 4, and 1.5 to 2.5 inches elsewhere. Some locations in the northwest (division 1) received more rainfall that week than June through August combined. Overall, September was the 8<sup>th</sup> wettest of the past 108 years in New Mexico. The July-September period was 33<sup>rd</sup> wettest of the past 108 years, which helped bring the final water year record up to the 17<sup>th</sup> driest of the past 108 years. Several months ago, New Mexico was on track to finish in the top 5 dry water years since 1895. The wet September helped bring water-year precipitation up to an average of 75 percent for this year that just ended. This was an increase of 13 percent from the water year average of 62 percent at the end of August.

As a result, the soil moisture indices have responded with some marked changes toward the positive (wet) side. Rainfall in September has helped alleviate some aspects of the meteorological drought, but has not been enough to make a dent in the hydrologic drought. The Palmer Index now only indicates divisions 2 and 6 (basically the northern mountains and central mountain chain) in severe to extreme drought, but the longer-term (1 year or more) SPI still shows deficits exceeding 10 inches in some of those same areas, and as much as 5 to 10 inches in other areas. Palmer Index projections also show divisions 2 and 6 with the greatest likelihood of a continuing meteorological drought by the end of January, 2003. This shows the positive effect El Niño is expected to have on soil moisture in New Mexico. However, the trend in the hydrological drought will depend on how the winter and spring of 2002-2003 evolve.

### Palmer Index (monthly average) for 2002

<u>Div.</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct 19</u>	<u>Oct (fcst)</u>
1	-0.3	-1.3	-2.1	-3.0	-4.1	-5.1	-5.0	-4.7	-1.6	0.0	0.0
2	-2.0	-2.2	-2.9	-4.0	-5.1	-6.1	-6.3	-6.7	-5.0	-3.4	-3.4
3	-0.5	+0.5	+0.1	-0.3	-1.8	-2.6	-2.8	-3.1	-0.7	+0.7	+0.8
4	-0.6	-0.8	-1.6	-2.7	-3.8	-4.5	-4.0	-3.2	-0.7	+0.4	+0.4
5	-0.9	-0.5	-1.0	-2.1	-2.8	-3.3	-2.3	-0.3	+1.7	+2.3	+2.4
6	-2.2	-1.6	-2.2	-3.0	-4.0	-4.6	-4.0	-3.9	-3.0	-2.7	-2.6
7	-1.2	-0.3	0.0	+0.6	-1.1	-2.4	-1.7	-2.2	-0.6	+0.4	+0.3
8	-1.4	-0.4	-1.3	-2.5	-3.0	-3.2	-2.3	-0.8	-0.4	-0.1	-0.4

Some indices have shown improvement in the meteorological drought conditions over the past two months. However, other indicators (stream-flows, reservoir levels, range conditions) show extreme hydrological drought remains. No changes will be made in this drought status map until winter precipitation and projected water supply for 2003 is assessed.

### Climate Division Status:

1.	Emergency	5.	Warning
2.	Emergency	6.	Emergency
3.	Warning	7.	S ½ Alert
4.	Emergency		N ½ Warning
		8.	Emergency

### Calendar Year 2002 and Water Year 2002 (thru Sep) Precipitation for New Mexico

National Weather Service Albuquerque, NM						
	2002 (Jan - Sep)			Water Year 2002 (Oct - Sep 02)		
<u>Location</u>	<u>Obs</u>	<u>Normal</u>	<u>%Normal</u>	<u>Obs</u>	<u>Normal</u>	<u>% Normal</u>
<b>Northwest Plateau</b>						
AZTEC RUINS N/M	4.29	7.29	59%	5.45	9.90	55%
FENCE LAKE	10.46	11.00	95%	12.54	14.25	88%
FRUITLAND 2E	3.89	5.36	73%	4.79	7.32	65%
GALLUP FAA APRT	8.25	8.81	94%	8.99	11.59	78%
LINDRITH 2SE	10.55	11.15	95%	13.28	14.36	92%
NAVAJO DAM	5.36	9.81	55%	7.80	13.41	58%
<b>Northern Mountains</b>						
ALCALDE	7.14	7.93	90%	7.80	10.03	78%
CANJILON R/S	10.44	12.26	85%	12.57	15.43	81%
CERRO	7.57	10.39	73%	9.16	12.87	71%
CHAMA	9.63	16.16	60%	12.82	21.00	61%
CIMARRON 4SW	7.92	14.01	57%	9.51	16.17	59%
GHOST RANCH	5.79	9.39	62%	7.59	11.56	66%
JEMEZ SPRINGS	9.17	13.83	66%	9.91	17.29	57%
JOHNSON RANCH	6.84	8.93	77%	8.76	11.33	77%
LAS VEGAS FAA APRT	8.25	14.36	57%	10.08	16.68	60%
LOS ALAMOS	7.88	15.09	52%	8.66	18.33	47%
RATON KRTN	9.54	15.31	62%	10.62	17.23	62%
RED RIVER	14.65	16.70	88%	18.10	20.53	88%
SANTA FE 2	7.45	11.44	65%	8.20	14.38	57%
WOLF CANYON	10.65	17.96	59%	13.69	22.93	60%
<b>Northeastern Plains</b>						
CLAYTON APRT	8.39	13.54	62%	9.20	15.50	59%
CLOVIS	11.98	14.99	80%	14.89	17.89	83%
CONCHAS DAM	12.65	12.06	105%	14.41	14.10	102%
MOSQUERO 1NE	10.69	14.38	74%	13.89	16.53	84%
PORTALES	12.03	14.20	85%	13.62	16.74	81%
TUCUMCARI 4NE	11.97	13.47	89%	14.03	15.95	88%
<b>Southwestern Mountains</b>						
FORT BAYARD	12.45	12.64	98%	13.18	15.73	84%
GILA HOT SPRINGS	10.62	12.37	86%	11.58	16.34	71%
GRANTS APRT	6.97	8.24	85%	7.74	10.60	73%
QUEMADO ESTATES	12.89	11.41	113%	14.28	14.06	102%
RESERVE R/S	11.48	11.65	99%	12.63	15.77	80%
<b>Central Valley</b>						
ABQ WSFO APRT	5.00	6.76	74%	6.06	8.51	71%
BOSQUE DEL APACHE	6.77	6.78	100%	7.68	8.68	88%
LOS LUNAS 3SSW	5.96	6.95	86%	7.43	9.02	82%

