MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 1996 - 1999

Prepared By

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DECEMBER 1999

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CARMEL RIVER BASIN
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SECTION I - INTRODUCTION

The Monterey Peninsula Water Management District (District) is a special district created by the California legislature in 1977 and ratified by voters in 1978. Its mission is to "manage, augment and protect water resources for the benefit of the community and environment" of the greater Monterey Peninsula area. The District is responsible for regional water supply planning within a 170-square mile area consisting of the Monterey Peninsula and Carmel Valley **(FIGURE I-1)**. The Monterey Peninsula relies entirely on local water resources to meet its water supply needs, primarily surface and ground water from the Carmel River Basin (CRB). Hydrologic data pertaining to surface and ground water quantity and quality are essential tools to effectively manage these water resources.

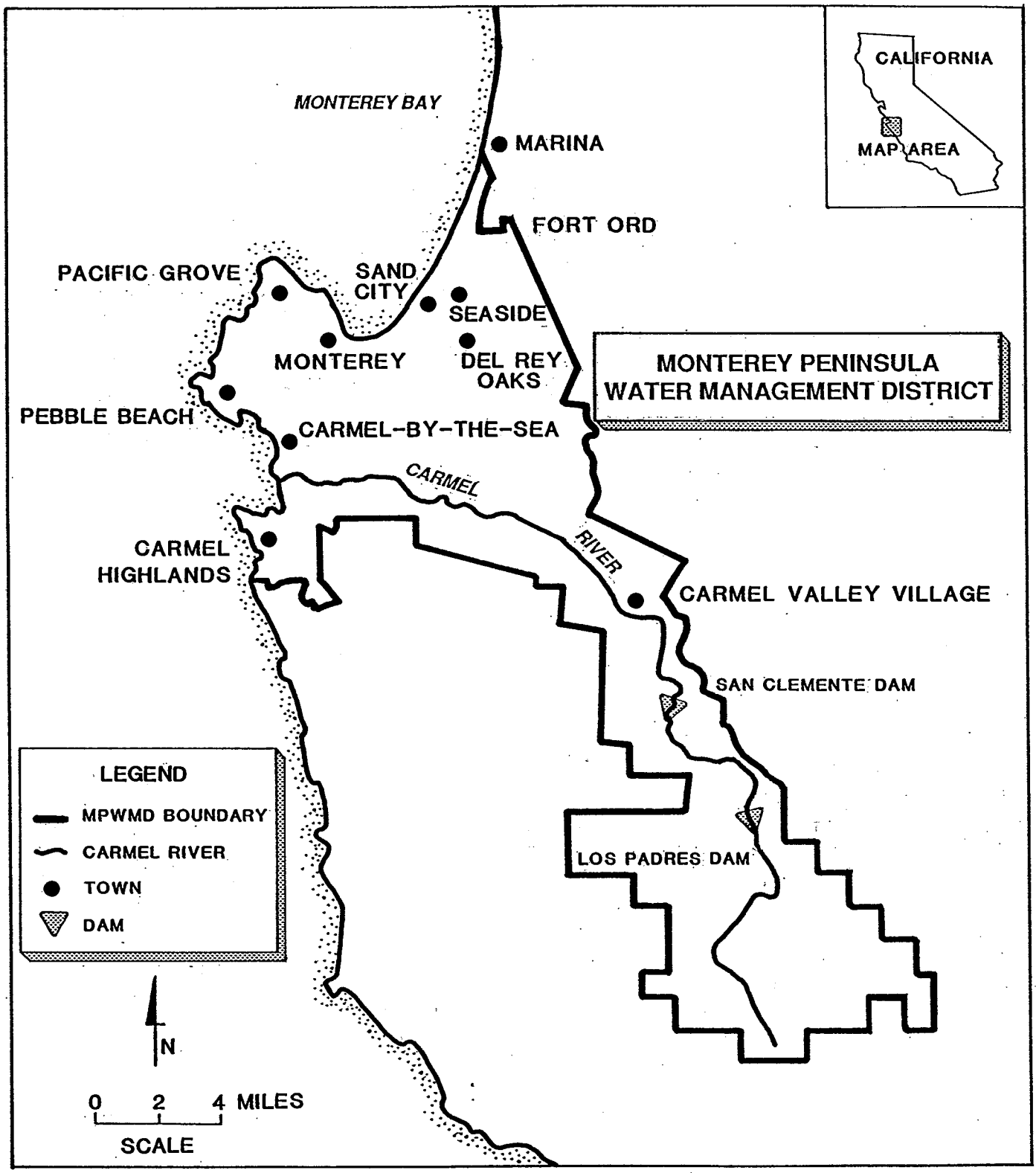
Such information is obtained through the District's Hydrologic Monitoring Program (HMP), which provides an objective basis for developing rational decisions regarding management of the Monterey Peninsula Water Resources System. This report presents surface water data, particularly Carmel River Basin streamflow, and serves as a compilation of these data from Water Years (WY) 1996 through 1999. The scope of this report is limited to documentation of CRB rainfall, streamflow and lagoon hydrology data, and does not provide a detailed analysis of these data. Other types of water resources related data collected by the District (e.g., ground water levels, surface and ground water quality, production, fisheries, vegetation and climatic data) are available in separate District documents or databases.

Since its inception, the District has collected streamflow measurements at approximately 15 mainstem sites on the Carmel River and at 16 Carmel River tributary sites. The data are used for water supply project planning, development of improved rainfall/runoff relationships, and quantification of tributary inflows to the Carmel River. In addition, the data support current District mitigation activities affected by streamflow such as fishery and erosion control programs. Additional information on the District's mitigation programs is available in the report entitled, *Evaluation of the MPWMD Five-Year Mitigation Program 1991-1996* (MPWMD, 1996), and in subsequent annual reports available at the District office.

Due to funding constraints and program modifications designed to improve efficiency, the District has reduced the number of streamflow measuring sites over time. Currently, the District maintains continuous recording streamflow gaging stations (gaging stations) at three mainstem and eight tributary sites within the CRB **(FIGURE I-2)**, and on San Jose Creek which is not a tributary to the Carmel River. In addition the District collects instantaneous, monthly streamflow measurements on the Carmel River mainstem above and below Los Padres Reservoir.

Prior to October 1991 (i.e., the beginning of WY 1992), District streamflow monitoring primarily consisted of instantaneous measurements made by the "current meter" method. At the beginning of WY 1992, a concerted effort was undertaken to upgrade the streamflow monitoring network by gradually replacing non-recording sites (i.e., sites consisting of a staff gage only) with continuous recording sites (i.e., sites that include automatic recording equipment). This upgrade effort significantly improved program efficiency and effectiveness as continuous records of streamflow replaced the former "spot" measurement methodology at the gaging stations.

FIGURE I-1


CALIFORNIA
MAP AREA
MONTEREY BAY
MARINA
FORT ORD
PACIFIC GROVE
SAND CITY
SEASIDE
MONTEREY
DEL REY OAKS
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PEBBLE BEACH
CARMEL-BY-THE-SEA
CARMEL
RIVER
CARMEL HIGHLANDS
CARMEL VALLEY VILLAGE
SAN CLEMENTE DAM
LOS PADRES DAM
LEGEND
MPWMD BOUNDARY
CARMEL RIVER
TOWN
DAM
N
0 2 4 MILES
SCALE

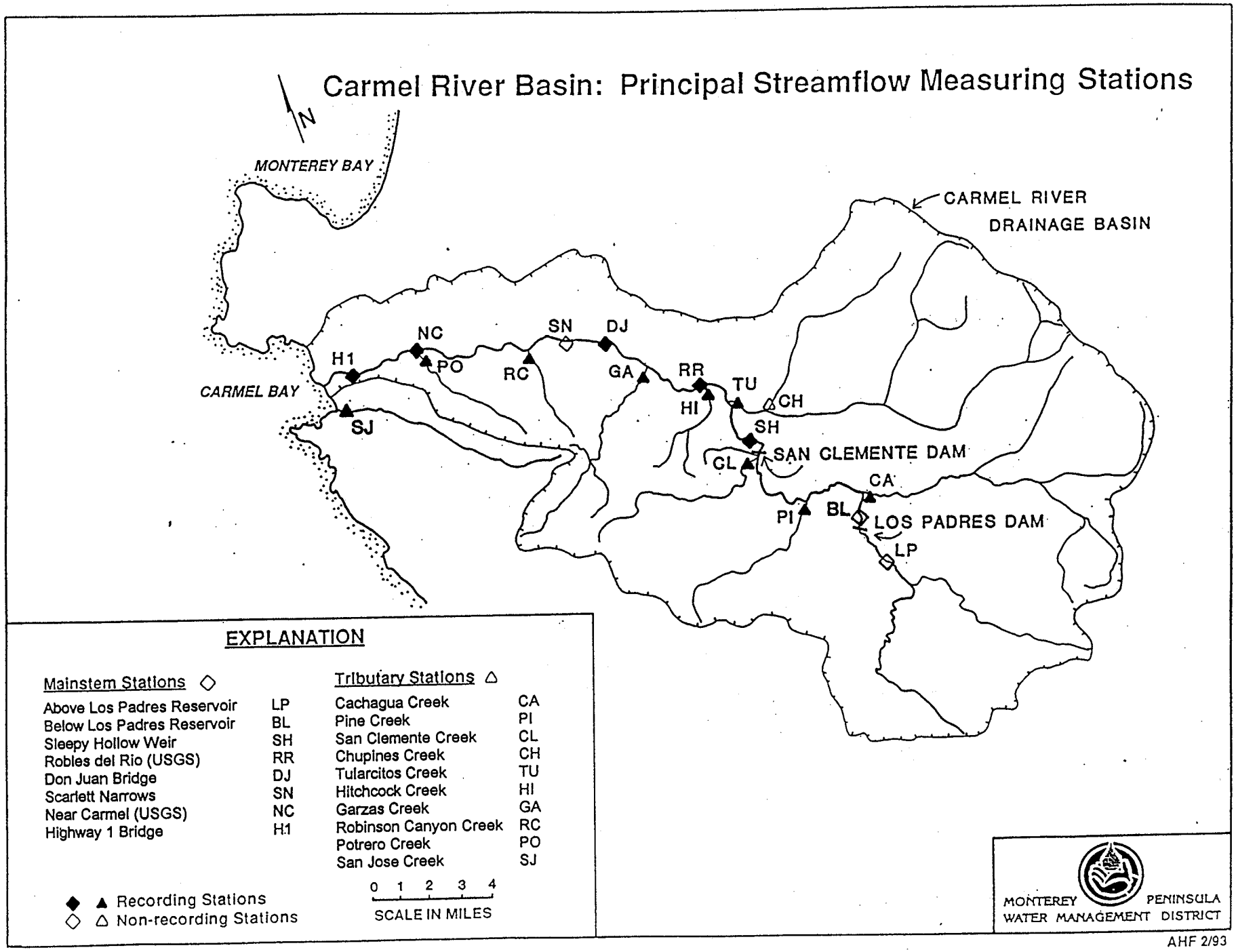

Carmel River Basin: Principal Streamflow Measuring Stations
N
MONTEREY BAY
CARMEL RIVER
DRAINAGE BASIN
CARMEL BAY
NC
SN
DJ
H1
PO
RC
GA
RR
TU
CH
HI
SJ
SH
SAN CLEMENTE DAM
CL
CA
PI
BL
LOS PADRES DAM
LP
EXPLANATION
Mainstem Stations ◇
Above Los Padres Reservoir LP
Below Los Padres Reservoir BL
Sleepy Hollow Weir SH
Robles del Rio (USGS) RR
Don Juan Bridge DJ
Scarlett Narrows SN
Near Carmel (USGS) NC
Highway 1 Bridge H1
Tributary Stations △
Cachagua Creek CA
Pine Creek PI
San Clemente Creek CL
Chupines Creek CH
Tularcitos Creek TU
Hitchcock Creek HI
Garzas Creek GA
Robinson Canyon Creek RC
Potrero Creek PO
San Jose Creek SJ
◆ ▲ Recording Stations
◇ △ Non-recording Stations
0 1 2 3 4
SCALE IN MILES
MONTEREY PENINSULA
WATER MANAGEMENT DISTRICT
AHF 2/93

FIGURE I-2

OBJECTIVE

This report is the second in a series, documenting the surface water resources data collected by the District during WY 1996 - 1999. The first report in this series is titled *Carmel River Basin Surface Water Resources Data Report, Water Years 1992-1995* (James, 1996). It is planned to periodically compile additional reports in a similar format as part of the District's ongoing HMP. A significant amount of surface water quantity data (primarily streamflow) have been collected and processed by the District within the CRB and lagoon over the four year period encompassing WY 1996 through 1999. This report consolidates and finalizes these data collection efforts in summary form for the following uses related to surface water:

1. provides necessary information for current studies and programs,

2. allows further evaluation of the results of completed studies, and

3. provides baseline information to aid future investigations.

This report is divided into three major sections: (a) Rainfall, (b) CRB streamflow and (c) Lagoon water levels/cross sections. Each section provides a brief description of the data collection methods used, along with key information regarding its presentation within the appendices. This report does not include hydrologic information related to surface water quality or ground water quantity and quality. These HMP elements are available in separate documents or will be documented in future reports as additional District staff time becomes available.

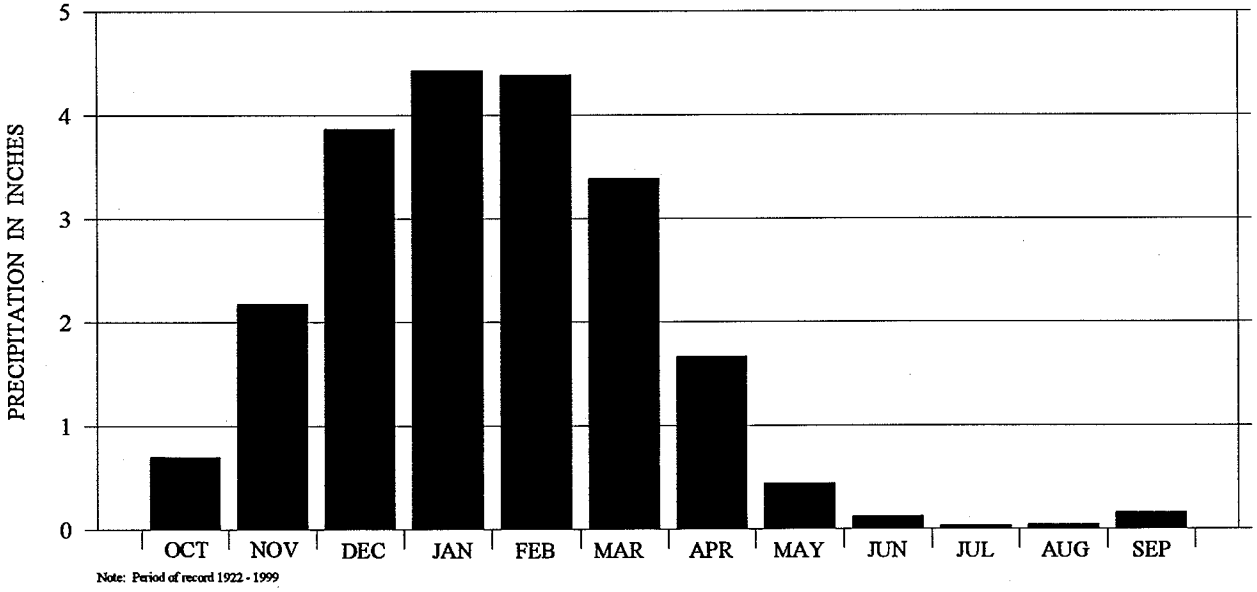
SECTION II - RAINFALL

RAINFALL

The Mediterranean climate of the Carmel River Basin (CRB) is generally mild, with warm, dry summers and cool, wet winters. Mean annual rainfall varies from about 14 inches along the northeast perimeter of the basin, to over 40 inches in the high peaks of the southernmost portion of the basin. More than ninety percent of the annual rainfall occurs over the watershed during the six-month period between November and April as illustrated in **FIGURE II-1**. In addition, annual rainfall totals can vary significantly from year to year **(FIGURE II-2)**.

FIGURE II-1

RAINFALL AT SAN CLEMENTE RESERVOIR
AVERAGE MONTHLY DISTRIBUTION



Rainfall values included in this report and in **APPENDIX A** were obtained from the following non-recording (i.e., manual daily rainfall readings only) precipitation measuring sites:

1. Los Padres Reservoir
2. San Clemente Reservoir
3. Forest Lake Reservoir
4. Pacific Grove Reservoir

These sites are operated and maintained by the California-American Water Company (Cal-Am), and were selected for this report because they are readily available and reliable. It should be noted that two of these sites, Forest Lake and Pacific Grove Reservoirs are located on the Monterey Peninsula and not in Carmel Valley, and therefore do not represent rainfall conditions in the CRB, which is the focus of this report. However, these sites are useful for comparative purposes. It should also be noted that the Forest Lake Reservoir measuring site was discontinued at the end of Water Year (WY) 1996.

Overall, rainfall over the CRB for the WY 1996 - 1999 period was above average. Within this period, 1996, 1997, 1998 were above average, and 1999 was below average. The chart in **FIGURE II-2** illustrates this condition for the San Clemente Reservoir (SCR) site, and compares these recent years to historic annual rainfall data collected at this site during the WY 1922 - 1999 period. Charts and tables showing monthly and daily rainfall for the Cal-Am rainfall measuring sites over the WY 1996 - 1999 period are provided in **APPENDIX A.**

An historical summary of SCR rainfall for the WY 1922 - 1999 period is presented as **TABLE II-1.** The District uses the SCR precipitation gage to determine average rainfall figures because of its reliable long term record, and its centralized location within the CRB. The mean annual rainfall at this site is 21.43 inches, which represents the arithmetic average of annual recorded values over the WY 1922 - 1999 period.

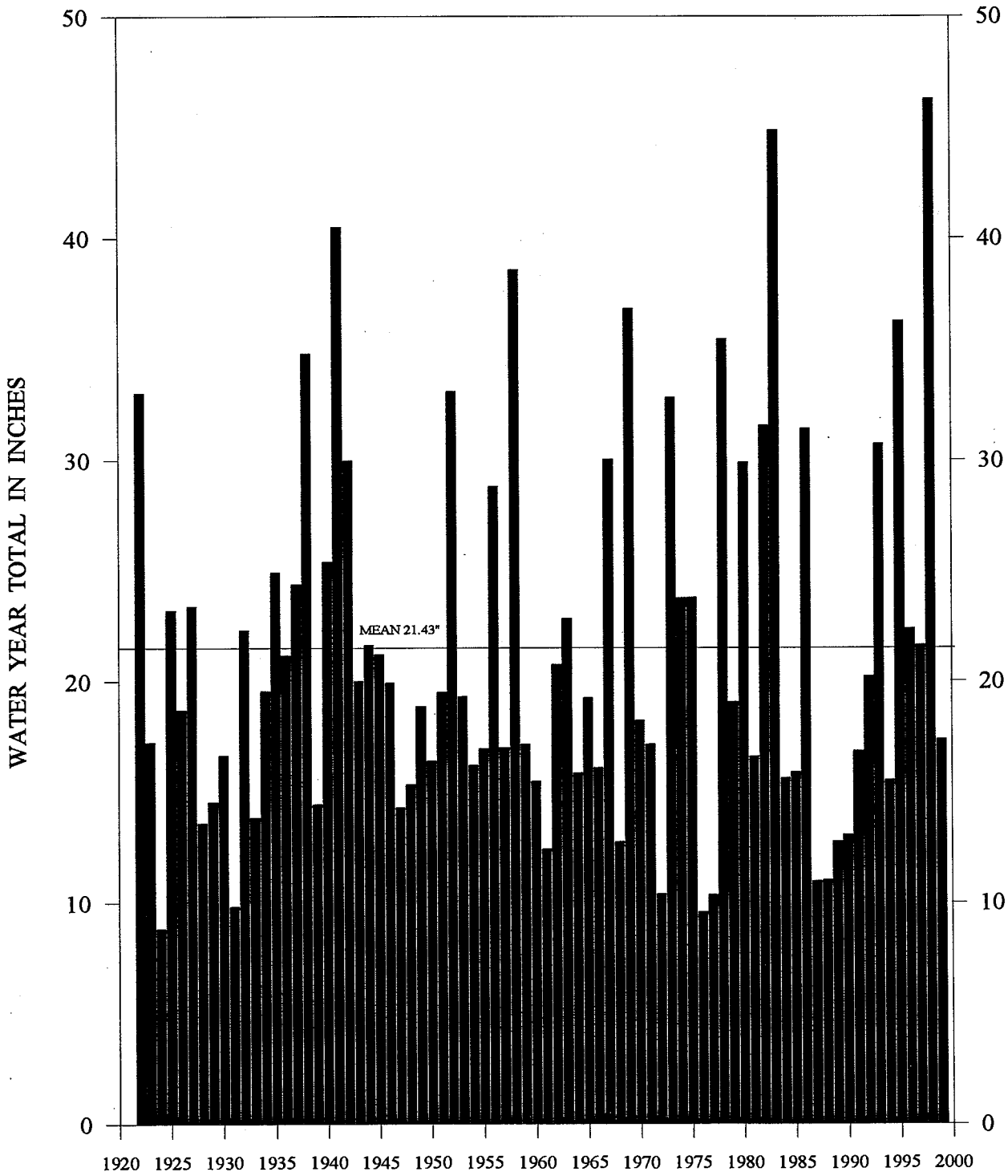
Seventeen monthly rainfall values within the WY 1923-1926 period have been estimated in **TABLE II-1,** and appear in bold-italic. These values were previously listed as zeroes in Cal-Am's records for unknown reasons. Review of long term records for Watsonville, Salinas and Pacific Grove all indicate some measurable rainfall during each of the seventeen suspect months. Review of available, local rainfall databases indicated that the Salinas long term rainfall record would be best suited to estimate the missing SCR values. Salinas rainfall was compared to SCR rainfall for 55 selected (complete) years between 1931 and 1994, and 12 monthly linear regression equations were developed and used to estimate the seventeen suspect values.

The El Nino influenced WY 1998 was clearly the most significant rainfall year of the four-year period, as several rainfall records were broken at the SCR site. Most notable is the 1998 annual water year total of 46.29 inches, which is the wettest year since record keeping began in 1922. Two monthly records were set as well during WY 1998. During February 1998, 18.24 inches is the wettest month on record, while the May 1998 total of 2.38 inches is the wettest May on record.

Conversely, the February 1997 - October 1997 period received only 1.04 inches of rain at the SCR site. This period is the driest of any nine-month period at SCR on record. This nine-month dry spell was broken by the wettest November (1997) on the Monterey Peninsula (7.48 inches) in at least 150 years (Renard, 1997), although November 1997 was not the wettest on record at the SCR site.

FIGURE II-2

RAINFALL AT SAN CLEMENTE RESERVOIR SITE
WATER YEARS 1922 - 1999



Source: California-American Water Company, Monterey District Office

TABLE II-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

RAINFALL AT SAN CLEMENTE RESERVOIR SITE: WATER YEARS 1922 - 1999
(All Values in Inches)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	0.00	2.60	13.55	5.45	7.65	2.75	0.60	0.45	0.00	0.00	0.00	0.00	33.05
1923	*1.06*	*4.05*	*4.20*	3.01	1.45	0.00	2.70	0.00	0.20	0.00	0.00	0.60	17.27
1924	0.30	0.45	1.10	2.85	0.25	2.51	*1.14*	0.20	0.00	0.00	0.00	*0.07*	8.87
1925	0.60	*2.42*	*4.14*	*4.17*	*4.71*	*3.17*	*2.04*	*1.77*	*0.08*	0.00	0.00	*0.14*	23.24
1926	*0.38*	*1.60*	*2.15*	3.60	6.00	0.60	4.40	0.00	0.00	0.00	0.00	0.00	18.73
1927	0.42	8.36	1.64	2.44	7.58	1.39	1.07	0.28	0.10	0.00	0.00	0.15	23.43
1928	0.80	2.10	2.83	0.88	2.43	3.58	0.96	0.05	0.00	0.00	0.00	0.00	13.63
1929	0.02	3.12	3.41	1.26	1.37	2.89	1.29	0.00	1.23	0.00	0.00	0.00	14.59
1930	0.00	0.00	0.83	5.37	3.26	4.25	1.33	1.61	0.00	0.00	0.00	0.03	16.68
1931	0.05	1.48	0.05	4.26	1.56	0.92	0.49	0.66	0.40	0.00	0.00	0.00	9.87
1932	0.02	1.75	10.26	4.32	4.69	0.80	0.14	0.36	0.00	0.00	0.00	0.00	22.34
1933	0.00	0.18	3.12	6.92	0.92	1.57	0.33	0.82	0.04	0.00	0.00	0.00	13.90
1934	1.12	0.00	8.25	3.15	5.29	0.00	0.13	0.85	0.72	0.00	0.00	0.06	19.57
1935	0.15	2.89	2.69	7.00	0.77	4.88	5.91	0.00	0.00	0.00	0.65	0.00	24.94
1936	0.37	0.81	2.01	2.66	9.97	1.68	2.46	0.48	0.34	0.43	0.00	0.00	21.21
1937	0.43	0.00	4.16	4.62	6.77	7.78	0.52	0.00	0.13	0.00	0.00	0.00	24.41
1938	0.06	1.01	6.59	3.44	13.02	8.09	2.63	0.00	0.00	0.00	0.00	0.00	34.84
1939	0.81	1.04	2.48	3.54	2.70	3.08	0.42	0.22	0.10	0.00	0.00	0.10	14.49
1940	1.04	0.37	2.38	9.20	8.96	2.32	0.60	0.27	0.00	0.00	0.00	0.31	25.45
1941	0.45	0.33	9.45	5.18	10.42	8.92	5.08	0.61	0.10	0.00	0.00	0.00	40.54
1942	1.13	1.04	10.49	5.71	2.46	3.28	4.91	1.01	0.00	0.00	0.00	0.00	30.03
1943	0.74	1.96	1.63	8.40	2.42	3.74	1.07	0.00	0.09	0.00	0.00	0.00	20.05
1944	0.74	0.36	3.33	3.94	9.28	1.00	1.94	0.75	0.32	0.00	0.00	0.00	21.66
1945	1.08	3.24	2.39	1.33	7.61	4.88	0.28	0.20	0.00	0.00	0.24	0.00	21.25
1946	2.80	2.05	7.69	0.85	2.77	3.28	0.00	0.43	0.00	0.00	0.00	0.11	19.98
1947	0.31	5.16	2.24	1.19	2.42	1.58	1.00	0.23	0.22	0.00	0.00	0.00	14.35
1948	0.79	0.67	2.36	0.05	2.48	4.38	3.86	0.62	0.15	0.00	0.00	0.00	15.36
1949	1.74	0.15	6.11	1.18	3.04	5.96	0.15	0.51	0.00	0.02	0.03	0.00	18.89
1950	0.19	1.47	1.69	6.09	2.97	2.23	1.47	0.26	0.00	0.00	0.05	0.00	16.42
1951	2.72	6.33	3.04	2.95	1.94	1.04	1.37	0.07	0.05	0.00	0.00	0.03	19.54
1952	1.44	4.01	8.36	9.80	1.61	6.82	0.80	0.22	0.00	0.00	0.00	0.07	33.13
1953	0.07	3.00	8.76	2.68	0.00	2.09	1.89	0.62	0.10	0.06	0.09	0.00	19.36
1954	0.30	2.16	0.49	4.37	3.28	4.68	0.53	0.19	0.25	0.00	0.00	0.00	16.25
1955	0.00	1.98	2.98	5.53	1.99	0.31	2.84	1.36	0.00	0.00	0.00	0.00	16.99
1956	0.03	2.24	14.94	6.59	2.25	0.51	1.60	0.48	0.00	0.00	0.00	0.21	28.85
1957	0.79	0.02	0.53	5.21	5.11	1.57	1.72	1.93	0.09	0.00	0.00	0.07	17.04
1958	1.47	0.93	3.99	4.63	9.78	7.82	8.50	0.56	0.14	0.00	0.00	0.78	38.60
1959	0.03	1.01	0.27	6.35	6.92	0.23	0.11	0.09	0.00	0.00	0.09	2.10	17.20
1960	0.00	0.00	0.64	5.12	6.64	0.83	1.91	0.33	0.00	0.00	0.00	0.05	15.52
1961	0.05	3.53	2.14	1.91	0.91	2.49	0.86	0.49	0.10	0.00	0.00	0.00	12.48
1962	0.17	2.19	1.73	2.00	11.29	2.96	0.11	0.34	0.00	0.00	0.00	0.00	20.79
1963	1.81	0.10	2.29	5.37	4.53	4.27	4.14	0.23	0.05	0.00	0.00	0.09	22.88
1964	1.32	4.33	0.46	4.00	0.46	2.70	0.77	1.38	0.17	0.00	0.00	0.30	15.89
1965	0.87	3.89	4.77	2.92	1.05	2.45	2.92	0.14	0.02	0.00	0.25	0.00	19.28

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

RAINFALL AT SAN CLEMENTE RESERVOIR SITE: WATER YEARS 1922 - 1999
(All Values in Inches)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1966	0.07	6.63	4.43	2.04	1.47	0.68	0.27	0.00	0.08	0.27	0.00	0.18	16.12
1967	0.00	3.74	6.41	5.99	0.53	5.82	6.75	0.19	0.52	0.00	0.00	0.13	30.08
1968	0.27	1.13	2.49	3.36	1.01	3.15	0.81	0.43	0.12	0.00	0.02	0.00	12.79
1969	0.33	1.77	4.24	15.13	11.10	1.92	2.14	0.12	0.10	0.00	0.00	0.00	36.85
1970	0.34	0.79	3.11	7.00	2.30	3.80	0.81	0.07	0.04	0.00	0.00	0.00	18.26
1971	0.11	5.68	6.62	1.20	0.53	1.49	1.21	0.15	0.00	0.00	0.04	0.17	17.20
1972	0.24	1.43	5.56	1.19	0.98	0.01	0.89	0.08	0.02	0.00	0.00	0.03	10.43
1973	2.85	5.79	2.66	7.59	9.20	4.38	0.29	0.02	0.00	0.00	0.00	0.07	32.85
1974	1.81	3.92	4.31	4.80	0.40	6.34	2.03	0.00	0.11	0.07	0.00	0.00	23.79
1975	1.79	0.81	3.57	0.65	6.88	8.20	1.66	0.02	0.04	0.07	0.12	0.00	23.81
1976	1.31	0.73	0.33	0.08	1.26	2.54	1.46	0.05	0.18	0.00	1.05	0.63	9.62
1977	1.57	0.60	1.85	2.45	0.41	1.85	0.00	1.11	0.08	0.00	0.00	0.48	10.40
1978	0.02	0.40	5.68	9.99	8.36	7.06	3.59	0.09	0.00	0.00	0.00	0.29	35.48
1979	0.00	2.51	1.41	5.72	4.32	4.35	0.38	0.26	0.00	0.12	0.03	0.00	19.10
1980	1.01	2.14	3.87	5.22	10.89	2.89	2.55	0.42	0.00	0.95	0.00	0.00	29.94
1981	0.02	0.04	2.76	7.09	1.29	4.95	0.49	0.00	0.00	0.00	0.00	0.00	16.64
1982	2.91	5.65	2.20	7.45	1.72	5.19	4.58	0.03	0.42	0.00	0.00	1.45	31.60
1983	1.96	5.15	6.69	8.10	5.86	11.16	4.11	0.21	0.25	0.00	0.17	1.25	44.91
1984	0.41	4.46	7.69	0.12	1.63	0.81	0.52	0.00	0.03	0.00	0.00	0.00	15.67
1985	0.98	5.77	1.86	0.75	1.72	4.20	0.51	0.09	0.01	0.00	0.00	0.03	15.92
1986	0.72	4.41	1.36	2.61	11.46	8.10	1.42	0.25	0.00	0.05	0.00	1.09	31.47
1987	0.00	0.53	0.98	2.19	4.05	2.65	0.36	0.26	0.00	0.00	0.00	0.00	11.02
1988	1.13	0.76	4.37	1.87	0.58	0.11	1.64	0.51	0.10	0.00	0.00	0.00	11.07
1989	0.00	1.42	4.18	1.37	1.84	2.24	0.60	0.35	0.00	0.00	0.00	0.80	12.80
1990	1.17	1.23	0.08	3.19	3.61	1.82	0.58	1.06	0.00	0.00	0.00	0.35	13.09
1991	0.00	0.42	1.99	0.18	2.11	11.38	0.30	0.45	0.01	0.00	0.03	0.00	16.87
1992	1.03	0.37	4.36	2.69	9.04	2.76	0.01	0.00	0.00	0.00	0.00	0.00	20.26
1993	0.72	0.05	5.75	12.12	8.58	2.19	0.45	0.37	0.55	0.00	0.00	0.00	30.78
1994	0.11	2.15	1.46	2.41	5.58	0.49	1.99	1.06	0.04	0.00	0.00	0.28	15.57
1995	0.83	2.15	1.57	16.05	0.67	10.88	1.53	1.44	0.97	0.20	0.00	0.00	36.29
1996	0.00	0.09	4.87	4.25	7.97	2.06	1.28	1.84	0.02	0.00	0.00	0.02	22.40
1997	1.22	3.30	7.83	8.61	0.29	0.08	0.10	0.05	0.04	0.00	0.15	0.00	21.67
1998	0.33	5.76	4.97	7.13	18.24	3.27	4.10	2.38	0.09	0.00	0.00	0.02	46.29
1999	0.42	2.00	1.97	3.37	3.68	3.36	2.18	0.01	0.30	0.00	0.02	0.10	17.41
SUMMARY STATISTICS FOR WATER YEARS 1922 -1999													
MEAN	0.70	2.18	3.87	4.43	4.39	3.39	1.67	0.44	0.12	0.03	0.04	0.16	21.43
MIN	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.87
MAX	2.91	8.36	14.94	16.05	18.24	11.38	8.50	2.38	1.23	0.95	1.05	2.10	46.29
STDEV	0.74	1.95	3.03	3.19	3.82	2.71	1.69	0.52	0.22	0.12	0.14	0.36	8.57

NOTE: Values in bold-italic are estimates (see text for explanation)

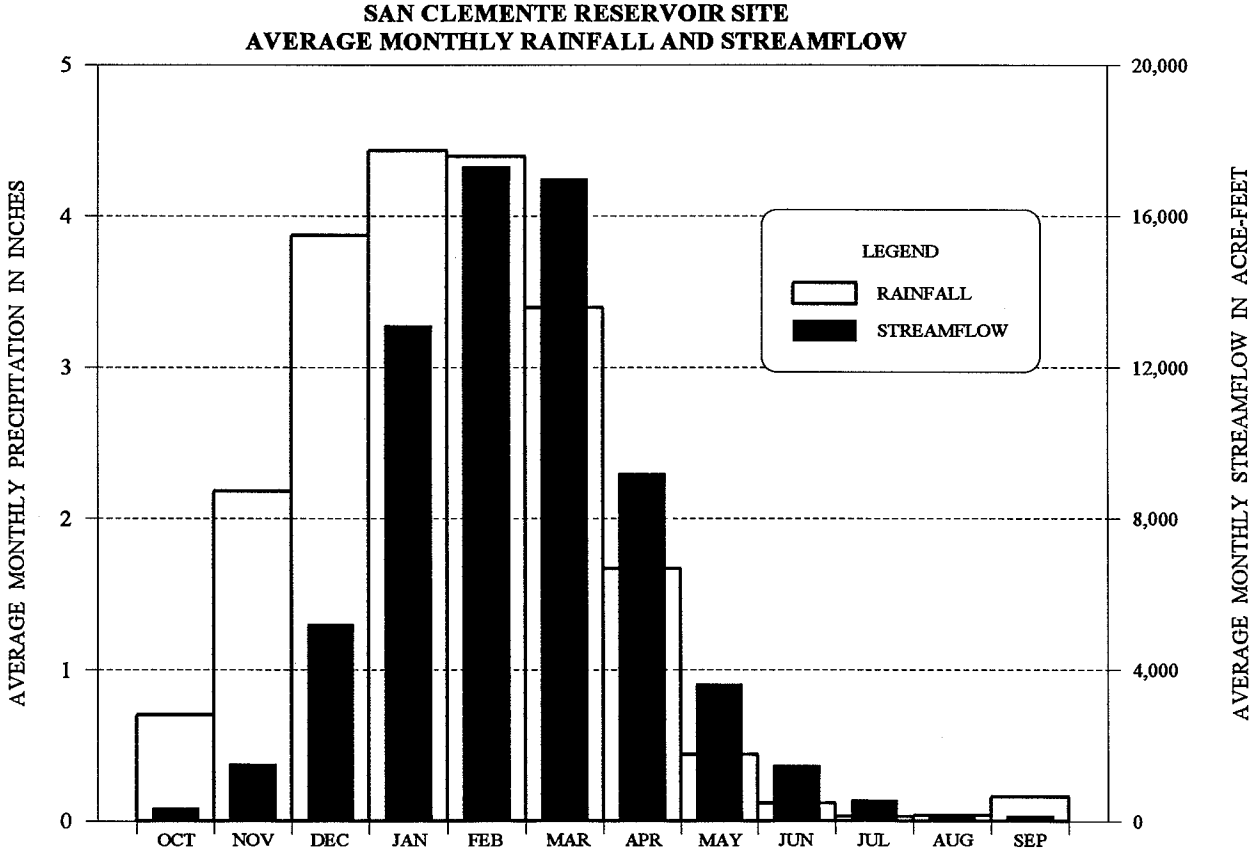
SOURCE: CALIFORNIA-AMERICAN WATER COMPANY

SECTION III - CARMEL RIVER BASIN STREAMFLOW

GENERAL

Although the first significant rains of the season typically begin in November, significant changes in streamflow resulting from these rains normally do not occur until December or January. Fall rains replenish soils that have dried out during the summer, and consequently little runoff occurs during this period. During the fall of each year, most of the Carmel River tributaries are dry at their confluence with the river. In addition, the lower reaches of the Carmel River are dry at this time. By December or January, winter rains begin to run off saturated soils and basin streamflow significantly increases. Monthly streamflow is typically the highest during the January through March period, as soils are wet and rainstorms pass through the region on a consistent basis. **FIGURE III-1** relates rainfall to streamflow and illustrates fall rains (October - December), having a minimal effect on streamflow as rains soak into dry soil. Later in the season (February - May), saturated soil conditions reverse this pattern, as a higher percentage of rain runs off into the river enhancing streamflow. In addition, water stored in the soil from winter rains seeps back into the river, contributing to streamflow.

FIGURE III-1



Note: Rainfall averages obtained from Table II-1.
Streamflow averages based on unimpaired flows for the 1902-1999 period reconstructed by MPWMD.

OVERVIEW: WATER YEARS 1996 - 1999

Overall, streamflow within the Carmel River Basin for the Water Year (WY) 1996 - 1999 period was above average (average is 69,700 AF). Within this period, 1996, 1997, and 1998 were above average and 1999 was below average. **TABLE III-1** highlights the runoff classification for WY 1996 - 1999. WY 1998 was the third wettest runoff year of the century. Refer to **TABLE III-2** for a more complete tabulation of historic runoff classification at the San Clemente Reservoir (SCR) site.

TABLE III-1

CLASSIFICATION OF UNIMPAIRED CARMEL RIVER FLOWS AT SAN CLEMENTE RESERVOIR SITE: WATER YEARS 1996 - 1999

Water Year	Runoff (acre-feet)	Classification
1996	75,412	Above Normal
1997	98,561	Above Normal
1998	226,899	Extremely Wet
1999	47,206	Below Normal
Average (1902 - 1999)	69,700	

The runoff classifications are based on selected exceedence frequency values computed for the long-term reconstructed flow record at the SCR site for WY 1902 - 1999. **FIGURE III-2** illustrates the runoff values presented in **TABLE III-2.**

FIGURE III-2

UNIMPAIRED CARMEL RIVER FLOW AT SAN CLEMENTE RESERVOIR: 1902 - 1999

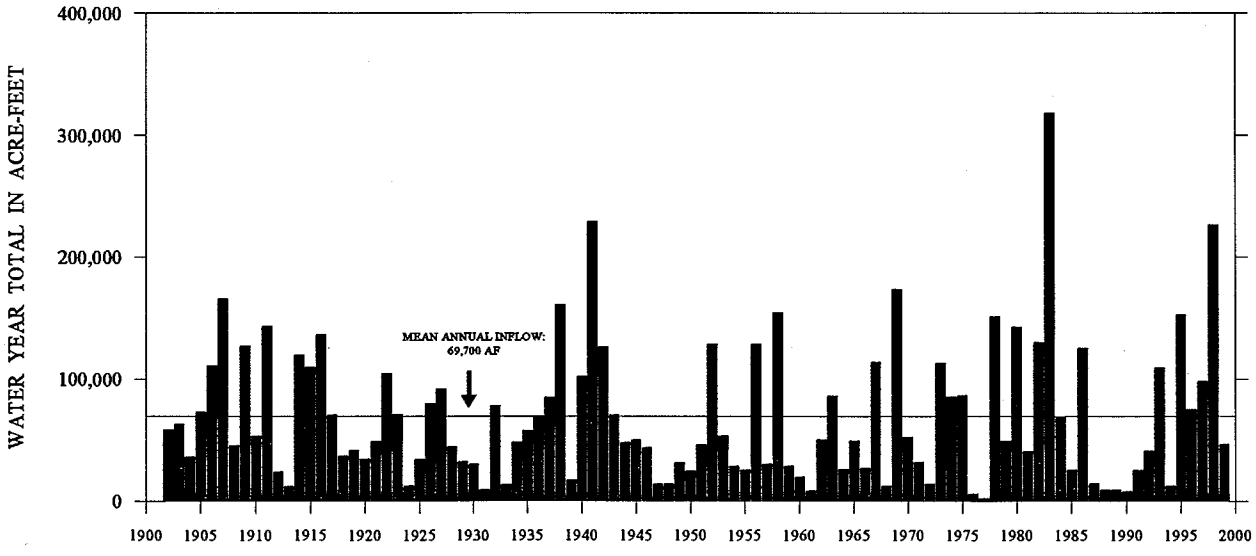


TABLE III-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CLASSIFICATION OF UNIMPAIRED CARMEL RIVER FLOWS AT SAN CLEMENTE RESERVOIR SITE (RUNOFF IN ACRE-FEET)

Water Year	Runoff	Classification
1902	58,872	Above Normal
1903	63,516	Above Normal
1904	36,704	Below Normal
1905	73,489	Above Normal
1906	111,242	Wet
1907	166,057	Extremely Wet
1908	46,177	Below Normal
1909	127,394	Wet
1910	53,977	Above Normal
1911	143,892	Extremely Wet
1912	24,611	Dry
1913	12,933	Critically Dry
1914	120,075	Wet
1915	110,110	Wet
1916	136,932	Extremely Wet
1917	71,580	Above Normal
1918	37,917	Below Normal
1919	42,107	Below Normal
1920	35,198	Below Normal
1921	49,583	Below Normal
1922	104,977	Wet
1923	71,493	Above Normal
1924	13,304	Critically Dry
1925	34,626	Below Normal
1926	80,608	Above Normal
1927	92,274	Above Normal
1928	45,261	Below Normal
1929	33,188	Below Normal
1930	30,988	Below Normal
1931	9,988	Critically Dry
1932	79,097	Above Normal
1933	14,383	Critically Dry
1934	49,058	Below Normal
1935	58,486	Above Normal
1936	70,684	Above Normal
1937	85,456	Above Normal
1938	161,366	Extremely Wet
1939	18,297	Dry
1940	102,907	Above Normal
1941	229,468	Extremely Wet
1942	126,930	Wet
1943	71,489	Above Normal
1944	48,730	Below Normal
1945	51,264	Above Normal
1946	44,886	Below Normal
1947	14,743	Critically Dry
1948	14,703	Critically Dry
1949	31,955	Below Normal
1950	25,543	Dry
1951	47,061	Below Normal
1952	128,995	Wet
1953	54,446	Above Normal
1954	29,467	Below Normal
1955	26,496	Dry
1956	128,805	Wet
1957	31,002	Below Normal
1958	154,843	Extremely Wet
1959	29,702	Below Normal
1960	20,780	Dry
1961	9,278	Critically Dry
1962	50,942	Above Normal
1963	86,582	Above Normal
1964	26,977	Dry
1965	49,941	Below Normal
1966	27,892	Below Normal
1967	114,304	Wet
1968	13,177	Critically Dry
1969	174,213	Extremely Wet
1970	53,112	Above Normal
1971	32,707	Below Normal
1972	14,680	Critically Dry
1973	113,269	Wet
1974	86,102	Above Normal
1975	87,211	Above Normal
1976	6,358	Critically Dry
1977	2,855	Critically Dry
1978	151,421	Extremely Wet
1979	50,087	Below Normal
1980	143,395	Extremely Wet
1981	41,445	Below Normal
1982	130,522	Extremely Wet
1983	318,987	Extremely Wet
1984	69,179	Above Normal
1985	26,611	Dry
1986	125,911	Wet
1987	15,551	Dry
1988	10,083	Critically Dry
1989	10,248	Critically Dry
1990	8,606	Critically Dry
1991	25,965	Dry
1992	41,777	Below Normal
1993	109,505	Wet
1994	13,313	Critically Dry
1995	153,118	Extremely Wet
1996	75,412	Above Normal
1997	98,561	Above Normal
1998	226,899	Extremely Wet
1999	47,206	Below Normal

1. Runoff classifications are based on selected exceedence frequency values computed for the long-term reconstructed flow record at the San Clemente Dam site for Water Years 1902-1996. "Extremely Wet" refers to flows exceeded 12.5% of the time, "Wet" refers to flows exceeded between 12.5% and 25% of the time; "Above Normal" refers to flows exceeded between 25% and 50% of the time; "Below Normal" refers to flows exceeded between 50% and 75% of the time; "Dry" refers to flows exceeded between 75% and 87.5% of the time; and "Critically Dry" refers to flows exceeded 87.5% percent of the time.
2. Outlined cells indicate two or more consecutive dry or critically-dry years and are defined as hydrologic droughts.
3. Runoff values for Water Years 1902-1998 were reconstructed by the Monterey Peninsula Water Management District; the runoff value for Water Year 1999 was computed by the California-American Water Company.

STATION DESCRIPTIONS

Descriptions of the 15 recording and non-recording gaging stations are provided in **APPENDIX B**, and are presented in downstream order. Each station description consolidates key, site-specific information relevant to a particular gaging station, and allows an overview of the site.

The station descriptions are based on the United States Geological Survey (USGS) standard form 9-197 (Kennedy, 1983). Items which have been left blank on the station descriptions were either not available at the time of this publication or are not applicable.

DISCHARGE MEASUREMENT SUMMARIES

To compute continuous records of streamflow or document instantaneous flow conditions, it is necessary to collect streamflow measurements and stage readings. District streamflow measurements are collected by the "current meter" method using either a "pygmy" meter for low flows, or a standard type "AA" meter for moderate to high flows. Both of these meters meet USGS meter specifications. Occasionally, very low flows (i.e., less than 0.15 cfs) are measured using a three-inch modified Parshall Flume in order improve measurement accuracy. A summary of these measurements at each station are presented in **APPENDIX C**, and are listed in downstream order.

Streamflow measurements are obtained at the gage site either by attaching the meter to a wading rod and wading the stream, or in flows too swift to wade, measurements are obtained by suspending the current meter off a bridge using a bridge crane or bridge board. In general, the "0.6 method" of velocity measurement is used which involves setting the meter six-tenths of the total measured depth below the water surface, before recording velocities. The streamflow measurement methodology used by the District is described in various technical documents, most importantly in *Discharge Measurements at Gaging Stations* (Buchanan and Somers, 1969).

Discharge measurements obtained in the field are computed at the District office using spreadsheet software, and are input into the District's streamflow measurement database which produces the summary reports included in this document. With a few exceptions explained below, most of the headings in these reports are self-explanatory. The "time" column of the summary sheet represents the beginning time of the streamflow measurement. The "rating" of the measurement is designated good, fair or poor. These ratings are somewhat qualitative, but in general, a 25-section measurement with fairly uniform flow, where the highest partial section flow is approximately five percent of the total measured flow is considered "good". A "poor" rating is given to a measurement obtained with irregular velocities within the cross section, with the highest partial section of flow being greater than 10 percent of the total flow. A low flow measurement when only several sections were obtained would be considered "poor". Most of the District's streamflow measurements were rated "fair to good".

COMPUTED MEAN-DAILY DISCHARGE TABLES AND PLOTS

Computed mean daily discharge tables and plots are provided in **APPENDIX D**, and are presented in downstream order. Daily discharge figures in cubic feet per second (cfs) in these tables represent the average flow rate for the day indicated. The daily discharge tables indicate a continuous record of streamflow at a station for all days of the year. This complete record is much more useful than merely obtaining instantaneous measurements, because there are no gaps in the flow records.

In order to compute daily streamflow records at a gaging station, a continuous record of stage at the site must be collected. In addition, individual measurements of discharge over a range of stages as well as notations of factors that may affect the stage-discharge relationship must be collected. Continuous records of stage at District gaging stations are obtained using pressure transducer and data recorder systems or graphic recorder and float systems as indicated in **TABLE III-3.**

TABLE III-3

CONTINUOUS WATER LEVEL RECORDING TECHNOLOGY USED AT DISTRICT GAGING STATIONS

PRESSURE TRANSDUCER/ DATALOGGER	FLOAT/ GRAPHIC RECORDER
Cachagua Creek	Carmel River at Sleepy Hollow Weir
Pine Creek	Tularcitos Creek
San Clemente Creek	Garzas Creek
Hitchcock Creek	Carmel River at Don Juan Bridge
Robinson Canyon Creek	
Potrero Creek	
Carmel River at Highway 1 Bridge	
Carmel River Lagoon	
San Jose Creek	

In computing discharge records, results of individual measurements (stage and discharge) are plotted on logarithmic paper and a stage-discharge relation curve is constructed. From these curves, rating tables are produced which indicate the approximate discharge for any given stage within the range of measurements. Mean daily discharges are then computed by applying the instantaneous stages (gage heights) to the stage-discharge tables. Typically, the stage-discharge relation varies due to changes in the channel at the gage from scour, deposition, aquatic-riparian vegetation growth, channel clearing, etc. These changes are accounted for by using the "shifting control" method prior to final record computation. These "shift" adjustments are applied to the gage heights before discharge figures are determined from the curves or tables. Other adjustments to the continuous-stage data include "datum adjustments" that are used to correct recorded-stage values to stage values observed at the staff gage. The District utilizes a specialized software program to process continuous streamflow records (WHS, 1998).

For some gaging stations, there are periods when no continuous gage height record was obtained, and it was necessary to estimate the daily discharge. This is denoted by an "e" in the mean-daily discharge tables. Stage record is lost when a recorder malfunctions, when intakes are plugged, or for various other reasons. When this occurs, daily discharges are estimated, using comparison with other station records from nearby sub-basins, weather records, discharge measurements, stage readings, or other methods.

Accompanying each daily discharge record included in **APPENDIX D**, is a hydrograph based on daily values in the associated table. These hydrographs are plotted using a logarithmic (log) Y-axis and a linear X-axis. This is a standard procedure for plotting discharge hydrographs as it allows a wide range of discharge values (e.g., 0.10 to 1,000 cfs) to be plotted and still show definition throughout the range of flow. Because the number zero cannot be plotted on a log scale, periods of no flow are plotted as 0.01, the lowest discharge value indicated in these reports. If the reader has uncertainty whether a plotted value is zero or 0.01 cfs, the associated daily discharge table should be referenced.

It should be noted that, in addition to the District gaging stations, there are two USGS stations where continuous streamflow records are maintained:

1. Carmel River at Robles del Rio, and
2. Carmel River near Carmel.

These data are available in separate USGS reports titled: *USGS Water Resources Data - California, Volume 2, Surface Water* (USGS, WY 1958 - 1998). The period of record for the "Robles del Rio" site is 1958 to present, and 1963 to present for the "near Carmel" site. Refer to **FIGURE I-2** for the location of these sites. In addition, suspended and bedload sediment data are available in these reports for the "near Carmel" site for WY 1992 through 1996.

SUMMARY OF ANNUAL FLOWS

An annual summary of streamflow for the WY 1992 - 1999 period at both District and USGS stations is provided in **TABLE III-4**. This table contains both Carmel River mainstem and tributary flow values. The table begins in WY 1992 when the District began its effort to establish a network of continuous streamflow gaging stations.

Tributary Contribution

Relative tributary contribution varies from year to year, and it is postulated that the primary influences are variations in sub-basin rainfall and differences in drainage areas between sub-basins. Other important factors affecting tributary runoff include: water extraction, urbanization, local terrain and soil type, and vegetal cover. In addition, antecedent moisture conditions (i.e., rainfall received in previous years) affect sub-basin runoff and baseflow in a given year. For example, in WY 1999 Tularcitos Creek sustained a relatively high baseflow compared to previous years **(TABLE III-4)**, as this basin received significant recharge during the extremely wet WY 1998.

San Clemente and Pine Creeks drain portions of the southernmost perimeter of the watershed. These areas receive relatively high annual rainfall, (averaging more than 40 inches per year). Accordingly, these tributaries are high contributors of flow to the Carmel River. As indicated in **TABLE III-4**, San Clemente Creek consistently contributed the highest volume of tributary inflow to the Carmel River over the period. Pine Creek, despite its small drainage area, ranked second or third except during the extremely wet years of 1995 and 1998. Garzas Creek headwaters also drain an area of high rainfall, and its flow contribution consistently ranks second or third. Cachagua and Tularcitos Creeks, the two largest sub-basins, located in the northeastern portion of the watershed, lie in a 'rain-shadow'. Accordingly, they are moderate flow contributors in dry to average years. In extremely wet years such as 1995 and 1998, these large basins become saturated and their relative contributions increase significantly. The small tributary drainages in the Lower Carmel Valley including Hitchcock, Robinson and Potrero Creeks, each drain approximately five square miles and are not located in a high rainfall region. Therefore, these tributaries are the lowest contributors of the eight gaged tributaries **(TABLE III-5)**.

TABLE III-4

CARMEL RIVER BASIN - ANNUAL STREAMFLOW SUMMARY
WATER YEARS 1992 - 1999
(Values in Acre-Feet)

TRIBUTARY SITES	DRAINAGE AREA (Square Miles)	1992	1993	1994	1995	1996	1997	1998	1999
CACHAGUA CREEK	46.3	1,780	7,340	560	16,320	3,840	4,990	23,800	2,590
PINE CREEK	7.8	3,750	9,800	1,230	11,110	6,550	8,300	15,610	4,540
SAN CLEMENTE CREEK	15.6	5,450	17,070	1,820	20,580	9,310	14,100	33,380	7,130
TULARCITOS CREEK	56.3	635	3,220	444	5,100	1,650	2,450	22,610	3,810
HITCHCOCK CREEK	4.6	*	*	52	1,820	451	716	2,970	169
GARZAS CREEK	13.2	3,700	11,170	746	12,140	4,890	8,570	24,610	5,050
ROBINSON CANYON CREEK	5.4	619	2,360	89	2,230	619	1,430	6,890	545
POTRERO CREEK	5.2	*	*	30	1,790	506	1,210	5,970	855
MAINSTEM SITES	**DRAINAGE AREA (Square Miles)**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
CARMEL RIVER AT ROBLES DEL RIO	193	38,240	109,000	11,800	155,000	75,210	99,340	250,300	N/A
CARMEL RIVER AT DON JUAN BRIDGE	216	*	122,000	12,760	173,600	83,090	111,800	252,200	53,570
CARMEL RIVER NEAR CARMEL	246	35,570	123,400	8,200	177,400	74,500	104,100	261,100	N/A
CARMEL RIVER AT HIGHWAY 1 BRIDGE	252	*	123,000	7,410	179,500	83,430	112,000	280,900	50,810

Notes: 1. Carmel River at Robles del Rio and near Carmel sites are maintained by the USGS.
2. (*) No continuous stage data collected.
3. Streamflow sites listed in downstream order.

TABLE III-5 expresses tributary contribution as a percentage of the total annual flow measured at the Carmel River at Highway 1 Bridge (HWY 1) site. The HWY 1 site essentially represents the total catchment of the Carmel River Basin, with a drainage area of 252 square miles, as compared to 255 square miles at the lagoon. **TABLE III-5** clearly shows how the various tributaries ranked in flow contribution over the past seven years. In addition, the table shows that tributary runoff accounts for approximately 40 percent of the flow at HWY 1. It is important to note that **TABLE III-5** does not account for gains or losses that occur along the river, particularly ground water extraction from the Lower Carmel Valley which averaged approximately 8,000 acre-feet (AF) annually over the period indicated below. Consequently, percentages of flow contribution are more exaggerated in dry years such as WY 1994, when surface and ground water diversions totaled nearly 13,000 AF, significantly more than the total flow at HWY 1 that year.

TABLE III-5

PERCENTAGE OF CARMEL RIVER TRIBUTARY FLOW CONTRIBUTION RELATIVE TO TOTAL FLOW AT THE CARMEL RIVER AT HIGHWAY 1 BRIDGE SITE

TRIBUTARY	AREA Sq. Mi.	% of CRB Area	% of Total Flow Contribution by WY 1993	1994	1995	1996	1997	1998	1999	1993-99
San Clemente Creek	15.6	6	14	25	11	11	13	12	14	12.4
Garzas Creek	13.2	5	9	10	7	6	8	9	10	8.0
Cachagua Creek	46.3	18	6	8	9	5	4	8	5	7.1
Pine Creek	7.8	3	8	17	6	8	7	6	9	6.8
Tularcitos Creek	56.3	22	3	6	3	2	2	8	7	4.7
Robinson Canyon Creek	5.4	2	2	1	1	1	1	2	1	1.7
Potrero Creek	5.2	2	---	<1	1	1	1	2	2	1.5
Hitchcock Creek	4.6	2	---	1	1	1	1	1	<1	0.9
Total	154.4	61	---	67	40	33	37	48	49	40

Notes:
1. Percent of Carmel River Basin (CRB) figures are based on the drainage area upstream of the HWY 1 Bridge site (252 square miles).
2. Percent of total flow contribution figures are based on the total annual flow at the HWY 1 Bridge site.
3. The above table does not account for gains or losses that occur along the river including but not limited to ground and surface water production, interflow, un-gaged drainage, local runoff, evapotranspiration etc.
4. Percentage values for the WY 1993-1999 period do not incorporate WY 1993 at the Hitchcock and Potrero Creek sites.
5. Total percentage values are calculated from actual values and are not derived from addition of individual percentage values.

Mainstem Flow

In average to wet years, the Carmel River streamflow generally gains in a downstream direction. In below normal or dry years, downstream losses become evident due to ground water extraction. This is seen in WY 1992, 1994 and 1999 in **Table III-4**.

SUMMARY OF PEAK FLOWS

A summary of peak flows at the District's gaging stations for the report period is provided in **APPENDIX E.** The instantaneous peak flow or discharge (Q) corresponds to the highest stage (GHT) that occurred during a given storm. It is equivalent to "crest" stage of a flood event. While daily discharge values represent the mean (average) discharge over a 24-hour period, the instantaneous peak is the instant in time during a stormflow when the stream reached its highest level (and discharge) before receding.

Peak flows reported in **APPENDIX E** are obtained from the "primary computation of gage height and discharge" reports generated using the Western Hydrologic Systems software program (WHS, 1998). The peak stage during a stormflow may be obtained by the recorder, crest stage gage or survey of high water marks at the gaging station. Peak flow rates can be determined by either extending the station rating curve beyond the high flow range of measurements, or by a slope-area channel survey after the event to indirectly determine the peak flow. It is rare to obtain an actual discharge measurement at the peak stage.

The following criteria were used to select peak flow values listed in **APPENDIX E**: The highest peak of the year is listed, plus all mainstem peaks above 5,000 cfs, and all tributary peaks above 500 cfs. If the two highest peaks of the year at a given station are within approximately ten percent of each other, both peaks are listed (e.g., see January 1997 mainstem peaks).

SECTION IV - CARMEL RIVER LAGOON

Data plots presented in this section have been completed as part of the District's Water Allocation Mitigation Program, which encompasses the Lagoon Vegetation and Wildlife Program. The primary goal of the Lagoon Vegetation and Wildlife Program is to identify feasible measures to quantify and understand changes to the vegetation and wildlife at the lagoon. Ongoing data collection efforts related to this goal include: monitoring of lagoon vegetation and wildlife, water quality, topography, sediment transport, river inflow and water surface elevation. This report presents data specific to lagoon water surface elevation, bathymetry at established cross sections, and lagoon volume/area.

LAGOON WATER SURFACE ELEVATION PLOTS

Continuous lagoon water surface elevation plots are presented in **APPENDIX F**. These data have been collected using a pressure transducer/data recorder system that was initially installed November 1987 in the south arm of the lagoon to measure water level fluctuations **(FIGURE IV-1)**. The original instrumentation and installation was upgraded in November 1993, and was added to the Monterey County Water Resources Agency's (MCWRA) ALERT system in November 1995, to enhance flood warning for residents located along the northern margin of the lagoon and wetland. Accuracy of recorded data is verified by manual staff gage readings taken at the site. Data collected at the site are downloaded by laptop computer on a monthly basis and monthly plots are constructed using graphics software.

The plots in **APPENDIX F** represent a complete record of lagoon water levels for the October 1, 1995 through September 30, 1999 period. As indicated, the Y-axis tick marks are referenced to National Geodetic Vertical Datum of 1929 or NGVD. The X-axis tick marks represent the beginning of the day indicated (i.e., zero hundred hours military time). Extremes during this four year period include a maximum level of 10.45 feet on December 8, 1997, and a minimum of 2.25 feet on March 11, 1998. Generally, the highest lagoon levels are associated with a closed lagoon mouth with river inflow of at least 10 cfs, just prior to breaching. The lowest lagoon levels typically occur at lower low tide with an open lagoon mouth, or during the late summer when the lagoon mouth is closed.

Most of the lagoon water level fluctuations shown in **APPENDIX F** during the winter and spring result from the interaction of natural phenomena including ocean tides, river inflow, and lagoon mouth closures and openings. During the summer, the lagoon mouth typically closes and water levels recede due to reduced surface inflow related to the natural streamflow recession and ground water extraction upstream. Lagoon water levels generally increase during the fall months as high surf and tides overtop the beach berm, filling the lagoon.

In years when significant streamflow reaches the lagoon for the first time of the rainy season, the Monterey County Public Works Department must artificially breach the lagoon mouth using bulldozers, to avoid flooding of homes bordering the north side of the lagoon. **TABLE IV-1** summarizes these initial (first of the season) breaching events, and where they appear in **APPENDIX F**. Following the initial seasonal breaching, documentation of subsequent breaching

events is incomplete, as breaching has been accomplished by bulldozer, hand shovel (by public or private parties), or by nature. Lagoon filling and subsequent breaching sequences appear as 'fin' shapes in the hydrographs. For additional information regarding the interpretation of these plots, the reader is referred to District Technical Memorandum 94-05, *Surface Water Dynamics at the Carmel River Lagoon Water Years 1991 through 1994* (James, 1994).

TABLE IV-1

INITIAL BREACHING OF THE CARMEL RIVER LAGOON MOUTH BY THE MONTEREY COUNTY PUBLIC WORKS DEPARTMENT

Water Year	Date of Breaching	Figure in Appendix F
1996	December 13, 1995	Figure F-2
1997	December 9, 1996	Figure F-8
1998	December 6, 1997	Figure F-14
1999	November 3, 1998	Figure F-19

LAGOON CROSS-SECTIONAL PLOTS

Lagoon cross-sectional plots are also presented in **APPENDIX F**. In January 1988, District staff selected four cross-section sites at the lagoon to monitor changes in the substrate **(FIGURE IV-1)**. During a lagoon topographic survey by District staff in Fall 1994, these cross sections were re-surveyed using a "Total Station" surveying instrument, and established on the California Coordinate System, Zone 3 to facilitate consistency in future surveys. **FIGURE F-25** illustrates the annual cross-sectional surveys that have been conducted over the past five years. Based on the 1995-1999 survey data, the lagoon does not appear to be gaining or losing volume. Rather, the sand supply appears to be in a state of dynamic equilibrium as indicated in this short-term data set. One notable feature in the plots is the broad sand bar in Cross Section 1 that developed following Winter 1998, and has not changed since that time. The peak flow of Water Year (WY) 1999 of approximately 2,000 cfs was not sufficient to alter this sand bar. **FIGURE F-26 through F-29** are provided to highlight year to year changes. It is planned that these cross sections will be surveyed annually to identify long term changes in lagoon volume.

LAGOON STAGE-VOLUME AND STAGE-AREA RELATIONSHIPS

In Fall 1994, District staff conducted a survey of lagoon topography to update a topographic map of the Carmel River mouth area that was previously prepared in September 1988. In August 1997, the District retained Graham Matthews and Associates to help staff use the survey data to develop a computer-generated topographic map and develop a stage-volume and stage-area relationship for the lagoon.

The report that documents this work, *Carmel River Lagoon Mapping and Development of Stage-Volume and Stage-Area Relationships*, was completed in November 1997 (Matthews and Associates, 1997). This report indicates that when the lagoon is full (i.e., stage at 10 feet), it contains approximately 286 acre-feet of water, and that the stage frequently fluctuates between 2 and 7 feet, or about 1.5 to 100 acre-feet. The report also indicates that the surface area of the lagoon is about 78 acres when full. **TABLES IV-2 and IV-3** summarize the lagoon stage/volume and stage/area relationships documented in the 1997 report. It should be noted that during the Summer of 1997, the California Department of Transportation (Cal-Trans) dredged the south arm of the lagoon as part of their mitigation bank project along the south margin of the Carmel River between Highway One and the lagoon. This activity resulted in an increased lagoon volume not accounted for in **TABLES IV-2 and IV-3.**

FIGURE IV-1

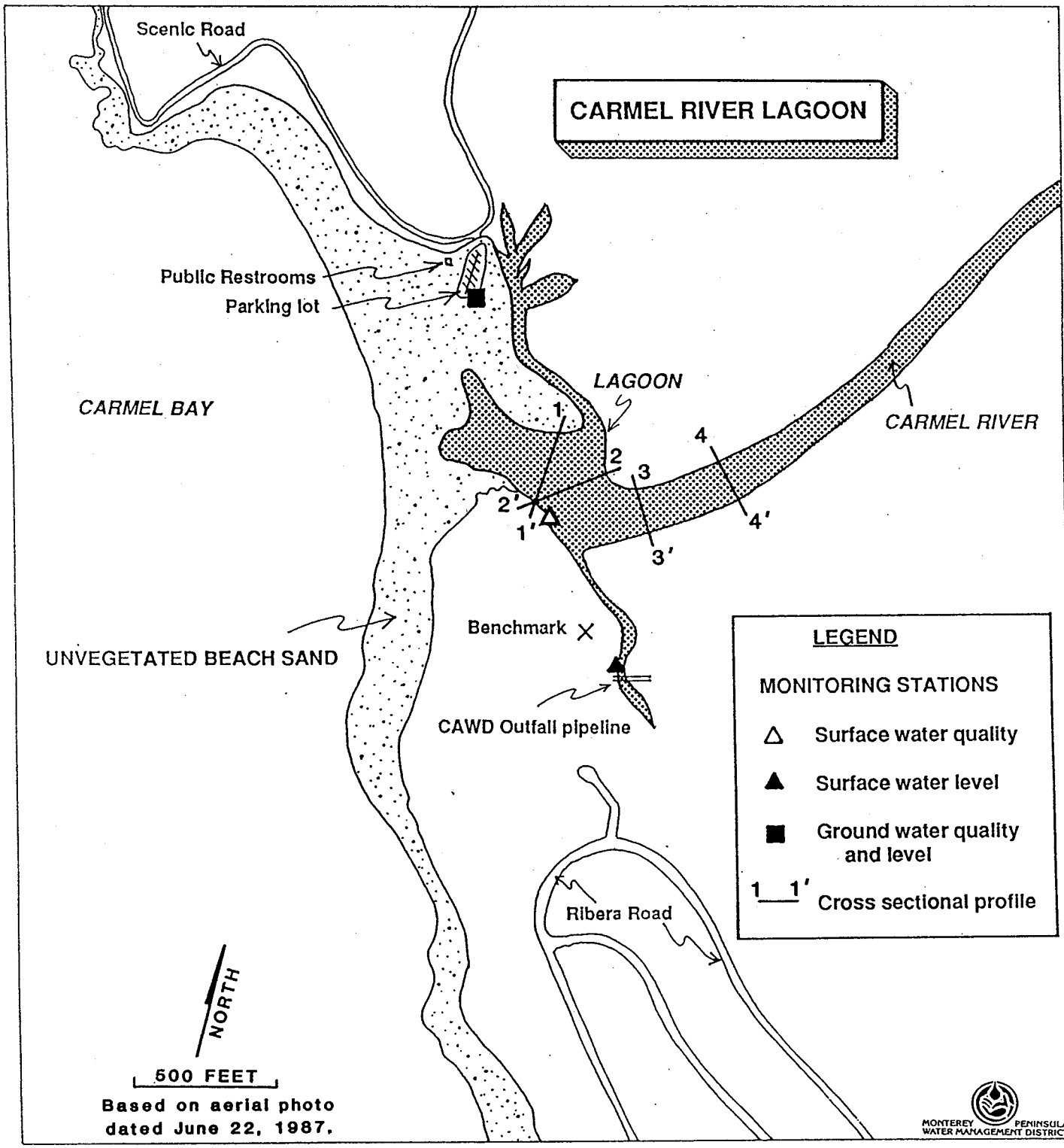

Scenic Road
CARMEL RIVER LAGOON
Public Restrooms
Parking lot
LAGOON
CARMEL BAY
CARMEL RIVER
1
2
3
4
1'
2'
3'
4'
Benchmark
UNVEGETATED BEACH SAND
CAWD Outfall pipeline
LEGEND
MONITORING STATIONS
Surface water quality
Surface water level
Ground water quality and level
1 1' Cross sectional profile
Ribera Road
NORTH
500 FEET
Based on aerial photo dated June 22, 1987.
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

TABLE IV-2

Carmel River Lagoon Stage/Volume Relationships Based on 1994 MPWMD Survey Data
(All Values in Acre-Feet)

Lagoon Stage (feet)	Tenths of Feet									
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-2	0.002	0.001	0.0004	0.00						
-1	0.043	0.034	0.027	0.022	0.018	0.015	0.000	0.007	0.005	
-0	0.191	0.170	0.150	0.131	0.115	0.100	0.086	0.073	0.061	0.052
0	0.191	0.215	0.240	0.266	0.294	0.323	0.354	0.388	0.425	0.464
1	0.504	0.547	0.597	0.661	0.737	0.826	0.931	1.05	1.19	1.34
2	1.50	1.67	1.87	2.09	2.34	2.62	2.93	3.28	3.66	4.09
3	4.57	5.10	5.69	6.34	7.05	7.81	8.63	9.51	10.46	11.47
4	12.55	13.74	15.07	16.54	18.13	19.84	21.66	23.61	25.67	27.86
5	30.18	32.62	35.19	37.89	40.73	43.70	46.80	50.04	53.43	56.94
6	60.58	64.38	68.35	72.43	76.61	80.86	85.20	89.61	94.10	98.66
7	103.31	108.11	113.02	118.03	123.13	128.34	133.66	139.07	144.55	150.11
8	155.77	161.60	167.52	173.51	179.56	185.68	191.86	198.10	204.41	210.79
9	217.25	223.88	230.57	237.32	244.12	250.96	257.84	264.77	271.73	278.73
10	285.77									

Notes: Lagoon stage is 1929 national geodetic vertical datum, based on brass tablet at knoll and brass tablet at restrooms.
See map for locations and elevations.
Volumes computed by Softdesk DTM surface comparison using 20'x20' grid.

TABLE IV-3

Carmel River Lagoon
Stage/Area Relationships Based on 1994 MPWMD Survey Data

Lagoon Stage (feet, NGVD 1929)	Lagoon Surface Area	
	Square Feet	Acres
-2.0	460	0.011
-1.0	3,870	0.089
0.0	9,887	0.227
1.0	18,874	0.433
2.0	78,646	1.805
3.0	220,987	5.073
4.0	500,465	11.49
5.0	1,037,829	23.83
6.0	1,611,538	37.00
7.0	2,054,235	47.16
8.0	2,326,745	53.41
9.0	2,848,719	65.40
10.0	3,403,278	78.13

Note: Based on 1994 MPWMD field surveys and 1988 photogrammetry data where required to complete field survey data.

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MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 1996 - 1999

APPENDIX A

RAINFALL DATA

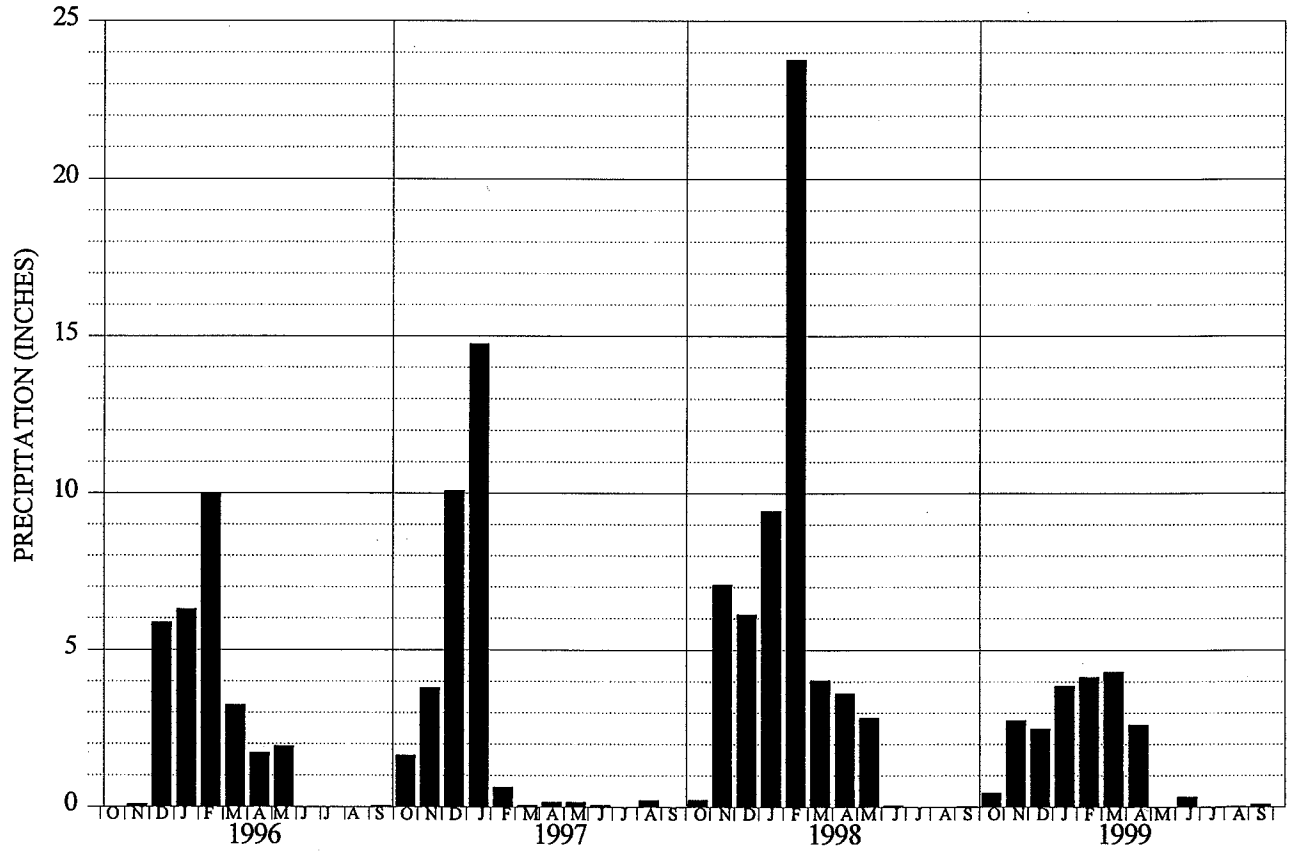
TABLE A-1

LOS PADRES RESERVOIR RAINFALL
WATER YEARS 1996 - 1999

(VALUES IN INCHES)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1996	0.00	0.09	5.87	6.29	10.01	3.24	1.71	1.93	0.00	0.00	0.00	0.04	29.18
1997	1.64	3.79	10.09	14.76	0.63	0.06	0.16	0.16	0.06	0.00	0.22	0.00	31.57
1998	0.23	7.08	6.13	9.43	23.78	4.05	3.62	2.85	0.05	0.00	0.00	0.02	57.24
1999	0.45	2.77	2.49	3.86	4.15	4.32	2.62	0.00	0.32	0.00	0.02	0.09	21.09

FIGURE A-1



Source: California-American Water Company, Monterey Division

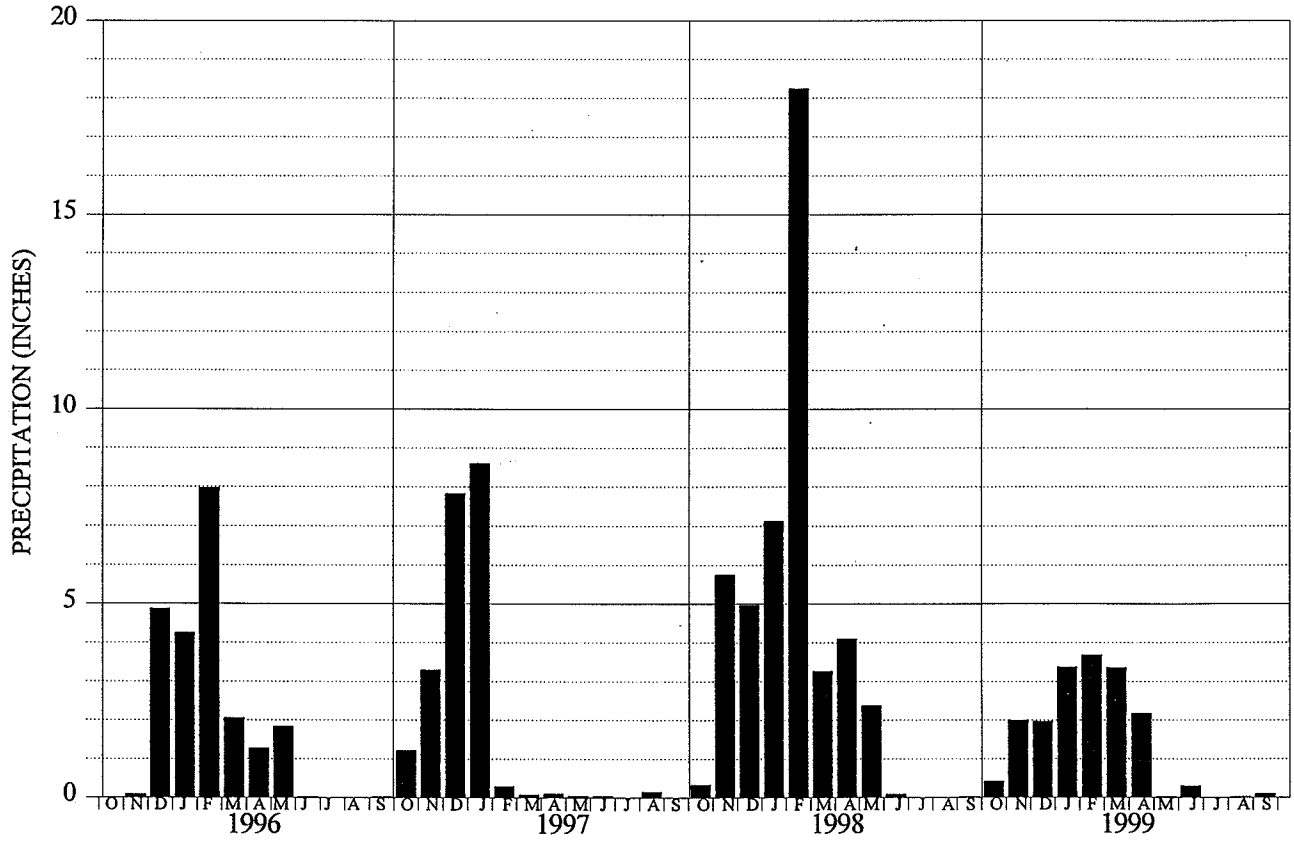
TABLE A-2

SAN CLEMENTE RESERVOIR RAINFALL
WATER YEARS 1996 - 1999

(VALUES IN INCHES)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1996	0.00	0.09	4.87	4.25	7.97	2.06	1.28	1.84	0.02	0.00	0.00	0.02	**22.40**
1997	1.22	3.30	7.83	8.61	0.29	0.08	0.10	0.05	0.04	0.00	0.15	0.00	**21.67**
1998	0.33	5.76	4.97	7.13	18.24	3.27	4.10	2.38	0.09	0.00	0.00	0.02	**46.29**
1999	0.42	2.00	1.97	3.37	3.68	3.36	2.18	0.01	0.30	0.00	0.02	0.10	**17.41**

FIGURE A-2



Source: California-American Water Company, Monterey Division

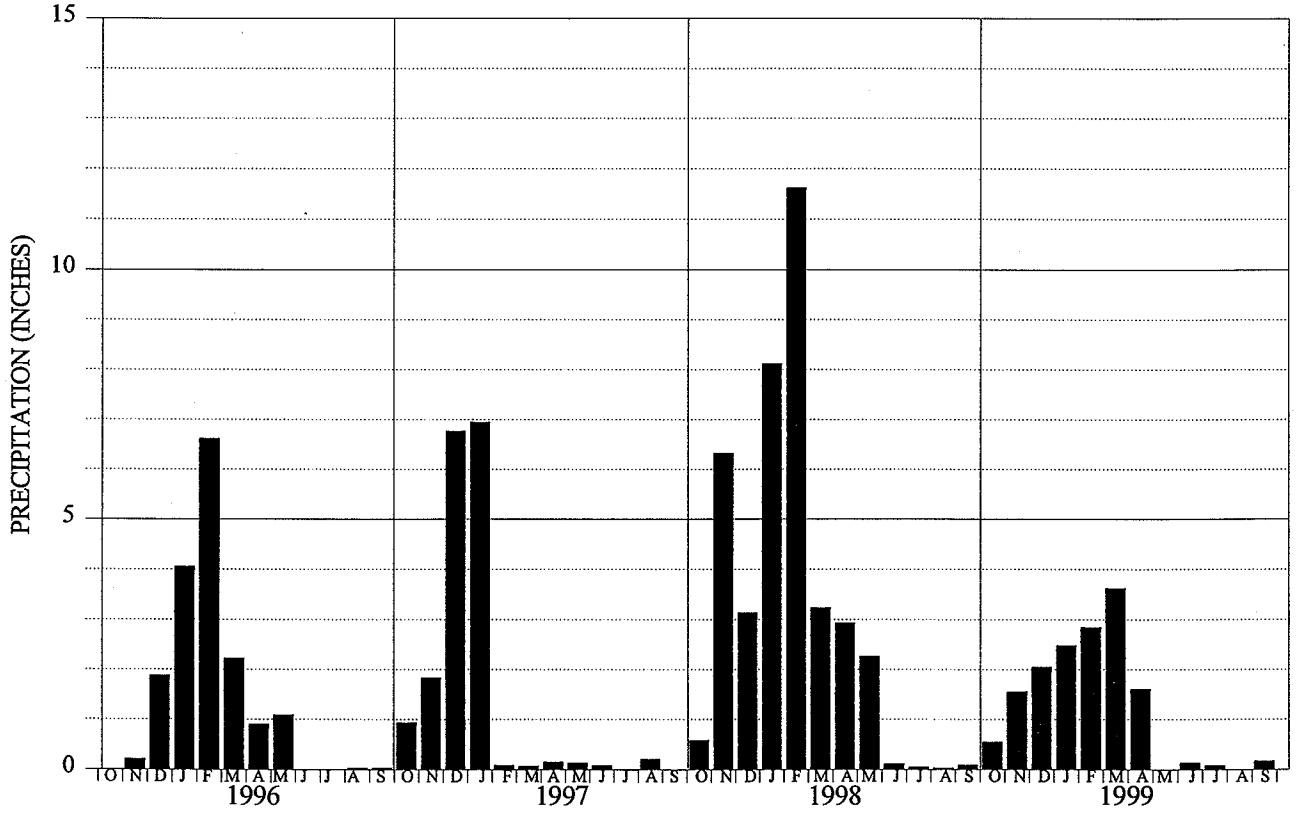
TABLE A-3

PACIFIC GROVE RESERVOIR RAINFALL
WATER YEARS 1996 - 1999

(VALUES IN INCHES)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1996	0.01	0.22	1.88	4.06	6.62	2.23	0.91	1.09	0.01	0.01	0.04	0.04	**17.12**
1997	0.94	1.84	6.77	6.95	0.10	0.08	0.16	0.14	0.09	0.01	0.22	0.00	**17.30**
1998	0.59	6.33	3.14	8.12	11.63	3.24	2.94	2.27	0.12	0.06	0.04	0.10	**38.58**
1999	0.56	1.56	2.05	2.48	2.85	3.63	1.61	0.00	0.15	0.09	0.00	0.18	**15.16**

FIGURE A-3



Source: California-American Water Company, Monterey Division

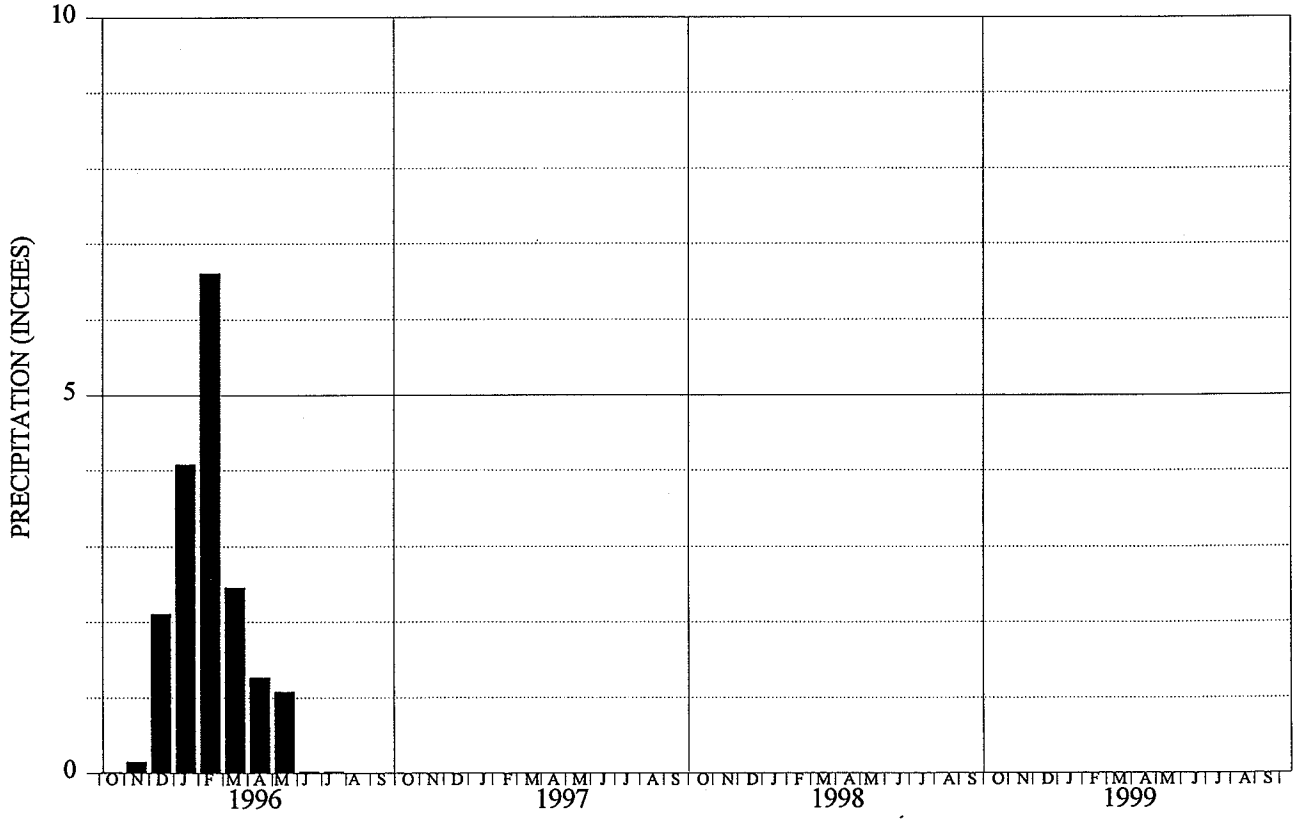
TABLE A-4

FOREST LAKE RESERVOIR RAINFALL
WATER YEARS 1996 - 1999

(VALUES IN INCHES)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1996	0.01	0.15	2.11	4.08	6.61	2.46	1.27	1.08	0.02	0.02	0.00	0.00	17.81
1997	NO DATA RECORDED												
1998													
1999													

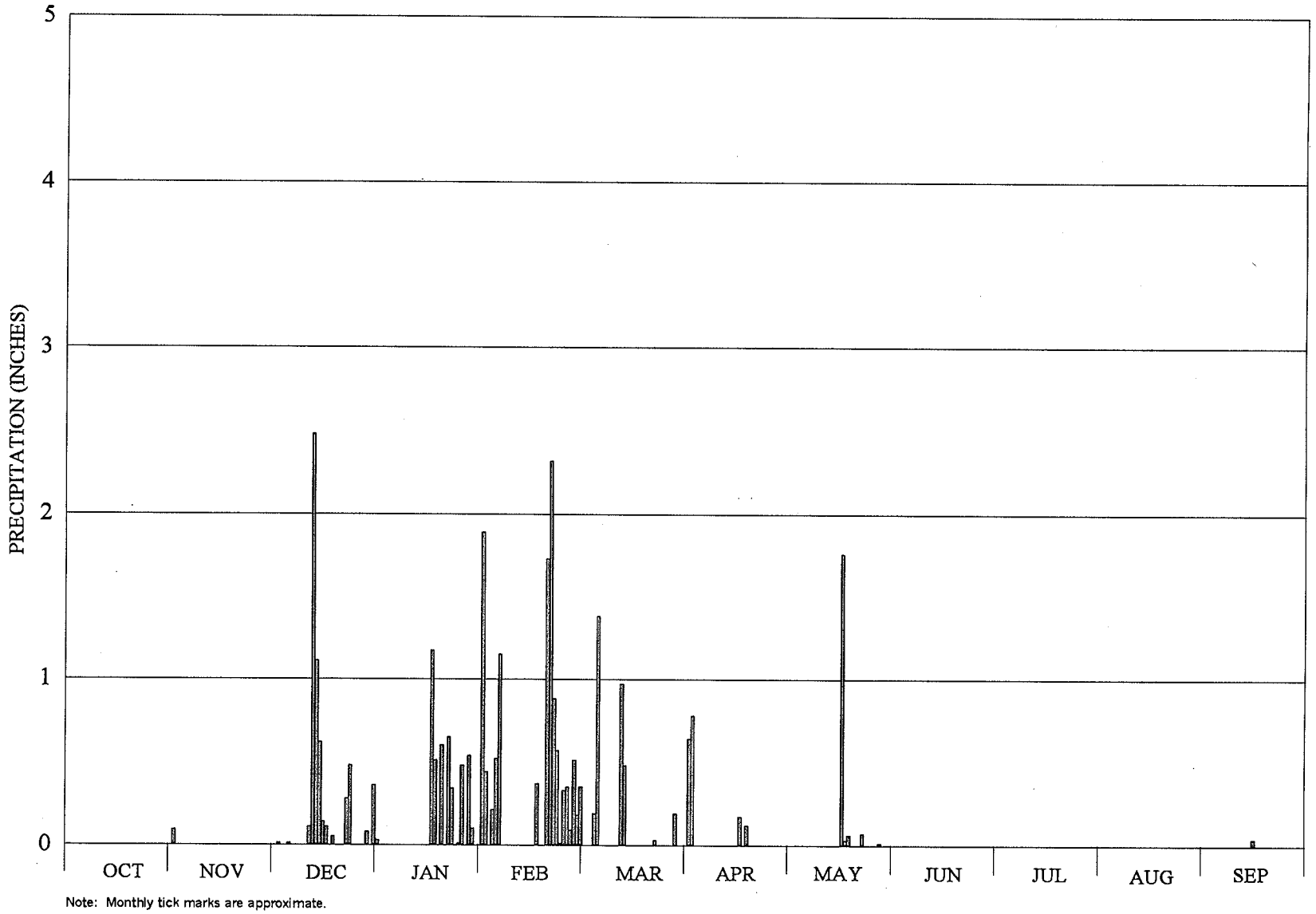
FIGURE A-4



Source: California-American Water Company, Monterey Division

FIGURE A-5

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 1996



Note: Monthly tick marks are approximate.

