

MAY 9, 1985 UPDATE OF

# **INTERIM DROUGHT MANAGEMENT REPORT**

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**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

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## I. SUMMARY

This report updates the hydrologic information presented in the April 11 update of the Interim Drought Management Report. Since that time significant changes in the hydrologic conditions have been reported, due both to scattered heavy rainfall and reductions in water use. In April up to nine inches of rainfall was recorded in some areas along the east coast. Rainfall on the west coast was, however, significantly less, amounting to only two to three inches. The level in Lake Okeechobee had risen on April 23 to 13.26 ft NGVD which was near normal for this time of year. Regional groundwater levels had shown a positive reaction to the rainfall and reductions in pumpage. Comparison of pumpages for the period March 15 - April 18 with pumpages for the period March 1 - 14 had shown an average reduction in pumpage of 10.3 percent.

The high risk utilities (Cape Coral, Naples, Marco Island, Tequesta, and Highland Beach) had all shown increases in water levels in the aquifers and a stabilization or improvement in water quality. Hallandale, however, continued to show increases in chlorides in monitoring well 1435. Meetings were subsequently held with representatives of Hallandale to resolve this local problem.

Subsequent to the removal of mandatory restrictions in Lee and Collier Counties, there have been significant increases in water use and reductions in ground water levels at Cape Coral, Naples and Marco Island. Water levels declined approximately eight feet in monitoring well L-581 in Cape Coral. Significant declines in water levels were also recorded in the monitoring wells in the Naples Coastal Ridge Aquifer, along with increases in chloride concentration.

District staff have renewed their public relations efforts on the west coast to encourage voluntary conservation, and indications are that conditions have again begun to stabilize in the area.

## II. INTRODUCTION

This report provides an update of the water conditions throughout the District since April 11, 1985. The water shortage declarations imposed at the March 15 Governing Board meeting were relaxed as of April 24, 1985 due to greatly improved hydrologic conditions and significant reductions in water use. The mandatory restrictions previously in force in Lee and Collier Counties were reduced to a water shortage warning, and the warning previously in force in nine other counties was removed.

Included in this report are the technical data on which the decision to relax the water shortage declarations was made, and hydrologic data from select high risk areas, including data subsequent to relaxation of the water shortage declarations. An update of the public information, legal, and administrative aspects of the water shortage management is also included.

### III. WEATHER/RAINFALL SUMMARY

The District received near normal rainfall for both the months of March and April. The month of March yielded 90% of average rainfall. During April approximately 127% of normal rainfall was received. This amount varied considerably throughout the District. The Upper Kissimmee and Orlando area received 65% of normal for the month, whereas the Stuart-Ft. Pierce area received in excess of 200% of normal rainfall. The Loxahatchee/Royal Palm Beach area received more than 8 inches of rainfall during April versus a normal expected amount of approximately 3 inches. The monthly rainfall for the dry season received by the District (average) are:

<u>Month</u>	<u>Rain (Inches)</u>	<u>Percent of Normal</u>
October 1984	0.90	15%
November 1984	3.60	208%
December 1984	0.59	37%
January 1985	0.72	38%
February 1985	0.32	15%
March 1985	2.54	90%
April 1985	3.58	127%

The 1984 wet season provided only 86% of normal rainfall to the District. The 1984/85 dry season has provided only 64% of normal rain. A look at the 12 month period from May 1, 1984 to April 30, 1985 gives a feel for the magnitude of the precipitation deficit:

<u>Area</u>	<u>Normal Rainfall</u>			<u>Actual Rainfall</u>			<u>(Deficit) or Excess</u>		
	<u>(Inches)</u>			<u>(Inches)</u>			<u>(Inches)</u>		
	<u>Wet</u>	<u>Dry</u>	<u>Total</u>	<u>Wet</u>	<u>Dry</u>	<u>Total</u>	<u>Wet</u>	<u>Dry</u>	<u>Total</u>
Upper Kiss	33.34	21.85	55.19	26.60	11.35	37.95	(6.74)	(10.50)	(17.24)
Lower Kiss	33.67	17.98	51.65	26.88	11.03	37.91	(6.79)	(6.95)	(13.74)
Lake Okee	32.99	17.34	50.33	28.50	11.29	39.79	(4.49)	(6.05)	(10.54)
Ft. Pierce	31.89	22.51	54.40	31.47	19.30	50.77	(0.42)	(3.21)	(3.63)
WCA	39.79	19.70	59.49	26.40	10.31	36.71	(13.39)	(9.39)	(22.78)
Ag Area	38.07	19.01	57.08	27.76	12.13	39.89	(10.31)	(6.88)	(17.19)
Lower E. C.	38.25	23.40	61.65	39.90	16.71	56.61	1.65	(6.69)	(5.04)
Caloosah.	31.39	13.51	44.90	34.25	7.67	41.92	2.86	(5.84)	(2.98)
Collier County	37.94	15.06	53.00	28.95	11.09	40.04	(8.99)	(3.97)	(12.96)

The Geographic Location Map of these areas is labeled 'Reporting Areas for Monthly Operations Report.' For this 12 month period, all areas received below normal rainfall. The areas which received the closest to normal precipitation were the Ft. Pierce and Caloosahatchee areas with the Caloosahatchee Basin actually receiving 109% of normal wet season precipitation. The driest areas were the Water Conservation Areas (with a 22.78 inch deficit), Everglades Agricultural Area (with a 17.19 inch deficit), and the Upper Kissimmee Basin (with a 17.24 inch deficit).

Maps of total rainfall throughout the District are shown as Figures 2 through 5. Figure 2 shows the total rainfall for April 1985. Figure 3 shows the normal rainfall for the month of April. Figure 4 shows the total rainfall received for the 1984/85 dry season (October 1, 1984 to April 30, 1985). Figure 5 shows the normal rainfall for the October through April period.

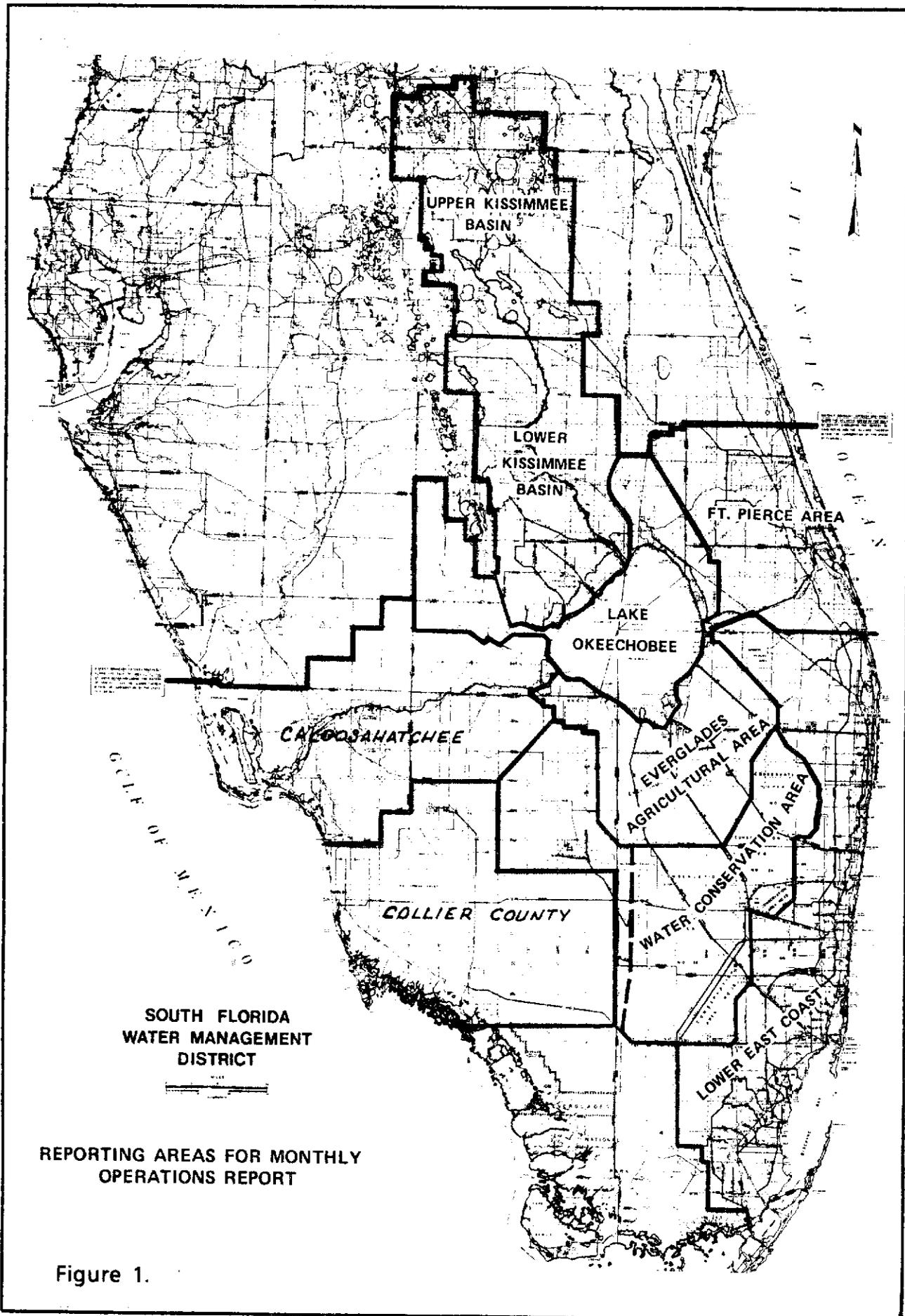


Figure 1.

