APPENDIX B

Charts

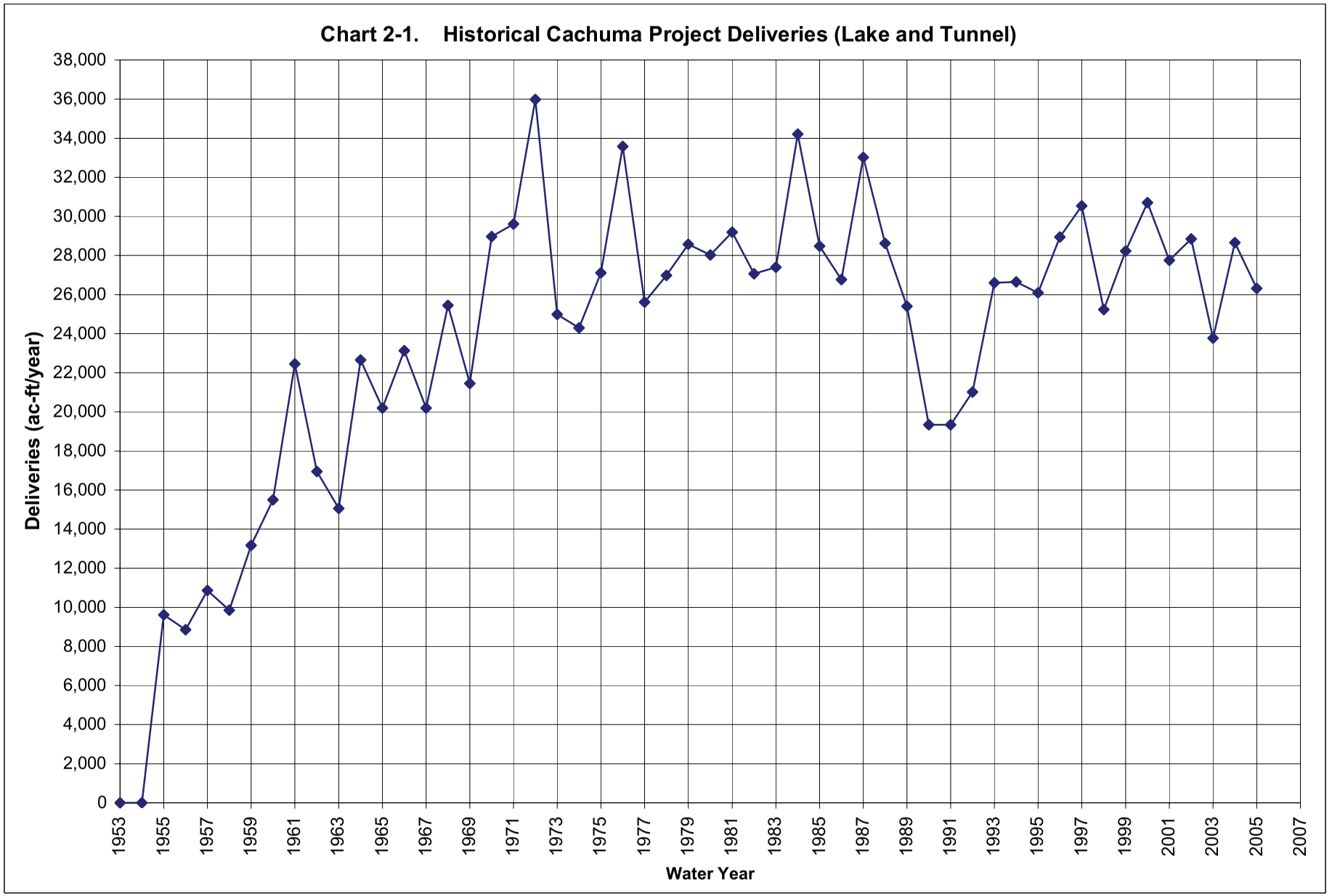
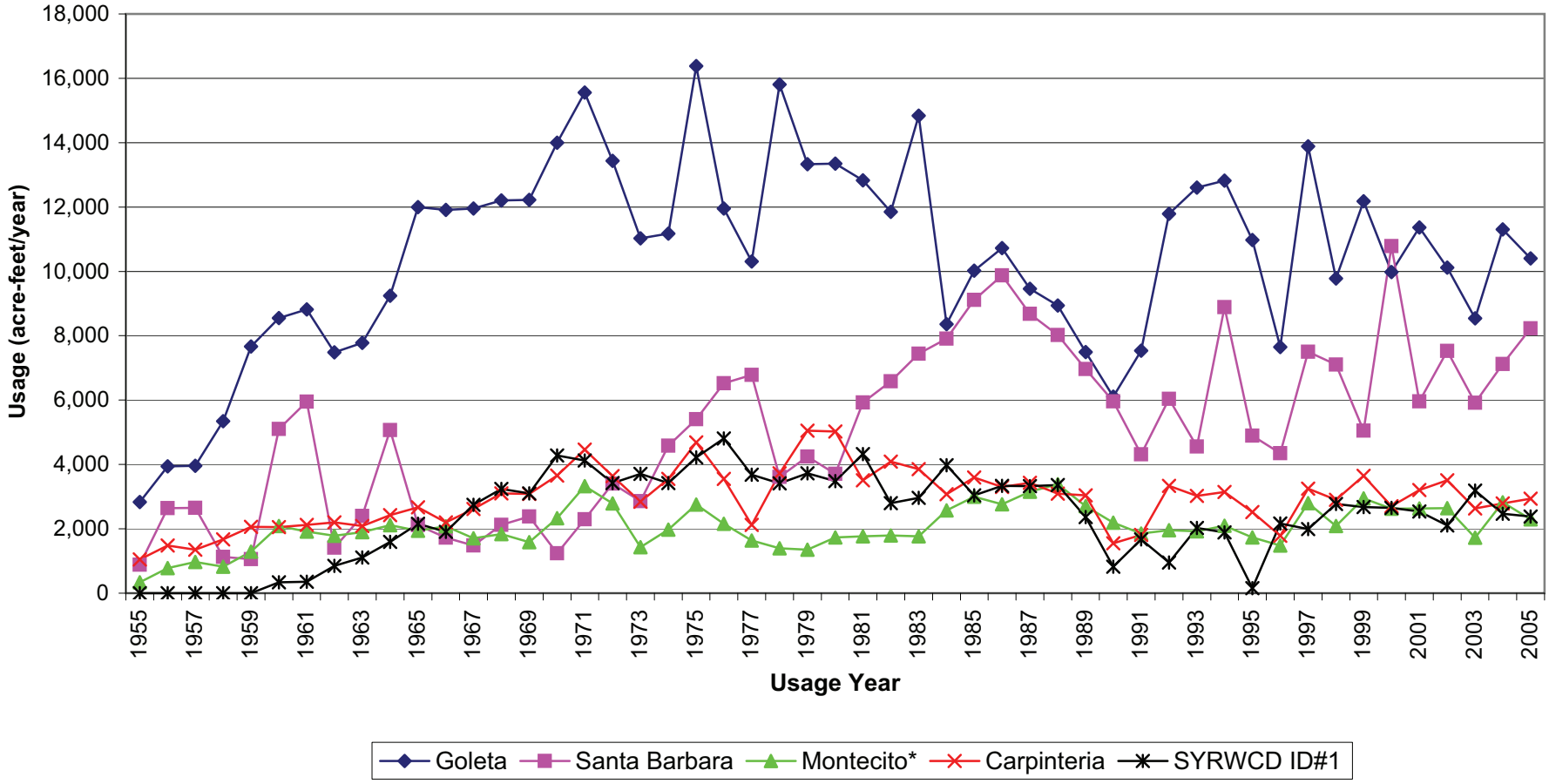


Chart 2-1. Historical Cachuma Project Deliveries (Lake and Tunnel)
Deliveries (ac-ft/year)
38,000
36,000
34,000
32,000
30,000
28,000
26,000
24,000
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
Water Year

Chart 2-2. Historical Annual Usage of Cachuma Project Water by Member Units



1) Usage reporting years vary (1955-1994 represent 5/15 to 5/14 of following year; 1995 represent 5/15 to 4/14 of following year; 1996 represents 4/15-9/30 of same same year; and years 1997-2005 represent water year (Oct-Sep).
2) Montecito usage includes Summerland WD totals (merged in Dec. 1995).
3) Since 1997, ID No. 1 receives its entitlement througn an exchange with South Coast Project members and Park deliveries.
4) ID No. 1 Project Water is not included in Project usage by other Member Units via the water exchange.

Chart 2-3. Historical Annual ANA and BNA WR89-18 Releases

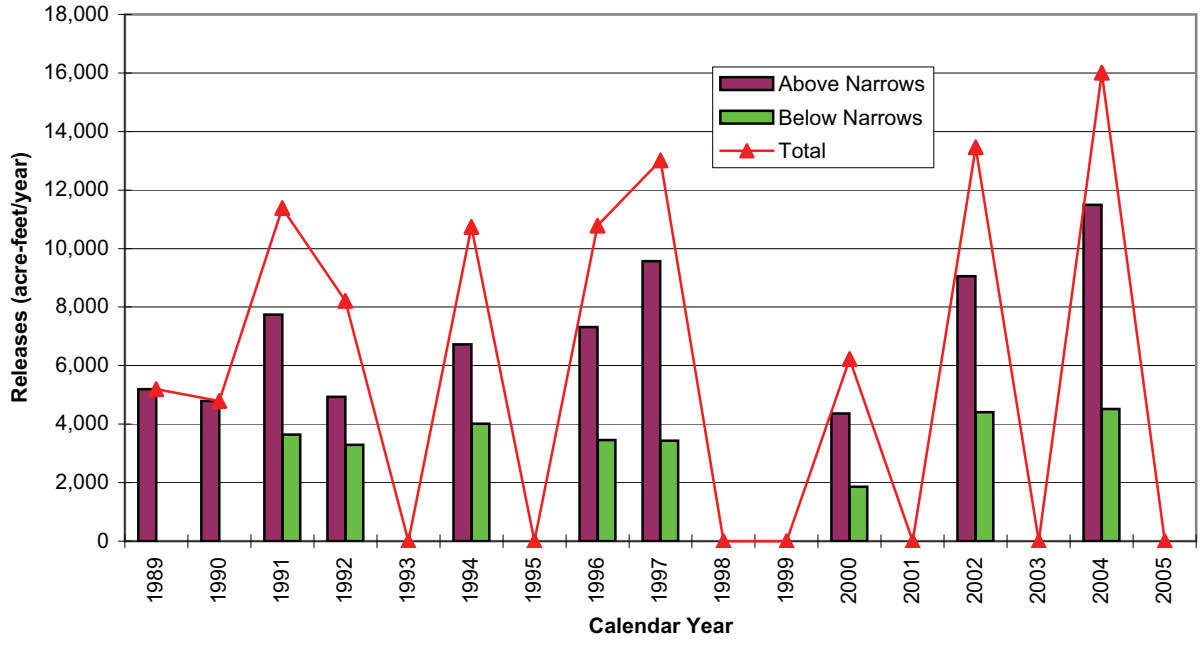


Chart 2-4. Historical Monthly WR89-18 Water Rights and Fish Releases

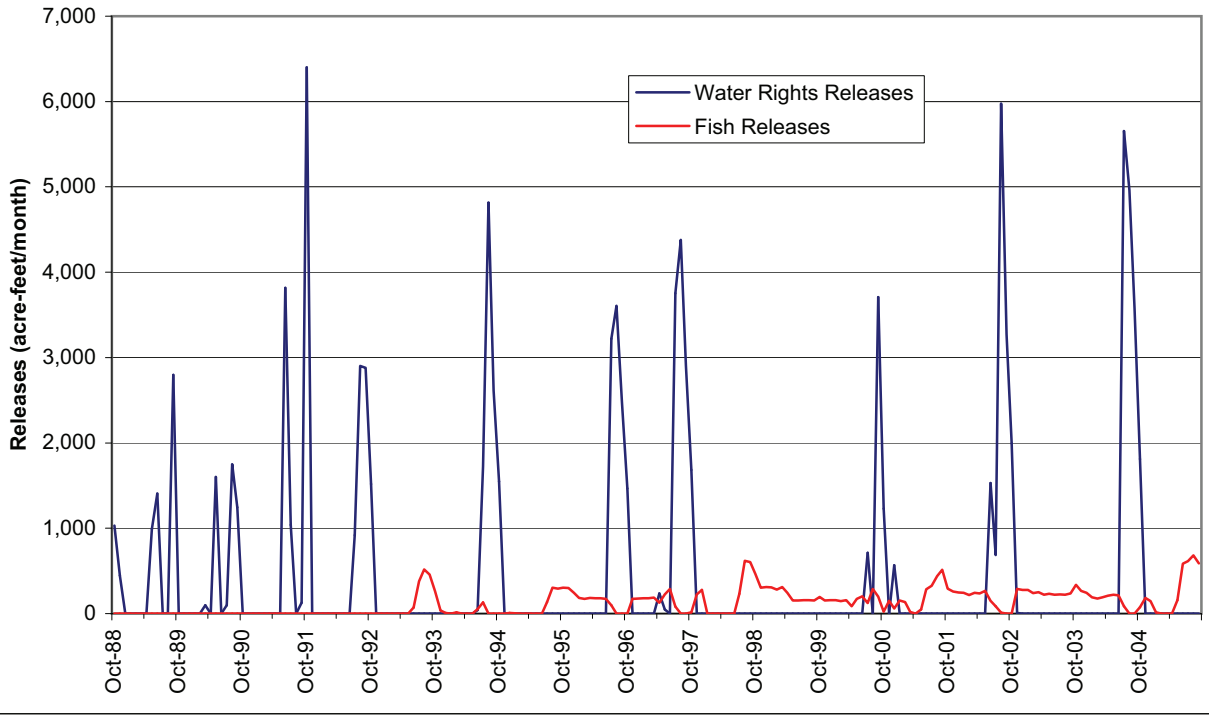


Chart 2-5. Simulated Shortages in SWP Water Deliveries

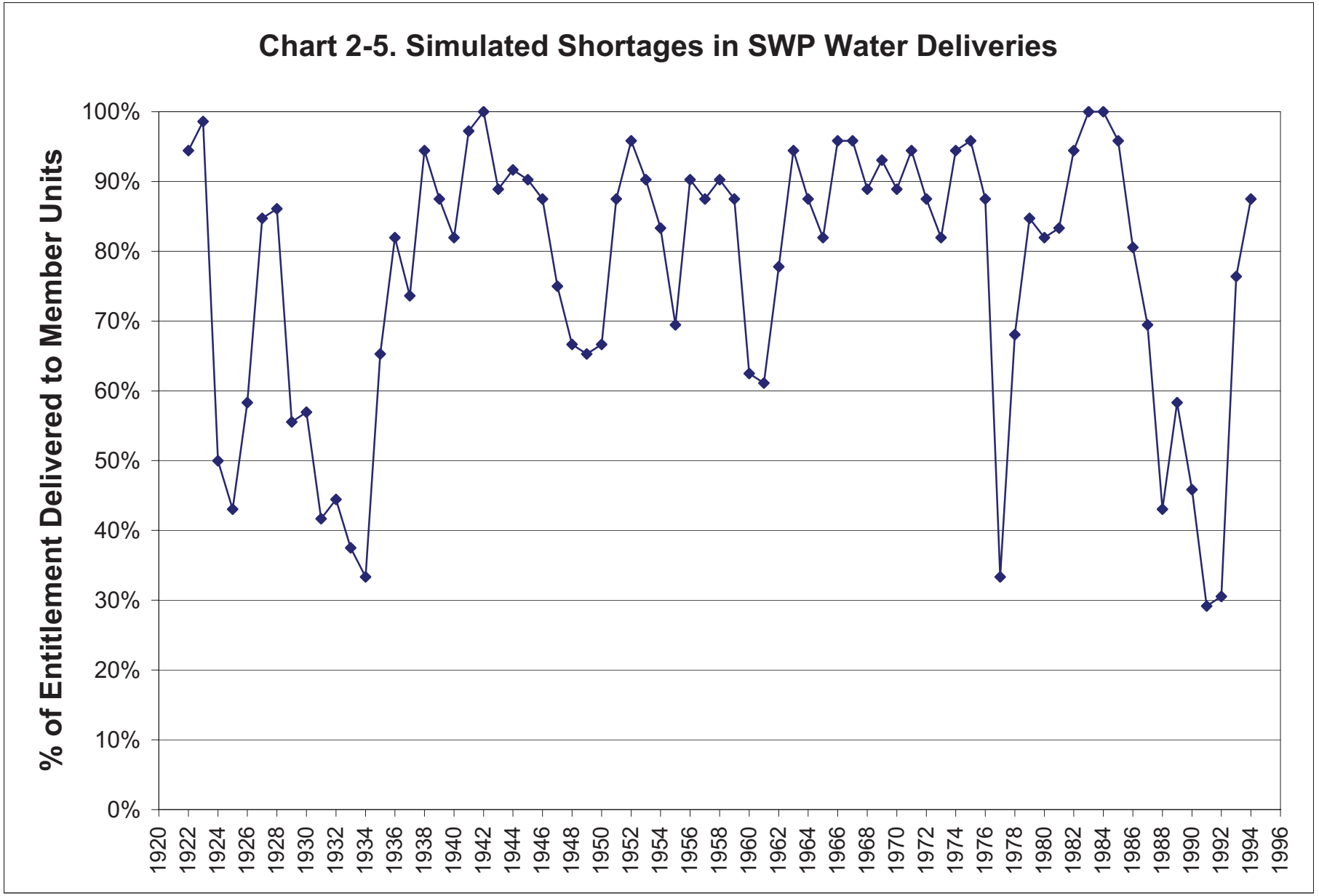


Chart 4-1
Average Monthly Rainfall Near Lake Cachuma

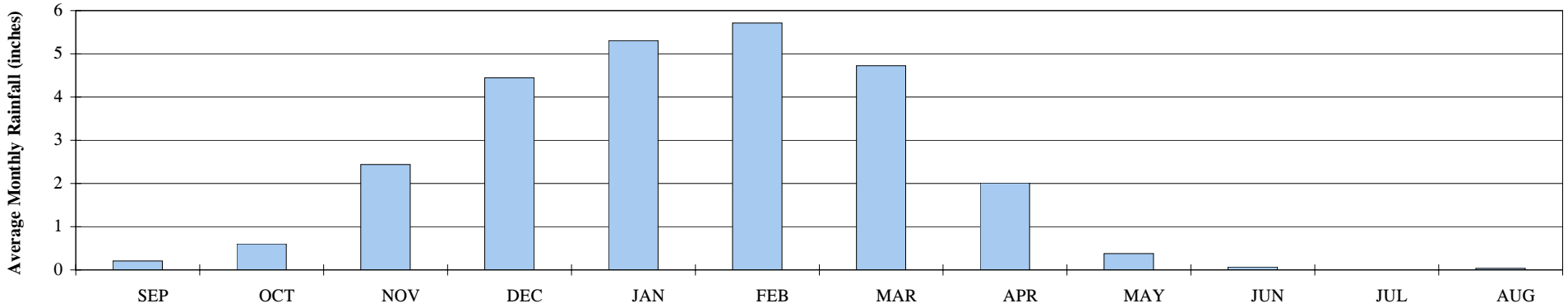


Chart 4-2
Historic Annual Rainfall Near Lake Cachuma

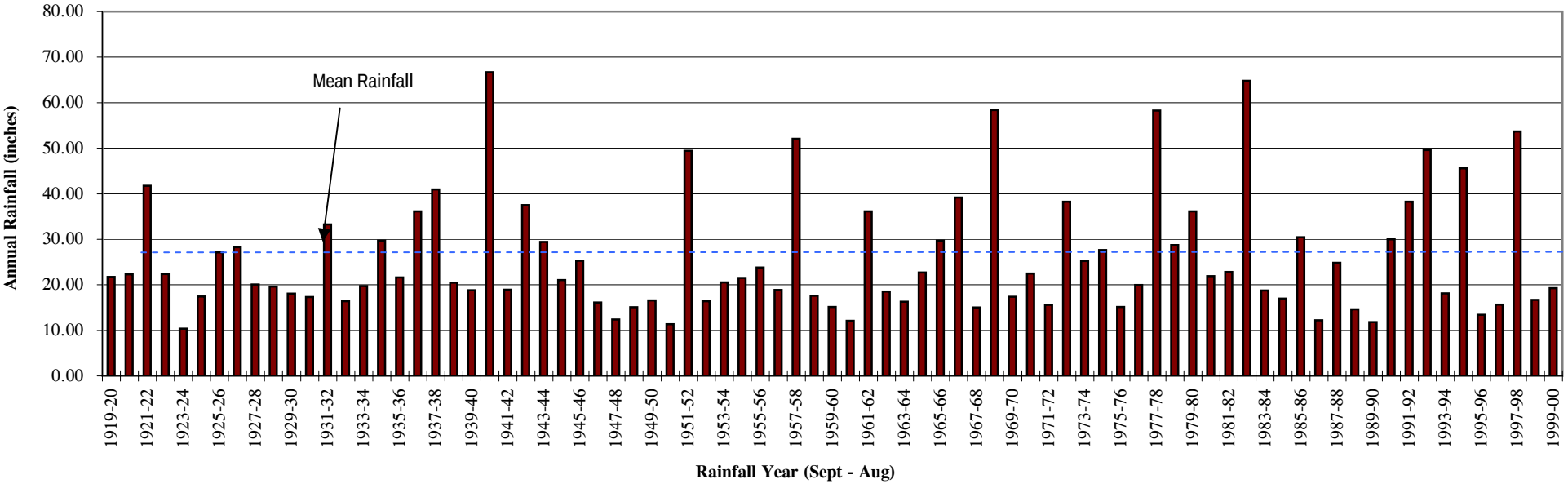


Chart 4-3 Historical Annual End of Summer Lake Storage

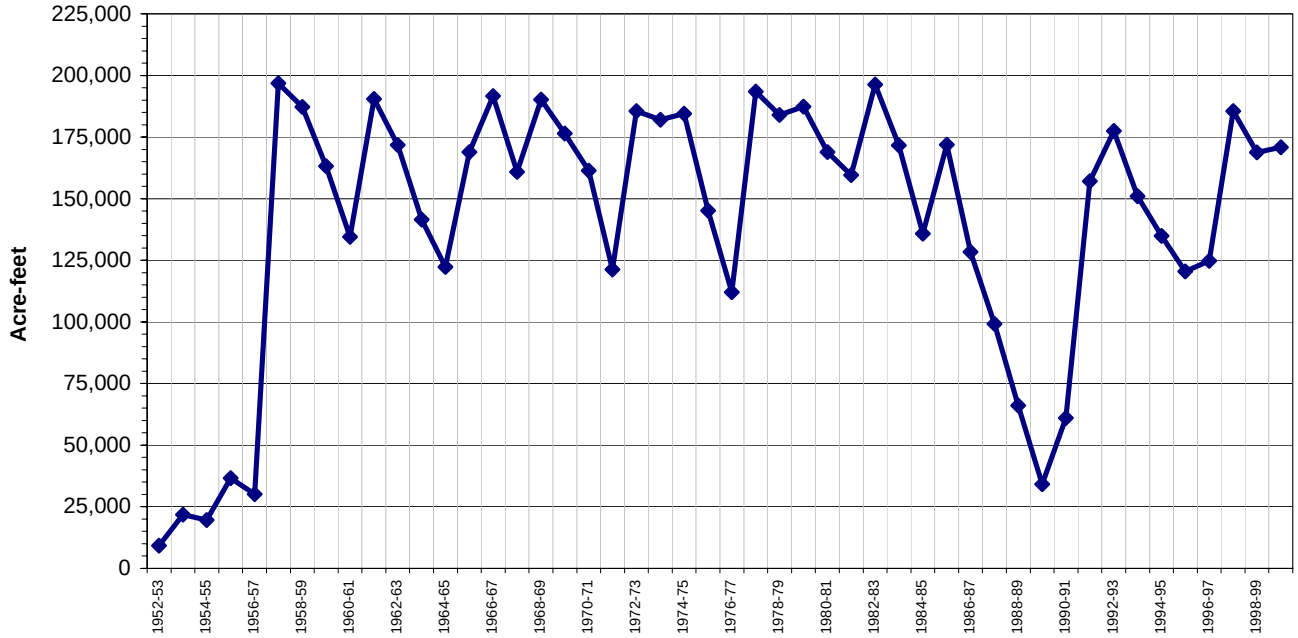
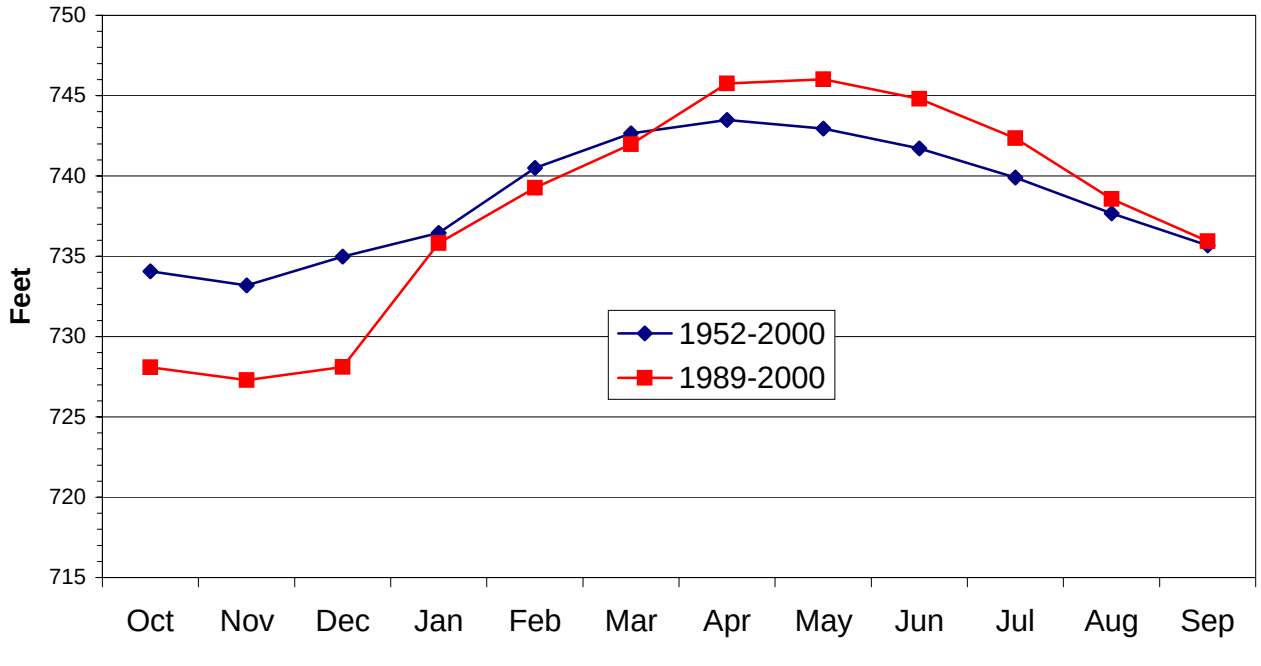


