MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 2000 - 2003

Prepared By

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JANUARY 2004

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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 including 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.

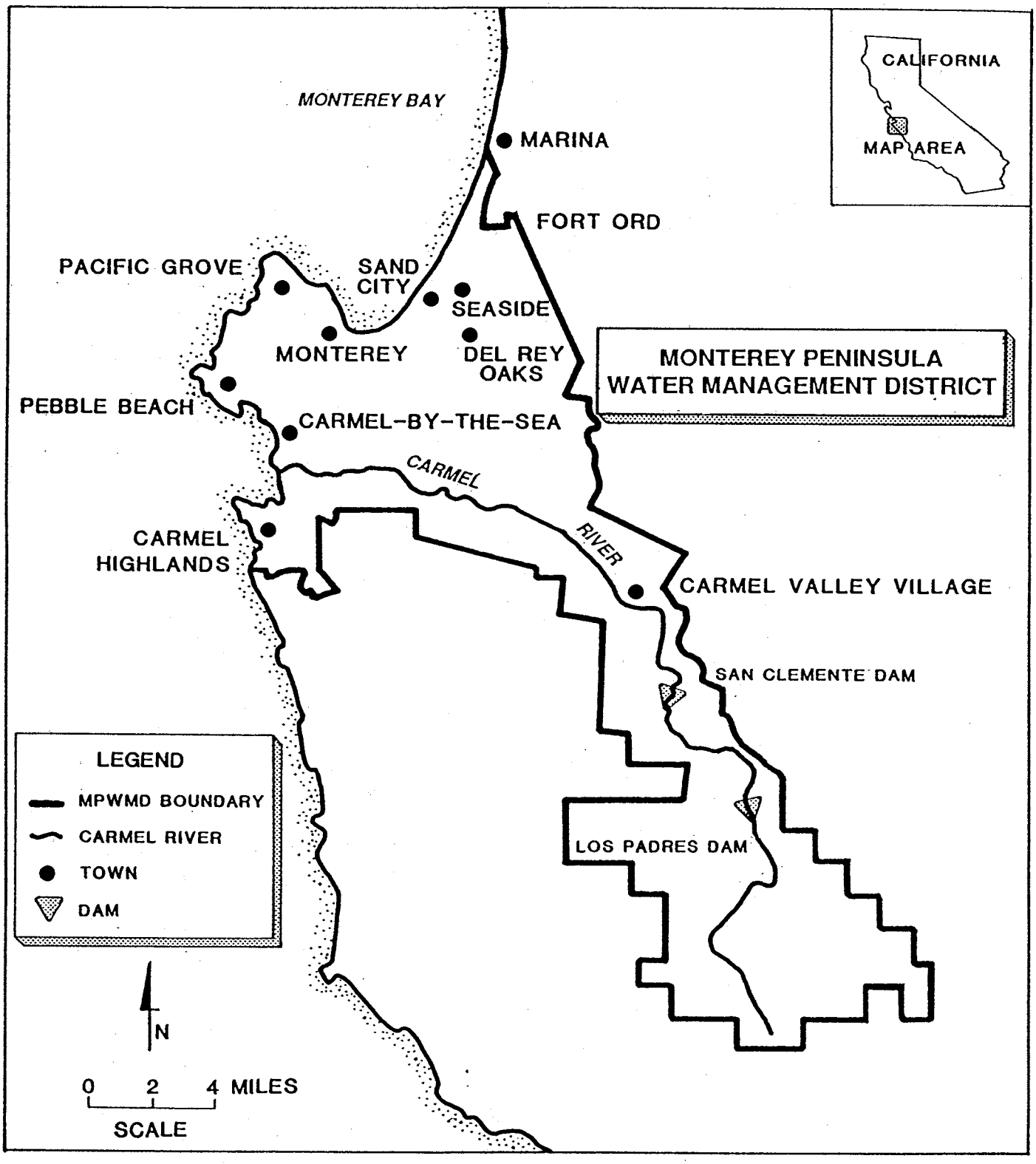
Such information is obtained through the District's Hydrologic Monitoring Program (HMP), which provides an objective basis for developing rational decisions regarding management of the Monterey Peninsula Water Resources System. This report presents surface water data, particularly Carmel River Basin streamflow, and serves as a compilation of these data from Water Years (WY) 2000 through 2003. The scope of this report is limited to documentation of CRB and vicinity 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 and environmental project planning, reservoir operations, 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 15 continuous recording streamflow gaging stations (gaging stations) including four mainstem and nine tributary sites within the CRB **(FIGURE I-2).** The District also maintains two gaging stations outside the CRB at San Jose Creek and Arroyo del Rey at Del Rey Oaks. In addition, the District maintains continuous stage recorders at the Carmel River Lagoon, Los Padres and San Clemente Reservoirs, and collects instantaneous, monthly streamflow measurements on the Carmel River mainstem above 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

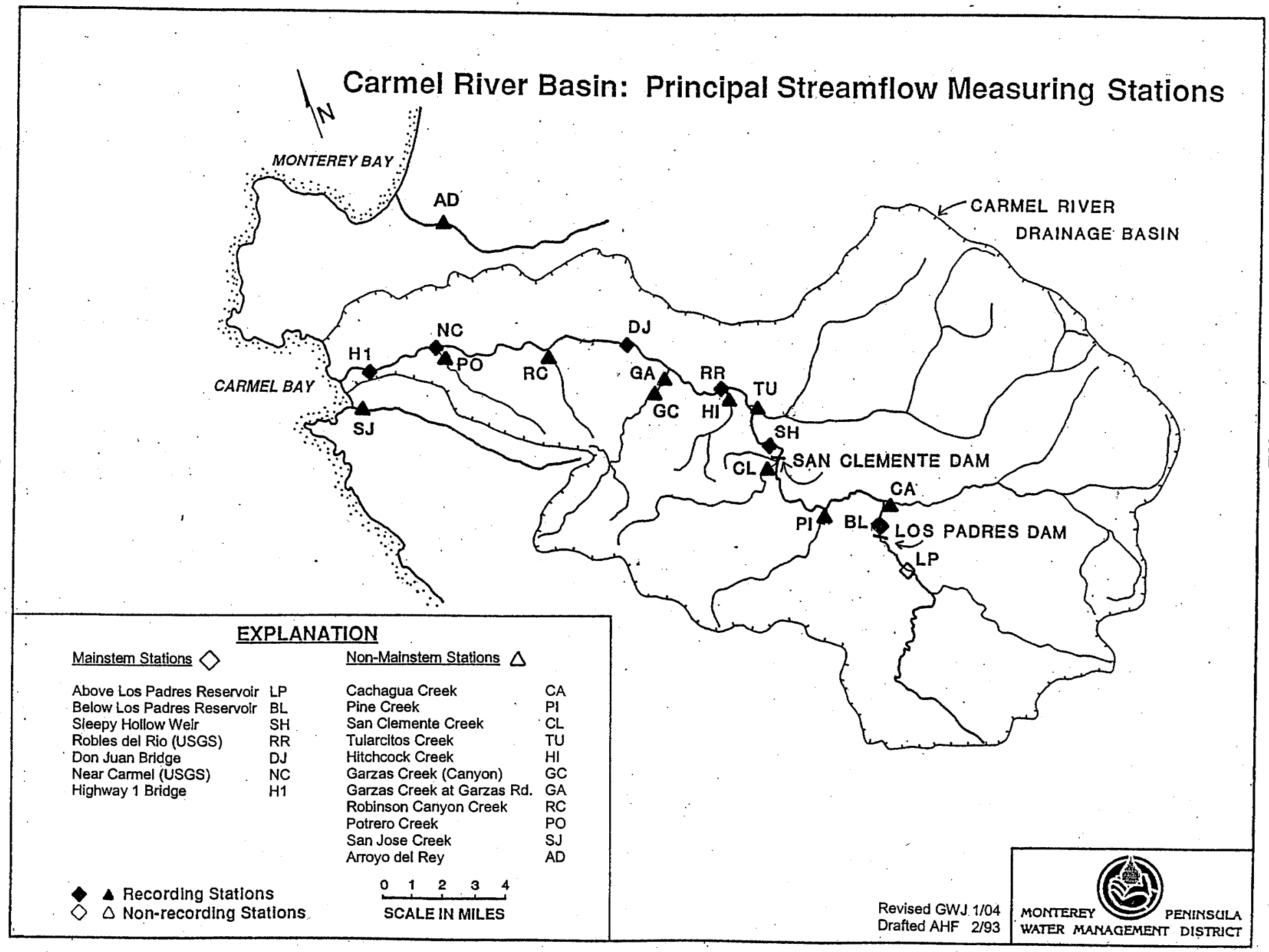

Carmel River Basin: Principal Streamflow Measuring Stations
N
MONTEREY BAY
AD
CARMEL RIVER
DRAINAGE BASIN
NC
DJ
H1
PO
RC
GA
RR
TU
CARMEL BAY
GC
HI
SJ
SH
CL
SAN CLEMENTE DAM
CA
PI
BL
LOS PADRES DAM
LP
EXPLANATION
Mainstem Stations
Non-Mainstem Stations
Above Los Padres Reservoir LP
Below Los Padres Reservoir BL
Sleepy Hollow Weir SH
Robles del Rio (USGS) RR
Don Juan Bridge DJ
Near Carmel (USGS) NC
Highway 1 Bridge H1
Cachagua Creek CA
Pine Creek PI
San Clemente Creek CL
Tularcitos Creek TU
Hitchcock Creek HI
Garzas Creek (Canyon) GC
Garzas Creek at Garzas Rd. GA
Robinson Canyon Creek RC
Potrero Creek PO
San Jose Creek SJ
Arroyo del Rey AD
Recording Stations
Non-recording Stations
0 1 2 3 4
SCALE IN MILES
Revised GWJ 1/04
Drafted AHF 2/93
MONTEREY PENINSULA
WATER MANAGEMENT DISTRICT

FIGURE 1-2

OBJECTIVE

This report is the third in a series, documenting the surface water resources data collected by the District during WY 2000 - 2003. The first report in this series is titled *Carmel River Basin Surface Water Resources Data Report, Water Years 1992-1995* (James, 1996). The second report in this series is titled *Carmel River Basin Surface Water Resources Data Report, Water Years 1996-1999* (James, 1999). 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) has been collected and processed by the District within the CRB and lagoon over the four-year period encompassing WY 2000 through 2003. 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.

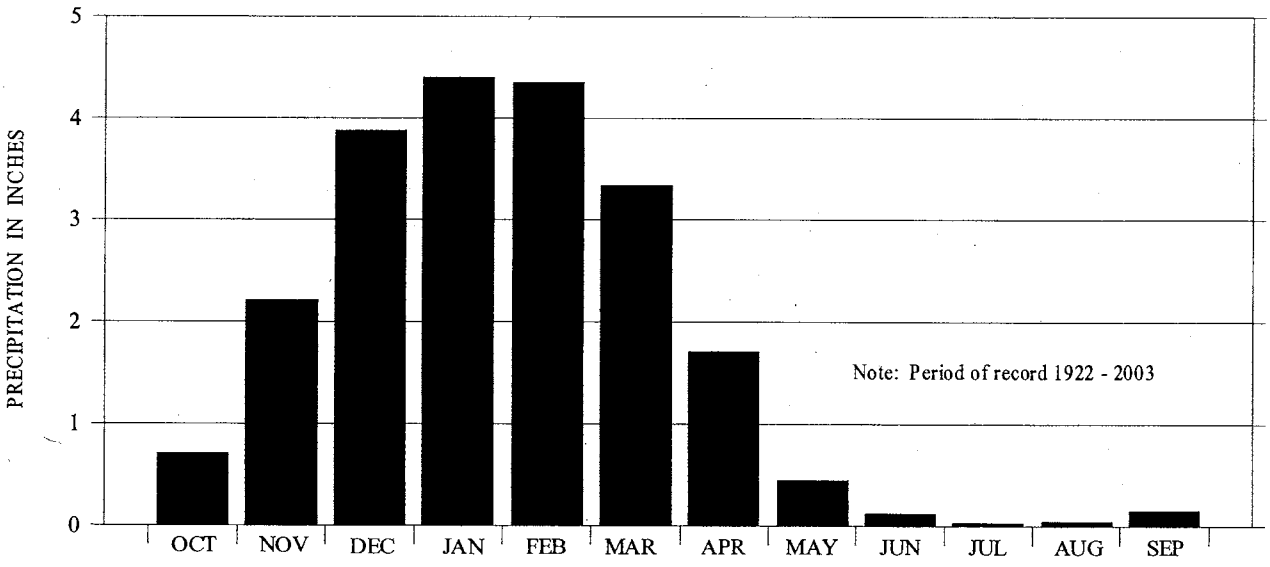
SECTION II - RAINFALL

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 90 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. Pacific Grove Reservoir
4. Monterey

The Los Padres, San Clemente and Pacific Grove Reservoir sites are operated and maintained by the California-American Water Company (Cal-Am), while the Monterey site is maintained by R.J. Renard, meteorologist and volunteer weather observer for Monterey, California. These sites were selected for this report because they are readily available and reliable. It should be noted that two of these sites, Pacific Grove Reservoir and Monterey are located on the Monterey Peninsula and not in Carmel Valley, and are not directly representative of rainfall conditions in the CRB, which is the focus of this report. However, these sites are useful for comparative purposes.

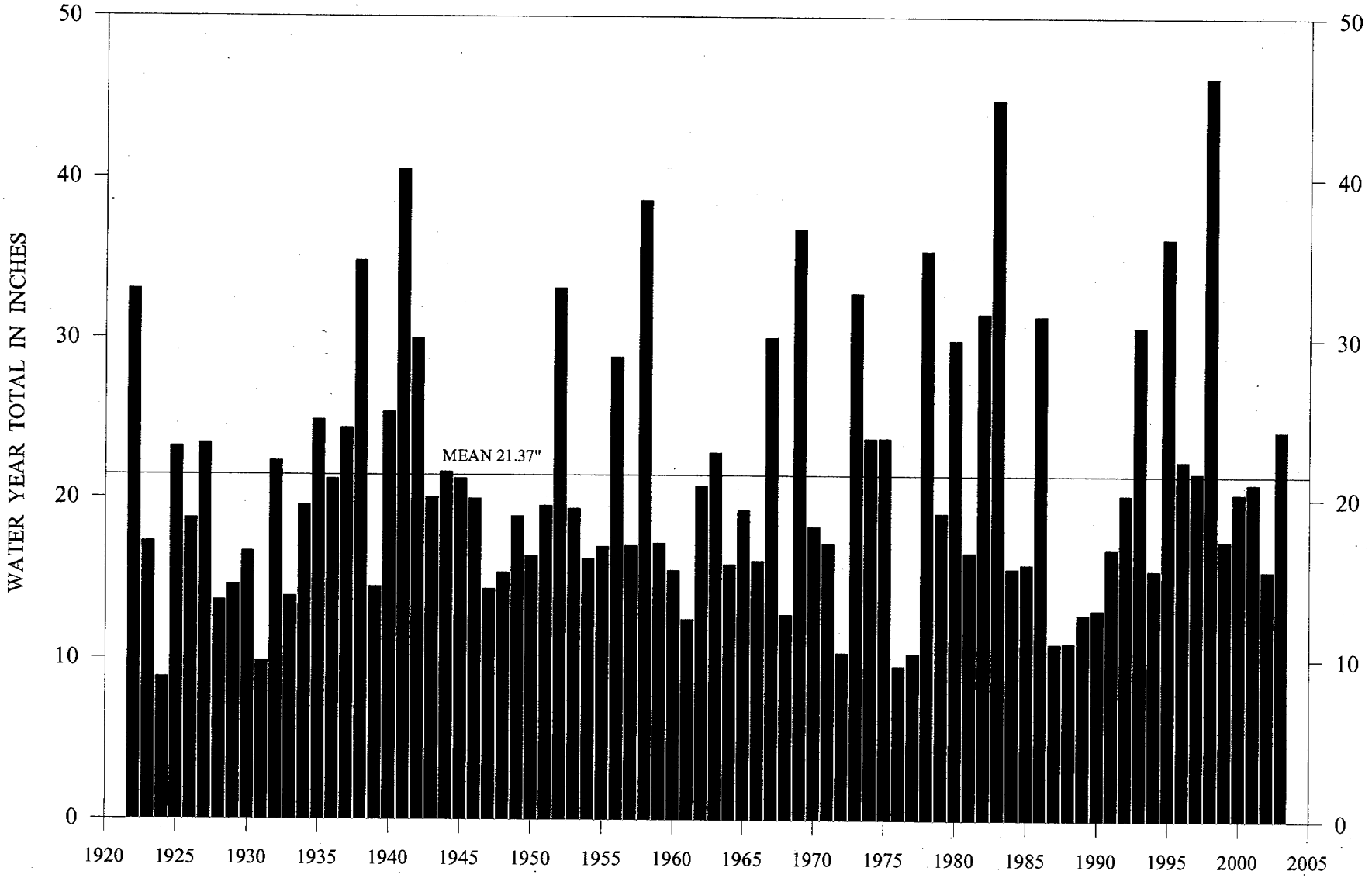
Overall, rainfall within the CRB for the WY 2000 - 2003 period was slightly below average. Within this period, WY 2000 and 2001 were very close to average, 2002 was below average, and 2003 was above average. The chart in **FIGURE II-2** illustrates this condition for the San Clemente Reservoir (SCR) site, and compares these recent years to historical annual rainfall data collected at this site during the WY 1922 - 2003 period. Charts and tables showing monthly and daily rainfall for the four rainfall measuring sites over the WY 2000 - 2003 period are provided in **APPENDIX A.**

An historical summary of SCR rainfall for the WY 1922 - 2003 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 21.37 inches, which represents the arithmetic average of annual recorded values over the WY 1922 - 2003 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 17 suspect months. Review of several 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 17 suspect values.

In general, rainfall over the 2000 - 2002 period was relatively benign. Water Year 2003, which turned out to be an above average rain year, included the fifth wettest December (2002) at SCR with 9.73 inches of rain. Also during WY 2003, the November-December (2002) two month total was the third wettest November-December on record with 14.99 inches of rain. One monthly rainfall record was broken during the period, as October 2000 was the wettest October on record at SCR and Monterey with 3.28 and 4.37 inches, respectively.

RAINFALL AT SAN CLEMENTE RESERVOIR SITE
WATER YEARS 1922 - 2003



Source: California-American Water Company, Monterey District Office

FIGURE II-2

TABLE II-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

RAINFALL AT SAN CLEMENTE RESERVOIR SITE: WATER YEAR 1922 - PRESENT
(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
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

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

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
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
2000	0.02	1.47	0.13	5.91	7.75	2.45	1.78	0.37	0.40	0.00	0.00	0.09	20.37
2001	3.28	0.33	0.27	6.54	5.02	3.00	2.44	0.00	0.00	0.00	0.00	0.11	20.99
2002	0.22	4.24	5.76	1.01	0.97	2.34	0.70	0.30	0.02	0.00	0.00	0.00	15.56
2003	0.00	5.26	9.73	1.58	1.46	1.55	3.50	1.20	0.00	0.00	0.01	0.00	24.29
SUMMARY STATISTICS FOR WATER YEARS 1922 -2003													
MEAN	0.71	2.21	3.88	4.40	4.36	3.34	1.70	0.44	0.12	0.03	0.04	0.16	21.37
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	3.28	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	0.79	1.96	3.09	3.16	3.78	2.66	1.67	0.52	0.21	0.12	0.14	0.36	8.39

Note: Values in bold italic are estimates based on monthly regressions with rainfall at Salinas Airport.
Source: California-American Water Company, Monterey Division.

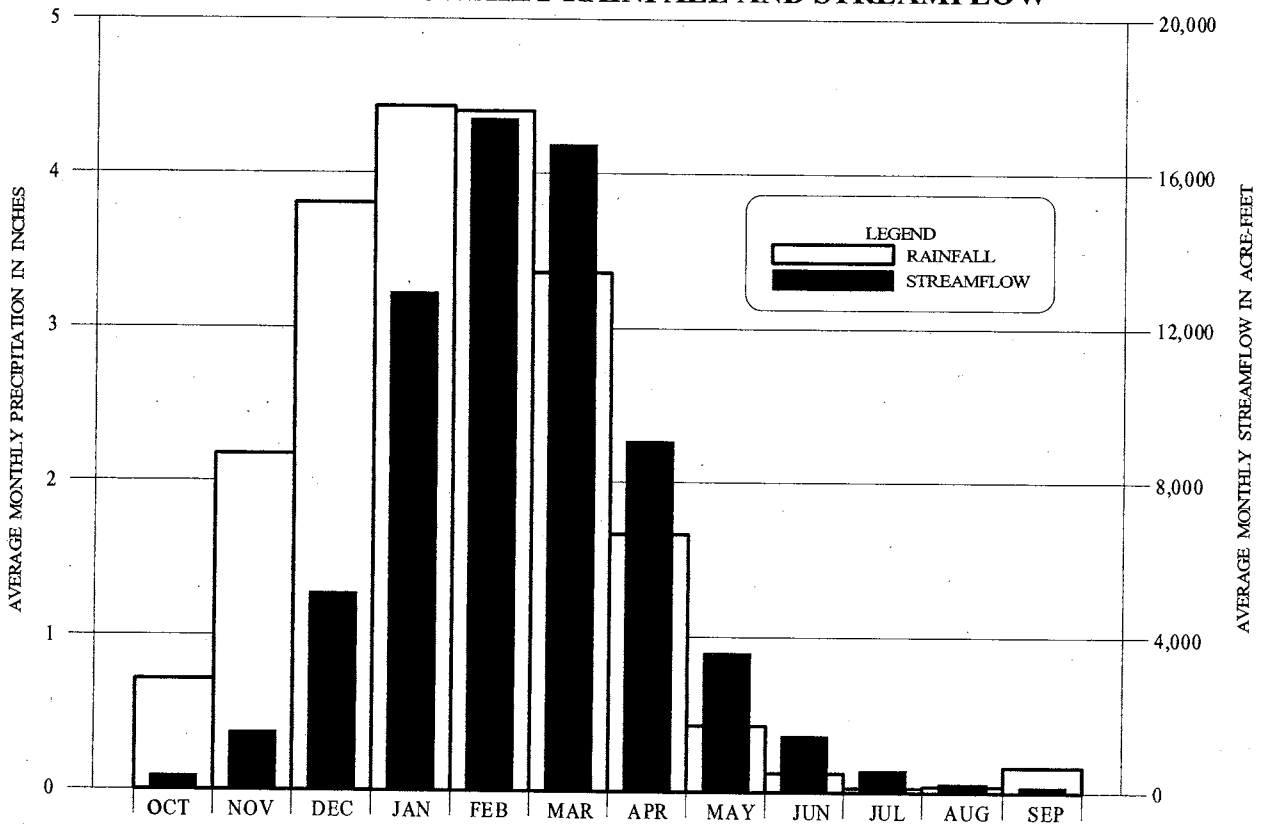
SECTION III - CARMEL RIVER BASIN STREAMFLOW

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

SAN CLEMENTE RESERVOIR SITE
AVERAGE MONTHLY RAINFALL AND STREAMFLOW



Note: Rainfall averages obtained from Table II-1.
Streamflow averages based on unimpaired flows (Table III-2) for the 1902-2003 period simulated by MPWMD.

OVERVIEW: WATER YEARS 2000 - 2003

Overall, streamflow within the Carmel River Basin for the Water Year (WY) 2000 - 2003 period was near normal. Within this period, WY 2000, 2001 and 2003 were normal, and 2002 was below normal. **TABLE III-1** highlights the runoff classification for WY 2000 - 2003. The runoff classifications are based on selected exceedence frequency values computed for the long term, simulated unimpaired flow record at the SCR site for WY 1902 - 2003. Refer to **TABLE III-2** for a more complete tabulation of historic runoff classification at the San Clemente Reservoir (SCR) site. **FIGURE III-2** illustrates the runoff values presented in **TABLE III-2.**

TABLE III-1

CLASSIFICATION OF UNIMPAIRED CARMEL RIVER FLOWS AT SAN CLEMENTE RESERVOIR SITE: WATER YEARS 2000-2003

Water Year	Runoff (acre-feet)	Classification
2000	69,507	Normal
2001	46,625	Normal
2002	32,463	Below Normal
2003	56,022	Normal
Average (1902-2003)	69,000	

FIGURE III-2

UNIMPAIRED CARMEL RIVER FLOW AT SAN CLEMENTE RESERVOIR: 1902 - 2003

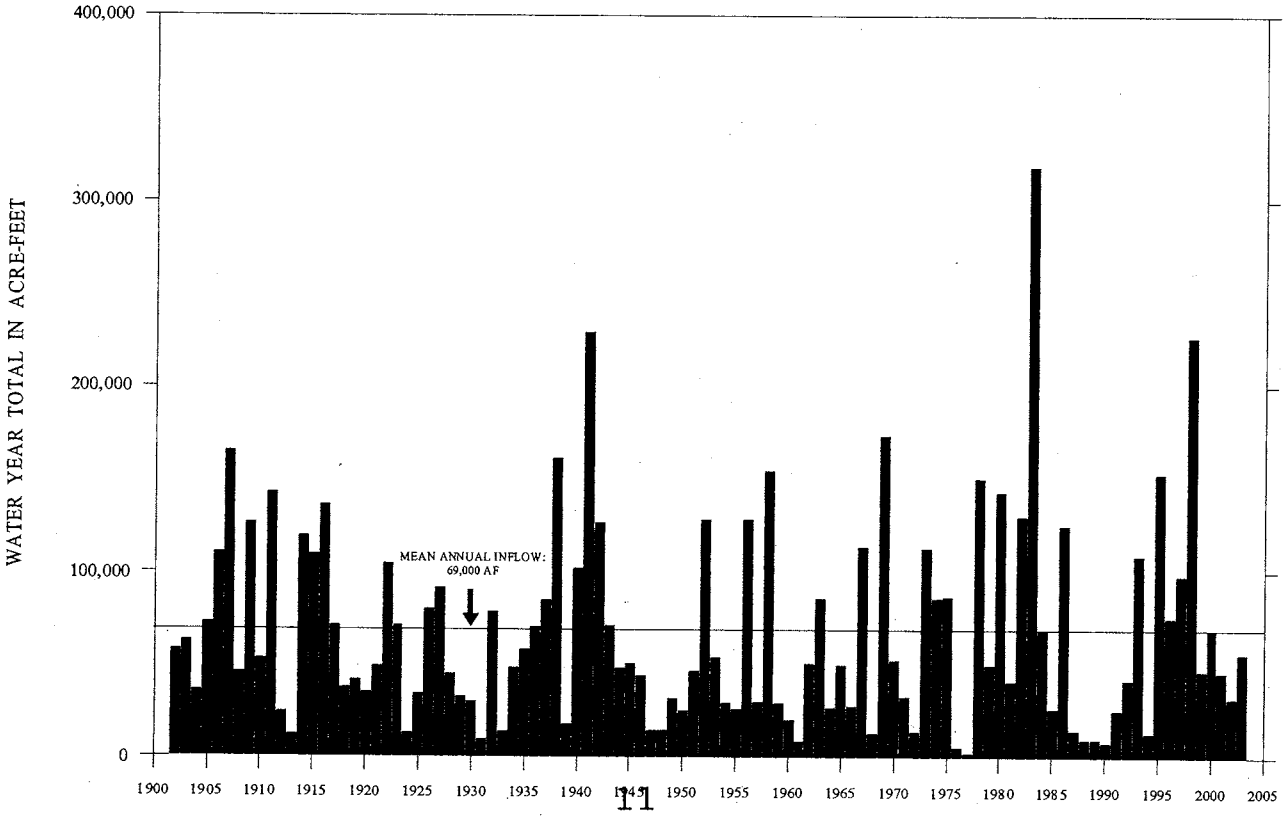


TABLE III-2

Monterey Peninsula Water Management District

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

Water Year	Runoff	Classification	Water Year	Runoff	Classification
1902	58,872	Normal	1953	54,446	Normal
1903	63,516	Normal	1954	29,467	Dry
1904	36,704	Below Normal	1955	26,496	Dry
1905	73,489	Above Normal	1956	128,805	Wet
1906	111,242	Wet	1957	31,002	Below Normal
1907	166,057	Extremely Wet	1958	154,843	Extremely Wet
1908	46,177	Normal	1959	29,702	Below Normal
1909	127,394	Wet	1960	20,780	Dry
1910	53,977	Normal	1961	9,278	Critically Dry
1911	143,892	Extremely Wet	1962	50,942	Normal
1912	24,611	Dry	1963	86,582	Above Normal
1913	12,933	Critically Dry	1964	26,977	Dry
1914	120,075	Wet	1965	49,941	Normal
1915	110,110	Wet	1966	27,892	Dry
1916	136,932	Extremely Wet	1967	114,304	Wet
1917	71,580	Above Normal	1968	13,177	Critically Dry
1918	37,917	Below Normal	1969	174,213	Extremely Wet
1919	42,107	Normal	1970	53,112	Normal
1920	35,198	Below Normal	1971	32,707	Below Normal
1921	49,583	Normal	1972	14,680	Critically Dry
1922	104,977	Wet	1973	113,269	Wet
1923	71,493	Normal	1974	86,102	Above Normal
1924	13,304	Critically Dry	1975	87,211	Above Normal
1925	34,626	Below Normal	1976	6,358	Critically Dry
1926	80,608	Above Normal	1977	2,855	Critically Dry
1927	92,274	Above Normal	1978	151,421	Extremely Wet
1928	45,261	Normal	1979	50,087	Normal
1929	33,188	Below Normal	1980	143,395	Extremely Wet
1930	30,988	Below Normal	1981	41,445	Below Normal
1931	9,988	Critically Dry	1982	130,522	Extremely Wet
1932	79,097	Above Normal	1983	318,987	Extremely Wet
1933	14,383	Critically Dry	1984	69,179	Normal
1934	49,058	Normal	1985	26,611	Dry
1935	58,486	Normal	1986	125,911	Wet
1936	70,684	Normal	1987	15,551	Dry
1937	85,456	Above Normal	1988	10,083	Critically Dry
1938	161,366	Extremely Wet	1989	10,248	Critically Dry
1939	18,297	Dry	1990	8,606	Critically Dry
1940	102,907	Wet	1991	25,965	Dry
1941	229,468	Extremely Wet	1992	41,777	Normal
1942	126,930	Wet	1993	109,505	Wet
1943	71,489	Normal	1994	13,313	Critically Dry
1944	48,730	Normal	1995	153,118	Extremely Wet
1945	51,264	Normal	1996	75,412	Above Normal
1946	44,886	Normal	1997	98,561	Above Normal
1947	14,743	Dry	1998	226,901	Extremely Wet
1948	14,703	Dry	1999	47,206	Normal
1949	31,955	Below Normal	2000	69,507	Normal
1950	25,543	Dry	2001	46,625	Normal
1951	47,061	Normal	2002	32,463	Below Normal
1952	128,995	Wet	2003	56,022	Normal

Notes:

1. Year type classifications are based on the Carmel River Basin Runoff Index.
2. Outlined years indicate two or more consecutive dry or critically dry years and are defined as hydrologic droughts.
3. Runoff values for Water Years 1902-2001 were reconstructed by the Monterey Peninsula Water Management District (District). The runoff values for WY 2002 & 2003 were computed by the District.

STATION DESCRIPTIONS

Descriptions of the 17 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 (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 from which the summary reports included in this document are produced. 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 current meter measurement with fairly uniform flow, where the highest partial section flow is approximately five percent of the total measured flow is considered "good". Flume measurements are generally 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 the instantaneous measurements collected prior to WY 1992, 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
1. Los Padres Reservoir	16. Tularcitos Creek
2. Carmel River below Los Padres Reservoir	17. Garzas Creek at Garzas Road
3. Cachagua Creek	18. Carmel River at Don Juan Bridge
4. Pine Creek	
5. San Clemente Creek	
6. San Clemente Reservoir	
7. Carmel River at Sleepy Hollow Weir	
8. Hitchcock Creek	
9. Garzas Creek near Lower Garzas Canyon	
10. Robinson Canyon Creek	
11. Potrero Creek	
12. Carmel River at Highway 1 Bridge	
13. Carmel River Lagoon	
14. San Jose Creek	
15. Arroyo del Rey at Del Rey Oaks	

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 (i.e., 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 - 2002). 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 - 2003 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 spatial 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.

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-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** shows how the various tributaries ranked in flow contribution over the past 11 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 8,800 acre-feet (AF) annually over the period. 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.

Mainstem Flow

In general, total annual Carmel River streamflow generally gains in a downstream direction in above normal years through extremely wet years due to tributary inflow. In normal through critically dry years losses in streamflow occur due to ground water extraction. This is seen in several water years including 1992, 1994, and 1999 through 2003. Refer to **Table III-2** for the runoff classifications for these years.

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) typically 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.

APPENDIX E lists the peak of the year at the mainstem or tributary site indicated. In some cases when 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 WY 2002, Carmel River at Highway 1 Bridge site).

CARMEL RIVER BASIN - ANNUAL STREAMFLOW SUMMARY
WATER YEARS 1992 - 2003
(Values in Acre-Feet)

TRIBUTARY SITES	DRAINAGE AREA (Square Miles)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CACHAGUA CREEK	46.3	1,780	7,340	560	16,320	3,840	4,990	23,800	2,590	1,730	1,500	245	1,270
PINE CREEK	7.8	3,750	9,800	1,230	11,110	6,550	8,300	15,610	4,540	5,300	3,270	2,300	4,250
SAN CLEMENTE CREEK	15.6	5,450	17,070	1,820	20,580	9,310	14,100	33,380	7,130	9,830	5,340	3,270	5,850
TULARCITOS CREEK	56.3	635	3,220	444	5,100	1,650	2,450	22,610	3,810	2,450	1,490	630	552
HITCHCOCK CREEK	4.6	*	*	52	1,820	451	716	2,970	169	482	214	18	274
GARZAS CREEK	13.2	3,700	11,170	746	12,140	4,890	8,570	24,610	5,050	4,980	3,070	1,200	2,760
ROBINSON CANYON CREEK	5.4	619	2,360	89	2,230	619	1,430	6,890	545	823	433	82	448
POTRERO CREEK	5.2	*	*	30	1,790	506	1,210	5,970	855	1,020	310	43	210
SAN JOSE CREEK (outside CRB)	14.2	*	*	*	*	*	*	*	6,400	6,260	2,890	1,100	1,880
MAINSTEM SITES	**DRAINAGE AREA (Square Miles)**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
CARMEL RIVER AT ROBLES DEL RIO	193	38,240	109,000	11,800	155,000	75,210	99,340	250,300	54,640	76,750	47,180	31,850	---
CARMEL RIVER AT DON JUAN BRIDGE	216	*	122,000	12,760	173,600	83,090	111,800	252,200	53,570	73,960	49,360	31,330	60,420
CARMEL RIVER NEAR CARMEL	246	35,570	123,400	8,200	177,400	74,500	104,100	261,100	55,000	76,190	47,790	28,340	---
CARMEL RIVER AT HIGHWAY 1 BRIDGE	252	*	123,000	7,410	179,500	83,430	112,000	280,900	50,810	72,660	42,860	24,860	52,000

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.
4. San Jose Creek is outside the Carmel River Basin, but is shown for comparison.

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

TRIBUTARY SITES	Drainage Area (Square Miles)	% of CRB Area	% of Total Tributary Flow Contribution by WY											
			1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1993-03
SAN CLEMENTE CREEK	15.6	6	14	25	11	11	13	12	14	14	12	13	11	12
GARZAS CREEK	13.2	5	9	10	7	6	8	9	10	7	7	5	5	8
PINE CREEK	7.8	3	8	17	6	8	7	6	9	7	8	9	8	7
CACHAGUA CREEK	46.3	18	6	8	9	5	4	8	5	2	3	1	2	6
TULARCITOS CREEK	56.3	22	3	6	3	2	2	8	7	3	3	3	1	4
ROBINSON CANYON CR.	5.4	2	2	1	1	1	1	2	1	1	1	0	1	2
POTRERO CREEK	5.2	2	---	0	1	1	1	2	2	1	1	0	0	1
HITCHCOCK CREEK	4.6	2	---	1	1	1	1	1	0	1	0	0	1	1
Total	154.4	60		67	40	33	37	48	49	37	36	31	30	41

NOTES:

1. Percent of Carmel River Basin (CRB) figures are based on a total basin area of 252 square miles (Sq. Mi.).
2. Percent of total flow contribution figures are based on the total annual flow at Carmel River at 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 1993-2003 period do not incorporate Water Year 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.

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 were upgraded in November 1993, and the site 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, 1999 through September 30, 2003 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 three year period include a maximum level of 12.04 feet on January 11, 2001, and a minimum of 2.17 feet on March 29, 2001. 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 during the lowest daily ocean tide with an open lagoon mouth, or during the late summer when the lagoon mouth is closed.

It should be noted that the peak level of 12.04 feet is the highest recorded lagoon elevation since District record keeping began in 1987, and was a result of unusually high surf and tide that surged over the beach berm filling the lagoon **(FIGURE IV-2)**. Prior to this event, the lagoon mouth was closed, and the Carmel River had been flowing into the lagoon since early December at a rate of 5 to 10 cfs, slowly filling it. On January 11, 2001, a powerful Pacific Storm produced unusually high ocean swells of approximately 25 feet, that coincided with a high tide of 6.6 feet (NOAA tide chart for Monterey Bay). In addition, the lagoon water surface level was already over nine feet. Under these conditions, the high surf washed over the beach berm at the lagoon mouth and filled the lagoon to a peak level of 12.04 feet (National Geodetic Vertical Datum) according to the District continuous recording equipment. Later on January 11 as the tide and surf subsided, the Monterey County Department of Public Works (MCDPW) bulldozed a channel through the beach berm and drained the lagoon. This is indicated by the sharp drop in water level indicated in the plot. Additional discussion regarding the January 11, 2001 lagoon flooding event is described in the MCPWD's report on the Emergency Breaching of the Carmel River Mouth, dated January17, 1002 (Lundquist, 2001).

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. For additional information on lagoon characteristics the reader is referred to a series of reports prepared by the Watershed Institute, California State University Monterey Bay. These reports and other lagoon information can be found within the Central Coast Watershed Studies (CCoWS) home page at the following web site: http://science.csumb.edu/~ccows/.

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 (i.e., first of the season) breaching events, and where they appear in **APPENDIX F**. A more complete listing of initial breaching events since 1988 is presented as **TABLE IV-2**. 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
2000	January 24, 2000	Figure F-2
2001	January 11, 2001	Figure F-8
2002	December 3, 2001	Figure F-14
2003	December 16, 2002	Figure F-20

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 1999-2003 survey data, the lagoon does not appear to be gaining or losing volume during this time period. Rather, the sand supply appears to be in a state of dynamic equilibrium as indicated in this short-term

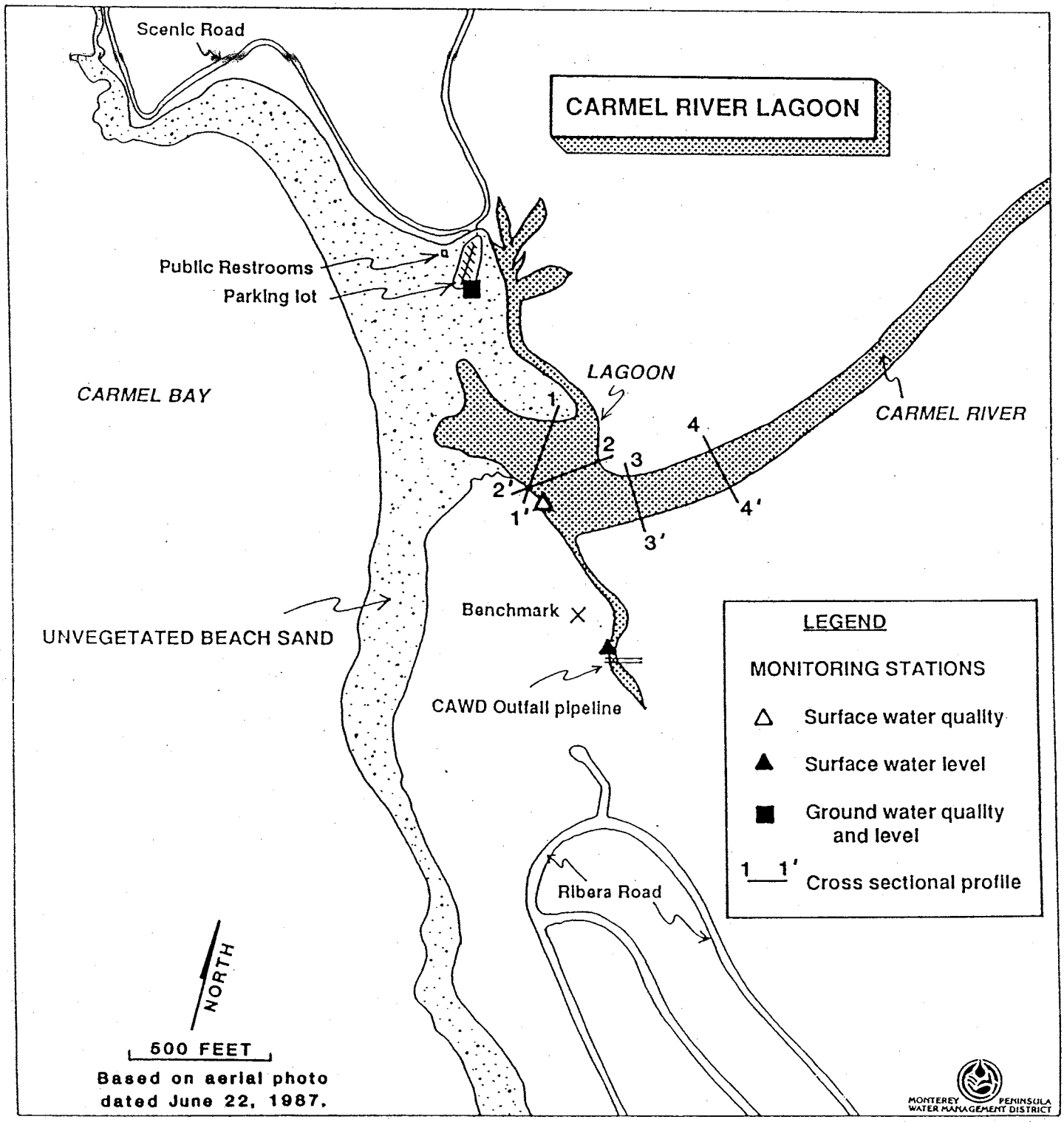
data set. One notable feature in the plots is the broad sand bar in Cross Section 1 that developed following Winter 1998, and remained unchanged until WY 2003. At some time during Winter 2002-2003, a large portion of this sandbar scoured, possibly during the peak flow of approximately 3,800 cfs, and associated lagoon mouth breaching on December 16, 2002. **FIGURES 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-3 and IV-4** 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-3 and IV-4**.

FIGURE IV-1


Scenic Road
CARMEL RIVER LAGOON
Public Restrooms
Parking lot
CARMEL BAY
LAGOON
CARMEL RIVER
1
2
3
4
2'
1'
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

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

Carmel River Lagoon
January 2001

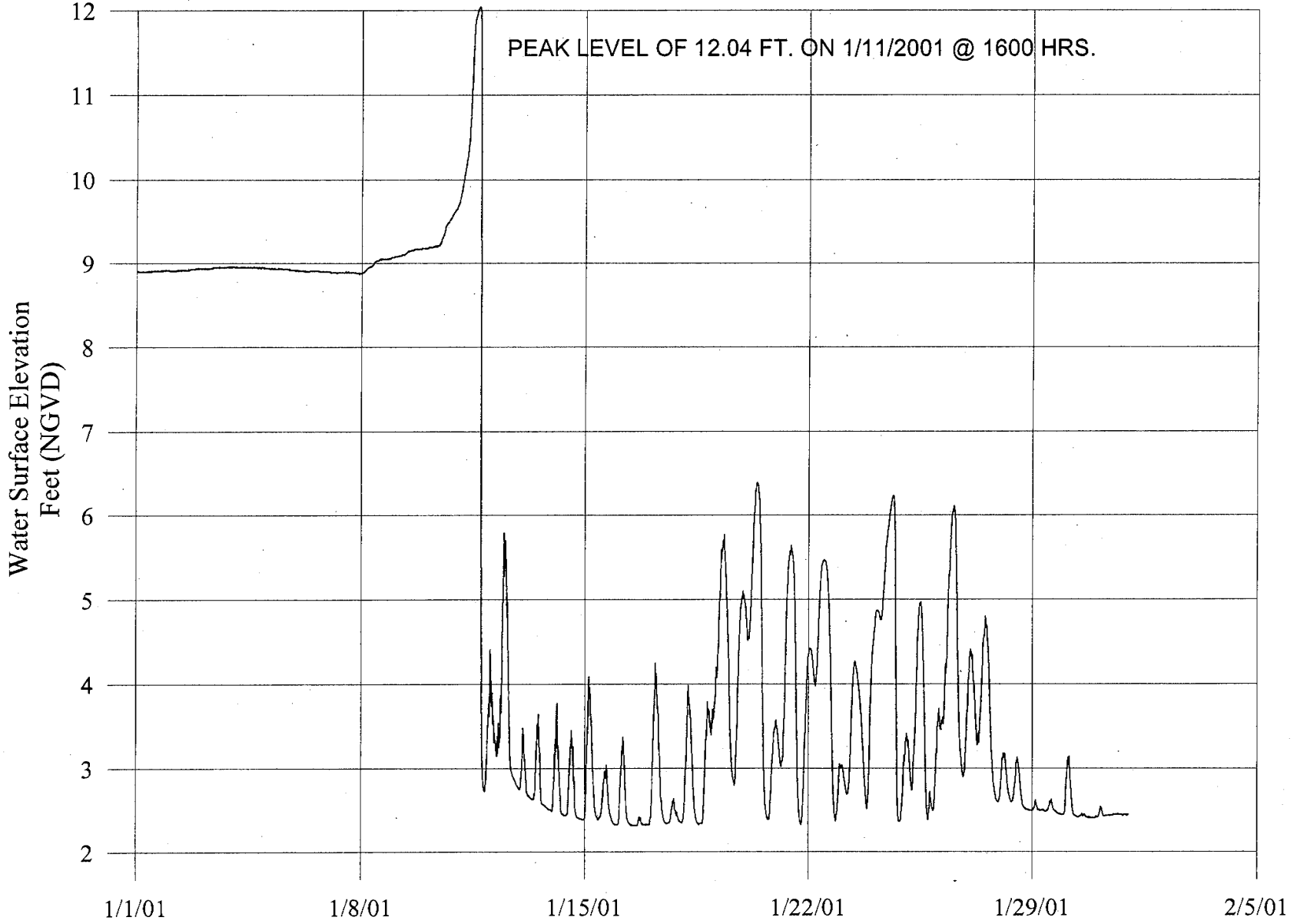


FIGURE IV-2

TABLE IV-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

SEASONAL CARMEL RIVER LAGOON OPENINGS
WATER YEARS 1988 – 2003

WATER YEAR	SEASONAL OPENING
1988	No river flow to ocean
1989	No river flow to ocean
1990	No river flow to ocean
1991	March 18, 1991
1992	February 11, 1992
1993	January 3, 1993
1994	February 17, 1994
1995	January 9, 1995
1996	December 13, 1995
1997	December 9, 1996
1998	December 6, 1997
1999	November 3, 1998
2000	January 24, 2000
2001	January 11, 2001
2002	December 3, 2001
2003	December 16, 2002

Notes:

1. Except as indicated all seasonal openings are assumed to coincide with emergency breaching activities conducted by the Monterey County Public Works Department (MCPWD).
2. In WY 2003, the MCPWD conducted an emergency breaching of the lagoon on December 15, 2003. However, high surf and tides (and other factors) precluded draining of the lagoon until the following day.

TABLE IV-3

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-4

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.

SECTION V - REFERENCES CITED

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MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 2000 - 2003

APPENDIX A

RAINFALL DATA

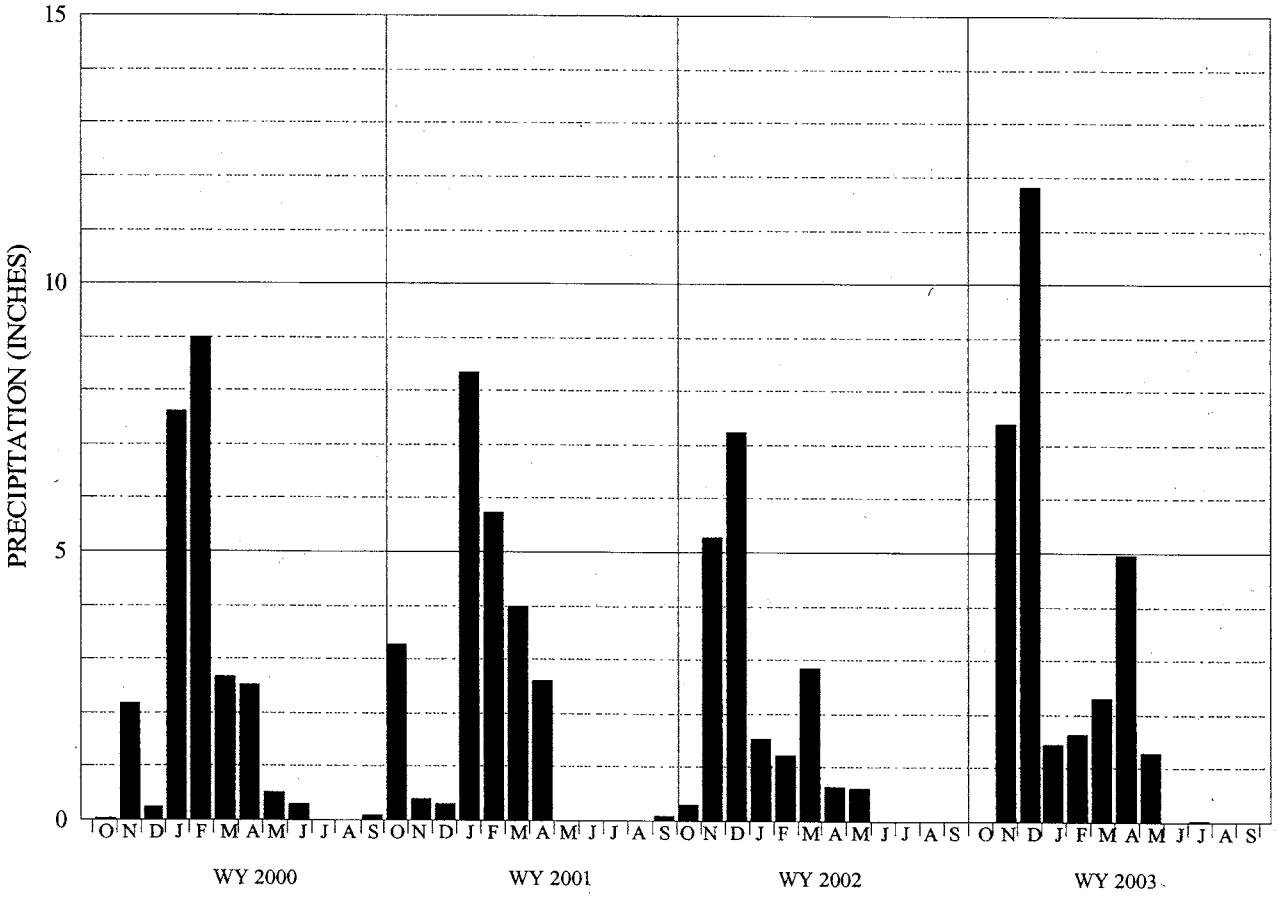
TABLE A-1

LOS PADRES RESERVOIR RAINFALL
WATER YEARS 2000 - 2003

(Values in Inches)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
2000	0.02	2.17	0.26	7.62	8.99	2.66	2.52	0.51	0.32	0.00	0.00	0.10	**25.17**
2001	3.29	0.39	0.31	8.35	5.74	3.99	2.62	0.00	0.00	0.00	0.00	0.09	**24.78**
2002	0.30	5.28	7.25	1.54	1.24	2.86	0.65	0.60	0.00	0.00	0.00	0.00	**19.72**
2003	0.00	7.39	11.82	1.44	1.64	2.30	4.97	1.30	0.00	0.04	0.00	0.01	**30.91**

FIGURE A-1



Source: California-American Water Company, Monterey Division

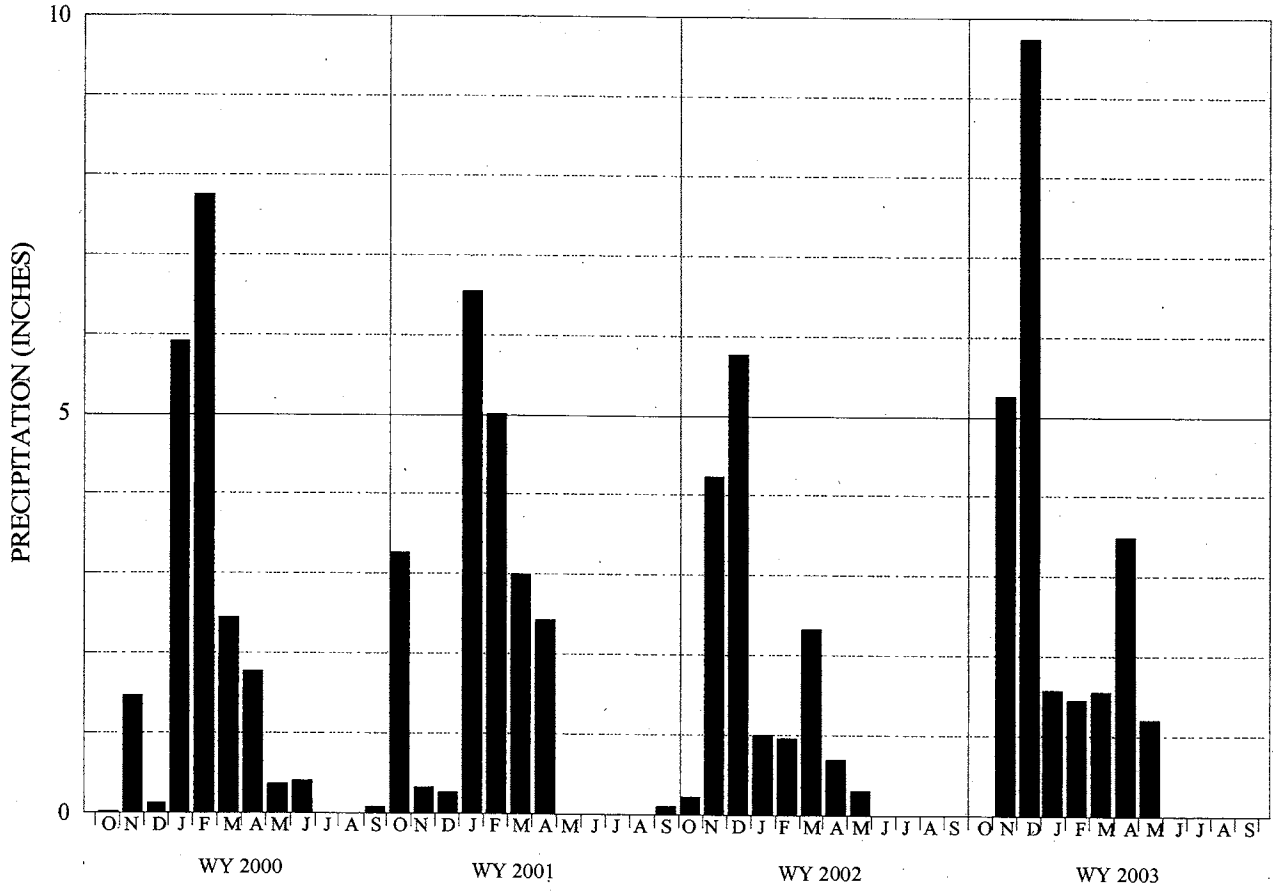
TABLE A-2

SAN CLEMENTE RESERVOIR RAINFALL
WATER YEARS 2000 - 2003

(Values in Inches)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
2000	0.02	1.47	0.13	5.91	7.75	2.45	1.78	0.37	0.40	0.00	0.00	0.09	**20.37**
2001	3.28	0.33	0.27	6.54	5.02	3.00	2.44	0.00	0.00	0.00	0.00	0.11	**20.99**
2002	0.22	4.24	5.76	1.01	0.97	2.34	0.70	0.30	0.00	0.00	0.00	0.00	**15.54**
2003	0.00	5.26	9.73	1.58	1.46	1.55	3.50	1.20	0.00	0.00	0.01	0.00	**24.29**

FIGURE A-2



Source: California-American Water Company, Monterey Division

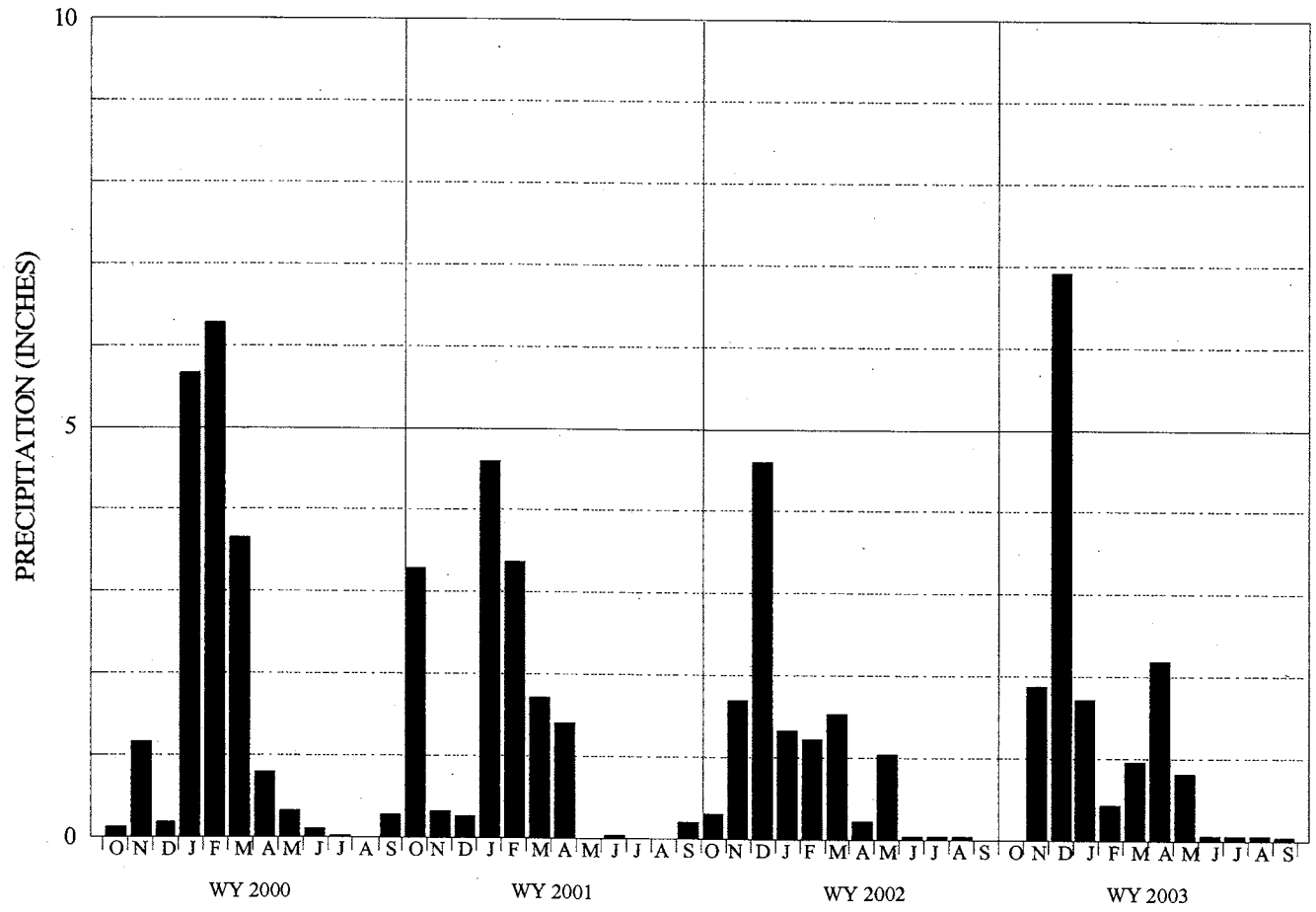
TABLE A-3

PACIFIC GROVE RESERVOIR RAINFALL
WATER YEARS 2000 - 2003

(Values in Inches)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
2000	0.13	1.17	0.18	5.67	6.28	3.67	0.79	0.32	0.10	0.03	0.00	0.29	**18.63**
2001	3.29	0.32	0.27	4.60	3.37	1.72	1.42	0.00	0.05	0.00	0.00	0.20	**15.24**
2002	0.30	1.69	4.61	1.32	1.23	1.54	0.23	1.04	0.05	0.05	0.04	0.00	**12.10**
2003	0.00	1.88	6.92	1.71	0.43	0.96	2.19	0.82	0.06	0.06	0.07	0.05	**15.15**

FIGURE A-3



Source: California-American Water Company, Monterey Division

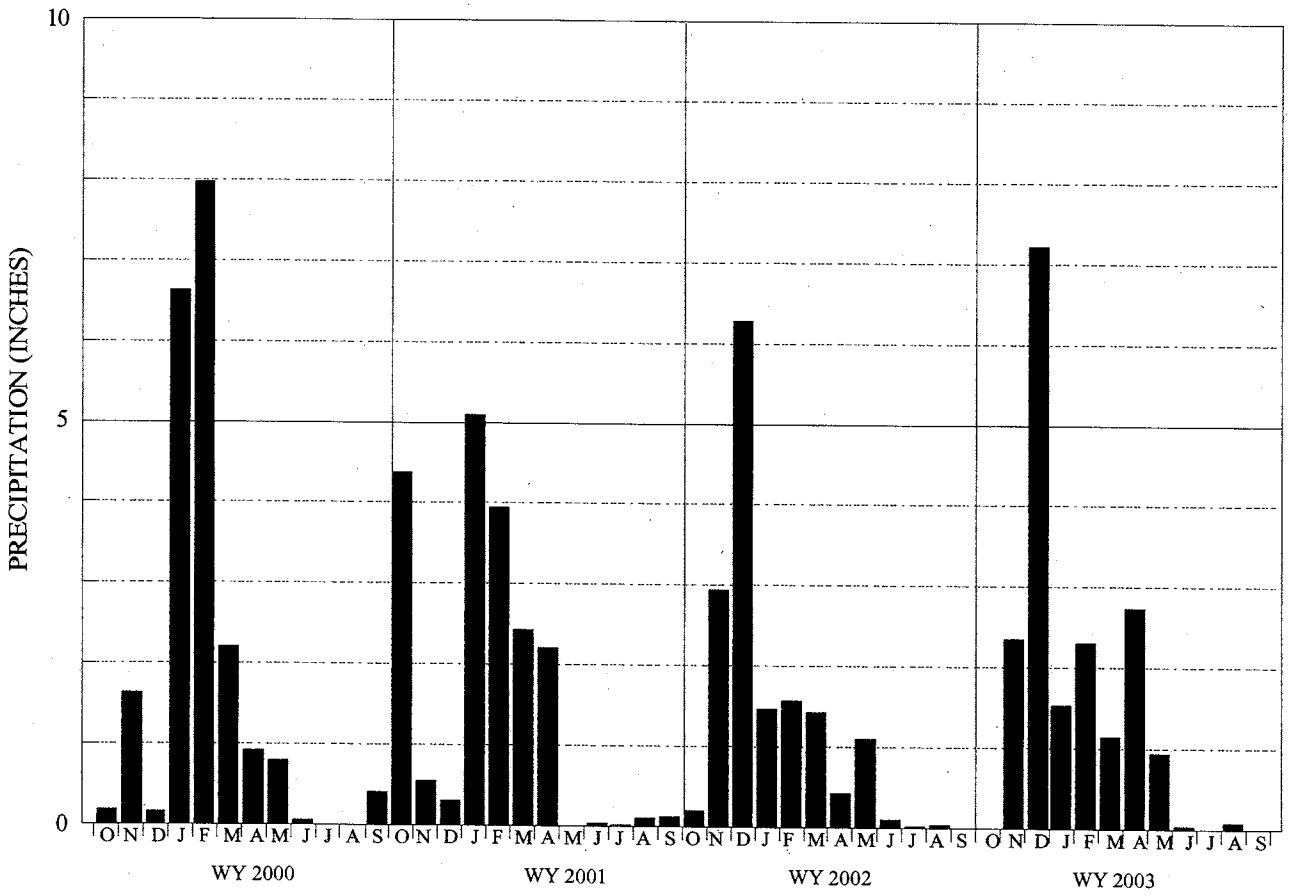
TABLE A-4

MONTEREY RAINFALL
WATER YEARS 2000 - 2003

(Values in Inches)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
2000	0.19	1.64	0.16	6.62	7.97	2.21	0.93	0.80	0.07	0.01	0.01	0.41	**21.02**
2001	4.37	0.55	0.30	5.10	3.95	2.44	2.20	0.00	0.05	0.02	0.10	0.13	**19.21**
2002	0.20	2.95	6.27	1.48	1.58	1.43	0.42	1.10	0.10	0.02	0.05	0.00	**15.60**
2003	0.01	2.36	7.22	1.54	2.32	1.14	2.74	0.95	0.05	0.00	0.08	0.00	**18.41**

FIGURE A-4



Source: Robert J. Renard, Meteorologist/Volunteer Observer, Monterey, CA

FIGURE A-5

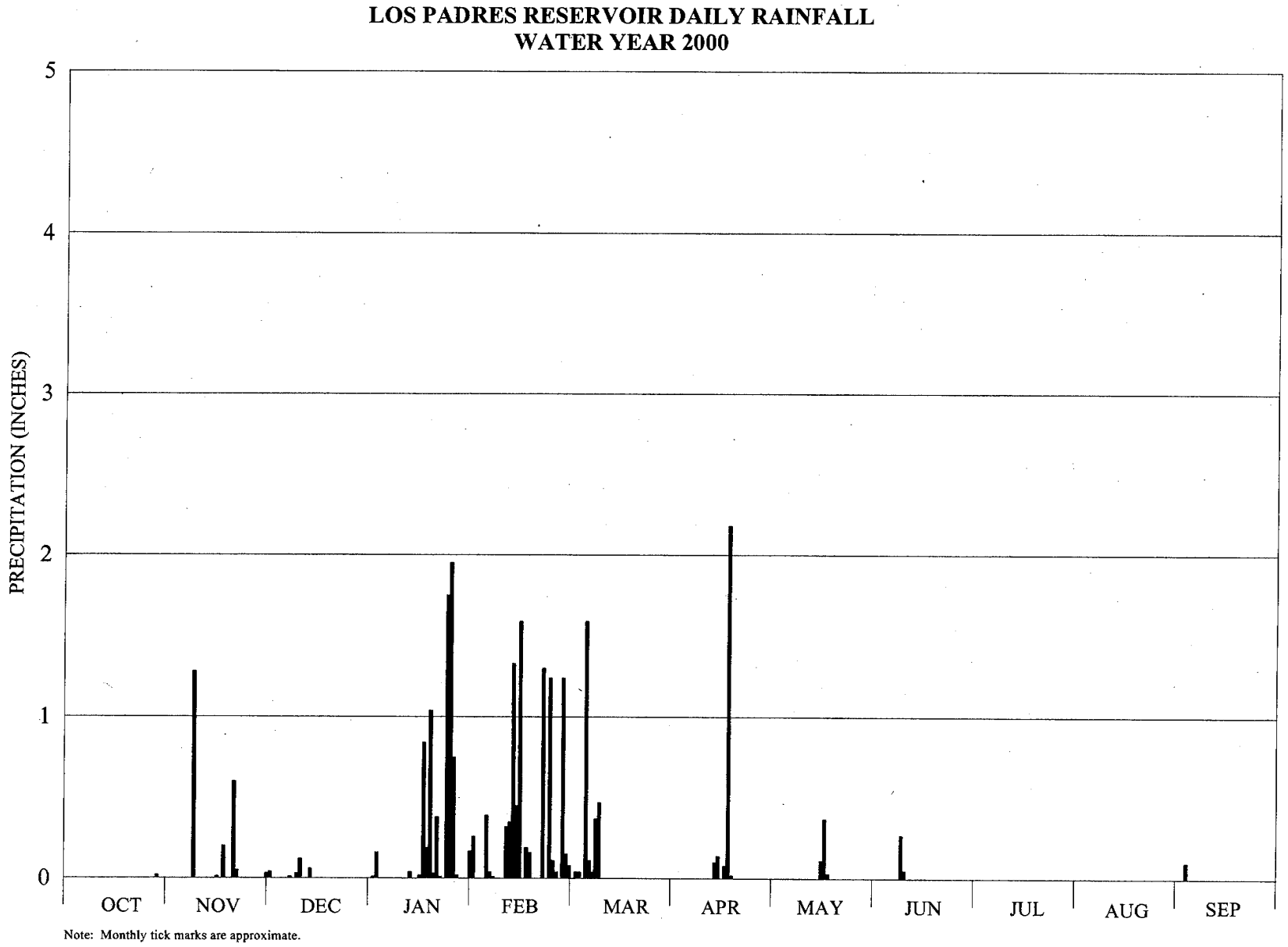

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 2000
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-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 1999-2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.04	0.01								
2				0.16		0.04						0.10
3						0.04						
4					0.39							
5					0.04	1.59						
6					0.01	0.11						
7			0.01			0.04						
8		1.28				0.37		T	0.27			
9			0.03	T		0.47			0.05			
10			0.12		0.32							
11					0.35							
12				0.04	1.33							
13			0.06		0.45		0.10					
14					1.59		0.14					
15		0.01		0.02	T		T	0.11				
16				0.84	0.19		0.08	0.37				
17		0.20		0.19	0.16		2.18	0.03				
18				1.04			0.02					
19				0.03								
20		0.60		0.38	T							
21		0.05		0.01	1.30							
22		T			T							
23				1.75	1.24							
24				1.95	0.11							
25				0.75	0.04							
26				0.02								
27					1.24							
28	0.02				0.15							
29					0.08							
30		0.03		0.17								
31				0.26								
Total	**0.02**	**2.17**	**0.26**	**7.62**	**8.99**	**2.66**	**2.52**	**0.51**	**0.32**	**0.00**	**0.00**	**0.10**

Season Total: 25.17 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-6

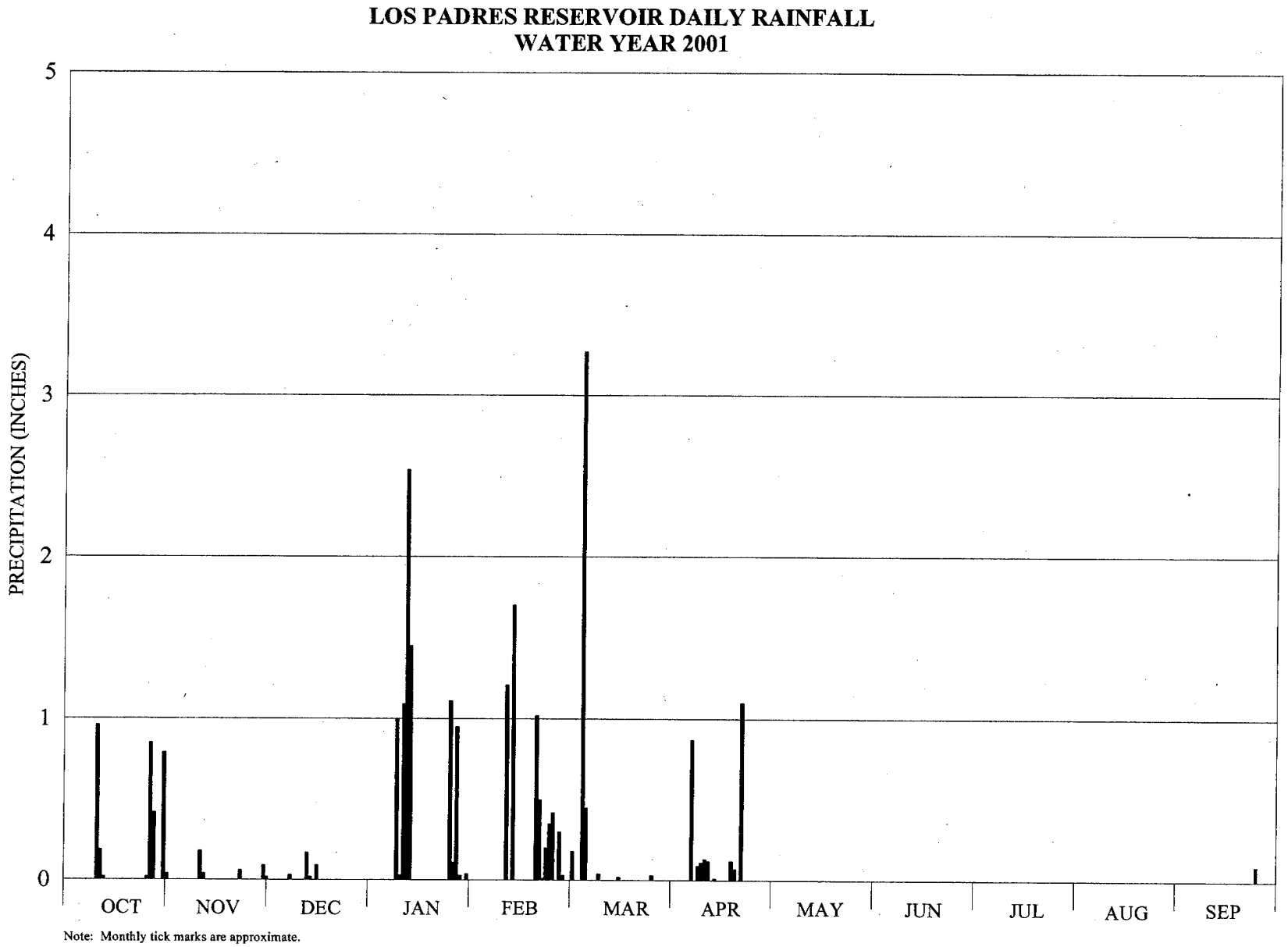

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 2001
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-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 2000-2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2						0.18						
3						T						
4												
5						3.27	T					
6						0.45	T					
7			0.03		T	T	0.87					
8				1.00								
9				0.03			0.09					
10	0.96	0.18		1.09	1.21	0.04	0.11					
11	0.19	0.04		2.54			0.13					
12	0.02		0.17	1.45	1.70		0.12					
13			0.02		T							
14			T				0.01					
15			0.09									
16		T				0.02						
17												
18												
19					1.02		0.12					
20					0.50		0.07					
21					0.01							
22		0.06			0.20		1.10					
23					0.35							
24				1.11	0.42							
25	0.02			0.11								0.09
26	0.85			0.95	0.30	0.03						
27	0.42			0.03	0.03							
28							T					
29		0.09		0.04								
30	0.79	0.02										
31	0.04											
Total	**3.29**	**0.39**	**0.31**	**8.35**	**5.74**	**3.99**	**2.62**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**

Season Total: 24.78 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-7

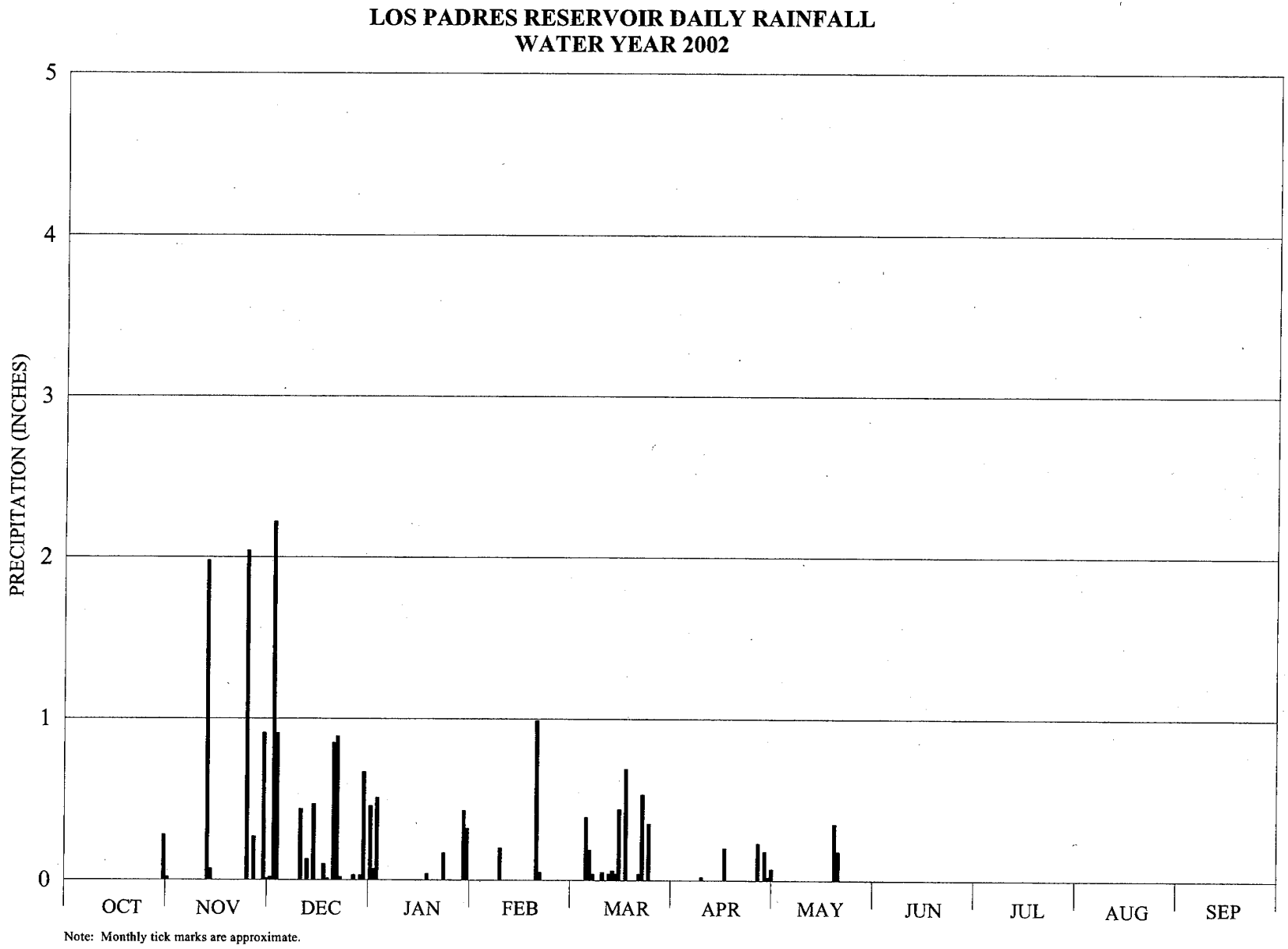

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 2002
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-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 2001-2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.02	0.07				0.07				
2			2.22	0.51								
3			0.91									
4			T									
5												
6						0.39						
7						0.19						
8					0.20	0.04						
9												
10			0.44				0.02					
11						0.05						
12		1.98	0.13									
13		0.07				0.04						
14			0.47			0.06						
15						0.04						
16						0.44						
17			0.10	0.04			0.20					
18			0.01	T		0.69	T					
19					0.99							
20			0.85		0.05			0.35				
21			0.89					0.18				
22			0.02	0.17		0.04						
23						0.53						
24		2.04										
25						0.35						
26		0.27	0.03			T						
27							0.23					
28			0.03	0.43								
29		0.91	0.67	0.32			0.18					
30	0.28	0.01		T			0.02					
31	0.02		0.46									
Total	**0.30**	**5.28**	**7.25**	**1.54**	**1.24**	**2.86**	**0.65**	**0.60**	**0.00**	**0.00**	**0.00**	**0.00**

Season Total: 19.72 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-8

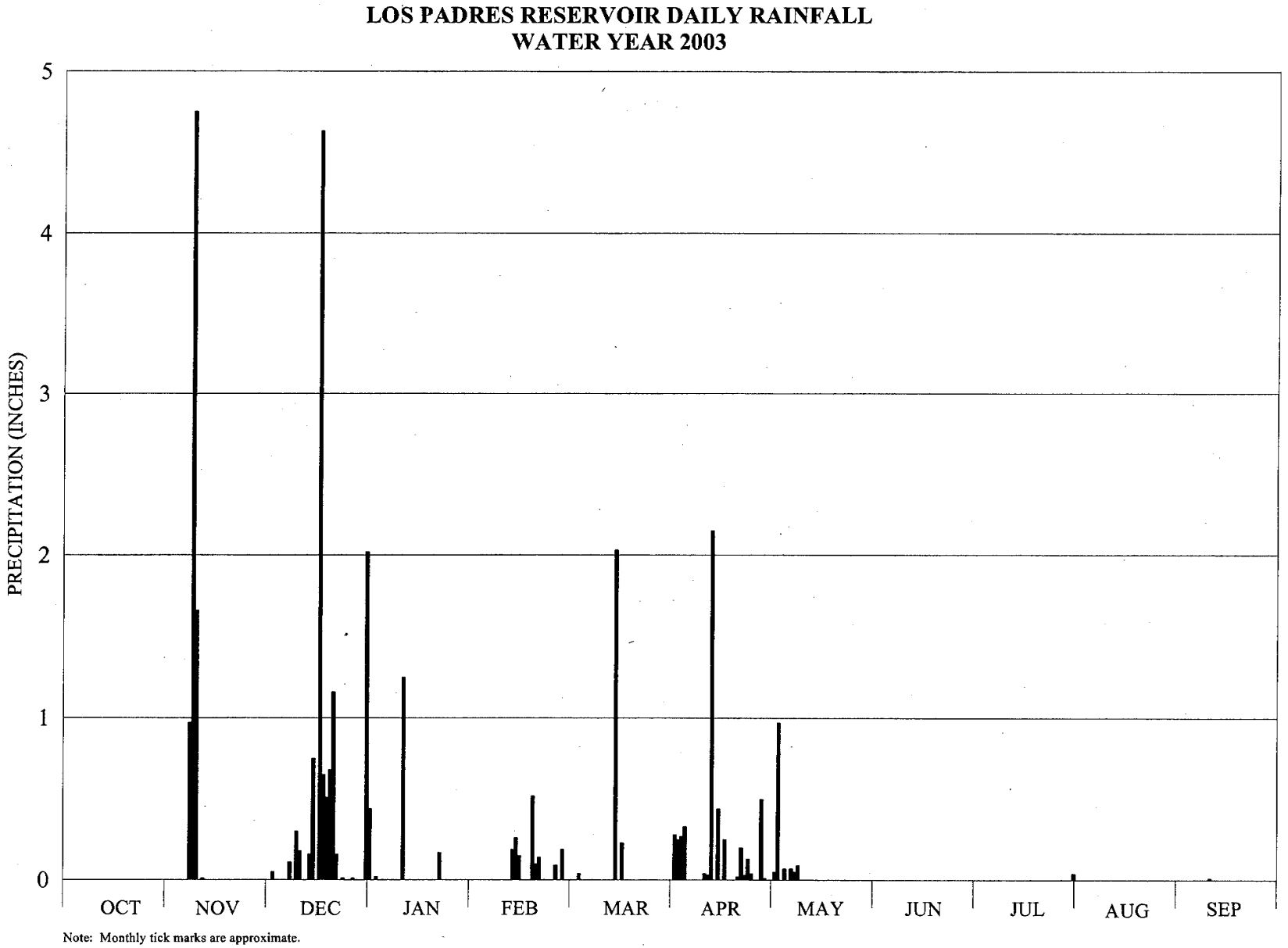

LOS PADRES RESERVOIR DAILY RAINFALL
WATER YEAR 2003
PRECIPITATION (INCHES)
0
1
2
3
4
5
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

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 2002-2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2			0.05	0.02			0.28	0.05				
3							0.25	0.97				
4						0.04	0.27					
5							0.33	0.07				
6												
7		0.97	0.11					0.07				
8		4.75						0.05				
9		1.66	0.30					0.09				
10			0.18	1.25								0.01
11		0.01					0.04					
12					0.19		0.03					
13			0.16		0.26		2.15					
14			0.75		0.15	T						
15						2.03	0.44					
16			4.63				T					
17			0.65			0.23	0.25					
18			0.51		0.52	T						
19			0.68		0.10							
20			1.16		0.14							
21			0.16	0.17			0.02					
22							0.20					
23			0.01				0.03					
24						T	0.13					
25					0.09		0.04					
26			0.01									
27					0.19							
28							0.50					
29							0.01					
30			2.02									
31			0.44							0.04		
Total	**0.00**	**7.39**	**11.82**	**1.44**	**1.64**	**2.30**	**4.97**	**1.30**	**0.00**	**0.04**	**0.00**	**0.01**

Season Total: 30.91 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-9

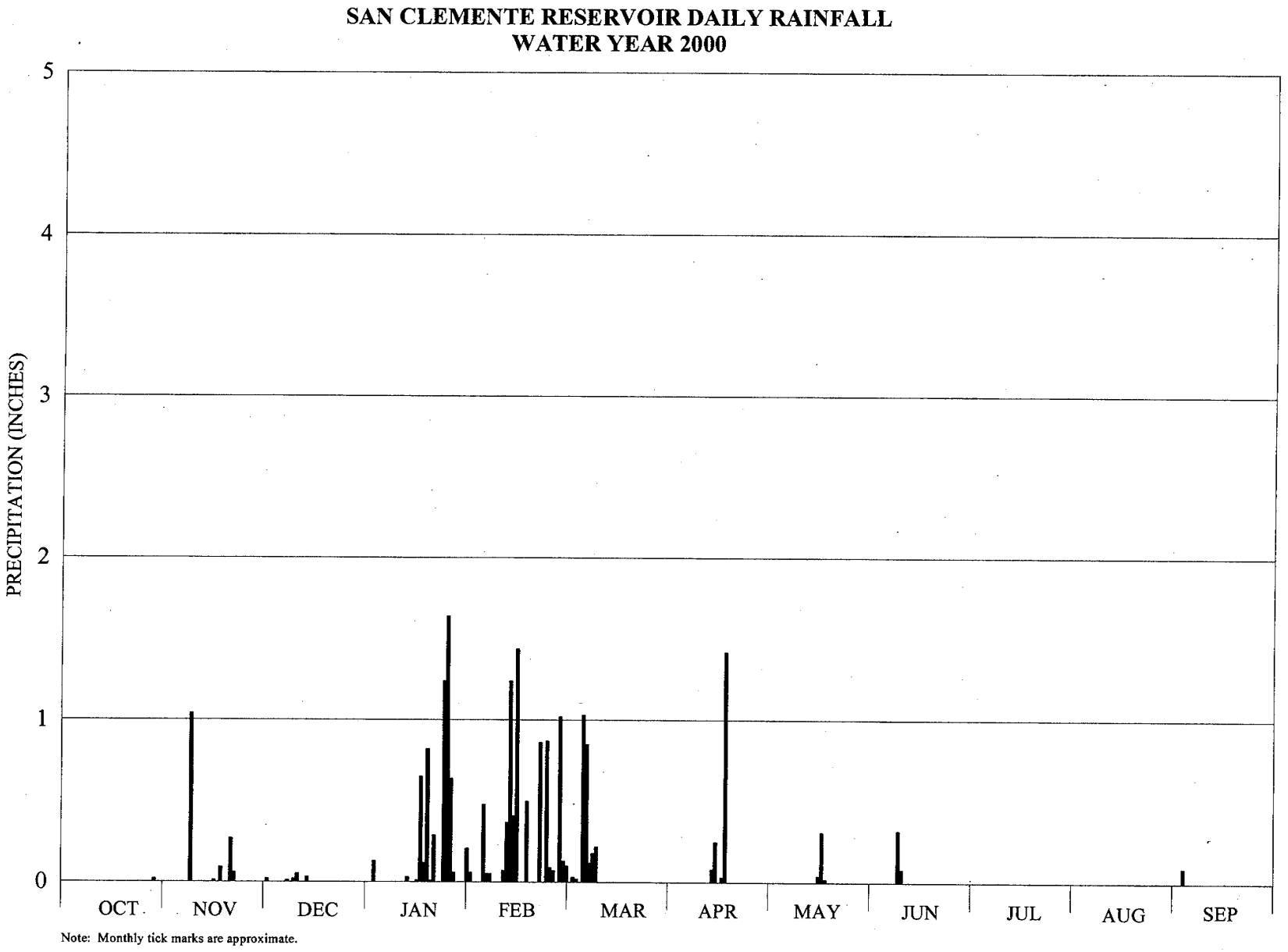

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 2000
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

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 1999-2000

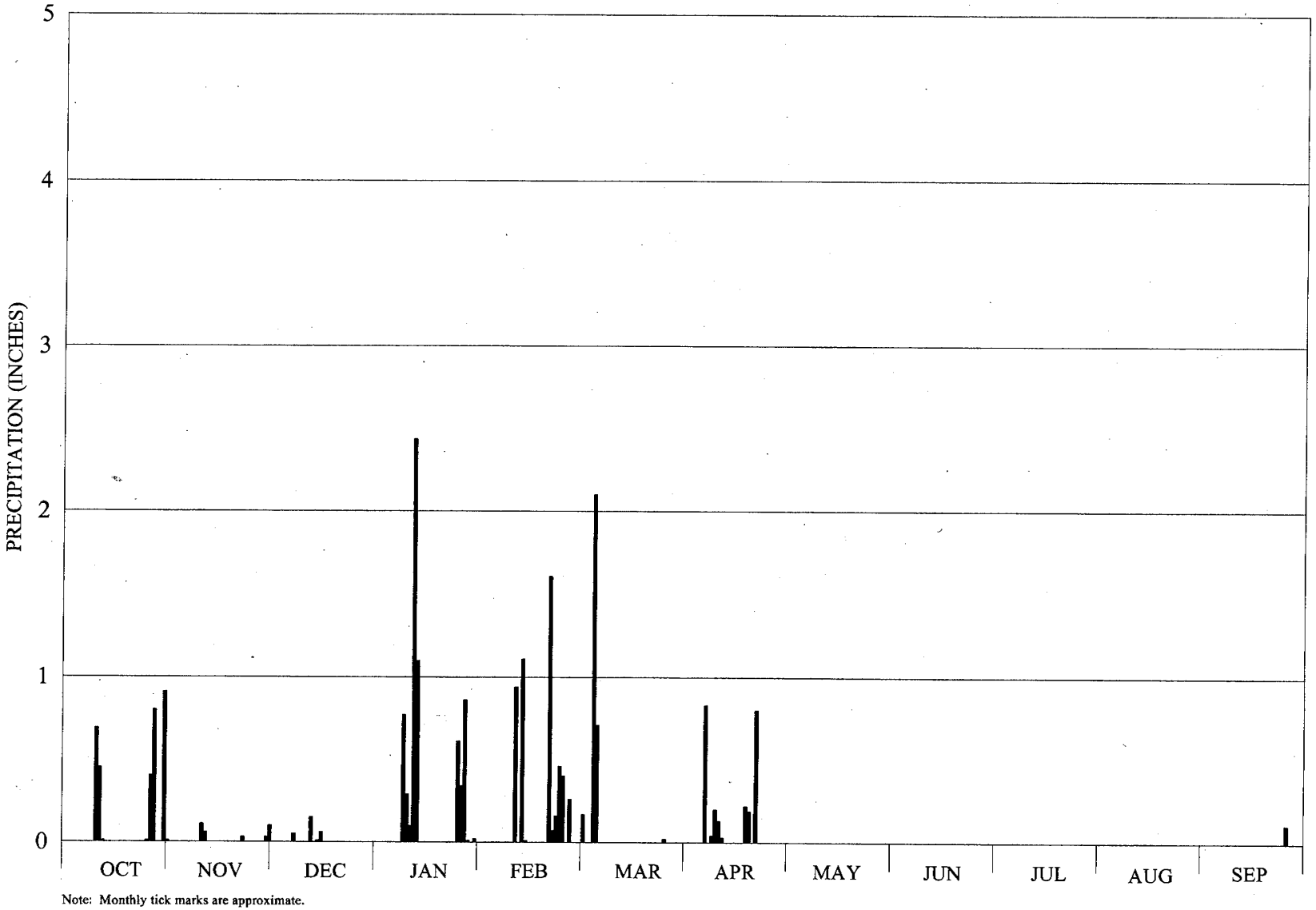
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.02	T								
2				0.13		0.03						0.09
3						0.02						
4					0.48							
5					0.05	1.03						
6					0.05	0.85						
7			0.01			0.12						
8		1.04				0.18		T	0.32			
9			0.02	T		0.22			0.08			
10			0.05		0.07							
11					0.37							
12				0.03	1.24							
13			0.03		0.41		0.08					
14					1.44		0.25					
15		0.01		0.01	T		T	0.04				
16				0.65			0.03	0.31				
17		0.09		0.12	0.50		1.42	0.02				
18				0.82			T					
19				0.01								
20		0.27		0.29	T							
21		0.06			0.86							
22		T			T							
23				1.24	0.87							
24				1.64	0.09							
25				0.64	0.07							
26				0.06	T							
27					1.02							
28	0.02				0.13							
29					0.10							
30		T		0.21								
31				0.06								
Total	**0.02**	**1.47**	**0.13**	**5.91**	**7.75**	**2.45**	**1.78**	**0.37**	**0.40**	**0.00**	**0.00**	**0.09**

Season Total: **20.37 Inches**

Note: Rainfall recorded on day of measuring.