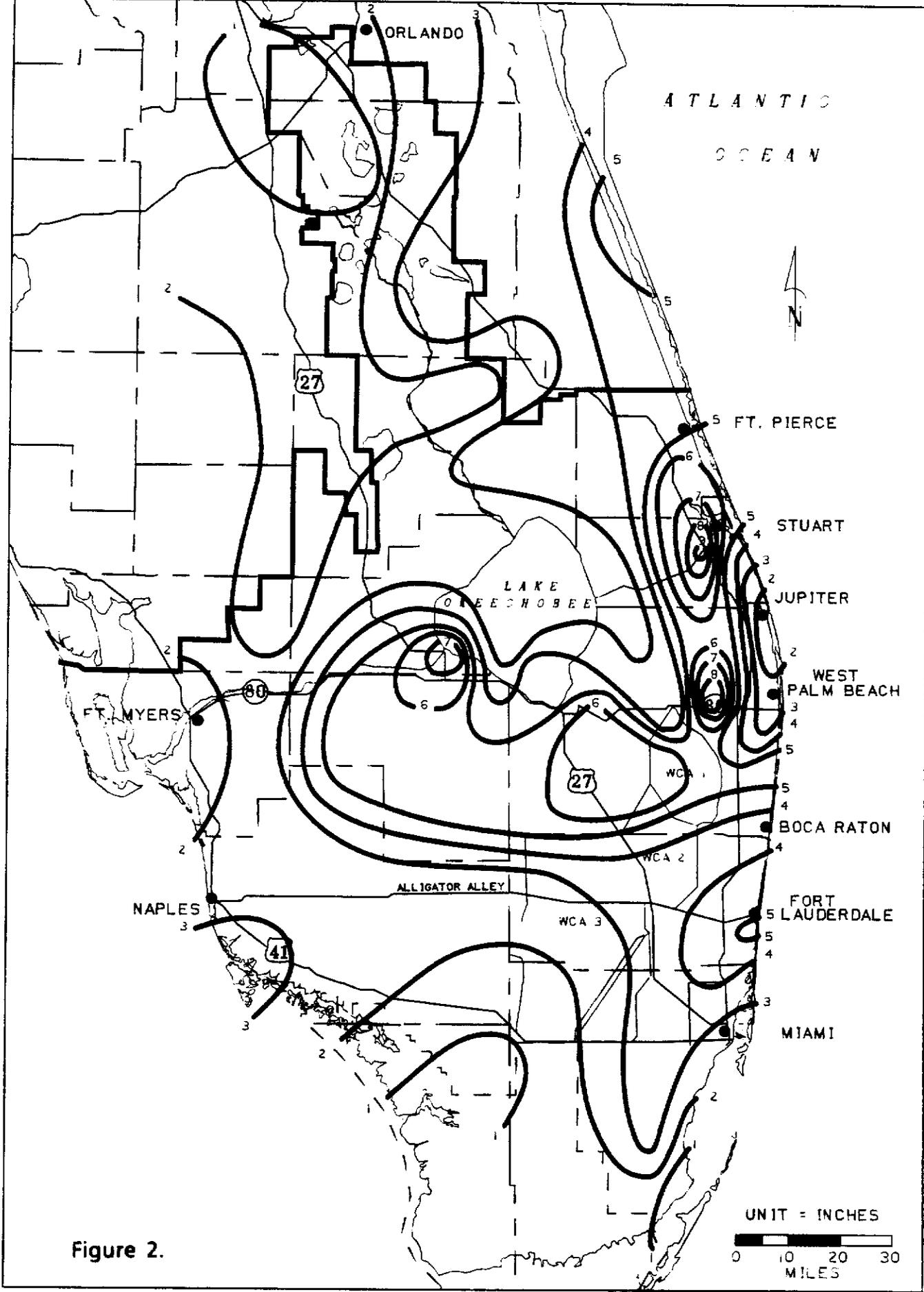


Figure 2.

RAINFALL - APRIL, 1985

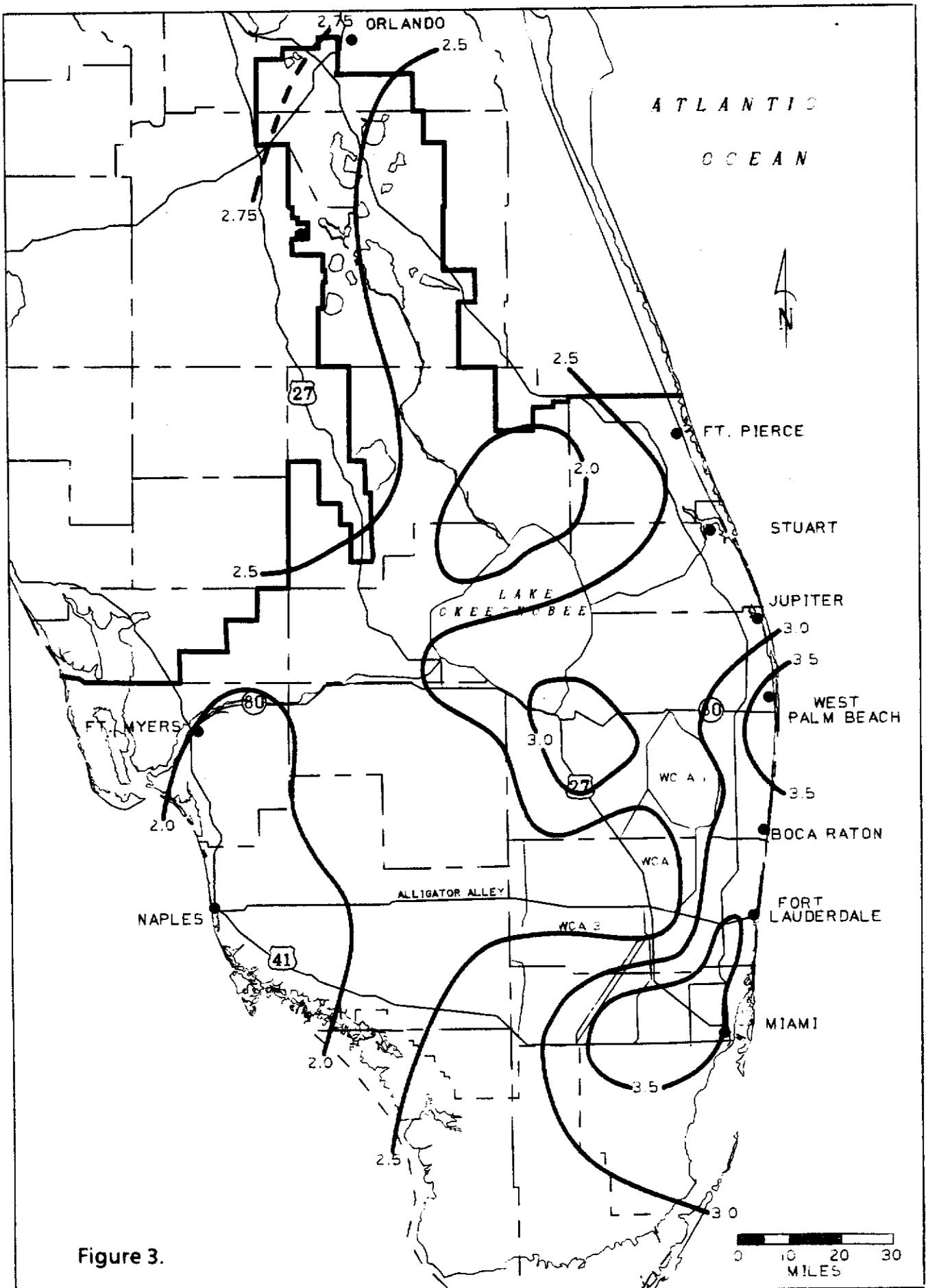


Figure 3.

RAINFALL - NORMAL - APRIL

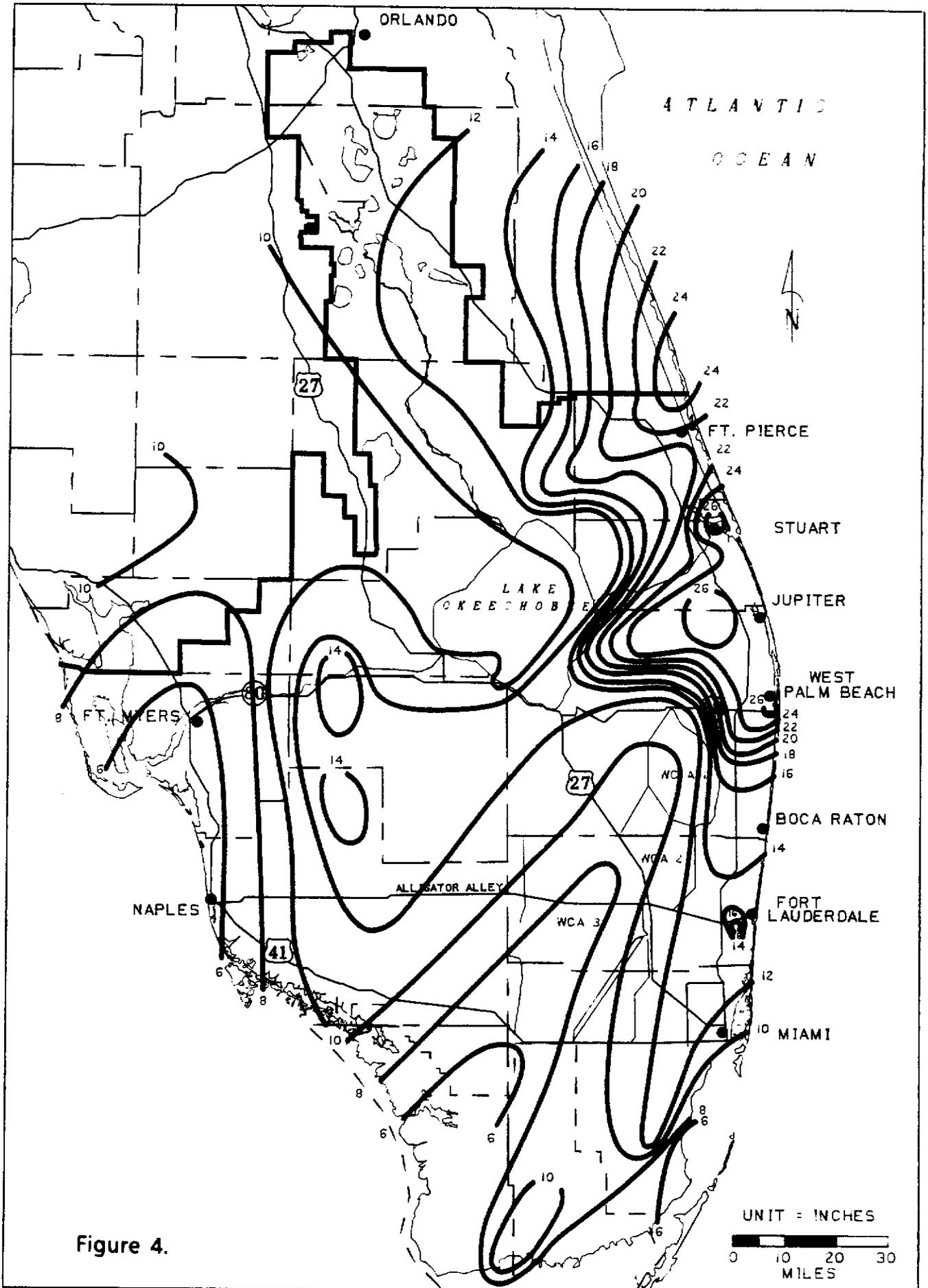


Figure 4.