SOCORRO	8.54	7.59	113%		9.78	9.60	102%
<b>Central Highlands</b>							
CAPITAN	11.96	13.91	86%		14.21	16.14	88%
CLOUDCROFT	19.64	20.71	95%		22.57	24.96	90%
ESTANCIA	6.26	10.19	61%		8.31	12.61	66%
MOUNTAINAIR R/S	9.00	11.52	78%		11.39	14.27	80%
RUIDOSO 2NNE	13.28	17.83	74%		16.33	21.85	75%
<b>Southeastern Plains</b>							
ARTESIA 6S	9.81	9.68	101%		11.31	11.78	96%
CARLSBAD	8.75	10.11	87%		10.29	12.46	83%
FORT SUMNER	13.21	11.91	111%		14.74	14.46	102%
ROSWELL CLIMATE	10.77	10.64	101%		13.51	12.93	104%
SANTA ROSA	9.40	11.89	79%		10.22	14.17	72%
TATUM	12.65	13.40	94%		15.39	15.94	97%
<b>Southern Desert</b>							
ANIMAS	4.57	8.46	54%		4.98	10.92	46%
DEMING	4.44	7.28	61%		5.08	9.20	55%
FAYWOOD	9.13	9.14	100%		9.67	11.89	81%
STATE U LAS CRUCES	4.97	7.25	69%		5.21	9.34	56%
TRUTH OR CONSEQ	3.51	8.76	40%		3.97	12.08	33%
TULAROSA	6.85	7.74	89%		7.58	9.81	77%

**Divisional Averages**

	2002 (Jan - Sep)		Water Year 2002 (Oct - Sep 02)	
<u>Climate Division</u>		<u>% Nrml</u>		<u>% Nrml</u>
Northwest Plateau		80%		75%
Northern Mountains		67%		65%
Northeastern Plains		82%		83%
Southwestern Mountains		97%		82%
Central Valley		94%		86%
Central Highlands		81%		81%
Southeastern Plains		96%		92%
Southern Desert		69%		58%
All Divisions		79%		75%

**Palmer Projections for the end of January 2003 (Climate Prediction Center)**

<b>Division</b>	<b>-3 or less</b>	<b>-2 to -2.9</b>	<b>-1 to -1.9</b>	<b>Near 0</b>	<b>+1 to 1.9</b>	<b>+2 to 2.9</b>	<b>+3 or abv</b>
1	7	0	14	<b>34</b>	14	13	18
2	<b>38</b>	11	13	20	14	3	1
3	0	6	7	<b>45</b>	24	13	6
4	3	1	4	<b>37</b>	13	17	25
5	0	1	1	<b>32</b>	18	24	23
6	25	8	8	<b>27</b>	10	13	8
7	0	10	15	<b>44</b>	15	13	3
8	0	8	17	<b>30</b>	<b>30</b>	13	3

Most likely category is shown in bold probability.

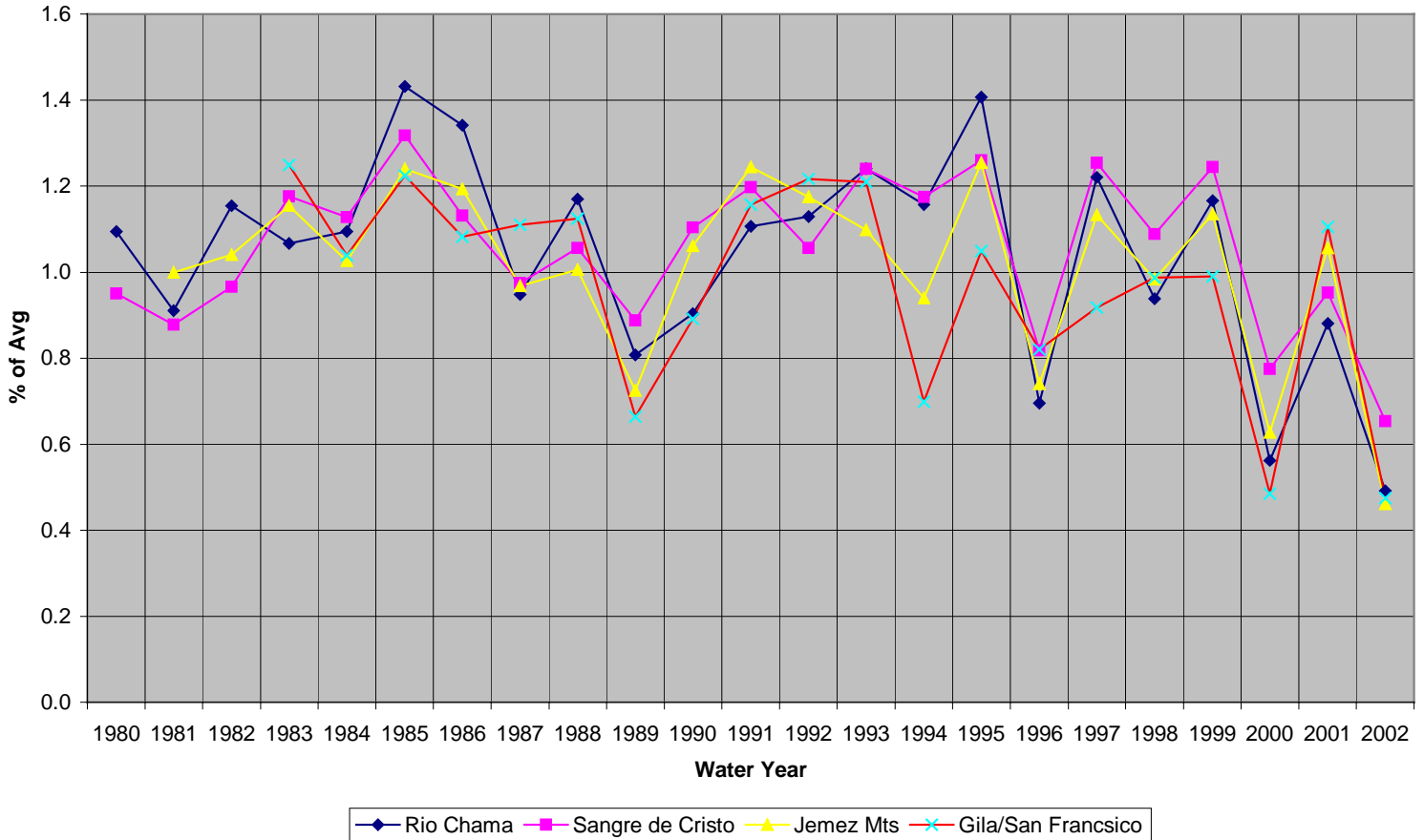
**Long-range Forecast and Discussion:** A moderate El Niño has developed in the Pacific. During the previous 20 El Niño events since 1900, precipitation for the September through May period has averaged above normal in New Mexico. This range has been from roughly 20-25 percent above normal in the north to 30-35 percent above normal in the south. An important matter to consider is that every El Niño is different, but there tends to be a northern edge to winter precipitation benefits with this pattern. That northern edge tends to be somewhere near the Colorado-New Mexico border, and was actually very near the latitude of Santa Fe during the last El Niño in 1997-98. Consequently, the area least likely to see enhanced precipitation this winter might be the region that supplies most of the spring runoff for the Rio Grande.