TABLE A-5

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Los Padres Reservoir **County:** Monterey

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1995-96

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0.09			0.44		0.64					
2			0.01				0.78					
3					0.21							
4					0.52	0.19						
5			0.01		1.15	1.38						
6												
7												
8												
9												
10												
11			0.11									
12			2.48			0.97						
13			1.11			0.48						
14			0.62									0.04
15			0.14									
16			0.11	1.17	0.37		0.17	1.76				
17				0.51				0.03				
18			0.05				0.12	0.06				
19				0.60	1.73							
20					2.32							
21				0.65	0.88							
22			0.28	0.34	0.57	0.03		0.07				
23			0.48		0.01							
24				0.01	0.33							
25				0.48	0.35							
26					0.09				T			
27				0.54	0.51			0.01				
28			0.08	0.10	0.18	0.19						
29					0.35							
30			0.36									
31			0.03	1.89								
Total	0.00	0.09	5.87	6.29	10.01	3.24	1.71	1.93	0.00	0.00	0.00	0.04

Season Total: 29.18 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-6

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 1997

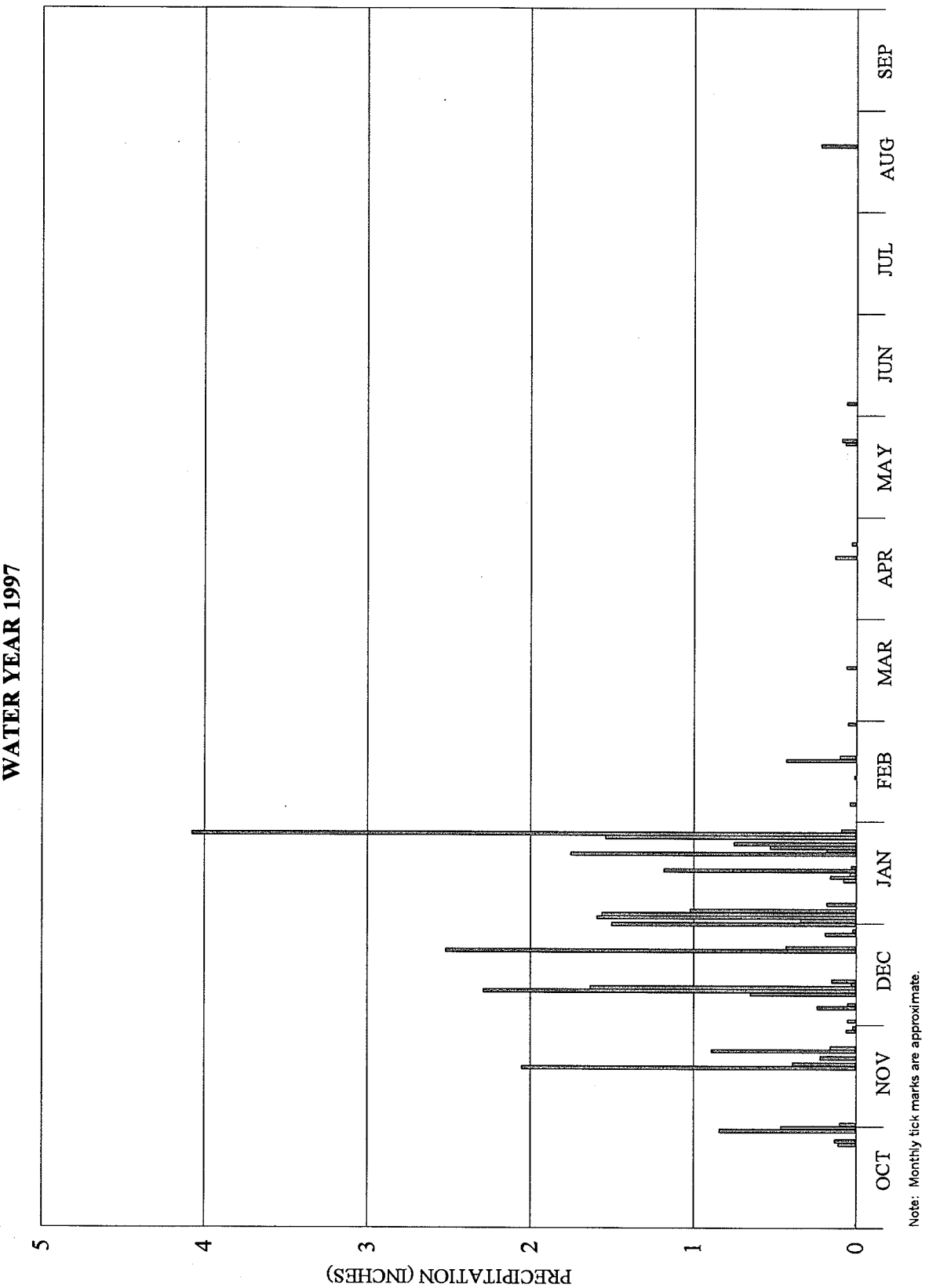


TABLE A-6

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Los Padres Reservoir **County: Monterey**

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1996-97

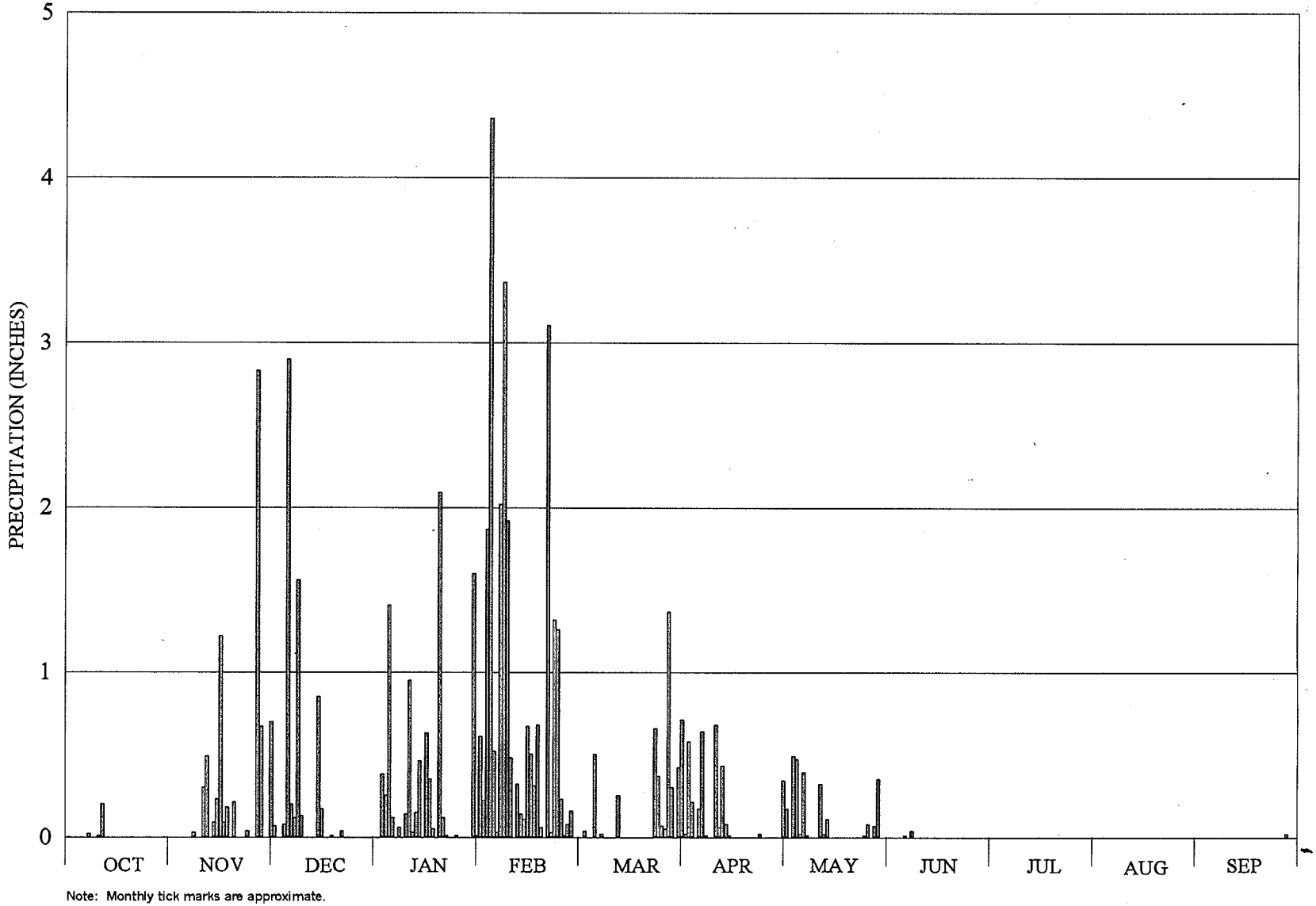
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.05	1.59								
2				1.56								
3				1.02								
4					0.04				0.06			
5			0.24	0.18								
6			0.05									
7												
8												
9			0.65									
10			2.29									
11			1.63									
12			0.03	0.08	0.01				T			
13			0.15	0.16								
14				0.04								
15				1.18								
16				0.03								
17		2.05			0.43	0.06						
18		0.39			0.10							
19		T					0.13					
20		0.22		1.75			T				0.22	
21				0.18								
22		0.89	2.52	0.53								
23		0.16	0.43	0.75			0.03	0.07				
24		T						0.09				
25	0.11			1.54								
26	0.13			4.08								
27			0.19	0.09								
28		0.06	0.02		0.05							
29	0.84	0.02	T									
30	0.46		1.50									
31	0.10		0.34			T						
Total	1.64	3.79	10.09	14.76	0.63	0.06	0.16	0.16	0.06	0.00	0.22	0.00

Season Total: 31.57 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-7

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 1998



Note: Monthly tick marks are approximate.

TABLE A-7

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Los Padres Reservoir **County:** Monterey

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1997-98

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.07		0.22		0.71	0.34				
2				0.38	1.87		0.02	0.17				
3				0.25	4.36	0.04	0.58		T			
4			0.08	1.41	0.52		0.21	0.49				
5			2.90	0.12	0.03			0.47				
6			0.20		2.02	0.50	0.17	0.02	0.01			
7	0.02	0.03	0.12	0.06	3.37		0.64	0.39	T			
8			1.56		1.92	0.02	0.01	0.01	0.04			
9			0.13	0.14	0.48							
10	0.01	0.30		0.95								
11	0.20	0.49		0.03	0.32		0.68					
12				0.15	0.14		0.06	0.32				
13		0.09		0.46	0.11	0.25	0.43	0.02				
14		0.23	0.85	T	0.67		0.08	0.11				
15		1.22	0.17	0.63	0.50		0.01					
16		0.09		0.35	0.31							
17		0.18		0.05	0.68	T						
18			0.01		0.06							
19		0.21		2.09								
20				0.12	3.11							
21			0.04	0.01	0.03							
22					1.32							
23		0.04			1.26							
24				0.01	0.23	0.66	0.02					
25					0.01	0.37		0.01				
26		2.83			0.08	0.07		0.08				T
27		0.67		T	0.16	0.05						0.02
28						1.37		0.07				
29				1.60		0.30		0.35				
30		0.70		0.01								
31				0.61		0.42						
Total	**0.23**	**7.08**	**6.13**	**9.43**	**23.78**	**4.05**	**3.62**	**2.85**	**0.05**	**0.00**	**0.00**	**0.02**

Season Total: **57.24 Inches**

Note: Rainfall recorded on day of measuring.

FIGURE A-8

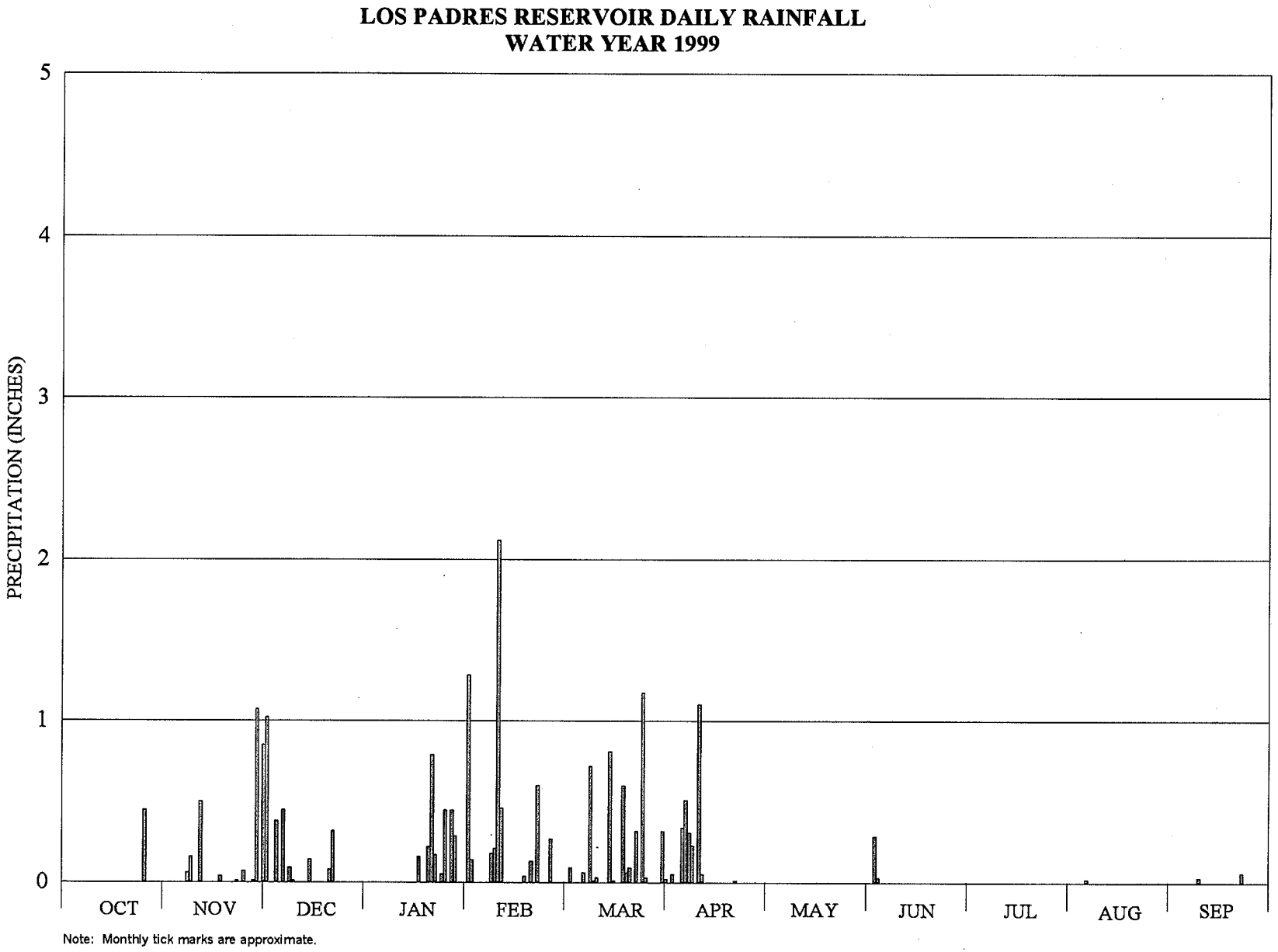

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 1999
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-8

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Los Padres Reservoir **County: Monterey**

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1998-99

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			1.02		0.14		0.02					
2									T			
3			T			0.09	0.05	T	0.29			
4			0.38						0.03			
5			T									
6			0.45			T	0.34				0.02	
7		0.06			0.18	0.06	0.51					
8		0.16	0.09		0.21		0.31					
9			0.01		2.12	0.72	0.23					0.03
10					0.46	0.01						
11		0.50				0.03	1.10					
12							0.05					
13												
14			0.14		T							
15						0.81						
16				0.16		0.01						
17		0.04			0.04							
18												
19				0.22	0.13	0.60						
20			0.08	0.79		0.06						
21			0.32	0.17	0.60	0.09						
22		0.01					0.01					0.06
23				0.05		0.32						T
24		0.07		0.45								
25	0.45			T	0.27	1.17						
26				0.45		0.03						
27		0.01		0.29								
28		1.07										
29												
30		0.85										
31				1.28		0.32						
Total	**0.45**	**2.77**	**2.49**	**3.86**	**4.15**	**4.32**	**2.62**	**0.00**	**0.32**	**0.00**	**0.02**	**0.09**

Season Total: 21.09 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-9

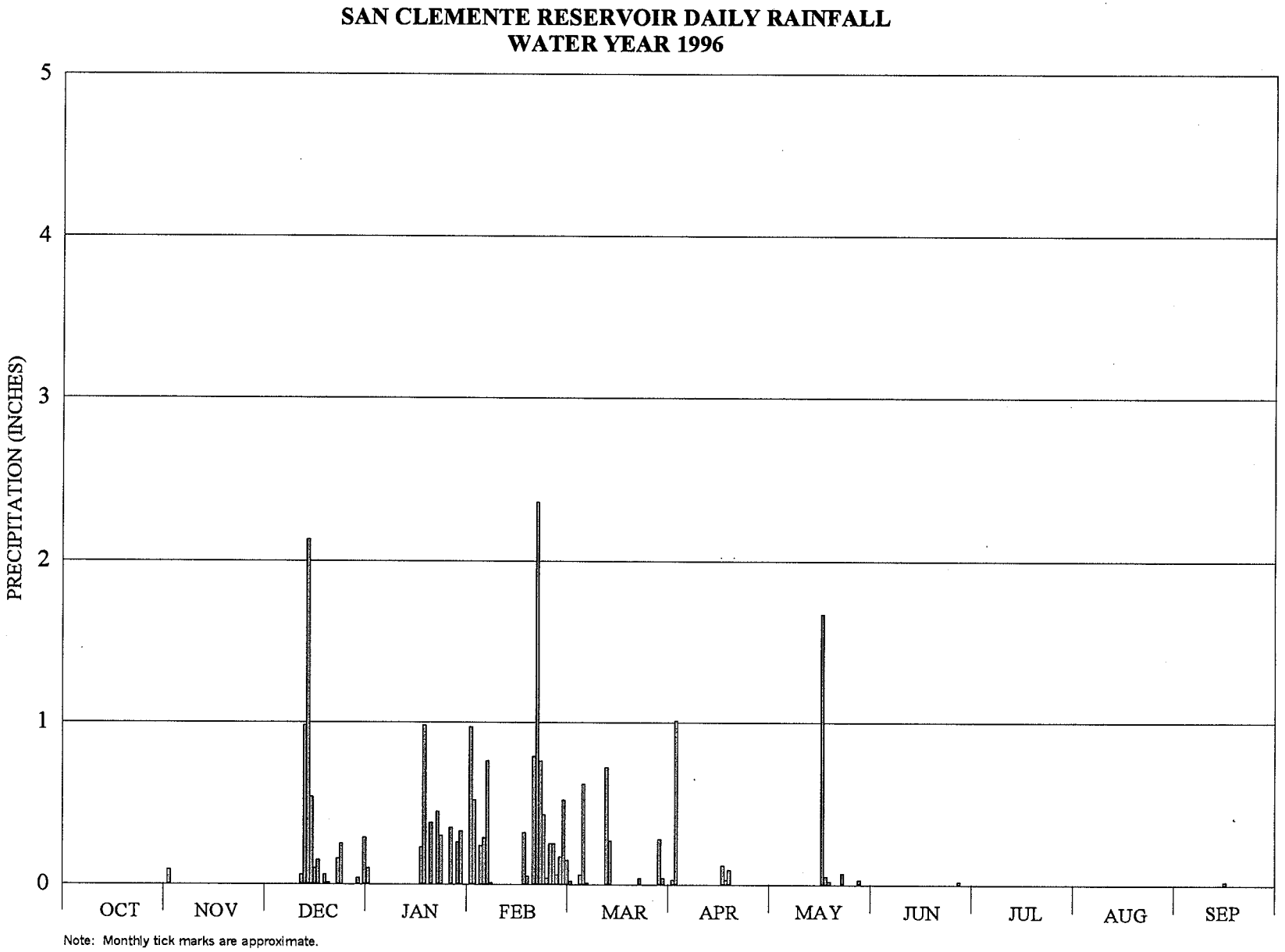

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 1996
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-9

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: San Clemente Reservoir **County: Monterey**

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1995-96

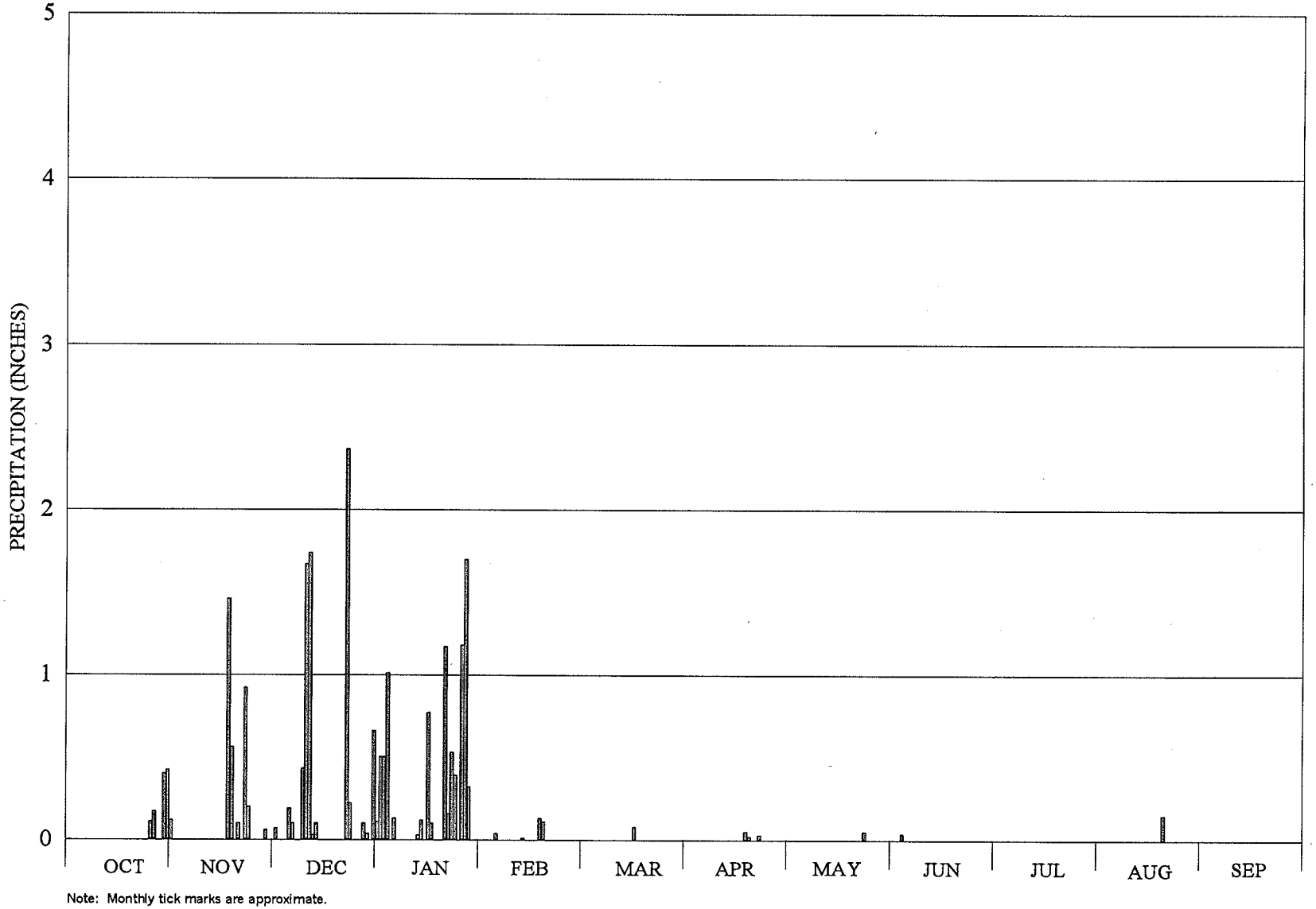
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0.09			0.52	0.02	0.03					
2			T				1.01					
3					0.24							
4					0.29	0.06						
5					0.76	0.62						
6					0.01	0.01						
7												
8												
9												
10												
11			0.06									
12			0.98			0.72						
13			2.13			0.27						
14			0.54									0.02
15			0.10									
16			0.15	0.23	0.32		0.12	1.67				
17				0.98	0.05		0.03	0.05				
18			0.06				0.09	0.02				
19			0.01	0.38	0.79							
20					2.36							
21				0.45	0.76							
22			0.16	0.30	0.43	0.04		0.07				
23			0.25		0.04	T						
24				T	0.25							
25				0.35	0.25							
26					0.06				0.02			
27				0.26	0.17			0.03				
28			0.04	0.33	0.52	0.28						
29					0.15	0.04						
30			0.29									
31			0.10	0.97								
Total	**0.00**	**0.09**	**4.87**	**4.25**	**7.97**	**2.06**	**1.28**	**1.84**	**0.02**	**0.00**	**0.00**	**0.02**

Season Total: 22.40 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-10

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 1997



Note: Monthly tick marks are approximate.

TABLE A-10

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: San Clemente Reservoir **County:** Monterey

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1996-97

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.07	0.50								
2				0.50								
3				1.01								
4					0.04				0.04			
5			0.19	0.13					T			
6			0.10									
7												
8												
9			0.43									
10			1.67									
11			1.74									
12			0.03	0.03	0.01							
13			0.10	0.12								
14												
15				0.77								
16				0.10								
17		1.46			0.13	0.08						
18		0.56			0.11							
19		T					0.05					
20		0.10		1.17			0.02				0.15	
21				0.16								
22		0.92	2.37	0.53								
23		0.20	0.22	0.39			0.03					
24		T						0.05				
25	0.11			1.18								
26	0.17			1.70								
27			0.10	0.32								
28		0.06	0.04		T							
29	0.40		T									
30	0.42		0.66									
31	0.12		0.11			T						
Total	1.22	3.30	7.83	8.61	0.29	0.08	0.10	0.05	0.04	0.00	0.15	0.00

Season Total: 21.67 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-11

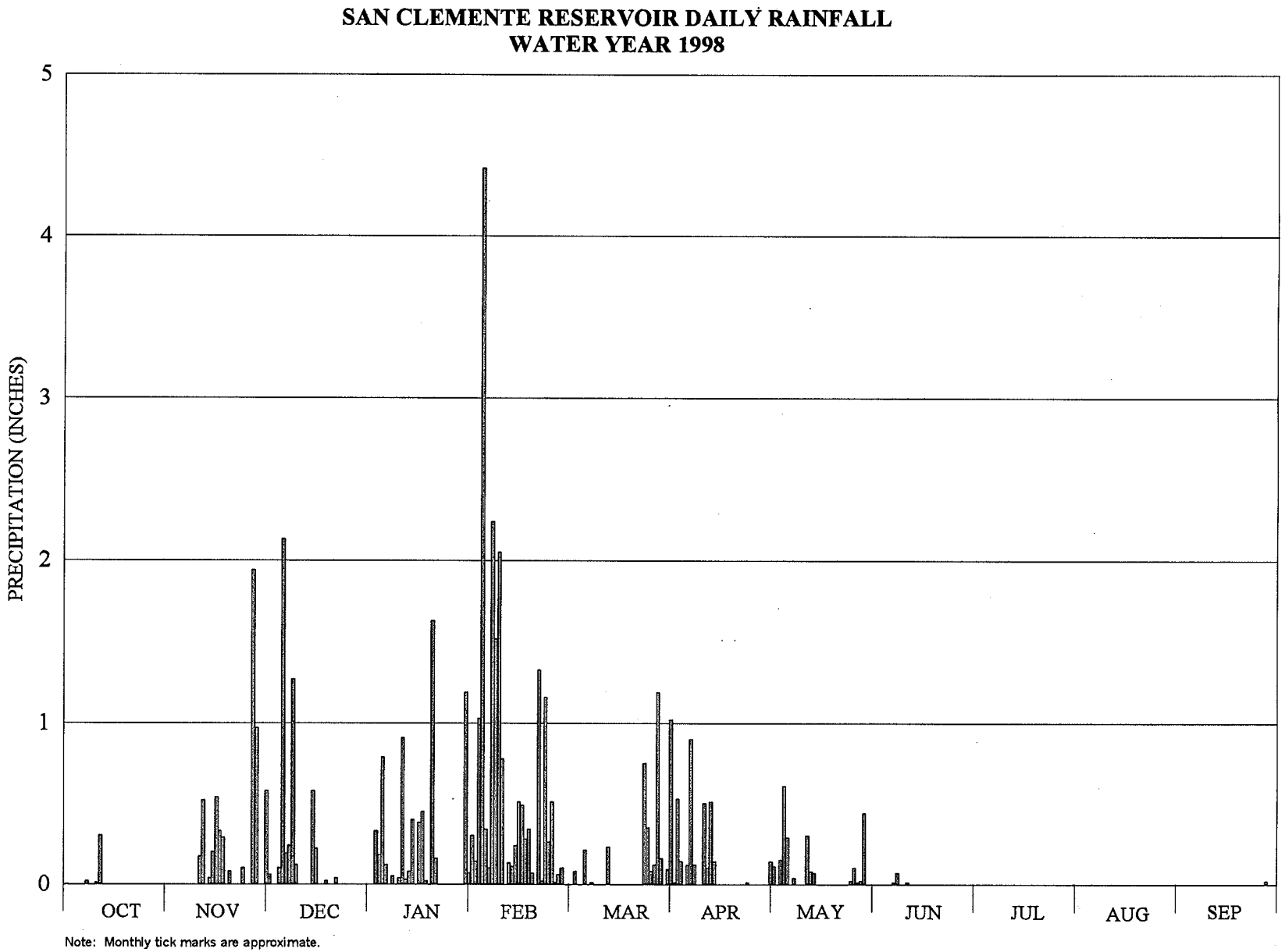

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 1998
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-11

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: San Clemente Reservoir **County:** Monterey

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1997-98

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.06		0.14		1.02	0.14				
2				0.33	1.03		0.01	0.11				
3				0.18	4.42	0.08	0.53					
4			0.10	0.79	0.34		0.14	0.15				
5			2.13	0.12	0.10			0.61				
6			0.19		2.24	0.21	0.12	0.29				
7	0.02	T	0.24	0.05	1.52	T	0.90		0.01			
8			1.27		2.05	0.01	0.12	0.04	0.07			
9			0.12	0.04	0.78			T				T
10	0.01	0.17		0.91					T			
11	0.30	0.52		0.03	0.13		0.50		0.01			
12				0.08	0.11		0.10	0.30				
13		0.04		0.40	0.24	0.23	0.51	0.08				
14		0.20	0.58		0.51		0.14	0.07				
15		0.54	0.22	0.38	0.49							
16		0.33		0.45	0.28							
17		0.29		0.02	0.34	T						
18			0.02		0.07							
19		0.08		1.63								
20				0.16	1.33							
21			0.04	T	0.02							
22		T			1.16							
23		0.10			0.26				T			
24					0.51	0.75	0.01					
25					0.01	0.35		0.02				
26		1.94			0.06	0.08		0.10				T
27		0.97			0.10	0.12		0.01				0.02
28						1.19		0.02				
29				1.19		0.16		0.44				
30		0.58		0.07								T
31				0.30		0.09						
Total	**0.33**	**5.76**	**4.97**	**7.13**	**18.24**	**3.27**	**4.10**	**2.38**	**0.09**	**0.00**	**0.00**	**0.02**

Season Total: **46.29 Inches**

Note: Rainfall recorded on day of measuring.

FIGURE A-12

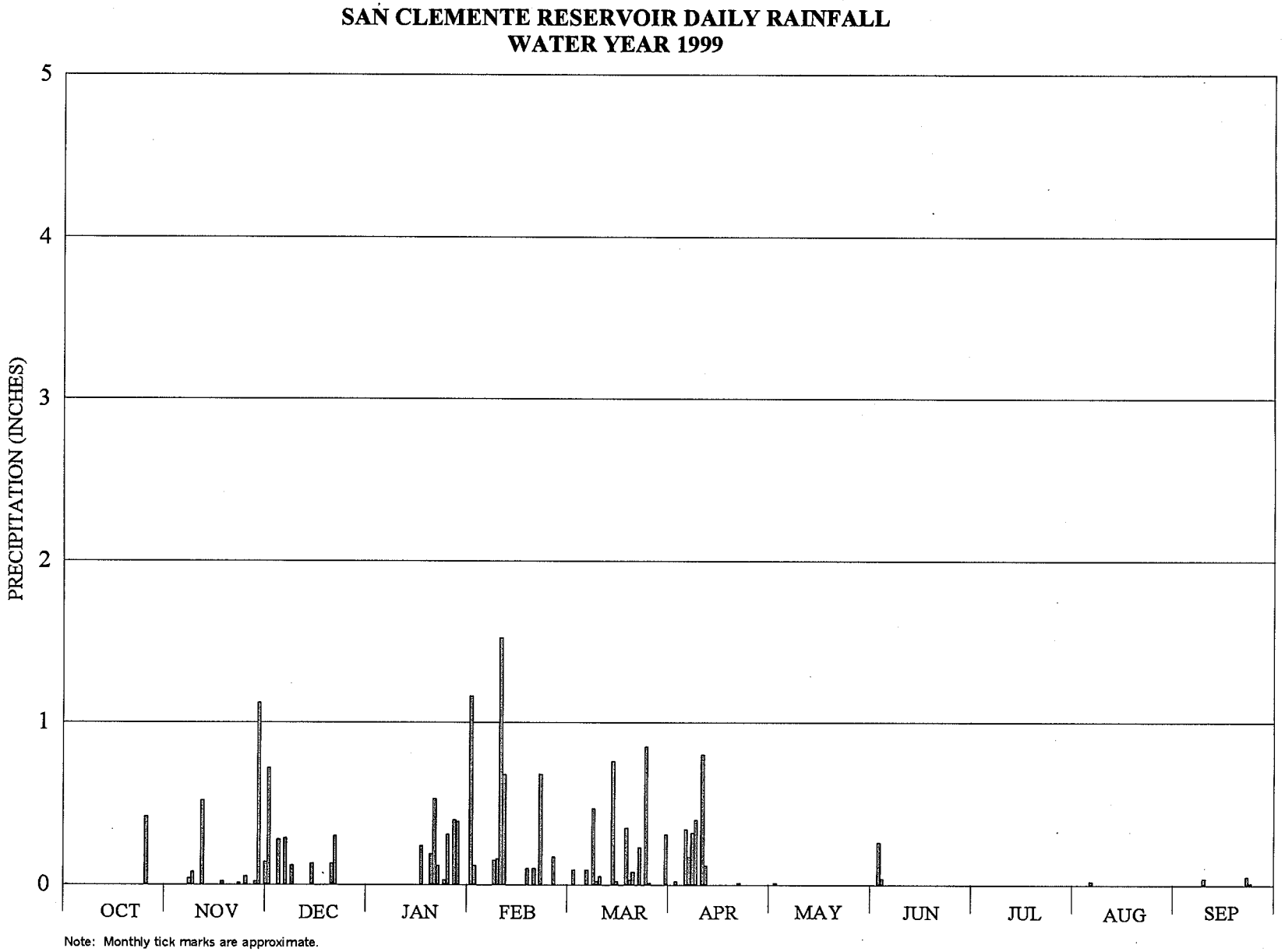

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 1999
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-12

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: San Clemente Reservoir **County: Monterey**

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1998-99

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.72		0.12		T					
2									T			
3			T			0.09	0.02	0.01	0.26			
4			0.28						0.04			
5			T									
6			0.29				0.34				0.02	
7		0.04			0.15	0.09	0.17					
8		0.08	0.12		0.16		0.32					
9					1.52	0.47	0.40					0.04
10					0.68	0.02						
11		0.52				0.05	0.80					
12							0.12					
13												
14			0.13		T							
15				T		0.76						
16				0.24		0.02						
17		0.02			0.10							
18												
19				0.19	0.10	0.35						
20			0.13	0.53	T	0.03						
21			0.30	0.12	0.68	0.08						
22		0.01					0.01					0.05
23				0.03		0.23						0.01
24		0.05		0.31								
25	0.42			T	0.17	0.85						
26				0.40		0.01						
27		0.02		0.39								
28		1.12										
29												
30		0.14										
31				1.16		0.31						
Total	0.42	2.00	1.97	3.37	3.68	3.36	2.18	0.01	0.30	0.00	0.02	0.10

Season Total: 17.41 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-13

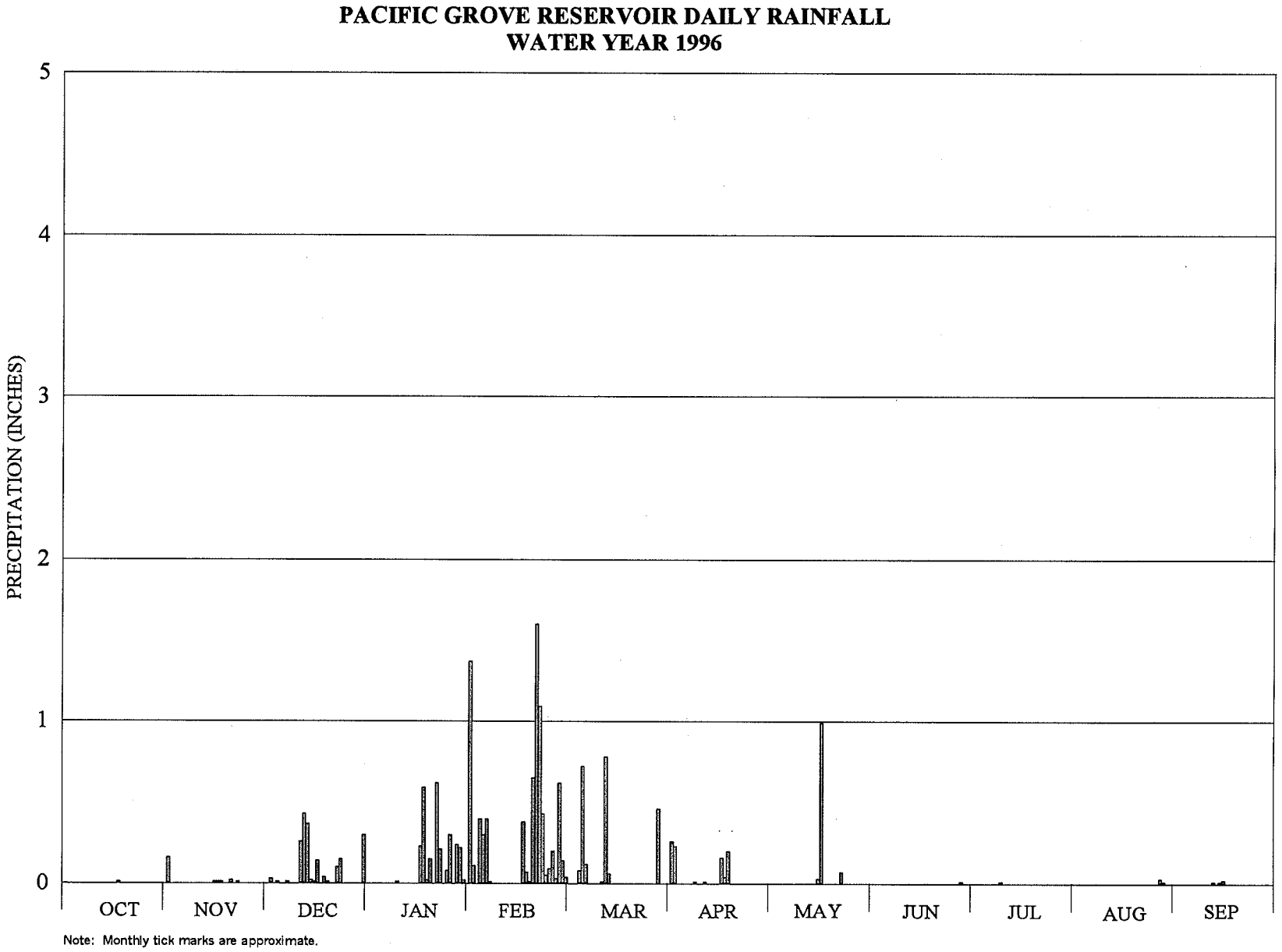

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 1996
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-13

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Pacific Grove Reservoir **County:** Monterey

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1995-96

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0.16	T	T	0.11	T	0.26					
2	T		0.03				0.23			T		
3					0.40		T			T		T
4			0.01		0.30	0.08	T					
5			T		0.40	0.72			T		T	T
6					0.01	0.12		T				
7			0.01		T							
8			T	T	T		0.01	T		T	T	
9			T	0.01	T					0.01	T	
10									T			
11			0.26			0.01	0.01					0.01
12			0.43			0.78						
13	T		0.37			0.06						0.01
14		T	0.02			T						0.02
15		0.01	0.01					0.03				
16		0.01	0.14	0.23	0.38		0.16	0.99		T		
17	0.01	0.01		0.59	0.07		0.04	T		T		
18	T		0.04	0.02	0.01		0.20					
19	T		0.01	0.15	0.65	T	T					
20		0.02		T	1.60	T	T					
21			T	0.62	1.09							
22		0.01	0.10	0.21	0.43			0.07				
23	T		0.15	T	0.05	T				T	T	
24				0.08	0.09					T		
25				0.30	0.20				T	T		
26	T			T	0.03					T	0.03	
27				0.24	0.62			T	0.01		0.01	
28				0.22	0.14	0.46			T			
29	T			0.02	0.04							
30			0.30							T		
31			T	1.37								
Total	0.01	0.22	1.88	4.06	6.62	2.23	0.91	1.09	0.01	0.01	0.04	0.04

Season Total: 17.12 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-14

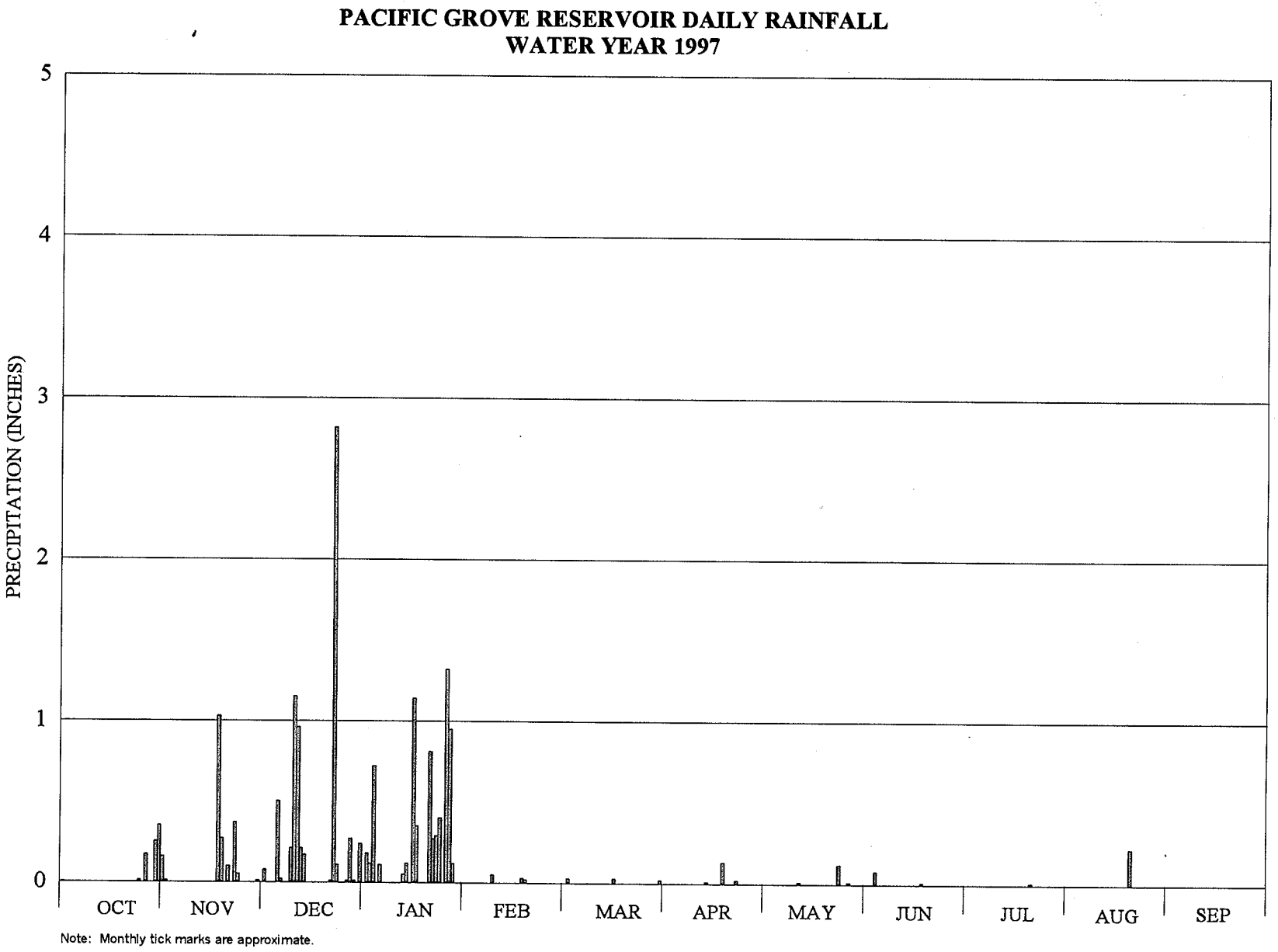

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 1997
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-14

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Pacific Grove Reservoir **County: Monterey**

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1996-97

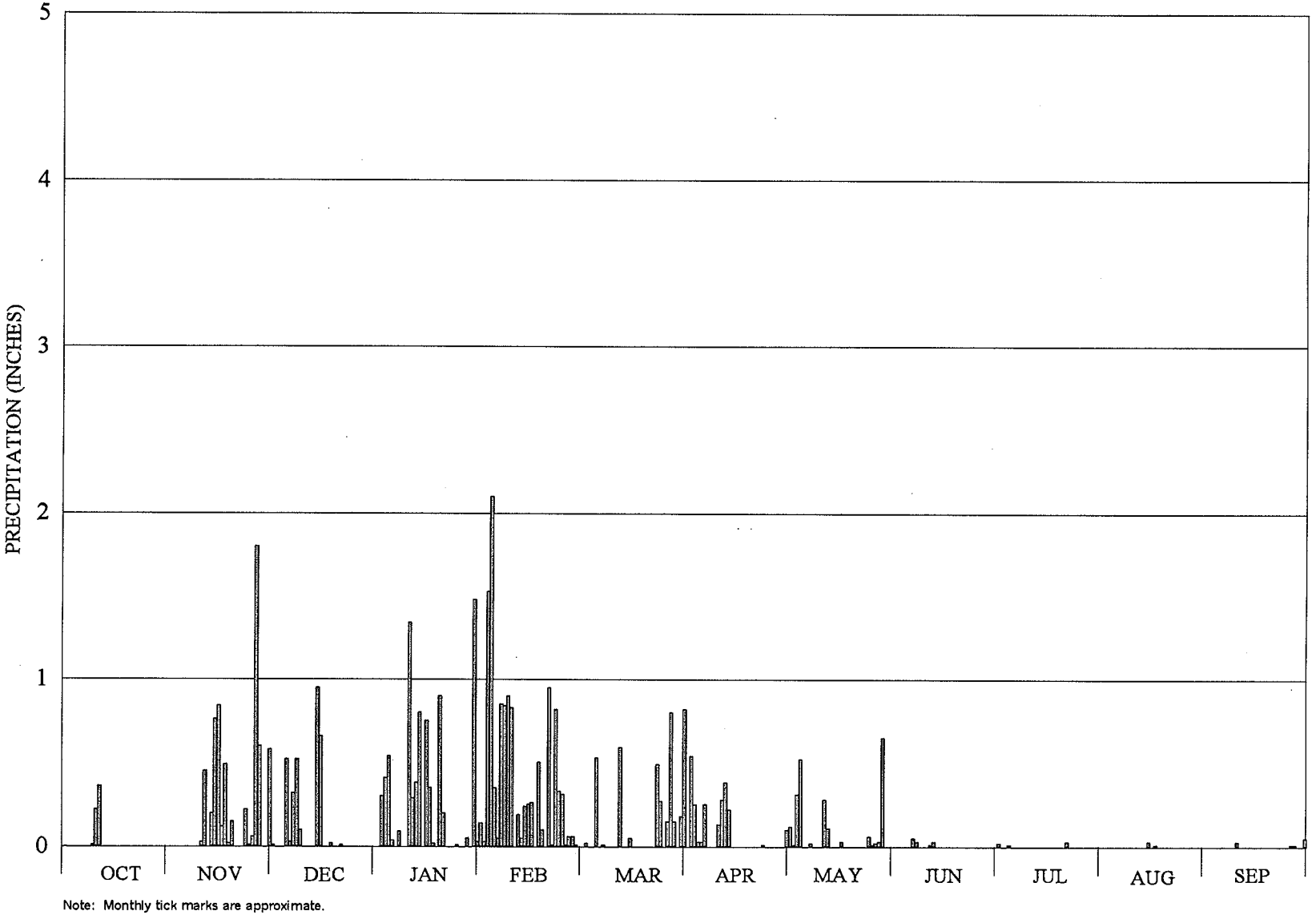
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0.01	0.08	0.18								
2				0.12		T						
3				0.72		0.03						
4									0.08			
5			0.50	0.11								
6			0.02								T	
7			T									
8					0.05							
9			0.21						T			
10			1.15	T								
11			0.96									
12			0.21	0.05	T			0.01				
13			0.17	0.12								
14							0.01					
15				1.14								
16				0.35								
17		1.03			0.03	0.03						
18		0.27			0.02				0.01			
19	T						0.13					
20		0.10		0.81							0.22	
21			0.01	0.27						0.01		
22		0.37	2.82	0.29						T		
23		0.05	0.11	0.40			0.02					
24	0.01							0.12				
25				1.32						T		
26	0.17		0.01	0.95								
27			0.27	0.12				0.01				
28			0.01									
29	0.25	0.01	T					T				
30	0.35		0.24									
31	0.16		T			0.02						
Total	0.94	1.84	6.77	6.95	0.10	0.08	0.16	0.14	0.09	0.01	0.22	0.00

Season Total: 17.30 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-15

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 1998



Note: Monthly tick marks are approximate.

TABLE A-15

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Pacific Grove Reservoir **County: Monterey**

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1997-98

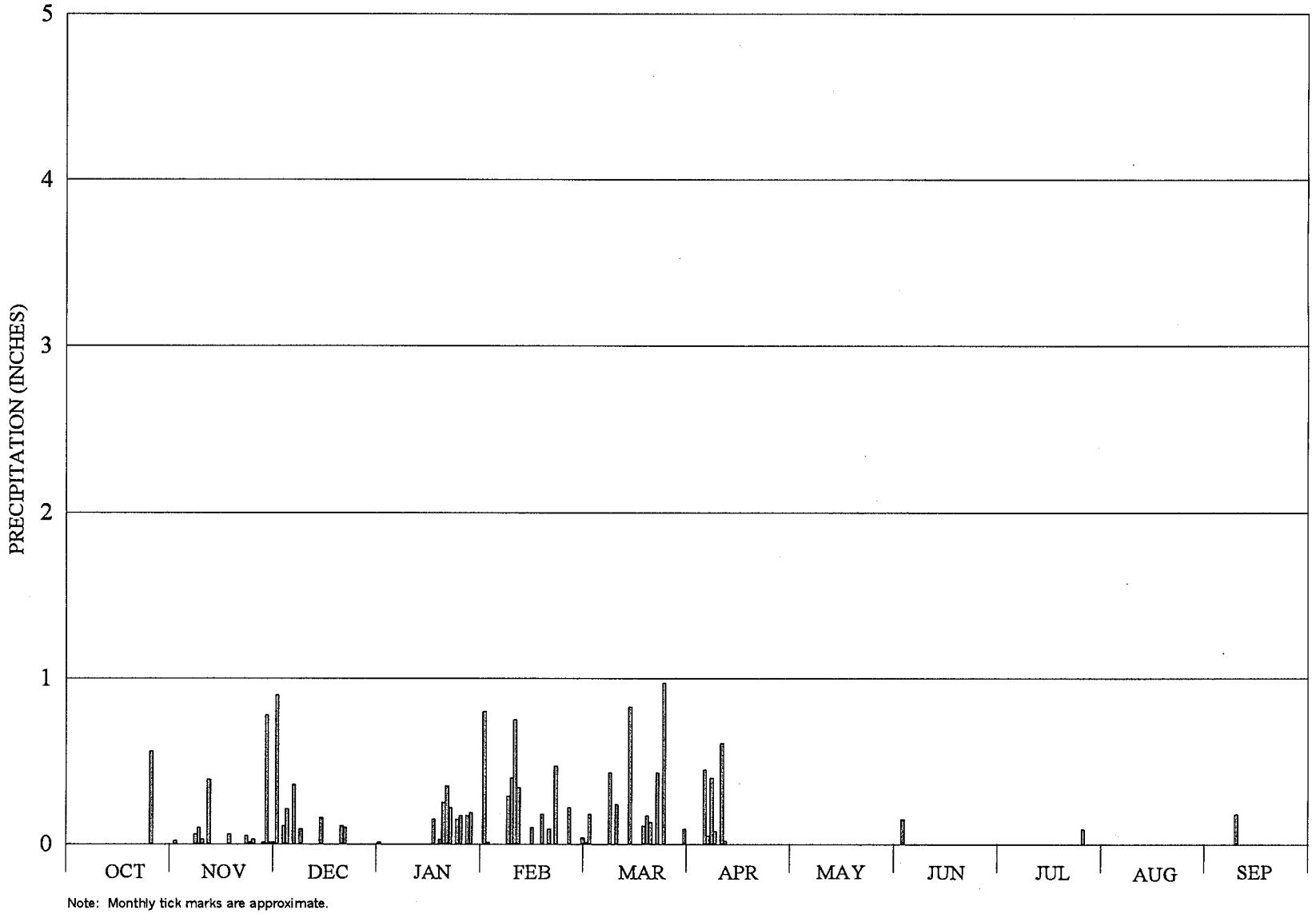
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.01		0.03		0.82	0.10				
2	T			0.30	1.53			0.12		0.02		
3				0.41	2.10	0.02	0.54	0.01		T		
4				0.54	0.35		0.25	0.31		T		
5			0.52	0.04	0.05		0.03	0.52		0.01		
6			0.03		0.85	0.53	0.03			T		
7		T	0.32	0.09	0.84		0.25		0.05			
8			0.52		0.90	0.01		0.02	0.03	T		
9	0.01		0.10	T	0.83					T		
10	0.22	0.03		1.34					T		T	0.03
11	0.36	0.45		0.29	0.19		0.13		T	T		
12		T		0.38	0.05		0.28	0.28	0.01			
13		0.20		0.80	0.24	0.59	0.38	0.11	0.03			
14		0.76	0.95	T	0.25	T	0.22					
15		0.84	0.66	0.75	0.26		T				0.03	
16		0.12		0.35		0.05						
17		0.49		0.02	0.50			0.03			0.01	T
18		0.02	0.02		0.10			T				
19		0.15		0.90								
20				0.20	0.95							
21			0.01	T	0.01					T		
22					0.82					0.03		
23		0.22		T	0.33							
24		0.01		0.01	0.31	0.49	0.01					
25		0.06			0.01	0.27		0.06				T
26		1.80			0.06			0.01			T	0.01
27		0.60		0.05	0.06	0.15		0.02			T	0.01
28					0.01	0.80		0.03			T	
29				1.48		0.15		0.65				
30		0.58		0.03								0.05
31				0.14		0.18				T		
Total	**0.59**	**6.33**	**3.14**	**8.12**	**11.63**	**3.24**	**2.94**	**2.27**	**0.12**	**0.06**	**0.04**	**0.10**

Season Total: 38.58 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-16

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 1999



Note: Monthly tick marks are approximate.

TABLE A-16

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
Precipitation Record

Station: Pacific Grove Reservoir **County: Monterey**

Observer: California-American Water Company

Record obtained from: Califonia-American Water Company, Monterey District

Daily Precipitation in Inches - Season of 1998-99

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0.02	0.90		0.01	0.04						
2						0.01						
3			0.11			0.18			0.15			
4			0.21									
5			T								T	
6			0.36				0.45					
7		0.06		T	0.29		0.05					
8		0.10	0.09		0.40		0.40					
9		0.03			0.75	0.43	0.08					0.18
10		T			0.34							
11		0.39				0.24	0.61				T	
12		T					0.02					
13	T	T										
14			0.16		0.10							
15						0.83				T		
16				0.15								
17		0.06		T	0.18							
18				0.03		T						
19				0.25	0.09	0.11						
20			0.11	0.35		0.17						
21		T	0.10	0.22	0.47	0.13						
22		0.05										
23		0.01		0.15		0.43						
24		0.03		0.17								
25	0.56				0.22	0.97						
26	T			0.17						0.09		
27		0.01		0.19							T	
28		0.78										
29		0.01										
30		0.01										
31			0.01	0.80		0.09						
Total	0.56	1.56	2.05	2.48	2.85	3.63	1.61	0.00	0.15	0.09	0.00	0.18

Season Total: 15.16 Inches

Note: Rainfall recorded on day of measuring.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 1996 - 1999

APPENDIX B

STATION DESCRIPTIONS

DESCRIPTION OF GAGING STATION ON
CARMEL RIVER ABOVE LOS PADRES RESERVOIR

Location - Immediately upstream of Los Padres Reservoir and downstream of the Carmel River/Danish Creek confluence.

Establishment - Streamflow measuring station established Sept. 25, 1985 by G. Matthews.

Drainage area - 44.8 sq. mi. (drainage area at Los Padres Dam).

Gage - Gage heights are obtained at Los Padres Spillway and are reservoir elevations. No staff gage exists at measuring site.

History - Beginning in Sept. 1985, MPWMD has obtained 'dry season' monthly discharge measurements at this site to define the inflow to Los Padres Reservoir, which provides a basis for scheduling of reservoir operations at Los Padres and San Clemente Dams.

California-American Water Company maintains a water level recorder at Los Padres Reservoir.

Reference and benchmarks - Reservoir elevations are based on National Geodetic Vertical Datum (NGVD) of 1929.

Channel - Channel along measuring reach is composed primarily of cobble.

Control -

Discharge measurements - Obtained downstream of Danish Creek by wading. At flows above 100 cfs (i.e. during Winter flows), discharge measurements normally are not collected.

Floods -

Point of zero flow -

Winter flow - No ice.

Regulation - None

Diversion - None

Accuracy - Discharge measurements are fair to good.

Cooperation -

DESCRIPTION OF GAGING STATION ON CARMEL RIVER BELOW LOS PADRES RESERVOIR

Location - Below Los Padres Reservoir, approximately 100' downstream of the fish ladder.

Establishment - Staff gage station established Nov. 20, 1996 by G. W. James.

Drainage area - 44.8 sq. mi. (drainage area at Los Padres Dam).

Gage - Enameled staff gage ranges from 3.33 to 6.66 ft.

History - Staff gage installed to improve reservoir outflow estimates, particularly during periods when reservoir is not spilling. The California-American Water Company (Cal-Am) records daily staff gage readings at this site. Cal-Am maintains a water level recorder at Los Padres Reservoir.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - Channel along measuring reach is composed primarily of boulders.

Control - Boulder riffle approximately 40 ft. downstream of gage.

Discharge measurements - Obtained between the gage and 1,000 ft. downstream by wading. Flow measurements above 100 cfs normally are not collected, as the Los Padres Spillway rating table is used to determine flows.

Floods -

Point of zero flow - 2.40 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation - Flows regulated at Los Padres Dam immediately upstream of gage site.

Diversion - None

Accuracy - Discharge measurements are fair.

Cooperation -

DESCRIPTION OF GAGING STATION ON CACHAGUA CREEK

Location - 50 feet upstream (right bank) of Nason Rd. Bridge in Princes Camp, Cachagua.

Establishment - Staff gage station established Dec. 30, 1981 by G. Matthews. Re-established as a recording station Oct. 24, 1991 by G. W. James.

Drainage area - 46.3 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of a steel recorder shelter supported by 3-inch galvanized pipe. Two-inch pipe (conduit) runs approx. 40 ft. down right bank to active channel. One enameled staff gage on the right bank along conduit ranges from 6.66 -10.0 ft. (lower staff gage 3.33-6.66 ft. washed out Feb. 3, 1998).

History - No other gages have been operated on this stream. This station, previously located on a bridge support, was non-recording until Water Year 1992 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer system was installed. This system was upgraded and replaced with the current equipment Oct. 13, 1994. The gage was inundated and destroyed during the March 10, 1995 flood when the creek flowed over the bridge and through the community of Princes Camp. The gage was re-activated/located approx. 50 ft. upstream of the former site Apr. 28, 1995, and a new arbitrary gage datum was established (current datum + 2.2 ft. = old datum).

Reference and benchmarks - Two inch galvanized coupler at base of recorder shelter riser is elevation 11.20 ft. gage datum. T-post at the upper orifice at elevation 6.30 (top of post) was established Feb. 13, 1998.

Channel - One channel to stage 8 ft. (approximately) at which point creek flows over bank and becomes braided. Channel bed is composed of poorly sorted alluvial material.

Control - Low and medium stage control is gravel/cobble riffle approx. 20 ft. downstream from gage. Channel control at high flows.

Discharge measurements - Low and medium stage measurements are made by wading within 300 ft. upstream or downstream of the gage. High flow measurements are taken from the Nason Bridge, or the bridge on Cachagua Rd. 3/4 miles upstream of the gaging station, or are determined by the slope area method. Maximum wading flow is approximately 200 cfs.

Floods - Flood of March 10, 1995 reached a stage of 9.8 ft., gage datum as indicated by high water marks (HWM) surveyed at the gage. Flood of February 3, 1998 reached a stage of 9.7 ft. as indicated by HWM at the gage.

Point of zero flow - 2.50 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.
Regulation - None

Diversion - Dry season flows affected by numerous small diversions for domestic and agricultural use.

Accuracy - Computed flows above 200 cfs are fair to poor due to un-favorable high flow measuring conditions at the bridges. Bridge piers, downstream of gage in channel, snag debris at high flows which can affect accuracy of record computation during periods of high flow.

Cooperation -

DESCRIPTION OF GAGING STATION ON PINE CREEK

Location - 565 feet upstream of the Pine Creek/Carmel River confluence, or approximately one mile downstream of Syndicate Camp, Cachagua, along the Carmel River.

Establishment - Staff gage station established February 1987 by G. Matthews. Re-established as a recording station Sept. 19, 1991 by G. W. James.

Drainage area - 7.8 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of a steel recorder shelter with two-inch galvanized pipe used as conduit and intake.

Enameled staff gage ranges from 0.00 to 3.33 ft. Crest stage gage (pvc) attached to staff gage (pin elevation = 0.15 ft. gage datum) was destroyed in February 1998.

History - No other gages have been operated on this stream. Station was non-recording until Water Year 1992 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer was installed. This system was upgraded and replaced with the current equipment July 6, 1994.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - One channel at all stages. Channel is straight for approximately 100 ft. upstream and 200 ft downstream from gage. Banks are steep and are covered with light to moderate vegetation. Streambed is composed primarily of boulders and large cobble.

Control - Low and medium stage control is boulder riffle 5 ft. downstream from gage. Channel control at high flows.

Discharge measurements - Low and medium stage measurements are made by wading within 300 ft. upstream or downstream of the gage. Gage is inaccessible at high flows and measurements are obtained by the slope-area method.

Floods - Flood of February 3, 1998 reached a stage of 4.29 ft., gage datum as indicated by the recorder. Flood of March 10, 1995 reached a stage of 4.10 as indicated by crest stage gage and recorder.

Point of zero flow - 0.0 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation - None
Diversion - None

Accuracy - Stage discharge relationship is fairly stable and shifts during extreme flow events. Leafy build-up during Fall months results in backwater at gage, first significant storm flow eliminates build-up. Records of stage are fair and measuring conditions are fair. High flows are defined by the slope-area method and computed records above 100 cfs are considered poor.

Cooperation -

DESCRIPTION OF GAGING STATION ON SAN CLEMENTE CREEK

Location - Approximately one quarter mile upstream of San Clemente Reservoir.

Establishment - Staff gage station established November 23, 1981 by G. Matthews. Re-established as a recording station Sept. 19, 1991 by G. W. James.

Drainage area - 15.6 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of steel recorder shelter supported by 3-inch galvanized pipe. Two-inch pipe (conduit) runs approx. 30 ft. down left bank to active channel. A low flow enameled staff gage is located at the right bank. A high flow staff gage is attached to a 4X6 inch post at the base of the left bank and ranges from 3.33 - 6.66 ft. Both staff gages at site washed out in February 1998 (see reference and benchmarks).

History - No other gages have been operated on this stream. This station was non-recording until Water Year 1992 when an Environmental Monitoring Systems (ENMOS) recorder an pressure transducer system was installed. This system was upgraded and replaced with the current equipment Sept. 25, 1992, and the former installation located at the right bank was removed. On Dec. 5, 1991 gage datum was permanently changed by lowering the staff gage 1.50 ft. This was done to prevent negative stage readings which occurred at low flows at the previous datum.

Reference and benchmarks - The top of the 3-inch galvanized 'T' at the base of the recorder shelter riser is elevation 8.05 ft. gage datum. Following the February 1998 floods, two re-bar reference points were established to determine gage height. RP1 at upper orifice is elev. 3.95 ft, and RP2 at lower orifice is elev. 1.78 ft. gage datum.

Channel - One channel at all stages. Right bank is steep and rocky, left bank is gently sloping with moderate vegetal cover. Channel bed is composed of boulder and cobble.

Control - Low and medium stage control is a cobble riffle approx. 80 ft. downstream from gage. Channel control at high flows.

Discharge measurements - Low and medium stage measurements are normally made by wading 300 ft. upstream of the gage. High flow measurements obtained by the slope area method as there is no high flow measuring facility. Maximum wading flow is approx. 250 cfs at upstream margin of San Clemente Reservoir (alluvial section).

Floods - Flood of February 3, 1998 reached a stage of 9.38 ft. gage datum as indicated by high water marks (HWM) at the gage. Floods on January 9, 1995 and March 10, 1995 reached stages of 7.92 ft., and 7.82 ft. respectively, based on HWM.

Point of zero flow - Approx. 1.00 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation - Streamflow affected by diversion to storage and flow bypass requirements at several seasonal dams upstream.

Diversion - Diversion to storage at seasonal dams and numerous small diversions for domestic and riparian uses.

Accuracy - Stage records are fair to good. High flows are defined by the slope-area method and computed records above 250 cfs are considered poor.

Cooperation -

DESCRIPTION OF GAGING STATION ON CARMEL RIVER AT SLEEPY HOLLOW WEIR

Location - Approx. one mile downstream of San Clemente Dam.

Establishment - Weir installed June 1988 by the California-American Water Company (Cal-Am). Established as a continuous recording station Oct. 1, 1989 by MPWMD.

Drainage area - 126 sq. mi.

Gage - Stevens Type-F water level recorder/float system inside 24-inch CMP stilling well located approximately 40 ft. upstream of weir. Enameled staff gage at well ranges from 0.00 - 6.66 ft.

History - Water level recorder operated at San Clemente Dam by Cal-Am measures and records level of San Clemente Reservoir. Water level recorder operated at Old Carmel Dam 3/4 miles upstream of the weir operated by Cal-Am and MPWMD was discontinued October 1991.

Reference and benchmarks - Low point in V-notch of weir is elevation 0.00 gage datum.

Channel - One channel at all stages. Right bank is steep and rocky, left bank is gently sloping with moderate to heavy vegetal cover. Channel bed is composed of boulder and cobble.

Control - Broad Crested V-notch weir located approx. 40 ft. downstream gage. V-notch is designed to carry 5 cfs of flow when full, rectangular notch above V-notch is designed to carry 16 cfs when full.

Discharge measurements - Low and medium stage measurements are normally made by wading within 1/4 mile of the gage. Maximum wading stage is approx. 3.5 ft. gage datum. High-end wading measurements usually taken immediately upstream of the Sleepy Hollow Ford located several hundred feet downstream of gage.

Purpose of gaging station is to monitor low flow releases from San Clemente Dam, therefore flow measurements above wading stage are not obtained.

Floods - Gage not intended to measure flood flows.

Point of zero flow - 0.00 ft., gage datum (i.e. bottom of V-notch)

Winter flow - No ice.

Regulation - Flows regulated at San Clemente Dam one mile upstream of gage.

Diversion - Surface diversion through the Carmel Valley Filter Plant diversion pipeline. Flows also affected by flashboard installation and removal at the dam prior to Spring 1997.

Accuracy - Stage records are good. Computed flows are fair to good. Recorder is removed most winters to avoid inundation at high flows, and record is incomplete during these periods.

Cooperation - Weir installation was a cooperative effort between Cal-Am, MPWMD and California Department Fish and Game, in order to accurately comply with release schedules established by these three agencies. MPWMD operates and maintains the gage.

DESCRIPTION OF GAGING STATION ON TULARCITOS CREEK

Location - Beneath bridge at San Clemente Drive, Carmel Valley, or approximately one half mile upstream from the Carmel River/Tularcitos Creek confluence.

Establishment - Staff gage station established Jan. 8, 1982 by G. Matthews. Re-established as a recording station Oct. 8, 1991 by G. W. James.

Drainage area - 56.3 sq. mi.

Gage - Stevens Type-F water level recorder/float system housed inside 1/8-inch steel recorder shelter attached to 12-inch CMP stilling well. Access door at base of well for silt removal. Two enameled staff gages at well attached to right bridge abutment range from 2.20 - 6.60 ft.

History - No other gages have been operated on this stream. This station was non-recording until Water Year 1992 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer system was installed. This system was upgraded and replaced with the existing float gage (stilling well) Aug. 18, 1992, and the former installation, also located at the right bank was removed.

Prior to the flood of March 10, 1995, a remnant bridge pier (5 ft. high by 15 ft. long by 18 in. wide) split high flows at the gage. Following this flood, the pier fell over at the gage site and created single channel flow at the gage.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - One channel at all stages. Right bank is vertical concrete bridge abutment, left bank moderately slopes to left concrete bridge abutment. Prior to March 10, 1995, channel at gage was split by mid-channel bridge pier at high flows. Channel bed is composed of mud and sand and remnant bridge pier that was deposited horizontally at gage.

Control - Low and medium stage control is a riffle approx. 15 to 20 ft. downstream from gage, which is stabilized by fallen pier in channel. High flow control is channel.

Discharge measurements - Low and medium stage measurements are normally made by wading 300 ft. upstream of the gage, or at the gage. High flow measurements are taken from the downstream side of the bridge at the gage, or by the slope area method. Maximum wading stage is 5.5 ft. gage datum, or 130 cfs.

Floods - Flood of February 7, 1998 reached a stage 10.77 ft. based on survey of high water marks (HWM) at the gage. Flood of March 10, 1995 reached a stage of 9.94 based on HWM and recorded stage.

Point of zero flow - Approx. 2.5 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation -
Diversion -

Accuracy - Stage records are good. Computed flows are fair to good.

Cooperation -

DESCRIPTION OF GAGING STATION ON HITCHCOCK CREEK

Location - One quarter mile southwest along Esquiline Road, Carmel Valley at second foot bridge crossing creek, or approximately 250 ft. upstream from the Carmel River/Hitchcock Creek confluence.

Establishment - Staff gage station established Apr. 2, 1986 by T. Lindberg. Re-established as a recording station Oct. 17, 1991 by G. W. James.

Drainage area - 4.6 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of steel recorder shelter with two-inch galvanized pipe used as conduit and intake.

Enameled staff gage ranges from 0.00 to 6.66 ft.

History - No other gages have been operated on this stream. Station was non-recording until Water Year (WY)1992 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer was installed. Due to technical difficulty with this recording equipment, continuous records of flow were not computed until WY 1994. The gage was relocated to the foot bridge immediately upstream from the former site, and was upgraded with the existing equipment Dec. 8, 1995.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - Channel is straight for approximately 100 ft. upstream and 100 ft downstream from gage. Banks are steep and rocky. Streambed is composed primarily of cobble. Creek flows over bank at approx. stage 6 ft.

Control - Low and medium stage control is the channel at the gage. High flow control is the bridge immediately downstream from the gage.

Discharge measurements - Low and medium stage measurements are made by wading within 100 ft. upstream or downstream of the gage. High flow measurements are taken off the upstream side of the bridge at gage.

Floods - Flood of February 7, 1998 reached a stage of 7.31 ft. current datum, and the creek flowed out of its banks during this event. At the former gage location approx. 100 ft. downstream of the current site, the Flood of March 10, 1995 reached a stage of 7.05 ft based on former gage datum, and also flowed over bank.

Point of zero flow -2.30 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation -
Diversion -

Accuracy - Stage records are fair. Stage discharge relationship should be fairly stable due to presence of bridge immediately downstream from gage.

Cooperation -

DESCRIPTION OF GAGING STATION ON GARZAS CREEK

Location - At West Garzas Road, Carmel Valley on left bank, downstream side of bridge. Located approximately 300 ft. upstream from the Carmel River/Garzas Creek confluence.

Establishment - Continuous recording station established October 1968 by the Monterey County Water Resources Agency (MCWRA) was maintained through September 1978. Established as a staff gage station Nov. 30, 1981 by G. Matthews. Re-established as a recording station Sept. 20, 1991 by G. W. James.

Drainage area - 13.2 sq. mi.

Gage -Stevens Type-F water level recorder/float system housed inside 1/8-inch steel recorder shelter attached to 12-inch CMP stilling well. Access door at base of well for silt removal.

Enameled staff gage ranges from 0.00 to 10.0 ft.

History - Gage formerly operated as a continuous recording station by MCWRA 1968 - 1978. Operated by MPWMD as a non-recording station 1981 - 1991. Re-established as a continuous recording station by MPWMD Sept. 1991, which used an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer system. This system was upgraded and replaced by the existing stilling well Jan. 17, 1992.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - One channel at all stages. Channel is straight for approximately 200 ft. upstream and 200 ft downstream from gage. Channel at gage is split by center bridge pier, with vertical, concrete bridge abutments as banks. Downstream from gage, banks are moderately sloped and vegetated. Streambed is composed primarily of pebble and cobble.

Control - Low and medium stage control is a cobble riffle 5 to 10 ft. downstream from gage. High flow control is the natural channel downstream from the gage.

Discharge measurements - Low and medium stage measurements are made by wading within 200 ft. upstream or downstream of the gage. High flow measurements are taken off the downstream side of the bridge at gage.

Floods - Flood of March 10, 1995 reached a stage of 9.28 ft based on recorded stage in the stilling well. Flood of January 10, 1995 reached a stage of 7.98 ft. based on recorded stage. Flood of February 3, 1998 reached a stage of 7.95 ft. also based on recorded stage.

Point of zero flow - Approximately 1.00 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation - Flows affected by operation of Moore's Lake Dam.

Diversion - Seasonal low flows affected by diversions surrounding Moore's Lake Reservoir for riparian and domestic use, and by withdrawal of ground water from the Carmel Valley Aquifer.

Accuracy - Stage records are good. Computed records are fair due to downstream channel conditions that shift in response to vegetation growth, scour and fill.

Cooperation -

DESCRIPTION OF GAGING STATION ON CARMEL RIVER AT DON JUAN BRIDGE

Location - At the Don Juan Bridge off Carmel Valley Road (authorized vehicle entrance to Garland Park), or river mile 10.8. Gage attached to north face of central bridge pier.

Establishment - Staff gage station established in 1982 by MPWMD staff. Re-established as a recording station Sept. 15, 1992 by G. W. James.

Drainage area - 216 sq. mi.

Gage - Stevens Type-F water level recorder/float system housed inside a steel recorder shelter attached to a 12-inch CMP stilling well (26 ft. long). Half-inch lexan windows within recorder shelter allow park visitors to observe instrumentation. Enameled staff gage attached to south face of central bridge pier ranges from 3.33 to 6.66 ft. Staff gages located on the left concrete bridge abutment range from 6.66 to 13.3 and are read during high flows when turbulence precludes readings at the central pier staff. A wire-weight gage was installed Nov. 12, 1997 above right channel at gage to provide additional stage verification (check-bar elevation = 25.43 ft. gage datum).

History - Two USGS gaging stations located 3.6 miles upstream and 7.2 miles downstream are Carmel River at Robles del Rio and Carmel River near Carmel, respectively.

Reference and benchmarks - Brass tablet located at the left bank staff gages is elevation 8.55 ft. gage datum.

Channel - During extreme flood events channel upstream of gage will over-top the left bank and spread across the Garland Park floodplain. Channel is confined by bridge abutments at gage. Downstream of gage, right bank is steep, vegetated rip-rap. Left bank is gently sloped covered by moderately dense riparian forest. Channel bed material is cobble upstream of the gage, and sand and cobble downstream of the gage.

Control - Channel downstream of gage.

Discharge measurements - Low and medium stage measurements are normally made by wading within 1/4 mile of the gage. Maximum wading stage is approximately 5.5 ft. gage datum (approx. 500 cfs). High flow measurements are taken off the upstream side of Randazzo's Bridge 0.6 miles downstream of gage.

Floods - Flood of March 10, 1995 reached a stage of 16.9 ft., gage datum as indicated by an average of several high water marks (HWM) surveyed at the gage. Flood of February 3, 1998 reached a stage of 15.3 ft based on HWM surveyed. Flood of January 10, 1995 reached a stage of 14.8 ft based on HWM surveyed.

Point of zero flow - 2.3 ft. gage datum, varies due to scour and fill.

Winter flow - No ice.

Regulation - Flows regulated at San Clemente Dam approximately eight miles upstream.

Diversion - Surface diversion through the Carmel Valley Filter Plant diversion pipeline from San Clemente Reservoir. Flows also affected by flash board installation and removal at San Clemente Dam prior to Spring 1997, and by production wells upstream of gage.

Accuracy - Stage records are good below 1,000 cfs and fair below 5,000 cfs. Above 5,000 cfs stage records become poor due to draw down at the stilling well from high velocity flow. Stage records at high flows are rectified when necessary using staff gage readings and surveyed HWM.

Cooperation -

DESCRIPTION OF GAGING STATION ON ROBINSON CANYON CREEK

Location - On left bridge abutment of downstream-most bridge on Robinson Canyon Road, Carmel Valley.

Establishment - Staff gage station established Jan. 6, 1982 by G.M. Kondolf, cooperating with MPWMD. Re-established as a recording station Oct. 18, 1991 by G. W. James.

Drainage area - 5.4 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of steel recorder shelter with two-inch galvanized pipe used as conduit and intake. Enameled staff gage ranges from 0.00 to 6.66 ft. Crest stage gage (CSG) five ft. downstream from staff (pin elevation = 3.43 ft. gage datum).

History - No other gages have been operated on this stream. Station was non-recording until Water Year 1992 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer was installed. High flows in January & February 1993 severely scoured the control at the gage and prompted relocation of the gage to the current site upstream at the bridge on Mar. 11, 1993. A new gage datum was established as a result of this relocation. Oct. 26, 1993 the former ENMOS instrumentation was upgraded and replaced with the current recording equipment.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - One channel at all stages. Channel is straight for approximately 100 ft. upstream and 100 ft downstream from gage. Banks at gage are vertical, concrete bridge abutments. Streambed is composed primarily of cobble.

Control - Low flow control is a riffle 5 ft. downstream of gage. High and medium flow control is the natural channel downstream of the gage.

Discharge measurements - Low and medium stage measurements are normally made by wading within 100 ft. downstream of the gage. Station lacks a high flow measuring facility. Bridge at gage is not ideal due to horizontal skew, and traffic concerns. High flows defined by the slope area method. Maximum wading stage is 4.0 ft. gage datum (approx. 60 cfs).

Floods - Flood of February 3, 1998 reached a stage of 8.9 ft. based on the crest stage gage (CSG) at the former gage site 37 ft. downstream and corrected to the current site (this event overtopped the current CSG). Flood of March 10, 1995 reached a stage of 6.9 ft. gage datum based on CSG and recorder.

Point of zero flow - 1.80 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation -
Diversion -

Accuracy - Stage records are fair to good at current gage location. Stage discharge relationship is fairly stable, but will shift during high flow events due to scour.

Cooperation -

DESCRIPTION OF GAGING STATION ON POTRERO CREEK

Location - At Valley Greens Road, Carmel Valley upstream of culvert on right bank.

Establishment - Staff gage station established Jan. 4, 1982 by G. Matthews. Re-established as a recording station Nov. 30, 1993 by G. W. James.

Drainage area - 5.2 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of steel recorder shelter with two-inch galvanized pipe used as conduit and intake.

Enameled staff gage ranges from 0.00 to 4.10 ft.

History - Station was non-recording until Water Year 1994 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer was installed. The gage was relocated to the opposite (right) bank and upgraded with the existing equipment Nov. 28, 1995. The previous gage datum was maintained despite the gage relocation.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - Channel is straight for approximately 100 ft. upstream and 100 ft downstream from gage. Banks are steep composed of mud and clay. Streambed is sandy.

Control - Control at all stages is a rip-rap riffle 15 ft. downstream from gage.

Discharge measurements - Low and medium stage measurements are made by wading within 100 ft. upstream of the gage. High flow measurements are taken off the upstream side of the golf cart bridge 200 ft. upstream of gage. Maximum wading stage is 2.0 ft. gage datum (approximately 70 cfs).

Floods - Flood of February 3, 1998 reached a stage of 9.1 ft. gage datum indicated by the recorder, and flowed over Valley Greens Road during the peak. Flood of March 10, 1995 reached a stage of 4.9 ft. based on recorder stage verified by high water marks.

Point of zero flow - 0.60 ft., gage datum. Varies due to scour and fill at control.

Winter flow - No ice.

Regulation -
Diversion -

Accuracy - Stage records are fair. Stability of stage discharge relationship depends on condition of rip-rap riffle 15 ft. downstream of gage as it stabilizes sands at the gage.

Cooperation -

DESCRIPTION OF GAGING STATION ON CARMEL RIVER AT HIGHWAY 1 BRIDGE

Location - 50 feet upstream of Highway 1 bridge at top of right bank levee.

Establishment - Staff gage station established in 1982 by MPWMD. Re-established as a recording station Dec. 10, 1992 by G. W. James.

Drainage area - 252 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of steel recorder shelter with two-inch galvanized pipe used as conduit and intake. Conduit runs approximately 70 ft. down right bank to river. Nov. 29, 1995, MCWRA co-located its ALERT transmitter and pressure transducer at this installation to provide remote access to river levels. Four enameled staff gages staggered up the right bank range from 2.20 to 17.1 ft.

History - Station was non-recording until Water Year 1993 when the continuous recording equipment was installed. Initially, gage was located on a mid-channel bridge pier at the former Highway 1 Bridge. This bridge collapsed in the aftermath of the March 10, 1995 flood and the gage was destroyed. A temporary gage was installed on the right bank at the damaged bridge site Apr. 7, 1995 at the former gage datum, and was relocated 400 ft. upstream May 8, 1995 at a new, arbitrary datum. This temporary station was removed Nov. 22, 1995. The current installation became operational Nov. 29, 1995 and a new datum was established (initial datum + 0.90 ft. = current datum). USGS maintains Carmel River near Carmel gage 2.5 miles upstream.

Reference and benchmarks - Brass disc on northeast corner of new bridge is elevation 35.89 ft. North American Vertical Datum (NAVD) 1988. Gage datum has been established exactly 10.00 ft. less than this reference elevation.

Channel - Channel is straight for at least 500 ft. upstream and 500 ft downstream from gage. Banks are moderately sloped and covered with thick vegetation. Streambed is coarse sand. In 1997, MCWRA excavated several notches in the south bank levee near the upstream margin of Odello East artichoke field to direct flood flows south, in order to protect residents along the north bank.

Control - Low and medium stage control is the sand channel. High flow control is channel at bridge 50 ft. downstream.

Discharge measurements - Low and medium stage measurements are made by wading within 500 ft. upstream or downstream of the gage. High flow measurements are taken off the upstream side of the bridge. Maximum wading stage is 5.5 ft. gage datum (approx 600 cfs).

Floods - Flood of February 3, 1998 reached a stage of 14.8 ft. During this event the river flowed through levee cuts upstream and downstream of the gage and flowed over Highway 1 just south of the river. Flood of January 10, 1995 reached a stage of 15.8 ft. based on gage datum maintained at the former (initial) Highway 1 Bridge site. Flood of March 10, 1995 was not recorded at this site and the peak stage is not known.

Point of zero flow - 2.5 ft., gage datum. Varies due to scour and fill of sands downstream of gage.

Winter flow - No ice.

Regulation -

Diversion - Surface diversion from San Clemente Dam 17.5 river miles upstream, production wells upstream of gage. Prior to Spring 1997, flows affected by flashboard installation and removal at San Clemente Dam.

Accuracy - Stage records are good. Stability of stage discharge relationship depends on sand accumulation in gage reach. Shifting sand channel warrants frequent streamflow measurements during and between storms. Computed records are considered fair.

Cooperation -

DESCRIPTION OF GAGING STATION ON CARMEL RIVER LAGOON

Location - South arm of Carmel River Lagoon, Carmel, at the Carmel Area Wastewater District (CAWD) effluent pipeline.

Establishment - Continuous recording station established November 1987 by MPWMD.

Drainage area - 255 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of steel recorder shelter with two-inch galvanized pipe used as conduit and intake. Conduit runs approximately 50 ft. down west bank of south arm to lagoon. Nov. 28, 1995, the Monterey County Water Resources Agency (MCWRA) co-located its ALERT transmitter and pressure transducer at this installation to provide remote access to lagoon levels.

Enameled staff gage at orifice ranges from 2.00 to 10.0 ft. Additional staff gage at west bank ranges from 10.0 to 13.3 feet.

History - No other gages have been operated at the Carmel River Lagoon. Reliable continuous water level data begins April 1991. Initially, recorder was located on the CAWD effluent pipeline and utilized an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer system. Nov. 5, 1993 the station was upgraded by relocating the recorder site to the west bank of the gage site, and the current equipment was installed. In 1997, the South Arm of the Lagoon was dredged, and connected to the western-most portion of the Odello West artichoke field to enhance lagoon volume/habitat.

Reference and benchmarks - Brass disc at top of knoll above gage is elevation 59.34 ft. National Geodetic Vertical Datum (NGVD) of 1929. Gage datum is NGVD.

Channel -

Control -.

Discharge measurements -

Floods -

Point of zero flow -

Winter flow - No ice.

Regulation -

Diversion -

Accuracy - Stage records are good.

Cooperation - MCWRA maintains ALERT hardware.

DESCRIPTION OF GAGING STATION ON SAN JOSE CREEK

Location - Approximately 0.50 miles upstream from Highway 1 at Monastery Beach, Carmel.

Establishment - Staff gage station established 1985 by MPWMD. Re-established as a recording station on Nov. 16, 1998 by G. W. James.

Drainage area - 14.2 sq. mi.

Gage - Campbell Scientific BDR-320 data recorder linked to Druck 5 psi pressure transducer. Gage housing consists of steel recorder shelter with two-inch galvanized pipe used as conduit and intake.

Three enameled staff gages staggered up the left bank range from 2.34 to 10.08 ft (gage datum).

History - Two separate staff gage stations located approximately 0.25 miles upstream of Highway 1 have been installed and have since washed out. The initial installation washed out in February 1992. The replacement staff gage installed Nov. 16, 1993 at a new, arbitrary gage datum washed out in February 1998. Continuous recording gaging station installed by District staff 0.5 miles upstream of Highway 1 near houses, in November 1998.

Reference and benchmarks - Staff gage is only datum reference (gage datum).

Channel - One channel at all stages. Channel is straight for approximately 100 ft. upstream and downstream of gage. Right bank is the toe of the canyon wall and is steep and rocky. Left bank is gently sloped composed of unconsolidated alluvium. Channel bed is composed of boulder and cobble with sand.

Control - Low and medium stage control is riffle 10 ft. downstream of gage. High flow control is natural channel.

Discharge measurements - Low and medium stage measurements are obtained between gage and the upper margin of the 'Polo Field' one quarter mile downstream of gage. High flow measurements could potentially be obtained off the Highway 1 bridge at Monastery Beach at low tide (i.e., none have been obtained).

Floods - Flood on February 3, 1998 reach a stage of 10.72 ft. current gage datum based on a surveyed mud line on the house adjacent to the gage shelter.

Point of zero flow - 2.10 ft. gage datum. Varies due to scour and fill.

Winter flow - No ice.

Regulation -

Diversion - Flow affected by diversion for domestic use upstream.

Accuracy - Discharge measurements are fair to good.