RAINFALL - OCT. 1984 - APR. 1985

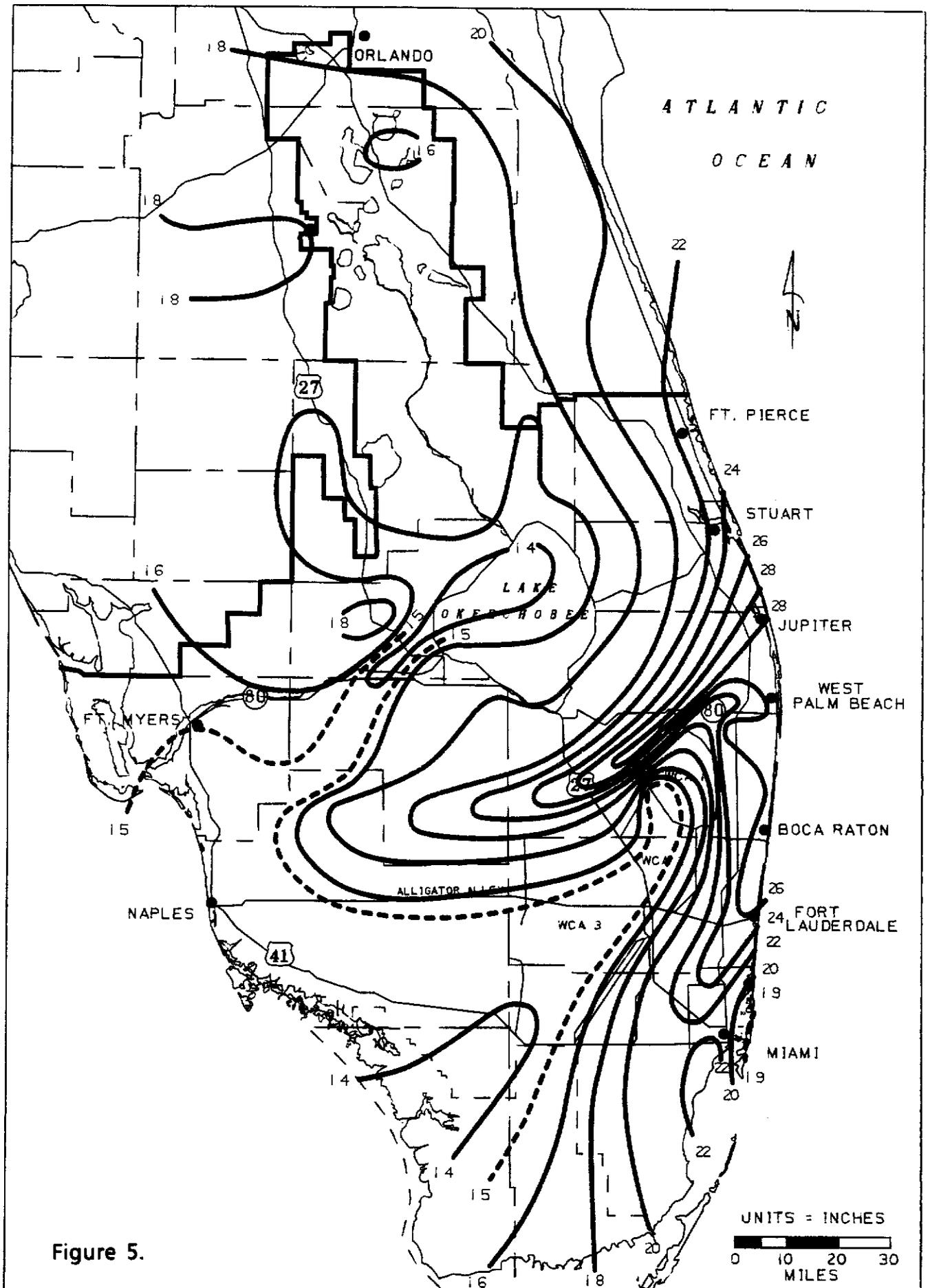


Figure 5.

RAINFALL - NORMAL - OCT.-APR.

#### IV. SURFACE WATER CONDITIONS

##### A. Upper Kissimmee Basin

The stages of the largest three lakes in this area (see Figures 6, 7, and 8) all reached their declining regulation schedules during April and regulatory releases were begun. These releases will continue for the rest of May as the actual lake stages follow the regulation schedules down to the annual minimum level on June 1st. Thus a continuous flow of about 1500 cfs will be discharged from Lake Kissimmee into Lake Okeechobee even if no rain occurs during the month of May. Rainfall could increase this discharge. All the smaller lakes in the basin declined slowly during April and will probably not reach their regulation schedules until summer rains occur.

##### B. Lake Istokpoga

The stage of Lake Istokpoga remained almost flat during April, passing above the declining minimum schedule about mid-month. No releases were made during April (See Figure 9), but they were begun early in May. Unless considerable rainfall occurs, this lake will not reach the regulation schedule before June 1st, but it probably will remain above the minimum schedule, regardless of rainfall.

##### C. St. Lucie County

The ample rainfall during April kept water levels in all canals in the area in the normal dry season range all month.

##### D. Lake Okeechobee and the Water Conservation Areas

The principal water storage components of the Central and Southern Florida Flood Control Project (CSFFCD) are Lake Okeechobee and the three Water Conservation Areas.

During April, 70,400 acre-feet of water were delivered from Lake Okeechobee for use in the Everglades Agricultural Area (EAA), the Water Conservation Areas (WCAs), and the East Coast. Backpumping into the lake from the EAA replaced 23,500 acre-feet however, making a net delivery from the lake for the month of 46,900 acre-feet. In addition, 14,700 acre-feet were delivered from the lake to the Caloosahatchee River Basin.

During April the EAA delivered 60,000 acre-feet more to the WCAs and to Lake Okeechobee than it received from those sources. Over three quarters of this, however, was to the WCAs where most of it went into groundwater and marsh storage. Little of this storage is retrievable for use outside the WCAs.

The WCAs received 101,000 acre-feet more from the EAA and the East Coast than they delivered to those areas.

During April, 36,800 acre-feet were delivered to the East Coast but 14,200 acre-feet were backpumped (by S-9) into the WCAs, making a net delivery of 22,600 acre-feet to the East Coast.

Since the beginning of the dry season Lake Okeechobee has dropped from a level of 16.29 ft. NGVD on October 1, 1984 to a level of 13.05 ft. NGVD on May 1, 1985 for a total decline of 3.24 feet in seven months. The significant rainfall received in the middle of April brought the stage up to the 20-year average level for the period of 1963 to 1983 as shown in Figure 10A. Figure 10B shows how the stage compared in relation to predicted stages for 0%, 50%, and 100% of normal rainfall conditions.

# EAST LAKE TOHOPEKALIGA

Source=Daily Water Readings

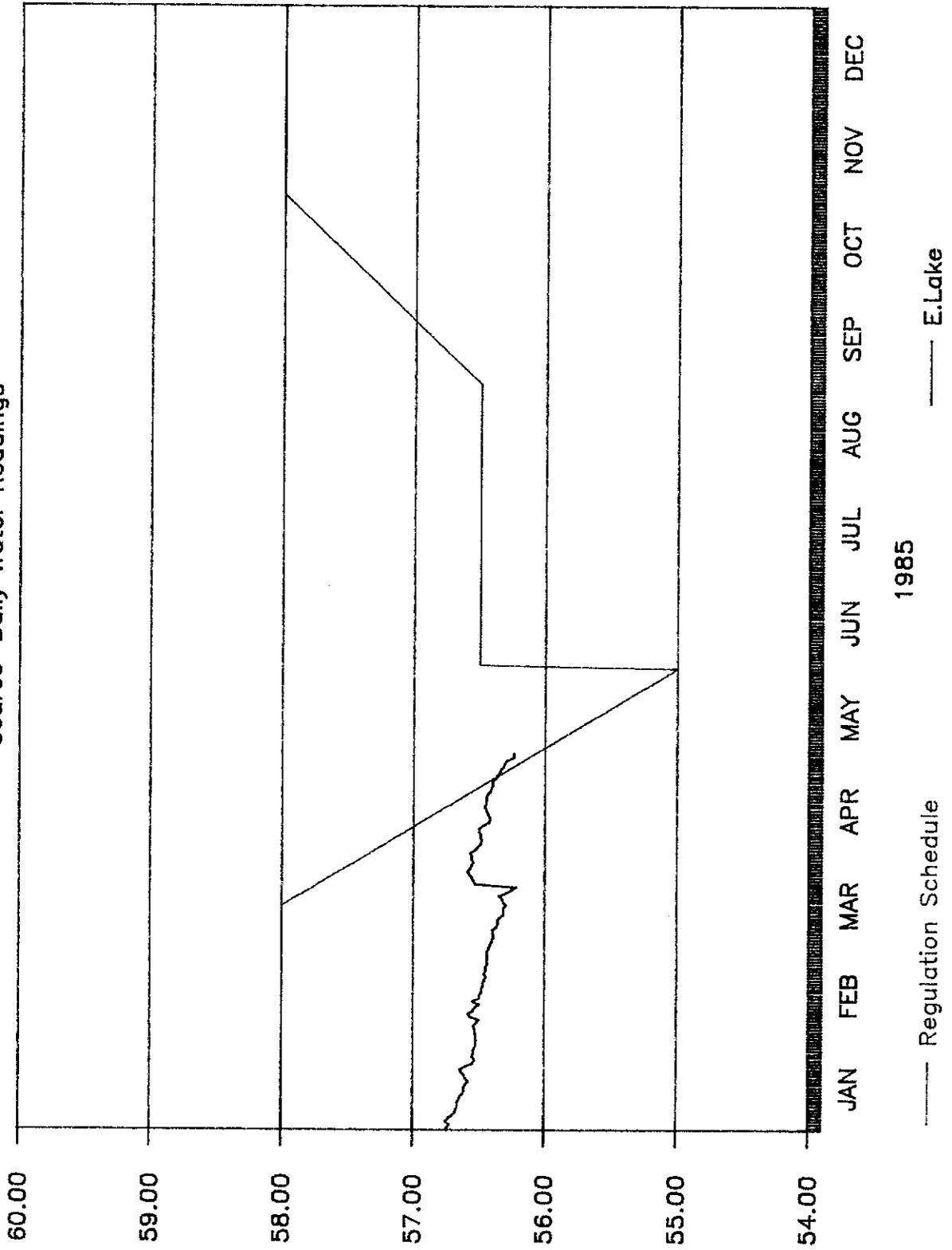


Figure 6.