The Palmer Index Projections show the greatest likelihood for continued significant drought over the mountains of New Mexico in divisions 2 and 6. The trend for the Palmer index to head back to near zero in the other divisions is consistent with the historical relationship between New Mexico's cool-season precipitation and El Niño.

**USDA-NRCS submitted the following report:**

Comparing high elevation SNOTEL precipitation over the past 23 years, last year's precipitation set a record in all New Mexico basins, surpassing the previous records of 1996 and 2000. Basin precipitation averages ranged between 50 and 70 percent of average for the 2002 water year in spite of the extremely high September mountain precipitation recorded. October SNOTEL precipitation is near normal for the Jemez River, Upper Rio Grande (CO), and San Juan/Animas basins. All other basins are running well below average at the high elevations including the Rio Chama, Sangre de Cristo Mts., San Francisco, Gila, Mimbres, Pecos, Cimarron and Zuni/Bluewater basins. The major reservoir storage is currently well below average except for Cochiti which is near 85 percent of normal.

**HIGH ELEVATION SNOTEL PRECIPITATION  
USDA-NRCS**



**BASIN SNOTEL PRECIPITATION**

Water Year 2002

October 1, 2001 – September 30, 2002

<u>River Basin</u>	<u>September 2002 % of Avg.</u>	<u>Water Year % of Avg.</u>
Canadian	257	68
Pecos	120	52
Rio Grande	147	50
Mimbres	123	61

San Francisco/Gila	143	54
Zuni/Bluewater	138	70
San Juan	139	50

Water Year 2003  
October 1 – October 24, 2002

<u>River Basin</u>	<u>% of Avg.</u>
Rio Chama	57
Sangre de Cristo Mts.	63
Jemez	109
San Francisco	67
Gila	53
Mimbres	25
Pecos	55
San Juan	99
Animas	99
Cimarron	22
Zuni/Bluewater	65

B A S I N     W I D E  
R E S E R V O I R     S U M M A R Y

FOR THE END OF SEPTEMBER 2002

BASIN AREA RESERVOIR	CURRENT AS % CAPACITY	LAST YR AS % CAPACITY	AVERAGE AS % CAPACITY	CURRENT AS % AVERAGE	CURRENT AS % LAST YR		
NEW MEXICO WESTWIDE RESERVOIRS							
ABIQUIU	8	21	23	37	40		
LAKE AVALON	22	22	30	72	100		
CABALLO	8	4	20	40	215		
COCHITI	10	10	12	84	101		
CONCHAS	12	22	74	16	53		
COSTILLA	6	18	21	26	31		
EL VADO	4	56	56	7	7		
ELEPHANT BUTTE	15	41	58	26	36		
HERON	42	85	78	53	49		
BRANTLEY	8	9	16	51	88		
NAVAJO	52	83	81	64	62		
SANTA ROSA	3	3	13	21	86		
SUMNER	4	1	28	13	279		
TOTAL OF 13 RESERVOIRS	23	44	53	44	52		
Raw KAF Totals Current=	1543	Last Year=	2971	Average=	3540	Capacity=	6708

**U.S.GEOLOGICAL SURVEY** submitted the following stream-flow conditions:

Streamflow conditions for September 2002 improved slightly on unregulated streams throughout New Mexico, which did not help the total volume of streamflow for the 2002 water year. The streamflow was significantly below average Statewide; of course streamflows were augmented from releases from upstream reservoirs.

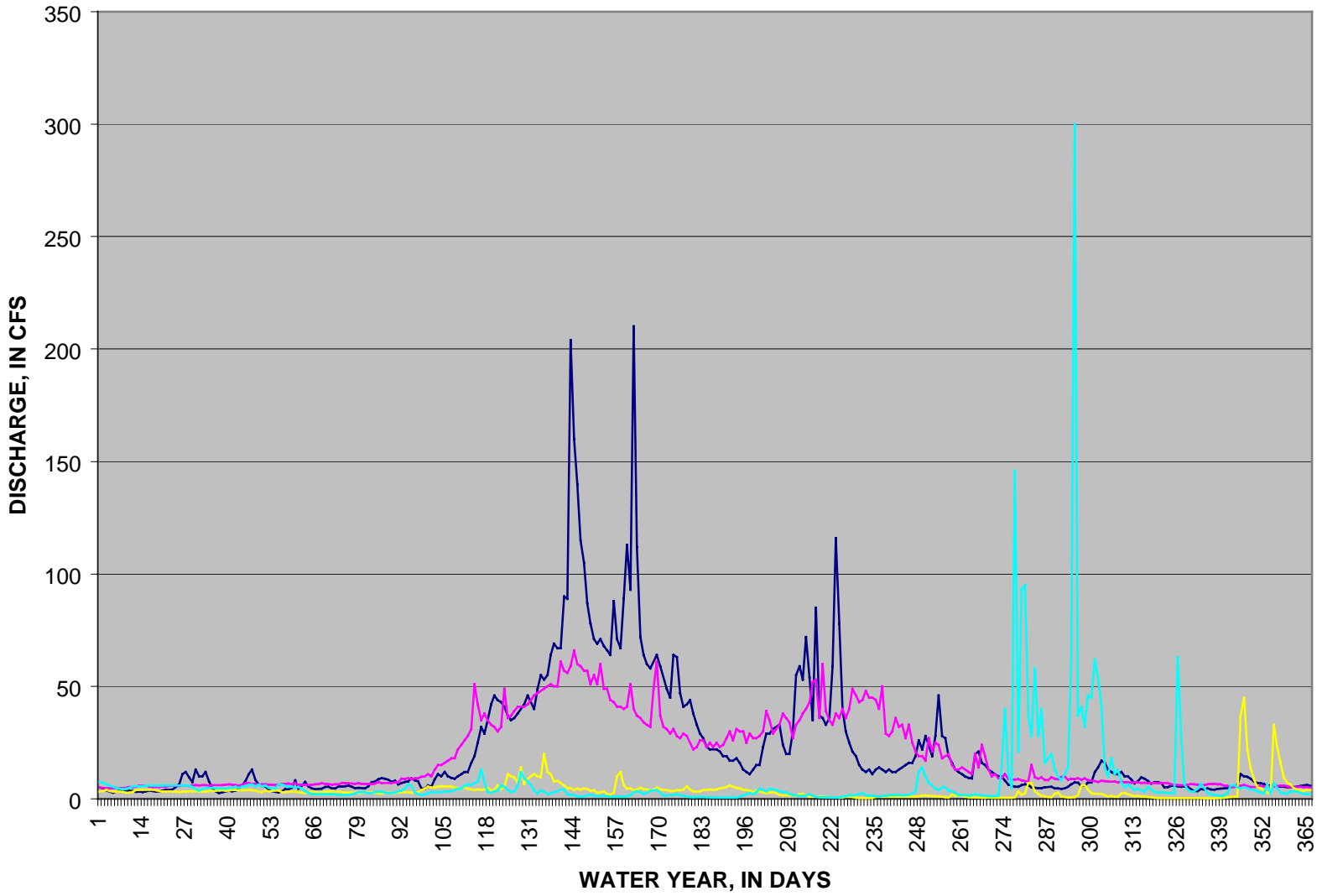
Streamflow plot shown below for selected locations in New Mexico show that the daily mean discharge for water year 2002 was similar to water year 1950 (drought), except for the difference of significant summer thunderstorm runoff during 1950 drought.