Cooperation -

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 1996 - 1999

APPENDIX C

DISCHARGE MEASUREMENT SUMMARIES

TABLE C-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Above Los Padres Reservoir

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1340	GWJ	Pygmy	Good	30.0	16.0	1037.80	7.13	10.8	0.6	6.88	1.04
11/01/1995	1255	GWJ	Pygmy	Good	16.0	13.0	1035.70	8.36	10.8	0.7	7.22	1.16
12/01/1995	1050	GWJ	Pygmy	Good	18.0	10.0	1030.20	7.25	10.7	0.6	6.59	1.10
01/04/1996	1145	TLL	AA	Good	12.5	9.5	1040.00	17.92	18.0	0.6	11.09	1.62
05/03/1996	1245	GWJ	AA	Good	24.0	14.5	1040.20	52.46	29.1	1.6	45.59	1.15
06/05/1996	1545	GWJ	AA	Good	30.0	18.0	1040.10	33.57	28.4	1.4	39.15	0.86
07/03/1996	1235	GWJ	AA	Good	31.0	18.5	1039.97	19.68	26.6	1.3	34.09	0.58
08/05/1996	1430	GWJ	AA	Fair	23.0	19.5	1038.55	8.21	17.8	0.9	16.28	0.50
09/04/1996	1305	GWJ	Pygmy	Good	25.0	18.0	1033.78	4.31	7.9	0.5	4.28	1.01
10/01/1996	1010	GWJ	Pygmy	Good	16.0	14.5	1021.28	4.89	7.8	0.6	4.44	1.10
11/01/1996	1045	GWJ	AA	Fair	15.5	11.0	1009.21	8.94	17.7	0.9	16.56	0.54
05/02/1997	1015	GWJ	AA	Fair	20.5	11.5	1040.07	25.92	37.5	1.4	54.25	0.48
06/05/1997	1420	GWJ	AA	Fair	19.0	16.0	1039.83	15.65	19.0	1.3	25.30	0.62
07/01/1997	1055	GWJ	AA	Fair	23.5	16.0	1038.84	8.93	21.0	1.0	21.26	0.42
08/01/1997	0945	GWJ	Pygmy	Good	27.0	18.5	1031.94	3.15	7.3	0.3	2.49	1.26
09/02/1997	1025	GWJ	Pygmy	Good	26.0	19.0	1020.05	3.01	7.5	0.3	2.61	1.15
10/01/1997	1125	GWJ	Pygmy	Good	23.0	18.0	1003.11	2.46	4.8	0.4	1.91	1.28
11/03/1997	1220	GWJ	Pygmy	Good	29.0	14.0	991.37	3.74	8.2	0.4	3.32	1.13
12/01/1997	1100	GWJ	AA	Good	18.0	10.0	1017.15	39.03	40.1	1.3	50.37	0.77
06/04/1998	1040	GWJ	AA	Good	17.0	12.5	1040.36	87.46	54.5	1.6	89.59	0.98
07/01/1998	1145	GWJ	AA	Good	20.0	14.0	1040.17	45.07	20.3	1.0	19.54	2.31
08/07/1998	1045	GWJ	Pygmy	Good	26.0	18.0	1039.97	20.35	18.3	0.7	13.09	1.56
09/03/1998	0940	GWJ	AA	Good	24.0	18.5	1039.88	10.25	18.4	1.1	20.49	0.50
10/01/1998	1040	GWJ	AA	Good	16.0	14.0	1037.74	12.32	18.4	1.2	22.05	0.56
11/03/1998	1420	GWJ	AA	Good	19.0	10.5	1033.73	10.84	18.2	1.2	20.96	0.52
12/01/1998	1010	GWJ	AA	Good	11.0	10.5	1040.29	86.33	59.5	1.6	92.68	0.93
06/02/1999	1000	GWJ	AA	Good	10.0	12.0	1040.06	24.98	18.0	0.8	14.29	1.75
07/01/1999	1000	GWJ	AA	Good	23.5	17.5	1039.38	11.01	15.4	0.9	14.59	0.75
08/02/1999	0855	GWJ	AA	Good	21.5	16.5	1036.42	5.16	14.2	0.8	11.64	0.44
09/01/1999	0930	GWJ	Pygmy	Good	12.0	14.0	1034.20	3.22	10.4	0.4	4.53	0.71

TABLE C-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Below Los Padres Reservoir

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
11/20/1996	1435	GWJ	AA	Fair	17.5	13.0	4.73	7.86	15.7	1.0	15.34	0.51
11/26/1996	1435	GWJ	Pygmy	Fair	18.0	12.0	4.84	10.95	15.9	1.1	16.79	0.65
03/06/1997	0940	GWJ	AA	Fair	15.5	10.0	5.66	70.52	38.2	1.6	61.89	1.14
04/09/1997	1120	GWJ	AA	Good	13.0	13.0	5.28	35.34	19.6	1.6	30.41	1.16
05/02/1997	1225	GWJ	AA	Fair	21.5	16.0	5.08	23.59	19.3	1.3	25.08	0.94
05/15/1997	1005	GWJ	AA	Fair	21.5	14.0	4.90	18.44	19.6	1.3	24.83	0.74
05/23/1997	0945	GWJ	AA	Fair	17.0	13.0	4.81	15.33	11.5	1.5	17.16	0.89
06/18/1997	1215	GWJ	AA	Fair	30.5	15.5	4.69	11.65	11.0	1.4	15.95	0.73
06/18/1997	1330	GWJ	AA	Fair	30.5	15.5	4.41	4.94	10.6	1.2	12.87	0.38
11/03/1997	1400	GWJ	Pygmy	Good	25.0	16.0	4.58	7.21	10.9	1.4	14.91	0.48
12/01/1997	1300	GWJ	AA	Fair	13.0	11.5	4.99	20.44	13.2	1.6	20.76	0.98
12/29/1997	1150	GWJ	AA	Fair	14.0	8.5	5.12	25.09	19.4	1.4	27.24	0.92
06/04/1998	1245	GWJ	AA	Fair	16.0	13.5	4.66	81.13	38.8	1.6	61.93	1.31
07/01/1998	1350	GWJ	AA	Good	21.0	18.0	4.24	46.03	25.3	1.7	43.62	1.06
08/07/1998	1225	GWJ	AA	Good	27.5	18.0	3.67	17.80	21.7	1.4	30.02	0.59
09/03/1998	1215	GWJ	AA	Fair	30.5	17.5	3.41	9.58	20.5	1.2	23.58	0.41
10/01/1998	1320	GWJ	AA	Good	16.0	19.0	3.57	13.86	20.0	1.3	26.94	0.51
11/03/1998	1600	GWJ	AA	Good	18.0	14.5	3.58	13.66	20.0	1.4	27.03	0.51
12/01/1998	1320	GWJ	AA	Fair	11.5	12.0	4.66	72.30	41.9	1.4	58.09	1.24
01/07/1999	1225	GWJ	AA	Fair	12.5	8.0	3.64	15.45	20.0	1.4	27.64	0.56
03/02/1999	1335	GWJ	AA	Fair	22.5	11.0	4.35	56.14	41.3	1.3	53.05	1.06
04/06/1999	0920	GWJ	AA	Fair	9.0	9.0	4.77	92.90	38.9	1.7	64.23	1.45
05/10/1999	0900	GWJ	AA	Good	8.0	13.5	4.21	41.31	25.2	1.7	42.70	0.97
06/02/1999	1200	GWJ	AA	Good	10.5	16.5	3.88	25.10	21.6	1.5	33.28	0.75
07/01/1999	1205	GWJ	AA	Good	28.5	18.0	3.51	11.70	20.3	1.2	24.34	0.48
08/02/1999	1105	GWJ	AA	Fair	25.0	19.0	3.26	5.49	20.5	1.0	20.57	0.27
08/10/1999	0940	GWJ	AA	Fair	17.0	17.5	3.22	5.30	20.3	1.0	20.30	0.26
09/01/1999	1105	GWJ	AA	Good	20.0	18.0	3.35	7.17	20.3	1.1	22.03	0.33

TABLE C-3

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Cachagua Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1520	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/1995	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/01/1995	1240	GWJ	Pygmy	Poor	16.5	14.0	3.44	0.06	1.5	0.2	0.23	0.28
12/14/1995	1525	GWJ	Pygmy	Fair	--	--	3.80	3.85	6.9	0.6	4.06	0.95
01/03/1996	1315	GWJ	Pygmy	Good	19.0	12.0	3.70	2.24	6.8	0.5	3.31	0.68
01/23/1996	1200	GWJ	Pygmy	Good	--	--	3.83	4.77	8.6	0.5	4.28	1.11
01/31/1996	1140	GWJ	AA	Fair	12.5	11.0	4.56	63.75	25.3	0.9	21.93	2.91
02/13/1996	1225	GWJ	Pygmy	Fair	26.5	15.5	3.72	7.18	7.5	0.7	5.04	1.42
02/20/1996	1115	GWJ	AA	Fair	--	--	4.33	64.33	28.1	0.8	21.13	3.05
02/23/1996	1310	GWJ	AA	Fair	--	--	4.11	34.13	15.6	0.8	12.77	2.67
03/05/1996	1140	GWJ	AA	Fair	12.0	11.0	4.20	47.88	25.4	0.7	18.38	2.60
03/19/1996	1035	GWJ	AA	Fair	--	--	3.86	15.60	13.9	0.6	8.99	1.73
04/03/1996	1610	GWJ	Pygmy	Fair	14.5	16.0	3.75	10.10	13.2	0.5	6.78	1.49
05/03/1996	1440	GWJ	Pygmy	Fair	22.5	22.0	3.60	3.67	6.0	0.6	3.59	1.02
06/06/1996	1530	GWJ	Pygmy	Good	30.0	29.0	3.45	1.38	7.6	0.3	2.50	0.55
07/01/1996	0950	GWJ	Pygmy	Fair	29.0	19.5	3.32	0.20	2.2	0.2	0.35	0.56
07/03/1996	1415	GWJ	Estimate	na	--	--	3.20	0.01	--	--	--	--
08/05/1996	1615	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/04/1996	1530	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/01/1996	1125	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/1996	1215	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/19/1996	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/03/1996	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/10/1996	1140	GWJ	AA	Fair	14.0	11.5	3.98	17.29	15.2	0.7	10.80	1.60
12/17/1996	1420	GWJ	Pygmy	Good	19.0	11.0	3.48	1.83	7.2	0.4	2.89	0.63
01/01/1997	1530	GWJ	AA	Fair	17.0	14.5	4.65	121.52	38.8	0.9	33.94	3.58
01/06/1997	1325	GWJ	AA	Good	14.0	9.0	3.89	19.14	14.3	0.8	10.73	1.78
01/21/1997	1125	GWJ	AA	Good	14.5	10.5	4.05	34.15	15.0	0.9	13.52	2.52
01/27/1997	1225	TLL	AA	Fair	12.5	10.5	5.00	128.66	36.5	0.9	31.18	4.13
02/04/1997	1005	GWJ	AA	Fair	13.5	10.5	4.42	21.13	15.1	0.7	10.33	2.05
02/21/1997	1135	GWJ	Pygmy	Good	17.5	11.0	4.16	9.89	10.6	0.6	6.41	1.54
03/06/1997	1140	GWJ	Pygmy	Good	16.0	--	4.10	7.57	7.2	0.6	4.15	1.83
04/04/1997	1000	GWJ	Pygmy	Good	16.0	13.0	3.98	3.94	9.7	0.3	3.30	1.20
05/07/1997	1255	GWJ	Pygmy	Fair	27.0	23.0	3.89	1.98	5.2	0.3	1.79	1.10
05/23/1997	1120	GWJ	Pygmy	Fair	18.0	18.0	3.76	0.37	2.9	0.2	0.71	0.51
06/05/1997	1545	GWJ	Pygmy	Fair	19.0	23.0	3.79	0.56	3.2	0.3	0.82	0.68
06/18/1997	1130	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/01/1997	1225	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/1997	1140	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/10/1997	1130	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/07/1997	1345	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/18/1997	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/26/1997	1045	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-3 (CONTINUED)

TRIBUTARY STATION: Cachagua Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
12/01/1997	1410	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1997	1215	GWJ	AA	Good	11.0	10.0	4.32	17.03	16.2	0.6	9.52	1.79
12/31/1997	1210	GWJ	Pygmy	Fair	19.0	11.0	3.88	2.04	4.7	0.4	1.91	1.07
01/15/1998	1040	GWJ	AA	Good	16.0	12.5	4.31	16.21	13.5	0.7	8.93	1.82
01/20/1998	1345	GWJ	AA	Fair	11.5	11.0	4.51	31.16	19.3	0.7	12.81	2.43
02/09/1998	1100	GWJ	AA	Fair	--	--	6.12	346.20	28.8	1.7	47.80	7.24
02/13/1998	1420	TLL	AA	Fair	16.0	13.0	5.40	115.08	34.7	0.8	29.48	3.90
02/24/1998	1020	GWJ	AA	Fair	11.0	10.0	5.59	202.35	41.8	1.1	46.85	4.32
03/02/1998	1325	GWJ	AA	Fair	21.5	14.0	5.28	85.89	33.5	1.0	33.16	2.59
04/02/1998	1215	GWJ	AA	Good	16.0	11.0	5.19	67.06	19.7	1.2	23.70	2.83
05/13/1998	1400	GWJ	AA	Fair	15.0	13.0	4.94	28.98	15.7	1.0	16.20	1.79
06/04/1998	1415	GWJ	AA	Good	15.5	15.0	4.82	18.60	15.1	0.8	12.50	1.49
07/20/1998	1440	GWJ	Pygmy	Fair	27.5	26.5	4.62	6.42	9.4	0.7	6.54	0.98
08/07/1998	1405	GWJ	Pygmy	Fair	32.0	25.5	4.54	3.47	10.2	0.6	5.90	0.59
09/03/1998	1350	GWJ	Pygmy	Fair	31.0	26.5	4.41	1.06	5.2	0.4	2.18	0.49
10/01/1998	1455	GWJ	Pygmy	Fair	17.0	18.5	3.02	2.06	5.3	0.6	3.05	0.67
11/04/1998	1305	GWJ	Pygmy	Fair	19.0	15.0	2.61	2.00	3.9	0.4	1.59	1.26
12/07/1998	1505	GWJ	Pygmy	Fair	10.5	8.5	2.75	4.37	4.5	0.5	2.47	1.77
01/07/1999	1100	GWJ	Pygmy	Fair	9.5	6.0	2.65	3.03	4.9	0.8	3.74	0.81
02/04/1999	1440	GWJ	Pygmy	Fair	11.0	9.0	2.80	6.13	5.3	0.8	4.50	1.36
02/12/1999	1200	GWJ	Pygmy	Good	17.5	9.0	2.79	10.68	17.6	0.5	9.22	1.16
03/04/1999	0900	GWJ	Pygmy	Good	12.0	--	2.60	5.24	16.9	0.4	6.86	0.76
03/25/1999	0940	GWJ	AA	Fair	14.0	11.5	3.13	29.02	19.4	0.8	15.15	1.92
04/01/1999	1250	GWJ	Pygmy	Good	15.0	13.5	2.71	8.61	17.5	0.5	8.48	1.02
05/10/1999	1115	GWJ	Pygmy	Good	19.5	15.0	2.63	4.36	18.0	0.4	6.71	0.65
06/14/1999	1315	GWJ	Pygmy	Good	26.0	25.0	2.47	1.68	7.7	0.4	3.35	0.50
07/01/1999	1345	GWJ	Pygmy	Fair	29.0	29.5	2.33	0.25	2.1	0.2	0.41	0.60
07/08/1999	1055	GWJ	Pygmy	Poor	29.5	21.5	2.24	0.13	2.0	0.2	0.31	0.43
07/12/1999	1115	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/05/1999	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/01/1999	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-4

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Pine Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1105	GWJ	Pygmy	Fair	16.0	13.0	0.30	0.56	3.3	0.5	1.81	0.31
11/01/1995	1025	GWJ	Pygmy	Fair	14.0	13.0	0.29	0.49	3.1	0.5	1.65	0.29
12/05/1995	1115	GWJ	Pygmy	Fair	14.0	11.0	0.37	0.72	3.2	0.6	1.83	0.39
01/05/1996	1310	GWJ	Pygmy	Fair	11.0	9.5	0.66	1.72	3.9	0.6	2.48	0.69
02/02/1996	1415	GWJ	AA	Fair	12.5	11.0	1.49	21.55	11.2	1.3	14.35	1.50
03/08/1996	1100	TTC	AA	Fair	15.0	11.0	1.63	35.98	15.3	1.6	23.83	1.51
04/03/1996	1220	GWJ	AA	Fair	13.5	12.0	1.43	18.01	13.5	1.3	16.99	1.06
05/03/1996	1005	GWJ	Pygmy	Fair	16.0	12.5	1.16	6.96	9.7	0.9	8.59	0.81
06/05/1996	1155	GWJ	Pygmy	Good	27.0	16.0	1.05	5.05	10.8	0.8	8.90	0.57
07/05/1996	1030	GWJ	Pygmy	Good	20.0	14.0	0.79	2.28	10.4	0.6	6.51	0.35
08/05/1996	1140	GWJ	Pygmy	Fair	18.0	15.0	0.35	0.47	2.7	0.6	1.67	0.28
09/06/1996	0900	GWJ	Pygmy	Poor	10.5	12.5	0.27	0.09	1.6	0.3	0.49	0.18
10/02/1996	1200	GWJ	Pygmy	Poor	19.5	14.0	0.32	0.09	.8	0.2	0.14	0.59
11/04/1996	1325	GWJ	Pygmy	Poor	12.0	11.0	0.46	0.45	2.2	0.6	1.32	0.34
12/03/1996	1305	GWJ	Pygmy	Fair	10.5	8.5	0.81	2.85	7.1	0.8	5.95	0.48
12/17/1996	1210	GWJ	AA	Fair	11.0	10.5	1.39	16.00	12.8	1.3	16.12	0.99
01/30/1997	1135	GWJ	AA	Fair	12.0	11.0	1.95	69.91	18.2	1.5	26.68	2.62
02/26/1997	1155	GWJ	AA	Fair	12.0	10.0	1.29	10.54	9.7	1.1	10.92	0.96
04/08/1997	1315	GWJ	Pygmy	Good	16.5	11.5	0.98	4.32	9.7	0.7	7.22	0.60
05/07/1997	1040	GWJ	Pygmy	Fair	18.0	12.0	0.79	2.50	6.3	0.6	3.84	0.65
06/05/1997	1140	GWJ	Pygmy	Fair	17.0	14.0	0.59	1.23	5.0	0.4	2.10	0.59
07/03/1997	0925	GWJ	Pygmy	Fair	16.0	14.0	0.32	0.37	2.4	0.3	0.75	0.50
08/08/1997	0855	GWJ	Pygmy	Poor	17.0	16.0	0.15	0.05	1.2	0.2	0.27	0.18
09/04/1997	0915	GWJ	Pygmy	Poor	17.0	16.0	0.13	0.03	.6	0.2	0.11	0.31
10/02/1997	1350	GWJ	Flume	Good	--	--	0.12	0.04	--	--	--	--
11/07/1997	1155	GWJ	Pygmy	Poor	18.0	12.5	0.31	0.08	1.0	0.3	0.25	0.31
12/02/1997	1100	GWJ	Pygmy	Fair	7.0	9.5	0.96	4.28	6.7	0.7	4.40	0.97
12/31/1997	1030	GWJ	Pygmy	Fair	9.5	9.0	0.88	3.49	6.5	0.6	4.20	0.83
01/22/1998	1115	GWJ	AA	Fair	9.0	9.5	1.71	42.19	15.3	1.3	19.13	2.21
03/11/1998	1055	GWJ	AA	Fair	14.0	10.5	1.20	29.04	19.9	1.2	24.22	1.20
04/21/1998	1320	TLL	AA	Fair	20.0	15.0	1.17	34.27	12.6	1.1	14.31	2.39
06/09/1998	1045	GWJ	AA	Fair	15.0	13.0	0.84	9.27	18.8	0.9	16.25	0.57
07/20/1998	1145	GWJ	Pygmy	Fair	19.0	16.0	0.60	3.72	10.3	0.6	5.97	0.62
08/11/1998	1115	GWJ	Pygmy	Fair	23.0	16.0	0.37	2.06	5.9	0.9	5.32	0.39
09/01/1998	1025	GWJ	Pygmy	Poor	23.0	16.0	0.34	1.10	3.5	0.7	2.58	0.43
10/13/1998	1110	GWJ	Pygmy	Fair	14.5	12.5	0.35	1.18	3.0	0.9	2.70	0.44
11/04/1998	1140	GWJ	Pygmy	Fair	17.5	12.0	0.38	1.39	3.0	0.9	2.72	0.51
12/07/1998	1245	GWJ	Pygmy	Fair	6.5	7.5	0.69	4.46	10.1	0.7	6.71	0.66
01/07/1999	0910	GWJ	Pygmy	Fair	.5	6.0	0.44	1.98	3.3	1.0	3.33	0.60
02/04/1999	1230	GWJ	Pygmy	Fair	9.0	8.5	0.88	10.35	10.3	0.8	8.51	1.22
03/02/1999	1025	GWJ	Pygmy	Good	12.5	9.0	0.85	12.64	15.4	1.0	14.77	0.86
04/01/1999	1000	GWJ	AA	Fair	8.0	8.0	0.96	17.56	15.8	1.1	17.70	0.99
05/07/1999	1035	GWJ	Pygmy	Fair	14.5	10.5	0.77	9.61	13.9	1.0	14.19	0.68

TABLE C-4 (CONTINUED)

TRIBUTARY STATION: Pine Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
06/14/1999	1110	GWJ	Pygmy	Fair	21.0	13.5	0.52	3.51	9.9	0.6	5.81	0.60
07/12/1999	0940	GWJ	Pygmy	Fair	21.5	16.0	0.27	1.23	3.1	0.9	2.70	0.46
08/05/1999	0920	GWJ	Pygmy	Poor	14.0	14.5	0.17	0.63	3.0	0.8	2.48	0.25
09/15/1999	0930	GWJ	Pygmy	Poor	14.0	13.5	0.01	0.24	2.1	0.3	0.58	0.42

TABLE C-5

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: San Clemente Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/03/1995	1250	GWJ	Pygmy	Fair	30.5	15.0	1.48	0.75	3.8	0.6	2.33	0.32
11/03/1995	1010	GWJ	Pygmy	Fair	13.0	12.0	1.48	0.78	3.9	0.6	2.47	0.32
12/05/1995	1450	GWJ	Pygmy	Fair	16.5	11.0	1.55	0.95	4.0	0.6	2.59	0.37
01/04/1996	1320	GWJ	Pygmy	Fair	14.0	9.5	1.78	2.36	4.9	0.7	3.43	0.69
02/01/1996	1125	GWJ	AA	Good	14.5	11.0	3.10	46.04	20.6	1.6	33.92	1.36
03/06/1996	1120	GWJ	AA	Good	14.0	9.0	3.17	55.74	22.1	1.7	37.58	1.48
04/02/1996	1150	GWJ	AA	Good	14.5	12.0	2.89	35.12	20.4	1.5	30.22	1.16
05/02/1996	1205	GWJ	AA	Fair	25.0	15.0	2.26	12.59	17.0	1.0	17.69	0.71
06/04/1996	1120	GWJ	Pygmy	Good	25.0	17.0	2.07	7.80	14.6	0.9	13.36	0.58
07/05/1996	1400	GWJ	Pygmy	Good	23.5	17.5	1.76	2.79	9.3	0.6	5.79	0.48
08/01/1996	1100	GWJ	Pygmy	Fair	19.5	17.5	1.46	0.68	2.9	0.6	1.77	0.38
09/05/1996	1540	GWJ	Pygmy	Poor	26.0	15.0	1.35	0.08	.9	0.2	0.16	0.52
10/04/1996	1055	GWJ	Pygmy	Poor	18.5	13.0	1.28	0.08	.9	0.3	0.24	0.32
11/05/1996	0950	GWJ	Pygmy	Fair	12.0	9.0	1.44	0.43	2.8	0.5	1.48	0.29
12/04/1996	1430	GWJ	Pygmy	Good	15.5	8.5	1.88	3.37	10.2	0.6	6.62	0.51
12/12/1996	1440	GWJ	AA	Fair	--	--	3.09	46.93	21.5	1.9	41.31	1.14
01/06/1997	1035	GWJ	AA	Fair	4.0	8.0	3.41	86.91	19.8	1.7	34.22	2.54
01/28/1997	1310	GWJ	AA	Fair	17.0	12.0	3.97	178.49	48.3	1.4	65.46	2.73
02/03/1997	1415	GWJ	AA	Fair	13.5	11.0	3.34	80.90	19.9	1.7	34.74	2.33
03/06/1997	1410	GWJ	AA	Fair	14.5	10.5	2.50	17.40	18.8	1.5	28.70	0.61
04/04/1997	1335	GWJ	AA	Fair	16.5	12.0	2.20	8.87	17.1	1.4	23.64	0.38
05/08/1997	1215	GWJ	Pygmy	Fair	22.0	14.5	1.95	4.45	7.9	0.8	5.97	0.75
06/03/1997	1440	GWJ	Pygmy	Fair	--	--	1.67	2.16	4.1	0.8	3.27	0.66
07/02/1997	1300	GWJ	Pygmy	Fair	27.0	16.5	1.46	0.79	3.6	0.7	2.43	0.32
08/07/1997	1215	GWJ	Pygmy	Poor	29.5	18.0	1.25	0.06	1.3	0.1	0.15	0.42
09/03/1997	1100	GWJ	Pygmy	Poor	23.5	16.0	1.18	0.06	1.3	0.1	0.15	0.42
10/03/1997	1335	GWJ	Flume	Good	25.5	15.5	1.16	0.11	--	--	--	--
11/06/1997	1000	GWJ	Pygmy	Poor	18.0	12.0	1.23	0.11	1.4	0.2	0.29	0.38
11/12/1997	1210	GWJ	Pygmy	Fair	16.5	12.0	1.51	0.65	2.4	0.7	1.78	0.36
11/26/1997	1340	GWJ	AA	Poor	12.0	12.0	3.26	42.95	19.0	1.3	25.46	1.69
12/03/1997	1500	GWJ	AA	Fair	14.0	11.0	2.09	6.11	11.1	1.2	12.97	0.47
12/09/1997	1240	GWJ	AA	Good	8.5	9.5	2.82	27.23	20.3	1.6	32.97	0.83
12/30/1997	1510	GWJ	AA	Fair	13.0	9.5	2.08	6.46	17.0	1.1	18.57	0.35
01/16/1998	1240	GWJ	AA	Fair	16.0	12.5	3.74	124.13	22.5	1.9	41.84	2.97
02/25/1998	1215	GWJ	AA	Good	15.0	12.0	3.75	211.72	44.5	1.5	68.61	3.09
04/08/1998	1305	GWJ	AA	Fair	16.0	11.0	3.02	81.71	21.9	1.6	34.88	2.34
05/01/1998	1330	GWJ	AA	Fair	17.0	14.5	2.70	43.45	19.7	1.3	26.04	1.67
06/02/1998	1000	GWJ	AA	Fair	16.5	13.0	2.27	20.96	19.2	1.0	19.70	1.06
07/10/1998	1225	GWJ	AA	Fair	19.5	17.0	1.97	9.27	11.5	1.2	13.60	0.68
08/04/1998	1140	GWJ	Pygmy	Good	30.5	20.0	1.69	3.80	7.5	1.1	8.24	0.46
09/16/1998	0935	GWJ	Pygmy	Fair	14.0	15.5	1.42	1.12	4.1	0.8	3.40	0.33
10/02/1998	0955	GWJ	Pygmy	Fair	12.0	14.0	1.55	1.79	4.1	0.9	3.88	0.46
11/02/1998	1240	GWJ	Pygmy	Fair	18.5	11.0	1.56	1.71	4.2	0.9	3.97	0.43

TABLE C-5 (CONTINUED)

TRIBUTARY STATION: San Clemente Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
12/02/1998	1040	GWJ	AA	Fair	12.5	9.5	1.94	7.46	12.2	1.1	13.74	0.54
01/05/1999	1320	GWJ	Pygmy	Fair	13.0	5.5	1.68	2.85	4.5	1.0	4.53	0.63
01/21/1999	1400	GWJ	AA	Fair	12.5	10.5	2.15	12.76	13.1	1.3	16.41	0.78
02/02/1999	0940	GWJ	AA	Fair	2.0	5.5	2.26	17.63	18.8	1.0	19.25	0.92
02/11/1999	1240	GWJ	AA	Fair	12.0	7.0	2.76	54.26	19.9	1.4	28.29	1.92
03/01/1999	1045	GWJ	AA	Fair	14.5	10.0	2.21	18.10	18.5	1.0	17.96	1.01
04/07/1999	1245	GWJ	AA	Fair	9.5	8.0	2.43	26.36	18.9	1.2	22.20	1.19
05/06/1999	1040	GWJ	AA	Fair	18.0	12.0	2.18	14.64	18.5	1.0	17.79	0.82
06/01/1999	1015	GWJ	Pygmy	Fair	13.0	13.5	1.92	8.30	17.9	0.8	13.92	0.60
07/09/1999	1220	GWJ	Pygmy	Fair	27.0	17.0	1.52	2.20	11.2	0.6	7.22	0.30
08/03/1999	0945	GWJ	Pygmy	Fair	19.0	16.0	1.35	0.89	3.9	0.9	3.36	0.26
09/14/1999	0905	GWJ	Pygmy	Poor	13.5	12.5	1.23	0.37	2.1	0.6	1.29	0.28

TABLE C-6

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Sleepy Hollow Weir

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/03/1995	1025	GWJ	AA	Fair	26.0	19.5	1.76	9.10	21.2	1.2	25.77	0.35
10/31/1995	1500	GWJ	AA	Fair	16.5	15.5	1.74	8.71	21.0	1.2	25.75	0.34
11/02/1995	1450	GWJ	AA	Fair	14.5	15.0	1.48	8.69	21.1	1.2	26.04	0.33
11/14/1995	1245	GWJ	AA	Fair	--	--	1.62	9.21	21.0	1.3	26.87	0.34
12/01/1995	1410	GWJ	AA	Fair	16.0	12.0	1.61	9.12	21.0	1.2	25.15	0.36
12/14/1995	1320	GWJ	AA	Fair	--	--	2.37	56.90	37.9	1.5	56.27	1.01
01/02/1996	1600	GWJ	AA	Good	12.0	11.0	1.97	23.62	21.8	1.6	35.64	0.66
03/22/1996	1345	GWJ	AA	Fair	13.0	12.5	3.04	210.90	63.1	2.3	146.87	1.44
04/25/1996	1410	GWJ	AA	Good	27.0	16.5	2.51	90.70	58.9	2.0	120.28	0.75
05/02/1996	1455	GWJ	AA	Fair	27.0	18.5	2.35	68.19	58.4	1.9	113.02	0.60
06/03/1996	1400	GWJ	AA	Fair	32.0	21.0	2.18	43.60	20.6	1.9	39.53	1.10
06/13/1996	1520	GWJ	AA	Good	19.0	21.0	1.89	18.25	17.2	1.6	27.72	0.66
07/01/1996	1110	GWJ	AA	Good	31.5	21.0	1.85	16.87	17.4	1.6	27.94	0.60
08/01/1996	1220	GWJ	AA	Fair	23.0	19.0	1.64	8.72	12.7	1.3	15.91	0.55
08/02/1996	1035	GWJ	AA	Fair	20.0	21.0	1.64	8.75	12.7	1.2	15.38	0.57
08/08/1996	1335	GWJ	AA	Fair	27.5	24.0	1.65	9.21	12.8	1.2	15.52	0.59
08/15/1996	1510	GWJ	AA	Good	33.0	24.5	1.60	7.70	12.6	1.2	14.89	0.52
09/03/1996	1520	GWJ	AA	Good	21.5	21.5	1.61	8.22	12.9	1.2	15.43	0.53
10/01/1996	1230	GWJ	AA	Good	20.0	18.5	1.60	7.80	12.6	1.2	14.80	0.53
11/01/1996	1305	GWJ	AA	Fair	17.0	13.0	1.51	5.40	12.5	1.1	13.49	0.40
11/07/1996	1440	GWJ	AA	Fair	22.0	12.0	1.55	6.47	12.6	1.1	14.32	0.45
11/22/1996	1340	GWJ	AA	Fair	16.5	14.0	2.12	40.15	19.3	2.0	39.22	1.02
12/02/1996	1340	GWJ	AA	Good	14.0	9.5	1.94	20.21	17.5	1.7	29.63	0.68
02/19/1997	1100	GWJ	AA	Good	16.5	10.0	2.85	168.73	58.4	2.3	137.14	1.23
03/04/1997	1235	GWJ	AA	Fair	16.0	10.0	2.60	107.77	30.7	1.4	44.46	2.42
04/02/1997	1120	GWJ	AA	Fair	17.0	12.5	2.29	49.49	25.8	1.3	33.88	1.46
05/01/1997	1425	GWJ	AA	Good	21.0	17.5	2.04	28.12	20.1	1.7	33.87	0.83
05/20/1997	1050	GWJ	AA	Fair	22.0	19.5	1.84	15.34	16.9	1.5	25.60	0.60
06/02/1997	1045	GWJ	AA	Fair	19.0	19.5	1.79	14.52	16.7	1.7	27.71	0.52
06/18/1997	1010	GWJ	AA	Good	19.0	19.5	1.63	9.45	16.0	1.4	22.50	0.42
07/01/1997	1335	GWJ	AA	Fair	25.5	22.5	1.50	6.58	16.8	1.2	20.82	0.32
07/15/1997	1100	GWJ	AA	Good	28.0	21.5	1.50	5.82	16.2	1.3	20.43	0.28
08/01/1997	1240	GWJ	AA	Good	26.0	22.5	1.51	6.20	16.0	1.3	20.41	0.30
09/02/1997	1310	GWJ	AA	Good	26.0	23.0	1.50	6.03	15.7	1.3	20.28	0.30
10/01/1997	1425	GWJ	AA	Fair	25.0	21.0	1.46	5.38	15.8	1.2	19.70	0.27
10/03/1997	1510	GWJ	Pygmy	Good	--	--	1.43	4.91	8.9	1.0	9.29	0.53
10/17/1997	1400	GWJ	Pygmy	Good	27.0	17.5	1.36	4.12	8.9	1.0	8.46	0.49
10/31/1997	1105	GWJ	Pygmy	Good	21.5	16.0	1.32	3.79	8.9	0.9	8.19	0.46
11/06/1997	1150	GWJ	AA	Good	18.0	15.0	1.46	5.22	15.1	1.3	20.05	0.26
12/01/1997	1520	GWJ	AA	Fair	14.5	12.0	2.11	35.95	20.1	2.0	39.90	0.90
12/15/1997	1455	GWJ	AA	Fair	11.0	10.5	2.73	139.70	58.2	2.3	132.31	1.06
12/29/1997	1345	GWJ	AA	Fair	15.5	7.0	2.10	34.61	18.6	1.9	34.49	1.00
05/01/1998	1040	GWJ	AA	Good	18.0	15.0	3.34	218.03	58.9	2.7	156.72	1.39

TABLE C-6 (CONTINUED)

MAINSTEM STATION: Sleepy Hollow Weir

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
05/15/1998	1040	GWJ	AA	Good	16.0	12.0	3.22	195.57	59.0	2.5	149.30	1.31
06/02/1998	1140	GWJ	AA	Good	19.0	15.0	2.92	140.41	58.3	2.4	137.16	1.02
07/06/1998	1430	GWJ	AA	Good	28.0	20.0	2.48	69.66	58.4	1.9	112.66	0.62
08/04/1998	1400	GWJ	AA	Good	37.5	24.0	2.09	26.76	17.8	1.4	25.79	1.04
09/01/1998	1315	GWJ	AA	Good	31.0	22.0	1.85	12.54	15.5	1.4	22.43	0.56
10/02/1998	1140	GWJ	AA	Good	19.0	17.0	1.97	19.05	15.5	1.7	25.58	0.75
11/02/1998	1400	GWJ	AA	Good	19.5	13.0	1.96	17.86	15.6	1.6	25.62	0.70
12/02/1998	1225	GWJ	AA	Good	15.5	11.5	2.50	74.87	58.4	2.0	117.47	0.64
01/04/1999	1410	GWJ	AA	Good	20.5	7.0	2.05	22.92	15.7	1.8	27.78	0.82
01/21/1999	1520	GWJ	AA	Good	12.0	10.5	2.90	141.17	58.4	2.4	137.80	1.02
02/02/1999	1210	GWJ	AA	Good	14.5	8.0	2.85	131.17	58.3	2.3	135.89	0.97
03/01/1999	1350	GWJ	AA	Good	19.0	11.5	2.63	96.90	58.3	2.1	125.26	0.77
04/06/1999	1150	GWJ	AA	Good	9.5	9.0	2.96	149.77	58.5	2.4	141.46	1.06
05/04/1999	1335	GWJ	AA	Good	16.0	14.0	2.57	90.67	58.4	2.2	126.60	0.72
06/01/1999	1210	GWJ	AA	Good	18.0	17.0	2.21	42.69	20.8	1.6	33.89	1.26
07/06/1999	1315	GWJ	AA	Good	21.5	21.0	1.86	14.11	15.3	1.4	21.76	0.65
07/20/1999	1140	GWJ	AA	Good	22.5	20.0	1.70	9.17	15.2	1.2	18.43	0.50
08/03/1999	1100	GWJ	AA	Good	25.0	20.5	1.60	7.09	15.0	1.1	16.46	0.43
09/01/1999	1255	GWJ	AA	Good	23.5	20.0	1.63	7.96	14.9	1.2	17.46	0.46

TABLE C-7

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Tularcitos Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/03/1995	1410	GWJ	Pygmy	Fair	25.5	18.0	2.93	0.68	2.7	0.3	0.80	0.85
11/03/1995	1140	GWJ	Pygmy	Fair	15.0	13.5	2.97	1.02	2.8	0.3	0.81	1.27
12/05/1995	1320	GWJ	Pygmy	Fair	19.0	13.0	2.98	1.18	3.1	0.3	0.89	1.34
01/03/1996	1415	GWJ	Pygmy	Fair	16.0	11.0	3.02	1.61	3.4	0.4	1.25	1.29
01/31/1996	1205	TLL	AA	Fair	12.5	10.0	3.26	4.43	7.3	0.4	3.11	1.42
02/01/1996	1320	GWJ	Pygmy	Good	14.0	13.0	3.13	2.78	5.2	0.4	2.20	1.26
02/16/1996	1205	GWJ	Pygmy	Fair	--	--	3.11	2.64	5.2	0.3	1.74	1.52
02/20/1996	1025	TLL	AA	Good	--	--	3.44	9.43	9.2	0.5	4.71	2.00
02/28/1996	1335	GWJ	AA	Fair	--	--	3.70	17.17	9.8	0.7	7.34	2.34
03/08/1996	1430	GWJ	AA	Fair	22.0	16.0	3.39	7.80	8.4	0.5	4.39	1.78
04/02/1996	1415	GWJ	Pygmy	Fair	16.0	16.0	3.30	5.32	8.5	0.4	3.11	1.71
05/02/1996	1630	GWJ	Pygmy	Fair	25.0	19.5	3.13	1.60	3.1	0.5	1.67	0.96
06/04/1996	1410	GWJ	Pygmy	Fair	24.0	20.0	3.11	1.08	3.4	0.5	1.54	0.70
07/05/1996	1555	GWJ	Pygmy	Fair	21.0	19.0	3.04	0.62	3.2	0.4	1.23	0.50
08/02/1996	1145	GWJ	Pygmy	Fair	23.0	17.0	3.04	0.52	2.3	0.2	0.57	0.91
09/06/1996	1040	GWJ	Pygmy	Fair	18.5	13.5	3.04	0.42	2.2	0.2	0.53	0.80
10/04/1996	1200	GWJ	Pygmy	Fair	25.0	15.0	3.06	0.47	2.4	0.4	0.94	0.50
11/04/1996	1520	GWJ	Pygmy	Fair	12.5	12.0	3.10	0.79	2.4	0.3	0.83	0.95
12/04/1996	1600	GWJ	Pygmy	Fair	13.5	11.0	3.12	1.19	3.0	0.4	1.22	0.97
12/10/1996	1115	TLL	AA	Fair	13.0	11.5	3.47	10.93	10.0	0.5	5.32	2.05
01/03/1997	1235	GWJ	AA	Fair	14.5	13.5	3.88	23.86	8.9	1.0	8.62	2.77
01/21/1997	1000	GWJ	AA	Fair	13.0	9.5	3.78	19.07	9.1	0.9	7.76	2.46
01/27/1997	1400	TLL	AA	Fair	14.0	12.0	4.44	55.40	13.6	1.0	13.29	4.17
02/04/1997	1120	TLL	AA	Fair	13.0	12.0	3.50	11.52	8.4	0.6	4.65	2.48
03/06/1997	1600	GWJ	Pygmy	Fair	13.0	14.0	3.30	4.49	6.1	0.3	2.03	2.21
04/02/1997	1340	GWJ	Pygmy	Good	16.0	14.0	3.18	3.25	5.6	0.3	1.83	1.77
05/08/1997	1410	GWJ	Pygmy	Fair	23.0	17.5	3.08	1.81	4.0	0.3	1.16	1.56
06/09/1997	1415	GWJ	Pygmy	Fair	25.0	19.5	3.04	1.19	3.8	0.2	0.88	1.36
07/02/1997	1510	GWJ	Pygmy	Fair	30.0	20.0	2.95	0.55	1.8	0.2	0.43	1.28
08/07/1997	1350	GWJ	Pygmy	Fair	27.0	21.0	2.93	0.32	1.9	0.2	0.35	0.93
09/03/1997	1215	GWJ	Pygmy	Fair	25.0	18.5	2.97	0.43	2.1	0.2	0.44	0.99
10/07/1997	1210	GWJ	Pygmy	Fair	18.0	14.5	2.97	0.48	2.7	0.2	0.50	0.96
11/06/1997	1320	GWJ	Pygmy	Fair	21.0	14.5	3.01	0.71	2.7	0.2	0.62	1.14
11/26/1997	1155	GWJ	Pygmy	Fair	12.5	13.0	3.37	6.50	7.2	0.5	3.43	1.89
12/03/1997	1620	GWJ	Pygmy	Fair	13.5	12.0	3.14	1.81	4.1	0.4	1.47	1.23
12/31/1997	1320	GWJ	Pygmy	Fair	19.0	11.0	3.17	1.87	4.6	0.3	1.45	1.29
01/16/1998	1440	GWJ	AA	Fair	17.5	15.0	4.09	33.32	9.3	0.9	8.68	3.84
02/02/1998	1445	GWJ	AA	Fair	--	--	6.06	254.20	17.7	2.7	46.91	5.42
02/10/1998	1225	GWJ	AA	Fair	--	--	5.41	128.64	28.7	1.0	27.29	4.71
02/24/1998	1200	GWJ	AA	Fair	11.5	12.0	5.82	137.66	28.7	1.0	29.36	4.69
03/06/1998	1210	GWJ	AA	Good	13.0	13.5	4.35	49.30	10.8	0.8	9.16	5.38
03/18/1998	1230	GWJ	AA	Fair	19.0	17.5	3.82	25.80	10.6	0.6	6.52	3.95
04/02/1998	1410	GWJ	AA	Fair	13.5	13.0	4.30	63.16	12.8	0.9	11.99	5.27

TABLE C-7 (CONTINUED)

TRIBUTARY STATION: Tularcitos Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
05/07/1998	1330	GWJ	AA	Fair	15.0	15.0	3.82	28.59	11.7	0.6	7.15	4.00
06/02/1998	1330	GWJ	AA	Fair	20.0	19.0	3.61	18.06	10.7	0.5	5.13	3.52
07/13/1998	1205	GWJ	Pygmy	Fair	23.0	19.5	3.35	11.21	9.2	0.4	3.71	3.02
08/10/1998	1315	GWJ	Pygmy	Fair	26.5	21.0	3.21	6.27	6.9	0.4	3.08	2.04
09/16/1998	1055	GWJ	Pygmy	Fair	21.0	16.0	3.11	4.67	6.0	0.4	2.66	1.76
10/07/1998	1410	GWJ	Pygmy	Fair	22.0	16.0	3.08	3.76	6.0	0.4	2.57	1.46
11/04/1998	1430	GWJ	Pygmy	Fair	15.0	14.5	3.15	4.72	6.2	0.5	2.90	1.63
12/07/1998	1615	GWJ	Pygmy	Fair	8.0	10.0	3.17	6.58	6.7	0.6	3.86	1.70
01/05/1999	1500	GWJ	Pygmy	Fair	18.0	10.5	3.11	6.03	6.6	0.5	3.47	1.74
02/11/1999	1430	GWJ	AA	Fair	15.5	11.5	3.19	12.02	10.0	0.5	5.33	2.25
03/04/1999	1020	GWJ	Pygmy	Fair	12.5	10.0	3.05	7.97	9.0	0.4	3.75	2.13
04/06/1999	1345	GWJ	AA	Fair	9.0	10.0	3.11	7.99	9.0	0.5	4.71	1.70
05/06/1999	1315	GWJ	Pygmy	Good	19.5	17.0	3.00	5.38	8.6	0.4	3.64	1.48
06/10/1999	1145	GWJ	Pygmy	Good	18.0	15.0	2.99	4.01	7.6	0.5	3.53	1.13
07/09/1999	1455	GWJ	Pygmy	Fair	25.0	19.5	2.90	1.93	7.5	0.4	3.02	0.64
08/03/1999	1225	GWJ	Pygmy	Good	25.0	18.0	2.82	1.87	5.4	0.5	2.75	0.68
09/14/1999	1100	GWJ	Pygmy	Fair	18.0	14.0	2.81	1.97	5.2	0.4	2.01	0.98

TABLE C-8

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Hitchcock Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1555	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/1995	1445	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/01/1995	1515	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/05/1996	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/17/1996	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/25/1996	1135	TTC	Pygmy	Fair	10.5	10.0	2.63	0.47	3.7	0.4	1.49	0.31
01/31/1996	1020	GWJ	Pygmy	Fair	12.5	11.0	3.07	6.18	9.1	0.6	5.61	1.10
02/01/1996	1410	GWJ	Pygmy	Fair	12.5	11.5	2.81	2.90	5.6	0.4	2.49	1.17
02/16/1996	1045	GWJ	Pygmy	Fair	--	--	2.49	0.33	2.8	0.3	0.79	0.41
02/20/1996	1115	TLL	AA	Fair	--	--	3.45	40.07	10.0	1.1	10.86	3.69
02/23/1996	1455	GWJ	Pygmy	Fair	--	--	2.92	7.28	8.7	0.6	4.83	1.51
03/01/1996	1625	GWJ	Pygmy	Fair	15.5	12.0	2.76	3.62	7.7	0.4	3.37	1.07
03/19/1996	1210	GWJ	Pygmy	Fair	--	--	2.60	1.53	4.2	0.4	1.76	0.87
04/02/1996	1530	GWJ	Pygmy	Fair	15.0	14.0	2.53	0.93	4.1	0.4	1.60	0.58
05/01/1996	1435	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/04/1996	1440	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/03/1996	1445	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/1996	1355	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/04/1996	1555	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/03/1996	1430	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/05/1996	1115	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/18/1996	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/04/1996	1625	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/10/1996	1200	TLL	AA	Fair	14.0	11.5	3.10	11.40	7.6	0.8	5.89	1.94
12/13/1996	1235	GWJ	Pygmy	Poor	17.0	13.0	2.38	0.14	1.8	0.3	0.62	0.23
12/17/1996	1535	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/03/1997	1335	GWJ	AA	Fair	13.0	13.0	3.04	12.71	7.8	0.8	6.05	2.10
01/21/1997	1335	GWJ	Pygmy	Fair	15.0	11.0	2.88	6.74	7.7	0.6	4.84	1.39
01/27/1997	1230	GWJ	AA	Fair	17.0	12.5	3.06	20.97	11.0	0.9	10.09	2.08
02/04/1997	1150	GWJ	Pygmy	Good	14.5	12.0	2.57	2.78	6.8	0.5	3.31	0.84
02/28/1997	1300	GWJ	Pygmy	Fair	14.0	12.0	2.35	0.32	2.5	0.4	0.94	0.34
04/02/1997	1425	GWJ	na	na	--	--	--	No Flow	--	--	--	--
05/07/1997	1405	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/09/1997	1330	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/03/1997	1135	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/07/1997	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/1997	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/01/1997	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/06/1997	1350	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/02/1997	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1997	1425	GWJ	Pygmy	Fair	11.0	10.5	2.78	5.96	8.9	0.6	5.08	1.17
01/05/1998	1425	GWJ	Pygmy	Good	15.0	8.5	2.52	1.41	6.5	0.4	2.45	0.58
01/15/1998	1625	GWJ	AA	Fair	--	--	3.01	15.10	10.5	0.9	9.16	1.65

TABLE C-8 (CONTINUED)

TRIBUTARY STATION: Hitchcock Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
02/09/1998	1455	TLL	AA	Fair	14.0	11.5	3.71	44.73	12.9	0.9	12.22	3.66
02/24/1998	1300	GWJ	AA	Good	12.0	12.0	3.50	31.23	12.3	0.9	11.45	2.73
03/06/1998	1330	GWJ	AA	Fair	13.0	11.5	3.05	6.36	10.4	0.6	6.07	1.05
04/09/1998	1015	GWJ	AA	Fair	17.0	11.0	3.07	7.24	10.1	0.7	6.70	1.08
05/12/1998	1255	GWJ	Pygmy	Fair	14.0	13.0	2.80	2.02	5.3	0.5	2.76	0.73
06/10/1998	1200	GWJ	Pygmy	Fair	20.5	15.5	2.61	0.51	2.6	0.3	0.66	0.78
07/07/1998	1355	GWJ	Pygmy	Poor	28.0	--	2.45	0.07	.9	0.2	0.18	0.38
07/22/1998	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/10/1998	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/15/1998	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/07/1998	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/12/1998	1420	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1998	1050	GWJ	Pygmy	Poor	10.0	8.5	2.39	0.01	.5	0.1	0.06	0.23
12/16/1998	1025	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/05/1999	1540	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/21/1999	1235	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/12/1999	1445	GWJ	Pygmy	Fair	15.0	9.0	2.69	1.00	4.3	0.3	1.22	0.82
03/04/1999	1115	GWJ	Pygmy	Poor	11.5	10.0	2.45	0.15	1.9	0.3	0.48	0.31
03/25/1999	0830	GWJ	Pygmy	Good	14.5	10.5	2.95	4.81	9.7	0.5	5.01	0.96
04/05/1999	1210	GWJ	Pygmy	Fair	15.5	9.0	2.55	0.38	2.2	0.3	0.76	0.50
05/06/1999	1415	GWJ	Pygmy	Poor	18.0	18.0	2.37	0.04	1.0	0.1	0.14	0.26
05/24/1999	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/01/1999	1340	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/08/1999	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/03/1999	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/15/1999	1110	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-9

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Garzas Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1600	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/1995	1515	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/01/1995	1525	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/02/1996	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/09/1996	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/17/1996	1350	GWJ	AA	Fair	--	--	2.10	6.62	19.8	1.0	19.55	0.34
01/25/1996	0910	GWJ	AA	Fair	12.0	10.0	2.80	48.67	24.0	1.7	41.30	1.18
01/31/1996	1105	TLL	AA	Good	13.5	10.5	2.91	80.27	24.5	1.7	41.38	1.94
02/16/1996	1310	GWJ	Pygmy	Fair	--	--	2.00	8.28	13.8	0.7	9.55	0.87
02/20/1996	1715	GWJ	AA	Fair	--	--	3.32	168.53	27.2	1.9	52.12	3.23
02/23/1996	1550	GWJ	AA	Good	--	--	2.61	63.31	24.7	1.4	33.43	1.89
03/05/1996	1320	GWJ	AA	Good	14.0	12.0	2.41	39.40	24.1	1.1	26.94	1.46
04/04/1996	1345	GWJ	AA	Fair	22.5	15.0	2.07	10.51	12.4	1.0	12.98	0.81
05/02/1996	1755	GWJ	Pygmy	Fair	23.0	19.5	1.82	2.86	5.8	0.4	2.60	1.10
06/04/1996	1530	GWJ	Pygmy	Fair	23.5	22.0	1.64	1.01	4.9	0.3	1.59	0.64
07/01/1996	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/1996	1405	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/1996	1410	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/01/1996	1345	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/04/1996	1135	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/18/1996	1200	GWJ	Pygmy	Fair	22.0	14.5	1.75	1.68	5.3	0.4	2.10	0.80
12/02/1996	1510	GWJ	Pygmy	Poor	14.0	9.5	1.32	0.06	1.1	0.1	0.16	0.40
12/10/1996	0945	TLL	AA	Fair	15.0	12.5	3.55	168.49	25.0	2.0	50.58	3.33
12/12/1996	1225	GWJ	AA	Good	--	--	2.38	37.76	20.5	1.1	22.85	1.65
01/03/1997	1445	GWJ	AA	Good	12.0	13.0	3.06	124.10	25.1	1.7	41.82	2.97
01/21/1997	1500	GWJ	AA	Good	15.0	11.0	2.67	72.59	23.8	1.3	31.77	2.29
01/28/1997	1535	GWJ	AA	Good	16.5	12.5	2.76	94.59	25.4	1.4	36.59	2.59
02/04/1997	1230	TLL	AA	Good	14.0	12.5	2.34	39.03	23.8	1.0	23.18	1.68
02/28/1997	1420	GWJ	AA	Good	14.0	11.0	2.03	9.62	13.0	1.0	12.45	0.77
04/04/1997	1520	GWJ	AA	Fair	14.0	14.0	1.83	3.31	9.3	1.1	9.79	0.34
05/07/1997	1500	GWJ	Pygmy	Fair	23.0	19.0	1.67	0.78	3.8	0.4	1.43	0.55
05/20/1997	1220	GWJ	Pygmy	Poor	23.5	18.0	1.23	0.02	.7	0.1	0.08	0.25
06/02/1997	1215	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/01/1997	1515	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/1997	1405	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/02/1997	1435	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/03/1997	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/06/1997	1410	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/26/1997	1530	GWJ	AA	Fair	13.0	12.5	1.97	5.91	12.7	0.9	11.07	0.53
12/02/1997	1315	GWJ	AA	Fair	17.0	10.5	1.91	4.88	9.5	1.2	11.26	0.43
12/09/1997	1525	GWJ	AA	Fair	9.5	9.5	2.20	26.52	20.4	1.0	20.13	1.32
12/30/1997	1320	GWJ	Pygmy	Fair	19.0	9.0	1.82	2.41	8.1	0.5	4.10	0.59
01/15/1998	1440	GWJ	AA	Fair	--	--	4.14	326.23	29.9	2.5	75.58	4.32

TABLE C-9 (CONTINUED)

TRIBUTARY STATION: Garzas Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
01/20/1998	1220	GWJ	AA	Fair	16.0	11.0	2.69	82.22	25.0	1.3	33.53	2.45
02/10/1998	1340	GWJ	AA	Fair	--	--	3.12	172.62	33.0	2.2	71.08	2.43
02/24/1998	1420	GWJ	AA	Fair	12.0	11.5	3.06	151.83	29.3	1.9	55.73	2.72
03/06/1998	1430	GWJ	AA	Good	14.5	12.0	2.26	46.85	27.8	1.2	33.66	1.39
04/09/1998	1130	GWJ	AA	Good	18.0	12.0	2.32	54.26	28.0	1.1	31.55	1.72
05/12/1998	1100	GWJ	AA	Good	12.5	13.0	1.85	16.00	21.6	0.8	17.60	0.91
06/04/1998	1535	GWJ	AA	Fair	17.0	15.5	1.63	8.01	11.8	1.3	15.91	0.50
07/07/1998	1510	GWJ	AA	Fair	24.0	22.0	1.44	3.32	11.7	1.1	13.05	0.25
07/31/1998	1250	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/03/1998	1155	GWJ	Flume	Good	--	--	1.09	0.07	--	--	--	--
08/04/1998	0945	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/06/1998	1215	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/04/1998	0845	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/06/1998	1545	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/02/1998	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1998	1305	GWJ	Pygmy	Fair	12.0	9.0	1.28	2.72	9.5	0.9	8.23	0.33
01/05/1999	1600	GWJ	Pygmy	Poor	15.5	7.5	1.03	0.07	1.1	0.1	0.16	0.42
01/25/1999	1245	GWJ	AA	Fair	13.0	8.5	1.44	6.33	11.7	1.3	14.94	0.42
02/10/1999	1715	GWJ	AA	Good	11.0	9.0	2.44	61.50	23.9	1.4	32.67	1.88
03/04/1999	1330	GWJ	AA	Good	14.0	11.5	2.02	11.34	20.5	0.9	17.78	0.64
03/25/1999	1340	TLL	AA	Good	15.0	12.0	2.39	53.76	24.4	1.3	32.79	1.64
04/05/1999	1305	GWJ	AA	Good	10.5	10.5	2.09	14.83	21.4	0.9	19.21	0.77
05/06/1999	1440	GWJ	Pygmy	Good	20.0	16.5	1.90	9.34	21.0	0.8	16.77	0.56
06/10/1999	1320	GWJ	AA	Fair	18.0	17.0	1.61	3.31	11.1	1.2	13.07	0.25
07/01/1999	1505	GWJ	Pygmy	Fair	20.0	22.0	1.18	0.50	3.0	0.4	1.17	0.43
07/08/1999	1240	GWJ	Pygmy	Poor	22.0	20.5	1.07	0.24	1.5	0.3	0.41	0.59
07/13/1999	1040	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/03/1999	1335	GWJ	Pygmy	Poor	24.0	23.0	1.00	0.11	1.4	0.2	0.32	0.35
08/05/1999	1120	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/17/1999	1120	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/14/1999	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-10

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Don Juan Bridge

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/03/1995	1525	GWJ	AA	Fair	21.0	20.0	4.10	8.36	20.1	0.9	18.47	0.45
11/02/1995	1630	GWJ	AA	Good	13.0	16.5	4.10	8.91	20.1	0.9	18.52	0.48
12/01/1995	1625	GWJ	AA	Fair	12.5	14.5	4.09	10.30	19.9	0.9	18.30	0.56
12/04/1995	1620	GWJ	AA	Fair	18.0	15.0	4.08	9.96	19.9	0.9	18.13	0.55
12/13/1995	1425	GWJ	AA	Fair	--	--	4.60	41.16	42.0	1.3	54.96	0.75
01/02/1996	1310	GWJ	AA	Fair	21.5	13.5	4.41	25.95	39.5	1.4	54.24	0.48
01/17/1996	1455	GWJ	AA	Good	--	--	5.33	136.67	49.9	1.8	88.31	1.55
01/25/1996	1505	GWJ	AA	Good	12.0	11.0	5.85	233.38	49.2	2.2	110.62	2.11
02/03/1996	1310	GWJ	AA	Good	17.0	13.0	6.01	301.60	52.1	2.3	122.42	2.46
02/05/1996	1340	GWJ	AA	Fair	--	--	8.13	1145.50	84.6	4.4	374.49	3.06
02/13/1996	1445	GWJ	AA	Good	22.0	15.0	5.33	161.08	47.4	1.8	87.29	1.85
02/20/1996	1500	GWJ	AA	Fair	--	--	9.10	2029.00	95.7	6.1	584.75	3.47
03/04/1996	1245	GWJ	AA	Fair	16.5	13.0	6.32	454.18	88.5	2.4	211.50	2.15
03/19/1996	1310	GWJ	AA	Fair	--	--	5.76	282.26	47.5	2.0	95.07	2.97
04/01/1996	1400	GWJ	AA	Fair	14.0	16.0	5.42	207.79	41.5	1.9	76.85	2.70
04/16/1996	0950	GWJ	AA	Good	--	--	5.11	139.76	33.5	1.8	61.38	2.28
05/01/1996	1525	GWJ	AA	Good	27.0	22.0	4.79	82.65	30.7	1.5	45.25	1.83
05/20/1996	1320	GWJ	AA	Good	--	--	4.87	94.65	30.9	1.5	46.81	2.02
06/03/1996	1120	GWJ	AA	Good	25.0	20.0	4.56	47.86	27.8	1.2	32.82	1.46
06/13/1996	1205	GWJ	AA	Good	15.5	18.0	4.27	23.16	17.9	1.2	20.77	1.12
07/03/1996	1540	GWJ	AA	Good	28.5	23.0	4.41	16.71	16.7	1.1	17.66	0.95
07/15/1996	1150	GWJ	AA	Good	21.0	20.0	4.35	13.89	16.8	1.0	16.40	0.85
07/24/1996	0935	GWJ	AA	Good	21.0	18.0	4.25	13.00	16.8	1.0	15.96	0.81
08/01/1996	1440	GWJ	AA	Fair	27.0	22.0	4.17	8.70	14.4	1.0	14.56	0.60
08/15/1996	1650	GWJ	AA	Fair	20.5	22.0	4.11	7.00	14.4	0.9	13.62	0.51
08/28/1996	1455	GWJ	AA	Fair	26.5	21.0	4.24	6.68	14.5	1.1	15.29	0.44
09/06/1996	1140	GWJ	AA	Fair	23.5	18.0	3.97	7.11	14.7	1.1	16.48	0.43
09/17/1996	1335	GWJ	AA	Fair	26.5	19.0	4.03	9.38	14.8	1.2	17.63	0.53
10/01/1996	1430	GWJ	AA	Fair	19.0	17.5	3.98	7.28	14.9	1.1	15.97	0.46
11/01/1996	1430	GWJ	AA	Fair	19.0	16.0	3.97	6.68	14.9	1.0	15.59	0.43
11/22/1996	1520	GWJ	AA	Good	14.0	16.0	4.49	39.48	31.0	1.5	46.43	0.85
12/02/1996	1555	GWJ	AA	Good	10.5	13.0	4.31	24.59	29.8	1.3	38.45	0.64
12/10/1996	1500	GWJ	AA	Fair	--	--	8.74	1846.38	88.8	5.7	504.75	3.66
12/13/1996	1010	GWJ	AA	Good	16.0	13.5	6.03	381.37	85.0	2.2	182.89	2.09
01/02/1997	1010	GWJ	AA	Fair	--	--	9.22	2584.57	90.5	7.8	709.28	3.64
01/16/1997	1410	GWJ	AA	Good	--	--	6.04	411.87	55.6	2.3	129.77	3.17
01/27/1997	1410	GWJ	AA	Fair	--	--	8.47	1963.50	27.5	16.2	444.69	4.42
02/06/1997	1120	GWJ	AA	Good	16.0	11.0	6.22	400.63	54.8	2.3	124.45	3.22
02/19/1997	1355	GWJ	AA	Good	18.0	13.0	5.61	189.22	52.8	1.8	96.12	1.97
03/04/1997	1055	TLL	AA	Fair	14.0	12.5	5.33	130.92	50.5	1.5	74.13	1.77
04/03/1997	1330	GWJ	AA	Good	24.0	17.0	4.90	57.96	42.8	1.1	47.18	1.23
05/02/1997	1420	GWJ	AA	Good	19.5	19.0	4.63	31.70	30.2	1.1	33.36	0.95
06/02/1997	1300	GWJ	AA	Good	21.0	20.5	4.34	13.60	14.4	1.0	13.76	0.99

TABLE C-10 (CONTINUED)

MAINSTEM STATION: Don Juan Bridge

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
07/01/1997	1545	GWJ	Pygmy	Good	26.0	22.5	4.14	5.87	13.0	0.8	10.47	0.56
08/01/1997	1440	GWJ	Pygmy	Fair	22.0	21.5	4.10	5.08	11.5	0.8	8.85	0.57
09/02/1997	1500	GWJ	Pygmy	Good	23.0	21.0	4.10	4.48	13.1	0.7	9.32	0.48
10/10/1997	1300	GWJ	Pygmy	Good	17.0	16.0	4.10	4.11	12.4	0.7	8.90	0.46
10/23/1997	1425	GWJ	Pygmy	Good	20.0	18.0	4.04	3.41	12.1	0.7	8.13	0.42
11/06/1997	1430	GWJ	Pygmy	Good	19.0	17.5	4.05	3.00	12.1	0.7	8.11	0.37
12/02/1997	1425	GWJ	AA	Good	17.0	14.5	4.80	41.07	42.5	1.0	43.42	0.95
12/10/1997	0950	GWJ	AA	Good	10.0	10.0	5.58	178.72	53.3	1.6	85.95	2.08
12/30/1997	1200	GWJ	AA	Good	18.5	11.5	4.78	43.09	43.1	1.0	44.73	0.96
01/12/1998	1250	GWJ	AA	Good	17.0	12.5	6.29	405.98	56.7	2.4	138.51	2.93
01/28/1998	1330	GWJ	AA	Good	20.5	13.0	5.70	220.20	51.8	1.8	91.53	2.41
02/03/1998	0900	GWJ	AA	Poor	--	--	12.74	7945.85	101.6	9.6	971.51	8.18
02/20/1998	1400	GWJ	AA	Good	--	--	7.07	1404.72	65.0	4.1	267.25	5.26
03/03/1998	1400	GWJ	AA	Fair	--	--	5.93	871.00	55.3	3.5	194.35	4.48
03/19/1998	1105	GWJ	AA	Fair	16.0	14.0	4.47	317.61	73.0	1.5	108.31	2.93
04/15/1998	1325	GWJ	AA	Good	15.0	13.0	5.29	529.61	76.5	1.8	141.39	3.75
05/07/1998	1130	GWJ	AA	Good	14.5	14.5	4.38	298.56	72.5	1.4	98.50	3.03
06/05/1998	1450	GWJ	AA	Good	18.0	19.0	3.98	168.88	36.2	1.9	67.02	2.52
07/02/1998	1525	GWJ	AA	Good	19.0	18.5	3.70	94.35	37.1	1.3	47.37	1.99
08/06/1998	1405	GWJ	Pygmy	Good	20.0	25.5	3.14	37.86	31.3	0.9	27.25	1.39
09/04/1998	0910	GWJ	Pygmy	Good	19.5	17.5	2.86	16.10	29.7	0.6	18.59	0.87
10/07/1998	1525	GWJ	Pygmy	Good	19.0	21.0	2.85	18.44	26.1	0.6	15.10	1.22
11/10/1998	1435	GWJ	Pygmy	Good	11.0	13.5	2.98	27.07	30.3	0.7	20.70	1.31
12/03/1998	1250	GWJ	AA	Good	10.5	13.0	3.60	76.47	34.6	1.2	40.68	1.88
01/06/1999	0820	GWJ	Pygmy	Good	4.5	7.5	3.17	33.81	31.2	0.7	22.49	1.50
01/21/1999	1100	GWJ	AA	Fair	15.0	12.0	4.18	172.44	39.5	1.5	60.87	2.83
02/03/1999	1515	GWJ	AA	Fair	16.5	11.5	4.08	134.44	38.5	1.3	51.30	2.62
02/09/1999	1500	GWJ	AA	Fair	--	--	7.45	2162.37	68.0	5.5	372.50	5.81
02/22/1999	1115	GWJ	AA	Fair	14.5	11.5	4.18	159.64	68.5	1.0	68.75	2.32
03/10/1999	1155	GWJ	AA	Fair	12.5	10.5	3.92	127.22	37.7	1.4	54.47	2.34
04/09/1999	1225	GWJ	AA	Fair	11.0	11.0	4.45	221.93	70.3	1.2	83.85	2.65
05/03/1999	1150	GWJ	AA	Good	14.5	13.0	3.70	108.61	35.8	1.4	50.33	2.16
06/09/1999	1125	GWJ	AA	Good	16.0	16.0	3.12	40.85	32.4	1.0	33.96	1.20
07/12/1999	1240	GWJ	AA	Fair	23.0	21.5	2.69	13.19	23.9	0.8	18.91	0.70
08/03/1999	1425	GWJ	AA	Good	24.0	24.0	2.48	6.49	16.3	0.9	14.29	0.45
09/01/1999	1420	GWJ	Pygmy	Fair	18.0	21.0	2.45	5.62	19.0	0.8	14.63	0.38

TABLE C-11

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Robinson Canyon Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1620	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/1995	1530	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1995	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/12/1995	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/03/1996	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/16/1996	1505	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/17/1996	1120	GWJ	Pygmy	Poor	--	--	2.55	0.05	1.1	0.2	0.22	0.25
01/25/1996	1400	GWJ	Pygmy	Fair	13.0	10.0	2.77	0.87	2.7	0.5	1.37	0.63
01/31/1996	1000	TLL	AA	Fair	13.5	10.5	3.14	5.98	9.0	0.7	5.98	1.00
02/01/1996	1525	GWJ	Pygmy	Fair	12.0	11.0	2.86	1.75	4.4	0.5	2.23	0.78
02/16/1996	1505	GWJ	Pygmy	Poor	--	--	2.66	0.30	1.6	0.5	0.72	0.42
02/20/1996	1245	TLL	AA	Fair	--	--	3.72	32.55	14.0	0.9	12.65	2.57
02/28/1996	1455	GWJ	AA	Poor	--	--	3.20	9.55	6.6	1.3	8.52	1.12
03/05/1996	1515	GWJ	AA	Fair	12.0	11.5	3.13	6.54	7.7	0.7	5.41	1.21
04/04/1996	1525	GWJ	Pygmy	Fair	18.5	12.5	2.77	0.72	2.4	0.4	0.87	0.82
05/01/1996	1405	GWJ	Pygmy	Fair	30.0	17.5	2.62	0.15	1.7	0.3	0.45	0.33
06/06/1996	1705	GWJ	Pygmy	Poor	16.0	15.5	2.49	0.01	.4	0.1	0.04	0.25
07/01/1996	1350	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/1996	1540	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/1996	1325	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/03/1996	1510	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/05/1996	1140	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/18/1996	1120	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/04/1996	1645	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/11/1996	1300	GWJ	Pygmy	Good	19.0	13.0	3.05	6.25	9.8	0.8	7.73	0.81
12/22/1996	1240	GWJ	AA	Fair	--	--	3.70	35.17	11.3	1.2	13.52	2.60
01/07/1997	1230	GWJ	Pygmy	Good	9.0	8.0	3.12	4.73	8.3	0.5	4.07	1.16
01/21/1997	1300	TLL	AA	Fair	16.0	10.0	3.45	20.47	11.0	1.1	12.12	1.69
02/04/1997	1325	GWJ	Pygmy	Good	15.0	11.5	3.09	4.27	8.4	0.6	5.31	0.80
02/28/1997	1520	GWJ	Pygmy	Fair	12.0	10.0	2.83	0.82	2.5	0.5	1.18	0.69
04/09/1997	1535	GWJ	Pygmy	Poor	14.5	12.0	2.72	0.24	1.4	0.3	0.41	0.60
05/07/1997	1555	GWJ	Pygmy	Poor	21.5	15.5	2.60	0.06	.7	0.1	0.10	0.63
05/27/1997	0845	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/09/1997	1515	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/03/1997	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/07/1997	1435	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/1997	1300	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/10/1997	1345	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/07/1997	1525	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/02/1997	1540	GWJ	Pygmy	Fair	14.5	10.0	2.79	0.37	2.4	0.4	1.01	0.36
12/10/1997	1125	GWJ	Pygmy	Good	10.5	8.0	3.04	3.10	8.8	0.6	5.06	0.61
12/30/1997	1100	GWJ	Pygmy	Fair	13.0	7.0	2.74	0.22	2.3	0.4	0.91	0.24
01/05/1998	1210	GWJ	Pygmy	Fair	11.0	9.0	3.18	6.66	8.8	0.7	5.82	1.14

TABLE C-11 (CONTINUED)

TRIBUTARY STATION: Robinson Canyon Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
01/15/1998	1110	TLL	AA	Good	14.5	13.0	3.74	41.35	10.6	1.3	13.56	3.05
01/21/1998	1450	GWJ	AA	Fair	17.5	10.5	3.22	12.18	10.1	1.0	9.86	1.24
02/09/1998	1300	TLL	AA	Fair	14.0	11.5	3.84	56.92	20.2	0.9	18.53	3.07
02/24/1998	1435	TLL	AA	Fair	12.0	11.0	3.17	40.48	19.0	0.8	16.01	2.53
03/05/1998	1450	GWJ	AA	Fair	14.0	10.5	2.52	7.21	8.3	0.7	5.81	1.24
04/01/1998	1350	GWJ	AA	Fair	14.0	11.0	2.92	21.90	9.7	1.0	9.22	2.38
05/12/1998	1425	GWJ	Pygmy	Fair	14.0	13.5	2.23	1.67	6.4	0.5	3.01	0.56
06/10/1998	1510	GWJ	Pygmy	Fair	20.0	16.0	2.09	0.61	4.6	0.5	2.43	0.25
07/13/1998	1425	GWJ	Pygmy	Poor	21.0	22.5	2.01	0.25	1.7	0.3	0.47	0.53
08/10/1998	1530	GWJ	Flume	Good	21.0	24.5	1.92	0.08	--	--	--	--
09/15/1998	1605	GWJ	Flume	Good	--	--	1.87	0.01	--	--	--	--
10/09/1998	1115	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/06/1998	1050	GWJ	Estimate	na	--	--	1.87	0.03	--	--	--	--
12/08/1998	0900	GWJ	Pygmy	Poor	9.5	7.5	2.00	0.13	1.4	0.2	0.31	0.41
01/06/1999	0935	GWJ	Pygmy	Poor	3.5	4.0	1.93	0.05	.8	0.2	0.14	0.38
02/10/1999	1430	TLL	AA	Fair	12.0	9.5	2.49	6.95	10.6	0.6	5.85	1.19
03/12/1999	0915	GWJ	Pygmy	Fair	11.0	6.5	2.09	0.97	3.3	0.4	1.40	0.69
03/25/1999	1350	GWJ	AA	Fair	14.0	11.0	2.60	9.99	13.2	0.6	7.77	1.29
04/08/1999	1415	GWJ	AA	Fair	7.5	9.0	2.65	10.97	13.2	0.6	7.74	1.42
05/04/1999	1320	TLL	Pygmy	Fair	16.0	13.0	2.06	0.73	5.2	0.3	1.43	0.51
06/16/1999	1220	GWJ	Flume	Good	23.0	22.0	1.92	0.14	--	--	--	--
07/08/1999	1350	GWJ	Flume	Good	19.0	23.0	1.86	0.02	--	--	--	--
08/05/1999	1135	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/15/1999	1120	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-12

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Potrero Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1635	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/1995	1545	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/04/1995	1350	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/03/1996	1130	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/16/1996	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/03/1996	1125	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/05/1996	1630	GWJ	Pygmy	Fair	15.0	14.5	0.96	1.95	4.8	0.5	2.34	0.83
02/16/1996	1530	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/20/1996	1400	TLL	AA	Fair	--	--	1.57	28.61	7.8	1.1	8.94	3.20
02/23/1996	1715	GWJ	Pygmy	Fair	--	--	1.18	9.02	6.9	0.8	5.42	1.66
03/05/1996	1125	TLL	AA	Good	14.0	11.5	1.15	7.52	6.8	0.6	4.28	1.76
03/19/1996	1550	GWJ	Pygmy	Good	--	--	0.88	2.15	4.9	0.3	1.66	1.29
04/04/1996	1610	GWJ	Pygmy	Fair	15.5	14.0	0.78	0.74	3.0	0.3	0.83	0.90
04/25/1996	1040	GWJ	Pygmy	Poor	20.0	14.0	0.61	0.02	.5	0.1	0.04	0.43
05/01/1996	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/06/1996	1730	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/08/1996	1015	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/1996	1545	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/1996	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/03/1996	1550	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/05/1996	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/03/1996	1545	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/10/1996	0905	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/10/1996	1420	TLL	AA	Fair	13.5	11.0	1.54	13.69	8.3	0.8	6.83	2.00
12/17/1996	1630	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/22/1996	1120	GWJ	AA	Fair	--	--	1.45	25.28	7.5	1.0	7.36	3.43
01/07/1997	1335	GWJ	Pygmy	Fair	15.0	9.0	0.98	3.95	6.6	0.4	2.82	1.40
01/21/1997	1400	TLL	AA	Fair	14.0	10.0	1.39	21.36	8.2	1.0	8.15	2.62
01/27/1997	1120	GWJ	AA	Fair	--	--	1.52	26.56	8.2	1.2	10.07	2.64
02/04/1997	1435	GWJ	Pygmy	Fair	13.0	13.0	1.03	5.19	7.1	0.5	3.20	1.62
02/28/1997	1555	GWJ	Pygmy	Fair	12.0	12.0	0.78	0.74	2.4	0.3	0.72	1.03
04/09/1997	1610	GWJ	na	na	--	--	--	No Flow	--	--	--	--
05/07/1997	1630	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/09/1997	1520	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/03/1997	1220	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/07/1997	1450	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/1997	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/10/1997	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/07/1997	1535	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/02/1997	1605	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/10/1997	1245	GWJ	Pygmy	Good	15.0	9.0	0.90	2.56	5.7	0.4	2.15	1.19
12/30/1997	1040	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/05/1998	1110	GWJ	Pygmy	Fair	11.5	9.0	1.08	6.37	7.4	0.6	4.19	1.52

TABLE C-12 (CONTINUED)

TRIBUTARY STATION: Potrero Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
01/15/1998	1000	TLL	AA	Fair	15.0	13.0	1.57	27.89	8.0	1.2	9.41	2.96
01/21/1998	1600	GWJ	AA	Fair	14.0	11.5	1.29	13.21	7.6	1.0	7.28	1.82
02/09/1998	1135	TLL	AA	Fair	14.0	11.5	1.98	68.62	11.9	1.4	16.18	4.24
02/24/1998	1335	TLL	AA	Fair	13.0	12.0	1.78	52.57	10.8	1.2	12.87	4.08
03/05/1998	1555	GWJ	AA	Fair	12.0	12.0	1.23	11.47	7.6	0.6	4.20	2.73
04/01/1998	1535	GWJ	AA	Fair	13.5	12.0	1.54	28.01	7.9	1.0	7.79	3.60
05/14/1998	0930	GWJ	Pygmy	Good	15.0	13.0	0.89	2.28	6.3	0.4	2.33	0.98
06/10/1998	1605	GWJ	Pygmy	Fair	16.0	16.0	0.80	1.15	6.2	0.3	1.78	0.65
07/13/1998	1515	GWJ	Pygmy	Fair	17.5	18.5	0.72	0.43	2.8	0.4	1.09	0.39
08/10/1998	1615	GWJ	Pygmy	Fair	18.0	19.0	0.66	0.20	2.2	0.3	0.72	0.27
09/16/1998	1230	GWJ	Flume	Good	--	--	0.66	0.04	--	--	--	--
10/09/1998	1045	GWJ	Estimate	na	--	--	0.56	0.01	--	--	--	--
10/23/1998	1300	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/06/1998	1040	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1998	0825	GWJ	Pygmy	Poor	9.0	8.5	0.64	0.12	1.3	0.2	0.21	0.57
01/06/1999	1000	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/10/1999	1320	TLL	AA	Fair	11.0	9.0	1.33	12.05	9.6	0.7	6.37	1.89
02/16/1999	1300	GWJ	Pygmy	Good	17.0	11.0	0.82	1.32	5.9	0.4	2.11	0.62
03/12/1999	0800	GWJ	Pygmy	Good	7.0	7.0	0.82	1.28	5.9	0.4	2.09	0.61
03/25/1999	1430	TLL	AA	Fair	13.0	12.0	1.27	13.48	9.6	0.7	7.15	1.88
04/08/1999	1510	GWJ	AA	Fair	9.5	10.5	1.21	10.61	9.5	0.6	6.10	1.74
05/04/1999	1410	TLL	Pygmy	Fair	17.0	13.5	0.80	1.18	6.8	0.2	1.70	0.70
06/16/1999	1505	GWJ	Flume	Good	16.0	17.5	0.63	0.10	--	--	--	--
07/06/1999	0950	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/05/1999	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/15/1999	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-13

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Highway 1 Bridge

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1715	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/14/1995	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/22/1995	--	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/29/1995	1540	TTC	Pygmy	Fair	18.0	14.0	2.44	0.99	6.0	0.3	1.79	0.55
12/01/1995	1145	TLL	Pygmy	Good	--	--	2.47	1.59	5.8	0.3	1.95	0.81
12/13/1995	1225	GWJ	AA	Fair	--	--	2.86	25.49	39.5	0.9	35.09	0.73
01/02/1996	1010	GWJ	Pygmy	Fair	16.0	11.5	2.81	26.45	19.0	0.8	16.07	1.65
01/17/1996	0930	GWJ	AA	Fair	--	--	3.54	147.91	55.5	1.2	66.13	2.24
01/25/1996	1645	GWJ	AA	Fair	--	--	3.82	218.75	56.9	1.5	88.13	2.48
01/31/1996	1520	GWJ	AA	Fair	--	--	5.85	788.28	62.0	3.4	209.60	3.76
02/02/1996	1005	GWJ	AA	Good	13.0	12.0	4.80	442.51	85.0	1.9	165.07	2.68
02/05/1996	0950	GWJ	AA	Good	--	--	7.46	1554.75	67.0	5.1	343.45	4.53
02/13/1996	0910	GWJ	AA	Fair	--	--	4.02	183.69	60.1	1.4	85.98	2.14
02/21/1996	1610	GWJ	AA	Fair	--	--	8.20	2200.00	69.5	5.5	379.00	5.80
03/04/1996	1050	GWJ	AA	Fair	16.5	12.5	5.15	516.05	86.0	2.2	190.77	2.71
03/18/1996	1215	GWJ	AA	Fair	--	--	4.74	355.67	62.5	2.2	138.31	2.57
04/01/1996	1530	GWJ	AA	Fair	13.0	16.0	4.14	200.35	60.8	1.5	89.54	2.24
04/16/1996	1235	GWJ	AA	Fair	--	--	3.85	133.63	61.3	1.1	69.05	1.94
05/01/1996	1025	GWJ	Pygmy	Fair	27.5	18.0	3.46	78.12	63.6	0.7	42.97	1.82
05/20/1996	1140	GWJ	AA	Fair	--	--	3.56	80.83	61.3	0.8	49.59	1.63
06/03/1996	1555	GWJ	Pygmy	Fair	17.5	25.0	3.28	48.01	43.5	0.7	31.59	1.52
06/13/1996	0955	GWJ	Pygmy	Good	12.5	17.0	2.95	18.18	37.3	0.3	12.99	1.40
07/01/1996	1430	GWJ	Pygmy	Fair	18.0	25.5	2.83	6.65	10.9	0.4	4.89	1.36
07/15/1996	0955	GWJ	Pygmy	Good	14.5	18.0	2.80	3.36	10.8	0.3	3.61	0.93
07/22/1996	1345	GWJ	Pygmy	Fair	21.0	21.5	2.68	0.43	2.7	0.2	0.54	0.80
08/01/1996	1615	GWJ	Pygmy	Poor	14.5	20.0	2.66	0.08	.9	0.2	0.15	0.54
08/21/1996	1225	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/06/1996	1340	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/03/1996	1615	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/05/1996	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/25/1996	1410	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/02/1996	1150	GWJ	Pygmy	Fair	17.0	11.0	3.17	14.53	30.8	0.4	13.02	1.12
12/11/1996	1030	GWJ	AA	Good	--	--	7.28	1294.15	68.0	4.8	326.90	3.96
12/13/1996	1425	GWJ	AA	Good	14.0	14.0	4.96	379.45	63.5	2.2	137.34	2.76
01/02/1997	1245	GWJ	AA	Good	--	--	8.99	2481.01	74.0	6.0	444.70	5.58
01/16/1997	1130	GWJ	AA	Fair	--	--	5.20	476.22	66.5	2.4	156.95	3.03
01/26/1997	1550	GWJ	AA	Good	--	--	11.54	3874.20	85.0	7.9	673.50	5.75
02/05/1997	1050	GWJ	AA	Fair	14.0	11.0	5.17	530.93	82.8	2.1	173.17	3.07
02/19/1997	1525	GWJ	AA	Fair	14.5	13.5	4.19	225.65	62.5	1.4	90.56	2.49
03/07/1997	1315	GWJ	AA	Good	15.0	14.0	3.73	125.17	60.8	1.1	65.46	1.91
04/03/1997	1510	GWJ	Pygmy	Good	17.5	19.0	3.32	61.51	55.2	0.6	34.96	1.76
05/01/1997	0955	GWJ	Pygmy	Good	14.0	16.5	3.17	37.88	44.9	0.5	22.62	1.67
05/16/1997	1050	GWJ	Pygmy	Fair	31.5	23.0	2.94	12.88	21.9	0.5	10.40	1.24

TABLE C-13 (CONTINUED)

MAINSTEM STATION: Highway 1 Bridge

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
05/20/1997	1430	GWJ	Pygmy	Good	22.0	25.0	2.86	7.68	12.5	0.4	5.55	1.38
06/02/1997	1450	GWJ	Pygmy	Good	19.0	--	2.75	2.45	5.8	0.4	2.04	1.20
06/16/1997	1350	GWJ	Pygmy	Poor	17.0	24.0	2.63	0.44	2.3	0.2	0.46	0.96
07/02/1997	1620	GWJ	Estimate	na	--	--	2.58	0.01	--	--	--	--
07/18/1997	0900	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/08/1997	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/1997	1320	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/10/1997	1405	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/06/1997	1535	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/02/1997	1630	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1997	1610	GWJ	AA	Good	11.0	11.5	4.06	162.25	64.9	1.3	81.26	2.00
12/30/1997	0955	GWJ	Pygmy	Fair	15.0	9.0	3.23	37.23	37.6	0.6	20.82	1.79
01/12/1998	1430	GWJ	AA	Good	13.0	13.0	5.48	450.40	71.2	2.4	173.93	2.59
01/28/1998	1540	GWJ	AA	Fair	16.5	13.5	4.66	263.35	67.9	1.6	107.70	2.45
02/03/1998	1510	GWJ	AA	Good	--	--	13.53	8691.00	147.0	6.9	1019.20	8.53
02/09/1998	1520	GWJ	AA	Good	--	--	8.87	3498.66	83.0	6.5	541.70	6.46
02/20/1998	0945	GWJ	AA	Good	--	--	6.48	1747.46	73.0	4.4	322.55	5.42
03/03/1998	1130	GWJ	AA	Fair	--	--	5.53	908.42	71.5	3.2	226.35	4.01
03/19/1998	1500	GWJ	AA	Fair	16.0	14.5	4.21	337.92	84.6	1.7	143.24	2.36
04/13/1998	1040	GWJ	AA	Fair	--	--	5.58	709.47	71.5	2.9	204.23	3.47
05/07/1998	0925	GWJ	AA	Fair	15.0	14.5	4.65	347.24	66.9	2.1	142.21	2.44
06/05/1998	1610	GWJ	AA	Fair	18.5	20.5	4.15	183.57	66.1	1.4	90.49	2.03
07/10/1998	1555	GWJ	Pygmy	Good	17.0	23.5	3.65	82.08	66.6	0.7	46.37	1.77
08/06/1998	1550	GWJ	Pygmy	Fair	20.5	23.0	3.28	30.71	68.5	0.4	24.70	1.24
09/04/1998	1115	GWJ	Pygmy	Good	20.0	20.5	3.07	8.05	17.4	0.4	6.12	1.31
10/02/1998	0134	GWJ	Pygmy	Good	21.0	21.5	3.12	11.68	23.0	0.4	8.50	1.37
11/10/1998	1310	GWJ	Pygmy	Good	11.5	13.0	3.30	24.77	64.9	0.3	22.21	1.12
12/03/1998	1430	GWJ	AA	Fair	11.5	13.5	3.75	79.32	75.8	0.7	56.58	1.40
01/06/1999	1055	GWJ	Pygmy	Fair	14.0	9.0	3.42	30.33	61.6	0.4	24.08	1.26
01/21/1999	0830	GWJ	AA	Fair	11.0	11.0	4.33	160.83	66.7	1.3	85.98	1.87
02/01/1999	1340	GWJ	AA	Fair	14.0	11.0	4.51	189.91	68.0	1.4	96.40	1.97
02/09/1999	1700	GWJ	AA	Good	--	--	9.23	1940.56	83.3	5.6	470.02	4.13
02/22/1999	1325	GWJ	AA	Good	14.0	12.5	4.50	165.27	71.4	1.2	87.86	1.88
03/10/1999	1420	GWJ	AA	Good	13.0	12.0	4.34	128.15	67.1	1.1	71.58	1.79
04/09/1999	1030	GWJ	AA	Good	13.5	9.0	5.03	256.29	68.6	1.7	119.73	2.14
05/03/1999	1340	GWJ	AA	Good	17.5	16.0	4.32	108.13	71.8	1.0	71.32	1.52
06/09/1999	1320	GWJ	Pygmy	Good	16.5	20.0	3.84	38.12	70.3	0.4	27.54	1.38
07/02/1999	1230	GWJ	Pygmy	Fair	16.5	23.0	3.55	9.06	27.9	0.3	8.10	1.12
07/12/1999	1415	GWJ	Pygmy	Fair	18.0	26.5	3.44	3.26	15.1	0.2	3.52	0.93
07/22/1999	0800	GWJ	Pygmy	Fair	14.5	17.0	3.32	0.61	2.9	0.2	0.67	0.91
08/05/1999	1250	GWJ	Pygmy	Poor	18.0	19.5	3.27	0.04	.8	0.1	0.08	0.48
08/31/1999	1330	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/02/1999	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-14

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: San Jose Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
10/02/1995	1745	GWJ	Pygmy	Fair	24.0	16.0	1.05	0.50	3.2	0.3	1.08	0.46
11/03/1995	1325	GWJ	Pygmy	Fair	16.0	13.0	1.08	0.69	3.2	0.4	1.31	0.53
12/01/1995	1245	TLL	Pygmy	Good	--	--	1.06	0.77	9.3	0.2	2.26	0.34
01/04/1996	1450	TLL	Pygmy	Fair	11.5	9.5	1.08	0.83	9.2	0.3	2.42	0.34
02/12/1996	1250	GWJ	Pygmy	Fair	22.5	13.0	1.30	6.04	11.0	0.7	7.45	0.81
03/05/1996	1015	TLL	AA	Good	13.0	11.5	2.08	41.30	15.7	1.1	16.50	2.50
04/05/1996	1115	TLL	Pygmy	Good	14.0	12.0	1.39	9.47	13.7	0.5	7.47	1.27
05/06/1996	1415	GWJ	Pygmy	Good	15.5	12.5	1.20	3.69	9.4	0.6	5.34	0.69
06/06/1996	1345	GWJ	Pygmy	Fair	16.0	15.5	1.14	2.33	8.3	0.5	4.37	0.53
07/10/1996	1515	GWJ	Pygmy	Fair	17.5	16.0	1.08	1.14	7.5	0.5	3.46	0.33
08/06/1996	1345	GWJ	Pygmy	Fair	17.5	16.0	1.03	0.65	3.3	0.4	1.31	0.50
09/06/1996	1325	GWJ	Pygmy	Fair	21.0	15.0	0.99	0.26	2.6	0.4	1.00	0.26
10/04/1996	1310	GWJ	Pygmy	Fair	21.0	14.5	0.98	0.25	2.6	0.4	1.01	0.24
11/05/1996	1320	GWJ	Pygmy	Fair	16.0	12.0	1.02	0.45	2.7	0.5	1.24	0.36
12/06/1996	1520	GWJ	Pygmy	Fair	19.0	11.5	1.22	2.63	7.5	0.6	4.48	0.59
01/07/1997	1045	TLL	AA	Fair	14.0	9.0	2.10	41.30	15.8	1.1	17.79	2.32
02/04/1997	1340	TLL	AA	Fair	15.0	12.5	1.95	36.27	16.2	0.9	14.17	2.56
03/04/1997	1230	TLL	Pygmy	Fair	11.5	9.0	1.38	8.26	13.0	0.4	5.46	1.51
04/10/1997	1200	GWJ	Pygmy	Fair	12.5	10.5	1.25	4.30	10.9	0.7	7.14	0.60
05/09/1997	1055	GWJ	Pygmy	Fair	20.0	12.0	1.18	2.53	9.4	0.4	3.87	0.66
06/09/1997	1615	GWJ	Pygmy	Fair	16.0	15.5	1.12	1.44	9.4	0.3	3.16	0.46
07/03/1997	1335	GWJ	Pygmy	Fair	20.5	14.5	1.06	0.86	3.6	0.5	1.62	0.53
08/08/1997	1105	GWJ	Pygmy	Fair	18.5	16.0	1.00	0.30	1.9	0.2	0.45	0.67
09/03/1997	1405	GWJ	Pygmy	Fair	21.5	18.5	0.98	0.20	1.7	0.2	0.37	0.55
10/10/1997	1430	GWJ	Pygmy	Fair	15.0	14.0	1.00	0.28	1.9	0.2	0.41	0.68
11/06/1997	1605	GWJ	Pygmy	Poor	19.0	15.0	0.98	0.17	1.5	0.2	0.26	0.66
12/12/1997	1435	GWJ	AA	Fair	17.5	9.5	1.44	9.93	12.5	0.7	9.17	1.08
01/05/1998	1010	GWJ	AA	Good	12.0	8.5	1.56	15.66	13.3	0.8	10.35	1.51
04/09/1998	1445	GWJ	AA	Fair	20.0	13.0	--	67.53	20.1	1.2	23.52	2.87
05/11/1998	1450	GWJ	AA	Fair	13.5	12.0	--	13.96	11.6	0.9	10.12	1.38
06/10/1998	0940	GWJ	Pygmy	Good	19.0	14.0	--	9.53	11.7	0.5	5.33	1.79
07/14/1998	1150	GWJ	Pygmy	Good	18.0	15.0	--	5.35	9.4	0.6	5.70	0.94
08/12/1998	0915	GWJ	Pygmy	Fair	16.0	15.0	--	2.96	9.3	0.5	4.68	0.63
09/16/1998	1330	GWJ	Pygmy	Fair	20.0	17.5	--	1.93	6.6	0.4	2.85	0.68
10/08/1998	1125	GWJ	Pygmy	Fair	18.5	13.5	2.48	1.49	6.7	0.5	3.27	0.46
11/05/1998	1520	GWJ	Pygmy	Fair	13.5	12.0	2.49	1.59	6.7	0.5	3.27	0.49
12/04/1998	1310	GWJ	Pygmy	Fair	12.0	9.5	2.65	3.87	7.9	0.6	4.50	0.86
01/06/1999	1250	GWJ	Pygmy	Fair	13.0	8.0	2.50	1.80	5.6	0.7	4.06	0.44
01/20/1999	1405	GWJ	AA	Fair	13.5	12.0	2.91	10.14	9.0	0.8	6.96	1.46
02/10/1999	1140	TLL	AA	Fair	11.0	9.0	3.91	84.26	22.9	1.3	30.72	2.74
03/05/1999	1420	GWJ	Pygmy	Good	12.0	9.0	2.95	13.29	18.6	0.5	9.56	1.39
04/09/1999	0845	GWJ	AA	Fair	9.0	8.0	3.27	28.50	20.8	0.8	15.66	1.82
05/11/1999	0845	GWJ	Pygmy	Good	13.0	11.0	2.82	9.16	9.5	0.6	6.12	1.50

TABLE C-14 (CONTINUED)

TRIBUTARY STATION: San Jose Creek

Water Years: 1996-1999

DATE	TIME	MADE BY	INSTRUMENT	RATING	AIR TEMP. (deg C)	WATER TEMP. (deg C)	GAGE HEIGHT (feet)	DISCHARGE (CFS)	SECTION WIDTH (feet)	MEAN DEPTH (feet)	AREA (sqft)	MEAN VELOCITY (ft/sec)
06/15/1999	1415	GWJ	Pygmy	Good	17.0	16.0	2.63	4.92	9.6	0.5	4.61	1.07
07/13/1999	1410	GWJ	Pygmy	Good	21.5	19.0	2.52	2.76	8.9	0.4	3.41	0.81
08/04/1999	1535	GWJ	Pygmy	Fair	18.0	15.0	2.50	2.29	5.2	0.4	1.85	1.24
09/14/1999	1410	GWJ	Pygmy	Fair	15.5	15.0	2.44	1.41	5.5	0.3	1.66	0.85