STAGE (feet-msl)

# LAKE TOHOPEKALIGA

Source=Daily Water Readings

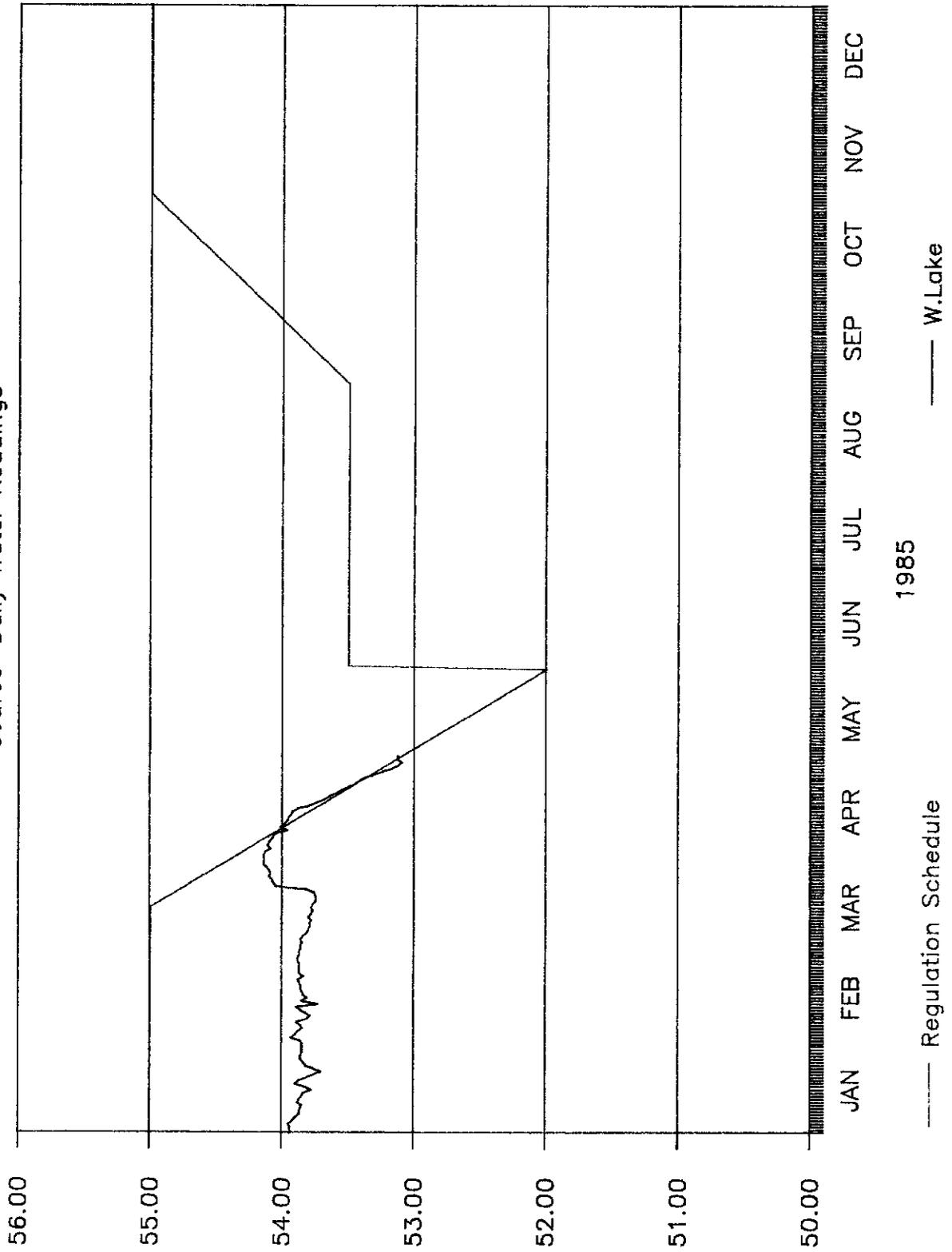


Figure 7.

STAGE (feet-msl)

# LAKE KISSIMMEE

Source=Daily Water Readings

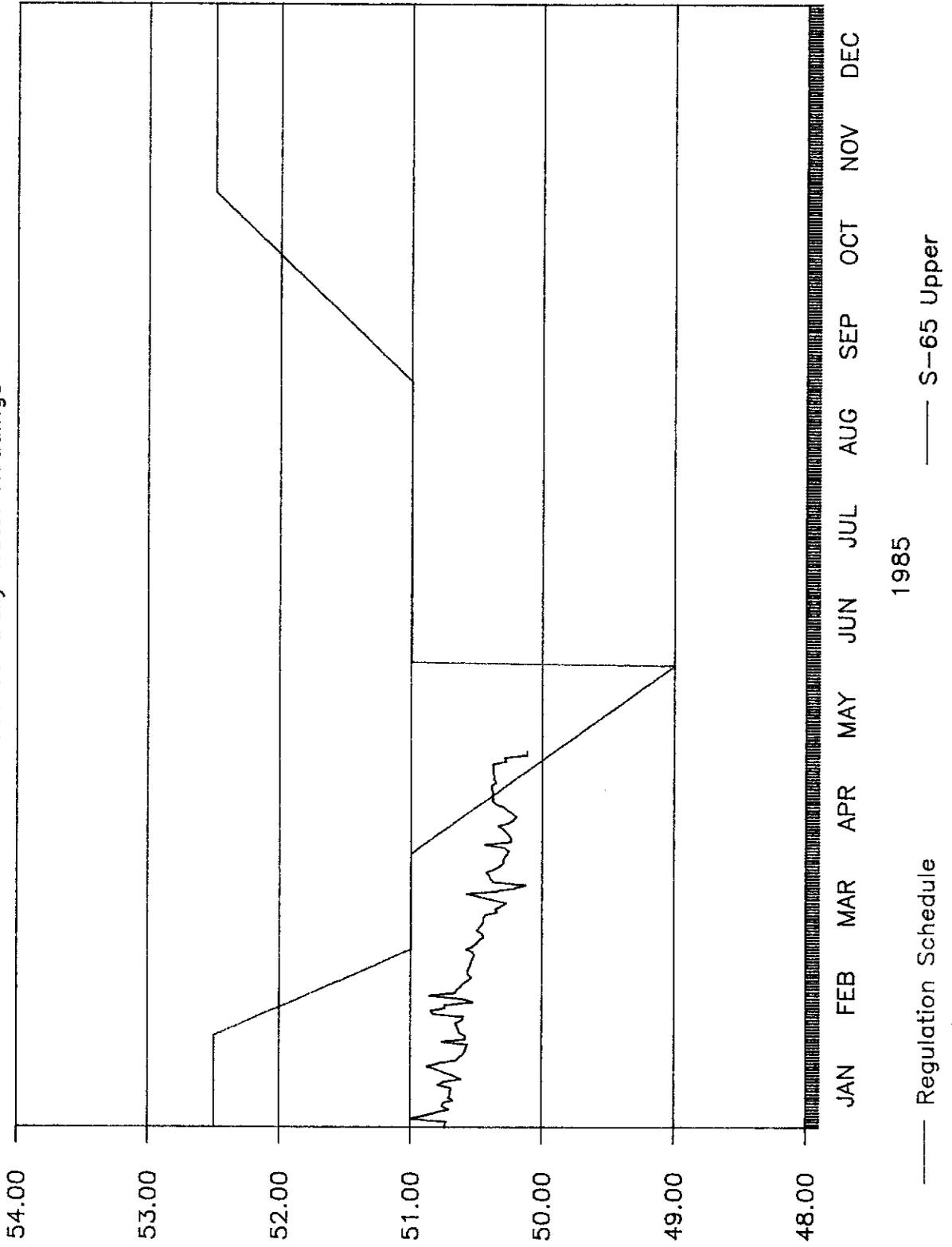


Figure 8.

STAGE (feet-msl)

# LAKE ISTOKPOGA

Source=Daily Water Readings

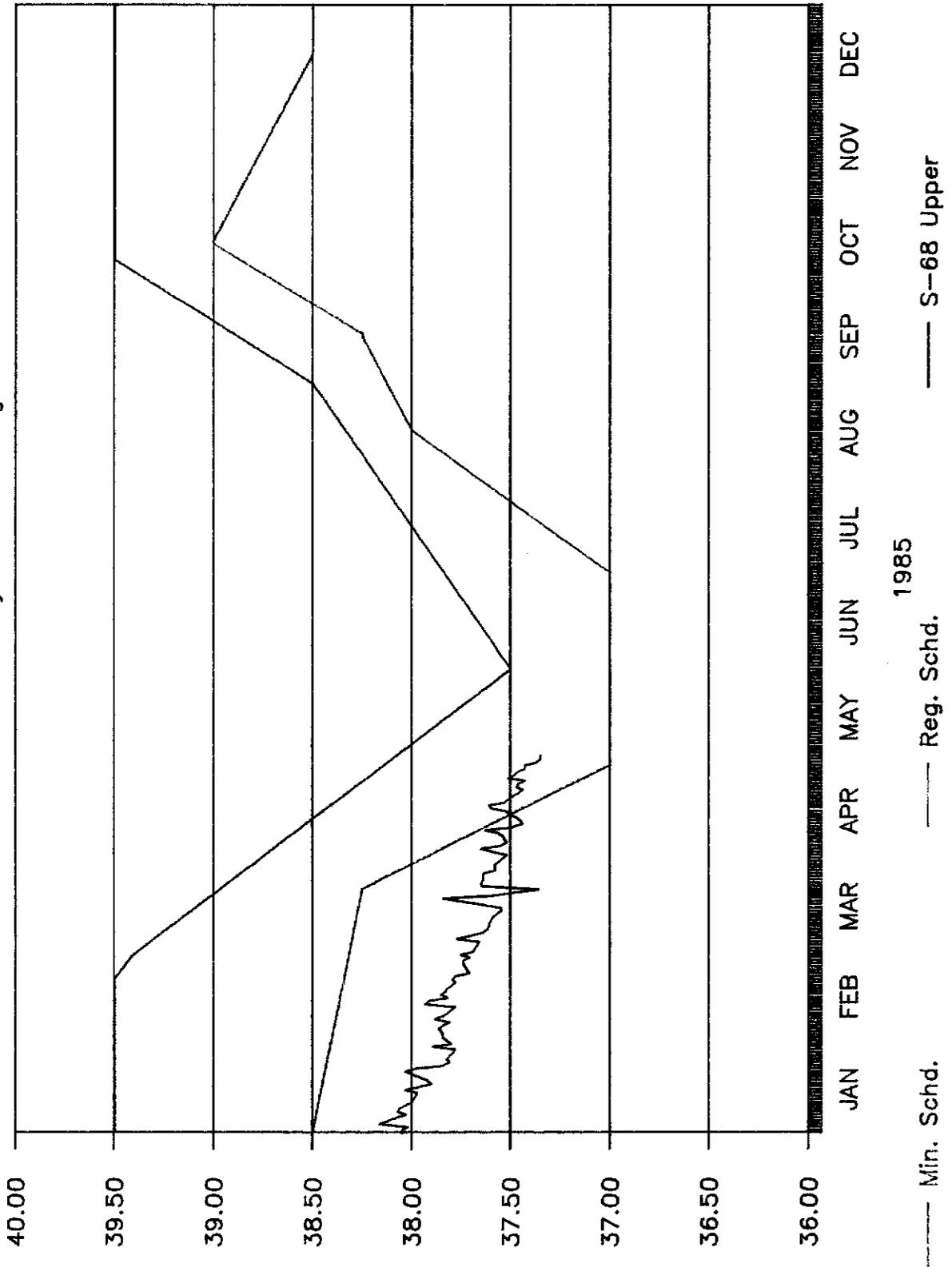


FIGURE 9.