Chart 4-4 Historical Median Monthly Lake Elevations



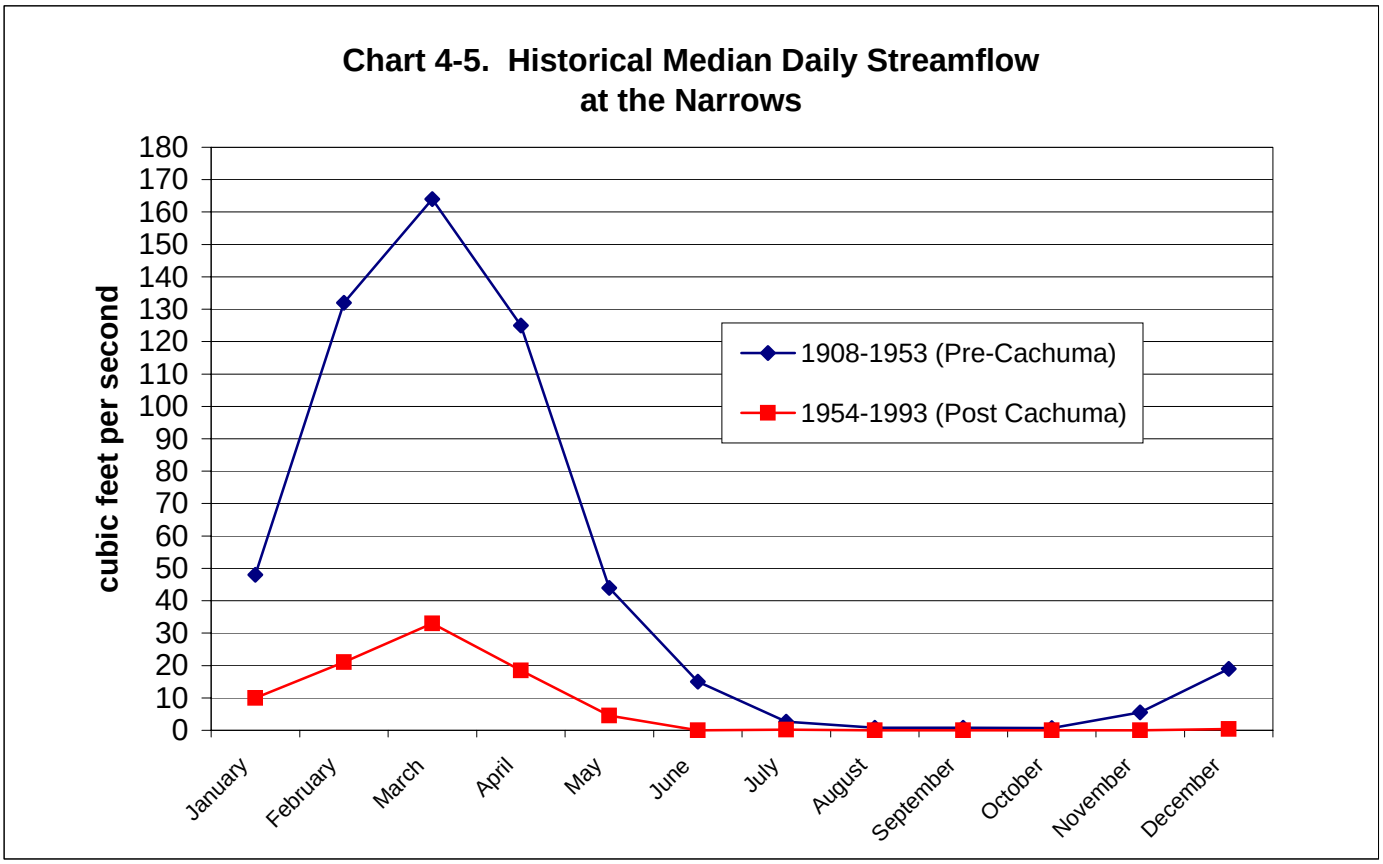


Chart 4-5. Historical Median Daily Streamflow at the Narrows
cubic feet per second
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
January
February
March
April
May
June
July
August
September
October
November
December
1908-1953 (Pre-Cachuma)
1954-1993 (Post Cachuma)

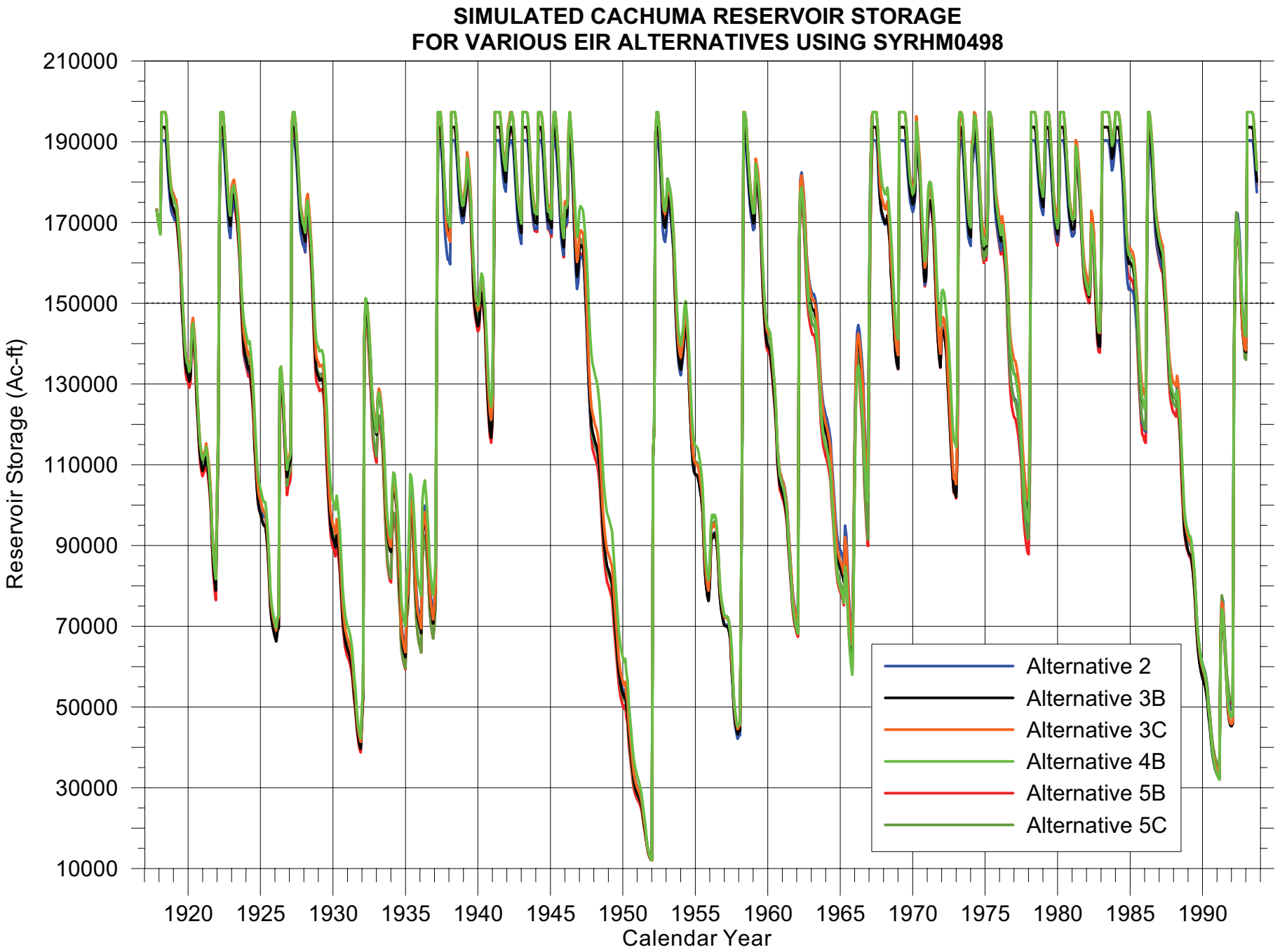


Chart 4-6. Annual Reservoir Storage

Chart 4-6

Chart 4-7 Median Monthly Cachuma Lake Elevations (Simulation 1918-93)

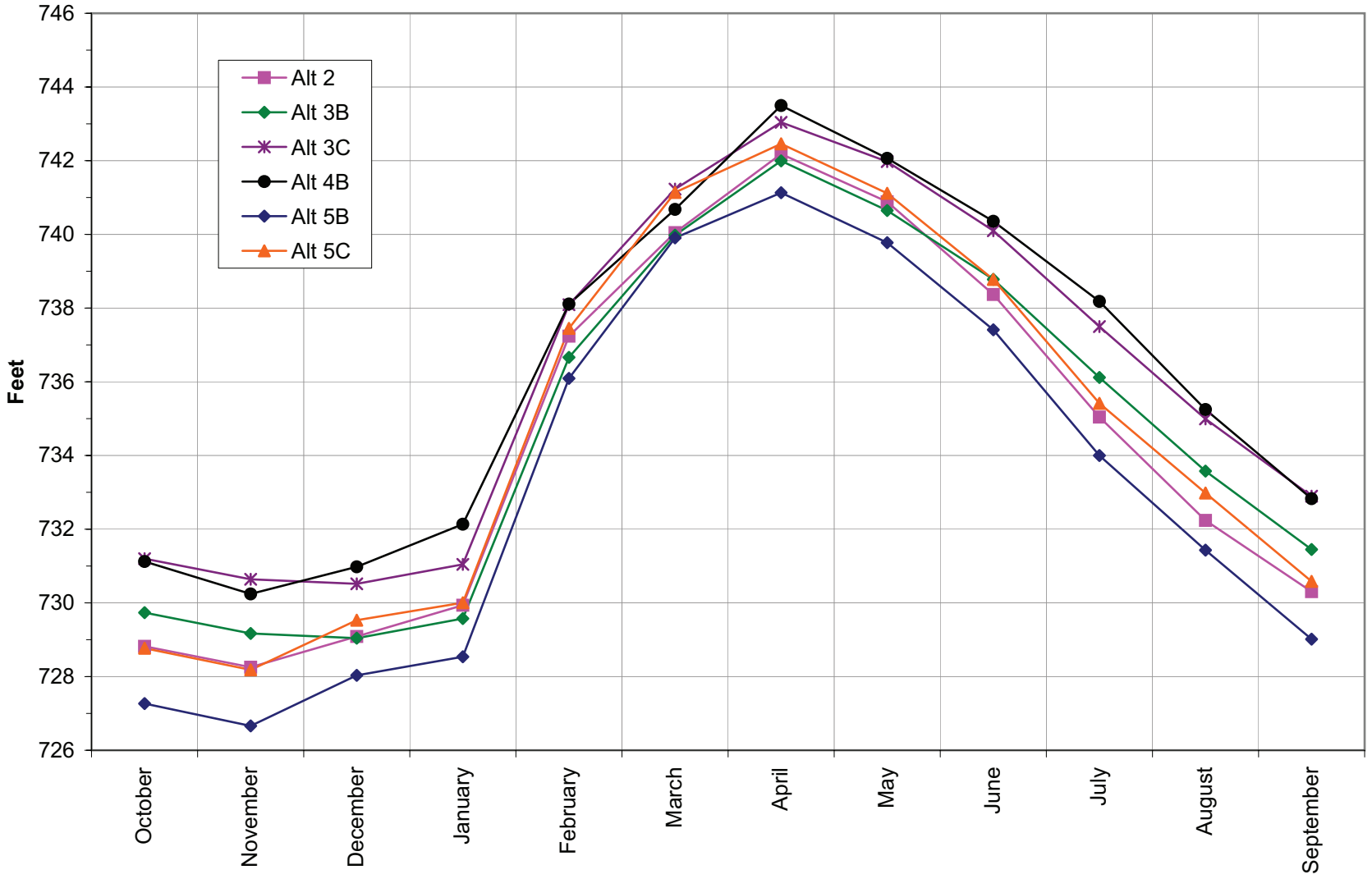


CHART 4-8a. MEDIAN MONTHLY STREAMFLOW BELOW LAKE CACHUMA

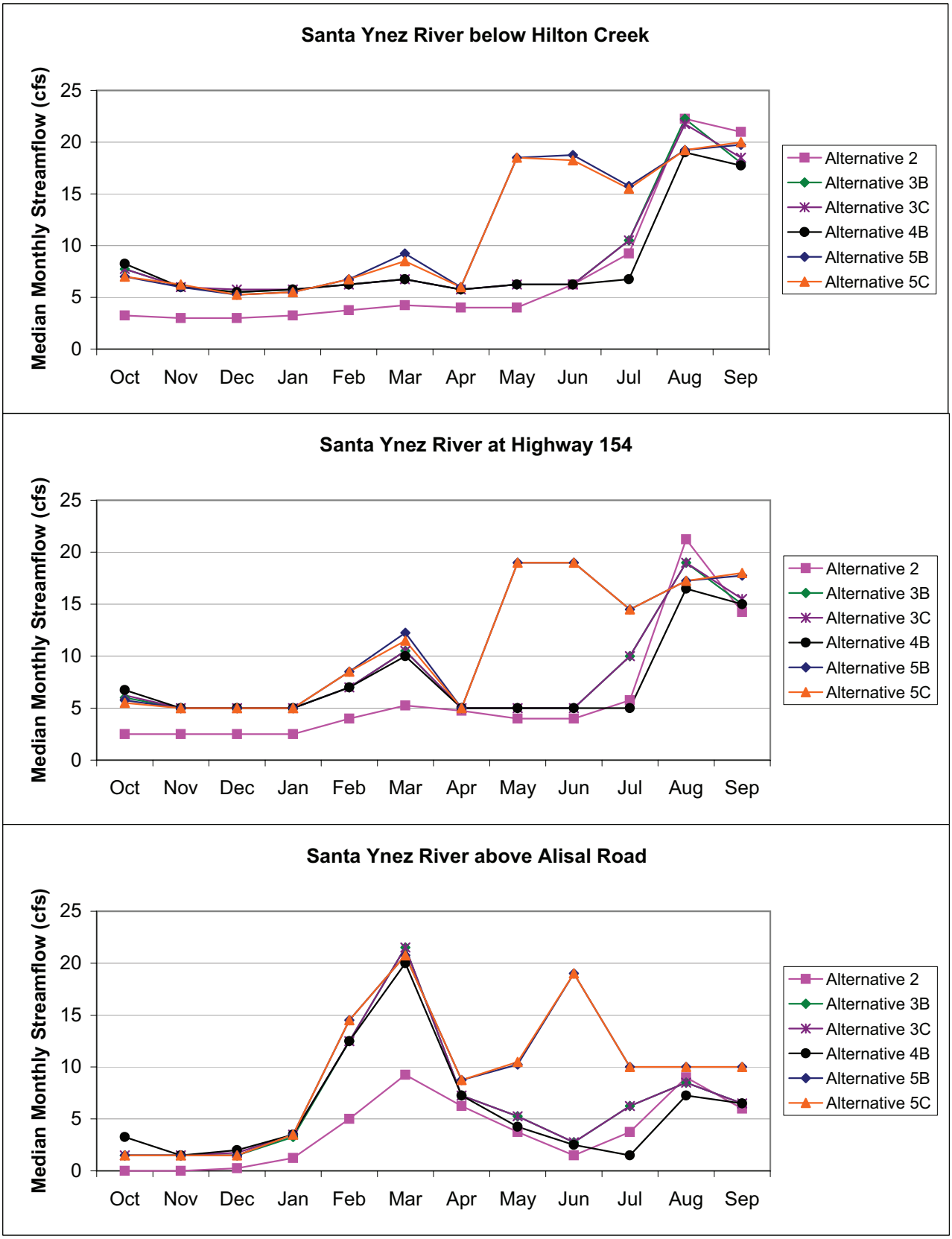


CHART 4-8b. MEDIAN MONTHLY STREAMFLOW BELOW LAKE CACHUMA

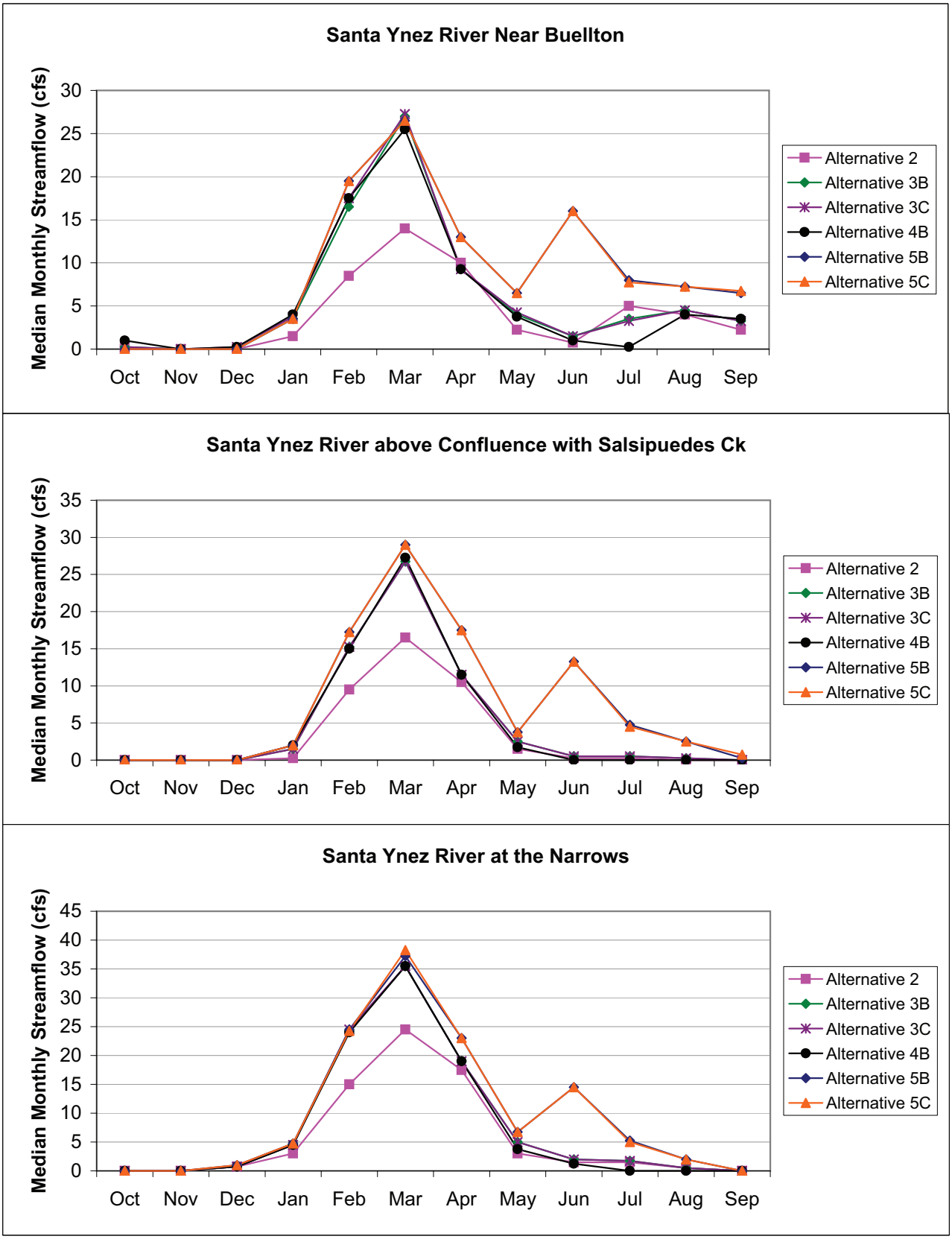
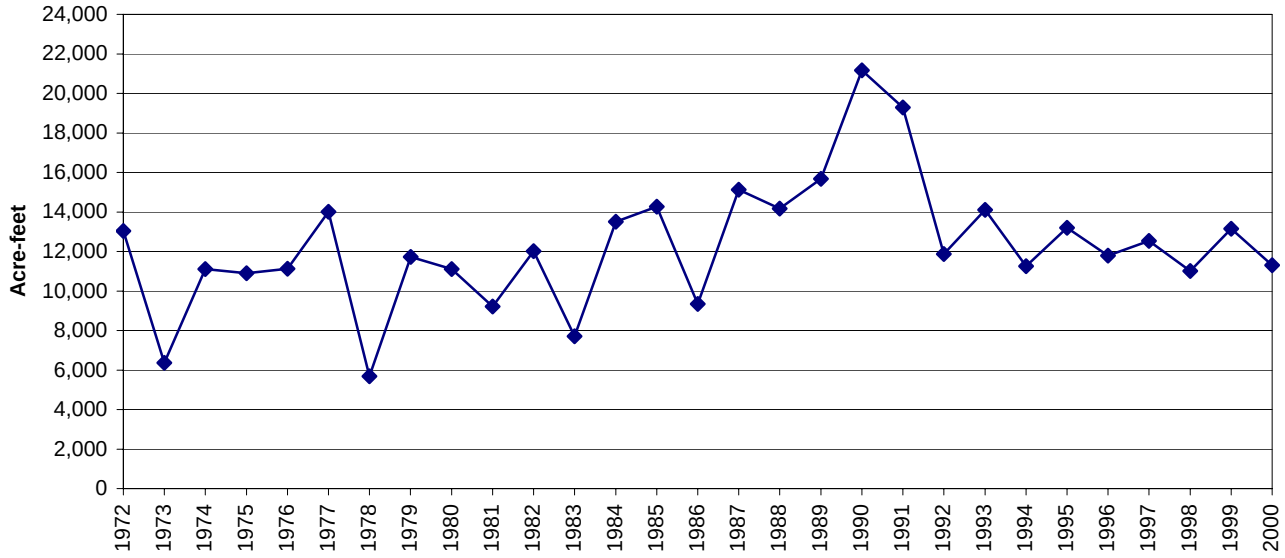


Chart 4-9 Annual Dewatered Storage in the Above Narrows Alluvial Basin



Total Dewatered Storage for Above Narrows Aquifer
Based on Santa Ynez River Hydrology Model