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 1996 - 1999

APPENDIX D

STREAMFLOW DATA

FIGURE D-1

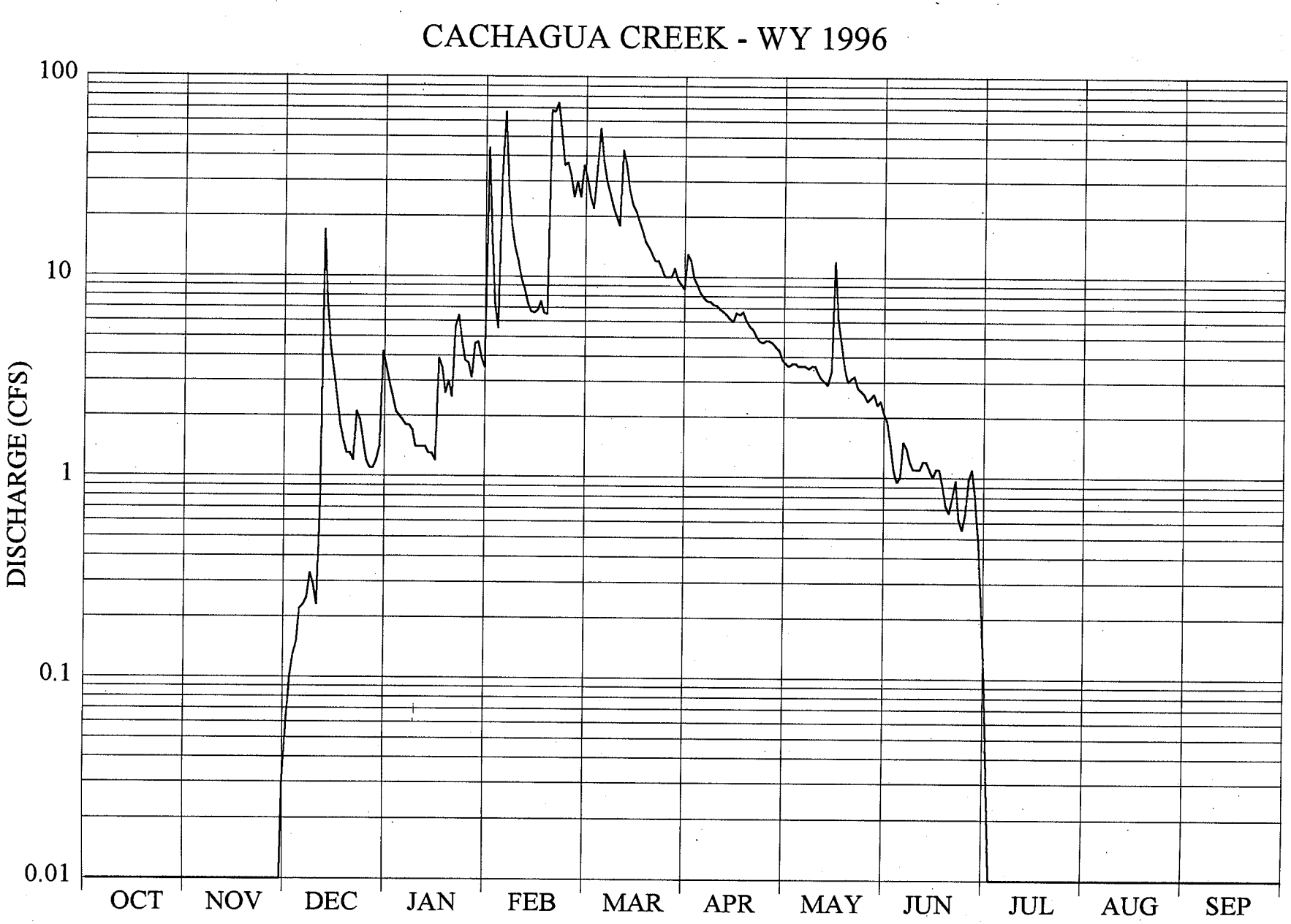

CACHAGUA CREEK - WY 1996
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.06	2.9	16	31	13	3.7	1.9	.10	0	0
2	0	0	.10	2.5	7.3	25	12	3.6	1.5	.03	0	0
3	0	0	.13	2.1	5.5	22	9.8	3.7	1.1	.01	0	0
4	0	0	.15	2.0	33	34	9.1	3.7	.95	0	0	0
5	0	0	.22	1.9	67	55	8.3	3.6	1.0	0	0	0
6	0	0	.23	1.8	28	38	7.9	3.6	1.5	0	0	0
7	0	0	.25	1.8	18	30	7.6	3.6	1.4	0	0	0
8	0	0	.33	1.7	14	26	7.5	3.5	1.2	0	0	0
9	0	0	.29	1.4	12	22	7.3	3.6	1.1	0	0	0
10	0	0	.23	1.4	9.8	20	7.2	3.6	1.1	0	0	0
11	0	0	.72	1.4	8.7	18	6.9	3.3	1.1	0	0	0
12	0	0	17	1.4	7.4	43	6.7	3.1	1.2	0	0	0
13	0	0	7.2	1.3	6.7	36	6.5	3.0	1.2	0	0	0
14	0	0	4.4	1.3	6.6	27	6.2	2.9	1.1	0	0	0
15	0	0	3.3	1.2	6.8	23	6.0	3.4	1.0	0	0	0
16	0	0	2.5	3.9	7.5	21	6.6	12	1.1	0	0	0
17	0	0	1.8	3.5	6.6	19	6.5	6.1	1.1	0	0	0
18	0	0	1.5	2.6	6.5	17	6.7	4.6	.91	0	0	0
19	0	0	1.3	3.0	68	15	6.1	3.5	.73	0	0	0
20	0	0	1.3	2.5	67	14	5.7	3.0	.67	0	0	0
21	0	0	1.2	5.6	74	13	5.5	3.1	.80	0	0	0
22	0	0	2.1	6.4	54	12	5.1	3.2	.97	0	0	0
23	0	0	1.9	4.8	36	12	4.8	2.8	.62	0	0	0
24	0	0	1.5	3.8	37	11	4.7	2.7	.55	0	0	0
25	0	0	1.2	3.7	32	10	4.8	2.6	.66	0	0	0
26	0	0	1.1	3.1	25	10	4.8	2.4	.98	0	0	0
27	0	0	1.1	4.6	30	10	4.7	2.5	1.1	0	0	0
28	0	.01	1.2	4.7	25	11	4.5	2.6	.79	0	0	0
29	0	.01	1.4	3.9	36	9.7	4.3	2.3	.49	0	0	0
30	0	.03	4.2	3.5	------	9.2	3.9	2.4	.23	0	0	0
31	0	------	3.5	44	------	8.7	------	2.1	------	0	0	------
TOTAL	0	0.05	63.41	129.7	751.4	652.6	200.7	109.8	30.05	0.14	0	0
MEAN	0	.002	2.05	4.18	25.9	21.1	6.69	3.54	1.00	.005	0	0
MAX	0	.03	17	44	74	55	13	12	1.9	.10	0	0
MIN	0	0	.06	1.2	5.5	8.7	3.9	2.1	.23	0	0	0
AC-FT	0	.1	126	257	1,490	1,290	398	218	60	.3	0	0

CAL YEAR 1995	TOTAL	8,292.88	MEAN	22.7	MAX	1,920	MIN	0	AC-FT	16,450
WTR YEAR 1996	TOTAL	1,937.85	MEAN	5.29	MAX	74	MIN	0	AC-FT	3,840

FIGURE D-2

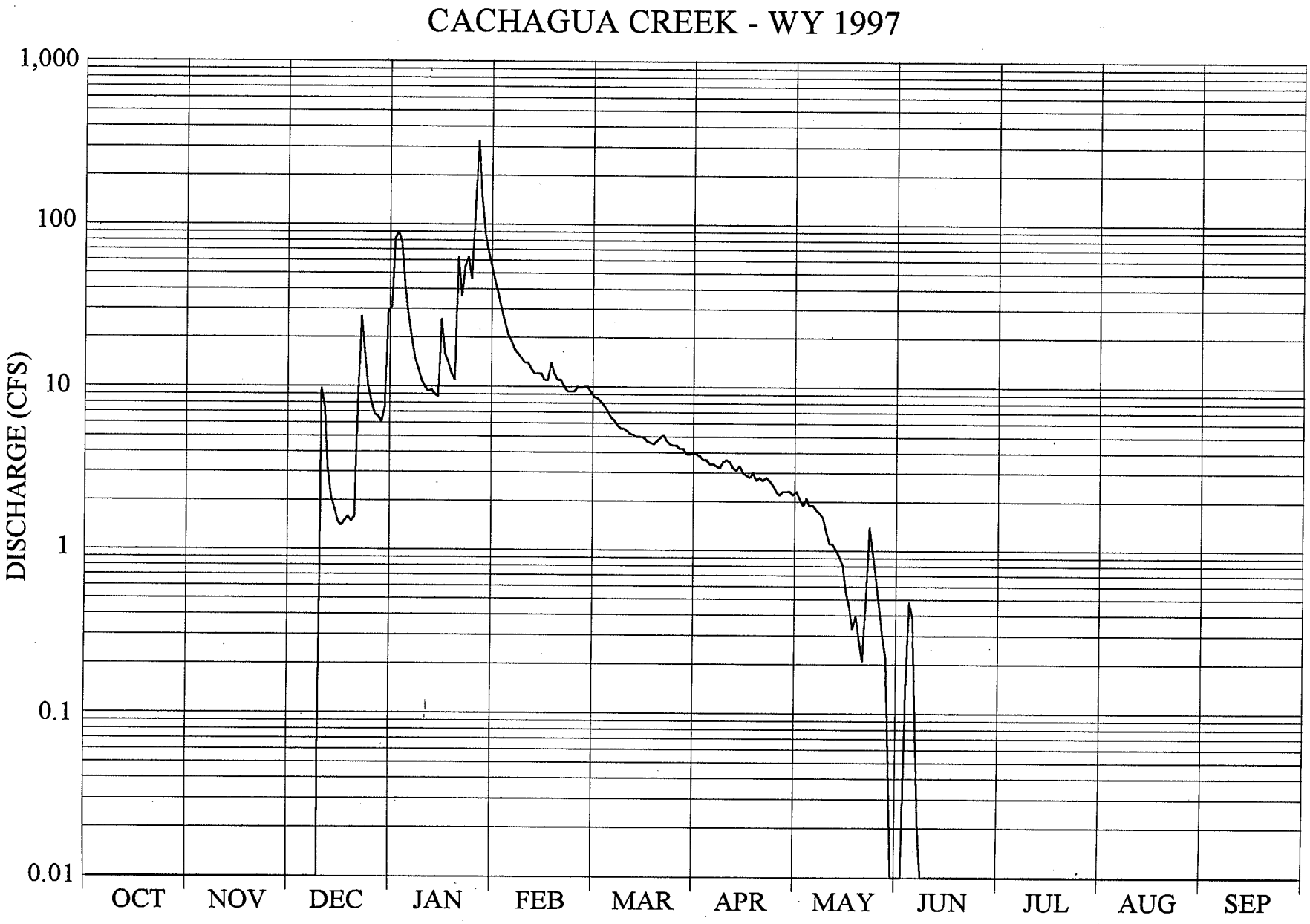

CACHAGUA CREEK - WY 1997
1,000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	82	37	9.3	4.0	2.2	0	0	0	0
2	0	0	0	90	30	8.7	3.9	2.3	0	0	0	0
3	0	0	0	77	25	8.6	3.8	2.1	.01	0	0	0
4	0	0	0	41	21	8.2	3.6	1.9	.13	0	0	0
5	0	0	0	28	19	7.7	3.6	2.1	.48	0	0	0
6	0	0	0	20	17	7.2	3.4	1.9	.39	0	0	0
7	0	0	0	15	16	6.6	3.4	1.9	.08	0	0	0
8	0	0	0	13	15	6.3	3.3	1.8	.02	0	0	0
9	0	0	0	11	14	5.9	3.2	1.7	0	0	0	0
10	0	0	9.8	10	14	5.6	3.5	1.6	0	0	0	0
11	0	0	7.5	9.4	13	5.6	3.6	1.3	0	0	0	0
12	0	0	3.1	9.6	12	5.4	3.5	1.1	0	0	0	0
13	0	0	2.1	9.0	12	5.2	3.2	1.1	0	0	0	0
14	0	0	1.8	8.7	12	5.1	3.1	1.0	0	0	0	0
15	0	0	1.5	26	11	5.0	3.3	.93	0	0	0	0
16	0	0	1.4	16	11	5.0	3.0	.81	0	0	0	0
17	0	0	1.5	14	14	4.9	2.9	.56	0	0	0	0
18	0	0	1.6	12	12	4.7	2.8	.45	0	0	0	0
19	0	0	1.5	11	11	4.6	3.0	.33	0	0	0	0
20	0	0	1.6	63	11	4.5	2.7	.40	0	0	0	0
21	0	0	8.4	36	10	4.7	2.8	.28	0	0	0	0
22	0	0	27	55	9.4	4.9	2.7	.21	0	0	0	0
23	0	0	16	63	9.4	5.1	2.8	.49	0	0	0	0
24	0	0	10	46	9.4	4.7	2.7	1.4	0	0	0	0
25	0	0	8.1	124	10	4.5	2.5	.97	0	0	0	0
26	0	0	6.8	328	9.9	4.4	2.3	.67	0	0	0	0
27	0	0	6.6	146	10	4.4	2.2	.45	0	0	0	0
28	0	0	6.1	88	10	4.2	2.3	.30	0	0	0	0
29	0	0	7.5	69	------	4.2	2.3	.22	0	0	0	0
30	0	0	29	56	------	3.9	2.3	.05	0	0	0	0
31	0	------	31	45	------	3.9	------	0	------	0	0	------
TOTAL	0	0	189.9	1,621.7	405.1	173.0	91.7	32.52	1.11	0	0	0
MEAN	0	0	6.13	52.3	14.5	5.58	3.06	1.05	.037	0	0	0
MAX	0	0	31	328	37	9.3	4.0	2.3	.48	0	0	0
MIN	0	0	0	8.7	9.4	3.9	2.2	0	0	0	0	0
AC-FT	0	0	377	3,220	804	343	182	65	2.2	0	0	0

CAL YEAR 1996	TOTAL	2,064.29	MEAN	5.64	MAX	74	MIN	0	AC-FT	4,090
WTR YEAR 1997	TOTAL	2,515.03	MEAN	6.89	MAX	328	MIN	0	AC-FT	4,990

TABLE D-3

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	2.0	42	93	76	36	19	10 e	4.4	1.1
2	0	0	0	2.3	176	86	66	34	19	10 e	4.1	.94
3	0	0	0	2.3	690e	88	81	32	19	10 e	4.0	.87
4	0	0	0	11	280e	83	75	34	19	9.4e	3.6	.79
5	0	0	34	7.3	200e	77	70	41	18	9.4e	3.5	.89
6	0	0	8.5	4.8	370e	72	69	43	18	9.0e	3.4	1.1
7	0	0	8.2	4.1	670e	63	89	38	19	8.6e	3.2	.93
8	0	0	16	3.4	570e	60	72	35	18	8.3e	3.1	.98
9	0	0	8.1	10	330e	56	67	32	18	8.2e	3.0	1.2
10	0	0	4.3	19	220e	53	64	30	17	8.0e	2.8	1.7
11	0	0	3.6	9.2	170e	50	72	30	17	7.8e	2.6	1.3
12	0	0	3.0	15	150e	49	63	33	17	7.6e	2.3	1.1
13	0	0	2.5e	17	120e	50	66	29	16	7.4e	2.0	.93
14	0	0	8.9e	12	144	46	58	28	15	7.2e	1.9	.88
15	0	0	7.0	27	121	44	52	27	15	7.0e	1.9	.94
16	0	0	4.4	23	127	43	52	26	14	6.6e	1.9	.98
17	0	0	3.9	16	123	43	56	25	13	6.4e	2.0	.81
18	0	0	3.6	38	110	41	50	25	13	6.2e	2.3	.92
19	0	0	3.1	50	168	40	48	24	13	6.0e	2.6	1.1
20	0	0	2.8	33	150	39	48	24	13	6.0e	2.7	.98
21	0	0	2.6e	23	206	37	47	23	13	6.1	2.7	1.1
22	0	0	2.6e	16	202	36	45	23	13e	6.1	2.4	1.4
23	0	0	2.4	11	255	34	45	22	12e	6.1	2.2	1.6
24	0	0	2.3	8.7	201	41	44	22	12e	6.1	2.0	1.6 e
25	0	0	2.3	7.5	160	42	42	22	12e	5.6	2.1	1.7 e
26	0	0	2.0	6.4	141	37	39	20	12e	5.3	2.2	1.8 e
27	0	0	2.2	5.5	132	38	38	18	12e	5.0	1.9	1.9 e
28	0	0	2.2	5.1	110	70	36	23	11e	4.7	1.6	2.0 e
29	0	0	2.3	26	------	77	35	21	11e	4.7	1.5	2.0 e
30	0	0	2.2	14	------	65	34	20	10e	4.7	1.4	2.0 e
31	0	------	2.0	17	------	72	------	19	------	4.8	1.2	------
TOTAL	0	0	147.0	446.6	6,338	1,725	1,699	859	448	218.3	78.5	37.54
MEAN	0	0	4.74	14.4	226	55.6	56.6	27.7	14.9	7.04	2.53	1.25
MAX	0	0	34	50	690	93	89	43	19	10	4.4	2.0
MIN	0	0	0	2.0	42	34	34	18	10	4.7	1.2	.79
AC-FT	0	0	292	886	12,570	3,420	3,370	1,700	889	433	156	74

CAL YEAR 1997	TOTAL	2,472.13	MEAN	6.77	MAX	328	MIN	0	AC-FT	4,900
WTR YEAR 1998	TOTAL	11,996.94	MEAN	32.9	MAX	690	MIN	0	AC-FT	23,800

FIGURE D-4

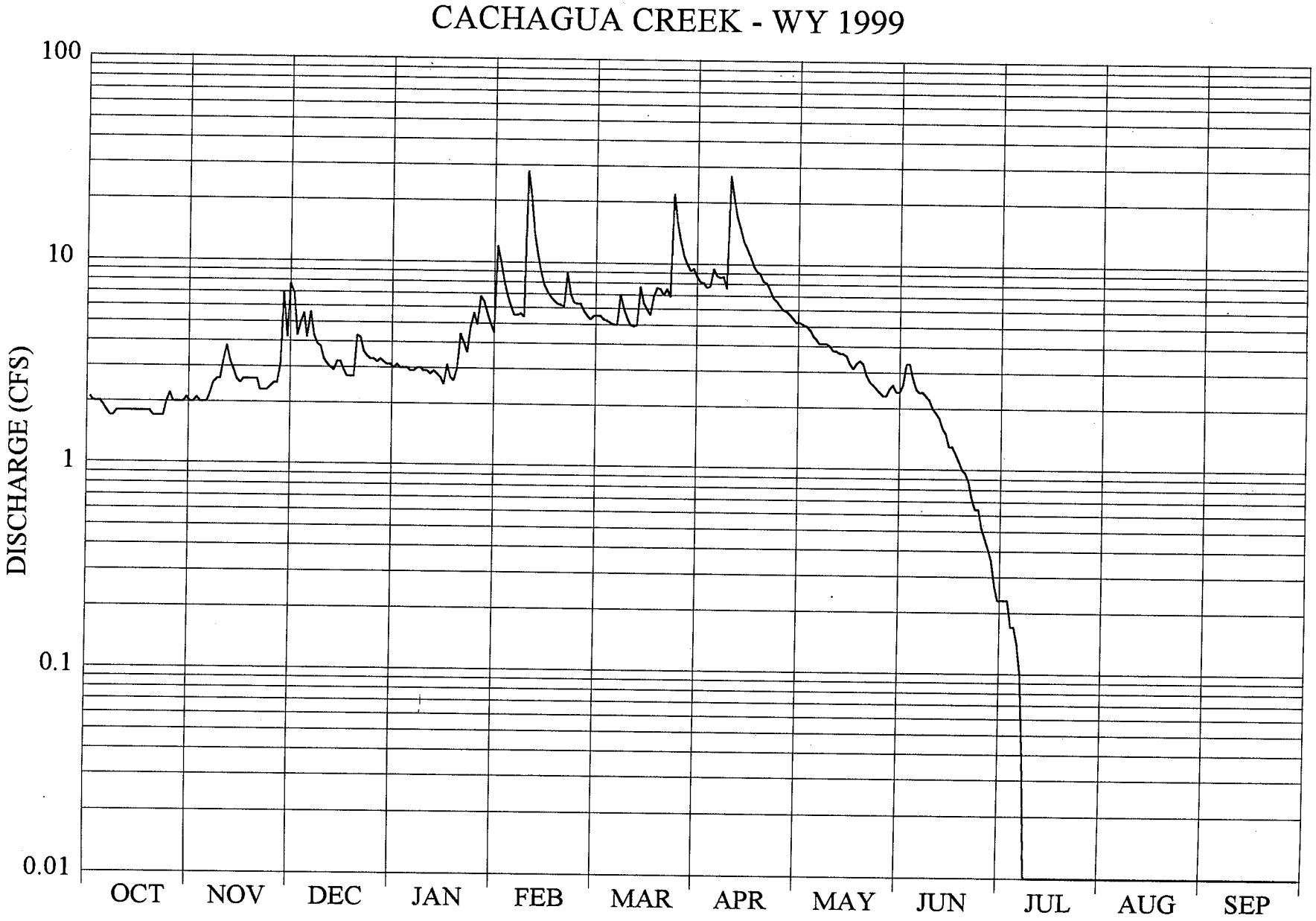

CACHAGUA CREEK - WY 1999
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-4

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1e	2.0e	6.9	3.1	10	5.5	8.7	5.2	2.4	.23e	0	0
2	2.0e	2.1e	4.3	3.0	8.1	5.5	8.2	5.2	2.6	.23e	0	0
3	2.0e	2.0e	5.0	3.0	6.9	5.5	8.1	5.1	3.3	.23e	0	0
4	2.0e	2.0e	5.5	3.0	6.1	5.3	7.7	5.0	3.3	.23e	0	0
5	1.9e	2.0	4.2	2.9	5.5	5.2	7.8	4.8	2.8	.17e	0	0
6	1.8e	2.2	5.6	2.9	5.5	5.1	9.5	4.5	2.5	.17e	0	0
7	1.7e	2.5	4.3	3.0	5.6	5.0	8.8	4.3	2.4	.14e	0	0
8	1.7e	2.6	3.9	3.0	5.4	5.0	8.6	4.1	2.4	.10e	0	0
9	1.8e	2.6	3.8	2.9	28	7.0	8.7	4.1	2.3	.04	0	0
10	1.8e	3.3	3.3	2.9	21	5.9	7.6	4.1	2.2	.01	0	0
11	1.8e	3.8	3.1	2.8	14	5.4	27	4.0	2.0	0	0	0
12	1.8e	3.2	3.0	2.9	11	5.0	21	3.8	1.9	0	0	0
13	1.8e	2.9	2.9	2.8	9.0	4.9	17	3.8	1.8	0	0	0
14	1.8e	2.6	3.2	2.7	7.8	5.0	15	3.7	1.6	0	0	0
15	1.8e	2.5	3.2	2.5	7.2	7.7	13	3.7	1.5	0	0	0
16	1.8e	2.6	2.9	3.1	6.8	6.4	12	3.6	1.3	0	0	0
17	1.8e	2.6	2.7	2.7	6.5	5.9	11	3.3	1.3	0	0	0
18	1.8e	2.6	2.7	2.6	6.3	5.6	9.8	3.1	1.2 e	0	0	0
19	1.8e	2.6	2.7	3.0	6.2	6.9	9.3	3.3	1.1 e	0	0	0
20	1.7e	2.6	4.3	4.4	6.1	7.6	9.0	3.4	1.0 e	0	0	0
21	1.7e	2.3	4.2	4.0	8.9	7.5	8.3	3.3	.96e	0	0	0
22	1.7e	2.3	3.6	3.6	7.0	7.0	8.1	2.9	.87e	0	0	0
23	1.7e	2.3	3.4	4.8	6.4	7.5	7.5	2.7	.72e	0	0	0
24	2.0e	2.4	3.3	5.6	6.3	6.9	6.9	2.6	.64e	0	0	0
25	2.2e	2.5	3.3	4.9	6.3	22	6.6	2.5	.64e	0	0	0
26	2.0e	2.5	3.2	6.8	5.8	16	6.3	2.4	.52e	0	0	0
27	2.0e	3.1	3.3	6.4	5.5	13	6.0	2.3	.46e	0	0	0
28	2.0e	7.0	3.2	5.6	5.3	11	5.9	2.3	.41e	0	0	0
29	2.0e	4.2	3.1	5.0	------	10	5.7	2.5	.36e	0	0	0
30	2.1e	7.7	3.1	4.5	------	9.3	5.4	2.6	.27e	0	0	0
31	2.0e	------	3.0	12	------	9.5	------	2.4	------	0	0	------
TOTAL	58.1	87.6	114.2	122.4	234.5	235.1	294.5	110.6	46.75	1.55	0	0
MEAN	1.87	2.92	3.68	3.95	8.38	7.58	9.82	3.57	1.56	.050	0	0
MAX	2.2	7.7	6.9	12	28	22	27	5.2	3.3	.23	0	0
MIN	1.7	2.0	2.7	2.5	5.3	4.9	5.4	2.3	.27	0	0	0
AC-FT	115	174	227	243	465	466	584	219	93	3.1	0	0

CAL YEAR 1998	TOTAL	12,109.84	MEAN	33.2	MAX	690	MIN	.79	AC-FT	24,020
WTR YEAR 1999	TOTAL	1,305.30	MEAN	3.58	MAX	28	MIN	0	AC-FT	2,590

FIGURE D-5

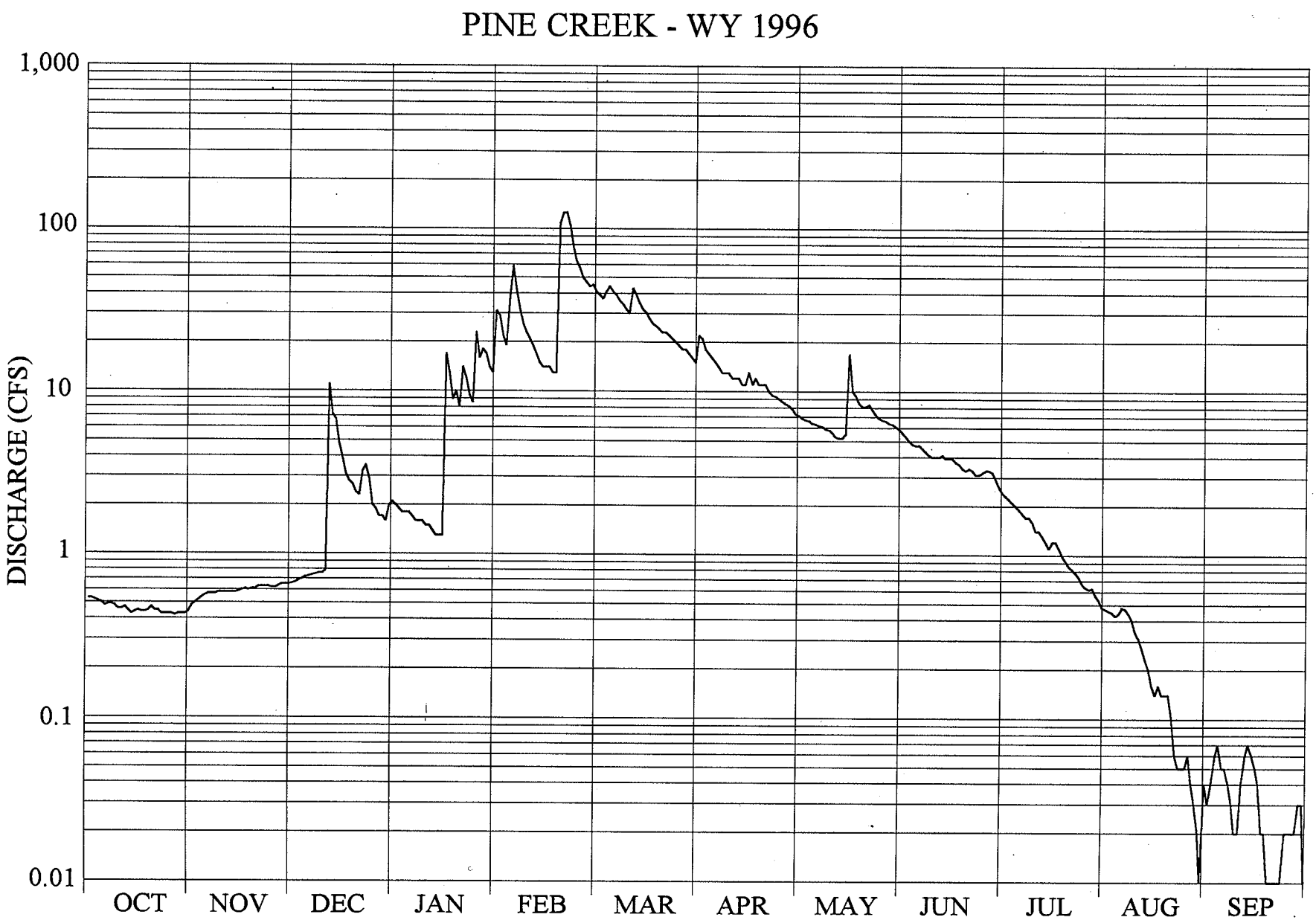

PINE CREEK - WY 1996
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-5

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	.48	.66	2.0	29	41	22	7.1	5.6	2.4	.47	.03
2	.53	.50	.67	1.9	22	39	21	6.9	5.3	2.3	.46	.04
3	.52	.52	.69	1.8	19	37	18	6.7	5.0	2.2	.45	.06
4	.51	.54	.70	1.8	37	41	17	6.6	4.8	2.1	.43	.07
5	.50	.56	.72	1.8	59	44	16	6.4	4.7	2.0	.44	.05
6	.48	.57	.73	1.7	42	41	15	6.3	4.7	1.9	.48	.05
7	.49	.57	.74	1.6	32	39	14	6.2	4.5	1.8	.47	.04
8	.49	.57	.75	1.6	26	36	13	6.1	4.3	1.7	.44	.03
9	.48	.58	.76	1.6	23	34	13	5.9	4.1	1.7	.40	.02
10	.46	.58	.76	1.5	21	32	13	5.8	4.0	1.6	.34	.02
11	.46	.58	.79	1.5	19	30	12	5.6	4.0	1.4	.31	.04
12	.47	.58	11	1.4	17	43	12	5.3	4.0	1.4	.27	.06
13	.45	.58	7.2	1.3	15	39	12	5.2	4.1	1.3	.23	.07
14	.43	.58	6.7	1.3	14	35	11	5.2	3.9	1.2	.20	.06
15	.44	.59	4.8	1.3	14	32	11	5.5	3.9	1.1	.16	.05
16	.45	.60	3.9	17	14	30	13	17	3.9	1.2	.14	.04
17	.44	.61	3.1	13	13	28	11	10	3.7	1.2	.16	.02
18	.44	.60	2.8	8.9	13	26	12	9.4	3.6	1.1	.14	.02
19	.45	.61	2.7	10	108	25	11	8.4	3.4	.99	.14	.01
20	.47	.61	2.4	8.0	125	24	11	8.1	3.3	.92	.14	0
21	.45	.63	2.3	14	126	23	11	8.1	3.4	.85	.10	0
22	.45	.63	3.2	12	105	23	10	8.3	3.3	.82	.06	0
23	.43	.63	3.5	9.5	77	22	9.5	7.7	3.1	.78	.05	0
24	.43	.63	2.9	8.5	63	21	9.3	7.2	3.1	.73	.05	.02
25	.43	.62	2.0	23	57	20	9.0	6.9	3.2	.67	.05	.02
26	.43	.62	1.9	16	50	19	8.7	6.7	3.3	.64	.06	.02
27	.42	.64	1.7	18	47	18	8.4	6.6	3.3	.62	.04	.02
28	.43	.65	1.7	17	44	18	8.2	6.4	3.2	.63	.03	.03
29	.43	.65	1.6	14	45	17	7.8	6.3	2.9	.57	.02	.03
30	.43	.65	2.0	13	------	16	7.3	6.1	2.6	.53	.01	.01
31	.44	------	2.1	31	------	15	------	5.9	------	.48	.04	------
TOTAL	14.26	17.76	77.47	257.0	1,276	908	367.2	219.9	116.2	38.83	6.78	0.93
MEAN	.46	.59	2.50	8.29	44.0	29.3	12.2	7.09	3.87	1.25	.22	.031
MAX	.53	.65	11	31	126	44	22	17	5.6	2.4	.48	.07
MIN	.42	.48	.66	1.3	13	15	7.3	5.2	2.6	.48	.01	0
AC-FT	28	35	154	510	2,530	1,800	728	436	230	77	13	1.8

CAL YEAR 1995	TOTAL	5,684.28	MEAN	15.6	MAX	347	MIN	.42	AC-FT	11,270
WTR YEAR 1996	TOTAL	3,300.33	MEAN	9.02	MAX	126	MIN	0	AC-FT	6,550

FIGURE D-6

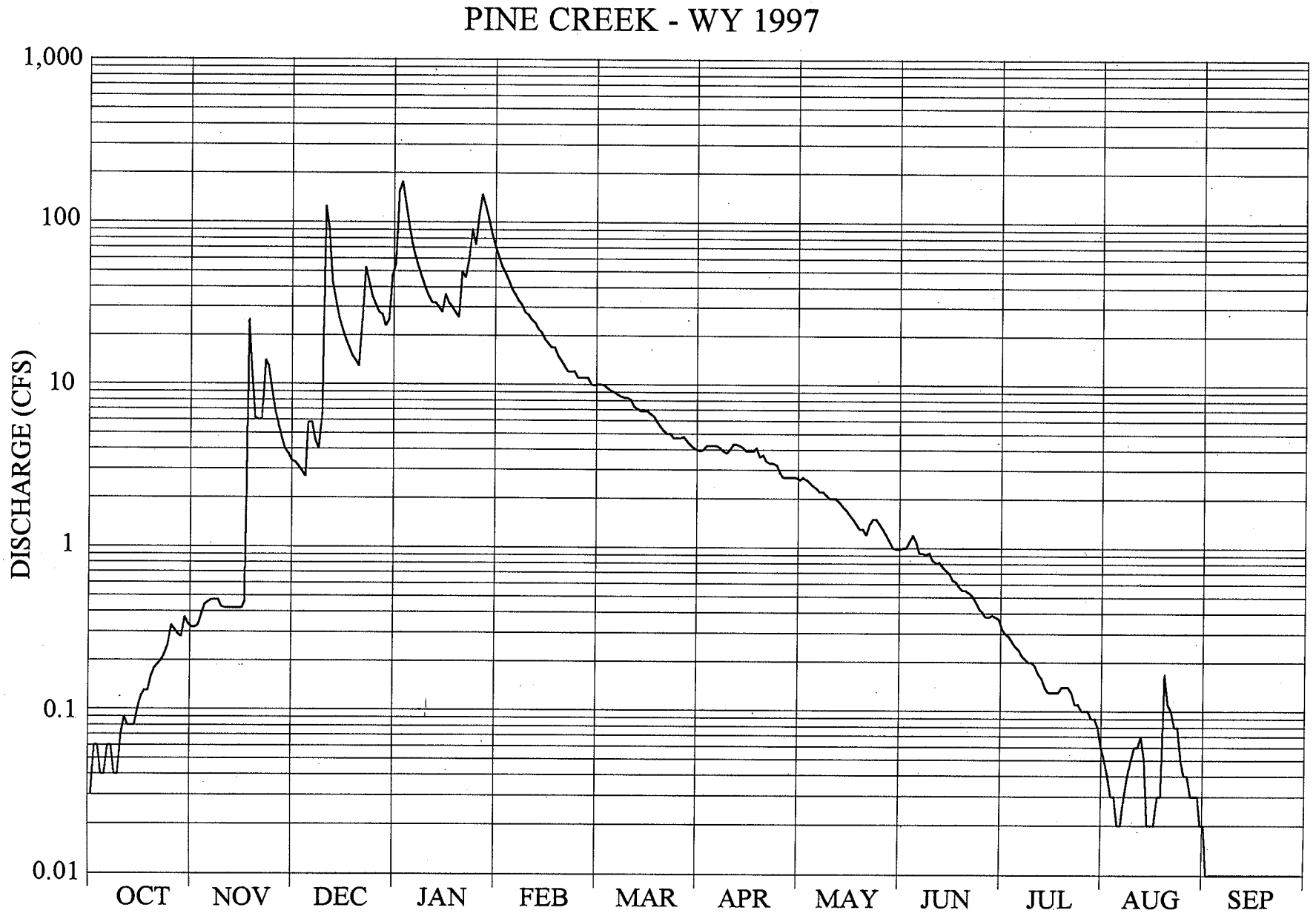

PINE CREEK - WY 1997
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-6

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.32	3.3	155	54	9.9	4.0	2.7	.98	.37	.06	.02
2	.06	.33	3.1	177	49	10	3.9	2.6	1.0	.32	.05	.01
3	.06	.39	2.9	130	44	10	4.0	2.7	1.0	.30	.04	.01
4	.04	.44	2.7	95	39	9.9	4.2	2.6	1.1	.29	.03	.01
5	.04	.46	5.8	73	36	9.5	4.2	2.5	1.2	.27	.03	.01e
6	.06	.47	5.8	61	33	9.2	4.2	2.4	1.1	.25	.02	.01e
7	.06	.47	4.5	52	31	9.0	4.2	2.3	.93	.24	.02	.01e
8	.04	.47	4.0	45	28	8.7	4.1	2.2	.93	.22	.03	.01e
9	.04	.43	6.5	39	27	8.5	3.9	2.2	.92	.21	.04	.01e
10	.07	.42	125	35	25	8.3	3.8	2.1	.94	.20	.05	.01e
11	.09	.42	89	32	24	8.3	4.0	2.0	.84	.20	.06	.01e
12	.08	.42	43	32	22	8.1	4.3	2.0	.81	.19	.06	.01e
13	.08	.42	33	30	21	7.3	4.3	2.0	.82	.17	.07	.01e
14	.08	.42	26	28	19	7.1	4.2	1.9	.77	.16	.05	.01e
15	.10	.42	22	36	18	6.9	4.1	1.8	.73	.14	.02	.01e
16	.12	.46	19	32	17	6.9	3.9	1.7	.70	.13	.02	.01e
17	.13	25	17	30	17	6.9	3.9	1.6	.64	.13	.02	.01e
18	.13	12	15	28	15	6.6	3.9	1.5	.62	.13	.03	.01e
19	.16	6.2	14	26	14	6.4	4.1	1.4	.58	.13	.03	.01e
20	.18	6.0	13	50	13	5.9	3.6	1.3	.55	.14	.17	.01e
21	.19	6.1	25	46	12	5.5	3.7	1.3	.55	.14	.11	.01e
22	.20	14	53	59	12	5.2	3.4	1.2	.53	.14	.10	.01e
23	.22	13	43	91	12	5.0	3.3	1.4	.51	.13	.08	.01e
24	.25	8.9	35	73	11	5.0	3.3	1.5	.47	.11	.08	.01e
25	.33	6.7	31	111	11	4.7	3.2	1.5	.43	.11	.05	.01e
26	.31	5.5	28	148	11	4.7	2.9	1.4	.41	.10	.04	.01e
27	.29	4.6	27	125	11	4.7	2.7	1.3	.38	.10	.04	.01e
28	.28	4.0	23	104	10	4.8	2.7	1.2	.38	.10	.03	.01e
29	.37	3.7	25	84	------	4.5	2.7	1.1	.39	.09	.03	.01e
30	.34	3.4	47	71	------	4.3	2.7	1.0	.38	.09	.03	.01e
31	.32	------	56	62	------	4.1	------	.99	------	.08	.02	------
TOTAL	4.75	125.86	847.6	2,160	636	215.9	111.4	55.39	21.59	5.38	1.51	0.31
MEAN	.15	4.20	27.3	69.7	22.7	6.96	3.71	1.79	.72	.17	.049	.010
MAX	.37	25	125	177	54	10	4.3	2.7	1.2	.37	.17	.02
MIN	.03	.32	2.7	26	10	4.1	2.7	.99	.38	.08	.02	.01
AC-FT	9.4	250	1,680	4,280	1,260	428	221	110	43	11	3.0	.6

CAL YEAR 1996	TOTAL	4,169.05	MEAN	11.4	MAX	126	MIN	0	AC-FT	8,270
WTR YEAR 1997	TOTAL	4,185.69	MEAN	11.5	MAX	177	MIN	.01	AC-FT	8,300

FIGURE D-7

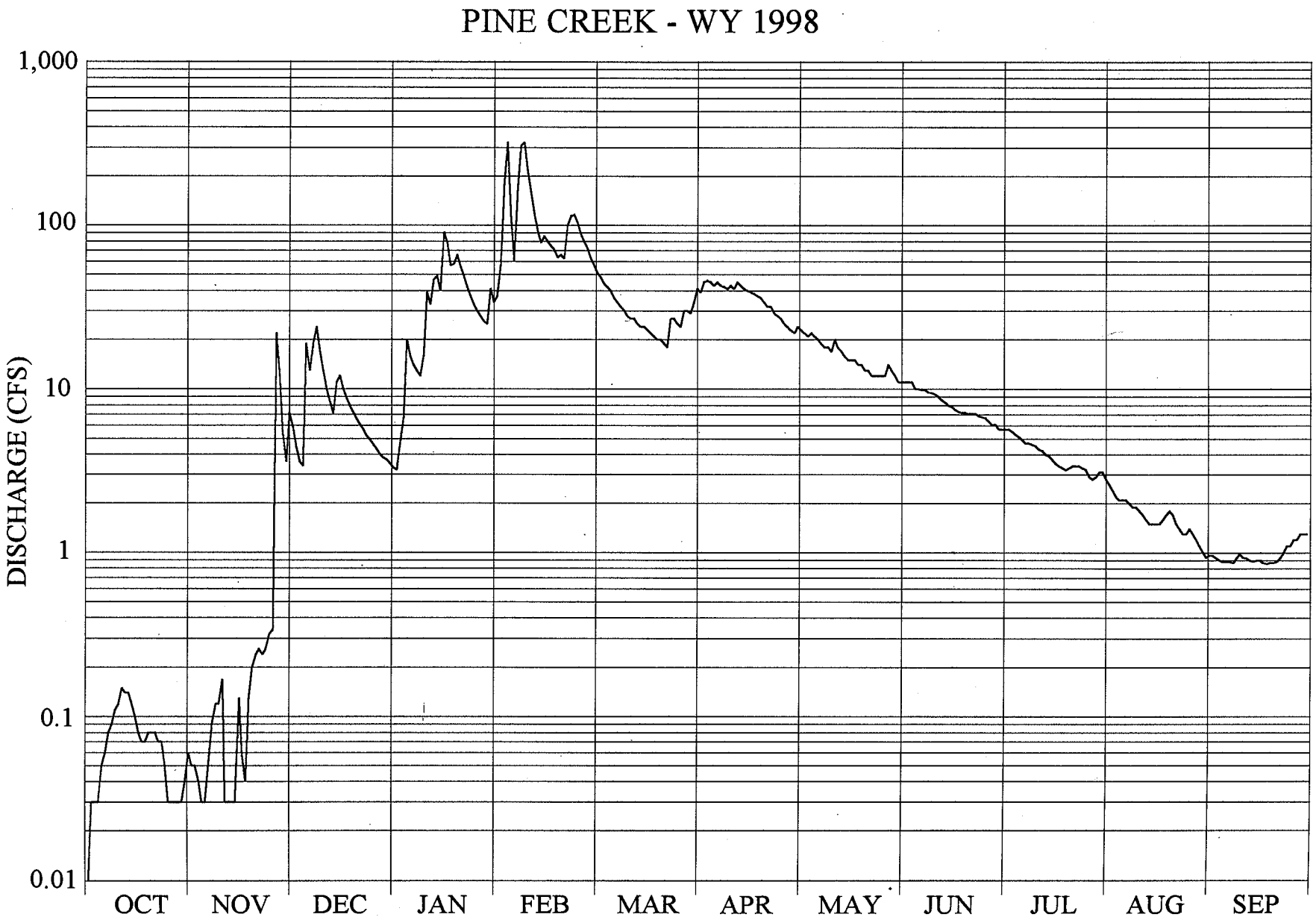

PINE CREEK - WY 1998
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-7

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.05	5.8	3.2	57	57	41	24	11	5.7	2.8	.97
2	.03	.05	4.4	4.7	180	51	39	23	11	5.7	2.6	.96
3	.03	.04	3.6	6.7	326	48	45	22	11	5.7	2.4	.93
4	.03	.03	3.4	20	113	44	46	21	11	5.5	2.2	.90
5	.05	.03	19	16	61	42	45	22	10	5.3	2.1	.88
6	.06	.05	13	14	165	40	43	21	10	5.1	2.1	.88
7	.08	.09	19	13	311	36	45	20	9.9	4.9	2.1	.88
8	.09	.12	24	12	323	34	43	19	9.9	4.7	2.0	.87
9	.11	.12	17	16	217	32	42	18	9.6	4.7	1.9	.93
10	.12	.17	13	39	161	30	41	18	9.5	4.6	1.9	.99
11	.15	.03	10	33	119	28	43	17	9.3	4.5	1.8	.94
12	.14	.03e	8.4	47	93	27	41	20	9.0	4.3	1.7	.93
13	.14	.03e	7.1	49	78	27	45	18	8.6	4.2	1.6	.90
14	.12	.03e	11	40	86	25	43	17	8.3	4.0	1.5	.89
15	.10	.13	12	91	80	24	41	16	8.0	3.9	1.5	.90
16	.08	.06	10	78	75	24	40	15	7.8	3.7	1.5	.90
17	.07	.04	8.8	57	71	23	39	15	7.5	3.5	1.5	.87
18	.07	.13	7.9	58	64	22	38	15	7.3	3.4	1.6	.86
19	.08	.20	7.2	66	66	21	37	14	7.2	3.3	1.7	.87
20	.08	.24	6.6	56	63	20	36	14	7.2	3.2	1.8	.87
21	.08	.26	6.1	49	100	20	34	13	7.1	3.3	1.7	.89
22	.07	.24	5.7	42	114	19	32	13	7.1	3.4	1.5	.93
23	.07	.26	5.2	37	116	18	32	12	7.1	3.4	1.4	1.0
24	.05	.32	4.9	33	104	27	29	12	6.9	3.4	1.3	1.1
25	.03	.34	4.6	30	88	27	28	12	6.8	3.3	1.3	1.1
26	.03	22	4.3	28	79	25	27	12	6.7	3.2	1.4	1.2
27	.03	12	4.0	26	72	24	25	12	6.4	2.9	1.3	1.2
28	.03	5.5	3.8	25	63	30	24	14	6.1	2.8	1.2	1.3
29	.03	3.6	3.7	41	------	30	23	13	6.1	2.9	1.1	1.3
30	.04	7.2	3.5	34	------	29	22	12	5.7	3.1	1.0	1.3
31	.06	------	3.3	37	------	34	------	11	------	3.1	.94	------
TOTAL	2.16	53.39	260.3	1,101.6	3,445	938	1,109	505	249.1	124.7	52.44	29.44
MEAN	.070	1.78	8.40	35.5	123	30.3	37.0	16.3	8.30	4.02	1.69	.98
MAX	.15	22	24	91	326	57	46	24	11	5.7	2.8	1.3
MIN	.01	.03	3.3	3.2	57	18	22	11	5.7	2.8	.94	.86
AC-FT	4.3	106	516	2,190	6,830	1,860	2,200	1,000	494	247	104	58

CAL YEAR 1997	TOTAL	3,523.33	MEAN	9.65	MAX	177	MIN	.01	AC-FT	6,990
WTR YEAR 1998	TOTAL	7,870.13	MEAN	21.6	MAX	326	MIN	.01	AC-FT	15,610

FIGURE D-8

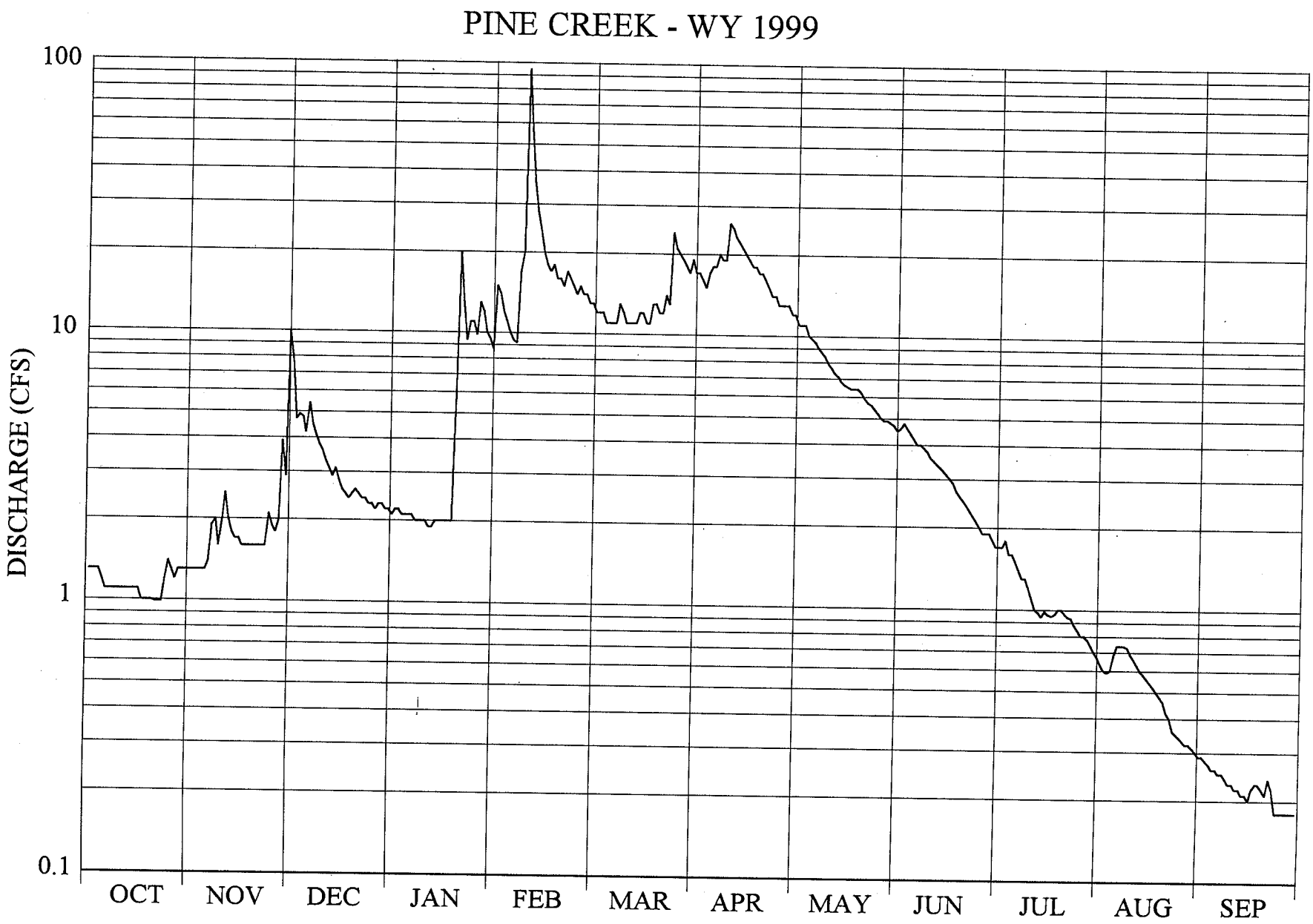

PINE CREEK - WY 1999
100
10
1
0.1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-8

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.3	7.6	2.2	14	13	17	12	4.5	1.7	.67	.29e
2	1.3	1.3	4.7	2.2	12	12	17	11	4.6	1.7	.63	.29e
3	1.3	1.3	4.9	2.1	11	12	16	11	4.8	1.7	.60	.28e
4	1.3	1.3	4.8	2.1	10	12	15	11	4.6	1.8	.59	.27e
5	1.2	1.3	4.2	2.1	9.4	11	17	10	4.4	1.6	.60	.26e
6	1.1	1.4	5.4	2.1	9.2	11	18	9.8	4.2	1.6	.68	.26e
7	1.1	1.9	4.5	2.0	17	11	18	9.5	4.0	1.5	.74	.25e
8	1.1	2.0	4.1	2.0	20	11	20	9.1	4.0	1.4	.74	.25e
9	1.1	1.6	3.8	2.0	95	13	19	8.7	3.9	1.3	.74	.24e
10	1.1	2.0	3.6	2.0	55	12	19	8.4	3.8	1.3	.73	.23e
11	1.1	2.5	3.3	1.9	36	11	26	7.9	3.6	1.2	.69	.23e
12	1.1	2.0	3.1	1.9	28	11	25	7.6	3.5	1.1	.66	.22e
13	1.1	1.8	2.9	2.0	24	11	23	7.3	3.4	1.0	.63	.22e
14	1.1	1.7	3.1	2.0	20	11	22	7.1	3.3	.98	.60	.21e
15	1.1	1.7	2.8	2.0	18	12	21	6.8	3.2	.94	.58	.21e
16	1.1	1.6	2.6	2.0	17	12	20	6.6	3.1	.99	.56	.20
17	1.0	1.6	2.5	2.0	18	11	19	6.5	3.0	.96	.54	.22
18	1.0	1.6	2.4	2.0	16	11	18	6.4	2.9	.95	.52	.23
19	1.0	1.6	2.5	5.7	16	13	18	6.4	2.7	.96	.50	.23
20	1.0	1.6	2.6	20	15	13	17	6.4	2.6	1.0	.48	.22
21	.99	1.6	2.5	13	17	12	17	6.2	2.5	1.0	.46	.21
22	.99	1.6	2.4	9.4	16	12	16	5.9	2.4	.97	.42	.24
23	.99	1.6	2.4	11	15	14	15	5.7	2.3	.94	.40	.22
24	1.2	2.1	2.3	11	14	13	14	5.6	2.2	.93	.36	.18
25	1.4	1.9	2.3	9.8	15	24	14	5.4	2.1	.88	.35e	.18e
26	1.3	1.8	2.2	13	14	21	13	5.2	2.0	.84	.34e	.18e
27	1.2	2.0	2.3	12	14	20	13	5.0	1.9	.80	.33e	.18e
28	1.3	3.9	2.3	10	13	19	13	4.9	1.9	.80	.32e	.18e
29	1.3	2.9	2.2	9.5	------	18	13	4.9	1.9	.78	.32e	.18e
30	1.3	10	2.2	8.7	------	17	12	4.8	1.8	.74	.31e	.18e
31	1.3	------	2.1	15	------	19	------	4.7	------	.70	.30e	------
TOTAL	35.77	62.5	100.6	184.7	578.6	423	525	227.8	95.4	35.06	16.39	6.74
MEAN	1.15	2.08	3.25	5.96	20.7	13.6	17.5	7.35	3.17	1.13	.53	.22
MAX	1.4	10	7.6	20	95	24	26	12	4.8	1.8	.74	.29
MIN	.99	1.3	2.1	1.9	9.2	11	12	4.7	1.8	.70	.30	.18
AC-FT	71	124	200	366	1,150	839	1,040	452	189	70	33	13

CAL YEAR 1998	TOTAL	7,753.15	MEAN	21.2	MAX	326	MIN	.86	AC-FT	15,380
WTR YEAR 1999	TOTAL	2,291.26	MEAN	6.28	MAX	95	MIN	.18	AC-FT	4,540

FIGURE D-9

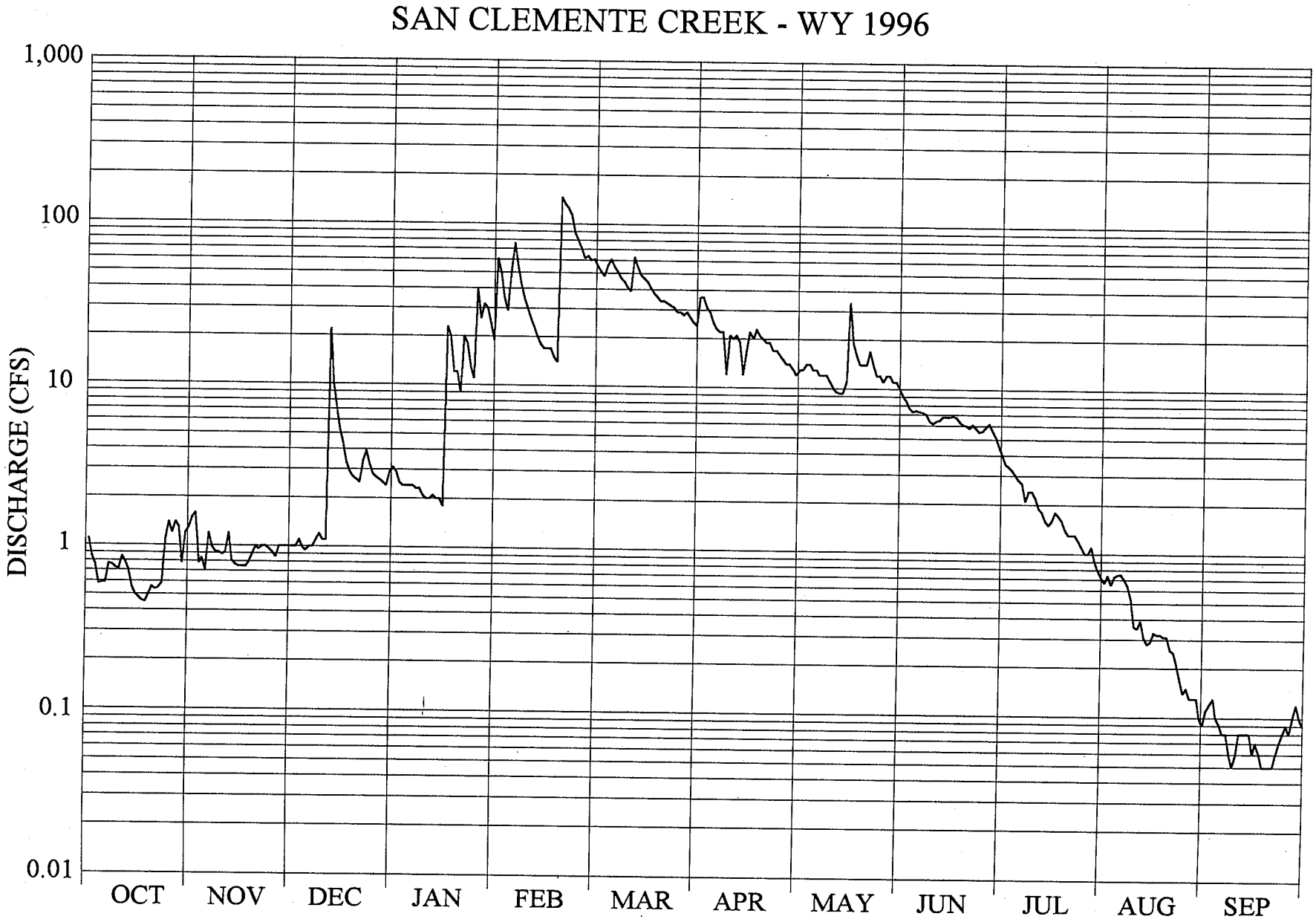

SAN CLEMENTE CREEK - WY 1996
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-9

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.5	1.0	2.9	49	55	36	13	9.1	4.0	.67	.11
2	.86	1.6	1.0	2.5	35	51	36	13	8.5	3.5	.74	.12
3	.76	.78	1.1	2.4	29	48	31	14	7.6	3.4	.65	.13
4	.58	.84	.99	2.4	51	56	29	14	7.3	3.2	.73	.10
5	.59	.71	.95	2.4	76	61	25	13	7.4	3.0	.75	.09
6	.59	1.2	1.0	2.4	55	55	23	13	7.3	2.8	.75	.08
7	.77	.99	1.0	2.3	42	51	22	12	7.2	2.7	.70	.08
8	.76	.91	1.1	2.3	35	47	22	12	7.0	2.1	.64	.06
9	.73	.91	1.2	2.1	30	44	12	12	6.4	2.4	.53	.05
10	.71	.89	1.1	2.0	26	41	21	11	6.2	2.4	.36	.06
11	.85	.91	1.1	2.0	23	39	20	10	6.4	2.2	.35	.08
12	.79	1.2	22	2.1	20	63	21	9.6	6.5	1.9	.39	.08
13	.70	.81	9.9	2.0	18	55	19	9.4	6.8	1.8	.31	.08
14	.56	.77	7.0	2.0	17	49	12	9.4	6.8	1.6	.28	.08
15	.50	.75	5.2	1.8	17	47	17	11	6.8	1.5	.29	.06
16	.48	.75	4.3	23	17	44	22	34	6.9	1.6	.33	.07
17	.46	.75	3.3	20	15	41	20	19	6.8	1.8	.32	.06
18	.45	.79	2.9	12	14	38	23	16	6.4	1.7	.32	.05
19	.50	.88	2.7	12	146	36	21	14	6.1	1.6	.31	.05
20	.56	1.0	2.6	9.0	133	34	20	14	6.0	1.4	.31	.05
21	.54	.96	2.5	20	125	34	19	14	5.8	1.3	.26	.05
22	.55	1.0	3.4	18	113	33	19	17	6.1	1.3	.25	.06
23	.59	1.0	3.9	13	89	32	17	14	5.8	1.3	.21	.07
24	1.1	.96	3.2	11	80	31	17	12	5.5	1.2	.17	.08
25	1.4	.92	2.8	40	71	29	16	12	5.6	1.1	.14	.09
26	1.2	.86	2.7	26	62	29	15	11	5.9	1.0	.15	.08
27	1.4	1.0	2.6	32	64	28	14	12	6.2	1.0	.13	.10
28	1.3	1.0	2.5	30	60	29	14	12	5.6	1.1	.13	.12
29	.78	1.0	2.4	24	61	27	13	11	5.1	.90	.13	.10
30	1.2	1.0	2.9	19	------	25	12	11	4.5	.79	.10	.09
31	1.3	------	3.1	61	------	24	------	10	------	.72	.09	------
TOTAL	24.66	28.64	103.44	403.6	1,573	1,276	608	409.4	195.6	58.31	11.49	2.38
MEAN	.80	.95	3.34	13.0	54.2	41.2	20.3	13.2	6.52	1.88	.37	.079
MAX	1.4	1.6	22	61	146	63	36	34	9.1	4.0	.75	.13
MIN	.45	.71	.95	1.8	14	24	12	9.4	4.5	.72	.09	.05
AC-FT	49	57	205	801	3,120	2,530	1,210	812	388	116	23	4.7

CAL YEAR 1995	TOTAL	10,495.73	MEAN	28.8	MAX	735	MIN	.45	AC-FT	20,820
WTR YEAR 1996	TOTAL	4,694.52	MEAN	12.8	MAX	146	MIN	.05	AC-FT	9,310

FIGURE D-10

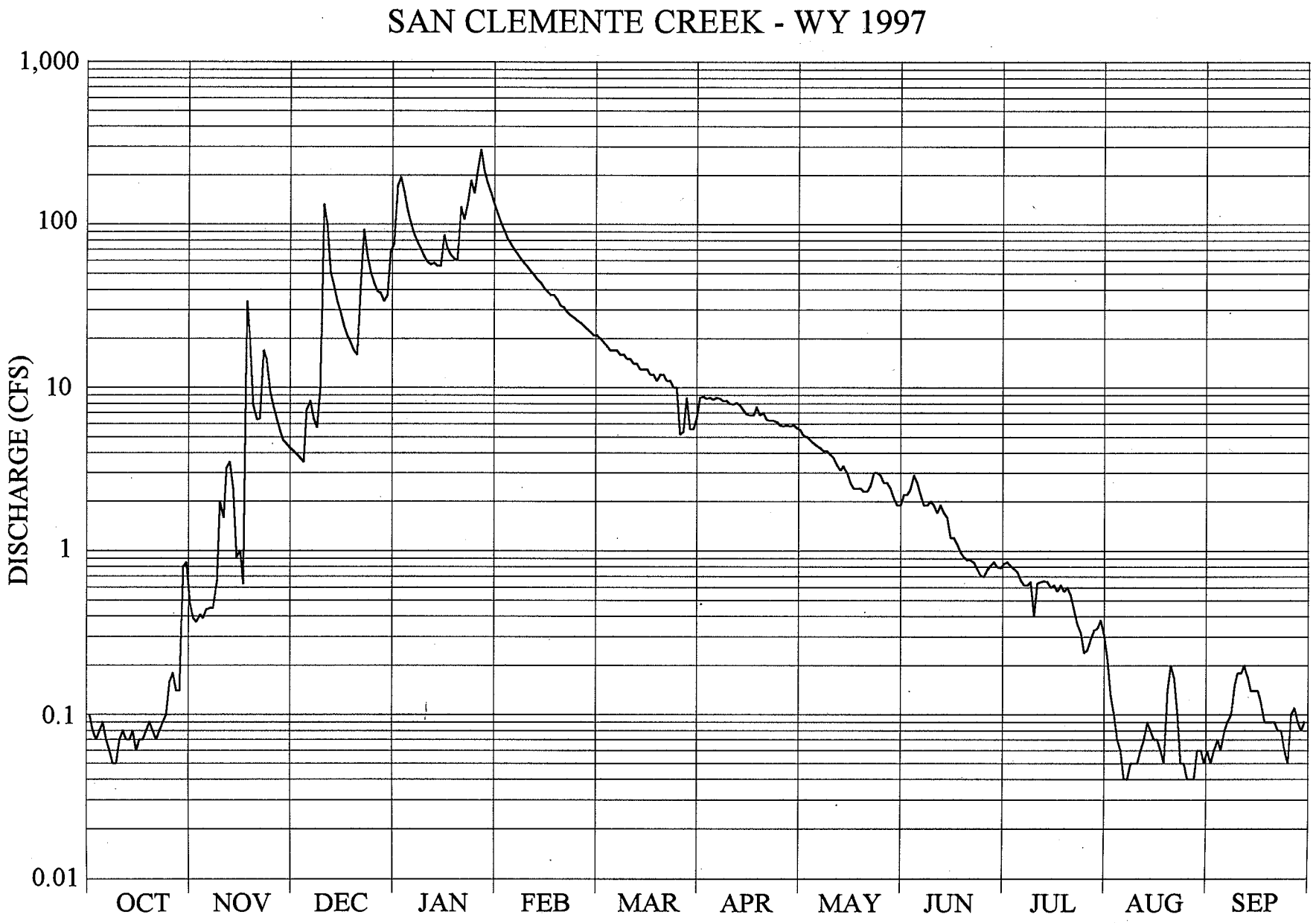

SAN CLEMENTE CREEK - WY 1997
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-10

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.39	4.1	172	103	21	6.5	5.7	1.9	.79	.31	.06
2	.08	.37	3.9	196	92	21	8.7	5.5	2.2	.84	.22	.05
3	.07	.41	3.7	157	82	20	8.8	5.1	2.2	.86	.13	.06
4	.08	.39	3.5	122	76	19	8.6	5.0	2.4	.81	.10	.07
5	.09	.44	7.3	102	70	18	8.7	4.8	2.9	.78	.07	.06
6	.07	.45	8.3	87	66	17	8.5	4.6	2.6	.75	.06	.08
7	.06	.45	6.5	78	62	17	8.7	4.4	2.2	.67	.04	.09
8	.05	.66	5.7	71	58	17	8.6	4.3	1.9	.62	.04	.10
9	.05	2.0	10	64	55	16	8.3	4.1	1.9	.62	.05	.15
10	.07	1.6	133	59	52	16	8.3	4.1	2.0	.65	.05	.18
11	.08	3.2	98	57	49	15	8.0	3.9	1.9	.40	.05	.18
12	.07	3.5	51	58	46	15	7.9	3.7	1.7	.64	.06	.20
13	.07	2.4	42	56	44	14	8.1	3.4	1.9	.65	.07	.17
14	.08	.92	34	56	41	14	7.8	3.1	1.7	.66	.09	.14
15	.06	1.0	29	86	39	13	7.3	3.3	1.6	.65	.08	.14
16	.07	.63	24	71	37	13	6.9	3.0	1.2	.60	.07	.14
17	.07	34	21	65	37	13	6.8	2.6	1.2	.62	.07	.12
18	.08	20	19	62	35	12	6.8	2.4	1.1	.57	.06	.09
19	.09	7.8	17	61	32	12	7.6	2.4	.99	.62	.05	.09
20	.08	6.4	16	128	31	11	6.8	2.4	.92	.57	.14	.09
21	.07	6.5	43	107	29	12	7.0	2.3	.88	.60	.20	.09
22	.08	17	93	136	28	12	6.4	2.3	.88	.54	.17	.08
23	.09	15	65	186	27	11	6.3	2.5	.85	.44	.10	.08
24	.10	9.4	51	155	26	11	6.3	3.0	.78	.36	.05	.06
25	.16	7.6	44	218	25	10	6.2	3.0	.71	.32	.05	.05
26	.18	6.4	39	288	24	10	5.9	2.9	.70	.24	.04	.10
27	.14	5.4	38	213	23	5.2	5.8	2.6	.77	.25	.04	.11
28	.14	4.8	34	179	22	5.4	5.9	2.6	.82	.29	.04	.09
29	.80	4.5	37	156	------	8.7	5.8	2.4	.86	.33	.06	.08
30	.85	4.3	69	134	------	5.6	5.9	2.1	.80	.34	.06	.09
31	.49	------	76	117	------	5.6	------	1.9	------	.38	.05	------
TOTAL	4.57	167.91	1,126.0	3,697	1,311	410.5	219.2	105.4	44.46	17.46	2.67	3.09
MEAN	.15	5.60	36.3	119	46.8	13.2	7.31	3.40	1.48	.56	.086	.10
MAX	.85	34	133	288	103	21	8.8	5.7	2.9	.86	.31	.20
MIN	.05	.37	3.5	56	22	5.2	5.8	1.9	.70	.24	.04	.05
AC-FT	9.1	333	2,230	7,330	2,600	814	435	209	88	35	5.3	6.1

CAL YEAR 1996	TOTAL	5,836.26	MEAN	15.9	MAX	146	MIN	.05	AC-FT	11,580
WTR YEAR 1997	TOTAL	7,109.26	MEAN	19.5	MAX	288	MIN	.04	AC-FT	14,100

FIGURE D-11

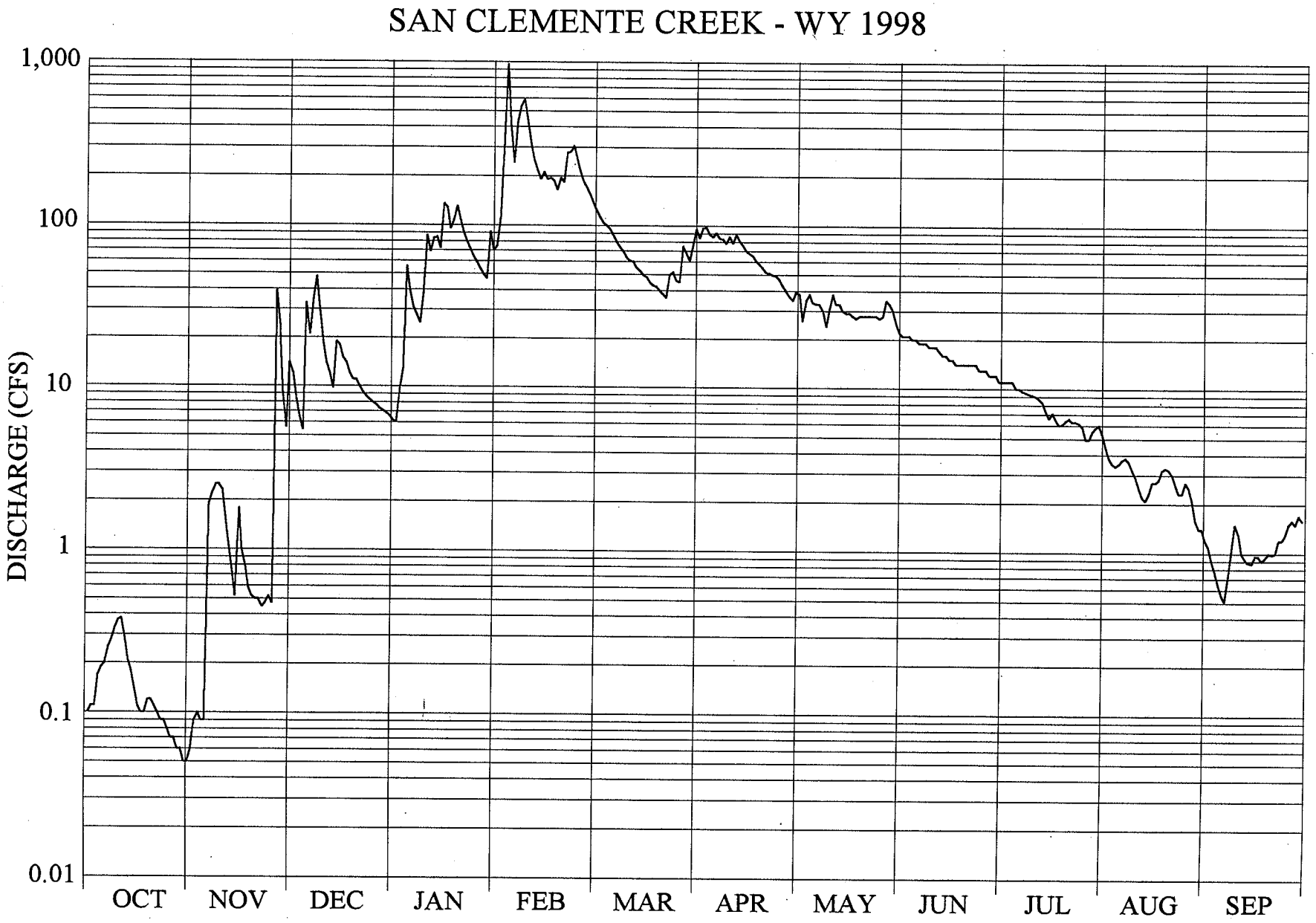

SAN CLEMENTE CREEK - WY 1998
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-11

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.06	12	6.1	110	137	96	39	22e	11 e	5.3	1.2
2	.11	.09	8.3	9.7	313	123	84	38	21e	11 e	4.4	1.1
3	.11	.10	6.5	13	974	112	97	26	21e	11 e	3.8	.90
4	.17	.09	5.4	56	402	104	98	35	21e	11 e	3.5	.76
5	.19	.09	33	39	243	100	89	38	20e	11 e	3.4	.65
6	.20	1.9	21	31	434	95	86	34	20e	10 e	3.5	.55
7	.25	2.2	35	28	541	87	91	33	19e	10 e	3.7	.51
8	.28	2.5	48	25	592	79	84	33	19e	9.7e	3.8	.74
9	.33	2.5	29	38	442	74	83	30	19e	9.5e	3.6	1.1
10	.37	2.3	19	87	319	69	78	24	18e	9.3e	3.2	1.5
11	.38	1.6	14	69	251	64	86	31	18e	9.2e	2.9	1.3
12	.29	1.1	12	83	218	61	78	38	18e	9.0e	2.5	1.0
13	.21	.76	9.8	85	192	60	89	33	17e	8.7	2.2	.92
14	.18	.52	19	72	211	55	81	33	16e	8.3	2.1	.88
15	.14	1.8	18	136	192	53	76	30	16e	7.3	2.3	.87
16	.11	1.0	15	129	195	50	70	29	15e	6.6	2.7	.97
17	.10	.78	14	96	187	48	68	29	15e	7.1	2.7	.96
18	.10	.59	12	108	165	45	65	28	14e	6.5	2.8	.90
19	.12	.52	11	131	196	43	61	27	14e	6.0	3.2	.94
20	.12	.50	11	107	184	42	58	28	14e	6.1	3.3	1.0
21	.11	.50	10	90	278	40	55	28	14e	6.4	3.2	.99
22	.10	.45	9.2	79	284	38	52	28	14e	6.6	3.0	1.0
23	.09	.47	8.7	71	307	36	51	28	14e	6.3	2.6	1.2
24	.09	.52	8.3	64	252	50	50	28	14e	6.3	2.3	1.2
25	.08	.47	8.0	59	210	52	49	28	13e	6.2	2.3	1.3
26	.07	40	7.7	54	184	46	47	27	13e	5.9	2.7	1.5
27	.07	24	7.3	50	170	45	43	28	13e	4.9	2.5	1.6
28	.06	9.2	7.1	47	153	75	40	35	12e	4.9	2.1	1.5
29	.06	5.6	6.9	92	------	68	37	33	12e	5.5	1.6	1.7
30	.05	14	6.6	70	------	61	35	30	12e	5.8	1.4	1.6
31	.05	------	6.2	75	------	76	------	25e	------	6.0	1.4	------
TOTAL	4.69	116.21	439.0	2,099.8	8,199	2,088	2,077	954	488	243.1	90.0	32.34
MEAN	.15	3.87	14.2	67.7	293	67.4	69.2	30.8	16.3	7.84	2.90	1.08
MAX	.38	40	48	136	974	137	98	39	22	11	5.3	1.7
MIN	.05	.06	5.4	6.1	110	36	35	24	12	4.9	1.4	.51
AC-FT	9.3	231	871	4,160	16,260	4,140	4,120	1,890	968	482	179	64

CAL YEAR 1997	TOTAL	6,370.68	MEAN	17.5	MAX	288	MIN	.04	AC-FT	12,640
WTR YEAR 1998	TOTAL	16,831.14	MEAN	46.1	MAX	974	MIN	.05	AC-FT	33,380

FIGURE D-12

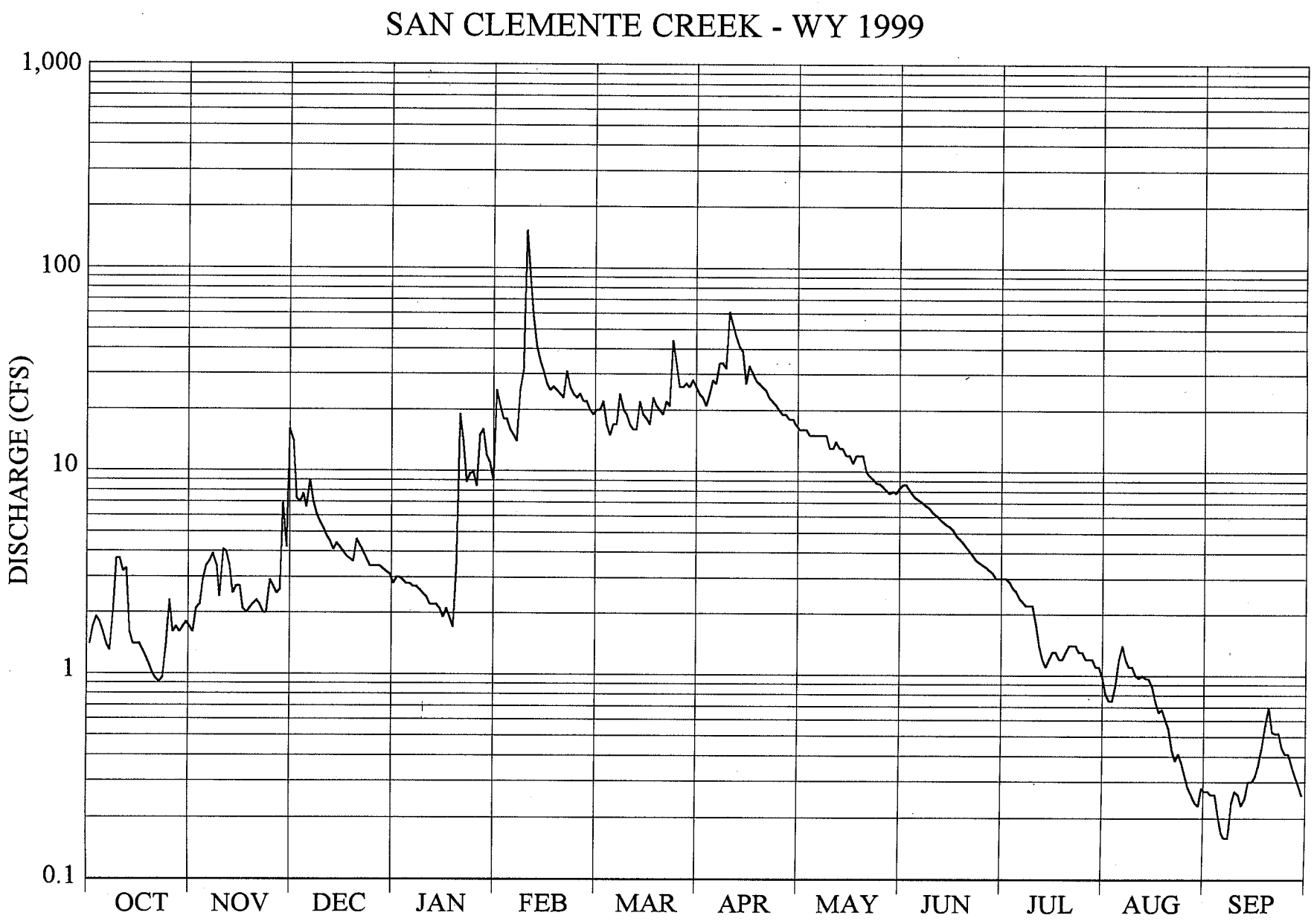

SAN CLEMENTE CREEK - WY 1999
DISCHARGE (CFS)
1,000
100
10
1
0.1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-12

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.6	14	3.0	21	19	26	17	8.3e	3.0e	.99	.27
2	1.7	2.1	7.3	3.0	18	20	24	16	8.6e	3.0e	.81	.27
3	1.9	2.2	7.0	2.9	18	20	23	16	8.6e	3.0e	.75	.26
4	1.8	2.9	7.7	2.8	16	22	21	16	8.1e	2.9e	.75	.26
5	1.6	3.4	6.6	2.8	15	17	24	15	7.7e	2.7e	.90	.21
6	1.4	3.6	9.0	2.7	14	15	28	15	7.4e	2.6e	1.2	.17
7	1.3	3.9	7.0	2.7	25	17	27	15	7.2e	2.4e	1.4	.16
8	2.0	3.4	6.1	2.6	31	17	34	15	7.0e	2.3e	1.2	.16
9	3.7	2.4	5.6	2.5	153	24	34	15	6.8e	2.2e	1.1	.24
10	3.7	4.1	5.2	2.4	90	20	32	15	6.6e	2.2e	1.1	.27
11	3.2	4.0	4.8	2.2	57	19	61	13	6.3e	2.2	1.0	.26
12	3.3	3.4	4.5	2.2	41	17	53	13	6.1e	1.8	.97	.23
13	1.6	2.5	4.1	2.2	35	16	46	14	5.9e	1.4	1.0	.25
14	1.4	2.7	4.4	2.1	31	16	41	13	5.7e	1.2	.97	.30
15	1.4	2.7	4.2	1.9	27	22	39	13	5.5e	1.1	.96	.30
16	1.4	2.1	4.0	2.1	25	19	27	12	5.4e	1.2	.88	.32
17	1.3	2.0	3.8	1.9	26	18	33	12	5.2e	1.3	.75	.36
18	1.2	2.1	3.7	1.7	25	17	30	11	4.9e	1.3	.66	.45
19	1.1	2.2	3.6	3.5	24	23	28	12	4.7e	1.2	.68	.56
20	1.0	2.3	4.6	19	23	21	27	12	4.5e	1.2	.61	.70
21	.94	2.2	4.3	14	31	20	26	12	4.3e	1.3	.55	.53
22	.91	2.0	4.0	8.8	26	19	25	10	4.1e	1.4	.43	.52
23	.96	2.0	3.7	9.7	24	22	23	9.5	3.9e	1.4	.38	.52
24	1.4	2.9	3.4	9.9	23	21	22	9.2	3.7e	1.4	.41	.44
25	2.3	2.7	3.4	8.4	24	44	21	8.8	3.6e	1.3	.37	.41
26	1.6	2.5	3.4	15	22	34	20	8.7	3.5e	1.3	.32	.41
27	1.7	2.6	3.4	16	22	26	19	8.4	3.4e	1.2	.28	.36
28	1.6	6.9	3.3	12	20	26	19	8.1	3.3e	1.2	.26	.32
29	1.7	4.2	3.2	11	------	27	18	7.8	3.2e	1.2	.24	.29
30	1.8	16	3.1	9.0	------	26	18	8.0	3.0e	1.1	.23	.26
31	1.7	------	2.8	25	------	28	------	7.8	------	1.1	.28	------
TOTAL	54.01	99.6	155.2	205.0	907	672	869	378.3	166.5	54.1	22.43	10.06
MEAN	1.74	3.32	5.01	6.61	32.4	21.7	29.0	12.2	5.55	1.75	.72	.34
MAX	3.7	16	14	25	153	44	61	17	8.6	3.0	1.4	.70
MIN	.91	1.6	2.8	1.7	14	15	18	7.8	3.0	1.1	.23	.16
AC-FT	107	198	308	407	1,800	1,330	1,720	750	330	107	44	20

CAL YEAR 1998	TOTAL	16,580.05	MEAN	45.4	MAX	974	MIN	.51	AC-FT	32,890
WTR YEAR 1999	TOTAL	3,593.20	MEAN	9.84	MAX	153	MIN	.16	AC-FT	7,130

FIGURE D-13

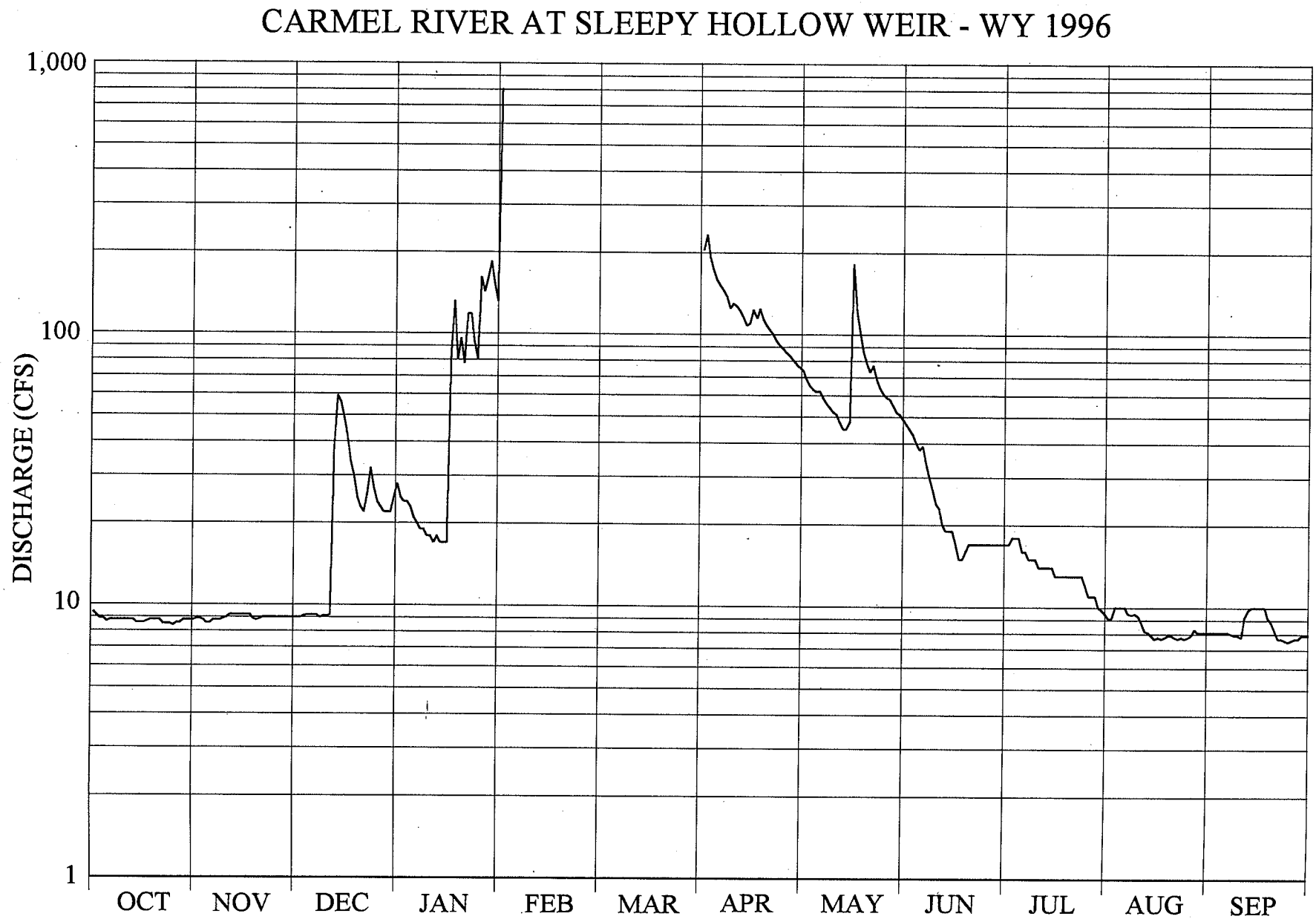

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 1996
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-13

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	8.9	9.0	25			205	74	47	17	9.1	8.1
2	9.1	8.9	9.0	24			233	69	45	17	9.1	8.1
3	8.9	8.8	9.1	24			191	65	43	18	10	8.1
4	8.9	8.6	9.2	23			172	63	40	18	10	8.1
5	8.7	8.6	9.2	21			159	62	38	18	10	8.1
6	8.8	8.8	9.2	20			151	62	39	16	10	8.1
7	8.8	8.8	9.2	19			145	59	34	16	9.5	8.0
8	8.8	8.8	9.0	19			138	56	30	15	9.4	7.9
9	8.8	8.9	9.1	18			125	54	27	15	9.5	7.9
10	8.8	9.0	9.1	18			130	52	24	15	9.3	7.8
11	8.8	9.2	9.2	17			127	51	23	14	8.8	9.2
12	8.8	9.2	38 e	18			122	48	20	14	8.2	9.8
13	8.8	9.2	59 e	17			116	45	19	14	8.1	10
14	8.6	9.2	56 e	17			108	45	19	14	7.9	10
15	8.6	9.2	49	17			110	48	19	14	7.7	10
16	8.6	9.2	42	83			123	182	17	13	7.8	10
17	8.7	9.2	34	132			115	123	15	13	7.7	10
18	8.8	8.9	30	81			124	103	15	13	7.8	9.2
19	8.8	8.8	25	96			114	87	16	13	7.9	8.8
20	8.8	8.9	23	78			108	79	17	13	7.9	8.2
21	8.8	9.0	22	118			104	73	17	13	7.8	7.7
22	8.5	9.0	26	118			100	77	17	13	7.7	7.7
23	8.5	9.0	32	93			95	69	17	13	7.8	7.6
24	8.5	9.0	27	81			91	64	17	13	7.7	7.5
25	8.4	9.0	24	161			89	61	17	12	7.8	7.6
26	8.6	9.0	23	143			86	59	17	11	7.9	7.7
27	8.6	9.0	22	160			84	58	17	11	8.3	7.7
28	8.8	9.0	22	184			81	55	17	11	8.1	7.9
29	8.8	9.0	22	153			78	52	17	10	8.1	7.9
30	8.8	9.0	25	132	------		76	51	17	9.8	8.1	7.9
31	8.8e	------	28	802	------		------	49	------	9.5	8.1	------
TOTAL	271.4	269.1	729.3	2,912			3,700	2,095	717	426.3	263.1	252.6
MEAN	8.75	8.97	23.5	93.9			123	67.6	23.9	13.8	8.49	8.42
MAX	9.4	9.2	59	802			233	182	47	18	10	10
MIN	8.4	8.6	9.0	17			76	45	15	9.5	7.7	7.5
AC-FT	538	534	1,450	5,780			7,340	4,160	1,420	846	522	501

CAL YEAR 1995	TOTAL	16,219.7	MEAN	44.4	MAX	471 *	MIN	3.7 *	AC-FT	32,170
WTR YEAR 1996	TOTAL*	11,635.8	MEAN	38.0	MAX	802	MIN	7.5	AC-FT	23,080