STAGE (feet-msl)

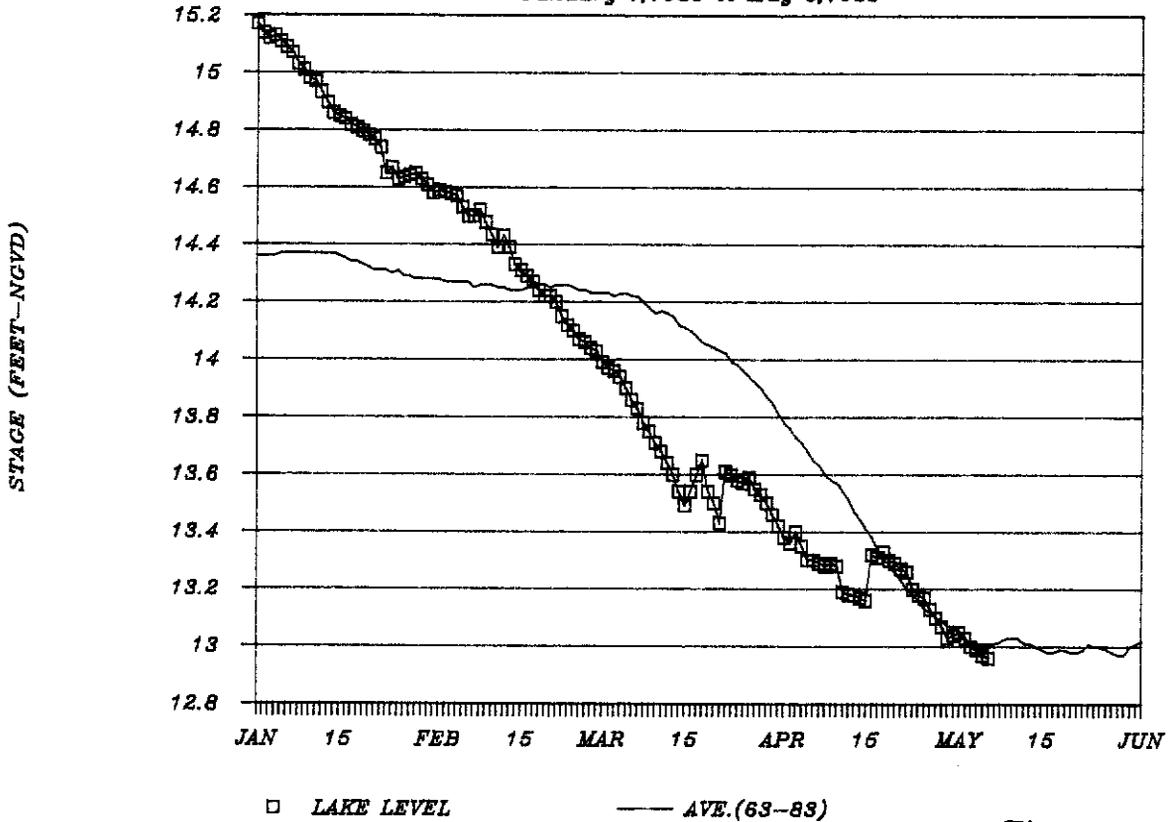
Figure 11A shows the total system storage for the period of March 1, 1985 to May 6, 1985. The effects of the mid-March and mid-April rainfall events are quite pronounced on this figure. The total amount of water in storage on May 1, 1985 was 1,307,100 acre-feet, or 426 billion gallons of surface water. (This compares well to a Lake Okeechobee stage of 11.45 ft. NGVD and 684,400 acre-feet on May 1, 1981) The loss from storage during the month of April was only 176,000 acre-feet compared to 275,000 acre-feet in March and greater than 400,000 acre-feet per month in both January and February as shown on Figure 11B.

**E. Caloosahatchee River**

Though the salinity level was held well within the tolerable range by the bubbler curtain at the Franklin Lock, a new problem arose. Toward the end of April an algae bloom developed in the lower river threatening the water supply of Lee County. Consequently, a four-day heavy discharge was made from Lake Okeechobee to flush out the bloom.

# LAKE OKEECHOBEE STAGE

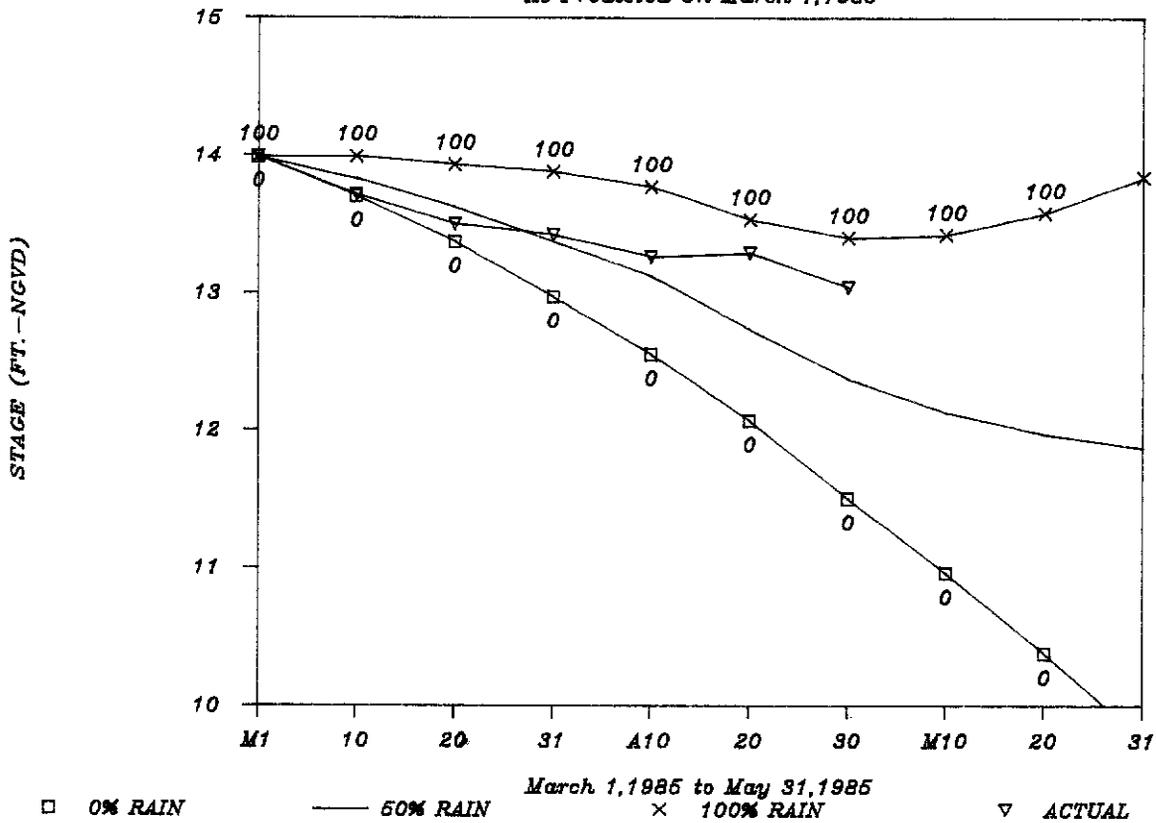
January 1, 1985 to May 8, 1985



Figures 10A and B

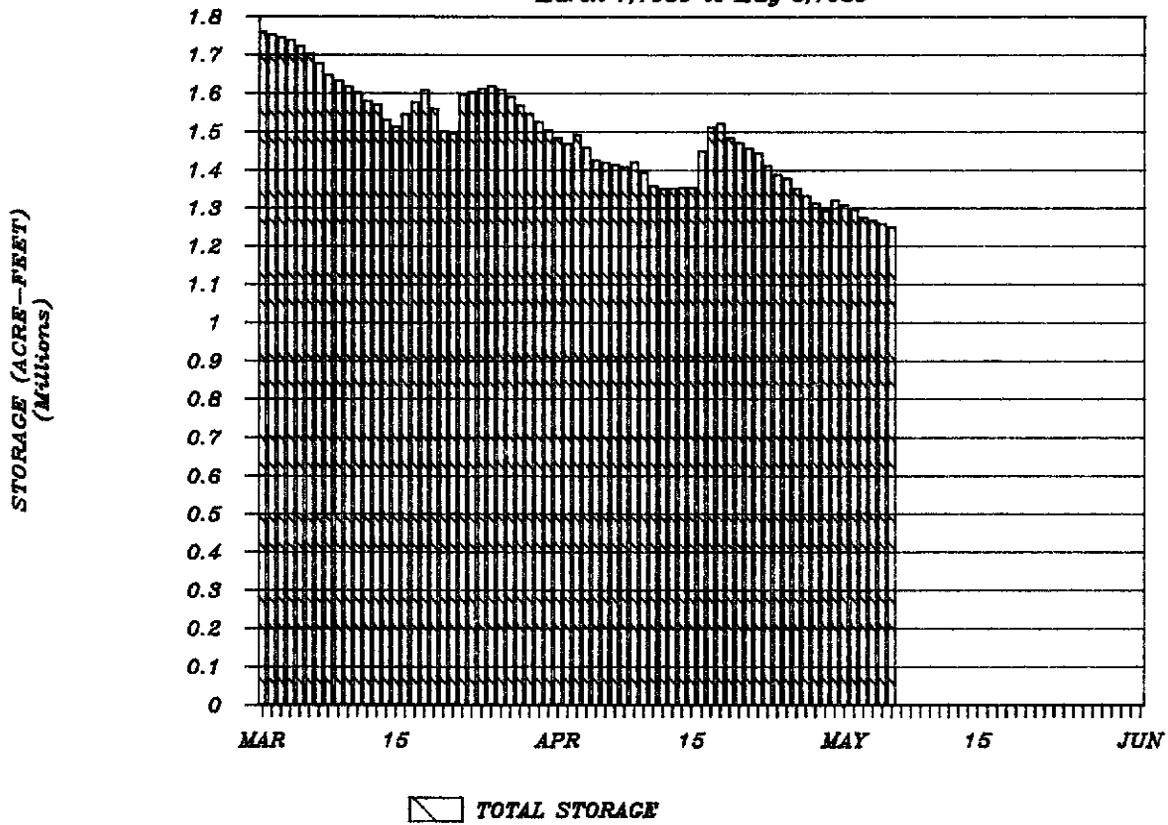
# LAKE OKEECHOBEE — ACTUAL VS. PREDICTED