Chart 4-10

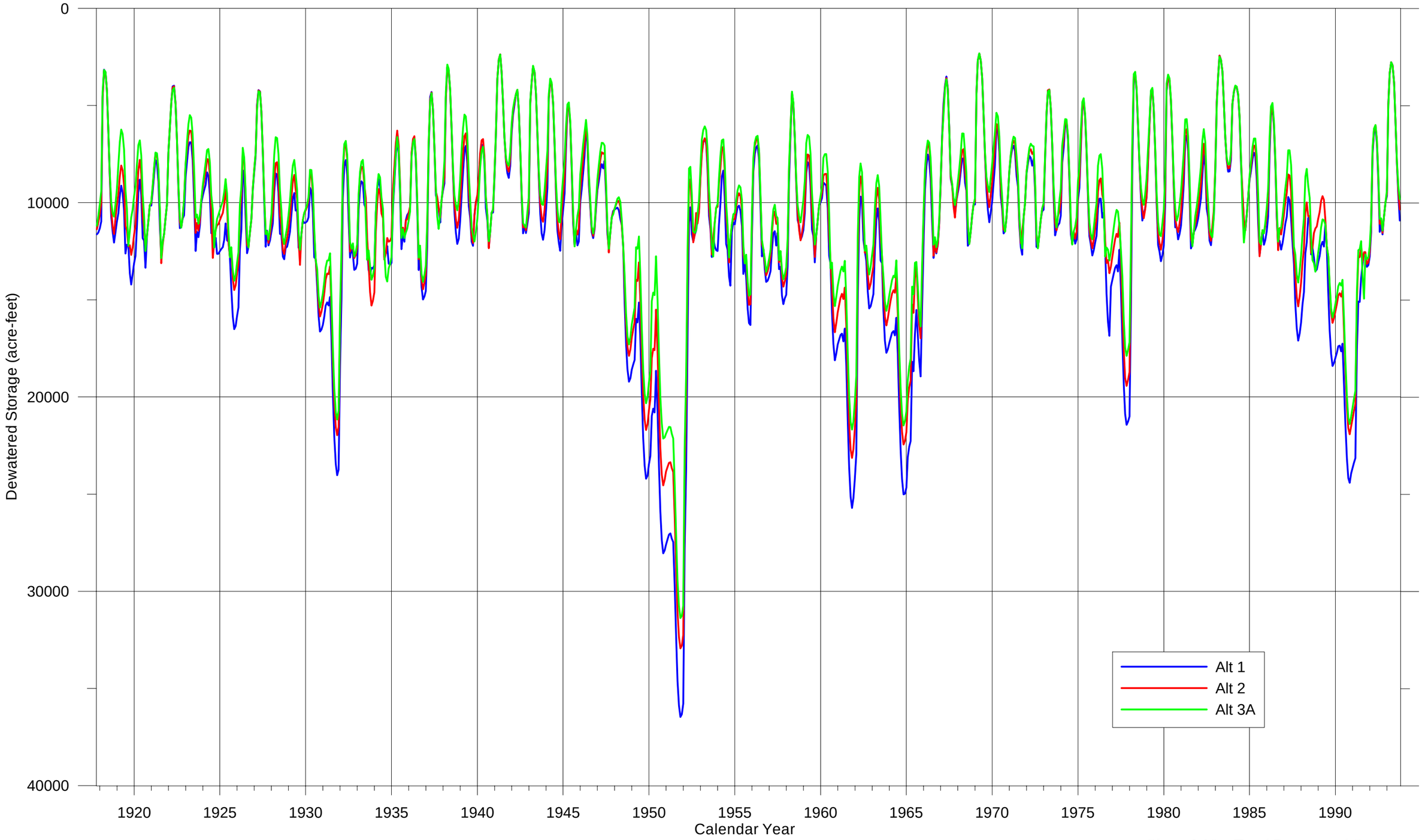


Chart 4-10a. Total Dewatered Storage for the Above Narrows Aquifer (Simulation)

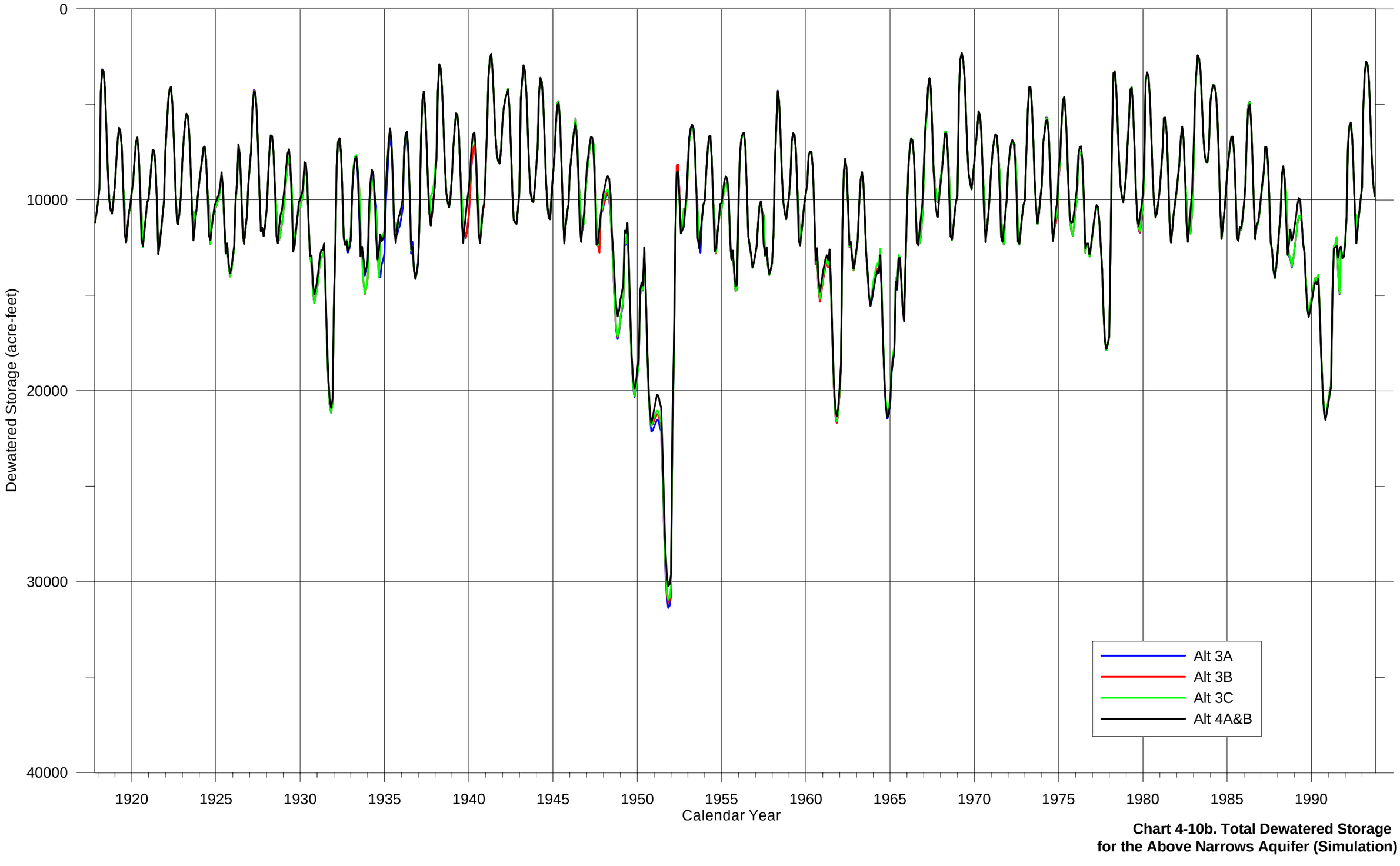


Chart 4-10b. Total Dewatered Storage for the Above Narrows Aquifer (Simulation)

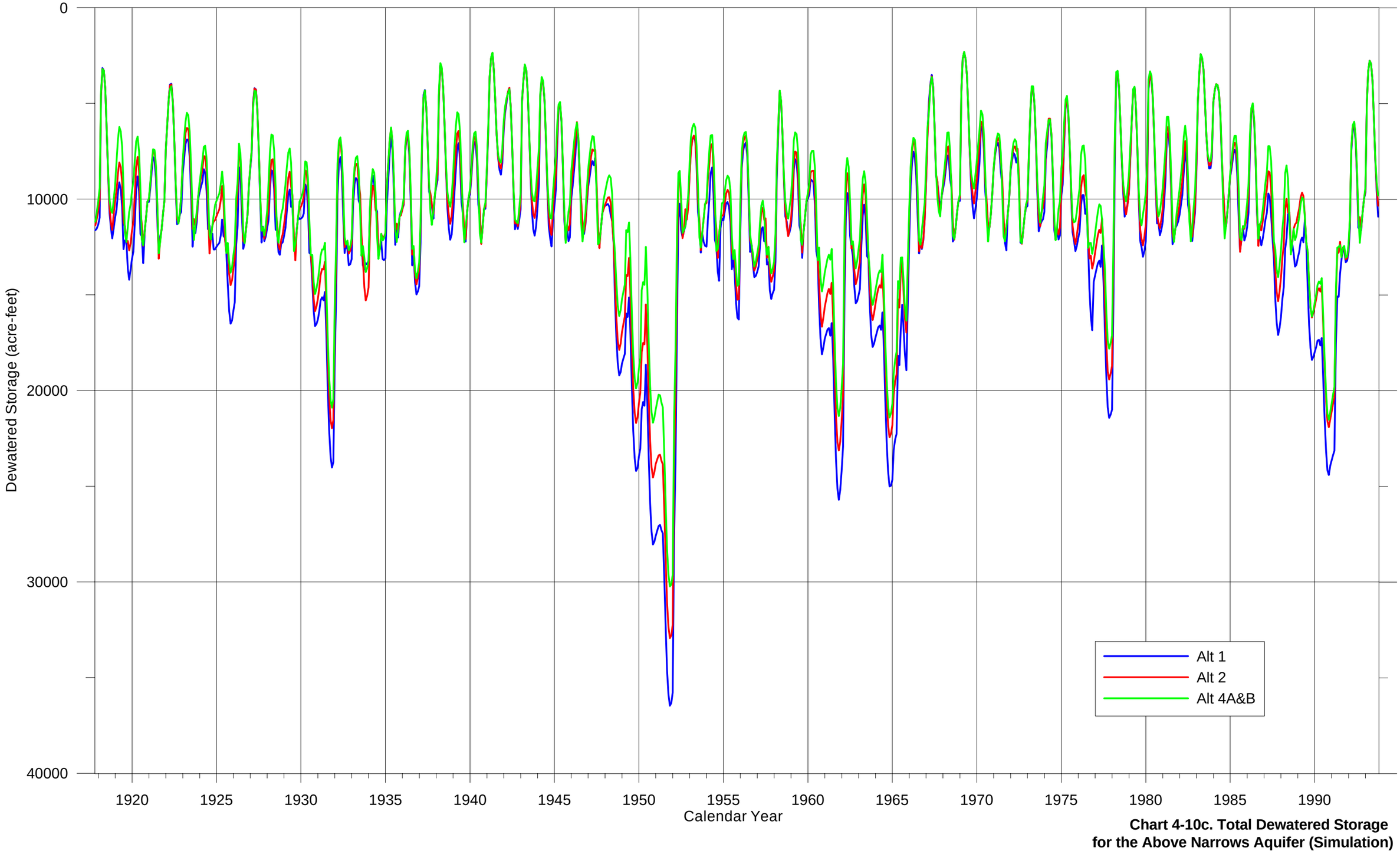


Chart 4-10c. Total Dewatered Storage for the Above Narrows Aquifer (Simulation)

Lake Cachuma Total Dissolved Solids (TDS)
1958 through 1998

TDS (mg/L)

900
800
700
600
500
400
300

1960
1965
1970
1975
1980
1985
1990
1995

Calendar Year

Data Sources
DWR (Sampled near Bradbury Dam)
Bureau of Reclamation (Sampled near Bradbury Dam)
City of S. Barbara (sampled from various depths at Tecolote Tunnel intake)
City of Lompoc (Sampled from Boat Docks)
City of Lompoc (Sampled from Chlorination Station)
Monthly Average

Figure 4-11. Cachuma Lake Historic Total Dissolved Solids

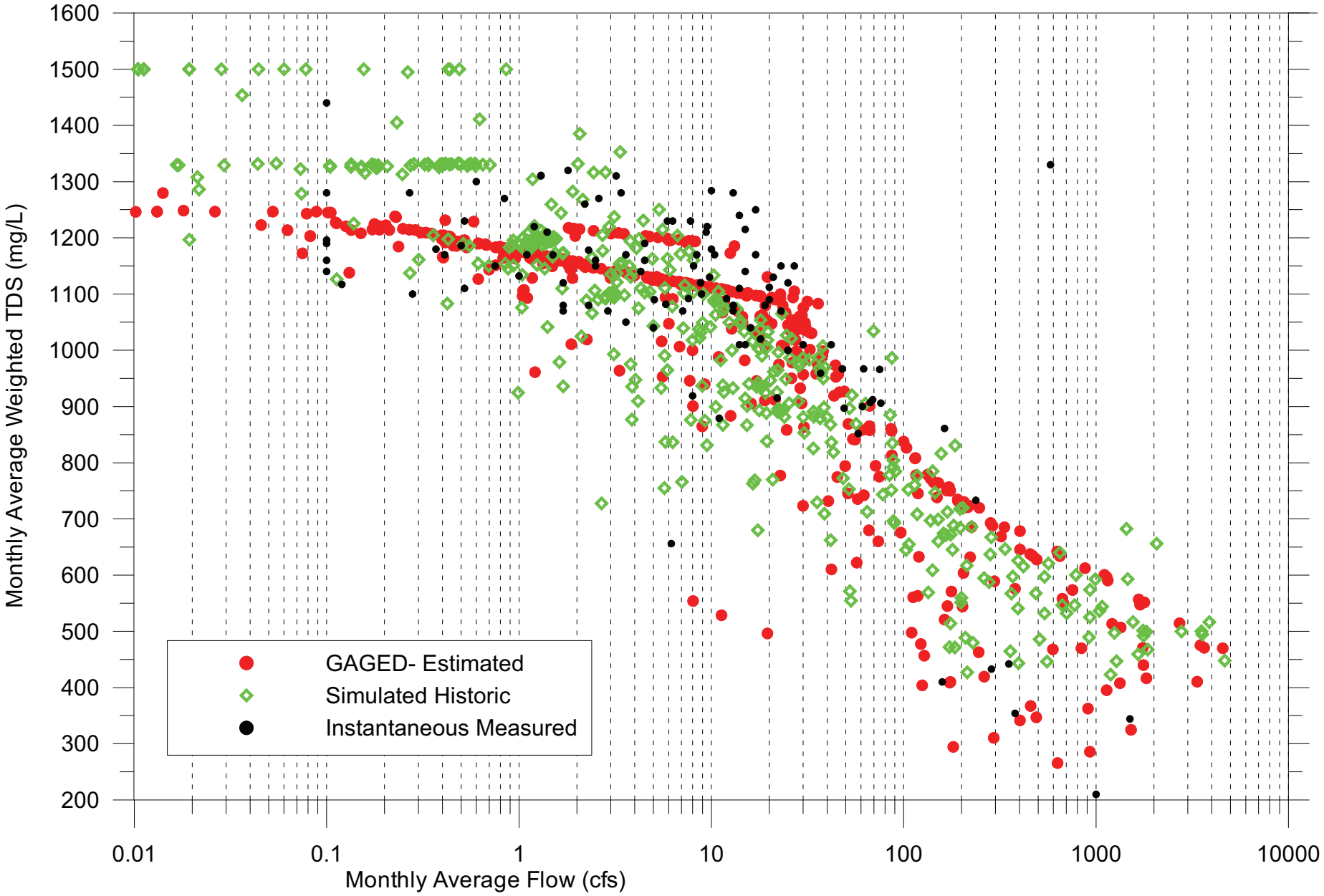


Chart 4-12. TDS-Flow Relationship at the Narrows

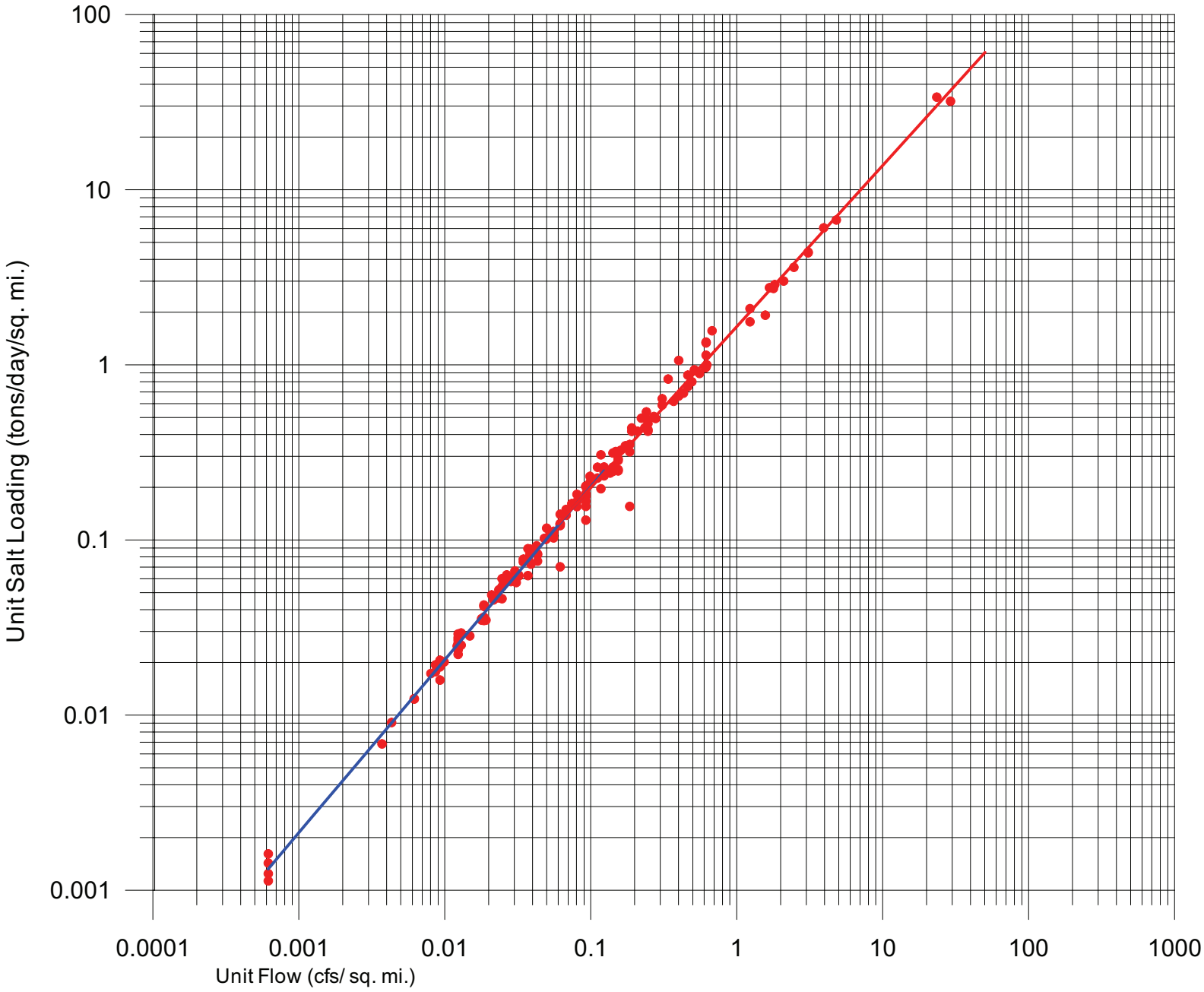


Chart 4-13. Example of Salt Loading-Flow Data at Solvang

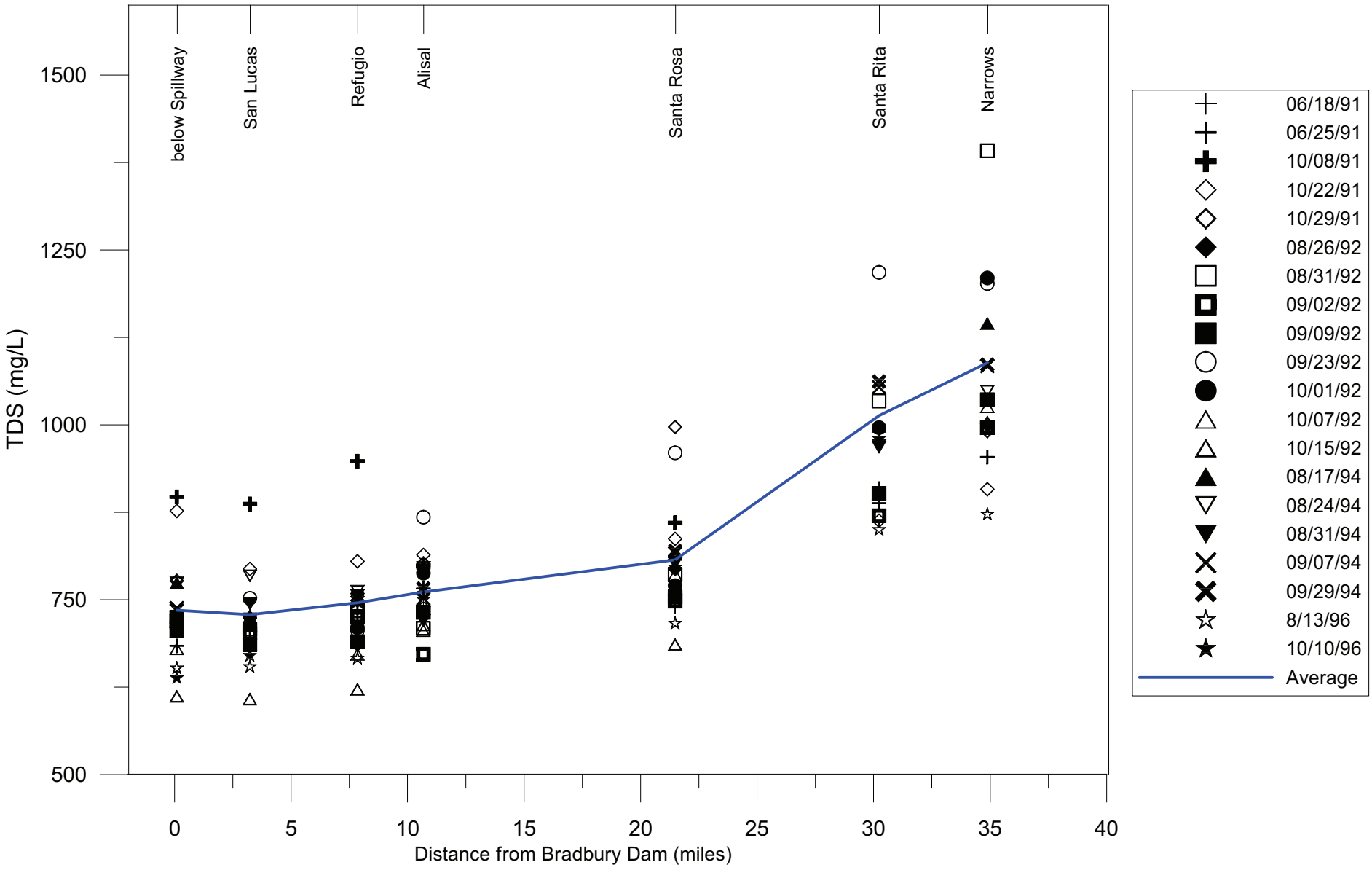


Chart 4-14. TDS Measurements During WR 89-18 Releases

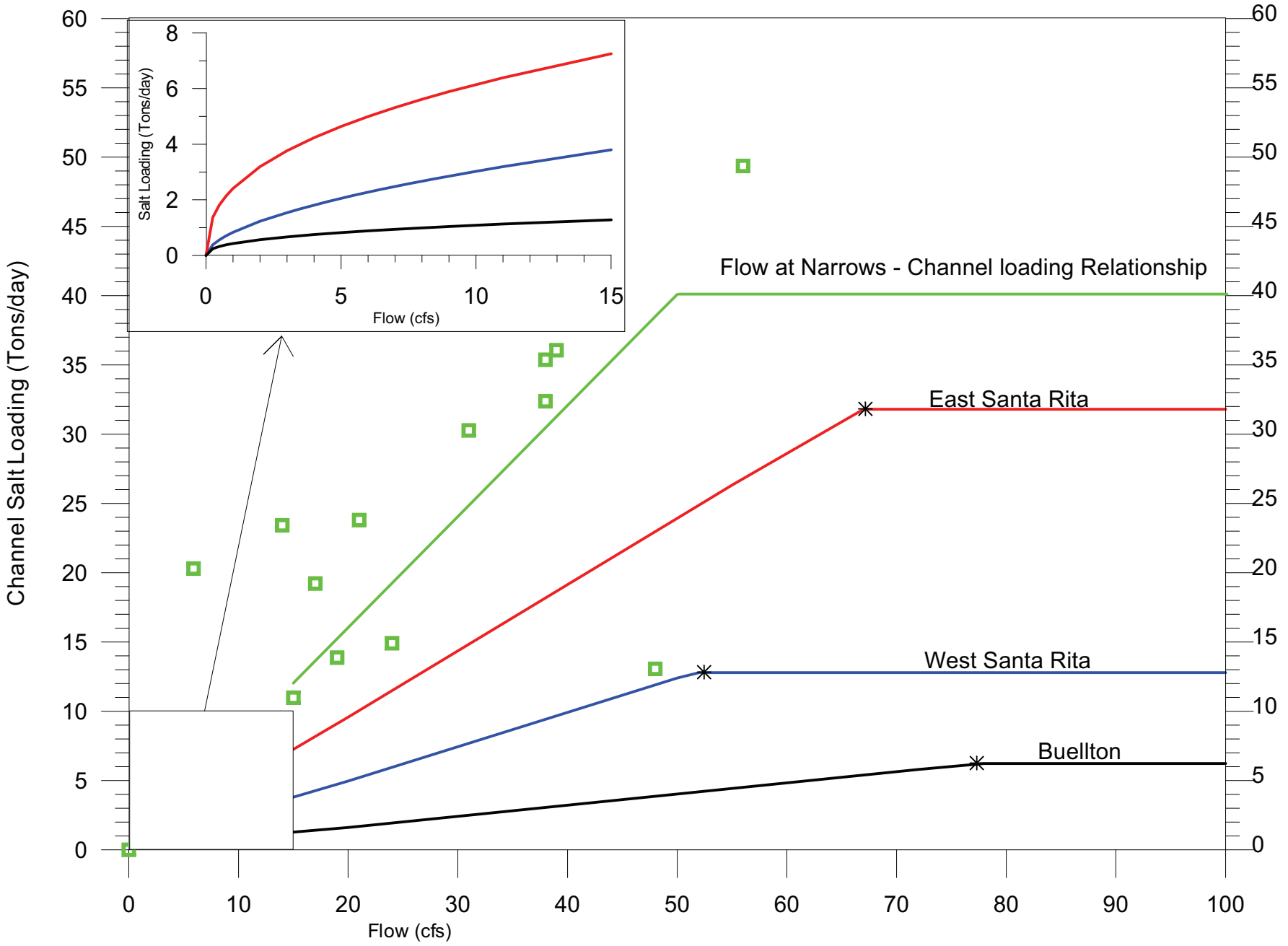


Chart 4-15. Relationship Between Salt Loading and Flows at the Narrows

Lake Cachuma Total Dissolved Solids (TDS)
for EIR Alternatives using SYRHM 0498
1942 through 1993