* Incomplete Record

FIGURE D-14

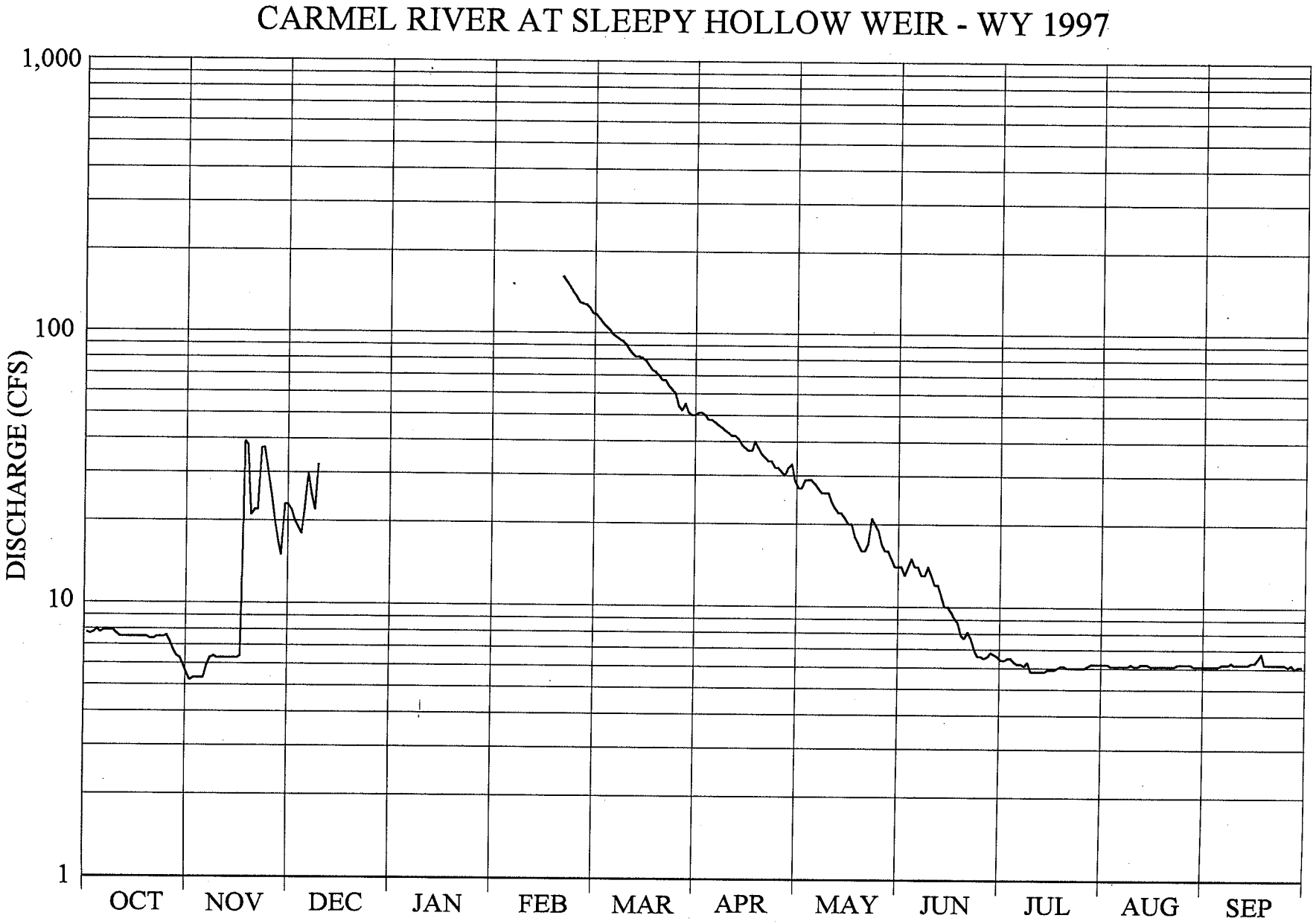

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 1997
DISCHARGE (CFS)
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-14

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	5.2	22			118	50	29	14	6.6	6.2	6.1
2	7.7	5.3	20			117	51	27	14	6.4	6.2	6.1
3	7.8	5.3	19			113	51	27	13	6.4	6.2	6.1
4	8.0	5.3	18			109	50	29	14	6.5	6.1	6.1
5	7.8	5.3	22			106	48	29	15	6.5	6.1	6.1
6	7.9	5.9	30			103	48	29	14	6.3	6.1	6.2
7	7.9	6.3	25			99	47	28	14	6.2	6.1	6.2
8	7.9	6.4	22			97	46	27	13	6.2	6.1	6.2
9	7.9	6.3	32			95	45	26	13	6.1	6.1	6.3
10	7.7	6.3				93	44	26	14	6.3	6.2	6.2
11	7.5	6.3				91	43	26	13	5.8	6.1	6.2
12	7.5	6.3				87	42	24	12	5.8	6.1	6.2
13	7.5	6.3				84	42	23	12	5.8	6.2	6.2
14	7.5	6.3				82	41	22	11	5.8	6.2	6.2
15	7.5	6.3				82	39	22	10	5.8	6.2	6.3
16	7.5	6.4				81	38	21	10	5.9	6.1	6.3
17	7.5	39				79	37	20	9.6	5.9	6.1	6.5
18	7.5	38				76	37	20	9.1	5.9	6.1	6.8
19	7.5	21				73	40	18	8.8	6.0	6.1	6.2
20	7.4	22			161	72	38	17	7.9	6.1	6.1	6.2
21	7.4	22			155	70	36	16	7.7	6.1	6.1	6.2
22	7.5	37			149	67	35	16	8.1	6.0	6.1	6.2
23	7.5	37			142	67	34	17	7.7	6.0	6.1	6.2
24	7.5	30			136	64	34	21	7.0	6.0	6.2	6.2
25	7.6	25			130	62	32	20	6.6	6.0	6.2	6.2
26	7.2	20			128	60	32	19	6.6	6.0	6.2	6.1
27	6.7	17			127	54	31	17	6.5	6.0	6.2	6.2
28	6.4	15			124	52	30	16	6.6	6.1	6.2	6.0
29	6.3	23			------	55	32	16	6.8	6.2	6.1	6.1
30	5.9	23			------	51	33	15	6.7	6.2	6.1	6.1
31	5.5	------			------	50	------	14	------	6.2	6.1	------
TOTAL	228.8	464.5	210		1,252	2,509	1,206	677	311.7	189.1	190.3	186.2
MEAN	7.38	15.5	23.3		139	80.9	40.2	21.8	10.4	6.10	6.14	6.21
MAX	8.0	39	32		161	118	51	29	15	6.6	6.2	6.8
MIN	5.5	5.2	18		124	50	30	14	6.5	5.8	6.1	6.0
AC-FT	454	921	417		2,480	4,980	2,390	1,340	618	375	377	369

CAL YEAR 1996	TOTAL*	11,269.3	MEAN	32.8	MAX	802	MIN	5.2	AC-FT	22,350
WTR YEAR 1997	TOTAL*	7,424.6	MEAN	25.3	MAX	161	MIN	5.2	AC-FT	14,730

* Incomplete Record

FIGURE D-15

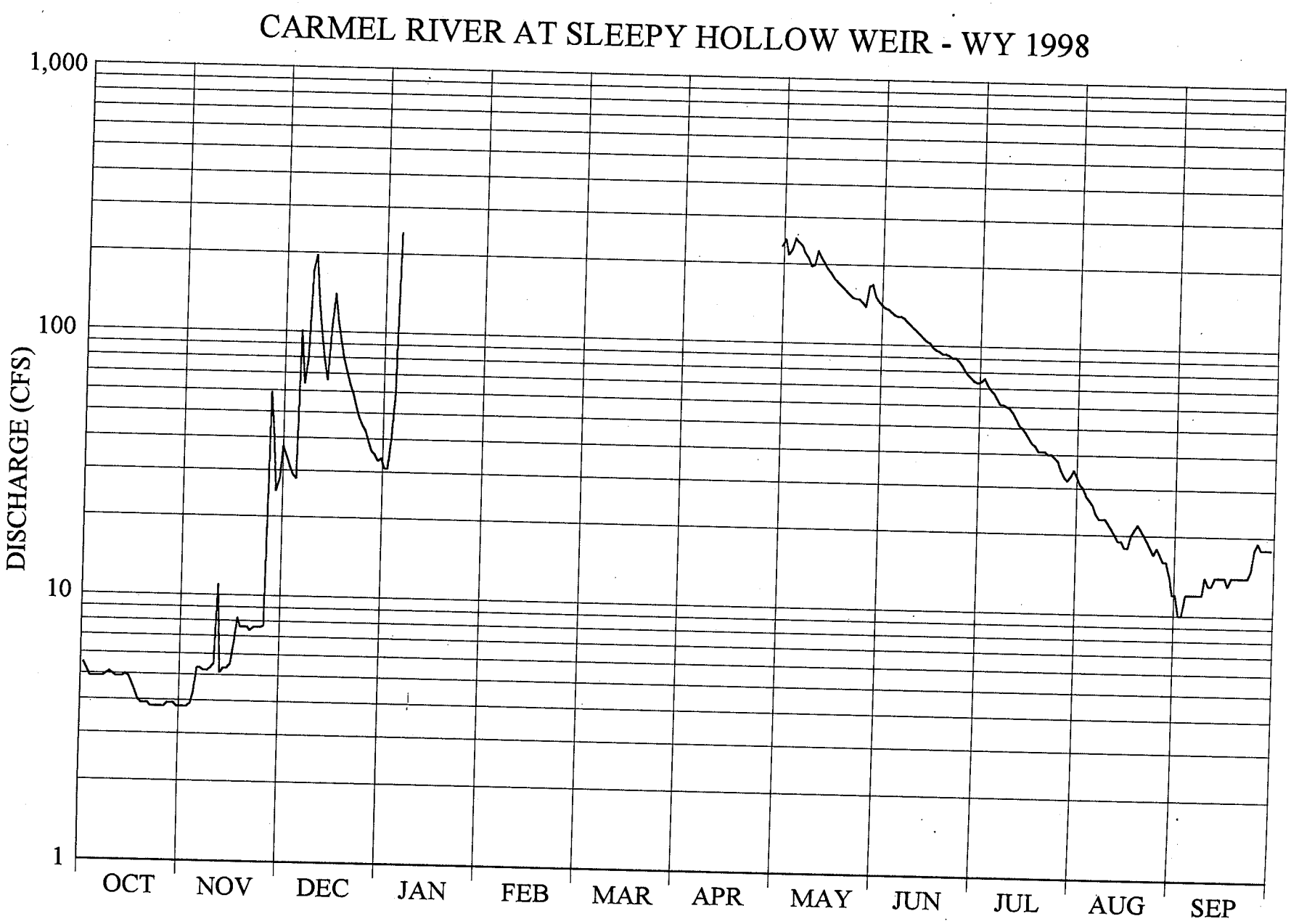

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 1998
DISCHARGE (CFS)
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-15

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	3.8	34	31				232	141	73	33	12
2	5.2	3.8	31	40				247	138	74	31	10
3	4.9	3.9	29	59				216	136	76	30	10
4	4.9	4.3	28	240				226	133	72	28	12
5	4.9	5.3	101					249	130	69	27	12
6	4.9	5.3	64					241	128	67	26	12
7	4.9	5.2	80					235	128	64	24	12
8	5.0	5.2	171					221	126	61	23	12
9	5.1	5.3	196					211	122	61	23	12
10	5.0	5.5	130					196	119	60	23	14
11	4.9	11	98					198	116	59	22	13
12	4.9	5.1	78					225	113	57	21	13
13	4.9	5.3	66					213	110	54	20	14
14	5.0	5.3	104					202	107	51	19	14
15	4.9	5.5	140					193	104	50	19	14
16	4.6	6.4	110					186	102	48	18	14
17	4.3	8.2	92					178	98	46	18	13
18	4.0	7.6	79					173	96	44	20	14
19	3.9	7.6	71					167	95	43	21	14
20	3.9	7.6	64					163	93	41	22	14
21	3.9	7.4	59					159	93	41	21	14
22	3.8	7.6	53e					154	92	41	20	14
23	3.8	7.6	48e					150	90	40	19	14
24	3.8	7.6	45					149	90	40	18	15
25	3.8	7.7	43					148	88	39	17	18
26	3.8	59	39					144	85	38	18	19
27	3.9	41	36					139	81	35	17	18
28	3.9	25	35					166	78	33	16	18
29	3.9	28	33		------			169	76	32	16	18
30	3.8	37	34		------			152	74	33	14	18
31	3.8	------	31		------		------	146	------	35	12	------
TOTAL	137.8	345.1	2,222	370				5,848	3,182	1,577	656	421
MEAN	4.45	11.5	71.7	92.5				189	106	50.9	21.2	14.0
MAX	5.5	59	196	240				249	141	76	33	19
MIN	3.8	3.8	28	31				139	74	32	12	10
AC-FT	273	685	4,410	734				11,600	6,310	3,130	1,300	835

CAL YEAR 1997	TOTAL	9,226.2	MEAN	25.3	MAX	196	MIN	3.8	AC-FT	18,300
WTR YEAR 1998	TOTAL*	14,758.9	MEAN	59.3	MAX	249	MIN	3.8	AC-FT	29,270

* Incomplete Record

FIGURE D-16

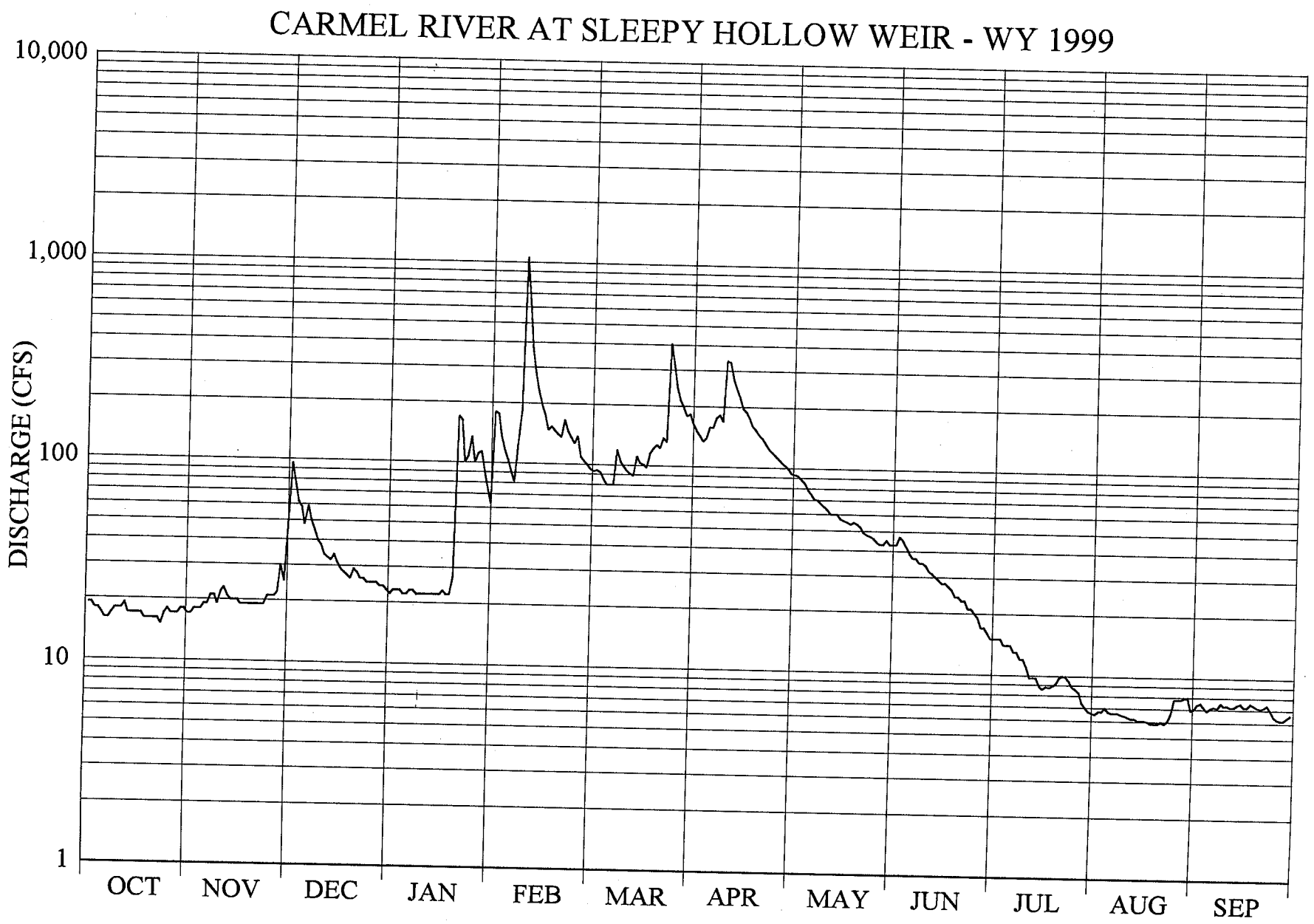

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 1999
DISCHARGE (CFS)
10,000
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-16

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	96	23	177	95	163	94	43	15	6.6	7.0
2	19	18	77	23	135	93	151	93	43	15	6.5	7.4
3	18	18	62	23	116	94	143	92	47	15	6.7	7.5
4	18	18	58	22	104	92	134	88	45	15	6.7	7.1
5	17	19	48	22	91	85	139	84	42	14	7.0	6.9
6	16	19	59	23	81	80	158	79	39	14	6.7	7.1
7	16	21	50	23	125	80	157	75	37	14	6.6	7.2
8	17	21	45e	22	183	80	175	71	37	13	6.6	7.1
9	18	19	40e	22	1,060e	119	181	70	35	13	6.6	7.5
10	18	22	38e	22	658e	104	168	67	35	12	6.5	7.3
11	18	23	34e	22	376e	99	337	65	34	12	6.4	7.3
12	19	21	33e	22	281e	94	332	63	32	11	6.3	7.2
13	17	20	32e	22	230e	91	276	60	31	9.7	6.2	7.2
14	17	20	34e	22	198e	89	245	60	30	9.8	6.2	7.4
15	17	20	31e	22	175e	111	224	60	29	9.7	6.1	7.5
16	17	19	29	23	148e	103	196	57	28	8.9	6.1	7.2
17	17	19	28	22	153e	101	189	56	28	8.6	6.1	7.2
18	16	19	27	22	147e	98	174	55	27	8.8	6.0	7.5
19	16	19	26	27	141e	115	160	54	26	8.7	5.9	7.4
20	16	19	29	170	136e	122	153	55	24	8.9	5.9	7.2
21	16	19	28	163	166e	127	145	54	24	9.1	5.9	7.1
22	16	19	26	100	146e	123	140	52	23	9.8	6.0	7.2
23	15	19	26	108	136e	138	132	49	23	10	5.9	7.4
24	17	21	25	135	127e	132	124	48	21	9.9	6.1	7.0
25	18	21	25	100	138e	406	119	47	21	9.4	6.6	6.5
26	17	21	25	111	109	319	115	46	20	8.8	7.8	6.3
27	17	22	25	114	104	245	111	44	19	8.6	7.8	6.2
28	17	30	24	91	100	213	106	43	17	8.3	7.8	6.2
29	18	25	24	75	------	196	103	43	17	7.4	7.9	6.4
30	18	45	23	63	------	178	99	45	16	7.0	7.9	6.6
31	17	------	22	180	------	182	------	43	------	6.7	6.9	------
TOTAL	532	633	1,149	1,839	5,741	4,204	5,049	1,912	893	331.1	204.3	212.1
MEAN	17.2	21.1	37.1	59.3	205	136	168	61.7	29.8	10.7	6.59	7.07
MAX	19	45	96	180	1,060	406	337	94	47	15	7.9	7.5
MIN	15	17	22	22	81	80	99	43	16	6.7	5.9	6.2
AC-FT	1,060	1,260	2,280	3,650	11,390	8,340	10,010	3,790	1,770	657	405	421

CAL YEAR 1998	TOTAL	14,368.0	MEAN	39.4	MAX	249	MIN	10	AC-FT	28,500
WTR YEAR 1999	TOTAL	22,699.5	MEAN	62.2	MAX	1,060	MIN	5.9	AC-FT	45,020

FIGURE D-17

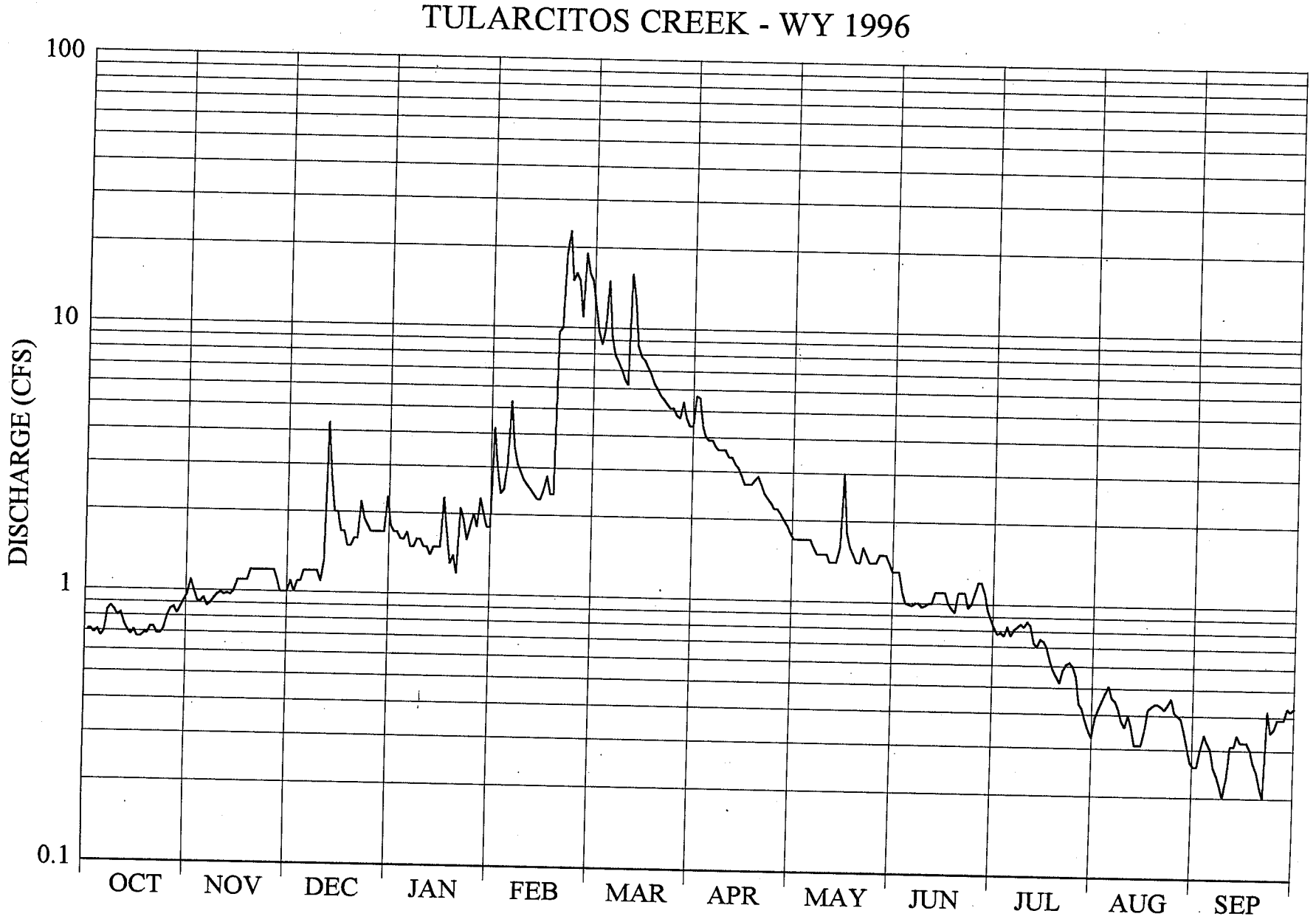

TULARCITOS CREEK - WY 1996
DISCHARGE (CFS)
100
10
1
0.1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-17

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.71	1.1	1.1	1.7	3.0	12	5.7	1.7	1.3	.82	.39	.26
2	.71	1.0	1.0	1.7	2.4	9.7	5.6	1.7	1.3	.78	.42	.30
3	.69	.91	1.1	1.6	2.5	8.7	4.4	1.7	1.1	.79	.45	.34
4	.71	.91	1.1	1.6	3.1	10	4.0	1.7	1.0	.77	.48	.32
5	.67	.94	1.2	1.7	5.3	15	3.9	1.7	.99	.83	.51	.30
6	.70	.88	1.2	1.5	3.6	9.3	3.9	1.7	.98	.77	.46	.26
7	.84	.90	1.2	1.5	3.1	8.0	3.7	1.6	1.0	.81	.45	.24
8	.87	.94	1.2	1.6	2.9	7.5	3.6	1.5	1.0	.83	.42	.22
9	.84	.97	1.2	1.6	2.7	7.0	3.6	1.5	.97	.85	.38	.20
10	.80	.99	1.1	1.5	2.6	6.5	3.6	1.5	.98	.83	.36	.24
11	.82	.97	1.3	1.5	2.5	6.2	3.4	1.5	1.0	.87	.40	.31
12	.75	.98	4.3	1.4	2.4	16	3.4	1.4	1.0	.84	.36	.31
13	.71	.97	2.7	1.5	2.3	13	3.2	1.4	1.1	.73	.31	.34
14	.68	1.0	2.0	1.5	2.3	8.6	3.1	1.4	1.1	.70	.31	.32
15	.71	1.1	2.0	1.5	2.5	7.9	2.9	1.6	1.1	.75	.31	.32
16	.67	1.1	1.7	2.3	2.8	7.6	2.7	3.0	1.1	.74	.35	.32
17	.67	1.1	1.7	1.7	2.4	7.2	2.7	1.8	1.0	.70	.42	.30
18	.69	1.1	1.5	1.3	2.4	6.8	2.7	1.6	.96	.63	.43	.27
19	.69	1.2	1.5	1.4	9.6	6.3	2.8	1.5	.93	.58	.44	.25
20	.73	1.2	1.6	1.2	10	6.0	2.9	1.4	1.1	.55	.44	.22
21	.73	1.2	1.6	2.1	19	5.7	2.7	1.4	1.1	.52	.43	.20
22	.69	1.2	2.2	1.9	23	5.5	2.5	1.6	1.1	.58	.42	.42
23	.69	1.2	1.9	1.6	15	5.3	2.4	1.5	.97	.61	.44	.35
24	.72	1.2	1.8	1.8	16	5.1	2.3	1.4	1.0	.62	.46	.36
25	.80	1.2	1.7	2.0	15	5.1	2.2	1.4	1.1	.60	.41	.39
26	.85	1.2	1.7	1.8	11	4.8	2.2	1.4	1.2	.55	.40	.39
27	.87	1.1	1.7	2.3	19	4.7	2.1	1.5	1.2	.44	.39	.39
28	.82	1.0	1.7	2.0	16	5.4	2.0	1.5	1.1	.42	.35	.43
29	.87	1.0	1.7	1.8	15	4.7	1.9	1.5	.95	.38	.30	.42
30	.92	1.0	2.3	1.8	------	4.4	1.8	1.4	.88	.35	.27	.43
31	.97	------	1.8	4.2	------	4.4	------	1.3	------	.33	.26	------
TOTAL	23.59	31.56	51.8	54.6	219.4	234.4	93.9	48.8	31.61	20.57	12.22	9.42
MEAN	.76	1.05	1.67	1.76	7.57	7.56	3.13	1.57	1.05	.66	.39	.31
MAX	.97	1.2	4.3	4.2	23	16	5.7	3.0	1.3	.87	.51	.43
MIN	.67	.88	1.0	1.2	2.3	4.4	1.8	1.3	.88	.33	.26	.20
AC-FT	47	63	103	108	435	465	186	97	63	41	24	19

CAL YEAR 1995	TOTAL	2,645.27	MEAN	7.25	MAX	452	MIN	.56	AC-FT	5,250
WTR YEAR 1996	TOTAL	831.87	MEAN	2.27	MAX	23	MIN	.20	AC-FT	1,650

FIGURE D-18

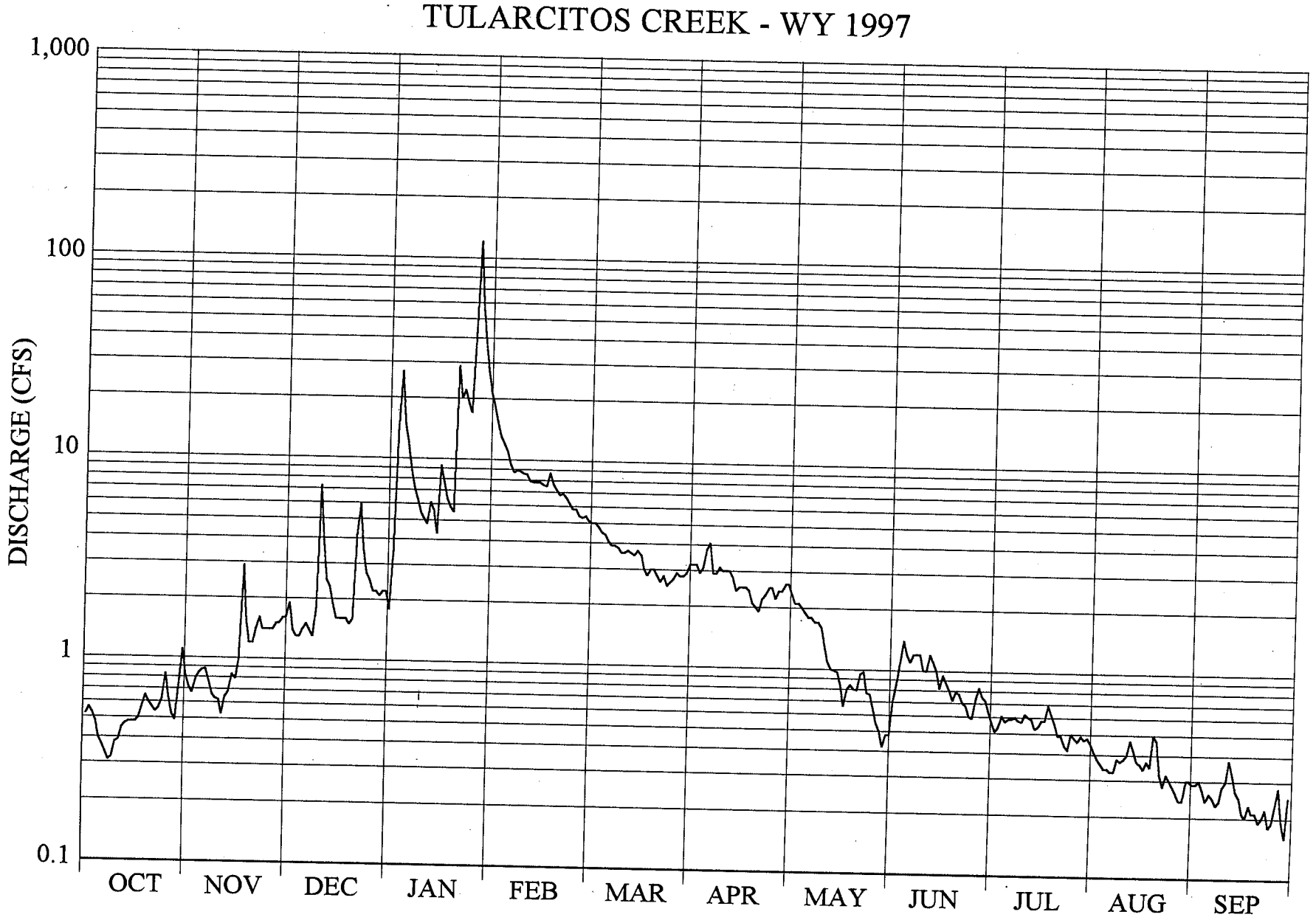

TULARCITOS CREEK - WY 1997
1,000
100
10
1
0.1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-18

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	.72	1.9	3.5	15	5.1	3.2	2.6	.48	.63	.45	.29
2	.56	.67	1.4	14	13	5.0	3.2	2.3	.71	.56	.41	.29
3	.53	.79	1.3	27	12	5.0	3.2	2.1	.86	.51	.38	.30
4	.48	.84	1.3	15	11	4.8	2.9	2.1	1.1	.54	.36	.27
5	.40	.87	1.4	12	9.5	4.5	3.1	2.0	1.4	.61	.34	.24
6	.37	.88	1.5	9.0	8.7	4.4	3.8	1.9	1.2	.57	.34	.26
7	.34	.77	1.4	7.3	8.9	4.1	4.1	1.8	1.1	.59	.33	.25
8	.31	.66	1.3	6.4	8.8	3.9	2.9	1.8	1.2	.59	.33	.23
9	.32	.63	1.8	5.5	8.6	3.9	2.9	1.7	1.2	.60	.38	.24
10	.38	.62	7.3	5.1	8.5	3.8	3.1	1.7	1.2	.58	.37	.28
11	.39	.53	3.9	4.8	7.9	3.6	3.0	1.6	1.0	.57	.38	.30
12	.45	.64	2.5	6.1	7.8	3.6	3.0	1.3	1.0	.62	.40	.38
13	.47	.68	2.3	5.6	7.8	3.7	3.0	1.1	1.2	.60	.47	.32
14	.48	.83	1.9	4.3	7.8	3.6	2.8	1.0	1.1	.59	.42	.27
15	.48	.79	1.6	9.3	7.6	3.5	2.4	.99	1.0	.53	.37	.25
16	.48	.99	1.6	7.7	7.5	3.7	2.5	.97	.82	.54	.36	.21
17	.50	2.9	1.6	6.4	8.7	3.5	2.5	.84	.95	.58	.34	.20
18	.57	1.6	1.6	5.8	7.7	3.0	2.5	.66	.87	.58	.37	.23
19	.65	1.2 e	1.5	5.5	7.2	2.8	2.4	.80	.80	.69	.35	.21
20	.60	1.2 e	1.6	29	6.8	3.0	2.1	.84	.72	.62	.50	.21
21	.57	1.4 e	4.2	20	6.9	3.0	2.0	.80	.79	.56	.47	.19
22	.54	1.6 e	5.9	22	6.6	2.8	1.9	.79	.77	.49	.32	.20
23	.56	1.4 e	3.5	19	6.2	2.6	2.2	.95	.70	.49	.28	.22
24	.62	1.4 e	2.7	17	5.8	2.8	2.3	.98	.68	.44	.32	.18
25	.83	1.4	2.5	43	5.8	2.5	2.5	.77	.60	.42	.30	.19
26	.63	1.4	2.2	121	5.4	2.6	2.5	.76	.59	.50	.28	.23
27	.53	1.5	2.2	58	5.3	2.7	2.2	.65	.73	.48	.26	.28
28	.49	1.5	2.1	38	5.4	2.9	2.4	.55	.83	.46	.24	.19
29	.74	1.6	2.2	27	------	2.8	2.4	.50	.75	.49	.24	.16
30	1.1	1.6	2.2	21	------	2.8	2.6	.42	.72	.47	.30	.25
31	.82	------	1.8	18	------	2.9	------	.48	------	.48	.30	------
TOTAL	16.71	33.61	72.2	593.3	228.2	108.9	81.6	37.75	27.07	16.98	10.96	7.32
MEAN	.54	1.12	2.33	19.1	8.15	3.51	2.72	1.22	.90	.55	.35	.24
MAX	1.1	2.9	7.3	121	15	5.1	4.1	2.6	1.4	.69	.50	.38
MIN	.31	.53	1.3	3.5	5.3	2.5	1.9	.42	.48	.42	.24	.16
AC-FT	33	67	143	1,180	453	216	162	75	54	34	22	15

CAL YEAR 1996	TOTAL	847.44	MEAN	2.32	MAX	23	MIN	.20	AC-FT	1,680
WTR YEAR 1997	TOTAL	1,234.60	MEAN	3.38	MAX	121	MIN	.16	AC-FT	2,450

FIGURE D-19

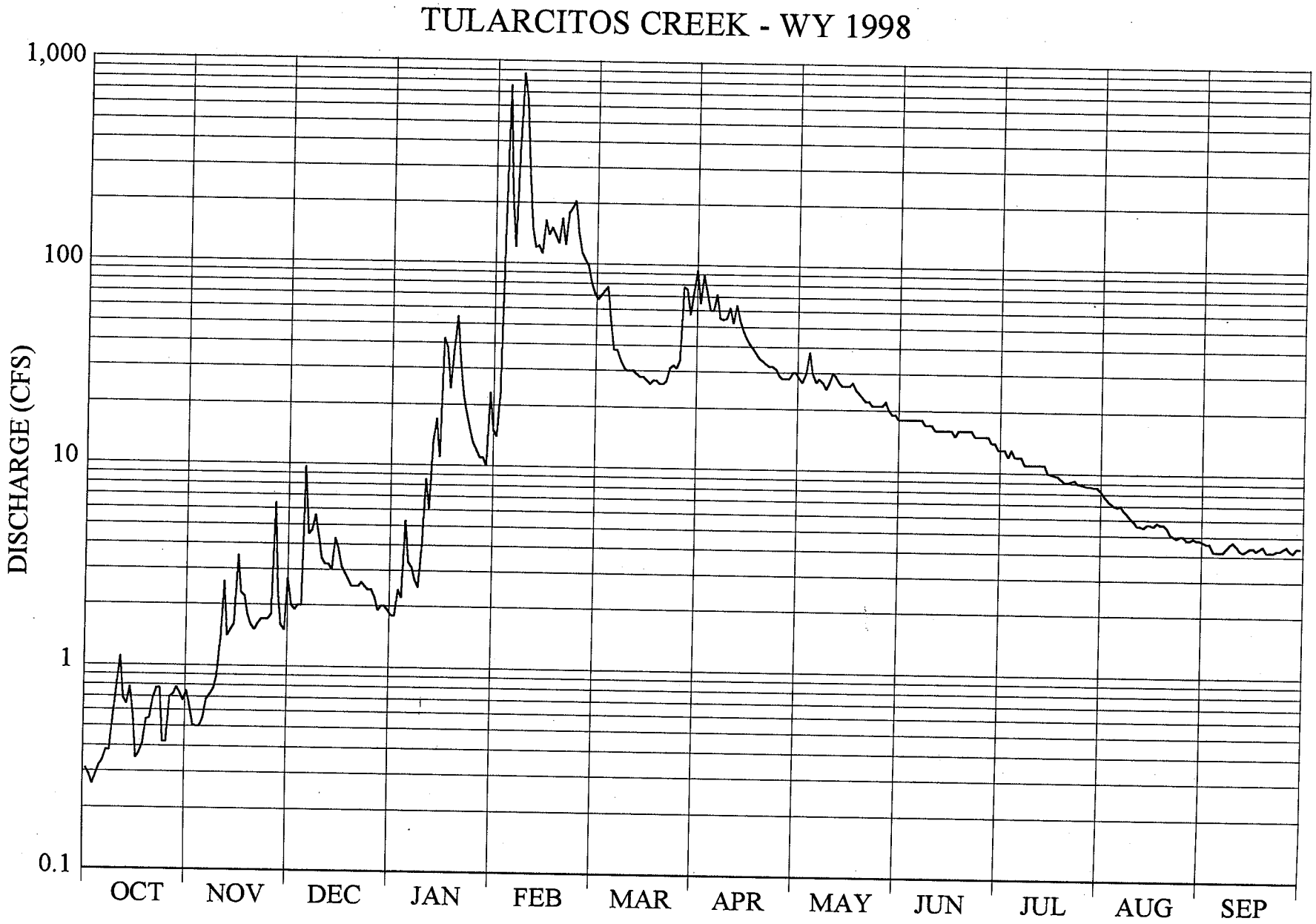

TULARCITOS CREEK - WY 1998
1,000
100
10
1
0.1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-19

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.63	2.0	1.8	23	72e	94	30	18	13	8.3	4.7
2	.29	.51	1.9	2.4	141	67e	65	28	18	13	7.8	4.6
3	.26	.50	2.0	2.2	756	70e	89	27	18	13	7.5	4.6
4	.29	.50	2.0	5.3	216	74e	74	30	18	12	7.2	4.2
5	.32	.55	9.7	3.3	120	77e	60	38	18	13	7.0	4.2
6	.34	.68	4.5	3.1	372	52	60	30	18	12	6.9	4.2
7	.38	.72	4.7	2.7	864e	38	72	27	18	12	7.0	4.2
8	.38	.77	5.6	2.5	652e	38	55	28	18	12	6.6	4.4
9	.56	.88	4.4	4.0	293e	34	54	27	17	11	6.4	4.6
10	.79	1.4	3.4	8.5	152e	31	55	25	17	11	6.1	4.7
11	1.1	2.6	3.2	6.1	120e	30	62	27	17	11	5.9	4.5
12	.69	1.4	3.2	13	122	30	52	30	16	11	5.6	4.3
13	.64	1.5	3.0	17	112	30e	64	29	16	11	5.6	4.2
14	.78	1.6	4.3	11	164	29e	54	27	16	11	5.5	4.3
15	.58	3.5	3.8	42	139	28e	48	26	16	11	5.7	4.4
16	.35	2.3	3.1	38	150	28e	44	26	16	10	5.7	4.4
17	.37	2.2	2.9	24	138	27e	41	26	16	9.9	5.6	4.3
18	.41	1.8	2.7	37	126	26e	39	27	15	9.8	5.8	4.4
19	.54	1.6	2.5	54	168	27	37	25	16	9.7	5.7	4.5
20	.55	1.5	2.5	32	124	27	35	24	16	9.4	5.7	4.2
21	.69	1.6	2.5	22	179	26	34	23	16	9.1	5.5	4.2
22	.77	1.7	2.6	18	190	26	33	22	16	9.1	5.1	4.2
23	.77	1.7	2.5	15	204	27	32	22	16	9.2	5.0	4.3
24	.42	1.7	2.4	13	142	31	32	21	15	9.3	4.9	4.3
25	.42	1.8	2.4	12	113	32	31	21	15	9.0	5.0	4.4
26	.70	6.4	2.2	11	105	31	29	21	15	8.9	5.0	4.5
27	.72	2.3	1.9	11	98	34	28	21	15	8.8	4.8	4.3
28	.78	1.6	2.0	10	81	78	28	22	15	8.7	4.8	4.2
29	.73	1.5	2.0	23	------	76	28	20	14	8.7	4.9	4.4
30	.67	2.7	1.9	15	------	57	30	19	14	8.6	4.8	4.4
31	.75	------	1.8	14	------	74	------	19	------	8.6	4.8	------
TOTAL	17.35	50.14	95.6	473.9	8,064	1,327	1,459	788	489	323.8	182.2	131.1
MEAN	.56	1.67	3.08	15.3	217	42.8	48.6	25.4	16.3	10.4	5.88	4.37
MAX	1.1	6.4	9.7	54	864	78	94	38	18	13	8.3	4.7
MIN	.26	.50	1.8	1.8	23	26	28	19	14	8.6	4.8	4.2
AC-FT	34	99	190	940	12,030	2,630	2,890	1,560	970	642	361	260

CAL YEAR 1997	TOTAL	1,275.17	MEAN	3.49	MAX	121	MIN	.16	AC-FT	2,530
WTR YEAR 1998	TOTAL	11,401.09	MEAN	31.2	MAX	864	MIN	.26	AC-FT	22,610

FIGURE D-20

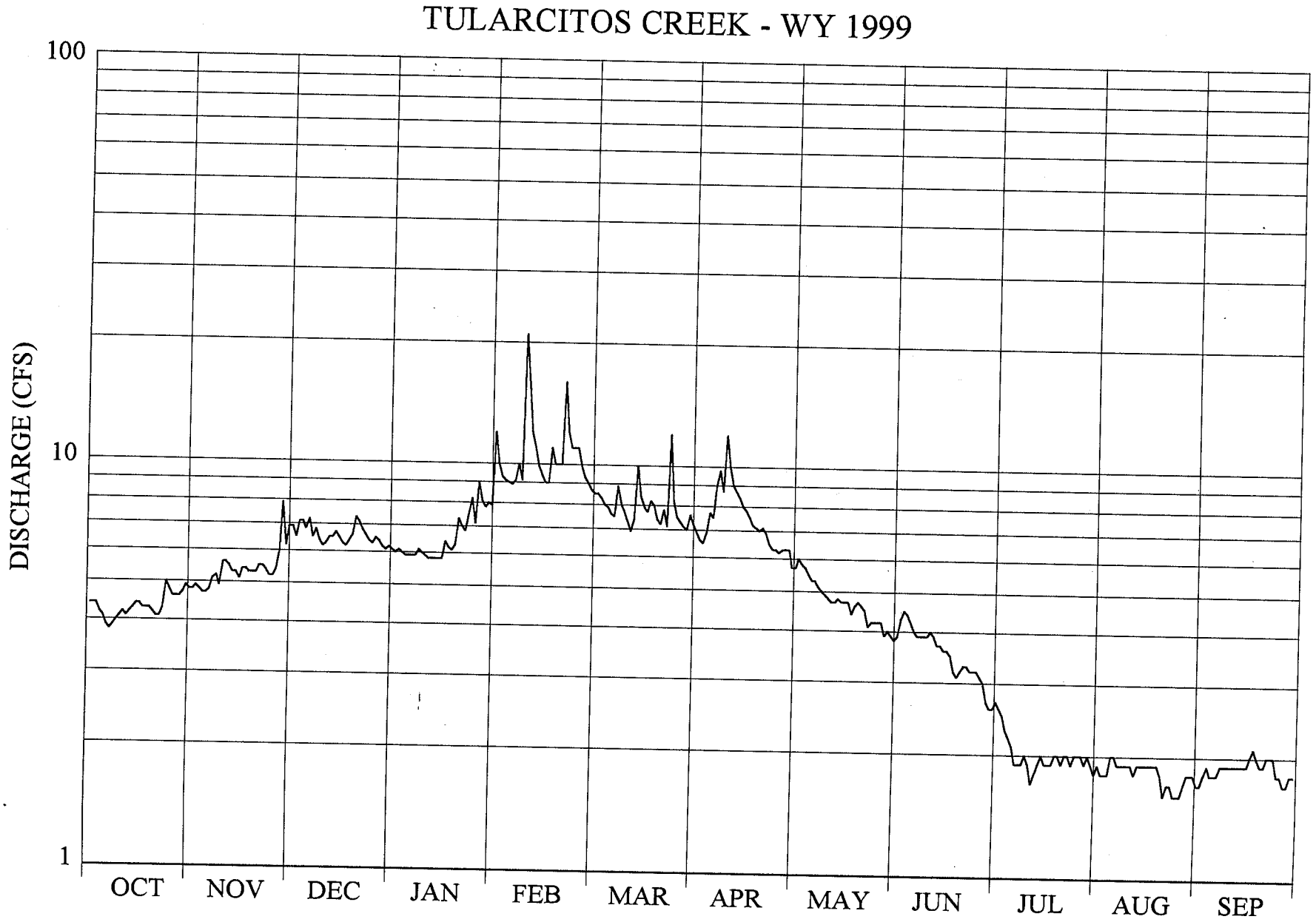

TULARCITOS CREEK - WY 1999
DISCHARGE (CFS)
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-20

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.8	6.9	6.0	10	8.7	7.2	5.7	3.8	2.6	1.8	1.7
2	4.4	4.9	6.5	6.1	9.3	8.5	6.9	5.7	3.9	2.7	1.9	1.7
3	4.4	4.8	7.1	6.0	9.1	8.5	6.6	6.0	4.3	2.6	1.8	1.8
4	4.2	4.7	7.1	5.9	9.0	8.3	6.5	5.8	4.5	2.5	1.8	1.9
5	4.1	4.7	6.8	5.9	8.9	8.0	6.9	5.7	4.4	2.3	1.8	1.8
6	3.9	4.8	7.2	5.9	9.1	7.9	7.7	5.5	4.2	2.2	2.0	1.8
7	3.8	5.1	6.5	5.9	10	7.6	7.5	5.3	4.0	2.1	2.0	1.8
8	3.9	5.2	6.8	6.1	9.1	7.5	9.0	5.3	3.9	1.9	1.9	1.9
9	4.0	4.9	6.4	6.0	21	8.9	9.8	5.1	3.9	1.9	1.9	1.9
10	4.1	5.6	6.2	5.9	16	8.0	8.7	5.0	3.9	1.9	1.9	1.9
11	4.2	5.6	6.3	5.8	12	7.7	12	4.9	3.9	2.0	1.9	1.9
12	4.1	5.5	6.5	5.8	11	7.3	10	4.8	4.0	1.9	1.9	1.9
13	4.2	5.3	6.5	5.8	9.9	6.9	9.0	4.7	3.9	1.7	1.8	1.9
14	4.3	5.3	6.7	5.8	9.4	7.4	8.7	4.7	3.7	1.8	1.9	1.9
15	4.4	5.1	6.5	5.8	9.0	10	8.4	4.8	3.7	1.9	1.9	1.9
16	4.4	5.4	6.3	6.4	9.0	8.4	8.0	4.7	3.6	2.0	1.9	1.9
17	4.3	5.4	6.2	6.2	11	7.9	7.8	4.7	3.6	1.9	1.9	2.0
18	4.3	5.3	6.4	6.1	10	7.7	7.5	4.7	3.5	1.9	1.9	2.1
19	4.3	5.3	6.6	6.3	10	8.2	7.2	4.4	3.2	1.9	1.9	2.0
20	4.2	5.3	7.3	7.3	10	8.0	7.1	4.6	3.1	2.0	1.9	1.9
21	4.1	5.5	7.1	7.0	16	7.4	7.0	4.7	3.2	2.0	1.8	1.9
22	4.1	5.5	6.8	6.8	12	7.2	7.1	4.6	3.3	1.9	1.6	2.0
23	4.3	5.4	6.6	7.5	11	7.8	6.9	4.5	3.3	2.0	1.7	2.0
24	5.0	5.2	6.4	8.2	11	7.1	6.5	4.1	3.2	2.0	1.7	2.0
25	4.8	5.2	6.3	7.1	11	12	6.3	4.2	3.2	1.9	1.6	1.8
26	4.6	5.4	6.5	9.0	9.9	8.2	6.3	4.2	3.2	2.0	1.6	1.8
27	4.6	6.0	6.4	8.1	9.3	7.5	6.2	4.2	3.1	2.0	1.6	1.7
28	4.6	7.9	6.2	7.8	9.0	7.3	6.3	4.2	3.0	2.0	1.7	1.7
29	4.7	6.2	6.1	8.0	------	7.1	6.3	3.9	2.7	1.9	1.8	1.8
30	4.9	6.9	6.2	7.9	------	7.0	6.3	4.0	2.6	2.0	1.8	1.8
31	4.8	------	6.1	12	------	7.6	------	3.9	------	1.9	1.8	------
TOTAL	134.4	162.2	203.5	210.4	302.0	247.6	227.7	148.6	107.8	63.3	56.4	56.1
MEAN	4.34	5.41	6.56	6.79	10.8	7.99	7.59	4.79	3.59	2.04	1.82	1.87
MAX	5.0	7.9	7.3	12	21	12	12	6.0	4.5	2.7	2.0	2.1
MIN	3.8	4.7	6.1	5.8	8.9	6.9	6.2	3.9	2.6	1.7	1.6	1.7
AC-FT	267	322	404	417	599	491	452	295	214	126	112	111

CAL YEAR 1998	TOTAL	11,738.1	MEAN	32.2	MAX	864	MIN	1.8	AC-FT	23,280
WTR YEAR 1999	TOTAL	1,920.0	MEAN	5.26	MAX	21	MIN	1.6	AC-FT	3,810

FIGURE D-21

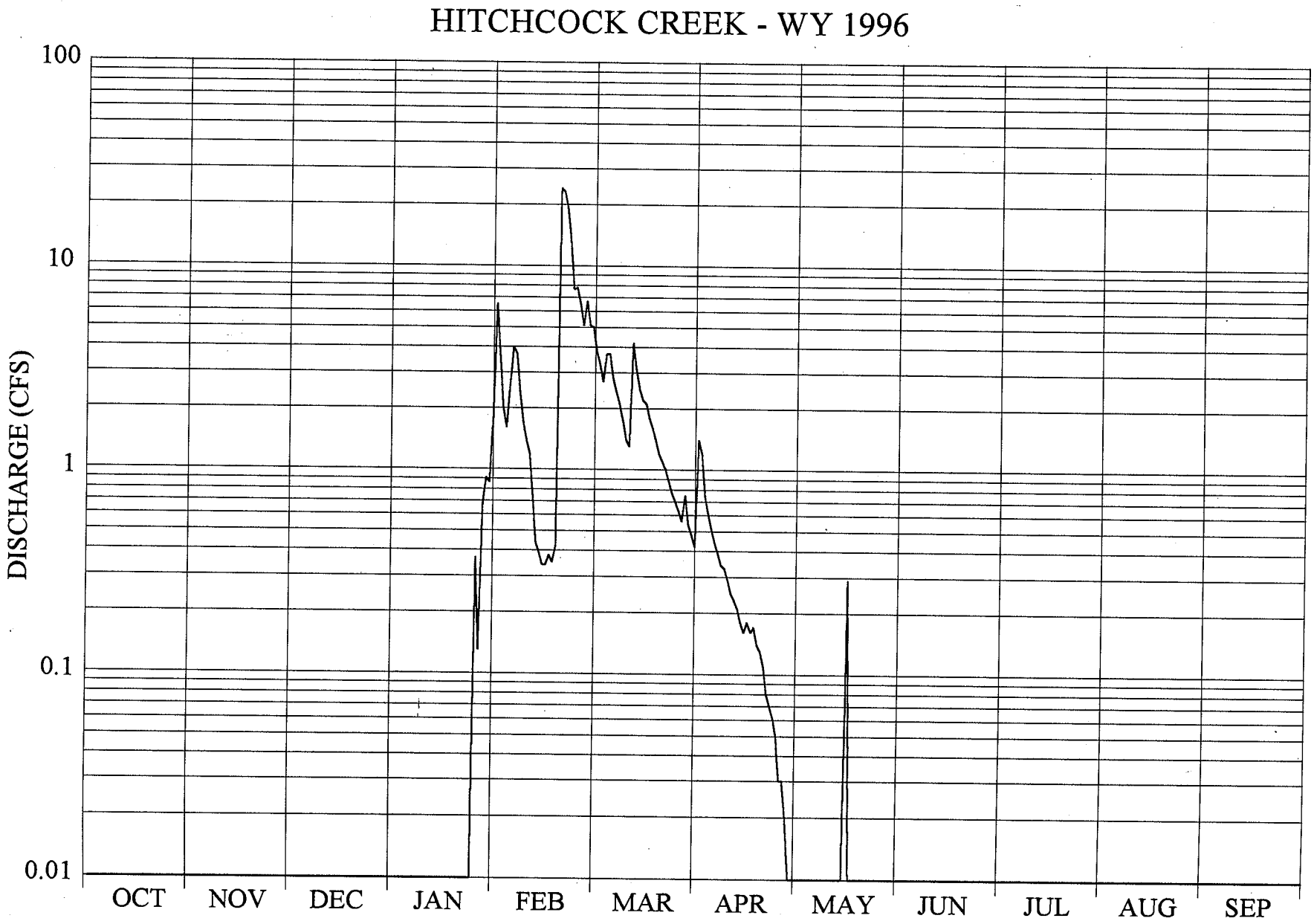

HITCHCOCK CREEK - WY 1996
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-21

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	3.6	3.8	1.4	0	0	0	0	0
2	0	0	0	0	2.0	3.3	1.2	0	0	0	0	0
3	0	0	0	0	1.6	2.7	.74	0	0	0	0	0
4	0	0	0	0	2.6	3.7	.61	0	0	0	0	0
5	0	0	0	0	4.0	3.7	.51	0	0	0	0	0
6	0	0	0	0	3.7	2.8	.44	0	0	0	0	0
7	0	0	0	0	2.4	2.4	.39	0	0	0	0	0
8	0	0	0	0	1.7	2.1	.34	0	0	0	0	0
9	0	0	0	0	1.4	1.7	.33	0	0	0	0	0
10	0	0	0	0	1.2	1.4	.29	0	0	0	0	0
11	0	0	0	0	.75	1.3	.25	0	0	0	0	0
12	0	0	0	0	.44	4.2	.23	0	0	0	0	0
13	0	0	0	0	.39	3.1	.21	0	0	0	0	0
14	0	0	0	0	.34	2.5	.18	0	0	0	0	0
15	0	0	0	0	.34	2.2	.16	.01	0	0	0	0
16	0	0	0	0	.38	2.1	.18	.29	0	0	0	0
17	0	0	0	0	.35	1.8	.16	0	0	0	0	0
18	0	0	0	0	.42	1.6	.17	0	0	0	0	0
19	0	0	0	0	24	1.4	.14	0	0	0	0	0
20	0	0	0	0	23	1.2	.13	0	0	0	0	0
21	0	0	0	0	19	1.1	.11	0	0	0	0	0
22	0	0	0	0	13	1.0	.08	0	0	0	0	0
23	0	0	0	0	7.7	.88	.07	0	0	0	0	0
24	0	0	0	0	7.8	.77	.06	0	0	0	0	0
25	0	0	0	.37e	6.5	.70	.05	0	0	0	0	0
26	0	0	0	.13e	5.1	.63	.03	0	0	0	0	0
27	0	0	0	.68e	6.7	.56	.03	0	0	0	0	0
28	0	0	0	.91e	5.1	.75	.02	0	0	0	0	0
29	0	0	0	.86e	5.0	.54	.01	0	0	0	0	0
30	0	0	0	1.8 e	------	.48	.01	0	0	0	0	0
31	0	------	0	6.5 e	------	.42	------	0	------	0	0	------
TOTAL	0	0	0	11.25	150.51	56.83	8.53	0.30	0	0	0	0
MEAN	0	0	0	.36	5.19	1.83	.28	.010	0	0	0	0
MAX	0	0	0	6.5	24	4.2	1.4	.29	0	0	0	0
MIN	0	0	0	0	.34	.42	.01	0	0	0	0	0
AC-FT	0	0	0	22	299	113	17	.6	0	0	0	0

CAL YEAR 1995	TOTAL	919.00	MEAN	2.52	MAX	199	MIN	0	AC-FT	1,820
WTR YEAR 1996	TOTAL	227.42	MEAN	.62	MAX	24	MIN	0	AC-FT	451

FIGURE D-22

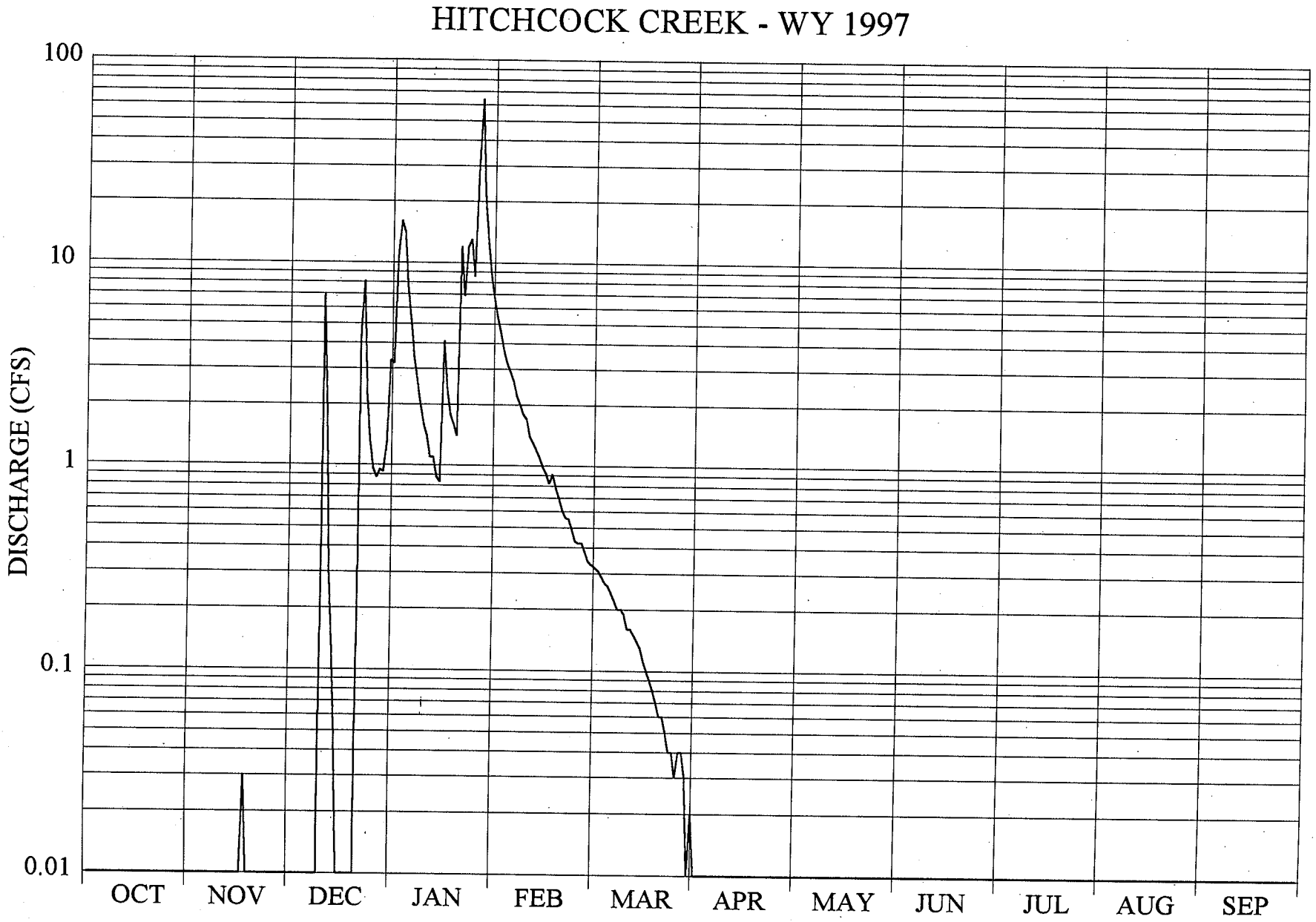

HITCHCOCK CREEK - WY 1997
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-22

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	11	4.5	.33	.02	0	0	0	0	0
2	0	0	0	16	3.7	.32	.01	0	0	0	0	0
3	0	0	0	14	3.2	.31	.01	0	0	0	0	0
4	0	0	0	7.5	2.9	.29	0	0	0	0	0	0
5	0	0	0	5.2	2.6	.27	0	0	0	0	0	0
6	0	0	0	3.4	2.2	.26	0	0	0	0	0	0
7	0	0	0	2.6	2.0	.24	0	0	0	0	0	0
8	0	0	0	2.0	1.8	.22	0	0	0	0	0	0
9	0	0	0	1.6	1.7	.20	0	0	0	0	0	0
10	0	0	7.0	1.4	1.4	.20	0	0	0	0	0	0
11	0	0	2.0	1.1	1.3	.19	0	0	0	0	0	0
12	0	0	.29	1.1	1.2	.16	0	0	0	0	0	0
13	0	0	.13	.88	1.1	.16	0	0	0	0	0	0
14	0	0	.05	.83	.99	.15	0	0	0	0	0	0
15	0	0	.01	4.1	.92	.14	0	0	0	0	0	0
16	0	0	0	2.4	.82	.13	0	0	0	0	0	0
17	0	.03	0	1.8	.91	.11	0	0	0	0	0	0
18	0	0	0	1.6	.78	.10	0	0	0	0	0	0
19	0	0	0	1.4	.70	.09	0	0	0	0	0	0
20	0	0	0	12	.61	.08	0	0	0	0	0	0
21	0	0	4.5	6.9	.56	.07	0	0	0	0	0	0
22	0	0	8.1	12	.55	.06	0	0	0	0	0	0
23	0	0	2.2	13	.49	.06	0	0	0	0	0	0
24	0	0	1.3	8.6	.43	.05	0	0	0	0	0	0
25	0	0	.96	29	.42	.04	0	0	0	0	0	0
26	0	0	.87	64	.42	.04	0	0	0	0	0	0
27	0	0	.95	21	.38	.03	0	0	0	0	0	0
28	0	0	.93	13	.34	.04	0	0	0	0	0	0
29	0	0	1.3	8.8	------	.04	0	0	0	0	0	0
30	0	0	3.3	6.7	------	.03	0	0	0	0	0	0
31	0	------	3.2	5.4	------	.01	------	0	------	0	0	------
TOTAL	0	0.03	37.09	280.31	38.92	4.42	0.04	0	0	0	0	0
MEAN	0	.001	1.20	9.04	1.39	.14	.001	0	0	0	0	0
MAX	0	.03	8.1	64	4.5	.33	.02	0	0	0	0	0
MIN	0	0	0	.83	.34	.01	0	0	0	0	0	0
AC-FT	0	.06	74	556	77	8.8	.08	0	0	0	0	0

CAL YEAR 1996	TOTAL	264.54	MEAN	.72	MAX	24	MIN	0	AC-FT	525
WTR YEAR 1997	TOTAL	360.81	MEAN	.99	MAX	64	MIN	0	AC-FT	716

FIGURE D-23

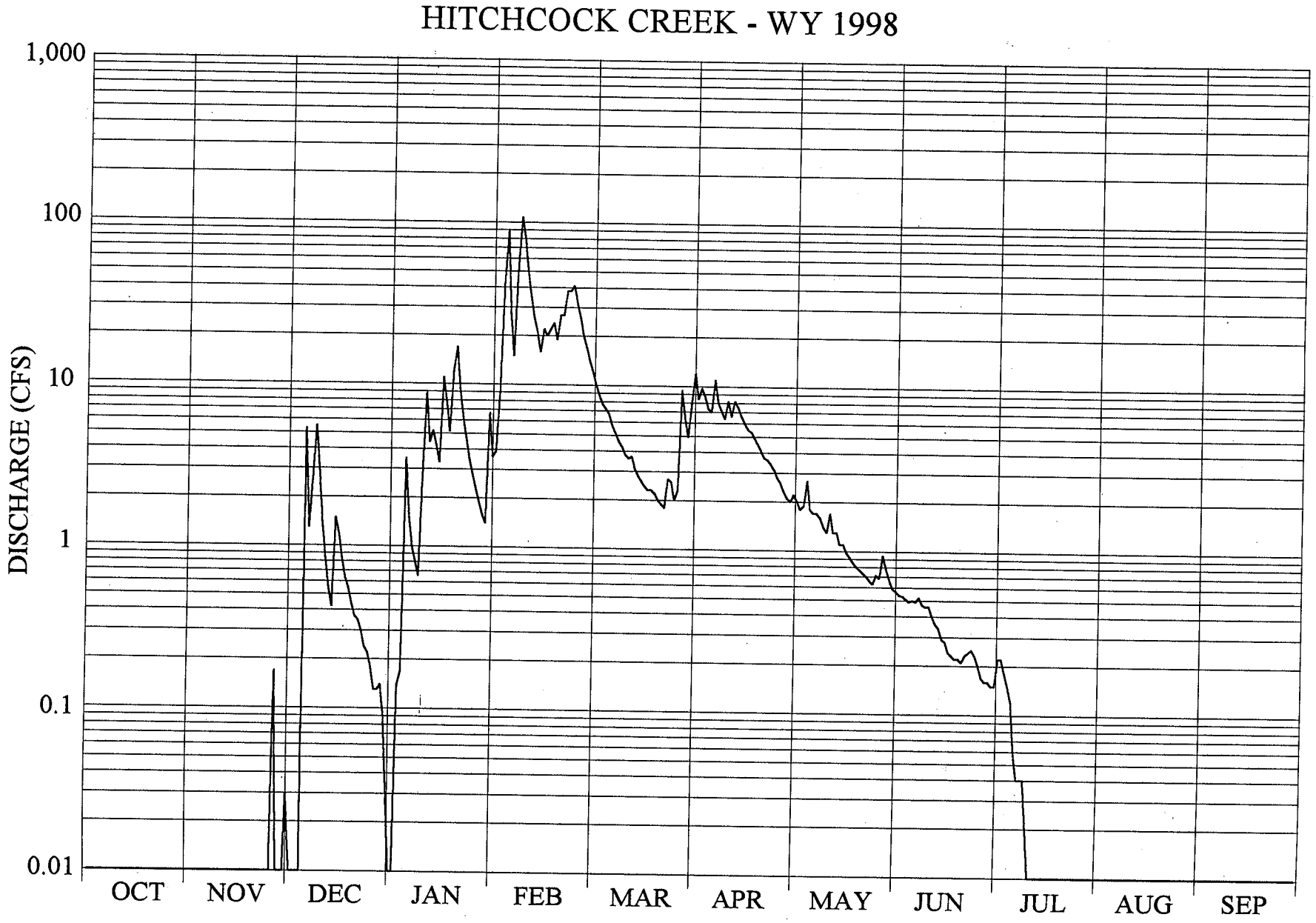

HITCHCOCK CREEK - WY 1998
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-23

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	9.0	12	12	2.2	.57	.15	0	0
2	0	0	0	.14	43	10	8.4	2.0	.54	.22	0	0
3	0	0	0	.17	89 e	8.7	9.8	1.8	.53	.22	0	0
4	0	0	0	3.5	27	7.7	8.7	1.9	.51	.18	0	0
5	0	0	5.3	1.6	15	7.2	7.3	2.7	.49	.15	0	0
6	0	0	1.3	1.0	52	6.7	7.0	1.8	.50	.12	0	0
7	0	0	2.7	.81	108 e	5.7	11	1.7	.49	.06	0	0
8	0	0	5.5	.66	80	5.1	8.0	1.7	.52	.04	0	0
9	0	0	2.9	2.9	50	4.6	7.1	1.6	.47	.04	0	0
10	0	0	1.4	8.8	35	4.2	6.4	1.4	.46	.04	0	0
11	0	0	.84	4.4	26	3.8	8.2	1.3	.46	.02	0	0
12	0	0	.56	5.2	21	3.6	6.6	1.7	.40	.01	0	0
13	0	0	.42	4.2	16	3.7	8.2	1.3	.36	.01	0	0
14	0	0	1.5	3.3	22	3.1	7.5	1.3	.34	0	0	0
15	0	0	1.2	11	20	2.8	6.6	1.1	.29	0	0	0
16	0	0	.84	7.8	22	2.6	6.0	1.1	.28	0	0	0
17	0	0	.64	5.1	24	2.4	5.5	.98	.24	0	0	0
18	0	0	.55	12	19	2.3	5.3	.92	.23	0	0	0
19	0	0	.44	17	27	2.3	4.9	.85	.22	0	0	0
20	0	0	.37	9.3	27	2.2	4.5	.80	.22	0	0	0
21	0	0	.35	6.3	38	2.0	4.1	.77	.21	0	0	0
22	0	0	.30	4.7	38	1.9	3.7	.73	.23	0	0	0
23	0	0	.24	3.5	41	1.8	3.6	.70	.24	0	0	0
24	0	0	.22	2.8	32	2.7	3.4	.66	.25	0	0	0
25	0	.01	.18	2.3	26	2.6	3.1	.63	.23	0	0	0
26	0	.17	.13	1.9	20	2.0	2.8	.71	.20	0	0	0
27	0	0	.13	1.6	17	2.3	2.6	.68	.17	0	0	0
28	0	0	.14	1.4	14	9.5	2.3	.95	.16	0	0	0
29	0	0	.09	6.7	------	6.4	2.1	.78	.16	0	0	0
30	0	.03	.03	3.6	------	4.9	2.0	.67	.15	0	0	0
31	0	------	0	3.9	------	7.9	------	.59	------	0	0	------
TOTAL	0	0.21	28.27	137.58	958.0	144.7	178.7	38.02	10.12	1.26	0	0
MEAN	0	.007	.91	4.44	34.2	4.67	5.96	1.23	.34	.041	0	0
MAX	0	.17	5.5	17	108	12	12	2.7	.57	.22	0	0
MIN	0	0	0	0	9.0	1.8	2.0	.59	.15	0	0	0
AC-FT	0	.4	56	273	1,900	287	354	75	20	2.5	0	0

CAL YEAR 1997	TOTAL	352.17	MEAN	.96	MAX	64	MIN	0	AC-FT	699
WTR YEAR 1998	TOTAL	1,496.86	MEAN	4.10	MAX	108	MIN	0	AC-FT	2,970

FIGURE D-24

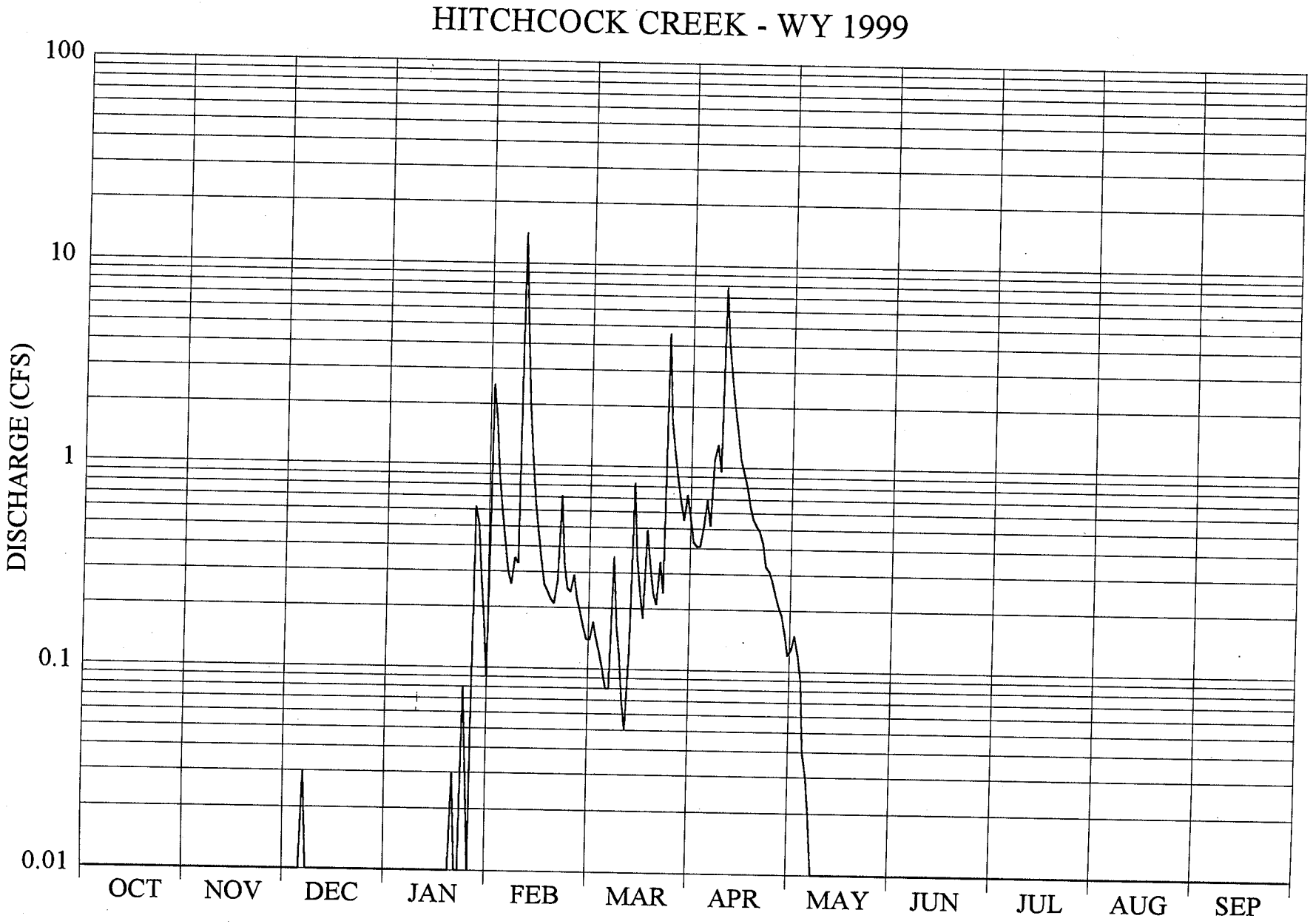

HITCHCOCK CREEK - WY 1999
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-24

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	1.7	.14	.57	.12	0	0	0	0
2	0	0	0	0	.88	.14	.43	.13	0	0	0	0
3	0	0	.01	0	.59	.17	.41	.15	0	0	0	0
4	0	0	0	0	.42	.14	.41	.12	0	0	0	0
5	0	0	.01	0	.30	.12	.51	.09	0	0	0	0
6	0	0	.03	0	.26	.10	.69	.04	0	0	0	0
7	0	0	0	0	.35	.08	.52	.03	0	0	0	0
8	0	0	0	0	.33	.08	1.1	.02	0	0	0	0
9	0	0	0	0	14	.36	1.3	.01	0	0	0	0
10	0	0	0	0	5.0	.16	.96	.01	0	0	0	0
11	0	0	0	0	2.0	.12	7.9	.01	0	0	0	0
12	0	0	0	0	1.1	.07	4.1	0	0	0	0	0
13	0	0	0	0	.66	.05	2.8	0	0	0	0	0
14	0	0	0	0	.47	.12	2.0	0	0	0	0	0
15	0	0	0	0	.34	.83	1.5	0	0	0	0	0
16	0	0	0	0	.26	.36	1.1	0	0	0	0	0
17	0	0	0	0	.24	.23	.95	0	0	0	0	0
18	0	0	0	0	.22	.18	.79	0	0	0	0	0
19	0	0	0	0	.21	.49	.65	0	0	0	0	0
20	0	0	.01	.03	.27	.33	.56	0	0	0	0	0
21	0	0	0	0	.71	.24	.52	0	0	0	0	0
22	0	0	0	0	.33	.21	.49	0	0	0	0	0
23	0	0	0	.08	.25	.34	.43	0	0	0	0	0
24	0	0	0	.03	.24	.24	.33	0	0	0	0	0
25	0	0	0	0	.29	4.6	.31	0	0	0	0	0
26	0	0	0	.62	.22	1.7	.28	0	0	0	0	0
27	0	0	0	.51	.19	1.2	.24	0	0	0	0	0
28	0	0	0	.28	.16	.88	.21	0	0	0	0	0
29	0	0	0	.17	------	.68	.19	0	0	0	0	0
30	0	0	0	.09	------	.55	.15	0	0	0	0	0
31	0	------	0	2.5	------	.73	------	0	------	0	0	------
TOTAL	0	0	0.06	4.31	31.99	15.64	32.40	0.73	0	0	0	0
MEAN	0	0	.002	.14	1.14	.50	1.08	.024	0	0	0	0
MAX	0	0	.03	2.5	14	4.6	7.9	.15	0	0	0	0
MIN	0	0	0	0	.16	.05	.15	0	0	0	0	0
AC-FT	0	0	.1	8.5	63	31	64	1.4	0	0	0	0

CAL YEAR 1998	TOTAL	1,468.44	MEAN	4.02	MAX	108	MIN	0	AC-FT	2,910
WTR YEAR 1999	TOTAL	85.13	MEAN	.23	MAX	14	MIN	0	AC-FT	169

FIGURE D-25

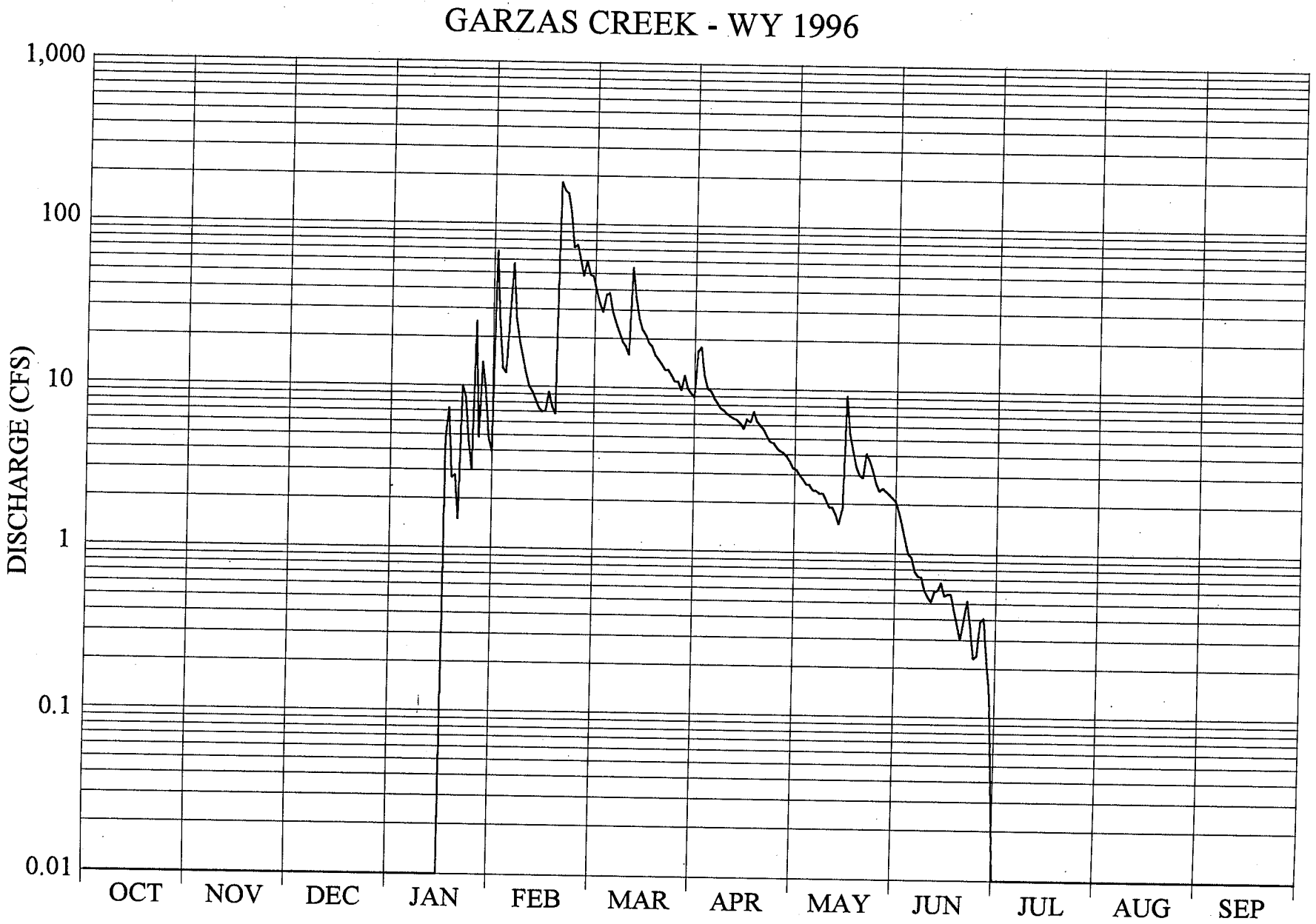

GARZAS CREEK - WY 1996
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-25

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	25	39	17	3.2	1.8	0	0	0
2	0	0	0	0	13	33	18	3.0	1.5	0	0	0
3	0	0	0	0	12	29	12	2.8	1.2	0	0	0
4	0	0	0	0	27	37	10	2.6	1.0	0	0	0
5	0	0	0	0	57	38	9.7	2.6	.95	0	0	0
6	0	0	0	0	26	29	8.8	2.4	.78	0	0	0
7	0	0	0	0	19	25	8.2	2.4	.73	0	0	0
8	0	0	0	0	15	22	7.6	2.3	.72	0	0	0
9	0	0	0	0	12	19	7.4	2.3	.60	0	0	0
10	0	0	0	0	10	18	7.0	2.1	.55	0	0	0
11	0	0	0	0	9.3	16	6.8	1.9	.51	0	0	0
12	0	0	0	0	8.3	55	6.6	1.9	.59	0	0	0
13	0	0	0	0	7.4	36	6.5	1.7	.60	0	0	0
14	0	0	0	0	7.0	27	6.2	1.5	.67	0	0	0
15	0	0	0	0	7.1	23	5.7	1.9	.56	0	0	0
16	0	0	0	4.6	9.3	21	6.5	9.3	.57	0	0	0
17	0	0	0	7.3	7.6	19	6.3	5.4	.57	0	0	0
18	0	0	0	2.7	6.8	18	7.3	4.2	.46	0	0	0
19	0	0	0	2.8	183	16	6.4	3.4	.37	0	0	0
20	0	0	0	1.5	163	15	6.0	3.0	.30	0	0	0
21	0	0	0	10	155	14	5.7	2.9	.40	0	0	0
22	0	0	0	8.5	117	13	5.2	4.1	.52	0	0	0
23	0	0	0	4.5	72	13	4.8	3.7	.36	0	0	0
24	0	0	0	3.0	75	12	4.7	3.2	.23	0	0	0
25	0	0	0	25	61	11	4.4	2.7	.24	0	0	0
26	0	0	0	4.8	48	11	4.2	2.4	.39	0	0	0
27	0	0	0	14	60	9.8	4.1	2.5	.41	0	0	0
28	0	0	0	9.2	49	12	3.9	2.4	.23	0	0	0
29	0	0	0	4.8	48	10	3.6	2.3	.14	0	0	0
30	0	0	0	3.9	------	9.4	3.3	2.2	.04	0	0	0
31	0	------	0	68	------	8.9	------	2.1	------	0	0	------
TOTAL	0	0	0	174.6	1,309.8	659.1	213.9	90.4	17.99	0	0	0
MEAN	0	0	0	5.63	45.2	21.3	7.13	2.92	.60	0	0	0
MAX	0	0	0	68	183	55	18	9.3	1.8	0	0	0
MIN	0	0	0	0	6.8	8.9	3.3	1.5	.04	0	0	0
AC-FT	0	0	0	346	2,600	1,310	424	179	36	0	0	0

CAL YEAR 1995	TOTAL	6,118.52	MEAN	16.8	MAX	759	MIN	0	AC-FT	12,140
WTR YEAR 1996	TOTAL	2,465.79	MEAN	6.74	MAX	183	MIN	0	AC-FT	4,890

FIGURE D-26

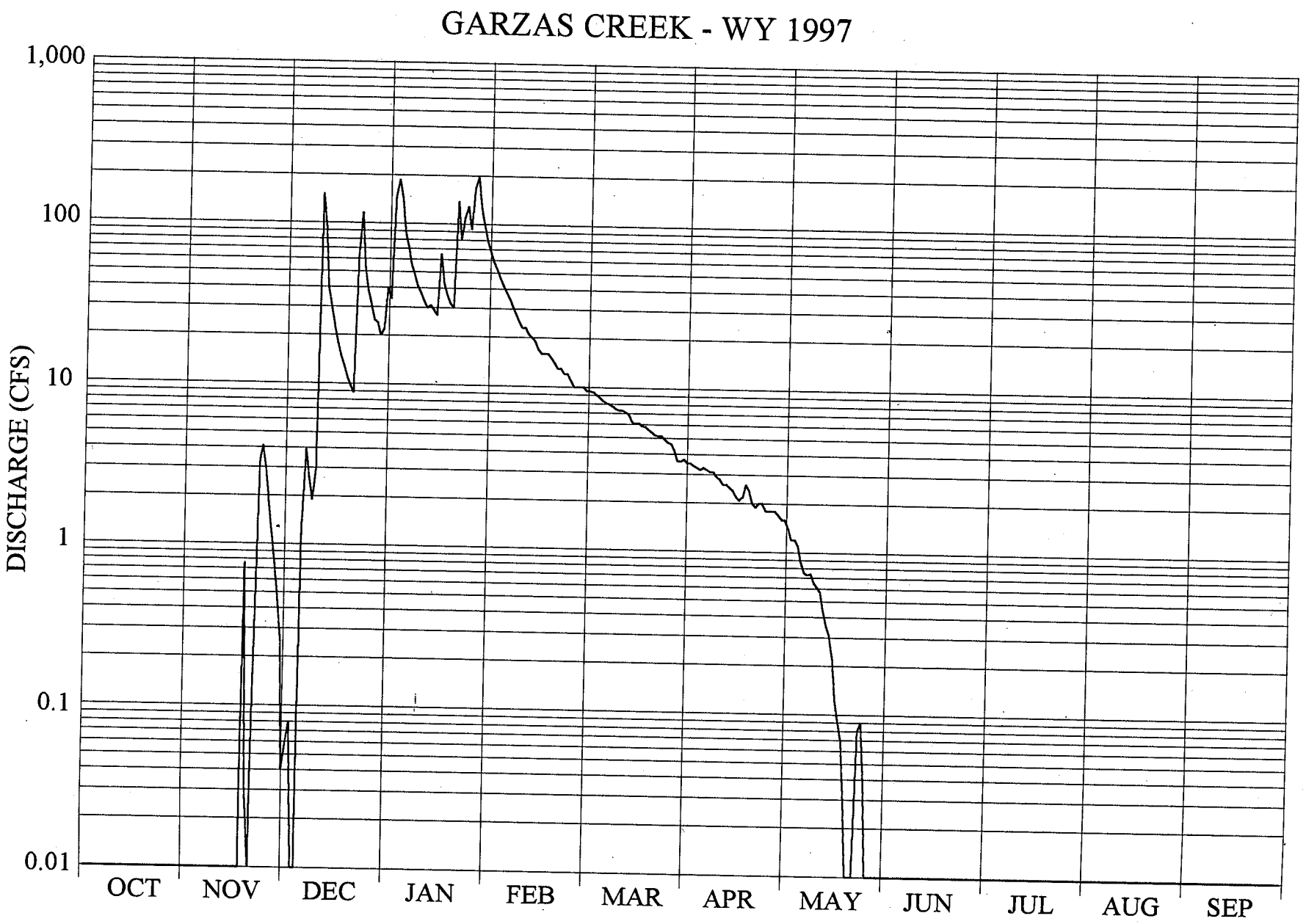

GARZAS CREEK - WY 1997
1,000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-26

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.06	146	53	9.5	3.5	1.6	0	0	0	0
2	0	0	.08	188	47	9.5	3.5	1.4	0	0	0	0
3	0	0	0	145	42	9.4	3.4	1.2	0	0	0	0
4	0	0	0	89	38	9.0	3.3	1.2	0	0	0	0
5	0	0	1.2	72	35	8.7	3.2	1.1	0	0	0	0
6	0	0	3.9	56	31	8.3	3.3	.88	0	0	0	0
7	0	0	2.6	48	28	8.1	3.2	.75	0	0	0	0
8	0	0	1.9	41	25	7.9	3.1	.73	0	0	0	0
9	0	0	2.9	37	23	7.7	3.1	.74	0	0	0	0
10	0	0	151	33	23	7.4	2.9	.65	0	0	0	0
11	0	0	95	30	21	7.3	2.8	.61	0	0	0	0
12	0	0	39	31	20	7.3	2.6	.57	0	0	0	0
13	0	0	30	29	19	7.1	2.6	.44	0	0	0	0
14	0	0	23	27	17	6.9	2.5	.35	0	0	0	0
15	0	0	18	65	16	6.2	2.4	.31	0	0	0	0
16	0	0	15	43	16	6.1	2.2	.22	0	0	0	0
17	0	0	13	36	16	6.1	2.1	.12	0	0	0	0
18	0	.76	11	32	15	5.9	2.2	.09	0	0	0	0
19	0	.03	9.8	30	14	5.8	2.6	.07	0	0	0	0
20	0	0	8.8	139	13	5.6	2.4	.03	0	0	0	0
21	0	.16	63	80	13	5.4	2.0	0	0	0	0	0
22	0	3.3	116	110	12	5.2	1.9	0	0	0	0	0
23	0	4.1	53	129	12	5.1	2.0	0	0	0	0	0
24	0	2.8	38	93	11	5.1	2.0	.08	0	0	0	0
25	0	1.7	31	168	10	4.9	1.8	.09	0	0	0	0
26	0	1.1	25	197	10	4.7	1.8	.04	0	0	0	0
27	0	.71	24	126	10	4.6	1.8	0	0	0	0	0
28	0	.48	20	99	10	4.2	1.8	0	0	0	0	0
29	0	.25	22	80	------	3.6	1.7	0	0	0	0	0
30	0	.04	40	68	------	3.6	1.6	0	0	0	0	0
31	0	------	34	59	------	3.7	------	0	------	0	0	------
TOTAL	0	15.43	892.24	2,526	600	199.9	75.3	13.27	0	0	0	0
MEAN	0	.51	28.8	81.5	21.4	6.45	2.51	.43	0	0	0	0
MAX	0	4.1	151	197	53	9.5	3.5	1.6	0	0	0	0
MIN	0	0	0	27	10	3.6	1.6	0	0	0	0	0
AC-FT	0	31	1,770	5,010	1,190	397	149	26	0	0	0	0

CAL YEAR 1996	TOTAL	3,373.46	MEAN	9.22	MAX	183	MIN	0	AC-FT	6,690
WTR YEAR 1997	TOTAL	4,322.14	MEAN	11.8	MAX	197	MIN	0	AC-FT	8,570

FIGURE D-27

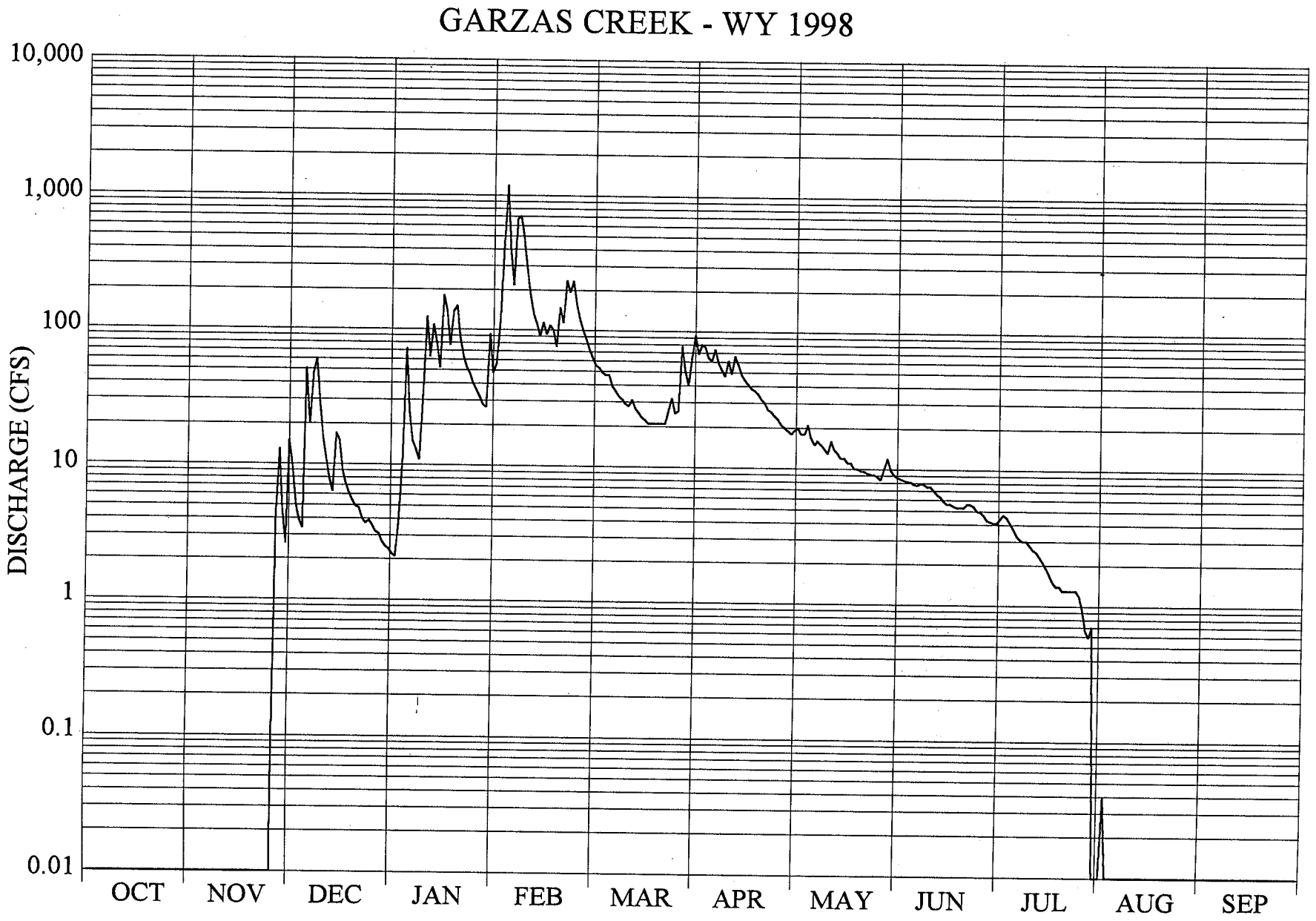

GARZAS CREEK - WY 1998
10,000
1,000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-27