FIGURE A-10

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 2001



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 2000-2001

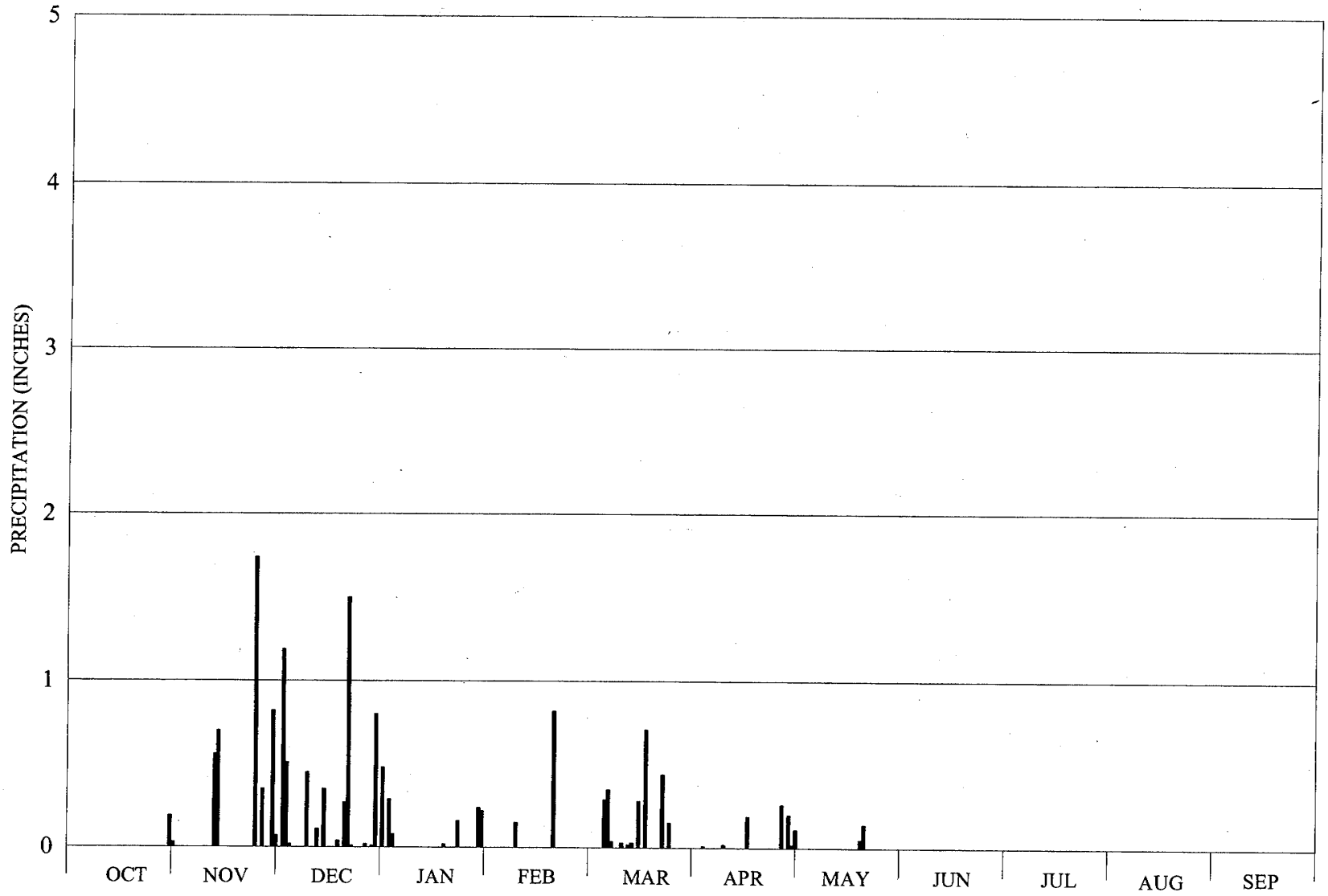
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2						0.17						
3						T						
4												
5						2.10						
6						0.71						
7			0.05		T	T	0.83					
8				0.77								
9				0.29			0.04					
10	0.69	0.11		0.10	0.94	T	0.20					
11	0.45	0.06		2.44			0.13					
12	0.01		0.15	1.10	1.11		0.03					
13					0.01							
14			0.01									
15			0.06									
16		T				T						
17												
18												
19							0.22					
20					1.61		0.19					
21					0.07							
22		0.03			0.16		0.80					
23					0.46							
24				0.61	0.40							
25	0.01			0.34								0.11
26	0.40			0.86	0.26	0.02						
27	0.80			0.01								
28												
29		0.03		0.02								
30	0.91	0.10										
31	0.01											
Total	**3.28**	**0.33**	**0.27**	**6.54**	**5.02**	**3.00**	**2.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**

Season Total: 20.99 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-11

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 2002



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 2001-2002

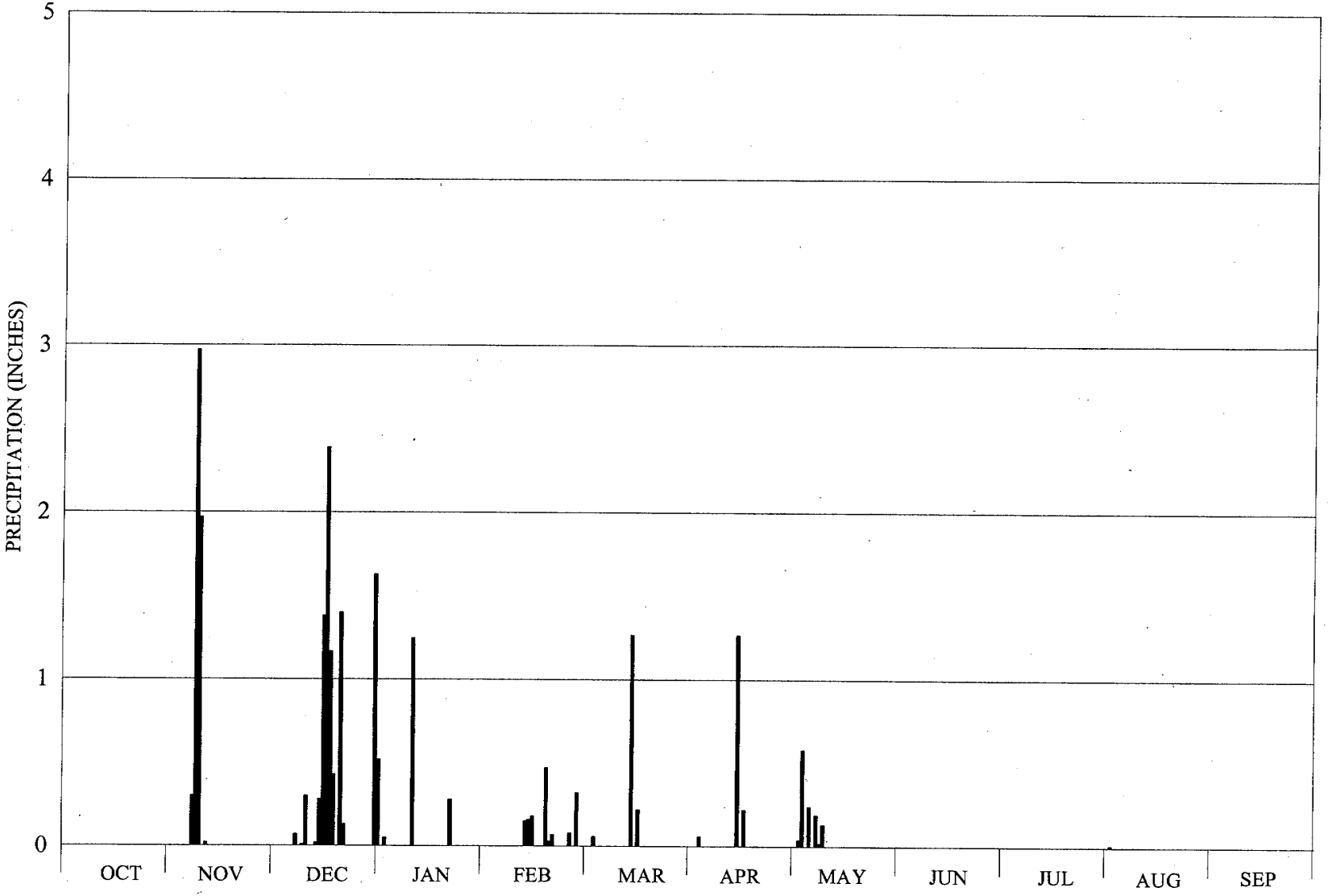
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			T					0.11				
2			1.19	0.29								
3			0.51	0.08								
4			0.02				0.01					
5												
6						0.29						
7						0.35						
8					0.15	0.04						
9			0.45			T						
10			T				0.02					
11						0.03						
12		0.56	0.11									
13		0.70				0.02						
14			0.35			0.03						
15						T						
16						0.28						
17			T				0.19					
18			0.04	0.02		0.71	T					
19					0.82							
20			0.27		T			0.05				
21			1.50					0.14				
22			0.01	0.16								
23						0.44						
24		1.74										
25						0.15						
26		0.35	0.02									
27							0.26					
28			0.01	0.24								
29		0.82	0.80	0.22			0.20					
30	0.19	0.07		T			0.02					
31	0.03		0.48									
Total	**0.22**	**4.24**	**5.76**	**1.01**	**0.97**	**2.34**	**0.70**	**0.30**	**0.00**	**0.00**	**0.00**	**0.00**

Season Total: 15.54 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-12

SAN CLEMENTE RESERVOIR DAILY RAINFALL
WATER YEAR 2003



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 2002-2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					T		T				0.01	
2				0.05			0.24	0.04				
3							0.26	0.58				
4						0.06	0.24					
5							0.06	0.24				
6												
7		0.30	0.07					0.19				
8		2.97						0.02				
9		1.97	0.01					0.13				
10			0.30	1.25								T
11		0.02					0.01					
12					0.15		0.01					
13			0.02		0.16		1.11					
14			0.28		0.18	T						
15			1.38			1.27	0.43					
16			2.39				0.04					
17			1.17			0.22	0.33					
18			0.43		0.47	T						
19					0.03							
20			1.40		0.07							
21			0.13	0.28			0.01					
22							0.26					
23							0.01					
24						T	0.09					
25					0.08		0.06					
26							0.05					
27					0.32							
28					T		0.25					
29							0.04					
30			1.63									
31			0.52									
Total	**0.00**	**5.26**	**9.73**	**1.58**	**1.46**	**1.55**	**3.50**	**1.20**	**0.00**	**0.00**	**0.01**	**0.00**

Season Total: 24.29 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-13

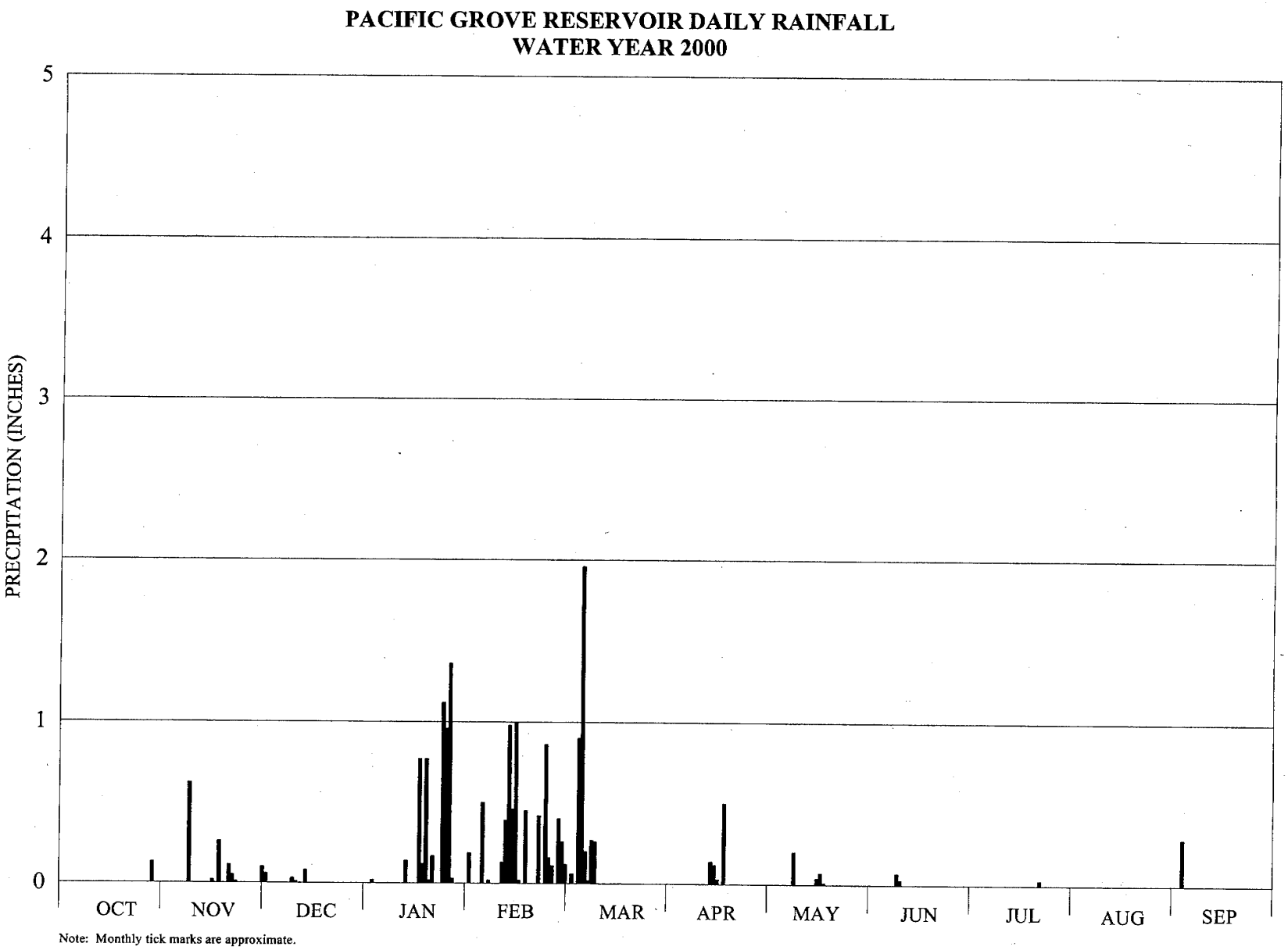

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 2000
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

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 1999-2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.06	T								
2				0.02		0.06						0.29
3												
4					0.50	0.90						
5						1.96						
6					0.02	0.20						
7						0.02						
8		0.62				0.27		0.20	0.07			
9			0.03			0.26			0.03			
10			0.01		0.13	T						
11				T	0.39							
12				0.14	0.98							
13			0.08		0.46		0.14					
14					1.00		0.12					
15		0.02			0.02		0.03	0.04				
16				0.77	T			0.07				
17		0.26		0.12	0.45		0.50	0.01				
18				0.77								
19				0.02								
20		0.11		0.17								
21		0.05			0.42					0.03		
22		0.01										
23				1.12	0.86							
24				0.96	0.16							
25				1.36	0.11							
26				0.03								
27					0.40							
28	0.13				0.26							
29					0.12							
30		0.10										
31				0.19								
Total	**0.13**	**1.17**	**0.18**	**5.67**	**6.28**	**3.67**	**0.79**	**0.32**	**0.10**	**0.03**	**0.00**	**0.29**

Season Total: 18.63 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-14

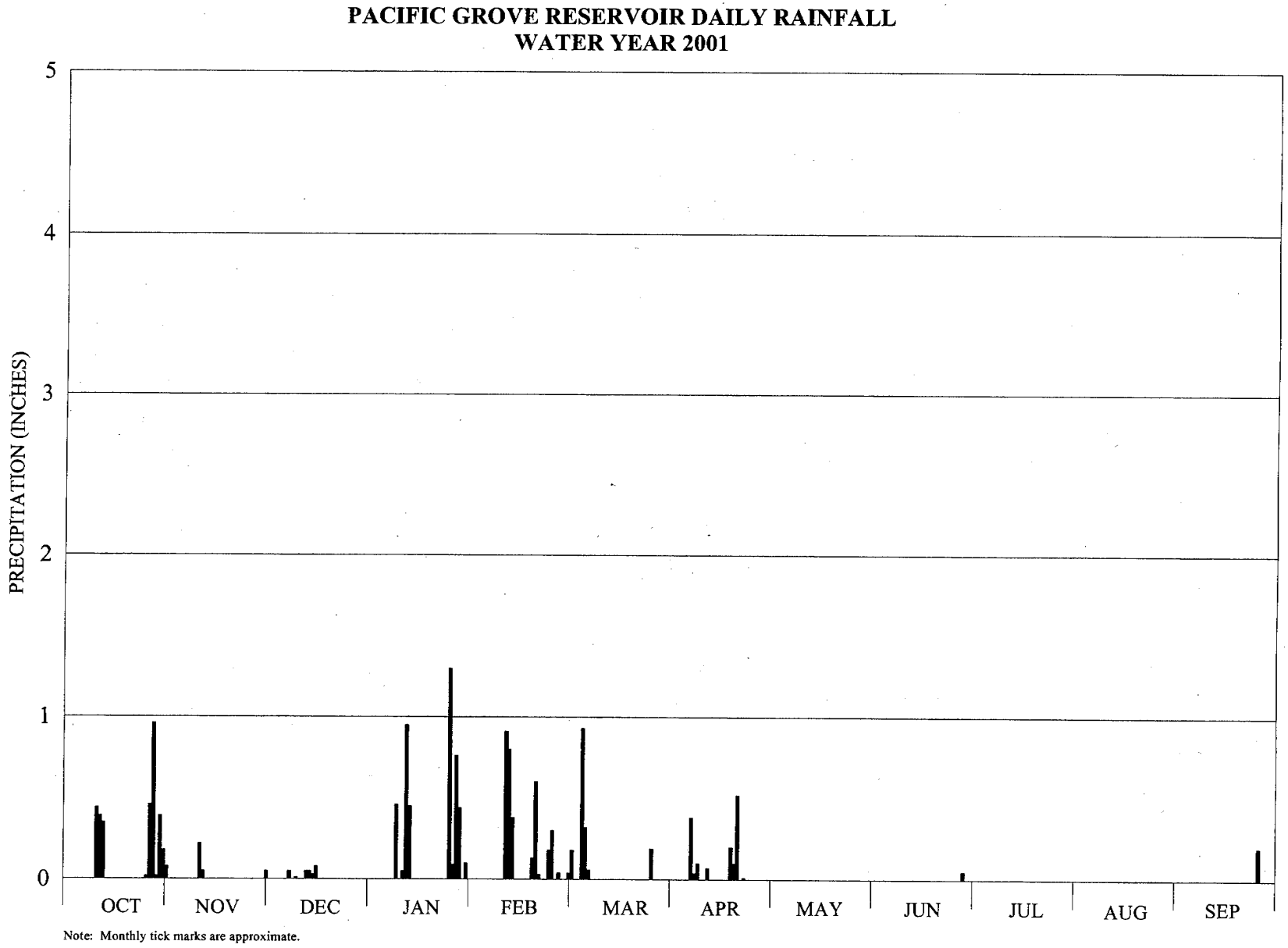

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 2001
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

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 2000-2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0.04						
2						0.18						
3												
4												
5						0.93						
6						0.32						
7			0.05			0.06	0.38					
8				0.46			0.04					
9			0.01		T		0.10					
10	0.44	0.22		0.05	0.91							
11	0.39	0.05		0.95	0.80							
12	0.35		0.05	0.45	0.38		0.07					
13			0.05		T							
14		T	0.03									
15			0.08									
16												
17												
18					0.13							
19					0.60		0.20					
20					0.03		0.10					
21					T		0.52					
22												
23					0.18		0.01					
24				1.30	0.30							
25	0.02			0.09								0.20
26	0.46			0.76	0.04	0.19						
27	0.96			0.44								
28	0.02								0.05			
29	0.39	T		0.10								
30	0.18	0.05										
31	0.08											
Total	**3.29**	**0.32**	**0.27**	**4.60**	**3.37**	**1.72**	**1.42**	**0.00**	**0.05**	**0.00**	**0.00**	**0.20**

Season Total: 15.24 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-15

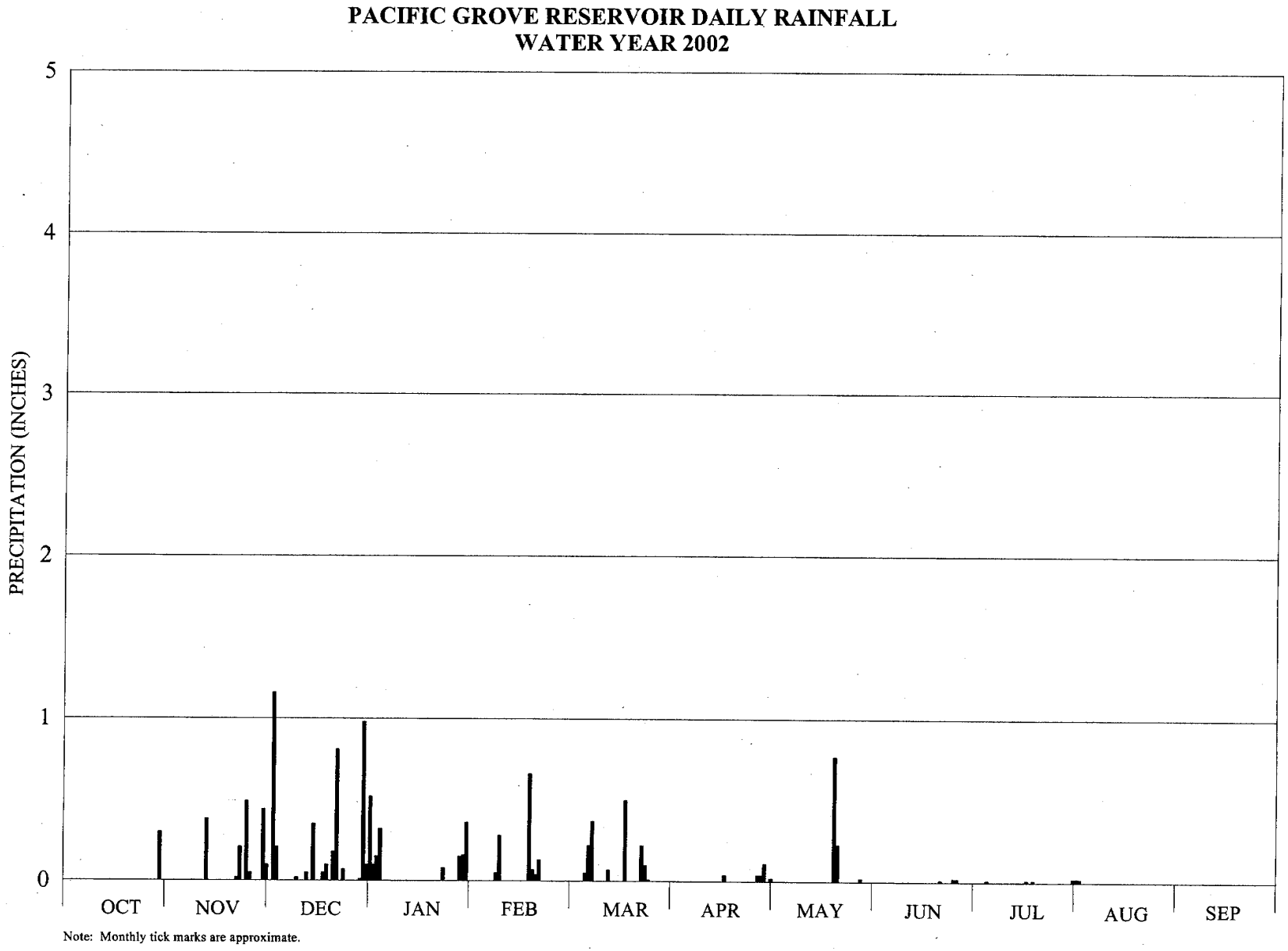

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 2002
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-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 2001-2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0.10				0.02			0.02	
2			1.16	0.15							0.02	
3			0.21	0.32								
4												
5										0.01		
6						0.05						
7					0.05	0.22						
8					0.28	0.37						
9			0.02									
10							T					
11												
12		0.38	0.05									
13						0.07						
14			0.35									
15												
16												
17			0.05		0.66		0.04			0.01		
18			0.10		0.07	0.50						
19					0.04					0.01		
20			0.18		0.13			0.77				
21		0.02	0.81					0.23	0.01			
22		0.21		0.08								
23		T	0.07			0.22						
24		0.49				0.10						
25		0.05				0.01			0.02			
26									0.02			
27				0.15			0.04					
28			0.01	0.16			0.04	0.02				
29	0.30	0.44	0.98	0.36			0.11					
30		0.10	0.10									
31			0.52							0.02		
Total	**0.30**	**1.69**	**4.61**	**1.32**	**1.23**	**1.54**	**0.23**	**1.04**	**0.05**	**0.05**	**0.04**	**0.00**

Season Total: 12.10 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-16

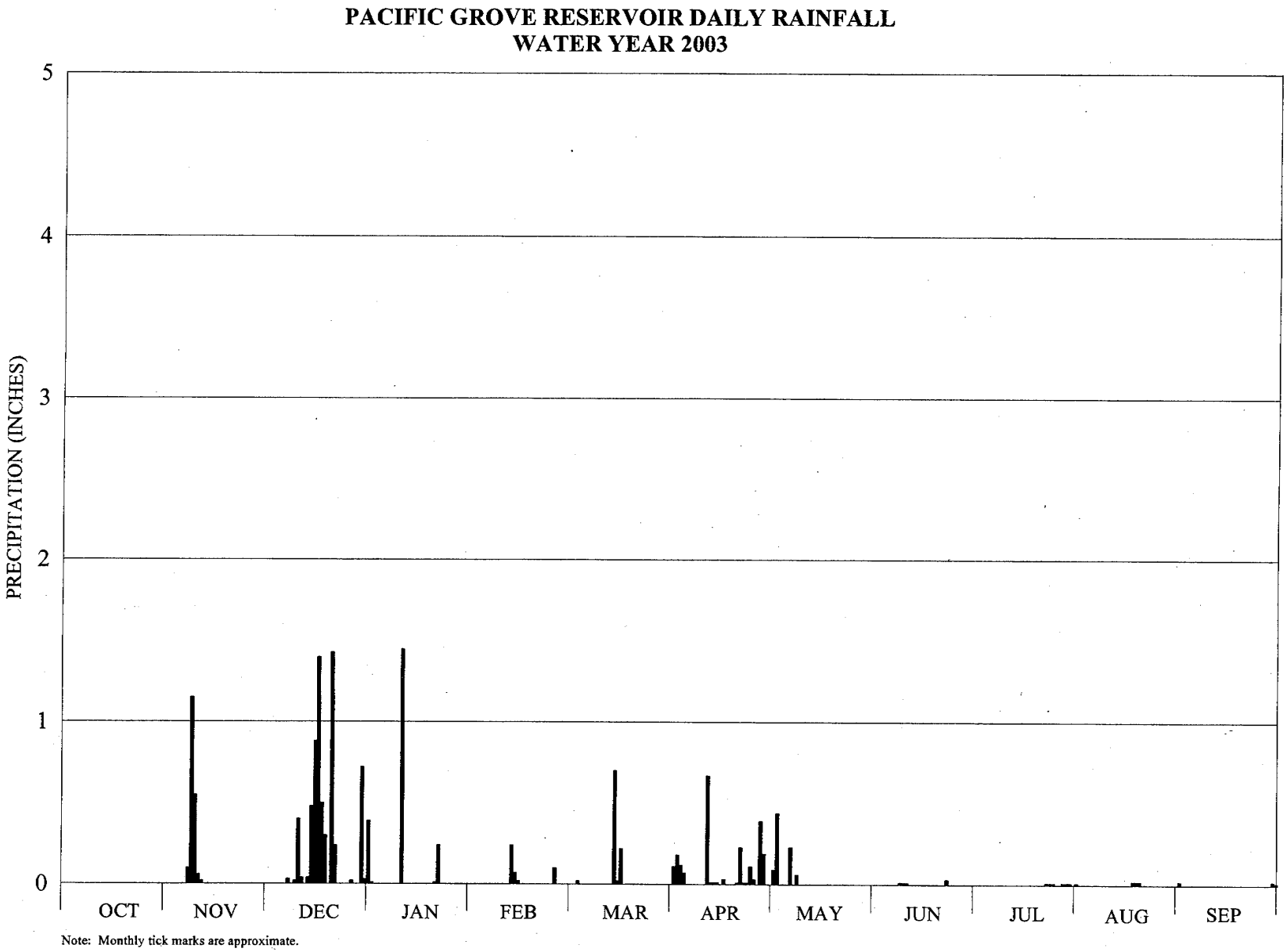

PACIFIC GROVE RESERVOIR DAILY RAINFALL
WATER YEAR 2003
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-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 2002-2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0.01			T				0.01	0.02
2							0.11	0.09		T		
3							0.18	0.44				
4						0.02	0.12			T		
5							0.07					
6											T	
7		0.10	0.03					0.23				
8		1.15									T	
9		0.55	0.02					0.06	0.01			
10		0.06	0.40	1.45					0.01	T		
11		0.02	0.04						0.01		T	
12					0.24		0.67				T	
13			0.04		0.07		0.01				T	
14			0.48		0.02		0.01					
15			0.88			0.70	0.01					
16			1.40			0.02						
17			0.50			0.22	0.03					
18			0.30								0.02	
19											0.02	
20			1.43	0.01							0.02	
21			0.24	0.24			0.01					
22							0.23					
23				T			0.01		0.03	0.01		
24							0.01			0.01		
25					0.10		0.11			0.01		
26			0.02				0.03					
27												
28							0.39			0.01		
29			0.72				0.19			0.01		0.02
30			0.03							0.01		0.01
31			0.39									
Total	**0.00**	**1.88**	**6.92**	**1.71**	**0.43**	**0.96**	**2.19**	**0.82**	**0.06**	**0.06**	**0.07**	**0.05**

Season Total: 15.15 Inches

Note: Rainfall recorded on day of measuring.

FIGURE A-17

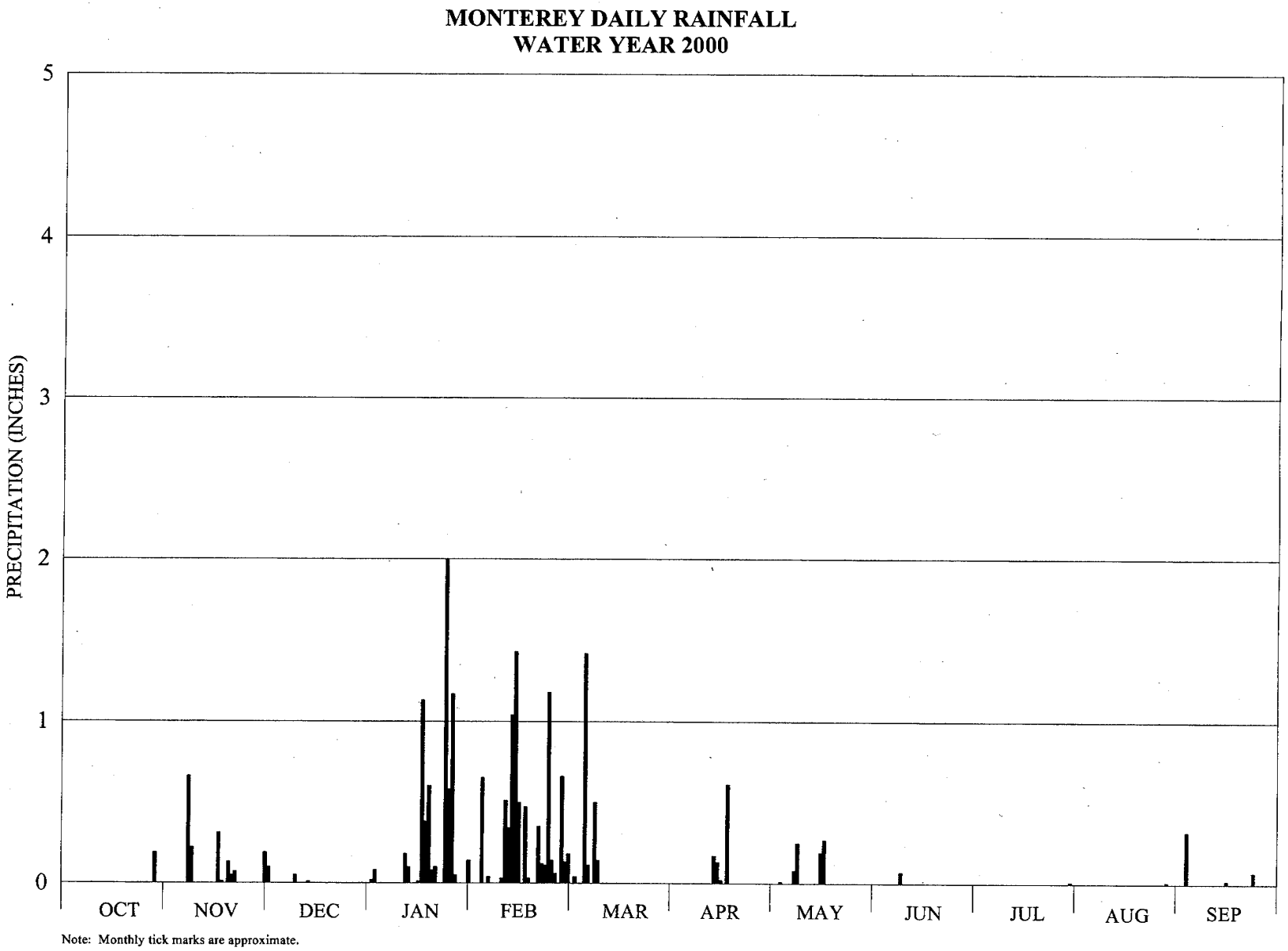

MONTEREY DAILY RAINFALL
WATER YEAR 2000
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-17 **MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**
Precipitation Record

Station: Monterey **County: Monterey**

Observer: Robert J. Renard

Record obtained from: National Weather Service Climate Station, elevation 385 feet, located in the western hilly section of Monterey, CA.

Daily Precipitation in Inches - Season of 1999-2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.10	0.02							T	T
2			T	0.08		0.04		T	T			0.32
3					0.65			0.01		T		
4						T						
5					0.04	1.42						
6	T					0.11						
7		0.66				T		0.08				
8		0.22		T		0.50		0.25	0.07		T	
9			0.05		0.03	0.14						
10				T	0.51			T		T		
11				0.18	0.34							
12				0.10	1.04		T					T
13			0.01		1.43		0.17					
14		T		T	0.50		0.13	T				0.02
15				0.01			0.02	0.19				
16		0.31		1.13	0.47		T	0.27	T	T		
17		0.01		0.38	0.03		0.61		T			
18				0.60								
19		0.13		0.08					T			
20		0.05		0.10	0.35							
21		0.07			0.12					T		
22					0.11		T				T	0.07
23				2.00	1.18							
24	T			0.58	0.14			T				
25				1.17	0.06							
26	T			0.05								
27	T				0.66		T				0.01	
28	0.19				0.13	T						
29		T		T	0.18					0.01		
30		0.19		0.14					T	T		
31			T	T								
Total	**0.19**	**1.64**	**0.16**	**6.62**	**7.97**	**2.21**	**0.93**	**0.80**	**0.07**	**0.01**	**0.01**	**0.41**

Season Total: 21.02 Inches

Note: Rainfall recorded at 1800 hours PST on day of measuring.

FIGURE A-18

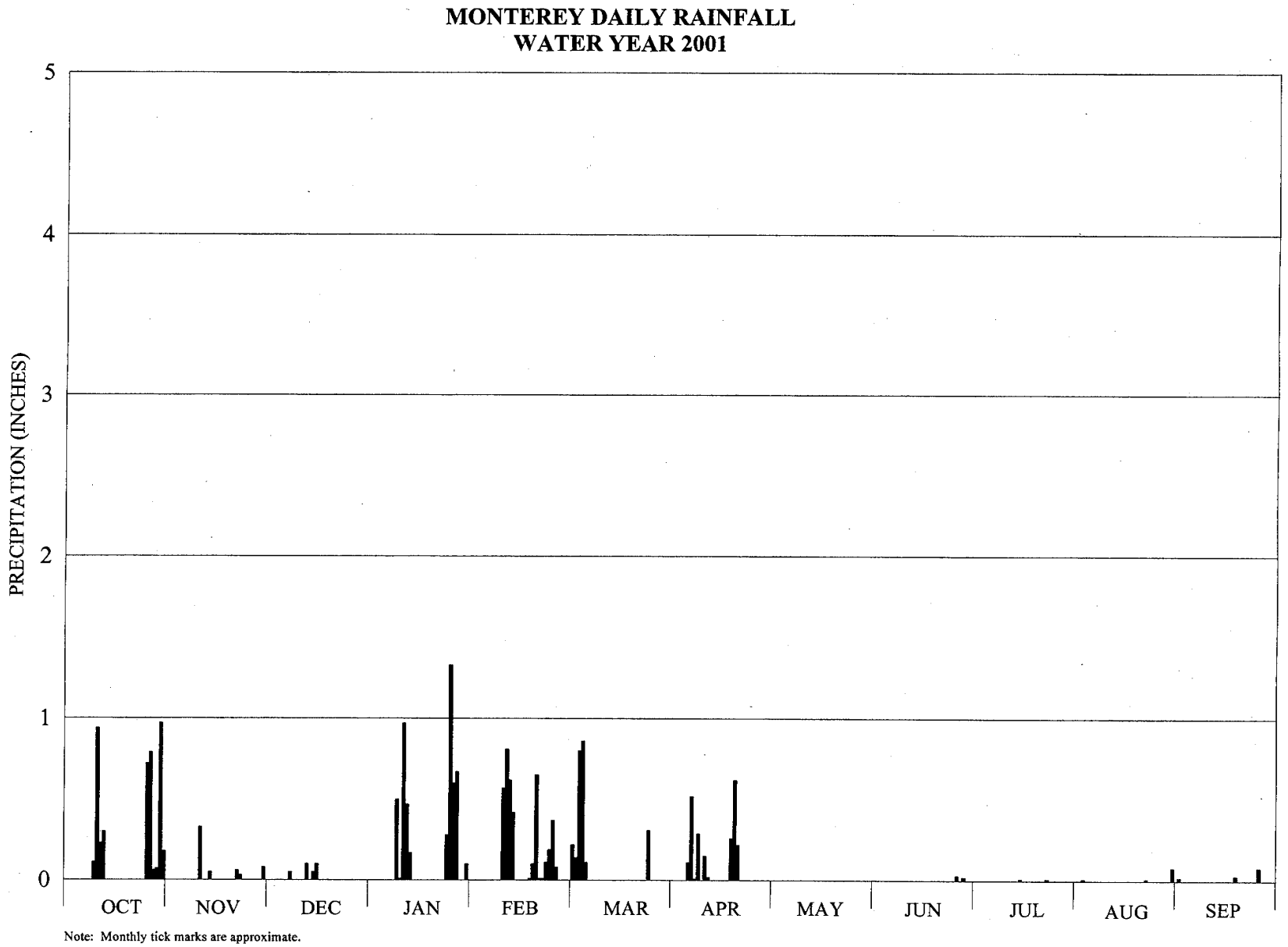

MONTEREY DAILY RAINFALL
WATER YEAR 2001
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-18 **MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**
Precipitation Record

Station: Monterey **County: Monterey**

Observer: Robert J. Renard

Record obtained from: National Weather Service Climate Station, elevation 385 feet, located in the western hilly section of Monterey, CA.

Daily Precipitation in Inches - Season of 2000-2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	T						T		T		T	0.02
2	T					0.22						
3						0.14					0.01	
4						0.80	T				T	
5		T				0.86				T		T
6	T		T			0.11	0.11					
7			0.05				0.52					
8			T	0.50			0.01					
9	0.11			0.01	0.57	T	0.29				T	
10	0.94	0.33	T	0.97	0.81							
11	0.23		T	0.47	0.62		0.15					
12	0.30		0.10	0.17	0.42		0.02	T				
13		0.05										
14			0.05	T								
15			0.10							0.01		T
16		T								T		
17					0.01							T
18					0.10		T					0.03
19					0.65		0.26					T
20					0.01		0.62			T		T
21		0.06	T		0.01	T	0.22					T
22		0.03			0.11	T					0.01	T
23				0.28	0.19					0.01		
24				1.33	0.37					T	T	T
25	0.72			0.60	0.08	0.31				T		0.08
26	0.79			0.67	T		T		0.03	T		
27	0.06						T	T		T		
28	0.07						T		0.02	T		
29	0.97	0.08		0.10							T	
30	0.18									T	0.08	
31												
Total	**4.37**	**0.55**	**0.30**	**5.10**	**3.95**	**2.44**	**2.20**	**0.00**	**0.05**	**0.02**	**0.10**	**0.13**

Season Total: 19.21 Inches

Note: Rainfall recorded at 1800 hours PST on day of measuring.

FIGURE A-19

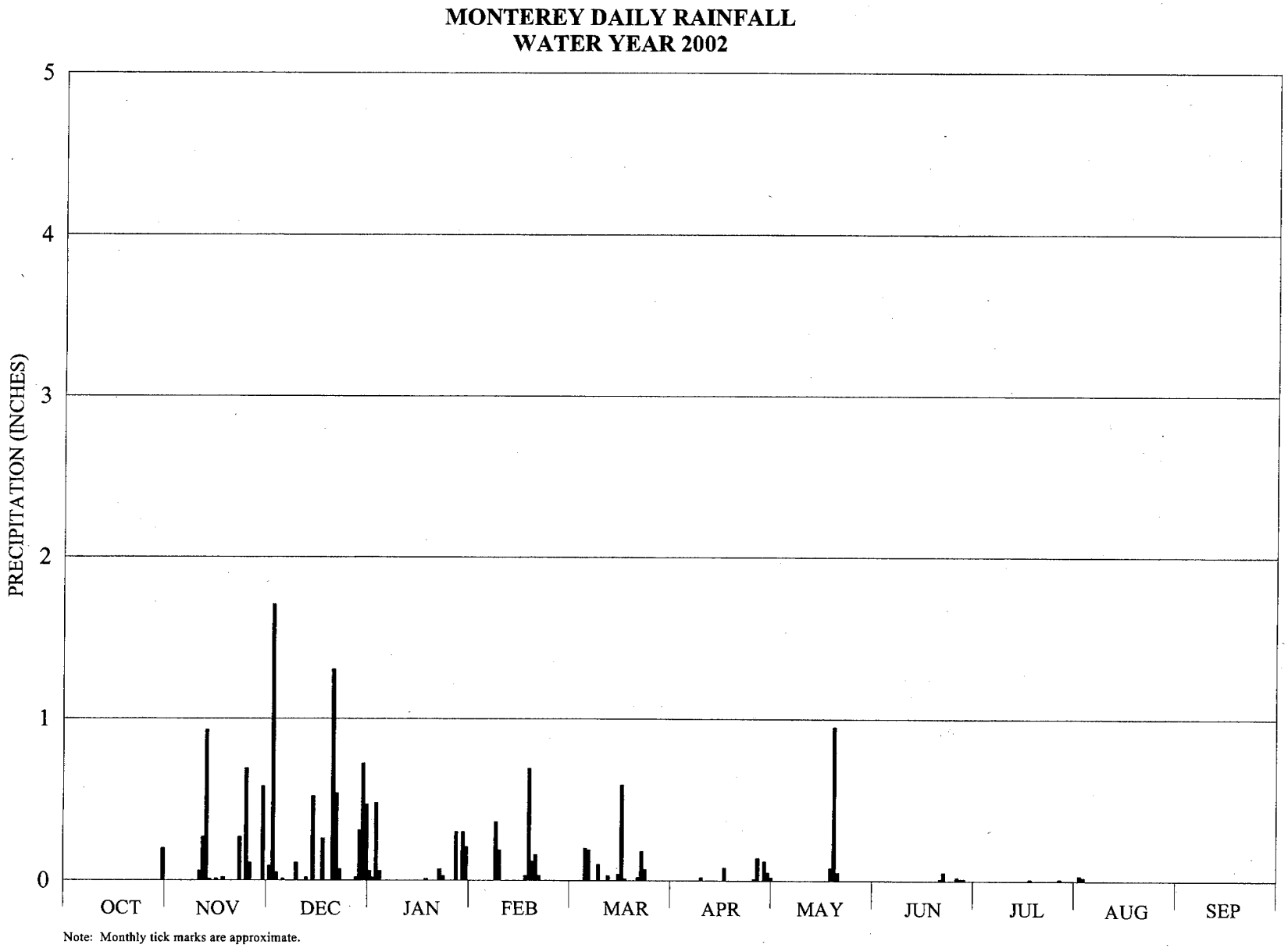

MONTEREY DAILY RAINFALL
WATER YEAR 2002
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-19 **MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**
Precipitation Record

Station: Monterey **County: Monterey**

Observer: Robert J. Renard

Record obtained from: National Weather Service Climate Station, elevation 385 feet, located in the western hilly section of Monterey, CA.

Daily Precipitation in Inches - Season of 2001-2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0.09	0.02				0.02	T		T	
2	T		1.71	0.48					T		0.03	
3	T		0.05	0.06				T	T	T	0.02	
4	T						T					T
5			0.01				T					T
6						0.20	T					
7					0.36	0.19						
8					0.19							
9			0.11									
10		0.06				0.10	0.02					
11		0.27										
12		0.93	0.02									
13		0.01			T	0.03			T			
14			0.52			T						
15		0.01			T	T				T	T	
16					0.03	0.04				T		
17		0.02	0.26	0.01	0.69	0.59	0.08			T	T	
18			T		0.12	0.01				0.01		
19					0.16			0.08		T		
20			1.31		0.03			0.95	T	T	T	
21		T	0.54	0.07				0.05	0.01			
22		0.27	0.07	0.03		0.02			0.05			
23		T	T		T	0.18						
24		0.69				0.07			T		T	
25		0.11							T			
26				0.30			0.01		0.02	T		T
27			0.02	T			0.14		0.01	0.01		
28		T	0.31	0.30				T	0.01			
29		0.58	0.72	0.21			0.12					
30	0.20		0.47				0.05				T	
31			0.06									
Total	**0.20**	**2.95**	**6.27**	**1.48**	**1.58**	**1.43**	**0.42**	**1.10**	**0.10**	**0.02**	**0.05**	**0.00**

Season Total: 15.60 Inches

Note: Rainfall recorded at 1800 hours PST on day of measuring.

FIGURE A-20

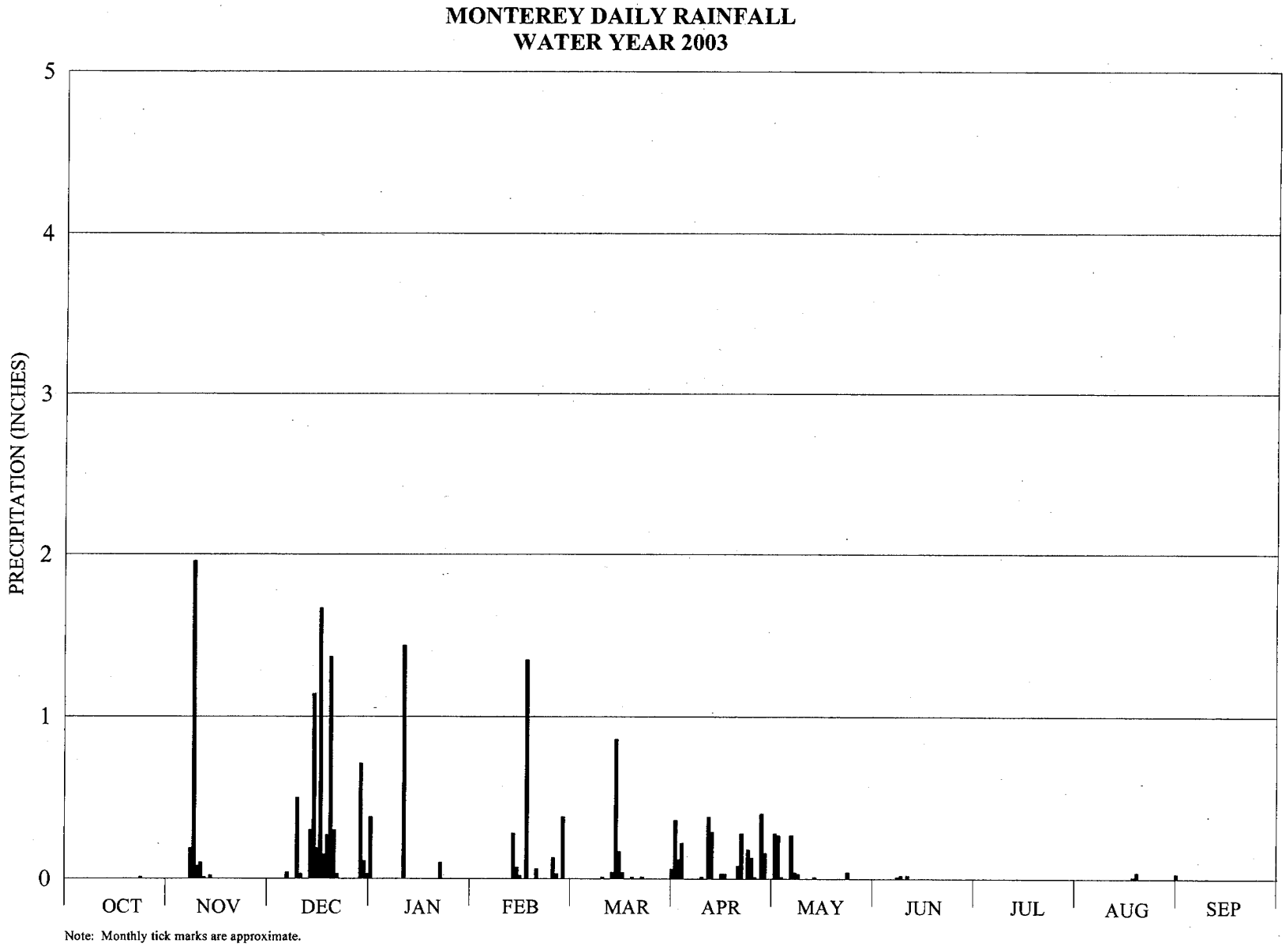

MONTEREY DAILY RAINFALL
WATER YEAR 2003
PRECIPITATION (INCHES)
5
4
3
2
1
0
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
Note: Monthly tick marks are approximate.

TABLE A-20 **MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**
Precipitation Record

Station: Monterey **County: Monterey**

Observer: Robert J. Renard

Record obtained from: National Weather Service Climate Station, elevation 385 feet, located in the western hilly section of Monterey, CA.

Daily Precipitation in Inches - Season of 2002-2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					T	T	0.06					
2							0.36	0.28				
3						T	0.12	0.27				T
4						T	0.22	0.01	T			
5									T			
6			0.04					T	T	T		
7		0.19						0.27		T		
8		1.96						0.04	0.01			
9		0.08	0.50	T				0.03	0.02			
10		0.10	0.03	1.44			0.01		T			
11		0.01			T	0.01			0.02			
12					0.28	T	0.38		T			
13		0.02	0.30		0.07	T	0.29					
14			1.14		0.02	0.04	T	0.01				
15			0.19			0.86		T		T		
16			1.67		1.35	0.17	0.03					
17			0.15			0.04	0.03					
18			0.27								0.01	
19	T		1.37		0.06				T		0.04	
20			0.30			0.01						
21	T		0.03	0.10			0.08				T	
22	T			T			0.28					
23	0.01			T		0.01		T				
24			T		0.13		0.18	0.04		T		
25					0.03		0.13			T		
26			T		T	T	0.01	T		T		T
27			T		0.38							T
28			0.71				0.40					T
29			0.11				0.16	T	T	T		
30			0.03							T		
31			0.38							T	0.03	
Total	**0.01**	**2.36**	**7.22**	**1.54**	**2.32**	**1.14**	**2.74**	**0.95**	**0.05**	**0.00**	**0.08**	**0.00**

Season Total: 18.41 Inches

Note: Rainfall recorded at 1800 hours PST on day of measuring.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 2000 - 2003

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. In August 2001, MPWMD installed a Campbell Scientific CR10X data recorder/pressure transducer system (range 1023.5 ft.-spill).

California-American Water Company maintains a water level recorder at Los Padres Reservoir (range 1038 ft.-spill.

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. Re-established as a recording station . October 26, 2001 by G.W. James.

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

Gage – Campbell Scientific CR510 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 3.33 to 6.66 ft.

History - Staff gage installed to improve reservoir outflow estimates, particularly during periods when reservoir is not spilling. Recording equipment installed to obtain continuous record of reservoir outflow. The California-American Water Company (Cal-Am) records daily staff gage readings at this site. Cal-Am and MPWMD maintain water level recorders 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 800 ft. downstream by wading. High flows above maximum wading stage (approx. 200 cfs) are estimated using the Los Padres Spillway rating table.

Floods -

Point of zero flow - 2.30 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 (CS) CR510 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. Two enameled staff gages on the right bank along conduit range from 6.66 - 10.0 ft (upper), and 1.96-4.56 ft (lower, installed Dec. 22, 2000).

History - No other gages have been operated on this stream. This station, previously located on a bridge support at the Nason Rd. Bridge, was non-recording until Water Year 1992 when an Environmental Monitoring Systems (ENMOS) recorder and pressure transducer system was installed. Two subsequent recorder upgrades/replacements include the installation of a CS BDR-320, and a CS CR510 on Oct. 13, 1994, and Nov. 9, 1999, respectively. 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. Steel T-post at the upper orifice at elevation 6.30 ft.(top of post) was established Feb. 13, 1998. Top of lower staff gage post (4X6 redwood) is elevation 4.59 ft. surveyed Dec. 22, 2000.

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 - 2.40 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 (CS) CR510 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. Replacement crest stage gage (pvc) installed Feb. 4, 1999, pin elev.=0.60 ft. Gage datum adjusted Sept. 19, 2000, new pin elev.=1.60 ft.

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. Two subsequent recorder upgrades/replacements include the installation of a CS BDR-320, and a CS CR510 on July 6, 1994, and Nov. 5, 1999, respectively. Gage datum changed by 1.00 ft. on Sept. 19, 2000 as GHTs were negative at low flows (current datum – 1.00 ft. = old datum)

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 3 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 - 0.50 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 (CS) CR510 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. Two enameled staff gages staggered along left bank installed Nov. 28, 2000, ranges: 1.30-3.34 ft. (lower), 3.34-5.08 ft. (upper).

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. Two subsequent recorder upgrades/replacements include the installation of a CS BDR-320, and a CS CR510 on Sept. 25, 1992, and Oct. 26, 1999, respectively. 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 8.06 ft. gage datum (surveyed Nov. 28, 2000). 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. RP1 was removed upon Nov. 28, 2000 staff gage installation.

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 to 500 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 – Campbell Scientific (CS) CR10X data recorder linked to Druck 5 psi pressure transducer (PT). Gage housing consists of steel recorder shelter at top of right bank (RB) at Cal-Am diversion pipeline with inch and a quarter galvanized pipe used as conduit and intake. PT conduit attached to diversion pipeline runs toward channel and down RB stanchion to river. Station includes landline/modem system for remote access to data. Enameled staff gage at well ranges from 0.00 - 6.66 ft.

History – Initial stage recording equipment included a Stevens Type-F water level recorder/float system housed in a 24-inch CMP shelter. The existing data recorder and modem were installed Jan. 10, 2002. Water level recorder operated at San Clemente Dam (SCD) by Cal-Am measures and records level of San Clemente Reservoir. District installed CR510 data recorder/PT system at SCD Nov. 2, 2000 that includes landline/modem system for remote access to reservoir stage data. 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, or near Sleepy Hollow Steelhead Rearing Facility tailworks.

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

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

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, affected by seasonal aquatic vegetation growth. 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 (CS) CR510 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 a CS BDR-320 recorder Dec. 8, 1995. The BDR-320 was replaced with the existing CR510 recorder Nov. 15, 1999.

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 NEAR LOWER GARZAS CANYON

Location – Approximately 0.7 miles (along creek) upstream of West Garzas Road, Carmel Valley. Gage located at lower-most Monterey Peninsula Regional Park District permanent footbridge where Garzas Canyon Trail first crosses the creek.

Establishment - Continuous recording station established October 24, 2001 by G. W. James.

Drainage area – 12.9 sq. mi.

Gage – Campbell Scientific CR510 data recorder linked to a 5 psi Druck pressure transducer. Gage housing consists of 1/8 inch steel recorder shelter with two-inch galvanized pipe used as conduit and intake. Three staff gages located on various sections of the bridge range from 2.30 to 6.74 ft.

History – Continuous recording gage operated 0.7 miles downstream at West Garzas Road by MCWRA 1968 – 1978, and by MPWMD 1981 – present (1981 through 1991 – non-recording, and 1991 through present - continuous recording).

Reference and benchmarks – Top of 3/8" re-bar at lower orifice is elevation 2.00 ft. gage datum.

Channel - One channel at low to moderate stages. Channel splits around left bank during high flows. Channel is straight for approximately 30 ft. upstream and 30 ft. downstream from gage. Downstream from gage, banks are moderately sloped and vegetated. Streambed is composed primarily of boulder and cobble.

Control - Low and medium stage control is a boulder riffle 1 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 400 ft. upstream or downstream of the gage. To date no high flow measurements above wading stage have been obtained.

Floods – There are no known documented flood stage records in the Garzas Canyon.

Point of zero flow - Approximately 1.90 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.

Accuracy - Stage records are good. Computed records are fair below 20 cfs, and poor above 20 cfs due to lack of discharge measurements and poor rating definition at medium/high end flows

Cooperation -

DESCRIPTION OF GAGING STATION ON GARZAS CREEK AT GARZAS ROAD

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. The Garzas Creek near Lower Garzas Canyon gaging station located 0.7 miles upstream of West Garzas Road, installed Oct. 24, 2001, supplements the Garzas Creek streamflow record during periods of no flow at Garzas Road.

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 of poorly sorted alluvium.

Control - Low and medium stage control is a cobble riffle at upstream end mid-pier – right side, and riffle immediately downstream of stilling well. 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 20.0 ft. 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). Crest stage gage (CSG) installed Nov. 21, 2000, pin elev.=8.74 ft. at left bank staff gage.

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, affected by periodic rock dam building by park visitors.

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 – 1.8 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 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 (CS) CR510 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 system 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. Two subsequent recorder upgrades/replacements include the installation of a CS BDR-320, and a CS CR510 on Oct. 26, 1993, and Nov. 16, 1999, respectively.

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 boulder, cobble and sand.

Control - Low flow control is a riffle 3 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. (adjusted to current datum) based on the crest stage gage (CSG) at the former gage site 37 ft. downstream (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 (CS) CR510 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 system was installed. The gage was relocated to the opposite (right) bank and upgraded with a CS BDR-320 recorder Nov. 28, 1995. The previous gage datum was maintained despite the gage relocation. The BDR-320 was replaced with the existing recorder Nov. 12, 1999.

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 (CS) CR510 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. Three CSGs installed Oct. 11, 2000, pin elev.= 8.74 ft. (lower), 11.92 ft. (mid), and 14.90 ft. (upper).

History - Station was non-recording until Water Year 1993 when a CS BDR-320 recorder was installed Dec. 10, 1992. 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. The BDR-320 was replaced with the existing recorder Nov. 10, 1999.

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 6.5 ft. gage datum (approx 550 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 – 3.3 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.

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

Cooperation – MCWRA maintains ALERT hardware.

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 (CS) CR510 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 a CS BDR-320 recorder was installed. The BDR-320 was replaced with the existing recorder Nov. 4, 1999. 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 (CS) CR510 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 utilizing a CS BDR-320 recorder was installed by District staff 0.5 miles upstream of Highway 1 near houses, in November 1998 (new arbitrary datum). The BDR-320 was replaced with the existing recorder on Oct. 29, 1999.

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 -

DESCRIPTION OF GAGING STATION ON ARROYO DEL REY AT DEL REY OAKS

Location – Located in Del Rey Park in the city of Del Rey Oaks, CA, or approx. 500 ft. upstream of the parking lot at the end of Angelus Way.

Establishment - Continuous recording station established October 1966 by the United States Geological Survey (USGS) was maintained through September 1978, at which time it was discontinued. Re-established as a recording station on October 7, 2002 by G. W. James (MPWMD).

Drainage area – 13.8 sq. mi.

Gage - Campbell Scientific (CS) CR510 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 10 ft. down right bank, attached to existing, partially submerged V-notch weir. Staff gage at left bank ranges from 2.8 to 6.7 ft.

History – Continuous recording station operated by the USGS during Water Years 1967 through 1978. Station re-occupied by MPWMD in October 2002.

Reference and benchmarks - Brass disc at partially submerged V-notch weir – elevation unknown.

Channel – One channel at low to medium stages. Channel at flows over right bank into park at high flows. Left bank is steep and heavily vegetated. Right bank is steep, composed mainly of mud.

Control - Low and medium stage control is the channel downstream of gage, and is prone to periodic, heavy vegetation growth that is cleared by crews several times per year. Low footbridge approx. 50 ft. downstream of gage likely causes backwater at high flows. Creek may also flow overbank (right bank) at high flows.

Discharge measurements – Low and medium stage measurements are made by wading within 500 ft. upstream or downstream of gage. To date no high flow measurements above wading have been obtained by MPWMD.

Floods – The Flood of February 3, 1998 flowed overbank flooding a portion of Del Rey Park.

Point of zero flow – 2.9 ft. gage datum, varies due to scour and fill.

Winter flow - No ice.

Regulation – none.

Diversion -

Accuracy - Stage records are good. Computed records are fair below 20 cfs, and poor above 20 cfs due to lack of discharge measurements and poor rating definition at medium/high end flows

Cooperation -

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 2000 - 2003

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: 2000-2003

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)
10/01/1999	0855	GWJ	Pygmy	Good	10.0	15.0	1027.96	2.53	10.3	0.4	4.30	0.59
11/01/1999	1220	GWJ	Pygmy	Good	25.0	13.0	1021.75	3.55	10.5	0.5	4.94	0.72
12/01/1999	0915	GWJ	AA	Good	8.0	9.5	1024.44	9.02	18.2	0.9	16.79	0.54
01/03/2000	1200	GWJ	AA	Good	14.0	7.0	1026.48	7.69	16.1	1.0	15.88	0.48
05/11/2000	0945	GWJ	AA	Fair	12.0	10.0	1040.13	42.87	20.8	1.1	22.00	1.95
06/01/2000	0930	GWJ	AA	Good	19.0	12.5	1040.06	30.36	19.8	0.9	18.00	1.69
07/12/2000	1110	GWJ	AA	Good	19.0	16.0	1039.89	15.19	18.1	1.2	20.95	0.73
08/01/2000	0930	GWJ	AA	Good	23.5	18.0	1037.13	8.00	16.1	1.0	16.16	0.50
09/01/2000	0850	GWJ	AA	Good	15.0	14.5	1031.46	7.36	16.1	1.0	16.33	0.45
10/02/2000	1340	GWJ	AA	Fair	26.0	17.0	1025.64	5.15	16.3	0.9	14.66	0.35
11/01/2000	0955	GWJ	AA	Good	15.5	9.5	1026.88	20.36	18.5	0.8	15.08	1.35
12/01/2000	0945	GWJ	AA	Fair	10.5	7.5	1028.54	11.90	16.4	1.1	18.58	0.64
01/02/2001	1055	GWJ	AA	Good	16.0	5.5	1027.70	9.34	15.5	1.1	16.36	0.57
05/10/2001	1045	GWJ	AA	Good	23.0	13.5	1040.08	40.67	24.7	0.9	21.75	1.87
06/01/2001	1210	GWJ	AA	Good	26.5	17.5	1039.87	21.88	18.6	1.3	24.06	0.91
07/02/2001	1230	GWJ	AA	Good	35.5	19.0	1037.65	11.05	15.3	0.6	9.43	1.17
08/01/2001	1150	GWJ	Pygmy	Fair	26.0	17.0	1033.49	6.85	15.0	0.5	7.19	0.95
08/31/2001	0925	GWJ	Pygmy	Fair	12.5	15.0	1028.42	4.82	12.1	0.5	6.35	0.76
10/01/2001	1130	GWJ	Pygmy	Fair	29.0	16.0	1021.76	3.67	11.9	0.5	5.57	0.66
11/01/2001	0930	GWJ	Pygmy	Good	12.0	11.5	1016.09	6.53	12.0	0.6	6.65	0.98
05/03/2002	1045	GWJ	AA	Good	15.0	10.5	1040.06	27.82	18.4	0.8	13.87	2.01
06/03/2002	1220	GWJ	AA	Good	24.0	14.0	1039.81	17.83	17.9	0.6	11.46	1.56
07/01/2002	1230	GWJ	AA	Fair	30.5	19.0	1037.25	8.75	13.8	0.6	7.70	1.14
08/01/2002	1155	GWJ	Pygmy	Good	29.0	18.5	1031.38	3.63	10.8	0.5	5.12	0.71
09/03/2002	1230	GWJ	Pygmy	Good	35.0	19.0	1024.40	1.93	8.0	0.5	3.73	0.52
10/01/2002	1215	GWJ	Pygmy	Good	21.0	14.0	1017.36	2.82	8.1	0.5	4.24	0.67
11/01/2002	1130	GWJ	Pygmy	Good	18.0	9.5	1009.48	3.31	8.1	0.5	4.39	0.75
06/03/2003	1050	GWJ	AA	Good	25.0	15.0	1040.17	44.69	32.3	1.5	49.59	0.90
07/01/2003	1050	GWJ	AA	Good	26.0	14.5	1039.93	22.13	32.5	1.3	42.77	0.52
08/05/2003	1035	GWJ	AA	Good	18.5	17.0	1033.25	10.07	21.7	1.1	24.68	0.41
09/03/2003	1115	GWJ	Pygmy	Good	23.0	18.0	1026.18	4.57	13.0	0.6	7.21	0.63

TABLE C-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Below Los Padres Reservoir

Water Years: 2000-2003

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)
10/01/1999	1100	GWJ	AA	Fair	16.0	17.0	3.38	7.17	20.3	1.1	21.97	0.33
11/01/1999	1435	GWJ	AA	Fair	28.0	17.0	3.38	6.54	20.3	1.0	21.19	0.31
12/01/1999	1100	GWJ	AA	Fair	10.0	12.0	3.42	6.57	20.2	1.1	21.44	0.31
01/03/2000	1415	GWJ	AA	Fair	15.5	9.5	3.48	6.51	20.1	1.1	22.25	0.29
02/02/2000	0910	GWJ	AA	Fair	9.0	10.5	4.68	82.37	41.8	1.4	57.76	1.43
04/11/2000	1300	GWJ	AA	Fair	25.5	14.5	4.40	54.78	38.3	1.4	52.33	1.05
05/11/2000	1150	GWJ	AA	Fair	15.0	15.0	4.15	43.15	25.3	1.7	43.58	0.99
06/01/2000	1125	GWJ	AA	Good	28.0	18.5	3.90	30.74	23.4	1.4	33.59	0.92
07/12/2000	1300	GWJ	AA	Good	23.0	16.0	3.45	12.99	21.4	1.1	23.90	0.54
08/01/2000	1120	GWJ	AA	Good	31.0	19.0	3.44	13.15	21.6	1.1	23.43	0.56
09/01/2000	1025	GWJ	AA	Fair	18.5	19.5	3.35	10.49	20.8	1.0	21.47	0.49
10/02/2000	1540	GWJ	AA	Good	27.0	20.5	3.36	9.64	20.7	1.0	20.56	0.47
11/01/2000	1230	GWJ	AA	Good	19.0	14.5	3.41	11.25	20.9	1.0	21.79	0.52
11/30/2000	1050	GWJ	AA	Fair	10.0	10.0	3.41	11.19	20.9	1.1	23.36	0.48
01/02/2001	1245	GWJ	AA	Fair	21.0	9.0	3.40	10.81	20.8	1.1	22.01	0.49
01/18/2001	1305	GWJ	AA	Fair	11.0	8.0	4.18	46.12	23.8	1.6	38.02	1.21
02/05/2001	1110	GWJ	AA	Fair	15.0	9.0	4.11	42.46	23.5	1.6	36.84	1.15
03/02/2001	1230	GWJ	AA	Fair	13.0	9.0	5.03	132.29	40.2	1.8	73.25	1.81
04/02/2001	0950	GWJ	AA	Fair	8.0	13.0	4.37	63.44	24.9	1.7	41.82	1.52
05/10/2001	1430	GWJ	AA	Good	30.0	17.0	4.05	38.02	23.4	1.4	33.59	1.13
06/01/2001	1000	GWJ	AA	Good	22.0	15.0	3.68	23.37	21.8	1.2	26.21	0.89
07/02/2001	1000	GWJ	AA	Fair	25.0	19.0	3.48	15.45	21.5	1.1	23.24	0.66
08/01/2001	0910	GWJ	AA	Fair	15.5	19.5	3.28	9.14	21.2	0.9	18.87	0.48
08/31/2001	0720	GWJ	AA	Fair	13.0	20.5	3.27	7.86	20.7	0.9	18.26	0.43
10/01/2001	1315	GWJ	AA	Fair	32.0	21.0	3.27	7.64	19.9	0.9	17.39	0.44
11/01/2001	1100	GWJ	AA	Fair	18.5	16.5	3.25	7.15	19.9	0.8	15.39	0.46
12/07/2001	1015	GWJ	AA	Fair	10.5	10.5	4.44	69.77	38.7	1.3	51.94	1.34
01/04/2002	1045	GWJ	AA	Fair	9.5	10.5	5.45	208.39	45.9	2.0	93.32	2.23
01/16/2002	1000	GWJ	AA	Fair	-1.5	8.0	4.39	63.29	39.1	1.3	52.64	1.20
02/15/2002	1050	GWJ	AA	Fair	17.0	9.0	4.04	38.21	23.9	1.5	36.02	1.06
03/06/2002	0855	GWJ	AA	Good	15.5	11.0	4.16	38.92	25.6	1.7	44.19	0.88
04/09/2002	0900	GWJ	AA	Good	14.0	13.0	4.20	42.99	24.4	1.6	38.58	1.11
05/03/2002	0815	GWJ	AA	Good	9.0	13.0	3.86	27.69	23.1	1.6	36.17	0.77
06/03/2002	0910	GWJ	AA	Good	14.0	14.0	3.56	17.60	22.6	1.4	31.27	0.56
07/01/2002	0905	GWJ	AA	Fair	20.5	16.0	3.40	12.67	20.1	1.3	25.62	0.49
08/01/2002	0905	GWJ	AA	Fair	19.5	17.5	3.26	8.46	19.9	1.1	22.53	0.38
09/03/2002	0935	GWJ	AA	Fair	19.5	19.5	3.23	6.98	19.9	1.1	22.41	0.31
10/01/2002	0845	GWJ	AA	Fair	10.0	19.0	3.23	6.56	19.8	1.0	20.48	0.32
11/01/2002	0850	GWJ	AA	Fair	7.0	14.0	3.18	6.44	16.1	1.1	17.56	0.37
11/13/2002	0850	GWJ	AA	Fair	16.0	14.0	4.11	40.81	25.8	1.8	45.82	0.89
12/05/2002	1345	GWJ	AA	Good	18.0	12.0	3.45	13.09	21.3	1.4	29.74	0.44
01/08/2003	1050	GWJ	AA	Fair	12.0	10.0	5.05	101.88	40.1	1.5	60.35	1.69
01/22/2003	1120	GWJ	AA	Fair	16.0	11.0	4.94	89.55	32.0	1.7	53.03	1.69

TABLE C-2 (CONTINUED)

MAINSTEM STATION: Below Los Padres Reservoir

Water Years: 2000-2003

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)
02/03/2003	0925	GWJ	AA	Fair	4.5	10.0	4.65	53.33	26.6	1.6	41.25	1.29
03/11/2003	0900	GWJ	AA	Fair	13.0	11.0	4.44	35.44	26.4	1.5	39.63	0.89
04/11/2003	0855	GWJ	AA	Fair	13.0	13.0	4.50	40.57	25.4	1.5	38.79	1.05
05/12/2003	1125	GWJ	AA	Fair	23.0	14.0	4.91	85.62	32.1	1.7	54.29	1.58
06/03/2003	0815	GWJ	AA	Good	18.0	14.0	4.46	41.12	27.0	1.4	36.86	1.12
07/01/2003	1300	GWJ	AA	Good	17.0	27.5	4.08	18.22	22.9	1.2	26.92	0.68
08/05/2003	0745	GWJ	AA	Fair	14.5	17.0	3.89	12.13	20.7	1.2	24.08	0.50
09/03/2003	0840	GWJ	AA	Fair	16.0	20.0	3.78	9.64	20.9	1.0	21.22	0.45

TABLE C-3

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Cachagua Creek

Water Years: 2000-2003

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)
10/07/1999	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/1999	1540	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/01/1999	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/10/2000	0930	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/20/2000	0855	GWJ	Pygmy	Fair	14.0	12.5	2.42	0.44	2.2	0.3	0.66	0.66
01/24/2000	1340	GWJ	Pygmy	Good	18.0	13.5	2.74	5.94	6.7	0.8	5.31	1.12
02/15/2000	1510	GWJ	AA	Good	17.0	11.5	3.00	14.19	17.7	0.6	10.88	1.31
02/23/2000	1020	GWJ	AA	Good	10.5	10.0	3.38	47.36	19.8	1.0	19.81	2.39
03/07/2000	0910	GWJ	AA	Good	10.0	9.0	3.05	18.81	19.2	0.7	12.98	1.45
03/24/2000	0925	GWJ	Pygmy	Good	14.5	10.0	2.77	5.53	12.9	0.6	7.64	0.72
05/10/2000	1130	GWJ	Pygmy	Fair	11.0	15.0	2.60	1.79	10.2	0.5	4.71	0.38
06/01/2000	1255	GWJ	Pygmy	Poor	28.0	--	2.37	0.44	2.6	0.2	0.61	0.72
06/14/2000	1340	GWJ	Pygmy	Poor	40.0	31.0	2.25	0.03	.6	0.2	0.09	0.29
06/23/2000	0820	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/12/2000	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/2000	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/01/2000	1130	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/19/2000	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/2000	1335	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/07/2000	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/02/2001	0940	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/12/2001	1210	GWJ	Pygmy	Good	13.5	9.0	3.02	3.60	13.0	0.4	5.33	0.68
01/23/2001	1315	GWJ	Pygmy	Fair	18.0	12.0	2.70	0.47	2.7	0.3	0.85	0.56
01/26/2001	1325	GWJ	Pygmy	Good	8.5	8.5	3.03	3.97	11.3	0.6	7.16	0.55
02/05/2001	1325	GWJ	Pygmy	Fair	26.0	14.0	2.78	1.40	3.9	0.5	1.86	0.76
02/16/2001	1255	GWJ	Pygmy	Fair	17.5	10.0	2.98	3.97	11.3	0.6	6.83	0.58
03/06/2001	1410	GWJ	AA	Good	21.0	12.0	3.80	70.38	20.5	1.2	24.54	2.87
03/16/2001	0940	GWJ	AA	Fair	13.0	10.0	2.90	7.13	11.6	0.9	9.94	0.72
03/28/2001	1140	GWJ	AA	Fair	22.0	17.0	2.70	3.66	10.0	0.7	7.38	0.50
04/12/2001	1355	GWJ	Pygmy	Fair	23.0	17.0	2.63	2.96	9.3	0.7	6.77	0.44
05/17/2001	1230	GWJ	Pygmy	Fair	26.5	21.5	2.43	0.84	4.9	0.4	2.03	0.41
05/25/2001	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/01/2001	0920	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/02/2001	0930	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/14/2001	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/01/2001	1420	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/2001	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/06/2001	1220	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/04/2002	1250	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/16/2002	1210	GWJ	Pygmy	Fair	10.0	6.0	2.88	0.81	3.7	0.5	1.85	0.44
01/25/2002	1430	GWJ	Pygmy	Fair	16.5	10.0	2.88	0.76	3.8	0.5	1.76	0.43
02/12/2002	1200	GWJ	Pygmy	Fair	20.0	10.0	2.88	0.85	3.8	0.5	1.95	0.43
03/06/2002	1020	GWJ	Pygmy	Fair	16.0	12.5	2.92	1.34	3.5	0.5	1.90	0.71

TABLE C-3 (CONTINUED)

TRIBUTARY STATION: Cachagua Creek

Water Years: 2000-2003

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)
04/03/2002	1320	GWJ	Pygmy	Fair	15.0	15.5	2.92	1.34	3.5	0.5	1.69	0.79
05/03/2002	1230	GWJ	Pygmy	Poor	19.0	19.0	2.83	0.65	3.2	0.4	1.39	0.47
05/14/2002	1400	GWJ	Pygmy	Poor	24.0	24.0	2.62	0.06	1.4	0.3	0.35	0.18
05/22/2002	1130	GWJ	Pygmy	Poor	19.0	17.0	2.66	0.15	2.1	0.4	0.79	0.19
05/28/2002	1000	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/02/2002	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/01/2002	0830	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/01/2002	1330	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/2002	1410	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/01/2002	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/2002	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/05/2002	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/18/2002	0830	GWJ	AA	Good	3.0	7.5	3.28	9.19	12.7	0.7	8.89	1.03
12/30/2002	1340	GWJ	AA	Good	12.0	9.0	3.30	11.04	14.2	0.7	10.20	1.08
01/28/2003	1135	GWJ	Pygmy	Good	18.0	11.0	2.92	2.41	8.4	0.6	4.95	0.49
02/14/2003	1250	GWJ	Pygmy	Good	13.0	12.0	2.93	2.53	8.4	0.6	5.23	0.48
03/07/2003	0945	GWJ	Pygmy	Fair	14.5	8.5	2.85	1.45	4.5	0.4	1.62	0.90
04/21/2003	1605	GWJ	AA	Fair	12.5	17.0	2.99	3.18	8.5	0.7	5.66	0.56
05/12/2003	1335	GWJ	AA	Fair	27.0	20.0	2.99	3.27	8.4	0.7	5.83	0.56
06/11/2003	1005	GWJ	Pygmy	Fair	17.0	16.0	2.68	0.36	3.7	0.2	0.74	0.49
07/01/2003	0910	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/05/2003	1215	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/03/2003	1245	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-4

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Pine Creek

Water Years: 2000-2003

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)
10/07/1999	1050	GWJ	Pygmy	Poor	13.0	12.0	0.02	0.17	1.5	0.3	0.48	0.36
11/05/1999	1230	GWJ	Pygmy	Poor	19.0	11.0	0.01	0.12	1.4	0.3	0.42	0.30
12/08/1999	0930	GWJ	Pygmy	Fair	1.0	8.0	0.25	0.62	1.8	0.5	0.82	0.76
01/10/2000	1200	GWJ	Pygmy	Fair	9.0	7.5	0.24	0.66	1.7	0.5	0.86	0.76
01/28/2000	0945	GWJ	AA	Good	4.0	7.5	0.86	11.55	15.7	1.0	16.44	0.70
02/18/2000	1040	GWJ	AA	Good	10.0	9.5	1.28	39.03	17.0	1.6	26.38	1.48
03/23/2000	1035	GWJ	AA	Fair	16.0	10.0	0.94	17.21	16.2	1.1	17.77	0.97
05/10/2000	0925	GWJ	Pygmy	Good	14.5	12.0	0.61	5.05	10.1	0.6	6.35	0.80
06/07/2000	1010	GWJ	Pygmy	Fair	17.0	12.5	0.48	2.59	9.8	0.5	4.59	0.56
07/18/2000	1010	GWJ	Pygmy	Fair	18.0	14.0	0.25	1.01	3.2	0.6	1.91	0.53
08/18/2000	1200	GWJ	Pygmy	Poor	21.0	15.0	0.01	0.10	1.4	0.3	0.39	0.26
09/19/2000	1150	GWJ	Flume	Good	28.0	16.0	-0.02	0.06	--	--	--	--
10/16/2000	1010	GWJ	Pygmy	Poor	11.0	12.0	1.09	0.20	2.1	0.6	1.24	0.16
11/07/2000	0940	GWJ	Pygmy	Fair	6.5	9.5	1.48	0.87	6.9	0.3	1.98	0.44
12/07/2000	1250	GWJ	Pygmy	Fair	17.5	12.0	1.54	1.00	3.1	0.6	1.86	0.54
01/03/2001	1040	GWJ	Pygmy	Fair	5.0	6.5	1.52	0.97	3.2	0.6	1.85	0.53
01/18/2001	1050	GWJ	Pygmy	Fair	3.5	5.0	1.67	4.35	10.1	0.7	7.04	0.62
02/07/2001	1125	GWJ	Pygmy	Fair	8.5	7.0	1.62	3.55	10.1	0.6	6.36	0.56
03/14/2001	1300	GWJ	AA	Good	18.0	11.0	2.06	18.57	15.5	1.2	18.57	1.00
04/12/2001	1030	GWJ	Pygmy	Good	12.5	9.0	1.79	7.73	13.9	1.0	13.40	0.58
05/14/2001	1230	GWJ	Pygmy	Fair	21.0	13.0	1.62	4.26	9.9	0.6	5.75	0.74
06/08/2001	1100	GWJ	Pygmy	Fair	25.0	14.5	1.37	1.92	7.1	0.4	2.66	0.72
07/11/2001	1110	GWJ	Pygmy	Fair	16.0	15.0	1.04	0.27	3.4	0.2	0.59	0.47
08/08/2001	1355	GWJ	Flume	Good	29.0	18.0	0.93	0.09	--	--	--	--
09/17/2001	1135	GWJ	Flume	Good	17.5	14.5	0.76	0.03	--	--	--	--
10/04/2001	1100	GWJ	Flume	Fair	17.0	14.0	0.71	0.01	--	--	--	--
11/07/2001	1155	GWJ	Flume	Good	14.5	10.0	0.77	0.04	--	--	--	--
12/06/2001	1020	GWJ	Pygmy	Good	10.5	10.5	1.72	5.63	13.9	0.8	11.71	0.48
01/08/2002	1050	GWJ	AA	Good	10.0	9.0	1.90	10.92	14.3	1.0	14.98	0.73
02/12/2002	1000	GWJ	Pygmy	Fair	7.0	7.0	1.68	4.88	10.0	0.6	5.72	0.85
03/08/2002	1230	GWJ	Pygmy	Fair	11.0	9.0	1.73	6.05	14.4	0.7	10.78	0.56
04/03/2002	1020	GWJ	Pygmy	Good	12.0	11.0	1.76	6.69	13.9	0.9	12.53	0.53
05/14/2002	1130	GWJ	Pygmy	Fair	18.0	12.0	1.49	2.73	9.9	0.5	4.80	0.57
06/06/2002	1130	GWJ	Pygmy	Fair	29.0	15.0	1.32	1.63	8.4	0.4	3.54	0.46
07/09/2002	1230	GWJ	Pygmy	Poor	37.0	17.5	0.91	0.25	2.6	0.2	0.64	0.40
08/05/2002	1215	GWJ	Flume	Good	23.5	15.0	0.70	0.04	--	--	--	--
09/10/2002	1250	GWJ	Flume	Fair	29.0	15.0	0.51	--	--	--	--	--
10/17/2002	1140	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/13/2002	1140	GWJ	AA	Fair	16.0	13.0	1.57	2.70	12.1	0.7	8.87	0.31
12/05/2002	1030	GWJ	Pygmy	Fair	10.0	10.0	1.27	1.09	5.2	0.5	2.81	0.39
01/09/2003	1200	GWJ	AA	Good	13.5	11.0	1.95	12.54	14.8	1.0	15.17	0.83
02/14/2003	1035	GWJ	Pygmy	Good	11.5	11.0	1.77	5.86	12.5	0.9	11.51	0.51
03/07/2003	1200	GWJ	Pygmy	Good	16.0	9.5	1.70	4.25	12.5	0.8	10.26	0.41

TABLE C-4 (CONTINUED)

TRIBUTARY STATION: Pine Creek

Water Years: 2000-2003

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)
04/18/2003	1245	GWJ	AA	Good	14.5	11.0	1.88	9.92	14.2	1.0	14.26	0.70
05/21/2003	1200	GWJ	AA	Good	27.5	14.0	1.80	7.30	14.0	0.9	12.55	0.58
06/11/2003	1235	GWJ	AA	Fair	14.5	14.0	1.67	3.52	12.6	0.8	10.31	0.34
07/09/2003	1145	GWJ	Pygmy	Fair	28.5	15.0	1.35	1.05	9.6	0.3	2.82	0.37
08/12/2003	1330	GWJ	Flume	Good	26.0	16.0	1.07	0.23	--	--	--	--
09/12/2003	1220	GWJ	Flume	Good	25.5	16.0	0.93	0.06	--	--	--	--

TABLE C-5

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: San Clemente Creek

Water Years: 2000-2003

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)
10/04/1999	1340	GWJ	Pygmy	Poor	22.5	14.0	1.21	0.31	2.0	0.6	1.25	0.25
11/09/1999	1105	GWJ	Pygmy	Fair	16.0	11.0	1.36	0.73	2.1	0.6	1.33	0.55
12/06/1999	1310	GWJ	Pygmy	Fair	15.5	7.0	1.44	0.77	3.9	0.8	3.08	0.25
01/07/2000	1240	GWJ	Pygmy	Fair	16.5	5.5	1.53	1.00	4.0	0.9	3.54	0.28
01/26/2000	0930	GWJ	AA	Good	12.5	10.0	2.53	34.33	18.8	1.7	31.15	1.10
02/02/2000	1215	GWJ	AA	Good	18.0	10.0	2.03	10.87	15.3	1.2	17.91	0.61
02/15/2000	1115	GWJ	AA	Good	14.0	10.0	3.33	134.78	33.0	1.8	58.82	2.29
03/01/2000	1245	GWJ	AA	Good	16.0	10.5	2.92	71.82	20.5	1.6	33.74	2.13
04/04/2000	1115	GWJ	AA	Fair	16.0	12.5	2.22	18.12	19.7	1.0	19.01	0.95
05/09/2000	1220	GWJ	AA	Fair	21.5	15.0	1.97	9.28	17.8	0.8	14.76	0.63
06/05/2000	1100	GWJ	Pygmy	Good	18.5	15.0	1.75	5.20	10.1	1.1	11.03	0.47
07/20/2000	1300	GWJ	Pygmy	Fair	24.0	17.0	1.38	1.13	3.6	0.5	1.87	0.60
08/10/2000	1120	GWJ	Pygmy	Poor	22.0	15.5	1.24	0.40	1.9	0.6	1.19	0.34
09/12/2000	1105	GWJ	Pygmy	Poor	18.0	13.0	1.20	0.17	1.5	0.3	0.43	0.40
10/03/2000	1225	GWJ	Flume	Good	21.0	13.0	1.18	0.16	--	--	--	--
11/06/2000	1140	GWJ	Pygmy	Good	16.0	12.0	1.88	6.07	10.3	0.8	8.66	0.70
12/06/2000	1240	GWJ	Pygmy	Fair	13.0	9.0	1.33	0.49	1.9	0.7	1.28	0.38
01/04/2001	0940	GWJ	Pygmy	Fair	2.0	4.5	1.54	1.38	4.7	0.8	3.53	0.39
01/12/2001	0955	GWJ	AA	Fair	8.5	8.0	2.60	41.03	19.7	1.4	26.88	1.53
02/01/2001	1040	GWJ	AA	Fair	6.5	5.0	1.93	8.32	17.8	0.8	14.31	0.58
03/06/2001	1110	GWJ	AA	Fair	19.0	11.0	3.04	90.37	20.8	1.8	37.05	2.44
03/20/2001	1320	GWJ	AA	Fair	24.5	14.0	2.19	18.13	19.6	1.0	19.32	0.94
04/03/2001	1045	GWJ	AA	Good	11.0	9.0	1.83	6.29	17.7	1.0	17.26	0.36
05/08/2001	1105	GWJ	Pygmy	Good	26.0	15.0	1.88	8.37	12.2	1.0	12.57	0.67
06/04/2001	1130	GWJ	Pygmy	Fair	24.0	16.0	1.60	3.11	8.5	0.9	7.81	0.40
07/09/2001	1220	GWJ	Pygmy	Fair	21.5	18.0	1.20	0.46	1.9	0.6	1.08	0.43
08/02/2001	1205	GWJ	Pygmy	Poor	24.0	16.0	1.19	0.24	1.8	0.5	0.96	0.25
09/11/2001	1310	GWJ	Flume	Good	23.0	16.0	1.09	0.04	--	--	--	--
10/02/2001	1250	GWJ	Flume	Good	28.5	15.5	1.07	0.04	--	--	--	--
11/08/2001	1010	GWJ	Pygmy	Poor	12.0	9.5	1.31	0.49	2.0	0.6	1.22	0.40
11/29/2001	1220	GWJ	AA	Fair	11.5	11.0	2.00	6.82	10.4	1.4	14.78	0.46
12/12/2001	1125	GWJ	Pygmy	Fair	11.0	9.0	1.79	5.19	11.5	1.0	11.34	0.46
01/08/2002	1400	GWJ	AA	Good	15.0	10.0	2.13	13.19	18.4	1.3	23.81	0.55
02/15/2002	1305	GWJ	AA	Fair	14.0	9.5	1.84	6.32	17.8	1.0	17.55	0.36
03/12/2002	1225	GWJ	AA	Fair	19.0	10.5	1.89	7.01	17.6	1.0	18.35	0.38
04/04/2002	1130	GWJ	AA	Good	14.0	12.0	1.95	8.90	17.9	1.1	19.98	0.45
05/01/2002	1330	GWJ	AA	Fair	12.5	11.5	1.79	6.50	10.2	1.1	11.13	0.58
06/10/2002	1345	GWJ	Pygmy	Fair	29.0	17.5	1.40	1.54	4.7	0.8	3.68	0.42
07/10/2002	1240	GWJ	Pygmy	Poor	32.0	19.0	1.17	0.35	1.8	0.6	1.08	0.33
08/08/2002	1200	GWJ	Flume	Good	33.5	18.0	1.06	0.03	--	--	--	--
09/06/2002	1300	GWJ	Flume	Fair	22.0	17.0	1.03	0.02	--	--	--	--
10/04/2002	1345	GWJ	Flume	Good	24.0	14.5	0.98	0.02	--	--	--	--
11/04/2002	1250	GWJ	Flume	Good	17.0	9.5	1.09	0.11	--	--	--	--

TABLE C-5 (CONTINUED)

TRIBUTARY STATION: San Clemente Creek

Water Years: 2000-2003

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)
11/12/2002	1110	GWJ	AA	Fair	17.5	12.0	1.63	2.36	7.9	1.0	7.85	0.30
12/11/2002	1210	GWJ	Pygmy	Fair	12.0	8.5	1.55	1.49	4.4	0.4	1.74	0.86
12/20/2002	1205	GWJ	AA	Good	11.0	9.0	2.79	58.83	19.1	1.6	29.79	1.97
01/17/2003	0920	GWJ	AA	Good	5.0	8.0	2.22	17.69	18.4	1.4	26.12	0.68
02/18/2003	1200	GWJ	AA	Fair	16.5	8.0	1.95	8.30	12.2	1.2	14.59	0.57
03/06/2003	1050	GWJ	AA	Good	13.0	7.5	1.86	7.82	10.6	0.9	9.78	0.80
04/14/2003	1250	GWJ	AA	Fair	16.5	10.0	2.30	22.90	18.7	1.5	27.63	0.83
04/30/2003	1155	GWJ	AA	Good	17.0	11.0	2.12	14.56	18.4	1.3	24.07	0.60
05/01/2003	1245	GWJ	Pygmy	Fair	18.0	12.0	1.58	2.84	8.1	0.8	6.11	0.46
05/27/2003	1220	GWJ	AA	Fair	29.5	16.0	1.92	9.62	10.6	1.3	13.43	0.72
06/10/2003	1125	GWJ	AA	Fair	19.0	16.0	1.78	6.67	10.5	1.1	11.82	0.56
07/07/2003	1105	GWJ	AA	Fair	18.5	16.0	1.45	1.68	9.1	0.7	5.98	0.28
08/08/2003	1340	GWJ	Pygmy	Poor	26.5	17.0	1.11	0.24	2.6	0.3	0.83	0.29
09/15/2003	1405	GWJ	Flume	Good	23.0	18.5	1.00	0.06	--	--	--	--

TABLE C-6

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Sleepy Hollow Weir

Water Years: 2000-2003

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)
10/05/1999	1010	GWJ	AA	Good	17.0	16.0	1.59	6.93	14.6	1.1	16.00	0.43
11/02/1999	1355	GWJ	AA	Good	23.5	14.5	1.62	7.41	14.4	1.1	16.47	0.45
12/01/1999	1245	GWJ	AA	Good	14.0	11.5	1.68	8.82	14.7	1.2	17.60	0.50
01/05/2000	1300	GWJ	AA	Good	15.0	8.0	1.69	8.99	14.5	1.3	18.79	0.48
01/27/2000	1230	GWJ	AA	Good	16.5	11.0	3.24	206.35	60.5	2.5	153.49	1.34
02/03/2000	0830	GWJ	AA	Fair	15.5	11.0	2.67	104.33	58.2	2.2	127.14	0.82
03/16/2000	1200	GWJ	AA	Good	18.0	12.0	3.48	272.56	65.6	2.6	173.04	1.58
04/04/2000	1315	GWJ	AA	Good	17.0	15.0	2.72	109.35	58.2	2.3	131.39	0.83
05/09/2000	1415	GWJ	AA	Fair	22.0	17.0	2.41	59.51	58.3	1.9	108.77	0.55
06/05/2000	1310	GWJ	AA	Good	22.0	19.0	2.15	35.52	20.8	1.5	30.47	1.17
07/10/2000	1240	GWJ	AA	Good	22.5	20.0	1.92	16.26	14.3	1.5	21.79	0.75
08/03/2000	0845	GWJ	AA	Good	17.0	19.5	1.80	12.01	14.0	1.4	19.56	0.61
09/01/2000	1220	GWJ	AA	Good	19.5	18.0	1.71	9.43	13.9	1.2	17.01	0.55
10/03/2000	1345	GWJ	AA	Good	20.5	18.5	1.70	9.26	14.8	1.1	15.93	0.58
11/02/2000	1200	GWJ	AA	Good	24.0	13.0	1.90	15.44	15.6	1.4	21.89	0.71
12/01/2000	1420	GWJ	AA	Good	18.5	9.5	1.88	15.33	15.6	1.4	22.36	0.69
01/02/2001	1445	GWJ	AA	Good	24.0	7.0	1.87	14.65	15.7	1.4	22.28	0.66
01/16/2001	0950	GWJ	AA	Good	4.0	7.5	2.51	78.52	58.0	2.1	120.96	0.65
02/01/2001	1330	GWJ	AA	Good	19.0	7.5	2.46	73.62	58.6	1.9	112.23	0.66
02/13/2001	0920	GWJ	AA	Good	6.5	7.0	3.03	173.16	58.3	2.4	137.43	1.26
02/23/2001	1325	GWJ	AA	Good	11.5	9.5	3.45	263.65	58.7	2.6	155.36	1.70
03/09/2001	1245	GWJ	AA	Good	--	--	3.93	415.56	70.0	2.7	189.00	2.20
04/03/2001	1325	GWJ	AA	Fair	12.0	13.0	2.51	79.81	58.3	1.9	109.29	0.73
05/08/2001	1340	GWJ	AA	Fair	33.0	18.5	2.33	54.01	20.5	1.6	32.66	1.65
06/04/2001	1440	GWJ	AA	Good	23.0	19.5	2.06	25.67	17.1	1.4	23.74	1.08
07/03/2001	0925	GWJ	AA	Good	25.0	20.5	1.92	16.22	14.8	1.4	20.20	0.80
08/02/2001	1345	GWJ	AA	Good	25.5	22.5	1.63	7.24	13.4	1.1	14.14	0.51
08/31/2001	1130	GWJ	AA	Good	24.0	20.0	1.64	7.65	13.4	1.0	13.99	0.55
10/02/2001	0900	GWJ	AA	Good	16.0	17.0	1.63	7.50	13.4	1.0	13.75	0.55
11/01/2001	1345	GWJ	AA	Good	22.0	15.0	1.63	7.25	13.4	1.0	13.89	0.52
12/04/2001	1235	GWJ	AA	Good	10.5	11.0	3.15	194.60	58.5	2.4	141.79	1.37
01/03/2002	0850	GWJ	AA	Good	8.5	11.0	3.78	355.81	69.6	2.6	177.50	2.00
02/08/2002	1035	GWJ	AA	Fair	16.0	9.0	2.51	79.06	27.2	2.0	53.44	1.48
03/04/2002	1015	GWJ	AA	Good	18.5	10.0	2.31	49.48	21.7	1.5	31.53	1.57
04/01/2002	1330	GWJ	AA	Fair	23.0	14.5	2.50	80.65	27.3	2.0	53.82	1.50
05/01/2002	1050	GWJ	AA	Fair	11.5	12.5	2.25	41.91	18.6	1.7	31.23	1.34
06/04/2002	1200	GWJ	AA	Good	30.0	18.5	2.01	21.83	16.4	1.3	21.68	1.01
07/03/2002	0920	GWJ	AA	Good	18.0	19.0	1.84	12.64	14.0	1.2	17.48	0.72
08/02/2002	1410	GWJ	AA	Good	23.5	23.5	1.62	7.41	12.5	1.1	13.52	0.55
09/04/2002	1300	GWJ	AA	Good	27.0	22.0	1.57	6.40	12.4	1.1	13.95	0.46
10/08/2002	1335	GWJ	AA	Fair	30.0	19.0	1.52	5.45	11.7	1.1	12.77	0.43
11/04/2002	1400	GWJ	AA	Good	20.0	12.5	1.57	6.44	11.8	1.2	14.28	0.45
11/12/2002	1300	GWJ	AA	Fair	20.0	14.0	2.37	64.02	27.3	1.8	49.65	1.29

TABLE C-6 (CONTINUED)

MAINSTEM STATION: Sleepy Hollow Weir

Water Years: 2000-2003

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)
11/21/2002	1330	GWJ	AA	Good	22.0	12.0	2.02	23.45	18.3	1.5	27.95	0.84
12/02/2002	1310	GWJ	AA	Good	18.0	10.5	1.94	17.88	16.6	1.4	23.91	0.75
01/07/2003	1330	GWJ	AA	Good	26.0	10.0	2.96	158.53	44.7	2.0	87.39	1.81
01/29/2003	1400	GWJ	AA	Fair	21.0	11.5	2.57	88.35	35.0	1.2	43.49	2.03
03/04/2003	1200	GWJ	AA	Fair	16.0	11.0	2.40	60.00	32.9	1.1	34.61	1.73
04/07/2003	1405	GWJ	AA	Good	21.0	13.0	2.38	60.68	35.1	1.6	57.42	1.06
05/06/2003	1200	GWJ	AA	Good	16.0	13.0	2.88	143.10	39.5	1.9	75.79	1.89
06/02/2003	1410	GWJ	AA	Good	30.0	20.0	2.35	55.74	34.9	1.4	50.05	1.11
07/02/2003	1200	GWJ	AA	Good	28.0	20.0	2.03	25.03	16.9	1.5	25.31	0.99
08/04/2003	1050	GWJ	AA	Fair	24.5	20.0	1.86	13.33	26.5	1.4	37.78	0.35
09/02/2003	1355	GWJ	AA	Good	26.0	22.0	1.71	9.35	11.7	1.3	14.74	0.63

TABLE C-7

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Tularcitos Creek

Water Years: 2000-2003

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)
10/12/1999	1210	GWJ	Pygmy	Fair	23.0	13.5	2.80	1.87	5.2	0.4	2.12	0.88
11/09/1999	1240	GWJ	Pygmy	Fair	19.0	13.0	2.84	2.52	5.3	0.4	2.32	1.09
12/08/1999	1200	GWJ	Pygmy	Fair	11.0	8.0	2.84	2.65	4.2	0.5	2.08	1.27
01/07/2000	1350	GWJ	Pygmy	Fair	15.0	9.0	2.86	2.94	4.3	0.5	2.18	1.35
02/02/2000	1420	GWJ	Pygmy	Good	20.0	13.5	2.88	3.27	7.4	0.3	2.58	1.27
02/23/2000	0915	GWJ	AA	Fair	10.0	10.5	3.28	13.29	9.0	0.7	6.26	2.12
03/02/2000	0855	GWJ	Pygmy	Good	10.0	11.0	3.10	8.47	7.9	0.6	4.98	1.70
04/07/2000	1220	GWJ	Pygmy	Fair	22.5	14.0	2.96	3.97	5.8	0.4	2.14	1.85
05/10/2000	1300	GWJ	Pygmy	Fair	15.5	15.0	2.87	3.00	5.7	0.3	1.90	1.58
06/07/2000	1400	GWJ	Pygmy	Fair	20.0	19.0	2.84	2.03	6.1	0.3	1.69	1.20
07/18/2000	1200	GWJ	Pygmy	Fair	22.0	17.0	2.82	1.62	6.1	0.2	1.52	1.07
08/10/2000	1255	GWJ	Pygmy	Fair	25.5	18.0	2.80	1.16	3.8	0.3	1.28	0.91
09/13/2000	1415	GWJ	Pygmy	Fair	26.0	18.0	2.76	0.78	3.7	0.3	1.24	0.63
10/16/2000	1330	GWJ	Pygmy	Fair	21.0	14.0	2.79	1.44	3.5	0.4	1.38	1.04
11/06/2000	1420	GWJ	Pygmy	Fair	17.0	13.5	2.81	1.61	3.4	0.4	1.29	1.25
12/12/2000	1430	GWJ	Pygmy	Fair	14.0	11.5	2.86	2.01	3.4	0.4	1.39	1.45
01/04/2001	1120	GWJ	Pygmy	Fair	19.5	7.0	2.85	2.01	3.4	0.4	1.35	1.48
02/01/2001	1455	GWJ	Pygmy	Fair	18.0	9.5	2.89	2.59	5.9	0.4	2.52	1.03
03/06/2001	1540	GWJ	AA	Fair	19.0	14.5	3.61	22.31	9.8	0.9	8.67	2.57
04/11/2001	1455	GWJ	Pygmy	Fair	14.0	13.5	2.96	3.28	6.6	0.5	3.23	1.01
05/18/2001	0915	GWJ	Pygmy	Fair	17.5	12.5	2.93	1.93	6.2	0.4	2.33	0.83
06/25/2001	1330	GWJ	Pygmy	Fair	23.5	17.0	2.85	0.81	3.9	0.4	1.49	0.55
07/10/2001	1430	GWJ	Pygmy	Fair	27.0	19.0	2.86	0.79	3.9	0.4	1.56	0.51
08/07/2001	1305	GWJ	Pygmy	Fair	30.0	18.5	2.89	0.61	3.9	0.4	1.51	0.40
09/12/2001	1000	GWJ	Pygmy	Fair	18.0	14.0	2.92	0.68	3.9	0.4	1.52	0.45
10/04/2001	1330	GWJ	Pygmy	Fair	21.0	15.5	2.94	0.71	4.0	0.4	1.54	0.46
11/08/2001	1205	GWJ	Pygmy	Fair	22.5	11.0	2.95	0.77	4.0	0.4	1.58	0.49
12/18/2001	1420	GWJ	Pygmy	Fair	17.0	10.0	3.02	1.25	4.0	0.5	2.00	0.63
01/18/2002	1435	GWJ	Pygmy	Fair	17.0	7.0	3.01	1.39	4.0	0.5	2.05	0.68
02/12/2002	1355	GWJ	Pygmy	Fair	22.5	10.5	2.99	1.33	3.9	0.5	1.96	0.68
03/14/2002	1025	GWJ	Pygmy	Fair	15.0	10.0	2.98	1.35	3.9	0.5	2.08	0.65
04/04/2002	1330	GWJ	Pygmy	Fair	15.0	13.0	2.97	1.40	4.0	0.5	1.85	0.76
05/15/2002	1210	GWJ	Pygmy	Fair	25.0	13.5	2.95	0.99	3.9	0.4	1.58	0.63
06/19/2002	1015	GWJ	Pygmy	Fair	21.5	14.5	2.88	0.47	3.5	0.3	1.10	0.42
07/10/2002	1045	GWJ	Pygmy	Fair	23.5	17.0	2.78	0.17	2.4	0.2	0.41	0.41
08/06/2002	1300	GWJ	Flume	Good	21.0	16.5	2.77	0.09	--	--	--	--
09/11/2002	1205	GWJ	Flume	Good	26.0	15.5	2.72	0.04	--	--	--	--
10/11/2002	1110	GWJ	Flume	Good	17.0	14.0	2.75	0.08	--	--	--	--
11/19/2002	1120	GWJ	Pygmy	Fair	14.0	9.0	2.91	0.35	4.0	0.2	0.73	0.48
12/12/2002	0925	GWJ	Pygmy	Fair	11.5	8.0	2.97	0.45	4.1	0.3	1.10	0.41
12/16/2002	1045	GWJ	AA	Fair	15.0	12.5	3.82	19.43	9.7	0.9	8.28	2.35
01/21/2003	1325	GWJ	Pygmy	Fair	19.0	11.5	3.12	1.56	6.3	0.4	2.49	0.63
02/18/2003	1415	GWJ	Pygmy	Fair	22.0	11.0	3.11	1.19	5.0	0.6	2.86	0.42