Chart 4-16

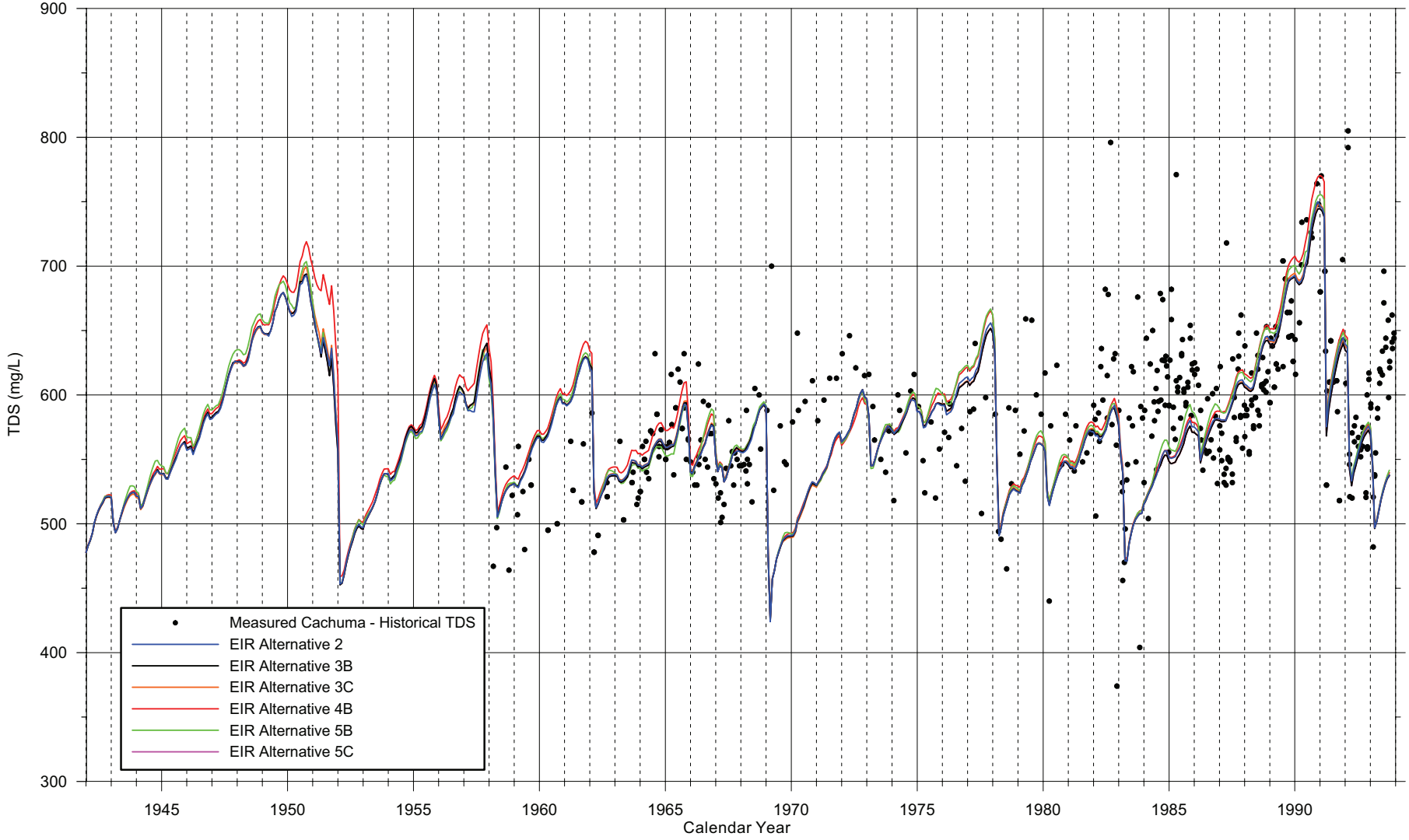
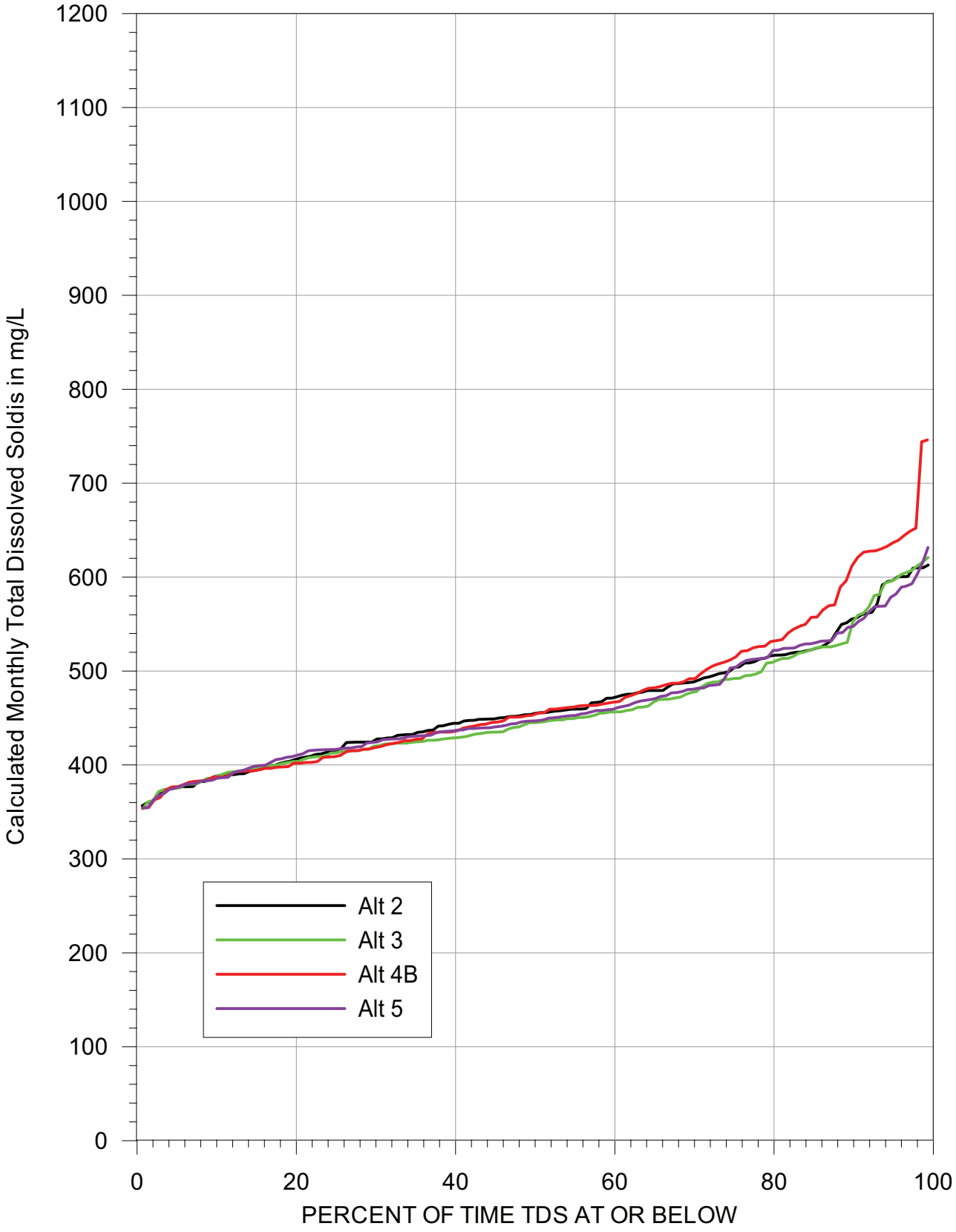


Chart 4-17

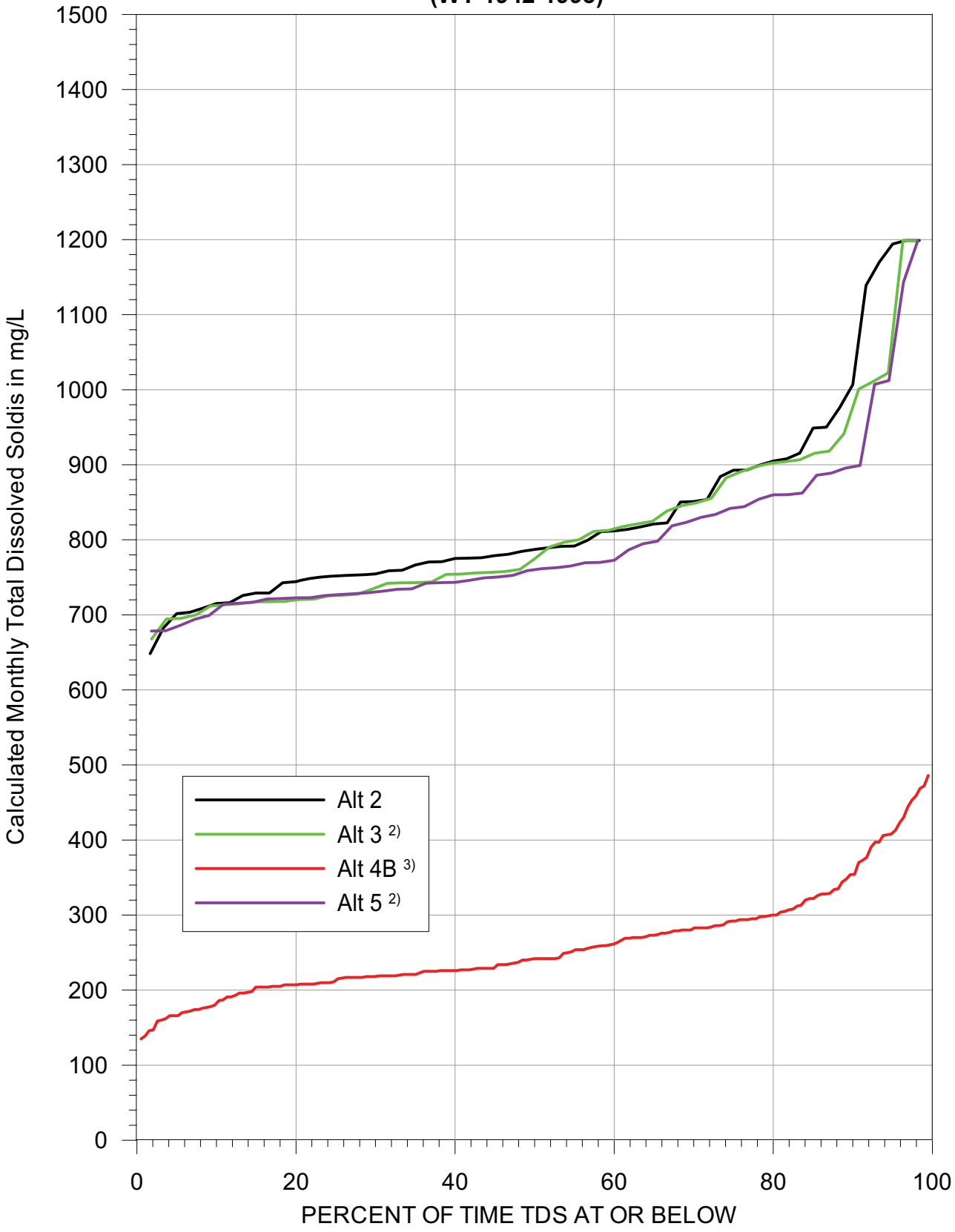
TDS Concentrations in Water Rights Releases Below the Dam (simulation) (WY 1942-1993)



1) Results from EIR Alternatives 3C and 5C are plotted here; Alts 3B and 5B are very similar to 3C and 5C, respectively.
2) Water rights release TDS for ANA releases are shown here for 4B.

Chart 4-18

TDS Concentrations in Water Rights Releases at the Narrows (simulation) [1] (WY 1942-1993)



1) Frequency does not include months of no flow or flows less than 0.5 cfs at the Narrows.
2) Results from EIR Alternatives 3C and 5C are plotted here; Alts 3B and 5B are very similar to 3C and 5C, respectively.
3) State Water Project TDS during Below Narrows Account water right releases.

Chart 4-19

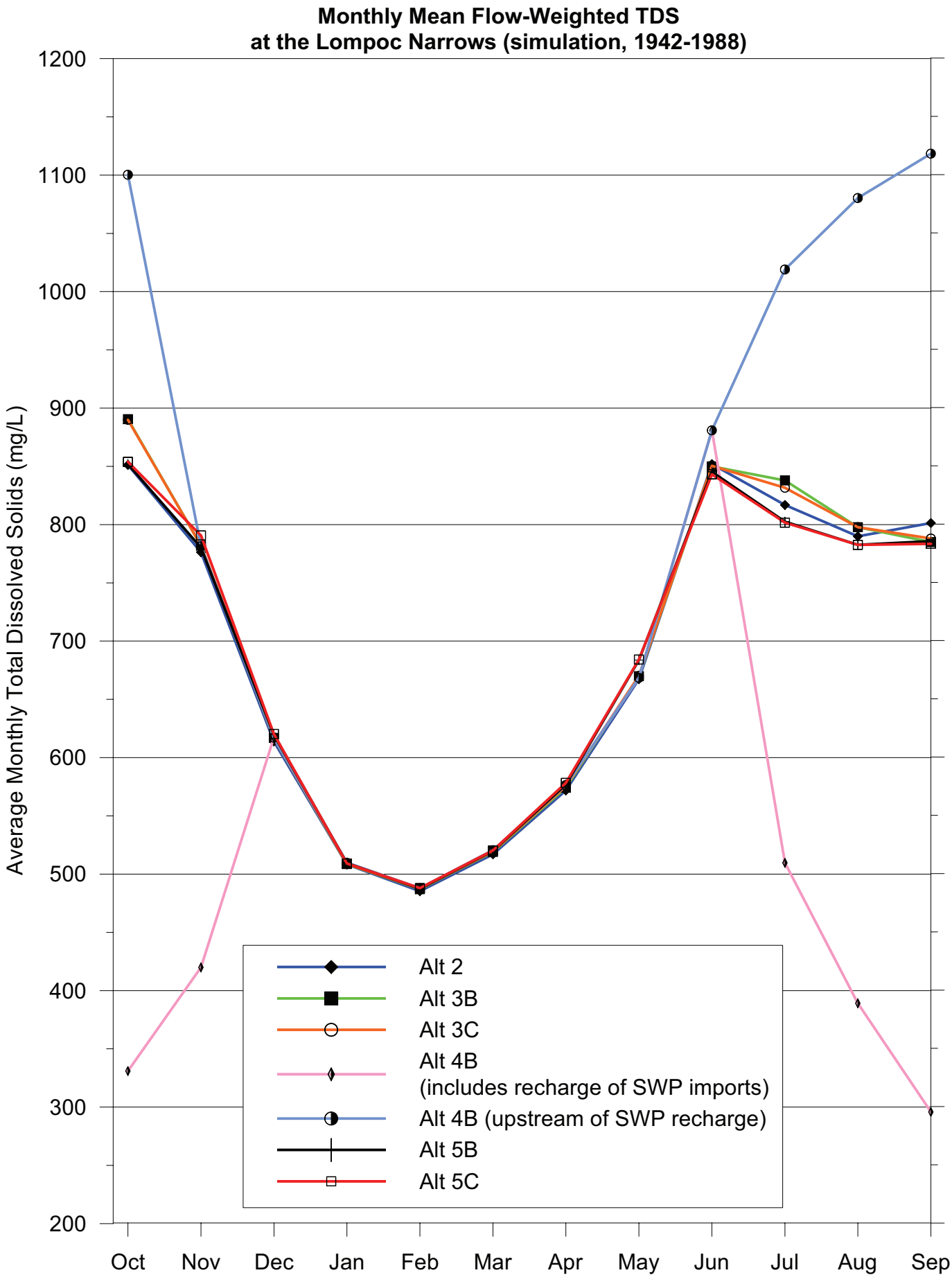

Monthly Mean Flow-Weighted TDS
at the Lompoc Narrows (simulation, 1942-1988)
Average Monthly Total Dissolved Solids (mg/L)
1200
1100
1000
900
800
700
600
500
400
300
200
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Alt 2
Alt 3B
Alt 3C
Alt 4B
(includes recharge of SWP imports)
Alt 4B (upstream of SWP recharge)
Alt 5B
Alt 5C