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	9.3	2.1	115	63	94	19	8.7	4.1	0	0
2	0	0	5.0	4.0	410	55	68	20	8.5	4.4	.01	0
3	0	0	3.9	11	1,190	53	80	18	8.3	4.7	.04	0
4	0	0	3.4	72	393	49	77	18	8.2	4.5	0	0
5	0	0	51	24	217	47	64	21	8.1	4.1	0	0
6	0	0	20	15	676	47	61	17	7.8	3.7	0	0
7	0	0	47	13	700	39	74	15	7.7	3.3	0	0
8	0	0	60	11	480	36	59	16	7.9	3.1	0	0
9	0	0	29	33	284	33	52	15	7.8	3.0	0	0
10	0	0	16	125	184	31	47	14	7.5	3.0	0	0
11	0	0	11	63	132	29	61	13	7.5	2.8	0	0
12	0	0	7.9	109 e	112	28	49	16	7.0	2.6	0	0
13	0	0	6.3	79 e	90	31	66	14	6.6	2.5	0	0
14	0	0	17	52	114	27	57	13	6.3	2.3	0	0
15	0	0	15	181	93	25	48	12	5.9	2.1	0	0
16	0	0	9.0	137	109	23	44	12	5.6	1.9	0	0
17	0	0	7.2	77	100	22	41	11	5.6	1.7	0	0
18	0	0	6.1	138	76	21	38	11	5.4	1.5	0	0
19	0	0	5.4	150	148	21	37	10	5.3	1.4	0	0
20	0	0	4.9	87	114	21	35	10	5.3	1.4	0	0
21	0	0	4.8	64	235	21	32	9.7	5.3	1.3	0	0
22	0	0	4.0	53	193	21	30	9.6	5.6	1.3	0	0
23	0	0	3.7	47	232	21	27	9.3	5.6	1.3	0	0
24	0	0	3.9	40	157	26	26	9.2	5.4	1.3	0	0
25	0	0	3.6	36	122	32	24	9.1	5.0	1.3	0	0
26	0	4.2	3.2	32	100	25	23	8.9	4.9	1.2	0	0
27	0	13	3.1	28	86	26	21	8.4	4.7	.96	0	0
28	0	4.9	2.7	27	72	78	20	10	4.3	.67	0	0
29	0	2.6	2.5	93	------	51	19	12	4.2	.59	0	0
30	0	15	2.4	48	------	40	18	9.9	4.1	.70	0	0
31	0	------	2.2	56	------	64	------	9.1	------	0	0	------
TOTAL	0	39.7	370.5	1,907.1	6,934	1,106	1,392	400.2	190.1	68.72	0.05	0
MEAN	0	1.32	12.0	61.5	248	35.7	46.4	12.9	6.34	2.22	.002	0
MAX	0	15	60	181	1,190	78	94	21	8.7	4.7	.04	0
MIN	0	0	2.2	2.1	72	21	18	8.4	4.1	0	0	0
AC-FT	0	79	735	3,780	13,750	2,190	2,760	794	377	136	.1	0

CAL YEAR 1997	TOTAL	3,824.67	MEAN	10.5	MAX	197	MIN	0	AC-FT	7,590
WTR YEAR 1998	TOTAL	12,408.37	MEAN	34.0	MAX	1,190	MIN	0	AC-FT	24,610

FIGURE D-28

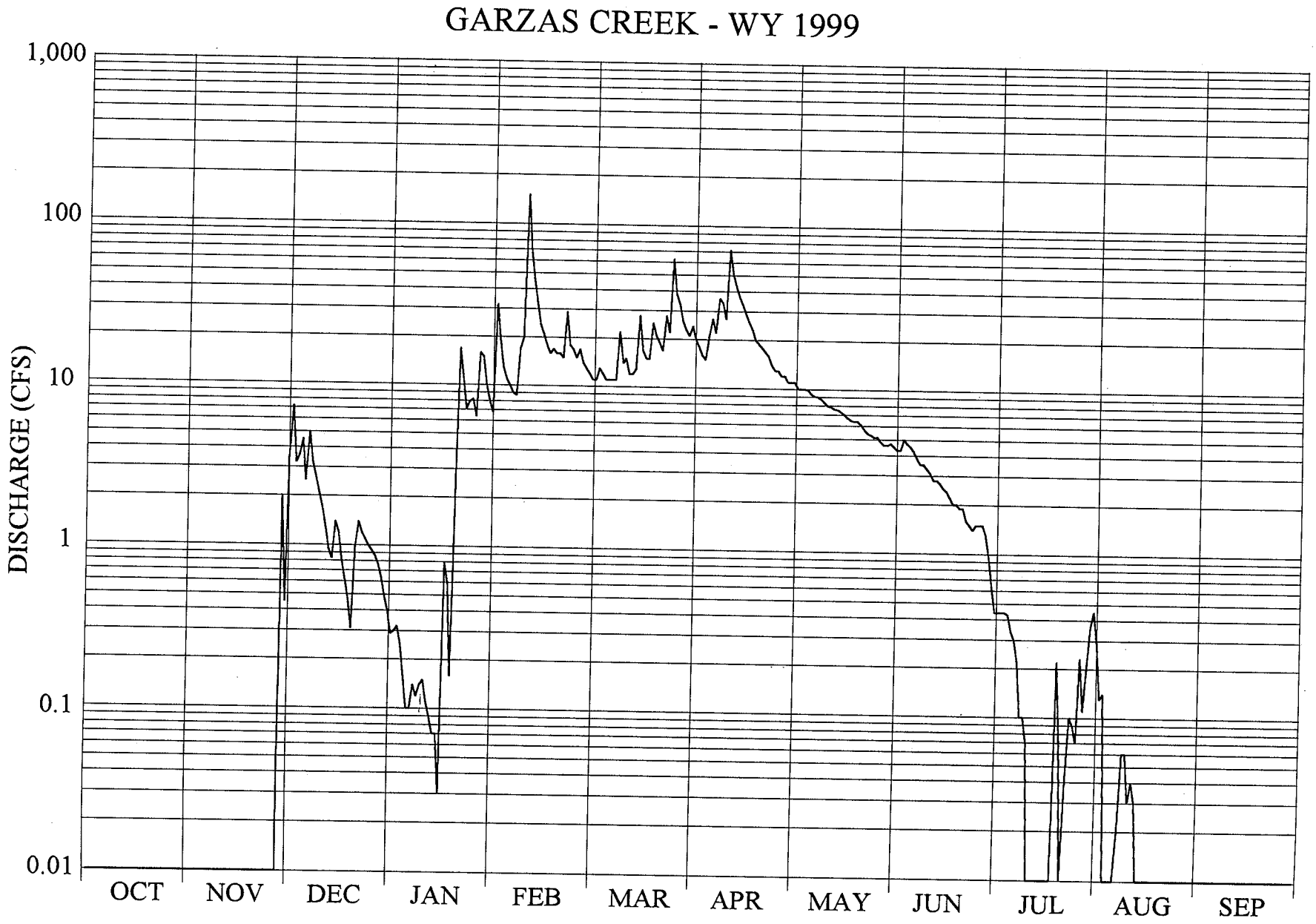

GARZAS CREEK - WY 1999
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-28

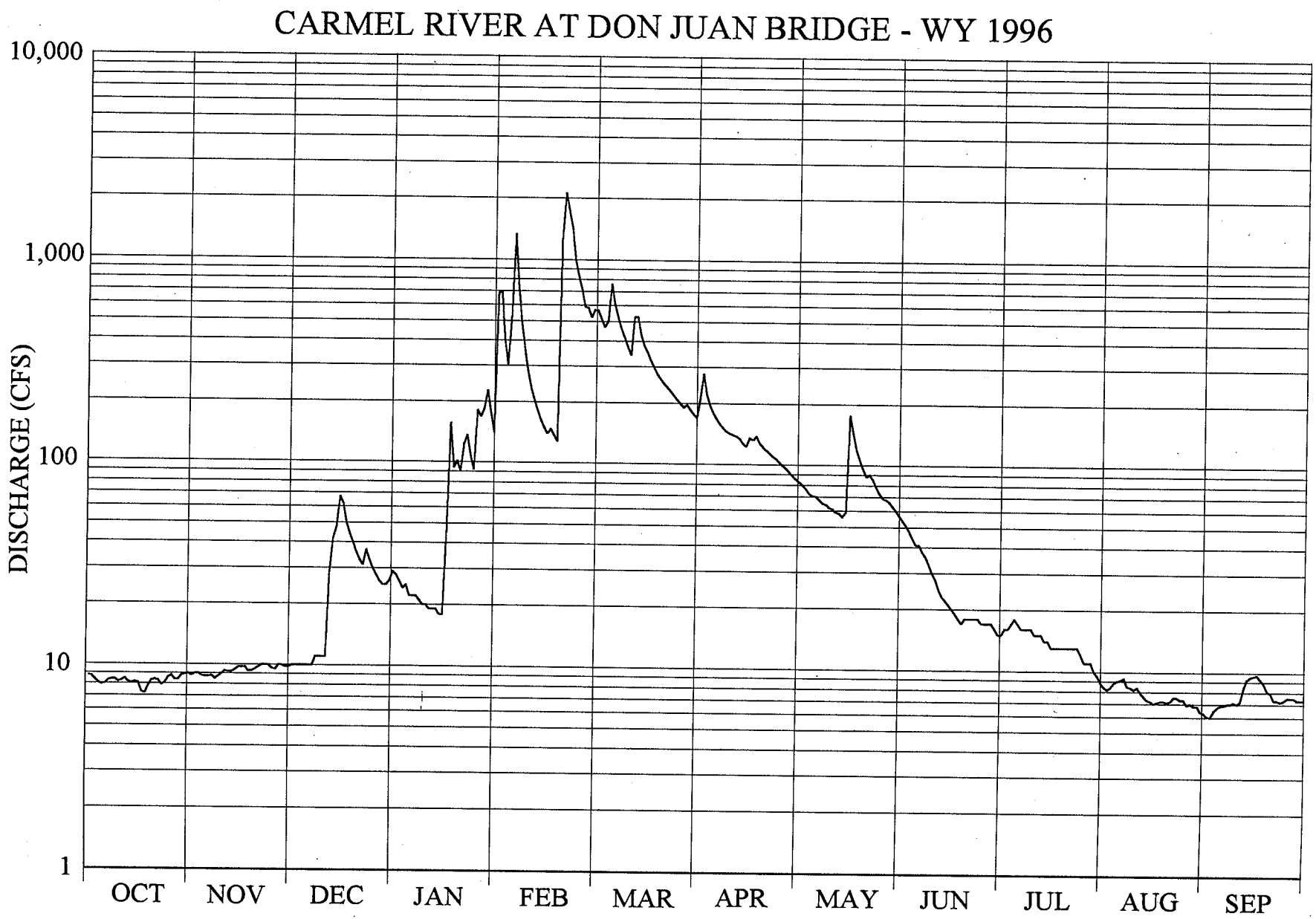
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	7.2	.30	19	11	20	11	4.3	.44	.29	0
2	0	0	3.2	.32	13	11	18	10	4.3	.44	.13	0
3	0	0	3.6	.25	11	13	16	10	5.0	.44	.14	0
4	0	0	4.5	.16	10	12	15	10	4.7	.44	.01	0
5	0	0	2.5	.10	9.0	11	21	9.9	4.5	.43	0	0
6	0	0	5.0	.10	8.7	11	27	9.4	4.2	.34	0	0
7	0	0	3.2	.14	17	11	22	9.1	3.8	.30	0	0
8	0	0	2.6	.12	20	11	36	9.0	3.5	.22	.02	0
9	0	0	2.1	.14	151	22	34	8.7	3.5	.10	.06	0
10	0	0	1.7	.15	70	14	27	8.3	3.3	.10	.06	0
11	0	0	1.3	.11	46	15	72	7.9	3.1	.07	.03	0
12	0	0	.95	.09	33	12	51	7.8	2.8	0	.04	0
13	0	0	.83	.07	24	12	43	7.6	2.8	0	.03	0
14	0	0	1.4	.07	21	13	37	7.5	2.7	0	0	0
15	0	0	1.2	.03	18	28	33	7.3	2.5	0	0	0
16	0	0	.81	.79	16	17	29	7.0	2.4	0	0	0
17	0	0	.62	.59	17	15	26	6.7	2.2	.01	0	0
18	0	0	.47	.16	16	15	23	6.5	2.0	0	0	0
19	0	0	.31	2.3	16	25	20	6.4	2.0	0	0	0
20	0	0	.99	17	15	21	19	6.4	1.9	.22	0	0
21	0	0	1.4	11	29	19	18	6.1	1.9	.07	0	0
22	0	0	1.2	7.1	18	17	17	5.7	1.6	.01	0	0
23	0	0	1.1	7.9	17	28	16	5.4	1.5	.04	0	0
24	0	0	1.0	8.2	15	22	14	5.3	1.4	.10	0	0
25	0	0	.94	6.4	17	63	13	5.1	1.5	.09	0	0
26	0	0	.87	16	14	38	13	5.1	1.5	.07	0	0
27	0	0	.77	15	13	33	12	4.8	1.5	.23	0	0
28	0	2.0	.64	10	12	26	12	4.6	1.3	.11	0	0
29	0	.45	.49	8.0	------	23	11	4.6	.95	.20	0	0
30	0	3.5	.40	6.8	------	21	11	4.7	.63	.36	0	0
31	0	------	.29	32	------	24	------	4.5	------	.45	0	------
TOTAL	0	5.95	53.58	151.39	685.7	614	726	222.4	79.28	5.28	0.81	0
MEAN	0	.20	1.73	4.88	24.5	19.8	24.2	7.17	2.64	.17	.026	0
MAX	0	3.5	7.2	32	151	63	72	11	5.0	.45	.29	0
MIN	0	0	.29	.03	8.7	11	11	4.5	.63	0	0	0
AC-FT	0	12	106	300	1,360	1,220	1,440	441	157	10	1.6	0

CAL YEAR 1998	TOTAL	12,057.70	MEAN	33.0	MAX	1,190	MIN	0	AC-FT	23,920
WTR YEAR 1999	TOTAL	2,544.39	MEAN	6.97	MAX	151	MIN	0	AC-FT	5,050

FIGURE D-29


CARMEL RIVER AT DON JUAN BRIDGE - WY 1996
DISCHARGE (CFS)
10,000
1,000
100
10
1
OCT
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DEC
JAN
FEB
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APR
MAY
JUN
JUL
AUG
SEP

TABLE D-29

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	8.8	10	28	691	565	211	82	54	15	8.4	6.1
2	8.7	9.0	10	26	403	513	278	80	51	16	8.2	6.0
3	8.4	9.0	10	24	306	467	220	76	48	16	8.4	6.5
4	8.1	8.8	10	25	527	502	194	72	44	17	8.8	6.7
5	7.9	8.7	10	22	1,330	764	178	71	41	18	9.0	6.9e
6	8.0	8.7	10	22	745	607	167	70	41	17	9.1	6.9
7	8.3	8.8	10	22	495	520	158	68	38	16	9.3	7.0
8	8.4	8.5	11	21	366	461	151	65	36	16	8.5	7.0
9	8.4	8.7	11	20	284	411	145	64	33	16	8.4	7.1
10	8.2	9.0	11	20	233	375	142	62	30	16	8.2	7.0
11	8.3	9.3	11	19	205	343	140	61	28	15	8.4	7.2
12	8.5	9.2	29	19	181	527	138	59	25	15	7.9	8.5
13	8.2	9.2	42	19	163	525	134	58	23	15	7.6	9.2
14	8.1	9.4	48	18	149	429	126	56	22	14 e	7.3	9.5
15	8.2	9.7	67	18	139	379	123	59	21	14	7.2	9.6
16	8.1	9.7	62	46	147	347	135	176	20	13	7.0	9.7
17	7.3	9.7	50	157	137	320	133	144	19	13	7.1	9.2
18	7.2	9.3	44	94	128	298	138	119	18	13	7.2	8.9
19	7.8	9.3	40	101	1,310	276	128	106	17	13	7.2	8.1
20	8.3	9.5	36	90	2,120	262	122	96	18	13	7.1	7.9
21	8.4	9.7	33	123	1,730	249	118	88	18	13	7.2	7.3
22	8.3	10	31	136	1,420	239	114	90	18	13	7.5	7.3
23	7.9	10	37	107	996	229	110	85	18	13	7.5	7.2
24	8.1	10	33	92	835	218	106	78	18	13	7.3	7.3
25	8.6	9.6	30	181	714	207	103	73	17	12	7.3	7.5
26	8.8	9.5	28	168	590	199	99	69	17	11	6.9	7.5
27	8.4	10	26	185	581	190	96	68	17	11	7.0	7.5
28	8.4	10	25	227	523	197	92	66	17	11	6.8	7.3
29	8.8	9.8	25	175	567	185	88	63	16	10	6.8	7.3
30	8.9	9.8	26	141	------	176	85	60	15	9.5	6.4	7.3
31	9.0	------	29	683	------	169	------	57	------	8.8	6.3	------
TOTAL	256.8	280.7	855	3,029	18,015	11,149	4,172	2,441	798	426.3	237.3	228.5
MEAN	8.28	9.36	27.6	97.7	621	360	139	78.7	26.6	13.8	7.65	7.62
MAX	9.0	10	67	683	2,120	764	278	176	54	18	9.3	9.7
MIN	7.2	8.5	10	18	128	169	85	56	15	8.8	6.3	6.0
AC-FT	509	557	1,700	6,010	35,730	22,110	8,280	4,840	1,580	846	471	453

CAL YEAR 1995	TOTAL	88,766.70	MEAN	243	MAX	7,630	MIN	2.6	AC-FT	176,100
WTR YEAR 1996	TOTAL	41,888.60	MEAN	114	MAX	2,120	MIN	6.0	AC-FT	83,090

FIGURE D-30

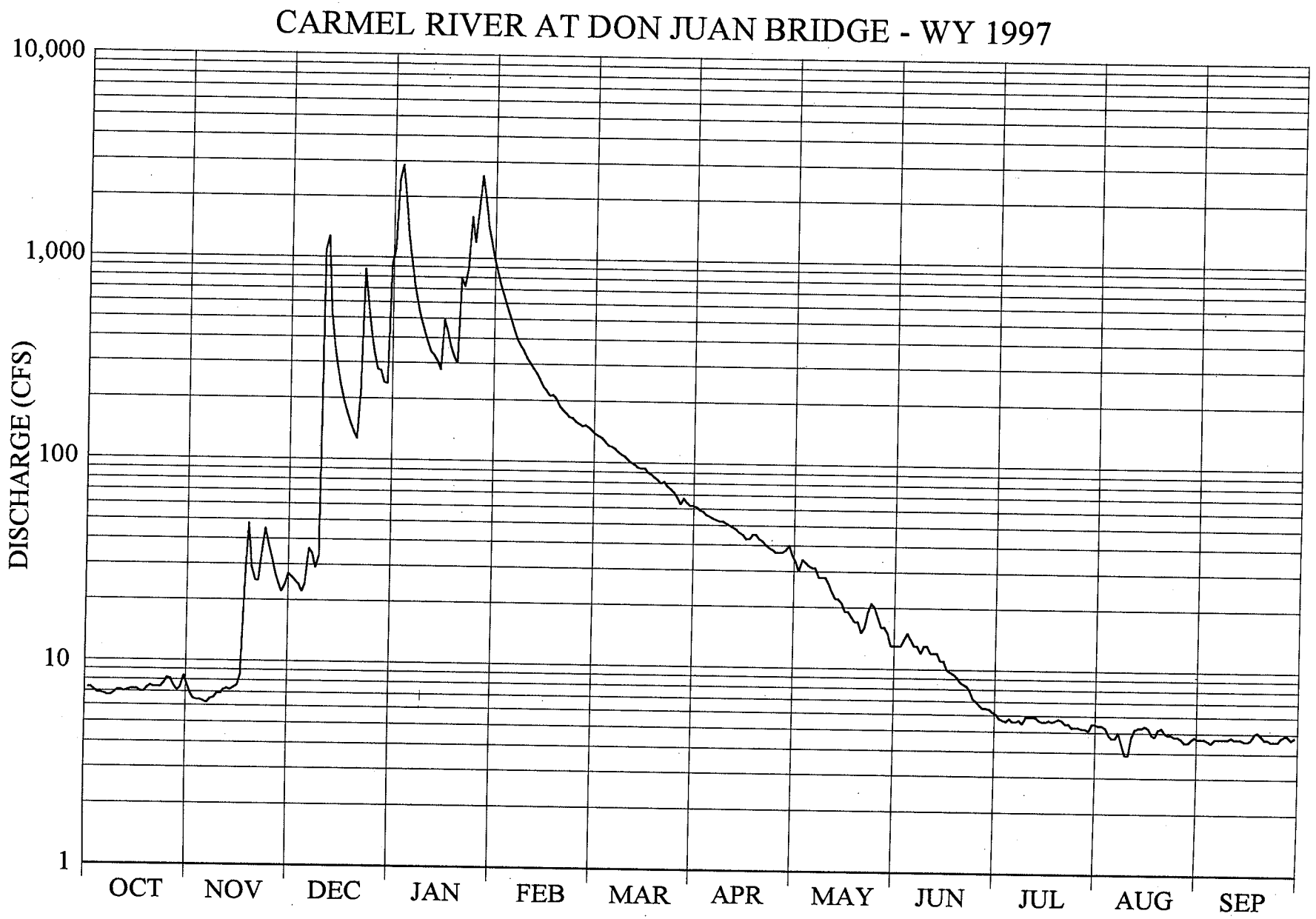

CARMEL RIVER AT DON JUAN BRIDGE - WY 1997
DISCHARGE (CFS)
10,000
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-30

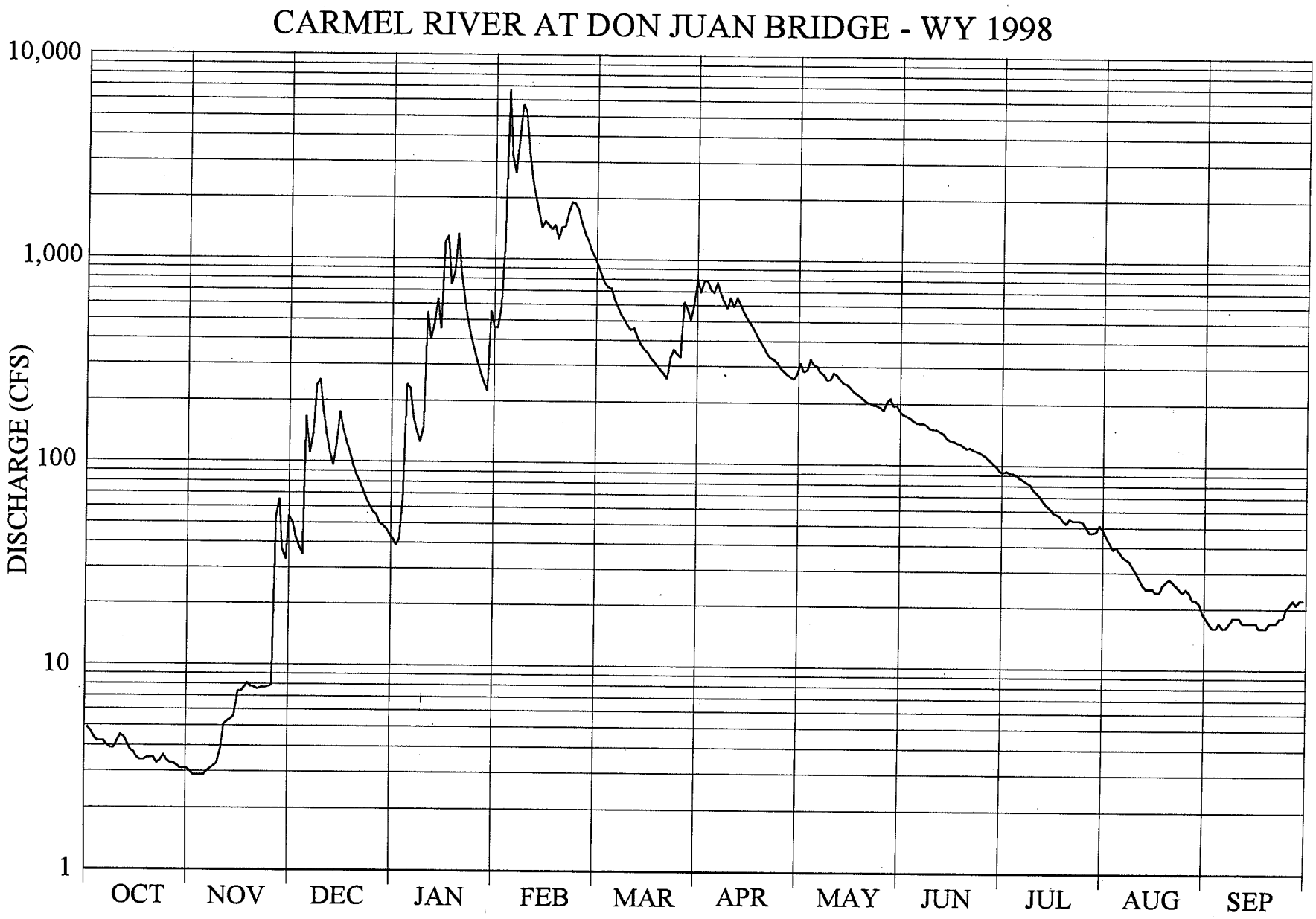
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	6.9	26	2,420	723	143	62	36	13	6.2	5.5	4.7
2	7.3	6.5	25	2,870	640	138	61	33	13	6.1	5.4	4.7
3	7.1	6.4	24	1,980	564	135	59	30	13	5.8	5.4	4.7
4	6.9	6.4	22	1,270	503	132	58	34	14	5.7	5.3	4.6
5	6.9	6.3	24	953	446	126	56	33	15	5.6	4.9	4.5
6	6.8	6.2	36	721	401	121	55	32	14	5.8	4.7	4.7
7	6.7	6.5	34	582	372	120	54	31	13	5.6	4.7	4.7
8	6.7	6.6	29	495	349	117	53	31	13	5.6	5.0	4.7
9	6.9	6.9	33	430	323	113	52	28	12	5.7	4.4	4.7
10	7.1	6.9	1,080	381	303	109	52	28	13	5.5	3.9	4.7
11	7.1	7.2	1,270	343	287	107	51	28	13	5.9	3.9	4.8
12	7.0	7.3	534	327	272	103	50	26	12	5.9	4.8	4.7
13	7.1	7.2	369	308	253	100	49	24	12	5.9	5.2	4.7
14	7.2	7.4	282	278	234	98	48	22	12	5.9	5.3	4.7
15	7.2	7.6	229	491	223	95	46	22	11	5.7	5.3	4.6
16	7.2	8.5	193	428	211	94	45	21	11	5.6	5.4	4.6
17	7.0	27	170	363	213	94	43	19	10	5.6	5.3	4.7
18	7.0	48	151	324	204	90	43	19	9.7	5.7	4.9	5.0
19	7.3	29	137	301	188	88	45	18	9.5	5.6	4.8	5.1
20	7.5	25	126	794	180	85	45	17	9.2	5.7	5.2	4.9
21	7.4	25	221	724	174	83	43	17	8.7	5.8	5.3	4.7
22	7.4	36	871	894	166	80	42	15	8.5	5.7	5.0	4.7
23	7.4	45	607	1,600	164	81	40	16	8.3	5.5	4.9	4.6
24	7.7	37	428	1,200	158	77	39	19	7.9	5.5	4.9	4.6
25	8.2	32	334	1,750	154	75	38	21	7.2	5.3	4.8	4.6
26	8.1	27	279	2,570	150	72	37	20	7.0	5.3	4.8	4.8
27	7.5	24	274	1,980	152	68	37	18	6.7	5.3	4.7	4.9
28	7.1	22	240	1,430	148	63	37	16	6.5	5.2	4.5	4.9
29	7.4	24	237	1,180	------	67	38	16	6.5	5.2	4.5	4.7
30	8.4	27	922	980	------	64	40	15	6.4	5.1	4.7	4.8
31	7.6	------	1,100	836	------	62	------	13	------	5.5	4.8	------
TOTAL	225.5	538.8	10,307	31,203	8,155	3,000	1,418	718	316.1	174.5	152.2	141.8
MEAN	7.27	18.0	332	1,007	291	96.8	47.3	23.2	10.5	5.63	4.91	4.73
MAX	8.4	48	1,270	2,870	723	143	62	36	15	6.2	5.5	5.1
MIN	6.7	6.2	22	278	148	62	37	13	6.4	5.1	3.9	4.5
AC-FT	447	1,070	20,440	61,890	16,180	5,950	2,810	1,420	627	346	302	281

CAL YEAR 1996	TOTAL	51,567.40	MEAN	141	MAX	2,120	MIN	6.0	AC-FT	102,300
WTR YEAR 1997	TOTAL	56,349.90	MEAN	154	MAX	2,870	MIN	3.9	AC-FT	111,800

FIGURE D-31


CARMEL RIVER AT DON JUAN BRIDGE - WY 1998
DISCHARGE (CFS)
10,000
1,000
100
10
1
OCT
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MAY
JUN
JUL
AUG
SEP

TABLE D-31

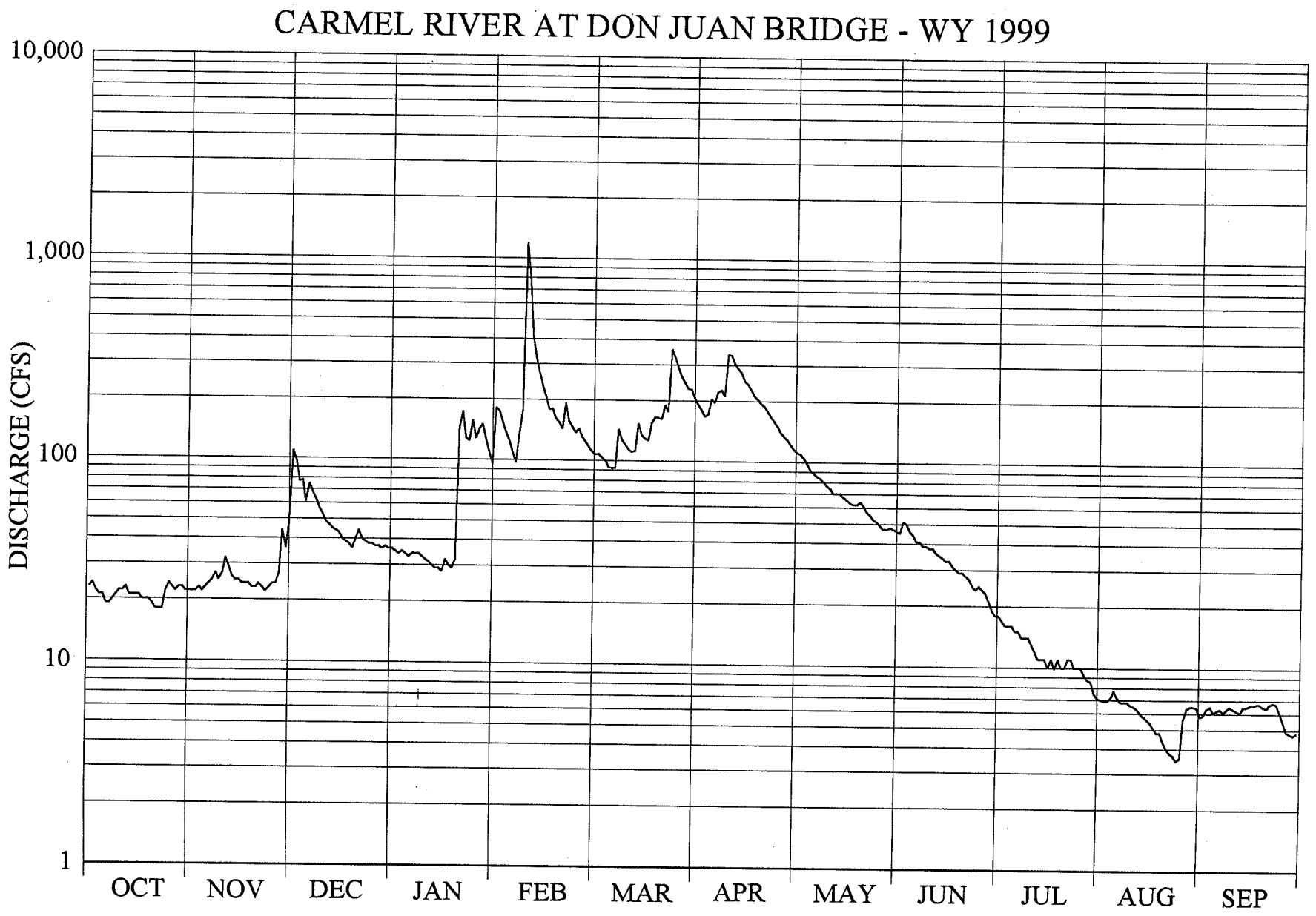
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	3.0	50	39	581	1,020	810	274	183	94	49	18
2	4.7	2.9	42	42	1,210	938	693	312	176	93	45	17
3	4.4	2.9	38	69	6,740	845	788	285	173	94	42	16
4	4.2	2.9	35	240	3,190	767	791	290	170	92	39	16
5	4.2	2.9	166	229	2,650	731	720	326	164	92	40	17
6	4.2	3.0	111	164	3,820	723	693	309	161	90	38	16
7	4.0	3.1	137	142	5,650	637	775	300	160	87	36	16
8	3.9	3.2	237	126	5,300	585	686	283	160	85	35	17
9	3.9	3.3	252	148	3,450	539	625	276	157	83	34	18
10	4.2	3.9	177	545	2,490	502	581	259	151	81	32	18
11	4.5	5.1	136	398	2,040	474	653	260	150	77	30	18
12	4.4	5.3	111	477	1,700	451	588	280	149	74	28	17
13	4.1	5.4	96	636	1,430	457	658	274	146	71	26	17
14	3.8	5.6	122	452	1,540	416	605	260	143	67	25	17
15	3.7	7.4	175	1,210	1,470	382	557	250	136	64	25	17
16	3.5	7.4	144	1,290	1,400	362	519	246	133	62	25	17
17	3.4	7.8	125	751	1,470	347	488	238	132	59	24	16
18	3.4	8.1	111	858	1,260	330	455	229	129	58	24	16
19	3.5	7.8	96	1,330	1,430	316	427	222	128	57	26	16
20	3.5	7.7	86	852	1,450	300	399	216	124	54	27	17
21	3.5	7.6	80	637	1,700	287	374	210	121	52	28	17
22	3.3	7.7	73	501	1,910	274	348	203	122	55	27	17
23	3.4	7.7	66	415	1,880	260	332	201	119	54	26	18
24	3.6	7.8	61	360	1,740	329	326	196	118	54	25	18
25	3.4	7.9	57	311	1,500	361	313	195	116	54	24	20
26	3.3	54	55	274	1,340	343	297	191	113	53	25	21
27	3.3	65	50	245	1,230	332	286	185	110	50	24	22
28	3.2	37	49	223	1,110	619	276	203	106	47	22	21
29	3.1	33	47	553	------	578	268	212	102	47	22	22
30	3.1	54	44	457	------	508	261	194	99	48	21	22
31	3.1	------	42	458	------	606	------	195	------	51	19	------
TOTAL	116.7	380.4	3,071	14,432	62,681	15,619	15,592	7,574	4,151	2,099	913	535
MEAN	3.76	12.7	99.1	466	2,239	504	520	244	138	67.7	29.5	17.8
MAX	4.9	65	252	1,330	6,740	1,020	810	326	183	94	49	22
MIN	3.1	2.9	35	39	581	260	261	185	99	47	19	16
AC-FT	231	755	6,090	28,630	124,300	30,980	30,930	15,020	8,230	4,160	1,810	1,060

CAL YEAR 1997	TOTAL	48,846.7	MEAN	134	MAX	2,870	MIN	2.9	AC-FT	96,890
WTR YEAR 1998	TOTAL	127,164.1	MEAN	348	MAX	6,740	MIN	2.9	AC-FT	252,200

FIGURE D-32


CARMEL RIVER AT DON JUAN BRIDGE - WY 1999
10,000
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1
DISCHARGE (CFS)
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FEB
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MAY
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JUL
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TABLE D-32

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	22	109	35	175	111	205	115	46	18	7.1	5.8
2	24	22	97	34	154	107	191	111	45	18	7.0	5.9
3	22	23	77	35	138	108	180	110	51	17	6.9	6.3
4	21	22	78	34	125	104	167	104	50	16	6.9	6.5
5	21	23	61	33	110	100	172	97	46	16	7.1	6.1
6	19	24	75	34	97	93	203	91	44	16	7.7	6.2
7	19	25	68	34	134	92	197	88	41	15	7.2	6.3
8	20	27	63	34	175	92	221	85	41	15	6.8	6.1
9	21	25	57	33	1,190	143	226	83	39	14	6.8	6.3
10	22	27	53	32	786	126	211	80	39	14	6.8	6.5
11	22	32	49	31	411	121	341	76	38	14	6.6	6.3
12	23	29	47	30	322	114	336	74	38	13	6.5	6.2
13	21	26	45	29	271	111	305	70	36	12	6.3	6.1
14	21	25	44	29	234	112	289	70	35	11	6.0	6.4
15	21	25	43	28	206	153	276	70	34	11	5.8	6.5
16	21	24	40	32	179	134	251	67	33	11	5.6	6.6
17	20	24	39	30	180	129	242	65	33	10	5.4	6.6
18	20	24	38	29	162	127	225	63	31	11	5.1	6.7
19	20	23	36	32	154	155	211	62	30	9.9	4.8	6.7
20	19	23	40	144	144	164	204	62	29	11	4.8	6.5
21	18	24	44	173	192	164	194	64	29	10	4.3	6.4
22	18	23	40	128	157	162	188	61	28	10	4.0	6.7
23	18	22	39	124	147	189	178	57	27	11	3.8	6.8
24	22	23	38	157	138	177	167	55	25	11	3.7	6.7
25	24	24	38	128	144	358	158	52	24	10	3.5	6.1
26	23	24	37	142	131	326	150	51	25	10	3.6	5.5
27	22	27	37	150	124	289	140	49	24	10	5.6	4.9
28	23	44	36	126	117	261	134	47	23	9.2	6.3	4.8
29	23	36	37	109	------	245	129	47	21	8.7	6.5	4.7
30	22	47	36	96	------	229	121	48	19	8.6	6.5	4.8
31	22	------	36	181	------	227	------	47	------	7.5	6.4	------
TOTAL	655	789	1,577	2,266	6,497	5,023	6,212	2,221	1,024	378.9	181.4	184.0
MEAN	21.1	26.3	50.9	73.1	232	162	207	71.6	34.1	12.2	5.85	6.13
MAX	24	47	109	181	1,190	358	341	115	51	18	7.7	6.8
MIN	18	22	36	28	97	92	121	47	19	7.5	3.5	4.7
AC-FT	1,300	1,560	3,130	4,490	12,890	9,960	12,320	4,410	2,030	752	360	365

CAL YEAR 1998	TOTAL	126,617.0	MEAN	347	MAX	6,740	MIN	16	AC-FT	251,100
WTR YEAR 1999	TOTAL	27,008.3	MEAN	74.0	MAX	1,190	MIN	3.5	AC-FT	53,570

FIGURE D-33

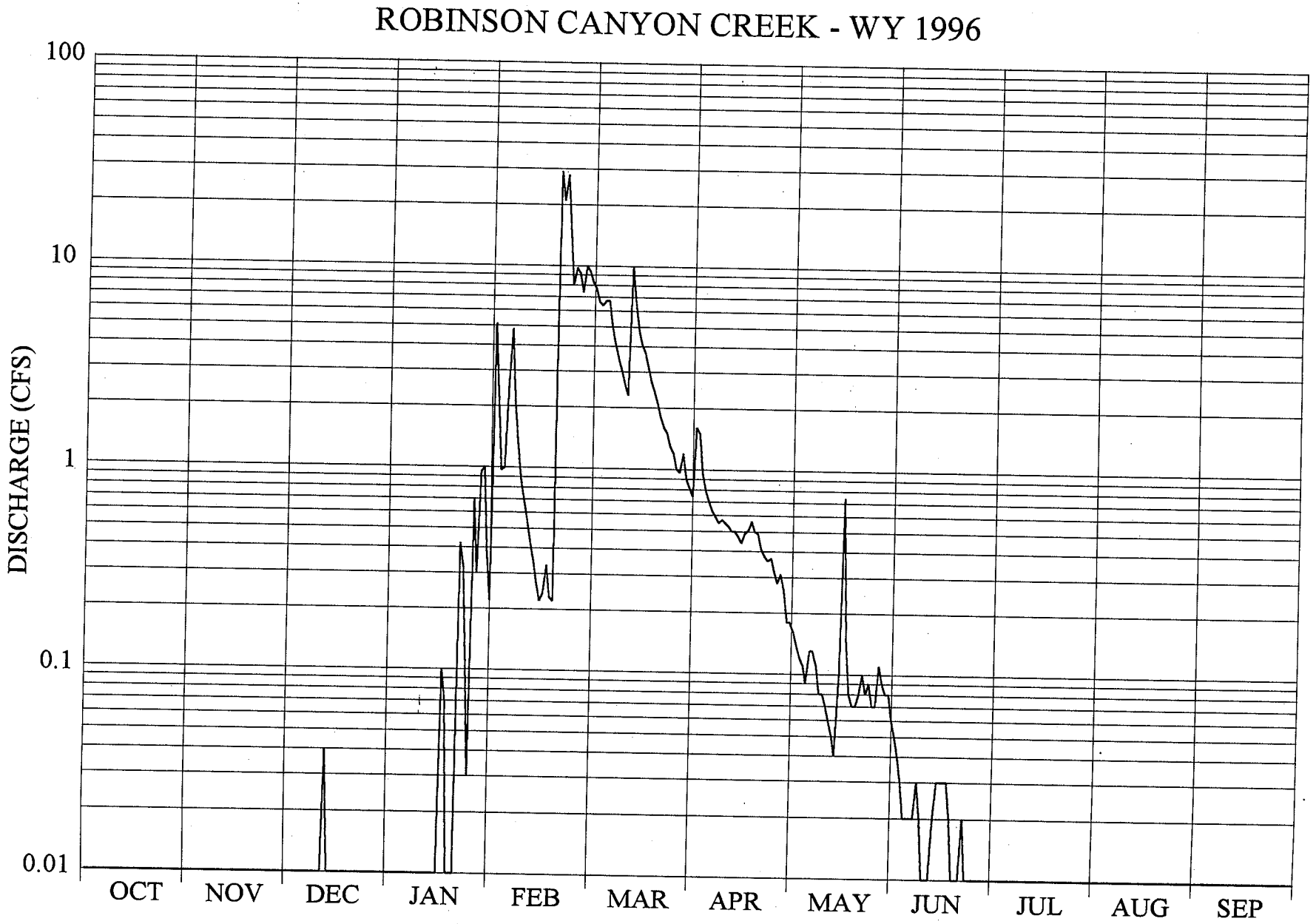

ROBINSON CANYON CREEK - WY 1996
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-33

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	2.2	7.7	1.6	.16	.05	0	0	0
2	0	0	0	0	.97	6.6	1.5	.14	.04	0	0	0
3	0	0	0	0	1.0	6.4	.95	.12	.03	0	0	0
4	0	0	0	0	2.5	6.7	.79	.11	.02	0	0	0
5	0	0	0	0	4.8	6.7	.70	.09	.02	0	0	0
6	0	0	0	0	2.1	5.0	.63	.13	.02	0	0	0
7	0	0	0	0	1.3	4.1	.59	.13	.02	0	0	0
8	0	0	0	0	.87	3.5	.55	.11	.03	0	0	0
9	0	0	0	0	.69	3.0	.57	.08	.02	0	0	0
10	0	0	0	0	.55	2.6	.55	.08	.01	0	0	0
11	0	0	0	0	.43	2.3	.53	.07	.01	0	0	0
12	0	0	.04	0	.35	10	.50	.06	.01	0	0	0
13	0	0	.01	0	.27	6.7	.50	.05	.02	0	0	0
14	0	0	0	0	.22	4.9	.47	.04	.03	0	0	0
15	0	0	0	0	.24	4.1	.44	.10	.03	0	0	0
16	0	0	0	.10	.33	3.7	.49	.74	.03	0	0	0
17	0	0	0	.07	.23	3.2	.51	.14	.03	0	0	0
18	0	0	0	0	.22	2.7	.56	.08	.02	0	0	0
19	0	0	0	0	29	2.4	.50	.07	.01	0	0	0
20	0	0	0	0	21	2.1	.49	.07	.01	0	0	0
21	0	0	0	.42	28	1.8	.41	.08	.01	0	0	0
22	0	0	0	.32	15	1.6	.38	.10	.02	0	0	0
23	0	0	0	.11	8.0	1.5	.36	.08	.01	0	0	0
24	0	0	0	.03	9.8	1.3	.37	.09	0	0	0	0
25	0	0	0	.70	9.2	1.2	.32	.07	0	0	0	0
26	0	0	0	.30	7.4	1.0	.28	.07	.01	0	0	0
27	0	0	0	.95	10	.97	.31	.11	.01	0	0	0
28	0	0	0	1.0	9.4	1.2	.26	.09	.01	0	0	0
29	0	0	0	.38	8.3	.90	.18	.08	0	0	0	0
30	0	0	0	.22	------	.81	.18	.08	0	0	0	0
31	0	------	0	5.1	------	.74	------	.06	------	0	0	------
TOTAL	0	0	0.05	9.70	174.37	107.42	16.47	3.48	0.53	0	0	0
MEAN	0	0	.002	.31	6.01	3.47	.55	.11	.018	0	0	0
MAX	0	0	.04	5.1	29	10	1.6	.74	.05	0	0	0
MIN	0	0	0	0	.22	.74	.18	.04	0	0	0	0
AC-FT	0	0	.1	19	346	213	33	6.9	1.1	0	0	0

CAL YEAR 1995	TOTAL	1,124.70	MEAN	3.08	MAX	258	MIN	0	AC-FT	2,230
WTR YEAR 1996	TOTAL	312.02	MEAN	.85	MAX	29	MIN	0	AC-FT	619

FIGURE D-34

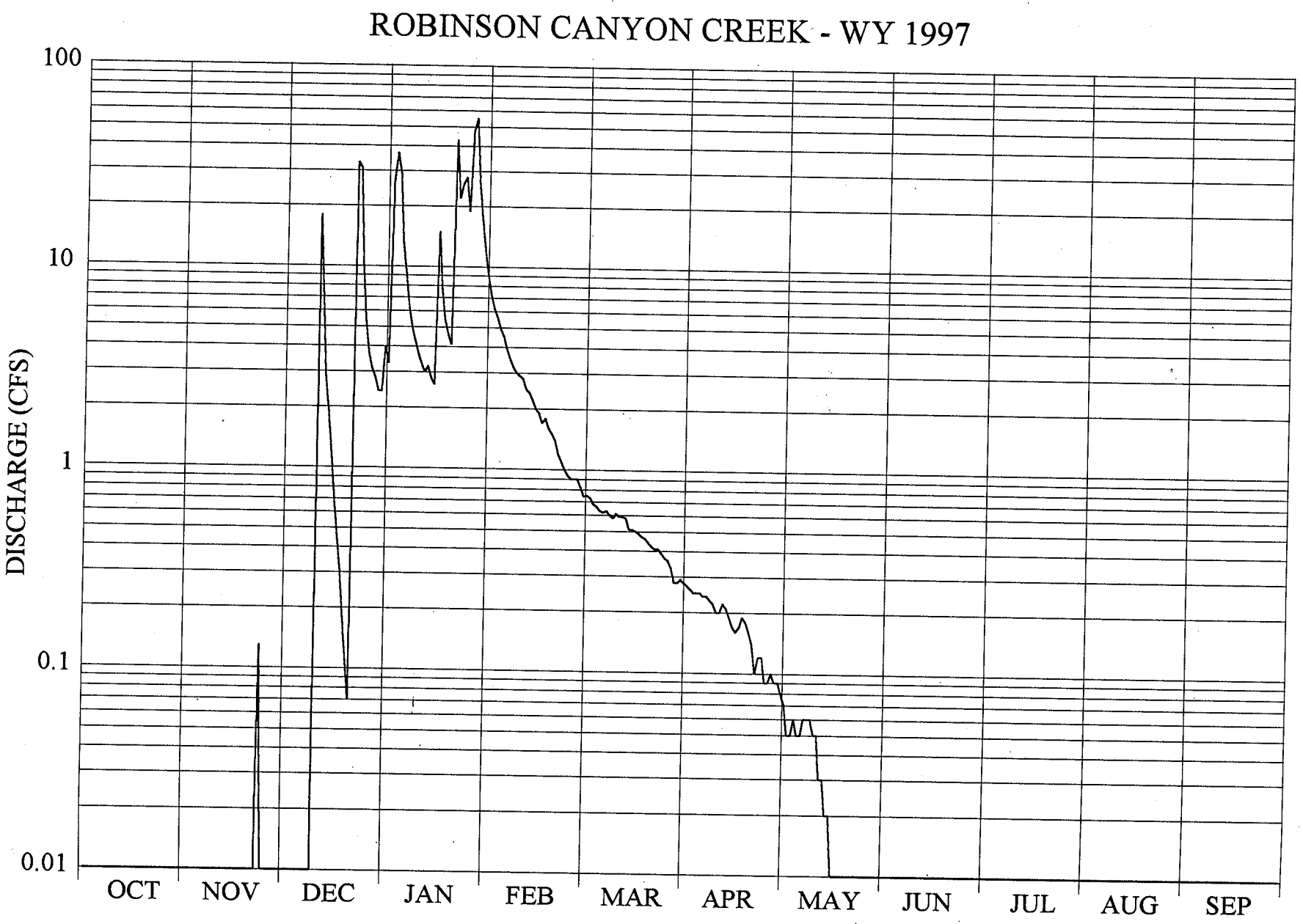

ROBINSON CANYON CREEK - WY 1997
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-34

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	27	6.2	.74	.28e	.08	0	0	0	0
2	0	0	0	37	5.6	.75	.27e	.07	0	0	0	0
3	0	0	0	29	4.9	.73	.26e	.05	0	0	0	0
4	0	0	0	13	4.5	.68	.25e	.05	0	0	0	0
5	0	0	0	9.3	3.9	.66	.25e	.06	0	0	0	0
6	0	0	0	6.4	3.5	.63	.25e	.05	0	0	0	0
7	0	0	0	5.0	3.2	.62	.24e	.05	0	0	0	0
8	0	0	0	4.3	3.0	.63	.24e	.06	0	0	0	0
9	0	0	0	3.7	2.9	.60	.23e	.06	0	0	0	0
10	0	0	18	3.3	2.8	.58	.22	.06	0	0	0	0
11	0	0	7.3	3.0	2.5	.61	.20	.05	0	0	0	0
12	0	0	2.8	3.2	2.4	.59	.20	.05	0	0	0	0
13	0	0	1.9	2.8	2.2	.59	.22	.03	0	0	0	0
14	0	0	1.2	2.6	2.0	.58e	.21	.03	0	0	0	0
15	0	0	.71	15	1.9	.51e	.19	.02	0	0	0	0
16	0	0	.46	7.7	1.7	.51e	.17	.02	0	0	0	0
17	0	.01	.31	5.4	1.8	.50e	.16	.01	0	0	0	0
18	0	0	.18	4.6	1.6	.49e	.17	.01	0	0	0	0
19	0	0	.11	4.1	1.5	.47e	.19	.01	0	0	0	0
20	0	0	.07	43	1.4	.46e	.18	0	0	0	0	0
21	0	0	33	22	1.2	.44e	.16	0	0	0	0	0
22	0	0	31	26	1.1	.42e	.14	0	0	0	0	0
23	0	.13	10	28	1.0	.41e	.10	0	0	0	0	0
24	0	0	5.3	19	.94	.41e	.12	.01	0	0	0	0
25	0	0	3.7	48	.90	.39e	.12	0	0	0	0	0
26	0	0	3.1	55	.90	.37e	.09	0	0	0	0	0
27	0	0	2.8	26	.90	.36e	.09	0	0	0	0	0
28	0	0	2.4	17	.82	.33e	.10	0	0	0	0	0
29	0	0	2.4	12	------	.28e	.09	0	0	0	0	0
30	0	0	4.0	9.1	------	.28e	.09	0	0	0	0	0
31	0	------	3.3	7.2	------	.29e	------	0	------	0	0	------
TOTAL	0	0.14	134.04	498.7	67.26	15.91	5.48	0.83	0	0	0	0
MEAN	0	.005	4.32	16.1	2.40	.51	.18	.027	0	0	0	0
MAX	0	.13	33	55	6.2	.75	.28	.08	0	0	0	0
MIN	0	0	0	2.6	.82	.28	.09	0	0	0	0	0
AC-FT	0	.3	266	989	133	32	11	1.6	0	0	0	0

CAL YEAR 1996	TOTAL	446.15	MEAN	1.22	MAX	33	MIN	0	AC-FT	885
WTR YEAR 1997	TOTAL	722.36	MEAN	1.98	MAX	55	MIN	0	AC-FT	1,430

FIGURE D-35

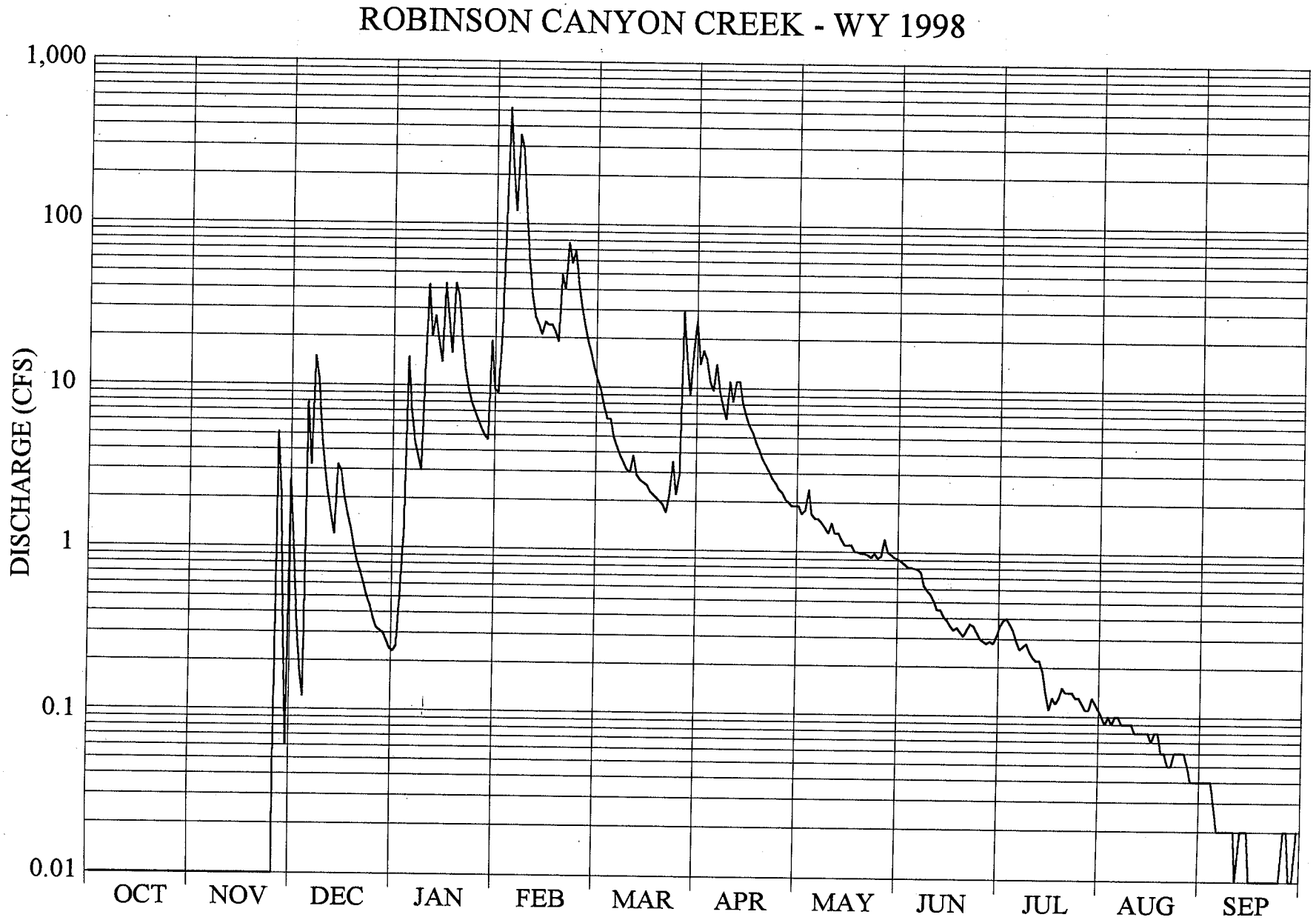

ROBINSON CANYON CREEK - WY 1998
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-35

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.95	.25	20	13	26	1.9	.91	.31	.11	.04
2	0	0	.35	.54	92	11	14	1.9	.89	.36	.10	.04
3	0	0	.18	1.3	523e	9.6	17	1.7	.85	.39	.09	.04
4	0	0	.12	15	219	7.6	15	1.8	.82	.40	.10	.04
5	0	0	7.9	7.1	120	6.4	11	2.4	.81	.37	.09	.03
6	0	0	3.2	4.6	355	6.4	9.7	1.7	.80	.34	.10	.02
7	0	0	15	3.7	289	4.9	14	1.6	.79	.29	.10	.02
8	0	0	11	3.0	130	4.3	9.5	1.6	.76	.26	.09	.02
9	0	0	5.2	13	61e	3.8	7.7	1.5	.63	.27	.09	.02
10	0	0	3.1	42	37	3.4	6.5	1.4	.59	.28	.09	.02
11	0	0	2.1	20	27	3.1	11	1.3	.56	.25	.09	.02
12	0	0	1.6	27	24	3.0	8.3	1.5	.51	.23	.08	.01
13	0	0	1.2	19	21	3.8	11	1.3	.45	.22	.08	.02
14	0	0	3.2	14	25	2.9	11	1.3	.45	.22	.08	.02
15	0	0	2.9	43	24	2.7	8.1	1.2	.41	.19	.08	.02
16	0	0	2.0	26	24	2.6	6.8	1.1	.39	.14	.08	.01
17	0	0	1.6	16	22	2.5	5.9	1.1	.36	.11	.07	.01
18	0	0	1.3	43	19	2.3	5.3	1.1	.34	.13	.08	0
19	0	0	1.0	36	49	2.2	4.7	1.0	.35	.12	.08	.01
20	0	0	.81	20	40	2.1	4.2	1.0	.33	.13	.06	.01
21	0	0	.71	13	77	2.0	3.7	.98	.31	.15	.06	0
22	0	0	.60	9.7	58	1.9	3.4	.98	.34	.14	.05	0
23	0	0	.50	8.0	69	1.7	3.1	.96	.37	.14	.05	0
24	0	0	.44	7.0	44	2.2	2.8	.93	.36	.14	.06	0
25	0	0	.37	6.2	31	3.5	2.6	.98	.33	.13	.06	.01
26	0	5.1	.32	5.5	24	2.2	2.4	.92	.30	.13	.06	.02
27	0	2.2	.31	5.0	19	2.9	2.3	.95	.29	.12	.06	.02
28	0	.37	.30	4.7	16	30	2.1	1.2	.28	.11	.05	.01
29	0	.06	.27	19	------	15	2.0	1.0	.29	.11	.04	.01
30	0	2.6	.24	9.6	------	9.0	1.9	.97	.28	.13	.04	.02
31	0	------	.23	9.2	------	17	------	.93	------	.12	.04	------
TOTAL	0	10.33	69.00	451.39	2,459	185.0	233.0	40.20	15.15	6.43	2.31	0.51
MEAN	0	.34	2.23	14.6	87.8	5.97	7.77	1.30	.51	.21	.075	.017
MAX	0	5.1	15	43	523	30	26	2.4	.91	.40	.11	.04
MIN	0	0	.12	.25	16	1.7	1.9	.92	.28	.11	.04	0
AC-FT	0	20	137	895	4,880	367	462	80	30	13	4.6	1.0

CAL YEAR 1997	TOTAL	667.51	MEAN	1.83	MAX	55	MIN	0	AC-FT	1,320
WTR YEAR 1998	TOTAL	3,472.32	MEAN	9.51	MAX	523	MIN	0	AC-FT	6,890

FIGURE D-36

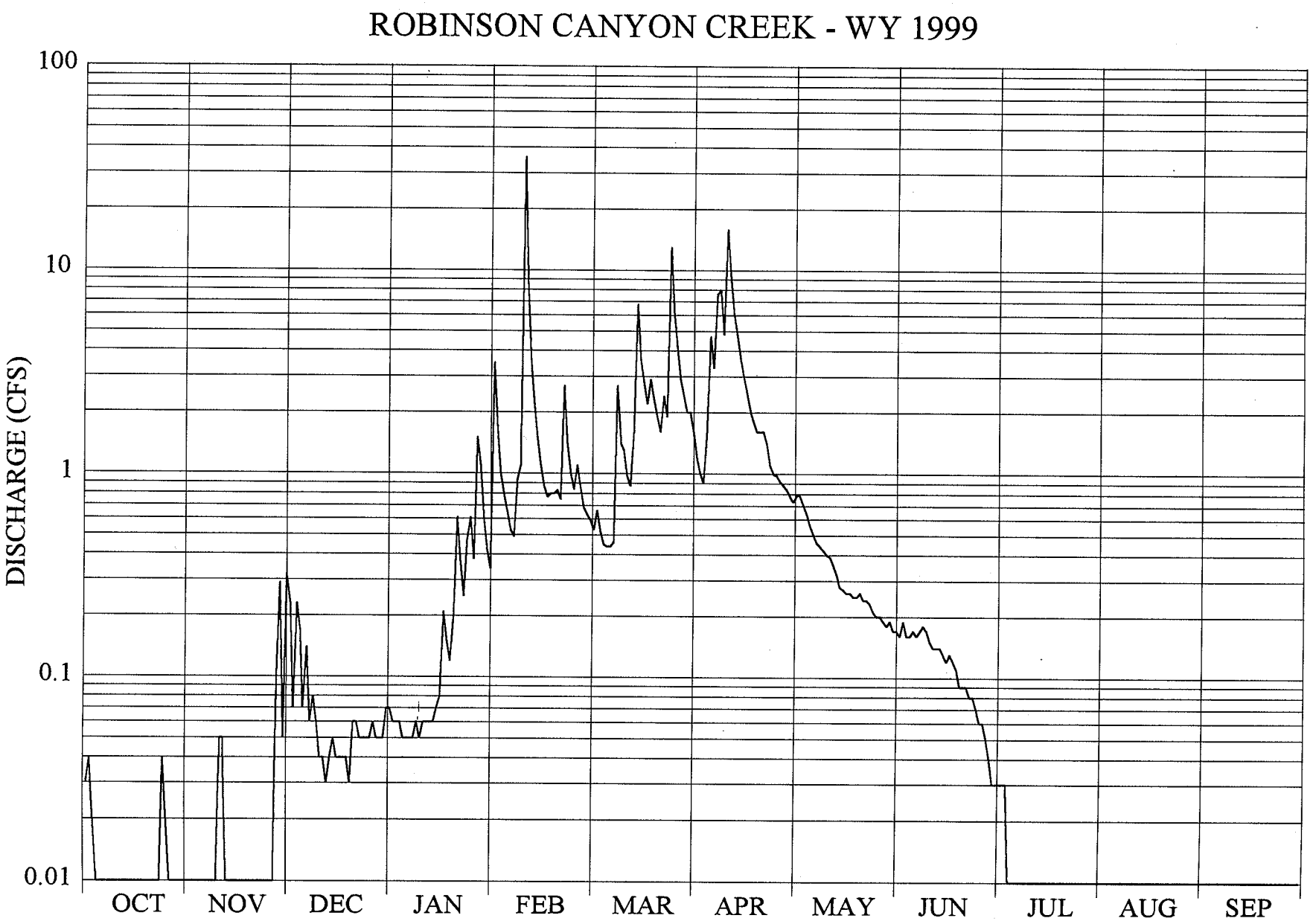

ROBINSON CANYON CREEK - WY 1999
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-36

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.01	.23	.06	1.7	.59	1.6	.73	.17	.03	0	0
2	.04	.01	.07	.06	1.0	.53	1.2	.79	.16	.03	0	0
3	.02	.01	.23	.06	.79	.66	1.0	.78	.19	.03	0	0
4	.01	.01	.17	.05	.65	.52	.90	.70	.16	.03	0	0
5	.01	.01	.07	.05	.53	.45	1.6	.63	.16	.01	0	0
6	0	.01	.14	.05	.49	.44	4.7	.56	.17	.01	0	0
7	0	.01	.06	.05	.94	.44	3.3	.50	.16	.01	0	0
8	0	.01	.08	.06	1.1	.46	7.6	.46	.17	.01	0	0
9	0	.01	.06	.05	36	2.7	8.0	.44	.18	.01	0	0
10	0	.05	.04	.06	8.4	1.4	4.8	.42	.17	.01	0	0
11	0	.05	.04	.06	3.6	1.3	16	.40	.15	.01	0	0
12	0	.01	.03	.06	2.2	.97	9.3	.39	.14	.01	0	0
13	0	.01	.04	.06	1.5	.87	6.1	.36	.14	.01	0	0
14	0	.01	.05	.07	1.1	1.6	4.8	.32	.14	.01	0	0
15	0	.01	.04	.08	.87	6.8	3.7	.28	.13	.01	0	0
16	0	.01	.04	.21	.77	3.6	3.0	.27	.12	.01	0	0
17	0	.01	.04	.15	.80	2.7	2.5	.26	.13	.01	0	0
18	0	.01	.04	.12	.80	2.2	2.0	.26	.12	.01	0	0
19	0	.01	.03	.20	.83	2.9	1.8	.25	.11	.01	0	0
20	0	.01	.06	.61	.75	2.3	1.6	.25	.09	.01	0	0
21	0	.01	.06	.37	2.7	1.9	1.6	.26	.09	.01	0	0
22	0	.01	.05	.25	1.4	1.6	1.6	.24	.09	0	0	0
23	0	.01	.05	.48	1.0	2.4	1.4	.24	.08	0	0	0
24	.04	.01	.05	.61	.84	1.9	1.1	.23	.08	0	0	0
25	.02	.01	.05	.38	1.1	13	.99	.21	.07	0	0	0
26	.01	.01	.06	1.5	.85	6.1	.98	.20	.06	0	0	0
27	.01	.11	.05	1.1	.68	4.2	.92	.20	.06	.01	0	0
28	.01	.29	.05	.60	.63	2.9	.88	.19	.05	.01	0	0
29	.01	.05	.05	.42	------	2.4	.84	.18	.04	0	0	0
30	.01	.32	.07	.34	------	2.0	.77	.19	.03	0	0	0
31	0	------	.07	3.5	------	2.0	------	.17	------	0	0	------
TOTAL	0.22	1.11	2.17	11.72	74.02	73.83	96.58	11.36	3.61	0.31	0	0
MEAN	.007	.037	.070	.38	2.64	2.38	3.22	.37	.12	.010	0	0
MAX	.04	.32	.23	3.5	36	13	16	.79	.19	.03	0	0
MIN	0	.01	.03	.05	.49	.44	.77	.17	.03	0	0	0
AC-FT	.4	2.2	4.3	23	147	146	192	23	7.2	.6	0	0

CAL YEAR 1998	TOTAL	3,396.49	MEAN	9.31	MAX	523	MIN	0	AC-FT	6,740
WTR YEAR 1999	TOTAL	274.93	MEAN	.75	MAX	36	MIN	0	AC-FT	545

FIGURE D-37

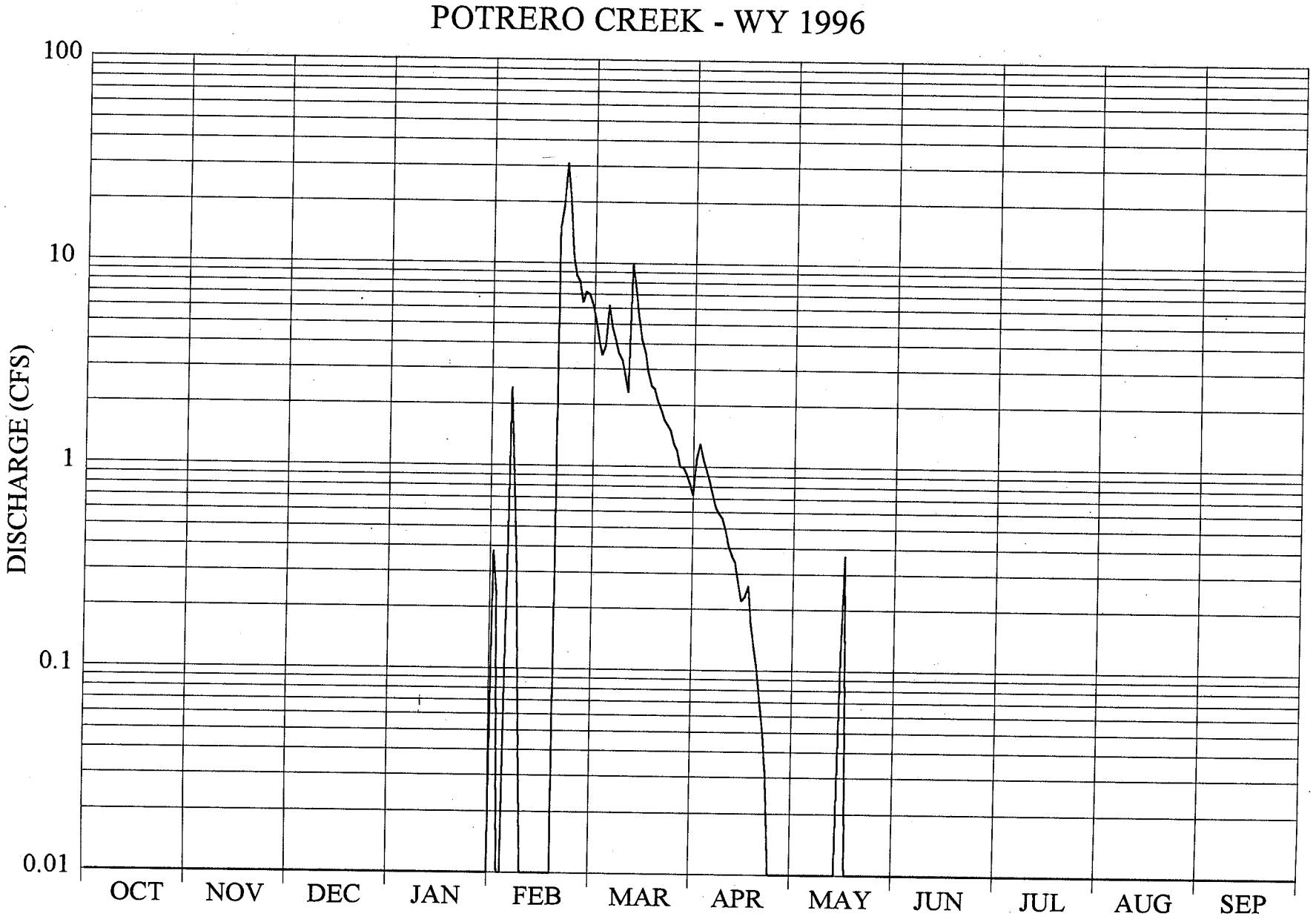

POTRERO CREEK - WY 1996
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-37

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.24	5.3	1.1	0	0	0	0	0
2	0	0	0	0	0	4.2	1.3	0	0	0	0	0
3	0	0	0	0	0	3.5	1.1	0	0	0	0	0
4	0	0	0	0	.18	3.9	.97	0	0	0	0	0
5	0	0	0	0	2.4	6.2	.85	0	0	0	0	0
6	0	0	0	0	.94	4.8	.73	0	0	0	0	0
7	0	0	0	0	.33	4.2	.63	0	0	0	0	0
8	0	0	0	0	.06	3.6	.59	0	0	0	0	0
9	0	0	0	0	0	3.3	.56	0	0	0	0	0
10	0	0	0	0	0	2.8	.49	0	0	0	0	0
11	0	0	0	0	0	2.3	.41	0	0	0	0	0
12	0	0	0	0	0	10	.37	0	0	0	0	0
13	0	0	0	0	0	7.6	.34	0	0	0	0	0
14	0	0	0	0	0	5.4	.27	0	0	0	0	0
15	0	0	0	0	0	4.2	.22	.11	0	0	0	0
16	0	0	0	0	0	3.6	.23	.37	0	0	0	0
17	0	0	0	0	0	2.9	.26	0	0	0	0	0
18	0	0	0	0	0	2.5	.17	0	0	0	0	0
19	0	0	0	0	15	2.4	.13	0	0	0	0	0
20	0	0	0	0	19	2.1	.10	0	0	0	0	0
21	0	0	0	0	31	1.9	.07	0	0	0	0	0
22	0	0	0	0	21	1.7	.05	0	0	0	0	0
23	0	0	0	0	11	1.6	.03	0	0	0	0	0
24	0	0	0	0	8.7	1.5	.01	0	0	0	0	0
25	0	0	0	0	8.1	1.3	.01	0	0	0	0	0
26	0	0	0	0	6.4	1.2	.01	0	0	0	0	0
27	0	0	0	0	7.2	1.0	0	0	0	0	0	0
28	0	0	0	0	7.0	.99	0	0	0	0	0	0
29	0	0	0	0	6.3	.92	0	0	0	0	0	0
30	0	0	0	0	------	.83	0	0	0	0	0	0
31	0	------	0	.38	------	.73	------	0	------	0	0	------
TOTAL	0	0	0	0.38	144.85	98.47	11.00	0.48	0	0	0	0
MEAN	0	0	0	.012	4.99	3.18	.37	.015	0	0	0	0
MAX	0	0	0	.38	31	10	1.3	.37	0	0	0	0
MIN	0	0	0	0	0	.73	0	0	0	0	0	0
AC-FT	0	0	0	.8	287	195	22	1.0	0	0	0	0

CAL YEAR 1995	TOTAL	903.97	MEAN	2.48	MAX	147	MIN	0	AC-FT	1,790
WTR YEAR 1996	TOTAL	255.18	MEAN	.70	MAX	31	MIN	0	AC-FT	506

FIGURE D-38

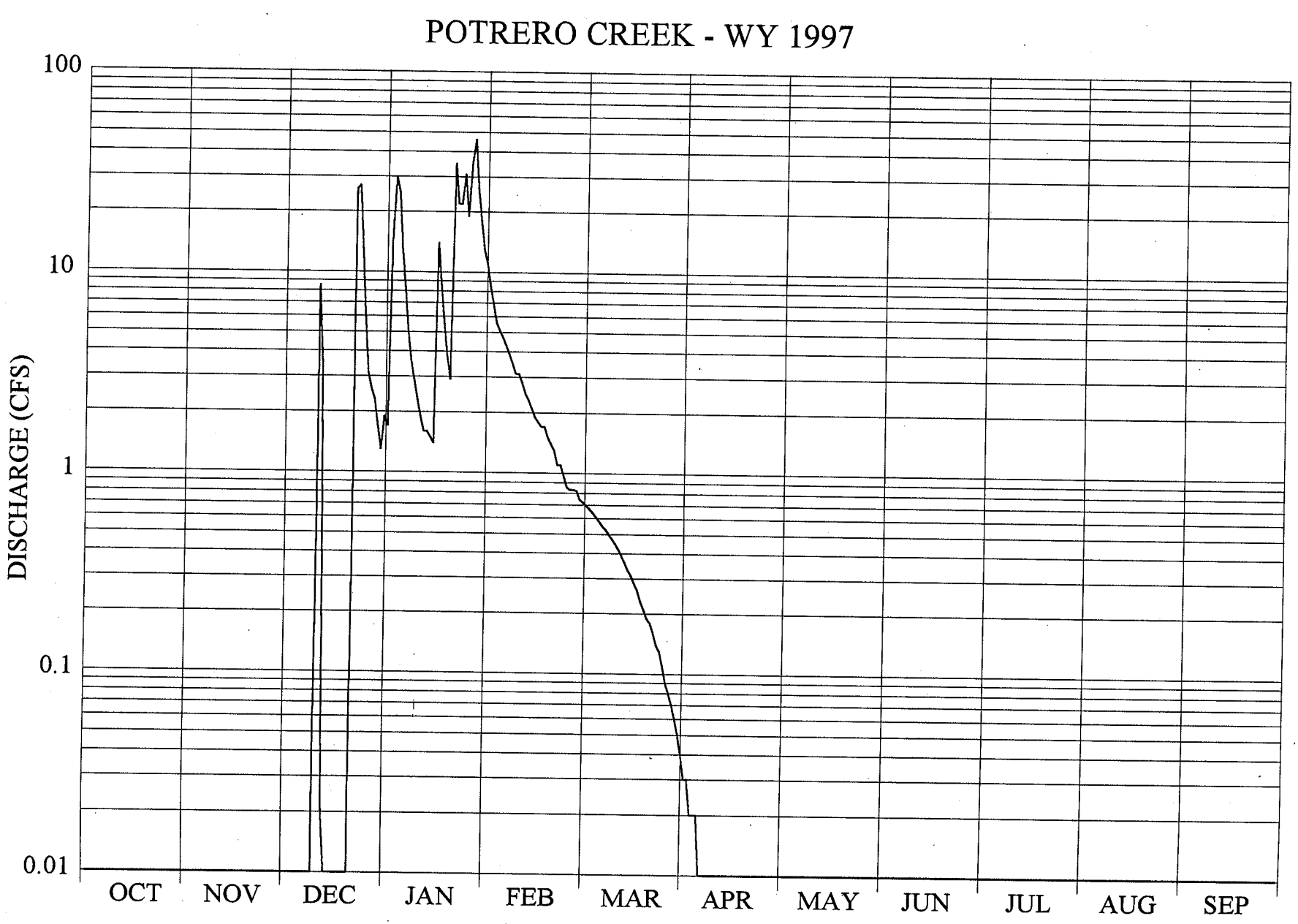

POTRERO CREEK - WY 1997
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-38

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	15	6.9	.72e	.04e	0	0	0	0	0
2	0	0	0	30	5.6	.69e	.03e	0	0	0	0	0
3	0	0	0	25	5.1	.67e	.03e	0	0	0	0	0
4	0	0	0	13	4.7	.64e	.02e	0	0	0	0	0
5	0	0	0	8.4	4.3	.61e	.02e	0	0	0	0	0
6	0	0	0	5.1	3.9	.58e	.02e	0	0	0	0	0
7	0	0	0	3.6	3.5	.55e	.01e	0	0	0	0	0
8	0	0	0	2.9	3.1	.53e	.01e	0	0	0	0	0
9	0	0	0	2.3	3.1	.50e	0 e	0	0	0	0	0
10	0	0	8.6	1.9	2.8	.47e	0 e	0	0	0	0	0
11	0	0	3.6	1.6	2.5	.45e	0	0	0	0	0	0
12	0	0	.02	1.6	2.3	.42e	0	0	0	0	0	0
13	0	0	0	1.5	2.1	.39e	0	0	0	0	0	0
14	0	0	0	1.4	1.9 e	.36e	0	0	0	0	0	0
15	0	0	0	14	1.8 e	.33e	0	0	0	0	0	0
16	0	0	0	8.6	1.7 e	.31e	0	0	0	0	0	0
17	0	0	0	5.5	1.7 e	.28e	0	0	0	0	0	0
18	0	0	0	3.8	1.5 e	.26e	0	0	0	0	0	0
19	0	0	0	2.9	1.4 e	.23e	0	0	0	0	0	0
20	0	0	0	35	1.3 e	.21e	0	0	0	0	0	0
21	0	0	26	22	1.1 e	.19e	0	0	0	0	0	0
22	0	0	27	22	1.1 e	.18e	0	0	0	0	0	0
23	0	0	13	31	.97e	.16e	0	0	0	0	0	0
24	0	0	5.9	19	.85e	.14e	0	0	0	0	0	0
25	0	0	3.1 e	35	.83e	.13e	0	0	0	0	0	0
26	0	0	2.6 e	46	.83e	.11e	0	0	0	0	0	0
27	0	0	2.3	26	.82e	.09e	0	0	0	0	0	0
28	0	0	1.7	18	.74e	.08e	0	0	0	0	0	0
29	0	0	1.3	13	------	.07e	0	0	0	0	0	0
30	0	0	1.9	11	------	.06e	0	0	0	0	0	0
31	0	------	1.7	8.5	------	.05e	------	0	------	0	0	------
TOTAL	0	0	98.72	434.6	68.44	10.46	0.18	0	0	0	0	0
MEAN	0	0	3.18	14.0	2.44	.34	.006	0	0	0	0	0
MAX	0	0	27	46	6.9	.72	.04	0	0	0	0	0
MIN	0	0	0	1.4	.74	.05	0	0	0	0	0	0
AC-FT	0	0	196	862	136	21	.4	0	0	0	0	0

CAL YEAR 1996	TOTAL	353.90	MEAN	.97	MAX	31	MIN	0	AC-FT	702
WTR YEAR 1997	TOTAL	612.40	MEAN	1.68	MAX	46	MIN	0	AC-FT	1,210

FIGURE D-39

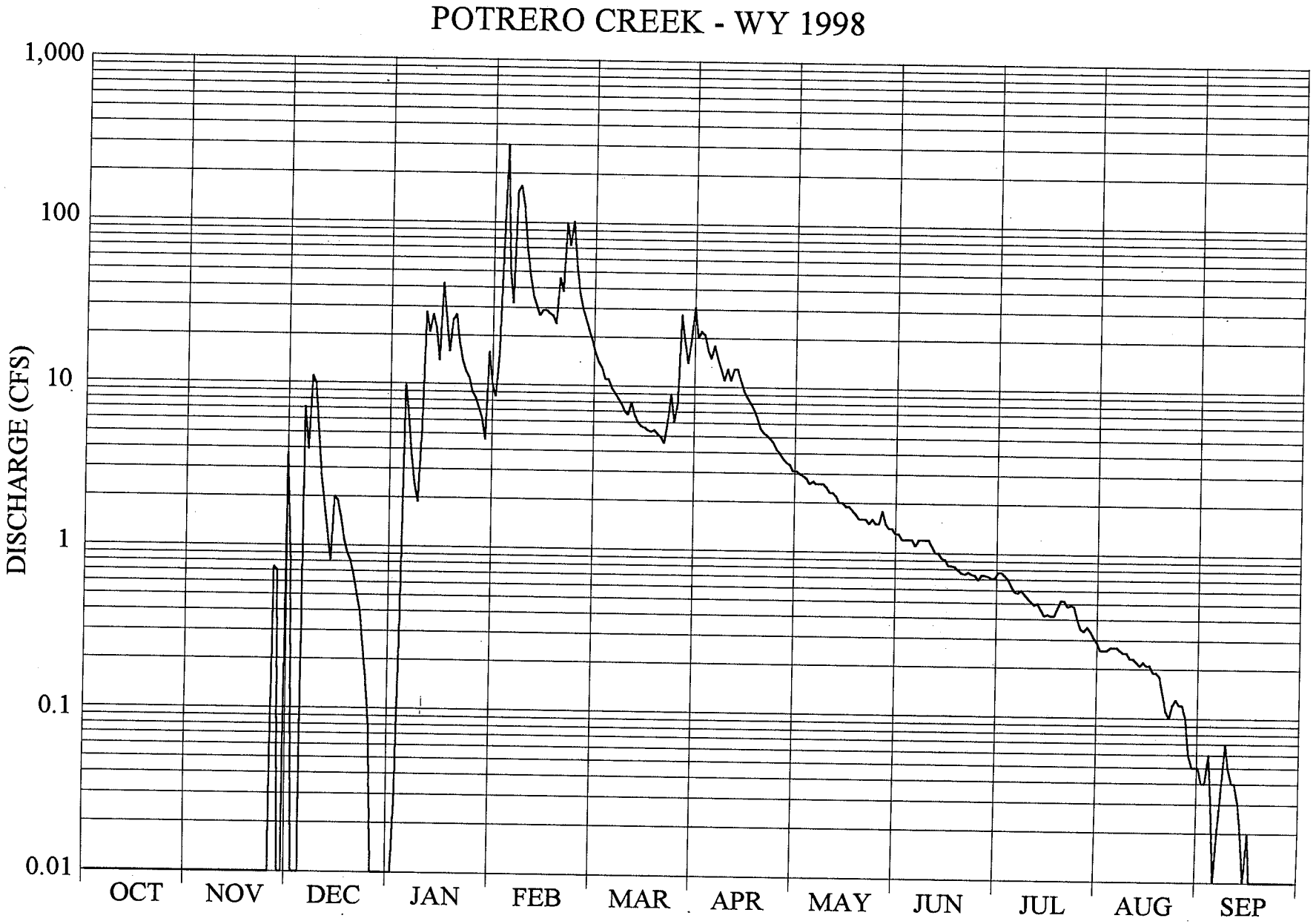

POTRERO CREEK - WY 1998
1,000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-39

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.84	0	15	19	31	3.1e	1.3	.71	.29	.05
2	0	0	0	.03	70	16	20	3.1e	1.3	.77	.26	.04
3	0	0	0	.34	300e	14	22	3.0e	1.2	.77	.26	.04
4	0	0	0	10	51	13	21	2.9e	1.2	.74	.26	.06
5	0	0	7.1	6.4	32	11	17	2.8e	1.2	.70	.27	.03
6	0	0	3.9	3.6	156	11	15	2.6e	1.2	.64	.27	.01
7	0	0	11	2.4	168	9.8	18	2.7e	1.1	.59	.27	.02
8	0	0	9.9	1.9	125	9.1	15	2.6e	1.2	.58	.26	.04
9	0	0	5.1	5.1	70	8.4	13	2.6e	1.2	.60	.25	.07
10	0	0	2.7	28	48	7.7	11	2.6e	1.2	.57	.25	.05
11	0	0	1.8	21	36	7.0	13	2.5e	1.2	.54	.23	.04
12	0	0	1.2	27	31	6.7	11	2.3e	1.1	.51	.23	.04
13	0	0	.82	22	27	8.0	13	2.3e	1.0	.49	.22	.03
14	0	0	2.0	14	29	6.7	13	2.2e	1.0	.50	.21	.02
15	0	0	1.9	42	29	6.0	11	2.0	.93	.46	.22	.01
16	0	0	1.5	26	28	5.7	9.6	2.0	.92	.42	.21	.02
17	0	0	1.1	16	27	5.6	8.7	1.9	.84	.43	.21	.01
18	0	0	.91	25	24	5.4	8.0	1.9	.84	.42	.19	0
19	0	0	.81	27	46	5.3	7.4	1.8	.83	.42	.19	.01
20	0	0	.67	18	38	5.4	6.6	1.7	.79	.47	.18	0
21	0	0	.51	14	100	5.1	5.7e	1.6	.76	.52	.14	0
22	0	0	.40	12	73	4.9	5.3e	1.6	.75	.52	.11	0
23	0	0	.24	11	103	4.5	5.1e	1.6	.77	.48	.10	0
24	0	0	.15	9.0	57	6.0e	4.9e	1.5	.75	.49	.12	0
25	0	0	.08	8.3	38	9.0e	4.6e	1.6	.74	.48	.13	0
26	0	.74	.01	7.2	30	6.0e	4.2e	1.5	.69	.40	.12	.01
27	0	.70	0	6.2	26	8.0e	4.0e	1.5	.74	.35	.12	.01
28	0	0	0	4.6	22	28	3.7e	1.8	.74	.34	.10	0
29	0	0	0	16	------	19	3.5e	1.5	.73	.36	.06	0
30	0	3.7	0	10	------	14	3.4e	1.4	.71	.34	.05	.01
31	0	------	0	8.5	------	20	------	1.4	------	.31	.05	------
TOTAL	0	5.14	54.64	402.57	1,799	305.3	328.7	65.6	28.93	15.92	5.83	0.62
MEAN	0	.17	1.76	13.0	64.3	9.85	11.0	2.12	.96	.51	.19	.021
MAX	0	3.7	11	42	300	28	31	3.1	1.3	.77	.29	.07
MIN	0	0	0	0	15	4.5	3.4	1.4	.69	.31	.05	0
AC-FT	0	10	108	798	3,570	606	652	130	57	32	12	1.2

CAL YEAR 1997	TOTAL	573.46	MEAN	1.57	MAX	46	MIN	0	AC-FT	1,140
WTR YEAR 1998	TOTAL	3,012.25	MEAN	8.25	MAX	300	MIN	0	AC-FT	5,970