<u>Streamflow-gaging station</u>	<u>Streamflow in percent of average-----</u>	
	<u>September-2002</u>	<u>Water year to date</u>
Arkansas River Basin		
07203000 Vermijo River near Dawson	52	18
07216500 Mora River near Golondrinas	4	14
07221500 Canadian River near Sanchez	13	9
Rio Grande Basin		
08263500 Rio Grande near Cerro	25	33
08269000 Rio Pueblo de Taos near Taos	36	28
08279000 Embudo Creek at Dixon	8	19
08284100 Rio Chama near La Puente	20	12
08313000 Rio Grande at Otowi Bridge	67	51
Pecos River Basin		
08378500 Pecos River near Pecos	41	26
08387000 Rio Ruidoso at Hollywood	28e	23
08396500 Pecos River near Artesia	48	42
San Juan River Basin		
09364500 Animas River at Farmington	57	20
Gila River Basin		
09430500 Gila River near Gila	95	38
09444000 San Francisco River near Glenwood	342	41

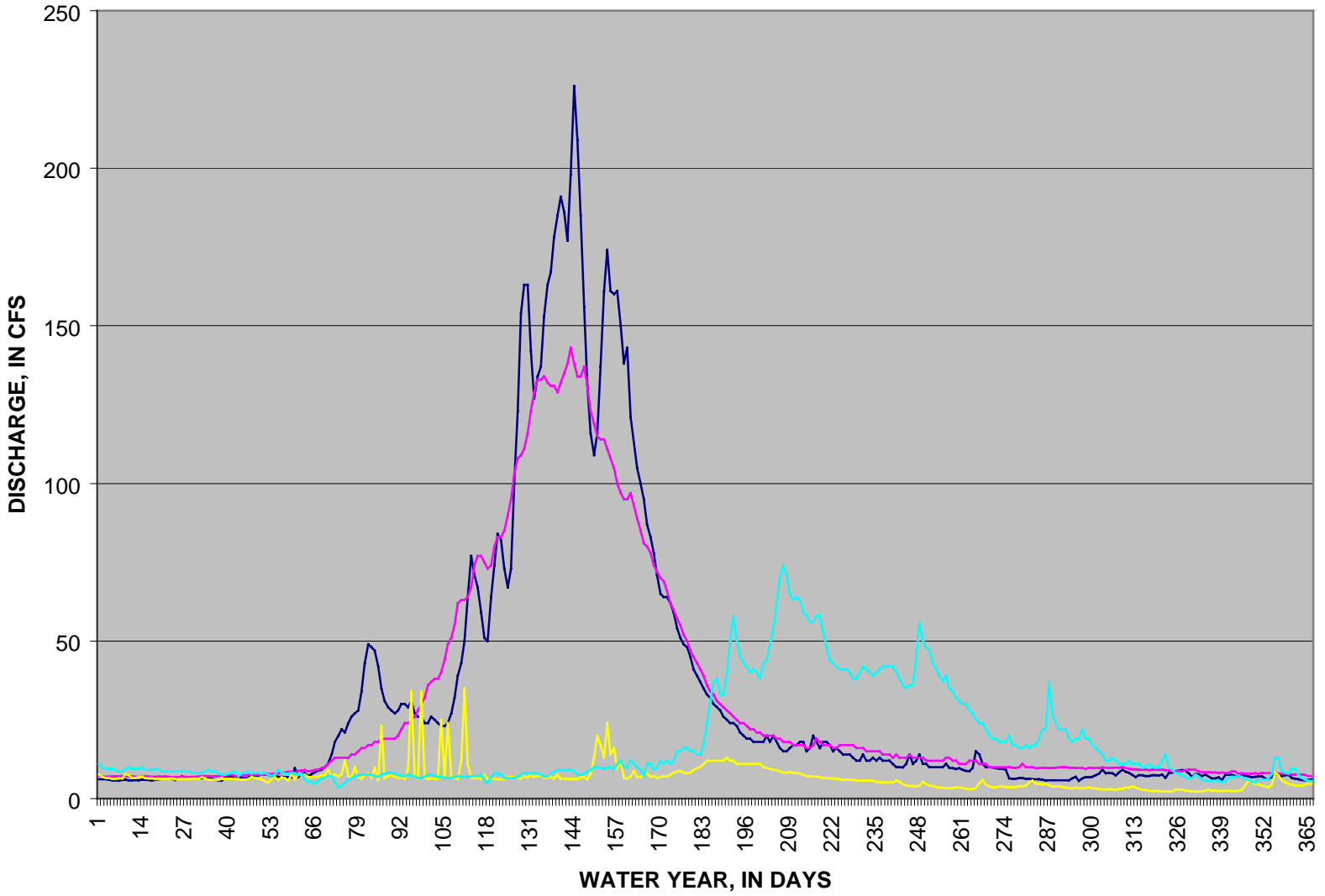
e- estimated

All data provisional

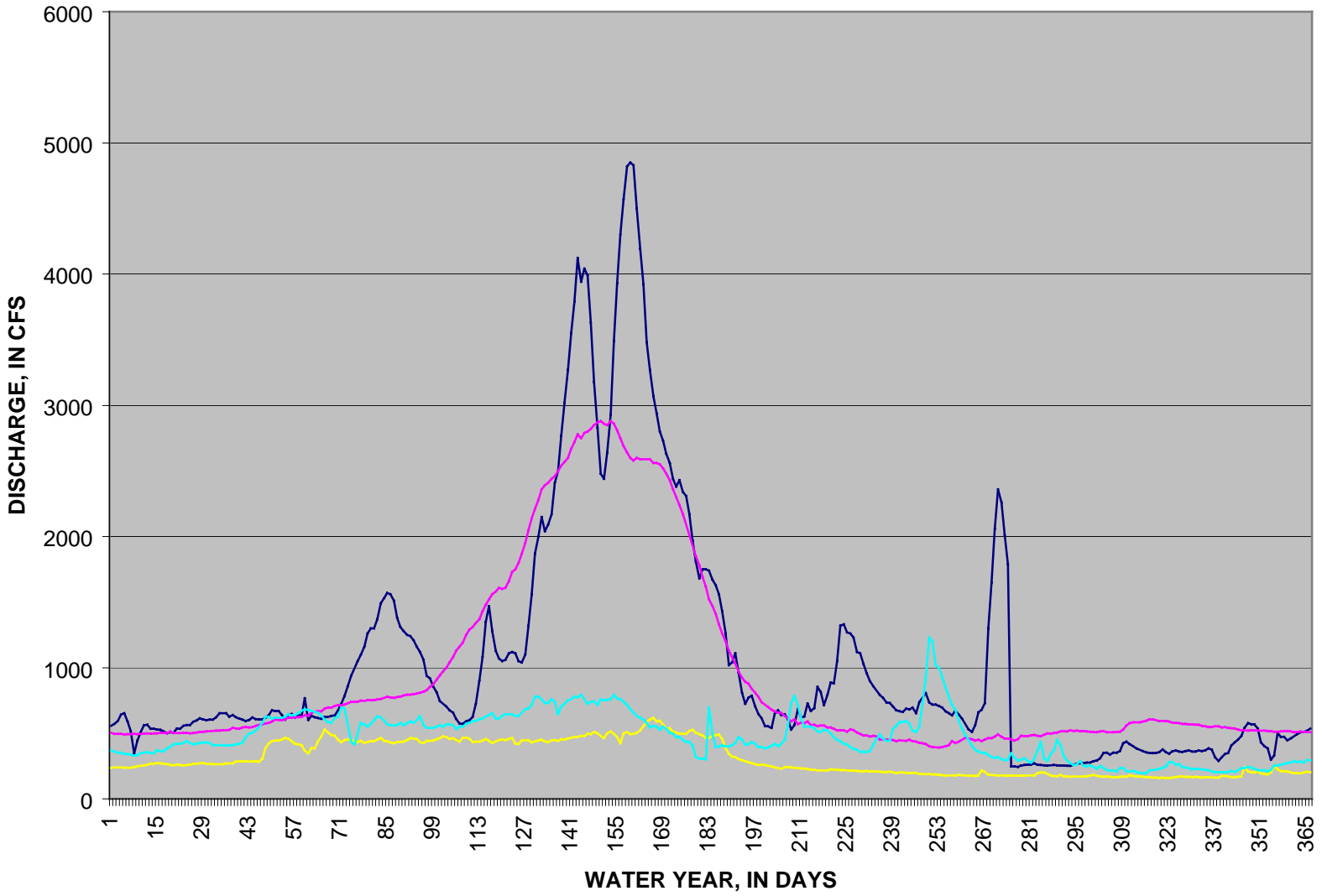
# VERMIJO RIVER NEAR DAWSON 07203000



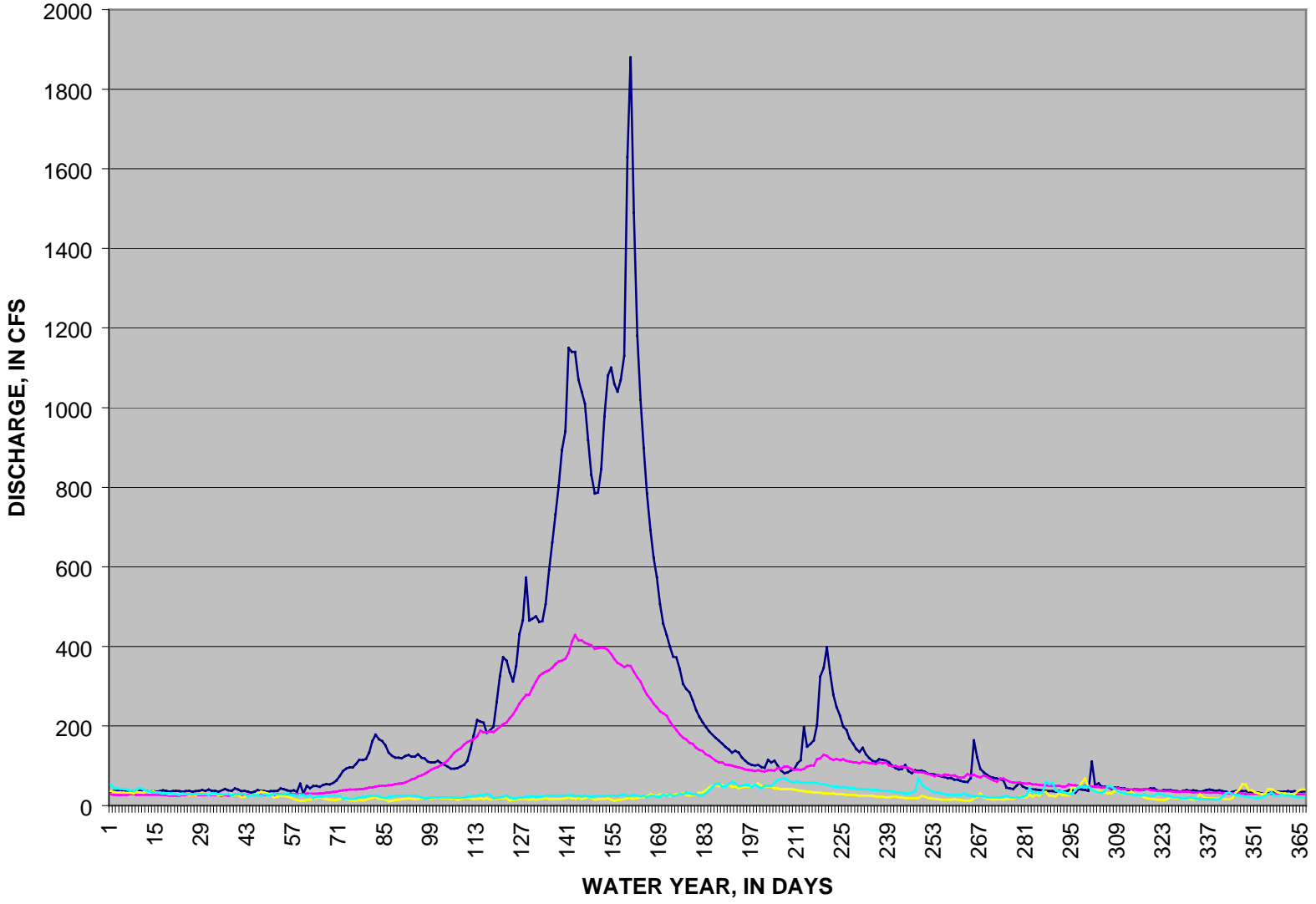
RIO PUEBLO DE TAOS 08279000



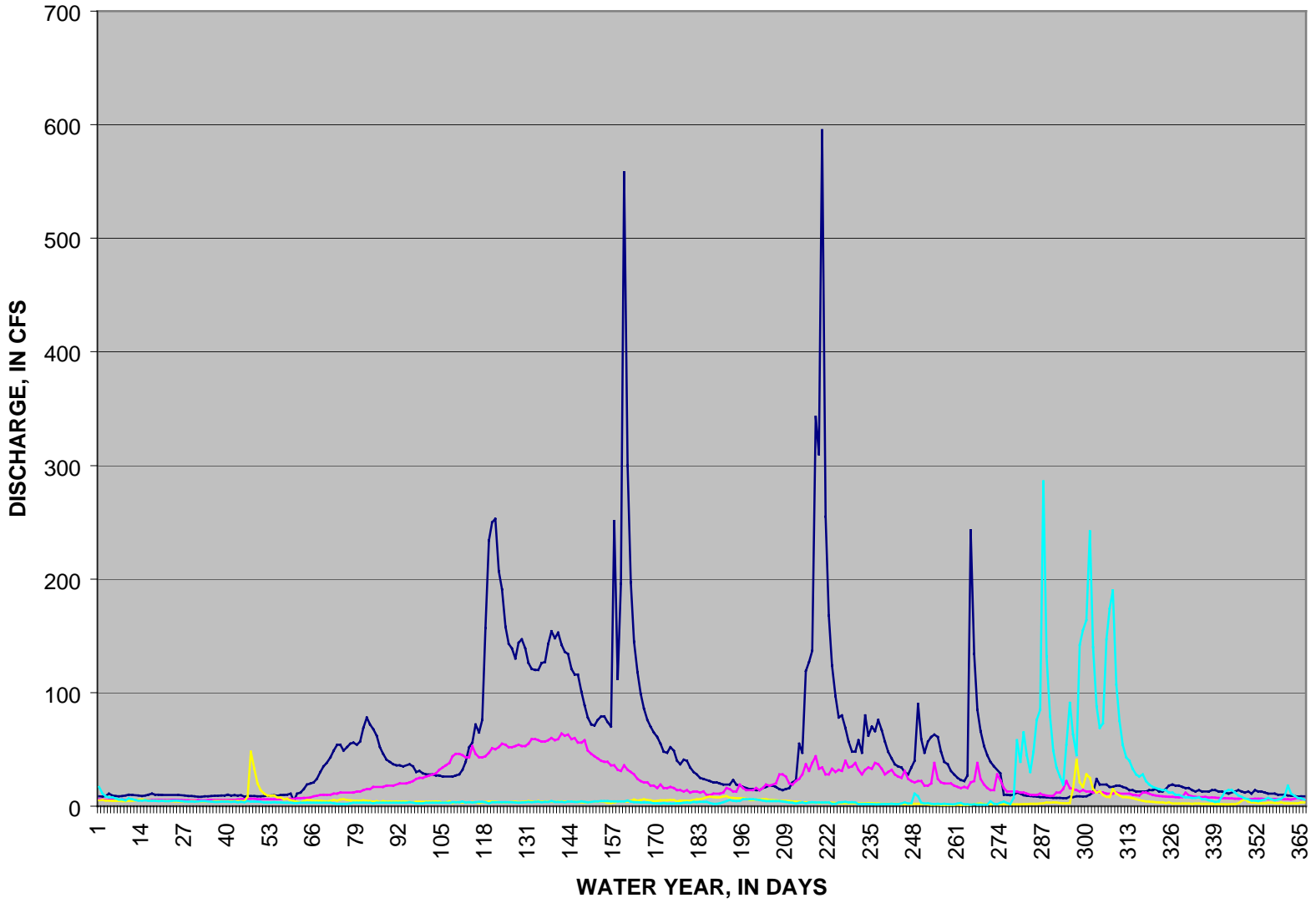
# RIO GRANDE AT EMBUDO-08279500



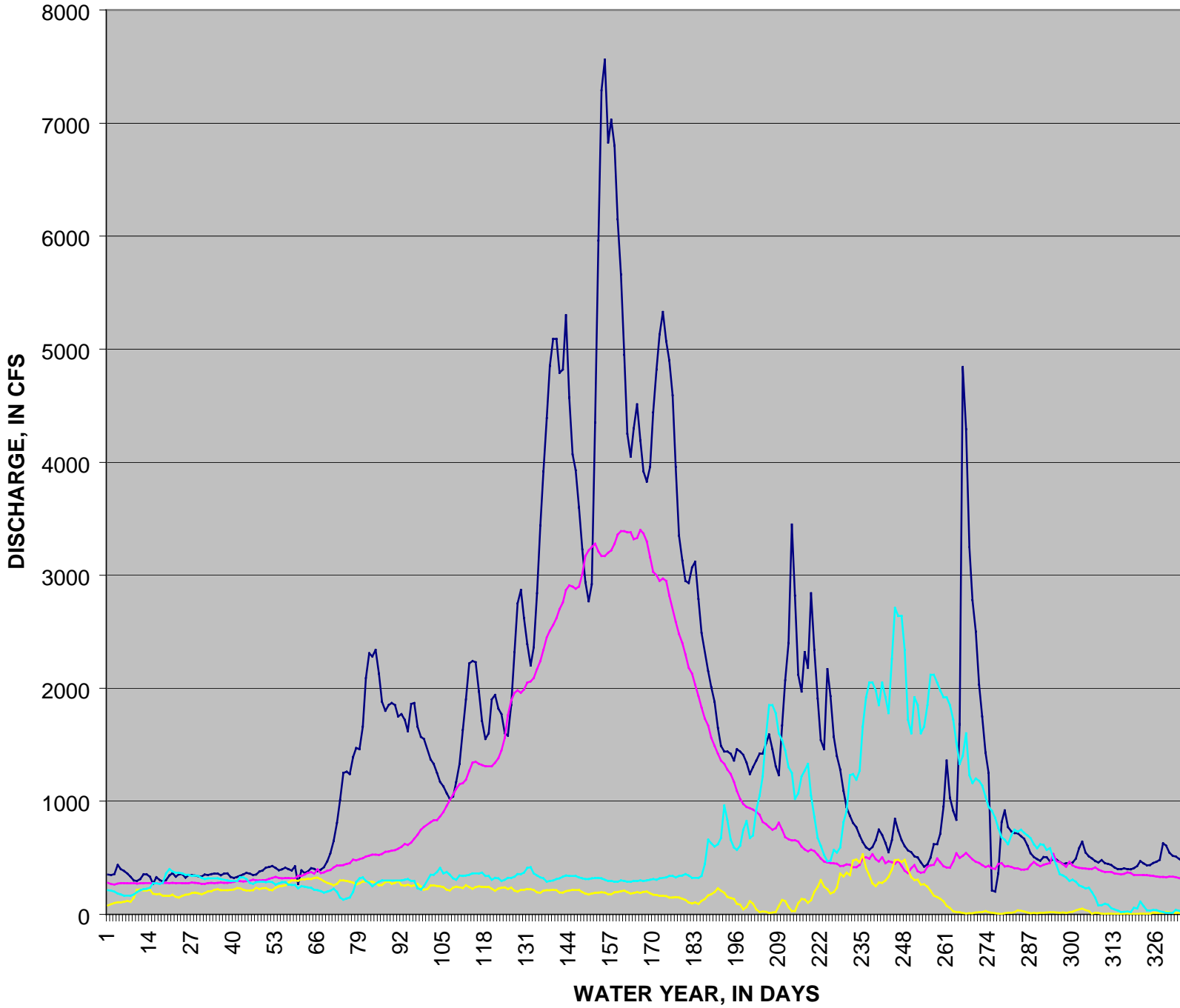
PECOS RIVER NEAR PECOS-08378500



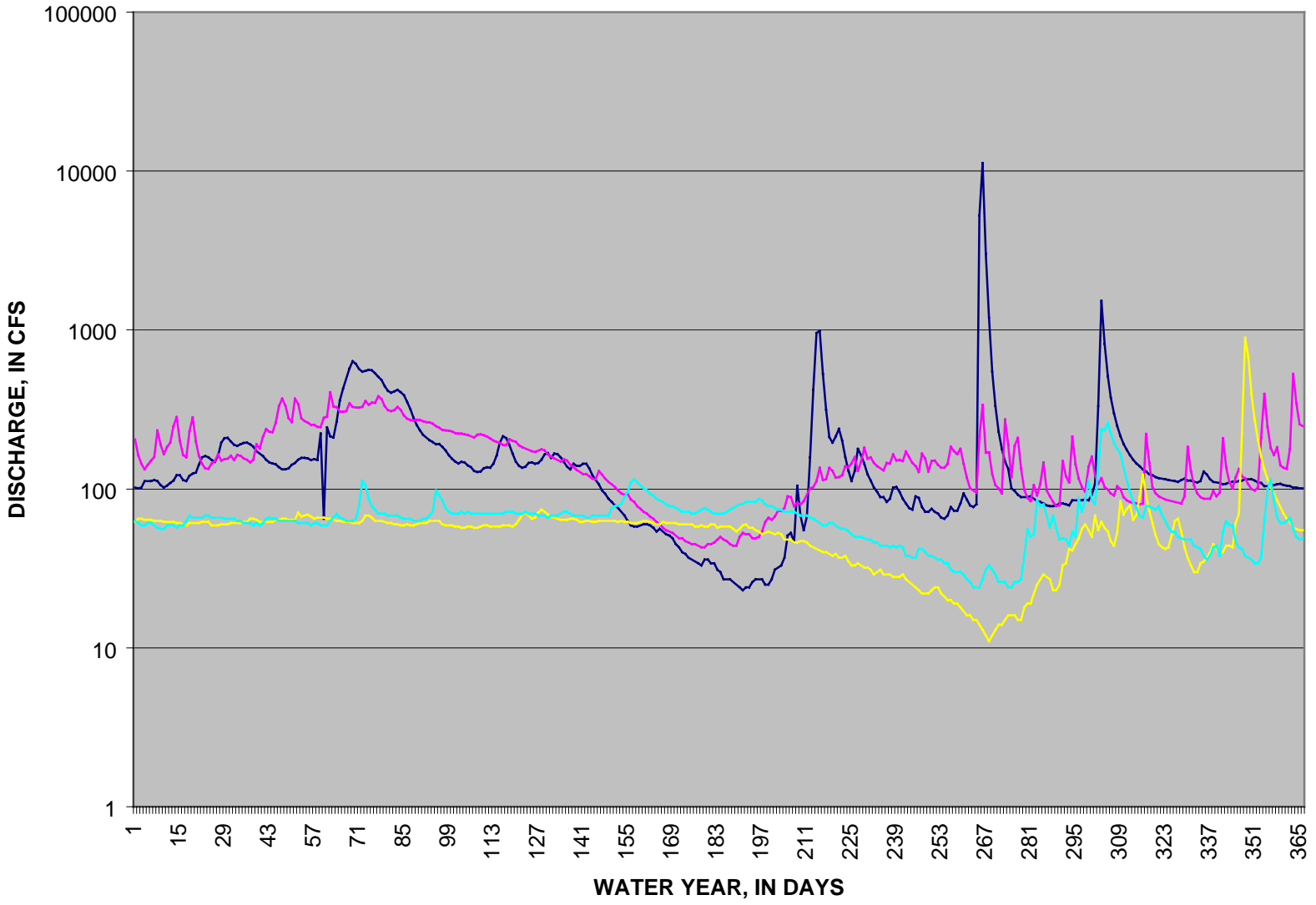
GALLINAS CREEK NEAR MONTEZUMA-08380500



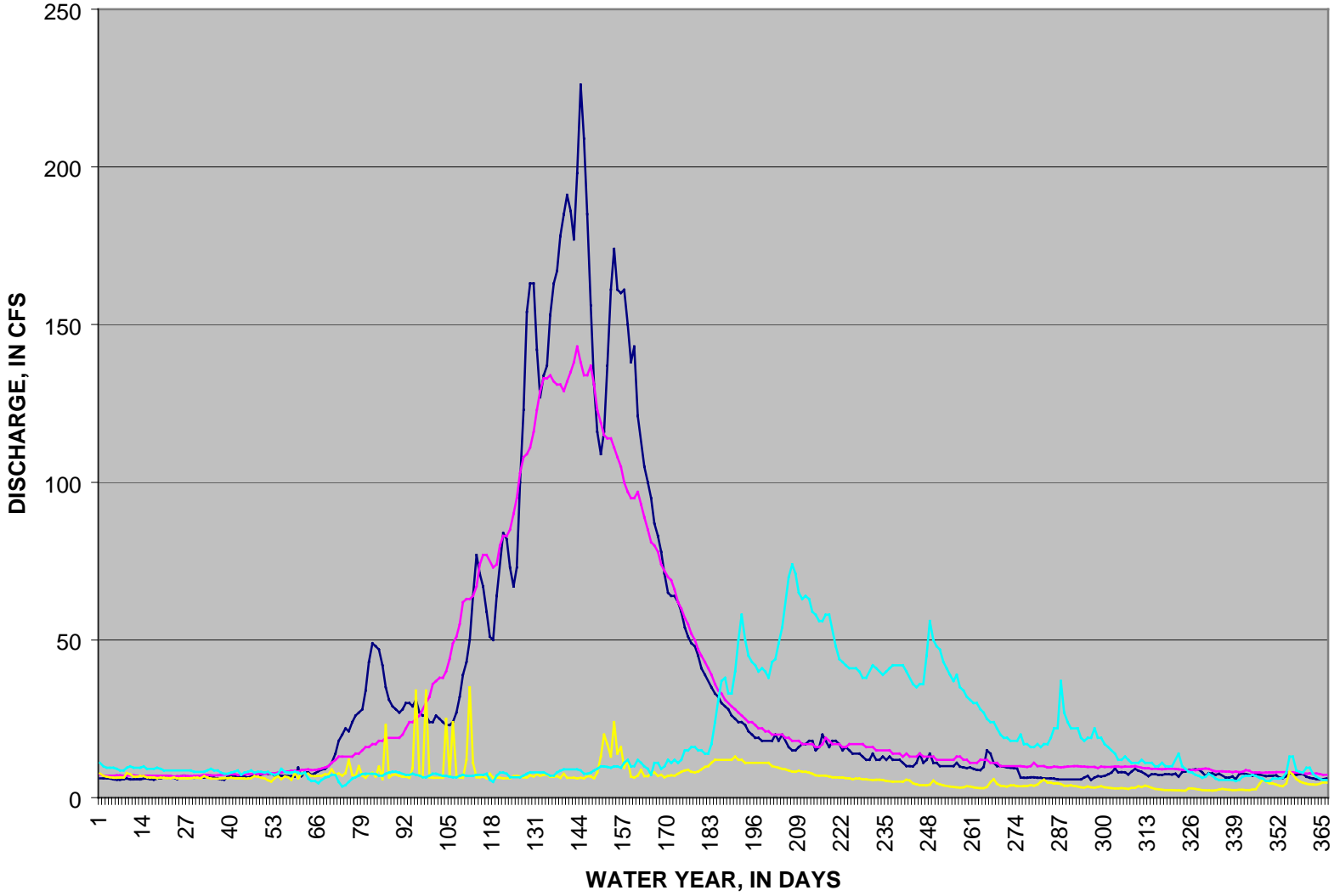
ANIMAS RIVER AT FARMINGTON-09364500



GILA RIVER NEAR GILA-09430500



# RIO PUEBLO DE TAOS 08269000



## **FSA Drought Actions**

The Farm Service Agency (FSA) has implemented the Emergency Conservation Program in 24 counties in New Mexico. The ECP program provides cost-share assistance to producers in