TABLE C-7 (CONTINUED)

TRIBUTARY STATION: Tularcitos Creek

Water Years: 2000-2003

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)
03/13/2003	0745	GWJ	Pygmy	Fair	14.0	11.5	3.09	1.08	4.9	0.6	2.81	0.38
04/15/2003	1110	GWJ	Pygmy	Fair	14.0	11.0	3.13	1.67	4.6	0.3	1.59	1.05
05/20/2003	1230	GWJ	Pygmy	Fair	29.0	16.0	3.03	0.82	4.0	0.5	2.18	0.38
06/10/2003	1330	GWJ	Pygmy	Fair	19.5	18.0	2.96	0.48	3.9	0.5	1.95	0.24
07/22/2003	1425	GWJ	Pygmy	Poor	26.0	20.5	2.79	0.08	1.3	0.2	0.26	0.32
08/19/2003	1445	GWJ	Flume	Good	24.0	20.0	2.80	0.05	--	--	--	--
09/22/2003	1115	GWJ	Flume	Good	27.0	16.0	2.78	0.02	--	--	--	--

TABLE C-8

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Hitchcock Creek

Water Years: 2000-2003

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)
10/14/1999	1125	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/15/1999	0940	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1999	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/10/2000	1410	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/18/2000	1235	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/24/2000	1500	GWJ	Pygmy	Poor	15.0	12.5	2.59	0.37	1.7	0.3	0.53	0.70
02/02/2000	1515	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/17/2000	1110	GWJ	Pygmy	Good	14.0	10.0	2.80	3.15	8.3	0.4	3.33	0.95
03/03/2000	1110	GWJ	Pygmy	Good	17.0	11.0	2.78	2.83	8.3	0.4	3.42	0.83
04/10/2000	1040	GWJ	Pygmy	Poor	17.0	11.0	2.38	0.08	1.4	0.2	0.24	0.34
05/08/2000	1035	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/08/2000	0930	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/18/2000	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/09/2000	1300	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2000	1225	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/10/2000	1040	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/08/2000	1540	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/15/2000	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/04/2001	1140	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/18/2001	1435	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/24/2001	1225	GWJ	Pygmy	Poor	13.0	9.0	2.37	0.03	.7	0.1	0.07	0.44
01/26/2001	1215	GWJ	Pygmy	Fair	10.5	8.0	2.83	1.51	6.0	0.3	1.93	0.78
02/02/2001	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/12/2001	1135	GWJ	Pygmy	Fair	12.5	7.5	3.10	4.21	7.9	0.6	4.66	0.90
03/08/2001	1015	GWJ	Pygmy	Good	14.5	10.0	2.86	3.89	8.5	0.5	4.02	0.97
04/11/2001	1230	GWJ	Pygmy	Poor	13.0	12.0	2.40	0.06	1.4	0.2	0.25	0.25
05/01/2001	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/14/2001	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/11/2001	1345	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/07/2001	0950	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2001	1040	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/11/2001	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/08/2001	1235	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/04/2001	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/21/2001	1440	GWJ	Pygmy	Fair	14.5	9.5	2.68	0.72	4.0	0.3	1.05	0.68
01/04/2002	1330	GWJ	Pygmy	Fair	17.0	10.0	2.72	0.54	3.9	0.2	0.89	0.61
01/18/2002	1510	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/19/2002	1010	GWJ	na	na	--	--	--	No Flow	--	--	--	--
03/11/2002	1020	GWJ	na	na	--	--	--	No Flow	--	--	--	--
04/04/2002	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
05/15/2002	1250	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/11/2002	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/11/2002	1300	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-8 (CONTINUED)

TRIBUTARY STATION: Hitchcock Creek

Water Years: 2000-2003

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)
08/09/2002	1430	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/04/2002	1420	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/15/2002	1330	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/18/2002	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/12/2002	1000	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/16/2002	1155	GWJ	AA	Good	13.5	12.5	3.34	20.55	11.0	0.8	8.73	2.35
12/31/2002	1225	GWJ	Pygmy	Good	16.0	10.5	2.99	6.62	9.7	0.5	4.68	1.41
01/28/2003	1300	GWJ	Pygmy	Fair	20.0	13.0	2.51	0.23	2.8	0.3	0.71	0.33
02/14/2003	1430	GWJ	Pygmy	Poor	13.5	12.5	2.41	0.02	.7	0.1	0.08	0.23
03/13/2003	0830	GWJ	na	na	--	--	--	No Flow	--	--	--	--
03/17/2003	1030	GWJ	Pygmy	Poor	15.0	11.0	2.53	0.34	2.8	0.3	0.70	0.48
04/16/2003	1350	GWJ	Pygmy	Poor	14.0	12.5	2.51	0.13	1.2	0.2	0.23	0.58
05/21/2003	1435	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/10/2003	1405	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/22/2003	1450	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/04/2003	1215	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/15/2003	1010	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-9

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Garzas Creek near Lower Garzas Canyon

Water Years: 2000-2003

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)
12/03/2001	0935	GWJ	Pygmy	Fair	8.5	10.0	2.95	7.77	8.4	1.3	10.83	0.72
12/19/2001	1315	GWJ	Pygmy	Fair	13.0	8.0	2.60	2.73	7.6	1.0	7.34	0.37
01/11/2002	1315	GWJ	AA	Fair	11.5	9.0	2.75	4.50	13.7	0.7	9.63	0.47
02/01/2002	1210	GWJ	Pygmy	Fair	10.0	4.5	2.59	2.77	8.8	0.8	7.19	0.38
03/06/2002	1250	GWJ	Pygmy	Fair	16.0	12.0	2.70	3.59	9.0	0.9	8.10	0.44
03/20/2002	1035	GWJ	AA	Fair	17.5	10.0	2.83	5.85	14.0	0.8	11.00	0.53
04/11/2002	1110	GWJ	Pygmy	Fair	18.0	13.0	2.65	3.04	8.9	0.9	7.64	0.40
05/13/2002	1125	GWJ	Pygmy	Fair	16.5	13.0	2.42	1.29	3.6	0.6	2.07	0.63
05/29/2002	1215	GWJ	Pygmy	Poor	28.0	17.0	2.32	0.79	3.5	0.5	1.72	0.46
06/11/2002	1000	GWJ	Pygmy	Poor	20.5	15.0	2.23	0.47	2.8	0.5	1.26	0.38
07/11/2002	1120	GWJ	Flume	Good	26.0	16.0	2.01	0.04	--	--	--	--
08/09/2002	1100	GWJ	Flume	Fair	27.0	16.0	1.99	--	--	--	--	--
09/12/2002	0900	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/24/2002	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/15/2002	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/09/2002	0650	GWJ	AA	Fair	15.0	14.5	2.88	6.35	14.1	0.9	12.04	0.53
12/10/2002	1400	GWJ	Pygmy	Poor	15.0	15.0	2.22	0.39	2.9	0.4	1.30	0.30
01/15/2003	1125	GWJ	AA	Fair	8.5	9.5	3.01	12.63	14.4	1.0	14.83	0.85
01/29/2003	1040	GWJ	AA	Fair	13.0	9.5	2.76	4.42	9.0	0.9	7.99	0.55
02/21/2003	1420	GWJ	AA	Fair	20.0	11.0	2.69	3.57	8.8	0.8	7.38	0.48
03/13/2003	0900	GWJ	Pygmy	Fair	15.0	11.5	2.61	2.57	8.9	0.8	6.71	0.38
03/18/2003	1205	GWJ	AA	Fair	16.5	12.0	2.82	5.65	13.7	0.8	10.45	0.54
04/21/2003	1345	GWJ	AA	Fair	16.0	13.5	2.78	4.65	9.1	1.0	8.67	0.54
05/20/2003	1345	GWJ	AA	Fair	26.5	17.5	2.69	2.99	8.8	0.8	7.25	0.41
06/09/2003	1310	GWJ	Pygmy	Fair	20.0	16.5	2.46	1.20	2.9	0.6	1.67	0.72
06/26/2003	1315	GWJ	Pygmy	Fair	35.0	20.0	2.25	0.48	2.9	0.5	1.31	0.37
07/22/2003	1315	GWJ	Pygmy	Poor	26.0	19.5	2.00	0.02	.9	0.1	0.10	0.23
08/11/2003	1320	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/17/2003	1105	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-10

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Garzas Creek at Garzas Road

Water Years: 2000-2003

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)
10/05/1999	1300	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/09/1999	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/06/1999	1505	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/05/2000	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/20/2000	0955	GWJ	Pygmy	Fair	14.5	12.5	1.17	0.47	2.1	0.4	0.77	0.61
01/26/2000	1125	GWJ	AA	Good	12.0	11.5	2.11	19.41	21.2	1.0	22.09	0.88
02/15/2000	1120	TLL	AA	Fair	14.0	11.0	2.59	80.35	23.7	1.8	42.66	1.88
03/02/2000	0950	GWJ	AA	Good	11.0	11.0	2.30	32.14	21.3	1.5	31.32	1.03
04/07/2000	1440	GWJ	AA	Fair	15.5	24.5	1.80	5.41	15.7	1.1	17.90	0.30
05/10/2000	1400	GWJ	Pygmy	Fair	13.0	15.0	1.60	2.86	7.0	0.7	4.61	0.62
06/08/2000	1215	GWJ	Pygmy	Fair	15.0	15.5	1.35	1.15	6.3	0.6	3.52	0.33
06/20/2000	1335	GWJ	Pygmy	Poor	28.0	22.0	0.91	0.28	1.4	0.2	0.31	0.89
06/22/2000	1345	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/06/2000	1000	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/03/2000	0800	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2000	1300	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/03/2000	1000	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/2000	1410	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/01/2000	1530	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/04/2001	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/09/2001	1200	GWJ	Pygmy	Poor	15.0	9.0	0.95	0.29	1.3	0.2	0.32	0.91
01/11/2001	1340	GWJ	AA	Poor	8.0	8.5	2.31	32.71	22.4	1.3	29.13	1.12
01/18/2001	1500	GWJ	Pygmy	Fair	14.5	6.0	1.49	2.38	7.0	0.6	4.45	0.54
01/23/2001	1440	GWJ	Pygmy	Fair	14.5	10.0	1.53	0.75	4.0	0.4	1.60	0.47
01/26/2001	1105	GWJ	AA	Good	9.0	7.5	2.15	24.04	22.0	1.2	27.04	0.89
02/06/2001	1330	GWJ	Pygmy	Fair	11.5	9.0	1.59	1.98	4.7	0.5	2.38	0.83
02/12/2001	1235	GWJ	AA	Fair	12.0	8.0	2.40	58.46	23.2	1.6	37.28	1.57
03/05/2001	1150	GWJ	AA	Fair	18.0	11.0	2.62	99.95	24.3	1.6	38.07	2.63
03/14/2001	0920	GWJ	AA	Good	14.0	10.0	1.99	12.87	20.4	1.1	21.59	0.60
04/02/2001	1335	GWJ	Pygmy	Fair	14.0	13.0	1.65	3.62	7.4	0.6	4.33	0.84
05/03/2001	1350	GWJ	Pygmy	Fair	29.0	16.0	1.60	3.07	7.8	0.6	4.61	0.67
05/21/2001	1000	GWJ	Pygmy	Fair	19.0	16.0	1.26	0.56	3.6	0.3	1.16	0.48
05/24/2001	1305	GWJ	Flume	Good	--	--	0.96	0.08	--	--	--	--
06/01/2001	1455	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/10/2001	1320	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/07/2001	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/11/2001	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/02/2001	1430	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/01/2001	1445	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/03/2001	1045	GWJ	Pygmy	Fair	10.0	10.0	1.67	3.10	7.9	0.6	4.40	0.70
12/13/2001	1415	GWJ	Pygmy	Fair	18.0	9.0	1.40	0.36	3.1	0.4	1.12	0.32
12/19/2001	1415	GWJ	Pygmy	Fair	13.0	9.0	1.46	0.54	3.0	0.3	1.00	0.54
01/11/2002	1450	GWJ	Pygmy	Fair	17.0	10.0	1.65	3.74	7.5	0.7	4.95	0.75

TABLE C-10 (CONTINUED)

TRIBUTARY STATION: Garzas Creek at Garzas Road

Water Years: 2000-2003

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)
02/01/2002	1325	GWJ	Pygmy	Fair	12.0	6.0	1.50	1.71	6.4	0.6	3.62	0.47
03/06/2002	1400	GWJ	Pygmy	Fair	14.5	13.0	1.62	3.35	7.6	0.6	4.36	0.77
03/20/2002	1230	GWJ	AA	Fair	21.5	12.0	1.72	4.98	10.9	1.2	13.22	0.38
04/11/2002	1300	GWJ	Pygmy	Fair	21.5	15.0	1.57	2.60	7.2	0.6	4.00	0.65
05/13/2002	1320	GWJ	Pygmy	Poor	19.0	17.0	1.18	0.32	1.5	0.3	0.43	0.75
05/20/2002	0950	GWJ	Pygmy	Poor	16.5	14.0	1.05	0.09	.9	0.2	0.14	0.65
05/28/2002	1045	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/05/2002	1035	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/03/2002	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/02/2002	1530	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/04/2002	1150	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/04/2002	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/04/2002	1515	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/17/2002	1435	GWJ	AA	Good	12.0	11.0	2.51	86.00	21.8	1.8	38.29	2.25
01/15/2003	1340	GWJ	AA	Fair	19.0	10.5	1.93	11.01	16.1	1.0	16.15	0.68
01/29/2003	1155	GWJ	AA	Fair	17.0	10.0	1.82	3.68	9.2	1.0	9.08	0.40
02/14/2003	1500	GWJ	Pygmy	Good	14.0	11.5	1.83	4.01	8.4	0.5	4.58	0.88
03/13/2003	1005	GWJ	Pygmy	Fair	15.0	12.0	1.70	1.58	6.6	0.5	3.23	0.49
03/18/2003	1330	GWJ	AA	Fair	16.0	13.0	1.88	5.27	11.6	1.0	11.43	0.46
04/21/2003	1455	GWJ	AA	Fair	14.0	14.5	1.86	3.83	8.5	0.8	6.62	0.58
05/20/2003	1455	GWJ	AA	Fair	26.0	20.0	1.77	1.94	8.2	0.7	5.36	0.36
06/03/2003	1320	GWJ	Pygmy	Fair	26.0	21.0	1.59	0.45	3.3	0.2	0.66	0.68
06/09/2003	1430	GWJ	Pygmy	Fair	22.0	20.0	1.56	0.38	3.5	0.2	0.61	0.63
06/26/2003	1155	GWJ	Pygmy	Poor	36.5	22.0	1.17	0.02	.5	0.1	0.05	0.36
06/27/2003	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/07/2003	1245	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/04/2003	1225	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/02/2003	1135	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-11

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Don Juan Bridge

Water Years: 2000-2003

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)
10/05/1999	1335	GWJ	Pygmy	Fair	21.0	20.0	2.47	5.94	18.4	0.8	14.62	0.41
11/09/1999	1345	GWJ	AA	Fair	16.0	16.5	2.60	10.04	19.6	0.9	17.19	0.58
12/08/1999	1435	GWJ	AA	Good	13.0	13.0	2.60	9.74	19.7	0.9	18.24	0.53
01/07/2000	1440	GWJ	AA	Fair	12.0	13.0	2.63	9.57	21.1	0.9	18.95	0.50
01/25/2000	1355	GWJ	AA	Good	--	--	5.84	906.83	60.0	2.9	174.15	5.21
01/28/2000	1300	GWJ	AA	Fair	15.0	11.5	4.17	193.79	37.2	1.7	61.89	3.13
02/07/2000	1455	GWJ	AA	Good	12.0	12.5	3.58	103.73	35.4	1.5	54.02	1.92
02/14/2000	1320	GWJ	AA	Fair	--	--	8.39	3303.67	69.0	7.1	491.15	6.73
03/02/2000	1110	GWJ	AA	Good	13.0	11.0	4.87	436.28	73.0	1.9	135.84	3.21
04/03/2000	0940	GWJ	AA	Good	14.5	13.0	3.64	121.30	37.0	1.5	57.00	2.13
05/08/2000	1120	GWJ	AA	Good	20.0	16.5	3.27	71.67	33.7	1.4	45.80	1.56
06/06/2000	1235	GWJ	AA	Good	21.0	19.0	2.91	35.04	28.4	1.2	35.07	1.00
07/14/2000	0800	GWJ	AA	Good	13.5	15.0	2.56	15.32	24.9	1.0	26.10	0.59
08/10/2000	1405	GWJ	AA	Fair	21.0	22.0	2.42	7.75	14.1	0.8	11.54	0.67
09/13/2000	1045	GWJ	AA	Good	24.0	18.0	2.35	6.17	15.8	0.7	11.59	0.53
10/16/2000	1420	GWJ	AA	Fair	25.0	18.5	2.51	10.56	23.2	0.8	19.70	0.54
11/06/2000	1505	GWJ	AA	Good	17.0	16.0	2.71	18.74	25.1	1.2	29.76	0.63
12/12/2000	1300	GWJ	AA	Good	15.0	13.0	2.66	15.41	24.8	1.1	28.41	0.54
01/04/2001	1215	GWJ	AA	Good	20.0	11.5	2.65	14.99	24.9	1.2	28.87	0.52
01/16/2001	1215	GWJ	AA	Good	9.0	8.5	3.47	87.37	34.8	1.3	46.70	1.87
01/26/2001	0945	GWJ	AA	Fair	15.0	8.0	4.24	222.06	69.1	1.4	93.55	2.37
02/07/2001	1345	GWJ	AA	Good	12.5	11.5	3.19	57.61	33.4	1.1	38.38	1.50
02/13/2001	1130	GWJ	AA	Fair	11.5	8.5	4.17	218.51	65.5	1.3	85.54	2.55
02/26/2001	1405	GWJ	AA	Good	14.0	11.0	4.60	329.13	69.0	1.6	109.40	3.01
03/05/2001	1010	GWJ	AA	Fair	18.0	10.5	7.06	1713.78	66.0	4.9	321.80	5.33
03/16/2001	1310	GWJ	AA	Fair	18.0	14.0	4.09	200.40	44.6	1.5	65.87	3.04
04/06/2001	1100	GWJ	AA	Good	14.0	12.0	3.42	83.62	34.0	1.3	45.37	1.84
04/24/2001	1220	GWJ	AA	Good	25.0	16.0	3.58	107.31	34.5	1.5	50.98	2.11
05/07/2001	1010	GWJ	AA	Good	25.0	15.5	3.20	58.47	29.5	1.2	36.57	1.60
05/21/2001	1050	GWJ	AA	Good	19.5	17.5	2.98	37.48	28.0	1.1	30.56	1.23
06/07/2001	1455	GWJ	AA	Good	27.5	23.0	2.74	20.81	25.1	0.9	22.29	0.93
07/11/2001	1415	GWJ	AA	Good	21.0	21.0	2.54	10.76	22.0	0.8	17.07	0.63
08/07/2001	1135	GWJ	AA	Fair	27.0	19.0	2.36	4.19	11.1	0.8	8.69	0.48
09/12/2001	1210	GWJ	AA	Fair	20.0	18.0	2.34	4.11	10.0	0.8	7.53	0.55
10/04/2001	1430	GWJ	AA	Fair	16.5	19.0	2.37	4.38	11.0	0.7	7.87	0.56
11/08/2001	1305	GWJ	AA	Good	20.0	16.0	2.46	5.86	20.7	0.7	14.27	0.41
11/29/2001	0940	GWJ	AA	Good	14.5	13.0	2.80	18.82	24.9	1.0	23.68	0.79
12/03/2001	1235	GWJ	AA	Fair	12.0	11.5	4.95	391.19	69.5	1.8	123.42	3.17
12/17/2001	1435	GWJ	AA	Fair	14.0	12.0	3.20	49.62	29.4	1.2	34.21	1.45
01/03/2002	1115	GWJ	AA	Fair	13.0	11.5	4.87	366.20	69.3	1.7	117.91	3.11
01/25/2002	1120	GWJ	AA	Good	15.0	8.5	3.30	59.81	32.5	1.2	40.23	1.49
02/05/2002	1400	GWJ	AA	Good	14.0	11.0	3.20	48.29	28.6	1.2	33.23	1.45
03/04/2002	1210	GWJ	AA	Good	19.0	12.5	3.22	50.62	27.4	1.2	33.28	1.52

TABLE C-11 (CONTINUED)

MAINSTEM STATION: Don Juan Bridge

Water Years: 2000-2003

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)
04/05/2002	1425	GWJ	AA	Good	18.5	15.0	3.42	72.28	36.2	1.2	44.70	1.62
05/02/2002	1345	GWJ	AA	Good	15.0	17.0	3.14	46.85	29.7	1.1	33.54	1.40
05/17/2002	1000	GWJ	AA	Good	18.0	14.0	2.91	27.47	26.9	0.9	23.70	1.16
05/30/2002	1430	GWJ	AA	Good	19.0	22.0	2.82	22.89	27.4	0.9	23.75	0.96
06/05/2002	0800	GWJ	AA	Good	19.5	16.0	2.78	20.63	27.0	0.8	22.43	0.92
07/02/2002	1215	GWJ	AA	Good	22.5	20.0	2.58	10.49	22.8	0.7	16.43	0.64
08/02/2002	1135	GWJ	Pygmy	Fair	21.5	18.0	2.42	4.22	16.3	0.6	9.27	0.45
09/04/2002	1050	GWJ	Pygmy	Fair	23.0	17.5	2.38	2.97	10.2	0.4	4.01	0.74
10/08/2002	1130	GWJ	AA	Fair	26.0	17.0	2.34	2.97	11.5	0.8	8.68	0.34
11/06/2002	1330	GWJ	AA	Fair	19.0	14.0	2.38	3.46	11.6	0.8	8.79	0.39
11/12/2002	1425	GWJ	AA	Good	18.0	15.5	3.41	63.43	32.0	1.3	41.95	1.51
12/03/2002	1505	GWJ	AA	Fair	19.0	14.0	2.75	16.16	23.9	0.9	21.64	0.75
12/12/2002	1045	GWJ	AA	Good	15.0	12.0	2.92	17.69	26.6	1.0	26.16	0.68
12/16/2002	1400	GWJ	AA	Fair	--	--	8.70	3181.81	72.0	7.5	540.45	5.89
01/06/2003	1055	GWJ	AA	Fair	17.5	10.0	4.67	206.68	63.0	1.4	86.60	2.39
02/03/2003	1330	GWJ	AA	Good	19.0	12.0	4.04	85.42	35.7	1.5	51.82	1.65
03/11/2003	1115	GWJ	AA	Good	18.0	13.0	3.83	52.63	34.5	1.2	42.96	1.23
03/17/2003	1200	GWJ	AA	Good	17.5	13.0	4.57	165.31	55.0	1.4	77.78	2.13
04/15/2003	1240	GWJ	AA	Good	14.5	13.0	4.68	191.54	58.5	1.5	89.16	2.15
05/07/2003	1105	GWJ	AA	Good	15.0	13.5	4.51	157.22	55.0	1.4	75.51	2.08
06/02/2003	1230	GWJ	AA	Good	29.0	19.5	3.99	57.96	34.6	1.3	46.66	1.24
07/02/2003	1320	GWJ	AA	Good	20.5	19.5	3.54	22.30	30.9	0.9	29.18	0.76
08/04/2003	1300	GWJ	AA	Good	24.0	20.0	3.27	10.40	25.4	0.8	19.39	0.54
09/02/2003	1025	GWJ	AA	Fair	19.0	17.5	3.17	7.12	22.4	0.7	15.95	0.45

TABLE C-12

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Robinson Canyon Creek

Water Years: 2000-2003

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)
10/04/1999	1520	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/16/1999	0850	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1999	1525	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/10/2000	1440	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/18/2000	1140	GWJ	Pygmy	Fair	16.5	12.0	1.96	0.33	3.0	0.3	1.00	0.33
02/14/2000	1455	TLL	AA	Good	14.0	12.5	3.08	34.04	14.2	0.8	11.73	2.90
03/03/2000	1225	GWJ	Pygmy	Good	17.0	11.0	2.38	3.97	7.3	0.4	3.19	1.24
04/10/2000	1340	GWJ	Pygmy	Poor	18.0	16.0	2.11	0.38	2.4	0.4	0.85	0.45
05/12/2000	1450	GWJ	Pygmy	Poor	18.0	19.0	1.98	0.14	1.9	0.3	0.51	0.27
06/08/2000	1320	GWJ	Pygmy	Poor	14.0	15.5	1.95	0.09	1.8	0.2	0.38	0.23
06/27/2000	1210	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/18/2000	1245	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/09/2000	1325	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2000	1320	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/16/2000	1505	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/08/2000	1350	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/12/2000	1235	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/04/2001	1320	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/09/2001	1105	GWJ	Pygmy	Poor	13.5	9.5	1.87	0.02	.5	0.1	0.06	0.28
01/11/2001	1215	GWJ	Pygmy	Fair	14.0	9.0	2.30	2.52	5.5	0.5	2.85	0.88
02/02/2001	1350	GWJ	Pygmy	Poor	19.5	9.5	2.00	0.18	1.7	0.3	0.52	0.36
02/14/2001	1340	GWJ	Pygmy	Fair	15.0	8.0	2.27	2.03	5.2	0.4	2.15	0.95
03/08/2001	1115	GWJ	Pygmy	Good	14.5	11.0	2.42	5.72	17.0	0.4	6.64	0.86
04/13/2001	1225	GWJ	Pygmy	Fair	17.0	11.5	2.04	0.42	2.2	0.3	0.69	0.62
05/04/2001	1315	GWJ	Pygmy	Poor	28.0	17.5	2.06	0.29	1.9	0.3	0.55	0.53
06/07/2001	1430	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/05/2001	1325	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/07/2001	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/24/2001	1105	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/11/2001	1125	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/07/2001	1545	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/04/2001	1025	GWJ	Pygmy	Poor	15.0	9.0	1.98	0.12	1.6	0.2	0.37	0.31
12/26/2001	1250	GWJ	Pygmy	Poor	22.5	10.5	2.02	0.19	1.7	0.2	0.38	0.49
01/18/2002	1330	GWJ	Pygmy	Poor	15.0	8.0	1.98	0.07	1.0	0.2	0.21	0.34
02/19/2002	1055	GWJ	Pygmy	Poor	18.0	10.0	2.06	0.35	1.6	0.3	0.46	0.75
03/14/2002	1115	GWJ	Pygmy	Poor	14.0	11.5	1.96	0.11	1.6	0.2	0.33	0.35
04/04/2002	1420	GWJ	Pygmy	Poor	17.0	13.0	2.00	0.16	1.6	0.3	0.40	0.40
05/16/2002	1020	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/11/2002	1310	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/11/2002	1350	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/09/2002	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2002	1015	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/17/2002	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-12 (CONTINUED)

TRIBUTARY STATION: Robinson Canyon Creek

Water Years: 2000-2003

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)
11/19/2002	1435	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/12/2002	1245	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/16/2002	1440	TLL	AA	Fair	14.0	12.5	2.74	15.34	8.6	0.7	6.39	2.40
01/16/2003	1120	GWJ	Pygmy	Fair	14.0	8.5	2.26	1.22	5.1	0.4	2.28	0.54
02/11/2003	1440	GWJ	Pygmy	Poor	19.0	11.0	2.06	0.17	1.8	0.3	0.46	0.37
03/13/2003	1110	GWJ	Pygmy	Poor	18.0	14.0	2.02	0.12	1.8	0.2	0.38	0.32
04/16/2003	1305	GWJ	Pygmy	Poor	16.0	12.0	2.12	0.36	1.8	0.3	0.59	0.61
05/29/2003	1455	GWJ	Pygmy	Poor	18.0	19.5	2.01	0.09	1.1	0.2	0.27	0.32
06/26/2003	1045	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/29/2003	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/18/2003	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/17/2003	1200	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-13

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: Potrero Creek

Water Years: 2000-2003

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)
10/12/1999	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/12/1999	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/08/1999	1535	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/10/2000	1510	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/28/2000	1420	GWJ	Pygmy	Poor	13.5	11.5	0.62	0.08	1.0	0.2	0.16	0.49
02/15/2000	1210	TLL	AA	Good	12.5	11.0	1.22	12.47	9.8	0.7	7.04	1.77
03/06/2000	1350	GWJ	AA	Fair	--	--	1.47	24.70	10.1	0.9	8.84	2.79
04/10/2000	1455	GWJ	Pygmy	Fair	16.5	15.5	0.77	0.70	3.3	0.3	0.99	0.71
05/12/2000	1420	GWJ	Pygmy	Poor	16.0	18.0	0.69	0.08	1.8	0.2	0.33	0.25
06/08/2000	1345	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/18/2000	1255	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/09/2000	1355	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2000	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/16/2000	1515	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/08/2000	1340	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/12/2000	1225	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/04/2001	1325	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/11/2001	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/19/2001	1125	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/24/2001	1400	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/26/2001	1030	TLL	AA	Fair	8.0	7.5	0.96	3.13	8.5	0.3	2.77	1.13
02/02/2001	1425	GWJ	na	na	--	--	--	No Flow	--	--	--	--
02/14/2001	1440	GWJ	Pygmy	Fair	12.0	10.0	0.88	2.12	6.2	0.5	2.93	0.73
03/08/2001	1240	GWJ	Pygmy	Good	12.0	11.5	1.00	4.59	7.6	0.4	2.98	1.54
04/13/2001	1135	GWJ	Pygmy	Poor	14.5	10.5	0.72	0.20	1.9	0.2	0.33	0.59
05/04/2001	1430	GWJ	Pygmy	Poor	21.5	17.0	0.69	0.20	1.8	0.2	0.29	0.70
05/21/2001	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/07/2001	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/05/2001	1245	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/07/2001	1450	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/11/2001	1130	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/07/2001	1555	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/21/2001	1345	GWJ	AA	Fair	12.5	10.0	0.99	3.79	6.3	0.5	3.20	1.19
02/19/2002	1145	GWJ	Pygmy	Poor	16.0	11.0	0.66	0.18	1.5	0.2	0.37	0.48
03/18/2002	1050	GWJ	Pygmy	Poor	14.0	9.0	0.66	0.19	1.6	0.3	0.48	0.39
04/04/2002	1445	GWJ	na	na	--	--	--	No Flow	--	--	--	--
05/16/2002	1050	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/11/2002	1320	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/11/2002	1420	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/09/2002	1510	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2002	1020	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/17/2002	1430	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/19/2002	1445	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-13 (CONTINUED)

TRIBUTARY STATION: Potrero Creek

Water Years: 2000-2003

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)
12/12/2002	1245	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/19/2002	0935	GWJ	Pygmy	Good	14.0	8.0	0.82	1.28	6.5	0.4	2.81	0.46
01/16/2003	1315	GWJ	Pygmy	Fair	24.0	10.0	0.79	0.85	3.9	0.3	1.34	0.63
02/11/2003	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
03/13/2003	1205	GWJ	na	na	--	--	--	No Flow	--	--	--	--
04/16/2003	1200	GWJ	Pygmy	Poor	16.0	12.0	0.68	0.26	3.4	0.3	0.93	0.28
05/29/2003	1425	GWJ	na	na	--	--	--	No Flow	--	--	--	--
06/26/2003	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/29/2003	1350	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/18/2003	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/17/2003	1215	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-14

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Highway 1 Bridge

Water Years: 2000-2003

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)
10/04/1999	1600	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/10/1999	1315	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/22/1999	1035	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/11/2000	0905	GWJ	na	na	--	--	--	No Flow	--	--	--	--
01/25/2000	1035	GWJ	AA	Fair	16.0	12.5	7.68	1128.25	74.5	4.3	319.80	3.53
01/27/2000	1500	GWJ	AA	Good	16.5	13.0	5.14	254.74	72.4	1.7	121.79	2.09
02/07/2000	1310	GWJ	AA	Fair	14.0	13.0	4.41	108.98	65.5	0.9	62.02	1.76
02/14/2000	1525	GWJ	AA	Good	--	--	10.88	2957.42	96.0	6.6	637.80	4.64
03/02/2000	1300	GWJ	AA	Fair	12.0	11.5	5.86	494.83	70.5	2.4	166.43	2.97
04/03/2000	1230	GWJ	AA	Good	23.5	16.0	4.47	126.75	59.5	1.1	62.73	2.02
05/08/2000	1420	GWJ	Pygmy	Fair	18.5	22.0	4.06	67.51	61.4	0.8	46.88	1.44
05/22/2000	1155	GWJ	Pygmy	Fair	21.0	22.5	3.90	44.19	67.6	0.5	31.68	1.39
06/06/2000	1420	GWJ	Pygmy	Fair	19.0	25.5	3.75	29.83	72.8	0.3	23.26	1.28
06/23/2000	1020	GWJ	Pygmy	Fair	18.0	18.5	3.61	12.74	49.8	0.3	13.51	0.94
06/29/2000	1035	GWJ	Pygmy	Good	17.0	19.0	3.54	6.76	14.2	0.3	4.84	1.40
07/14/2000	0930	GWJ	Pygmy	Good	18.0	18.5	3.48	3.22	7.8	0.3	2.48	1.30
07/31/2000	0820	GWJ	Pygmy	Poor	15.0	18.0	3.33	0.05	1.1	0.2	0.22	0.21
08/02/2000	1250	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/14/2000	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/11/2000	1050	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/07/2000	1415	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/11/2000	1045	GWJ	Pygmy	Fair	13.0	11.5	3.63	5.11	14.6	0.4	5.41	0.94
12/20/2000	1055	GWJ	Pygmy	Good	18.0	9.0	3.70	7.25	14.5	0.5	7.28	1.00
01/04/2001	1410	GWJ	Pygmy	Fair	21.0	11.5	3.61	4.98	10.7	0.5	4.85	1.03
01/12/2001	1400	GWJ	AA	Fair	16.0	10.0	5.69	391.71	72.1	2.2	159.88	2.45
01/16/2001	1355	GWJ	AA	Fair	16.5	9.0	4.33	88.62	70.9	0.8	55.19	1.61
01/23/2001	0900	GWJ	Pygmy	Fair	16.0	9.0	3.99	47.07	60.0	0.5	31.69	1.49
01/26/2001	1317	TLL	AA	Fair	10.5	9.5	5.04	217.97	67.1	1.7	113.30	1.92
02/07/2001	1500	GWJ	Pygmy	Fair	12.0	12.0	4.07	57.65	61.7	0.6	36.25	1.59
02/13/2001	1310	GWJ	AA	Good	14.0	9.0	5.08	232.64	69.2	1.7	114.27	2.04
02/26/2001	1210	GWJ	AA	Good	16.0	10.0	5.64	323.83	70.0	2.0	140.65	2.30
03/01/2001	1230	GWJ	AA	Good	14.5	10.0	5.24	230.30	69.5	1.5	104.84	2.20
03/05/2001	1320	GWJ	AA	Good	--	--	8.86	1552.72	80.5	5.0	400.03	3.88
03/16/2001	1435	GWJ	AA	Fair	15.0	13.5	5.12	229.65	67.5	1.5	103.45	2.22
04/06/2001	1355	GWJ	AA	Fair	14.5	14.0	4.31	78.75	61.3	0.8	50.71	1.55
04/24/2001	0950	GWJ	AA	Good	21.5	14.0	4.49	103.80	63.0	1.0	64.95	1.60
05/07/2001	1210	GWJ	Pygmy	Good	23.0	20.5	4.10	53.61	59.0	0.6	34.32	1.56
05/21/2001	1335	GWJ	Pygmy	Fair	20.0	24.0	3.88	30.02	59.2	0.4	21.66	1.39
06/07/2001	1245	GWJ	Pygmy	Good	22.0	26.0	3.69	11.39	27.4	0.3	8.62	1.32
06/15/2001	1250	GWJ	Pygmy	Fair	18.0	24.5	3.59	4.37	6.4	0.5	3.17	1.38
06/21/2001	1230	GWJ	Pygmy	Fair	19.5	24.5	3.42	0.37	2.4	0.2	0.56	0.66
06/28/2001	1125	GWJ	Pygmy	Poor	20.0	23.5	3.33	0.05	.8	0.1	0.10	0.52
07/05/2001	1135	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-14 (CONTINUED)

MAINSTEM STATION: Highway 1 Bridge

Water Years: 2000-2003

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)
08/16/2001	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/14/2001	1220	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/11/2001	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/14/2001	1240	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/03/2001	1500	GWJ	AA	Fair	14.0	12.0	5.33	246.32	72.7	1.6	118.65	2.08
12/07/2001	0735	GWJ	AA	Fair	11.0	10.5	4.13	46.29	53.5	0.7	36.07	1.28
12/17/2001	1320	GWJ	Pygmy	Fair	16.0	13.0	4.00	33.77	51.0	0.5	23.07	1.46
12/21/2001	1040	GWJ	AA	Fair	14.0	9.0	5.06	197.50	71.0	1.3	95.13	2.08
01/03/2002	1250	GWJ	AA	Fair	16.5	12.0	5.90	359.72	73.0	2.1	154.98	2.32
01/17/2002	1240	GWJ	AA	Fair	13.0	8.5	4.47	83.45	74.7	0.7	54.66	1.53
01/25/2002	0950	GWJ	AA	Good	8.0	7.0	4.33	58.88	71.0	0.6	43.03	1.37
02/05/2002	1130	GWJ	Pygmy	Fair	17.5	9.0	4.21	49.03	75.0	0.5	35.95	1.36
03/04/2002	1345	GWJ	Pygmy	Good	18.0	15.0	4.20	45.43	46.8	0.6	28.41	1.60
03/20/2002	1350	GWJ	AA	Good	17.0	16.0	4.34	62.24	56.3	0.8	42.51	1.46
04/05/2002	1010	GWJ	AA	Good	19.0	14.0	4.42	65.72	67.0	0.7	48.44	1.36
04/22/2002	1035	GWJ	Pygmy	Fair	17.5	16.0	4.14	37.86	62.3	0.4	26.90	1.41
05/06/2002	1025	GWJ	Pygmy	Fair	14.5	16.5	4.11	28.92	60.0	0.4	25.62	1.13
05/15/2002	1350	GWJ	Pygmy	Fair	15.0	21.0	3.94	16.38	44.5	0.3	12.78	1.28
05/28/2002	1155	GWJ	Pygmy	Fair	19.0	22.0	3.92	14.53	24.8	0.4	10.74	1.35
06/07/2002	1240	GWJ	Pygmy	Good	18.0	22.5	3.70	4.32	8.7	0.4	3.25	1.33
06/12/2002	1425	GWJ	Pygmy	Fair	19.5	23.0	3.48	0.37	4.1	0.2	0.88	0.42
06/21/2002	1100	GWJ	na	na	--	--	--	No Flow	--	--	--	--
07/15/2002	1215	GWJ	na	na	--	--	--	No Flow	--	--	--	--
08/19/2002	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/12/2002	1230	GWJ	na	na	--	--	--	No Flow	--	--	--	--
10/18/2002	1030	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/19/2002	1500	GWJ	na	na	--	--	--	No Flow	--	--	--	--
12/17/2002	0940	GWJ	AA	Good	11.0	11.5	7.42	779.95	73.5	3.5	254.85	3.06
01/06/2003	1400	GWJ	AA	Fair	19.0	11.0	5.42	221.81	71.5	1.5	107.88	2.06
01/24/2003	1345	GWJ	AA	Good	21.0	13.0	4.94	136.59	69.9	1.1	75.12	1.82
02/13/2003	1330	GWJ	AA	Fair	21.0	14.5	4.52	76.20	58.5	1.0	58.46	1.30
03/11/2003	1235	GWJ	Pygmy	Fair	17.5	16.0	4.31	48.17	56.5	0.5	30.24	1.59
03/17/2003	1350	GWJ	AA	Fair	15.5	14.5	5.11	165.85	70.3	1.3	90.21	1.84
04/15/2003	1510	GWJ	AA	Fair	18.5	14.5	5.30	186.44	74.0	1.3	95.74	1.95
05/01/2003	0835	GWJ	AA	Fair	15.0	13.0	4.94	128.04	71.0	1.1	76.62	1.67
05/20/2003	1030	GWJ	AA	Good	18.0	17.0	4.65	76.32	69.0	0.7	47.52	1.61
06/06/2003	1135	GWJ	Pygmy	Good	18.5	18.0	4.33	40.08	53.0	0.5	26.65	1.50
06/20/2003	0945	GWJ	Pygmy	Fair	16.0	16.5	4.15	24.14	25.2	0.6	14.86	1.62
07/03/2003	1055	GWJ	Pygmy	Good	19.5	22.0	3.83	5.83	9.9	0.4	4.21	1.39
07/17/2003	1450	GWJ	Pygmy	Fair	25.0	25.0	3.72	0.83	3.8	0.4	1.49	0.56
07/29/2003	1320	GWJ	na	na	--	--	--	No Flow	--	--	--	--
09/04/2003	1125	GWJ	na	na	--	--	--	No Flow	--	--	--	--

TABLE C-15

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

TRIBUTARY STATION: San Jose Creek

Water Years: 2000-2003

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)
10/14/1999	1305	GWJ	Pygmy	Fair	24.0	15.5	2.38	0.80	4.5	0.3	1.27	0.64
11/12/1999	1255	GWJ	Pygmy	Fair	18.0	12.5	2.43	1.11	4.5	0.3	1.43	0.77
12/22/1999	0930	GWJ	Pygmy	Fair	14.0	8.0	2.49	1.00	4.5	0.3	1.50	0.67
01/12/2000	1015	GWJ	Pygmy	Fair	15.0	9.5	2.59	1.62	4.5	0.4	1.78	0.91
01/25/2000	0840	GWJ	AA	Fair	14.0	12.0	3.36	37.88	21.1	0.9	19.08	1.99
02/01/2000	1345	GWJ	AA	Fair	20.0	12.0	2.71	5.57	8.6	0.8	6.48	0.86
02/14/2000	1315	TLL	AA	Fair	14.0	13.0	4.36	250.54	38.6	1.4	55.19	4.54
02/23/2000	1225	GWJ	AA	Fair	12.0	11.0	3.85	84.51	24.0	1.4	32.66	2.59
03/07/2000	1325	GWJ	AA	Good	15.0	11.0	3.76	76.96	22.0	1.5	32.09	2.40
04/06/2000	1330	GWJ	Pygmy	Good	20.0	13.0	2.78	8.80	13.0	0.6	8.23	1.07
05/12/2000	1330	GWJ	Pygmy	Fair	19.0	13.5	2.59	4.50	9.0	0.6	4.96	0.91
06/09/2000	1315	GWJ	Pygmy	Good	21.5	16.0	2.50	3.16	8.9	0.5	4.31	0.73
07/19/2000	1140	GWJ	Pygmy	Fair	18.0	14.0	2.40	1.72	8.2	0.4	3.11	0.55
08/17/2000	1330	GWJ	Pygmy	Fair	18.5	15.5	2.31	0.86	3.7	0.4	1.57	0.55
09/14/2000	1130	GWJ	Pygmy	Fair	20.0	16.0	2.30	0.73	3.7	0.4	1.47	0.50
10/11/2000	1315	GWJ	Pygmy	Fair	15.5	14.0	2.41	1.86	4.8	0.5	2.29	0.81
11/07/2000	1325	GWJ	Pygmy	Fair	21.0	12.0	2.36	1.30	4.0	0.5	1.95	0.67
12/11/2000	1230	GWJ	Pygmy	Fair	14.5	11.0	2.39	1.29	3.1	0.5	1.56	0.83
01/05/2001	1210	GWJ	Pygmy	Fair	22.0	8.5	2.37	1.04	3.0	0.5	1.42	0.73
01/26/2001	1135	TLL	AA	Good	9.0	7.5	2.89	11.04	12.5	0.9	11.20	0.99
02/08/2001	1140	GWJ	Pygmy	Fair	16.0	6.5	2.46	2.62	6.8	0.6	4.00	0.65
02/12/2001	1420	GWJ	AA	Fair	11.0	8.0	3.29	34.71	19.6	1.0	19.17	1.81
03/08/2001	1405	GWJ	AA	Good	11.5	11.0	3.21	28.86	19.2	0.8	16.26	1.78
04/05/2001	1430	GWJ	Pygmy	Good	14.5	10.0	2.60	4.86	9.1	0.6	5.88	0.83
05/17/2001	1010	GWJ	Pygmy	Good	17.0	13.0	2.50	3.42	8.7	0.6	5.10	0.67
06/15/2001	1130	GWJ	Pygmy	Fair	17.0	14.0	2.36	1.58	8.0	0.5	3.77	0.42
07/09/2001	1425	GWJ	Pygmy	Fair	19.0	15.5	2.29	0.81	6.1	0.4	2.47	0.33
08/16/2001	1120	GWJ	Pygmy	Fair	14.5	14.0	2.25	0.41	2.9	0.3	0.96	0.43
09/12/2001	1330	GWJ	Pygmy	Fair	18.5	15.5	2.20	0.19	2.8	0.3	0.83	0.23
10/05/2001	1330	GWJ	Pygmy	Fair	21.5	15.0	2.20	0.16	2.6	0.3	0.70	0.24
11/14/2001	1015	GWJ	Pygmy	Fair	20.0	12.5	2.30	0.66	2.8	0.4	1.08	0.61
12/19/2001	1035	GWJ	Pygmy	Fair	14.5	8.0	2.39	1.28	3.3	0.5	1.59	0.81
01/18/2002	1045	GWJ	Pygmy	Fair	15.5	5.5	2.45	2.17	4.0	0.5	2.05	1.06
02/19/2002	1245	GWJ	Pygmy	Good	19.0	11.0	2.54	3.68	7.0	0.7	5.04	0.73
03/13/2002	1200	GWJ	Pygmy	Fair	17.0	10.0	2.48	2.71	6.5	0.7	4.24	0.64
04/12/2002	1210	GWJ	Pygmy	Fair	20.0	13.0	2.47	2.68	6.5	0.6	4.18	0.64
05/16/2002	1230	GWJ	Pygmy	Fair	18.0	12.0	2.36	1.31	3.8	0.4	1.64	0.80
06/12/2002	1315	GWJ	Pygmy	Fair	21.5	16.0	2.27	0.62	3.2	0.4	1.17	0.53
07/15/2002	1300	GWJ	Pygmy	Fair	18.5	14.5	2.21	0.28	2.9	0.3	0.86	0.32
08/19/2002	1120	GWJ	Flume	Good	15.0	14.5	2.14	0.06	--	--	--	--
09/12/2002	1135	GWJ	Flume	Good	13.0	14.5	2.09	0.02	--	--	--	--
10/18/2002	1145	GWJ	na	na	--	--	--	No Flow	--	--	--	--
11/22/2002	1500	GWJ	Pygmy	Fair	18.5	13.0	2.23	0.28	2.7	0.3	0.87	0.32

TABLE C-15 (CONTINUED)

TRIBUTARY STATION: San Jose Creek

Water Years: 2000-2003

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)
12/12/2002	1340	GWJ	Pygmy	Fair	16.0	11.0	2.29	0.43	2.7	0.4	1.11	0.39
12/17/2002	1155	GWJ	AA	Fair	12.0	11.5	2.99	17.50	12.6	1.4	17.98	0.97
01/17/2003	1140	GWJ	AA	Fair	17.0	9.0	2.76	7.90	9.7	0.7	7.11	1.11
02/20/2003	1300	GWJ	Pygmy	Fair	21.0	10.5	2.47	2.47	4.7	0.5	2.26	1.09
03/12/2003	1355	GWJ	Pygmy	Fair	17.0	12.5	2.43	2.04	4.5	0.5	2.08	0.98
04/25/2003	1310	GWJ	AA	Fair	16.5	12.0	2.50	3.16	7.3	1.0	7.23	0.44
05/29/2003	1345	GWJ	Pygmy	Fair	18.0	14.0	2.46	2.26	4.6	0.5	2.35	0.96
06/18/2003	1130	GWJ	Pygmy	Fair	20.5	13.0	2.40	1.67	4.7	0.5	2.19	0.76
07/23/2003	1140	GWJ	Pygmy	Fair	17.0	14.5	2.21	0.31	2.6	0.4	0.95	0.32
08/19/2003	1125	GWJ	Pygmy	Poor	20.0	16.0	2.19	0.22	2.6	0.3	0.89	0.25
09/18/2003	1225	GWJ	Flume	Good	25.0	17.0	2.06	0.02	--	--	--	--

TABLE C-16

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DISCHARGE MEASUREMENT SUMMARY SHEET

MAINSTEM STATION: Arroyo Del Rey at Del Rey Oaks

Water Years: 2000-2003

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)
09/13/2002	1125	GWJ	Flume	Good	--	--	3.14	0.08	--	--	--	--
10/03/2002	1300	GWJ	Flume	Good	22.0	12.0	3.13	0.07	--	--	--	--
11/06/2002	0950	GWJ	Flume	Good	16.0	9.5	3.14	0.08	--	--	--	--
11/08/2002	0905	GWJ	Pygmy	Fair	17.5	17.0	3.74	2.76	4.5	0.5	2.21	1.25
12/06/2002	1100	GWJ	Pygmy	Poor	13.0	10.0	3.15	0.11	1.5	0.2	0.37	0.31
12/20/2002	0805	GWJ	AA	Fair	10.0	8.0	4.05	9.75	9.0	0.9	8.11	1.20
01/14/2003	1305	GWJ	Pygmy	Fair	17.0	14.0	3.19	0.54	2.8	0.3	0.88	0.62
02/20/2003	1405	GWJ	Pygmy	Fair	16.5	13.5	3.12	0.28	2.9	0.3	0.79	0.36
03/13/2003	1240	GWJ	Pygmy	Poor	16.5	14.0	3.06	0.15	2.4	0.2	0.57	0.26
04/30/2003	1405	GWJ	Pygmy	Poor	14.0	13.5	3.06	0.14	2.3	0.3	0.67	0.21
05/19/2003	1550	GWJ	Pygmy	Poor	19.5	16.0	3.11	0.11	1.4	0.3	0.46	0.24
06/27/2003	1455	GWJ	Pygmy	Poor	32.5	21.0	3.24	0.08	1.8	0.2	0.39	0.22
07/23/2003	1240	GWJ	Pygmy	Poor	17.5	19.5	3.35	0.09	1.1	0.2	0.27	0.33
08/19/2003	1015	GWJ	Flume	Good	19.0	17.5	3.26	0.08	--	--	--	--
09/26/2003	1335	GWJ	Flume	Good	20.0	16.5	3.17	0.06	--	--	--	--

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 2000 - 2003

APPENDIX D

STREAMFLOW DATA

FIGURE D-1

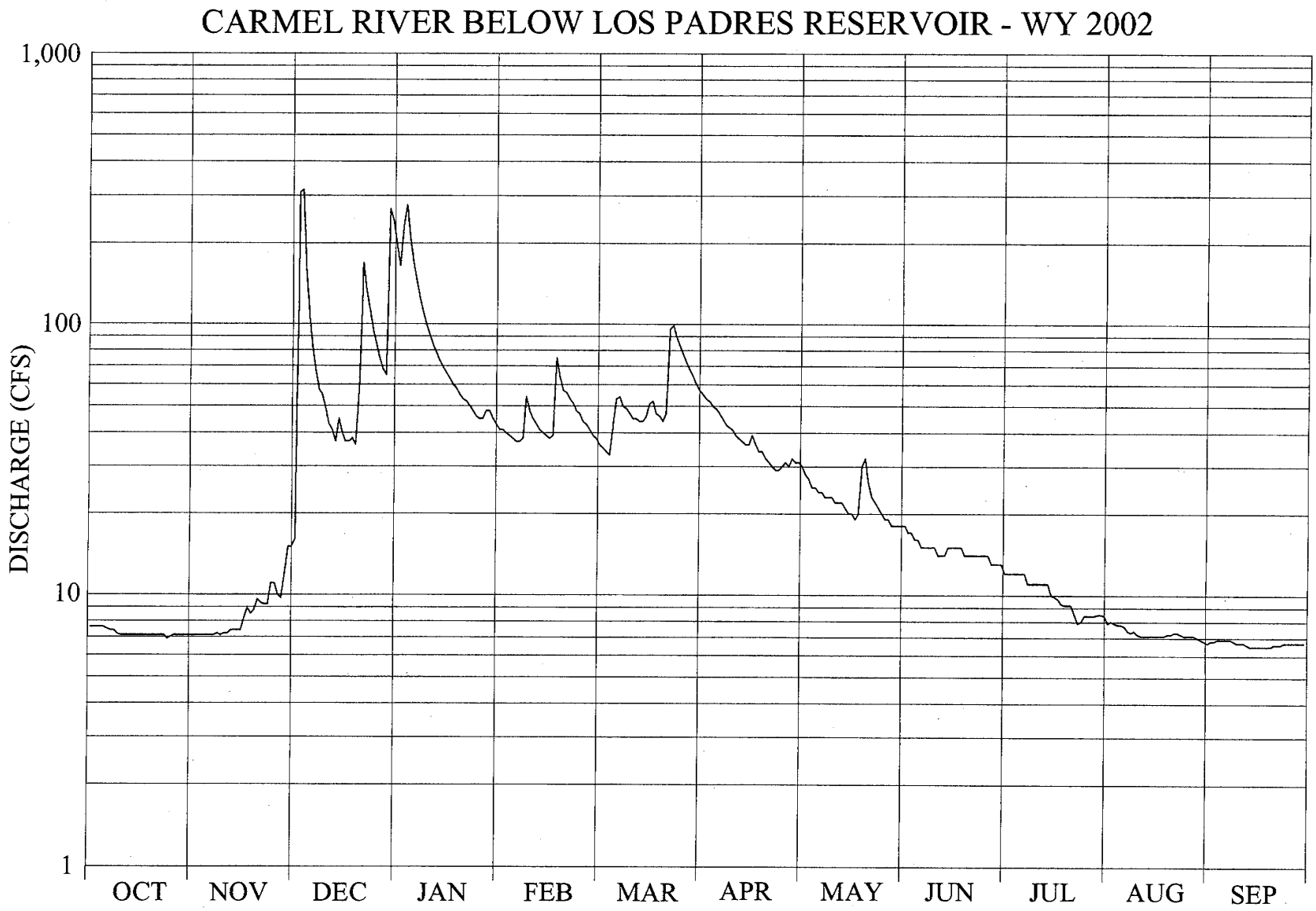

CARMEL RIVER BELOW LOS PADRES RESERVOIR - WY 2002
DISCHARGE (CFS)
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER BELOW LOS PADRES RESERVOIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6e	7.1	16	165	41	38	57	31	18	13	8.4	6.7
2	7.6e	7.1	308e	231	40	36	55	30	18	12	7.9	6.8
3	7.6e	7.1	315e	276	39	35	53	28	17	12	8.0	6.8
4	7.6e	7.1	159	207	38	34	52	27	17	12	7.9	6.9
5	7.6e	7.1	105	169	37	33	50	25	16	12	7.8	6.9
6	7.5e	7.1	81	143	37	42	49	25	16	12	7.8	6.9
7	7.4e	7.1	67	123	38	53	47	24	15	12	7.7	6.9
8	7.4e	7.2	57	109	54	54	45	24	15	12	7.4	6.9
9	7.2e	7.1	55	99	48	50	43	23	15	11	7.3	6.8
10	7.1e	7.2	49	91	45	49	42	23	15	11	7.4	6.7
11	7.1e	7.2	43	83	43	47	41	23	15	11	7.2	6.7
12	7.1e	7.4	41	78	41	45	39	22	14	11	7.1	6.7
13	7.1e	7.4	37	73	40	45	38	22	14	11	7.1	6.6
14	7.1e	7.4	45	69	39	44	37	22	14	11	7.1	6.5
15	7.1e	7.4	40	66	38	44	36	21	15	11	7.1	6.5
16	7.1e	8.2	37	63	39	46	36	20	15	10	7.1	6.5
17	7.1e	8.9	37	60	75	51	39	20	15	9.9	7.1	6.5
18	7.1e	8.5	38	58	64	52	36	19	15	9.7	7.1	6.5
19	7.1e	8.8	36	55	57	47	34	20	15	9.3	7.1	6.5
20	7.1e	9.6	58	53	56	46	34	30	14	9.2	7.2	6.5
21	7.1e	9.3	169	52	53	44	32	32	14	9.2	7.2	6.6
22	7.1e	9.2	133	50	51	47	31	26	14	9.2	7.3	6.6
23	7.1e	9.2	112	48	48	96	30	23	14	8.5	7.3	6.6
24	6.9e	11	95	46	47	99	29	22	14	7.9	7.2	6.7
25	7.0e	11	84	45	44	89	29	21	14	8.0	7.1	6.7
26	7.1e	10	75	45	43	83	30	20	14	8.4	7.1	6.7
27	7.1	9.7	68	48	41	77	31	19	14	8.4	7.1	6.7
28	7.1	12	65	48	39	72	30	19	13	8.4	7.1	6.7
29	7.1	15	268	45	------	68	32	18	13	8.4	7.0	6.7
30	7.1	15	241	43	------	64	31	18	13	8.5	6.9	6.7
31	7.1	------	197	41	------	60	------	18	------	8.5	6.8	------
TOTAL	223.4	263.4	3,131	2,782	1,275	1,690	1,168	715	445	315.5	226.9	200.5
MEAN	7.21	8.78	101	89.7	45.5	54.5	38.9	23.1	14.8	10.2	7.32	6.68
MAX	7.6	15	315	276	75	99	57	32	18	13	8.4	6.9
MIN	6.9	7.1	16	41	37	33	29	18	13	7.9	6.8	6.5
AC-FT	443	522	6,210	5,520	2,530	3,350	2,320	1,420	883	626	450	398

CAL YEAR 2001	TOTAL		MEAN		MAX		MIN		AC-FT	
WTR YEAR 2002	TOTAL	12,435.7	MEAN	34.1	MAX	315	MIN	6.5	AC-FT	24,670

FIGURE D-2

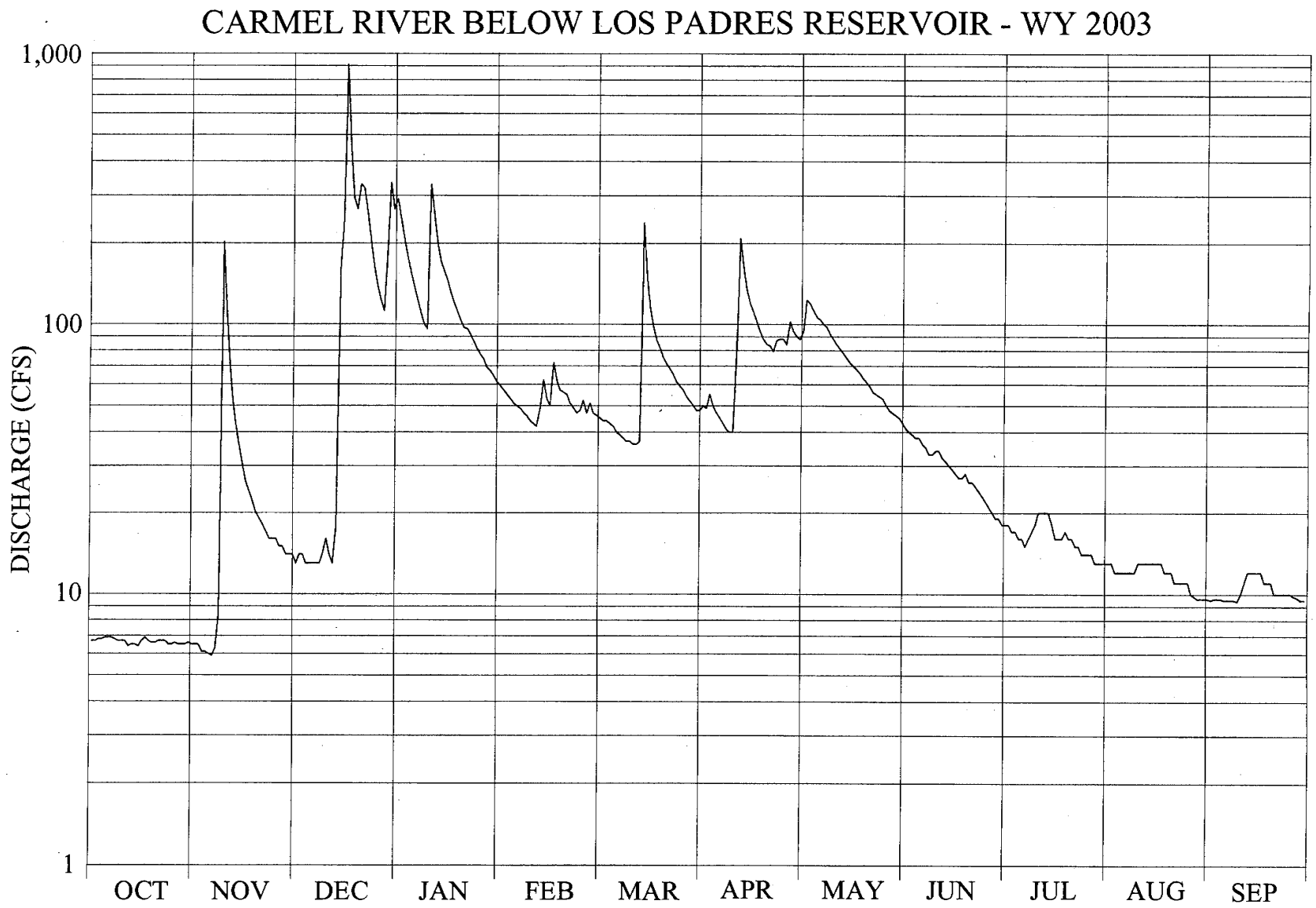

CARMEL RIVER BELOW LOS PADRES RESERVOIR - WY 2003
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER BELOW LOS PADRES RESERVOIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	6.5	13	249	57	46	48	88	43	18	13	9.6
2	6.7	6.5	14	210	55	45	50	94	41	18	13	9.5
3	6.8	6.1	14	178	53	44	49	123	40	18	13	9.6
4	6.8	6.1	13	156	51	44	55	119	39	17	12	9.6
5	6.9	6.0	13	139	50	43	50	112	38	17	12	9.6
6	6.9	5.9	13	123	49	42	47	106	38	16	12	9.5
7	6.9	6.3	13	110	47	40	45	104	36	16	12	9.5
8	6.8	8.5	13	100	46	39	43	100	35	15	12	9.5
9	6.7	202	14	96	44	38	41	98	33	16	12	9.5
10	6.7	114	16	329	43	37	40	92	33	17	12	9.4
11	6.7	72	14	255	42	37	40	88	34	18	13	10
12	6.4	52	13	200	49	36	77	84	34	20	13	11
13	6.5	42	18	171	62	36	208	81	32	20	13	12
14	6.5	35	160	157	53	37	160	78	31	20	13	12
15	6.4	30	244e	145	50	238	134	75	30	20	13	12
16	6.7	26	910e	131	72	146	119	72	29	18	13	12
17	6.9	24	440e	120	62	113	111	70	28	16	13	12
18	6.7	22	294	111	57	97	102	68	27	16	13	11
19	6.6	20	268	103	56	87	94	66	27	16	12	11
20	6.6	19	329	97	55	81	88	63	28	17	12	11
21	6.7	18	318	96	51	75	84	61	26	16	12	10
22	6.7	17	263	91	49	71	83	59	26	16	11	10
23	6.7	16	205	86	47	68	79	56	25	15	11	10
24	6.5	16	165	81	48	65	87	55	24	15	11	10
25	6.5	16	140	77	52	61	88	54	23	14	11	10
26	6.6	15	124	74	47	59	88	53	22	14	11	10
27	6.5	15	112	69	51	57	84	50	21	14	10	9.8
28	6.5	14	183	67	47	54	102	48	20	14	9.8	9.7
29	6.5	14	333	64	------	52	94	47	19	13	9.6	9.5
30	6.6	14	267	61	------	50	90	46	19	13	9.6	9.5
31	6.5	------	291	59	------	48	------	45	------	13	9.6	------
TOTAL	206.2	864.9	5,227	4,005	1,445	1,986	2,480	2,355	901	506	366.6	307.8
MEAN	6.65	28.8	169	129	51.6	64.1	82.7	76.0	30.0	16.3	11.8	10.3
MAX	6.9	202	910	329	72	238	208	123	43	20	13	12
MIN	6.4	5.9	13	59	42	36	40	45	19	13	9.6	9.4
AC-FT	409	1,720	10,370	7,940	2,870	3,940	4,920	4,670	1,790	1,000	727	611

CAL YEAR 2002	TOTAL	15,116.0	MEAN	41.4	MAX	910	MIN	5.9	AC-FT	29,980
WTR YEAR 2003	TOTAL	20,650.5	MEAN	56.6	MAX	910	MIN	5.9	AC-FT	40,960

e - The December 15-17, 2002 values represent the calculated discharge over the Los Padres Dam Spillway, with no adjustments for debris or releases through the outlet works.

FIGURE D-3

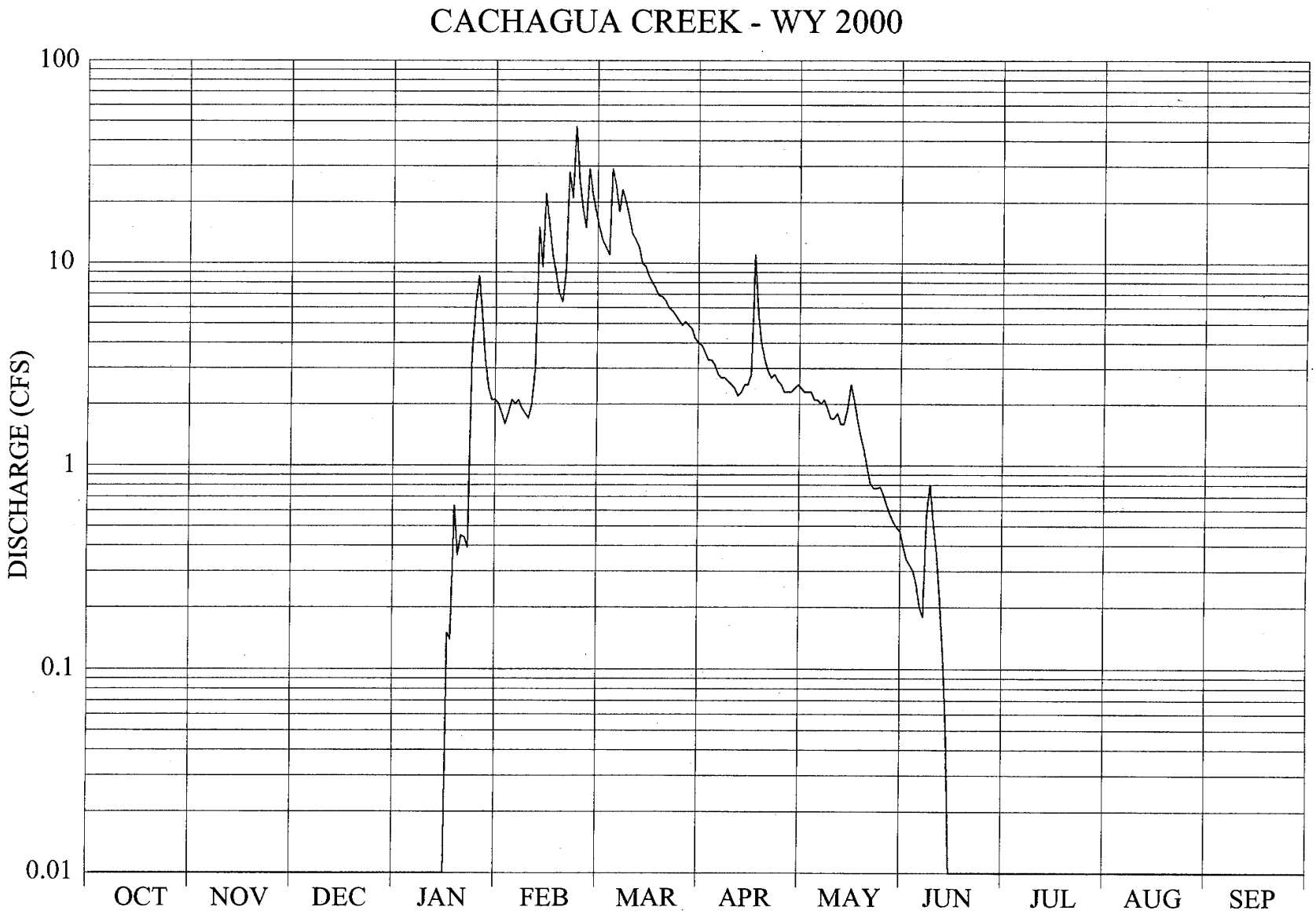

CACHAGUA CREEK - WY 2000
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-3

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	1.8	15	3.9	2.4	.39	0	0	0
2	0	0	0	0	1.6	13	3.6	2.3	.34	0	0	0
3	0	0	0	0	1.8	12	3.3	2.3	.32	0	0	0
4	0	0	0	0	2.1	11	3.3	2.3	.30	0	0	0
5	0	0	0	0	2.0	29	3.1	2.1	.26	0	0	0
6	0	0	0	0	2.1	24	2.8	2.1	.20	0	0	0
7	0	0	0	0	1.9	18	2.7	2.0	.18	0	0	0
8	0	0	0	0	1.8	23	2.7	2.1	.58	0	0	0
9	0	0	0	0	1.7	20	2.6	1.9	.80	0	0	0
10	0	0	0	0	2.0	17	2.5	1.7	.51	0	0	0
11	0	0	0	0	3.0	14	2.4	1.7	.37	0	0	0
12	0	0	0	0	15	13	2.2	1.8	.23	0	0	0
13	0	0	0	0	9.6	12	2.3	1.6	.12	0	0	0
14	0	0	0	0	22	10	2.5	1.6	.05	0	0	0
15	0	0	0	0	16	9.6	2.5	1.9	.01	0	0	0
16	0	0	0	.15	11	8.6	2.8	2.5	0	0	0	0
17	0	0	0	.14	9.0	8.0	11	2.1	0	0	0	0
18	0	0	0	.63	7.1	7.5	5.6	1.7	0	0	0	0
19	0	0	0	.36	6.4	6.9	4.0	1.4	0	0	0	0
20	0	0	0	.45	8.9	6.8	3.3	1.2	0	0	0	0
21	0	0	0	.44	28	6.5	2.9	.98	0	0	0	0
22	0	0	0	.39	21	6.0	2.7	.81	0	0	0	0
23	0	0	0	3.5	47	5.8	2.8	.77	0	0	0	0
24	0	0	0	6.1	26	5.5	2.6	.77	0	0	0	0
25	0	0	0	8.6	19	5.2	2.5	.78	0	0	0	0
26	0	0	0	5.4	15	4.9	2.3	.71	0	0	0	0
27	0	0	0	3.3	29	5.1	2.3	.63	0	0	0	0
28	0	0	0	2.4	22	4.9	2.3	.57	0	0	0	0
29	0	0	0	2.1	18	4.7	2.4	.52	0	0	0	0
30	0	0	0	2.1	------	4.2	2.5	.49	0	0	0	0
31	0	------	0	2.0	------	4.0	------	.47	------	0	0	------
TOTAL	0	0	0	38.06	351.8	335.2	94.4	46.20	4.66	0	0	0
MEAN	0	0	0	1.23	12.1	10.8	3.15	1.49	.16	0	0	0
MAX	0	0	0	8.6	47	29	11	2.5	.80	0	0	0
MIN	0	0	0	0	1.6	4.0	2.2	.47	0	0	0	0
AC-FT	0	0	0	75	698	665	187	92	9.2	0	0	0

CAL YEAR 1999	TOTAL	1,045.40	MEAN	2.86	MAX	28	MIN	0	AC-FT	2,070
WTR YEAR 2000	TOTAL	870.32	MEAN	2.38	MAX	47	MIN	0	AC-FT	1,730

FIGURE D-4

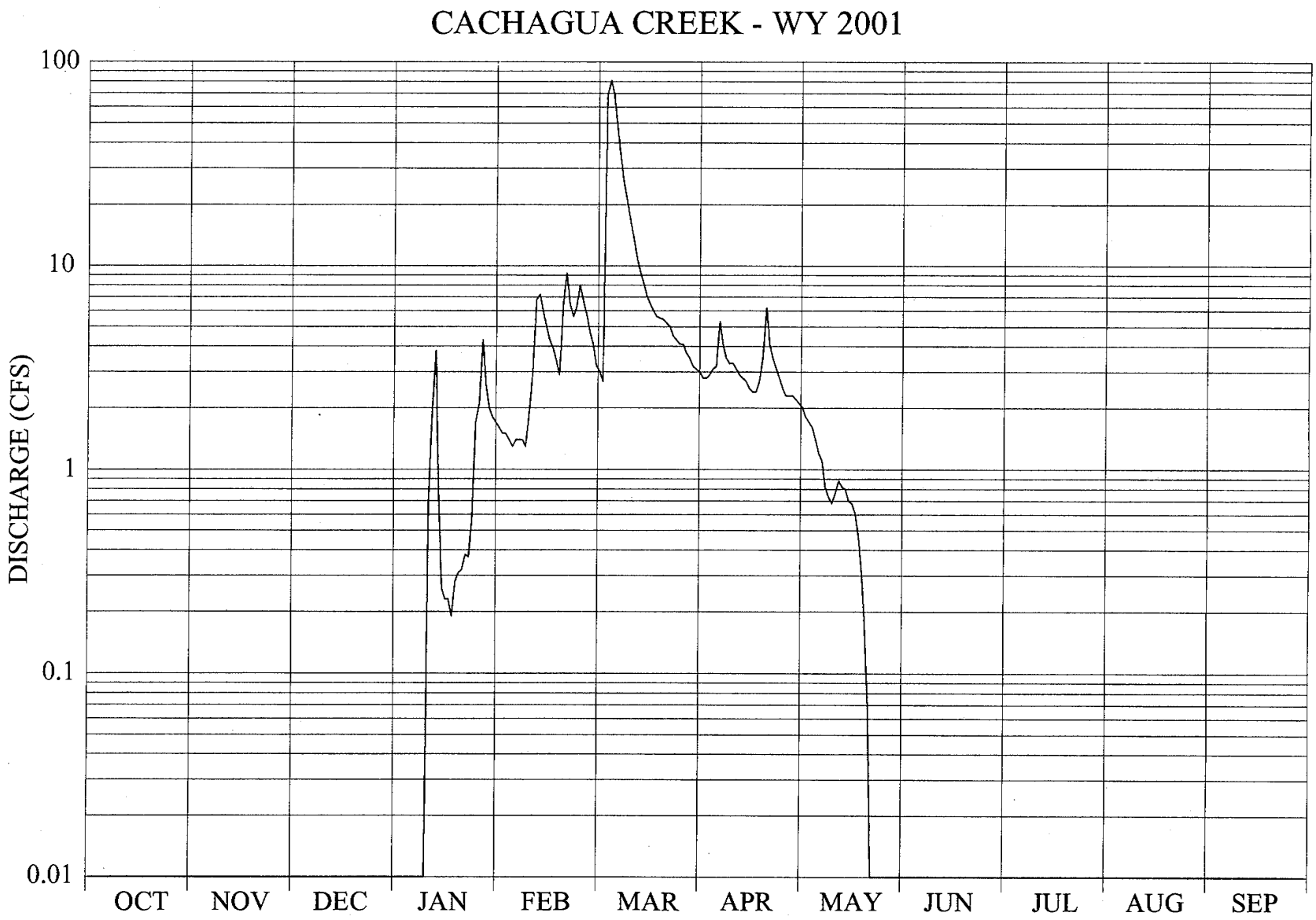

CACHAGUA CREEK - WY 2001
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-4

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	1.5	3.2	3.0	2.1	0	0	0	0
2	0	0	0	0	1.5	3.0	2.8	2.0	0	0	0	0
3	0	0	0	0	1.4	2.7	2.8	1.8	0	0	0	0
4	0	0	0	0	1.3	69	2.9	1.7	0	0	0	0
5	0	0	0	0	1.4	81	3.1	1.6	0	0	0	0
6	0	0	0	0	1.4	69	3.2	1.4	0	0	0	0
7	0	0	0	0	1.4	48	5.3	1.2	0	0	0	0
8	0	0	0	0	1.3	34	4.1	1.1	0	0	0	0
9	0	0	0	0	1.9	26	3.5	.82	0	0	0	0
10	0	0	0	.69	3.0	21	3.3	.73	0	0	0	0
11	0	0	0	2.0	6.8	17	3.3	.68	0	0	0	0
12	0	0	0	3.8	7.2	14	3.1	.76	0	0	0	0
13	0	0	0	.78	5.9	11	2.9	.88	0	0	0	0
14	0	0	0	.26	5.0	9.4	2.8	.82	0	0	0	0
15	0	0	0	.23	4.3	8.3	2.7	.80	0	0	0	0
16	0	0	0	.23	3.9	7.1	2.5	.70	0	0	0	0
17	0	0	0	.19	3.4	6.5	2.4	.68	0	0	0	0
18	0	0	0	.28	2.9	6.0	2.4	.61	0	0	0	0
19	0	0	0	.31	6.6	5.6	2.7	.47	0	0	0	0
20	0	0	0	.32	9.2	5.5e	3.5	.31	0	0	0	0
21	0	0	0	.38	6.5	5.4e	6.2	.17	0	0	0	0
22	0	0	0	.37	5.6	5.2e	4.1	.07	0	0	0	0
23	0	0	0	.59	6.3	5.0e	3.5	.01	0	0	0	0
24	0	0	0	1.7	8.0	4.5e	3.1	0	0	0	0	0
25	0	0	0	2.1	6.7	4.3e	2.8	0	0	0	0	0
26	0	0	0	4.3	5.7	4.1e	2.5	0	0	0	0	0
27	0	0	0	2.6	4.7	4.1e	2.3	0	0	0	0	0
28	0	0	0	2.0	4.1	3.7e	2.3	0	0	0	0	0
29	0	0	0	1.8	------	3.5	2.3	0	0	0	0	0
30	0	0	0	1.7	------	3.2	2.2	0	0	0	0	0
31	0	------	0	1.6	------	3.1	------	0	------	0	0	------
TOTAL	0	0	0	28.23	118.9	493.4	93.6	21.41	0	0	0	0
MEAN	0	0	0	.91	4.25	15.9	3.12	.69	0	0	0	0
MAX	0	0	0	4.3	9.2	81	6.2	2.1	0	0	0	0
MIN	0	0	0	0	1.3	2.7	2.2	0	0	0	0	0
AC-FT	0	0	0	56	236	979	186	42	0	0	0	0

CAL YEAR 2000	TOTAL	870.32	MEAN	2.38	MAX	47	MIN	0	AC-FT	1,730
WTR YEAR 2001	TOTAL	755.54	MEAN	2.07	MAX	81	MIN	0	AC-FT	1,500

FIGURE D-5

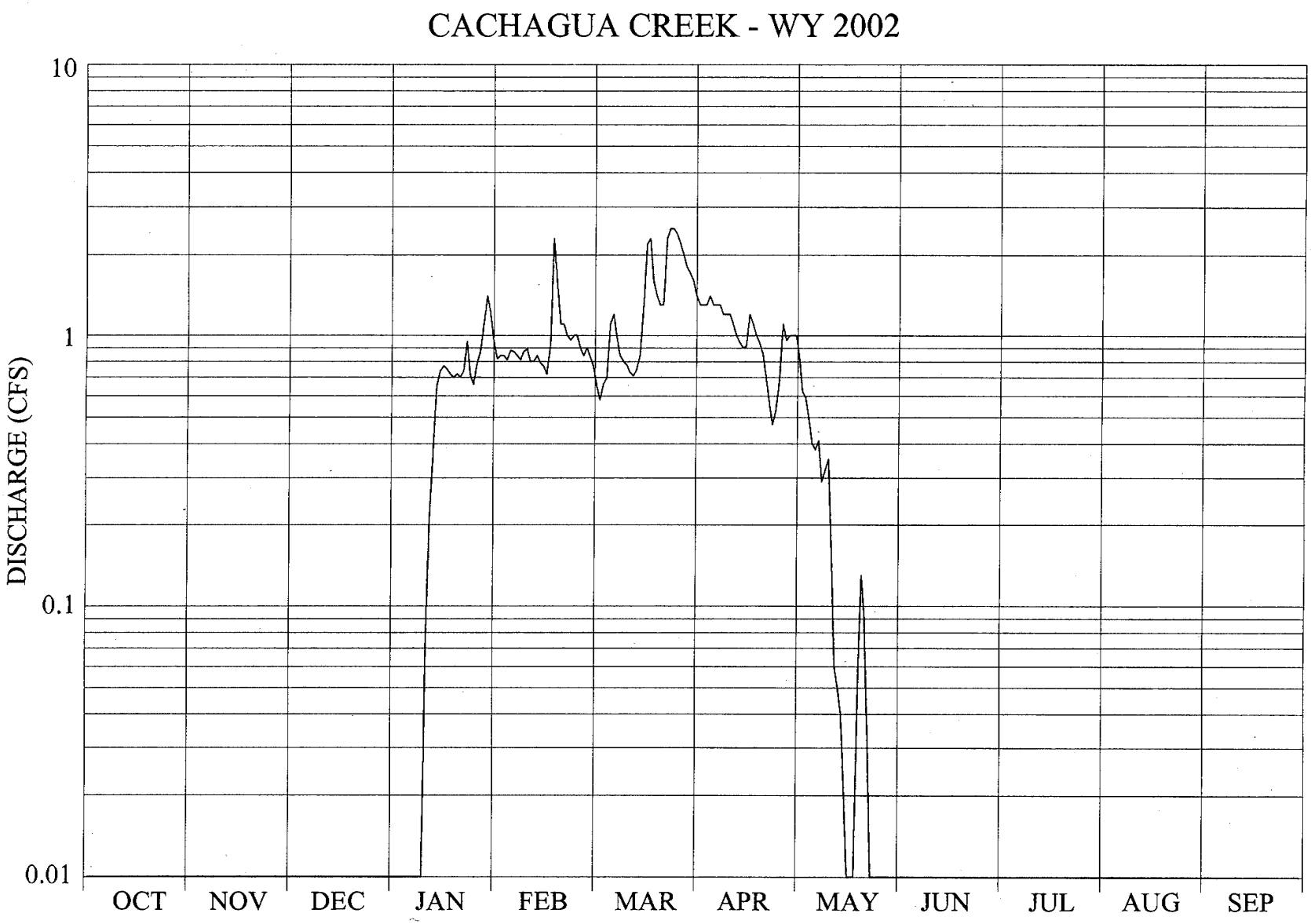

CACHAGUA CREEK - WY 2002
DISCHARGE (CFS)
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-5

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.84	.76	1.4	1.0	0	0	0	0
2	0	0	0	0	.84	.65	1.3	.82	0	0	0	0
3	0	0	0	0	.81	.58	1.3	.62	0	0	0	0
4	0	0	0	0	.88	.66	1.3	.59	0	0	0	0
5	0	0	0	0	.87	.70	1.4	.49	0	0	0	0
6	0	0	0	0	.84	1.1	1.3	.40	0	0	0	0
7	0	0	0	0	.81	1.2	1.3	.38	0	0	0	0
8	0	0	0	0	.87	.97	1.3	.41	0	0	0	0
9	0	0	0	.01	.89	.84	1.2	.29	0	0	0	0
10	0	0	0	.07	.80	.80	1.2	.32	0	0	0	0
11	0	0	0	.21	.80	.78	1.2	.35	0	0	0	0
12	0	0	0	.36	.84	.73	1.1	.16	0	0	0	0
13	0	0	0	.65	.79	.71	1.0	.06	0	0	0	0
14	0	0	0	.74	.77	.75	.94	.05	0	0	0	0
15	0	0	0	.77	.72	.84	.90	.04	0	0	0	0
16	0	0	0	.75	.92	1.3	.91	.02	0	0	0	0
17	0	0	0	.72	2.3	2.2	1.2	0	0	0	0	0
18	0	0	0	.70	1.6	2.3	1.1	0	0	0	0	0
19	0	0	0	.72	1.1	1.6	1.0	0	0	0	0	0
20	0	0	0	.70	1.1	1.4	.94	.05	0	0	0	0
21	0	0	0	.74	1.0	1.3	.85	.13	0	0	0	0
22	0	0	0	.95	.96	1.3	.70	.09	0	0	0	0
23	0	0	0	.71	1.0	2.3	.57	.03	0	0	0	0
24	0	0	0	.66	1.0	2.5	.47	.01	0	0	0	0
25	0	0	0	.79	.90	2.5	.53	0	0	0	0	0
26	0	0	0	.87	.84	2.4	.68	0	0	0	0	0
27	0	0	0	1.1	.90	2.2	1.1	0	0	0	0	0
28	0	0	0	1.4	.83	2.0	.96	0	0	0	0	0
29	0	0	0	1.2	------	1.8	1.0	0	0	0	0	0
30	0	0	0	.95	------	1.7	1.0	0	0	0	0	0
31	0	------	0	.82	------	1.6	------	0	------	0	0	------
TOTAL	0	0	0	16.59	26.82	42.47	31.15	6.31	0	0	0	0
MEAN	0	0	0	.54	.96	1.37	1.04	.20	0	0	0	0
MAX	0	0	0	1.4	2.3	2.5	1.4	1.0	0	0	0	0
MIN	0	0	0	0	.72	.58	.47	0	0	0	0	0
AC-FT	0	0	0	33	53	84	62	13	0	0	0	0

CAL YEAR 2001	TOTAL	755.54	MEAN	2.07	MAX	81	MIN	0	AC-FT	1,500
WTR YEAR 2002	TOTAL	123.34	MEAN	.34	MAX	2.5	MIN	0	AC-FT	245

FIGURE D-6

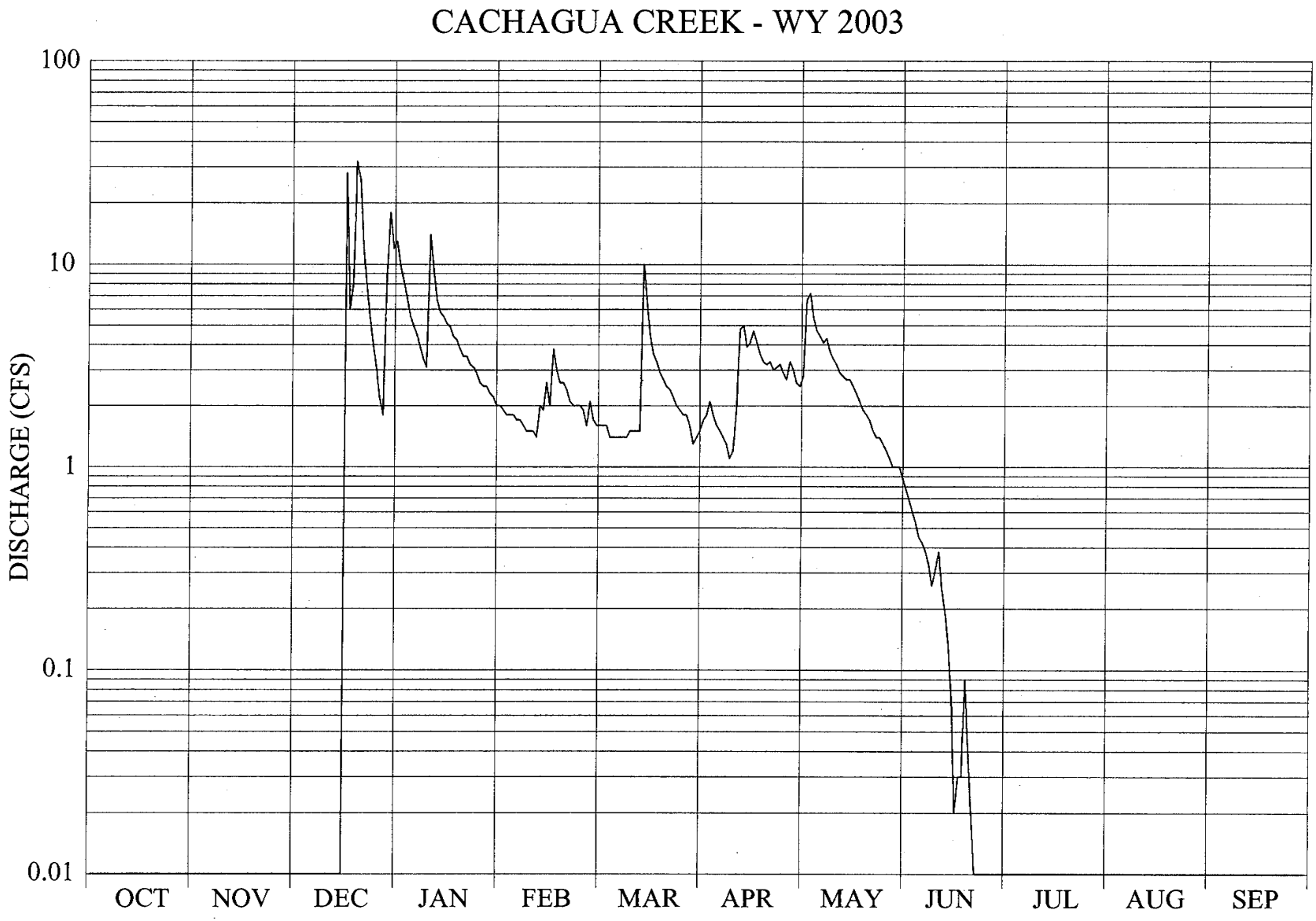

CACHAGUA CREEK - WY 2003
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-6

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CACHAGUA CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	9.9	1.9	1.6	1.5	2.5	.88	0	0	0
2	0	0	0	8.3	1.8	1.6	1.7	2.8	.77	0	0	0
3	0	0	0	6.9	1.8	1.6	1.8	6.7	.68	0	0	0
4	0	0	0	5.6	1.8	1.6	2.1	7.2	.60	0	0	0
5	0	0	0	5.0	1.7	1.4	1.8	5.4	.53	0	0	0
6	0	0	0	4.5	1.7	1.4	1.6	4.7	.45	0	0	0
7	0	0	0	3.9	1.6	1.4	1.5	4.4	.42	0	0	0
8	0	0	0	3.4	1.5	1.4	1.4	4.1	.38	0	0	0
9	0	0	0	3.1	1.5	1.4	1.3	4.3	.33	0	0	0
10	0	0	0	14	1.5	1.4	1.1	3.7	.26	0	0	0
11	0	0	0	9.2	1.4	1.5	1.2	3.4	.31	0	0	0
12	0	0	0	6.7	2.0	1.5	1.9	3.2	.38	0	0	0
13	0	0	0	5.8	1.9	1.5	4.8	2.9	.25	0	0	0
14	0	0	0	5.5	2.6	1.5	5.0	2.8	.19	0	0	0
15	0	0	0	5.1	2.0	10	3.9	2.7	.13	0	0	0
16	0	0	28	4.9	3.8	6.4	4.1	2.7	.07	0	0	0
17	0	0	6.0	4.4	3.0	4.4	4.7	2.5	.02	0	0	0
18	0	0	8.1	4.2	2.6	3.6	4.1	2.3	.03	0	0	0
19	0	0	32	3.8	2.6	3.3	3.6	2.1	.03	0	0	0
20	0	0	26	3.5	2.4	2.9	3.3	1.9	.09	0	0	0
21	0	0	12	3.5	2.1	2.7	3.2	1.8	.04	0	0	0
22	0	0	7.9	3.2	2.0	2.5	3.3	1.7	.02	0	0	0
23	0	0	5.4	3.1	2.0	2.4	3.0	1.5	0	0	0	0
24	0	0	4.0	2.9	2.0	2.2	3.1	1.4	0	0	0	0
25	0	0	3.1	2.6	1.9	2.0	3.2	1.4	0	0	0	0
26	0	0	2.2	2.5	1.6	1.9	2.9	1.3	0	0	0	0
27	0	0	1.8	2.5	2.1	1.8	2.7	1.2	0	0	0	0
28	0	0	8.7	2.3	1.7	1.8	3.3	1.1	0	0	0	0
29	0	0	18	2.2	------	1.6	3.0	1.0	0	0	0	0
30	0	0	12	2.0	------	1.3	2.6	1.0	0	0	0	0
31	0	------	13	2.0	------	1.4	------	1.0	------	0	0	------
TOTAL	0	0	188.2	146.5	56.5	73.0	82.7	86.7	6.86	0	0	0
MEAN	0	0	6.07	4.73	2.02	2.35	2.76	2.80	.23	0	0	0
MAX	0	0	32	14	3.8	10	5.0	7.2	.88	0	0	0
MIN	0	0	0	2.0	1.4	1.3	1.1	1.0	0	0	0	0
AC-FT	0	0	373	291	112	145	164	172	14	0	0	0