FIGURE D-40

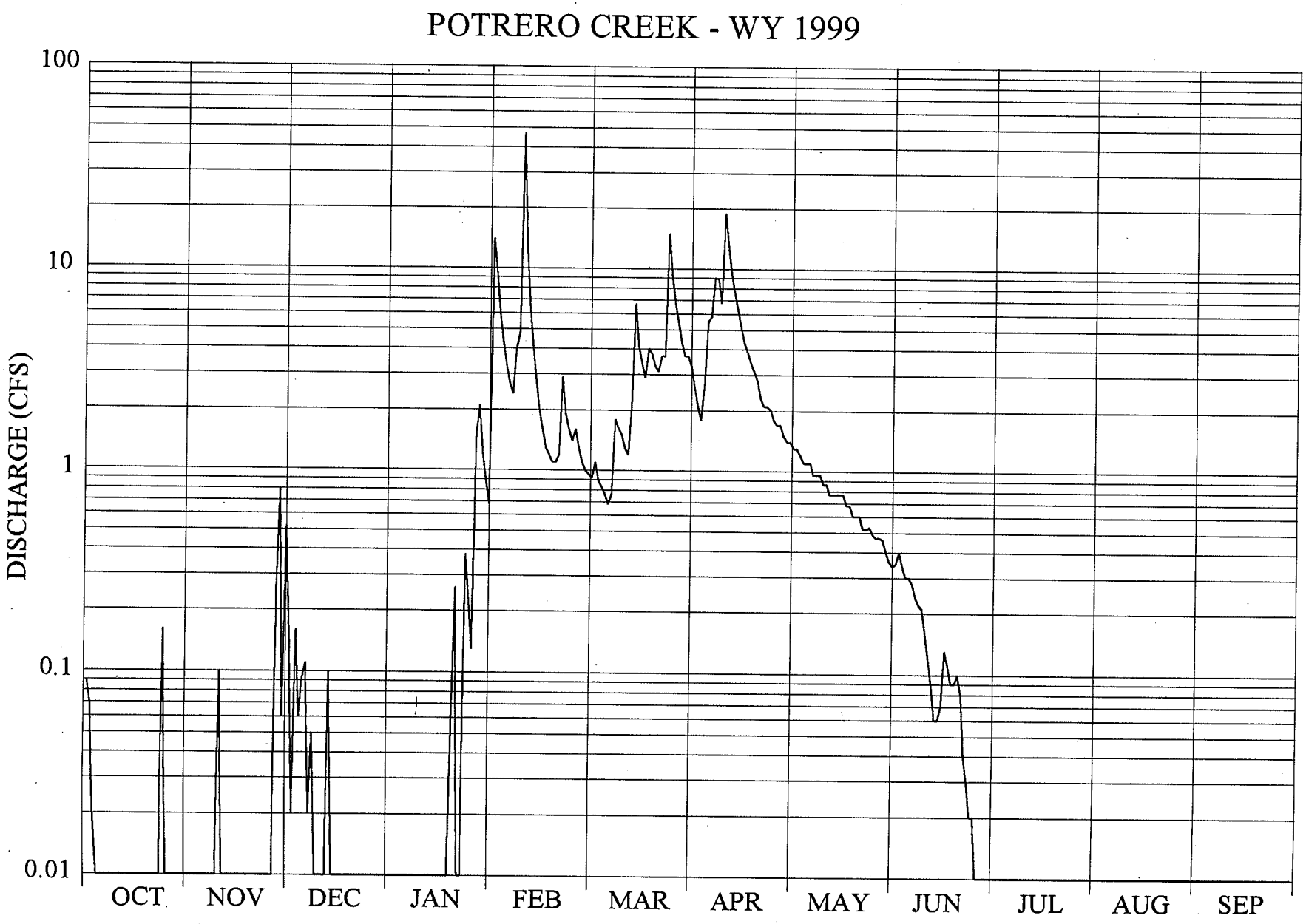

POTRERO CREEK - WY 1999
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-40

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	0	.14	0	9.5	.96	3.3e	1.4 e	.34	0	0	0
2	.07	0	.02	0	5.9	.92	2.6e	1.3 e	.35	0	0	0
3	.02	0	.16	0	4.3	1.1	2.1e	1.3 e	.40	0	0	0
4	.01	0	.06	0	3.3	.89	1.8e	1.2 e	.34	0	0	0
5	.01	0	.09	0	2.7	.83	2.7e	1.1 e	.30	0	0	0
6	0	0	.11	0	2.4	.76	5.5	1.1 e	.30	0	0	0
7	0	0	.02	0	4.0	.68	5.8	1.1 e	.28	0	0	0
8	0	0	.05	0	4.8	.76	9.0	.96e	.24	0	0	0
9	0	0	.01	0	47	1.8	8.9	.96e	.22	0	0	0
10	0	.10	.01	0	13	1.6	6.8	.96e	.21	0	0	0
11	0	.01	0	0	6.5	1.5	19	.86e	.16	0	0	0
12	0	0	0	0	4.1	1.3	13	.86e	.12	0	0	0
13	0	0	.10	0	2.8	1.2	9.3	.77e	.09	0	0	0
14	0	0	.01	0	2.0	2.2	7.5	.77e	.06	0	0	0
15	0	0	0	0	1.6	6.7	6.2	.77e	.06	0	0	0
16	0	0	0	0	1.3	4.1	5.1	.77e	.07	0	0	0
17	0	0	0	0	1.2	3.3	4.3	.77e	.13	0	0	0
18	0	0	0	0	1.1	2.9	3.8	.68e	.11	0	0	0
19	0	0	0	.05	1.1	4.0	3.4	.68e	.09	0	0	0
20	0	0	0	.26	1.2	3.8	3.1	.60e	.09	0	0	0
21	0	0	0	.01	2.9	3.3	2.8	.60e	.10	0	0	0
22	0	0	0	0	1.9	3.1	2.3	.60e	.08	0	0	0
23	0	0	0	.38	1.6	3.7	2.1e	.52e	.04	0	0	0
24	.16	0	0	.23	1.4	3.7	2.1e	.52e	.03	0	0	0
25	0	0	0	.13	1.6	15	2.0e	.53	.02	0	0	0
26	0	0	0	1.5	1.3	9.2	1.8e	.49	.02	0	0	0
27	0	.27	0	2.1	1.1	6.7	1.7e	.47	.01	0	0	0
28	0	.80	0	1.2	1.0	5.4	1.7e	.47	0	0	0	0
29	0	.06	0	.88	------	4.3	1.5e	.46	0	0	0	0
30	0	.52	0	.68	------	3.7 e	1.4e	.40	.01	0	0	0
31	0	------	0	14	------	3.7 e	------	.36	------	0	0	------
TOTAL	0.36	1.76	0.78	21.42	132.6	103.10	142.6	24.33	4.27	0	0	0
MEAN	.012	.059	.025	.69	4.74	3.33	4.75	.78	.14	0	0	0
MAX	.16	.80	.16	14	47	15	19	1.4	.40	0	0	0
MIN	0	0	0	0	1.0	.68	1.4	.36	0	0	0	0
AC-FT	.7	3.5	1.5	42	263	204	283	48	8.5	0	0	0

CAL YEAR 1998	TOTAL	2,955.37	MEAN	8.10	MAX	300	MIN	0	AC-FT	5,860
WTR YEAR 1999	TOTAL	431.22	MEAN	1.18	MAX	47	MIN	0	AC-FT	855

FIGURE D-41

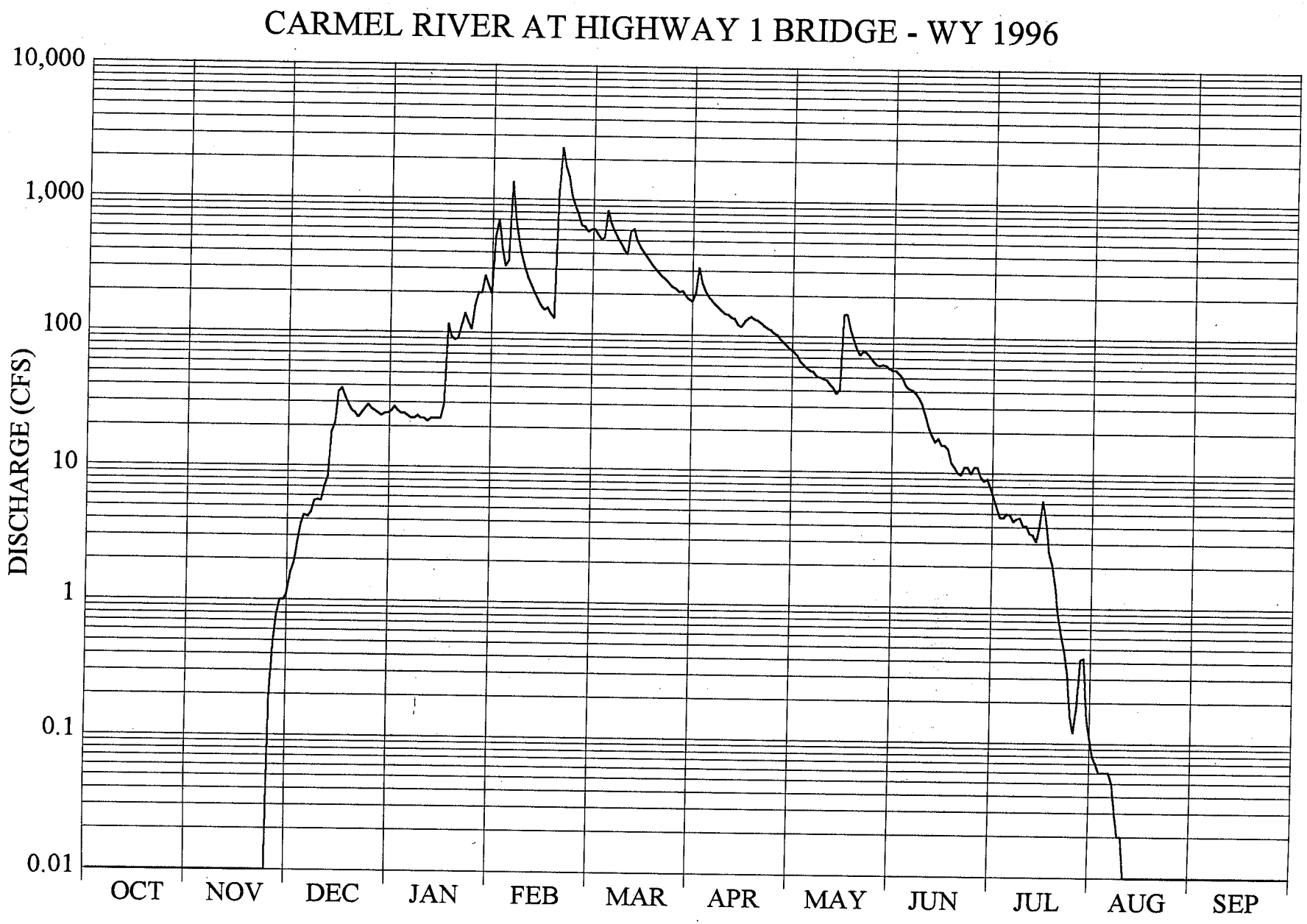

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 1996
DISCHARGE (CFS)
10,000
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-41

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1995 TO SEP 1996

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	1.6	28	705	608	206	77	57	6.6	.08	0
2	0	0	1.9	26	433	557	318	73	54	5.5	.07	0
3	0	0	2.7	25	316	509	244	65	50	4.7	.06	0
4	0	0	3.7	25	348	524	213	62	44	4.7	.06	0
5	0	0	4.3	24	1,350	834	194	59	42	5.0	.06	0
6	0	0	4.2	23	734	673	181	56	41	4.9	.06	0
7	0	0	4.5	23	496	590	170	55	39	4.4	.05	0
8	0	0	5.5	24	378	525	162	51	36	4.6	.03	0
9	0	0	5.6	23	305	473	153	50	32	4.7	.02	0
10	0	0	5.5	23	258	429	146	49	27	4.1	.02	0
11	0	0	7.1	22	226	396	143	48	22	4.1	.01	0
12	0	0	8.4	23	200	591	137	45	19	3.6	.01	0
13	0	0	18	23	180	615	133	42	17	3.5	0	0
14	0	0	21	23	160	502	121	38	18	3.1	0	0
15	0	0	36	23	150	446	117	41	16	4.1	0	0
16	0	0	38	30	155	411	128	147	16	6.3	0	0
17	0	0	33	116	140	380	135	147	15	4.5	0	0
18	0	0	29	93	131	351	139	114	12	2.6	0	0
19	0	0	26	89	1,090	324	133	96	11	2.1	0	0
20	0	0	25	91	2,460	303	130	82	10	1.5	0	0
21	0	0	23	113	1,800	285	125	74	9.7	.89	0	0
22	0	0	25	140	1,490	268	119	79	11	.65	0	0
23	0	0 e	27	121	1,070	256	114	77	11	.49	0	0
24	0	0 e	29	106	899	240	111	72	9.9	.34	0	0
25	0	.20e	27	159	779	227	105	67	11	.16	0	0
26	0	.50e	26	200	647	219	102	63	11	.12	0	0
27	0	.80e	25	198	635	210	95	62	9.4	.19	0	0
28	0	1.0 e	24	267	581	212	90	63	8.7	.42	0	0
29	0	1.0 e	25	226	603	197	84	62	9.1	.43	0	0
30	0	1.1	25	195	------	185	81	59	7.8	.16	0	0
31	0	------	26	529	------	178	------	57	------	.11	0	------
TOTAL	0	4.60	563.0	3,031	18,719	12,518	4,329	2,132	676.6	88.56	0.53	0
MEAN	0	.15	18.2	97.8	645	404	144	68.8	22.6	2.86	.017	0
MAX	0	1.1	38	529	2,460	834	318	147	57	6.6	.08	0
MIN	0	0	1.6	22	131	178	81	38	7.8	.11	0	0
AC-FT	0	9.1	1,120	6,010	37,130	24,830	8,590	4,230	1,340	176	1.1	0

CAL YEAR 1995	TOTAL	91,062.40	MEAN	249	MAX	7,960	MIN	0	AC-FT	180,600
WTR YEAR 1996	TOTAL	42,062.29	MEAN	115	MAX	2,460	MIN	0	AC-FT	83,430

FIGURE D-42

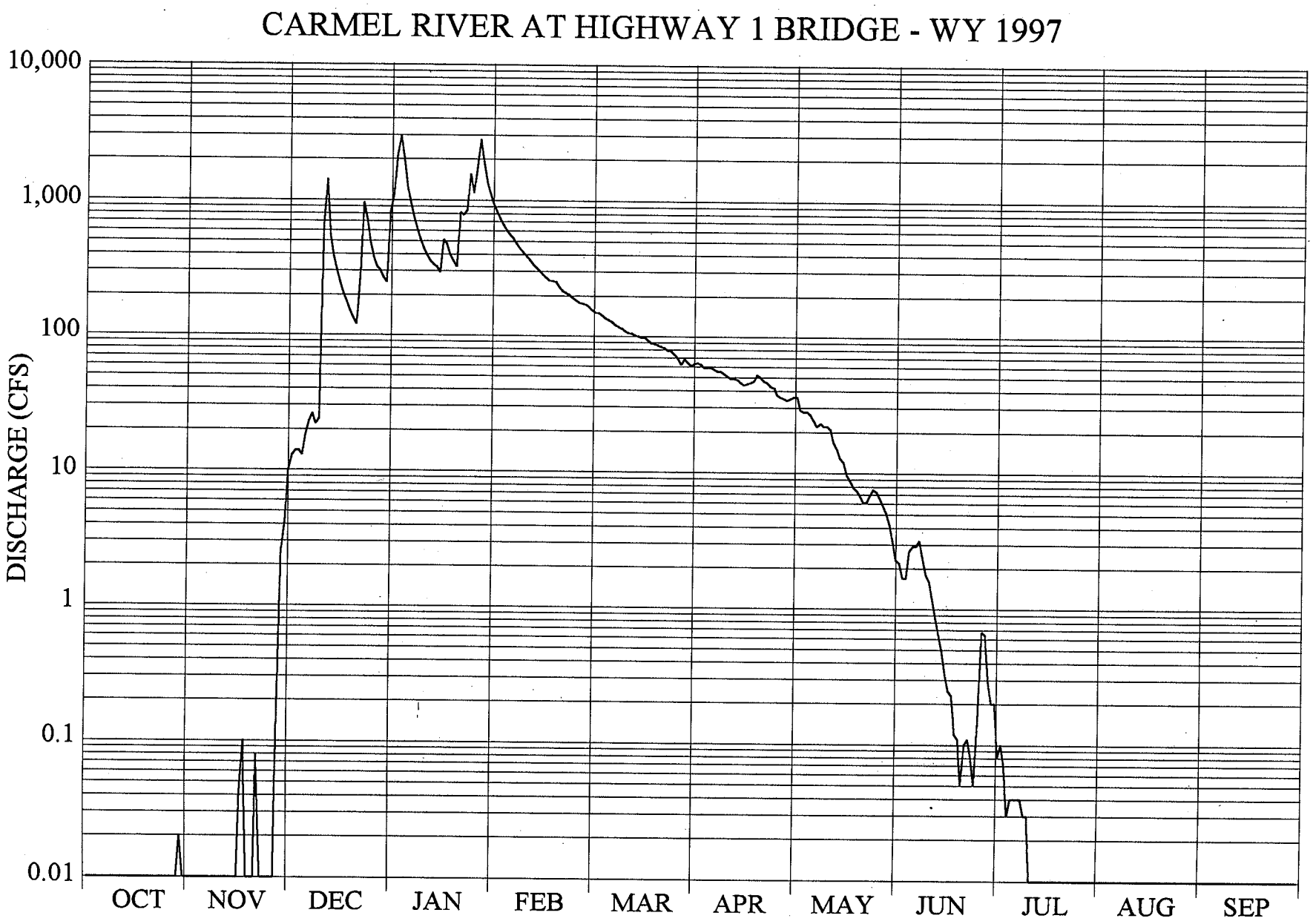

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 1997
DISCHARGE (CFS)
10,000
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-42

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1996 TO SEP 1997

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	13	2,150	737	156	63	36	2.3	.20	0	0
2	0	0	14	2,960	664	151	64	36	2.2	.08	0	0
3	0	0	14	2,060	605	149	62	29	1.7	.10	0	0
4	0	0	13	1,270	563	143	59	28	1.7	.07	0	0
5	0	0	18	978	525	137	59	28	2.7	.03	0	0
6	0	0	23	761	483	132	59	27	2.9	.04	0	0
7	0	0	26	625	445	128	57	24	2.9	.04	0	0
8	0	0	22	523	415	122	55	22	3.2	.04	0	0
9	0	0	24	447	389	118	55	23	2.4	.04	0	0
10	0	0	692	395	365	114	53	22	1.8	.03	0	0
11	0	0	1,420	360	341	110	51	22	1.6	.03	0	0
12	0	0	554	337	321	106	49	21	1.2	.01	0	0
13	0	0	385	324	304	105	49	17	.86	0	0	0
14	0	0	302	294	284	102	48	15	.65	0	0	0
15	0	0	246	512	271	100	46	13	.49	0	0	0
16	0	.04	205	479	258	98	44	12	.33	0	0	0
17	0	.10	178	397	256	98	45	9.7	.25	0	0	0
18	0	0	153	356	252	93	46	8.8	.23	0	0	0
19	0	0	134	325	230	89	47	7.9	.12	0	0	0
20	0	0	121	819	216	88	52	7.5	.11	0	0	0
21	0	.08	262	789	210	86	50	6.9	.05	0	0	0
22	0	0	965	853	202	84	47	6.1	.10	0	0	0
23	0	0	727	1,560	194	82	46	6.1	.11	0	0	0
24	0	0	497	1,140	186	79	43	6.9	.08	0	0	0
25	0	0	383	1,740	179	78	42	7.6	.05	0	0	0
26	0	0	323	2,810	175	74	37	7.3	.17	0	0	0
27	0	.21	304	1,920	172	69	36	6.6	.68	0	0	0
28	0	2.5	269	1,370	166	62	35	5.8	.65	0	0	0
29	.02	4.4	248	1,120	------	68	34	5.1	.29	0	0	0
30	0	10	833	949	------	64	35	4.2	.20	0	0	0
31	0	------	1,110	833	------	61	------	3.1	------	0	0	------
TOTAL	0.02	17.33	10,478	31,456	9,408	3,146	1,468	474.6	32.02	0.71	0	0
MEAN	.001	.58	338	1,015	336	101	48.9	15.3	1.07	.023	0	0
MAX	.02	10	1,420	2,960	737	156	64	36	3.2	.20	0	0
MIN	0	0	13	294	166	61	34	3.1	.05	0	0	0
AC-FT	.04	34	20,780	62,390	18,660	6,240	2,910	941	64	1.4	0	0

CAL YEAR 1996	TOTAL	51,990.04	MEAN	142	MAX	2,640	MIN	0	AC-FT	103,100
WTR YEAR 1997	TOTAL	56,480.68	MEAN	155	MAX	2,960	MIN	0	AC-FT	112,000

FIGURE D-43

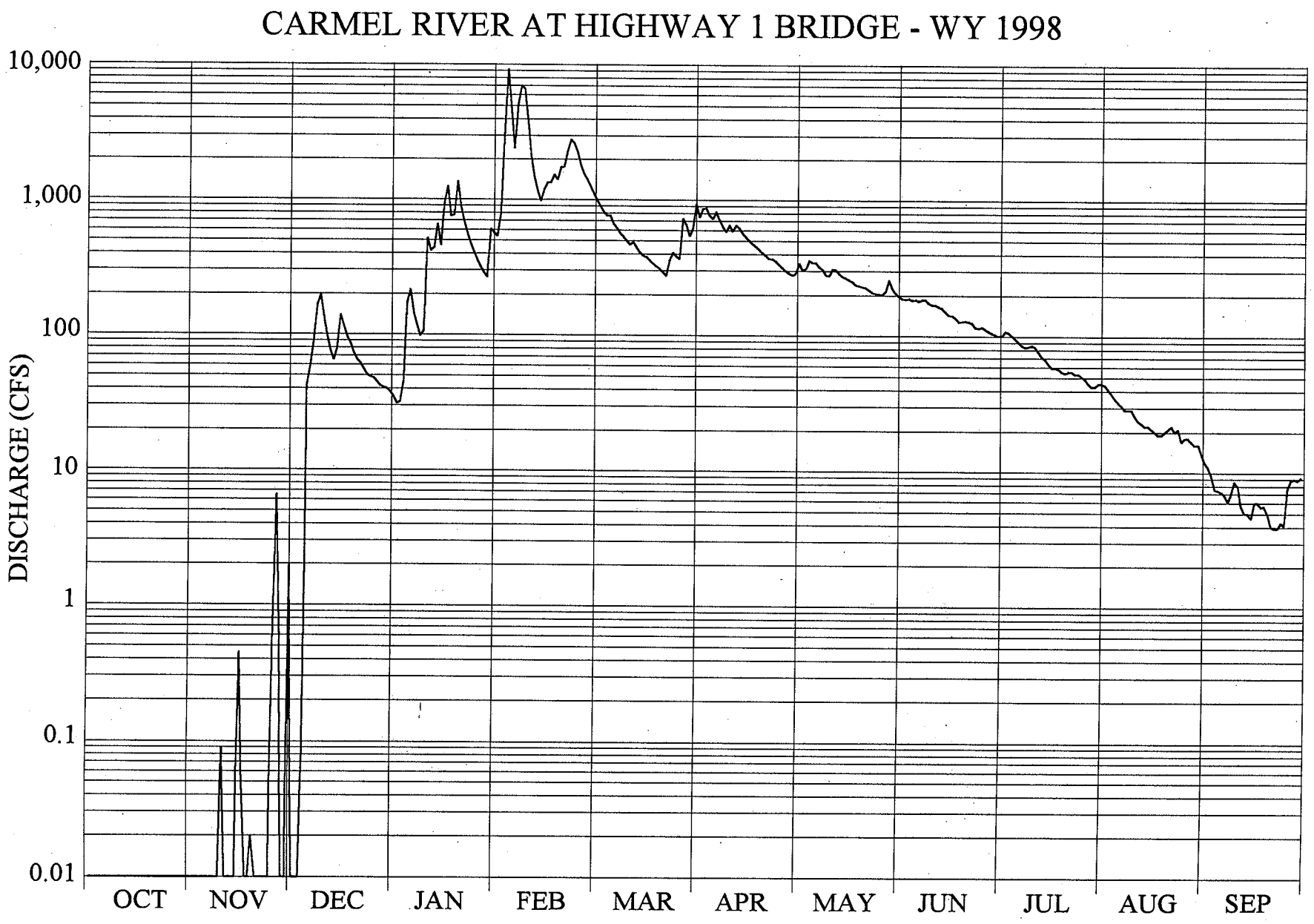

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 1998
DISCHARGE (CFS)
10,000
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-43

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1997 TO SEP 1998

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	31	789	1,110	938	288	196	101	45	12
2	0	0	0	32	3,180	996	749	344	188	101	44	11
3	0	0	0	45	9,260	907	870	306	187	109	41	9.6
4	0	0	.08	172	4,850	819	874	314	188	106	38	7.5
5	0	0	42	215	2,430	767	770	361	184	101	35	7.4
6	0	0	61	146	5,060	767	735	348	185	96	33	7.2
7	0	0	92	118	7,010	669	820	345	181	91	31	6.9
8	0	0	165	99	6,710	623	713	323	185	86	29	6.1
9	.01	0	197	107	3,980	569	636	309	185	83	29	7.0
10	0	.09	136	516	2,160	532	583	280	176	85	29	8.6
11	0	0	99	420	1,490	500	655	278	170	86	26	7.9
12	0	0	77	443	1,170	471	589	312	170	83	24	5.8
13	0	0	65	660	978	490	656	308	164	77	23	5.0
14	0	0	80	460	1,200	447	625	287	161	71	22	5.0
15	0	.45	140	949	1,340	410	571	275	152	68	22	4.6
16	0	.07	116	1,260	1,340	391	533	267	143	63	21	6.0
17	0	0	97	754	1,540	376	504	259	142	59	20	6.0
18	0	0	87	778	1,410	360	474	249	137	59	19	5.6
19	0	.02	74	1,360	1,740	340	455	238	128	58	19	5.7
20	0	0	66	892	1,770	323	434	234	129	55	20	4.9
21	0	0	62	692	2,300	312	411	230	130	54	21	4.0
22	0	0	56	564	2,820	294	390	226	128	55	22	3.9
23	0	0	51	473	2,640	275	373	218	125	55	20	3.9
24	0	0	49	409	2,290	359	369	209	116	53	21	4.3
25	0	.60	48	360	1,830	410	353	207	115	53	17	4.1
26	0	6.6	45	318	1,570	385	334	204	117	51	18	7.7
27	0	.62	42	289	1,420	368	319	202	112	49	18	8.8
28	0	0	41	267	1,260	736	302	215	109	45	17	9.0
29	0	0	40	607	------	662	290	259	105	43	16	8.8
30	0	2.0	38	568	------	544	280	223	103	43	16	9.2
31	0	------	35	538	------	625	------	207	------	45	14	------
TOTAL	0.01	10.45	2,101.08	14,542	75,537	16,837	16,605	8,325	4,511	2,184	770	203.5
MEAN	0	.35	67.8	469	2,698	543	554	269	150	70.5	24.8	6.78
MAX	.01	6.6	197	1,360	9,260	1,110	938	361	196	109	45	12
MIN	0	0	0	31	789	275	280	202	103	43	14	3.9
AC-FT	.02	21	4,170	28,840	149,800	33,400	32,940	16,510	8,950	4,330	1,530	404

CAL YEAR 1997	TOTAL	48,096.87	MEAN	132	MAX	2,960	MIN	0	AC-FT	95,400
WTR YEAR 1998	TOTAL	141,626.04	MEAN	388	MAX	9,260	MIN	0	AC-FT	280,900

FIGURE D-44

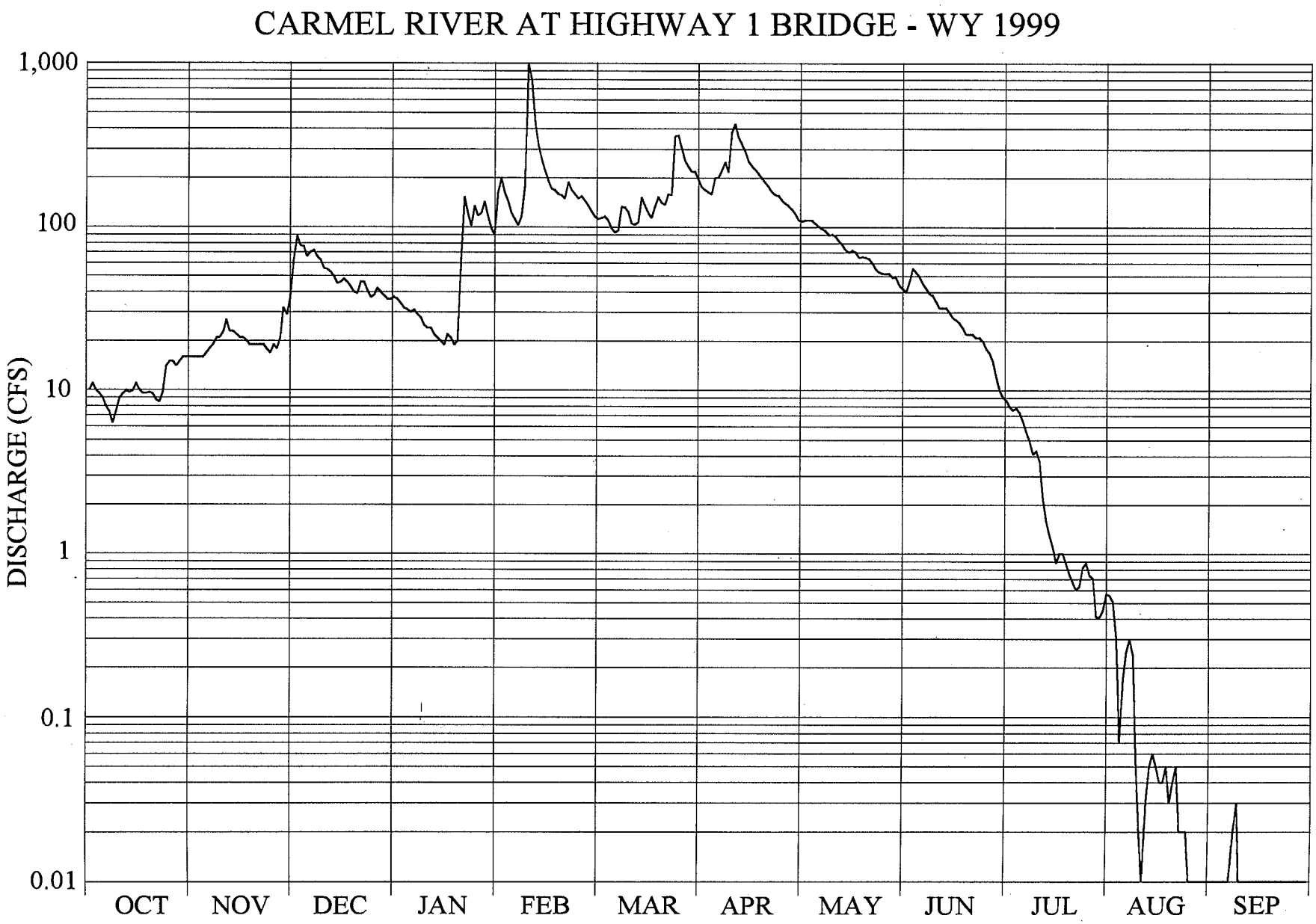

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 1999
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-44

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	16	64	36	199	116	197	111	42	9.1	.57	0
2	11	16	88	34	163	112	177	109	40	8.7	.56	0
3	10	16	77	32	144	114	170	110	46	8.0	.51	0
4	9.6	16	76	31	123	116	164	111	56	7.6	.31	0
5	9.0	17	66	30	112	110	160	110	53	7.8	.07	0
6	8.0	18	70	31	103	99	200	106	50	7.3	.17	0
7	7.4	19	72	29	116	93	202	101	45	6.5	.25	0
8	6.3	21	66	28	178	96	222	98	42	5.6	.30	.02
9	7.4	21	63	25	998	134	251	95	39	4.9	.24	.03
10	8.9	23	56	24	795	131	217	90	38	4.1	.05	0
11	9.5	27	55	24	444	124	383	91	35	4.3	.02	0
12	9.9	23	53	22	321	106	429	88	32	3.7	.01	0
13	9.7	23	50	21	261	104	355	83	32	2.2	.03	0
14	9.9	22	45	20	222	108	323	78	32	1.6	.05	0
15	11	21	46	19	193	152	293	73	30	1.3	.06	0
16	10	21	48	22	172	136	254	70	28	1.1	.05	0
17	9.6	20	46	21	168	121	237	72	27	.88	.04	0
18	9.6	19	43	19	160	115	225	70	26	1.0	.04	0
19	9.7	19	40	20	157	134	213	65	24	1.0	.05	0
20	9.5	19	39	65	150	153	201	66	22	.87	.03	0
21	8.7	19	46	153	189	141	189	65	22	.75	.04	0
22	8.5	19	46	122	170	138	178	64	22	.67	.05	0
23	9.8	18	41	102	160	160	165	60	21	.60	.02	0
24	14	17	37	135	150	158	159	55	21	.64	.02	0
25	15	19	38	118	154	362	155	53	20	.83	.02	0
26	15	18	42	122	145	365	147	52	18	.88	.01	0
27	14	21	40	143	136	305	140	52	17	.74	0	0
28	15	32	38	117	125	255	136	52	15	.71	0	0
29	16	29	36	99	------	235	130	49	12	.41	0	0
30	16	36	36	90	------	219	120	49	10	.41	0	0
31	16	------	37	164	------	219	------	44	------	.45	0	------
TOTAL	334.0	625	1,600	1,918	6,408	4,931	6,392	2,392	91Z	94.64	3.57	0.05
MEAN	10.8	20.8	51.6	61.9	229	159	213	77.2	30.6	3.05	.12	.002
MAX	16	36	88	164	998	365	429	111	56	9.1	.57	.03
MIN	6.3	16	36	19	103	93	120	44	10	.41	0	0
AC-FT	662	1,240	3,170	3,800	12,710	9,780	12,680	4,740	1,820	188	7.1	.1

CAL YEAR 1998	TOTAL	142,073.50	MEAN	389	MAX	9,260	MIN	3.9	AC-FT	281,800
WTR YEAR 1999	TOTAL	25,615.26	MEAN	70.2	MAX	998	MIN	0	AC-FT	50,810

FIGURE D-45

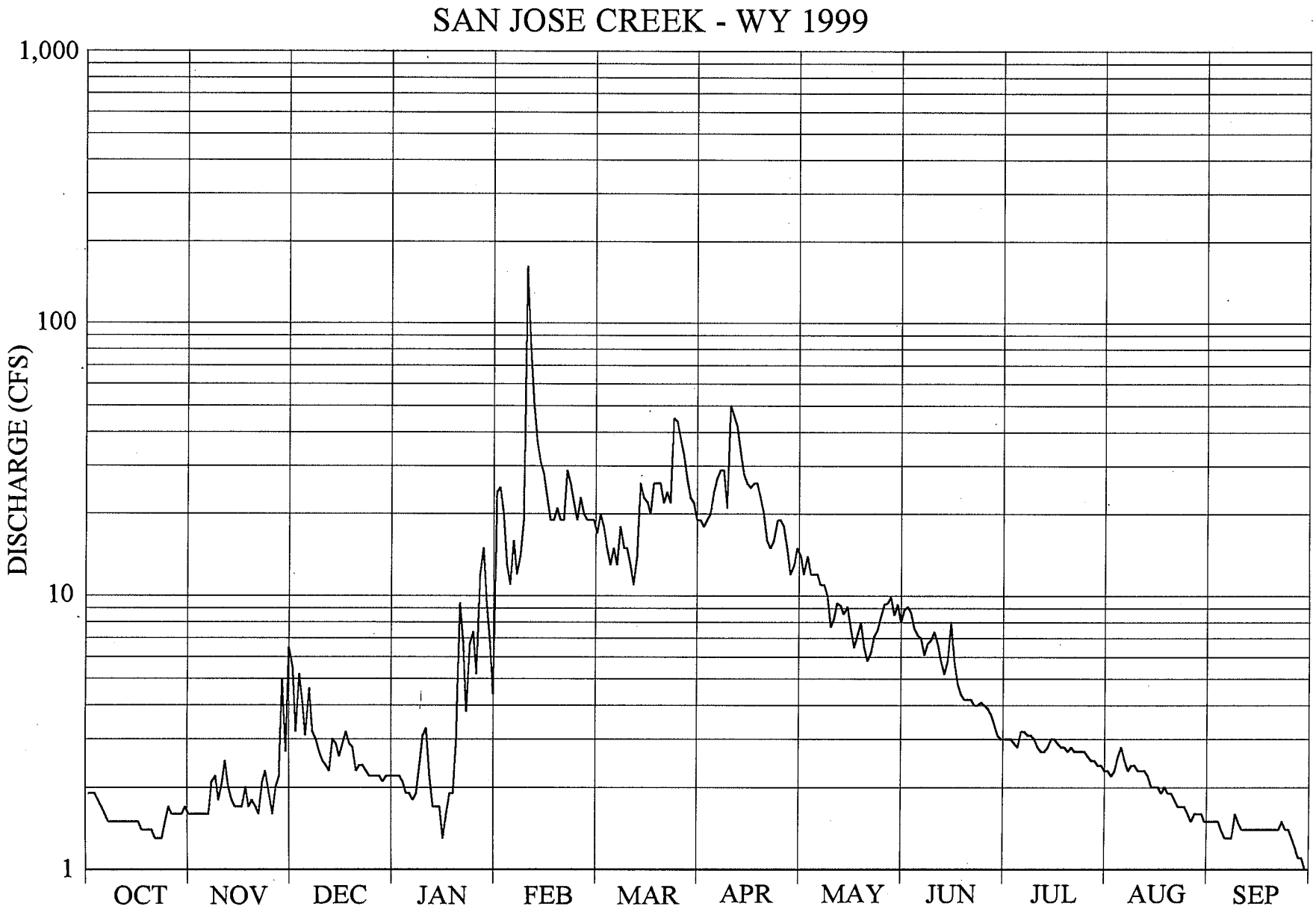

SAN JOSE CREEK - WY 1999
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-45

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN JOSE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1998 TO SEP 1999

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9e	1.6e	5.5	2.2	25	19	19	15	8.0	3.0	2.3	1.5
2	1.9e	1.6e	3.2	2.2	20	17	19	14	8.9	3.0	2.3	1.5
3	1.9e	1.6e	5.2	2.1	13	20	18	12	9.1	3.0	2.2	1.5
4	1.8e	1.6e	4.1	1.9	11	18	19	14	8.7	3.0	2.3	1.5
5	1.7e	1.6e	3.1	1.9	16	15	20	12	7.6	2.9	2.6	1.4
6	1.6e	1.6e	4.6	1.8	12	13	24	12	7.2	2.8	2.8	1.3
7	1.5e	2.1e	3.2	1.9	14	15	27	12	7.0	3.2	2.5	1.3
8	1.5e	2.2e	3.0	2.4	19	13	29	11	6.1	3.2	2.3	1.3
9	1.5e	1.8e	2.7	3.1	162	18	29	11	6.7	3.1	2.4	1.6
10	1.5e	2.1e	2.5	3.3	83	15	21	10	6.9	3.1	2.4	1.5
11	1.5e	2.5e	2.4	2.2	51	15	50	7.7	7.4	3.0	2.3	1.4
12	1.5e	2.0e	2.3	1.7	37	13	46	8.3	6.7	2.8	2.3	1.4
13	1.5e	1.8e	3.0	1.7	31	11	42	9.4	5.8	2.7	2.3	1.4
14	1.5e	1.7e	2.9	1.7	28	14	34	9.2	5.2	2.7	2.2	1.4
15	1.5e	1.7e	2.6	1.3	23	26	28	8.6	5.8	2.8	2.0	1.4
16	1.5e	1.7e	2.9	1.6	19	23	26	9.1	7.9	3.0	2.0	1.4
17	1.4e	2.0	3.2	1.9	19	22	25	7.6	5.8	3.0	2.0	1.4
18	1.4e	1.7	2.9	1.9	21	20	26	6.5	4.8	2.9	1.9	1.4
19	1.4e	1.8	2.8	3.0	19	26	26	7.2	4.4	2.8	2.0	1.4
20	1.4e	1.7	2.3	9.4	19	26	23	8.0	4.2	2.8	1.9	1.4
21	1.3e	1.6	2.4	6.8	29	26	20	6.5	4.2	2.7	1.9	1.4
22	1.3e	2.1	2.4	3.8	26	22	16	5.8	4.2	2.8	1.8	1.4
23	1.3e	2.3	2.3	6.7	22	24	15	6.2	4.0	2.7	1.7	1.5
24	1.5e	1.9	2.2	7.4	19	22	16	7.1	4.0	2.7	1.7	1.4
25	1.7e	1.6	2.2	5.2	23	45	19	7.5	4.1	2.7	1.7	1.4
26	1.6e	2.0	2.2	12	20	44	19	8.4	4.0	2.7	1.6	1.3
27	1.6e	2.2	2.2	15	19	38	18	9.3	3.9	2.6	1.5	1.2
28	1.6e	5.0	2.1	9.5	19	33	15	9.4	3.7	2.5	1.6	1.1
29	1.6e	2.7	2.2	6.8	------	27	12	9.9	3.4	2.5	1.6	1.1
30	1.7e	6.5	2.2	4.4	------	23	13	8.5	3.1	2.4	1.6	1.0
31	1.6e	------	2.2	24	------	22	------	9.3	------	2.4	1.5	------
TOTAL	48.2	64.3	89.0	150.8	819	685	714	292.5	172.8	87.5	63.2	41.2
MEAN	1.55	2.14	2.87	4.86	29.3	22.1	23.8	9.44	5.76	2.82	2.04	1.37
MAX	1.9	6.5	5.5	24	162	45	50	15	9.1	3.2	2.8	1.6
MIN	1.3	1.6	2.1	1.3	11	11	12	5.8	3.1	2.4	1.5	1.0
AC-FT	96	128	177	299	1,620	1,360	1,420	580	343	174	125	82

CAL YEAR 1998	TOTAL	201.5	MEAN	.55	MAX	6.5	MIN	0	AC-FT	400
WTR YEAR 1999	TOTAL	3,227.5	MEAN	8.84	MAX	162	MIN	1.0	AC-FT	6,400

The 11/17/98 - 6/17/99 period of record should be used with caution as a faulty pressure transducer used at the site produced occasional, erratic stage readings.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 1996 - 1999

APPENDIX E

PEAK FLOW DATA

SUMMARY OF INSTANTANEOUS PEAK FLOWS AT DISTRICT STREAMFLOW GAGING STATIONS

WATER YEAR 1996

STATION	DATE	TIME	GHT	Q
Cachagua Creek	February 19, 1996	1830	5.00	199
Pine Creek	February 19, 1996	1630	2.82	252
San Clemente Creek	February 19, 1996	1600	5.28	377
Tularcitos Creek	February 27, 1996	1255	4.10	34
Hitchcock Creek	February 19, 1996	1545	4.00	123
Garzas Creek	February 19, 1996	1550	5.01	440
Robinson Canyon Creek	February 19, 1996	1530	4.72	132
Potrero Creek	February 19, 1996	1700	2.02	50
	February 21, 1996	1245	1.99	55
Carmel River at Don Juan Bridge	February 19, 1996	2050	10.84	3,880
Carmel River at Highway 1 Bridge	February 19, 1996	2315	10.93	4,340

SUMMARY OF INSTANTANEOUS PEAK FLOWS AT DISTRICT STREAMFLOW GAGING STATIONS

WATER YEAR 1997

STATION	DATE	TIME	GHT	Q
Cachagua Creek	January 26, 1997	1000	6.06	617
Pine Creek	January 1, 1997	2030	2.90	280
San Clemente Creek	January 26, 1997	0845	5.35	475
Tularcitos Creek	January 26, 1997	1000	6.53	267
Hitchcock Creek	January 26, 1997	0745	4.37	280
Garzas Creek	January 26, 1997	0815	4.83	404
Robinson Canyon Creek	December 21, 1996	1830	5.40	232
Potrero Creek	December 21, 1996	1945	3.24	189
Carmel River at Don Juan Bridge	January 1, 1997	1915	10.61	4,140
	January 26, 1997	1235	10.18	3,690
Carmel River at Highway 1 Bridge	January 1, 1997	2330	11.39	3,980
	January 26, 1997	1500	11.69	3,940

SUMMARY OF INSTANTANEOUS PEAK FLOWS AT DISTRICT STREAMFLOW GAGING STATIONS

WATER YEAR 1998

STATION	DATE	TIME	GHT	Q
Cachagua Creek	February 3, 1998	*	9.68	2,300
	February 7, 1998	*	*	*
Pine Creek	February 3, 1998	0230	4.29	1,350
	February 7, 1998	1430	3.74	890
San Clemente Creek	February 3, 1998	0200	9.38	2,250
	February 6, 1998	0930	5.96	956
	February 7, 1998	1415	7.40	1,520
Tularcitos Creek	February 3, 1998	0255	9.69	1,700
	February 6, 1998	0920	7.62	744
	February 7, 1998	1455	10.77	2,390
Hitchcock Creek	February 3, 1998	0315	5.91	299e
	February 7, 1998	1400	7.31	576e
Garzas Creek	February 3, 1998	0330	7.95	1,980
	February 6, 1998	0850	6.33	1,220
	February 7, 1998	1310	6.88	1,480
Robinson Canyon Creek	February 3, 1998	0200	8.90	1,150e
	February 6, 1998	1630	7.12	665
	February 7, 1998	1345	6.95	625
Potrero Creek	February 3, 1998	0200	9.07	*
	February 7, 1998	1415	5.74	748
Carmel River at Don Juan Bridge	February 3, 1998	0355	15.25	12,600
	February 6, 1998	1145	10.78	5,110
	February 7, 1998	1625	13.85	9,870
Carmel River at Highway 1 Bridge	February 3, 1998	0915	14.79	12,600
	February 6, 1998	1600	12.59	7,840
	February 7, 1998	1845	13.79	9,560

*Data not available

SUMMARY OF INSTANTANEOUS PEAK FLOWS AT DISTRICT STREAMFLOW GAGING STATIONS

WATER YEAR 1999

STATION	DATE	TIME	GHT	Q
Cachagua Creek	February 9, 1999	1345	3.35	52
	April 11, 1999	1045	3.36	54
Pine Creek	February 9, 1999	1015	2.30	205
San Clemente Creek	February 9, 1999	1115	4.16	309
Tularcitos Creek	February 9, 1999	1200	3.85	43
Hitchcock Creek	February 9, 1999	1100	3.63	39
Garzas Creek	February 9, 1999	1030	4.27	391
Robinson Canyon Creek	February 9, 1999	1045	4.02	115
Potrero Creek	February 9, 1999	1030	3.10	162
San Jose Creek	February 9, 1999	1015	5.54	400
Carmel River at Don Juan Bridge	February 9, 1999	1300	7.64	2,320
Carmel River at Highway 1 Bridge	February 9, 1999	1530	9.46	2,080

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 1996 - 1999

APPENDIX F

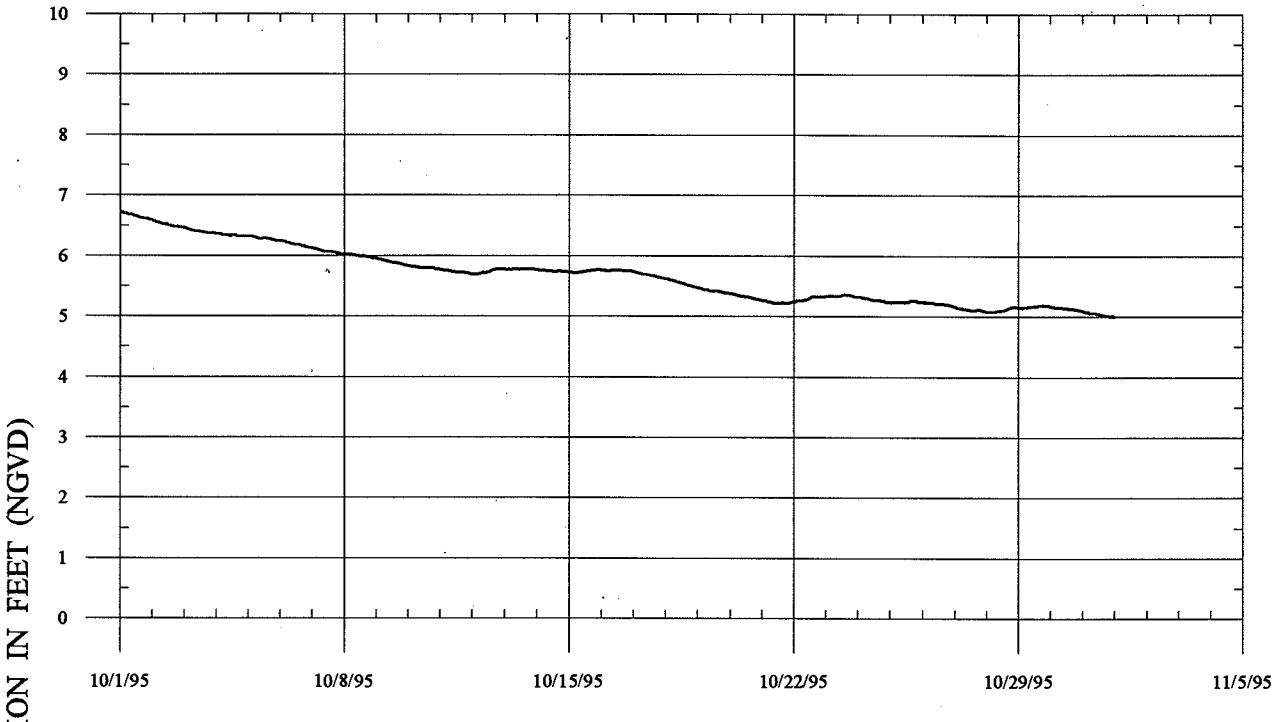
LAGOON WATER LEVEL AND CROSS SECTION DATA

FIGURE F-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

OCTOBER 1995



NOVEMBER 1995

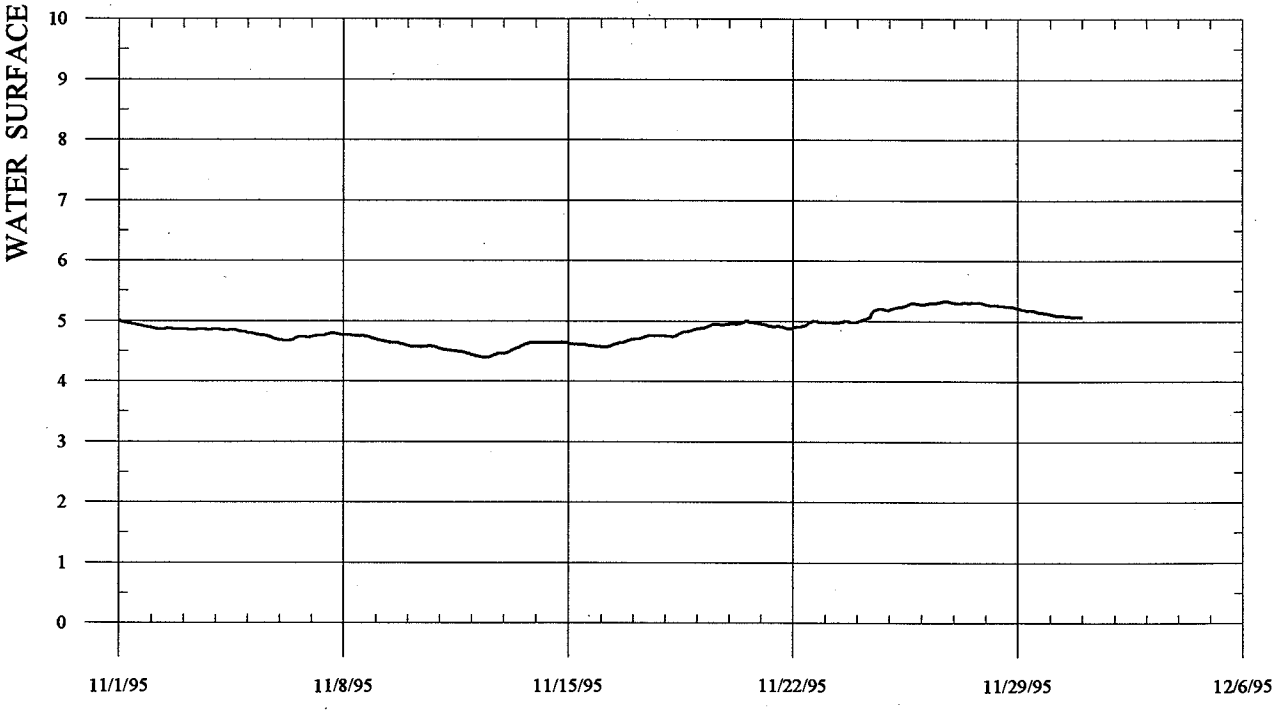
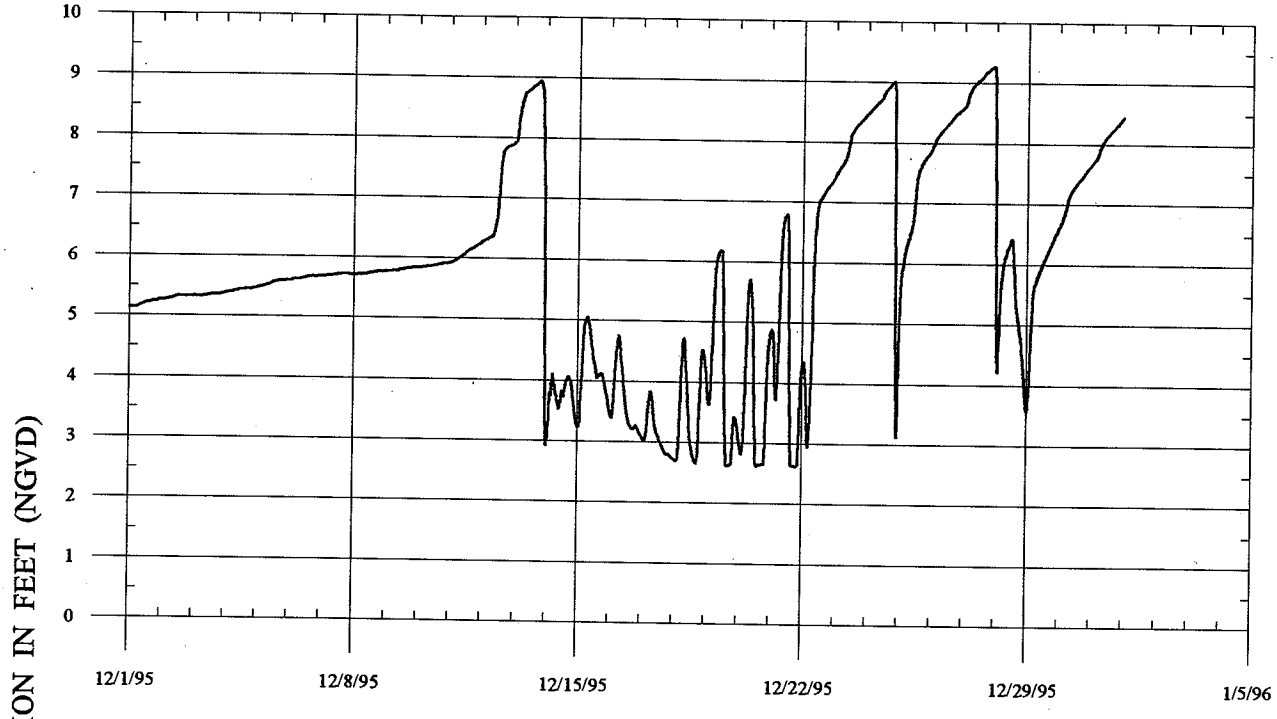


FIGURE F-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

DECEMBER 1995



JANUARY 1996

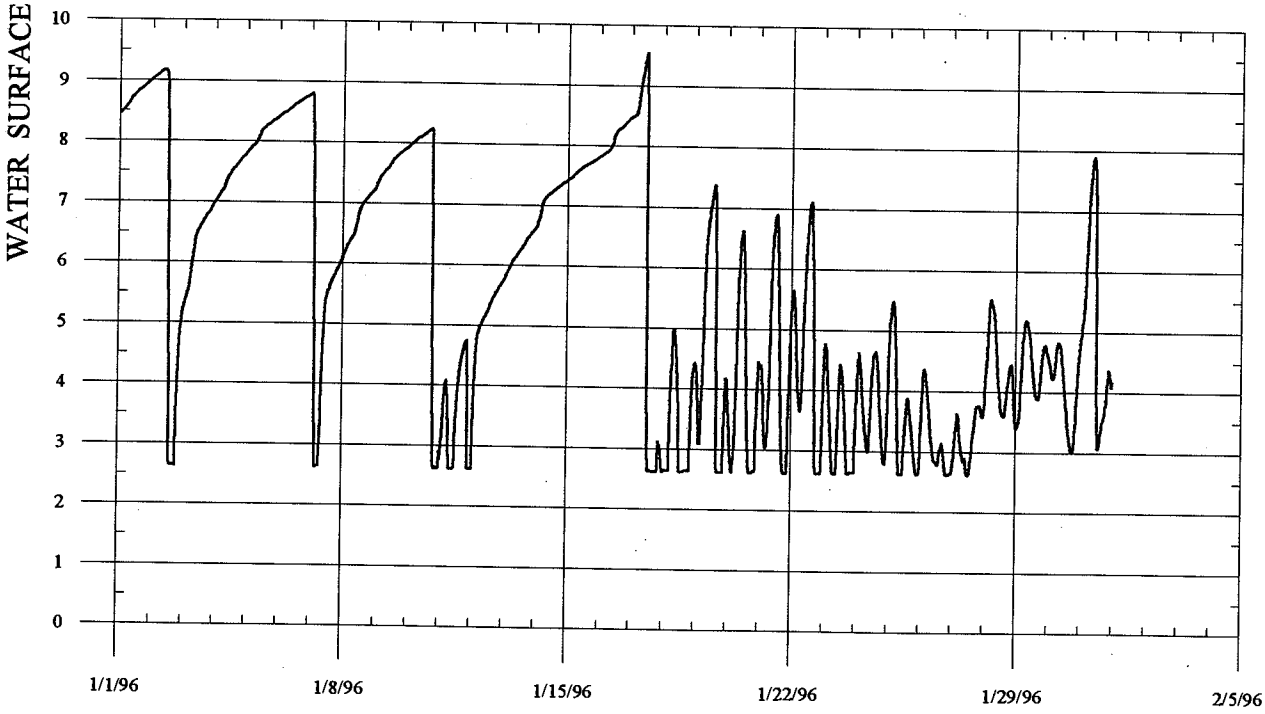
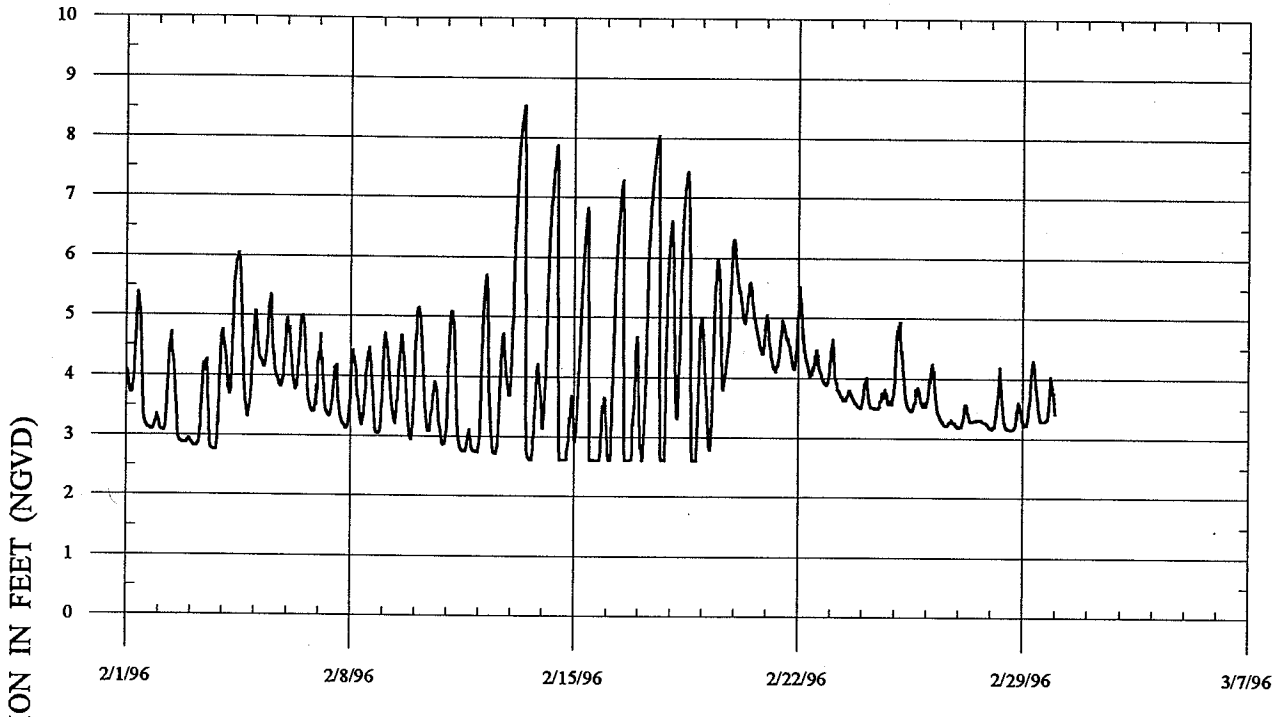


FIGURE F-3

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

FEBRUARY 1996



MARCH 1996

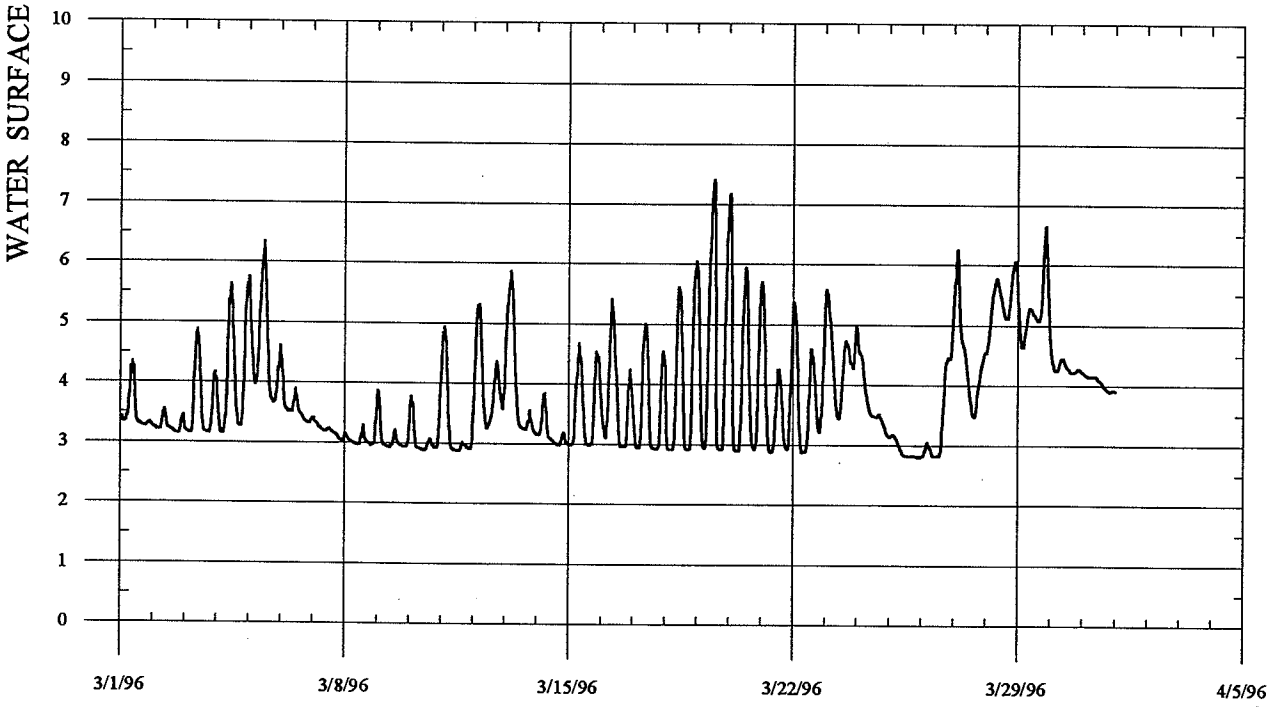


FIGURE F-4

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

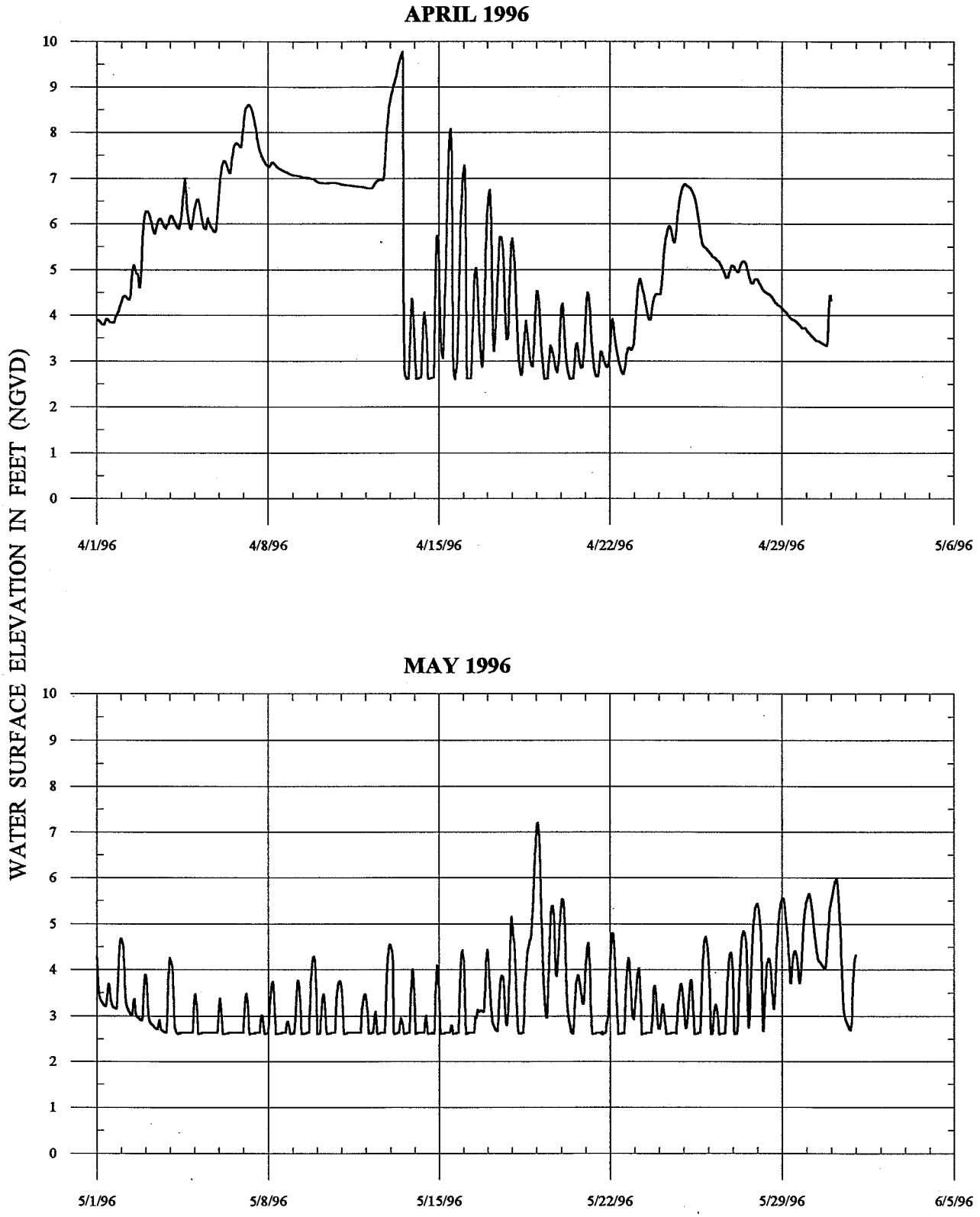
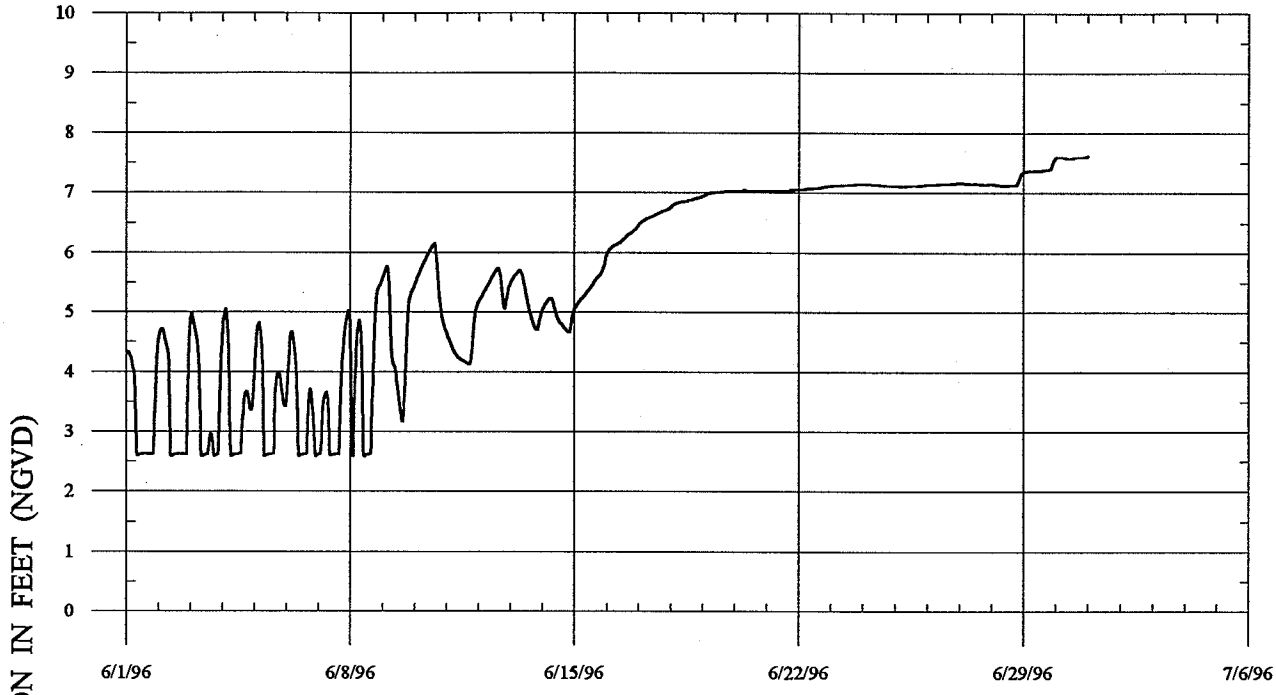


FIGURE F-5

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

JUNE 1996



JULY 1996

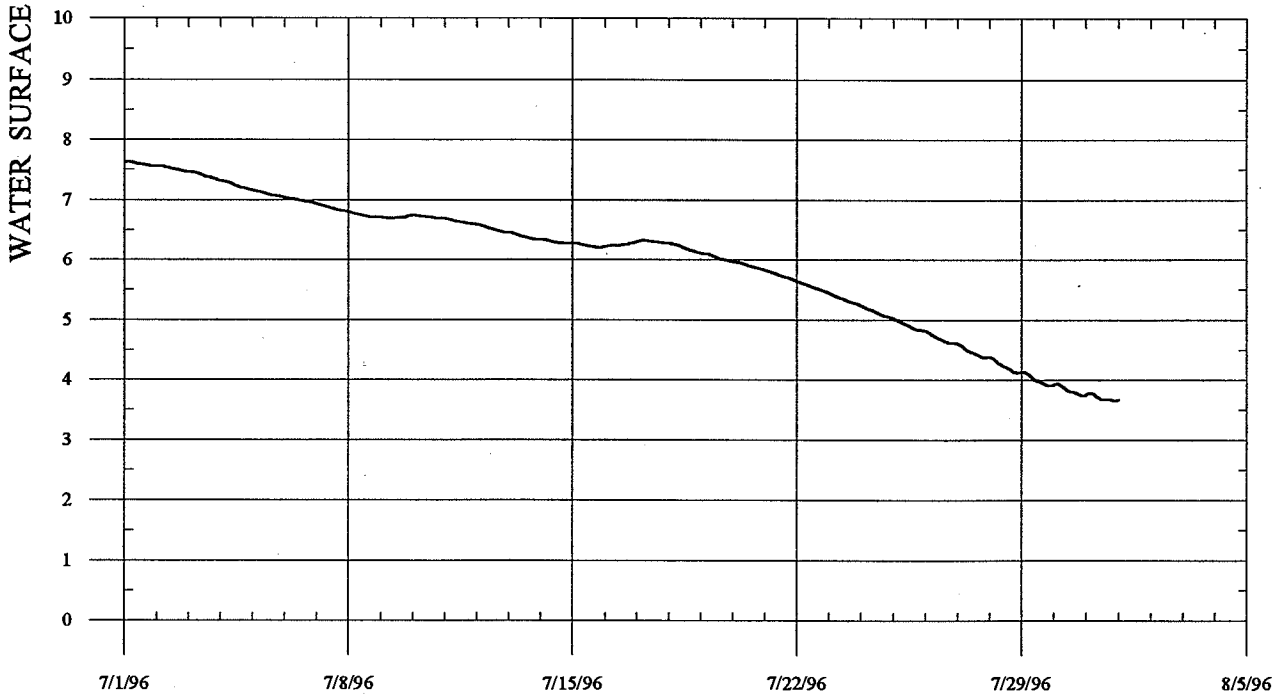
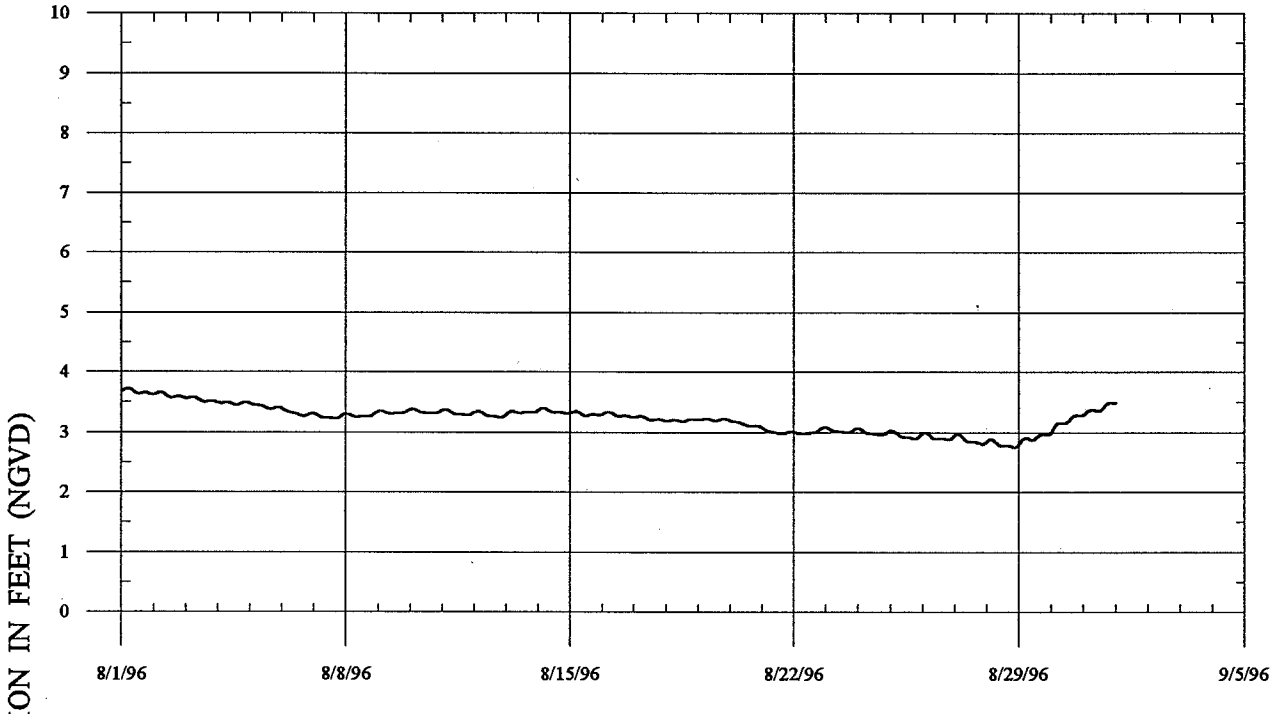


FIGURE F-6

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 1996



SEPTEMBER 1996

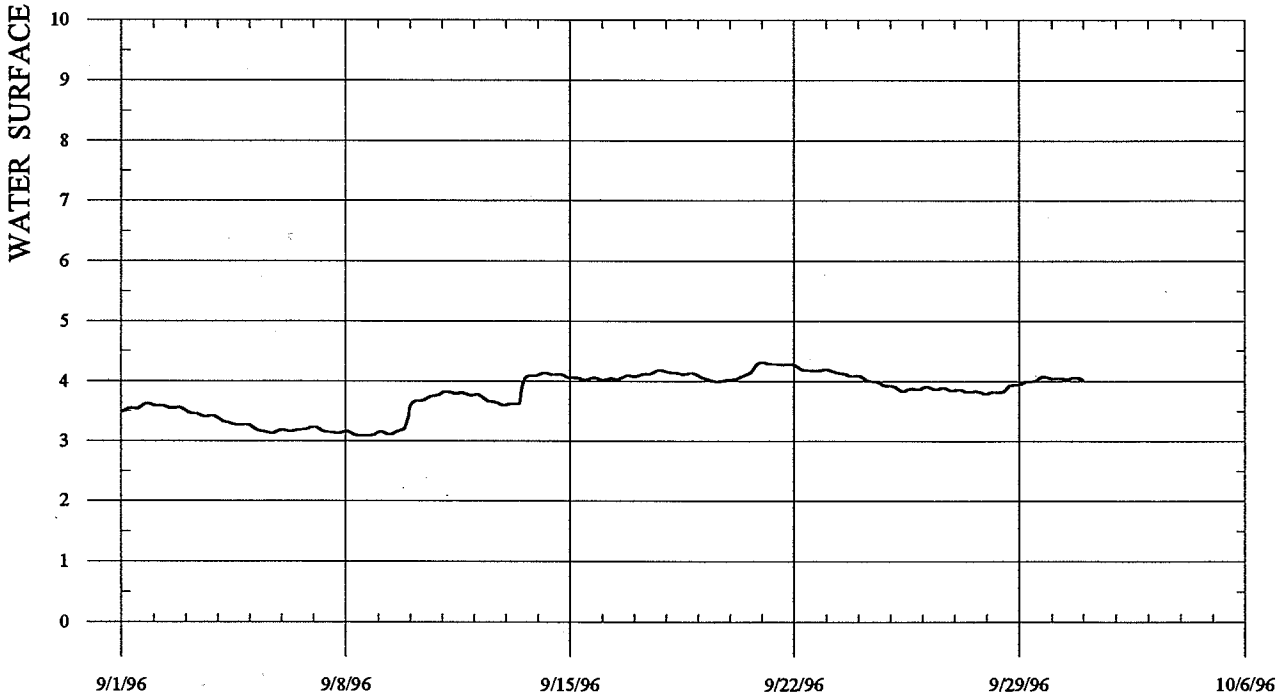
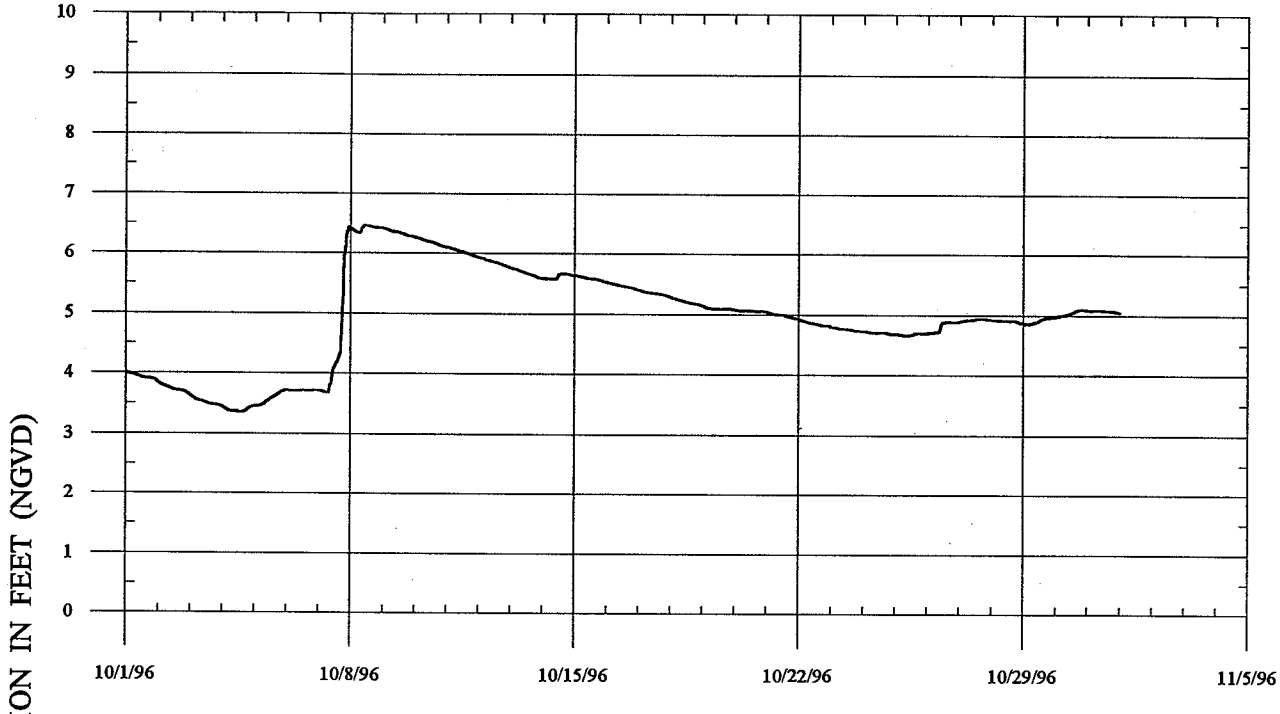


FIGURE F-7

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

OCTOBER 1996



NOVEMBER 1996

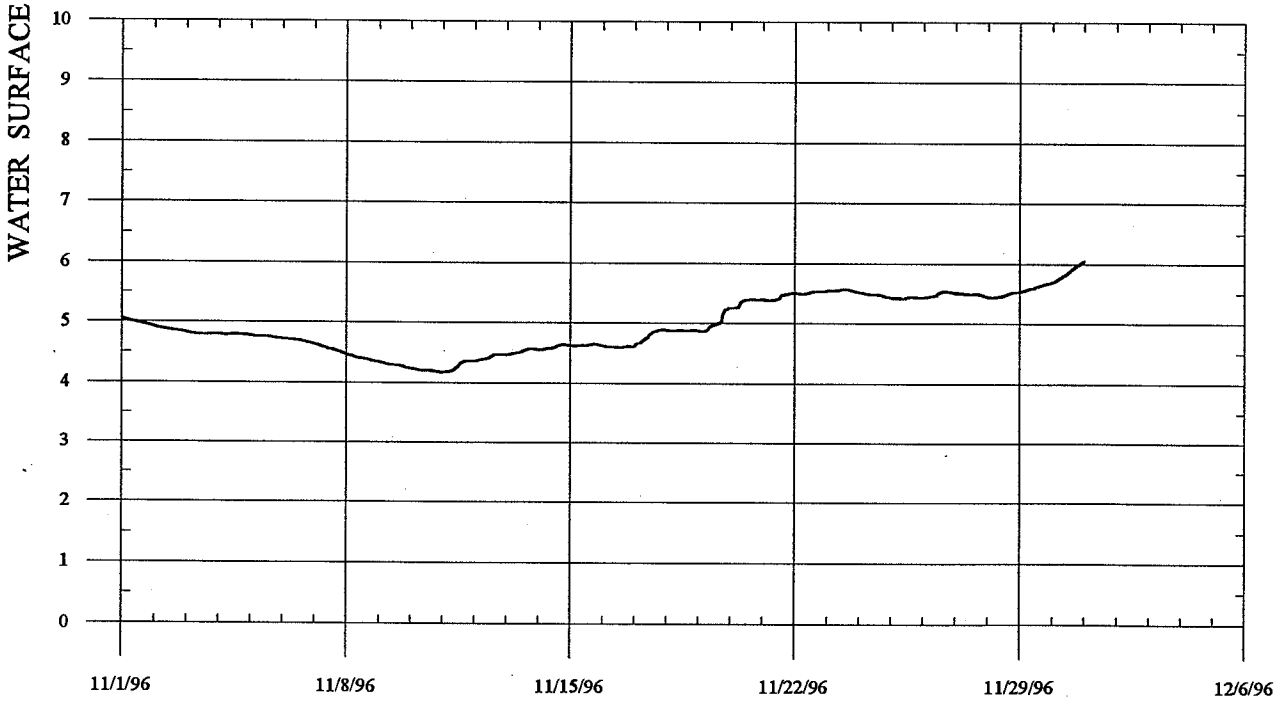
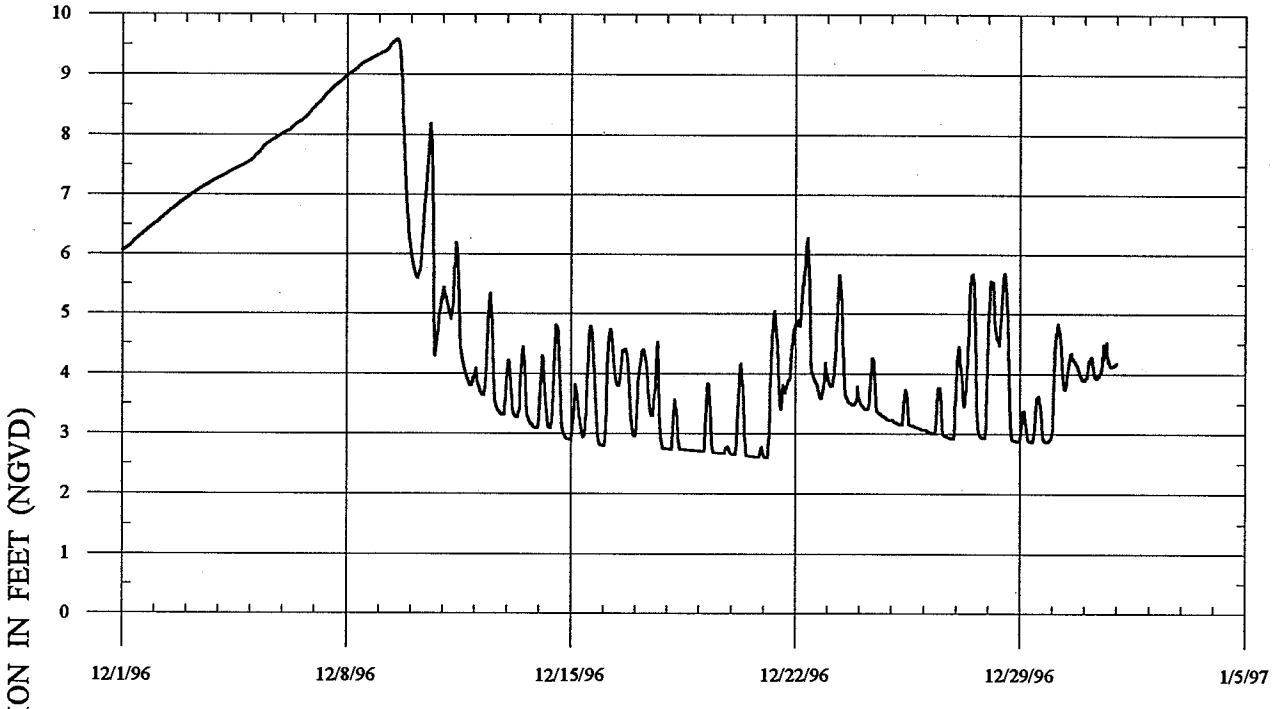


FIGURE F-8

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

DECEMBER 1996



JANUARY 1997

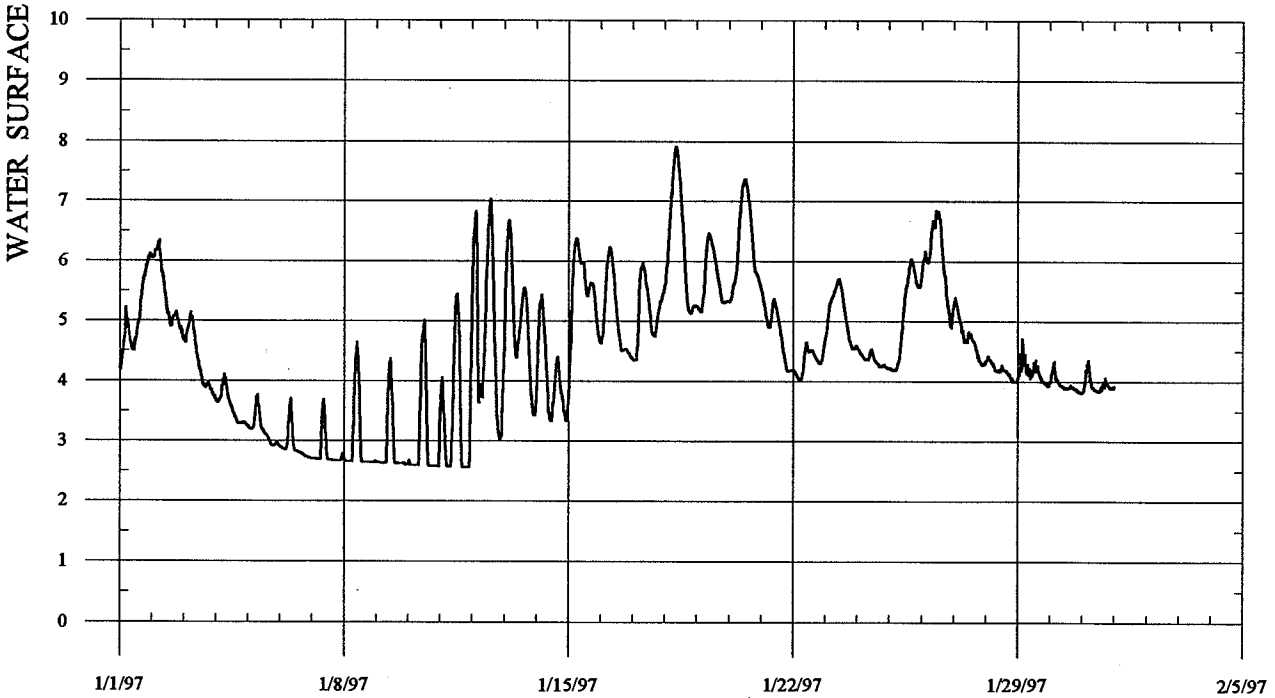
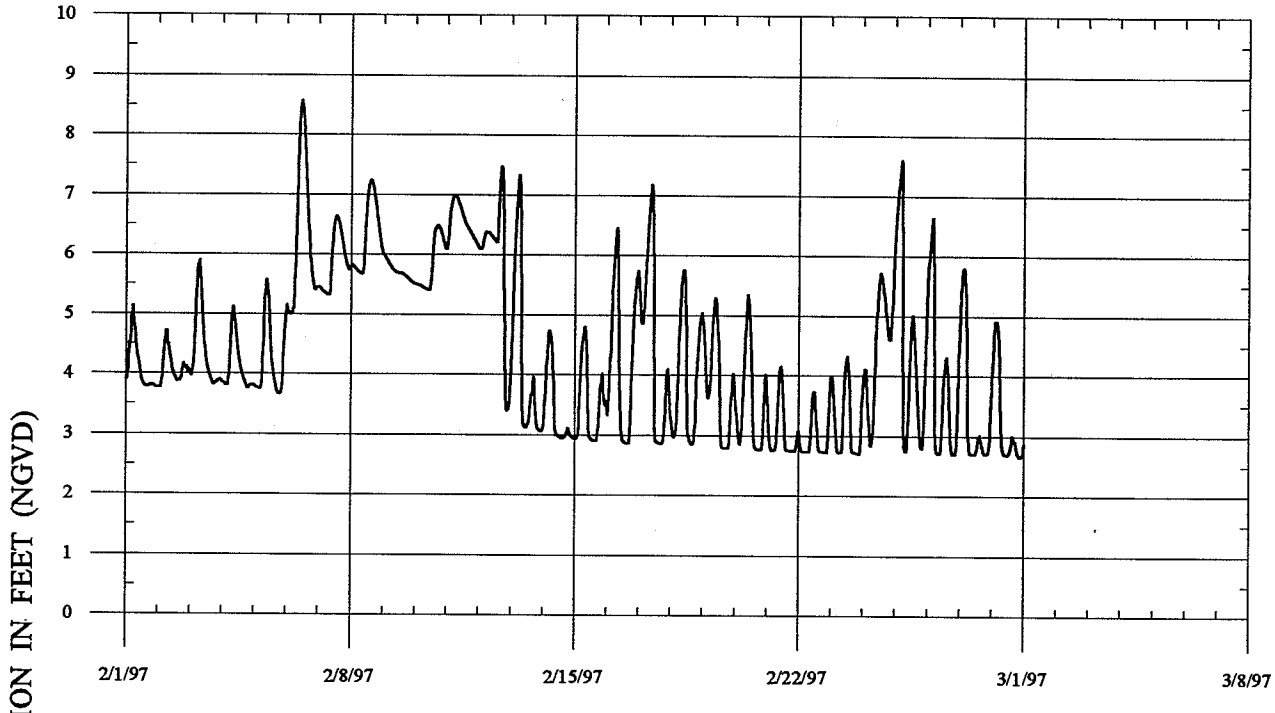