approved counties who need to seek alternative water sources for livestock, orchards, and vineyards. ECP eligible counties include Bernalillo, Catron, Chaves, Cibola, Colfax, Curry, De Baca, Eddy, Guadalupe, Lincoln, McKinley, Mora, Otero, Rio Arriba, Roosevelt, San Juan, Santa Fe, San Miguel, Sandoval, Sierra, Socorro, Taos, Union, and Valencia counties. 708 requests for cost-shares have been received in New Mexico. New Mexico has \$3,952,500 to fund these applications.

The Secretary of Agriculture's disaster designation makes low interest loans available to all eligible producers statewide. FSA Emergency loans are offered to farmers and ranchers who have suffered a qualifying "physical loss" (such as a water shortage) or who have suffered at least a 30% loss in crop production.

Farm Service Agency has authorized emergency haying and grazing on Conservation Reserve Program (CRP) acreage for 15 New Mexico counties. Counties approved for emergency haying and grazing of CRP acreage include: Bernalillo, Cibola, Colfax, Curry, De Baca, Harding, Lea, Mora, Quay, Roosevelt, San Juan, Santa Fe, Tarrant and Union counties. Livestock operations located within an approved county are eligible for emergency haying or grazing of CRP acreage including livestock operations in another county or State. Initially, CRP haying and grazing was limited to livestock producers located in counties approved for haying and grazing. Authority has been granted to allow CRP participants to donate, rent, or lease haying privileges or grazing privileges to an eligible livestock producer located in another county or State.. Any CRP acreage hayed or grazed is subject to a 25 percent per acre annual rental payment reduction unless the haying privilege, grazing privilege, or CRP hay is donated to a livestock producer with a compelling need. 319 producers have taken advantage of this program thus far.

On October 1, 2002, all County FSA offices in New Mexico began accepting applications for the new Livestock Compensation Program (LCP). LCP is available in 32 counties in New Mexico (the exception is Los Alamos) that were designated primary disaster areas for drought in 2001 or 2002. LCP provides immediate assistance to cattle, sheep, goat, and buffalo producers who have been struck by severe drought conditions for livestock owned for 90 days or more before and/or after June 1, 2002. \$752 million dollars is available nationwide.