As Predicted On March 1, 1985



### TOTAL SYSTEM STORAGE

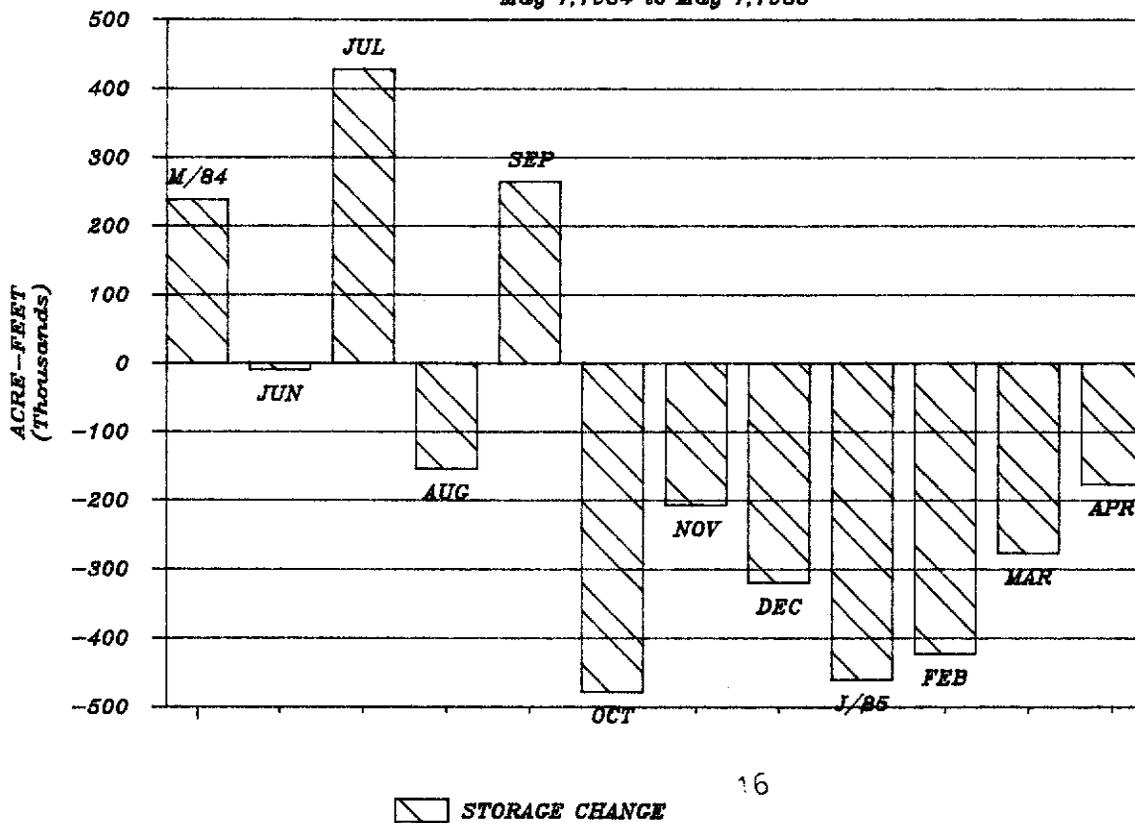
March 1, 1985 to May 6, 1985



Figures 11A and B

### MONTHLY CHANGE IN STORAGE

May 1, 1984 to May 1, 1985



## V. REGIONAL GROUNDWATER CONDITIONS

A review of the water levels in the 36-well Key Indicator Groundwater Monitoring Network from the end of March 1985 through the end of April 1985 reveals the following:

1. Seventeen of the 36 wells showed a higher water level at the end of April than at the end of March. This is a very favorable sign because the normal condition is for the water levels to make their largest monthly decline in stage during the month of April. Traditionally April is the highest water usage month but obviously the cutbacks in withdrawals coupled with above normal rainfall has significantly improved the regional groundwater conditions.
2. Nine of the 36 wells showed essentially the same water level at the end of April as at the end of March. This indicates a stabilization of the resource during the month of April
3. Ten of the 36 wells did have lower water levels at the end of April than at the end of March. Six of the ten were on the east coast with four in the South Dade County area, in response to a partial curtailment of water deliveries during the heavy rains around Lake Okeechobee. Four of the ten were in Lee and Collier counties.

The graphs in Appendix I show the water levels experienced during the month for each of the 36 wells in the network. The data used included end of month readings for April 1985. It is important to note that the low value shown for April 1985 in most of the wells occurred around April 11, 1985 and that the end of month conditions improved significantly as described above.

Table 1.

LIST OF MONITORING WELLS

St. Lucie County

STL42  
STL125  
STL41

Martin County

M147  
M140

Palm Beach County

PB565  
PB109  
PB88

Broward County

G1213  
G853  
S329  
G561  
G617  
G1222  
F291

Dade County

G852  
G1183  
F179  
F319  
G596  
G613  
G1251

Collier County

C495  
C54  
C391  
C392  
C489  
C503  
C131  
C492

Lee County

L1997  
L730  
L1418  
L246  
L742  
L581



## VI. DEMAND MANAGEMENT

### A. Public Water Supply Utility Monitoring program

#### Naples:

After the mandatory restrictions were lifted on April 24, average day pumpage from the Coastal Ridge Aquifer increased slightly, but with the major impact of increased demand absorbed by the East Golden Gate wellfield. Other users of the Coastal Ridge Aquifer, however, apparently did increase pumpage significantly and with this increased pumpage came a drop in the water levels of all the monitoring wells. On April 30 the water levels began to increase. Chloride concentrations remained relatively stable until May 1, at which time the concentrations began to increase as a response to the lowered water levels. Chloride concentrations had decreased in all wells showing increases as of May 5, but had not declined to April 30 levels.

Water levels are still significantly above 0.0 ft NGVD in six of the seven key monitoring wells and significantly above pre-shortage declaration levels in all wells.

Conditions have deteriorated in the Coastal Ridge Aquifer; however, if pumpage is reduced along the coastal ridge through adherence to voluntary restrictions on water use and the water levels continue to increase, conditions will improve.

The East Golden Gate wellfield has been stable since the restrictions were lifted.

#### Marco Island:

Conditions at Marco Island have deteriorated slightly because of increased pumpage since the lifting of the withdrawal restrictions. The lake levels reached a low of -1.96 ft NGVD on May 4, however they slightly increased to -1.71 ft NGVD on May 5. Chloride concentrations are fluctuating but are within the range experienced since April 1.

#### Cape Coral:

On April 25 average day pumpage from the mid-Hawthorn aquifer at Cape Coral tripled compared to April 24, and by May 5 it was four and one half times higher. Pumpage from the lower-Hawthorn did not increase, however. As a result of this increase of withdrawals from the mid-Hawthorn, the water levels in USGS well L581 declined to -35.9 ft NGVD from -27.6 ft. NGVD on April 24, or an eight foot drop. The chloride concentrations have remained fairly stable. A request for voluntary reductions in water use on May 2 by District staff has resulted in a decline in the rate at which the water level in the mid-Hawthorn aquifer is falling and this is shown in the attached set of graphs.

As of May 5, total pumpage in Cape Coral was running at the reduced levels accomplished during the Phase 1 shortage. However, the city is depending on the mid-Hawthorn more at this time than it did during the Phase 1 shortage.

According to Don Kuyk, City of Cape Coral, the city was taking advantage of the water restrictions and renovating many of the lower-Hawthorn wells which are used for the R/O plant. The lifting of the restrictions came as a surprise to them and consequently they were not prepared for the results. When the demand increased, several of the lower-Hawthorn wells were out of service so the pumpage had to come

continuing to come from, the mid-Hawthorn with a reduced amount coming from the lower-Hawthorn.

The city indicated that the membranes for the new R/O plant are scheduled to be delivered May 6 or 7. After installation and testing, the plant should go on-line. This is anticipated to be May 10 at the earliest and May 17 at the latest. Reduced pumpage from the mid-Hawthorn is not anticipated until the new R/O plant is in operation.

**Tequesta:**

Conditions at Tequesta have been stable the past several weeks, and the water levels have been at least a foot higher compared to March. There have been fluctuations of water levels in some of the wells; however, this is a reflection of the pumpage being rotated between the two wellfields.

**Highland Beach:**

Current conditions are good at Highland Beach. During the past two weeks, pumpage has decreased, water levels have increased, and chloride concentrations have been stable.

**Hallandale:**

During April, chloride concentrations continued to increase at monitoring well 1435 from 2450 mg/l on April 4 to 2800 mg/l on April 18. Because this well is about 1000 feet from the main wellfield, staff held a meeting at the District with representatives of the city to solve the matter of an emergency supply. The city has elected to establish the necessary interconnections with the city of North Miami Beach. Analysis of chloride concentrations at well 1435 on May 3 showed a slight decline to 2400 mg/l, however, chloride concentrations at monitoring wells 2294 and 2351A showed slight increases. Salt water intrusion at Hallandale continues to be a serious problem.

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME Naples Coastal Ridge (11-00017)

WEEK ENDING: May 5, 1985

		PUMPAGE (MGD)					
		1985		1984		1981	
		Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb		3.88	4.94	8.54	9.88		
Week Ending:							
Mar	7	4.88	5.36				
	14	3.23	4.64				
	21	1.17	2.83				
	28	.72	1.09				
Apr	4	.58	1.14				
	11	1.06	1.64				
	18	.31	.924				
	28	1.31	1.71				
May	5	1.36	2.29				

USE TREND: Average day pumpage and maximum day pumpage have increased since last week.