Chart 4-20 has been removed

Chart 4-21. Reported and Estimated Total Annual Pumping from the Lompoc Basin

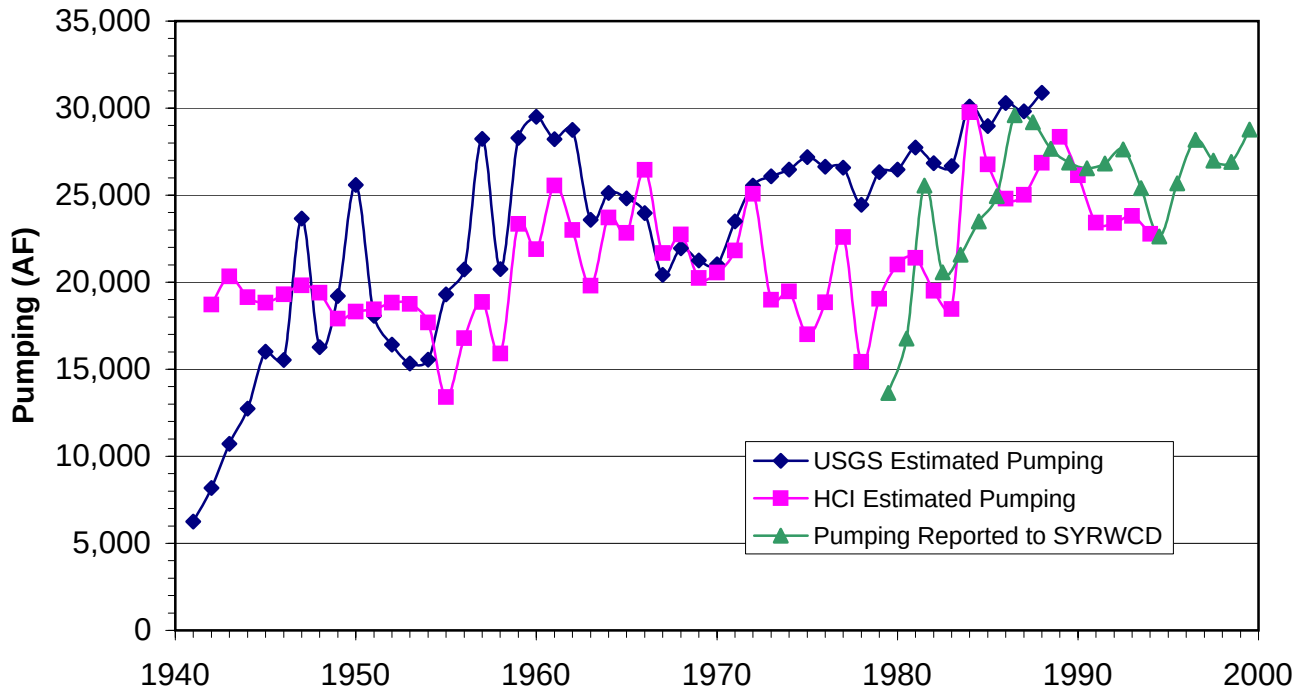


Chart 4-22. Annual Pumping Reported by the City of Lompoc

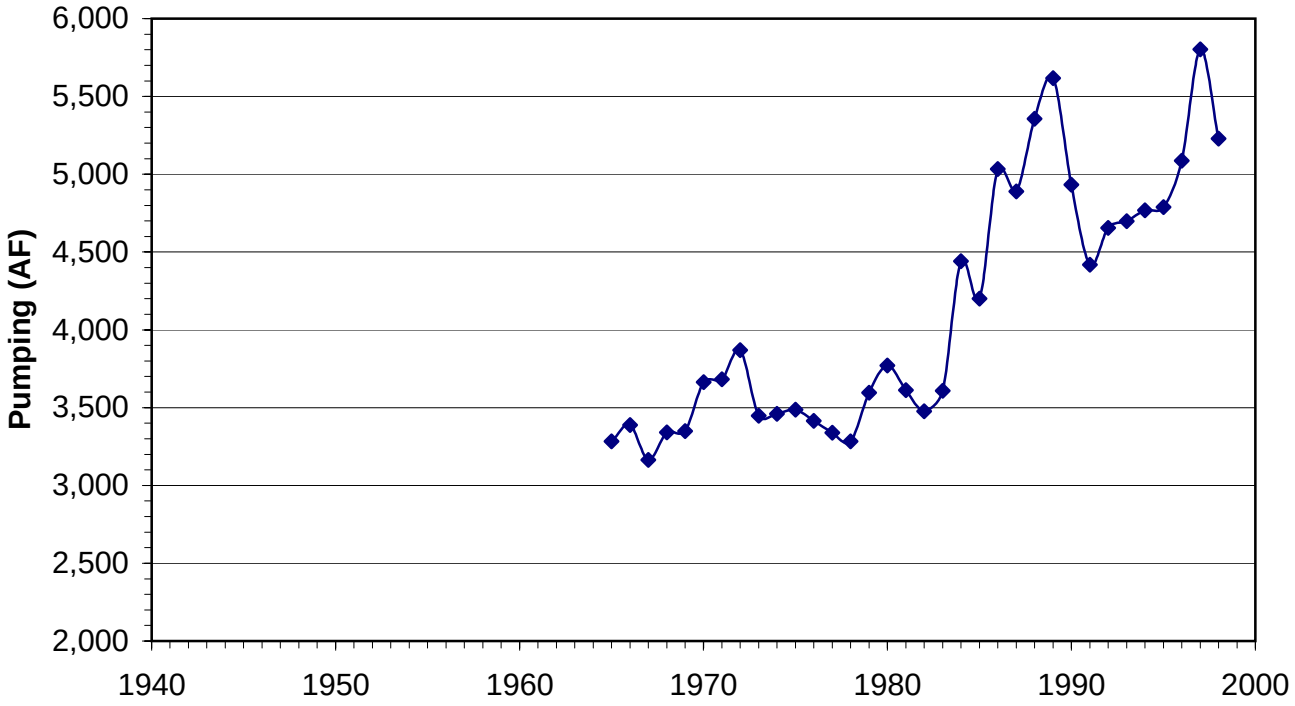
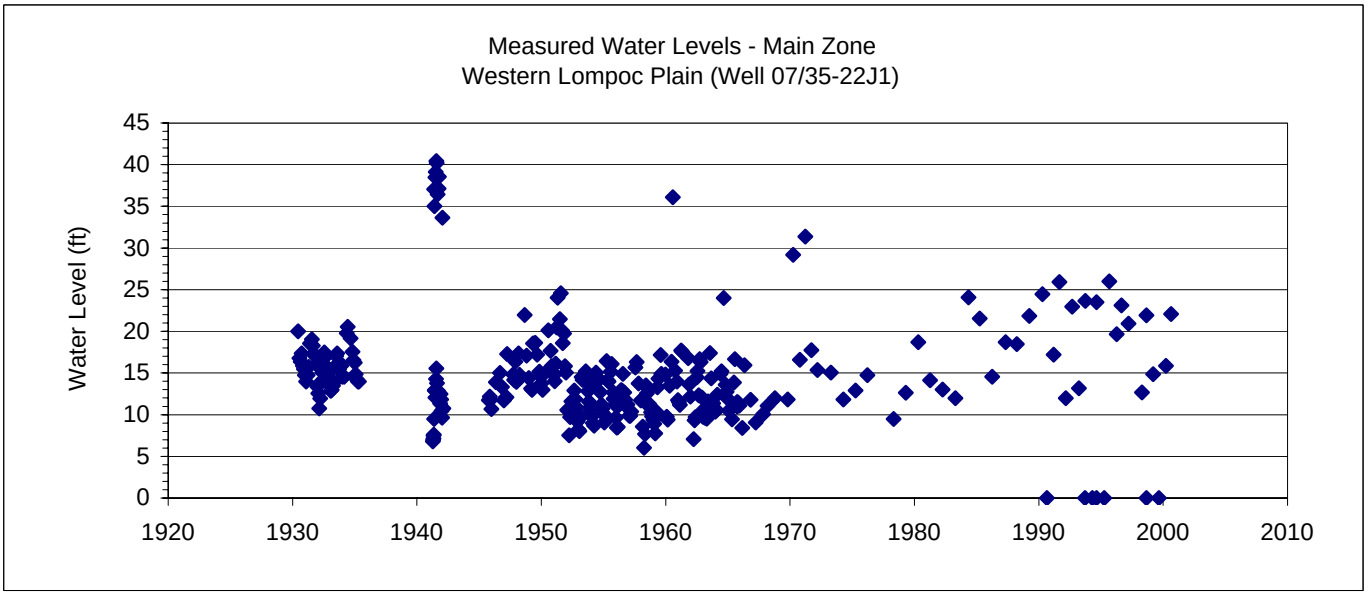
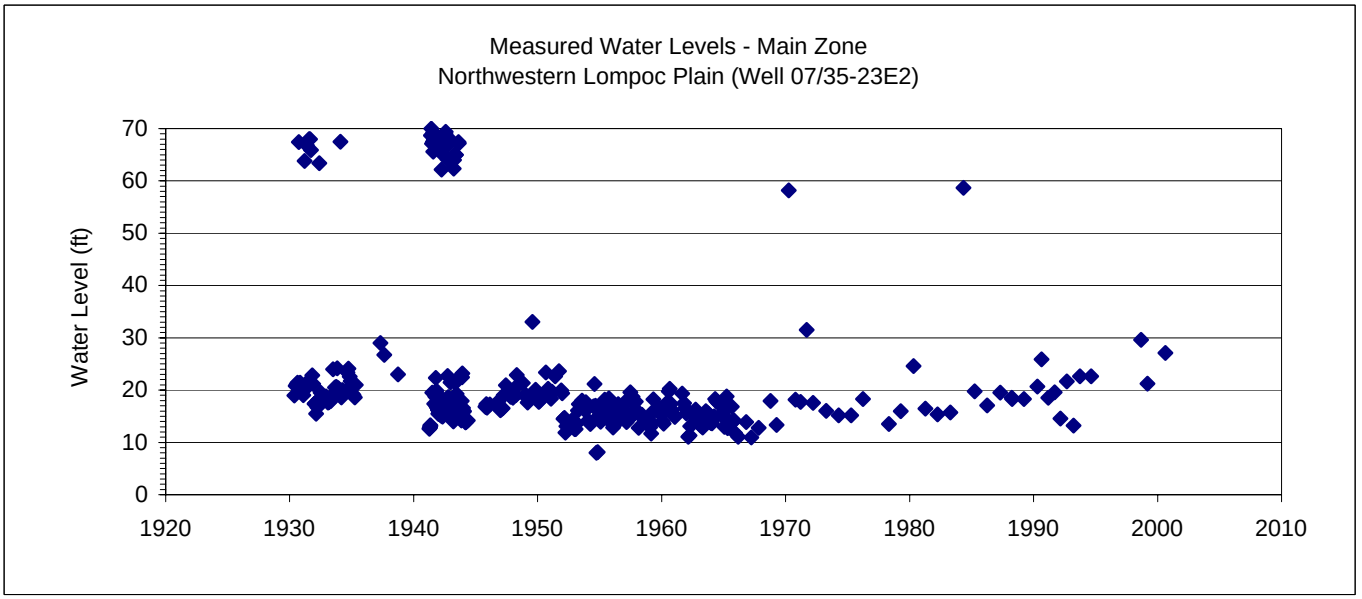


CHART 4-23. HISTORICAL WATER LEVELS IN THE LOMPOC PLAIN





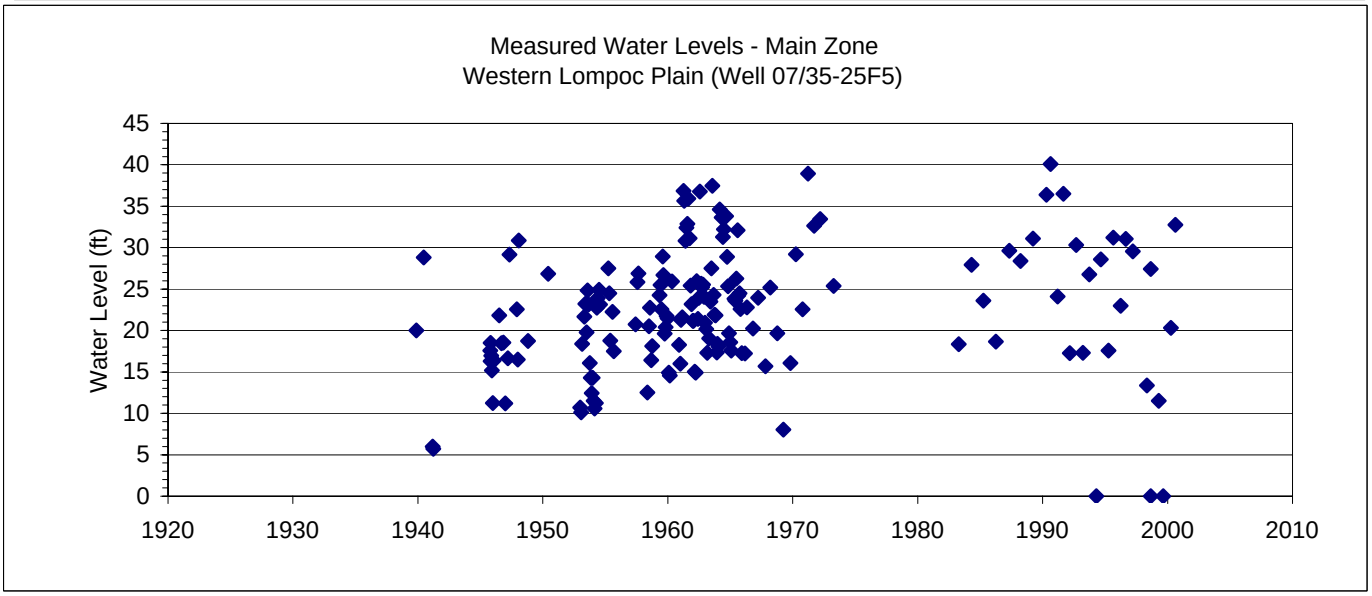
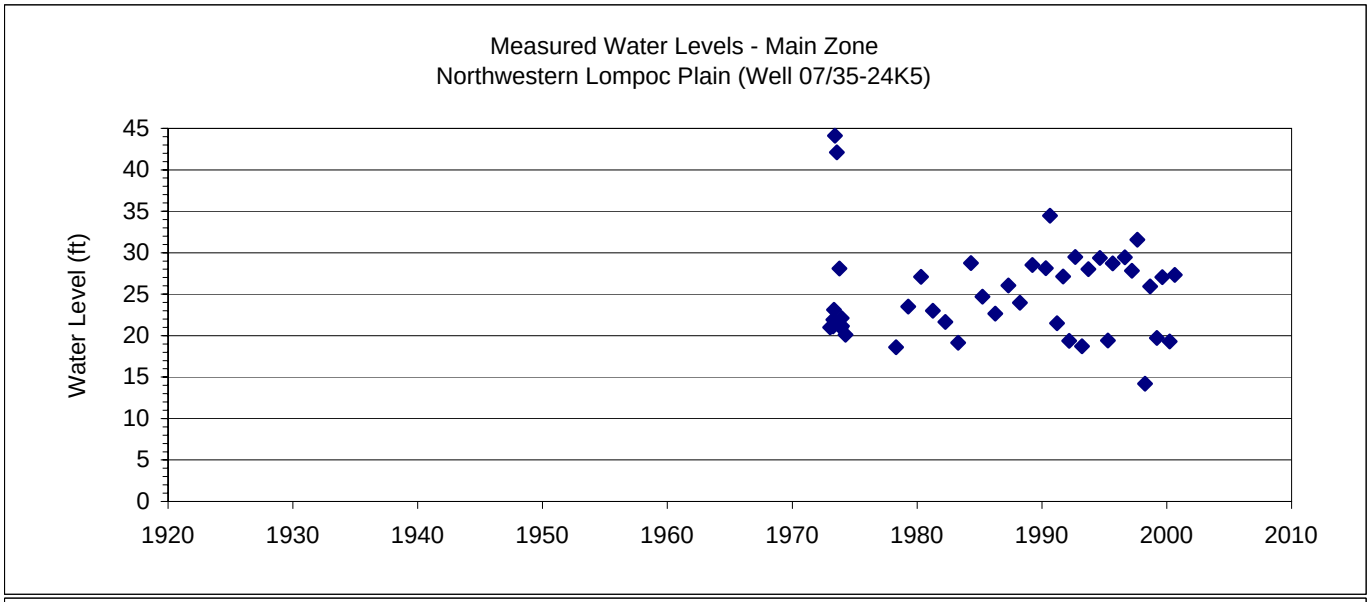
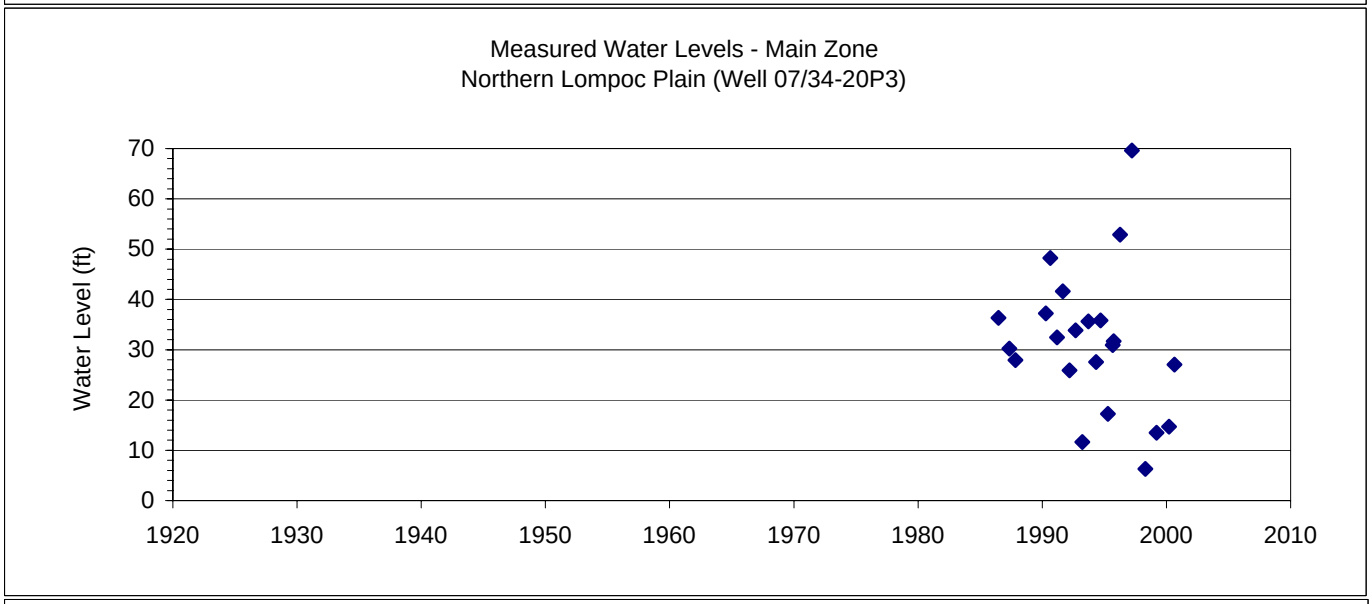


CHART 4-23. HISTORICAL WATER LEVELS IN THE LOMPOC PLAIN





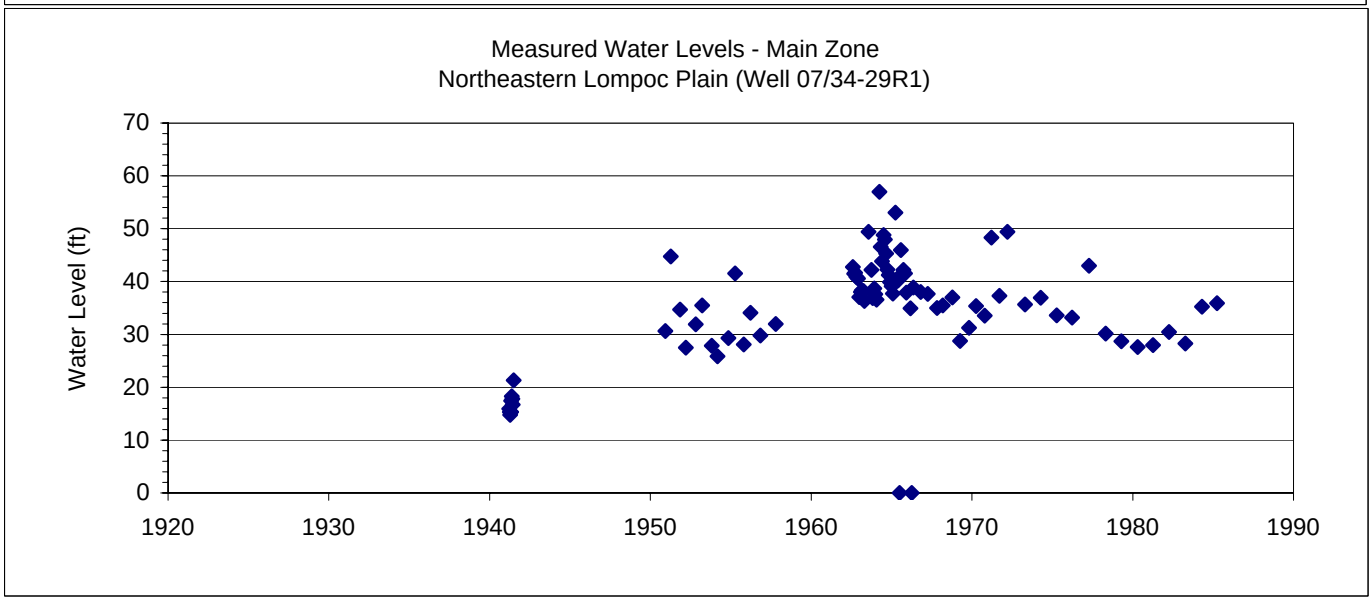


CHART 4-23. HISTORICAL WATER LEVELS IN THE LOMPOC PLAIN

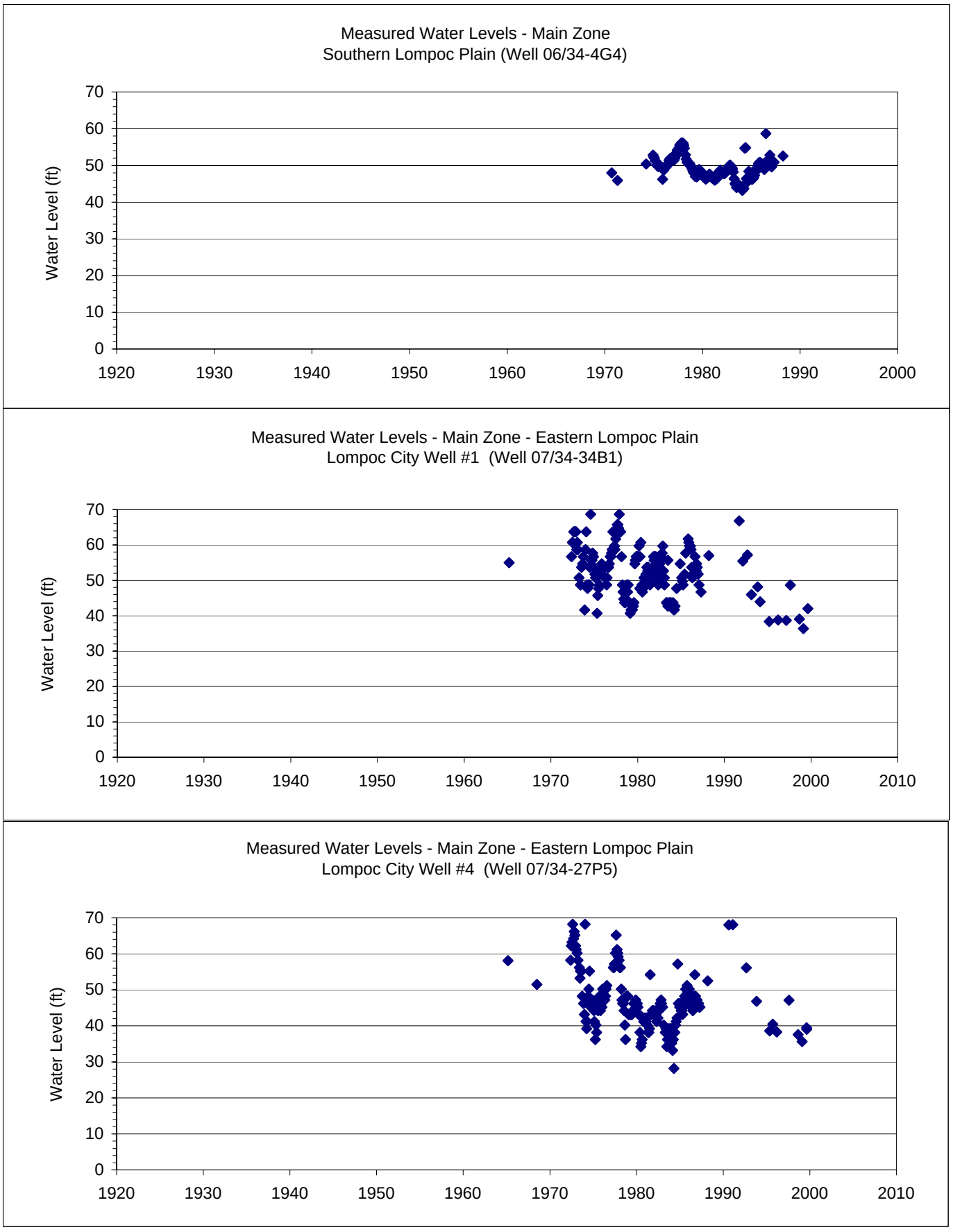


CHART 4-23. HISTORICAL WATER LEVELS IN THE LOMPOC PLAIN

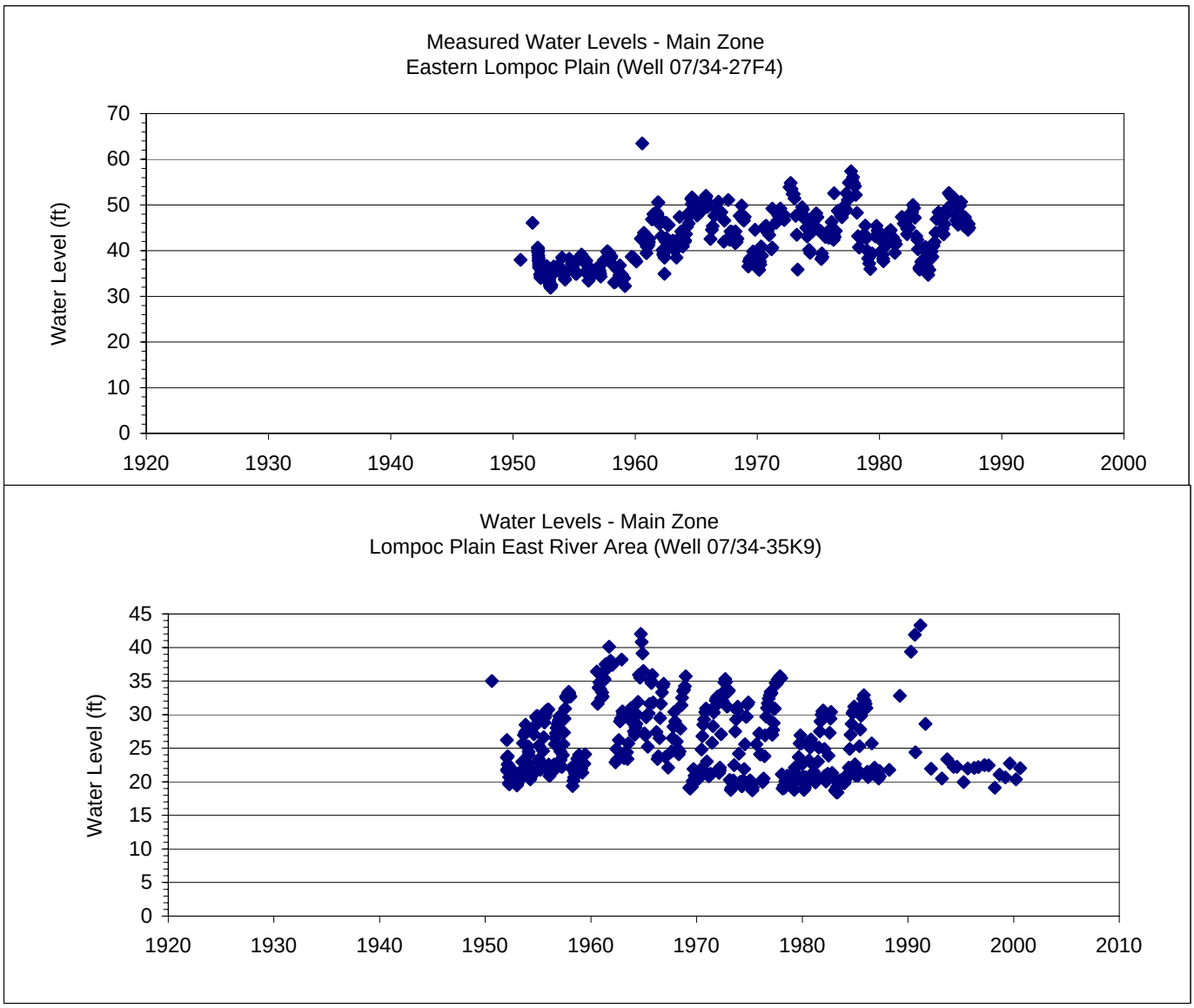


Chart 4-24. Historical TDS in Lompoc City Wells (City Data)