CAL YEAR 2002	TOTAL	311.54	MEAN	.85	MAX	32	MIN	0	AC-FT	618
WTR YEAR 2003	TOTAL	640.46	MEAN	1.75	MAX	32	MIN	0	AC-FT	1,270

FIGURE D-7

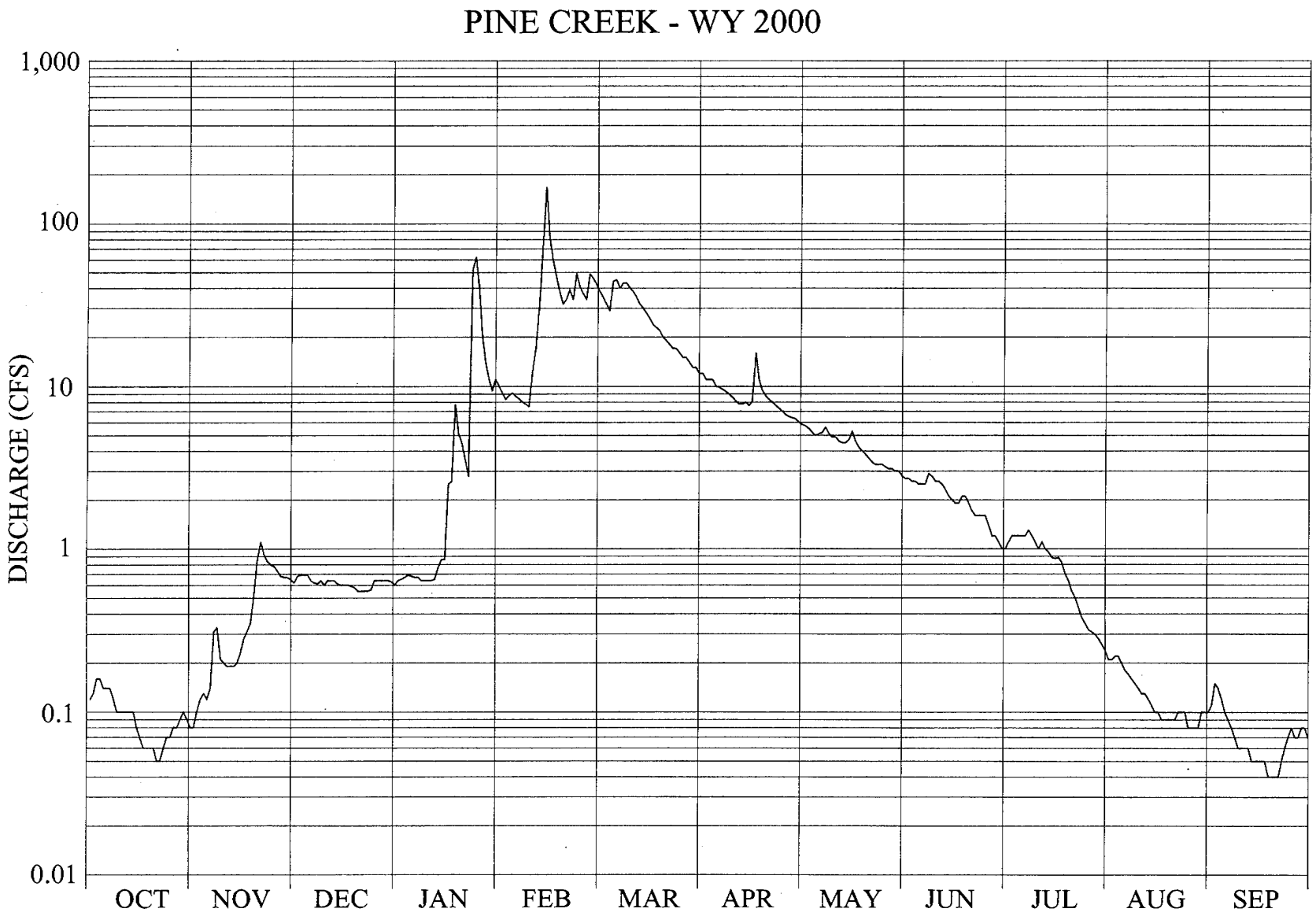

PINE CREEK - WY 2000
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-7

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.08	.62	.64	9.1	38	12	5.8	2.7	1.0	.21e	.11
2	.13	.10	.68	.65	8.3	35	11	5.7	2.7	1.1	.21e	.15
3	.16	.12	.69	.67	8.8	32	11	5.5	2.6	1.2	.22e	.14
4	.16	.13	.69	.69	9.1	29	11	5.2	2.6	1.2	.22e	.12
5	.14	.12	.69	.68	8.7	44	10	5.0	2.5	1.2	.20e	.10
6	.14	.14	.64	.67	8.4	45	9.9	5.1	2.5	1.2	.18e	.09
7	.14	.31	.62	.67	8.0	40	9.6	5.2	2.5	1.2	.17e	.08
8	.12	.33	.61	.64	7.8	43	9.3	5.6	2.9	1.3	.16e	.07
9	.10	.21	.64	.64	7.5	43	9.0	5.1	2.8	1.2	.15e	.06
10	.10	.20	.60	.64	12	40	8.6	4.9	2.6	1.1	.14e	.06
11	.10	.19	.64	.64	17	38	8.1	4.9	2.6	1.0	.13e	.06
12	.10	.19	.64	.65	32	35	7.8	4.6	2.5	1.1	.13e	.06
13	.10	.19	.64	.76	76	32	7.8	4.5	2.3	1.0	.12e	.05
14	.10	.20	.61	.86	167	30	8.0	4.5	2.1	.95	.11e	.05
15	.08	.23	.60	.86	82	28	7.6	4.7	2.0	.88	.10e	.05
16	.07	.28	.60	2.5	59	26	8.1	5.3	1.9	.87	.10e	.05
17	.06	.31	.60	2.6	47	24	16	4.6	1.9	.88	.09e	.05
18	.06	.35	.59	7.7	38	23	11	4.2	2.1	.82	.09e	.04
19	.06	.51	.58	5.1	32	22	9.4	4.0	2.1	.70	.09	.04
20	.06	.84	.55	4.5	34	20	8.7	3.8	1.9	.64	.09	.04
21	.05	1.1	.55	3.5	39	19	8.3	3.6	1.7	.55	.09	.04
22	.05	.92	.55	2.8	34	18	8.0	3.4	1.6	.50	.10	.05
23	.06	.84	.55	52	49	17	7.6	3.3	1.6	.44	.10	.06
24	.07	.80	.56	62	41	17	7.3	3.3	1.6	.38	.10	.07
25	.07	.78	.64	39	37	16	7.0	3.3	1.6	.35e	.08	.08
26	.08	.73	.64	20	34	15	6.7	3.2	1.4	.32e	.08	.07
27	.08	.68	.64	14	49	15	6.5	3.1	1.2	.31e	.08	.07
28	.09	.67	.64	11	46	14	6.4	3.1	1.2	.30e	.08	.08
29	.10	.67	.64	9.4	42	13	6.3	3.0	1.1	.28e	.10	.08
30	.09	.65	.63	11	------	13	6.0	3.0	1.0	.26e	.10	.07
31	.08	------	.60	10	------	12	------	2.8	------	.24e	.10	------
TOTAL	2.92	12.87	19.17	267.46	1,042.7	836	264.0	133.3	61.8	24.47	3.92	2.14
MEAN	.094	.43	.62	8.63	36.0	27.0	8.80	4.30	2.06	.79	.13	.071
MAX	.16	1.1	.69	62	167	45	16	5.8	2.9	1.3	.22	.15
MIN	.05	.08	.55	.64	7.5	12	6.0	2.8	1.0	.24	.08	.04
AC-FT	5.8	26	38	531	2,070	1,660	524	264	123	49	7.8	4.2

CAL YEAR 1999	TOTAL	2,127.35	MEAN	5.83	MAX	95	MIN	.05	AC-FT	4,220
WTR YEAR 2000	TOTAL	2,670.75	MEAN	7.30	MAX	167	MIN	.04	AC-FT	5,300

FIGURE D-8

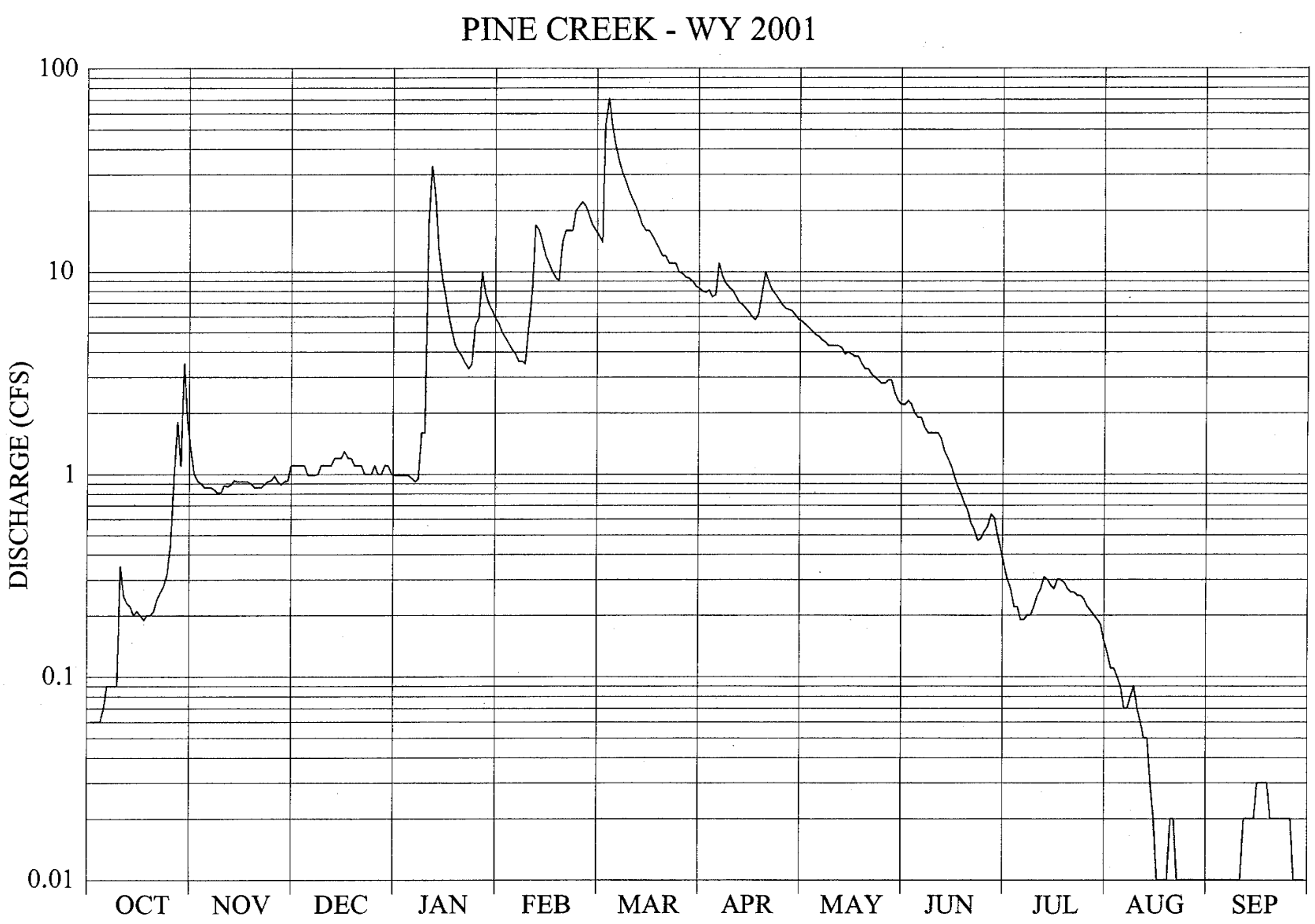

PINE CREEK - WY 2001
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-8

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	1.0	1.1	.99	5.0	16	8.3	5.8	2.2	.42	.15	.01
2	.06	.93	1.1	.99	4.7	15	8.0	5.7	2.2	.35	.13	.01
3	.06	.90	1.1	.99	4.4	14	7.9	5.5	2.3	.30	.11	.01
4	.06	.86	1.1	.99	4.1	53	8.1	5.3	2.2	.27	.11	.01
5	.07	.86	.99	.96	3.9	71	7.5	5.1	2.0	.22	.10	.01
6	.09	.86	.99	.92	3.6	52	7.7	4.9	1.9	.22	.09	.01
7	.09	.84	.99	.95	3.6	42	11	4.8	1.9	.19	.07	.01
8	.09	.81	1.0	1.6	3.5	35	9.6	4.6	1.7	.19	.07	.01
9	.09	.81	1.1	1.6	5.4	31	8.8	4.5	1.6	.20	.08	.01
10	.35	.88	1.1	17	8.1	28	8.4	4.3	1.6	.20	.09	.01
11	.25	.87	1.1	33	17	25	8.1	4.3	1.6	.22	.07	.01
12	.23	.89	1.1	24	16	23	7.6	4.3	1.6	.25	.06	.02
13	.22	.93	1.2	13	14	21	7.1	4.3	1.5	.27	.05	.02
14	.20	.92	1.2	9.4	12	19	6.9	4.2	1.3	.31	.05	.02
15	.21	.92	1.2	7.6	11	17	6.6	3.9	1.2	.30	.03	.02
16	.20	.92	1.3	6.1	10	16	6.3	4.0	1.1	.28	.02	.03
17	.19	.92	1.2	5.1	9.3	16	6.0	3.9	.98	.27	.01	.03
18	.20	.90	1.2	4.3	9.1	15	5.8	3.8	.87	.30	.01	.03
19	.20	.86	1.1	4.0	14	14	6.2	3.8	.80	.30	.01	.03
20	.21	.86	1.1	3.8	16	13	7.8	3.5	.72	.29	.01	.02
21	.24	.86	1.1	3.5	16	12	10	3.3	.66	.27	.02	.02
22	.26	.89	1.0	3.3	16	12	8.9	3.3	.57	.26	.02	.02
23	.28	.92	1.0	3.5	20	11	8.1	3.1	.53	.26	.01	.02
24	.32	.93	1.0	5.4	21	11	7.7	3.0	.47	.25	.01	.02
25	.45	.98	1.1	5.9	22	11	7.3	2.9	.48	.25	.01	.02
26	.97	.92	1.0	10	21	10	6.9	2.8	.52	.24	.01	.02
27	1.8	.89	1.0	7.8	19	9.8	6.6	2.8	.55	.22	.01	.01
28	1.1	.92	1.1	6.9	17	9.4	6.5	2.9	.63	.21	.01	.01
29	3.5	.93	1.1	6.4	------	9.3	6.4	2.9	.61	.20	.01	.01
30	1.8	1.1	1.0	5.9	------	9.0	6.1	2.5	.50	.19	.01	.01
31	1.3	------	.99	5.5	------	8.5	------	2.3	------	.18	.01	------
TOTAL	15.15	27.08	33.66	201.39	326.7	649.0	228.2	122.3	36.79	7.88	1.45	0.49
MEAN	.49	.90	1.09	6.50	11.7	20.9	7.61	3.95	1.23	.25	.047	.016
MAX	3.5	1.1	1.3	33	22	71	11	5.8	2.3	.42	.15	.03
MIN	.06	.81	.99	.92	3.5	8.5	5.8	2.3	.47	.18	.01	.01
AC-FT	30	54	67	399	648	1,290	453	243	73	16	2.9	1.0

CAL YEAR 2000	TOTAL	2,710.93	MEAN	7.41	MAX	167	MIN	.04	AC-FT	5,380
WTR YEAR 2001	TOTAL	1,650.09	MEAN	4.52	MAX	71	MIN	.01	AC-FT	3,270

FIGURE D-9

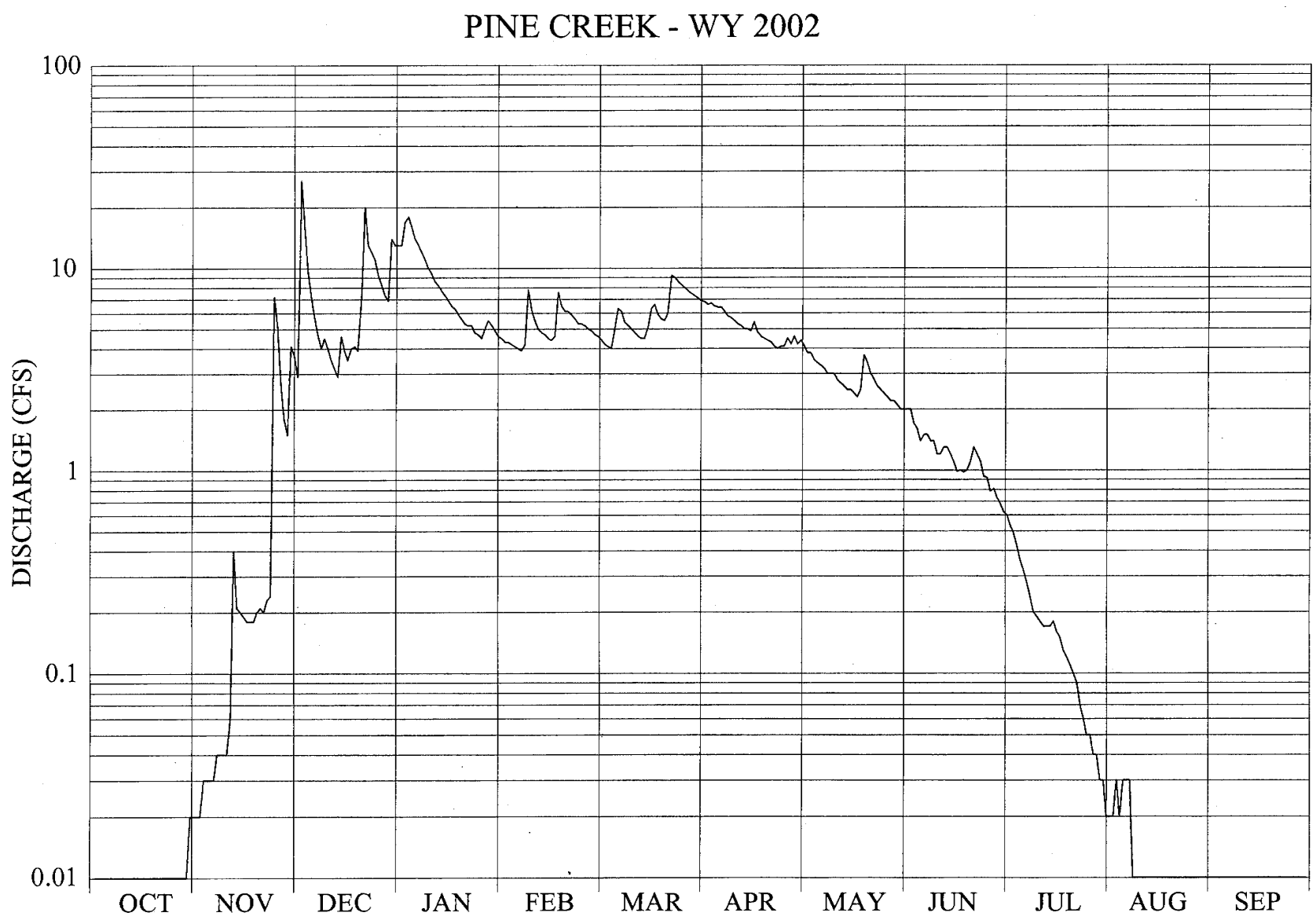

PINE CREEK - WY 2002
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-9

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.02	2.9	13	4.3	4.6	6.9	4.4	2.0	.62	.02	0
2	.01	.02	27	17	4.3	4.4	6.8	4.1	2.0	.60	.02	0
3	.01	.03	16	18	4.2	4.2	6.6	3.8	2.0	.53	.02	0
4	.01	.03	9.7	16	4.1	4.1	6.7	3.8	1.7	.49	.03	0
5	.01	.03	7.1	14	4.0	4.0	6.5	3.5	1.6	.42	.02	0
6	.01	.03	5.7	13	3.9	5.0	6.4	3.4	1.4	.36	.03	0
7	.01	.04	4.7	12	4.2	6.3	6.4	3.3	1.5	.32	.03	0
8	.01	.04	4.0	11	7.8	6.1	6.1	3.2	1.5	.28	.03	0
9	.01	.04	4.5	10	6.2	5.4	5.8	3.0	1.4	.24	.01	0
10	.01	.04	4.0	9.4	5.5	5.2	5.7	3.0	1.4	.20	.01	0
11	.01	.06	3.5	8.6	5.0	5.0	5.5	3.0	1.2	.19	.01	0
12	.01	.40	3.2	8.2	4.8	4.8	5.3	2.8	1.2	.18	.01	0
13	.01	.21	2.9	7.7	4.7	4.6	5.2	2.7	1.3	.17	0	0
14	.01	.20	4.6	7.3	4.5	4.5	5.0	2.6	1.3	.17	0	0
15	.01	.19	3.9	6.9	4.4	4.5	5.0	2.5	1.2	.17	0	0
16	.01	.18	3.5	6.5	4.6	5.1	4.9	2.5	1.1	.18	0	0
17	.01	.18	4.0	6.3	7.6	6.3	5.4	2.4	.99	.16	0	0
18	.01	.18	4.1	5.9	6.5	6.6	4.8	2.3	1.0	.15	0	0
19	.01	.20	3.9	5.6	6.1	5.9	4.6	2.5	.98	.13	0	0
20	.01	.21	7.2	5.3	6.1	5.6	4.5	3.7	1.0	.12	0	0
21	.01	.20	20	5.2	5.9	5.5	4.4	3.4	1.1	.11	0	0
22	.01	.23	13	5.2	5.6	6.0	4.3	3.0	1.3	.10	0	0
23	.01	.24	12	4.8	5.3	9.2	4.1	2.8	1.2	.09	0	0
24	.01	7.2	11	4.7	5.3	9.0	4.0	2.6	1.1	.07	0	0
25	.01	5.0	9.2	4.5	5.2	8.6	4.1	2.5	.93	.06	0	0
26	.01	2.7	8.3	5.0	5.0	8.3	4.1	2.4	.92	.05	0	0
27	.01	1.8	7.3	5.5	4.9	8.0	4.5	2.3	.79	.05	0	0
28	.01	1.5	6.9	5.2	4.7	7.7	4.2	2.2	.81	.04	0	0
29	.01	4.1	14	4.9	------	7.5	4.6	2.2	.73	.04	0	0
30	.02	3.7	13	4.6	------	7.3	4.2	2.1	.68	.03	0	0
31	.02	------	13	4.5	------	7.1	------	2.0	------	.03	0	------
TOTAL	0.33	29.00	254.1	255.8	144.7	186.4	156.6	90.0	37.33	6.35	0.24	0
MEAN	.011	.97	8.20	8.25	5.17	6.01	5.22	2.90	1.24	.20	.008	0
MAX	.02	7.2	27	18	7.8	9.2	6.9	4.4	2.0	.62	.03	0
MIN	.01	.02	2.9	4.5	3.9	4.0	4.0	2.0	.68	.03	0	0
AC-FT	.7	58	504	507	287	370	311	179	74	13	.5	0

CAL YEAR 2001	TOTAL	1,857.63	MEAN	5.09	MAX	71	MIN	.01	AC-FT	3,680
WTR YEAR 2002	TOTAL	1,160.85	MEAN	3.18	MAX	27	MIN	0	AC-FT	2,300

FIGURE D-10

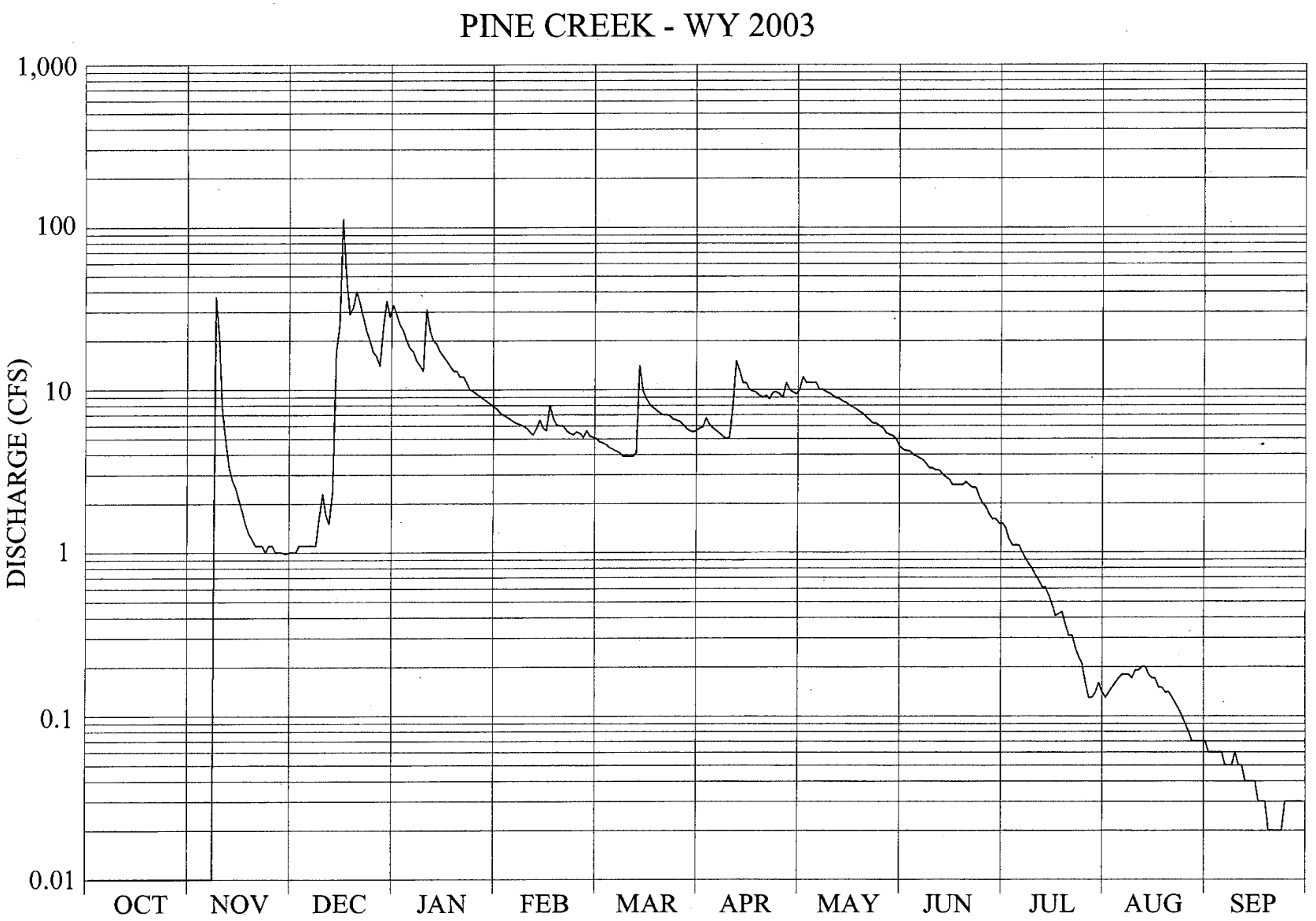

PINE CREEK - WY 2003
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-10

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
PINE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	1.0	29	7.2	5.1	5.6	9.4	4.5	1.5	.14	.07
2	0	0	1.0	25	7.0	5.0	5.8	10	4.3	1.5	.13	.06
3	0	0	1.1	23	6.8	4.8	5.9	12	4.2	1.4	.14	.06
4	0	0	1.1	20	6.6	4.7	6.7	11	4.2	1.2	.15	.06
5	0	0	1.1	18	6.4	4.6	6.1	11	4.0	1.1	.16	.06
6	0	0	1.1	17	6.2	4.4	5.8	11	3.9	1.1	.17	.06
7	0	.01	1.1	15	6.1	4.3	5.6	11	3.8	1.1	.18	.05
8	0	37	1.1	14	6.0	4.2	5.4	10	3.7	1.0	.18	.05
9	0	21	1.6	13	5.8	4.1	5.2	10	3.5	.91	.18	.05
10	0	7.8	2.3	31	5.5	3.9	5.0	9.7	3.3	.84	.17	.06
11	0	4.9	1.7	23	5.3	3.9	5.1	9.5	3.3	.79	.19	.05
12	0	3.4	1.5	20	5.8	3.9	7.9	9.2	3.2	.72	.19	.05
13	0	2.8	2.4	19	6.5	3.9	15	8.9	3.2	.67	.20	.04
14	0	2.5	17	17	5.8	4.1	13	8.8	3.0	.61	.20	.04
15	0	2.1	25	16	5.6	14	11	8.5	2.9	.61	.18	.04
16	0	1.8	113	15	8.0	9.8	11	8.3	2.8	.54	.17	.04
17	0	1.5	47	14	6.7	8.8	10	8.0	2.6	.48	.17	.03
18	0	1.3	29	13	6.1	8.1	9.8	7.8	2.6	.41	.15	.03
19	0	1.2	32	13	6.0	7.8	9.6	7.6	2.6	.42	.15	.03
20	0	1.1	40	12	6.0	7.5	9.2	7.3	2.6	.43	.14	.02
21	0	1.1	34	12	5.6	7.2	9.0	7.1	2.7	.36	.14	.02
22	0	1.1	28	11	5.4	7.0	9.2	6.8	2.6	.31	.13	.02
23	0	1.0	23	10	5.3	7.0	8.8	6.5	2.5	.31	.12	.02
24	0	1.1	20	9.8	5.5	6.9	9.6	6.2	2.5	.26	.11	.02
25	0	1.1	17	9.4	5.4	6.6	9.7	6.2	2.2	.23	.10	.03
26	0	1.0	16	9.1	5.1	6.5	9.4	6.0	2.0	.21	.09	.03
27	0	1.0	14	8.8	5.6	6.4	9.0	5.8	1.9	.16	.08	.03
28	0	1.0	24	8.5	5.2	6.1	11	5.4	1.7	.13	.07	.03
29	0	.98	35	8.2	------	5.8	10	5.3	1.6	.13	.07	.03
30	0	1.0	28	7.9	------	5.6	9.7	5.2	1.6	.14	.07	.03
31	0	------	33	7.6	------	5.5	------	5.0	------	.16	.07	------
TOTAL	0	98.79	593.1	469.3	168.5	187.5	254.1	254.5	89.5	19.73	4.39	1.21
MEAN	0	3.29	19.1	15.1	6.02	6.05	8.47	8.21	2.98	.64	.14	.040
MAX	0	37	113	31	8.0	14	15	12	4.5	1.5	.20	.07
MIN	0	0	1.0	7.6	5.1	3.9	5.0	5.0	1.6	.13	.07	.02
AC-FT	0	196	1,180	931	334	372	504	505	178	39	8.7	2.4

CAL YEAR 2002	TOTAL	1,569.31	MEAN	4.30	MAX	113	MIN	0	AC-FT	3,110
WTR YEAR 2003	TOTAL	2,140.62	MEAN	5.86	MAX	113	MIN	0	AC-FT	4,250

FIGURE D-11

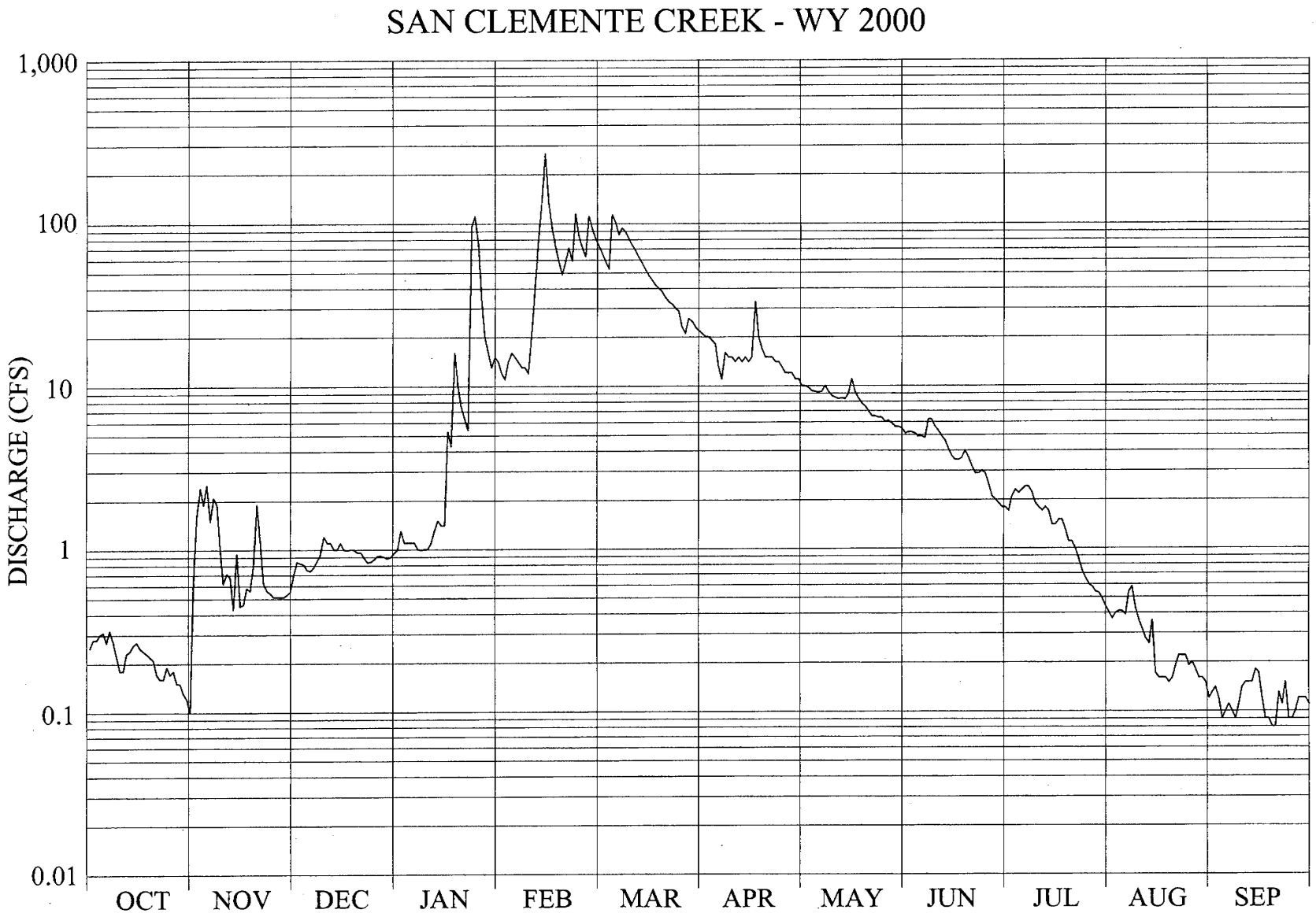

SAN CLEMENTE CREEK - WY 2000
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-11

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.58	.70	1.0	12	73	21	10	5.1	1.8	.40	.13
2	.28	1.6	.84	1.3	11	66	20	10	5.2	1.7	.37	.14
3	.28	2.4	.82	1.1	14	59	20	9.8	5.2	2.1	.40	.12
4	.30	1.9	.81	1.1	16	53	19	9.3	5.1	2.3	.41	.09
5	.31	2.5	.75	1.1	15	113	18	9.2	4.9	2.2	.41	.10
6	.27	1.5	.74	1.1	14	102	13	9.1	4.9	2.3	.39	.11
7	.32	2.1	.78	1.0	13	86	11	9.2	4.8	2.4	.54	.10
8	.27	1.9	.86	.99	13	94	16	10	6.2	2.4	.58	.09
9	.22	1.0	.93	1.0	12	89	15	9.2	6.2	2.2	.43	.11
10	.18	.62	1.2	1.0	21	81	15	8.7	5.6	1.9	.36	.14
11	.18	.71	1.1	1.1	42	74	14	8.5	5.3	1.8	.32	.15
12	.23	.68	1.1	1.3	83	68	15	8.3	4.9	1.7	.28	.15
13	.24	.43	1.0	1.5	137	62	14	8.4	4.6	1.8	.26	.15
14	.26	.94	1.0	1.4	268	57	15	8.3	4.1	1.7	.36	.18
15	.27	.45	1.1	1.4	137	52	14	9.0	3.7	1.4	.17	.17
16	.25	.46	1.0	5.3	95	48	15	11	3.5	1.4	.16	.12
17	.24	.58	.99	4.3	73	45	33	9.2	3.5	1.5	.16	.09
18	.23	.56	1.0	16	59	42	20	8.4	3.6	1.5	.16	.09
19	.22	.80	1.0	10	49	40	17	7.8	4.0	1.3	.15	.08
20	.21	1.9	.96	7.5	58	38	15	7.5	3.6	1.1	.16	.08
21	.17	1.1	.96	6.3	71	35	15	7.0	3.2	1.1	.19	.13
22	.16	.62	.89	5.4	59	33	15	6.5	2.9	.99	.22	.11
23	.16	.56	.83	96	115	32	14	6.5	2.9	.86	.22	.15
24	.19	.54	.84	111	85	30	14	6.4	3.0	.73	.22	.09
25	.17	.51	.87	75	72	29	13	6.4	2.9	.66	.19	.09
26	.18	.51	.91	33	63	23	12	6.0	2.5	.60	.20	.10
27	.15	.51	.91	20	111	21	12	6.1	2.1	.58	.18	.12
28	.15	.51	.90	16	94	26	12	5.9	2.0	.54	.16	.12
29	.13	.53	.88	13	81	25	11	5.6	1.9	.53	.16	.12
30	.12	.55	.90	15	------	23	11	5.6	1.8	.49	.15	.11
31	.10	------	.95	14	------	22	------	5.5	------	.44	.12	------
TOTAL	6.69	29.55	28.52	465.19	1,893	1,641	469	248.4	119.2	44.02	8.48	3.53
MEAN	.22	.99	.92	15.0	65.3	52.9	15.6	8.01	3.97	1.42	.27	.12
MAX	.32	2.5	1.2	111	268	113	33	11	6.2	2.4	.58	.18
MIN	.10	.43	.70	.99	11	21	11	5.5	1.8	.44	.12	.08
AC-FT	13	59	57	923	3,750	3,250	930	493	236	87	17	7.0

CAL YEAR 1999	TOTAL	3,349.15	MEAN	9.18	MAX	153	MIN	.10	AC-FT	6,640
WTR YEAR 2000	TOTAL	4,956.58	MEAN	13.5	MAX	268	MIN	.08	AC-FT	9,830

FIGURE D-12

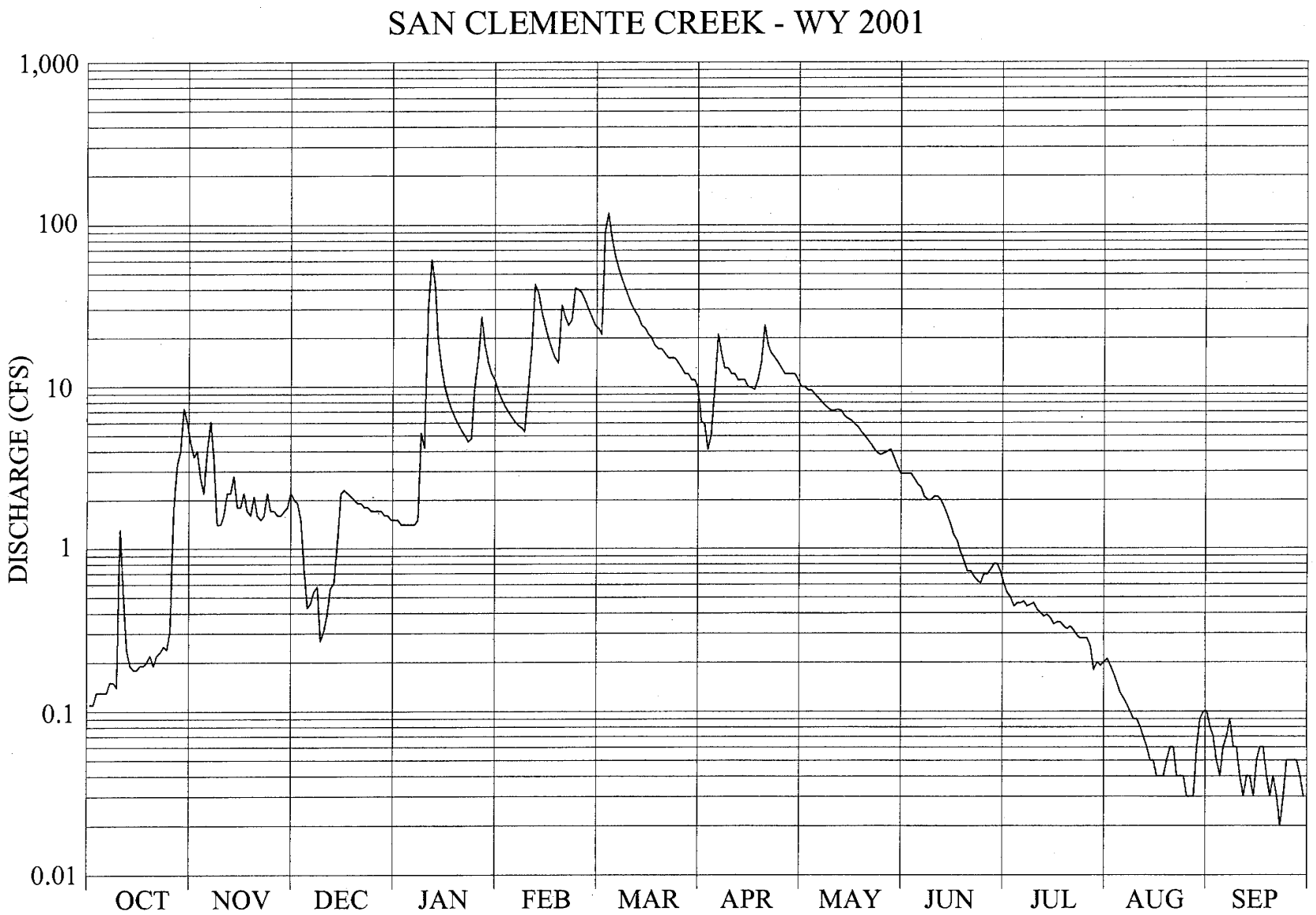

SAN CLEMENTE CREEK - WY 2001
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-12

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	3.7	2.0	1.5	8.4	24	9.8	11	2.9	.71	.20	.10
2	.11	4.0	1.9	1.4	7.6	23	6.1	10	2.9	.60	.21	.08
3	.13	2.7	1.5	1.4	7.0	21	5.9	10	2.9	.53	.19	.07
4	.13	2.2	.78	1.4	6.5	90	4.1	9.5	2.9	.50	.17	.05
5	.13	4.0	.43	1.4	6.1	118	5.0	9.5	2.7	.44	.15	.04
6	.13	6.1	.46	1.4	5.8	84	9.6	9.0	2.5	.46	.13	.06
7	.15	3.5	.54	1.5	5.6	65	21	8.6	2.4	.46	.12	.07
8	.15	1.4	.58	5.2	5.3	54	16	8.1	2.1	.47	.11	.09
9	.14	1.4	.27	4.2	9.7	47	13	7.7	2.0	.44	.10	.06
10	1.3	1.6	.31	31	17	41	13	7.4	2.0	.45	.09	.06
11	.54	2.2	.39	61	43	36	12	7.1	2.1	.46	.09	.04
12	.24	2.2	.57	43	38	32	12	7.1	2.1	.42	.08	.03
13	.19	2.8	.61	19	29	29	11	7.2	2.0	.40	.07	.04
14	.18	1.8	1.1	13	24	27	11	7.1	1.8	.38	.06	.04
15	.18	1.8	2.2	10	20	24	11	6.6	1.6	.39	.05	.03
16	.19	2.2	2.3	8.4	17	23	10	6.4	1.4	.37	.05	.05
17	.19	1.7	2.2	7.3	15	21	9.9	6.2	1.2	.34	.04	.06
18	.20	1.6	2.1	6.5	14	20	9.6	5.9	1.1	.35	.04	.06
19	.22	2.1	2.0	5.9	32	18	11	5.7	.94	.35	.04	.04
20	.19	1.6	1.9	5.4	27	17	14	5.3	.84	.33	.05	.03
21	.22	1.5	1.9	5.0	24	17	24	5.0	.72	.32	.06	.04
22	.23	1.6	1.8	4.6	26	16	18	4.7	.72	.33	.06	.03
23	.25	2.2	1.8	4.8	41	15	16	4.4	.67	.31	.04	.02
24	.24	1.7	1.7	10	40	15	15	4.1	.63	.29	.04	.03
25	.31	1.7	1.7	15	38	15	14	3.9	.61	.28	.04	.05
26	1.7	1.6	1.7	27	34	14	13	3.8	.69	.28	.03	.05
27	3.3	1.6	1.7	18	30	13	12	3.9	.69	.28	.03	.05
28	4.0	1.7	1.6	14	27	12	12	4.0	.74	.25	.03	.05
29	7.3	1.8	1.6	12	------	12	12	4.1	.80	.18	.06	.04
30	6.0	2.2	1.5	11	------	11	12	3.6	.80	.20	.09	.03
31	4.5	------	1.5	9.4	------	11	------	3.2	------	.19	.10	------
TOTAL	32.85	68.2	42.64	360.7	598.0	965	363.0	200.1	47.45	11.76	2.62	1.49
MEAN	1.06	2.27	1.38	11.6	21.4	31.1	12.1	6.45	1.58	.38	.085	.050
MAX	7.3	6.1	2.3	61	43	118	24	11	2.9	.71	.21	.10
MIN	.11	1.4	.27	1.4	5.3	11	4.1	3.2	.61	.18	.03	.02
AC-FT	65	135	85	715	1,190	1,910	720	397	94	23	5.2	3.0

CAL YEAR 2000	TOTAL	5,035.51	MEAN	13.8	MAX	268	MIN	.08	AC-FT	9,990
WTR YEAR 2001	TOTAL	2,693.81	MEAN	7.38	MAX	118	MIN	.02	AC-FT	5,340

FIGURE D-13

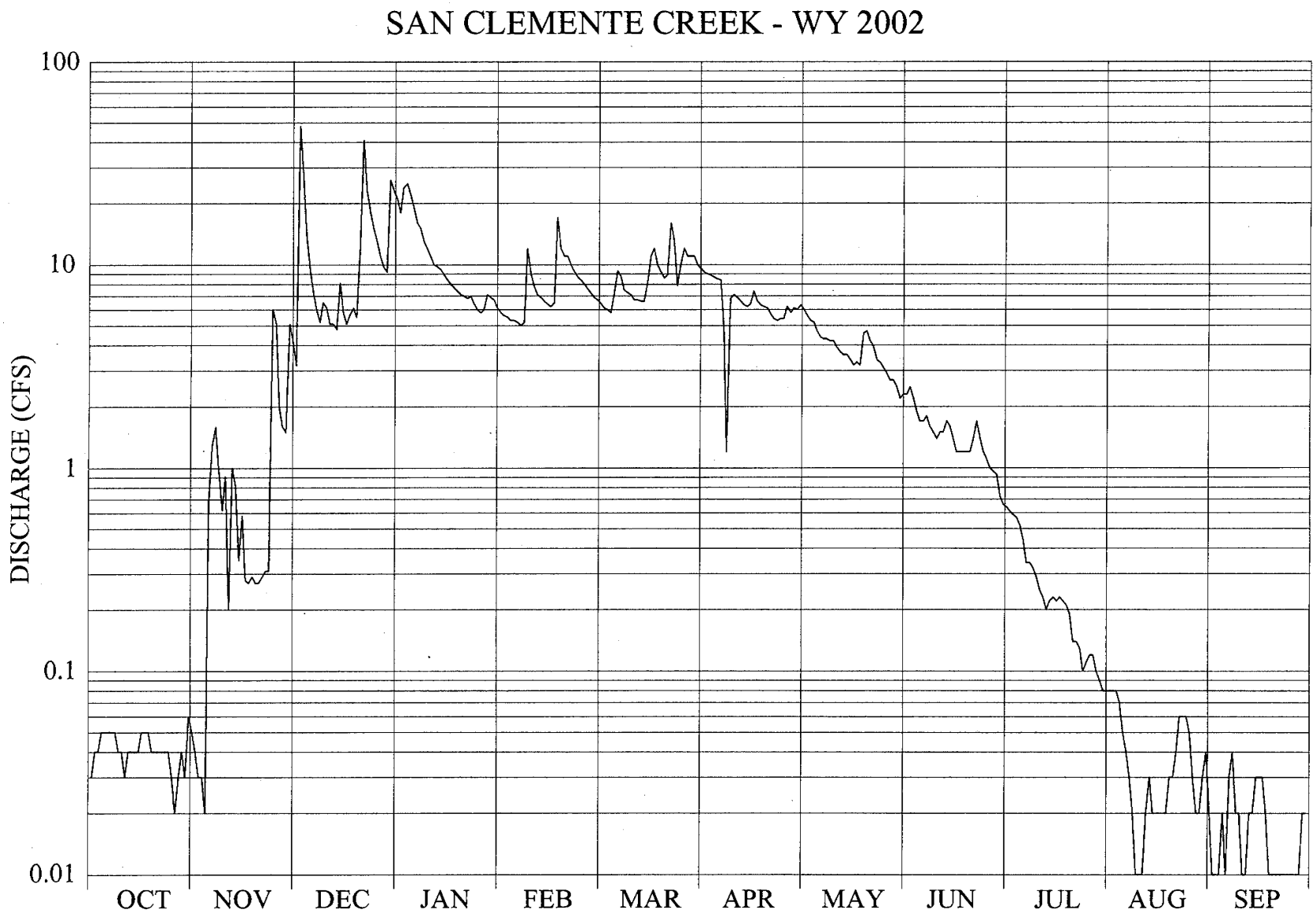

SAN CLEMENTE CREEK - WY 2002
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-13

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.04	3.2	18	5.6	6.7	9.6	6.3	2.3	.66	.08	.02
2	.04	.03	48	24	5.5	6.4	9.2	6.0	2.3	.64	.08	.01
3	.04	.03	28	25	5.3	6.1	9.0	5.6	2.5	.61	.08	.01
4	.05	.02	14	22	5.3	6.0	8.9	5.3	2.2	.59	.08	.01
5	.05	.69	9.5	19	5.2	5.8	8.7	5.2	1.9	.57	.07	.02
6	.05	1.3	7.3	16	5.0	7.2	8.5	4.7	1.7	.52	.05	.01
7	.05	1.6	6.0	15	5.2	9.3	8.4	4.4	1.7	.44	.04	.03
8	.05	.97	5.2	13	12	8.7	4.9	4.3	1.8	.34	.03	.04
9	.04	.62	6.5	12	9.0	7.5	1.2	4.3	1.6	.34	.02	.02
10	.04	.91	6.1	11	7.8	7.3	6.8	4.2	1.5	.32	.01	.02
11	.03	.20	5.1	10	7.1	7.1	7.1	4.2	1.4	.29	.01	.01
12	.04	1.0	5.1	9.8	6.9	6.7	6.9	3.9	1.5	.25	.01	.01
13	.04	.82	4.8	9.5	6.6	6.7	6.6	3.7	1.5	.23	.02	.02
14	.04	.35	8.1	8.9	6.4	6.6	6.3	3.6	1.7	.20	.03	.02
15	.04	.58	5.8	8.4	6.2	6.6	6.2	3.6	1.6	.22	.02	.03
16	.05	.28	5.1	8.0	6.5	8.1	6.4	3.4	1.4	.23	.02	.03
17	.05	.27	5.7	7.7	17	11	7.4	3.2	1.2	.22	.02	.03
18	.05	.29	6.1	7.4	12	12	6.6	3.3	1.2	.23	.02	.02
19	.04	.27	5.5	7.1	11	10	6.3	3.2	1.2	.22	.02	.01
20	.04	.27	13	7.0	11	9.2	6.2	4.6	1.2	.21	.03	.01
21	.04	.29	41	6.8	10	8.6	6.1	4.7	1.2	.19	.03	.01
22	.04	.31	23	7.0	9.2	8.9	5.7	4.2	1.4	.14	.04	.01
23	.04	.31	18	6.4	8.7	16	5.4	3.9	1.7	.14	.06	.01
24	.04	6.0	15	6.0	8.4	13	5.3	3.4	1.4	.13	.06	0
25	.03	5.1	13	5.8	8.0	7.9	5.4	3.3	1.2	.10	.06	0
26	.02	2.0	11	6.0	7.6	10	5.4	3.1	1.1	.11	.05	.01
27	.03	1.6	9.7	7.1	7.2	12	6.2	2.9	1.0	.12	.03	.01
28	.04	1.5	9.2	6.9	6.9	11	5.8	2.7	.96	.12	.02	.01
29	.03	5.1	26	6.7	------	11	6.1	2.7	.93	.10	.02	.02
30	.06	4.2	23	6.1	------	11	6.0	2.5	.73	.09	.03	.02
31	.05	------	21	5.8	------	10	------	2.2	------	.08	.04	------
TOTAL	1.28	36.95	408.0	329.4	222.6	274.4	198.6	122.6	45.02	8.65	1.18	0.48
MEAN	.041	1.23	13.2	10.6	7.95	8.85	6.62	3.95	1.50	.28	.038	.016
MAX	.06	6.0	48	25	17	16	9.6	6.3	2.5	.66	.08	.04
MIN	.02	.02	3.2	5.8	5.0	5.8	1.2	2.2	.73	.08	.01	0
AC-FT	2.5	73	809	653	442	544	394	243	89	17	2.3	1.0

CAL YEAR 2001	TOTAL	2,996.35	MEAN	8.21	MAX	118	MIN	.02	AC-FT	5,940
WTR YEAR 2002	TOTAL	1,649.16	MEAN	4.52	MAX	48	MIN	0	AC-FT	3,270

FIGURE D-14

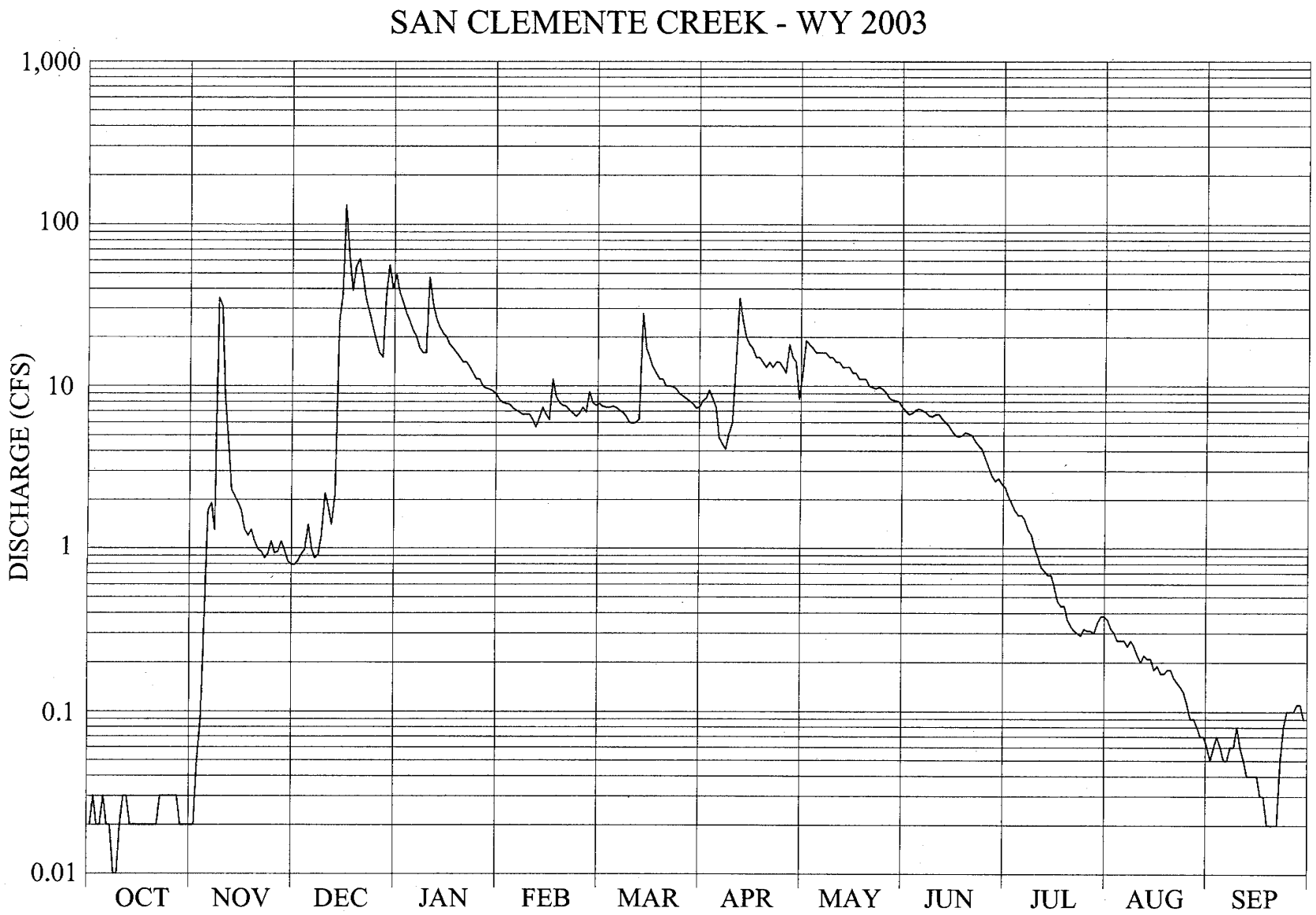

SAN CLEMENTE CREEK - WY 2003
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-14

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN CLEMENTE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.02	.79	38	7.9	7.6	7.4	8.3	7.4	2.5	.38	.06
2	.03	.05	.84	33	7.8	7.8	8.1	12	7.0	2.4	.36	.05
3	.02	.09	.92	28	7.7	7.5	8.4	19	6.7	2.1	.32	.06
4	.02	.34	.98	25	7.3	7.4	9.4	18	6.8	1.9	.30	.07
5	.03	1.7	1.4	22	7.1	7.4	8.4	17	7.1	1.7	.27	.06
6	.02	1.9	1.0	20	6.9	7.5	7.4	16	7.2	1.6	.27	.05
7	.02	1.3	.87	17	6.7	7.4	4.8	16	7.1	1.6	.27	.05
8	.01	35	.91	16	6.7	7.1	4.4	16	6.9	1.5	.25	.06
9	.01	31	1.2	16	6.7	6.9	4.1	16	6.6	1.3	.27	.06
10	.02	9.0	2.2	47	6.2	6.5	5.1	15	6.5	1.2	.25	.08
11	.03	4.7	1.8	32	5.6	6.0	6.0	15	6.7	1.0	.22	.06
12	.03	2.3	1.4	26	6.4	5.9	14	14	6.7	.89	.20	.05
13	.02	2.1	2.2	23	7.4	6.0	35	14	6.3	.76	.22	.04
14	.02	1.9	25	21	6.7	6.3	25	13	6.0	.72	.21	.04
15	.02	1.7	37	20	6.2	28	20	13	5.7	.68	.21	.04
16	.02	1.3	131	18	11	17	18	13	5.3	.68	.18	.04
17	.02	1.2	63	17	8.6	15	17	12	5.0	.57	.19	.03
18	.02	1.3	39	16	7.9	13	15	12	4.9	.47	.17	.03
19	.02	1.1	55	15	7.6	12	15	11	5.0	.44	.17	.02
20	.02	.99	61	14	7.5	11	14	11	5.2	.44	.18	.02
21	.02	.95	47	14	7.1	11	13	11	5.1	.36	.18	.02
22	.03	.87	34	13	6.8	10	14	10	5.0	.33	.16	.02
23	.03	.92	28	12	6.5	10	13	9.8	4.6	.31	.15	.05
24	.03	1.1	23	11	6.8	9.9	14	9.6	4.3	.30	.14	.08
25	.03	.93	19	11	7.4	9.6	14	9.8	4.1	.29	.13	.10
26	.03	.95	16	10	6.9	9.0	13	9.6	3.6	.32	.11	.10
27	.03	1.1	15	9.7	9.2	8.7	12	9.1	3.2	.31	.09	.10
28	.02	.96	37	9.5	7.9	8.4	18	8.5	2.8	.31	.09	.11
29	.02	.83	56	9.3	------	8.1	15	8.2	2.6	.30	.08	.11
30	.02	.79	40	8.9	------	7.8	14	8.1	2.7	.35	.07	.09
31	.02	------	49	8.2	------	7.3	------	8.0	------	.38	.07	------
TOTAL	0.70	108.39	791.51	580.6	204.5	293.1	386.5	383.0	164.1	28.01	6.16	1.75
MEAN	.023	3.61	25.5	18.7	7.30	9.45	12.9	12.4	5.47	.90	.20	.058
MAX	.03	35	131	47	11	28	35	19	7.4	2.5	.38	.11
MIN	.01	.02	.79	8.2	5.6	5.9	4.1	8.0	2.6	.29	.07	.02
AC-FT	1.4	215	1,570	1,150	406	581	767	760	325	56	12	3.5

CAL YEAR 2002	TOTAL	2,103.53	MEAN	5.76	MAX	131	MIN	0	AC-FT	4,170
WTR YEAR 2003	TOTAL	2,948.32	MEAN	8.08	MAX	131	MIN	.01	AC-FT	5,850

FIGURE D-15

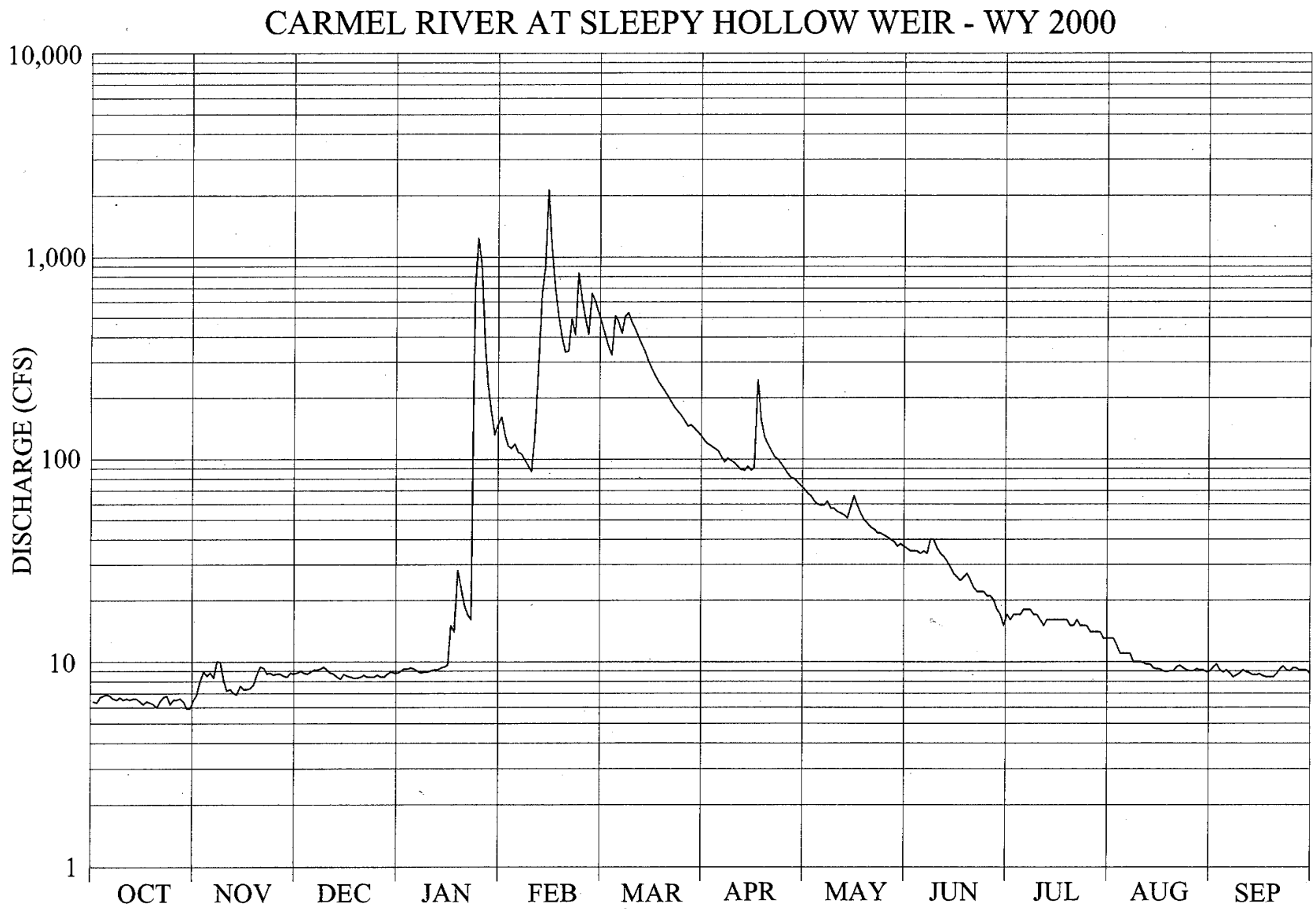

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 2000
10,000
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-15

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	6.9	8.8	9.0	133	466e	123	71	36	17	13	9.4
2	6.3	8.0	9.0	9.2	116	410e	119	68	35	16	13	9.7
3	6.7	8.9	8.8	9.2	113	361e	116	66	35	17	12	9.1
4	6.8	8.5	8.7	9.3	119	326e	113	62	35	17	11	8.9
5	6.9	8.8	8.9	9.2	108	510e	110	60	34	17	11	9.1
6	6.8	8.3	9.1	9.0	106	474e	103	59	35	18	11	8.8
7	6.6	10	9.1	8.8	99	418e	97	59	34	18	11	8.4
8	6.5	10	9.2	8.9	93	505e	101	62	40	18	10	8.6
9	6.7	8.1	9.4	8.9	87	527e	99	57	40	17	10	8.8
10	6.5	7.2	9.1	9.0	130	476e	96	57	36	17	10	9.1
11	6.6	7.3	8.8	9.1	264e	439e	92	55	34	16	9.9	8.9
12	6.5	7.0	8.7	9.1	648e	402e	89	54	33	15	9.7	8.8
13	6.6	6.9	8.4	9.3	896e	367e	88	53	31	16	9.7	8.6
14	6.6	7.6	8.2	9.4	2,130e	340e	92	51	29	16	9.3	8.6
15	6.4	7.3	8.7	9.6	1,130e	305	88	58	27	16	9.2	8.7
16	6.2	7.3	8.5	15	700e	280	91	66	26	16	9.2	8.5
17	6.4	7.4	8.4	14	510e	260	245	59	25	16	9.0	8.4
18	6.3	7.7	8.3	28	405e	242	156	54	26	16	8.9	8.4
19	6.2	8.6	8.3	23	338e	228	130	50	27	16	9.0	8.4
20	6.0	9.4	8.4	19	339e	215	118	48	25	15	9.0	8.7
21	6.4	9.3	8.6	17	491e	203	110	46	23	15	9.4	9.2
22	6.7	8.7	8.4	16	411e	190	103	45	22	16	9.6	9.5
23	6.8	8.8	8.4	674 e	833e	179	100	43	22	15	9.3	9.1
24	6.2	8.6	8.4	1,240 e	619e	171	95	43	22	15	9.1	9.0
25	6.5	8.7	8.6	904 e	500e	164	90	42	21	15	9.0	9.3
26	6.5	8.7	8.4	377 e	414e	154	85	41	21	14	9.0	9.3
27	6.6	8.5	8.4	229 e	661e	145	81	40	20	14	9.2	9.1
28	6.4	8.4	8.7	168	602e	147	80	39	18	14	9.1	9.1
29	5.9	8.8	8.9	132	528e	141	77	37	17	14	9.1	9.1
30	5.9	8.7	8.8	148	------	136	74	38	15	13	8.9	8.8
31	6.5	------	8.8	161	------	130	------	37	------	13	9.0	------
TOTAL	200.4	248.4	269.2	4,302.0	13,523	9,311	3,161	1,620	844	488	305.6	267.4
MEAN	6.46	8.28	8.68	139	466	300	105	52.3	28.1	15.7	9.86	8.91
MAX	6.9	10	9.4	1,240	2,130	527	245	71	40	18	13	9.7
MIN	5.9	6.9	8.2	8.8	87	130	74	37	15	13	8.9	8.4
AC-FT	397	493	534	8,530	26,820	18,470	6,270	3,210	1,670	968	606	530

CAL YEAR 1999	TOTAL	21,103.5	MEAN	57.8	MAX	1,060	MIN	5.9	AC-FT	41,860
WTR YEAR 2000	TOTAL	34,540.0	MEAN	94.4	MAX	2,130	MIN	5.9	AC-FT	68,510

e - Estimated daily discharge based on San Clemente Dam Spillway stage data.

FIGURE D-16

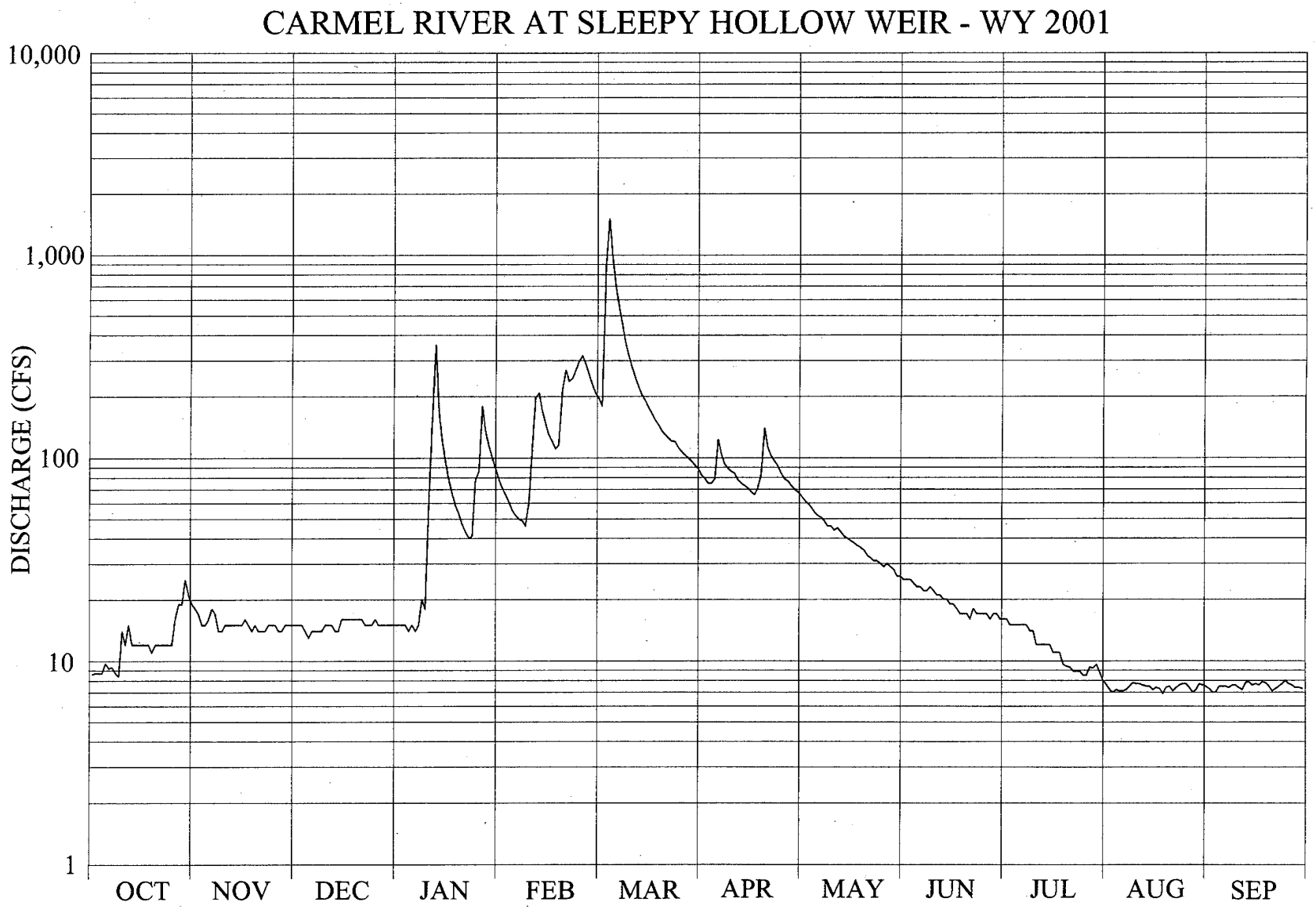

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 2001
10,000
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-16

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	18	15	15	71	207	89	68	26	16	8.0	7.5
2	8.7	17	15	15	66	195	82	65	25	16	7.6	7.3
3	8.7	15	15	15	61	179	79	62	25	16	7.2	7.0
4	8.7	15	14	14	55	881e	75	60	25	15	7.0	7.0
5	9.7	16	13	15	52	1,510e	75	57	24	15	7.2	7.5
6	9.2	18	14	14	50	958e	79	54	23	15	7.1	7.5
7	9.3	17	14	15	49	695e	123	52	23	15	7.1	7.5
8	8.7	14	14	20	46	543e	104	51	22	15	7.2	7.4
9	8.4	14	14	18	60	452e	93	49	22	15	7.5	7.6
10	14	15	15	58	110	364	89	46	23	14	7.8	7.6
11	12	15	15	157	197	314	86	46	22	14	7.7	7.4
12	15	15	15	358	208	277	84	44	21	12	7.7	7.2
13	12	15	14	172	170	245	78	45	21	12	7.6	7.8
14	12	15	14	120	148	222	75	43	20	12	7.5	7.9
15	12	15	16	95	130	203	73	41	20	12	7.5	7.6
16	12	16	16	78	120	190	71	40	19	12	7.2	7.7
17	12	15	16	67	111	176	68	39	19	11	7.4	7.6
18	12	14	16	58	116	165	66	38	18	11	7.3	7.9
19	11	15	16	53	216	154	71	37	17	11	6.9	7.8
20	12	14	16	47	269	145	83	36	17	9.6	7.4	7.5
21	12	14	16	43	238	136	140	35	17	9.4	7.5	7.1
22	12	14	15	40	245	130	112	33	16	9.3	7.1	7.3
23	12	15	15	41	269	125	102	32	18	8.9	7.4	7.5
24	12	15	15	78	298	121	96	31	17	8.9	7.6	7.7
25	12	15	16	86	317	120	91	31	17	8.9	7.7	8.0
26	16	14	15	179	287	112	84	30	17	8.5	7.7	7.7
27	19	14	15	135	256	107	79	29	17	8.5	7.4	7.6
28	19	15	15	114	229	103	77	30	16	9.3	7.0	7.4
29	25	15	15	100	------	100	73	29	17	9.2	7.2	7.4
30	21	15	15	89	------	96	70	28	17	9.6	7.7	7.3
31	19	------	15	78	------	92	------	26	------	8.8	7.6	------
TOTAL	395.0	454	464	2,387	4,444	9,317	2,567	1,307	601	367.9	229.8	225.3
MEAN	12.7	15.1	15.0	77.0	159	301	85.6	42.2	20.0	11.9	7.41	7.51
MAX	25	18	16	358	317	1,510	140	68	26	16	8.0	8.0
MIN	8.4	14	13	14	46	92	66	26	16	8.5	6.9	7.0
AC-FT	783	901	920	4,730	8,810	18,480	5,090	2,590	1,190	730	456	447

CAL YEAR 2000	TOTAL	35,135.0	MEAN	96.0	MAX	2,130	MIN	8.4	AC-FT	69,690
WTR YEAR 2001	TOTAL	22,759.0	MEAN	62.4	MAX	1,510	MIN	6.9	AC-FT	45,140

e - Estimated daily discharge based on San Clemente Dam Spillway stage data.

FIGURE D-17

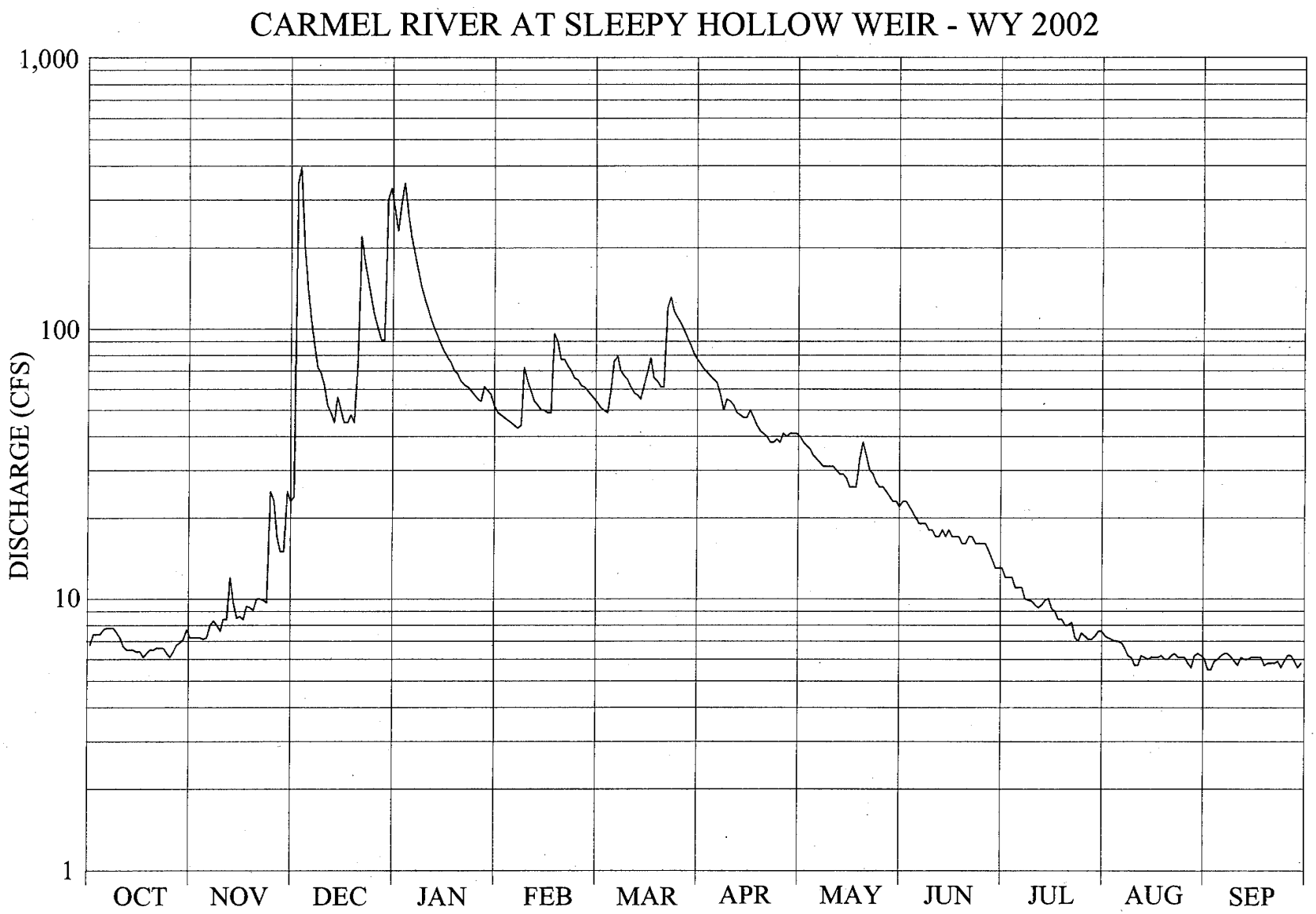

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 2002
DISCHARGE (CFS)
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-17

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	7.2	24	231e	48	55	77	41	22	13	7.6	6.0
2	7.4	7.2	343e	289e	47	53	74	40	23	13	7.3	5.5
3	7.4	7.2	395	346	46	51	71	38	23	12	7.2	5.5
4	7.4	7.1	204	267	45	50	69	37	22	12	7.1	5.9
5	7.7	7.2	141	219	44	49	67	36	21	12	7.0	6.0
6	7.8	8.0	109	189	43	59	65	34	20	11	7.0	6.2
7	7.8	8.3	88	164	44	76	63	33	19	11	6.9	6.3
8	7.8	8.0	72	144	72	79	57	32	19	11	6.6	6.3
9	7.5	7.6	69	130	64	70	50	31	19	10	6.2	6.1
10	7.2	8.4	62	119	59	67	55	31	18	9.9	6.1	5.9
11	6.7	8.4	52	108	54	65	54	31	18	9.8	5.7	5.7
12	6.5	12	49	100	52	61	52	31	17	9.5	5.7	6.1
13	6.5	9.7	45	94	50	58	49	30	17	9.3	6.2	6.0
14	6.5	8.5	56	87	50	57	48	29	18	9.5	6.1	6.0
15	6.4	8.6	50	82	49	55	47	29	17	9.9	6.0	6.1
16	6.4	8.4	45	78	49	62	47	28	18	10	6.1	6.1
17	6.1	9.4	45	75	96	69	50	26	17	9.2	6.1	6.1
18	6.3	9.3	48	70	90	78	47	26	17	9.0	6.1	6.1
19	6.5	9.1	45	68	77	66	44	26	17	8.4	6.2	5.7
20	6.5	10	73	64	77	64	42	33	16	8.4	6.0	5.8
21	6.6	10	220	62	73	61	41	38	16	8.0	6.0	5.8
22	6.6	9.9	179	61	70	61	40	34	17	8.0	6.2	5.8
23	6.6	9.7	151	59	66	120	38	30	17	8.2	6.3	5.9
24	6.3	25	129	57	65	131	38	29	16	7.2	6.1	5.6
25	6.1	23	112	55	62	116	39	27	16	7.0	6.1	5.9
26	6.4	17	101	54	61	110	38	26	16	7.5	6.1	6.2
27	6.8	15	91	61	59	105	41	26	16	7.3	5.8	6.2
28	6.9	15	91e	59	57	99	40	25	15	7.1	5.6	5.9
29	7.1	25	300e	57	------	93	41	24	14	7.1	6.2	5.6
30	7.7	23	330e	52	------	87	41	23	13	7.3	6.3	5.8
31	7.2	------	275e	49	------	81	------	23	------	7.6	6.2	------
TOTAL	213.5	342.2	3,994	3,550	1,669	2,308	1,525	947	534	290.2	196.1	178.1
MEAN	6.89	11.4	129	115	59.6	74.5	50.8	30.5	17.8	9.36	6.33	5.94
MAX	7.8	25	395	346	96	131	77	41	23	13	7.6	6.3
MIN	6.1	7.1	24	49	43	49	38	23	13	7.0	5.6	5.5
AC-FT	423	679	7,920	7,040	3,310	4,580	3,020	1,880	1,060	576	389	353

CAL YEAR 2001	TOTAL	25,995.7	MEAN	71.2	MAX	1,510	MIN	6.1	AC-FT	51,560
WTR YEAR 2002	TOTAL	15,747.1	MEAN	43.1	MAX	395	MIN	5.5	AC-FT	31,230

e - Estimated daily discharge based on San Clemente Dam Spillway stage data.

FIGURE D-18

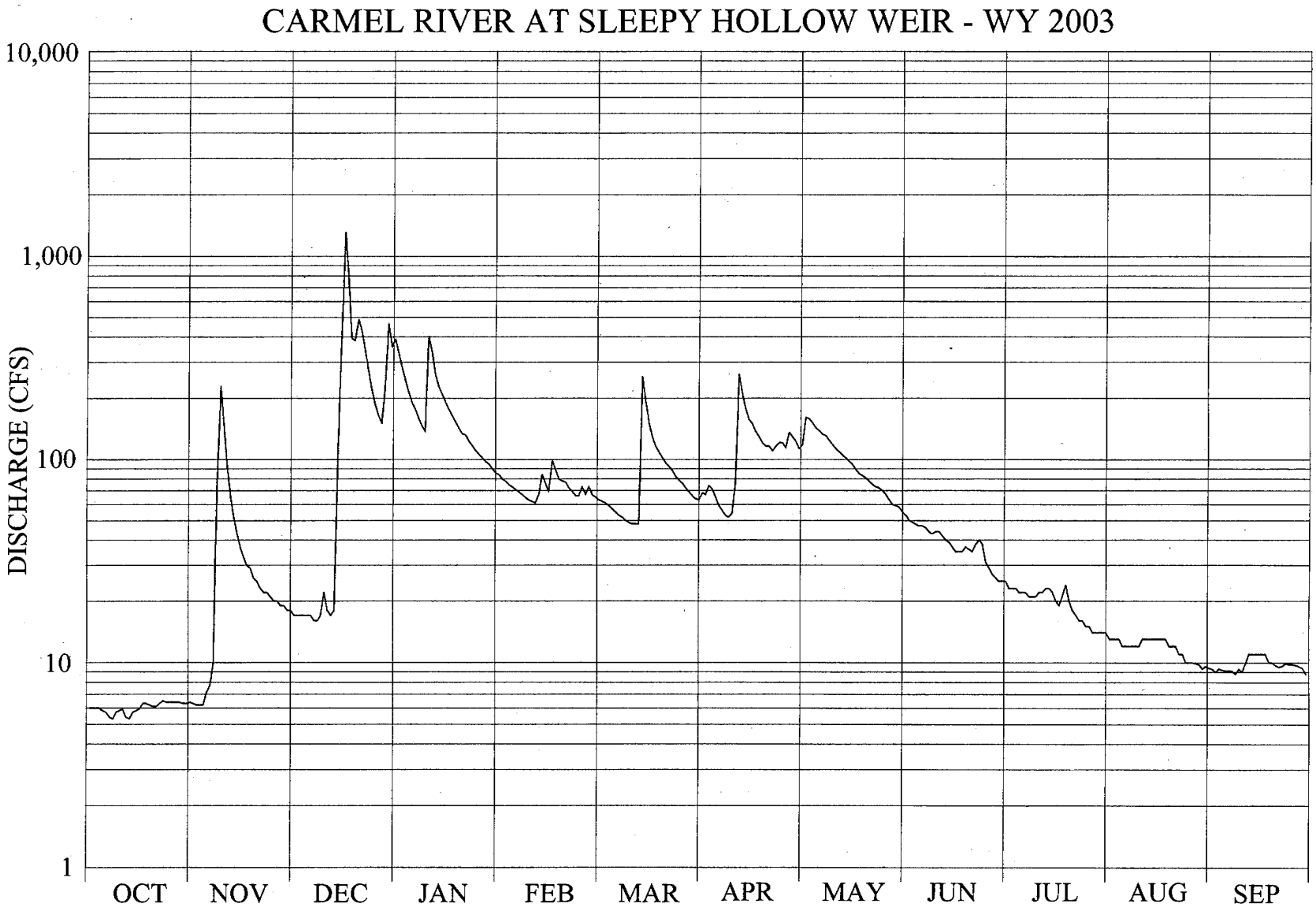

CARMEL RIVER AT SLEEPY HOLLOW WEIR - WY 2003
10,000
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-18

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT SLEEPY HOLLOW WEIR

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	6.3	17	334	80	65	63	113	55	25	14	9.4
2	6.0	6.2	17	286	78	63	68	119	53	25	13	9.3
3	6.0	6.2	17	246	75	62	67	161	50	23	13	9.0
4	6.0	6.2	17	215	73	61	74	159	49	23	13	9.3
5	5.8	7.1	17	192	71	59	71	151	48	23	13	9.2
6	5.7	7.7	17	176	69	57	65	143	47	22	12	9.1
7	5.4	10	16	160	67	55	59	139	47	22	12	9.1
8	5.3	77	16	146	65	53	56	133	46	22	12	9.1
9	5.7	229	17	137	63	52	53	131	44	21	12	8.8
10	5.8	150	22	402	62	50	52	124	43	21	12	9.3
11	5.9	92	18	334	61	49	54	118	44	21	12	9.0
12	5.4	66	17	263	67	48	77	113	44	22	13	9.9
13	5.3	52	18	230	84	48	262	109	42	22	13	11
14	5.7	43	113	209	76	48	209	105	40	23	13	11
15	5.8	37	374	192	69	255	177	102	39	23	13	11
16	5.9	33	1,310e	177	99	191	157	98	37	22	13	11
17	6.3	30	760e	165	89	150	150	94	35	20	13	11
18	6.3	29	393	153	80	129	137	89	35	19	13	11
19	6.2	26	384	143	78	116	129	85	35	21	13	10
20	6.1	25	488	134	77	108	121	83	37	24	12	10
21	6.1	23	426	132	72	102	116	81	36	20	12	9.7
22	6.3	22	345	123	69	96	116	78	35	18	12	9.5
23	6.5	22	273	117	66	92	110	75	38	17	11	9.6
24	6.4	21	222	111	66	88	116	73	40	16	11	9.9
25	6.4	20	187	106	73	82	121	72	38	16	10	9.8
26	6.4	20	166	102	67	79	121	70	31	15	10	9.8
27	6.4	19	151	98	73	76	114	67	29	15	10	9.7
28	6.4	19	226	95	67	72	136	63	27	14	9.9	9.6
29	6.3	18	465	90	------	69	129	60	26	14	9.8	9.4
30	6.3	18	357	86	------	66	123	59	25	14	9.3	8.8
31	6.4	------	390	84	------	64	------	58	------	14	9.6	------
TOTAL	186.5	1,140.7	7,256	5,438	2,036	2,605	3,303	3,125	1,195	617	368.6	292.3
MEAN	6.02	38.0	234	175	72.7	84.0	110	101	39.8	19.9	11.9	9.74
MAX	6.5	229	1,310	402	99	255	262	161	55	25	14	11
MIN	5.3	6.2	16	84	61	48	52	58	25	14	9.3	8.8
AC-FT	370	2,260	14,390	10,790	4,040	5,170	6,550	6,200	2,370	1,220	731	580

CAL YEAR 2002	TOTAL	19,780.6	MEAN	54.2	MAX	1,310	MIN	5.3	AC-FT	39,230
WTR YEAR 2003	TOTAL	27,563.1	MEAN	75.5	MAX	1,310	MIN	5.3	AC-FT	54,670

e - Estimated value based on San Clemente Dam Spillway.