WEEKLY WATER LEVELS (ft. NGVD) and Chlorides (mg/L)

		well no. 524		well no. 525		well no. 526		well no. 527	
		WL	Cl	WL	Cl	WL	Cl	WL	Cl
Feb		-.29	2727	.90	130	.96	3079	1.54	4727
Week Ending:									
Mar	9	-1.21	2849	-.10	119	-.04	3031	.57	9940
	16	.63	2643	1.73	118	1.63	3334	1.98	8364
	20	.87	2582	2.24	121	2.13	2727	2.32	4606
	28	1.37	1370	2.40	127	2.29	2909	2.57	3746
Apr	4	1.04	933	2.32	118	2.29	3030	2.24	6825
	11	1.29	2302	2.57	121	2.29	3031	2.48	6425
	18	1.37	1309	2.73	125	2.54	3103	2.57	3031
	28	.12	1491	1.24	124	1.21	3261	1.90	2812
May	5	1.04	2970	2.40	164	2.13	3273	2.15	8910

TREND: Water levels have increased since last week and are approaching the levels observed in mid-April before the recent decline at all monitoring wells, except at well 490 where the water level has decreased. Chloride levels have increased at all monitoring wells except 490 since last week. The increased chloride levels are the result of the earlier low water levels. Chloride levels have decreased in the past few days at the two worst wells, 524 and 527, although they still remain above last week's levels. Chlorides have increased at production wells 3, 21, and 30 since last week.

CONCLUSION: Conditions have deteriorated in the Coastal Ridge Aquifer as a result of low water levels in the past two weeks. However, the water levels have increased and conditions in the aquifer are expected to improve if the higher water levels are maintained.

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME Naples Coastal Ridge

WEEK ENDING: May 5, 1985

PUMPAGE (MGD)

	1985		1984		1981	
	Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb						
Week Ending:						
Mar 9						
16						
23						
30						
month						
Apr 6						
13						
20						
27						
month						

USE TREND:

WEEKLY WATER LEVELS (ft. NGVD) and Chlorides (mg/L)

	well no. 528		well no. 424		well no. 490		well no. 3	
	WL	Cl	WL	Cl	WL	Cl	WL	Cl
Feb	-0.03	35	-3.31	521	1.91	17		303
Week Ending:								
Mar 9	-0.78	128	-4.64	461	.74	18		-
16	.97	36	-4.31	446	1.41	17		329
20	1.39	46	-3.72	474	1.91	18		329
28	1.47	30	-2.80	449	2.91	22		327
month								
Apr 4	2.14	34	-1.47	436	3.33	18		315
11	1.56	32	-2.56	424	2.58	22		255
18	2.47	27	1.11	402	2.47	27		295
28	1.06	30	-1.97	412	2.33	22		318
May 5	1.64	38	-1.22	433	1.41	21		345

TREND:

CONCLUSION:

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME Naples Coastal Ridge (11-00017)

WEEK ENDING: May 5, 1985

PUMPAGE (MGD)

	1985		1984		1981	
	Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb						
Week Ending:						
Mar 9						
16						
23						
30						
Month						
Apr 6						
13						
27						
month						

USE TREND:

WEEKLY WATER LEVELS (ft. NGVD) and Chlorides (mg/L)

	well no. 14		well no. 21		well no. 28		well no. 30	
	WL	Cl	WL	Cl	WL	Cl	WL	Cl
Feb		130		145		136		600
Week Ending:								
Mar 9		-		-		-		-
16		133		145		130		432
21		137		140		131		434
28		132		144		130		428
month								
Apr 4		121		135		124		400
11		121		91		121		396
18		109		67		118		388
28		127		58		127		436
May 5		-		87		124		466

TREND:

CONCLUSION:

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME Naples East Golden Gate (11-00018)

WEEK ENDING: May 5, 1985

		PUMPAGE (MGD)					
		1985		1984		1981	
		Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb				7.507	9.936		
Week Ending:							
Mar	9	14.47	14.68				
	16	16.47	18.00				
	21	16.42	18.00				
	28	14.46	15.51				
	month						
Apr	4	14.45	15.38				
	11	14.31	15.16				
	18	12.79	13.58				
	28	14.77	16.03				
	month						
May	5	15.58	16.20				

USE TREND: Average day pumpage and maximum day pumpage have increased since last week.

WEEKLY WATER LEVELS (ft. NGVD) and Chlorides (mg/L)

		well no. 1		well no. 2		well no. 12		well no.	
		WL	Cl	WL	Cl	WL	Cl	WL	Cl
Feb			405		52		46		
Week Ending:									
Mar	9		-		-		-		
	16		399		52		46		
	21		395		53		48		
	28		399		52		47		
Apr	4		367		50		29		
	11		375		51		46		
	18		348		51		44		
	28		383		53		47		
May	4		385		54		48		

TREND: Chloride levels have not changed significantly at this time.

CONCLUSION: No problem at this time.

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME: Marco Island Utilities

WEEK ENDING: May 5, 1985

PUMPAGE (MGD)

	1985		1984		1981	
	Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb	5.14	6.07	4.22	5.12	3.78	5.71
Week Ending:						
Mar 7	5.90	6.14				
14	5.78	6.14				
21	5.07	6.22				
28	4.88	5.59				
month	5.41	6.22	4.19	5.11	4.33	5.42
Apr 4	4.86	5.50				
11	4.96	5.40				
18	4.07	4.49				
25	4.43	5.04				
month	4.58	5.50	4.79	5.97	5.40	6.26
May 2	5.31	5.77				

USE TREND:

Pumpage has increased from last week

WEEKLY WATER LEVELS (ft. NGVD) and CHLORIDES (mg/L)

	Lake		Point no. 4		well no.		well no.	
	WL	Cl	WL	Cl	WL	Cl	WL	Cl
Feb 28	-0.71	153		177				
Week Ending:								
Mar 6	-1.13	164		172				
14	-1.29	167		162				
21	-1.21	167		157				
28	-1.46	172		167				
Apr 4	-1.38	163		145				
11	-1.71	159		180				
18	-1.29	165		155				
25	-1.13	164		150				
May 2	-1.71	175		162				
5	-1.71	176		166				

TREND:

The lake level has declined 0.58 feet since April 25 and chlorides have increased slightly. Data for the past week indicate a declining lake level and a steady chloride concentration for the lake and Point no. 4.

CONCLUSION:

A potential problem exists.

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME: Cape Coral Mid-Hawthorn Raw water

WEEK ENDING: May 5, 1985

PUMPAGE (MGD)

	1985		1984		1981	
	Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb 28	1.31	2.23				
Week ending:						
Mar 7	1.79	2.21	Mar 1.656	1.946	1.335	1.804
14	2.26	2.70				
21	2.39	2.67				
28	1.13	1.52				
Apr 4	0.50	1.21				
11	0.66	0.72				
18	0.46	0.63				
25	0.71	1.71				
May 5	2.34	2.48				

USE TREND: Pumpage increased from last week.

WEEKLY WATER LEVELS (ft. NGVD) and CHLORIDES (mg/L)

	no.L-1	no.L-5	no.L-7	no.L-13	no.L-15	no. L581
	Cl	Cl	Cl	Cl	CL	WL
Feb 28	200	134	138	102	164	-32.97
Week Ending:						
Mar 9	200	134	138	112	164	
16						
26	200	140	140	100	160	-39.69
29	206	114	136	110	144	-36.60
Apr 5	198	128	148	100	142	-31.45
12	200		140	84	126	-30.76
19	190		130	90	130	-28.03
26	194	122	150	100	150	-29.22
May 3	190	120	140	100	130	-35.60

TREND: Chlorides decreased slightly compared to last week. Water levels continue to drop in monitoring well L-581.

CONCLUSION: Conditions have begun to deteriorate with the increased pumpage from the mid-Hawthorn.

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME Cape Coral - R/O Treated

WEEK ENDING: May 5, 1985

		PUMPAGE (MGD)					
		1985		1984		1981	
		Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb							
Week Ending:							
Mar	7	5.215	5.394				
	14	5.668	5.962				
	21	5.210	5.539				
	28	4.876	5.891				
Apr	4	5.391	6.182				
	11	5.656	6.239				
	18	4.854	5.391				
	25	5.317	5.755				
May	5	4.697	5.670				

USE TREND: Pumpage from the lower Hawthorn has decreased from last week.

WEEKLY WATER LEVELS (ft. NGVD) and CHLORIDES (mg/L)

		well no.		well no.		well no.		well no.	
		WL	Cl	WL	Cl	WL	Cl	WL	Cl
Feb									
Week Ending:									
Mar	9								
	16								
	23			N/A					
	30								
	month								
Apr	6								
	13								
	20								
	27								
	month								

TREND:

CONCLUSION: No apparent problems at this time.

UTILITY NAME Tequesta

WEEK ENDING: May 5, 1985

PUMPAGE (MGD)

		1985		1984		1981	
		Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Wellfield Pumpage							
Mar	7	1.26	1.80				
	14	1.52	1.60				
	21	1.52	1.56				
	28	1.49	1.57				
Apr	4	1.55	1.84				
	11	1.67	1.95				
	18	1.53	1.64				
	25	1.51	1.61				
May	5	1.31	1.61				

USE TREND: Pumpage decreased slightly from last week from the wellfield but water purchased from Jupiter increased from last week.

WEEKLY WATER LEVELS (ft. NGVD) and CHLORIDES (mg/L)

		well no.D1-5		well no.D3-5		well no.1039		well no.1029		well T-5	
		WL	Cl	WL	Cl	WL	Cl	WL	Cl	WL	Cl
Mar	7	1.79	17	1.92	138	1.95		1.73		2.22	
	18	1.14		0.78		0.67		0.55			
	25	1.18		0.85		0.74		0.60		2.21	
	30										
Apr	5	1.02	16	1.58	130	1.36	2750	1.30	50	1.77	38
	11	1.35	20	1.51	142	1.31	7450	1.22	54	1.71	40
	18	1.67	17	2.18	140			destroyed		2.75	36
	25	1.86	16	1.78	170					2.32	37
May	3	1.33	17	1.86	168					2.12	37

TREND: Water levels were basically stable in the wells compared to last week. Some of the wells show fluctuations due to the pumpage being rotated between the two wellfields. Chloride concentrations were stable in all wells.