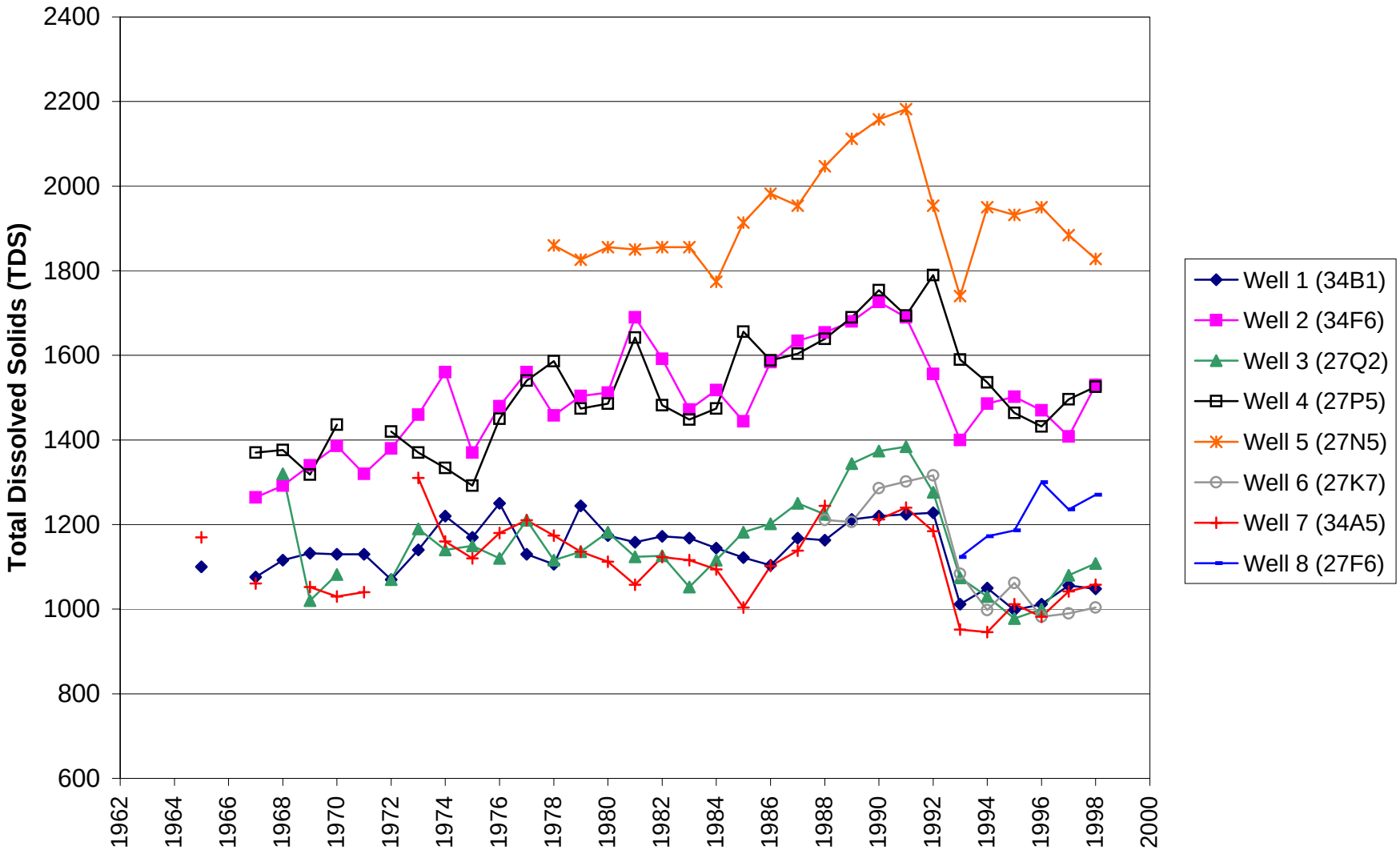
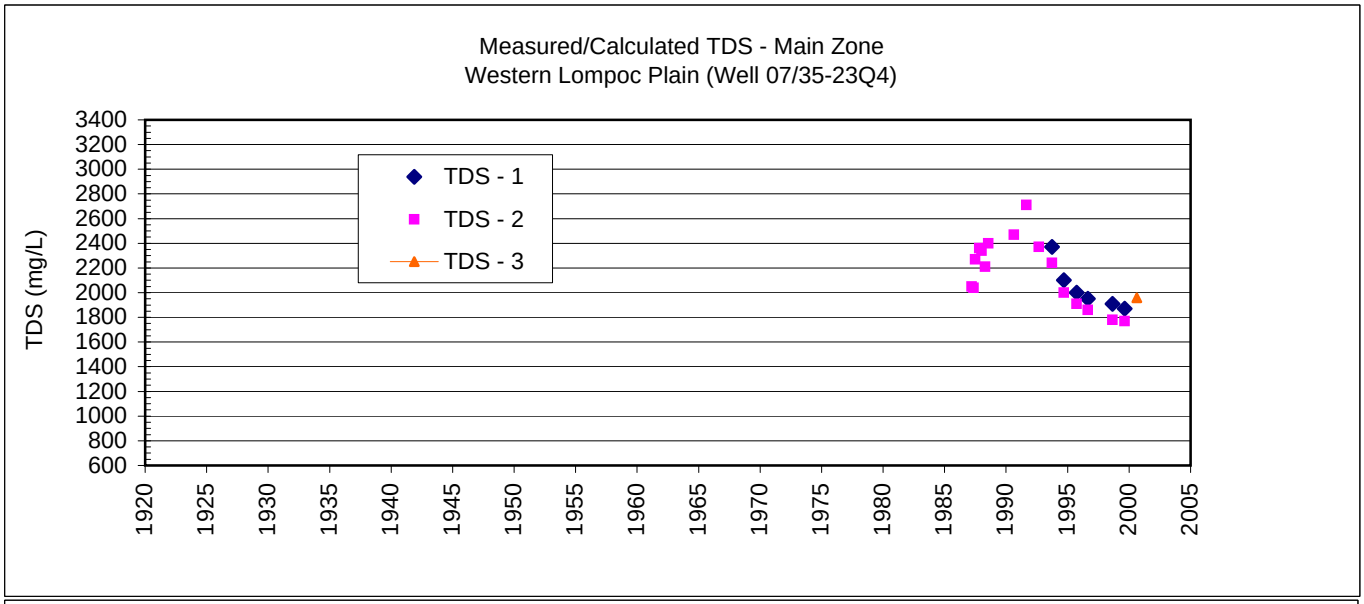
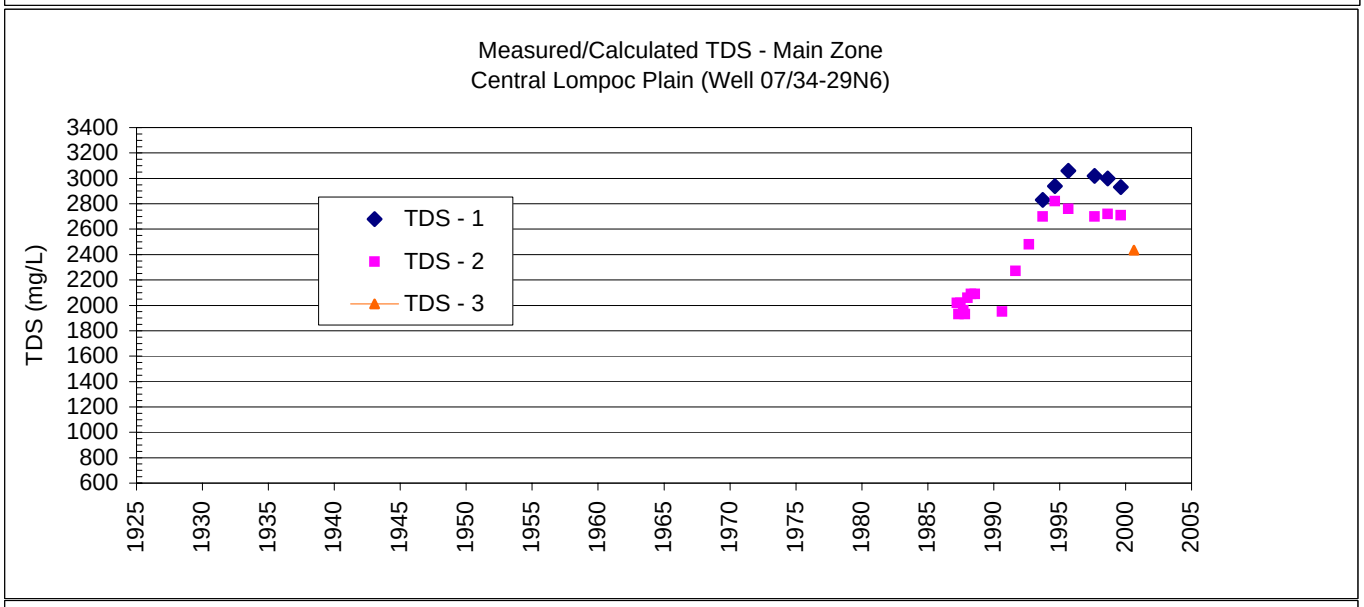


CHART 4-25 HISTORICAL TDS IN LOMPOC PLAIN WELLS (USGS DATA)





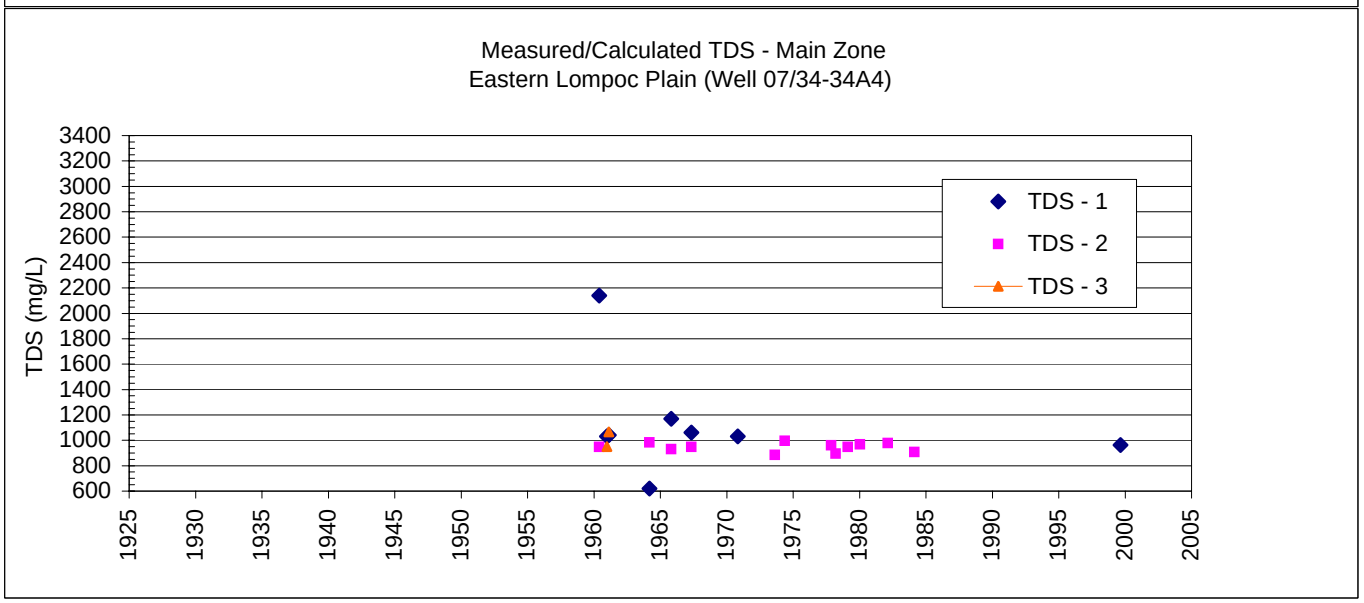
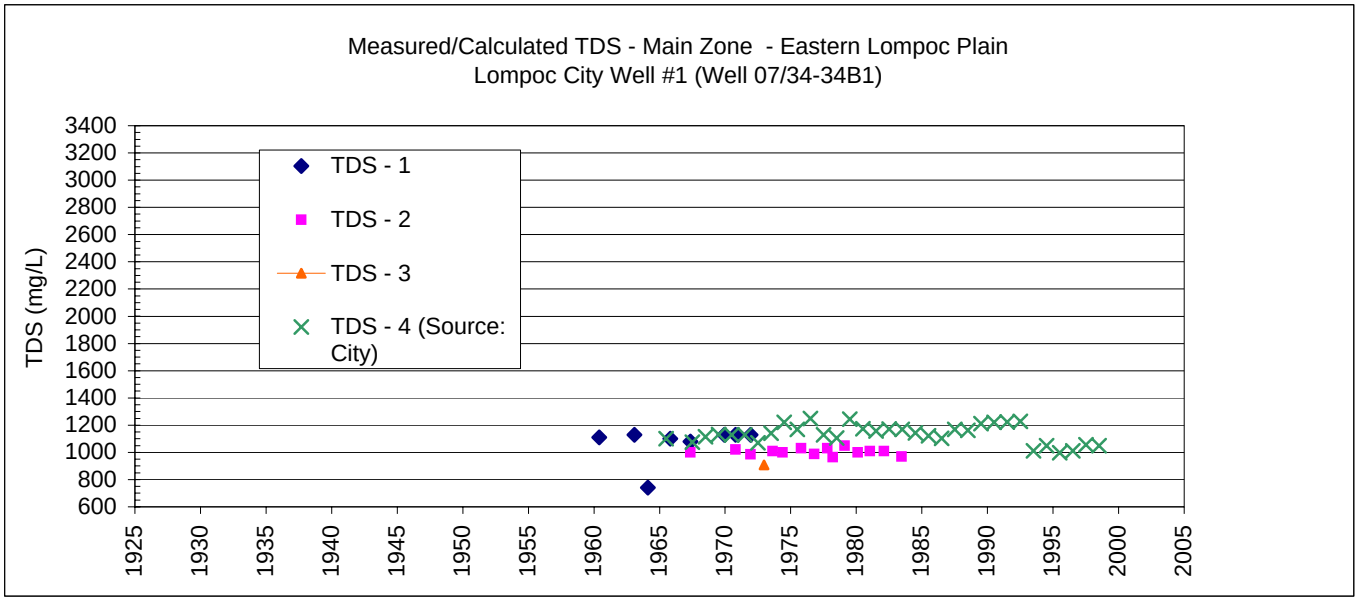
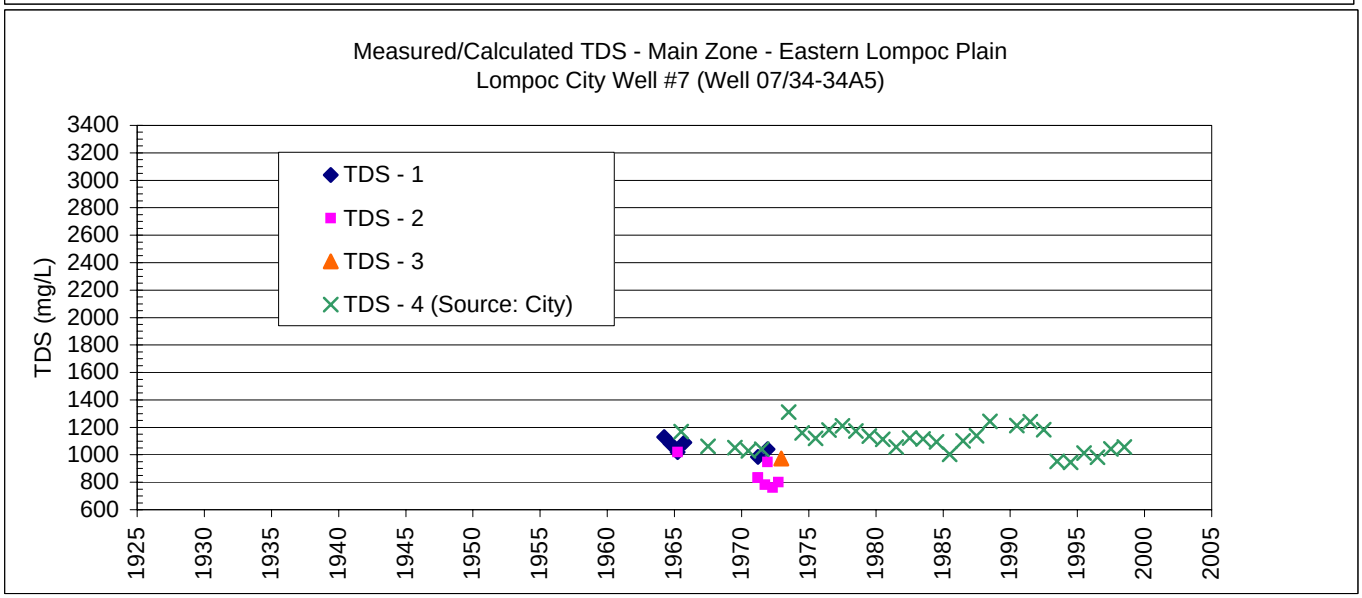


CHART 4-25 HISTORICAL TDS IN LOMPOC PLAIN WELLS (USGS DATA)





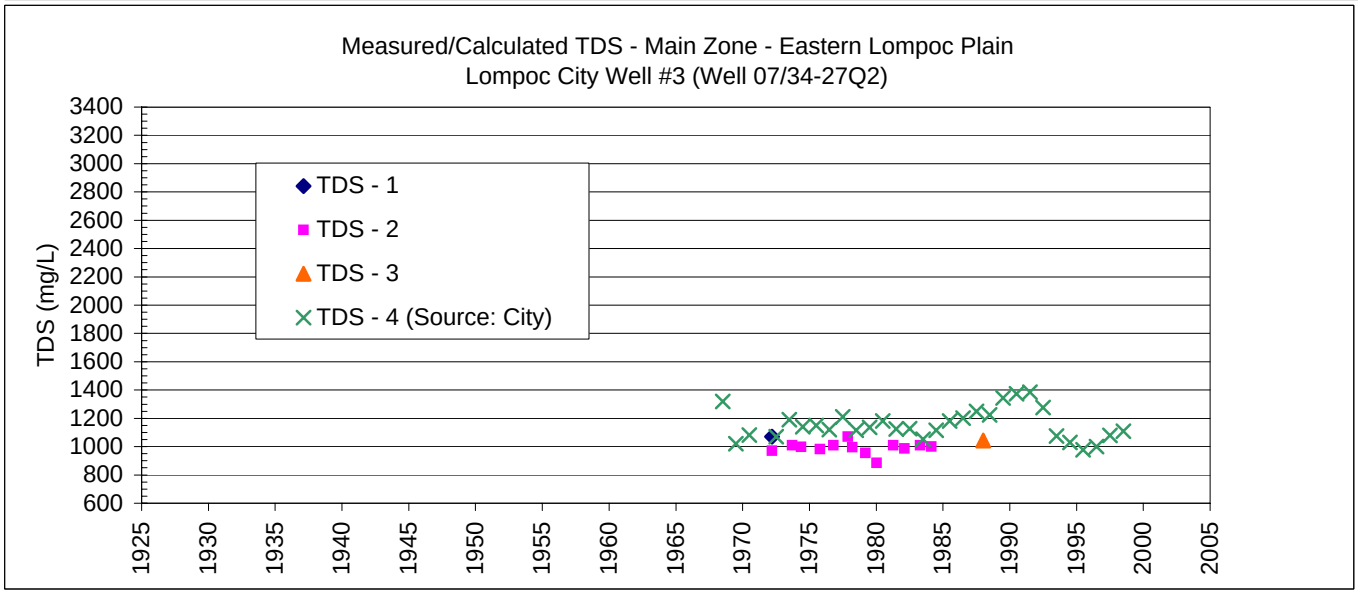
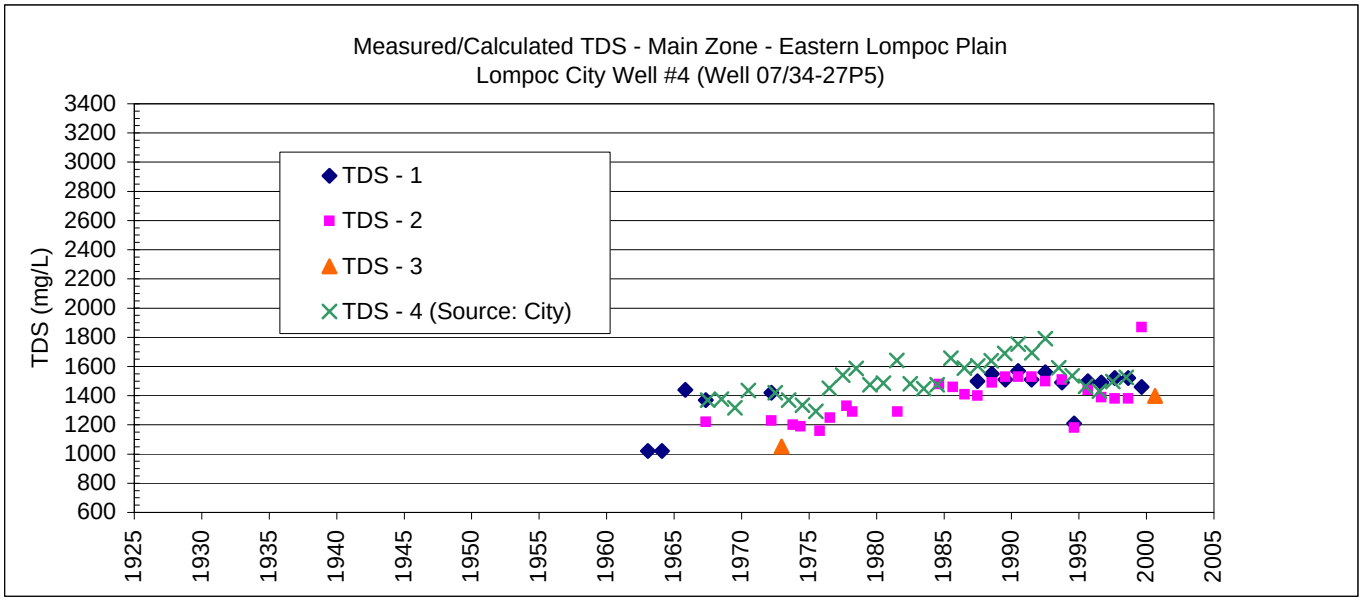
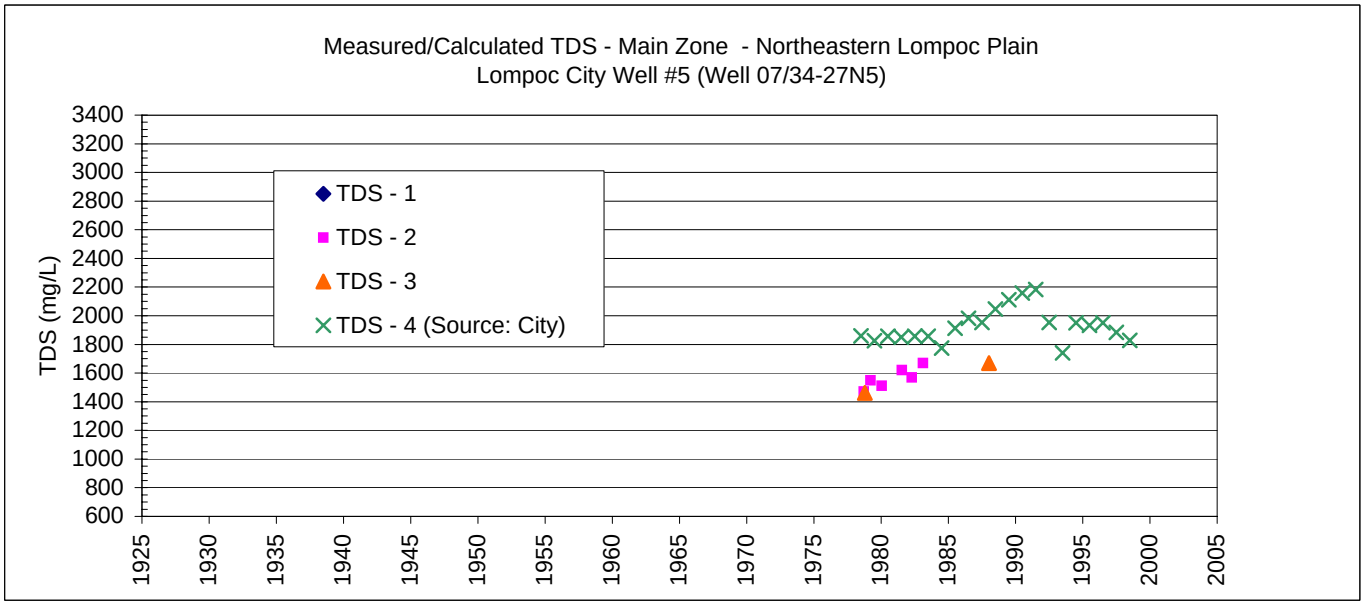
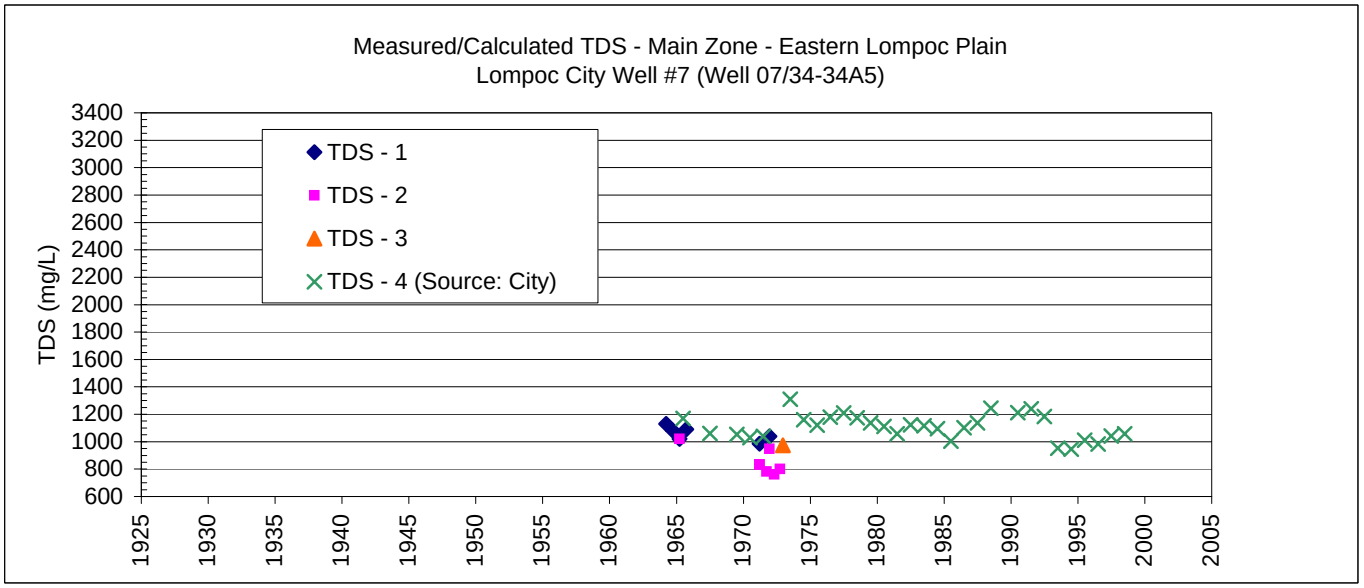