FIGURE D-19

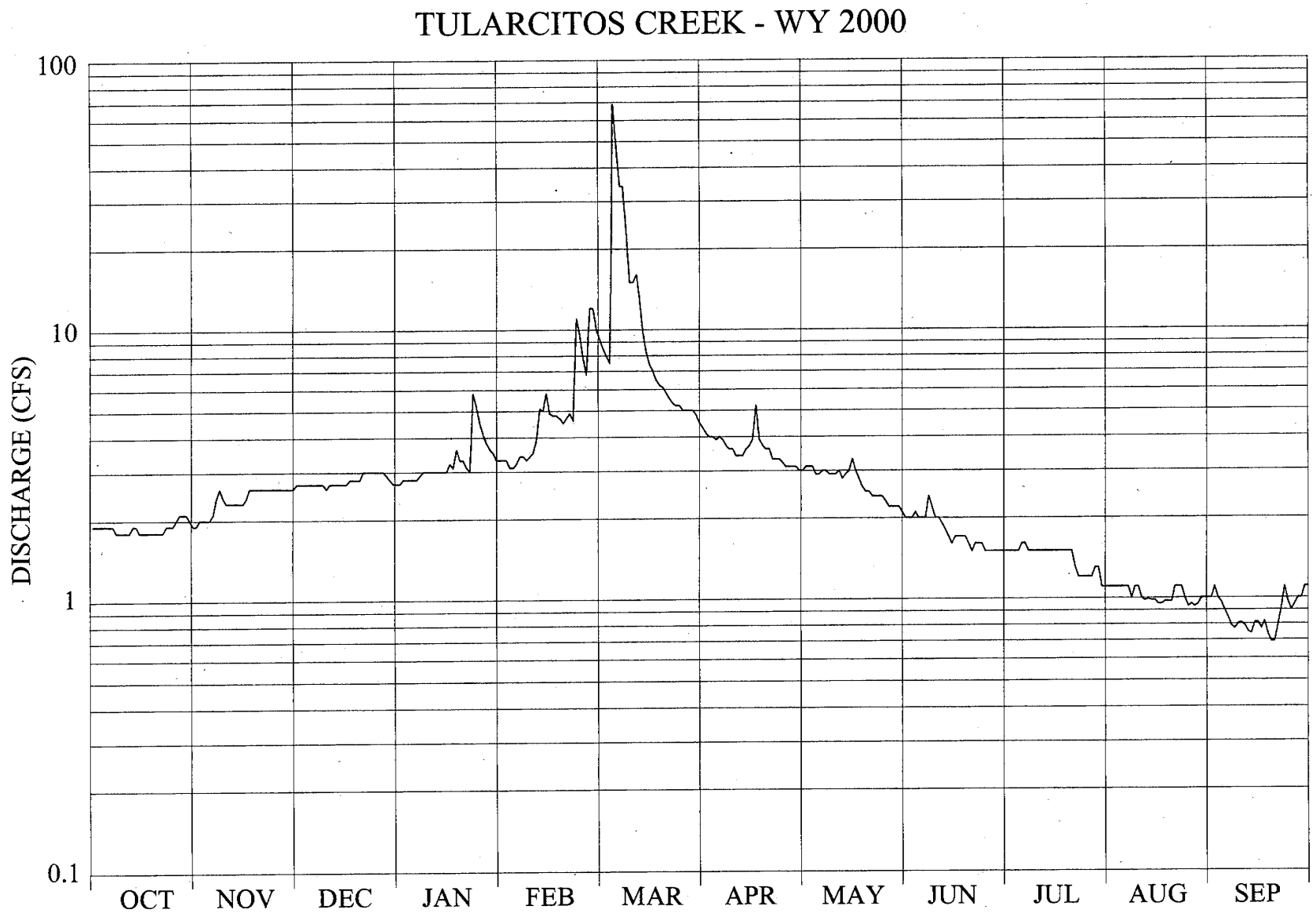

TULARCITOS CREEK - WY 2000
100
10
1
0.1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-19

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.9	2.7	2.7	3.3	9.2	4.3	3.0	2.0	1.5	1.1	1.0
2	1.9	2.0	2.7	2.8	3.3	8.5	4.1	3.1	2.0	1.5	1.1	1.1
3	1.9	2.0	2.7	2.8	3.1	8.0	4.0	3.1	2.0	1.5	1.1	1.0
4	1.9	2.0	2.7	2.8	3.1	7.5	4.0	3.1	2.1	1.5	1.1	.96
5	1.9	2.0	2.7	2.8	3.2	69	3.9	2.9	2.0	1.5	1.1	.90
6	1.9	2.1	2.7	2.8	3.4	49	4.0	2.9	2.0	1.6	1.1	.85
7	1.9	2.4	2.7	2.9	3.4	34	3.9	3.0	2.0	1.6	1.1	.79
8	1.8	2.6	2.7	3.0	3.3	34	3.7	3.0	2.4	1.5	1.0	.77
9	1.8	2.4	2.7	3.0	3.4	23	3.6	2.9	2.2	1.5	1.1	.80
10	1.8	2.3	2.6	3.0	3.5	15	3.6	2.9	2.0	1.5	1.1	.81
11	1.8	2.3	2.7	3.0	3.9	15	3.4	2.9	2.0	1.5	1.0	.79
12	1.8	2.3	2.7	3.0	5.1	16 e	3.4	3.0	1.9	1.5	.98	.75
13	1.9	2.3	2.7	3.0	5.0	13 e	3.4	2.8	1.8	1.5	.99	.74
14	1.9	2.3	2.7	3.0	5.8	9.8e	3.6	2.9	1.7	1.5	.98	.81
15	1.8	2.3	2.7	3.0	4.9	8.2	3.7	3.0	1.6	1.5	.98	.81
16	1.8	2.4	2.7	3.2	4.8	7.4	3.9	3.3	1.7	1.5	.95	.77
17	1.8	2.6	2.8	3.1	4.8	7.0	5.2	3.0	1.7	1.5	.95	.82
18	1.8	2.6	2.8	3.6	4.7	6.5	3.9	2.8	1.7	1.5	.97	.73
19	1.8	2.6	2.8	3.3	4.5	6.2	3.7	2.6	1.7	1.5	.97	.69
20	1.8	2.6	2.8	3.3	4.7	6.1	3.6	2.5	1.6	1.5	.97	.69
21	1.8	2.6	3.0	3.1	4.9	5.8	3.6	2.5	1.5	1.5	1.1	.80e
22	1.8	2.6	3.0	3.0	4.6	5.5	3.3	2.4	1.6	1.3	1.1	.92
23	1.9	2.6	3.0	5.8	11	5.3	3.3	2.4	1.6	1.2	1.1	1.1
24	1.9	2.6	3.0	5.2	9.6	5.2	3.3	2.4	1.6	1.2	1.0	.97
25	1.9	2.6	3.0	4.5	7.9	5.2	3.2	2.4	1.5	1.2	.93	.90
26	2.0	2.6	3.0	4.1	6.8	5.0	3.1	2.3	1.5	1.2	.95	.95
27	2.1	2.6	3.0	3.8	12	5.0	3.1	2.2	1.5	1.2	.93	1.0
28	2.1	2.6	2.9	3.6	12	5.0	3.1	2.2	1.5	1.3	.95	1.0
29	2.1	2.6	2.8	3.5	10	5.0	3.1	2.2	1.5	1.3	1.0	1.1
30	2.0	2.6	2.7	3.3	------	4.8	3.0	2.2	1.5	1.1	1.0	1.1
31	1.9	------	2.7	3.3	------	4.5	------	2.1	------	1.1	1.0	------
TOTAL	58.4	72.0	86.4	103.3	160.0	408.7	109.0	84.0	53.4	43.8	31.70	26.42
MEAN	1.88	2.40	2.79	3.33	5.52	13.2	3.63	2.71	1.78	1.41	1.02	.88
MAX	2.1	2.6	3.0	5.8	12	69	5.2	3.3	2.4	1.6	1.1	1.1
MIN	1.8	1.9	2.6	2.7	3.1	4.5	3.0	2.1	1.5	1.1	.93	.69
AC-FT	116	143	171	205	317	811	216	167	106	87	63	52

CAL YEAR 1999	TOTAL	1,636.70	MEAN	4.48	MAX	21	MIN	1.6	AC-FT	3,250
WTR YEAR 2000	TOTAL	1,237.12	MEAN	3.38	MAX	69	MIN	.69	AC-FT	2,450

FIGURE D-20

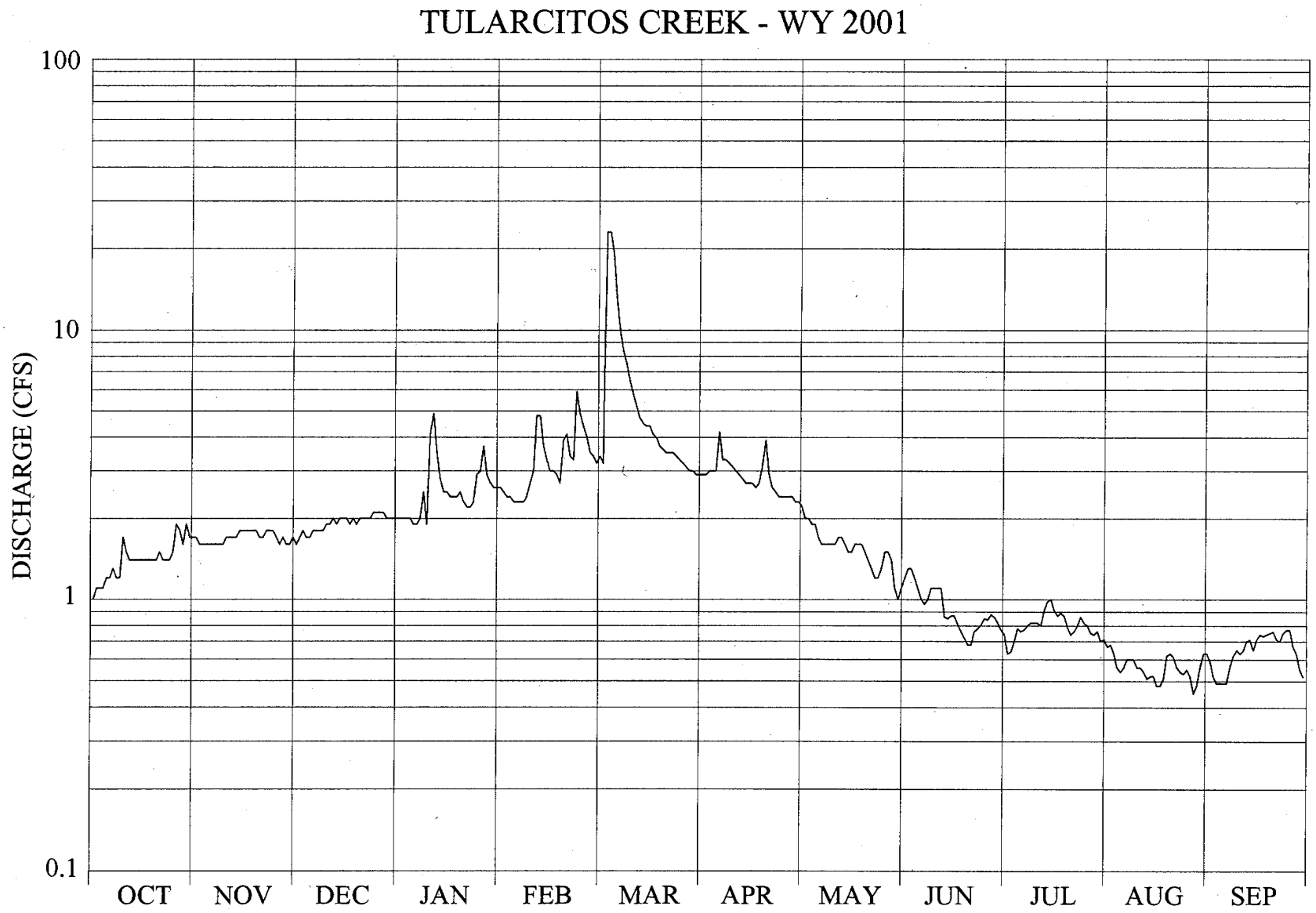

TULARCITOS CREEK - WY 2001
100
10
1
0.1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-20

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.7	1.6	2.0	2.5	3.2	2.9	2.3	1.1	.77	.71	.63
2	1.1	1.6	1.7	2.0	2.4	3.4	2.9	2.2	1.2	.74	.67	.59
3	1.1	1.6	1.8	2.0	2.4	3.2	2.9	2.0	1.3	.63	.68	.52
4	1.1	1.6	1.7	2.0	2.3	23	3.0	2.0	1.3	.64	.63	.49
5	1.2	1.6	1.7	1.9	2.3	23	3.0	1.9	1.2	.70	.56	.49
6	1.2	1.6	1.8	1.9	2.3	19	3.0	1.9	1.1	.78	.54	.49
7	1.3	1.6	1.8	2.0	2.3	13	4.2	1.7	1.0	.76	.56	.49
8	1.2	1.6	1.8	2.5	2.4	9.9	3.3	1.6	.96	.77	.60	.56
9	1.2	1.6	1.8	1.9	2.7	8.4	3.3	1.6	1.0	.80	.60	.62
10	1.7	1.7	1.9	4.1	3.0	7.5	3.2	1.6	1.1	.82	.60	.65
11	1.5	1.7	1.9	4.9	4.8	6.5	3.1	1.6	1.1	.82	.56	.63
12	1.4	1.7	2.0	3.5	4.8	5.8	3.0	1.6	1.1	.82	.56	.65
13	1.4	1.7	1.9	2.8	3.7	5.2	2.9	1.7	1.1	.80	.54	.70
14	1.4	1.8	2.0	2.5	3.3	4.7	2.8	1.7	.86	.91	.51	.71
15	1.4	1.8	2.0	2.5	3.0	4.5	2.7	1.6	.85	.98	.52	.65
16	1.4	1.8	2.0	2.4	3.0	4.4	2.7	1.5	.87	1.0	.52	.71
17	1.4	1.8	1.9	2.4	2.9	4.4	2.7	1.5	.87	.91	.48	.74
18	1.4	1.8	2.0	2.4	2.7	4.1	2.6	1.6	.81	.87	.48	.73
19	1.4	1.8	1.9	2.5	3.9	4.0	2.7	1.6	.76	.89	.51	.74
20	1.4	1.7	2.0	2.3	4.1	3.7	3.1	1.6	.72	.87	.62	.75
21	1.5	1.7	2.0	2.2	3.4	3.6	3.9	1.5	.68	.79	.63	.76
22	1.4	1.8	2.0	2.2	3.3	3.5	2.9	1.4	.68	.74	.61	.71
23	1.4	1.8	2.0	2.3	5.9	3.5	2.6	1.3	.76	.76	.56	.70
24	1.4	1.8	2.1	2.9	4.9	3.5	2.5	1.2	.78	.80	.54	.75
25	1.5	1.7	2.1	3.0	4.4	3.4	2.4	1.2	.81	.86	.53	.77
26	1.9	1.6	2.1	3.7	4.0	3.3	2.4	1.3	.85	.82	.55	.77
27	1.8	1.7	2.1	2.9	3.5	3.2	2.4	1.5	.84	.80	.52	.67
28	1.6	1.6	2.0	2.7	3.4	3.1	2.4	1.5	.88	.75	.45	.63
29	1.9	1.6	2.0	2.6	------	3.0	2.4	1.4	.86	.74	.48	.55
30	1.7	1.7	2.0	2.6	------	3.0	2.3	1.1	.82	.76	.56	.52
31	1.7	------	2.0	2.6	------	2.9	------	1.0	------	.70	.63	------
TOTAL	44.0	50.8	59.6	80.2	93.6	196.9	86.2	49.2	28.26	24.80	17.51	19.37
MEAN	1.42	1.69	1.92	2.59	3.34	6.35	2.87	1.59	.94	.80	.56	.65
MAX	1.9	1.8	2.1	4.9	5.9	23	4.2	2.3	1.3	1.0	.71	.77
MIN	1.0	1.6	1.6	1.9	2.3	2.9	2.3	1.0	.68	.63	.45	.49
AC-FT	87	101	118	159	186	391	171	98	56	49	35	38

CAL YEAR 2000	TOTAL	1,174.72	MEAN	3.21	MAX	69	MIN	.69	AC-FT	2,330
WTR YEAR 2001	TOTAL	750.44	MEAN	2.06	MAX	23	MIN	.45	AC-FT	1,490

FIGURE D-21

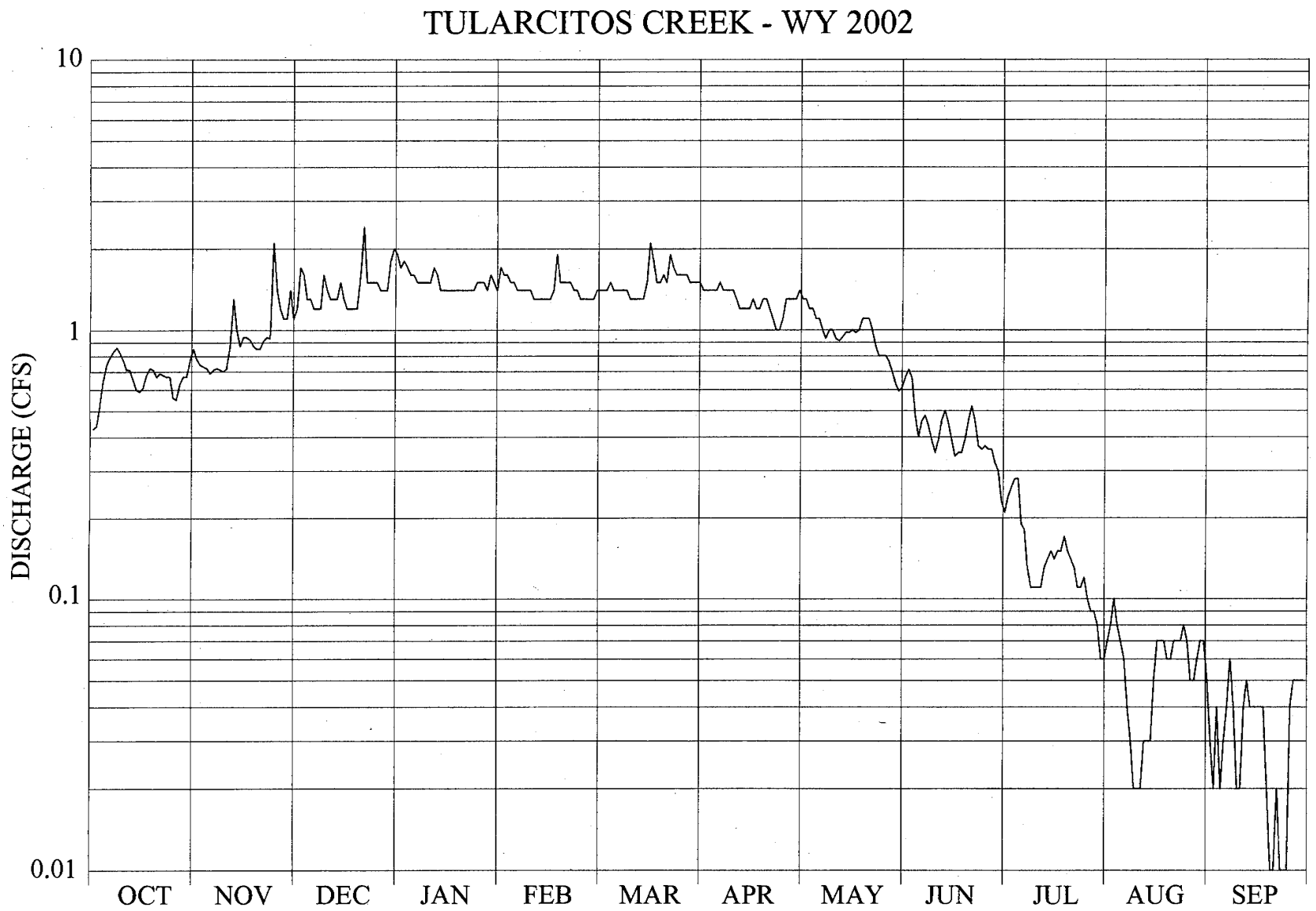

TULARCITOS CREEK - WY 2002
DISCHARGE (CFS)
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-21

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.78	1.2	1.7	1.6	1.4	1.5	1.4	.61	.23	.06	.05
2	.44	.74	1.7	1.8	1.6	1.4	1.4	1.3	.67	.21	.07	.03
3	.52	.73	1.6	1.7	1.5	1.4	1.4	1.3	.71	.24	.08	.02
4	.64	.72	1.3	1.6	1.5	1.4	1.4	1.2	.66	.26	.10	.04
5	.74	.69	1.3	1.6	1.4	1.5	1.4	1.2	.48	.28	.08	.02
6	.79	.71	1.2	1.5	1.4	1.4	1.4	1.1	.40	.28	.07	.03
7	.83	.72	1.2	1.5	1.4	1.4	1.5	1.1	.46	.19	.06	.04
8	.86	.71	1.2	1.5	1.4	1.4	1.4	1.0	.48	.18	.04	.06
9	.82	.70	1.6	1.5	1.4	1.4	1.4	.93	.44	.13	.03	.04
10	.77	.72	1.4	1.5	1.3	1.4	1.4	1.0	.39	.11	.02	.02
11	.71	.87	1.3	1.7	1.3	1.3	1.4	1.0	.35	.11	.02	.02
12	.71	1.3	1.3	1.6	1.3	1.3	1.3	.93	.39	.11	.02	.04
13	.65	1.0	1.3	1.4	1.3	1.3	1.2	.91	.46	.11	.03	.05
14	.60	.87	1.5	1.4	1.3	1.3	1.2	.94	.50	.13	.03	.04
15	.59	.94	1.3	1.4	1.3	1.3	1.2	.98	.45	.14	.03	.04
16	.61	.94	1.2	1.4	1.4	1.5	1.2	.98	.39	.15	.05	.04
17	.68	.92	1.2	1.4	1.9	2.1	1.3	1.0	.34	.14	.07	.04
18	.72	.87	1.2	1.4	1.5	1.8	1.2	.98	.35	.15	.07	.04
19	.71	.85	1.2	1.4	1.5	1.5	1.2	1.0	.35	.15	.07	.02
20	.67	.85	1.6	1.4	1.5	1.5	1.3	1.1	.39	.17	.06	.01
21	.69	.91	2.4	1.4	1.5	1.6	1.3	1.1	.46	.15	.06	.01
22	.68	.94	1.5	1.4	1.4	1.5	1.2	1.1	.52	.14	.07	.02
23	.67	.93	1.5	1.4	1.4	1.9	1.1	.99	.46	.13	.07	.01
24	.67	2.1	1.5	1.5	1.3	1.7	1.0	.87	.37	.11	.07	.01
25	.56	1.4	1.5	1.5	1.3	1.6	1.0	.80	.36	.11	.08	.01
26	.55	1.2	1.4	1.5	1.3	1.6	1.1	.80	.37	.12	.07	.04
27	.63	1.1	1.4	1.4	1.3	1.6	1.3	.80	.36	.10	.05	.05
28	.67	1.1	1.4	1.6	1.3	1.6	1.3	.76	.36	.09	.05	.05
29	.67	1.4	1.8	1.5	------	1.5	1.3	.70	.32	.09	.06	.05
30	.77	1.1	2.0	1.4	------	1.5	1.3	.63	.30	.08	.07	.05
31	.85	------	1.9	1.7	------	1.5	------	.59	------	.06	.07	------
TOTAL	20.90	28.81	45.1	46.7	39.6	46.6	38.6	30.49	13.15	4.65	1.78	0.99
MEAN	.67	.96	1.45	1.51	1.41	1.50	1.29	.98	.44	.15	.057	.033
MAX	.86	2.1	2.4	1.8	1.9	2.1	1.5	1.4	.71	.28	.10	.06
MIN	.43	.69	1.2	1.4	1.3	1.3	1.0	.59	.30	.06	.02	.01
AC-FT	41	57	89	93	79	92	77	60	26	9.2	3.5	2.0

CAL YEAR 2001	TOTAL	690.85	MEAN	1.89	MAX	23	MIN	.43	AC-FT	1,370
WTR YEAR 2002	TOTAL	317.37	MEAN	.87	MAX	2.4	MIN	.01	AC-FT	630

FIGURE D-22

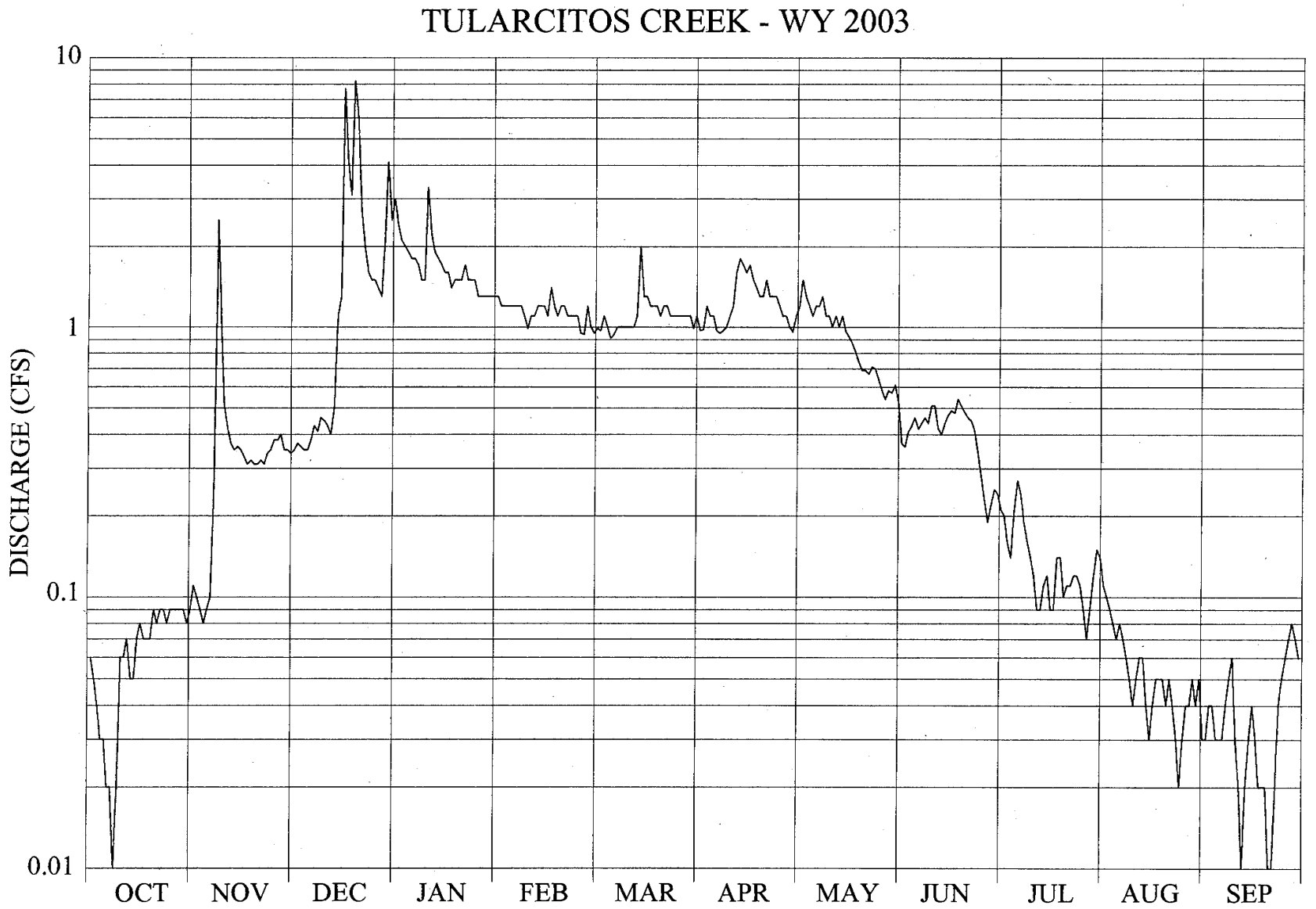

TULARCITOS CREEK - WY 2003
DISCHARGE (CFS)
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-22

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
TULARCITOS CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.11	.35	2.4	1.2	.95	1.1	1.1	.53	.24	.14	.03
2	.05	.10	.37	2.1	1.2	.99	.97	1.2	.37	.21	.11	.03
3	.04	.09	.36	2.0	1.2	.97	.98	1.5	.36	.20	.10	.04
4	.03	.08	.35	1.9	1.2	1.1	1.2	1.3	.41	.16	.09	.04
5	.03	.09	.35	1.8	1.2	1.0	1.1	1.2	.43	.14	.08	.03
6	.02	.10	.38	1.8	1.2	.91	1.1	1.1	.46	.21	.07	.03
7	.02	.28	.43	1.7	1.2	.94	.97	1.2	.42	.27	.08	.03
8	.01	2.5	.41	1.5	1.1	1.0	.95	1.2	.44	.24	.07	.04
9	.02	1.0	.46	1.5	.99	1.0	.97	1.3	.46	.19	.06	.05
10	.06	.51	.45	3.3	1.1	1.0	1.0	1.1	.44	.16	.05	.06
11	.06	.42	.43	2.2	1.1	1.0	1.1	1.1	.51	.14	.04	.03
12	.07	.37	.40	1.9	1.2	1.0	1.2	1.0	.51	.12	.05	.02
13	.05	.35	.50	1.8	1.2	1.0	1.6	1.1	.42	.09	.06	.01
14	.05	.36	1.1	1.7	1.2	1.1	1.8	1.0	.40	.09	.06	.02
15	.07	.35	1.3	1.6	1.1	2.0	1.7	1.1	.44	.11	.04	.03
16	.08	.33	7.7	1.6	1.4	1.3	1.6	.96	.47	.12	.03	.04
17	.07	.31	4.1	1.4	1.2	1.3	1.7	.92	.49	.09	.04	.03
18	.07	.32	3.1	1.5	1.1	1.2	1.5	.87	.48	.09	.05	.02
19	.07	.31	8.2	1.5	1.2	1.2	1.4	.81	.54	.14	.05	.02
20	.09	.31	5.9	1.5	1.2	1.2	1.3	.74	.51	.14	.05	.02
21	.08	.32	2.7	1.7	1.1	1.1	1.3	.69	.48	.10	.04	.01
22	.09	.31	2.0	1.5	1.1	1.2	1.5	.69	.46	.11	.05	.01
23	.09	.34	1.6	1.5	1.1	1.2	1.3	.67	.45	.11	.04	.02
24	.08	.35	1.5	1.5	1.1	1.1	1.3	.71	.41	.12	.03	.04
25	.09	.38	1.5	1.3	.95	1.1	1.3	.70	.34	.12	.02	.05
26	.09	.38	1.4	1.3	.94	1.1	1.2	.64	.28	.11	.03	.06
27	.09	.40	1.3	1.3	1.2	1.1	1.1	.58	.23	.09	.04	.07
28	.09	.35	2.1	1.3	1.0	1.1	1.1	.54	.19	.07	.04	.08
29	.09	.35	4.1	1.3	------	1.1	1.0	.58	.22	.09	.05	.07
30	.08	.34	2.5	1.3	------	1.1	.96	.57	.25	.12	.04	.06
31	.09	------	3.0	1.3	------	.99	------	.61	------	.15	.05	------
TOTAL	1.98	11.81	60.34	52.0	31.98	34.35	37.30	28.78	12.40	4.34	1.75	1.09
MEAN	.064	.39	1.95	1.68	1.14	1.11	1.24	.93	.41	.14	.056	.036
MAX	.09	2.5	8.2	3.3	1.4	2.0	1.8	1.5	.54	.27	.14	.08
MIN	.01	.08	.35	1.3	.94	.91	.95	.54	.19	.07	.02	.01
AC-FT	3.9	23	120	103	63	68	74	57	25	8.6	3.5	2.2

CAL YEAR 2002	TOTAL	296.69	MEAN	.81	MAX	8.2	MIN	.01	AC-FT	588
WTR YEAR 2003	TOTAL	278.12	MEAN	.76	MAX	8.2	MIN	.01	AC-FT	552

FIGURE D-23

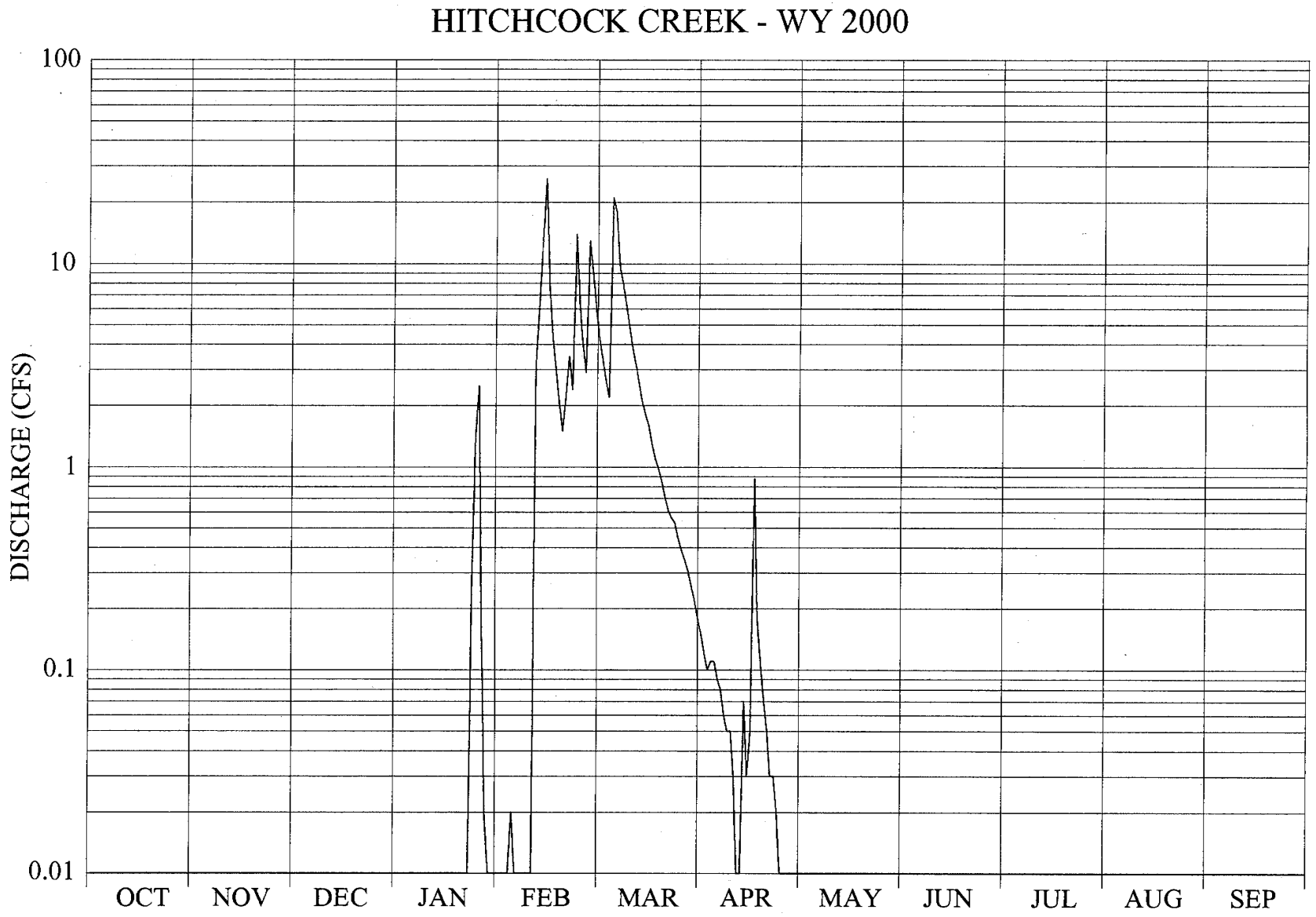

HITCHCOCK CREEK - WY 2000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-23

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	4.3	.15	0	0	0	0	0
2	0	0	0	0	0	3.4	.12	0	0	0	0	0
3	0	0	0	0	0	2.7	.10	0	0	0	0	0
4	0	0	0	0	.02	2.2	.11	0	0	0	0	0
5	0	0	0	0	0	21	.11	0	0	0	0	0
6	0	0	0	0	0	18	.09	0	0	0	0	0
7	0	0	0	0	0	9.6	.08	0	0	0	0	0
8	0	0	0	0	0	8.1	.06	0	0	0	0	0
9	0	0	0	0	0	6.3	.05	0	0	0	0	0
10	0	0	0	0	0	5.0	.05	0	0	0	0	0
11	0	0	0	0	3.1	3.9	.03	0	0	0	0	0
12	0	0	0	0	6.7	3.2	.01	0	0	0	0	0
13	0	0	0	0	14	2.6	.01	0	0	0	0	0
14	0	0	0	0	26	2.1	.07	0	0	0	0	0
15	0	0	0	0	7.5	1.8	.03	0	0	0	0	0
16	0	0	0	0	4.3	1.6	.05	0	0	0	0	0
17	0	0	0	0	3.0	1.3	.88	0	0	0	0	0
18	0	0	0	0	2.1	1.1	.18	0	0	0	0	0
19	0	0	0	0	1.5	.98	.11	0	0	0	0	0
20	0	0	0	0	2.2	.85	.07	0	0	0	0	0
21	0	0	0	0	3.5	.71	.05	0	0	0	0	0
22	0	0	0	0	2.4	.61	.03	0	0	0	0	0
23	0	0	0	.24	14	.56	.03	0	0	0	0	0
24	0	0	0	1.4	6.4	.53	.02	0	0	0	0	0
25	0	0	0	2.5	4.1	.45	.01	0	0	0	0	0
26	0	0	0	.15	2.9	.39	.01	0	0	0	0	0
27	0	0	0	.02	13	.35	0	0	0	0	0	0
28	0	0	0	0	9.0	.31	0	0	0	0	0	0
29	0	0	0	0	6.0	.26	0	0	0	0	0	0
30	0	0	0	0	------	.22	0	0	0	0	0	0
31	0	------	0	0	------	.18	------	0	------	0	0	------
TOTAL	0	0	0	4.31	131.72	104.60	2.51	0	0	0	0	0
MEAN	0	0	0	.14	4.54	3.37	.084	0	0	0	0	0
MAX	0	0	0	2.5	26	21	.88	0	0	0	0	0
MIN	0	0	0	0	0	.18	0	0	0	0	0	0
AC-FT	0	0	0	8.5	261	207	5.0	0	0	0	0	0

CAL YEAR 1999	TOTAL	85.07	MEAN	.23	MAX	14	MIN	0	AC-FT	169
WTR YEAR 2000	TOTAL	243.14	MEAN	.66	MAX	26	MIN	0	AC-FT	482

FIGURE D-24

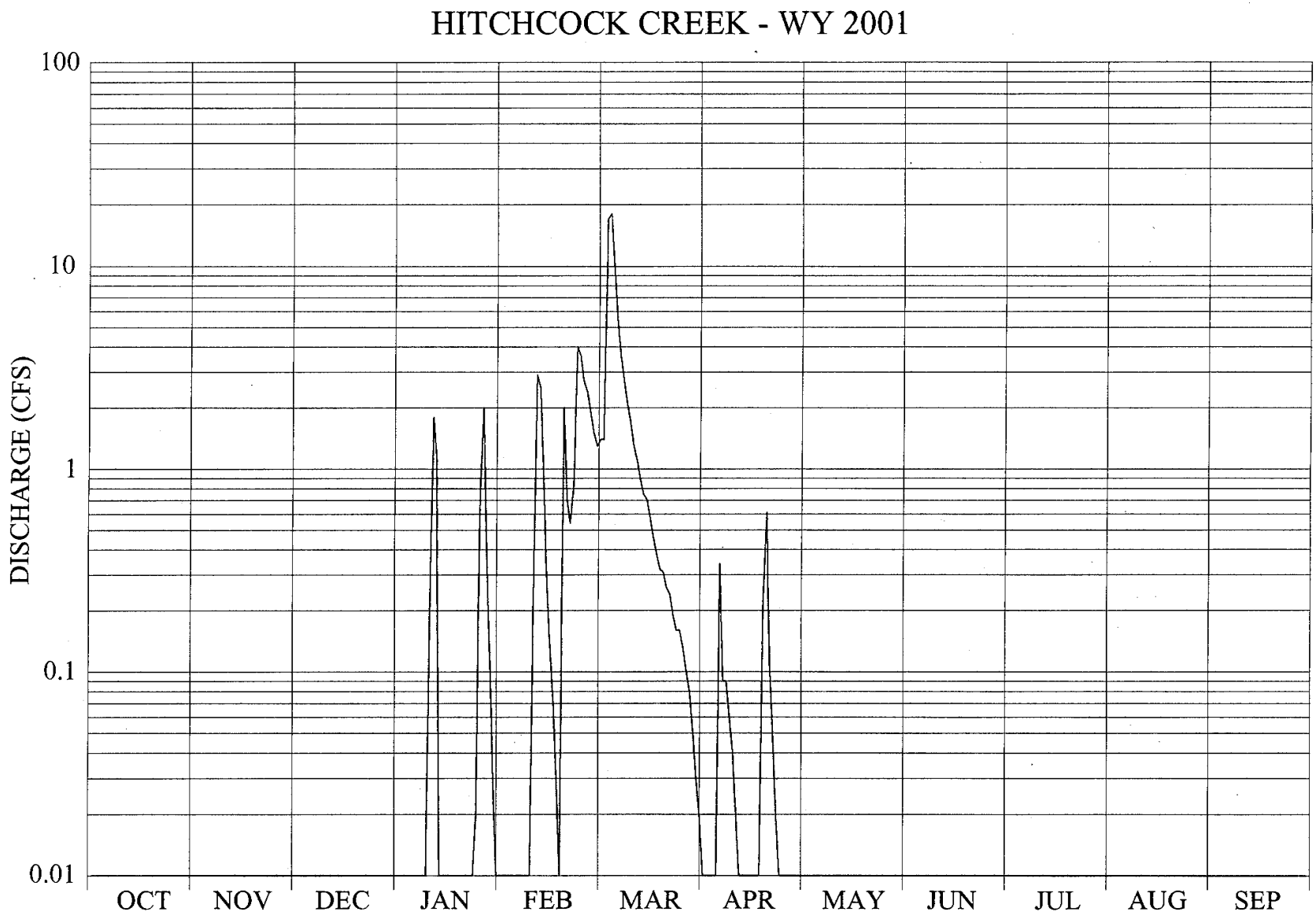

HITCHCOCK CREEK - WY 2001
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-24

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	1.3	.02	0	0	0	0	0
2	0	0	0	0	0	1.4	.01	0	0	0	0	0
3	0	0	0	0	0	1.4	0	0	0	0	0	0
4	0	0	0	0	0	17	.01	0	0	0	0	0
5	0	0	0	0	0	18	.01	0	0	0	0	0
6	0	0	0	0	0	9.7	.01	0	0	0	0	0
7	0	0	0	0	0	5.5	.34	0	0	0	0	0
8	0	0	0	0	0	3.6	.09	0	0	0	0	0
9	0	0	0	0	0	2.8	.09	0	0	0	0	0
10	0	0	0	.16	.19	2.1	.06	0	0	0	0	0
11	0	0	0	1.8	2.9	1.7	.04	0	0	0	0	0
12	0	0	0	1.1	2.5	1.3	.02	0	0	0	0	0
13	0	0	0	0	.89	1.1	.01	0	0	0	0	0
14	0	0	0	0	.30	.89	.01	0	0	0	0	0
15	0	0	0	0	.14	.75	0	0	0	0	0	0
16	0	0	0	0	.07	.70	0	0	0	0	0	0
17	0	0	0	0	.03	.57	0	0	0	0	0	0
18	0	0	0	0	.01	.46	0	0	0	0	0	0
19	0	0	0	0	2.0	.38	0	0	0	0	0	0
20	0	0	0	0	.71	.32	.20	0	0	0	0	0
21	0	0	0	0	.54	.31	.61	0	0	0	0	0
22	0	0	0	0	.83	.26	.11	0	0	0	0	0
23	0	0	0	0	4.0	.24	.05	0	0	0	0	0
24	0	0	0	.02	3.6	.19	.02	0	0	0	0	0
25	0	0	0	.76	2.7	.16	.01	0	0	0	0	0
26	0	0	0	2.0	2.4	.16	0	0	0	0	0	0
27	0	0	0	.41	1.9	.13	0	0	0	0	0	0
28	0	0	0	.12	1.5	.10	0	0	0	0	0	0
29	0	0	0	.03	------	.08	0	0	0	0	0	0
30	0	0	0	.01	------	.05	0	0	0	0	0	0
31	0	------	0	0	------	.03	------	0	------	0	0	------
TOTAL	0	0	0	6.41	27.21	72.68	1.72	0	0	0	0	0
MEAN	0	0	0	.21	.97	2.34	.057	0	0	0	0	0
MAX	0	0	0	2.0	4.0	18	.61	0	0	0	0	0
MIN	0	0	0	0	0	.03	0	0	0	0	0	0
AC-FT	0	0	0	13	54	144	3.4	0	0	0	0	0

CAL YEAR 2000	TOTAL	243.14	MEAN	.66	MAX	26	MIN	0	AC-FT	482
WTR YEAR 2001	TOTAL	108.02	MEAN	.30	MAX	18	MIN	0	AC-FT	214

FIGURE D-25

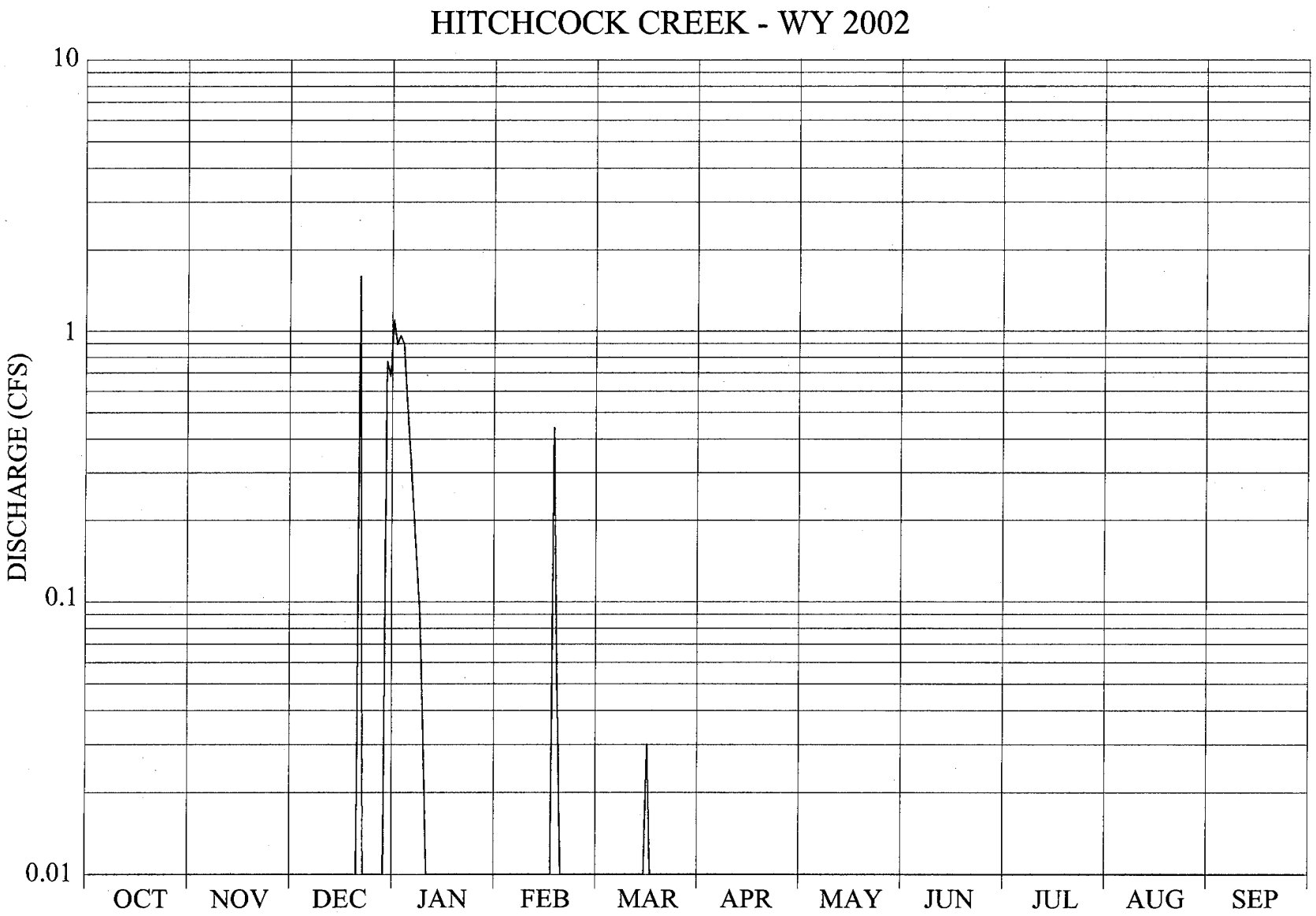

HITCHCOCK CREEK - WY 2002
DISCHARGE (CFS)
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-25

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.89	0	0	0	0	0	0	0	0
2	0	0	0	.96	0	0	0	0	0	0	0	0
3	0	0	0	.89	0	0	0	0	0	0	0	0
4	0	0	0	.56	0	0	0	0	0	0	0	0
5	0	0	0	.36	0	0	0	0	0	0	0	0
6	0	0	0	.22	0	0	0	0	0	0	0	0
7	0	0	0	.14	0	0	0	0	0	0	0	0
8	0	0	0	.09	0	0	0	0	0	0	0	0
9	0	0	0	.03	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	.44	.03	0	0	0	0	0	0
18	0	0	0	0	.05	.01	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	1.6	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	.01	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	.01	0	0	0	0	0	0	0	0	0
29	0	0	.77	0	------	0	0	0	0	0	0	0
30	0	0	.68	0	------	0	0	0	0	0	0	0
31	0	------	1.1	0	------	0	------	0	------	0	0	------
TOTAL	0	0	4.16	4.14	0.49	0.05	0	0	0	0	0	0
MEAN	0	0	.13	.13	.018	.002	0	0	0	0	0	0
MAX	0	0	1.6	.96	.44	.03	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	8.3	8.2	1.0	.1	0	0	0	0	0	0

CAL YEAR 2001	TOTAL	112.18	MEAN	.31	MAX	18	MIN	0	AC-FT	223
WTR YEAR 2002	TOTAL	8.84	MEAN	.024	MAX	1.6	MIN	0	AC-FT	18

FIGURE D-26

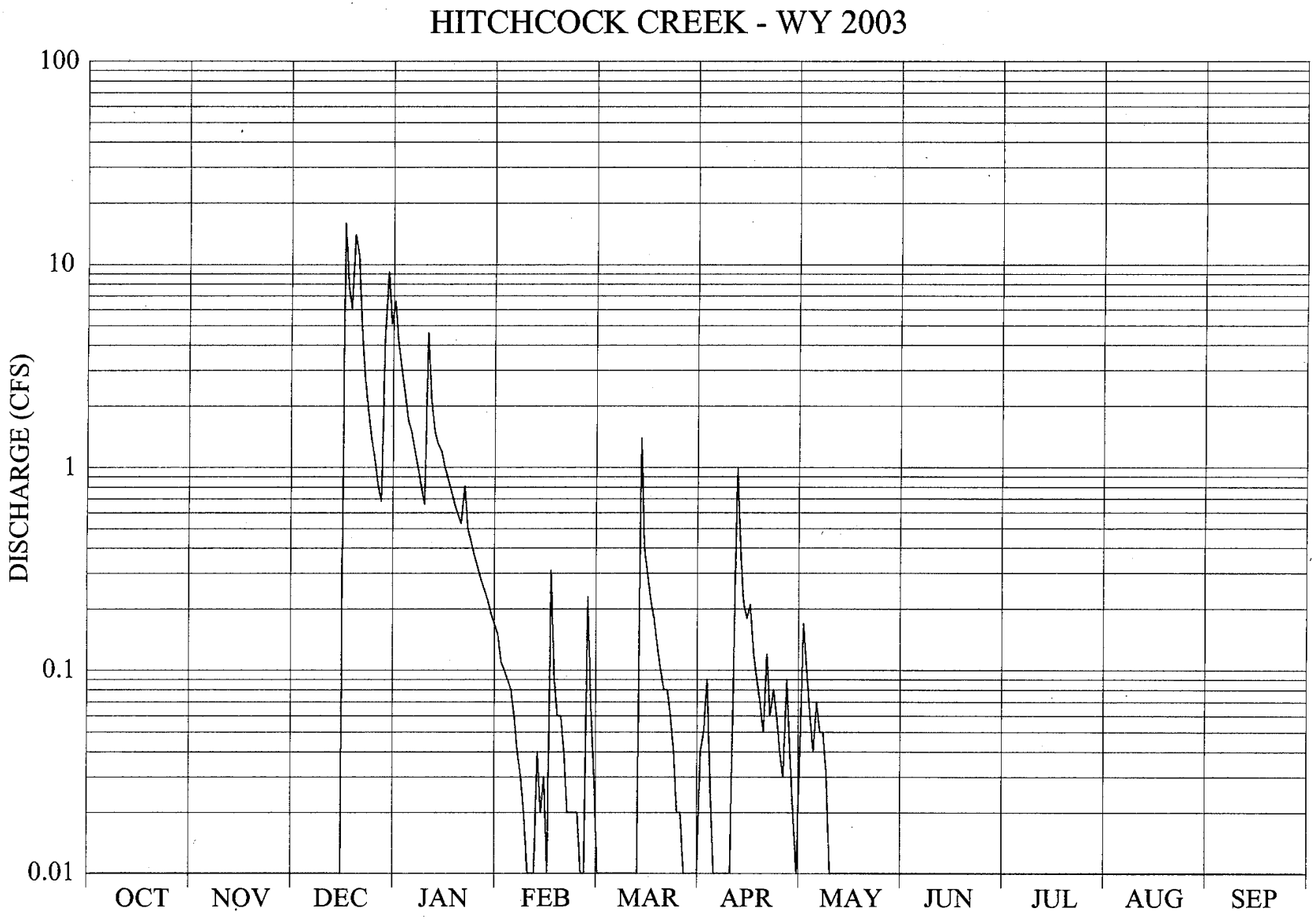

HITCHCOCK CREEK - WY 2003
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-26

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
HITCHCOCK CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	4.2	.11	.03	.01	.01	0	0	0	0
2	0	0	0	3.1	.10	.01	.04	.04	0	0	0	0
3	0	0	0	2.3	.09	.01	.05	.17	0	0	0	0
4	0	0	0	1.7	.08	.01	.09	.10	0	0	0	0
5	0	0	0	1.5	.06	0	.03	.06	0	0	0	0
6	0	0	0	1.2	.04	0	.01	.04	0	0	0	0
7	0	0	0	.98	.03	0	0	.07	0	0	0	0
8	0	0	0	.80	.02	0	0	.05	0	0	0	0
9	0	0	0	.66	.01	0	0	.05	0	0	0	0
10	0	0	0	4.6	.01	0	0	.03	0	0	0	0
11	0	0	0	2.1	0	0	0	.01	0	0	0	0
12	0	0	0	1.5	.04	0	.10	.01	0	0	0	0
13	0	0	0	1.3	.02	0	.99	0	0	0	0	0
14	0	0	0	1.2	.03	0	.39	0	0	0	0	0
15	0	0	0	1.0	.01	1.4	.21	0	0	0	0	0
16	0	0	16 e	.88	.31	.40	.18	0	0	0	0	0
17	0	0	7.9 e	.77	.09	.30	.21	0	0	0	0	0
18	0	0	6.1 e	.66	.06	.22	.12	0	0	0	0	0
19	0	0	14 e	.59	.06	.18	.09	0	0	0	0	0
20	0	0	11 e	.53	.04	.13	.07	0	0	0	0	0
21	0	0	5.1	.81	.02	.10	.05	0	0	0	0	0
22	0	0	2.9	.50	.02	.08	.12	0	0	0	0	0
23	0	0	1.9	.43	.02	.08	.06	0	0	0	0	0
24	0	0	1.4	.37	.02	.06	.08	0	0	0	0	0
25	0	0	1.1	.32	.01	.04	.06	0	0	0	0	0
26	0	0	.83	.28	0	.02	.04	0	0	0	0	0
27	0	0	.68	.25	.23	.02	.03	0	0	0	0	0
28	0	0	4.4	.22	.07	.01	.09	0	0	0	0	0
29	0	0	9.2	.19	------	0	.04	0	0	0	0	0
30	0	0	5.1	.17	------	0	.02	0	0	0	0	0
31	0	------	6.6	.15	------	0	------	0	------	0	0	------
TOTAL	0	0	94.21	35.26	1.60	3.10	3.18	0.64	0	0	0	0
MEAN	0	0	3.04	1.14	.057	.10	.11	.021	0	0	0	0
MAX	0	0	16	4.6	.31	1.4	.99	.17	0	0	0	0
MIN	0	0	0	.15	0	0	0	0	0	0	0	0
AC-FT	0	0	187	70	3.2	6.1	6.3	1.3	0	0	0	0

CAL YEAR 2002	TOTAL	98.65	MEAN	.27	MAX	16	MIN	0	AC-FT	196
WTR YEAR 2003	TOTAL	137.99	MEAN	.38	MAX	16	MIN	0	AC-FT	274

FIGURE D-27

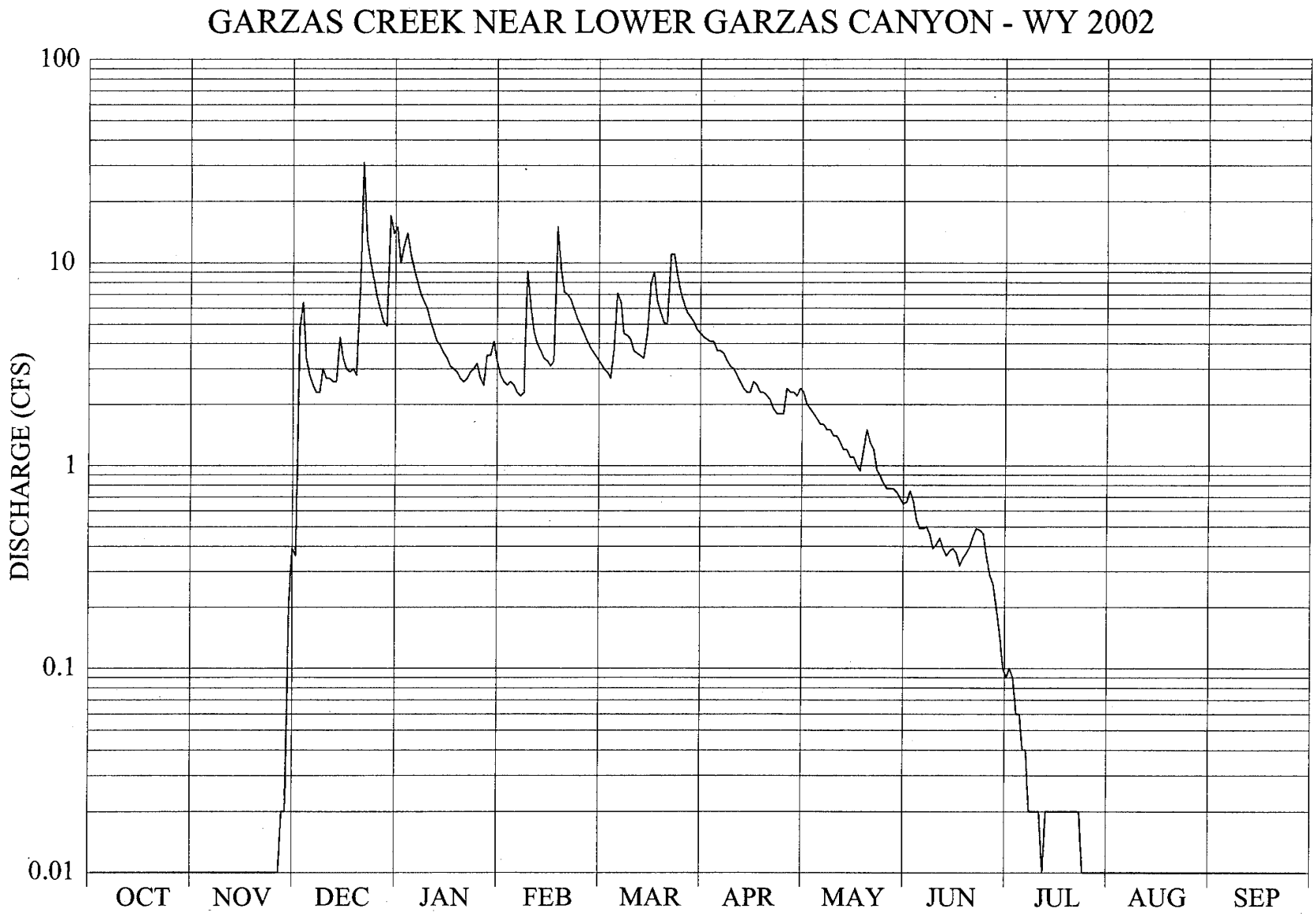

GARZAS CREEK NEAR LOWER GARZAS CANYON - WY 2002
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-27

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK NEAR LOWER GARZAS CANYON

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0e	0	.36	10	2.6	3.4	4.5	2.4	.65	.10	.01	0
2	0e	0	4.8	12	2.5	3.2	4.3	2.3	.66	.09	.01	0
3	0e	0	6.4	14	2.6	3.0	4.2	2.0	.75	.10	0	0
4	0e	0	3.4	11	2.5	2.9	4.1	1.9	.67	.09	0	0
5	0e	0	2.8	9.4	2.3	2.7	4.1	1.8	.54	.06	0	0
6	0e	0	2.5	8.1	2.2	3.7	3.7	1.7	.49	.06	0	0
7	0e	0	2.3	7.1	2.3	7.1	3.7	1.6	.49	.04	0	0
8	0e	0	2.3	6.5	9.1	6.4	3.6	1.6	.50	.04	0	0
9	0e	0	3.0	6.0	6.1	4.5	3.3	1.5	.46	.02	0	0
10	0e	0	2.7	5.2	4.6	4.4	3.1	1.5	.39	.02	0	0
11	0e	0	2.7	4.6	4.0	4.2	3.0	1.4	.41	.02	0	0
12	0e	0	2.6	4.1	3.7	3.7	2.8	1.4	.44	.02	0	0
13	0e	0	2.6	3.9	3.4	3.6	2.6	1.3	.39	.01	0	0
14	0e	0	4.3	3.6	3.3	3.5	2.4	1.2	.36	.02	0	0
15	0e	0	3.4	3.4	3.1	3.4	2.3	1.2	.38	.02	0	0
16	0e	0	3.0	3.1	3.3	4.5	2.3	1.1	.39	.02	0	0
17	0e	0	2.9	3.0	15	7.9	2.6	1.1	.37	.02	0	0
18	0e	0	3.0	2.9	9.4	9.0	2.5	1.0	.32	.02	0	0
19	0e	0	2.8	2.7	7.2	6.5	2.3	.94	.35	.02	0	0
20	0e	0	7.8	2.6	7.0	5.7	2.3	1.2	.37	.02	0	0
21	0e	0	31	2.7	6.6	5.1	2.2	1.5	.40	.02	0	0
22	0e	0	13	2.9	5.9	5.0	2.1	1.3	.45	.02	0	0
23	0e	.01	10	3.0	5.3	11	1.9	1.2	.49	.02	0	0
24	0e	.01	8.3	3.2	4.9	11	1.8	.95	.48	.02	0	0
25	0	.01	6.8	2.7	4.5	8.7	1.8	.89	.46	.01	0	0
26	0	.01	5.9	2.5	4.1	7.2	1.8	.82	.36	.01	0	0
27	0	.02	5.1	3.5	3.8	6.3	2.4	.77	.29	.01	0	0
28	0	.02	4.9	3.5	3.6	5.7	2.3	.77	.26	.01	0	0
29	0	.20	17	4.1	------	5.4	2.3	.77	.20	.01	0	0
30	0	.39	14	3.3	------	5.1	2.2	.74	.15	.01	0	0
31	0	------	15	2.8	------	4.7	------	.69	------	.01	0	------
TOTAL	0	0.67	196.66	157.4	134.9	168.5	84.5	40.54	12.92	0.96	0.02	0
MEAN	0	.022	6.34	5.08	4.82	5.44	2.82	1.31	.43	.031	.001	0
MAX	0	.39	31	14	15	11	4.5	2.4	.75	.10	.01	0
MIN	0	0	.36	2.5	2.2	2.7	1.8	.69	.15	.01	0	0
AC-FT	0	1.3	390	312	268	334	168	80	26	1.9	.04	0

CAL YEAR 2001	TOTAL		MEAN		MAX		MIN		AC-FT	
WTR YEAR 2002	TOTAL	797.07	MEAN	2.18	MAX	31	MIN	0	AC-FT	1,580

FIGURE D-28

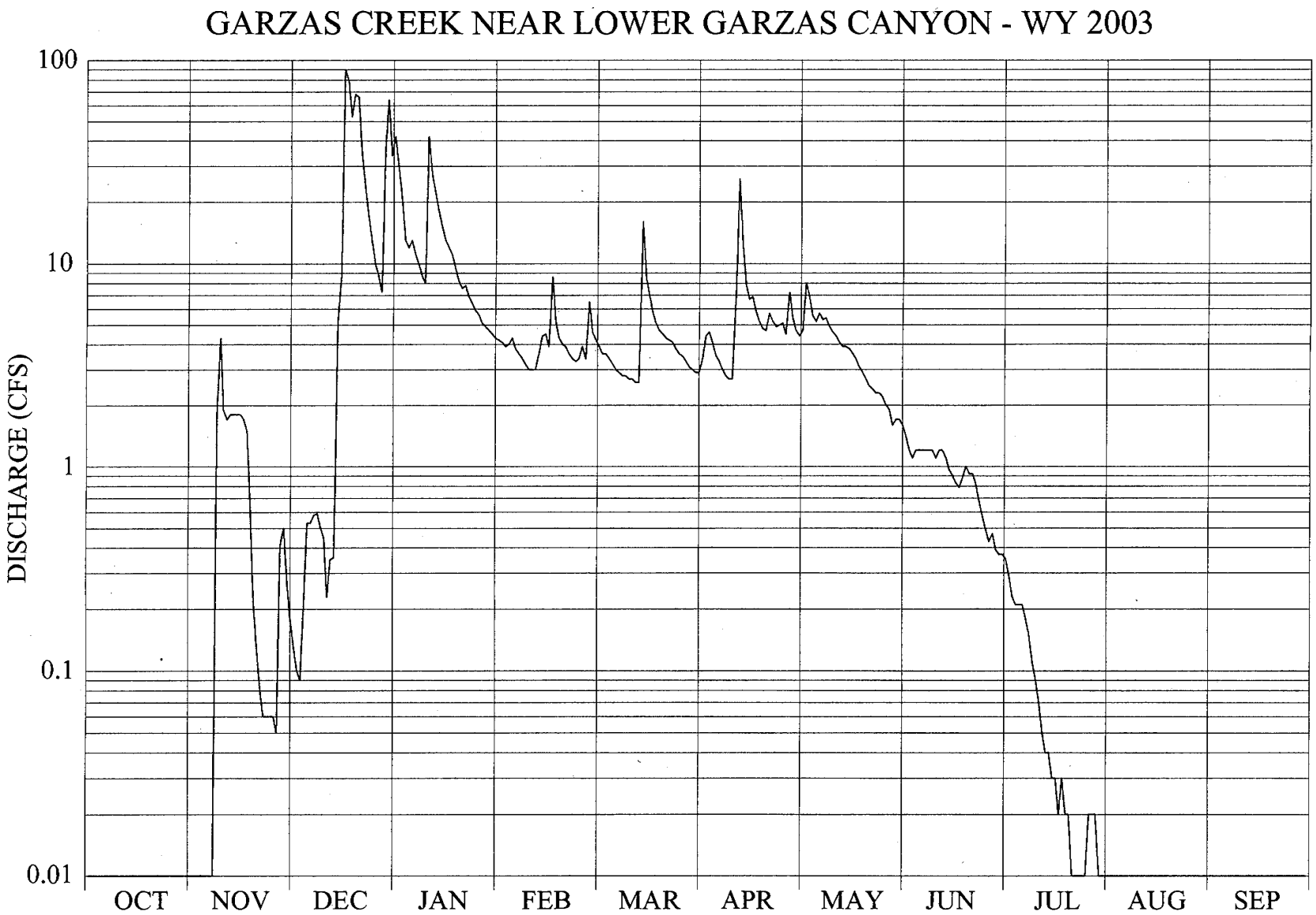

GARZAS CREEK NEAR LOWER GARZAS CANYON - WY 2003
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-28

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK NEAR LOWER GARZAS CANYON

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.13	30	4.1	4.2	2.9	4.4	1.6	.37	.01	0
2	0	0	.10	21	3.9	3.9	3.4	4.7	1.4	.35	.01	0
3	0	0	.09	13	4.0	3.6	4.4	8.0	1.2	.29	.01	0
4	0	0	.20	12	4.3	3.6	4.6	6.9	1.1	.23	.01	0
5	0	0	.53	13	3.8	3.4	4.1	5.5	1.2	.21	.01	0
6	0	0	.53	11	3.6	3.2	3.5	5.2	1.2	.21	0	0
7	0	0	.58	9.9	3.4	3.0	3.3	5.7	1.2	.21	0	0
8	0	1.8	.59	8.7	3.2	2.9	3.0	5.3	1.2	.18	0	0
9	0	4.3	.51	8.0	3.0	2.8	2.8	5.4	1.2	.15	0	0
10	0	1.9	.45	42 e	3.0	2.8	2.7	4.9	1.2	.11	0	0
11	0	1.7	.23	27	3.0	2.7	2.7	4.6	1.1	.09	0	0
12	0	1.8	.35	22	3.6	2.7	7.0	4.4	1.2	.07	0	0
13	0	1.8	.36	18	4.4	2.6	26	4.1	1.2	.05	0	0
14	0	1.8	5.2	15	4.5	2.6	12	3.9	1.1	.04	0	0
15	0	1.8	8.7	13	3.9	16	7.9	3.9	.96	.04	0	0
16	0	1.7	90 e	12	8.6	8.5	6.7	3.8	.90	.03	0	0
17	0	1.5	79 e	11	5.2	7.0	6.9	3.6	.83	.03	0	0
18	0	.64	53 e	9.4	4.3	5.8	5.8	3.4	.79	.02	0	0
19	0	.22	68 e	8.2	4.0	5.1	5.2	3.1	.88	.03	0	0
20	0	.13	66 e	7.6	3.9	4.7	4.8	2.9	1.0	.02	0	0
21	0	.08	35	7.8	3.6	4.5	4.7	2.7	.92	.02	0	0
22	0	.06	24	6.9	3.4	4.3	5.7	2.5	.92	.01	0	0
23	0	.06	17	6.4	3.3	4.2	5.2	2.4	.82	.01	0	0
24	0	.06	13	5.9	3.4	4.1	4.9	2.3	.67	.01	0	0
25	0	.06	10	5.6	3.9	3.8	5.0	2.3	.57	.01	0	0
26	0	.05	8.8	5.1	3.4	3.6	5.1	2.2	.49	.01	0	0
27	0	.41	7.3	4.9	6.5	3.5	4.5	2.0	.43	.02	0	0
28	0	.50	35 e	4.7	4.6	3.3	7.2	1.9	.47	.02	0	0
29	0	.28	64	4.5	------	3.1	5.4	1.6	.39	.02	0	0
30	0	.18	34	4.3	------	3.0	4.7	1.7	.37	.01	0	0
31	0	------	42	4.2	------	2.9	------	1.7	------	.01	0	------
TOTAL	0	22.83	664.65	372.1	113.8	131.4	172.1	117.0	28.51	2.88	0.05	0
MEAN	0	.76	21.4	12.0	4.06	4.24	5.74	3.77	.95	.093	.002	0
MAX	0	4.3	90	42	8.6	16	26	8.0	1.6	.37	.01	0
MIN	0	0	.09	4.2	3.0	2.6	2.7	1.6	.37	.01	0	0
AC-FT	0	45	1,320	738	226	261	341	232	57	5.7	.1	0

CAL YEAR 2002	TOTAL	1,287.22	MEAN	3.53	MAX	90	MIN	0	AC-FT	2,550
WTR YEAR 2003	TOTAL	1,625.32	MEAN	4.45	MAX	90	MIN	0	AC-FT	3,220

e - Estimated value based on computed discharge at the Garzas Creek at Garzas Road gaging station located 0.7 miles downstream.

FIGURE D-29

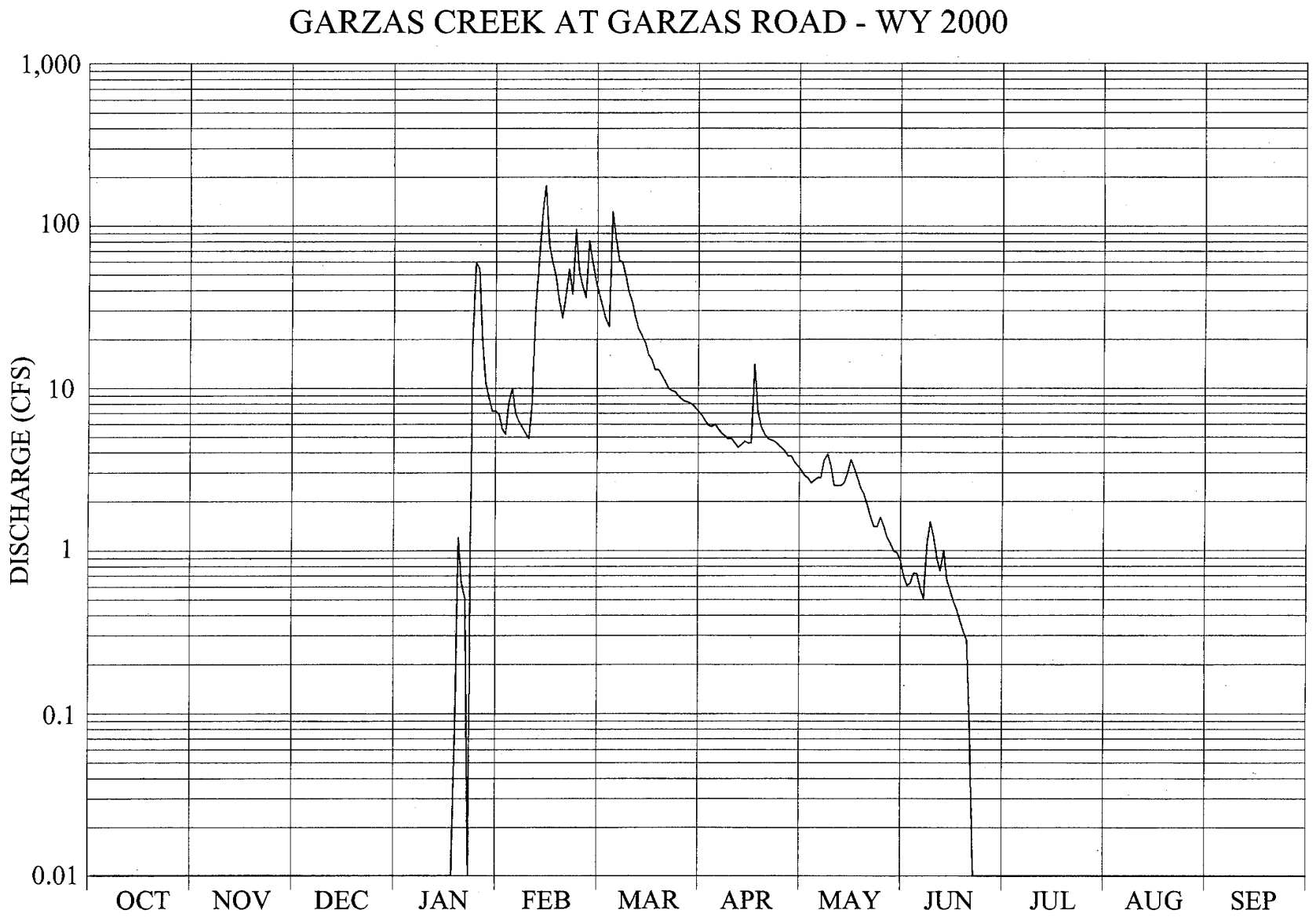

GARZAS CREEK AT GARZAS ROAD - WY 2000
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-29

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK AT GARZAS ROAD

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	5.6	38	6.8	3.1	.69	0	0	0
2	0	0	0	0	5.2	32	6.3	2.9	.61	0	0	0
3	0	0	0	0	8.1	27	5.9	2.8	.63	0	0	0
4	0	0	0	0	10	24	5.8	2.6	.72	0	0	0
5	0	0	0	0	7.0	122	6.0	2.7	.72	0	0	0
6	0	0	0	0	6.2	85	5.6	2.8	.58	0	0	0
7	0	0	0	0	5.7	61	5.3	2.8	.51	0	0	0
8	0	0	0	0	5.3	60	5.1	3.6	1.1	0	0	0
9	0	0	0	0	4.9	49	4.9	3.9	1.5	0	0	0
10	0	0	0	0	8.0	39	4.9	3.3	1.2	0	0	0
11	0	0	0	0	31	34	4.6	2.5	.89	0	0	0
12	0	0	0	0	64	27	4.3	2.5	.75	0	0	0
13	0	0	0	0	120	23	4.5	2.5	1.0	0	0	0
14	0	0	0	0	177	21	4.7	2.6	.66	0	0	0
15	0	0	0	0	77	19	4.6	3.0	.57e	0	0	0
16	0	0	0	0	59	16	4.6	3.6	.49e	0	0	0
17	0	0	0	0	49	15	14	3.2	.43e	0	0	0
18	0	0	0	.08	35	13	7.1	2.8	.37e	0	0	0
19	0	0	0	1.2	27	13	5.8	2.4	.32e	0	0	0
20	0	0	0	.63	37	12	5.2	2.2	.28e	0	0	0
21	0	0	0	.51	54	11	4.9	1.9	.07	0	0	0
22	0	0	0	0	38	10	4.8	1.6	0	0	0	0
23	0	0	0	17	95	9.7	4.7	1.4	0	0	0	0
24	0	0	0	59	52	9.5	4.5	1.4	0	0	0	0
25	0	0	0	54	43	9.0	4.3	1.6	0	0	0	0
26	0	0	0	20	36	8.6	4.1	1.4	0	0	0	0
27	0	0	0	11	81	8.3	3.8	1.2	0	0	0	0
28	0	0	0	8.7	60	8.2	3.8	1.1	0	0	0	0
29	0	0	0	7.2	46	8.0	3.5	.99	0	0	0	0
30	0	0	0	7.2	------	7.6	3.3	.97	0	0	0	0
31	0	------	0	6.9	------	7.2	------	.87	------	0	0	------
TOTAL	0	0	0	193.42	1,247.0	827.1	157.7	72.23	14.09	0	0	0
MEAN	0	0	0	6.24	43.0	26.7	5.26	2.33	.47	0	0	0
MAX	0	0	0	59	177	122	14	3.9	1.5	0	0	0
MIN	0	0	0	0	4.9	7.2	3.3	.87	0	0	0	0
AC-FT	0	0	0	384	2,470	1,640	313	143	28	0	0	0

CAL YEAR 1999	TOTAL	2,484.86	MEAN	6.81	MAX	151	MIN	0	AC-FT	4,930
WTR YEAR 2000	TOTAL	2,511.54	MEAN	6.86	MAX	177	MIN	0	AC-FT	4,980

FIGURE D-30

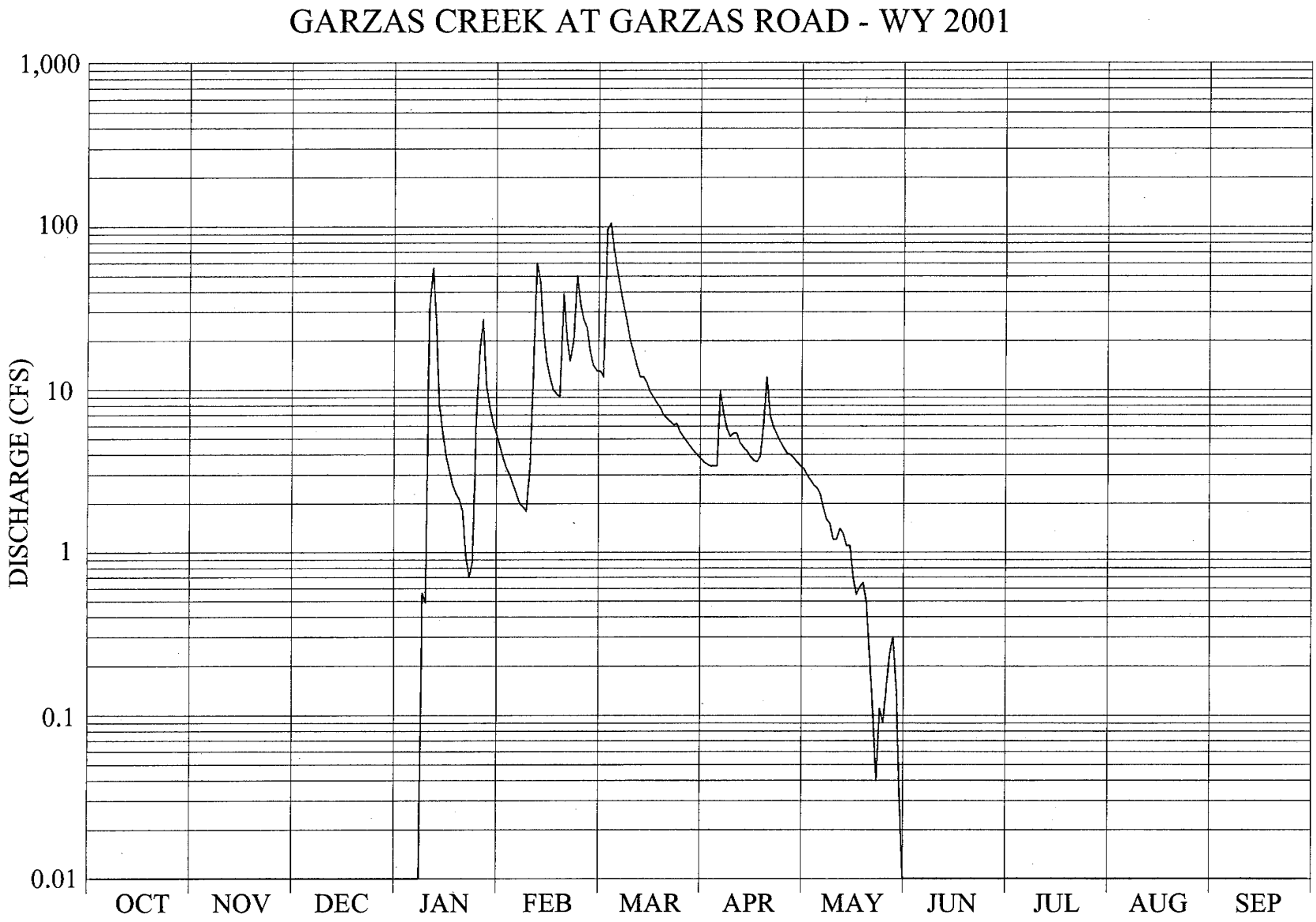

GARZAS CREEK AT GARZAS ROAD - WY 2001
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-30

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK AT GARZAS ROAD

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	3.8	13	3.8	3.4	0	0	0	0
2	0	0	0	0	3.3	13	3.6	3.3	0	0	0	0
3	0	0	0	0	3.0	12	3.5	3.0	0	0	0	0
4	0	0	0	0	2.6	97	3.4	2.8	0	0	0	0
5	0	0	0	0	2.3	105	3.4	2.6	0	0	0	0
6	0	0	0	0	2.0	72	3.4	2.5	0	0	0	0
7	0	0	0	0	1.9	54	9.8	2.3	0	0	0	0
8	0	0	0	.56	1.8	41	7.2	1.9	0	0	0	0
9	0	0	0	.49	3.3	33	5.8	1.6	0	0	0	0
10	0	0	0	31	12	26	5.2	1.5	0	0	0	0
11	0	0	0	56	60	20	5.4	1.2	0	0	0	0
12	0	0	0	27	46	17	5.4	1.2	0	0	0	0
13	0	0	0	8.1	23	14	4.7	1.4	0	0	0	0
14	0	0	0	5.4	15	12	4.4	1.3	0	0	0	0
15	0	0	0	3.9	12	12	4.2	1.1	0	0	0	0
16	0	0	0	3.2	10	11	3.9	1.1	0	0	0	0
17	0	0	0	2.6	9.4	9.7	3.7	.70	0	0	0	0
18	0	0	0	2.3	9.1	9.0	3.6	.55	0	0	0	0
19	0	0	0	2.1	39	8.3	3.9	.61	0	0	0	0
20	0	0	0	1.8	21	7.7	6.0	.65	0	0	0	0
21	0	0	0	.93	15	7.0	12	.49	0	0	0	0
22	0	0	0	.70	20	6.7	6.9	.23	0	0	0	0
23	0	0	0	.88	50	6.4	5.9	.10	0	0	0	0
24	0	0	0	6.4	34	6.1	5.3	.04	0	0	0	0
25	0	0	0	17	27	6.2	4.8	.11	0	0	0	0
26	0	0	0	27	24	5.5	4.4	.09	0	0	0	0
27	0	0	0	11	17	5.1	4.1	.15	0	0	0	0
28	0	0	0	7.8	14	4.8	4.0	.24	0	0	0	0
29	0	0	0	6.3	------	4.5	3.8	.30	0	0	0	0
30	0	0	0	5.4	------	4.2	3.6	.14	0	0	0	0
31	0	------	0	4.5	------	4.0	------	.03	------	0	0	------
TOTAL	0	0	0	232.36	481.5	647.2	149.1	36.63	0	0	0	0
MEAN	0	0	0	7.50	17.2	20.9	4.97	1.18	0	0	0	0
MAX	0	0	0	56	60	105	12	3.4	0	0	0	0
MIN	0	0	0	0	1.8	4.0	3.4	.03	0	0	0	0
AC-FT	0	0	0	461	955	1,280	296	73	0	0	0	0

CAL YEAR 2000	TOTAL	2,511.54	MEAN	6.86	MAX	177	MIN	0	AC-FT	4,980
WTR YEAR 2001	TOTAL	1,546.79	MEAN	4.24	MAX	105	MIN	0	AC-FT	3,070

FIGURE D-31

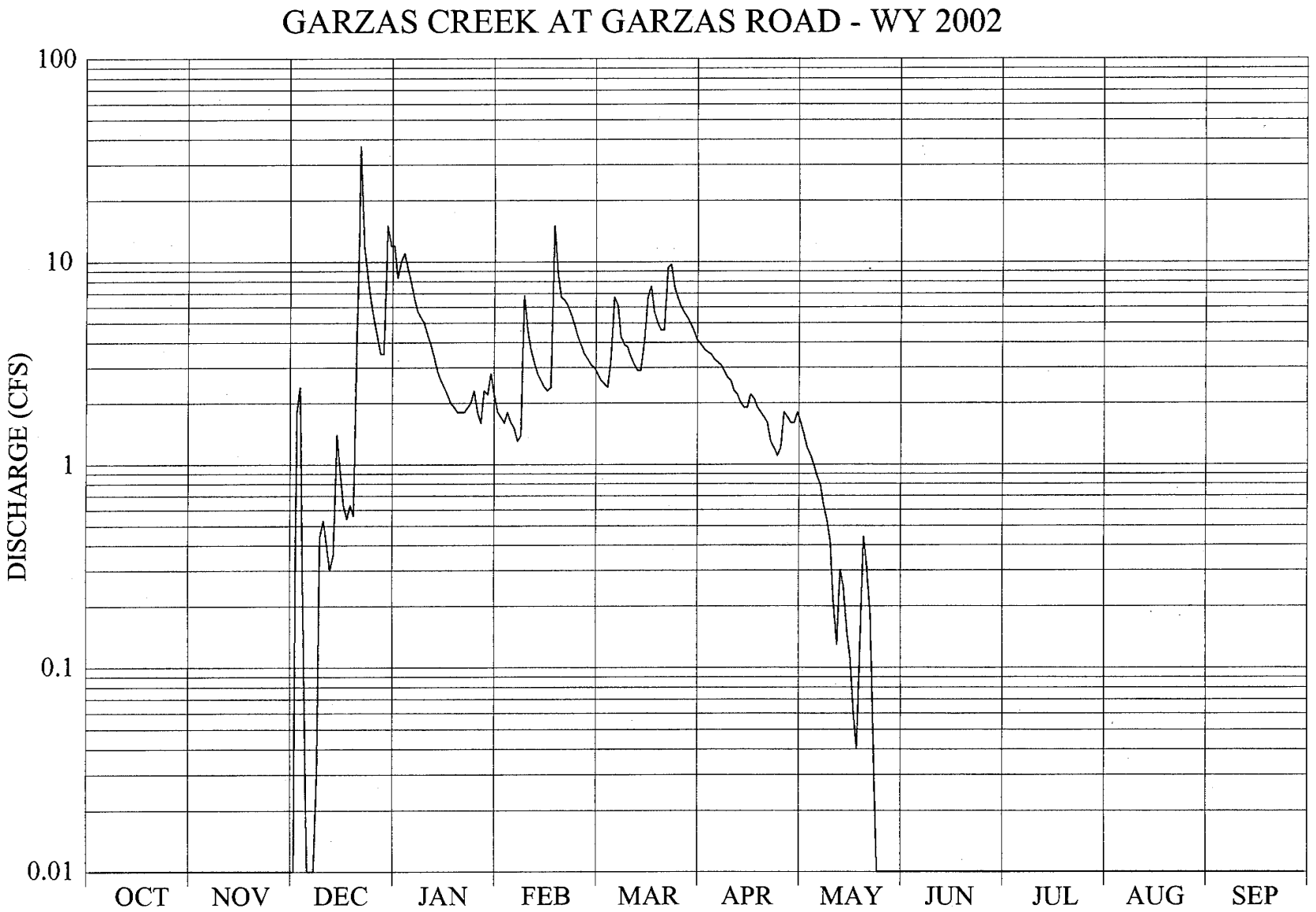

GARZAS CREEK AT GARZAS ROAD - WY 2002
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-31

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK AT GARZAS ROAD

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	8.3	1.7	3.0	4.1	1.8	0	0	0	0
2	0	0	1.8	10	1.6	2.8	3.9	1.6	0	0	0	0
3	0	0	2.4	11	1.8	2.6	3.7	1.4	0	0	0	0
4	0	0	.17	9.3	1.6	2.5	3.6	1.2	0	0	0	0
5	0	0	.01	8.0	1.5	2.4	3.5	1.1	0	0	0	0
6	0	0	0	6.6	1.3	3.3	3.3	.99	0	0	0	0
7	0	0	.01	5.7	1.4	6.7	3.2	.87	0	0	0	0
8	0	0	.03	5.3	6.8	6.1	3.1	.79	0	0	0	0
9	0	0	.44	5.0	4.6	4.3	2.9	.63	0	0	0	0
10	0	0	.53	4.4	3.7	3.9	2.7	.53	0	0	0	0
11	0	0	.40	3.9	3.2	3.8	2.6	.42	0	0	0	0
12	0	0	.30	3.4	2.8	3.4	2.3	.21	0	0	0	0
13	0	0	.36	2.9	2.6	3.1	2.2	.13	0	0	0	0
14	0	0	1.4	2.6	2.4	2.9	2.0	.30	0	0	0	0
15	0	0	.92	2.4	2.3	2.9	1.9	.25	0	0	0	0
16	0	0	.63	2.2	2.4	4.0	1.9	.15	0	0	0	0
17	0	0	.54	2.0	15	6.7	2.2	.11	0	0	0	0
18	0	0	.63	1.9	8.9	7.6	2.1	.06	0	0	0	0
19	0	0	.56	1.8	6.7	5.7	1.9	.04	0	0	0	0
20	0	0	5.2	1.8	6.5	5.0	1.8	.14	0	0	0	0
21	0	0	37	1.8	6.1	4.6	1.7	.44	0	0	0	0
22	0	0	12	1.9	5.5	4.6	1.6	.31	0	0	0	0
23	0	0	8.5	2.0	4.9	9.4	1.3	.18	0	0	0	0
24	0	0	6.5	2.3	4.3	9.7	1.2	.04	0	0	0	0
25	0	0	5.2	1.8	3.9	7.6	1.1	.01	0	0	0	0
26	0	0	4.3	1.6	3.5	6.7	1.2	0	0	0	0	0
27	0	0	3.5	2.3	3.3	6.0	1.8	0	0	0	0	0
28	0	0	3.5	2.2	3.1	5.6	1.7	0	0	0	0	0
29	0	0	15	2.8	------	5.3	1.6	0	0	0	0	0
30	0	0	12	2.2	------	4.9	1.6	0	0	0	0	0
31	0	------	12	1.8	------	4.5	------	0	------	0	0	------
TOTAL	0	0	135.83	121.2	113.4	151.6	69.7	13.70	0	0	0	0
MEAN	0	0	4.38	3.91	4.05	4.89	2.32	.44	0	0	0	0
MAX	0	0	37	11	15	9.7	4.1	1.8	0	0	0	0
MIN	0	0	0	1.6	1.3	2.4	1.1	0	0	0	0	0
AC-FT	0	0	269	240	225	301	138	27	0	0	0	0

CAL YEAR 2001	TOTAL	1,682.62	MEAN	4.61	MAX	105	MIN	0	AC-FT	3,340
WTR YEAR 2002	TOTAL	605.43	MEAN	1.66	MAX	37	MIN	0	AC-FT	1,200

FIGURE D-32

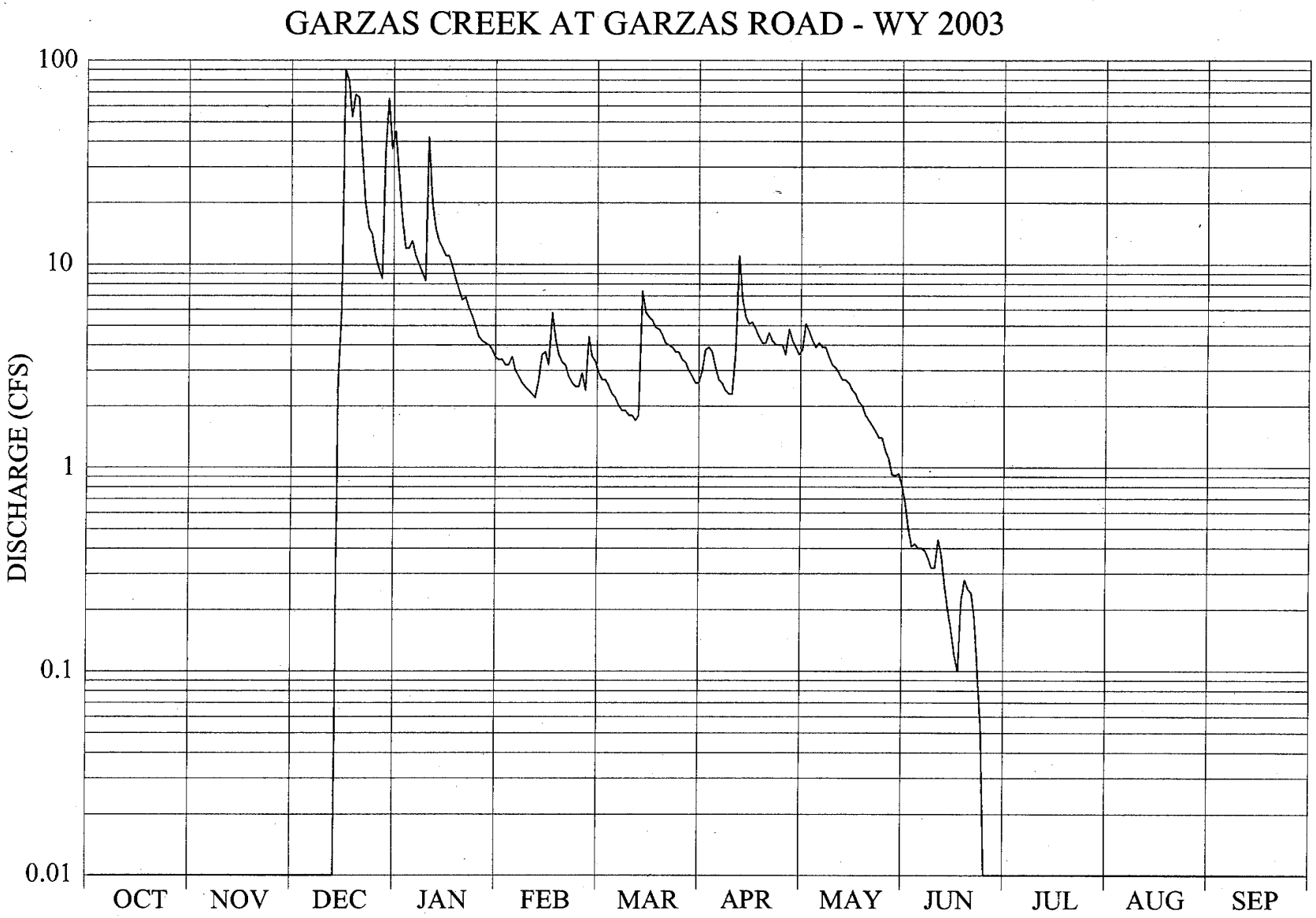

GARZAS CREEK AT GARZAS ROAD - WY 2003
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-32

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
GARZAS CREEK AT GARZAS ROAD

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	28	3.4	3.3	2.6	3.6	.82	0	0	0
2	0	0	0	17	3.2	2.9	3.0	3.8	.66	0	0	0
3	0	0	0	12	3.2	2.7	3.8	5.1	.50	0	0	0
4	0	0	0	12	3.5	2.7	3.9	4.7	.41	0	0	0
5	0	0	0	13	3.0	2.5	3.7	4.2	.42	0	0	0
6	0	0	0	11	2.8	2.3	3.1	3.9	.40	0	0	0
7	0	0	0	10	2.6	2.2	2.7	4.1	.40	0	0	0
8	0	0	0	9.1	2.5	2.0	2.6	3.9	.39	0	0	0
9	0	0	0	8.3	2.4	1.9	2.4	3.9	.36	0	0	0
10	0	0	0	42	2.3	1.9	2.3	3.5	.32	0	0	0
11	0	0	0	20	2.2	1.8	2.3	3.2	.32	0	0	0
12	0	0	0	15	2.7	1.8	3.6	3.1	.44	0	0	0
13	0	0	0	13	3.6	1.7	11	2.9	.37	0	0	0
14	0	0	2.4	12	3.7	1.8	6.7	2.7	.26	0	0	0
15	0	0	6.0	11	3.2	7.4	5.5	2.7	.20	0	0	0
16	0	0	90	11	5.8	5.8	5.1	2.6	.16	0	0	0
17	0	0	79	9.8	4.3	5.5	5.2	2.4	.12	0	0	0
18	0	0	53	8.4	3.6	5.3	4.8	2.3	.10	0	0	0
19	0	0	68	7.5	3.3	4.9	4.4	2.1	.22	0	0	0
20	0	0	66	6.7	3.2	4.8	4.1	2.0	.28	0	0	0
21	0	0	36	6.9	2.8	4.5	4.1	1.8	.25	0	0	0
22	0	0	20 e	6.1	2.6	4.1	4.6	1.7	.24	0	0	0
23	0	0	15 e	5.6	2.5	4.0	4.2	1.6	.18	0	0	0
24	0	0	14 e	5.0	2.5	3.9	4.0	1.5	.09e	0	0	0
25	0	0	11	4.4	2.9	3.7	4.0	1.4	.05e	0	0	0
26	0	0	9.6e	4.2	2.4	3.7	4.0	1.4	.01e	0	0	0
27	0	0	8.5e	4.1	4.4	3.4	3.6	1.2	0	0	0	0
28	0	0	35 e	4.0	3.5	3.3	4.8	1.1	0	0	0	0
29	0	0	65	3.8	------	3.0	4.2	.92	0	0	0	0
30	0	0	37	3.5	------	2.8	3.9	.91	0	0	0	0
31	0	------	45	3.4	------	2.6	------	.93	------	0	0	------
TOTAL	0	0	660.5	327.8	88.1	104.2	124.2	81.16	7.97	0	0	0
MEAN	0	0	21.3	10.6	3.15	3.36	4.14	2.62	.27	0	0	0
MAX	0	0	90	42	5.8	7.4	11	5.1	.82	0	0	0
MIN	0	0	0	3.4	2.2	1.7	2.3	.91	0	0	0	0
AC-FT	0	0	1,310	650	175	207	246	161	16	0	0	0

CAL YEAR 2002	TOTAL	1,130.10	MEAN	3.10	MAX	90	MIN	0	AC-FT	2,240
WTR YEAR 2003	TOTAL	1,393.93	MEAN	3.82	MAX	90	MIN	0	AC-FT	2,760

FIGURE D-33

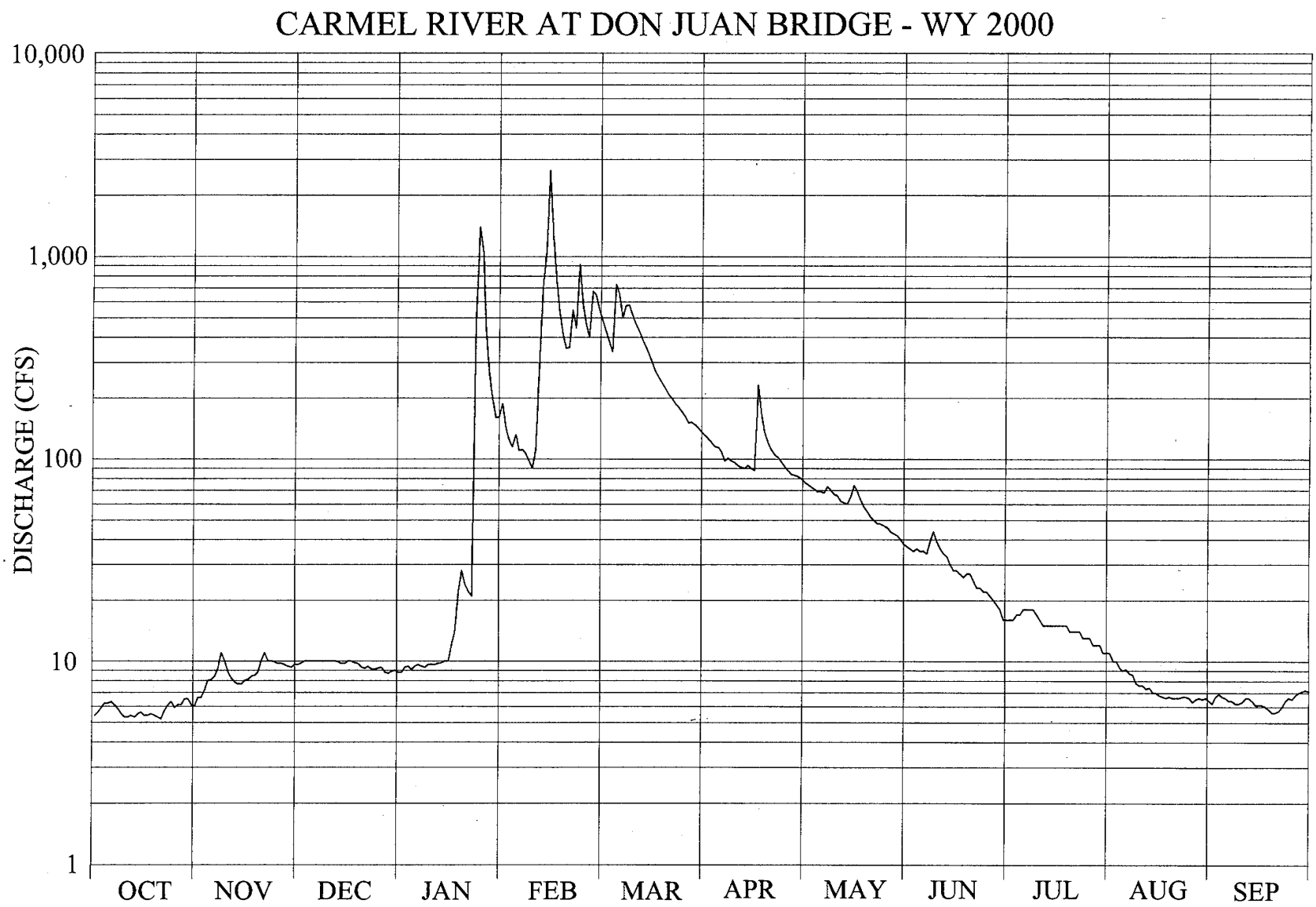

CARMEL RIVER AT DON JUAN BRIDGE - WY 2000
10,000
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-33

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	6.6	9.6	8.8	143	484	131	77	37	16	11	6.2
2	5.6	6.6	9.8	9.3	124	431	125	75	36	16	10	6.7
3	5.9	7.2	10	9.4	115	384	120	73	35	16	10	6.9
4	6.2	8.0	10	9.1	132	340	115	71	36	17	9.3	6.7
5	6.2	8.1	10	9.4	110	727	114	69	35	17	9.0	6.6
6	6.3	8.4	10	9.6	111	653	108	69	35	18	9.1	6.4
7	6.1	9.2	10	9.4	106	501	98	68	34	18	8.7	6.4
8	5.8	11	10	9.3	98	572	101	73	39	18	8.6	6.2
9	5.5	10	10	9.6	90	578	98	70	44	18	7.8	6.2
10	5.3	8.9	10	9.6	110	515	96	67	39	17	7.6	6.3
11	5.3	8.2	10	9.6	268	466	93	66	36	16	7.6	6.6
12	5.4	7.9	10	9.7	719	430	91	62	34	15	7.3	6.6
13	5.3	7.7	9.9	9.8	1,070	392	90	61	33	15	7.4	6.4
14	5.5	7.7	9.7	10	2,650	362	93	60	30	15	7.0	6.1
15	5.6	8.0	9.7	10	1,280	330	90	65	28	15	7.0	6.1
16	5.4	8.1	10	12	778	300	88	74	28	15	6.8	6.1
17	5.4	8.4	10	14	542	272	233	69	27	15	6.7	6.0
18	5.5	8.5	9.8	22	421	253	167	63	26	15	6.6	5.8
19	5.4	8.8	9.7	28	353	237	135	58	27	15	6.7	5.6
20	5.3	10	9.3	24	355	223	120	55	27	14	6.6	5.6
21	5.2	11	9.2	22	545	209	111	52	25	14	6.6	5.7
22	5.7	10	9.4	21	446	198	105	50	23	14	6.6	6.0
23	6.1	10	9.1	474	914	187	102	48	23	14	6.7	6.4
24	6.3	9.9	9.1	1,400	591	180	97	48	22	13	6.7	6.6
25	5.9	9.7	9.2	1,050	469	171	92	47	22	13	6.6	6.5
26	6.1	9.7	9.3	433	400	162	88	46	21	13	6.3	6.8
27	6.1	9.6	8.8	272	675	151	84	44	20	12	6.5	7.0
28	6.5	9.4	8.7	199	644	152	83	43	19	12	6.6	7.1
29	6.5	9.3	8.9	160	545	148	82	42	18	12	6.5	7.2
30	6.1	9.6	9.0	161	------	142	80	40	16	11	6.6	7.1
31	6.0	------	8.8	187	------	136	------	38	------	11	6.4	------
TOTAL	178.9	265.5	297.0	4,621.6	14,804	10,286	3,230	1,843	875	460	232.9	191.9
MEAN	5.77	8.85	9.58	149	510	332	108	59.5	29.2	14.8	7.51	6.40
MAX	6.5	11	10	1,400	2,650	727	233	77	44	18	11	7.2
MIN	5.2	6.6	8.7	8.8	90	136	80	38	16	11	6.3	5.6
AC-FT	355	527	589	9,170	29,360	20,400	6,410	3,660	1,740	912	462	381

CAL YEAR 1999	TOTAL	24,728.7	MEAN	67.7	MAX	1,190	MIN	3.5	AC-FT	49,050
WTR YEAR 2000	TOTAL	37,285.8	MEAN	102	MAX	2,650	MIN	5.2	AC-FT	73,960