FIGURE F-9

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

FEBRUARY 1997



MARCH 1997

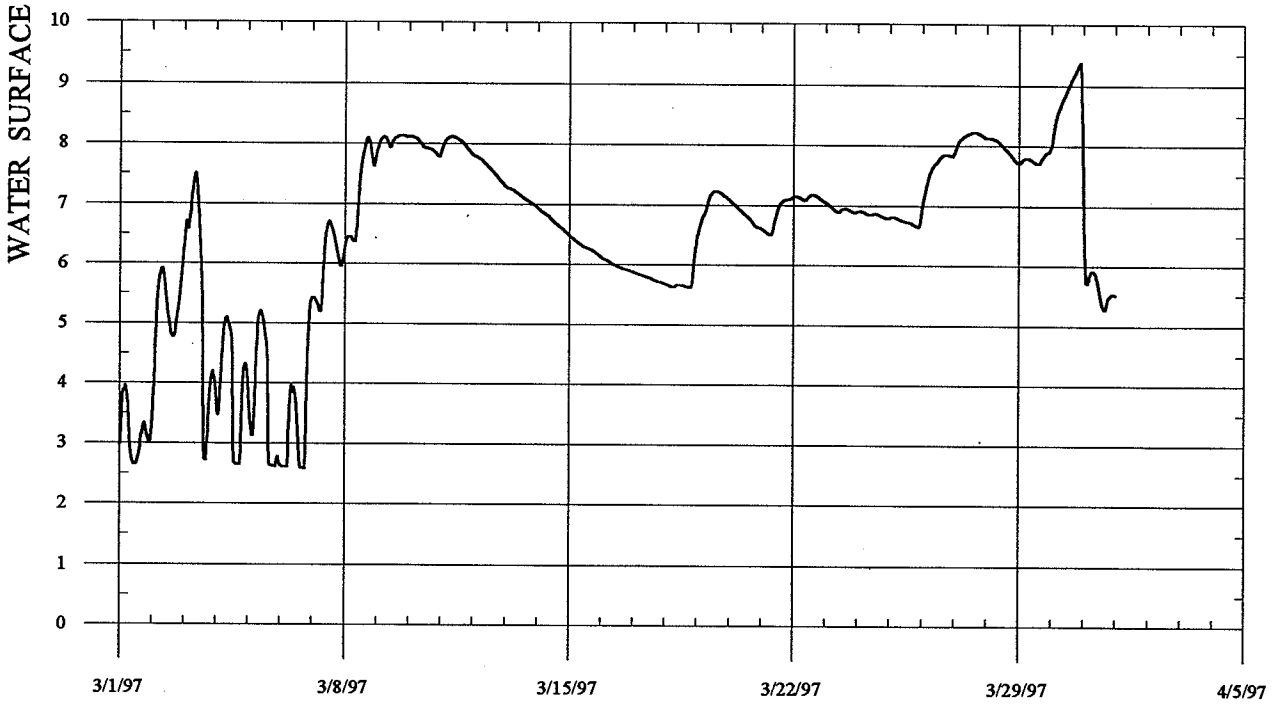
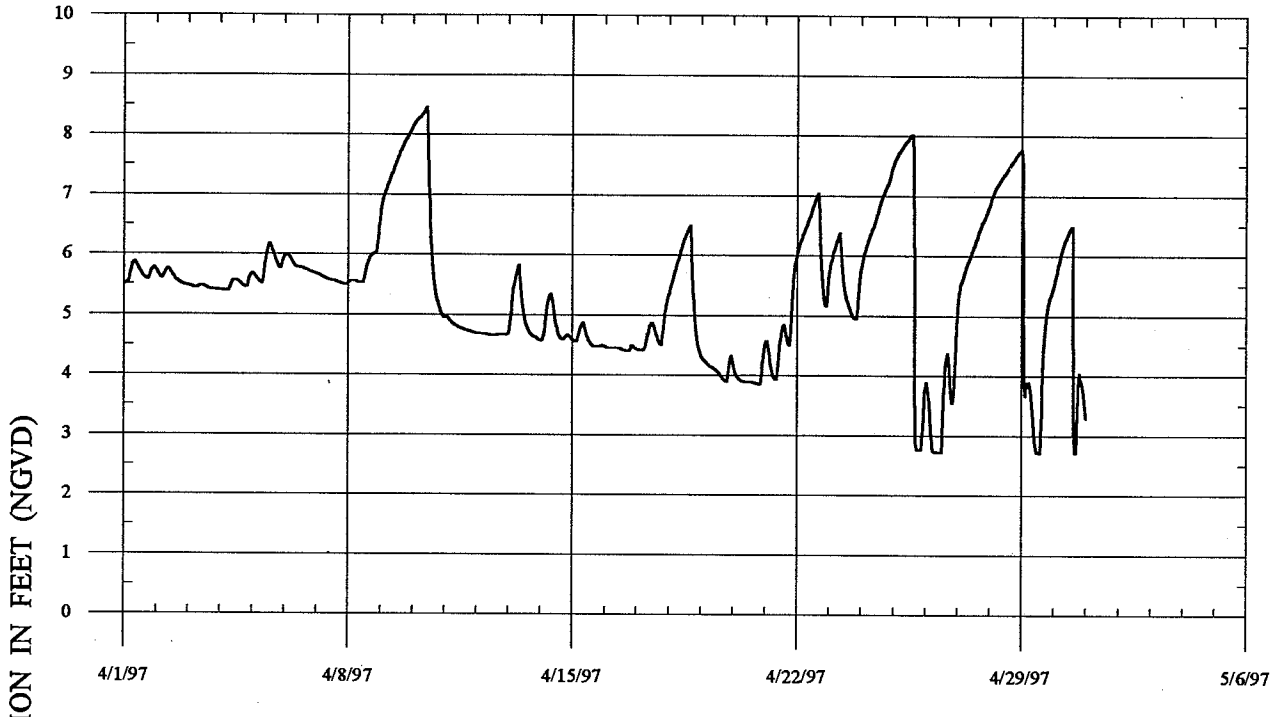


FIGURE F-10

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

APRIL 1997



MAY 1997

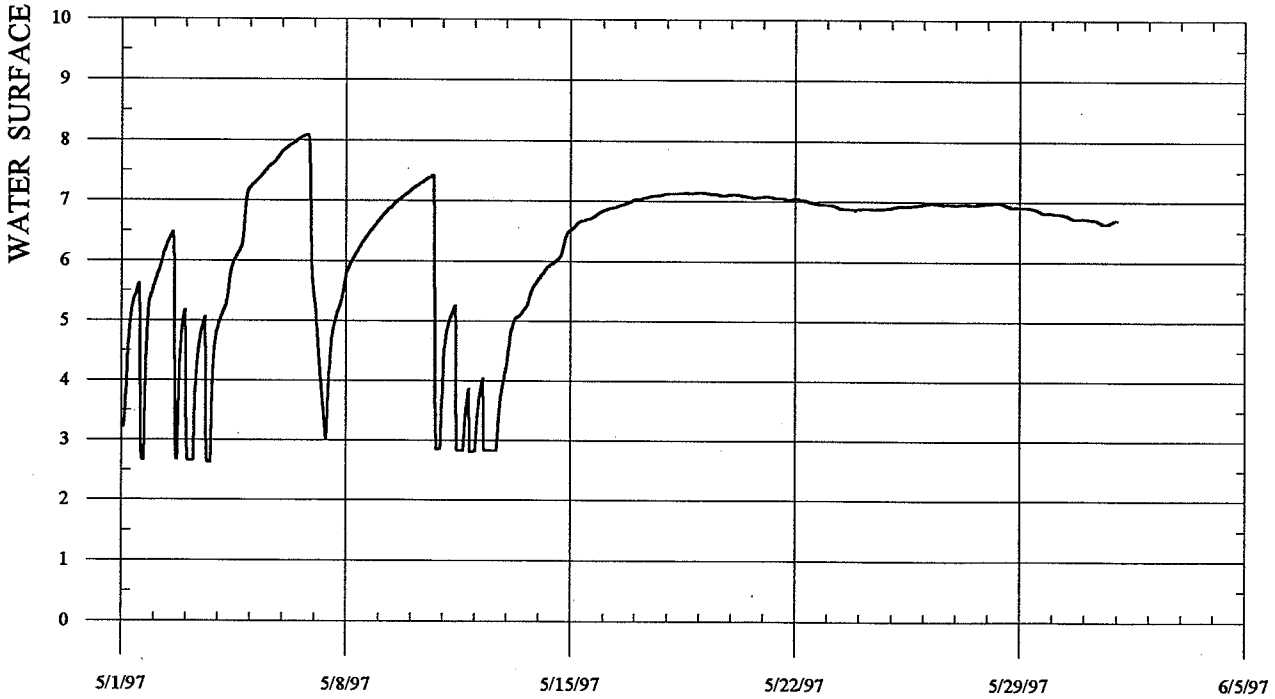


FIGURE F-11

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

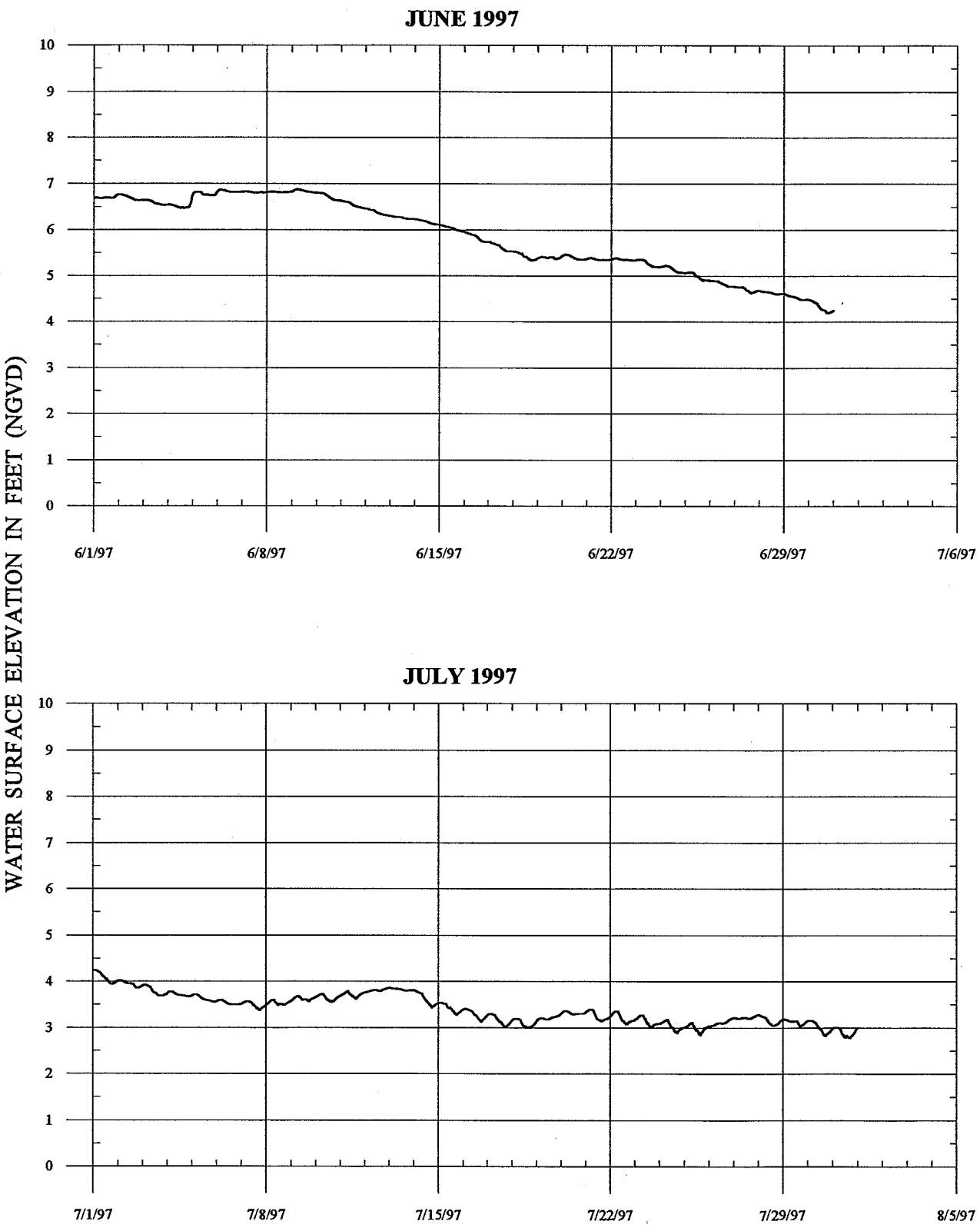
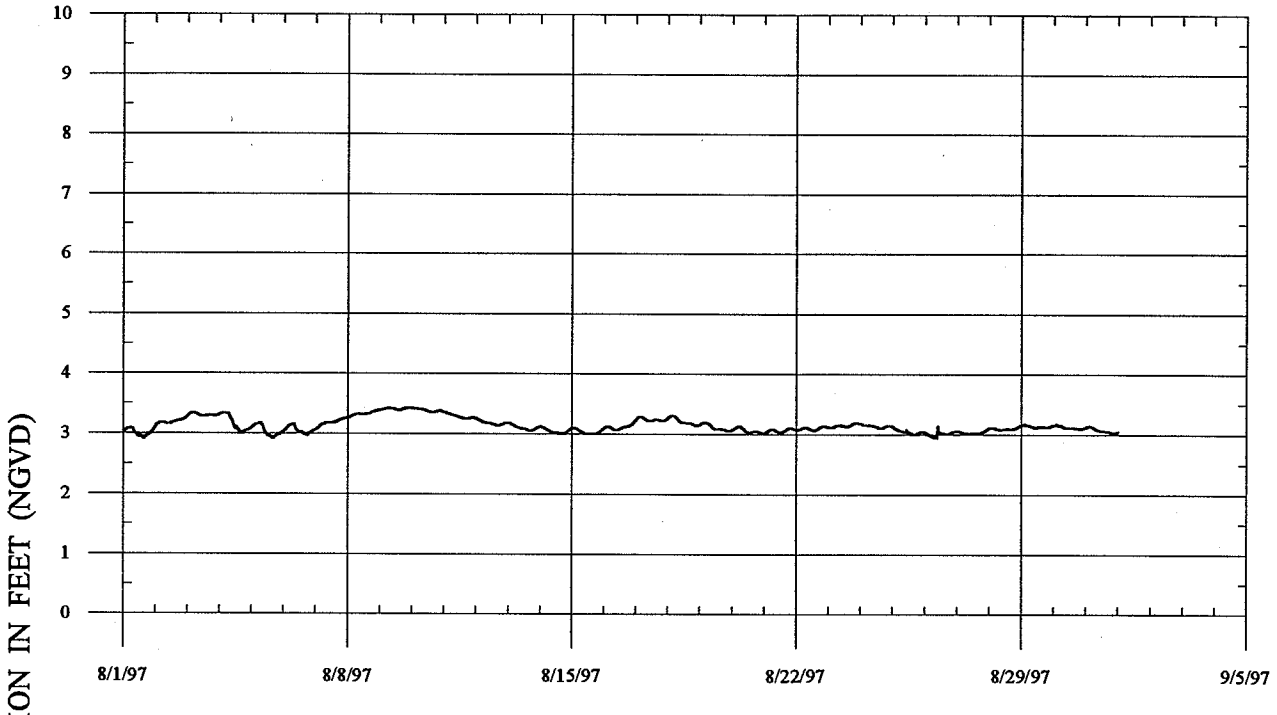


FIGURE F-12

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 1997



SEPTEMBER 1997

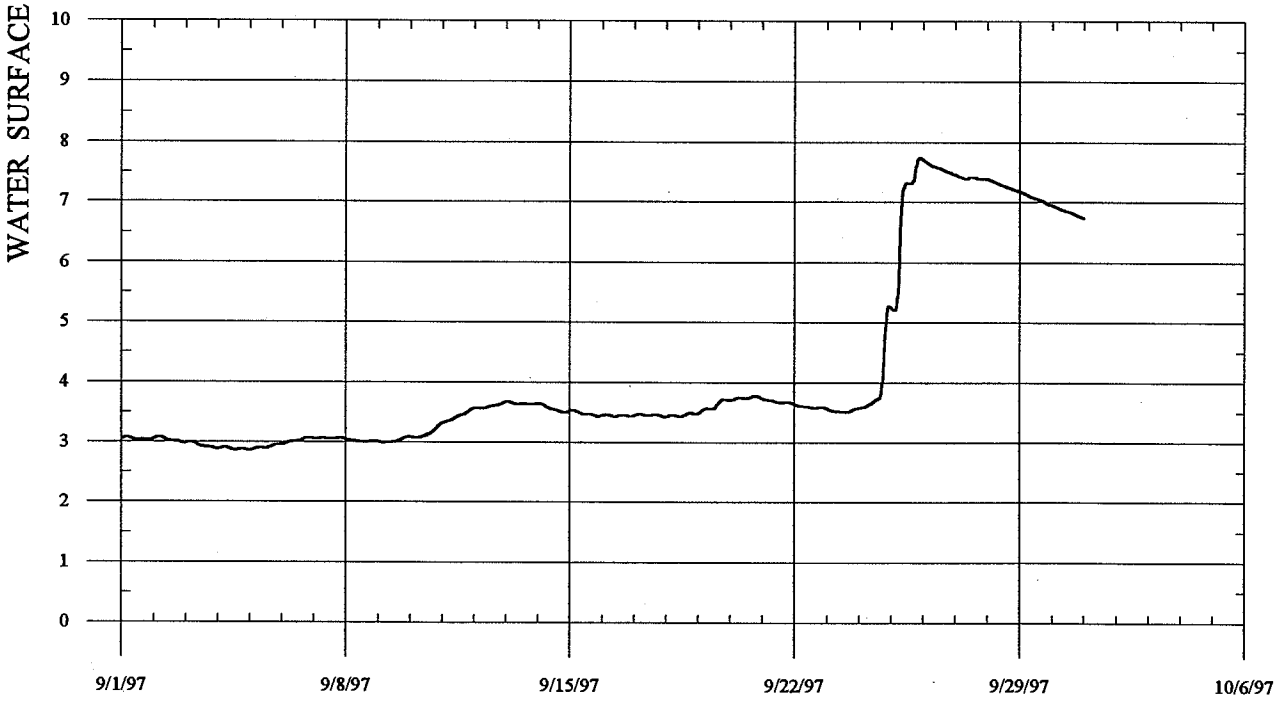
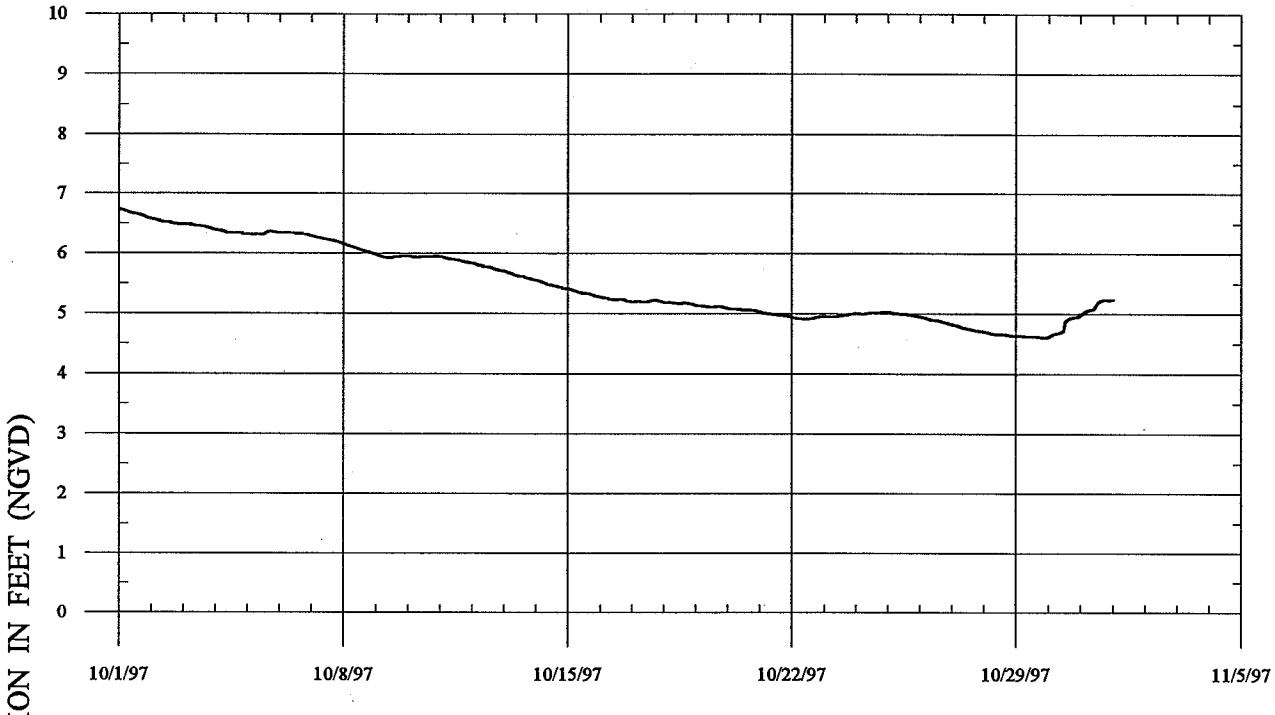


FIGURE F-13

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

OCTOBER 1997



NOVEMBER 1997

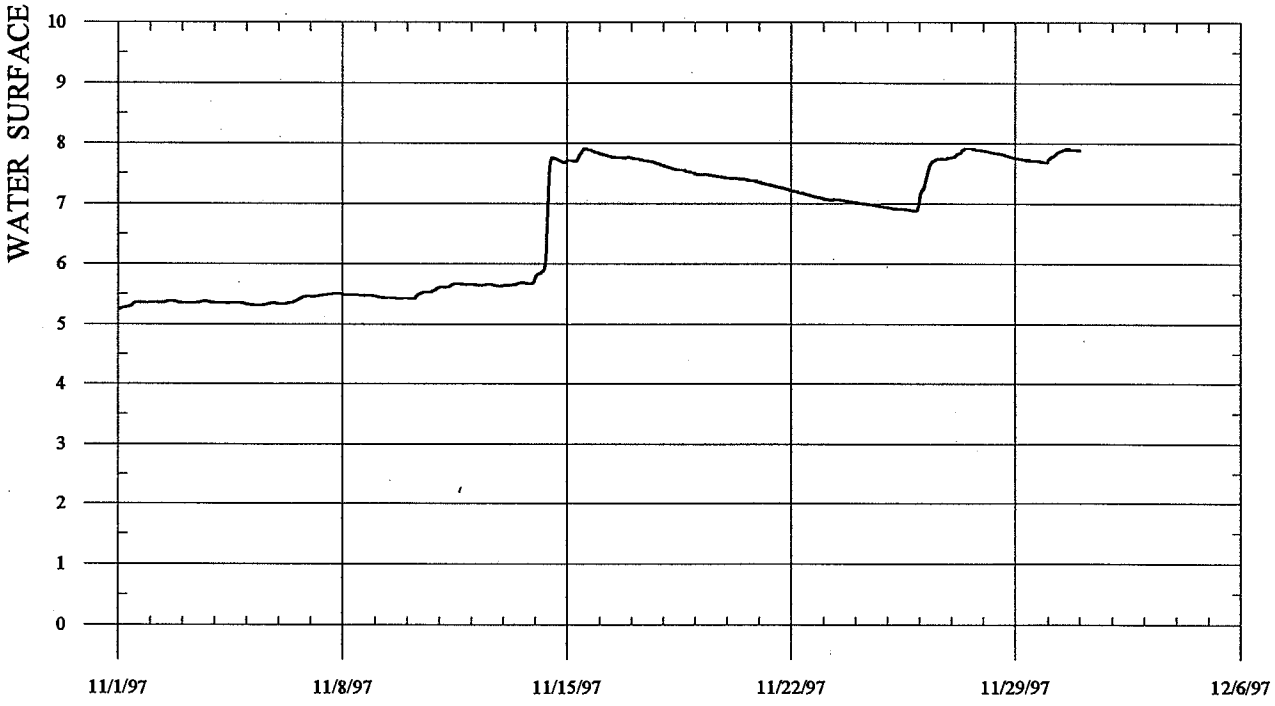


FIGURE F-14

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

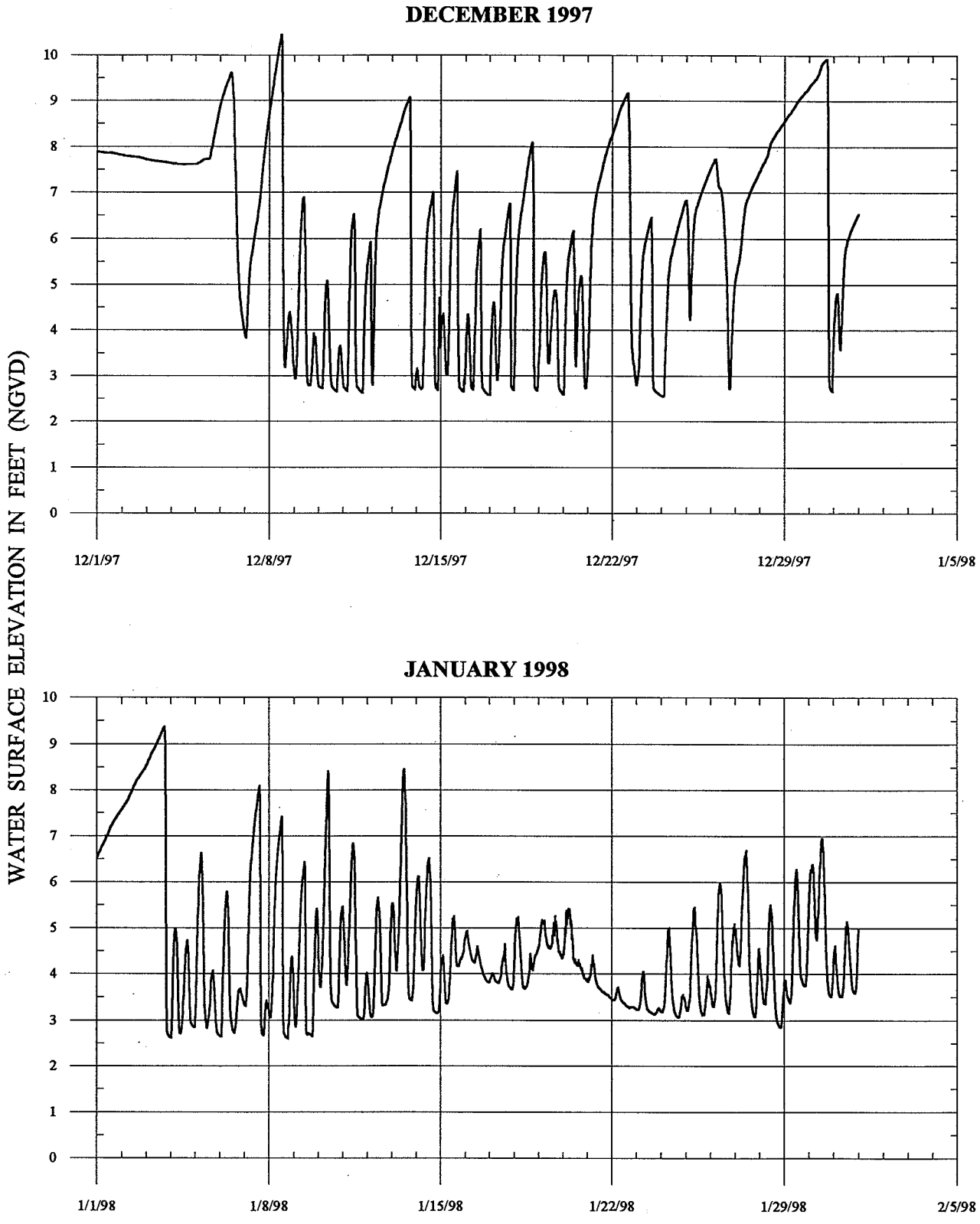
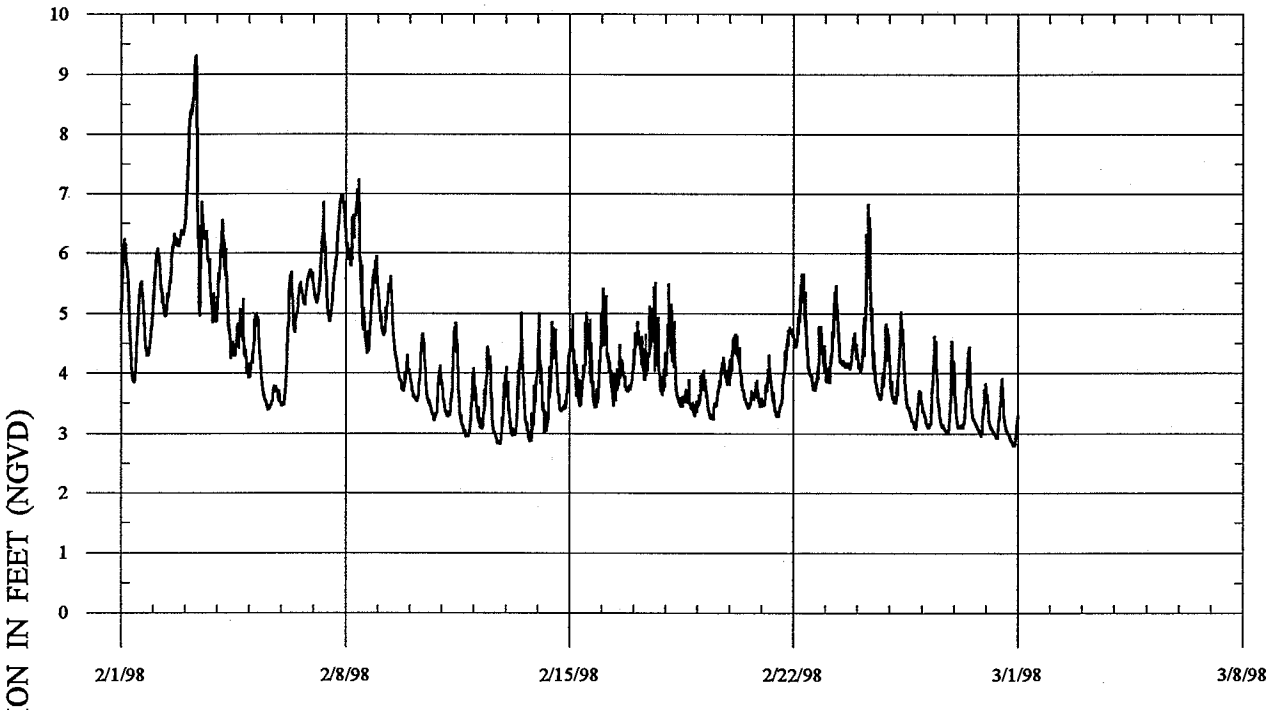


FIGURE F-15

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

FEBRUARY 1998



MARCH 1998

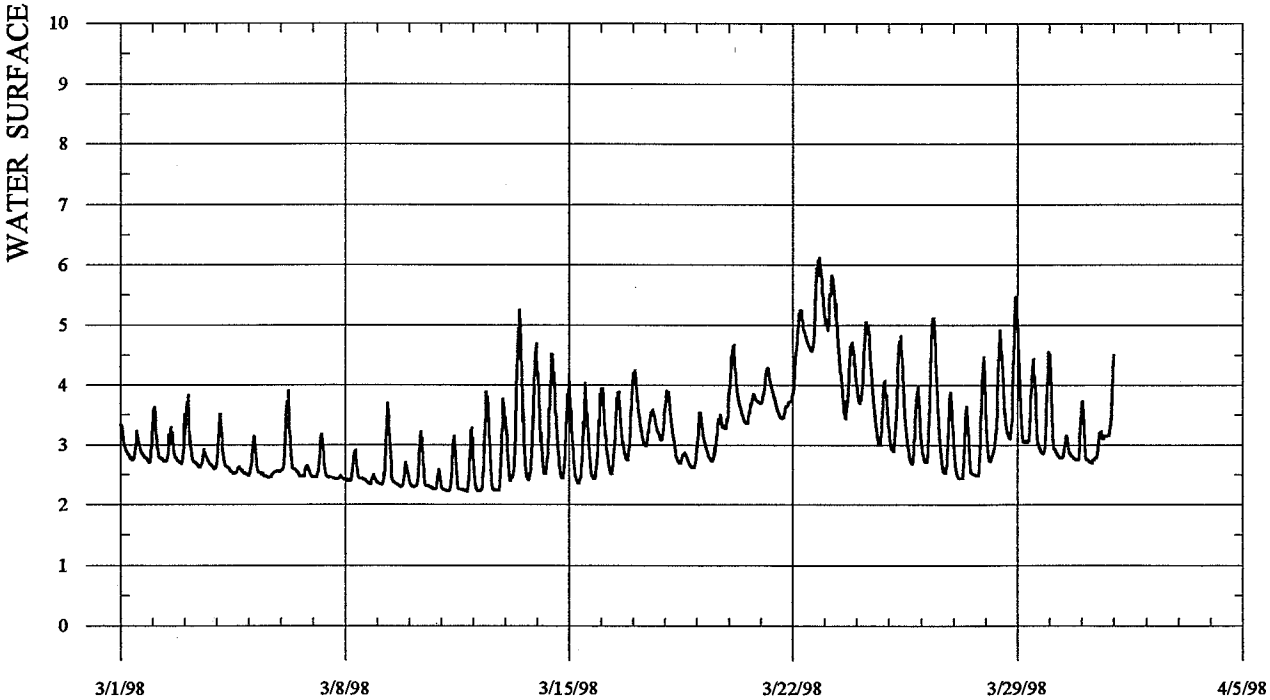


FIGURE F-16

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

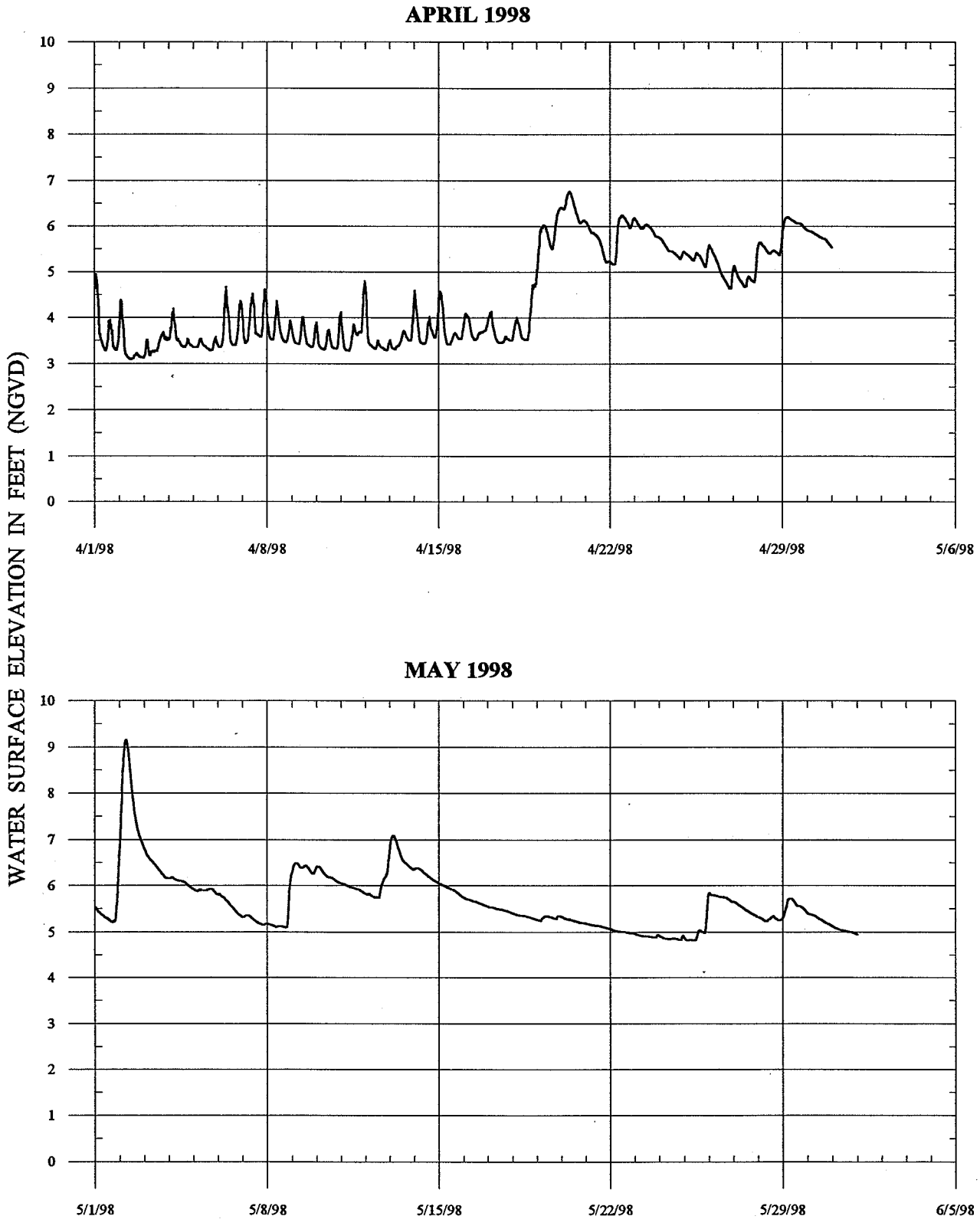


FIGURE F-17

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

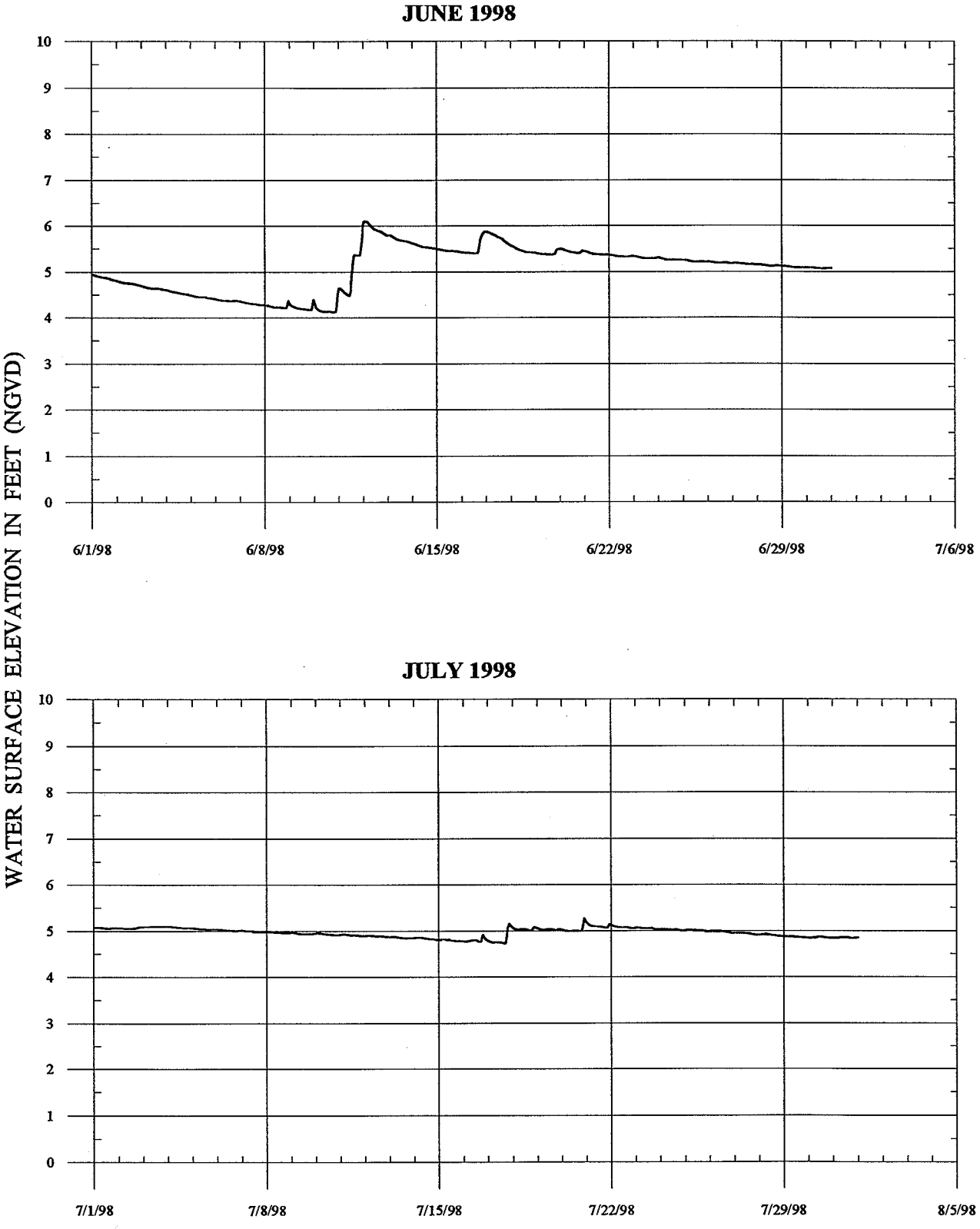
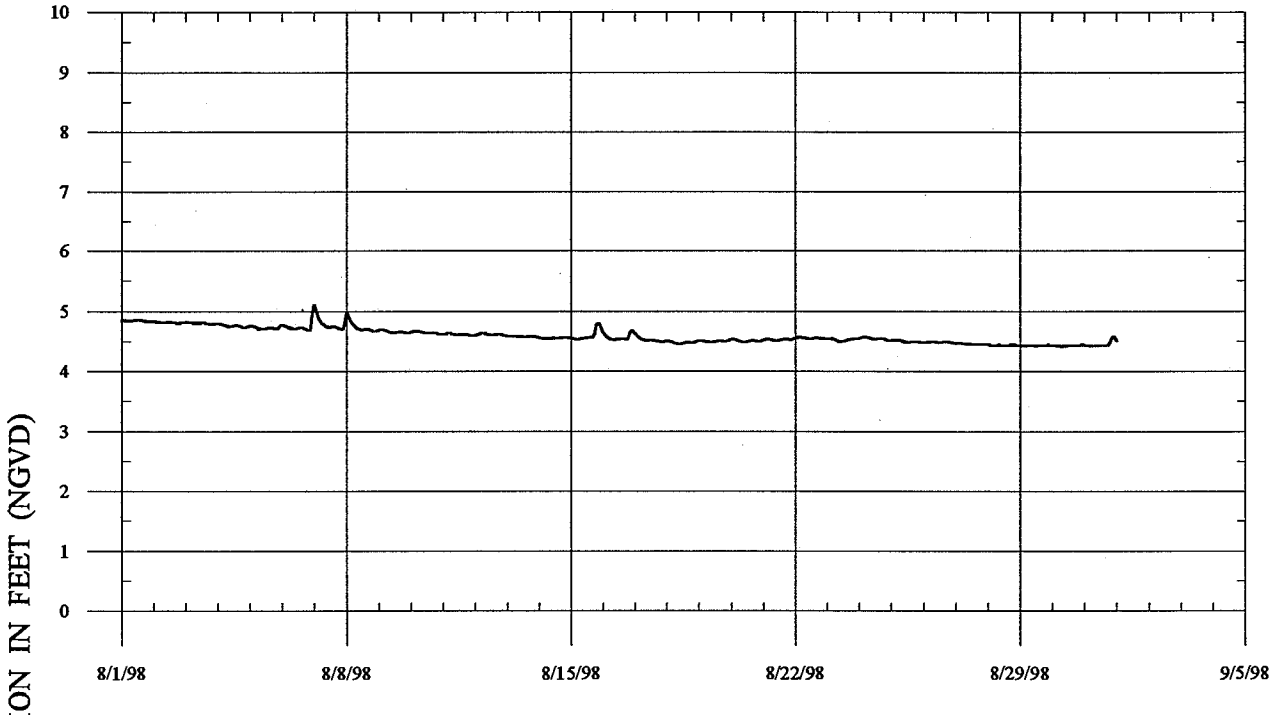


FIGURE F-18

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 1998



SEPTEMBER 1998

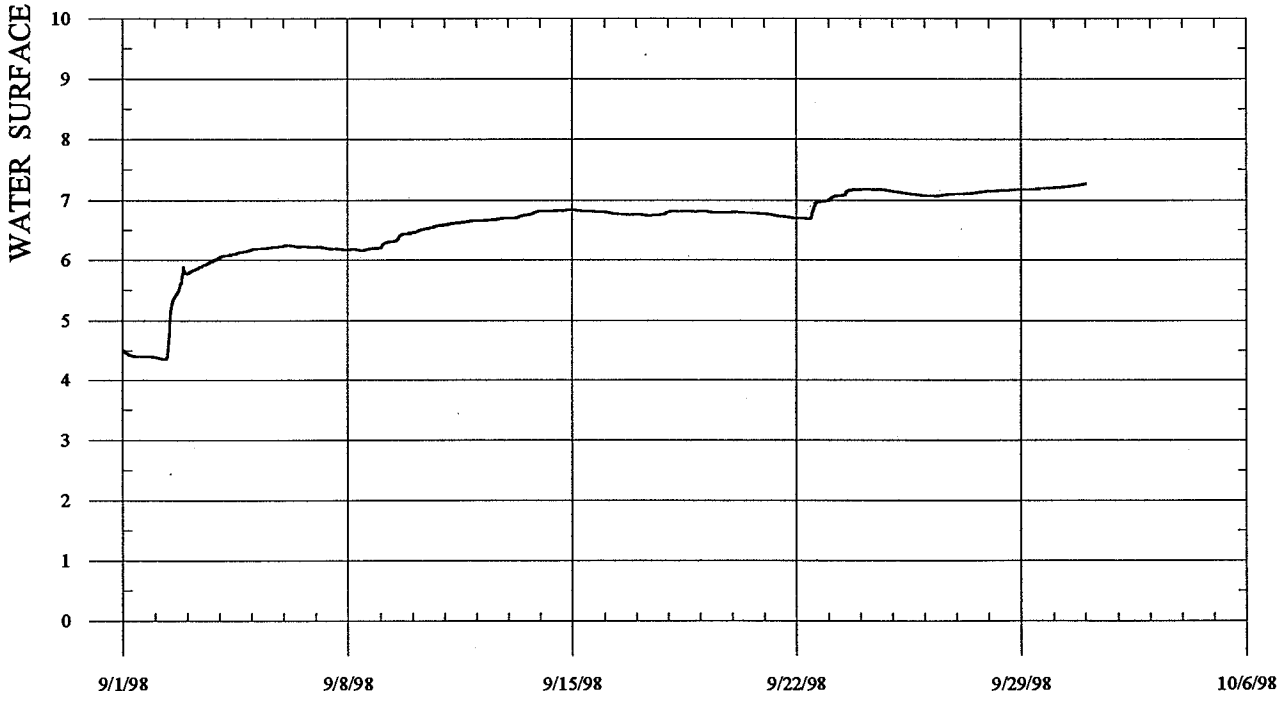


FIGURE F-19

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

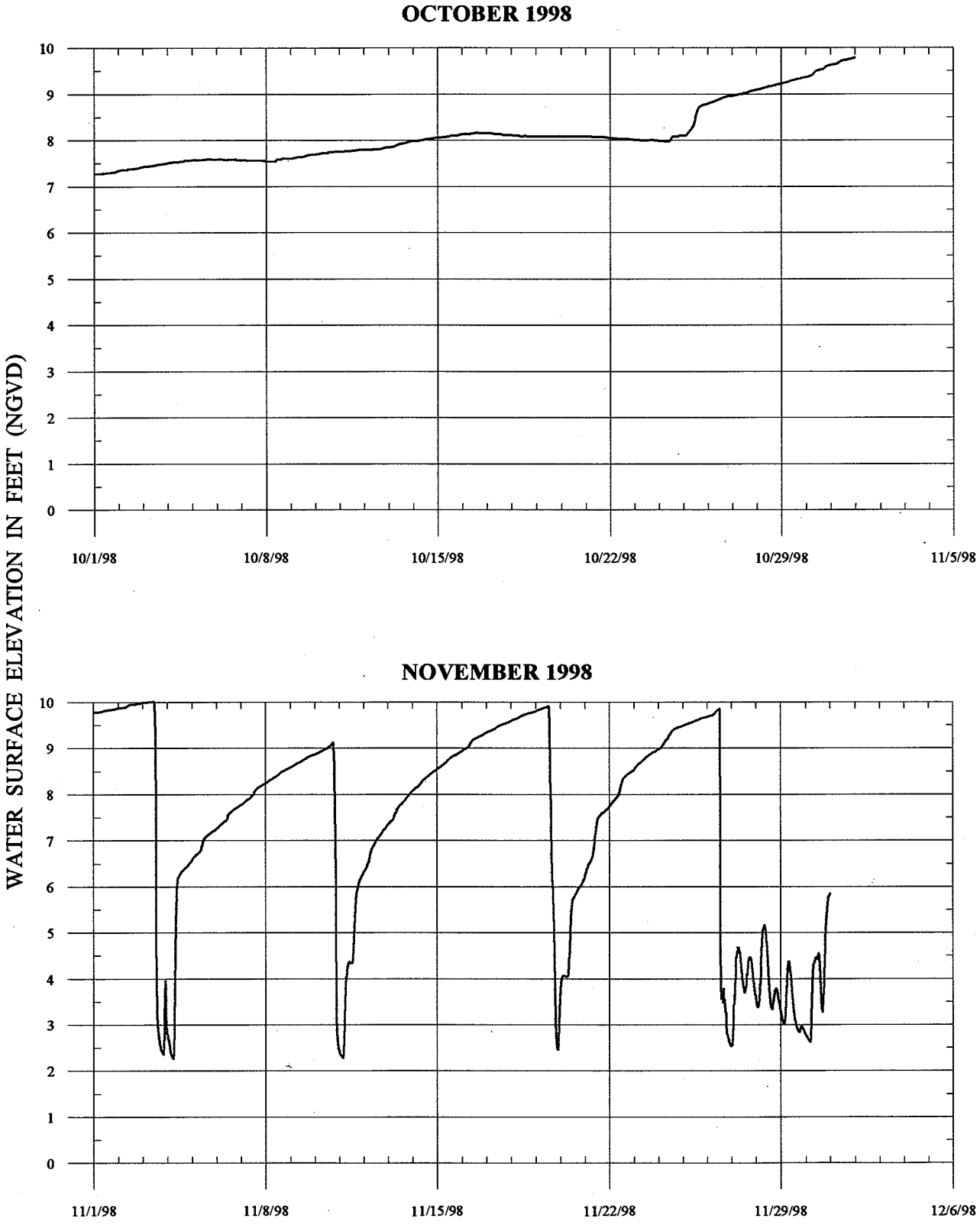


FIGURE F-20

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

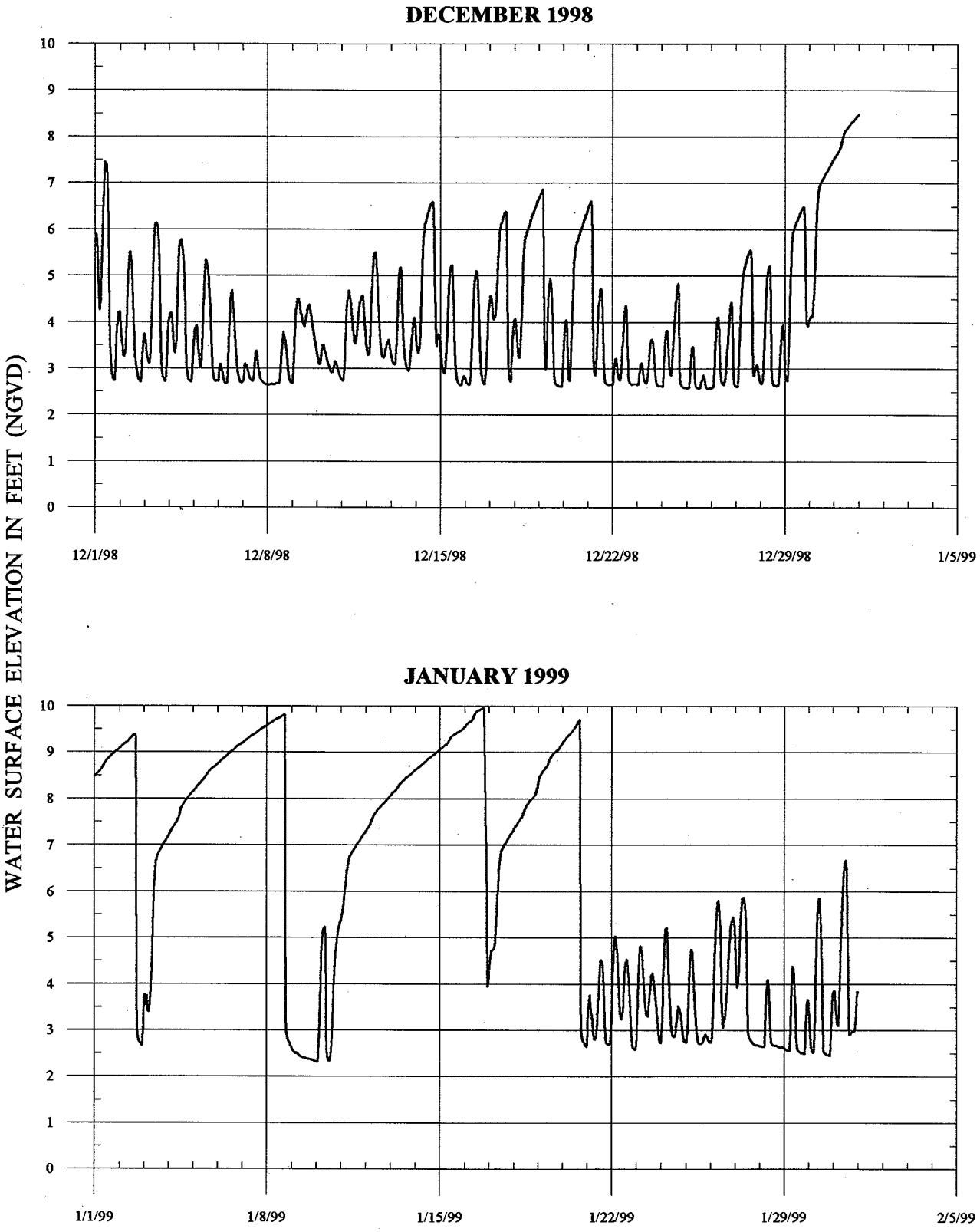


FIGURE F-21

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

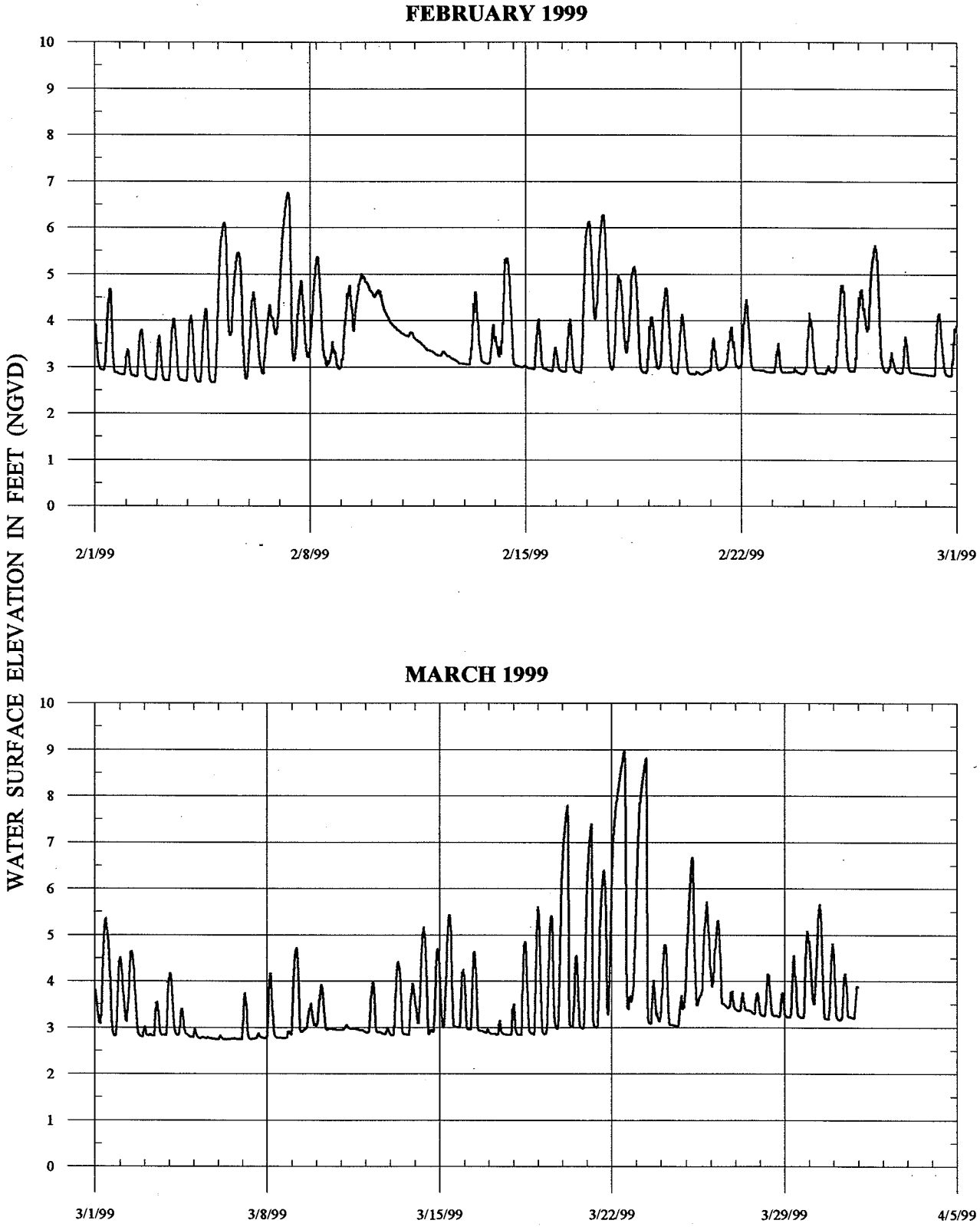


FIGURE F-22

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

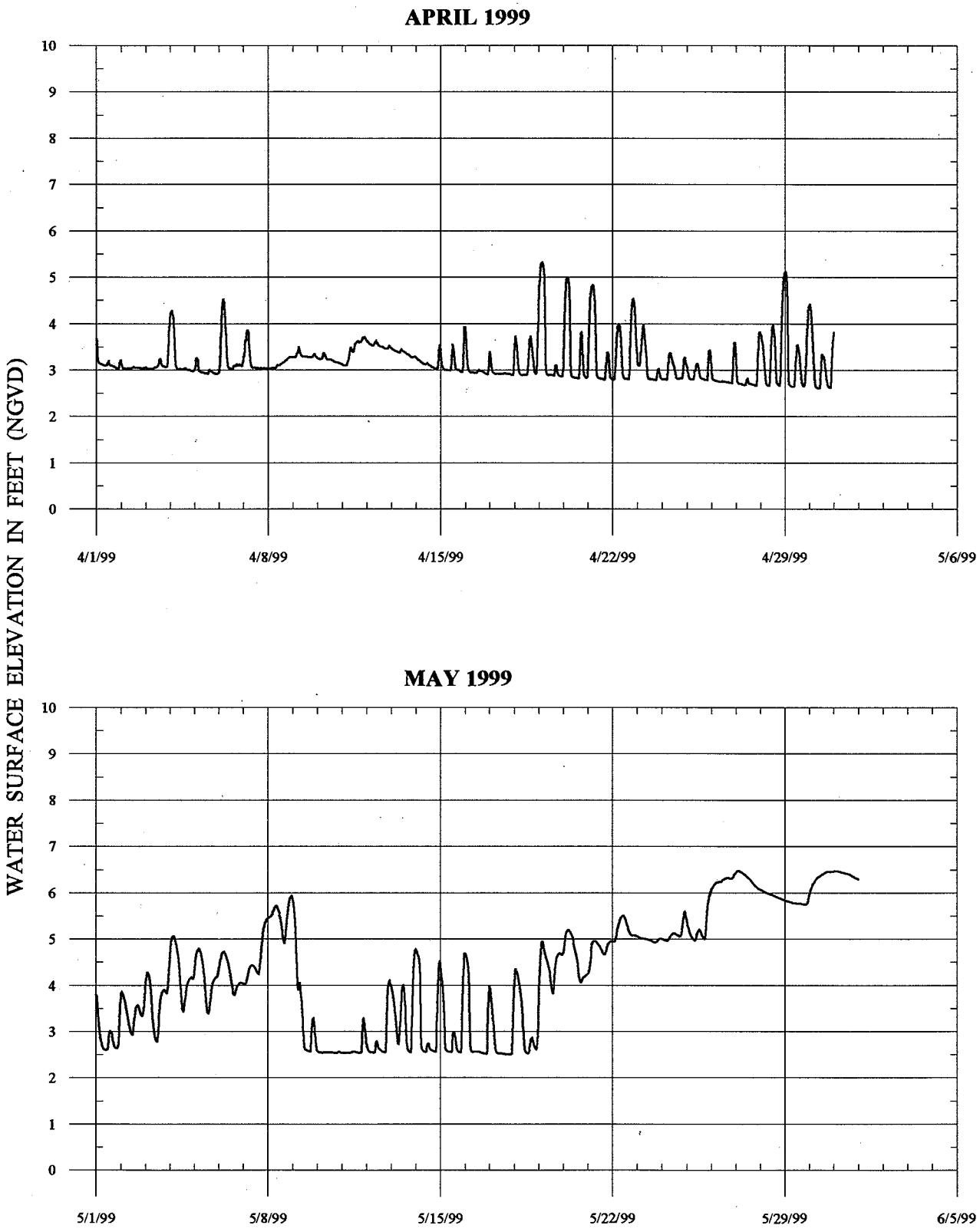


FIGURE F-23

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

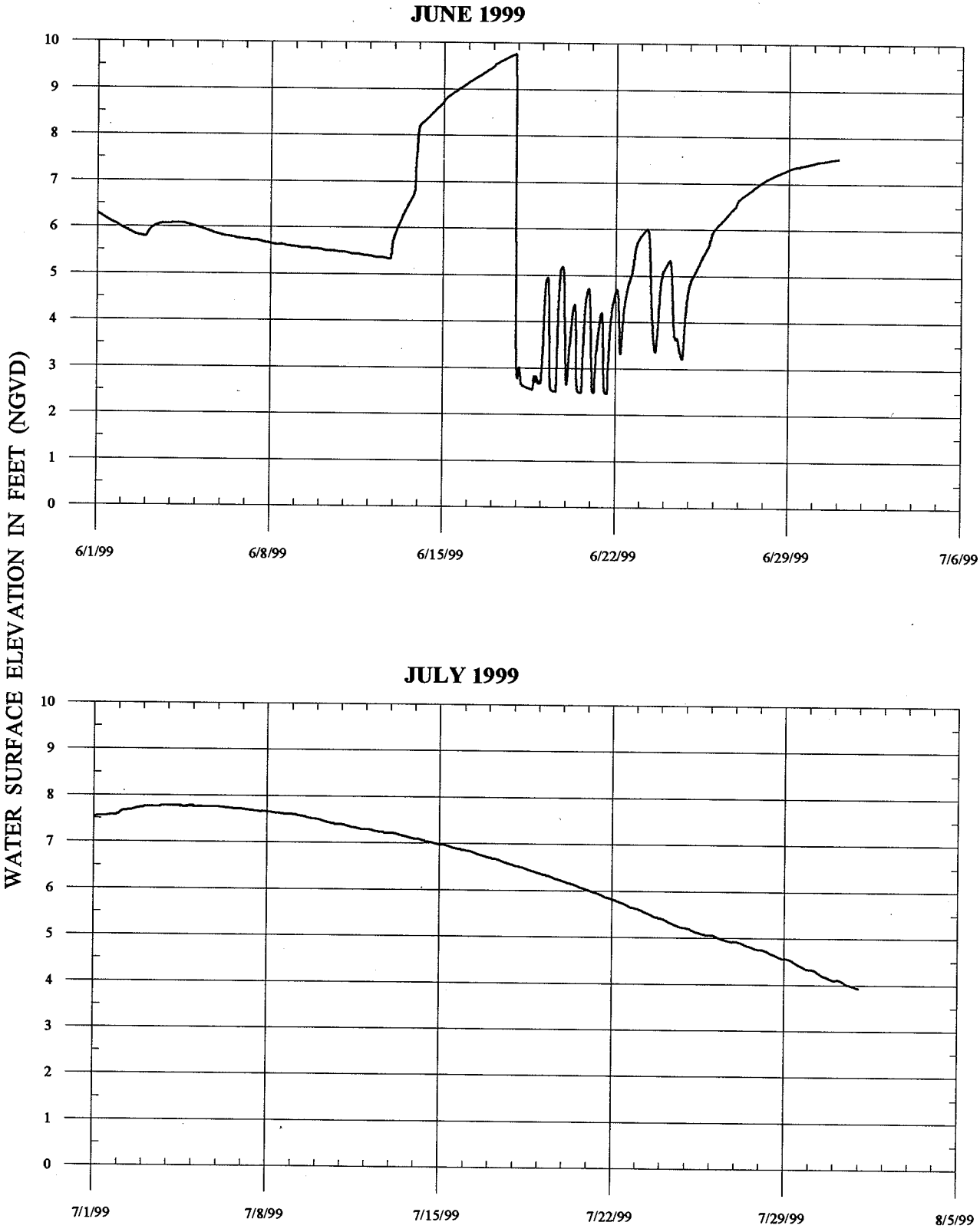
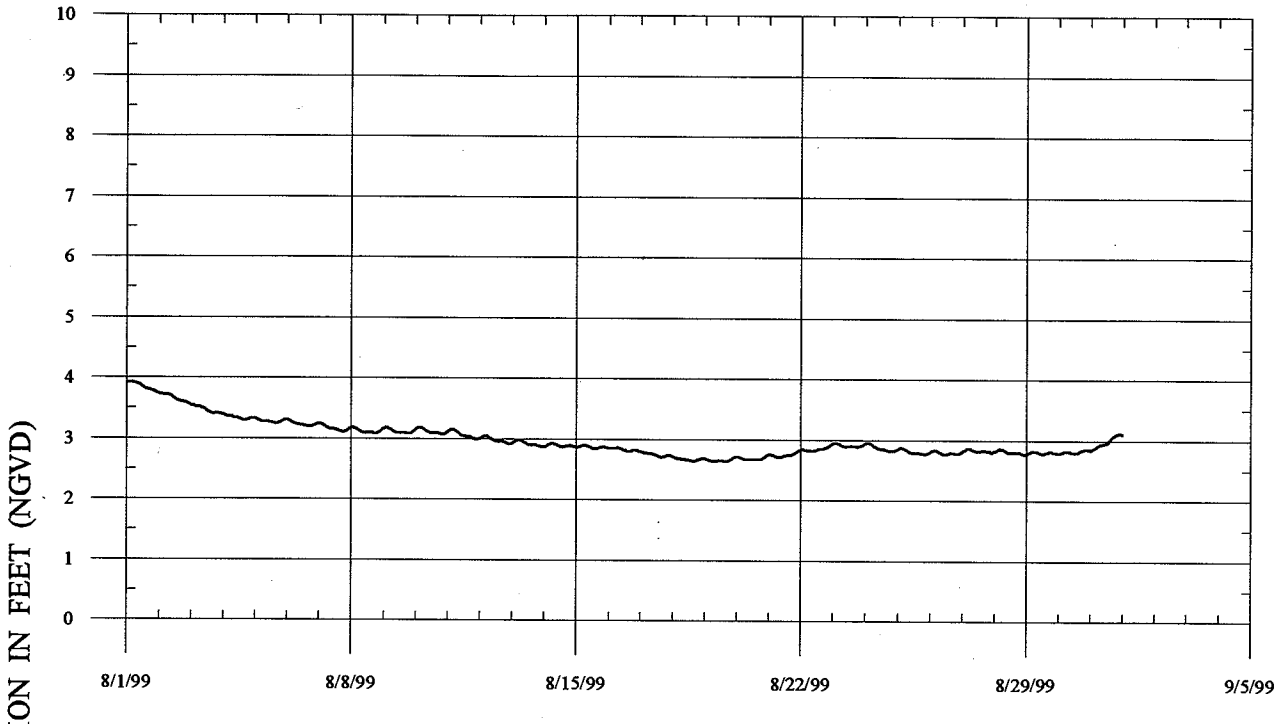


FIGURE F-24

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 1999



SEPTEMBER 1999

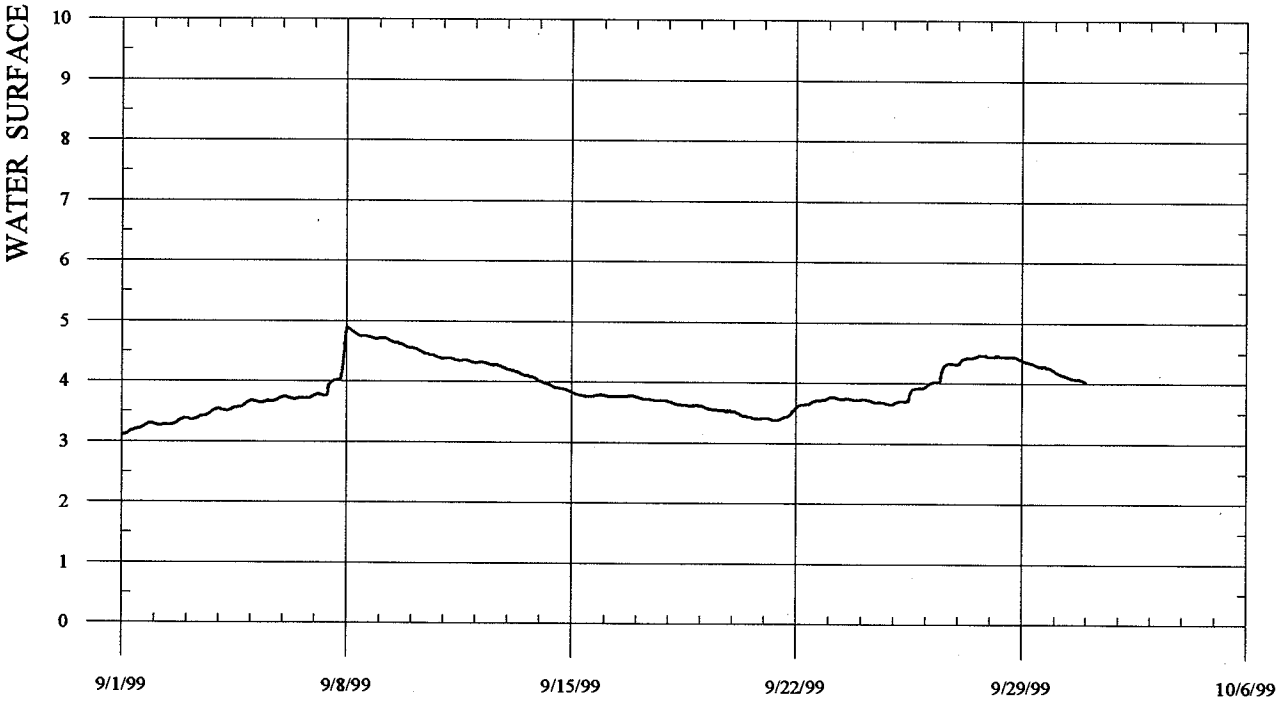
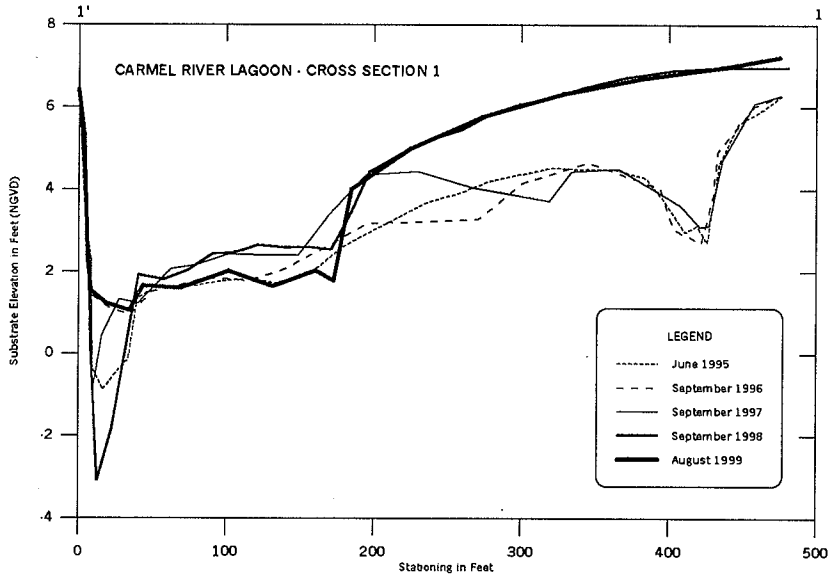
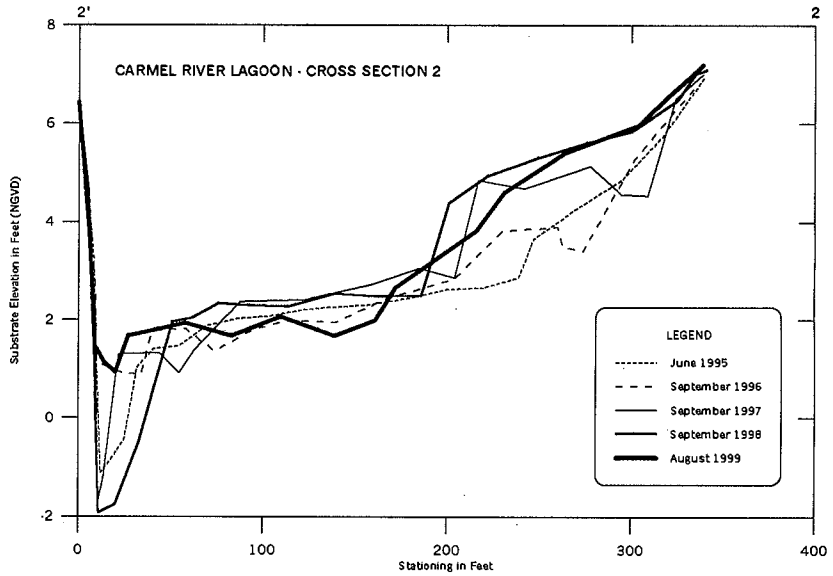


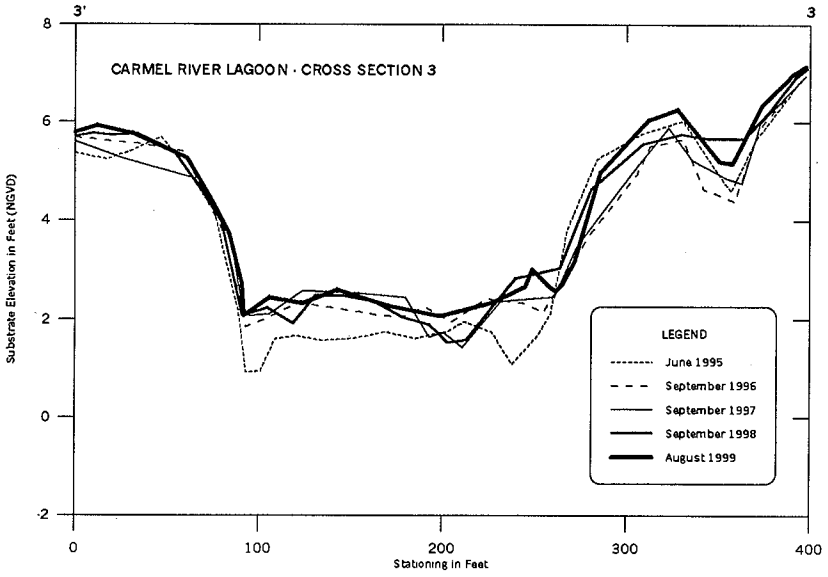
FIGURE F-25

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 1995-1999







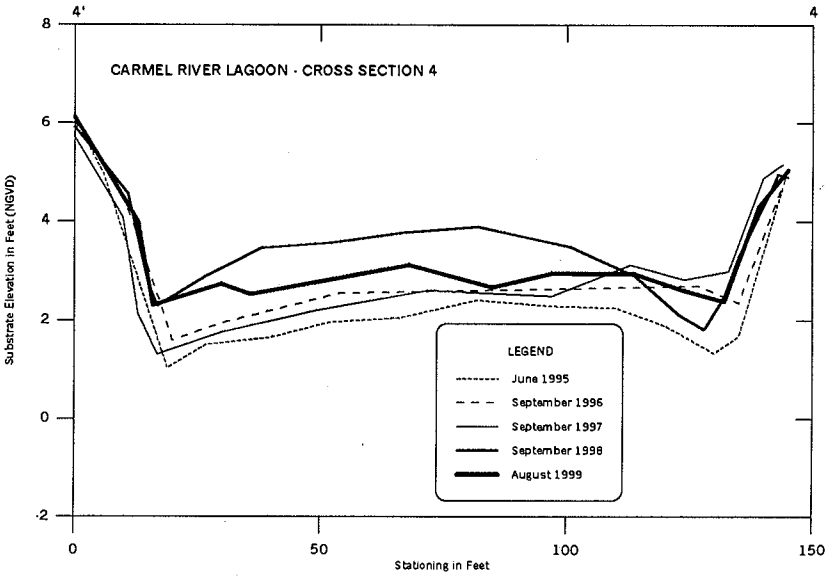
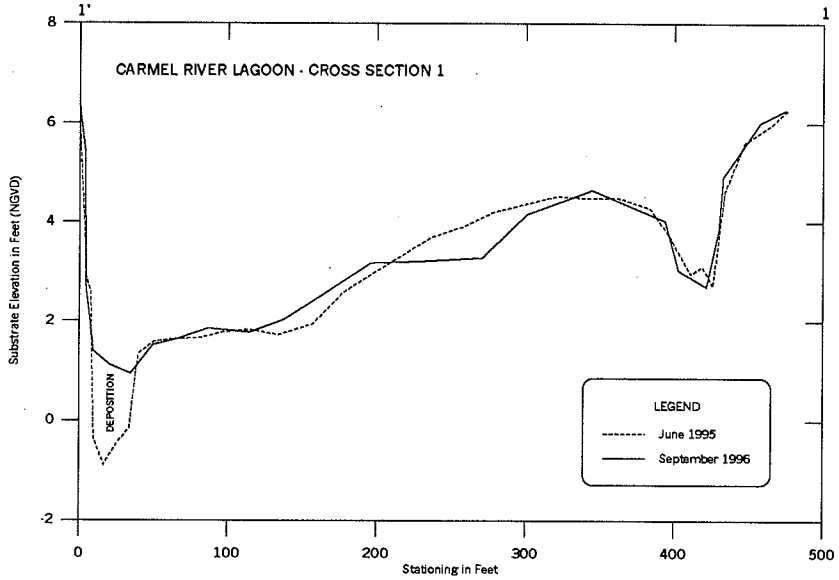
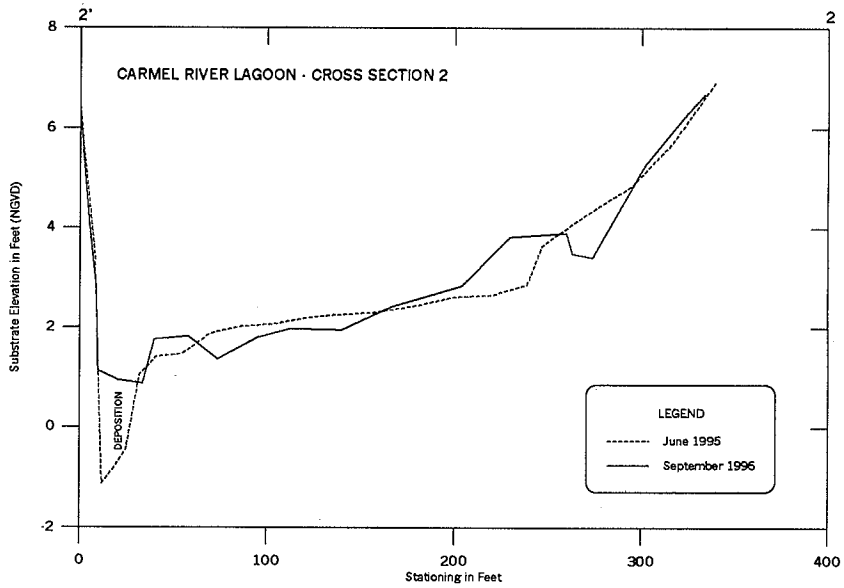


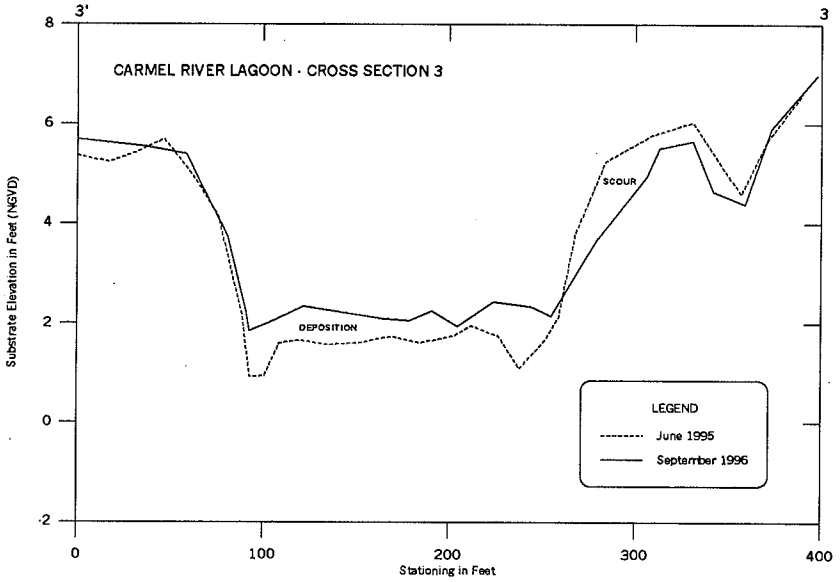
FIGURE F-26

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 1995-1996







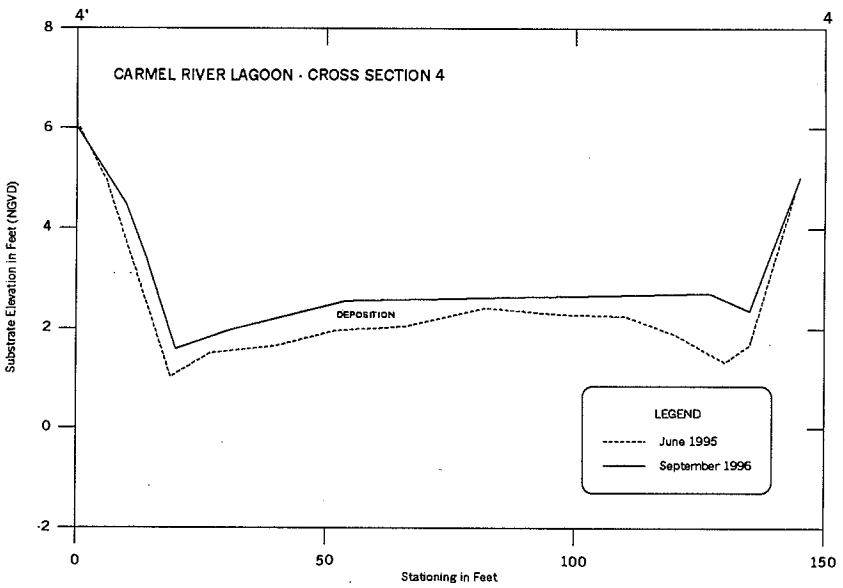


FIGURE F-27

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 1996-1997

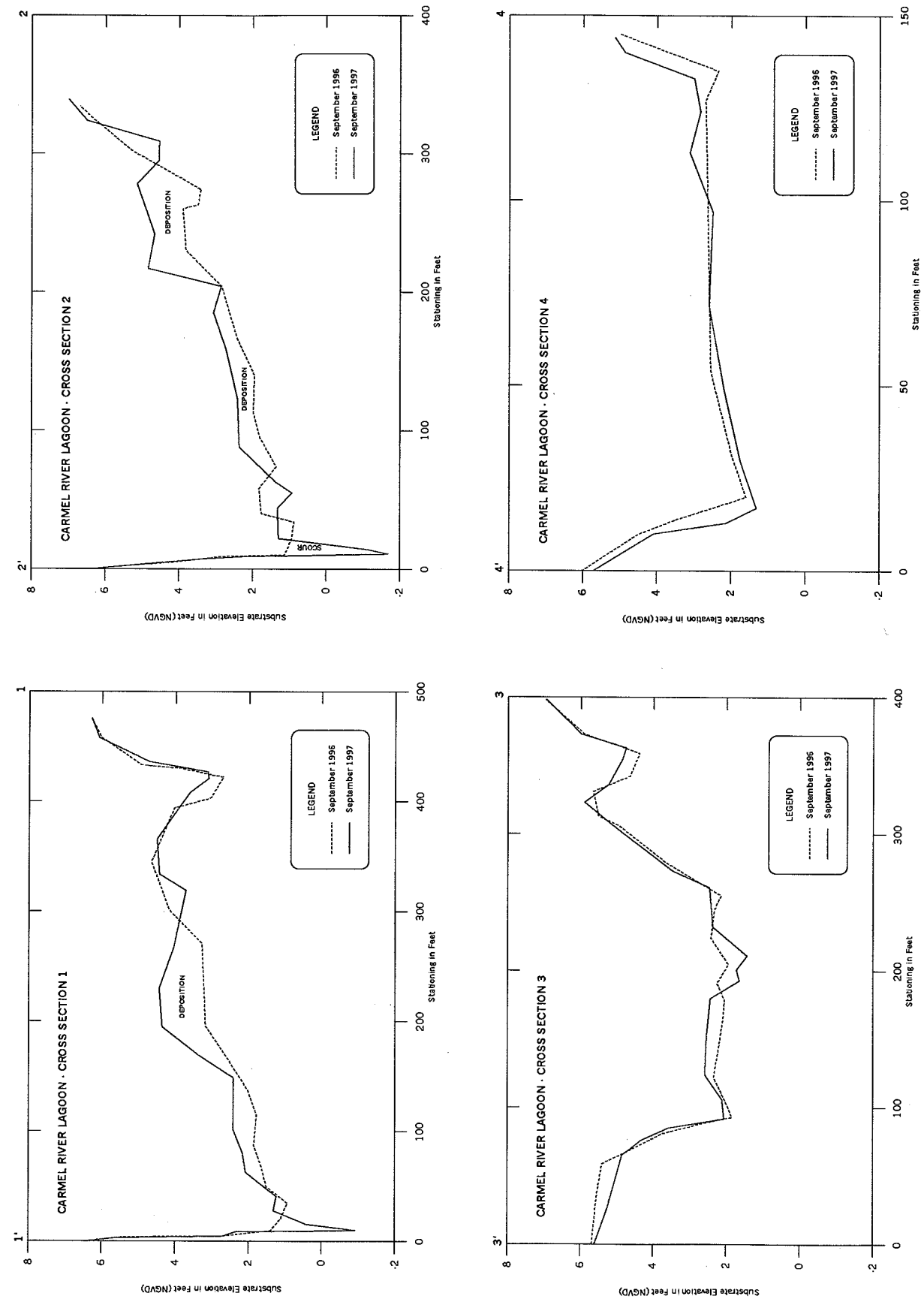
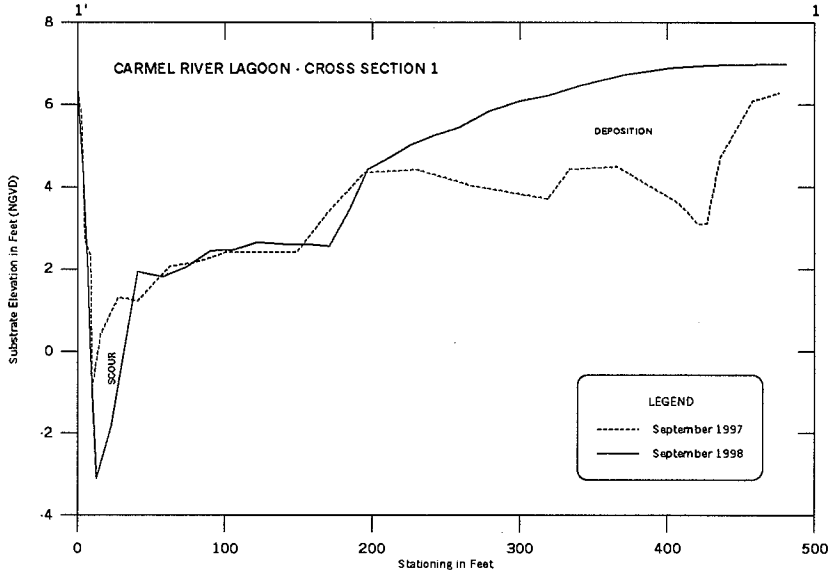
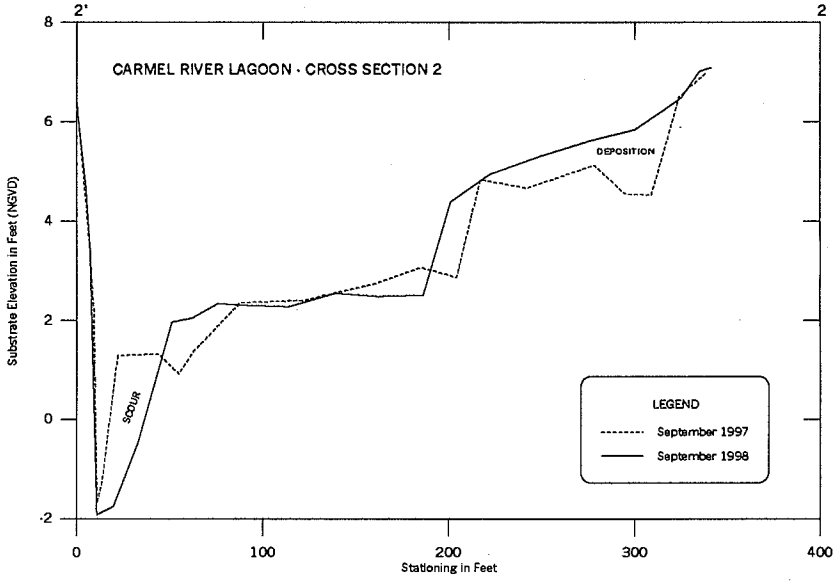


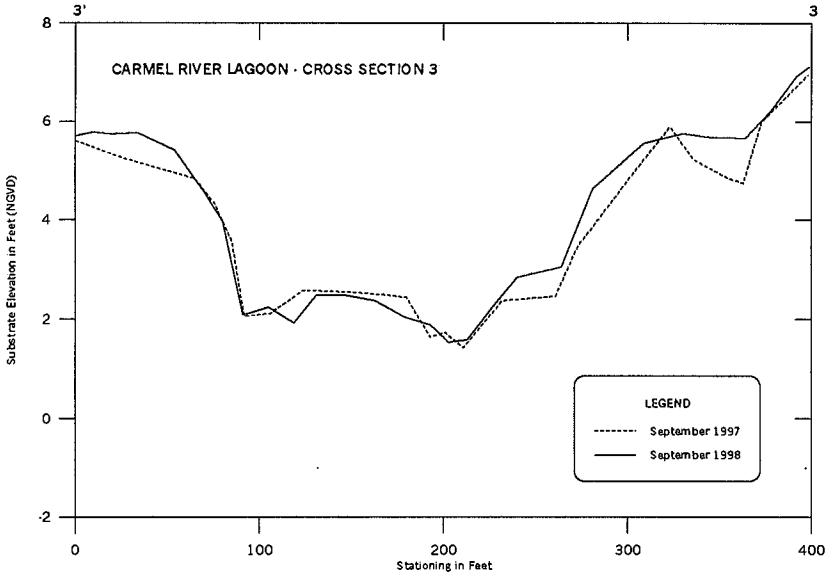
FIGURE F-28

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 1997-1998







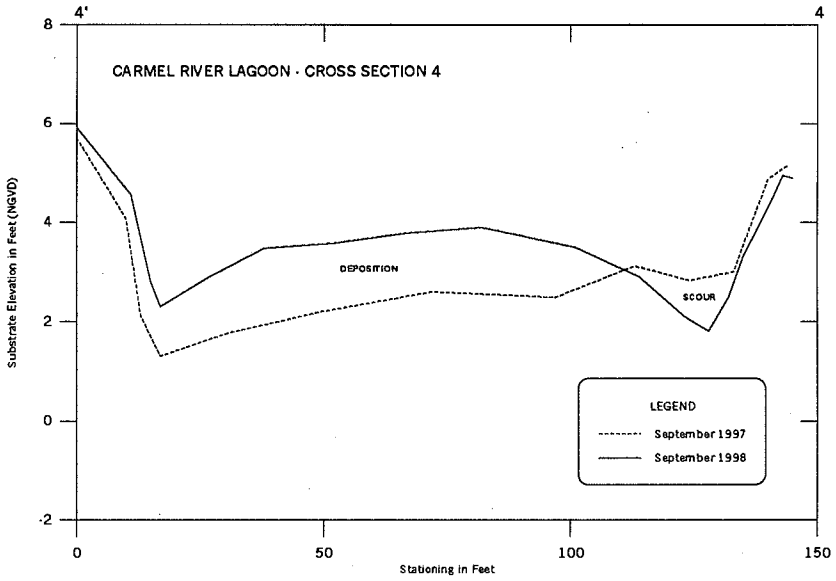


FIGURE F-29

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 1998-1999