CHART 4-25 HISTORICAL TDS IN LOMPOC PLAIN WELLS (USGS DATA)







Annual Average Flow of Santa Ynez River at the Narrows (Simulation, 1942-1988)

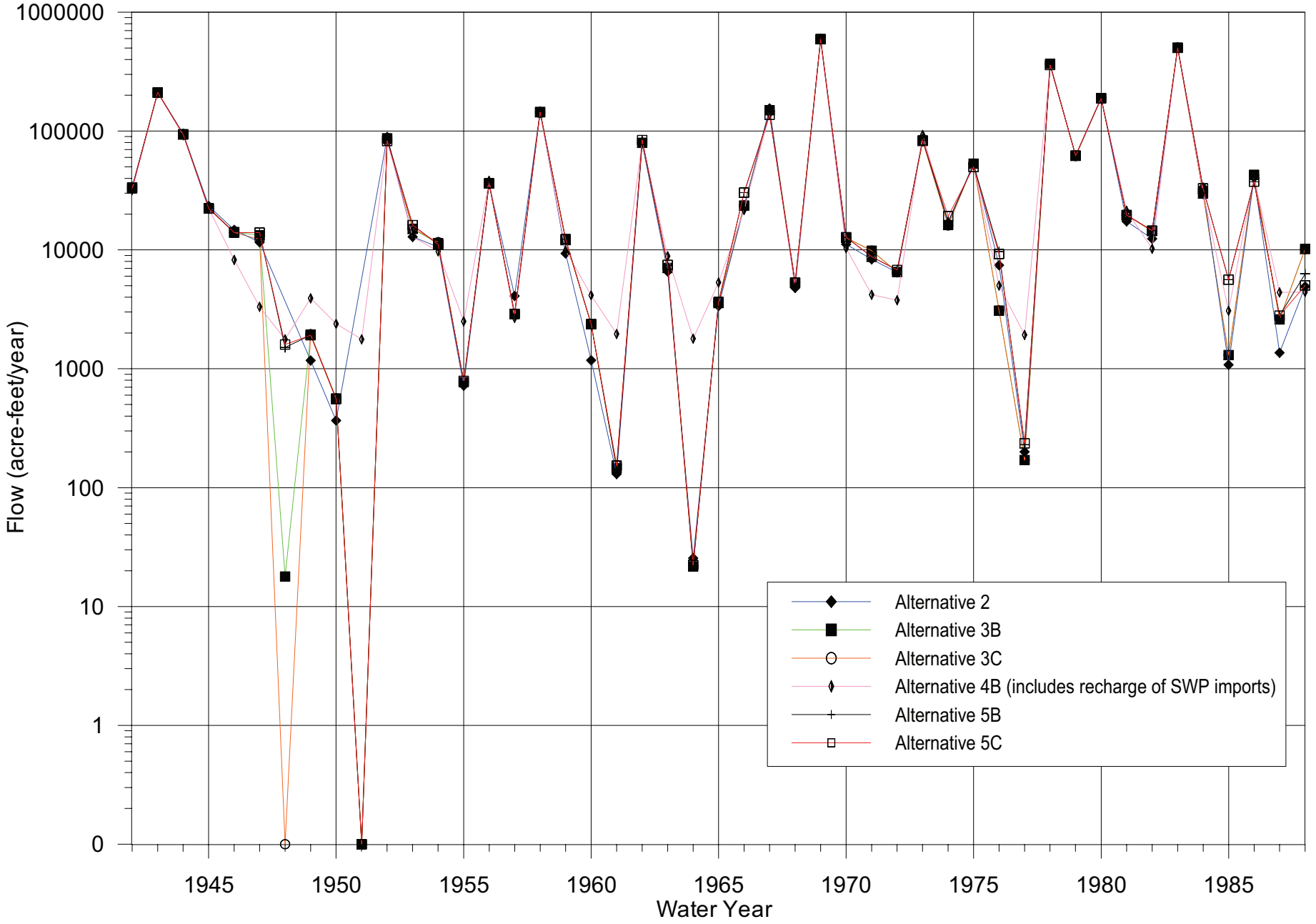
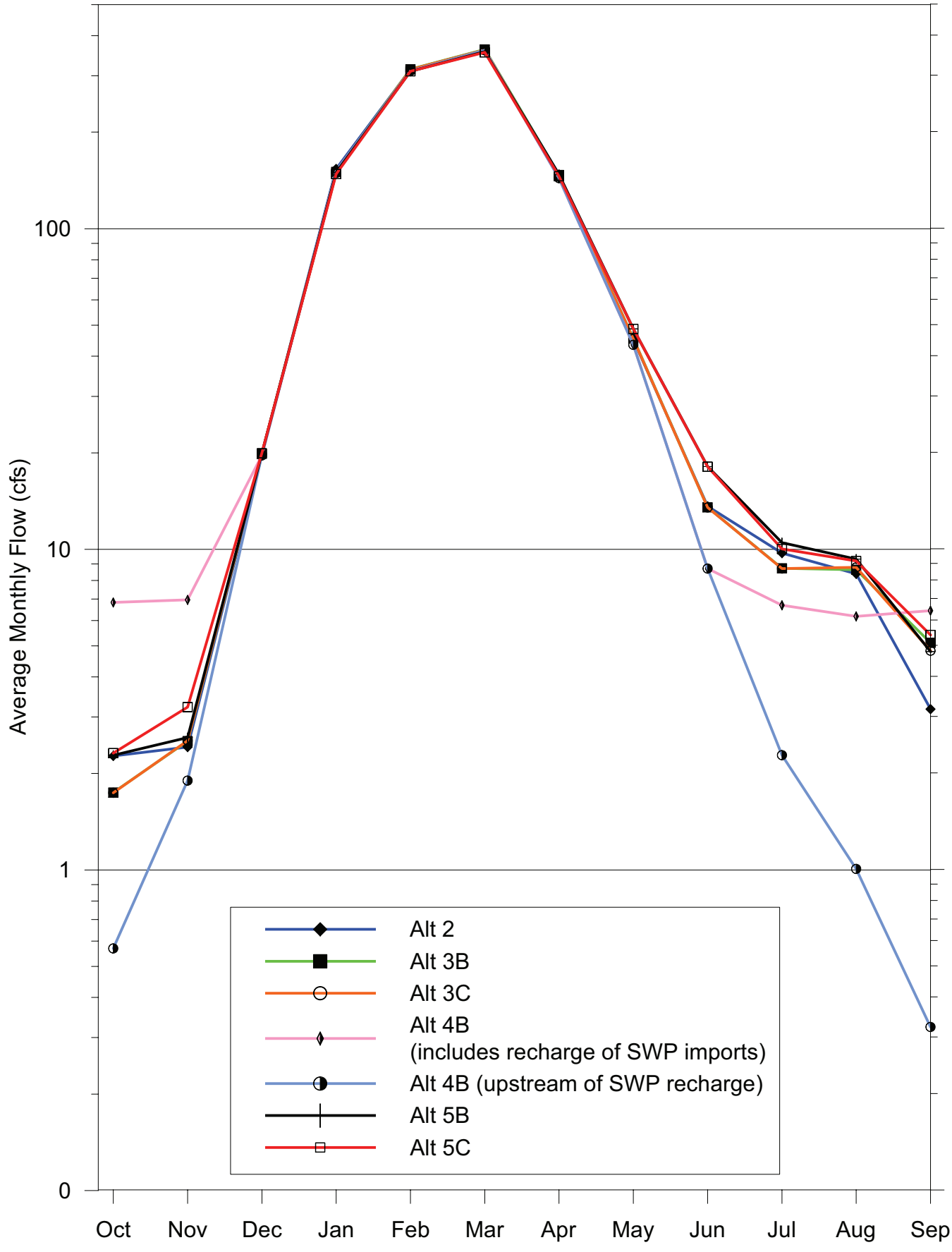


Chart 4-26

Chart 4-27

Simulated Mean Streamflow at the LompocNarrows (1942-1988)



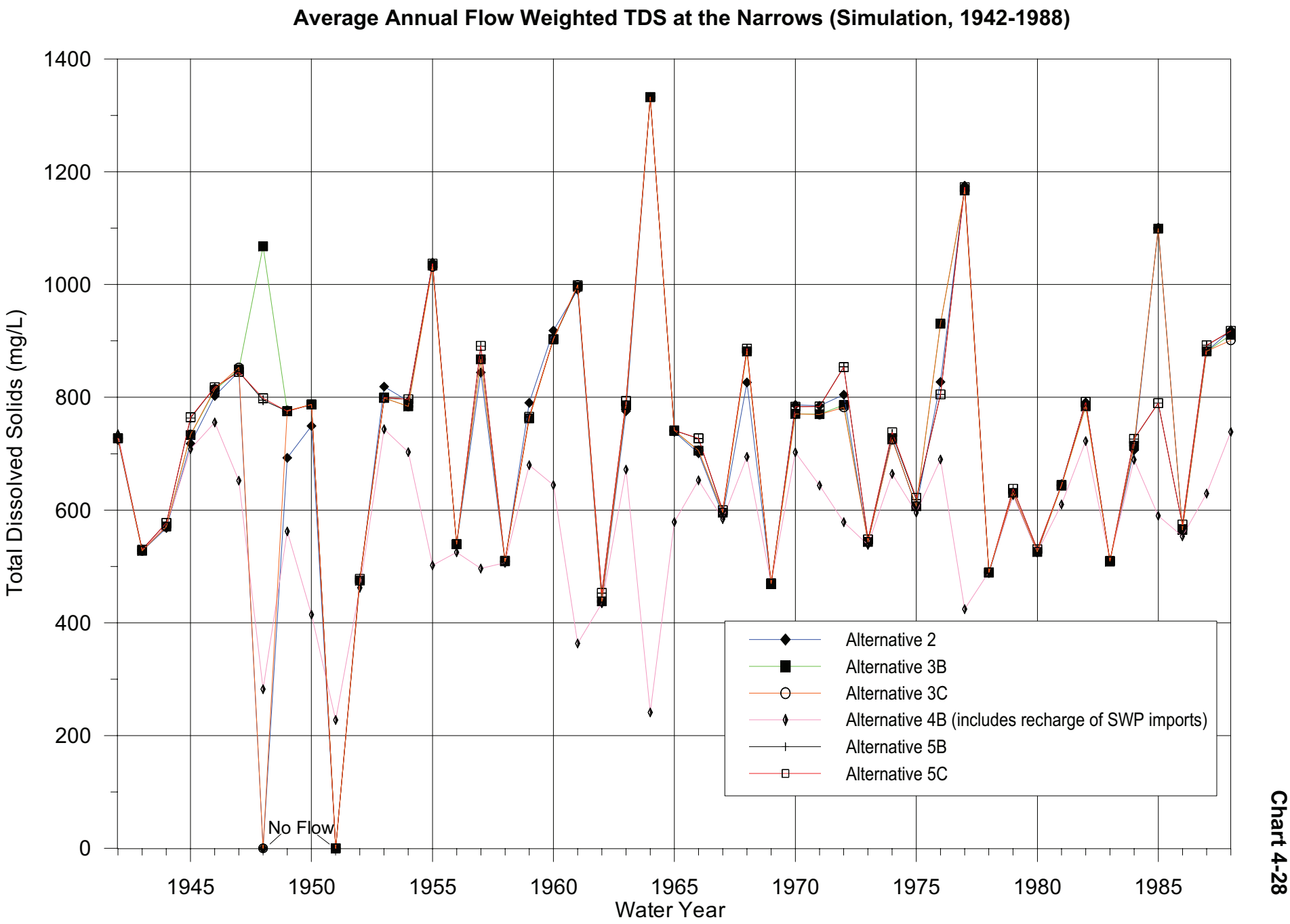
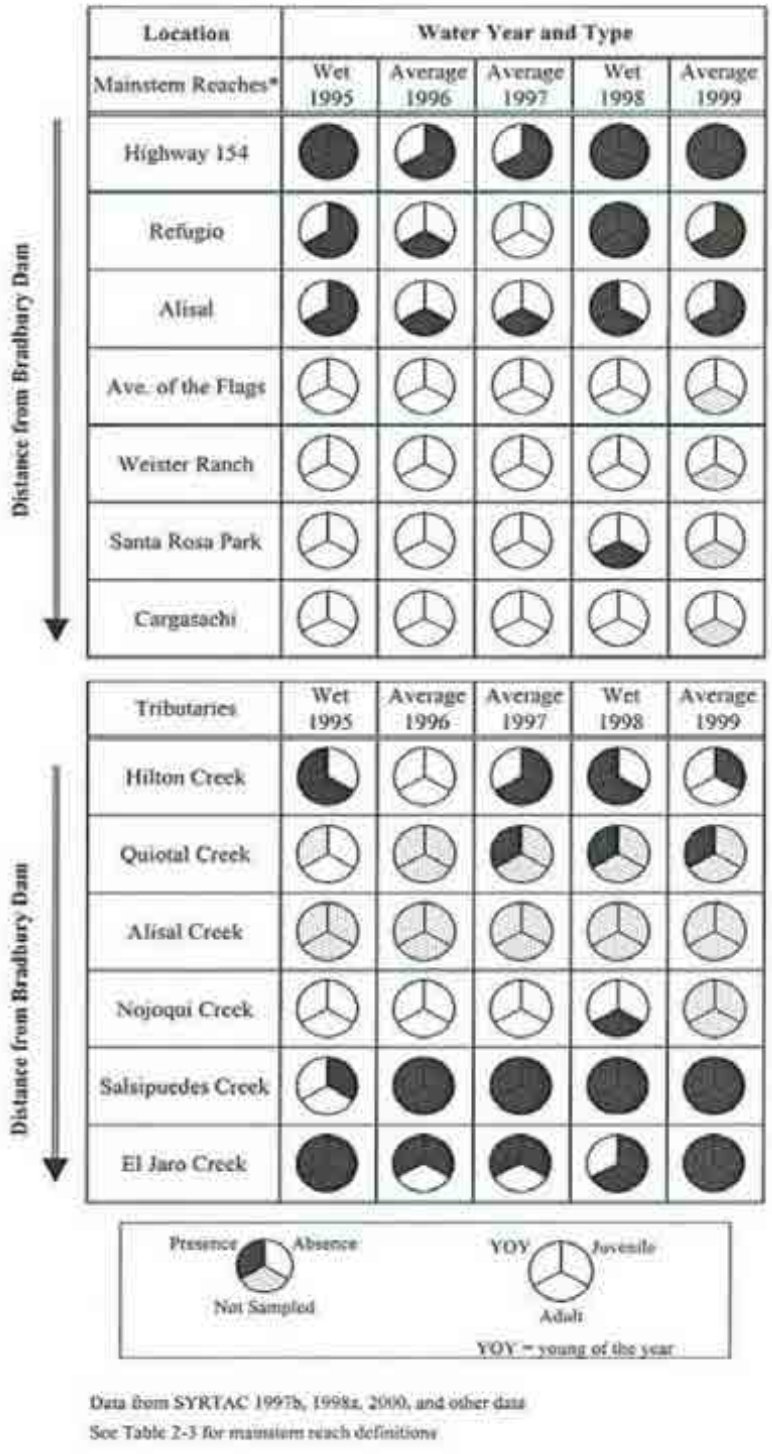

Average Annual Flow Weighted TDS at the Narrows (Simulation, 1942-1988)
Total Dissolved Solids (mg/L)
1400
1200
1000
800
600
400
200
0
1945
1950
1955
1960
1965
1970
1975
1980
1985
Water Year
No Flow
Alternative 2
Alternative 3B
Alternative 3C
Alternative 4B (includes recharge of SWP imports)
Alternative 5B
Alternative 5C

Chart 4-28



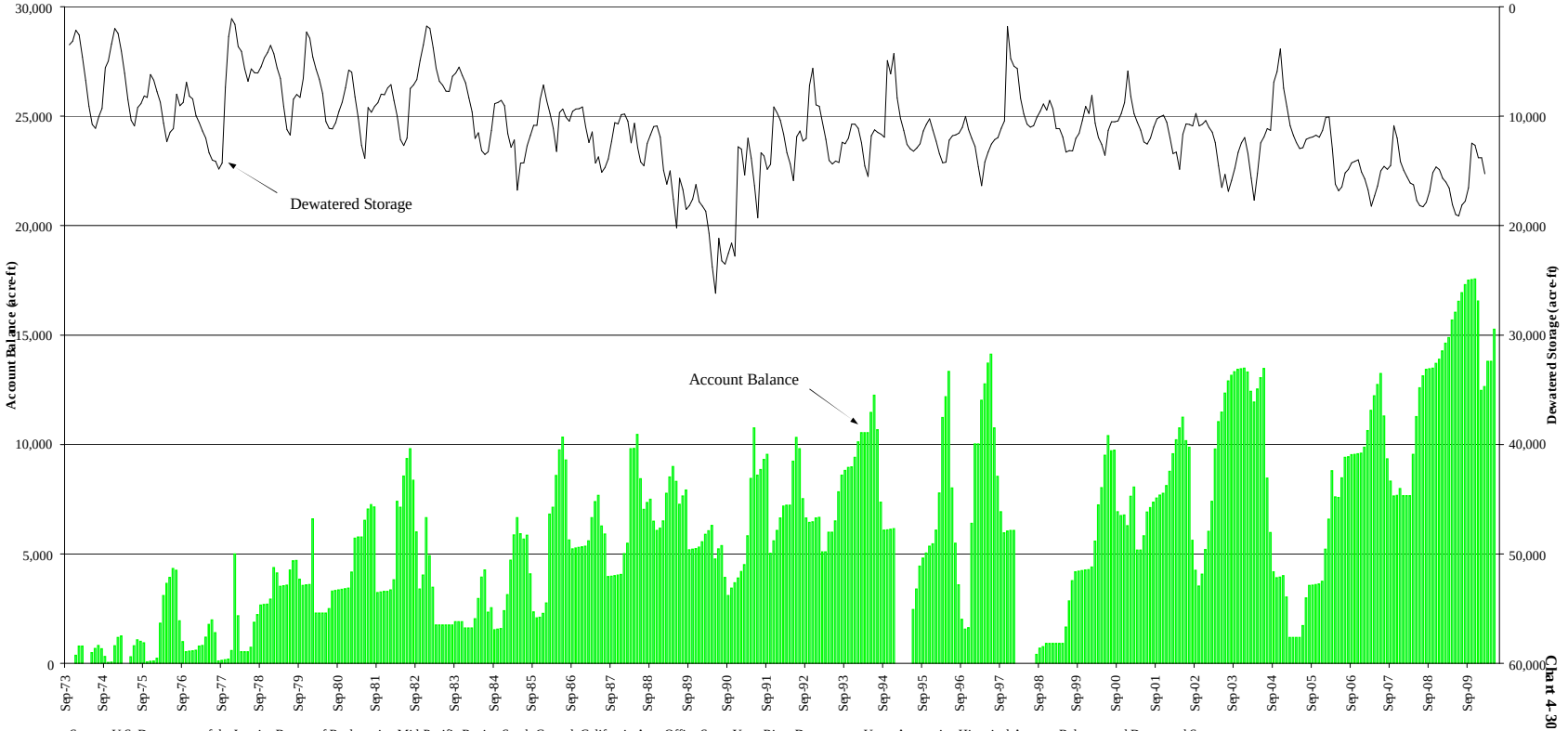
Data from SYRTAC 1997b, 1998a, 2000, and other data

See Table 2-3 for mainstem reach definitions

Chart 4-29. Occurrence of Steelhead/Rainbow Trout in Tributaries

Inserted by Impact Sciences

Account Balance and Dewatered Storage
Above the Narrows on the Santa Ynez River, 1973-2010

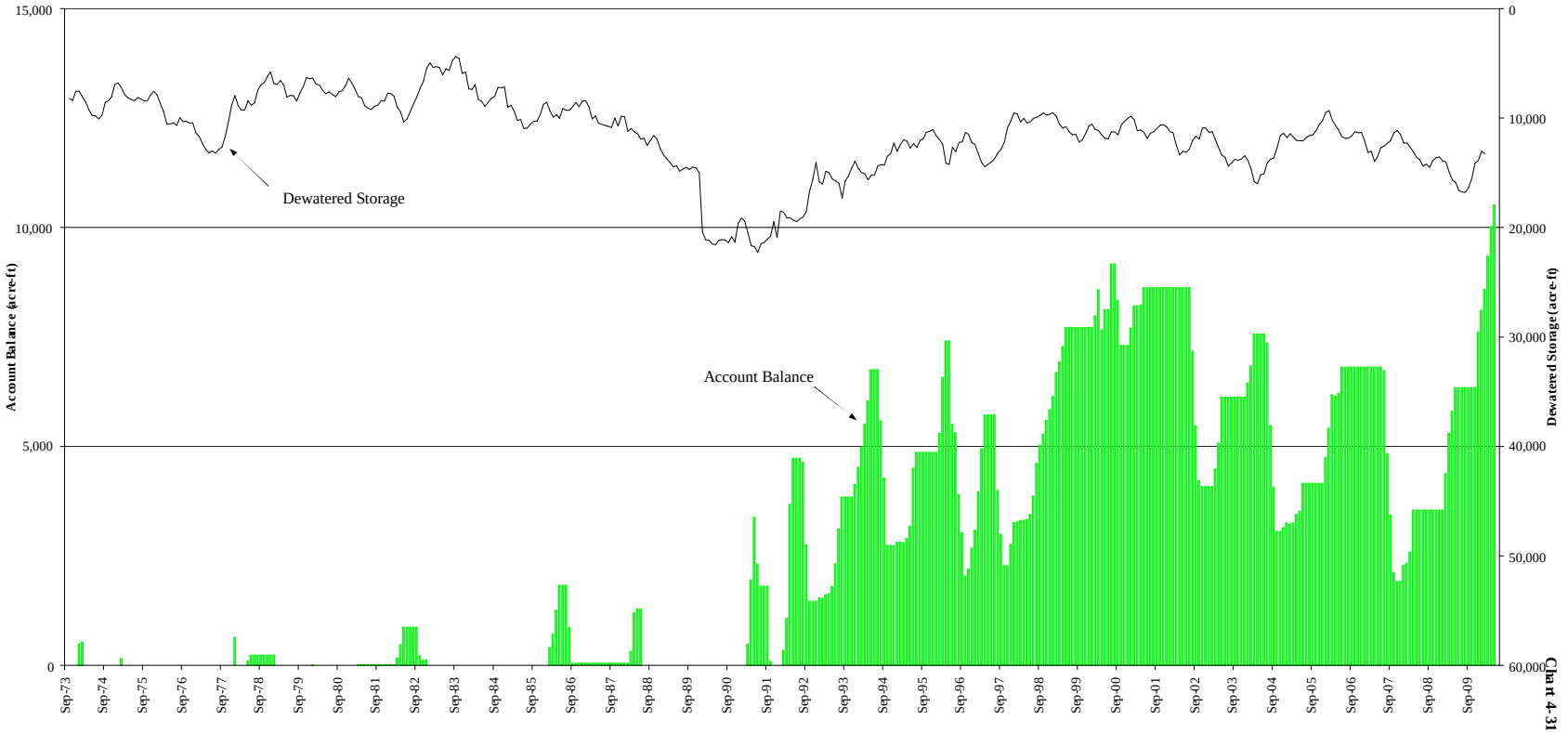


Source: U.S. Department of the Interior Bureau of Reclamation Mid-Pacific Region South-Central California Area Office Santa Ynez River Downstream Users Accounting Historical Account Balances and Dewatered Storages