FIGURE D-34

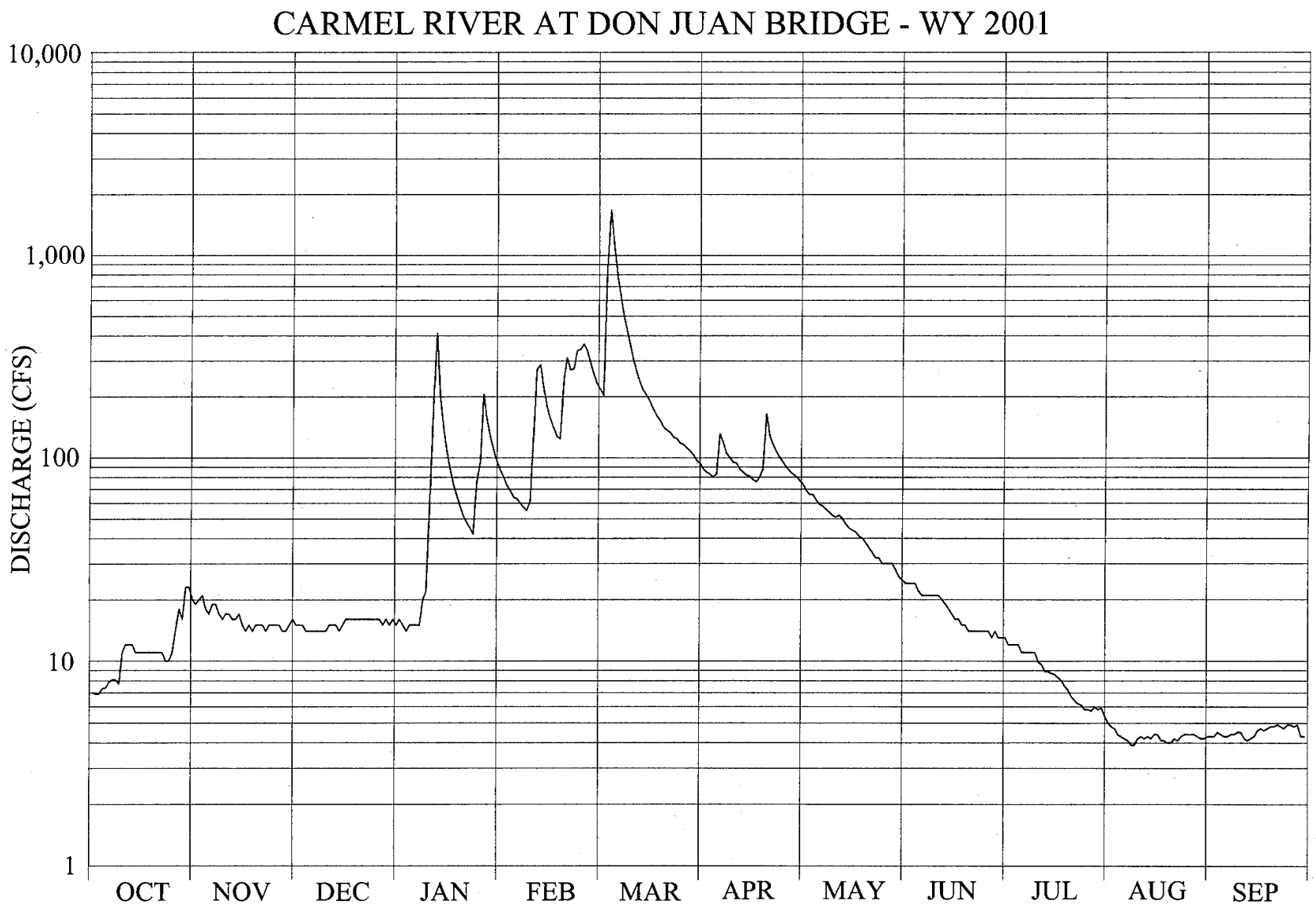

CARMEL RIVER AT DON JUAN BRIDGE - WY 2001
10,000
1,000
100
10
1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-34

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	19	15	16	80	232	94	77	25	13	5.4	4.3
2	6.9	20	15	15	73	217	88	74	24	13	5.0	4.3
3	6.9	21	15	14	69	202	85	69	24	12	4.8	4.3
4	7.3	18	14	15	64	869	83	66	24	12	4.7	4.5
5	7.4	17	14	15	63	1,680	80	66	24	12	4.4	4.4
6	7.9	19	14	15	60	1,120	83	62	22	12	4.3	4.3
7	8.1	19	14	15	57	800	131	59	21	11	4.2	4.3
8	8.1	17	14	20	55	626	119	58	21	11	4.1	4.4
9	7.7	16	14	22	61	505	105	56	21	11	3.9	4.4
10	11	17	14	64	130	423	100	54	21	11	3.9	4.5
11	12	17	15	193	274	358	95	52	21	11	4.2	4.5
12	12	16	15	411	288	302	94	51	21	9.9	4.3	4.2
13	12	16	15	201	220	262	88	52	20	9.6	4.2	4.1
14	11	17	14	139	179	233	85	50	19	8.9	4.3	4.2
15	11	15	15	107	156	214	82	47	18	8.9	4.2	4.3
16	11	14	16	88	140	201	81	45	17	8.7	4.4	4.6
17	11	15	16	74	127	188	78	44	16	8.6	4.4	4.7
18	11	14	16	65	124	173	76	43	16	8.3	4.1	4.6
19	11	15	16	58	243	161	80	41	15	8.0	4.1	4.7
20	11	15	16	52	311	152	88	40	15	7.5	4.0	4.8
21	11	15	16	48	272	142	165	38	14	7.2	4.0	4.8
22	11	14	16	45	275	137	128	36	14	6.7	4.2	4.9
23	10	15	16	42	336	133	116	34	14	6.4	4.1	4.8
24	10	15	16	76	341	126	107	32	14	6.2	4.3	4.7
25	11	15	16	95	363	124	100	32	14	6.1	4.4	4.9
26	14	15	16	205	336	118	95	30	14	5.8	4.4	4.9
27	18	14	15	155	294	116	90	30	14	5.8	4.4	4.8
28	16	14	16	126	260	112	86	30	13	5.7	4.4	4.9
29	23	15	15	109	------	108	83	30	14	6.0	4.3	4.3
30	23	16	16	96	------	103	81	28	13	5.8	4.2	4.3
31	20	------	15	87	------	97	------	26	------	5.9	4.2	------
TOTAL	358.3	485	470	2,683	5,251	10,234	2,866	1,452	543	275.0	133.8	135.7
MEAN	11.6	16.2	15.2	86.5	188	330	95.5	46.8	18.1	8.87	4.32	4.52
MAX	23	21	16	411	363	1,680	165	77	25	13	5.4	4.9
MIN	6.9	14	14	14	55	97	76	26	13	5.7	3.9	4.1
AC-FT	711	962	932	5,320	10,420	20,300	5,680	2,880	1,080	545	265	269

CAL YEAR 2000	TOTAL	37,857.70	MEAN	103	MAX	2,650	MIN	5.6	AC-FT	75,090
WTR YEAR 2001	TOTAL	24,886.80	MEAN	68.2	MAX	1,680	MIN	3.9	AC-FT	49,360

FIGURE D-35

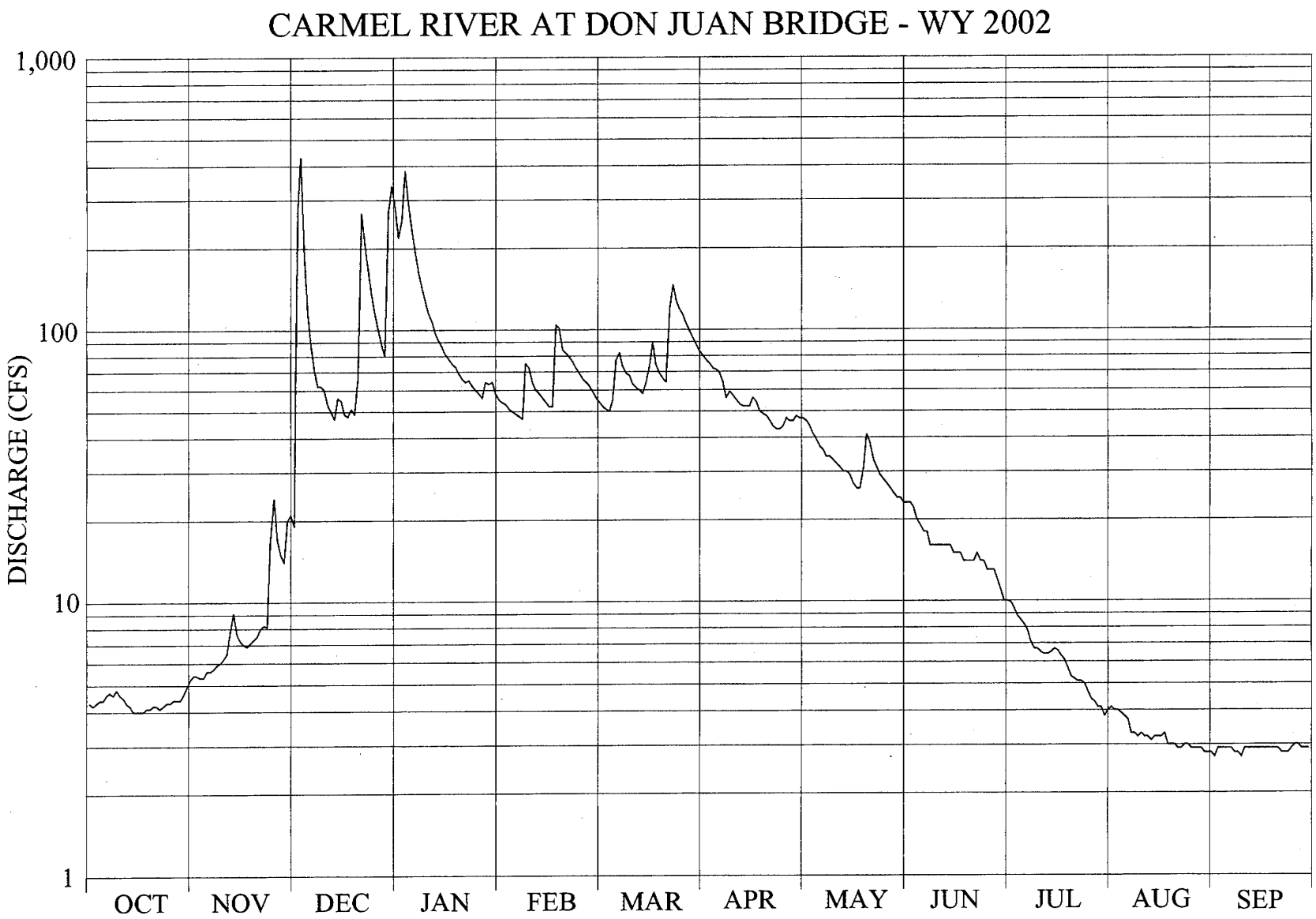

CARMEL RIVER AT DON JUAN BRIDGE - WY 2002
DISCHARGE (CFS)
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-35

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	5.4	19	218	54	56	83	47	23	10	4.0	2.8
2	4.2	5.4	266	251	53	54	80	47	23	10	4.1	2.7
3	4.3	5.3	430	381	51	52	77	46	23	9.9	4.0	2.9
4	4.4	5.3	189	289	50	51	75	44	22	9.4	4.0	2.9
5	4.4	5.6	117	233	49	50	72	41	20	8.8	3.9	2.9
6	4.6	5.6	88	192	48	55	71	39	19	8.5	3.8	2.9
7	4.7	5.7	72	162	47	77	69	37	18	8.2	3.7	2.9
8	4.6	5.9	62	143	75	82	64	36	18	7.8	3.3	2.8
9	4.8	6.0	62	128	72	73	56	34	16	7.1	3.3	2.8
10	4.6	6.2	60	115	64	69	59	34	16	6.7	3.2	2.7
11	4.5	6.5	53	107	60	68	57	33	16	6.7	3.3	2.9
12	4.3	7.8	50	97	58	63	55	32	16	6.5	3.2	2.9
13	4.2	9.1	47	91	56	61	53	31	16	6.4	3.2	2.9
14	4.0	7.6	56	86	54	60	52	30	16	6.4	3.1	2.9
15	4.0	7.2	55	81	52	58	52	30	16	6.5	3.2	2.9
16	4.0	7.0	49	78	52	64	52	29	15	6.7	3.2	2.9
17	4.0	6.9	48	75	104	73	56	27	15	6.6	3.2	2.9
18	4.1	7.1	51	73	101	89	54	26	15	6.3	3.3	2.9
19	4.1	7.3	49	69	84	74	50	26	14	6.1	3.0	2.9
20	4.2	7.5	66	66	82	69	49	31	14	5.7	3.0	2.9
21	4.2	8.0	268	64	79	66	48	41	14	5.3	3.0	2.9
22	4.1	8.2	208	65	76	64	46	38	14	5.2	2.9	2.8
23	4.2	8.1	165	62	72	118	44	33	15	5.1	2.9	2.8
24	4.3	17	135	60	69	146	43	31	14	5.1	3.0	2.8
25	4.3	24	115	58	66	128	43	29	14	5.0	3.0	2.9
26	4.4	17	101	56	64	119	44	28	13	4.7	2.9	3.0
27	4.4	15	88	64	62	113	47	27	13	4.4	2.9	3.0
28	4.4	14	80	63	59	105	46	26	13	4.3	2.9	2.9
29	4.6	20	268	64	------	99	46	25	12	4.1	2.9	2.9
30	4.9	21	337	58	------	93	48	24	11	4.1	2.8	2.9
31	5.2	------	281	55	------	88	------	24	------	3.8	2.8	------
TOTAL	135.3	282.7	3,935	3,604	1,813	2,437	1,691	1,026	484	201.4	101.0	86.2
MEAN	4.36	9.42	127	116	64.8	78.6	56.4	33.1	16.1	6.50	3.26	2.87
MAX	5.2	24	430	381	104	146	83	47	23	10	4.1	3.0
MIN	4.0	5.3	19	55	47	50	43	24	11	3.8	2.8	2.7
AC-FT	268	561	7,810	7,150	3,600	4,830	3,350	2,040	960	399	200	171

CAL YEAR 2001	TOTAL	27,926.50	MEAN	76.5	MAX	1,680	MIN	3.9	AC-FT	55,390
WTR YEAR 2002	TOTAL	15,796.60	MEAN	43.3	MAX	430	MIN	2.7	AC-FT	31,330

FIGURE D-36

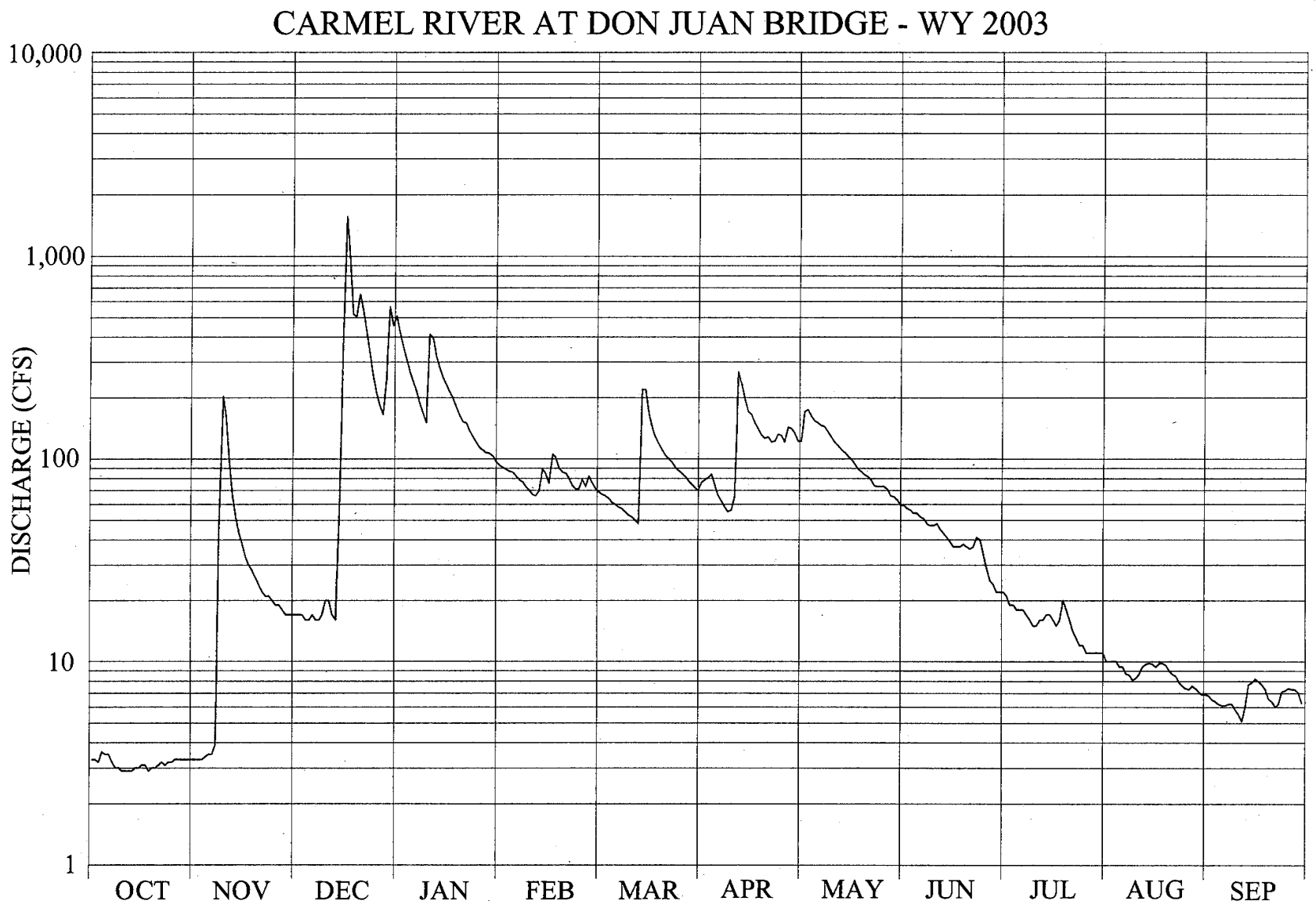

CARMEL RIVER AT DON JUAN BRIDGE - WY 2003
DISCHARGE (CFS)
10,000
1,000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-36

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT DON JUAN BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.3	17	423	91	71	70	122	59	22	11	6.9
2	3.3	3.3	17	362	89	69	77	122	59	22	10	6.8
3	3.2	3.3	17	312	87	67	79	171	57	21	10	6.5
4	3.6	3.4	16	270	86	66	81	175	56	19	10	6.4
5	3.5	3.5	16	242	82	64	84	162	54	19	10	6.2
6	3.5	3.5	17	214	79	61	74	154	54	18	9.4	6.1
7	3.2	3.9	16	187	77	60	66	151	52	18	9.4	6.1
8	3.0	50	16	168	73	58	62	146	51	18	8.7	6.2
9	3.0	203	17	151	70	57	58	144	48	17	8.6	6.2
10	2.9	161	20	412	67	55	55	136	47	16	8.1	5.8
11	2.9	94	20	393	66	53	56	128	47	15	8.3	5.5
12	2.9	66	17	320	70	52	65	121	48	15	8.7	5.1
13	2.9	52	16	280	89	50	268	116	45	16	9.4	6.0
14	3.0	43	49	250	84	48	232	111	43	16	9.7	7.7
15	3.0	38	352	231	76	219	196	108	41	17	9.8	7.9
16	3.1	33	1,560	213	105	219	171	103	39	17	9.7	8.2
17	3.1	30	928	198	101	167	166	100	37	16	9.4	8.0
18	2.9	28	519	179	90	143	150	95	37	15	9.8	7.7
19	3.0	26	505	164	86	128	140	90	37	16	9.8	7.3
20	3.0	24	650	152	85	118	131	87	38	20	9.6	6.6
21	3.1	22	543	150	80	110	126	84	37	18	9.0	6.4
22	3.2	21	432	137	74	104	128	82	36	16	8.7	6.0
23	3.1	21	333	128	71	100	121	79	37	14	8.5	6.2
24	3.2	20	258	120	71	96	122	74	41	13	7.9	7.1
25	3.2	19	212	113	79	91	132	73	40	12	7.6	7.2
26	3.3	19	184	110	73	88	130	73	34	12	7.4	7.4
27	3.3	18	166	107	82	85	121	73	29	11	7.3	7.3
28	3.3	17	246	106	76	82	143	71	25	11	7.6	7.3
29	3.3	17	564	103	------	78	141	66	24	11	7.4	7.0
30	3.3	17	454	97	------	75	134	65	22	11	7.1	6.3
31	3.3	------	508	93	------	72	------	63	------	11	6.9	------
TOTAL	97.9	1,063.2	8,685	6,385	2,259	2,806	3,579	3,345	1,274	493	274.8	201.4
MEAN	3.16	35.4	280	206	80.7	90.5	119	108	42.5	15.9	8.86	6.71
MAX	3.6	203	1,560	423	105	219	268	175	59	22	11	8.2
MIN	2.9	3.3	16	93	66	48	55	63	22	11	6.9	5.1
AC-FT	194	2,110	17,230	12,660	4,480	5,570	7,100	6,630	2,530	978	545	399

CAL YEAR 2002	TOTAL	21,289.7	MEAN	58.3	MAX	1,560	MIN	2.7	AC-FT	42,230
WTR YEAR 2003	TOTAL	30,463.3	MEAN	83.5	MAX	1,560	MIN	2.9	AC-FT	60,420

FIGURE D-37

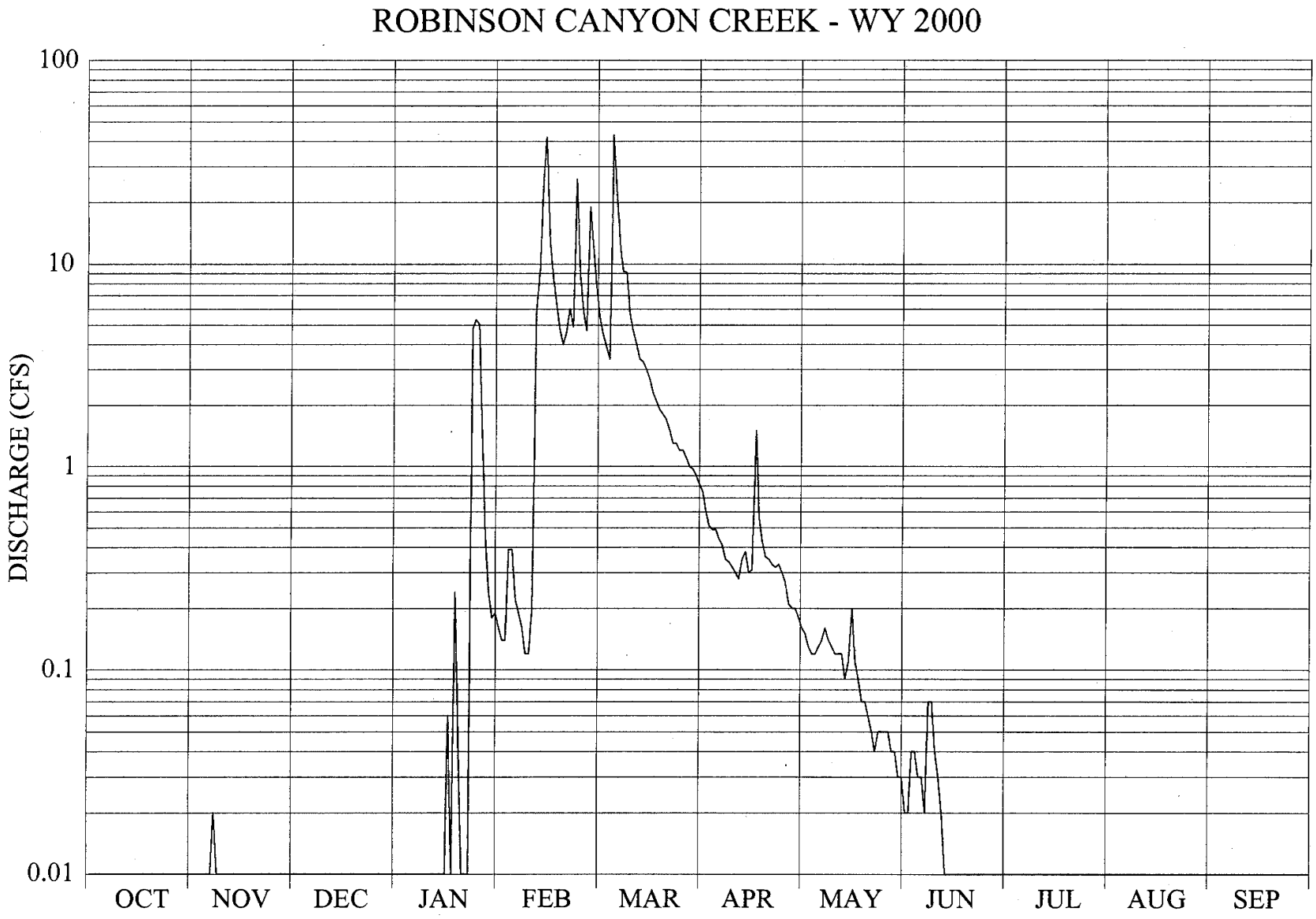

ROBINSON CANYON CREEK - WY 2000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-37

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.14	5.4	.75	.16	.02	0	0	0
2	0	0	0	0	.14	4.5	.60	.15	.02	0	0	0
3	0	0	0	0	.39	3.9	.51	.13	.04	0	0	0
4	0	0	0	0	.39	3.4	.49	.12	.04	0	0	0
5	0	0	0	0	.22	43	.49	.12	.03	0	0	0
6	0	0	0	0	.19	22	.44	.13	.03	0	0	0
7	0	.02	0	0	.16	12	.41	.14	.02	0	0	0
8	0	0	0	0	.12	9.2	.35	.16	.07	0	0	0
9	0	0	0	0	.12	9.1	.34	.14	.07	0	0	0
10	0	0	0	0	.20	5.7	.32	.13	.04	0	0	0
11	0	0	0	0	5.8	4.7	.30	.12	.03	0	0	0
12	0	0	0	0	9.4	4.0	.28	.12	.02	0	0	0
13	0	0	0	0	25	3.4	.35	.12	.01	0	0	0
14	0	0	0	0	42	3.3	.38	.09	.01	0	0	0
15	0	0	0	0	13	3.0	.30	.11	.01	0	0	0
16	0	0	0	.06	8.5	2.7	.31	.20	.01	0	0	0
17	0	0	0	.01	6.4	2.3	1.5	.11	.01	0	0	0
18	0	0	0	.24	4.8	2.1	.57	.09	.01	0	0	0
19	0	0	0	.05	4.0	1.9	.43	.07	.01	0	0	0
20	0	0	0	.01	4.6	1.8	.36	.07	.01	0	0	0
21	0	0	0	0	6.0	1.7	.35	.06	.01	0	0	0
22	0	0	0	0	4.9	1.5	.33	.05	.01	0	0	0
23	0	0	0	4.8	26	1.3	.32	.04	.01	0	0	0
24	0	0	0	5.3	9.3	1.3	.33	.05	0	0	0	0
25	0	0	0	5.0	6.0	1.2	.30	.05	0	0	0	0
26	0	0	0	1.3	4.7	1.2	.27	.05	0	0	0	0
27	0	0	0	.47	19	1.1	.21	.05	0	0	0	0
28	0	0	0	.24	12	1.0	.20	.04	0	0	0	0
29	0	0	0	.18	7.6	.97	.20	.04	0	0	0	0
30	0	0	0	.19	------	.90	.18	.03	0	0	0	0
31	0	------	0	.16	------	.82	------	.03	------	0	0	------
TOTAL	0	0.02	0	18.01	221.07	160.39	12.17	2.97	0.54	0	0	0
MEAN	0	.001	0	.58	7.62	5.17	.41	.096	.018	0	0	0
MAX	0	.02	0	5.3	42	43	1.5	.20	.07	0	0	0
MIN	0	0	0	0	.12	.82	.18	.03	0	0	0	0
AC-FT	0	.04	0	36	438	318	24	5.9	1.1	0	0	0

CAL YEAR 1999	TOTAL	271.45	MEAN	.74	MAX	36	MIN	0	AC-FT	538
WTR YEAR 2000	TOTAL	415.17	MEAN	1.13	MAX	43	MIN	0	AC-FT	823

FIGURE D-38

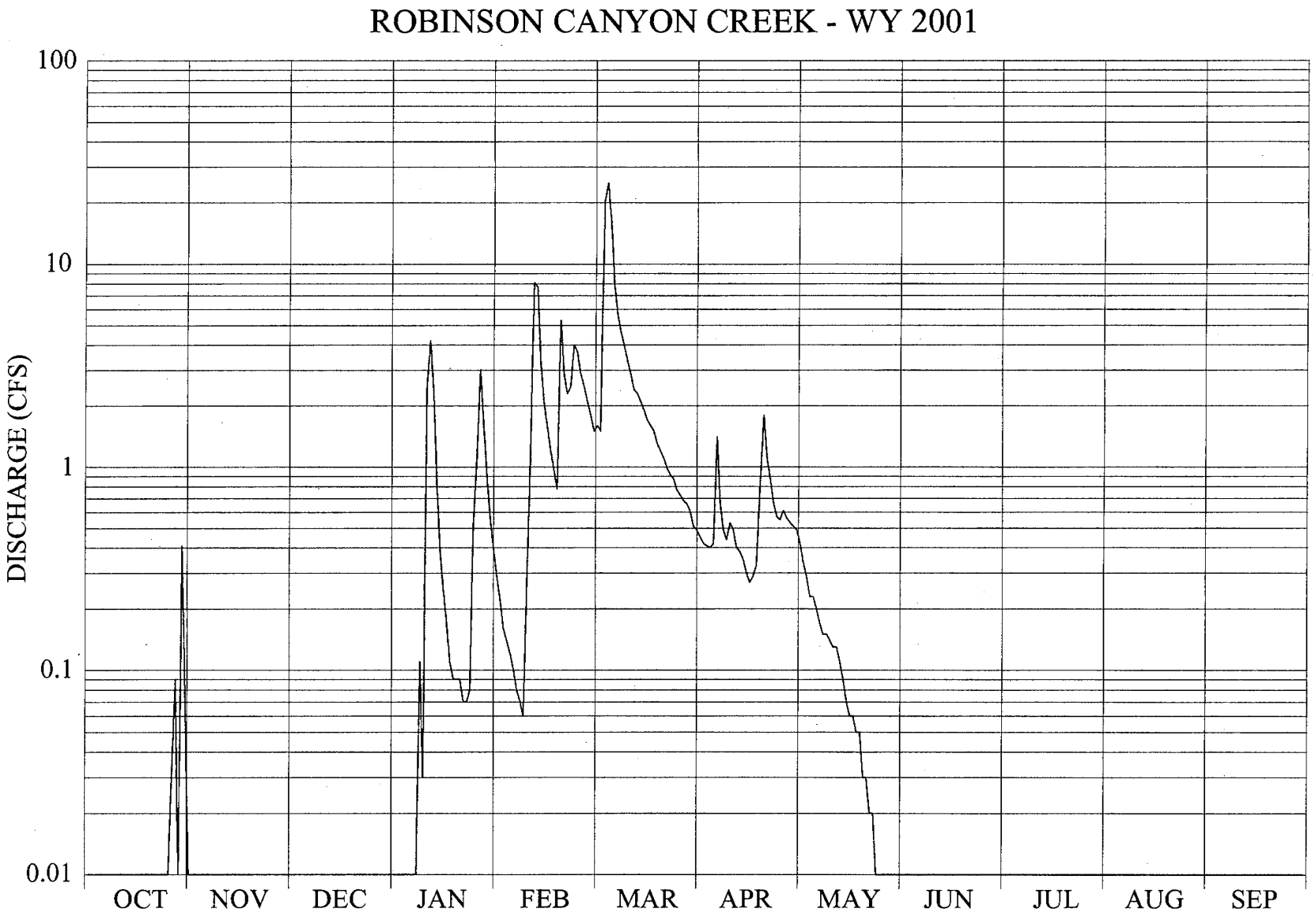

ROBINSON CANYON CREEK - WY 2001
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-38

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.22	1.5	.49	.49	.01	0	0	0
2	0	0	0	0	.16	1.6	.45	.42	.01	0	0	0
3	0	0	0	0	.14	1.5	.42	.34	.01	0	0	0
4	0	0	0	0	.12	20	.41	.29	.01	0	0	0
5	0	0	0	0	.10	25	.40	.23	0	0	0	0
6	0	0	0	0	.08	16	.42	.23	0	0	0	0
7	0	0	0	0	.07	8.1	1.4	.20	0	0	0	0
8	0	0	0	.11	.06	5.7	.67	.17	0	0	0	0
9	0	0	0	.03	.27	4.7	.49	.15	0	0	0	0
10	0	0	0	2.4	1.2	4.0	.44	.15	0	0	0	0
11	0	0	0	4.2	8.1	3.4	.53	.14	0	0	0	0
12	0	0	0	2.4	7.7	2.9	.49	.13	0	0	0	0
13	0	0	0	.84	3.4	2.4	.40	.13	0	0	0	0
14	0	0	0	.39	2.1	2.3	.38	.11	0	0	0	0
15	0	0	0	.25	1.6	2.1	.35	.09	0	0	0	0
16	0	0	0	.17	1.2	1.9	.30	.07	0	0	0	0
17	0	0	0	.11	.97	1.7	.27	.06	0	0	0	0
18	0	0	0	.09	.78	1.6	.29	.06	0	0	0	0
19	0	0	0	.09	5.3	1.5	.33	.05	0	0	0	0
20	0	0	0	.09	2.9	1.3	.83	.05	0	0	0	0
21	0	0	0	.07	2.3	1.2	1.8	.03	0	0	0	0
22	0	0	0	.07	2.5	1.1	1.1	.03	0	0	0	0
23	0	0	0	.08	4.0	.98	.88	.02	0	0	0	0
24	0	0	0	.52	3.7	.91	.66	.02	0	0	0	0
25	0	0	0	1.2	2.9	.87	.57	.01	0	0	0	0
26	.03	0	0	3.0	2.5	.77	.55	.01	0	0	0	0
27	.09	0	0	1.6	2.1	.72	.61	.01	0	0	0	0
28	0	0	0	.87	1.8	.68	.56	.01	0	0	0	0
29	.41	0	0	.56	------	.66	.53	.01	0	0	0	0
30	.06	0	0	.40	------	.60	.51	.01	0	0	0	0
31	0	------	0	.29	------	.51	------	.01	------	0	0	------
TOTAL	0.59	0	0	19.83	58.27	118.20	17.53	3.73	0.04	0	0	0
MEAN	.019	0	0	.64	2.08	3.81	.58	.12	.001	0	0	0
MAX	.41	0	0	4.2	8.1	25	1.8	.49	.01	0	0	0
MIN	0	0	0	0	.06	.51	.27	.01	0	0	0	0
AC-FT	1.2	0	0	39	116	234	35	7.4	.08	0	0	0

CAL YEAR 2000	TOTAL	415.74	MEAN	1.14	MAX	43	MIN	0	AC-FT	825
WTR YEAR 2001	TOTAL	218.19	MEAN	.60	MAX	25	MIN	0	AC-FT	433

FIGURE D-39

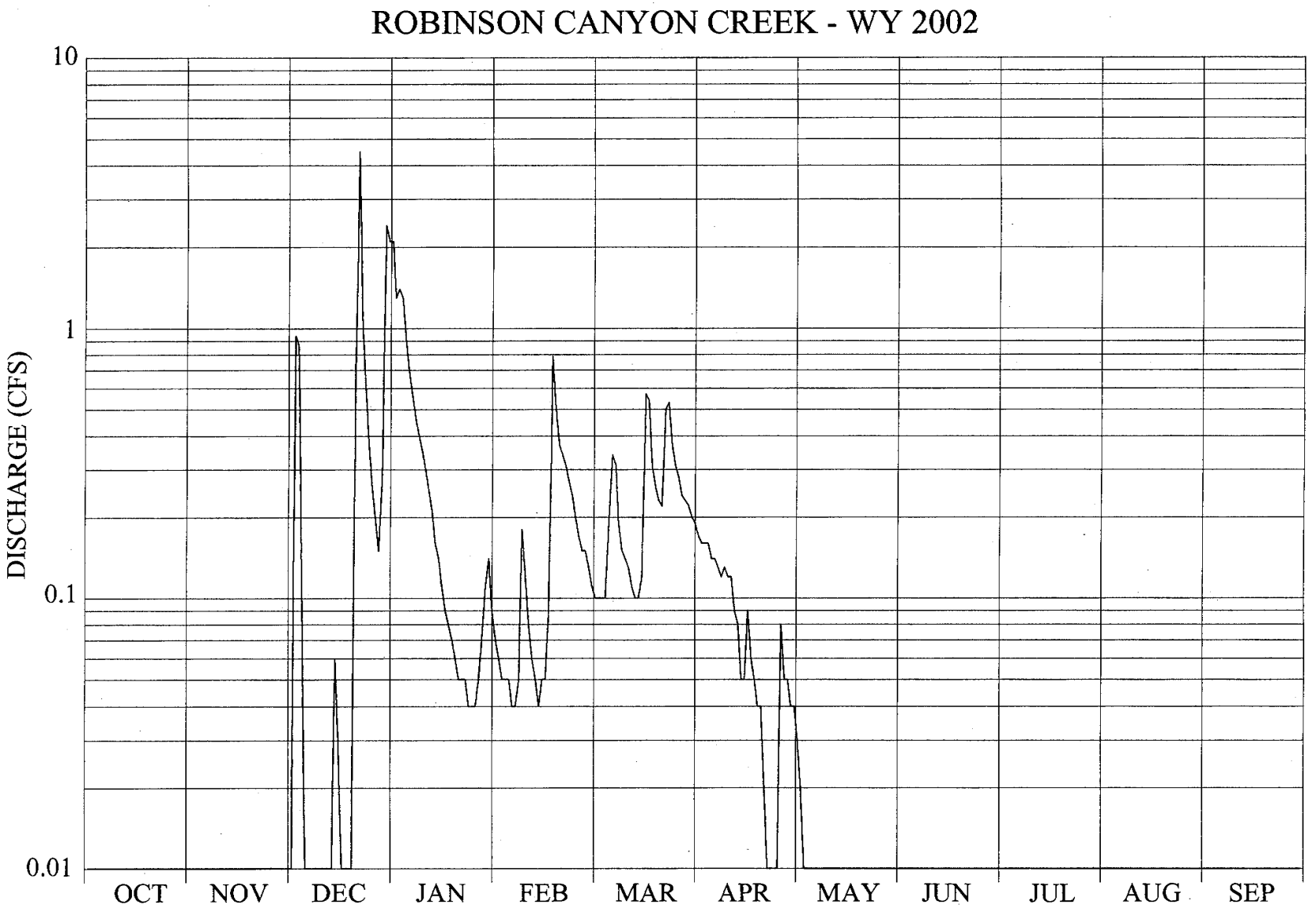

ROBINSON CANYON CREEK - WY 2002
DISCHARGE (CFS)
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-39

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	1.3	.06	.11	.19	.04	0	0	0	0
2	0	0	.94	1.4	.05	.10	.17	.03	0	0	0	0
3	0	0	.86	1.3	.05	.10	.16	.02	0	0	0	0
4	0	0	.13	.93	.05	.10	.16	.01	0	0	0	0
5	0	0	0	.70	.04	.10	.16	.01	0	0	0	0
6	0	0	0	.56	.04	.19	.14	0	0	0	0	0
7	0	0	0	.46	.05	.34	.14	0	0	0	0	0
8	0	0	0	.40	.18	.31	.13	0	0	0	0	0
9	0	0	0	.35	.12	.19	.12	0	0	0	0	0
10	0	0	0	.30	.08	.15	.13	0	0	0	0	0
11	0	0	0	.25	.06	.14	.12	0	0	0	0	0
12	0	0	0	.21	.05	.13	.12	0	0	0	0	0
13	0	0	0	.16	.04	.11	.09	0	0	0	0	0
14	0	0	.06	.14	.05	.10	.08	0	0	0	0	0
15	0	0	.03	.11	.05	.10	.05	0	0	0	0	0
16	0	0	.01	.09	.09	.12	.05	0	0	0	0	0
17	0	0	.01	.08	.79	.57	.09	0	0	0	0	0
18	0	0	.01	.07	.51	.54	.06	0	0	0	0	0
19	0	0	0	.06	.37	.31	.05	0	0	0	0	0
20	0	0	.69	.05	.34	.26	.04	0	0	0	0	0
21	0	0	4.5	.05	.31	.23	.04	0	0	0	0	0
22	0	0	1.1	.05	.27	.22	.02	0	0	0	0	0
23	0	0	.61	.04	.24	.50	.01	0	0	0	0	0
24	0	0	.37	.04	.20	.53	.01	0	0	0	0	0
25	0	0	.26	.04	.17	.37	.01	0	0	0	0	0
26	0	0	.20	.05	.15	.31	.01	0	0	0	0	0
27	0	0	.15	.07	.15	.28	.08	0	0	0	0	0
28	0	0	.28	.11	.13	.24	.05	0	0	0	0	0
29	0	0	2.4	.14	------	.23	.05	0	0	0	0	0
30	0	0	2.1	.09	------	.22	.04	0	0	0	0	0
31	0	------	2.1	.07	------	.20	------	0	------	0	0	------
TOTAL	0	0	16.81	9.67	4.69	7.40	2.57	0.11	0	0	0	0
MEAN	0	0	.54	.31	.17	.24	.086	.004	0	0	0	0
MAX	0	0	4.5	1.4	.79	.57	.19	.04	0	0	0	0
MIN	0	0	0	.04	.04	.10	.01	0	0	0	0	0
AC-FT	0	0	33	19	9.3	15	5.1	.2	0	0	0	0

CAL YEAR 2001	TOTAL	234.41	MEAN	.64	MAX	25	MIN	0	AC-FT	465
WTR YEAR 2002	TOTAL	41.25	MEAN	.11	MAX	4.5	MIN	0	AC-FT	82

FIGURE D-40

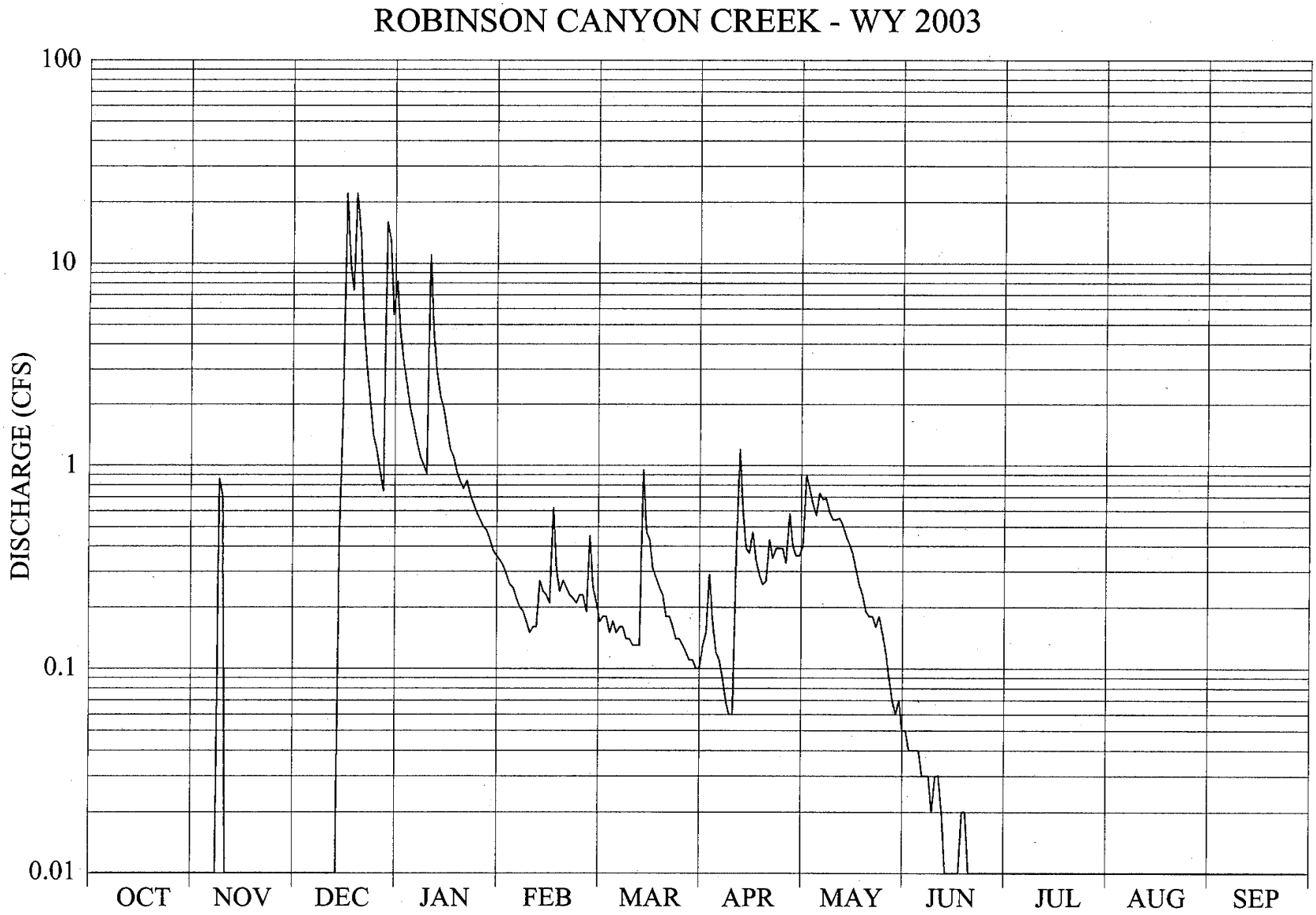

ROBINSON CANYON CREEK - WY 2003
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-40

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ROBINSON CANYON CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	4.6	.32	.21	.10	.36e	.05	0	0	0
2	0	0	0	3.3	.29	.17	.13	.40e	.05	0	0	0
3	0	0	0	2.5	.26	.18	.15	.89	.04	0	0	0
4	0	0	0	1.9	.25	.18	.29	.77	.04	0	0	0
5	0	0	0	1.6	.22	.15	.17	.64	.04	0	0	0
6	0	0	0	1.3	.20	.17	.12	.57	.04	0	0	0
7	0	0	0	1.1	.19	.15	.11	.73	.03	0	0	0
8	0	.86	0	1.0	.17	.16	.09	.68	.03	0	0	0
9	0	.70	0	.91	.15	.16	.07	.69	.03	0	0	0
10	0	0	0	11	.16	.14	.06	.59	.02	0	0	0
11	0	0	0	4.5	.16	.14	.06	.54	.03	0	0	0
12	0	0	0	2.9	.27	.13	.34	.54	.03	0	0	0
13	0	0	0	2.2	.24	.13	1.2	.55	.02	0	0	0
14	0	0	.48	1.9	.23	.13	.59	.51	.01	0	0	0
15	0	0	2.0	1.5	.21	.95	.39	.45	.01	0	0	0
16	0	0	22	1.2	.62	.47	.37	.41	.01	0	0	0
17	0	0	10	1.1	.31	.43	.47	.37	.01	0	0	0
18	0	0	7.4	.92	.24	.31	.34	.31	.01	0	0	0
19	0	0	22	.83	.27	.28	.29	.26	.02	0	0	0
20	0	0	14	.77	.25	.25	.26	.23	.02	0	0	0
21	0	0	5.5	.84	.23	.23	.27	.19	.01	0	0	0
22	0	0	3.2	.72	.22	.18	.43	.18	.01	0	0	0
23	0	0	2.1	.65	.21	.18	.35	.18	0	0	0	0
24	0	0	1.4	.59	.23	.16	.39	.16	0	0	0	0
25	0	0	1.2	.54	.23	.14	.39	.18	0	0	0	0
26	0	0	.94	.50	.19	.14	.39	.15	0	0	0	0
27	0	0	.75	.48	.45	.13	.33	.12	0	0	0	0
28	0	0	16	.43	.25	.12	.58	.09	0	0	0	0
29	0	0	13	.38	------	.11	.40e	.07	0	0	0	0
30	0	0	5.6	.36	------	.11	.36e	.06	0	0	0	0
31	0	------	8.2	.34	------	.10	------	.07	------	0	0	------
TOTAL	0	1.56	135.77	52.86	7.02	6.49	9.49	11.94	0.56	0	0	0
MEAN	0	.052	4.38	1.71	.25	.21	.32	.39	.019	0	0	0
MAX	0	.86	22	11	.62	.95	1.2	.89	.05	0	0	0
MIN	0	0	0	.34	.15	.10	.06	.06	0	0	0	0
AC-FT	0	3.1	269	105	14	13	19	24	1.1	0	0	0

CAL YEAR 2002	TOTAL	161.77	MEAN	.44	MAX	22	MIN	0	AC-FT	321
WTR YEAR 2003	TOTAL	225.69	MEAN	.62	MAX	22	MIN	0	AC-FT	448

FIGURE D-41

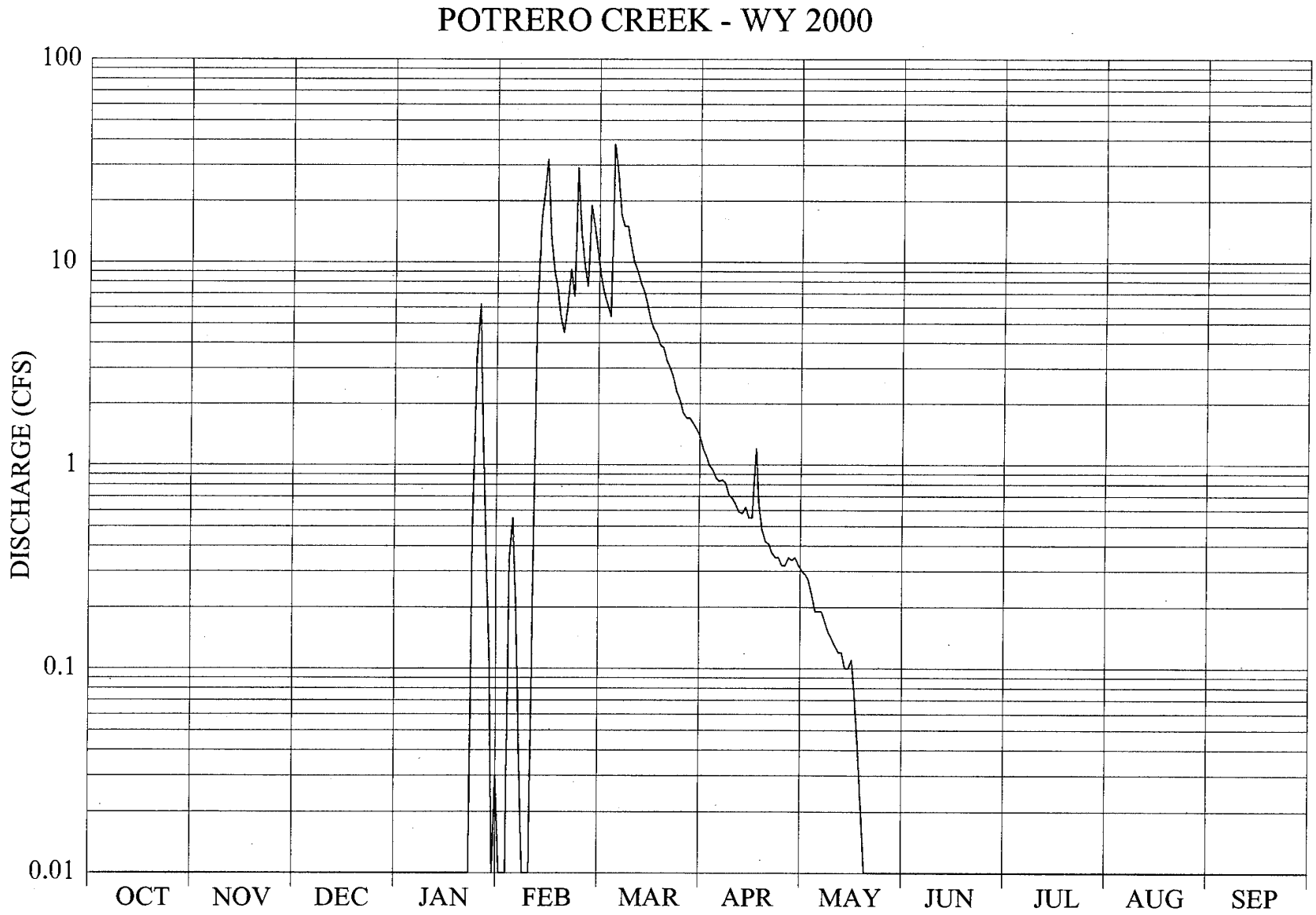

POTRERO CREEK - WY 2000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-41

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	8.4	1.2	.30	0	0	0	0
2	0	0	0	0	0	7.0	1.1	.29	0	0	0	0
3	0	0	0	0	.34	6.2	.99	.27	0	0	0	0
4	0	0	0	0	.55	5.4	.94	.23	0	0	0	0
5	0	0	0	0	.20	38	.86	.19	0	0	0	0
6	0	0	0	0	.04	28	.83	.19	0	0	0	0
7	0	0	0	0	0	17	.84	.19	0	0	0	0
8	0	0	0	0	0	15	.81	.17	0	0	0	0
9	0	0	0	0	0	15	.71	.15	0	0	0	0
10	0	0	0	0	.20	12	.68	.14	0	0	0	0
11	0	0	0	0	5.7	10	.64	.13	0	0	0	0
12	0	0	0	0	16	9.0	.59	.12	0	0	0	0
13	0	0	0	0	22	7.9	.58	.12	0	0	0	0
14	0	0	0	0	32	7.2	.62	.10	0	0	0	0
15	0	0	0	0	13	6.2	.55	.10	0	0	0	0
16	0	0	0	0	9.0	5.2	.55	.11	0	0	0	0
17	0	0	0	0	7.4	4.7	1.2	.07	0	0	0	0
18	0	0	0	0	5.4	4.4	.63	.04	0	0	0	0
19	0	0	0	0	4.5	3.9	.48	.02	0	0	0	0
20	0	0	0	0	6.0	3.8	.42	.01	0	0	0	0
21	0	0	0	0	9.2	3.3	.41	.01	0	0	0	0
22	0	0	0	0	6.8	3.0	.37	0	0	0	0	0
23	0	0	0	.60	29	2.7	.35	.01	0	0	0	0
24	0	0	0	3.4	14	2.3	.35	.01	0	0	0	0
25	0	0	0	6.2	9.8	2.1	.32	.01	0	0	0	0
26	0	0	0	1.3	7.6	1.8	.32	.01	0	0	0	0
27	0	0	0	.43	19	1.7	.35	0	0	0	0	0
28	0	0	0	.12	15	1.7	.34	0	0	0	0	0
29	0	0	0	0	11	1.6	.35	0	0	0	0	0
30	0	0	0	.03	------	1.5	.32	0	0	0	0	0
31	0	------	0	0	------	1.4	------	0	------	0	0	------
TOTAL	0	0	0	12.08	243.73	237.4	18.70	2.99	0	0	0	0
MEAN	0	0	0	.39	8.40	7.66	.62	.096	0	0	0	0
MAX	0	0	0	6.2	32	38	1.2	.30	0	0	0	0
MIN	0	0	0	0	0	1.4	.32	0	0	0	0	0
AC-FT	0	0	0	24	483	471	37	5.9	0	0	0	0

CAL YEAR 1999	TOTAL	428.32	MEAN	1.17	MAX	47	MIN	0	AC-FT	850
WTR YEAR 2000	TOTAL	514.90	MEAN	1.41	MAX	38	MIN	0	AC-FT	1,020

FIGURE D-42

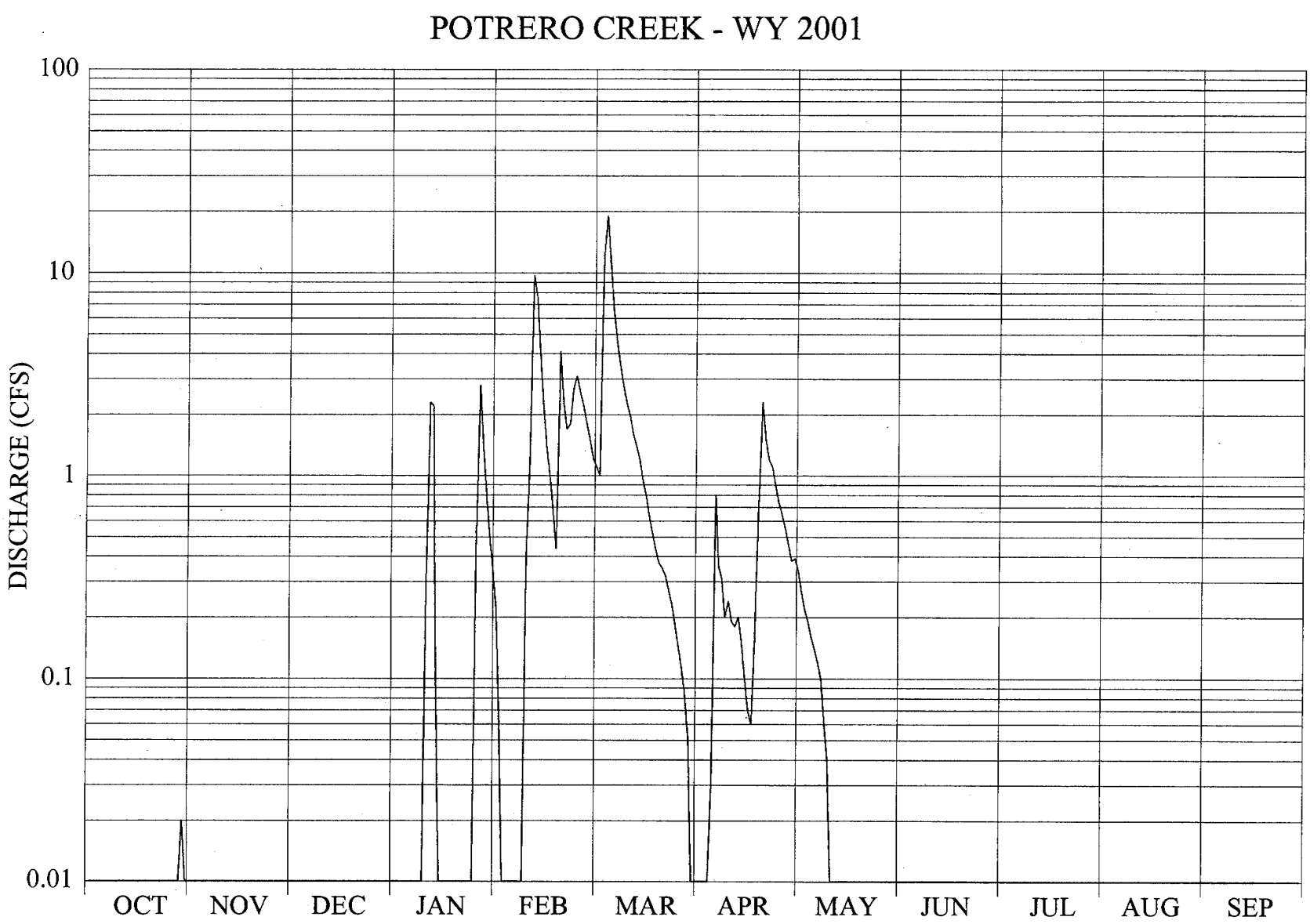

POTRERO CREEK - WY 2001
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-42

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.06	1.2	0	.39	0	0	0	0
2	0	0	0	0	0	1.1	0	.34	0	0	0	0
3	0	0	0	0	0	1.0	0	.27	0	0	0	0
4	0	0	0	0	0	12	0	.22	0	0	0	0
5	0	0	0	0	0	19	0	.19	0	0	0	0
6	0	0	0	0	0	11	.03	.16e	0	0	0	0
7	0	0	0	0	0	6.7	.80	.14e	0	0	0	0
8	0	0	0	0	0	4.6	.36	.12e	0	0	0	0
9	0	0	0	0	.41	3.6	.31	.10	0	0	0	0
10	0	0	0	.26	1.3	2.8	.20	.06	0	0	0	0
11	0	0	0	2.3	9.7	2.3	.24	.04	0	0	0	0
12	0	0	0	2.2	7.5	2.0	.19	.01	0	0	0	0
13	0	0	0	.10	4.0	1.6	.18	.01	0	0	0	0
14	0	0	0	0	2.2	1.4	.20	0	0	0	0	0
15	0	0	0	0	1.4	1.2	.15	0	0	0	0	0
16	0	0	0	0	.97	.93	.10	0	0	0	0	0
17	0	0	0	0	.67	.79	.07	0	0	0	0	0
18	0	0	0	0	.44	.63	.06	0	0	0	0	0
19	0	0	0	0	4.1	.52	.16	0	0	0	0	0
20	0	0	0	0	2.3	.43	.71	0	0	0	0	0
21	0	0	0	0	1.7	.37	2.3	0	0	0	0	0
22	0	0	0	0	1.8	.35	1.5	0	0	0	0	0
23	0	0	0	0	2.7	.32	1.2	0	0	0	0	0
24	0	0	0	0	3.1	.27	1.1	0	0	0	0	0
25	0	0	0	.53	2.6	.23	.89	0	0	0	0	0
26	0	0	0	2.8	2.2	.18	.74	0	0	0	0	0
27	0	0	0	1.4	1.8	.14	.65	0	0	0	0	0
28	0	0	0	.78	1.5	.11	.55	0	0	0	0	0
29	.02	0	0	.51	------	.08	.46	0	0	0	0	0
30	0	0	0	.35	------	.05	.38	0	0	0	0	0
31	0	------	0	.22	------	0	------	0	------	0	0	------
TOTAL	0.02	0	0	11.45	52.45	76.90	13.53	2.05	0	0	0	0
MEAN	.001	0	0	.37	1.87	2.48	.45	.066	0	0	0	0
MAX	.02	0	0	2.8	9.7	19	2.3	.39	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.04	0	0	23	104	153	27	4.1	0	0	0	0

CAL YEAR 2000	TOTAL	514.92	MEAN	1.41	MAX	38	MIN	0	AC-FT	1,020
WTR YEAR 2001	TOTAL	156.40	MEAN	.43	MAX	19	MIN	0	AC-FT	310

FIGURE D-43

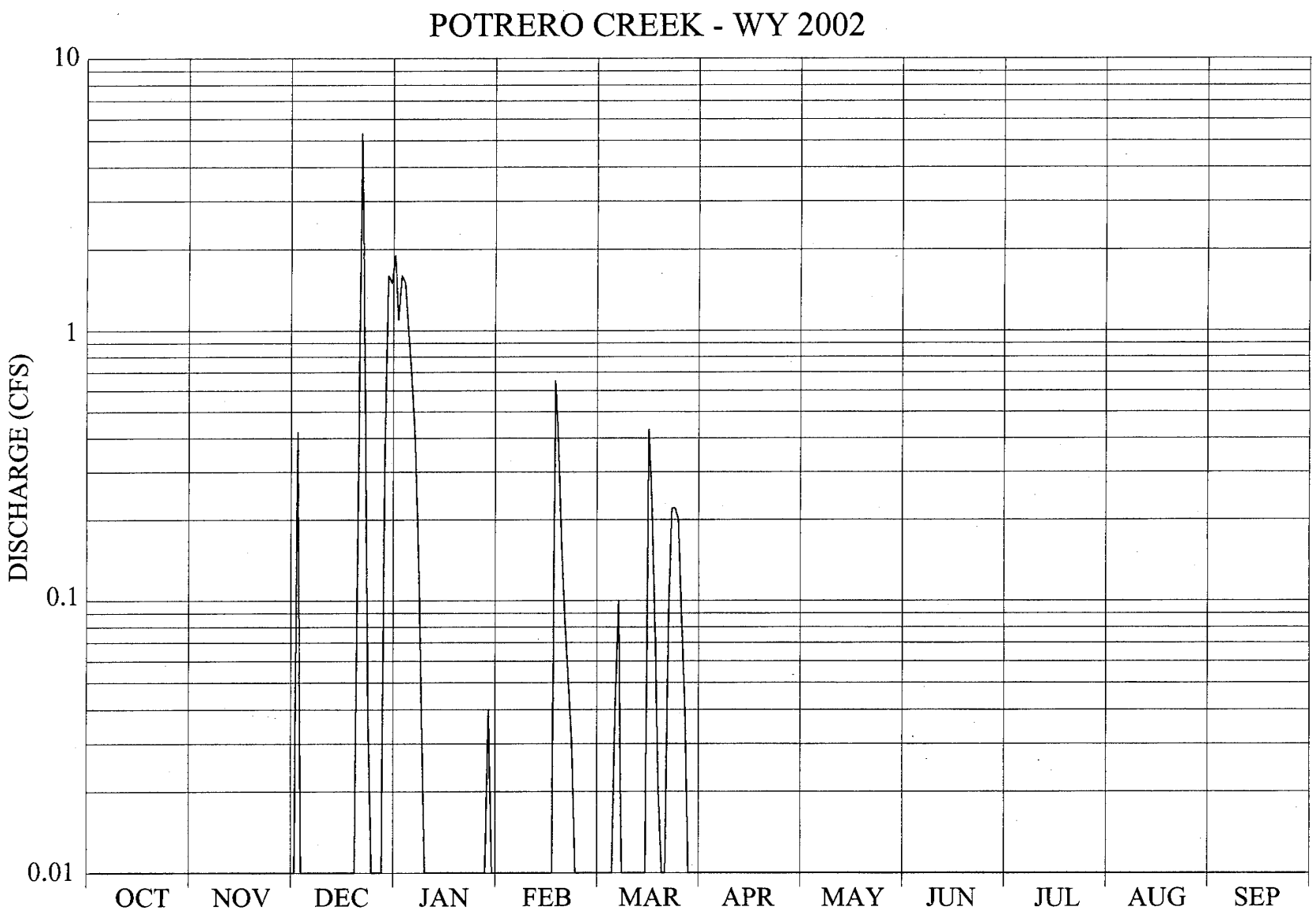

POTRERO CREEK - WY 2002
DISCHARGE (CFS)
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-43

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	1.1	0	0	0	0	0	0	0	0
2	0	0	.42	1.6	0	0	0	0	0	0	0	0
3	0	0	0	1.5	0	0	0	0	0	0	0	0
4	0	0	0	1.0	0	0	0	0	0	0	0	0
5	0	0	0	.67	0	0	0	0	0	0	0	0
6	0	0	0	.39	0	0	0	0	0	0	0	0
7	0	0	0	.17	0	.04	0	0	0	0	0	0
8	0	0	0	.04	0	.10	0	0	0	0	0	0
9	0	0	0	.01	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	.65	.43	0	0	0	0	0	0
18	0	0	0	0	.36	.23	0	0	0	0	0	0
19	0	0	0	0	.15	.08	0	0	0	0	0	0
20	0	0	.19	0	.08	.02	0	0	0	0	0	0
21	0	0	5.3	0	.05	0	0	0	0	0	0	0
22	0	0	.84	0	.03	0	0	0	0	0	0	0
23	0	0	.04	0	0	.09	0	0	0	0	0	0
24	0	0	0	0	0	.22	0	0	0	0	0	0
25	0	0	0	0	0	.22	0	0	0	0	0	0
26	0	0	0	0	0	.20	0	0	0	0	0	0
27	0	0	0	0	0	.08	0	0	0	0	0	0
28	0	0	.36	.04	0	.04	0	0	0	0	0	0
29	0	0	1.6	0	-------	0	0	0	0	0	0	0
30	0	0	1.5	0	------	0	0	0	0	0	0	0
31	0	------	1.9	0	------	0	------	0	------	0	0	------
TOTAL	0	0	12.15	6.52	1.32	1.75	0	0	0	0	0	0
MEAN	0	0	.39	.21	.047	.056	0	0	0	0	0	0
MAX	0	0	5.3	1.6	.65	.43	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	24	13	2.6	3.5	0	0	0	0	0	0

CAL YEAR 2001	TOTAL	168.53	MEAN	.46	MAX	19	MIN	0	AC-FT	334
WTR YEAR 2002	TOTAL	21.74	MEAN	.060	MAX	5.3	MIN	0	AC-FT	43

FIGURE D-44

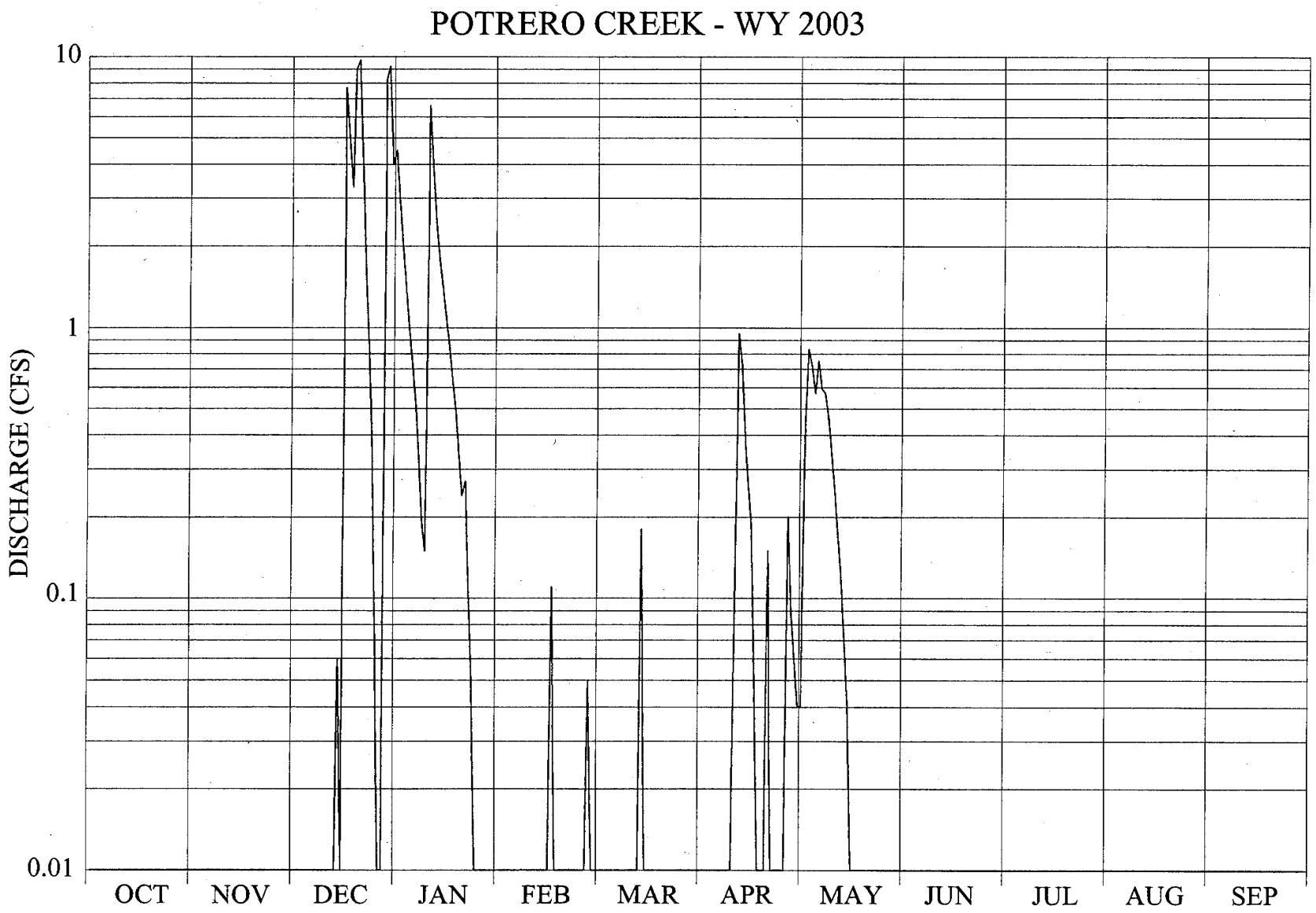

POTRERO CREEK - WY 2003
DISCHARGE (CFS)
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-44

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
POTRERO CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	2.9	0	0	0	.04e	0	0	0	0
2	0	0	0	2.0	0	0	0	.04e	0	0	0	0
3	0	0	0	1.4	0	0	0	.44	0	0	0	0
4	0	0	0	.99	0	0	0	.83	0	0	0	0
5	0	0	0	.73	0	0	0	.71	0	0	0	0
6	0	0	0	.51	0	0	0	.57	0	0	0	0
7	0	0	0	.32	0	0	0	.75	0	0	0	0
8	0	0	0	.19	0	0	0	.59	0	0	0	0
9	0	0	0	.15	0	0	0	.57	0	0	0	0
10	0	0	0	6.6	0	0	0	.46	0	0	0	0
11	0	0	0	3.8	0	0	0	.34	0	0	0	0
12	0	0	0	2.4	0	0	.08	.25	0	0	0	0
13	0	0	0	1.8	0	0	.95	.17	0	0	0	0
14	0	0	.06	1.4	0	0	.71	.12	0	0	0	0
15	0	0	0	1.1	0	.18	.38	.07	0	0	0	0
16	0	0	7.7	.87	.11	.01	.26	.04	0	0	0	0
17	0	0	4.9	.65	0	0	.19	0	0	0	0	0
18	0	0	3.3	.49	0	0	.05	0	0	0	0	0
19	0	0	9.0	.34	0	0	.01	0	0	0	0	0
20	0	0	9.7	.24	0	0	0	0	0	0	0	0
21	0	0	3.8	.27	0	0	0	0	0	0	0	0
22	0	0	1.6	.11	0	0	.15	0	0	0	0	0
23	0	0	.84	.05	0	0	0	0	0	0	0	0
24	0	0	.35	.01	0	0	0	0	0	0	0	0
25	0	0	.08	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	.05	0	0	0	0	0	0	0
28	0	0	8.2	0	0	0	.20	0	0	0	0	0
29	0	0	9.2	0	------	0	.09e	0	0	0	0	0
30	0	0	4.0	0	------	0	.06e	0	0	0	0	0
31	0	------	4.5	0	------	0	------	0	------	0	0	------
TOTAL	0	0	67.23	29.32	0.16	0.19	3.13	5.99	0	0	0	0
MEAN	0	0	2.17	.95	.006	.006	.10	.19	0	0	0	0
MAX	0	0	9.7	6.6	.11	.18	.95	.83	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	133	58	.3	.4	6.2	12	0	0	0	0

CAL YEAR 2002	TOTAL	76.82	MEAN	.21	MAX	9.7	MIN	0	AC-FT	152
WTR YEAR 2003	TOTAL	106.02	MEAN	.29	MAX	9.7	MIN	0	AC-FT	210

FIGURE D-45

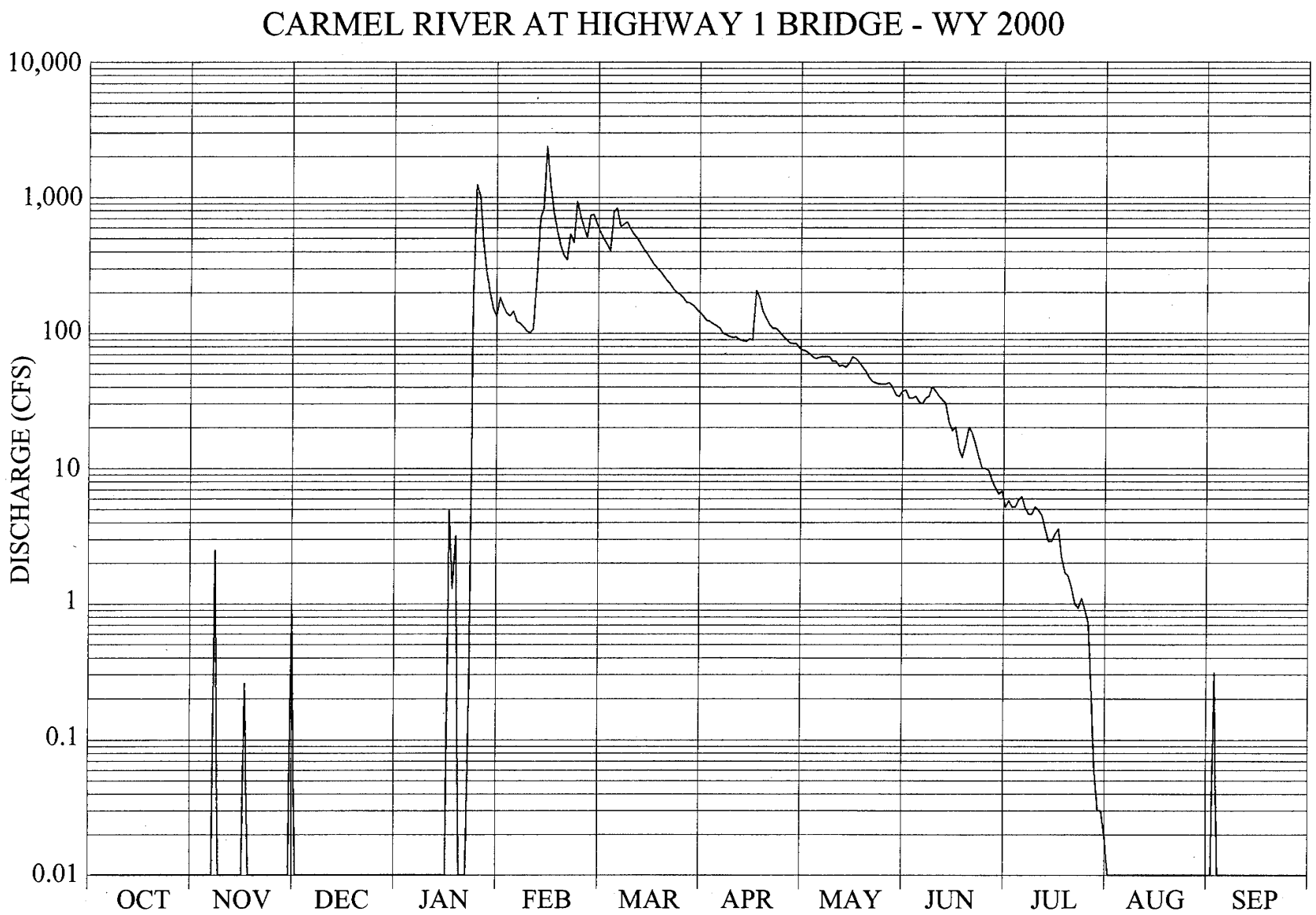

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 2000
10,000
1,000
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-45

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	158	554	134	75	38	5.2	.01	0
2	0	0	0	0	142	498	125	74	33	5.8	0	.31
3	0	0	0	0	135	452	123	71	33	5.2	0	0
4	0	0	0	0	146	406	118	67	34	5.2	0	0
5	0	0	0	0	123	788	114	65	31	5.9	0	0
6	0	0	0	0	119	829	110	66	30	6.2	0	0
7	0	2.5	0	0	112	611	100	67	33	5.1	0	0
8	0	0	0	0	105	632	98	67	34	4.6	0	0
9	0	0	0	0	101	660	95	67	40	4.6	0	0
10	0	0	0	0	108	592	93	62	37	5.2	0	0
11	0	0	0	0	246	538	94	62	34	4.9	0	0
12	0	0	0	0	710	503	90	57	32	4.5	0	0
13	0	0	0	0	834	459	88	58	30	3.6	0	0
14	0	0	0	0	2,370	419	87	56	22	2.9	0	0
15	0	0	0	0	1,260	387	91	60	19	2.9	0	0
16	0	.26	0	4.9	769	355	89	67	20	3.3	0	0
17	0	0	0	1.3	579	326	207	65	14	3.6	0	0
18	0	0	0	3.2	452	304	184	61	12	2.2	0	0
19	0	0	0	0	377	288	146	56	15	1.7	0	0
20	0	0	0	0	349	266	129	52	20	1.6	0	0
21	0	0	0	0	540	247	116	47	18	1.3	0	0
22	0	0	0	.20	469	231	109	44	15	.99	0	.01
23	0	0	0	172	930	213	109	43	12	.93	0	0
24	0	0	0	1,240	730	202	102	42	10	1.1	0	0
25	0	0	0	1,010	606	194	96	42	10	.91	0	0
26	0	0	0	464	511	183	91	42	9.7	.73	0	0
27	0	0	0	282	740	169	85	43	8.1	.22	0	0
28	0	0	0	199	747	168	84	40	7.2	.06	0	0
29	0	0	0	153	633	161	84	35	6.5	.03	0	0
30	0	1.0	0	134	------	151	78	34	6.8	.03	0	0
31	0	------	0	184	------	144	------	37	------	.02	0	------
TOTAL	0	3.76	0	3,847.60	15,101	11,930	3,269	1,724	664.3	90.52	0.01	0.32
MEAN	0	.13	0	124	521	385	109	55.6	22.1	2.92	0	.011
MAX	0	2.5	0	1,240	2,370	829	207	75	40	6.2	.01	.31
MIN	0	0	0	0	101	144	78	34	6.5	.02	0	0
AC-FT	0	7.5	0	7,630	29,950	23,660	6,480	3,420	1,320	180	.02	.6

CAL YEAR 1999	TOTAL	23,060.02	MEAN	63.2	MAX	998	MIN	0	AC-FT	45,740
WTR YEAR 2000	TOTAL	36,630.51	MEAN	100	MAX	2,370	MIN	0	AC-FT	72,660

FIGURE D-46

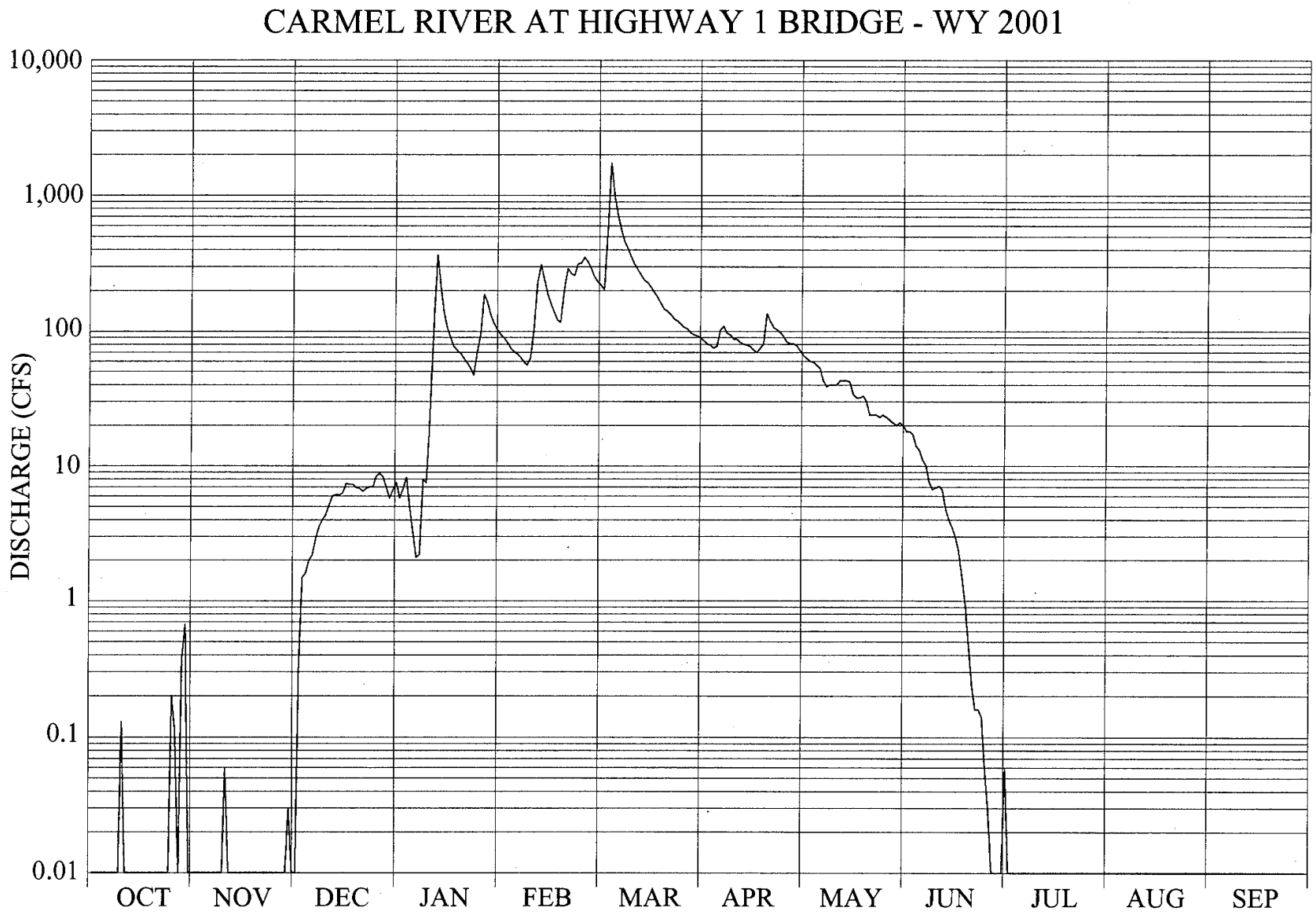

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 2001
DISCHARGE (CFS)
10,000
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-46

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	5.8	89	232	90	71	20	0	0	0
2	0	0	.37	6.7	82	219	85	66	18	.06	0	0
3	0	0	1.5	8.2	75	203	80	63	18	0	0	0
4	0	0	1.6	5.0	71	568	79	60	17	0	0	0
5	0	0	2.0	3.3	68	1,730	75	59	14	0	0	0
6	0	0	2.2	2.1	64	991	78	56	13	0	0	0
7	0	0	2.9	2.2	59	713	103	53	11	0	0	0
8	0	0	3.6	7.9	56	559	109	43	10	0	0	0
9	0	0	4.0	7.5	64	466	97	39	7.6	0	0	0
10	.13	.06	4.4	25	103	408	94	40	6.7	0	0	0
11	0	0	5.2	110 e	231	356	87	40	6.9	0	0	0
12	0	0	6.0	366	311	315	87	40	7.1	0	0	0
13	0	0	6.1	220	241	285	83	43	6.6	0	0	0
14	0	0	6.1	137	192	260	80	43	4.8	0	0	0
15	0	0	6.3	106	162	240	79	43	4.0	0	0	0
16	0	0	7.4	90	138	229	77	42	3.5	0	0	0
17	0	0	7.3	77	121	212	73	34	3.0	0	0	0
18	0	0	7.3	72	117	194	70	32	2.3	0	0	0
19	0	0	6.9	69	205	180	75	32	1.5	0	0	0
20	0	0	6.8	63	290	161	81	33	.96	0	0	0
21	0	0	6.5	58	268	146	135	30	.46	0	0	0
22	0	0	6.8	53	259	141	118	24	.24	0	0	0
23	0	0	7.0	47	314	133	107	24	.16	0	0	0
24	0	0	7.0	69	319	124	103	24	.16	0	0	0
25	.20	0	8.4	95	350	120	98	23	.14	0	0	0
26	.11	0	8.8	188	326	114	91	24	.06	0	0	0
27	0	0	8.3	164	291	108	83	23	.03	0	0	0
28	.38	0	6.9	131	253	105	81	22	.01	0	0	0
29	.67	.03	5.8	114	------	98	81	21	.01	0	0	0
30	.01	0	6.7	103	------	94	78	20	.01	0	0	0
31	0	------	7.5	94	------	92	------	21	------	0	0	------
TOTAL	1.50	0.09	167.67	2,499.7	5,119	9,796	2,657	1,188	177.24	0.06	0	0
MEAN	.048	.003	5.41	80.6	183	316	88.6	38.3	5.91	.002	0	0
MAX	.67	.06	8.8	366	350	1,730	135	71	20	.06	0	0
MIN	0	0	0	2.1	56	92	70	20	.01	0	0	0
AC-FT	3.0	.2	333	4,960	10,150	19,430	5,270	2,360	352	.1	0	0

CAL YEAR 2000	TOTAL	36,796.01	MEAN	101	MAX	2,360	MIN	0	AC-FT	72,980
WTR YEAR 2001	TOTAL	21,606.26	MEAN	59.2	MAX	1,730	MIN	0	AC-FT	42,860

FIGURE D-47

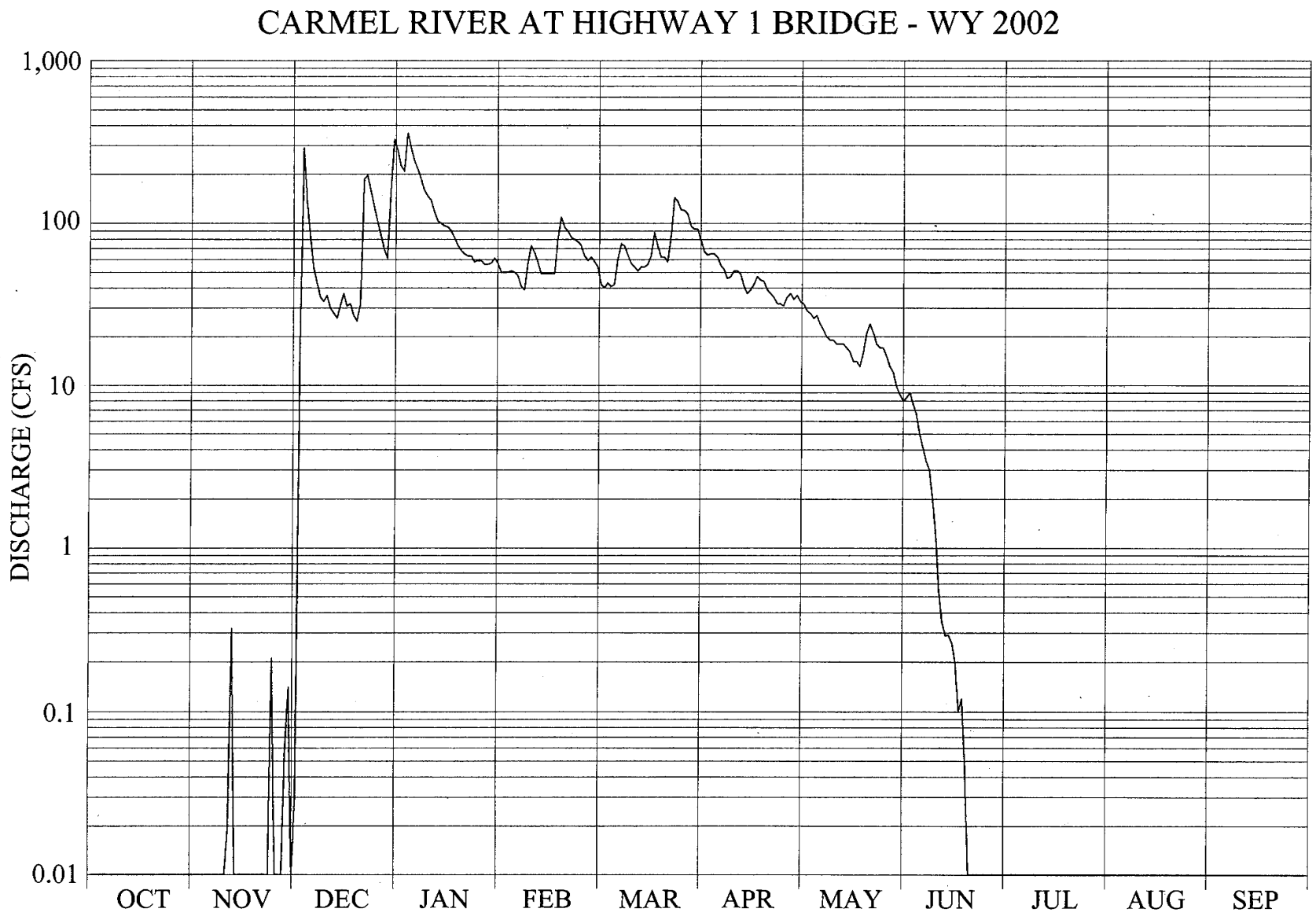

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 2002
DISCHARGE (CFS)
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-47

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.03	224	50	54	79	33	8.0	0	0	0
2	0	0	18	209	50	42	67	32	8.4	0	0	0
3	0	0	289	358	51	40	64	29	9.0	0	0	0
4	0	0	134	291	50	43	65	28	7.6	0	0	0
5	0	0	79	242	48	41	65	26	6.6	0	0	0
6	0	0	53	213	41	42	62	27	5.0	0	0	0
7	0	0	43	185	39	60	55	24	4.1	0	0	0
8	0	0	35	158	56	75	52	22	3.4	0	0	0
9	0	0	33	146	73	73	46	20	3.0	0	0	0
10	0	0	36	138	66	64	47	19	2.0	0	0	0
11	0	.02	30	117	58	57	51	19	1.2	0	0	0
12	0	.32	28	103	49	54	51	18	.54	0	0	0
13	0	0	26	100	49	51	49	18	.35	0	0	0
14	0	0	31	96	49	54	41	18	.29	0	0	0
15	0	0	37	95	49	54	37	17	.29	0	0	0
16	0	0	31	90	49	56	39	16	.26	0	0	0
17	0	0	32	82	81	63	42	14	.20	0	0	0
18	0	0	27	73	109	88	47	14	.10	0	0	0
19	0	0	25	68	94	73	45	13	.12	0	0	0
20	0	0	32	65	89	62	44	16	.05	0	0	0
21	0	0	187	63	82	62	39	21	.01	0	0	0
22	0	0	197	63	80	58	37	24	0	0	0	0
23	0	0	156	58	77	85	35	21	0	0	0	0
24	0	.21	126	59	73	143	32	18	0	0	0	0
25	0	0	102	59	63	136	32	17	0	0	0	0
26	0	0	85	56	59	121	31	17	0	0	0	0
27	0	0	69	56	62	120	35	15	0	0	0	0
28	0	.06	61	57	58	113	37	13	0	0	0	0
29	0	.14	160	61	------	96	34	12	0	0	0	0
30	0	0	328	57	------	92	36	9.8	0	0	0	0
31	0	------	279	50	------	92	------	8.7	------	0	0	------
TOTAL	0	0.75	2,769.03	3,692	1,754	2,264	1,396	599.5	60.51	0	0	0
MEAN	0	.025	89.3	119	62.6	73.0	46.5	19.3	2.02	0	0	0
MAX	0	.32	328	358	109	143	79	33	9.0	0	0	0
MIN	0	0	.03	50	39	40	31	8.7	0	0	0	0
AC-FT	0	1.5	5,490	7,320	3,480	4,490	2,770	1,190	120	0	0	0

CAL YEAR 2001	TOTAL	24,206.78	MEAN	66.3	MAX	1,730	MIN	0	AC-FT	48,010
WTR YEAR 2002	TOTAL	12,535.79	MEAN	34.3	MAX	358	MIN	0	AC-FT	24,860

FIGURE D-48

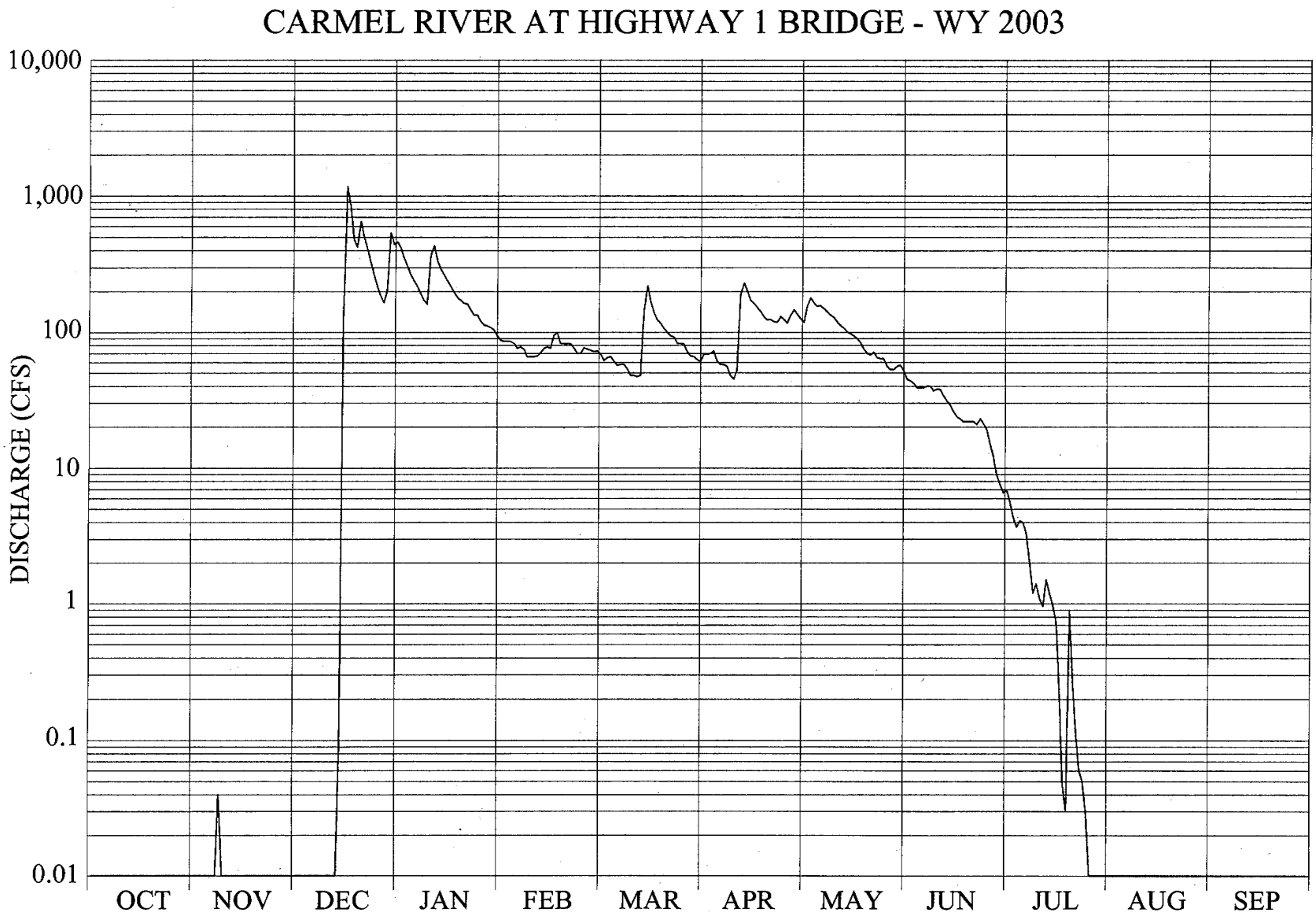

CARMEL RIVER AT HIGHWAY 1 BRIDGE - WY 2003
DISCHARGE (CFS)
10,000
1,000
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-48

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
CARMEL RIVER AT HIGHWAY 1 BRIDGE

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	419	86	73	61	126	52	6.6	0	0
2	0	0	0	355	86	69	69	118	45	6.9	0	0
3	0	0	0	306	86	62	69	156	44	5.7	0	0
4	0	0	0	266	83	65	70	179	42	4.4	0	0
5	0	0	0	240	76	66	73	164	39	3.7	0	0
6	0	0	0	217	78	61	61	156	39	4.1	0	0
7	0	.01	0	193	75	57	58	157	39	4.0	0	0
8	0	.04	0	172	66	58	58	150	40	3.3	0	0
9	0	0	0	161	66	58	56	142	40	2.1	0	0
10	0	0	0	367	66	54	48	134	37	1.2	0	0
11	0	0	0	434	67	48	45	129	38	1.4	0	0
12	0	0	0	337	71	48	52	119	38	1.1	0	0
13	0	0	0	292	76	47	190	112	34	.96	0	0
14	0	0	.09	265	78	48	231	108	31	1.5	0	0
15	0	0	122	239	76	141	201	101	29	1.2	0	0
16	0	0	1,170	218	96	221	172	98	26	.96	0	0
17	0	0	830	198	99	167	163	94	24	.74	0	0
18	0	0	483	181	83	140	152	90	23	.23	0	0
19	0	0	424	173	82	124	142	84	22	.05	0	0
20	0	0	650	165	82	116	131	75	22	.03	0	0
21	0	0	502	161	82	107	124	70	22	.88	0	0
22	0	0	415	147	76	100	125	68	22	.27	0	0
23	0	0	331	134	70	94	120	71	21	.11	0	0
24	0	0	268	134	70	92	119	65	23	.06	0	0
25	0	0	222	121	77	83	131	64	21	.05	0	0
26	0	0	188	113	75	82	125	64	19	.03	0	0
27	0	0	166	112	74	82	117	56	15	0	0	0
28	0	0	202	109	72	72	133	53	12	0	0	0
29	0	0	540	105	------	67	147	53	8.9	0	0	0
30	0	0	445	94	------	66	136	56	7.6	0	0	0
31	0	------	462	87	------	63	------	57	------	0	0	------
TOTAL	0	0.05	7,420.09	6,515	2,174	2,631	3,379	3,169	875.5	51.57	0	0
MEAN	0	.002	239	210	77.6	84.9	113	102	29.2	1.66	0	0
MAX	0	.04	1,170	434	99	221	231	179	52	6.9	0	0
MIN	0	0	0	87	66	47	45	53	7.6	0	0	0
AC-FT	0	.1	14,720	12,920	4,310	5,220	6,700	6,290	1,740	102	0	0

CAL YEAR 2002	TOTAL	17,186.15	MEAN	47.1	MAX	1,170	MIN	0	AC-FT	34,090
WTR YEAR 2003	TOTAL	26,215.21	MEAN	71.8	MAX	1,170	MIN	0	AC-FT	52,000

FIGURE D-49

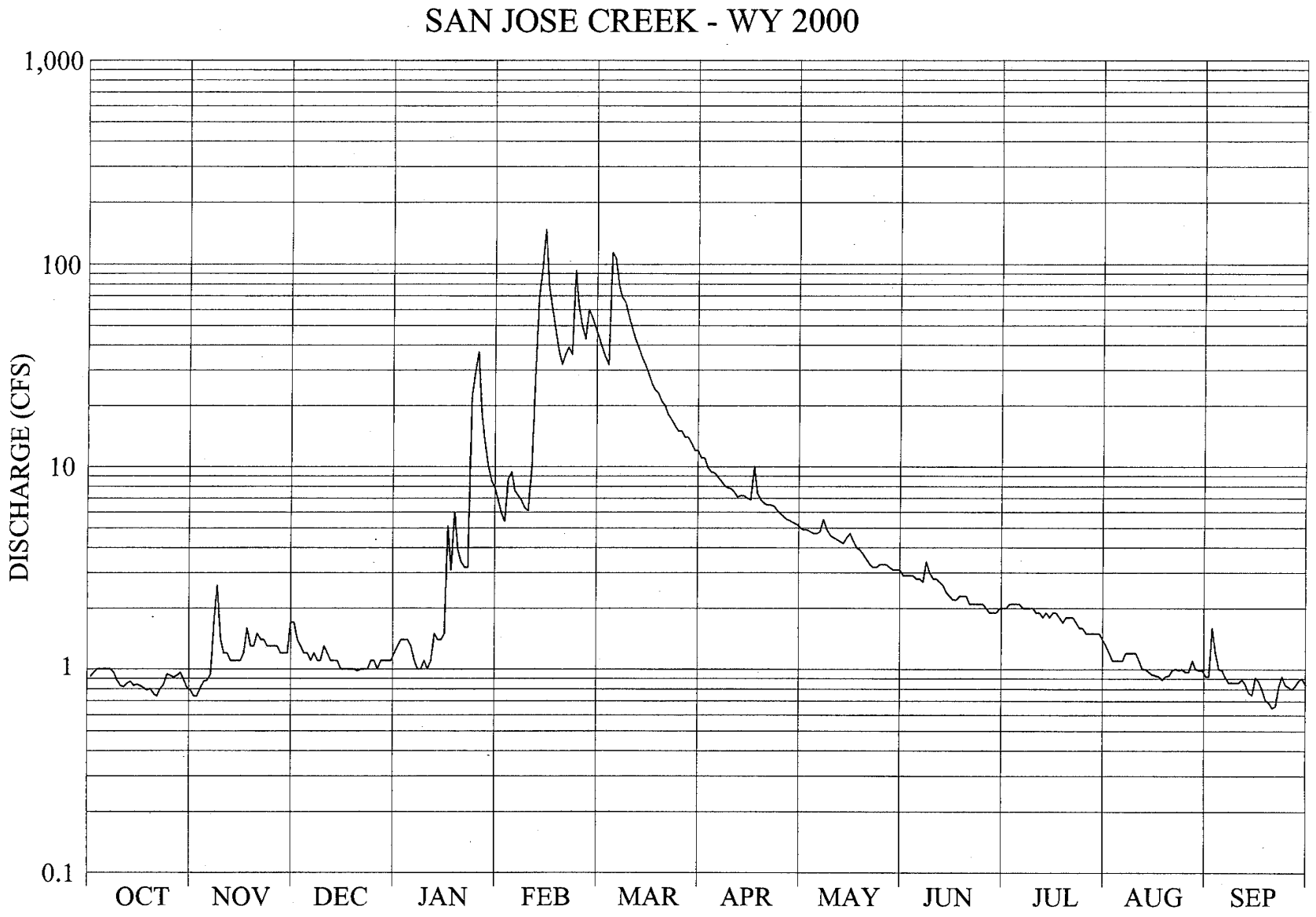

SAN JOSE CREEK - WY 2000
DISCHARGE (CFS)
1,000
100
10
1
0.1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-49

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN JOSE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 1999 TO SEP 2000

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.92	.74	1.7	1.3	5.9	44	11	5.0	2.9	2.0	1.3	.92
2	.96	.74	1.4	1.4	5.4	39	11	4.9	2.9	2.0	1.2	1.6
3	1.0	.81	1.3	1.4	8.7	35	9.9	4.9	2.9	2.1	1.1	1.2
4	1.0	.87	1.2	1.4	9.4	32	9.4	4.8	2.9	2.1	1.1	1.0
5	1.0	.88	1.2	1.3	7.6	114	9.3	4.7	2.8	2.1	1.1	.99
6	1.0	.94	1.1	1.1	7.2	106	8.9	4.7	2.8	2.1	1.1	.91
7	1.0	1.7	1.2	1.0	6.8	79	8.5	4.8	2.7	2.0	1.2	.86
8	.96	2.6	1.1	1.0	6.3	69	8.1	5.5	3.4	2.0	1.2	.86
9	.88	1.4	1.1	1.1	6.1	65	7.9	4.9	3.0	2.0	1.2	.86
10	.83	1.2	1.3	1.0	9.7	56	7.8	4.6	2.8	2.0	1.2	.86
11	.82	1.2	1.2	1.1	26	49	7.5	4.5	2.8	1.9	1.1	.89
12	.85	1.1	1.1	1.5	68	43	7.1	4.4	2.7	1.9	1.0	.84
13	.87	1.1	1.1	1.4	96	39	7.2	4.3	2.6	1.8	1.0	.77
14	.83	1.1	1.1	1.4	147	35	7.2	4.2	2.4	1.9	.97	.75
15	.84	1.1	1.0	1.5	79	32	7.0	4.5	2.3	1.8	.94	.91
16	.83	1.2	1.0	5.1	61	29	6.9	4.7	2.2	1.9	.93	.87
17	.81	1.6	1.0	3.1	48	26	10	4.3	2.2	1.9	.92	.80
18	.79	1.3	1.0	6.0	38	24	7.4	4.0	2.3	1.8	.89	.71
19	.80	1.3	1.0	3.9	32	23	6.9	3.9	2.3	1.7	.92	.69
20	.76	1.5	.98	3.4	36	21	6.6	3.7	2.3	1.8	.93	.65
21	.74	1.4	1.0	3.2	39	20	6.5	3.5	2.1	1.8	.99	.66
22	.80	1.4	1.0	3.2	36	18	6.5	3.3	2.1	1.8	1.0	.82
23	.84	1.3	1.0	22	93	17	6.4	3.2	2.1	1.7	.99	.92
24	.94	1.3	1.1	29	62	16	6.1	3.2	2.1	1.6	1.0	.84
25	.93	1.3	1.1	37	50	15	5.9	3.3	2.1	1.6	.97	.82
26	.91	1.3	1.0	18	43	15	5.7	3.3	2.0	1.5	.97	.80
27	.93	1.2	1.1	13	60	14	5.5	3.3	1.9	1.5	1.1	.83
28	.96	1.2	1.1	10	55	14	5.4	3.2	1.9	1.5	1.0	.88
29	.89	1.2	1.1	8.5	49	13	5.3	3.1	1.9	1.5	.99	.90
30	.81	1.7	1.1	7.9	------	12	5.2	3.1	2.0	1.5	.99	.84
31	.79	------	1.2	6.8	------	12	------	3.1	------	1.4	.92	------
TOTAL	27.29	37.68	34.88	199.0	1,191.1	1,126	224.1	126.9	73.4	56.2	32.22	26.25
MEAN	.88	1.26	1.13	6.42	41.1	36.3	7.47	4.09	2.45	1.81	1.04	.88
MAX	1.0	2.6	1.7	37	147	114	11	5.5	3.4	2.1	1.3	1.6
MIN	.74	.74	.98	1.0	5.4	12	5.2	3.1	1.9	1.4	.89	.65
AC-FT	54	75	69	395	2,360	2,230	445	252	146	111	64	52

CAL YEAR 1999	TOTAL	3,125.85	MEAN	8.56	MAX	162	MIN	.74	AC-FT	6,200
WTR YEAR 2000	TOTAL	3,155.02	MEAN	8.62	MAX	147	MIN	.65	AC-FT	6,260

FIGURE D-50

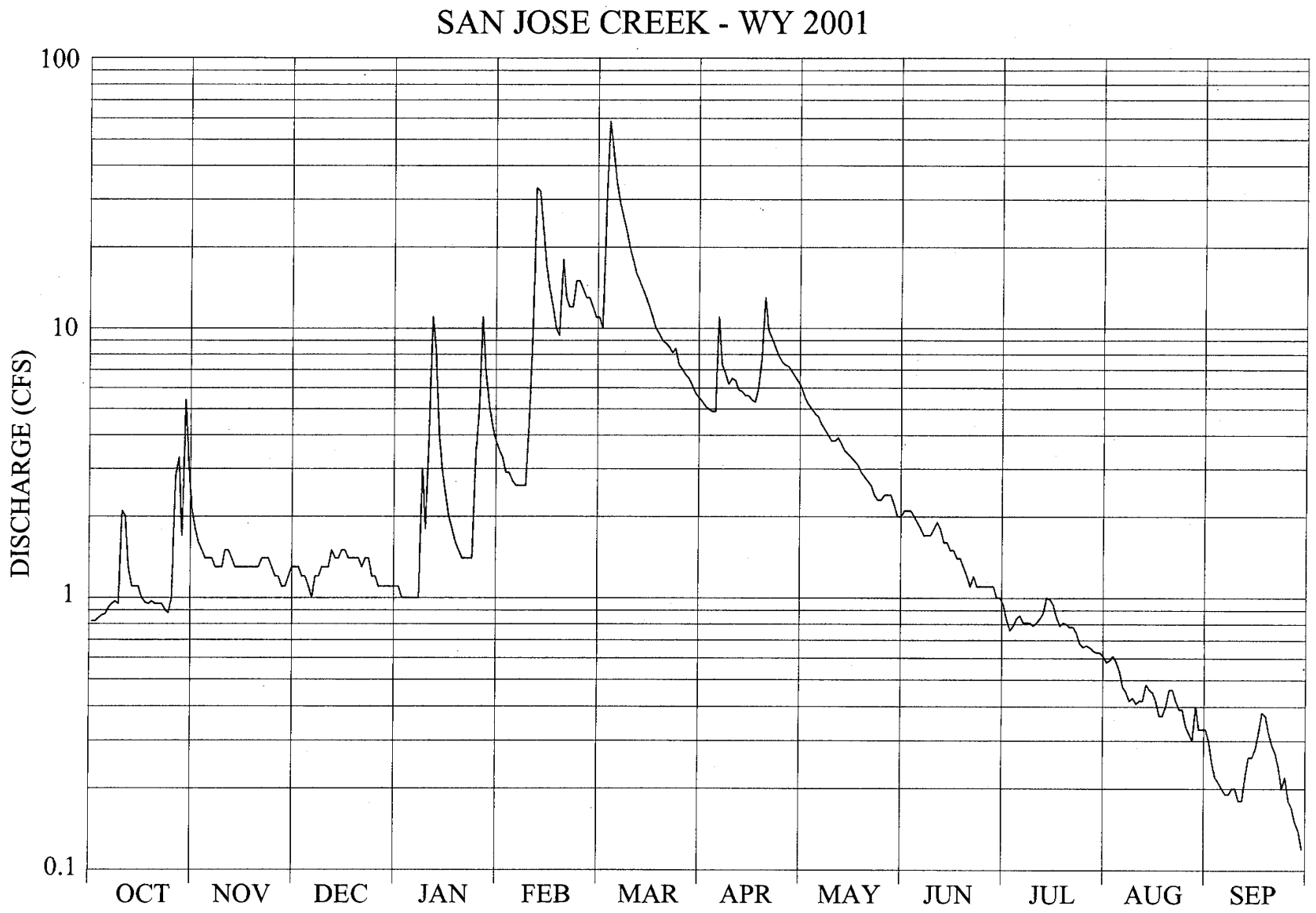

SAN JOSE CREEK - WY 2001
100
10
1
0.1
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-50

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN JOSE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2000 TO SEP 2001

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	1.8	1.3	1.1	3.3	11	5.5	6.3	2.0	1.0	.61	.33
2	.82	1.6	1.3	1.0	2.9	11	5.3	6.0	2.1	.94	.58	.30
3	.84	1.5	1.2	1.0	2.9	10	5.1	5.5	2.1	.83	.59	.25
4	.86	1.4	1.2	1.0	2.7	29	5.0	5.2	2.1	.76	.61	.22
5	.87	1.4	1.1	1.0	2.6	58	4.9	5.0	2.0	.79	.58	.21
6	.92	1.4	1.0	1.0	2.6	46	4.9	4.8	1.9	.84	.54	.20
7	.95	1.3	1.2	1.0	2.6	35	11	4.7	1.8	.86	.47	.19
8	.97	1.3	1.2	3.0	2.6	29	7.3	4.4	1.7	.81	.45	.19
9	.95	1.3	1.3	1.8	4.7	26	6.8	4.2	1.7	.81	.42	.20
10	2.1	1.5	1.3	4.2	9.4	23	6.2	4.0	1.7	.81	.43	.20
11	2.0	1.5	1.3	11	33	20	6.5	3.8	1.8	.79	.41	.18
12	1.3	1.4	1.5	8.2	32	18	6.4	3.8	1.9	.81	.42	.18
13	1.1	1.3	1.4	4.0	23	16	5.9	3.9	1.8	.84	.42	.22
14	1.1	1.3	1.4	2.9	17	15	5.8	3.7	1.6	.88	.48	.26
15	1.1	1.3	1.5	2.4	14	14	5.6	3.5	1.6	1.0	.46	.26
16	1.0	1.3	1.5	2.0	12	13	5.6	3.4	1.5	.99	.45	.28
17	.96	1.3	1.4	1.8	10	12	5.4	3.3	1.5	.94	.42	.32
18	.95	1.3	1.4	1.6	9.4	11	5.3	3.2	1.4	.85	.37	.38
19	.97	1.3	1.4	1.5	18	10	6.0	3.1	1.4	.79	.37	.37
20	.95	1.3	1.4	1.4	13	9.5	7.7	2.9	1.3	.81	.40	.32
21	.95	1.4	1.3	1.4	12	9.0	13	2.8	1.2	.80	.46	.29
22	.95	1.4	1.4	1.4	12	8.8	9.8	2.7	1.1	.78	.46	.27
23	.90	1.4	1.4	1.4	15	8.5	9.2	2.6	1.2	.78	.42	.24
24	.88	1.3	1.2	3.4	15	8.1	8.5	2.4	1.1	.74	.39	.20
25	1.0	1.2	1.2	5.1	14	8.4	7.9	2.3	1.1	.68	.39	.22
26	2.8	1.2	1.1	11	13	7.3	7.5	2.3	1.1	.66	.34	.18
27	3.3	1.1	1.1	6.8	13	7.0	7.3	2.4	1.1	.67	.32	.17
28	1.7	1.1	1.1	5.1	12	6.7	7.2	2.4	1.1	.66	.30	.15
29	5.4	1.2	1.1	4.3	------	6.5	6.9	2.4	1.1	.64	.40	.14
30	3.0	1.3	1.1	3.8	------	6.1	6.6	2.2	1.0	.63	.33	.12
31	2.1	------	1.1	3.5	------	5.7	------	2.0	------	.63	.33	------
TOTAL	44.51	40.4	39.4	100.1	323.7	498.6	206.1	111.2	46.0	24.82	13.62	7.04
MEAN	1.44	1.35	1.27	3.23	11.6	16.1	6.87	3.59	1.53	.80	.44	.23
MAX	5.4	1.8	1.5	11	33	58	13	6.3	2.1	1.0	.61	.38
MIN	.82	1.1	1.0	1.0	2.6	5.7	4.9	2.0	1.0	.63	.30	.12
AC-FT	88	80	78	199	642	989	409	221	91	49	27	14

CAL YEAR 2000	TOTAL	3,179.48	MEAN	8.69	MAX	147	MIN	.65	AC-FT	6,310
WTR YEAR 2001	TOTAL	1,455.49	MEAN	3.99	MAX	58	MIN	.12	AC-FT	2,890

FIGURE D-51

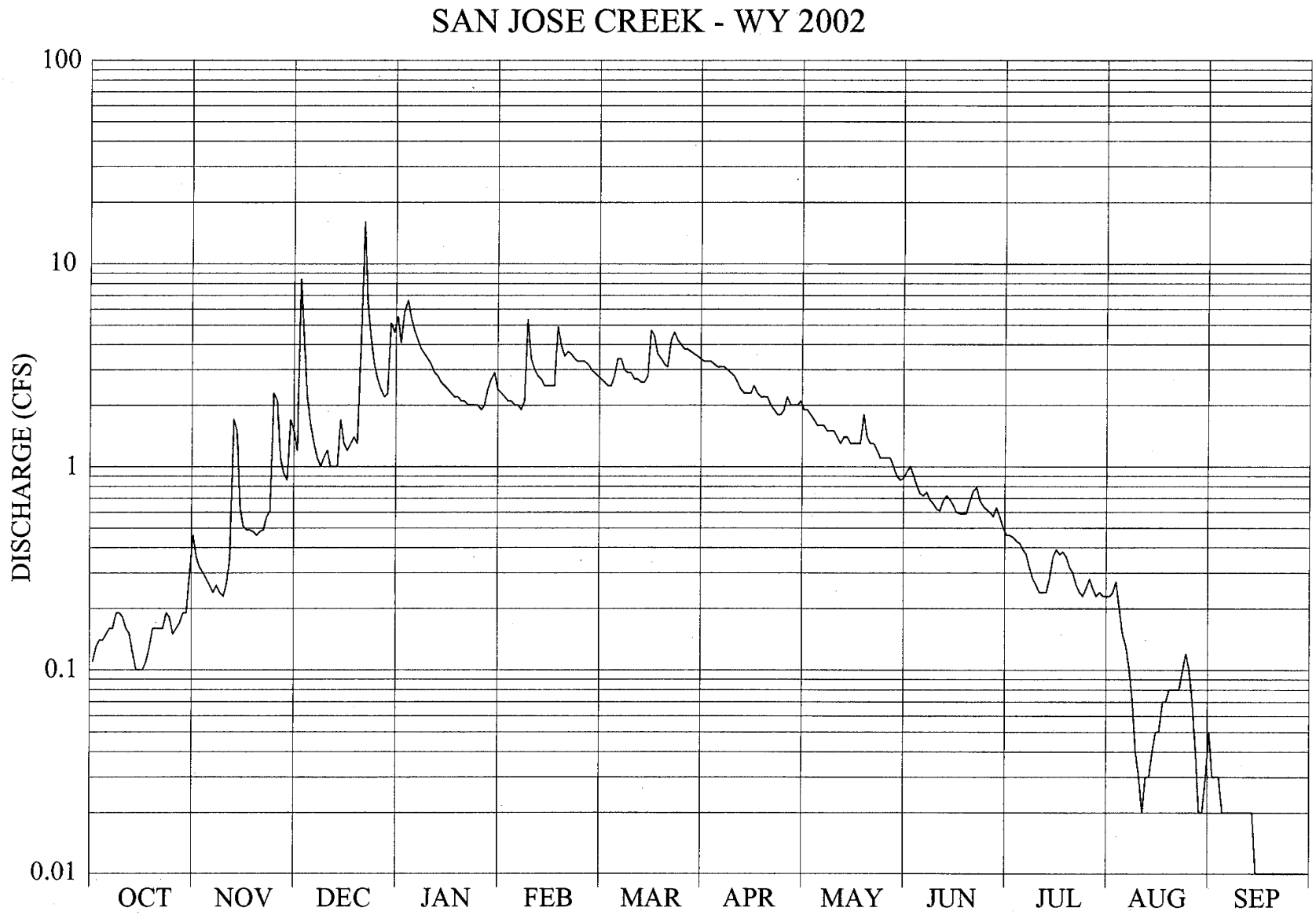

SAN JOSE CREEK - WY 2002
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-51

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN JOSE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2001 TO SEP 2002

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.36	1.2	4.1	2.2	2.8	3.4	2.1	.88	.50	.23	.05
2	.13	.32	8.4	5.8	2.1	2.7	3.3	1.9	.95	.46	.23	.03
3	.14	.30	4.3	6.6	2.1	2.6	3.3	1.9	1.0	.46	.24	.03
4	.14	.28	2.2	5.4	2.0	2.5	3.3	1.8	.91	.45	.27	.03
5	.15	.26	1.6	4.7	2.0	2.5	3.2	1.7	.81	.43	.20	.02
6	.16	.24	1.3	4.2	1.9	2.8	3.1	1.6	.74	.42	.15	.02
7	.16	.26	1.1	3.8	2.1	3.4	3.1	1.6	.72	.39	.13	.02
8	.19	.24	1.0	3.6	5.3	3.4	3.1	1.6	.75	.37	.10	.02
9	.19	.23	1.1	3.4	3.4	3.0	3.0	1.5	.69	.32	.07	.02
10	.18	.26	1.2	3.2	3.0	2.9	2.9	1.5	.66	.28	.04	.02
11	.16	.35	1.0	2.9	2.8	2.9	2.8	1.5	.62	.26	.03	.02
12	.15	1.7	1.0	2.8	2.7	2.7	2.6	1.4	.61	.24	.02	.02
13	.12	1.5	1.0	2.6	2.5	2.7	2.4	1.3	.68	.24	.03	.02
14	.10	.63	1.7	2.5	2.5	2.6	2.3	1.4	.72	.24	.03	.02
15	.10	.51	1.3	2.4	2.5	2.6	2.3	1.4	.69	.28	.04	.01
16	.10	.49	1.2	2.3	2.5	2.8	2.3	1.3	.65	.36	.05	.01
17	.11	.49	1.3	2.2	4.9	4.7	2.5	1.3	.60	.39	.05	.01
18	.13	.48	1.4	2.2	4.0	4.4	2.3	1.3	.59	.37	.07	.01
19	.16	.46	1.3	2.1	3.5	3.6	2.2	1.3	.59	.38	.07	.01
20	.16	.48	3.8	2.1	3.7	3.4	2.2	1.8	.59	.36	.08	.01
21	.16	.49	16	2.0	3.6	3.2	2.2	1.4	.68	.32	.08	.01
22	.16	.57	6.4	2.0	3.4	3.1	2.0	1.3	.76	.30	.08	.01
23	.19	.61	4.3	2.0	3.3	4.2	1.9	1.3	.79	.26	.08	.01
24	.18	2.3	3.2	2.0	3.3	4.6	1.8	1.2	.68	.24	.10	.01
25	.15	2.1	2.7	1.9	3.3	4.2	1.8	1.1	.64	.23	.12	.01
26	.16	1.1	2.4	2.0	3.2	4.0	1.9	1.1	.62	.25	.10	.01
27	.17	.93	2.2	2.4	3.0	3.8	2.2	1.1	.60	.28	.07	.01
28	.19	.86	2.3	2.7	2.9	3.8	2.0	1.1	.57	.25	.04	.01
29	.19	1.7	5.1	2.9	------	3.7	2.0	1.0	.63	.23	.02	.01
30	.30	1.5	4.6	2.4	------	3.6	2.0	.90	.57	.24	.02	.01
31	.46	------	5.5	2.3	------	3.5	------	.86	------	.23	.03	------
TOTAL	5.15	22.00	93.1	93.5	83.7	102.7	75.4	43.56	20.99	10.03	2.87	0.50
MEAN	.17	.73	3.00	3.02	2.99	3.31	2.51	1.41	.70	.32	.093	.017
MAX	.46	2.3	16	6.6	5.3	4.7	3.4	2.1	1.0	.50	.27	.05
MIN	.10	.23	1.0	1.9	1.9	2.5	1.8	.86	.57	.23	.02	.01
AC-FT	10	44	185	185	166	204	150	86	42	20	5.7	1.0

CAL YEAR 2001	TOTAL	1,451.43	MEAN	3.98	MAX	58	MIN	.10	AC-FT	2,880
WTR YEAR 2002	TOTAL	553.50	MEAN	1.52	MAX	16	MIN	.01	AC-FT	1,100

FIGURE D-52

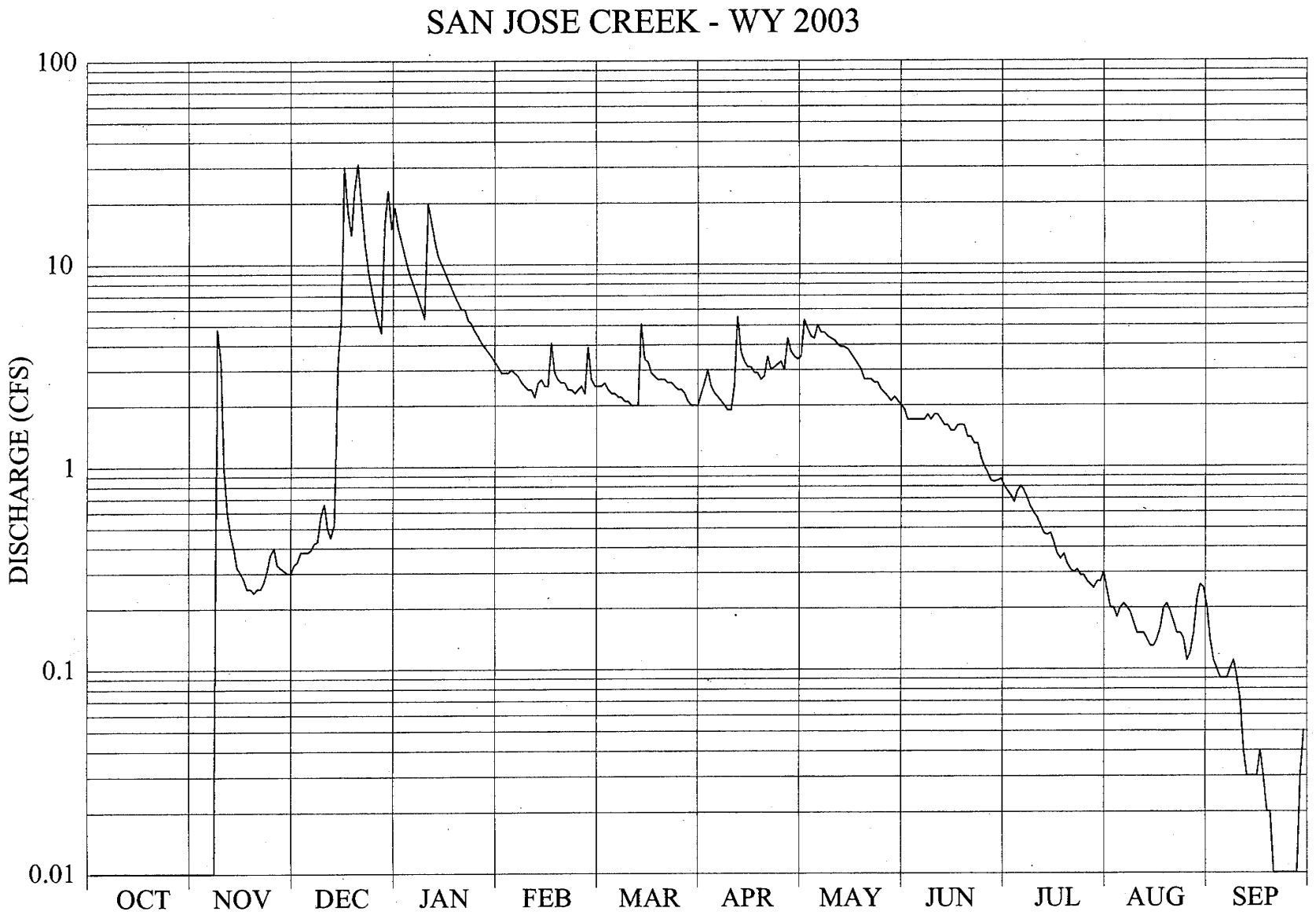

SAN JOSE CREEK - WY 2003
100
10
1
0.1
0.01
DISCHARGE (CFS)
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-52

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SAN JOSE CREEK

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	0	.33	15	2.9	2.5	2.0	3.4	2.0	.87	.30	.20
2	.01	0	.34	13	2.9	2.5	2.3	3.5	1.9	.80	.24	.14
3	.01	0	.38	11	2.9	2.5	2.6	5.3	1.7	.76	.20	.11
4	.01	0	.38	9.5	3.0	2.6	3.0	4.8	1.7	.72	.20	.10
5	.01	0	.38	8.5	2.9	2.4	2.5	4.4	1.7	.67	.18	.09
6	.01	0	.39	7.6	2.8	2.3	2.3	4.3	1.7	.76	.20	.09
7	.01	0	.42	6.8	2.6	2.3	2.2	5.0	1.7	.80	.21	.09
8	.01	4.8	.43	6.1	2.5	2.2	2.1	4.6	1.7	.76	.20	.10
9	.01	3.3	.57	5.4	2.4	2.2	2.0	4.6	1.8	.70	.19	.11
10	0	1.0	.66	20	2.4	2.1	1.9	4.4	1.7	.63	.17	.09
11	0	.60	.50	16	2.2	2.1	1.9	4.3	1.8	.59	.15	.07
12	.01	.47	.45	13	2.6	2.0	2.5	4.2	1.8	.56	.15	.04
13	.01	.40	.52	11	2.7	2.0	5.5	4.0	1.7	.51	.15	.03
14	0	.32	3.1	10	2.5	2.0	3.7	3.9	1.6	.47	.14	.03
15	0	.30	5.2	9.2	2.5	5.1	3.3	3.9	1.6	.46	.13	.03
16	0	.28	30	8.4	4.1	3.4	3.1	3.8	1.5	.47	.13	.03
17	0	.25	18	7.7	2.9	3.3	3.1	3.6	1.5	.42	.14	.04
18	0	.25	14	7.0	2.7	2.9	2.9	3.4	1.6	.37	.16	.03
19	0	.24	23	6.5	2.6	2.8	2.9	3.2	1.6	.35	.20	.02
20	0	.25	31	6.0	2.6	2.7	2.7	3.0	1.6	.37	.21	.02
21	0	.25	20	6.0	2.4	2.7	2.8	2.7	1.4	.33	.19	.01
22	0	.27	13	5.3	2.4	2.7	3.5	2.7	1.4	.31	.17	.01
23	0	.31	9.5	5.1	2.3	2.6	3.0	2.7	1.3	.30	.15	.01
24	0	.37	7.7	4.7	2.4	2.6	3.1	2.6	1.3	.31	.15	.01
25	0	.40	6.3	4.4	2.5	2.5	3.2	2.6	1.1	.29	.14	.01
26	0	.33	5.3	4.1	2.3	2.4	3.3	2.4	1.0	.29	.11	.01
27	0	.32	4.6	3.9	3.9	2.4	3.0	2.3	.93	.27	.12	.01
28	0	.31	16	3.7	2.7	2.3	4.3	2.2	.85	.26	.15	.01
29	0	.30	23	3.5	------	2.1	3.7	2.1	.84	.25	.22	.03
30	0	.30	15	3.3	------	2.0	3.5	2.2	.85	.27	.26	.05
31	0	------	19	3.1	------	2.0	------	2.1	------	.27	.25	------
TOTAL	0.11	15.62	269.45	244.8	75.6	78.2	87.9	108.2	44.87	15.19	5.56	1.62
MEAN	.004	.52	8.69	7.90	2.70	2.52	2.93	3.49	1.50	.49	.18	.054
MAX	.01	4.8	31	20	4.1	5.1	5.5	5.3	2.0	.87	.30	.20
MIN	0	0	.33	3.1	2.2	2.0	1.9	2.1	.84	.25	.11	.01
AC-FT	.2	31	534	486	150	155	174	215	89	30	11	3.2

CAL YEAR 2002	TOTAL	718.43	MEAN	1.97	MAX	31	MIN	0	AC-FT	1,430
WTR YEAR 2003	TOTAL	947.12	MEAN	2.59	MAX	31	MIN	0	AC-FT	1,880

FIGURE D-53

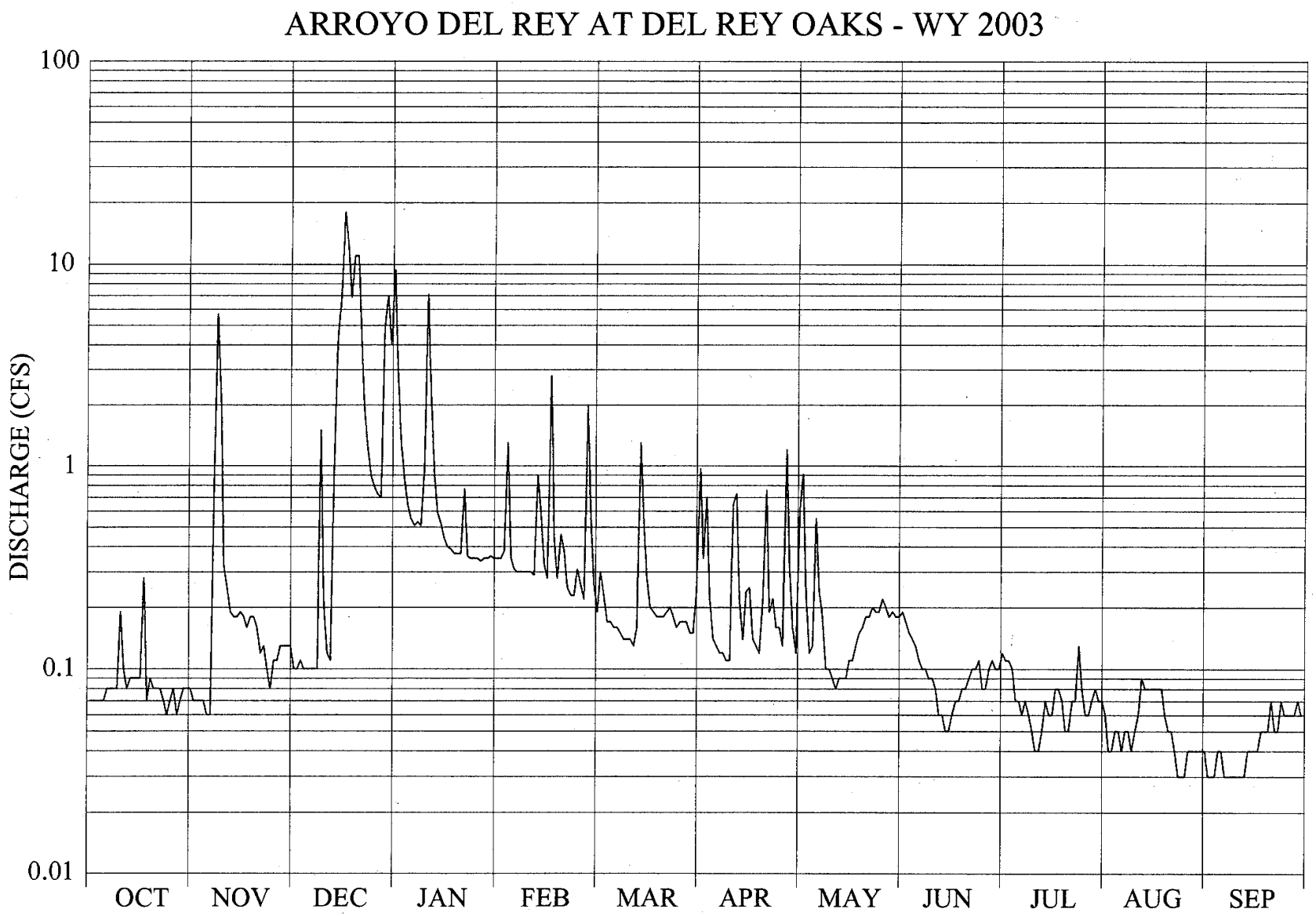

ARROYO DEL REY AT DEL REY OAKS - WY 2003
DISCHARGE (CFS)
100
10
1
0.1
0.01
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP

TABLE D-53

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
ARROYO DEL REY AT DEL REY OAKS

DAILY DISCHARGE IN CUBIC FEET PER SECOND WATER YEAR OCT 2002 TO SEP 2003

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07e	.07	.10	3.0	.35	.26	.24	.12	.18	.10	.07	.04
2	.07e	.07	.10	1.3	.38	.19	.97	.60	.19	.12	.06	.03
3	.07e	.07	.11	.86	1.3	.30	.35	.91	.17	.11	.04	.03
4	.07e	.07	.10	.65	.35	.23	.70	.24	.15	.11	.04	.03
5	.07e	.06	.10	.55	.31	.17	.22	.12	.14	.10	.05	.04
6	.08e	.06	.10	.51	.30	.17	.14	.13	.13	.07	.05	.04
7	.08e	.82	.10	.53	.30	.16	.13	.55	.11	.07	.04	.03
8	.08	5.7	.10	.51	.30	.16	.12	.24	.10	.06	.05	.03
9	.08	2.2	1.5	.95	.30	.15	.12	.18	.10	.07	.05	.03
10	.19	.33	.20	7.1	.30	.14	.11	.10	.09	.06	.04	.03
11	.10	.25	.12	2.1	.29	.14	.11	.10	.09	.05	.05	.03
12	.08	.19	.11	.90	.89	.14	.65	.09	.08	.04	.06	.03
13	.09	.18	1.1	.59	.58	.13	.73	.08	.06	.04	.09	.03
14	.09	.18	4.4	.52	.33	.16	.21	.09	.06	.05	.08	.04
15	.09	.19	6.8	.44	.28	1.3	.14	.09	.05	.07	.08	.04
16	.09	.18	18	.40	2.8	.53	.24	.09	.05	.06	.08	.04
17	.28	.16	12	.39	.43	.28	.25	.11	.06	.06	.08	.04
18	.07	.18	6.9	.37	.28	.20	.14	.11	.07	.08	.08	.05
19	.09	.18	11	.37	.46	.19	.13	.13	.07	.08	.08	.05
20	.08	.16	11	.37	.38	.18	.12	.15	.08	.07	.06	.05
21	.08	.12	4.6	.77	.25	.18	.22	.16	.08	.05	.05	.07
22	.08	.13	1.9	.36	.23	.18	.76	.18	.09	.05	.05	.05
23	.07	.10	1.2	.35	.23	.19	.19	.18	.10	.07	.04	.05
24	.06	.08	.89	.35	.31	.20	.22	.20	.10	.07	.03	.07
25	.07	.11	.79	.35	.26	.18	.16	.19	.11	.13	.03	.06
26	.08	.11	.73	.34	.22	.16	.16	.19	.08	.08	.03	.06
27	.06	.13	.70	.35	2.0	.17	.13	.22	.08	.06	.04	.06
28	.07	.13	4.9	.35	.56	.17	1.2	.20	.10	.06	.04	.06
29	.08	.13	7.0	.36	------	.17	.32	.18	.11	.07	.04	.07
30	.08	.13	4.0	.35	------	.15	.16	.19	.10	.08	.04	.06
31	.08	------	9.4	.35	------	.15	------	.18	------	.07	.04	------
TOTAL	2.73	12.47	110.05	26.69	14.97	7.08	9.34	6.30	2.98	2.26	1.66	1.34
MEAN	.088	.42	3.55	.86	.53	.23	.31	.20	.099	.073	.054	.045
MAX	.28	5.7	18	7.1	2.8	1.3	1.2	.91	.19	.13	.09	.07
MIN	.06	.06	.10	.34	.22	.13	.11	.08	.05	.04	.03	.03
AC-FT	5.4	25	218	53	30	14	19	12	5.9	4.5	3.3	2.7

CAL YEAR 2002	TOTAL		MEAN		MAX		MIN		AC-FT	
WTR YEAR 2003	TOTAL	197.87	MEAN	.54	MAX	18	MIN	.03	AC-FT	392

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 2000 - 2003

APPENDIX E

PEAK FLOW DATA

CARMEL RIVER BASIN STREAMFLOW GAGING STATIONS
SUMMARY OF INSTANTANEOUS PEAK FLOWS

WATER YEAR 2000				
STATION	DATE	TIME	GHT (feet)	Q (cfs)
Cachagua Creek	February 23, 2000	0315	3.83	112
Pine Creek	February 14, 2000	0845	2.68	327
San Clemente Creek	February 14, 2000	0930	4.54	442
Tularcitos Creek	March 5, 2000	1905	4.91	144
Hitchcock Creek	February 13, 2000	1945	3.83	57
Garzas Creek	February 13, 2000	2010	4.14	359
Robinson Canyon Creek	February 13, 2000	1930	4.07	123
Potrero Creek	February 13, 2000	2015	2.39	92
San Jose Creek	February 13, 2000	2000	5.09	293
Los Padres Dam Spillway	February 14, 2000	0950	1043.06	1,970
Carmel River at Robles del Rio (USGS)	February 14, 2000	1245	5.03	3,160
Carmel River at Don Juan Bridge	February 14, 2000	1245	8.52	3,470
Carmel River near Carmel (USGS)	February 14, 2000	1445	11.81	2,450
Carmel River at Highway 1 Bridge	February 14, 2000	1500	11.01	3,070

CARMEL RIVER BASIN STREAMFLOW GAGING STATIONS
SUMMARY OF INSTANTANEOUS PEAK FLOWS

WATER YEAR 2001				
STATION	DATE	TIME	GHT (feet)	Q (cfs)
Cachagua Creek	March 4, 2001	1630	4.86	219
Pine Creek	March 4, 2001	2100	2.98	118
San Clemente Creek	March 4, 2001	2000	3.75	209
Tularcitos Creek	March 4, 2001	1705	4.82	120
Hitchcock Creek	March 4, 2001	1630	3.60	40
Garzas Creek	March 4, 2001	1945	3.40	228
Robinson Canyon Creek	March 4, 2001	1645	3.55	70
Potrero Creek	March 4, 2001	2115	1.91	47
San Jose Creek	March 4, 2001	2045	3.85	83
Los Padres Dam Spillway	March 4, 2001	2205	1042.43	1,380
Carmel River at Robles del Rio (USGS)	March 5, 2001	0030	4.64	2,640
Carmel River at Don Juan Bridge	March 5, 2001	0015	7.77	2,410
Carmel River near Carmel (USGS)	March 5, 2001	0250	11.23	2,550
Carmel River at Highway 1 Bridge	March 5, 2001	0315	10.29	2,380

CARMEL RIVER BASIN STREAMFLOW GAGING STATIONS
SUMMARY OF INSTANTANEOUS PEAK FLOWS

WATER YEAR 2002				
STATION	DATE	TIME	GHT (feet)	Q (cfs)
Cachagua Creek	March 17, 2002	1900	3.06	4
Pine Creek	December 2, 2001	1215	2.72	74
San Clemente Creek	December 2, 2001	1300	3.38	136
Tularcitos Creek	November 24, 2001	1100	3.25	4
	December 21, 2001	0550	3.25	4
Hitchcock Creek	December 21, 2001	0500	3.03	6
Garzas Creek	December 21, 2001	0305	2.60	80
Robinson Canyon Creek	December 21, 2001	0200	2.77	14
Potrero Creek	December 21, 2001	0300	1.36	15
San Jose Creek	December 2, 2001	1030	3.40	40
Los Padres Dam Spillway	December 2, 2001	1445	1041.76	824
Carmel River at Robles del Rio (USGS)	December 2, 2001	1830	3.42	1,310
Carmel River at Don Juan Bridge	December 2, 2001	1845	6.12	943
Carmel River near Carmel (USGS)	December 2, 2001	2215	8.45	625
Carmel River at Highway 1 Bridge	December 3, 2001	0130	5.94	396
	January 3, 2002	0315	6.02	396

CARMEL RIVER BASIN STREAMFLOW GAGING STATIONS
SUMMARY OF INSTANTANEOUS PEAK FLOWS

WATER YEAR 2003				
STATION	DATE	TIME	GHT (feet)	Q (cfs)
Cachagua Creek	December 16, 2002	0715	4.41	135
	December 19, 2002	1930	4.40	133
Pine Creek	December 16, 2002	0900	3.83	377
San Clemente Creek	December 16, 2002	0830	4.45	400
Tularcitos Creek	December 16, 2002	1025	4.08	32
	December 19, 2002	1920	4.17	37
Hitchcock Creek	December 16, 2002	0745	4.30	92
Garzas Creek	December 16, 2002	0740	4.00	326
Robinson Canyon Creek	December 16, 2002	0730	4.21	138
Potrero Creek	December 16, 2002	0945	1.82	40
	December 19, 2002	1845	1.76	36
San Jose Creek	December 16, 2002	0900	4.02	103
Arroyo Del Rey at Del Rey Oaks	December 16, 2002	1030	4.93	33
	December 19, 2002	2015	4.92	33
	December 31, 2002	0300	4.88	32
Los Padres Dam Spillway	December 16, 2002	0930	1043.45	2,390
Carmel River at Robles del Rio (USGS)	---	---	---	---
Carmel River at Don Juan Bridge	December 16, 2002	1300	9.08	3,720
Carmel River near Carmel (USGS)	---	---	---	---
Carmel River at Highway 1 Bridge	December 16, 2002	1615	11.47	3,760

Note: USGS peak flow data not available at time of publication.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER BASIN

SURFACE WATER RESOURCES DATA REPORT
WATER YEARS 2000 - 2003

APPENDIX F

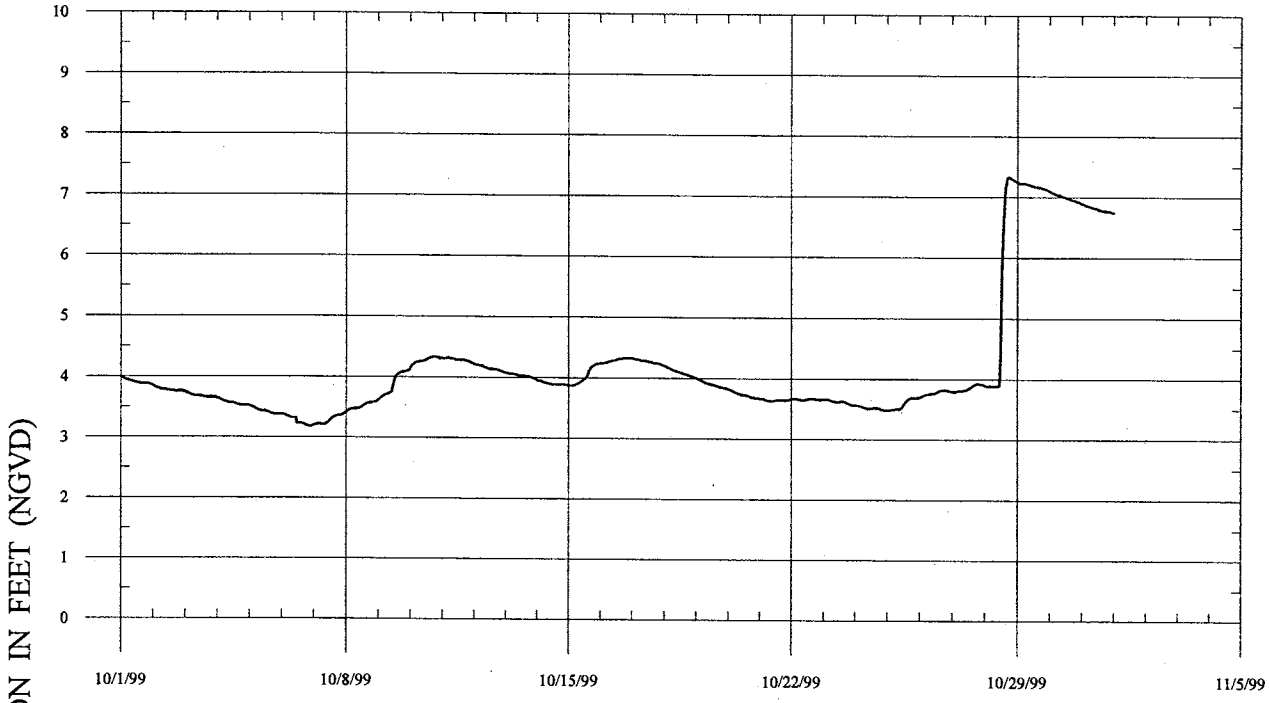
LAGOON WATER LEVEL AND CROSS SECTION DATA

FIGURE F-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

OCTOBER 1999



NOVEMBER 1999

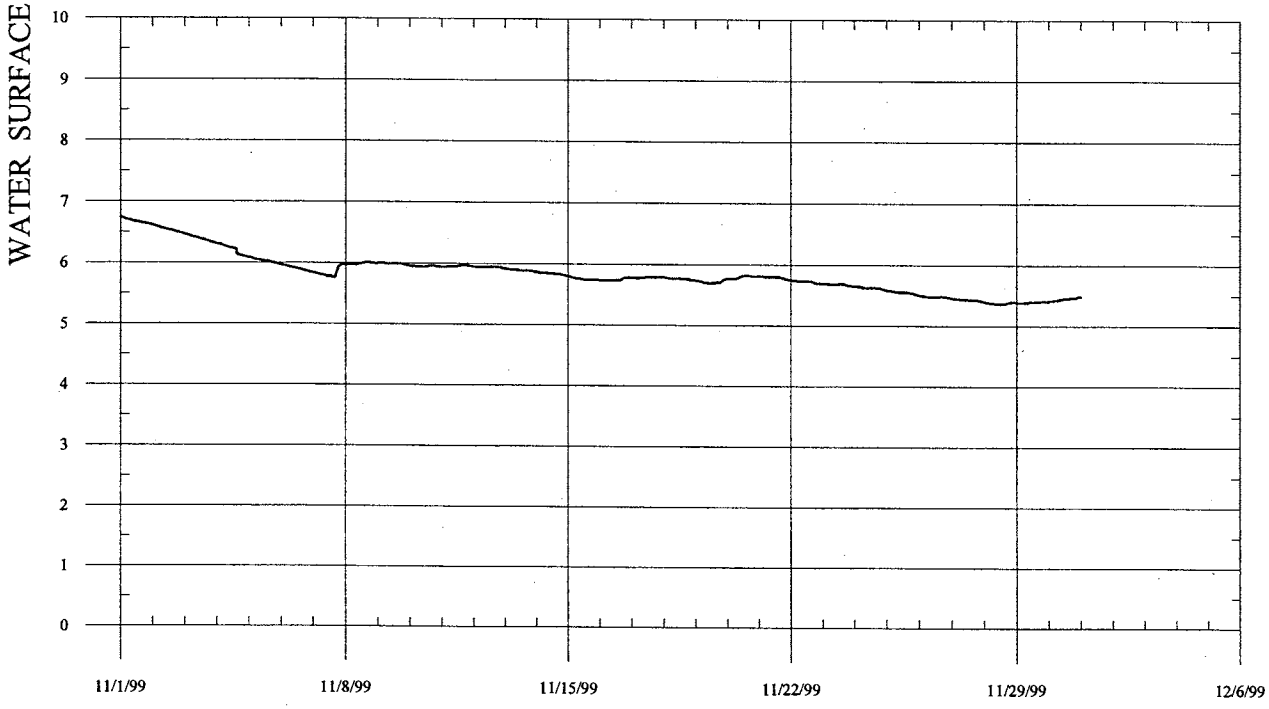


FIGURE F-2

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

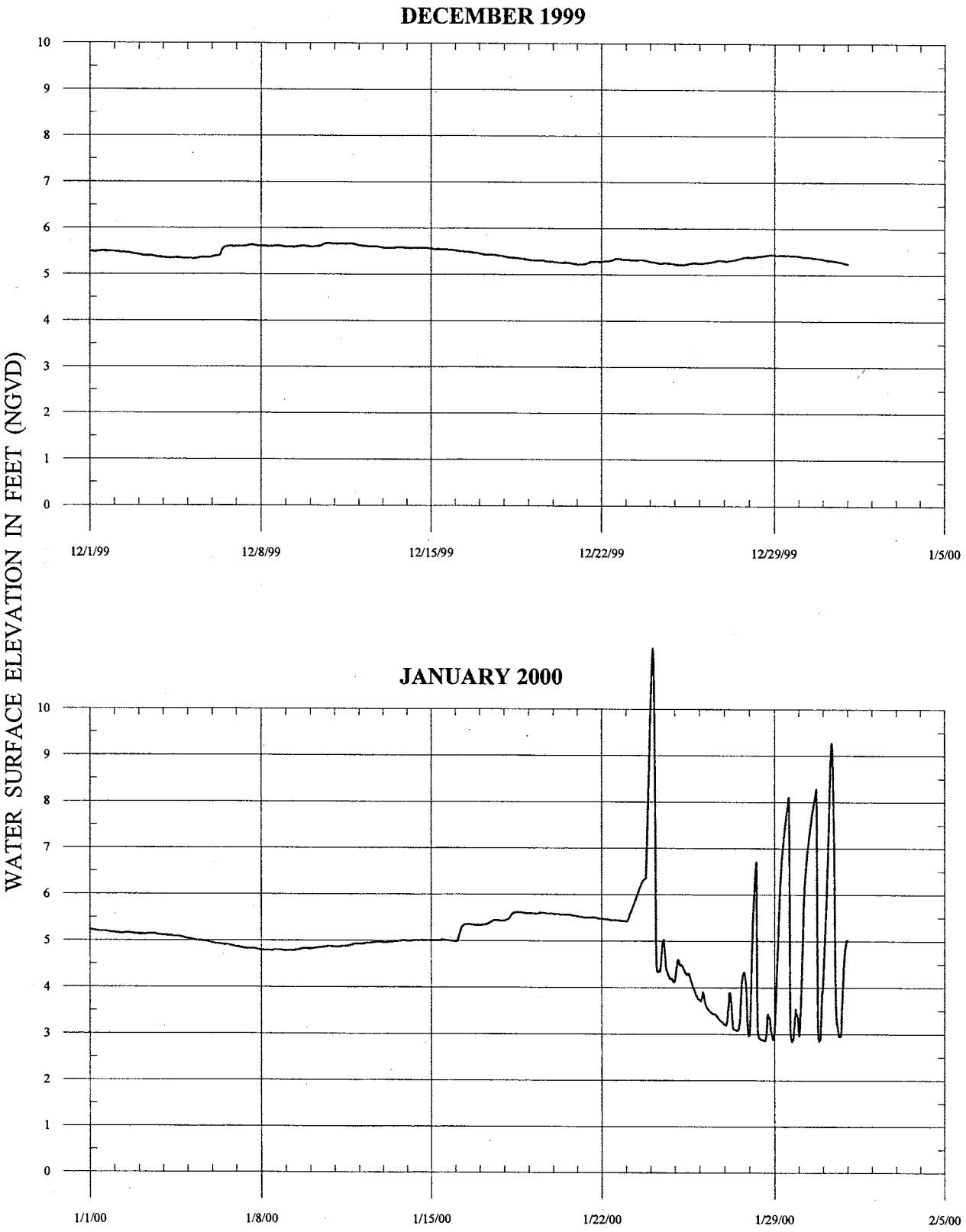
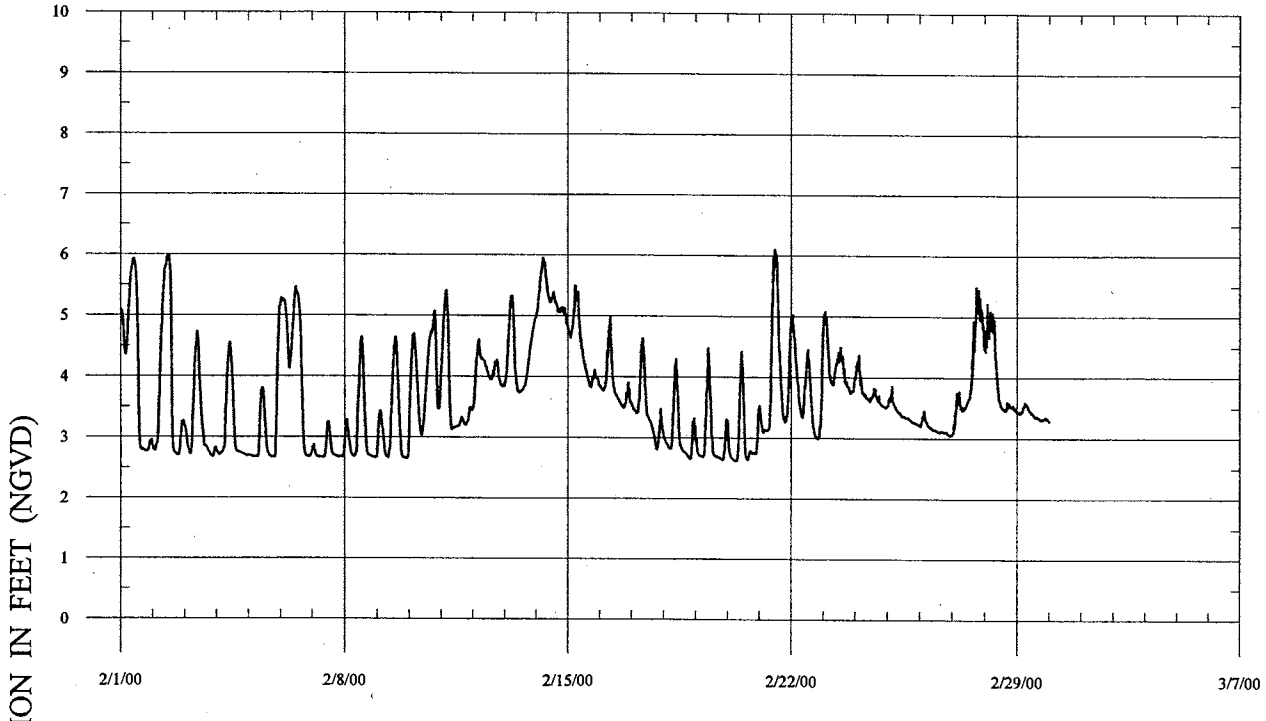


FIGURE F-3

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

FEBRUARY 2000



MARCH 2000

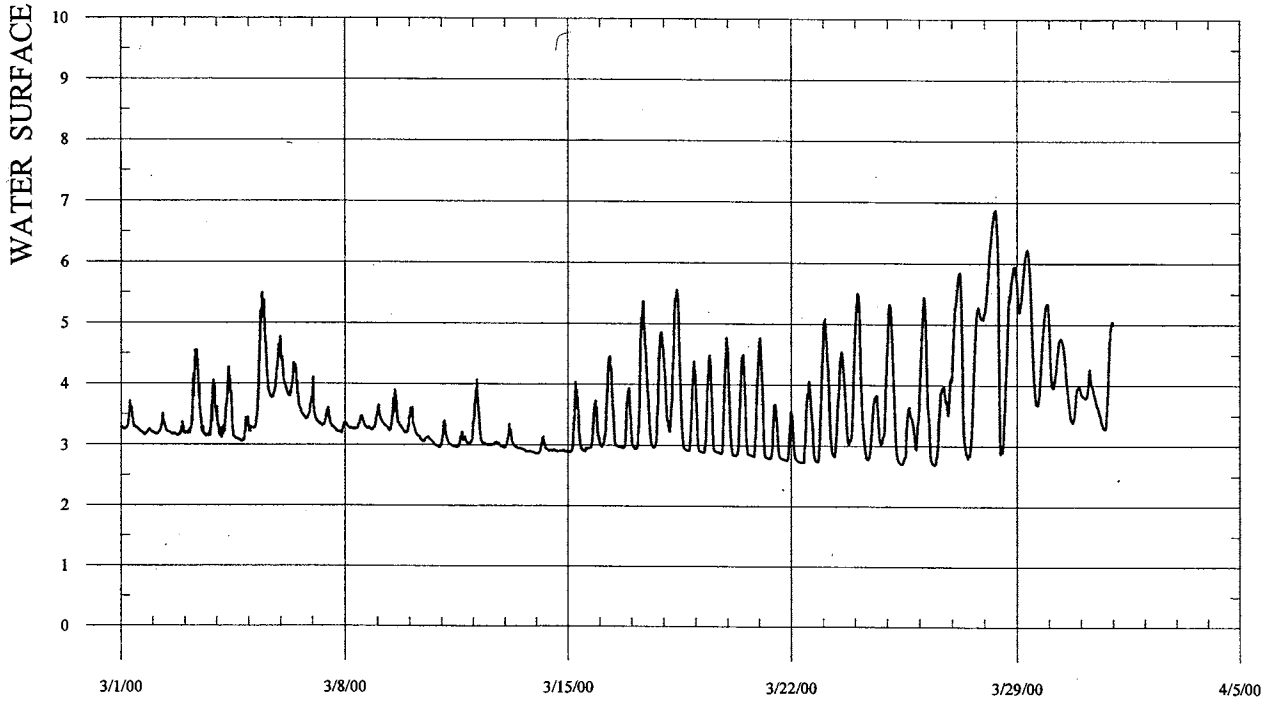
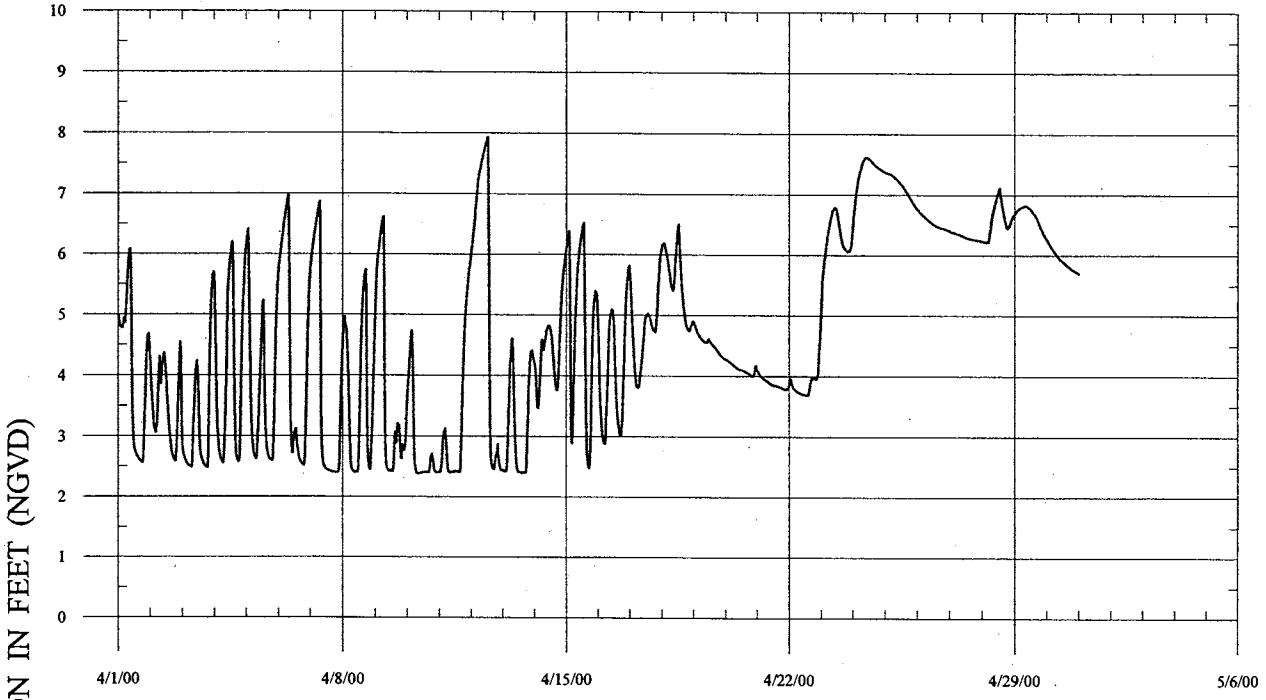


FIGURE F-4

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

APRIL 2000



MAY 2000

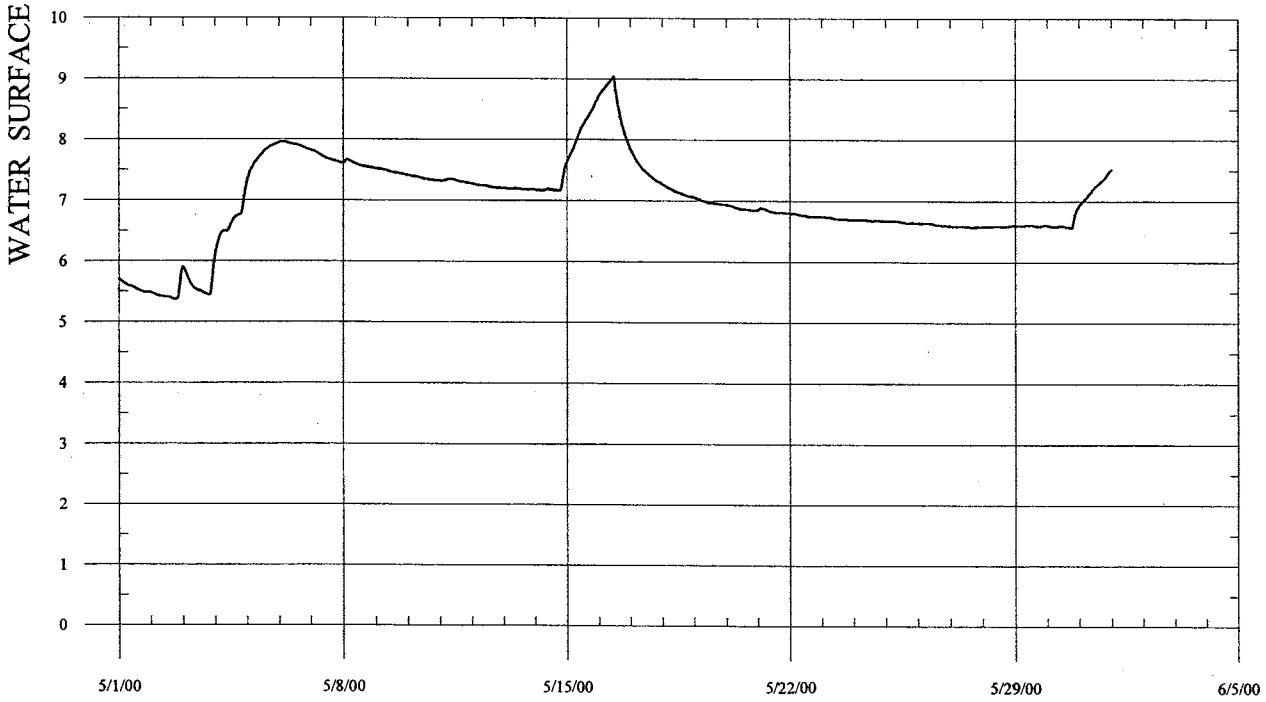


FIGURE F-5

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

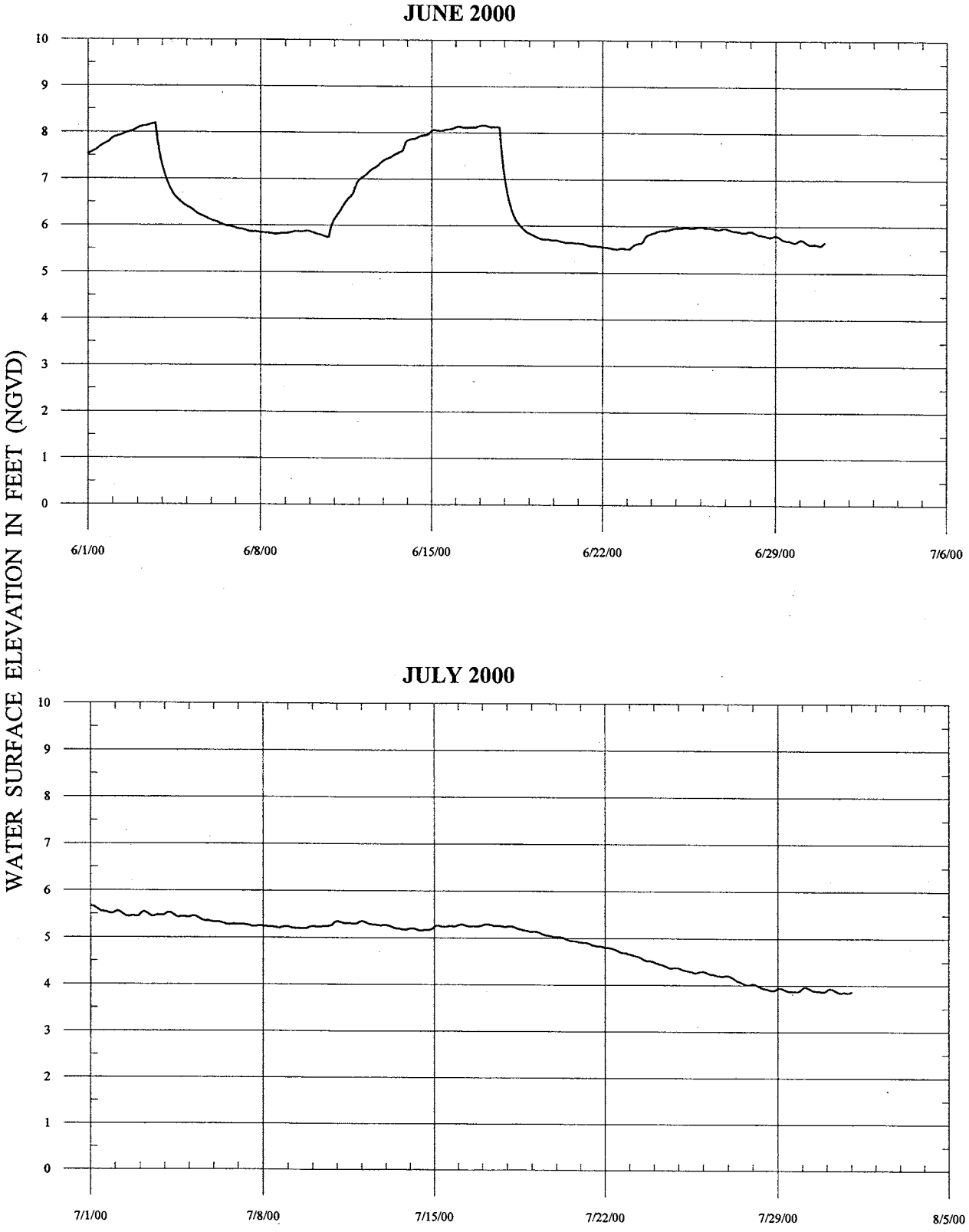
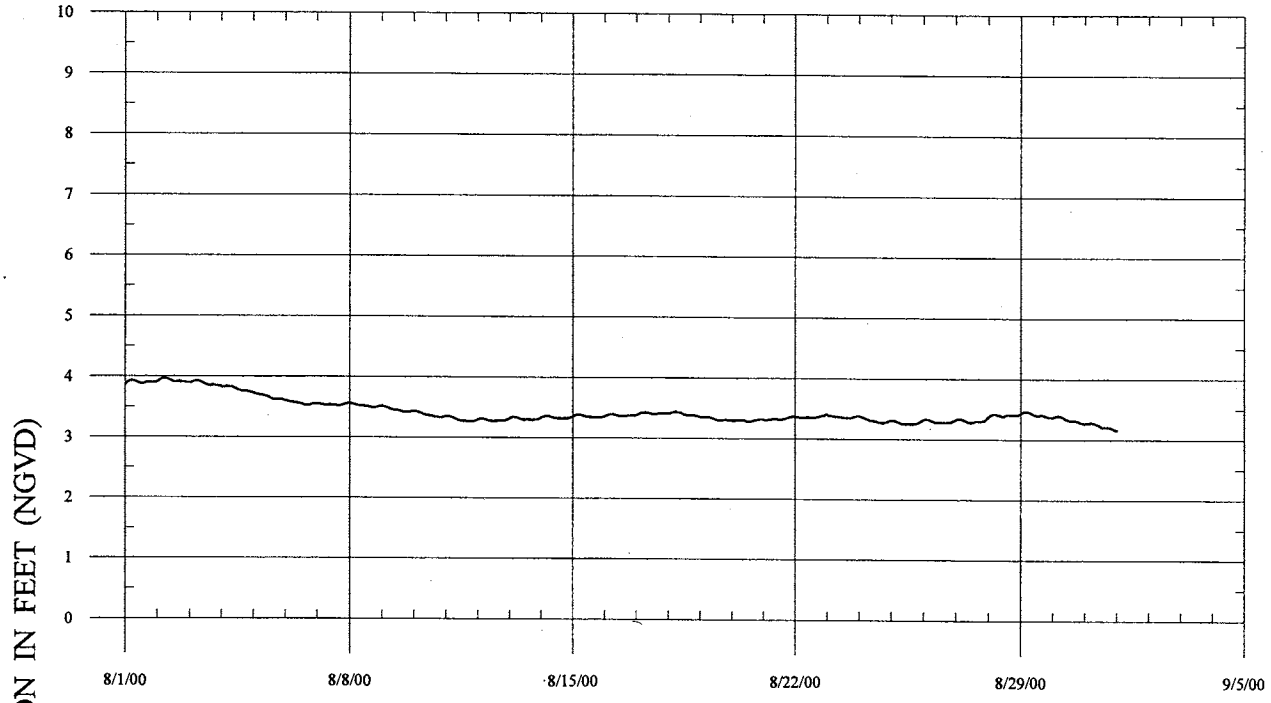


FIGURE F-6

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 2000



SEPTEMBER 2000

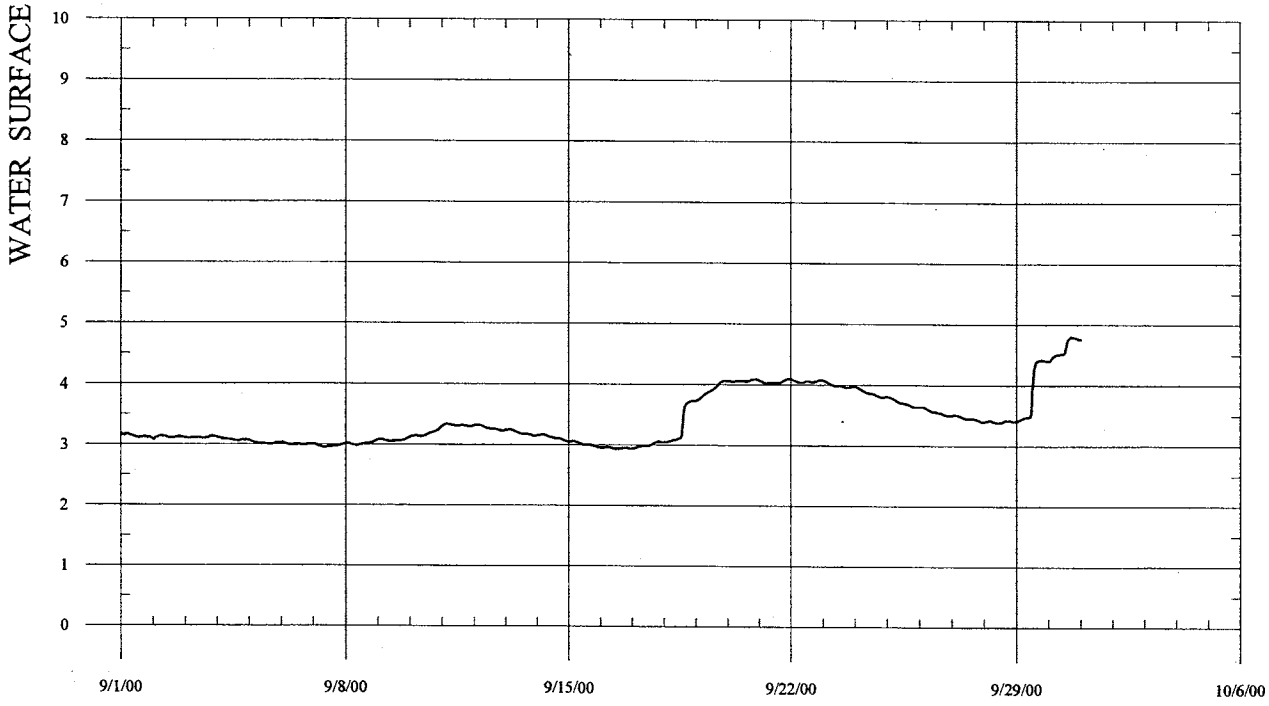


FIGURE F-7

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

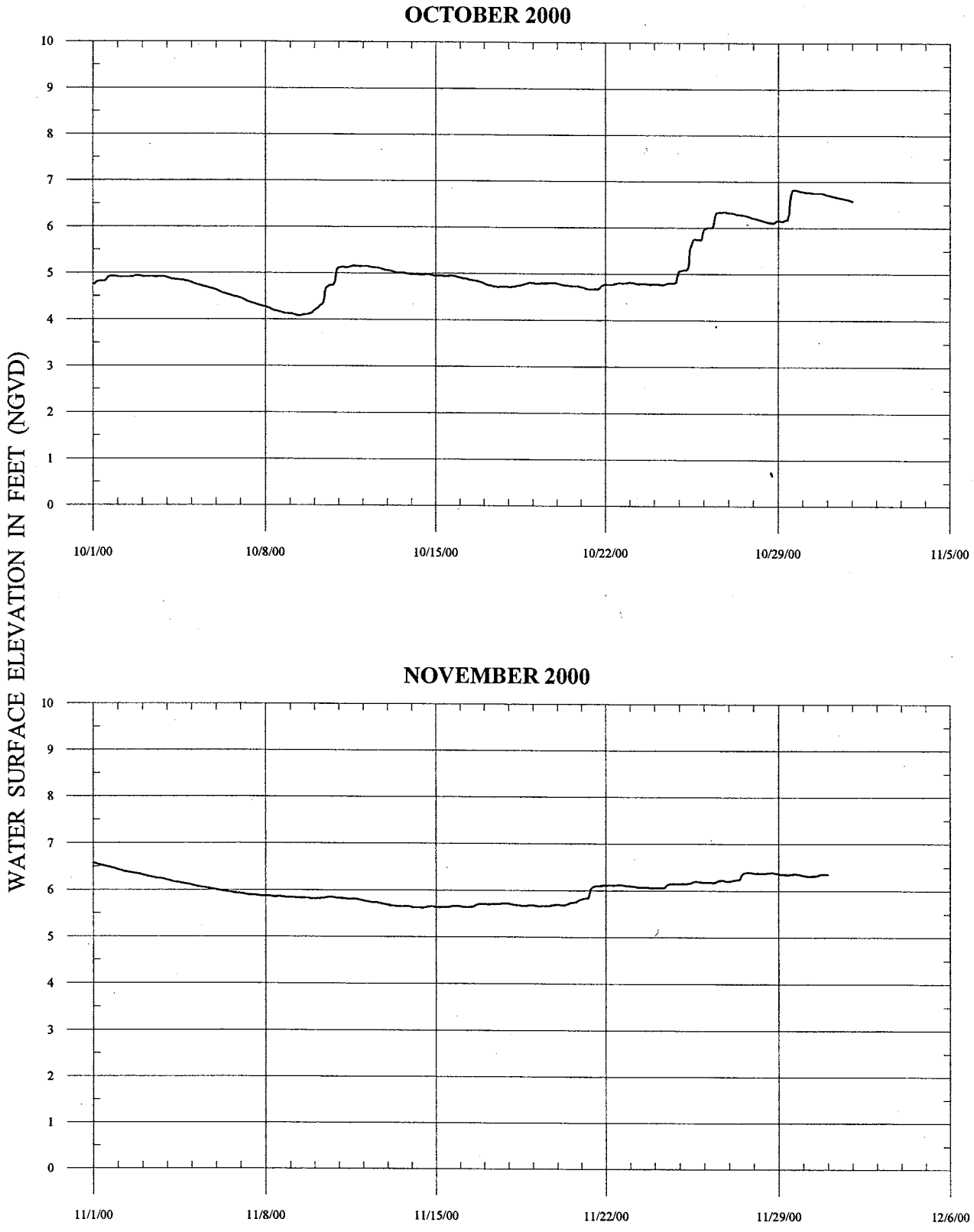


FIGURE F-8

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

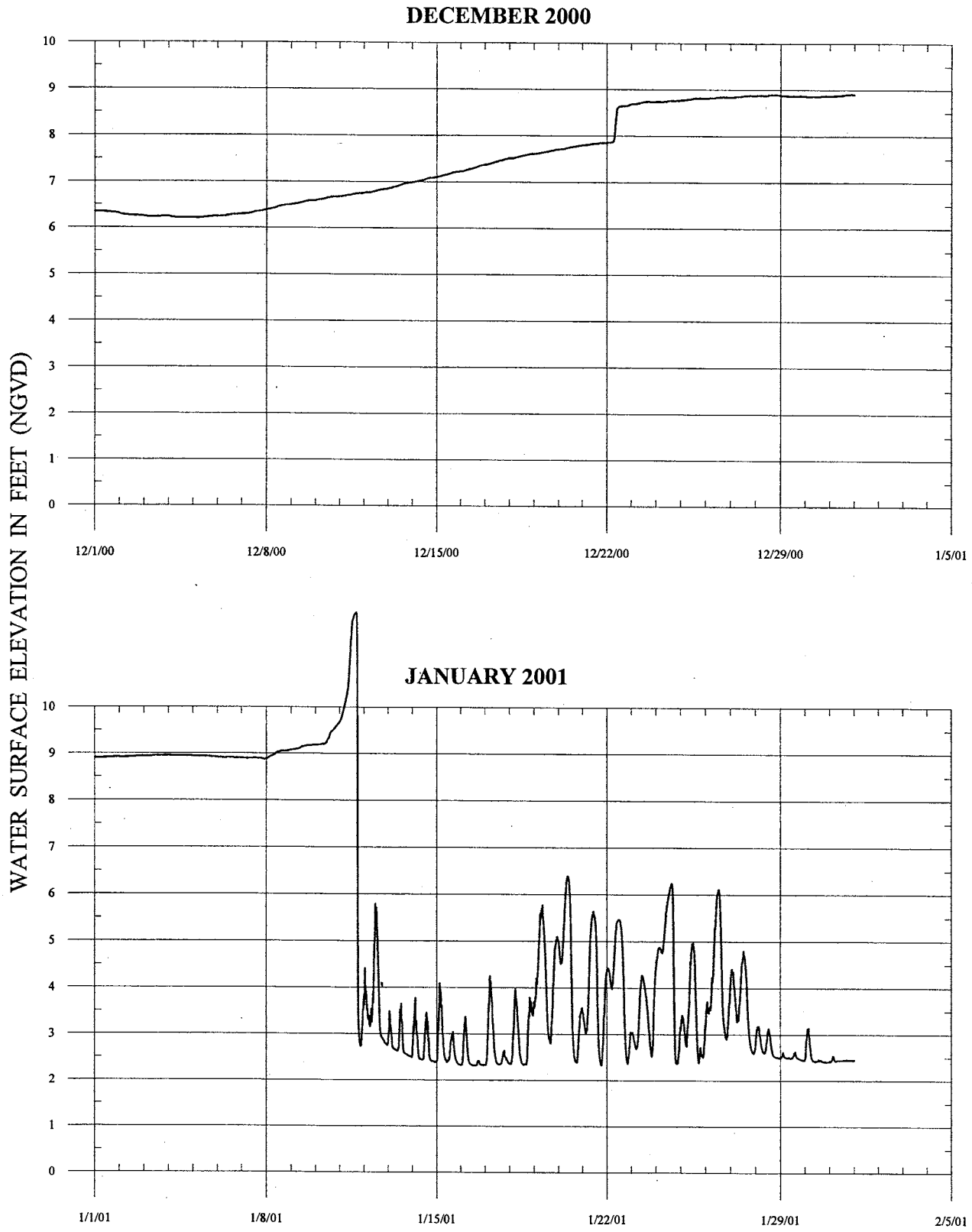
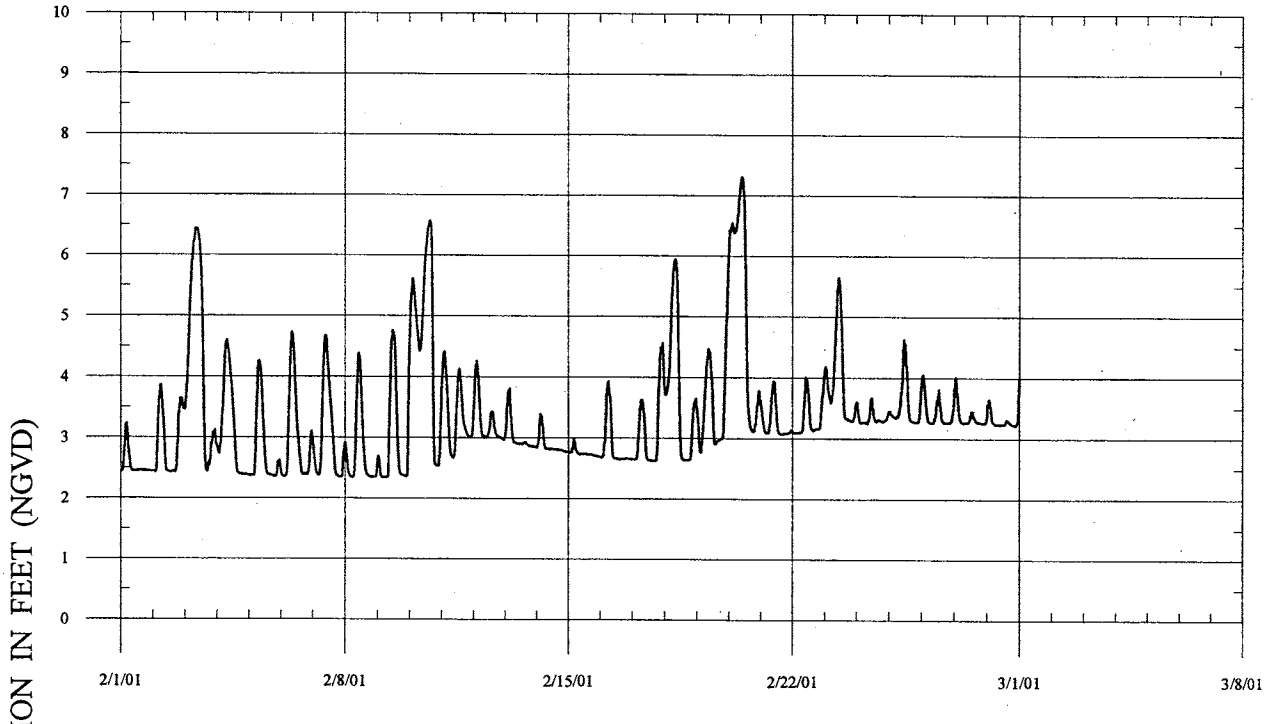


FIGURE F-9

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

FEBRUARY 2001



MARCH 2001

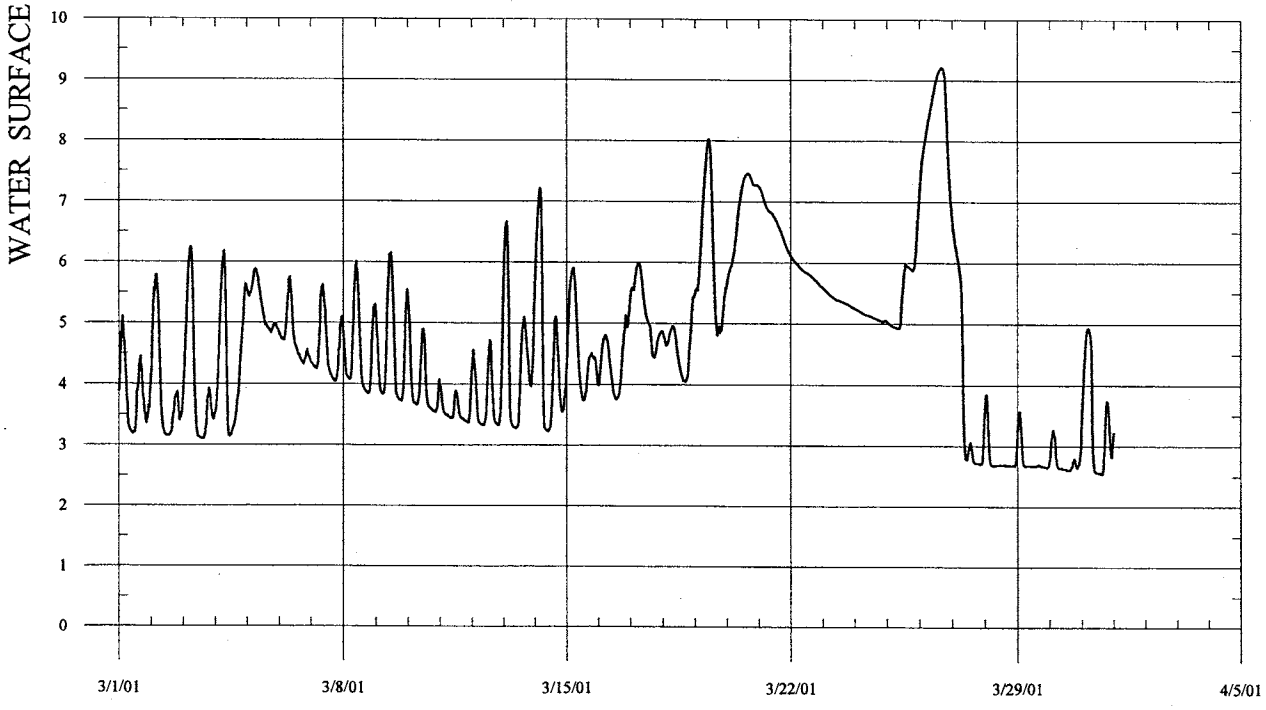
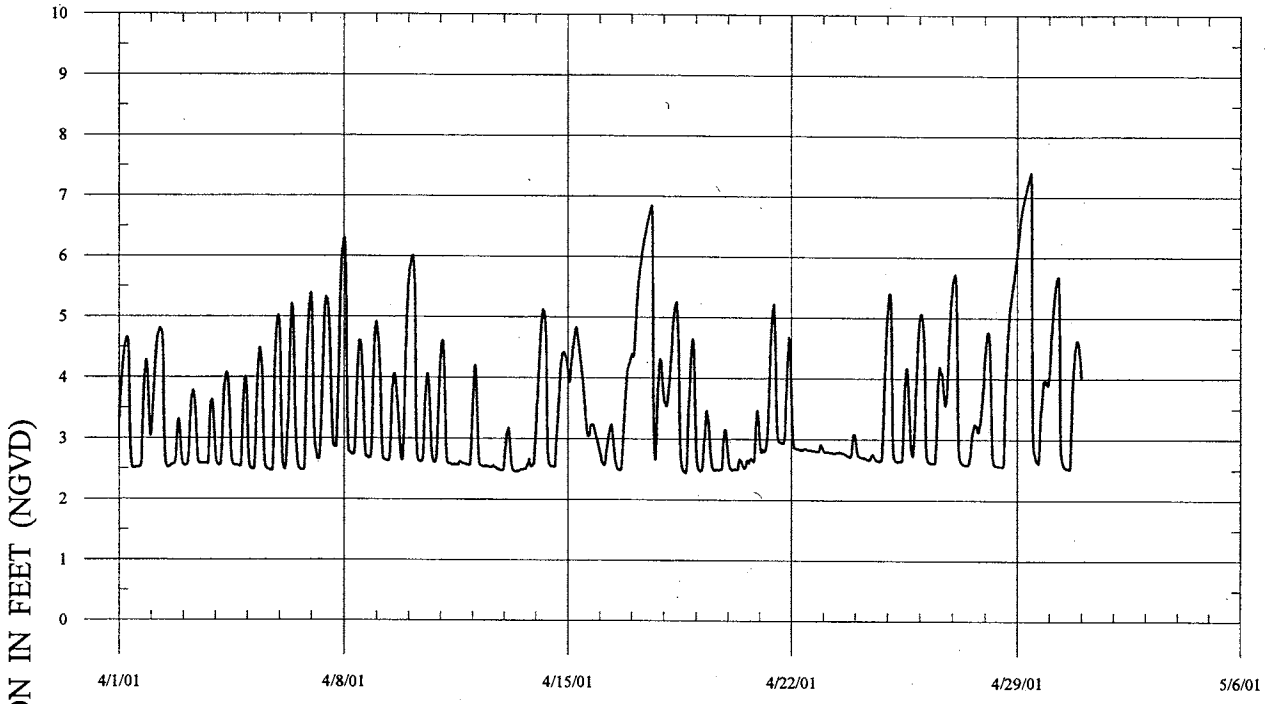


FIGURE F-10

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

APRIL 2001



MAY 2001

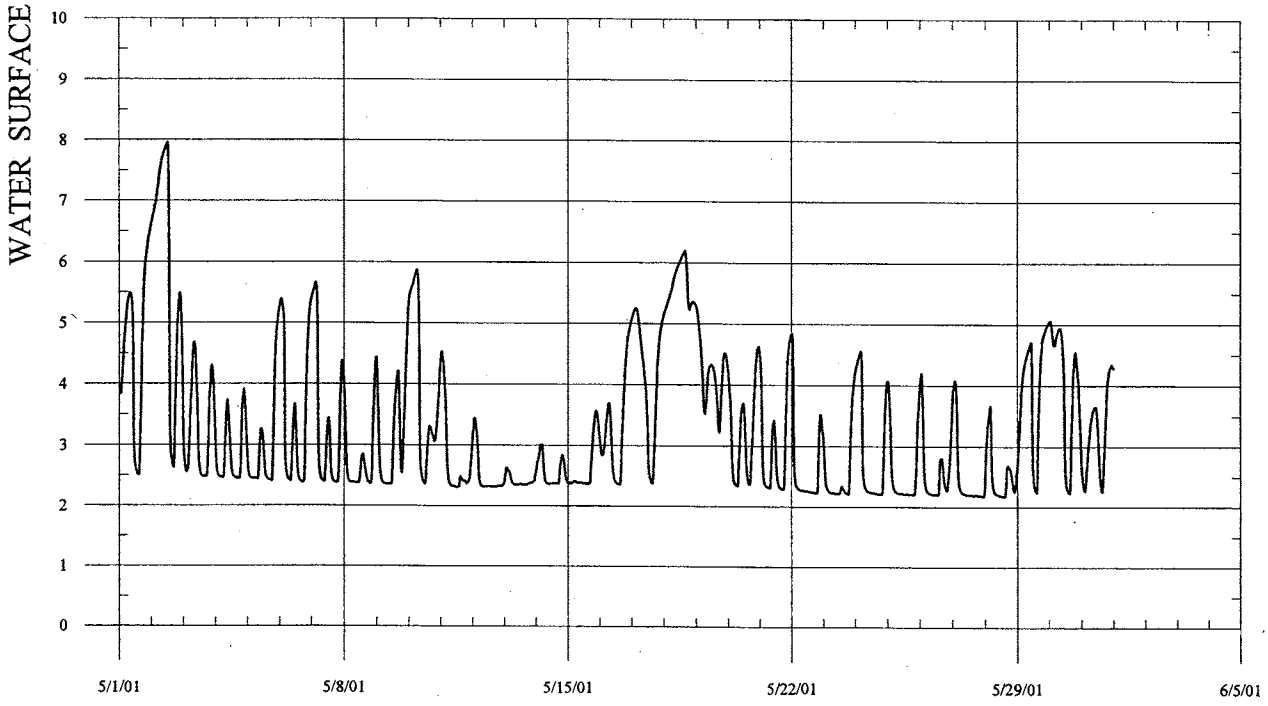
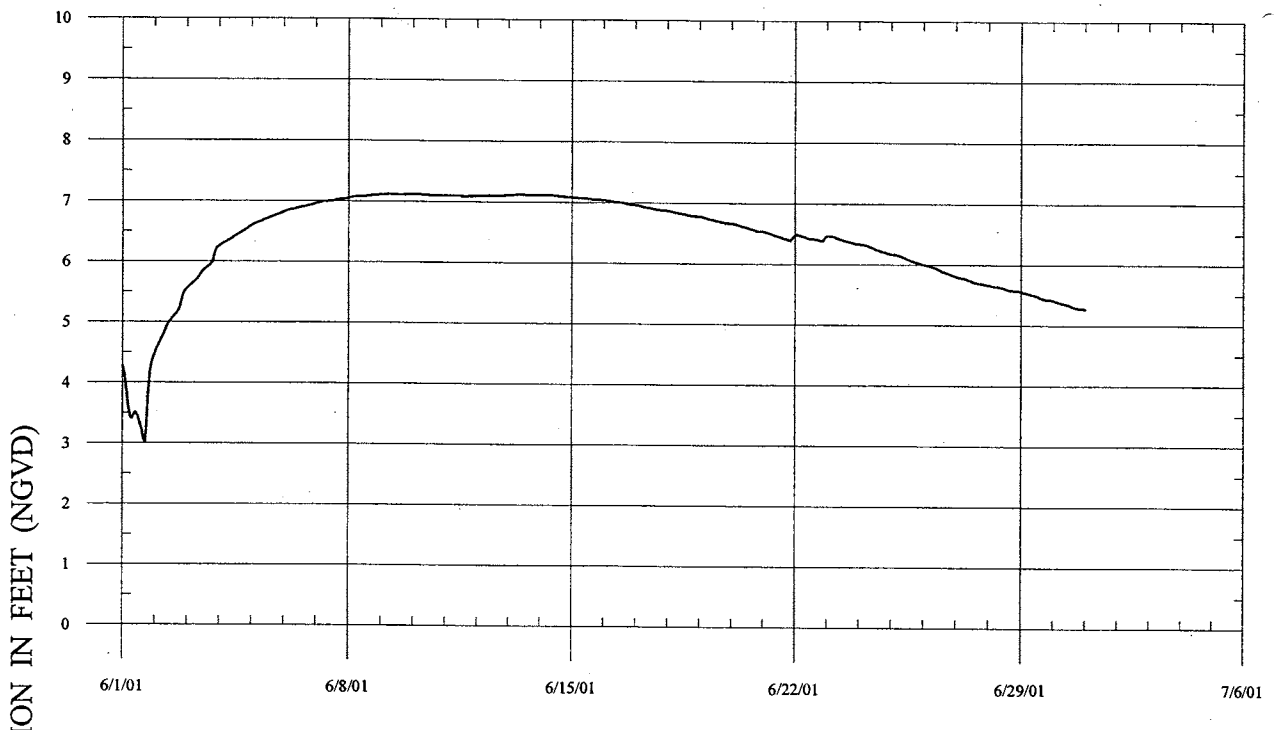