Chart 4-30

Inserted by Impact Sciences

Account Balance and Dewatered Storage
Below the Narrows on the Santa Ynez River, 1973-2010



Source: U.S. Department of the Interior Bureau of Reclamation Mid-Pacific Region South-Central California Area Office Santa Ynez River Downstream Users Accounting Historical Account Balances and Dewatered Storages

Chart 4-31

Inserted by Impact Sciences

Specific Conductance of Santa Ynez River Surface Water near Solvang
(USGS Station 11128500)

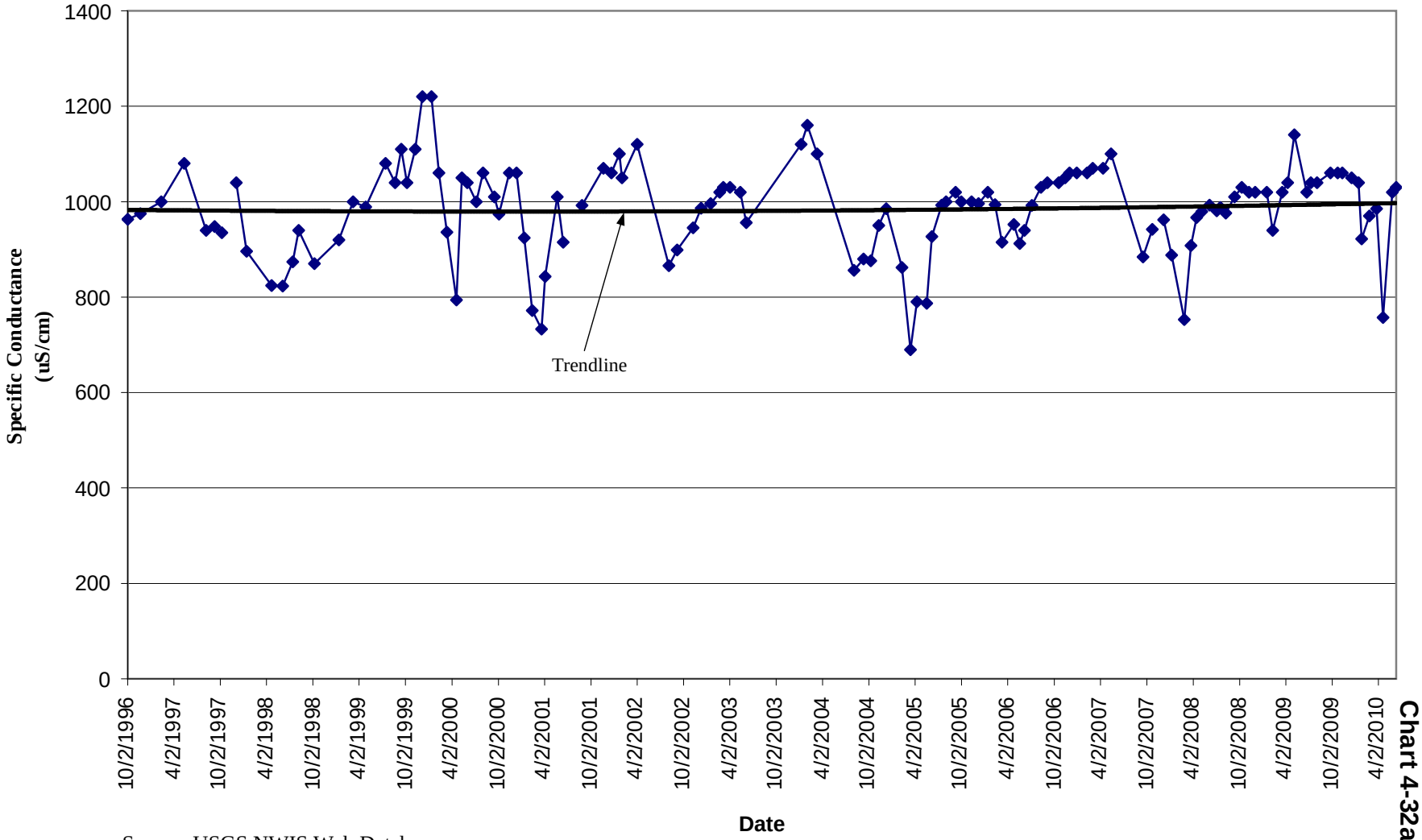
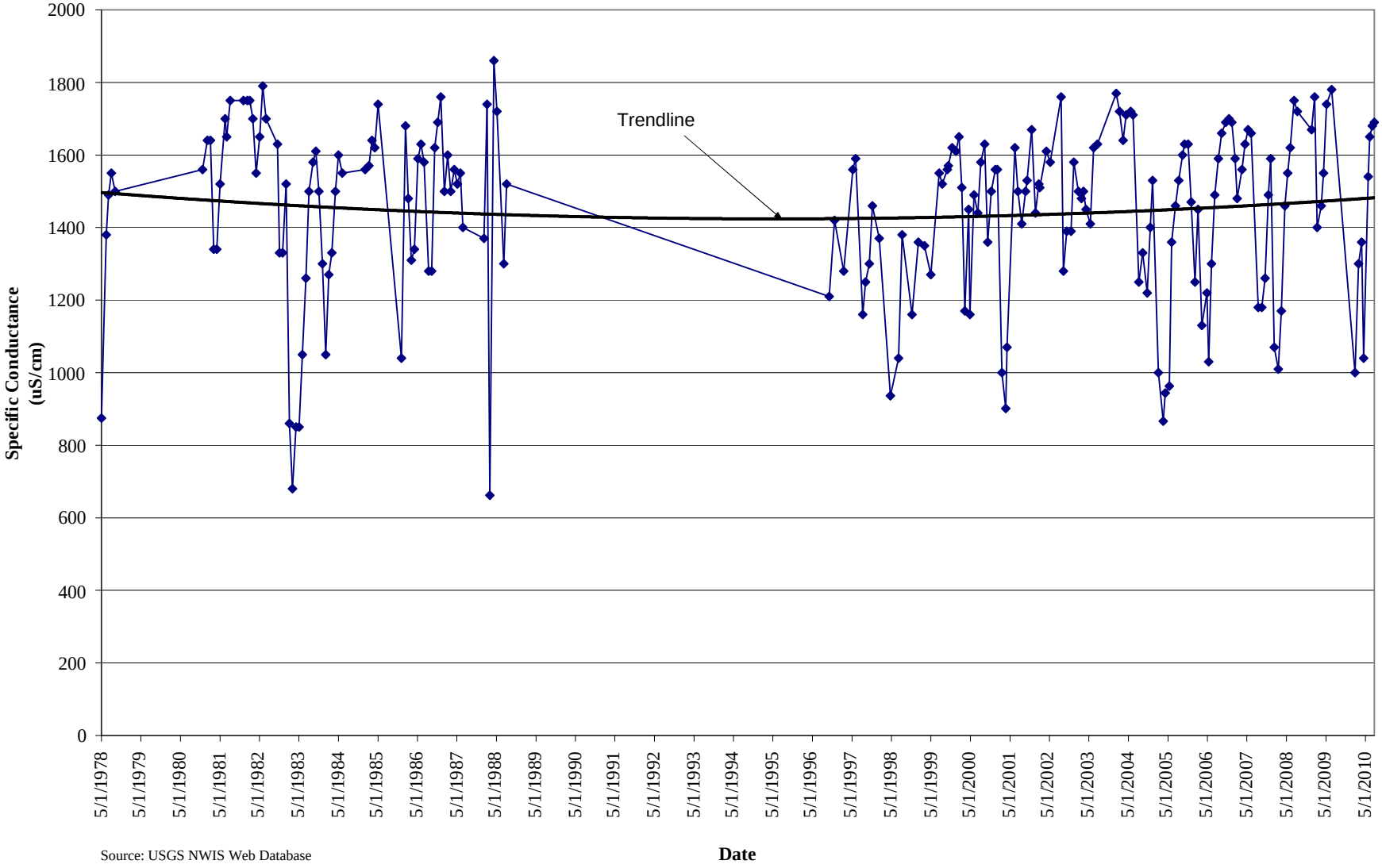


Chart 4-32a

Source: USGS NWIS Web Database

Inserted by Impact Sciences

Specific Conductance of Surface Water at Narrows
(USGS Station 1113300)

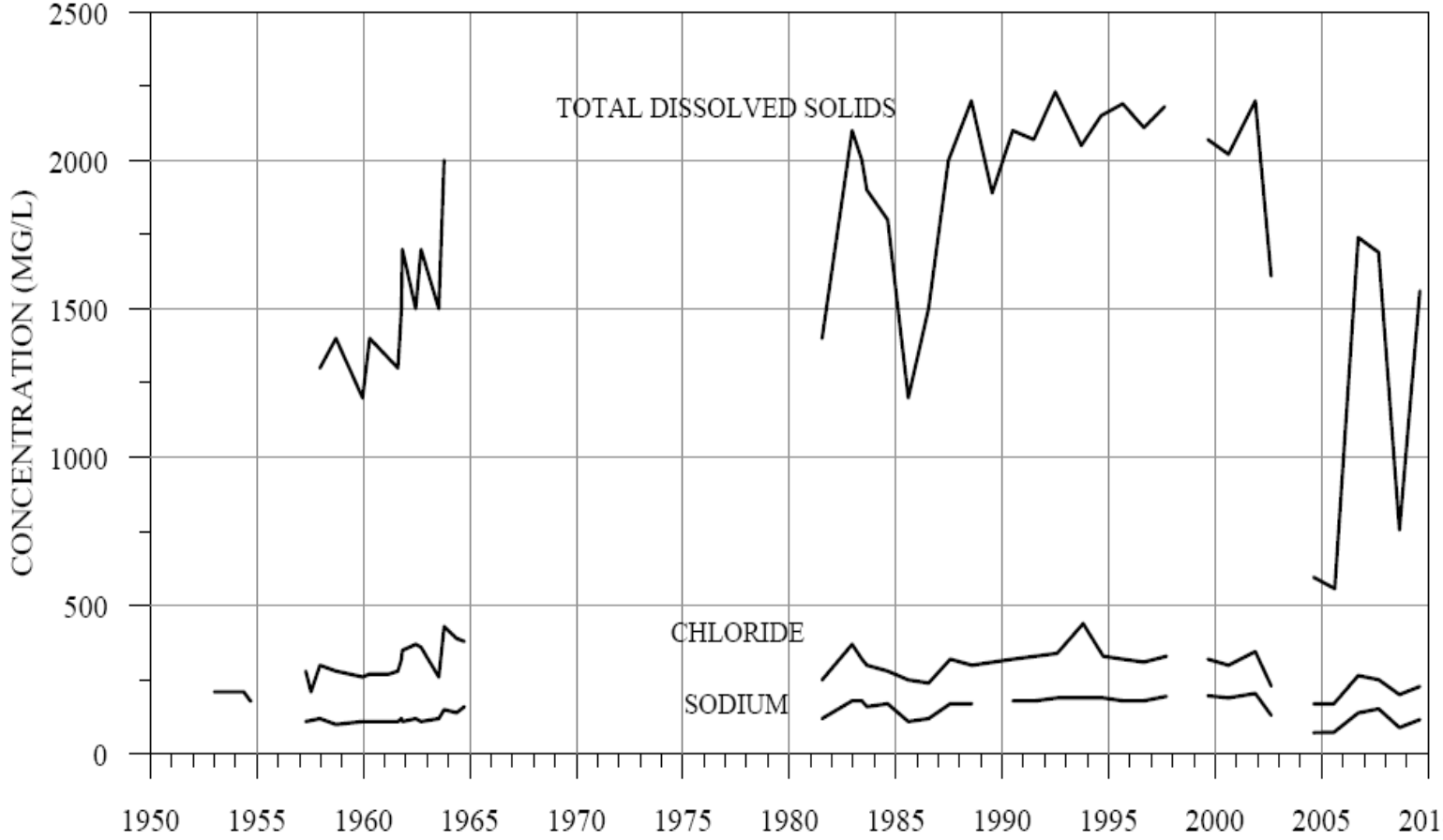


Source: USGS NWIS Web Database

Chart 4-32b

WELL 7N/35W-26F5

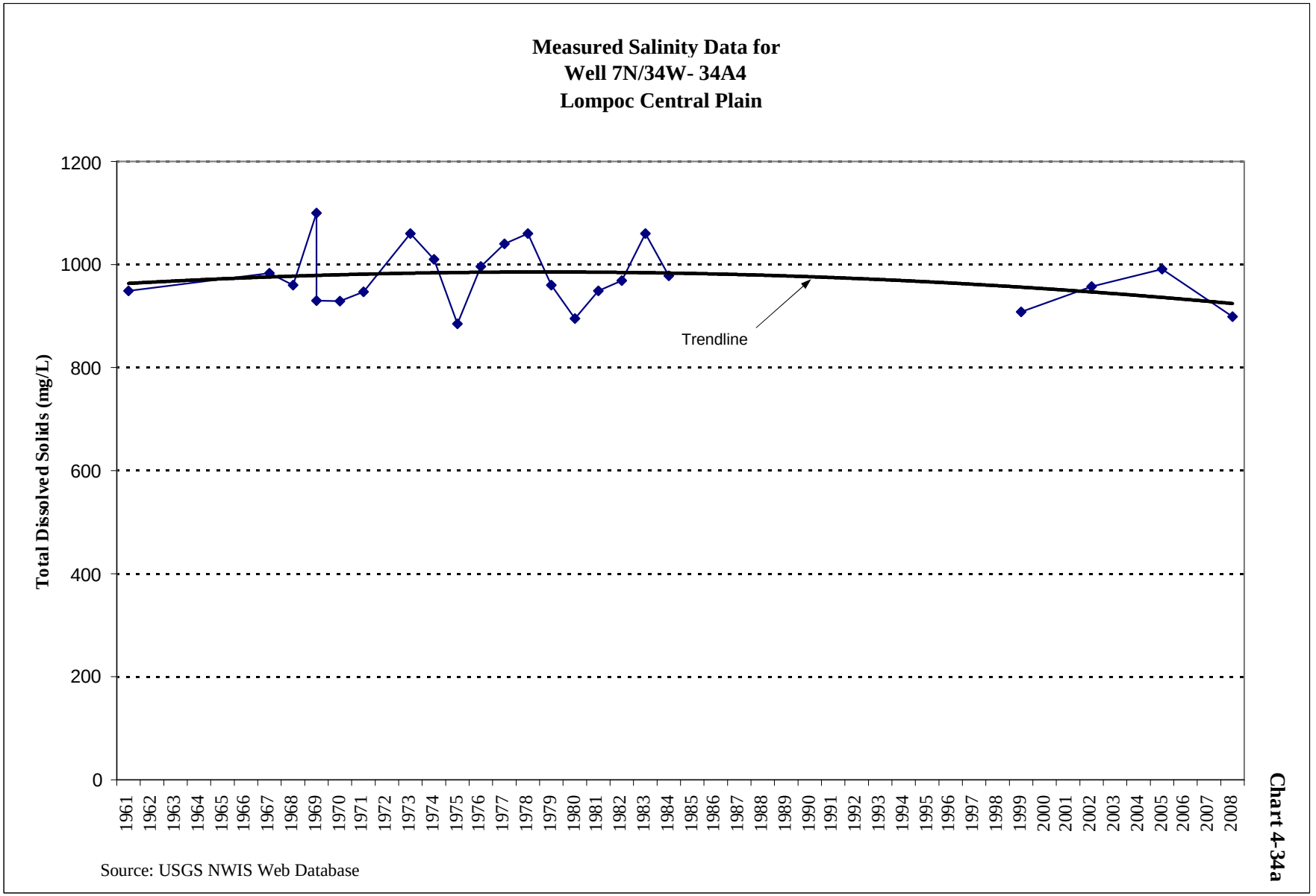
Lompoc Western Plain



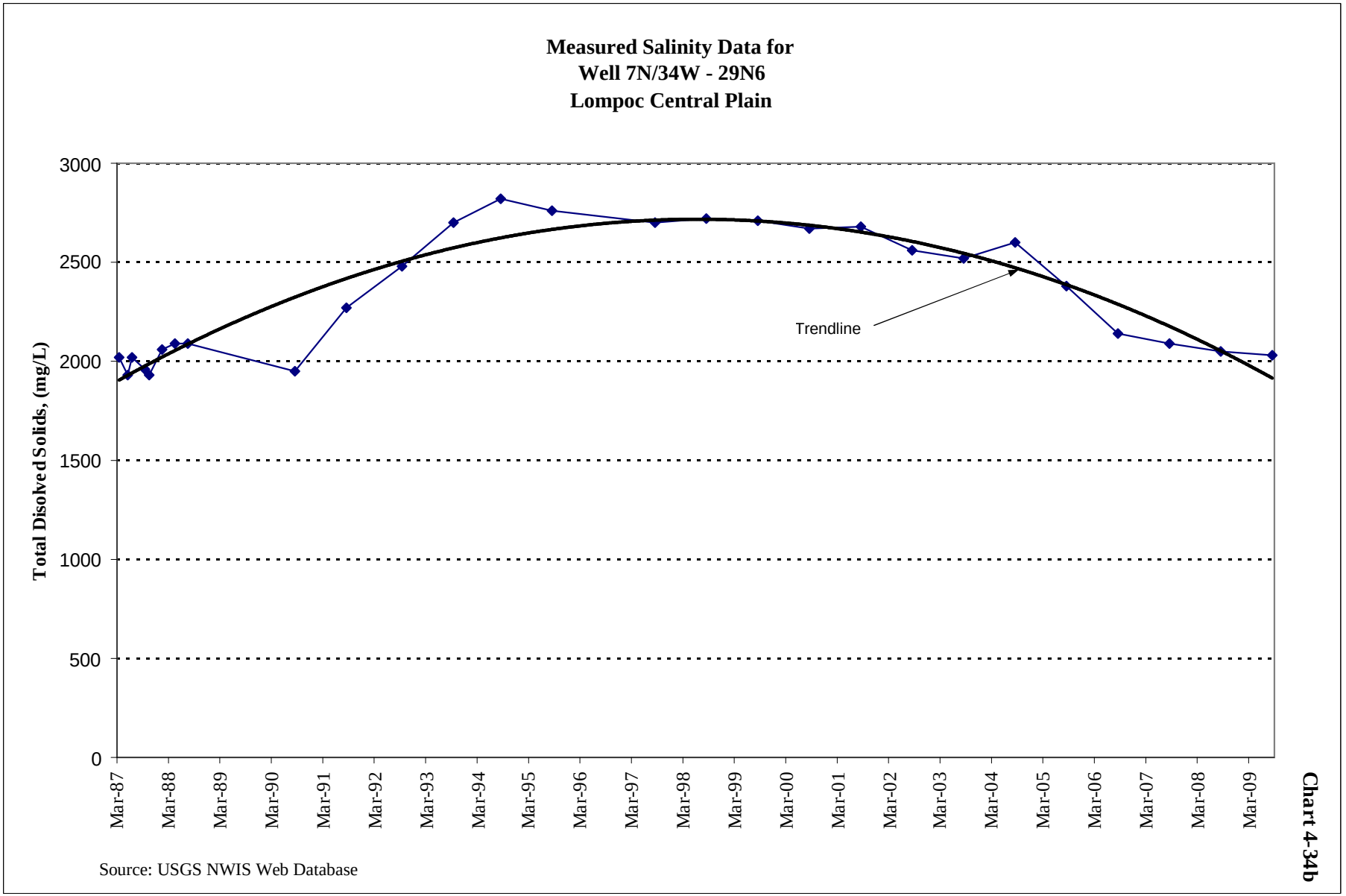
Source: USGS NWIS Web Database

Chart 4-33

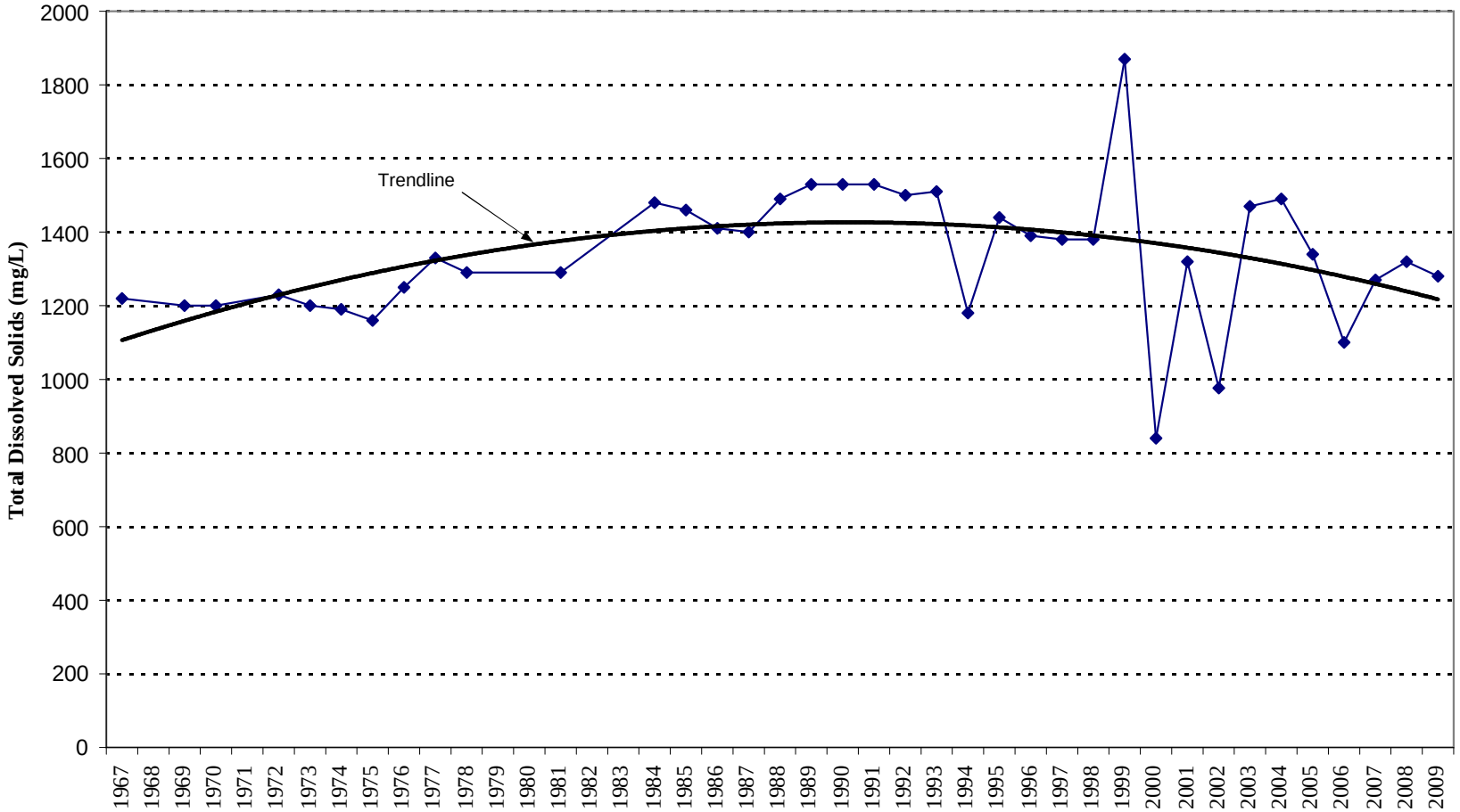
Inserted by Impact Sciences



Inserted by Impact Sciences



Measured Salinity Data for
Well 7N/34W- 27P5
Lompoc Eastern Plain



Source: USGS NWIS Web Database

Chart 4-35