FIGURE F-11

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

JUNE 2001



JULY 2001

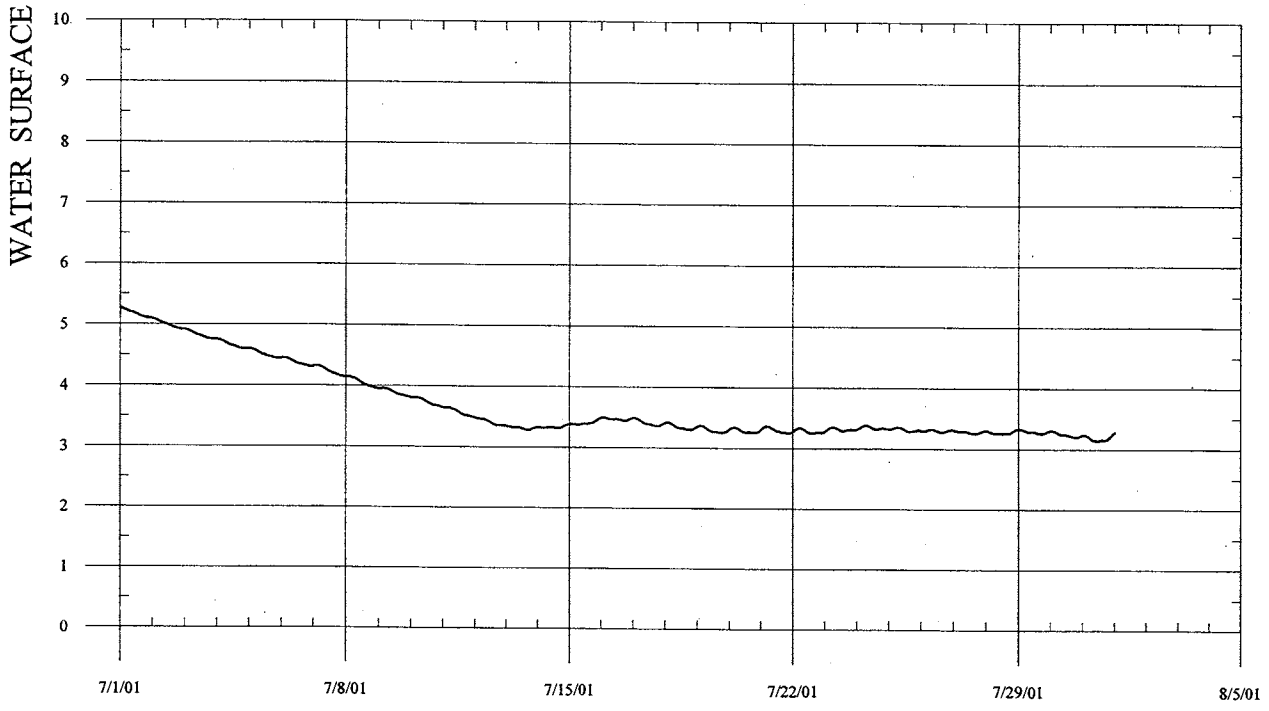
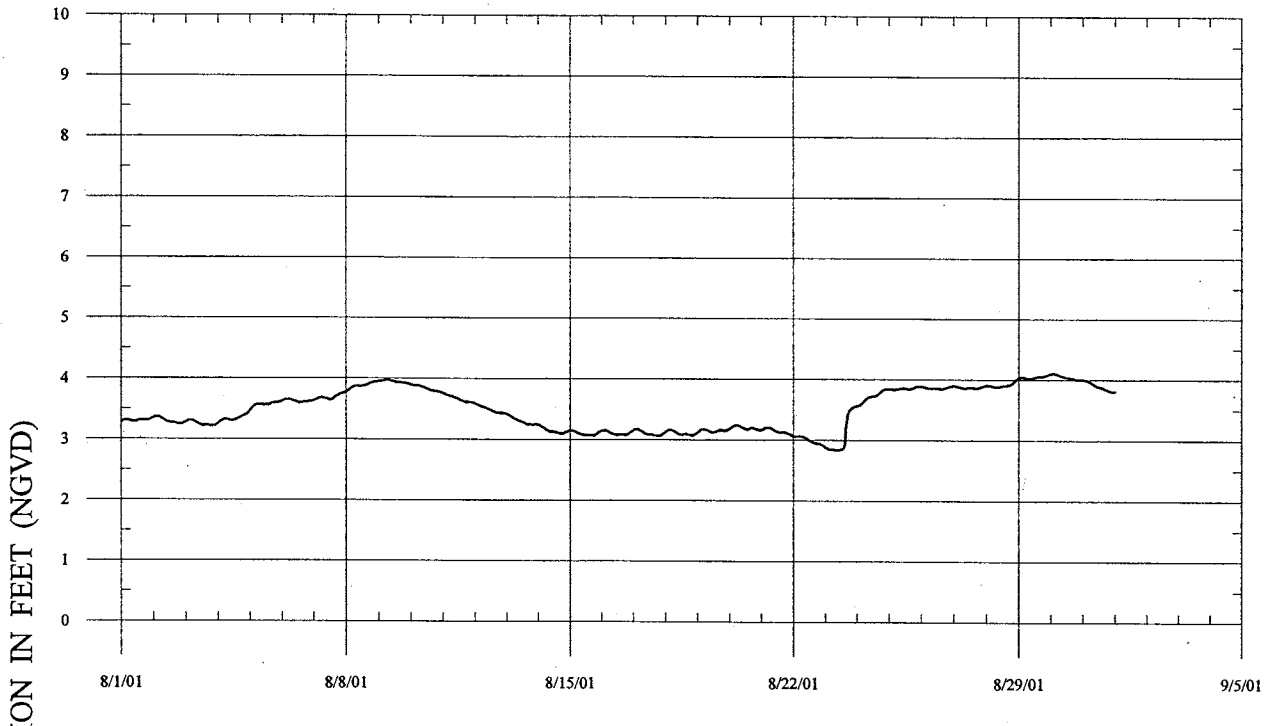


FIGURE F-12

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 2001



SEPTEMBER 2001

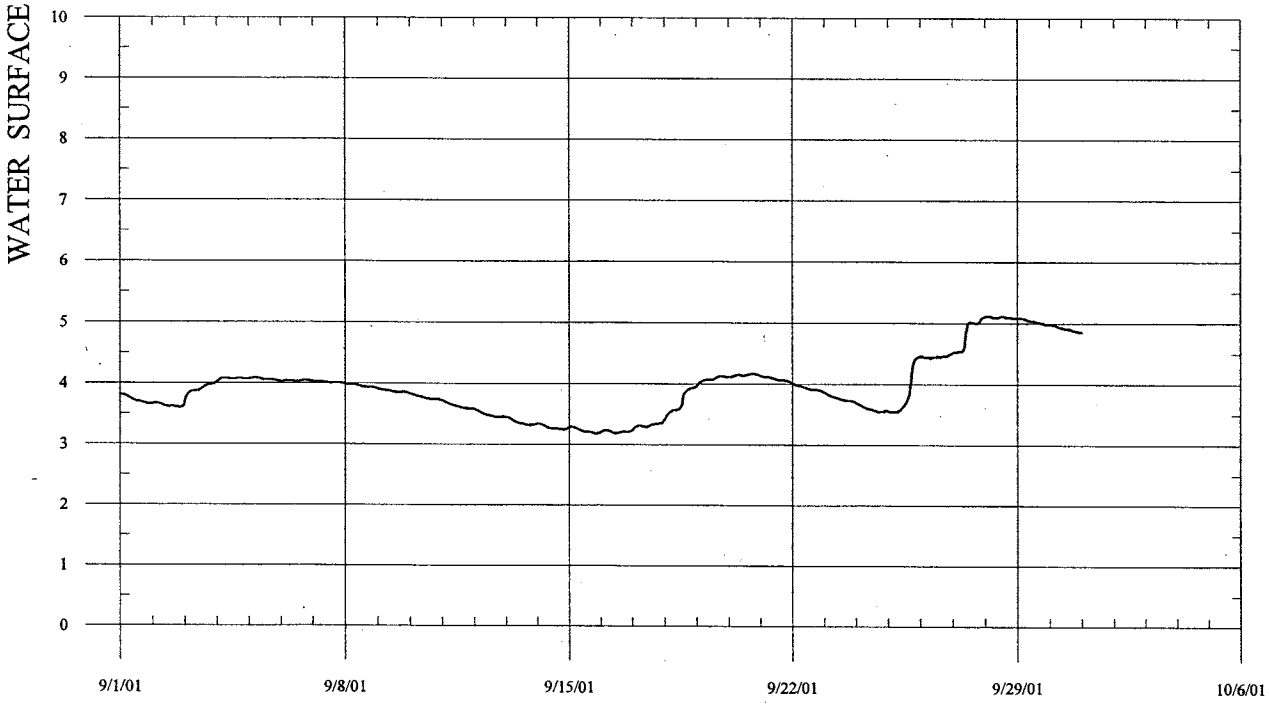
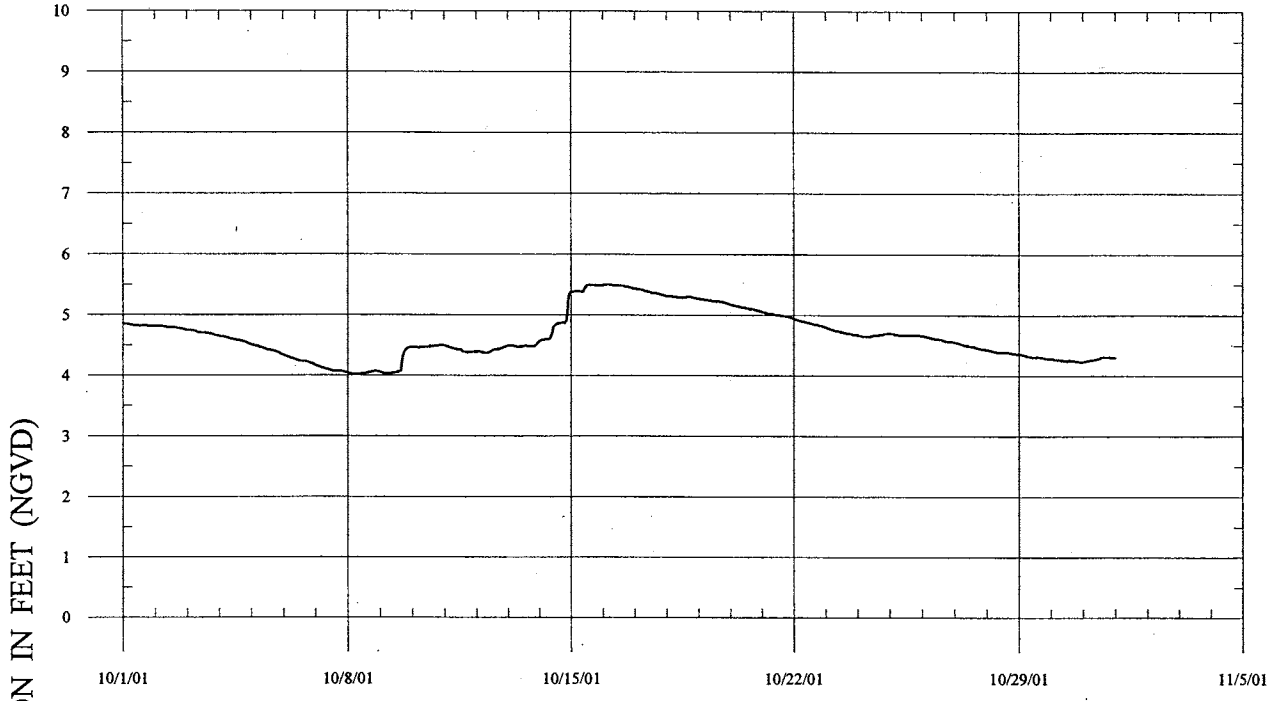


FIGURE F-13

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

OCTOBER 2001



NOVEMBER 2001

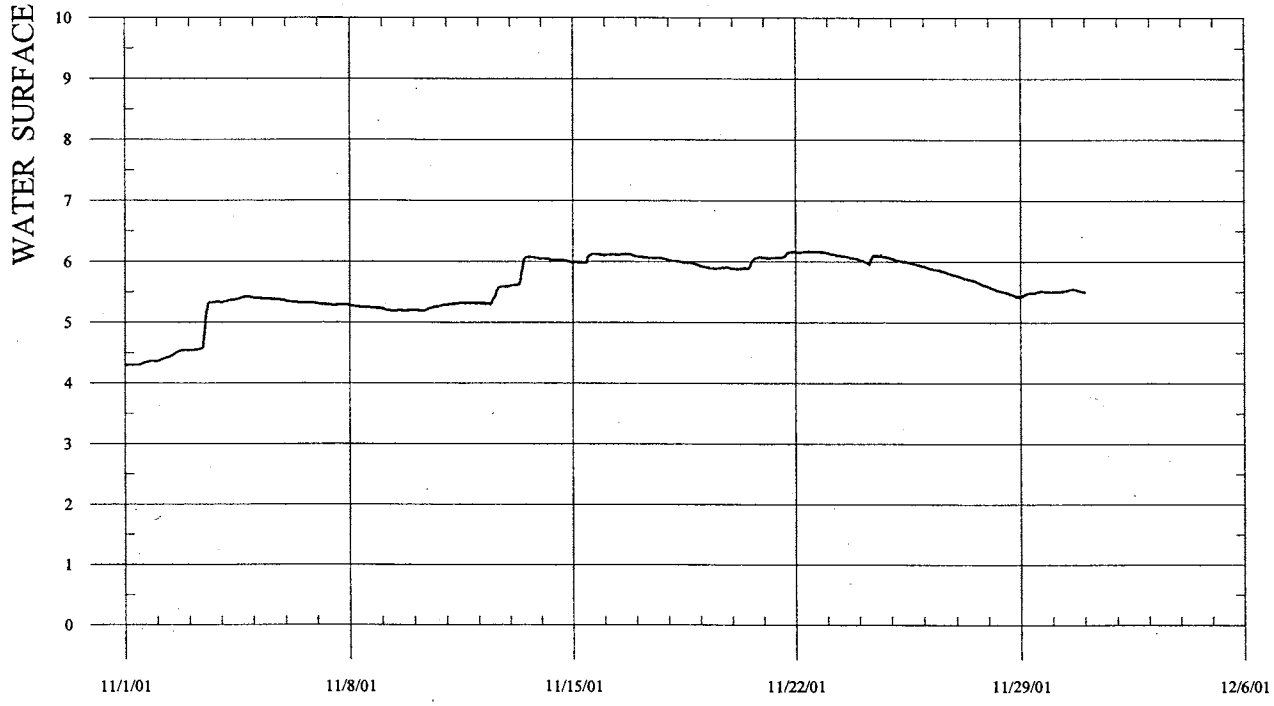
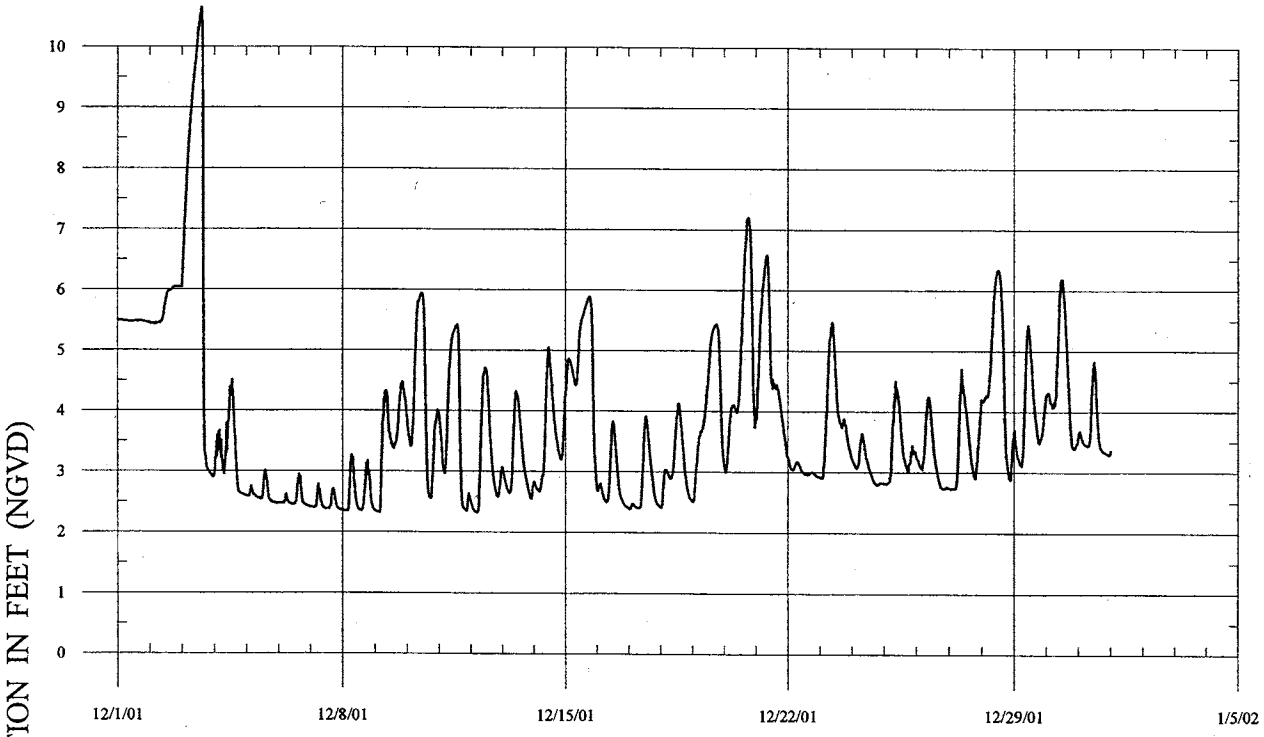


FIGURE F-14

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

DECEMBER 2001



JANUARY 2002

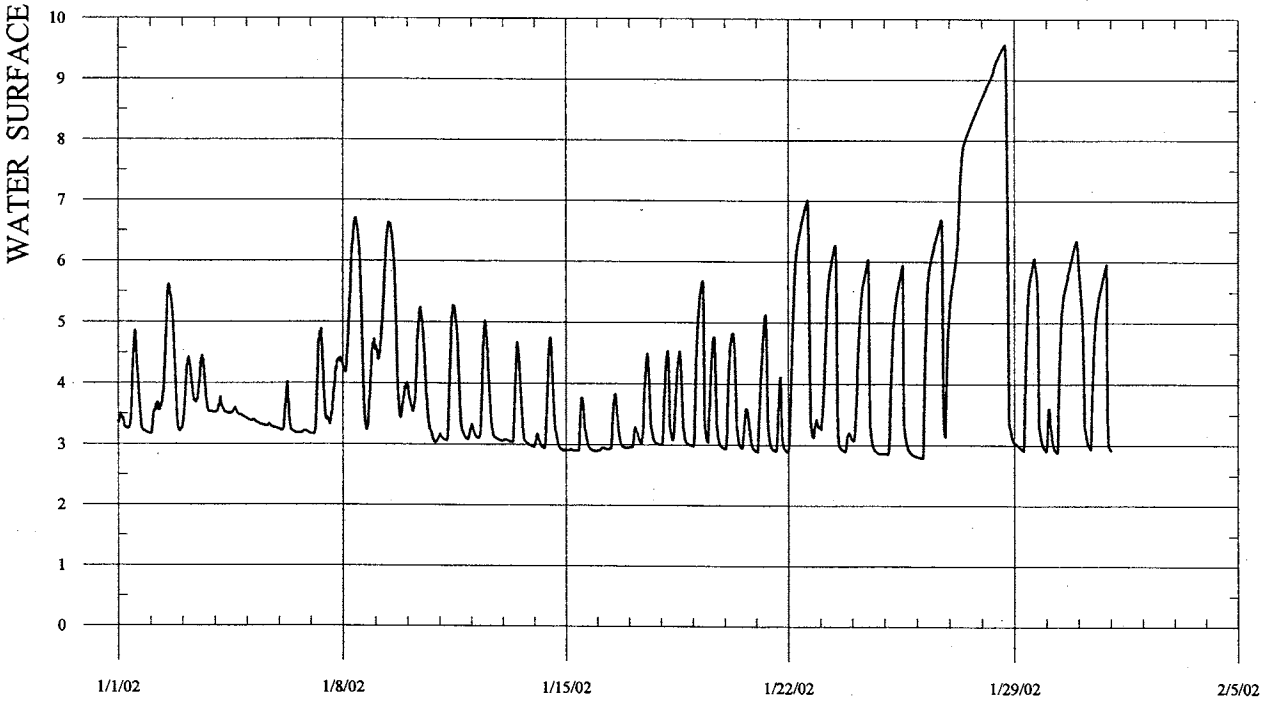


FIGURE F-15

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

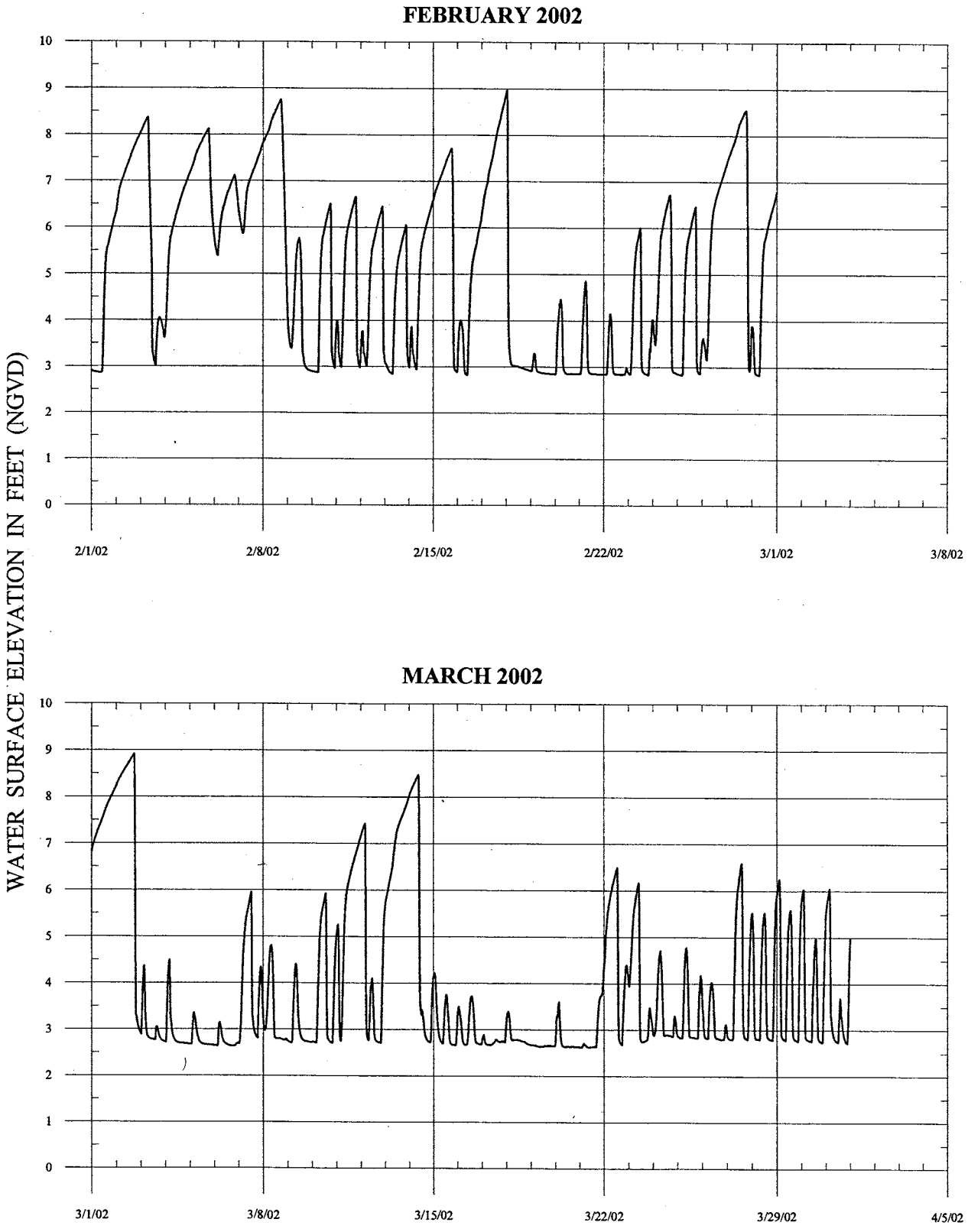
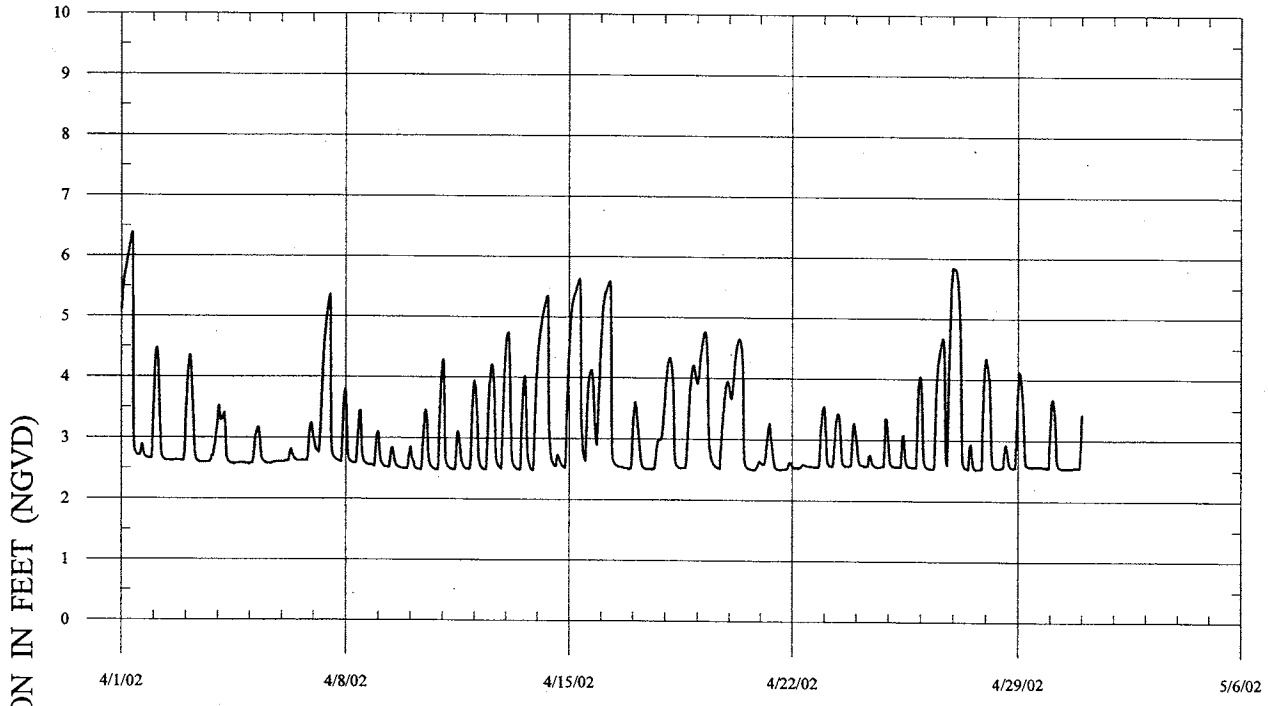


FIGURE F-16

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

APRIL 2002



MAY 2002

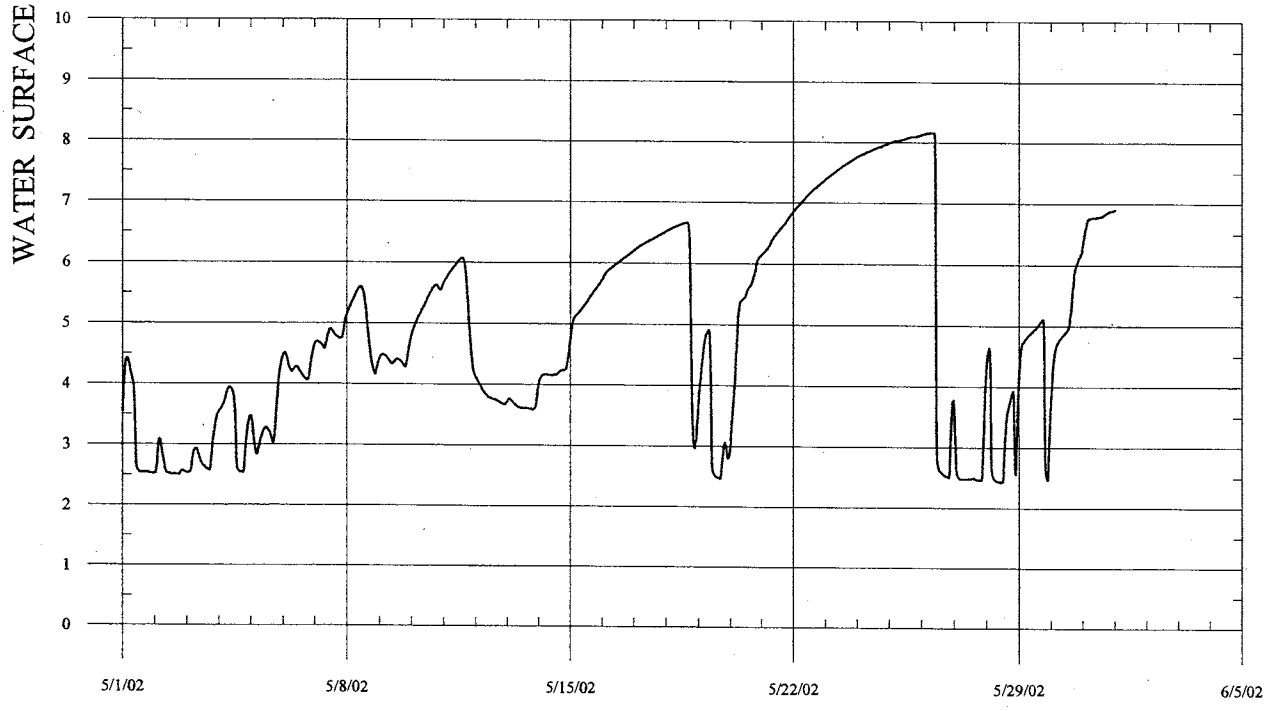
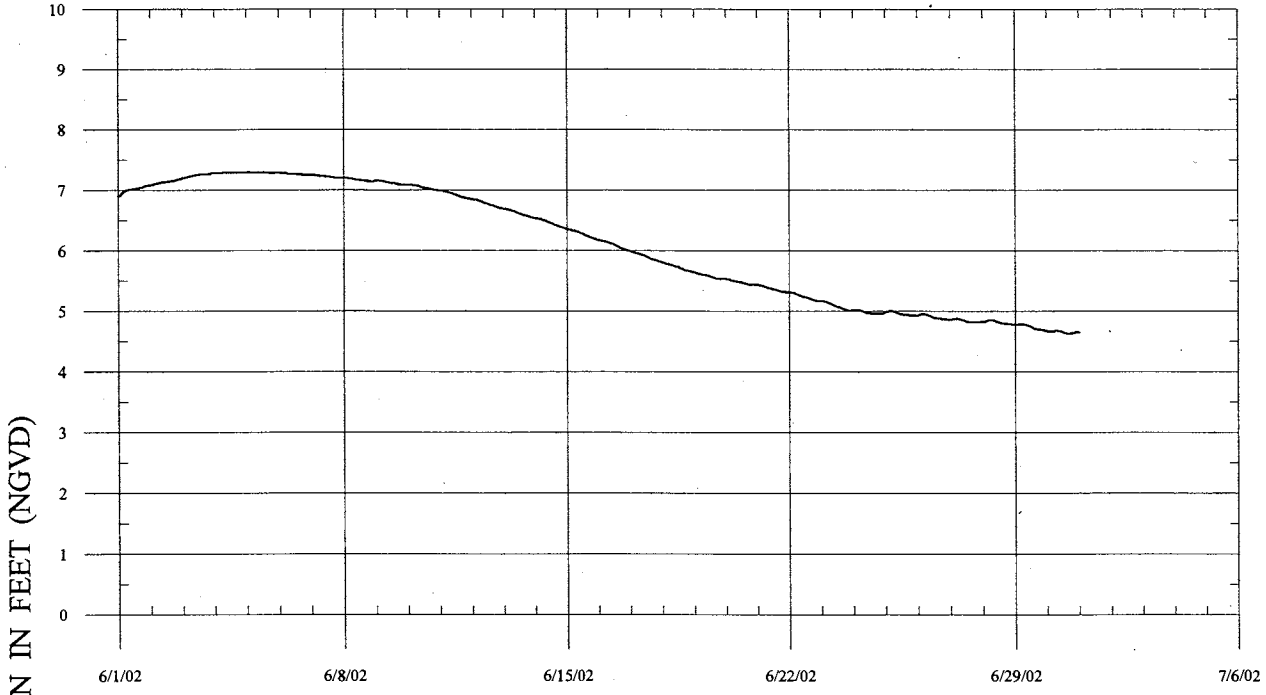


FIGURE F-17

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

JUNE 2002



JULY 2002

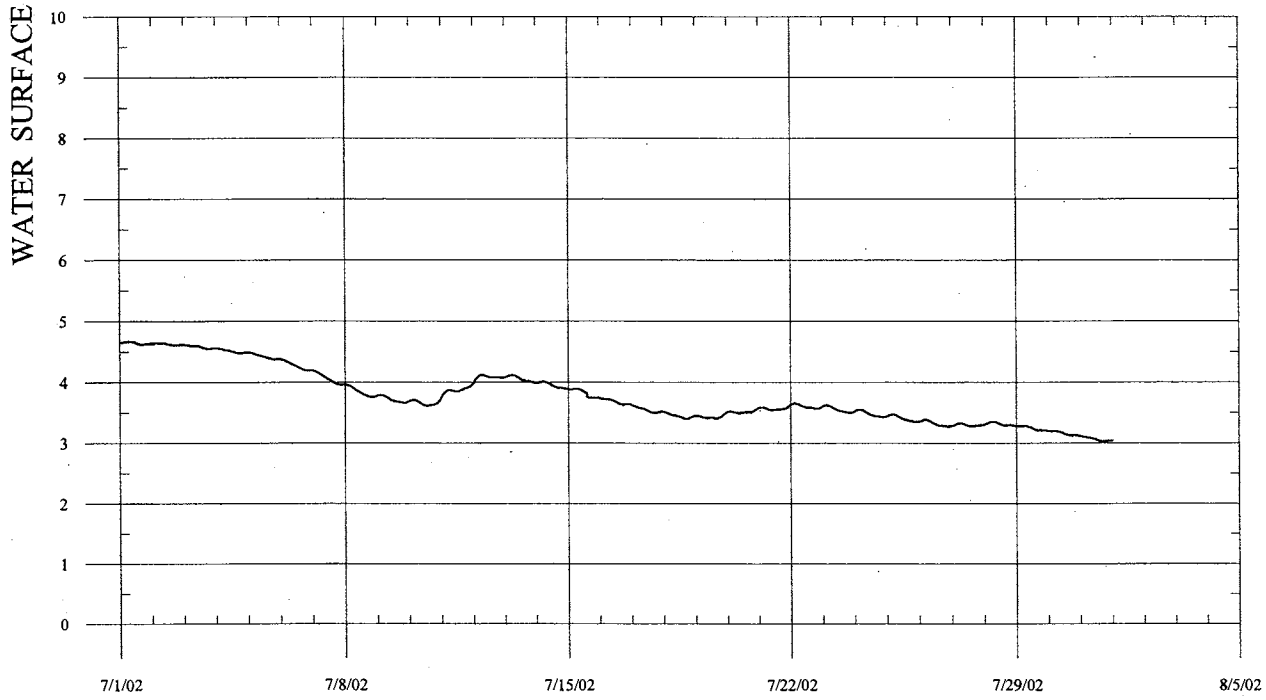
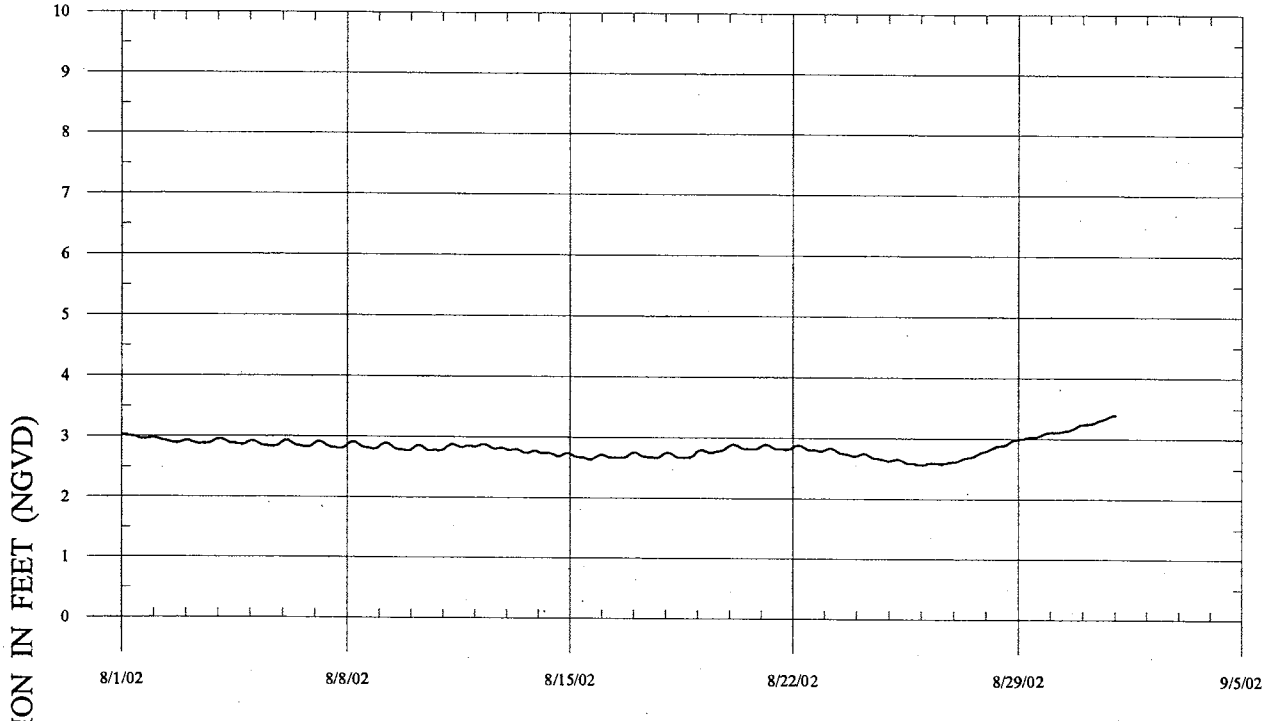


FIGURE F-18

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 2002



SEPTEMBER 2002

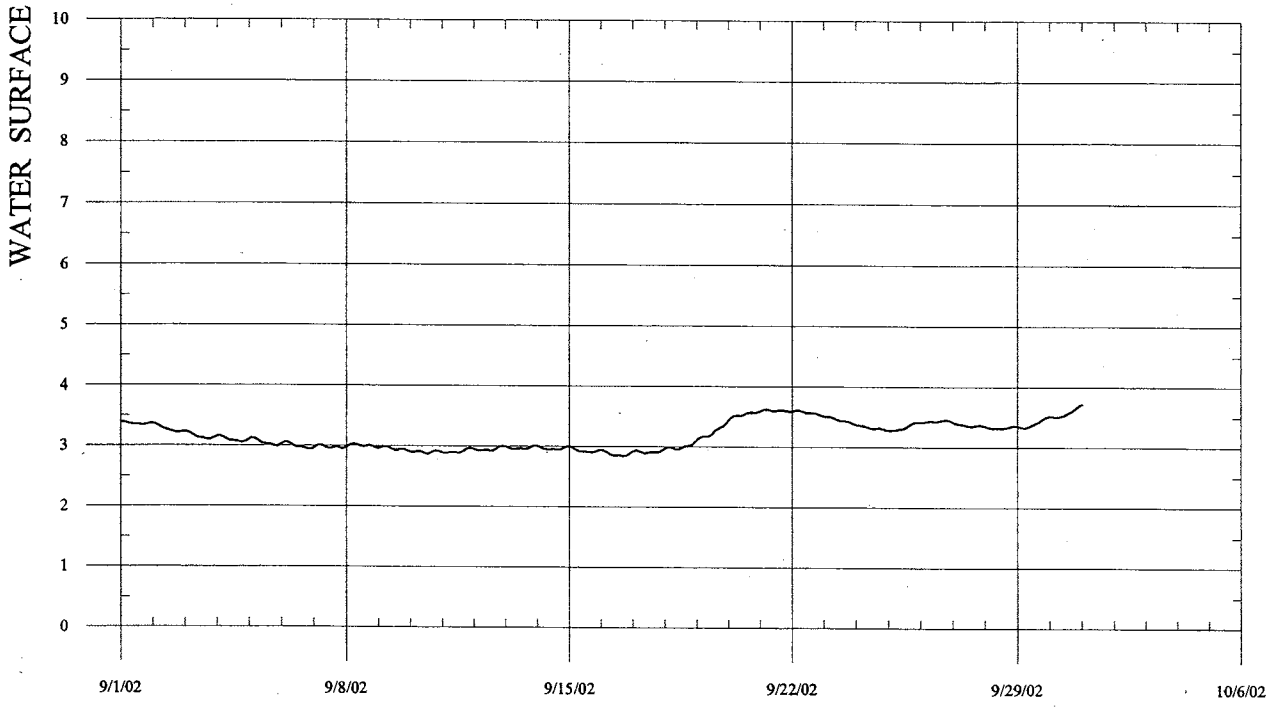
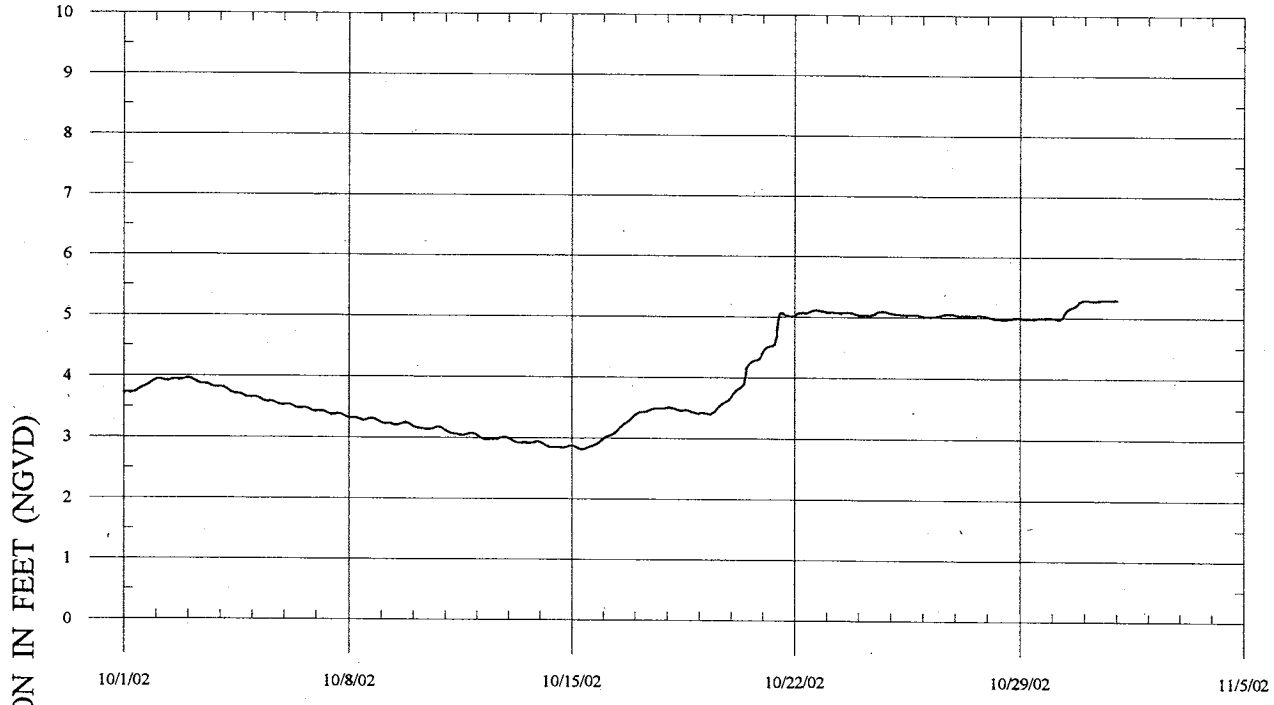


FIGURE F-19

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

OCTOBER 2002



NOVEMBER 2002

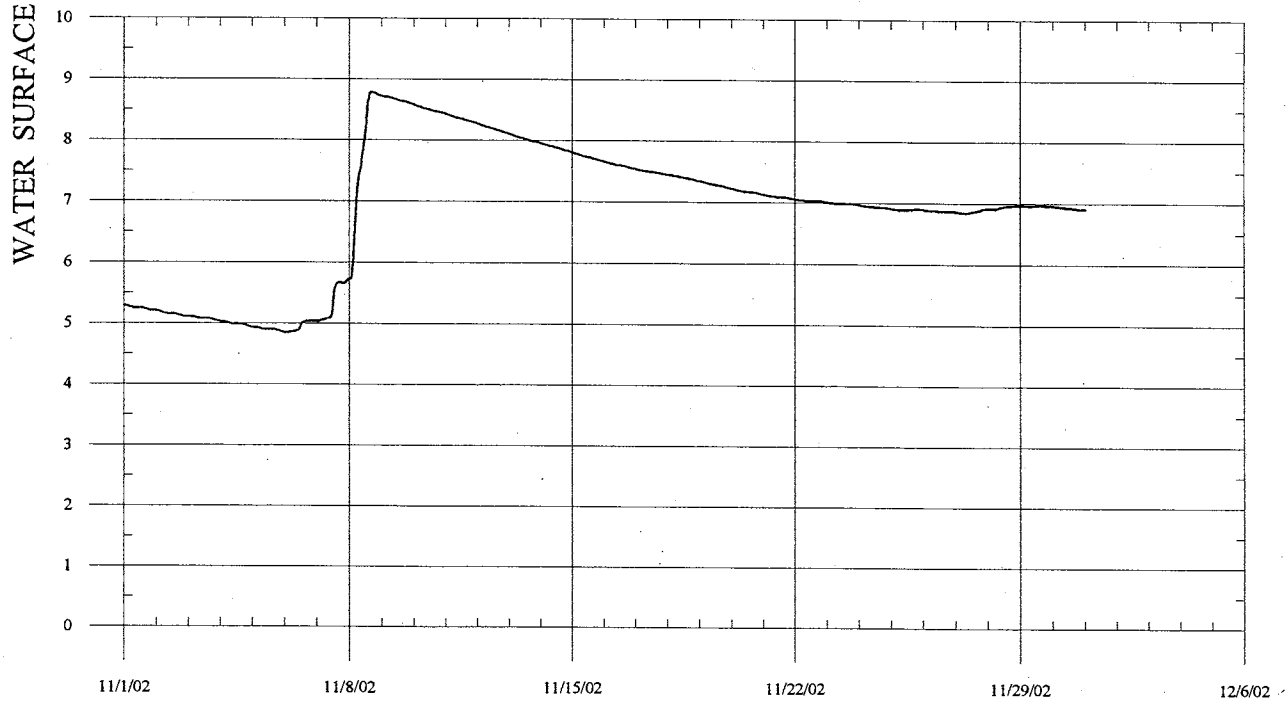
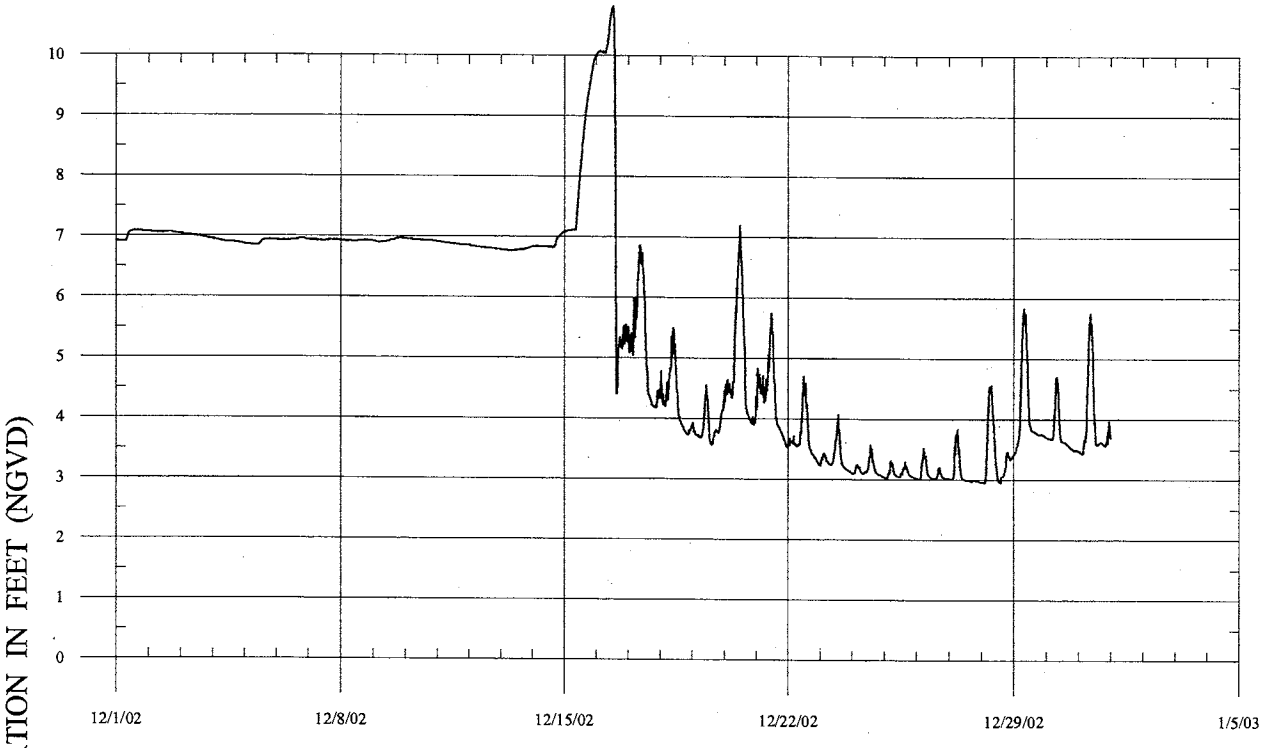


FIGURE F-20

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

DECEMBER 2002



JANUARY 2003

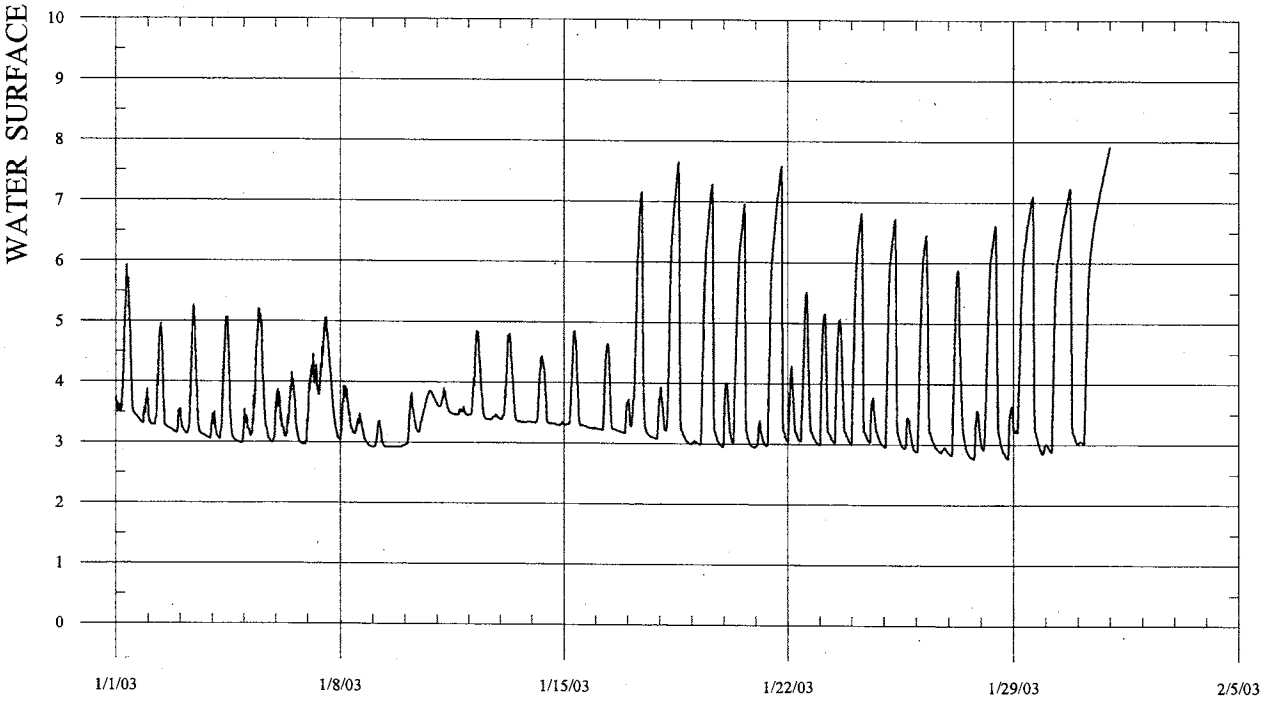


FIGURE F-21

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

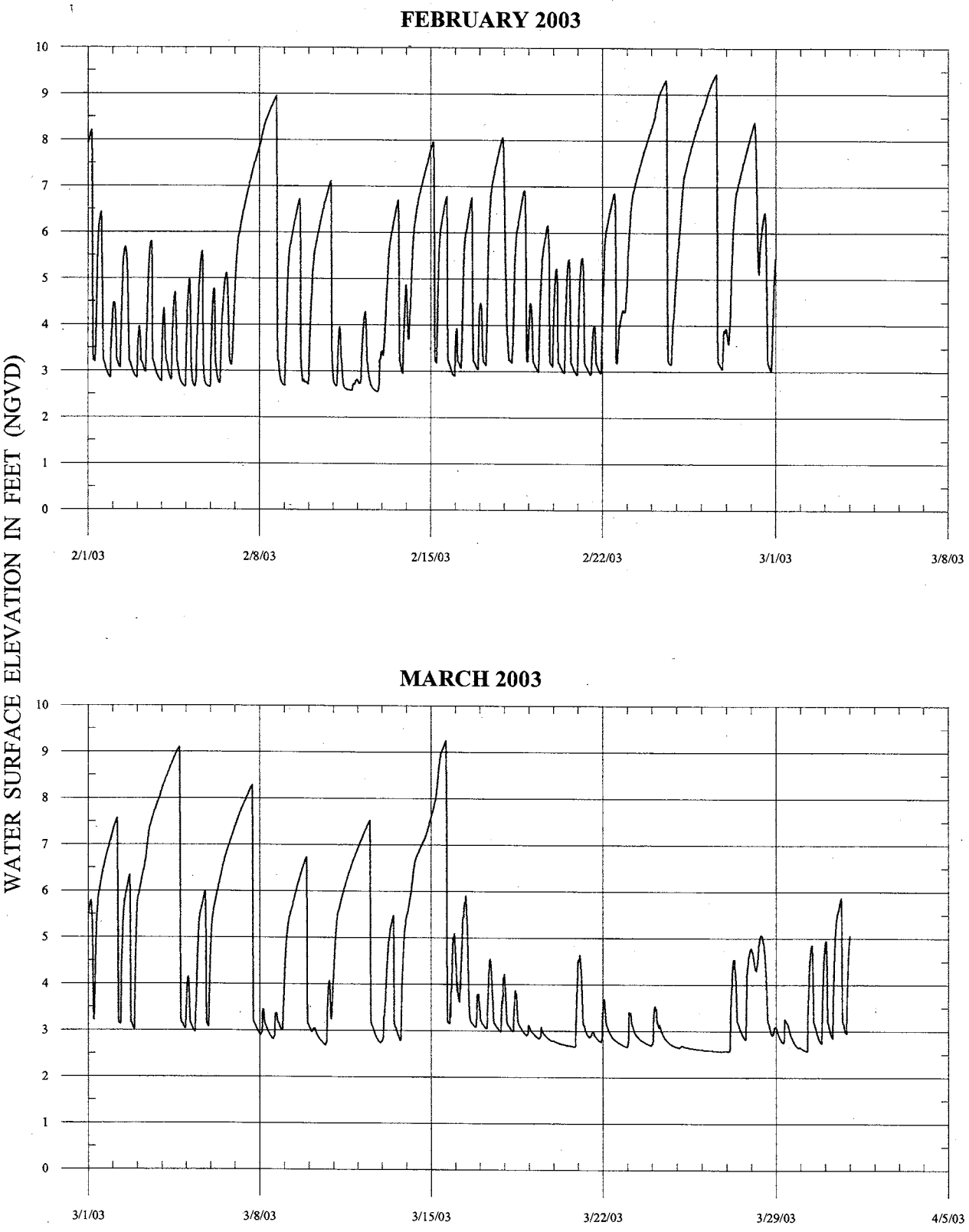


FIGURE F-22

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

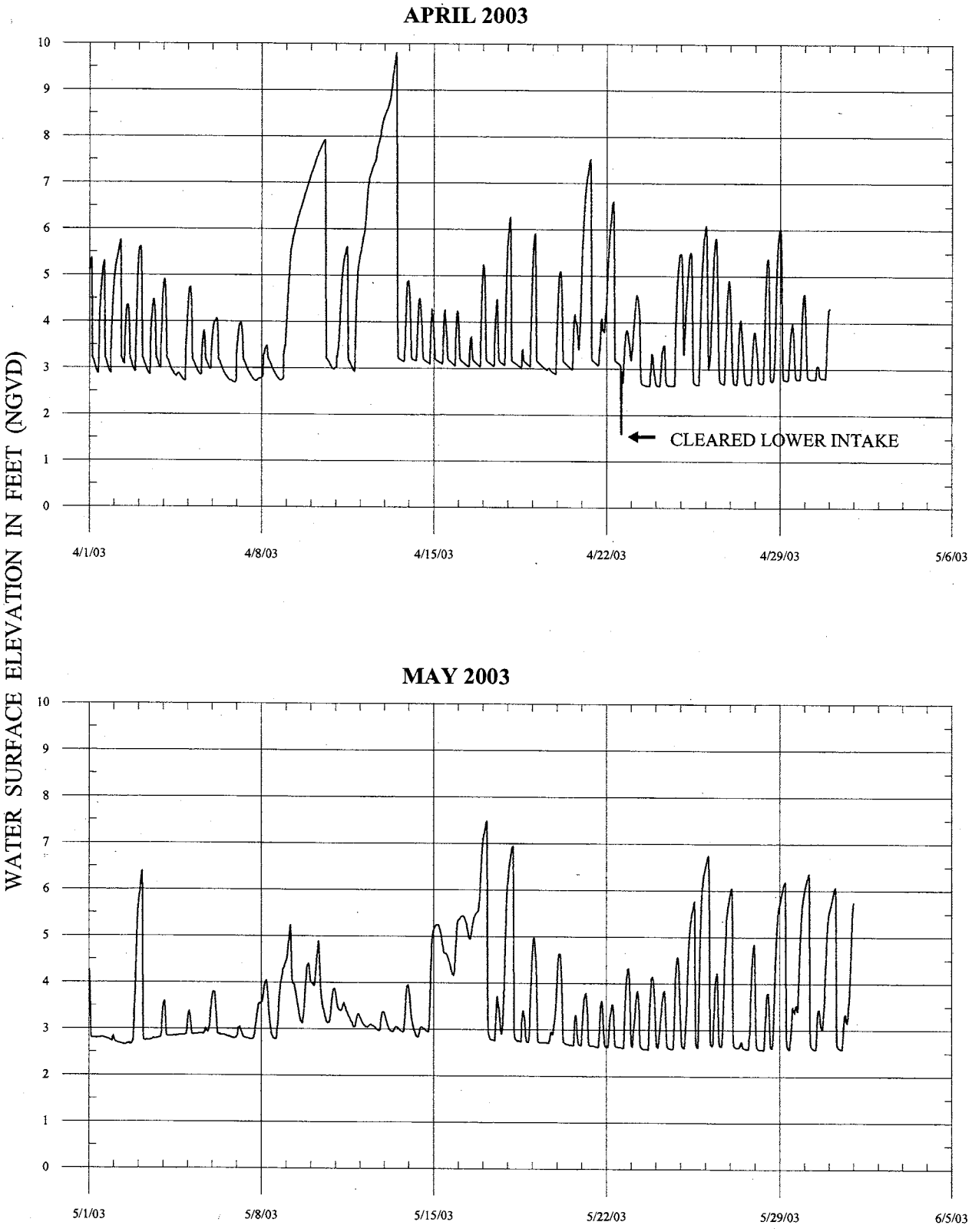


FIGURE F-23

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

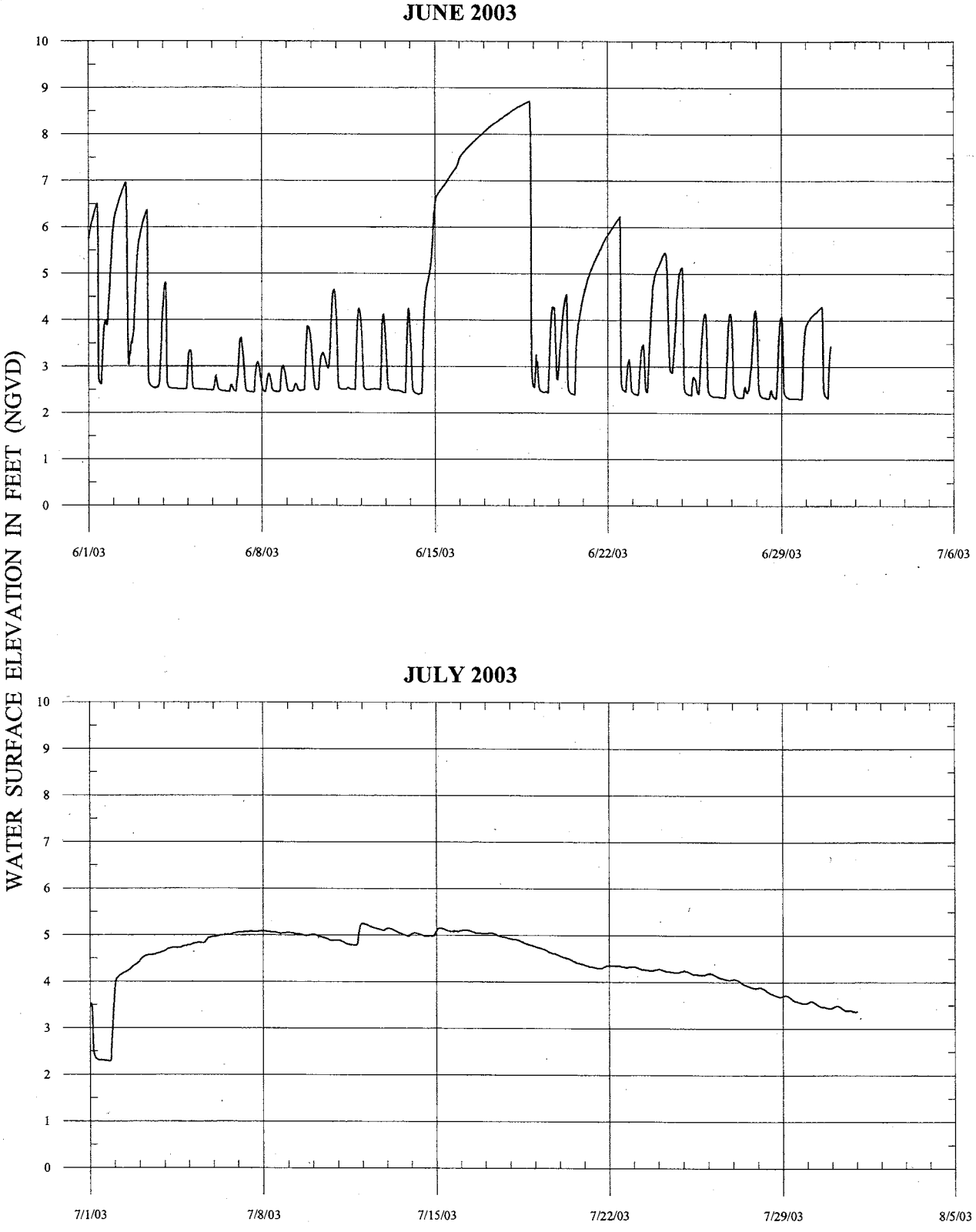
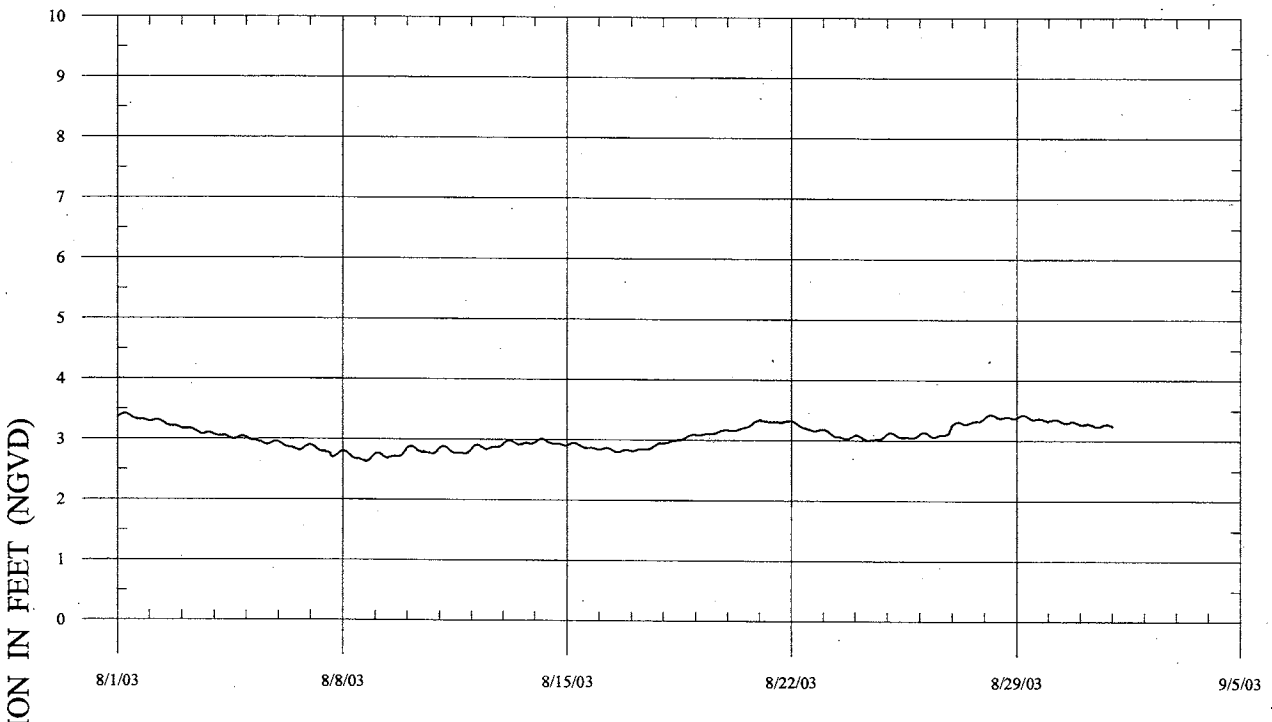


FIGURE F-24

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON

AUGUST 2003



SEPTEMBER 2003

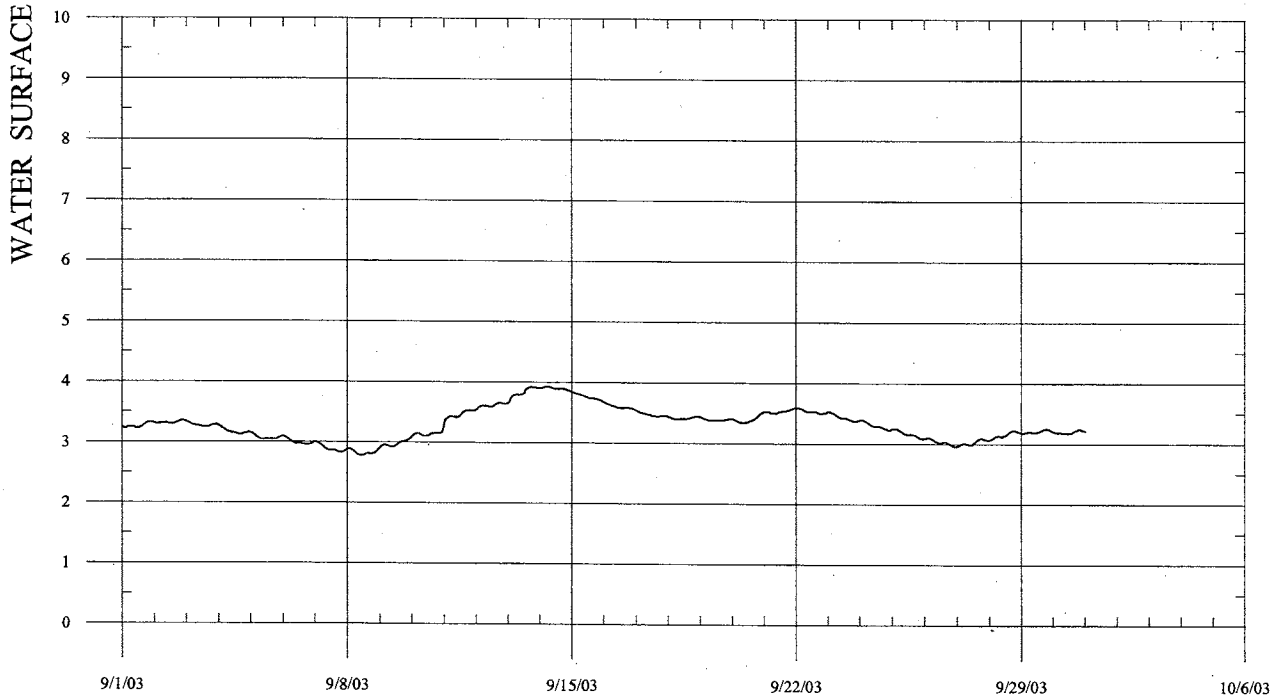
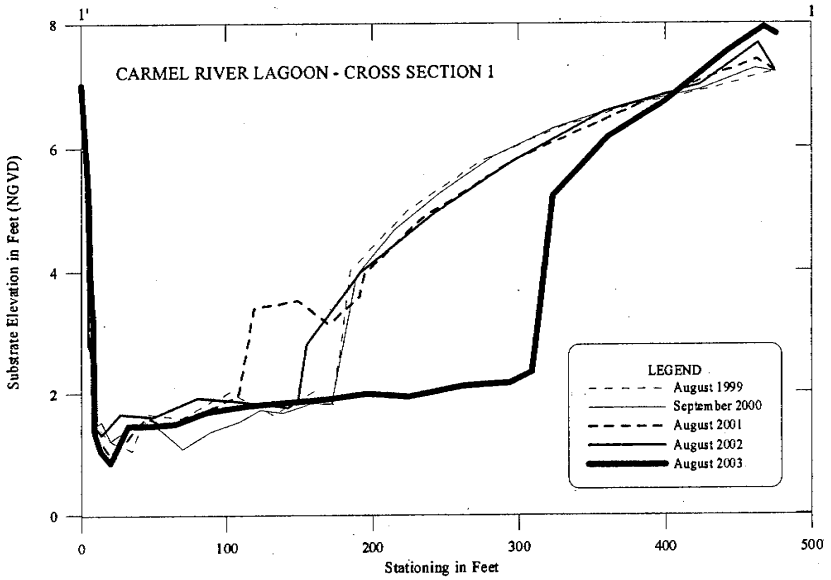
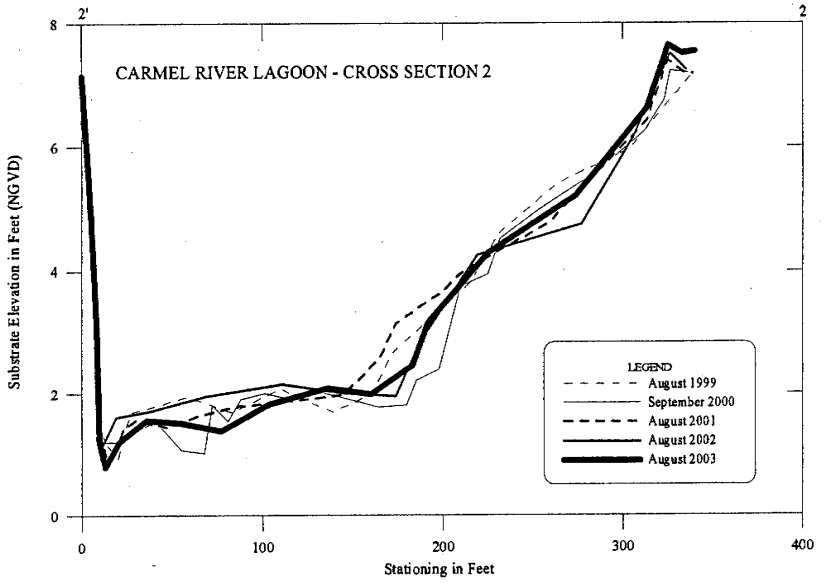


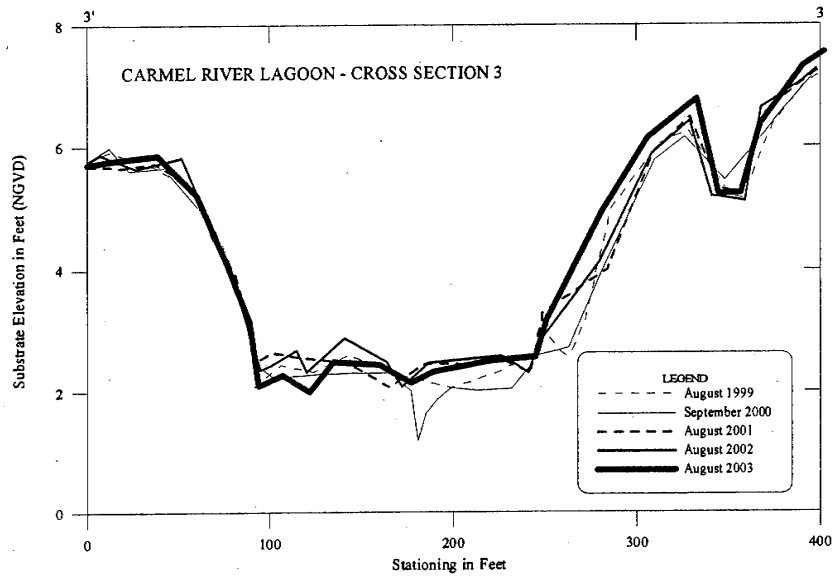
FIGURE F-25

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 1999-2003







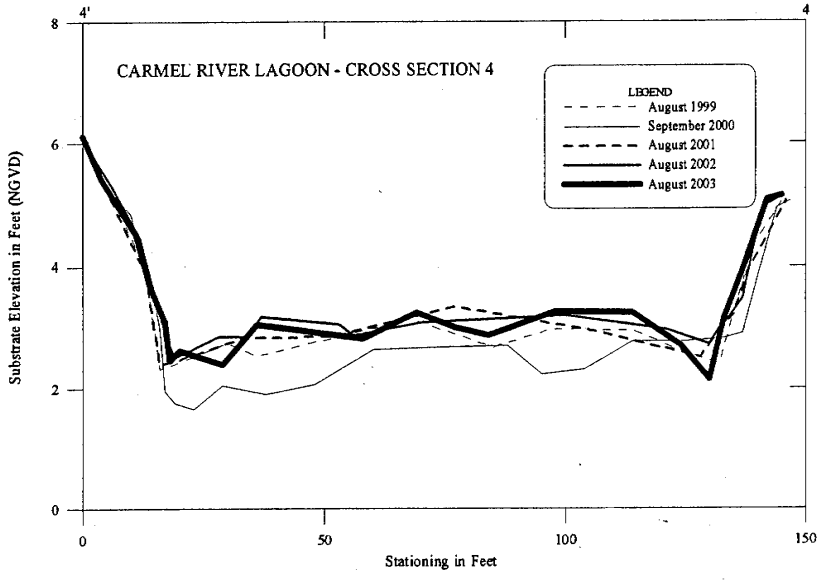
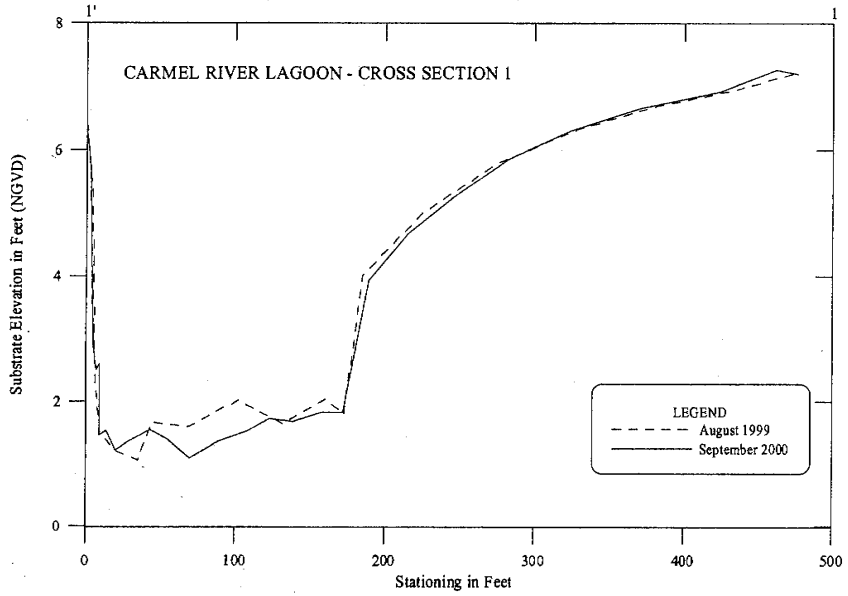
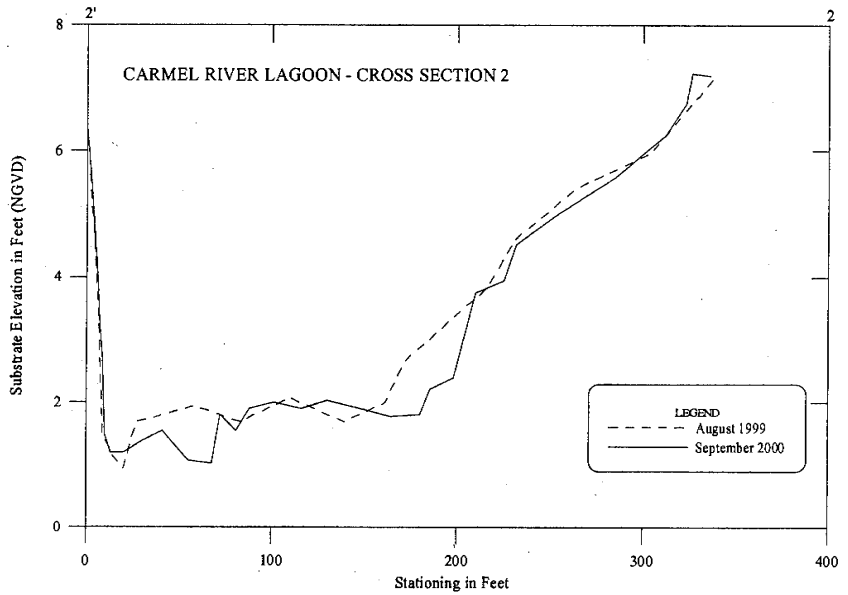


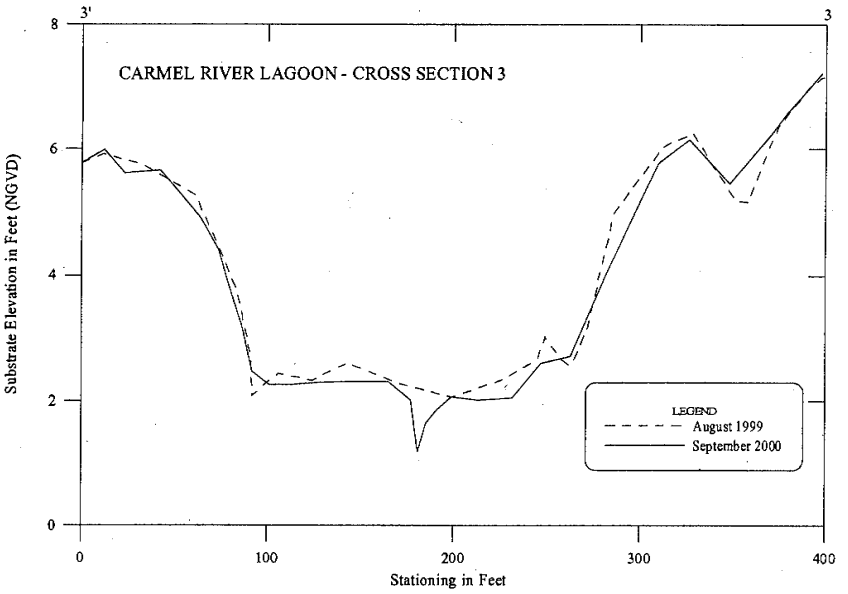
FIGURE F-26

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 1999-2000







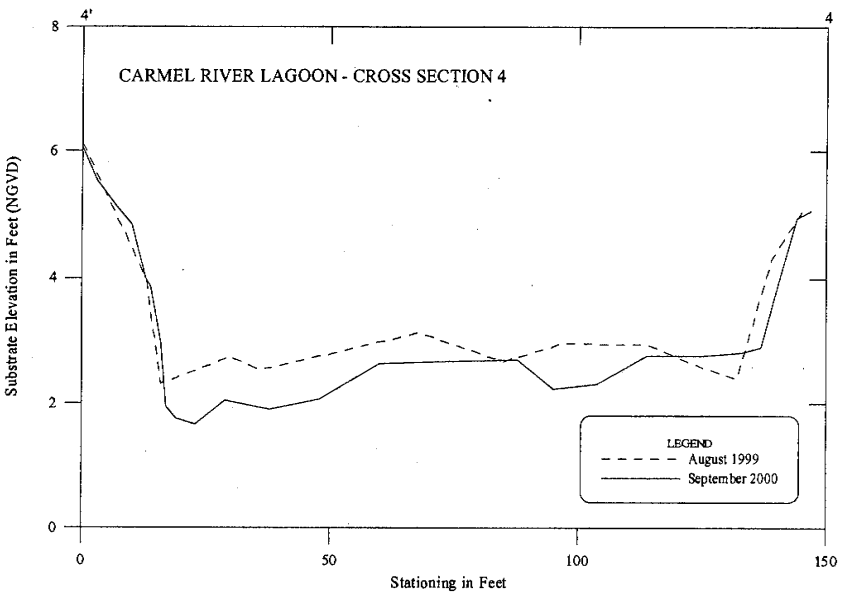
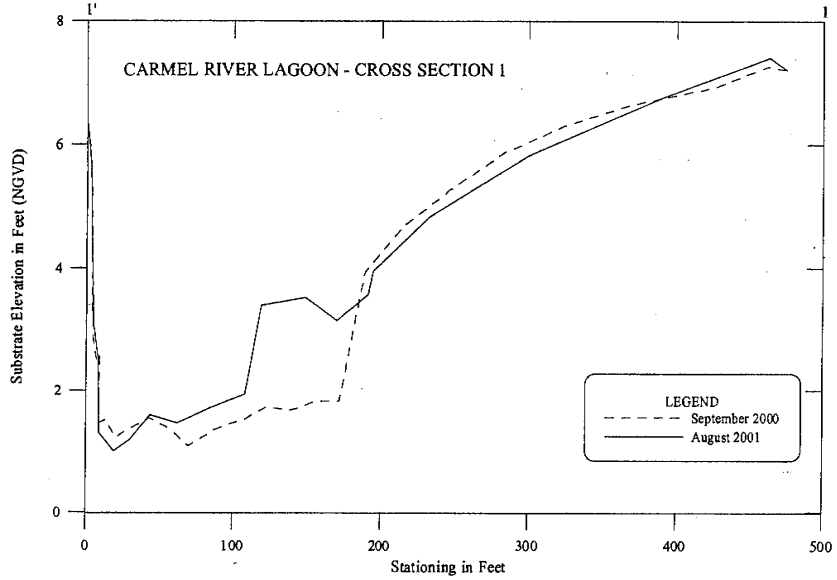
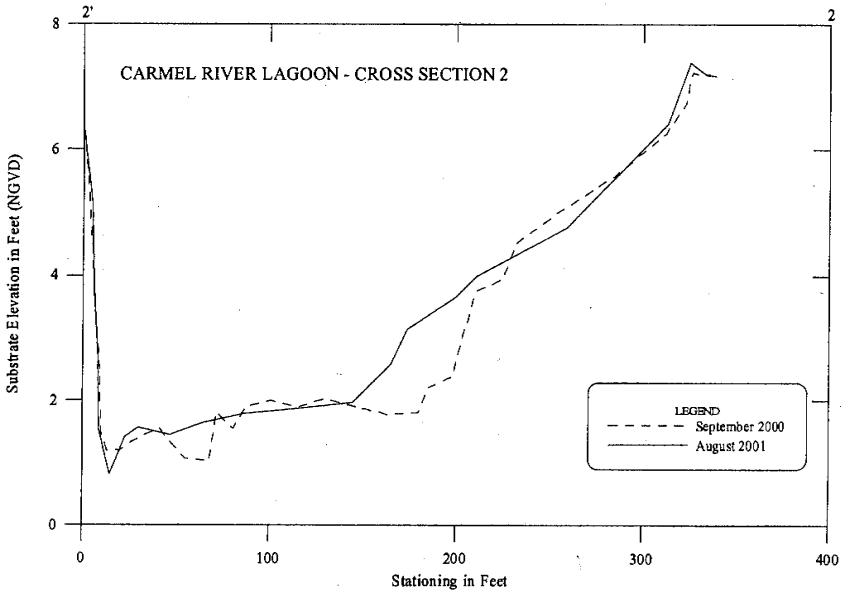


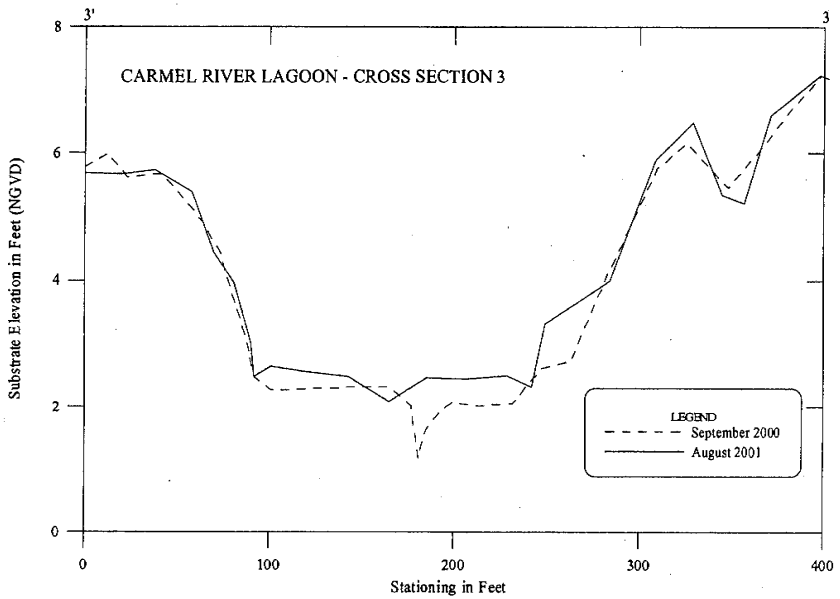
FIGURE F-27

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 2000-2001







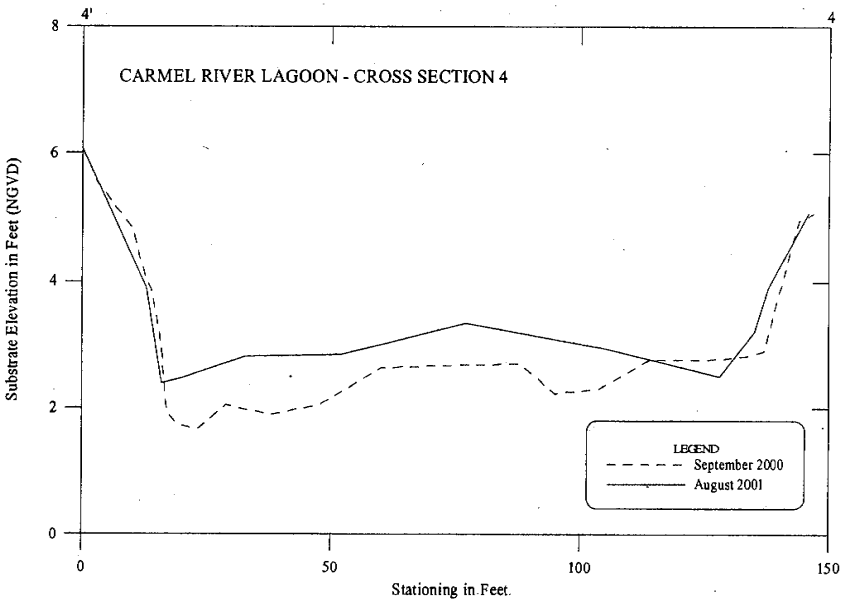
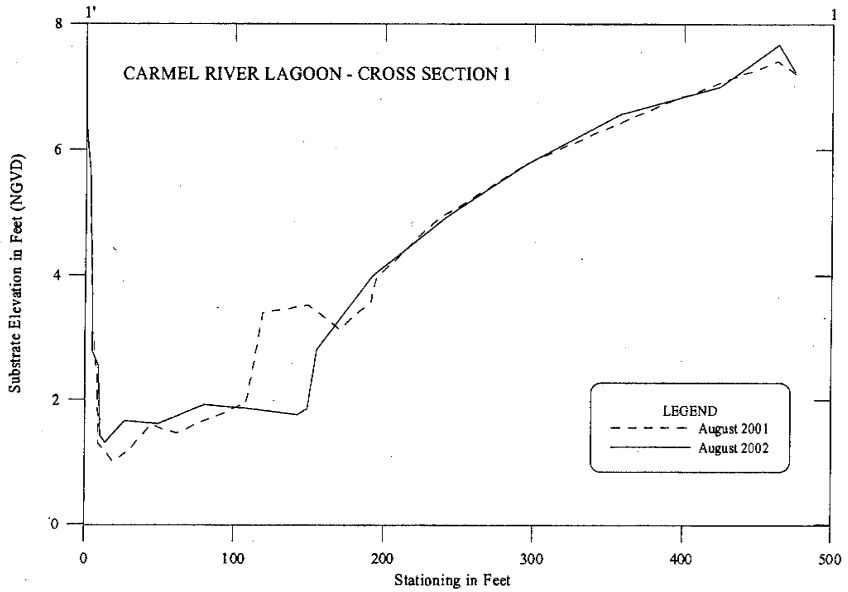
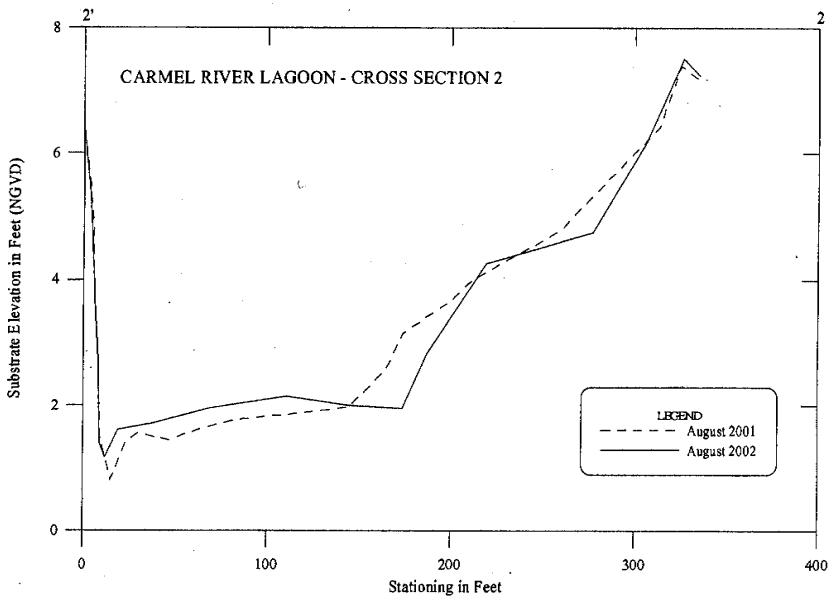


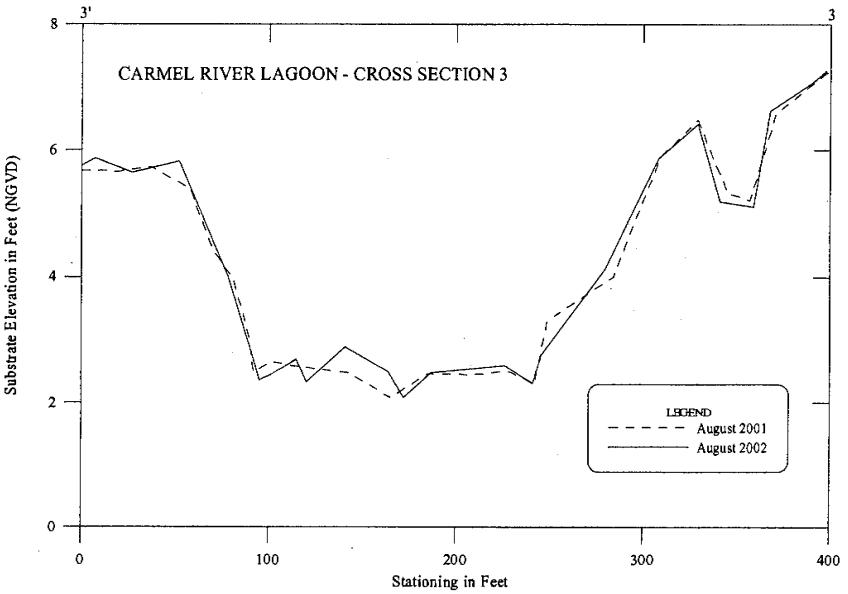
FIGURE F-28

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 2001-2002







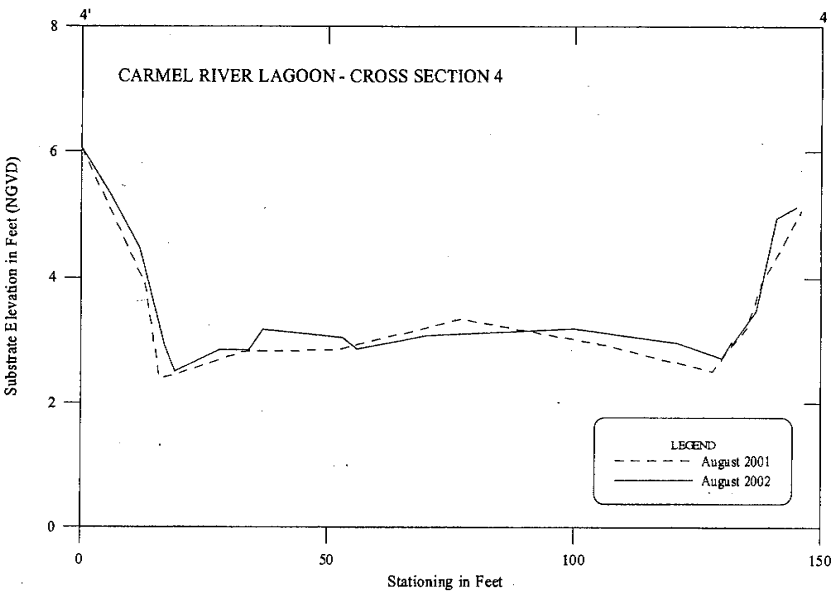


FIGURE F-29

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

CARMEL RIVER LAGOON CROSS SECTIONS 2002-2003