CONCLUSION: Conditions are relatively stable at this point in time.

Tequesta con't.

WEEKLY WATER LEVELS (ft. NGVD) and CHLORIDES (mg/L)

		well no.1024		well no.1025		well no.872		well no.731		well RD-1	
		WL	Cl	WL	Cl	WL	Cl	WL	Cl	WL	Cl
Mar	7	2.05		2.06		0.77	130	1.57		1.98	58
	18									1.81	
	25									2.21	
	29									1.92	
Apr	5	1.56	36	1.60	34	0.43	126	1.44	26	1.69	160
	11	1.50	34	1.52	34	0.44	128	1.34	22	1.58	87
	18	1.80	28	1.84	32	0.75	124	1.71	19	2.43	123
	25	1.85	27	1.89	33	0.62	94	1.43	17	2.06	73
May	3	1.87	30	1.88	31	0.67	124	1.65	19	2.07	66

		well no. 892		well no. 722		well no.S1-5		well no. T-2	
		WL	Cl	WL	Cl	WL	Cl	WL	Cl
Mar	7	1.3	650	1.74	57	1.68		1.57	140
	18							1.59	
	25							2.07	
	29							1.85	
Apr	5	1.29	880	1.24	54	0.89	44	1.66	260
	11	1.19	975	1.46	60	1.33	52	1.49	246
	18	2.00	900	2.29	56	1.59	42	2.39	255
	25	1.55	1020	1.87	58	1.84	41	2.02	275
May	3	1.60	950	1.94	59	1.20	41	1.88	152

		well no. 595		well no. 746	
		WL	Cl	WL	Cl
Apr	5		11000		
	11	0.16	9500	0.60	96
	18				
	25				
May	2	0.58	11650	1.99	113

UTILITY Highland Beach

WEEK ENDING: May 5, 1985

PUMPAGE (MGD)

	1985		1984		1981	
	Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb	1.459	1.687				
Week Ending:						
Mar 7	1.490	1.575				
14	1.465	1.705				
21	1.457	1.593				
28	1.322	1.436				
Apr 4	1.398	1.565				
11	1.425	1.502				
18	1.244	1.392				
25	1.299	1.398				
May 5	1.250	1.406				

USE TREND: Pumpage has decreased compared to last week.

WEEKLY WATER LEVELS (ft. NGVD) and CHLORIDES (mg/L)

	well no.947		well no.895		well no.948		well no.	
	WL	Cl	WL	Cl	WL	Cl	WL	Cl
Feb							5400	
Week Ending:								
Mar 9	0.4	18	0.5	20				
16	0.4	28	0.5	26				
23	0.5	28	0.6	30				
28	0.52	20	0.5	17			5100	
Apr 5	1.82	58	1.73	32	0.83			
11	1.72	47	1.73	30	0.75		5300	
18	2.36		2.47		1.30			
25	2.47	30	2.37	30	1.46		5450	
May 2	2.90	31	2.93	29	1.96		5400	

TREND: Water levels increased from last week and chlorides remained stable.

CONCLUSION: No apparent problems at this time.

WEEKLY PUMPAGE, WATER LEVEL, AND CHLORIDE CONCENTRATION SUMMARY

UTILITY NAME Hallandale (06-00138)

WEEK ENDING: May 5, 1985

		PUMPAGE (MGD)					
		1985		1984		1981	
		Av Day	Max Day	Av Day	Max Day	Av Day	Max Day
Feb		6.62	7.38	5.98	6.65	6.83	7.39
Week Ending:							
Mar	7	6.74	7.36				
	14	6.19	6.39				
	21	6.17	7.34				
	28	5.83	6.28				
Apr	4	5.87	6.27				
	11	5.86	6.14				
	18	5.06	5.93				
	28	5.42	5.93				
May	5	5.26	6.00				

USE TREND: Average day pumpage has decreased and maximum day pumpage has increased slightly since last week.

WEEKLY WATER LEVELS (ft. NGVD) and CHLORIDES (mg/L)

		well no. 1435		well no. 2294		well no. 1473		well no. 2351A	
		WL	Cl	WL	Cl	WL	Cl	WL	Cl
		(DTW)		(DTW)		(NGVD)			
Feb			2300		98				6700
Week Ending:									
Mar	7		-		-				
	16		2350		100				7000
	21		2350		98				
	28		2450		100				
Apr	4		2450						
	8	11.61	2500	9.45	96				
	18	10.59	2800	8.50	70	1.38	40		
	27								
May	3	11.08	2400	9.98	105	.94	38		7100

TREND: Chlorides have increased at wells 2351A and 2294 and decreased at well 1435. The decrease at 1435 is probably the result of rain between 4/18 and 5/3 which could have diluted the chloride concentrations at the toe and also could have produced a temporary increase in the freshwater gradient toward the east, thereby, temporarily moving the toe of the salt water front back. The increases at 2294 and 2351A indicate that saline intrusion remains a problem.

CONCLUSION: Saline intrusion remains a problem at Hallandale.

SUMMARY OF WATER USE

THE TOTAL AVERAGE PERCENT FOR ALL UTILITIES SUMMARIZED

March 15-28, 1985 to March 1-14, 1985	-11.842%
March 15-28, 1985 to March 15-28, 1984	+8.917%
March 15-28, 1985 to March 15-28, 1981	+20.592%
March 15-April 3, 1985 to March 1-14, 1985	-10.423%
March 15-April 18, 1985 to March 1-14, 1985	-12.924%

THE AVERAGE PERCENT FOR THE FIVE LARGEST USERS

March 15-28, 1985 to March 1-14, 1985	-9.3127%
March 15-28, 1985 to March 15-28, 1984	+6.7416%
March 15-28, 1985 to March 15-28, 1981	+24.9123%
March 15-April 3, 1985 to March 1-14, 1985	-8.640%
March 15-April 18, 1985 to March 1-14, 1985	-11.324%

THE NUMBER OF UTILITIES SUMMARIZED IS 49.

The number of utilities that increased average day pumpage in comparing March 15-28, 1985 to March 1-14, 1985.

$$2/49 = 4.082\%$$

The number of utilities that increased average day pumpage in comparing March 15-28, 1985 to March 15-28, 1984.

$$35/49 = 71.429\%$$

The number of utilities that increased average day pumpage in comparing March 15-28, 1985 to March 15-28, 1981.

$$28/46 = 60.870\%$$

The number of utilities that increased average day pumpage in comparing March 15-April 3, 1985 to March 1-14, 1985.

$$3/49 = 6.122\%$$

The number of utilities that increased average day pumpage in comparing March 15-April 18, 1985 to March 1-14, 1985.

$$2/49 = 4.082\%$$

THE AVERAGE DAY PUMPAGE OF THE FIVE LARGEST UTILITIES.

MARCH 15-APRIL 18  
1985

13-00017	
13-00018	
M.D.W.A.S.A (T)	264.817
06-00123	
Fort Lauderdale (R)	47.941
50-00367	
Boca Raton (R)	31.965
50-00615	
West Palm Beach (R)	22.883
13-00060	
North Miami Beach (R)	<u>21.606</u>
TOTAL	389.212 MGD

THE PERCENT PUMPAGE OF THE FIVE LARGEST UTILITIES IN COMPARISON  
WITH ALL OTHERS.

MARCH 15-28, 1985

397.626/654.485 = 60.75%

MARCH 15-APRIL 3, 1985

395.020/658.933 = 59.95%

MARCH 15-APRIL 18, 1985

389.212/647.327 = 60.13%

SUMMARY OF WATER USE

THE TOTAL OF ALL THE SURVEYED UTILITIES AVERAGE DAY SHOWING PERCENT INCREASED OR DECREASE.

March 15-28, 1985 to March 1-14, 1985

$$653.914/721.559 = -9.375\%$$

March 15-28, 1985 to March 15-28, 1984

$$654.485/620.345 = +5.503\%$$

March 15-28, 1985 to March 15-28, 1981

$$654.485/595.129 = +9.974\%$$

March 15-April 3, 1985 to March 1-14, 1985

$$658.933/721.559 = -8.679\%$$

March 15-April 18, 1985 to March 1-14, 1985

$$647.327/721.559 = -10.288\%$$

THE QUOTIENT WAS SUBTRACTED FROM 100% TO GET PERCENT INCREASED OR DECREASED.

SUMMARY OF WATER USE

UTILITY	1		2		3		4	
	MGD MARCH 15-28 1985	MGD MARCH 1-14 1985	MGD MARCH 15-28 1984	PER CENT INCREASE OR DECREASE	MGD MARCH 15-28 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 18 1985	PER CENT INCREASE OR DECREASE
BROWARD COUNTY								
06-00038 City of Hollywood (R)	20.027	21.885	20.903	-4.19	20.094	-8.18	19.849	-9.30
06-00070 Pompano Beach (R)	19.329	21.711	19.141	+1.00	20.068	-7.6	19.634	-9.57
06-00071 Tamarac (R)	5.733	6.134	5.397	+6.23	5.901	-3.8	5.552	-9.49
06-00082 Deerfield Beach (East and West) (R)	8.496	9.565	8.616	-1.40	8.828	-7.71	8.629	-9.79
06-00101 Hillsboro Beach (R)	.995	1.090	1.041	-4.42	1.016	-6.79	0.971	-10.9
06-00120 City of Sunrise: Plant 1 (R) Plant 2 (R)	7.628 2.749	7.828 2.336	6.956 2.638	+9.66 +4.21	7.835 2.771	+1.28 +18.63	7.830 2.664	+0.03 +14.04
06-00123 Fort Lauderdale (R)	47.332	53.507	46.674	-1.53	49.121	-8.2	47.941	-10.40
06-00134 City of Davie (R)	2.251	2.476	2.005	+12.27	2.294	-7.35	2.213	-10.6
06-00135 Pembroke Pines (R)	3.880	4.407	4.906	-20.91	3.966	-10.00	3.880	-11.96
06-00138 Hallandale (R)	5.999	6.468	6.155	-2.53	5.972	-7.67	5.759	-10.96

SUMMARY OF WATER USE

UTILITY	1		2		3		4	
	MGD MARCH 15-28 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-28 1984	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 3 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 18 1985	PER CENT INCREASE OR DECREASE
<b>BROWARD COUNTY CONTINUED</b>								
Broward County System:								
06-00145								
06-00147 (3A, 3B, 3C) (R)	6.777	-7.86	6.794	-0.25	7.056	-4.07	6.850	-6.87
06-00142 (2A) (R)	12.599	-10.42	11.518	+9.40	12.866	-8.52	12.731	-9.48
06-00170 Ferncrest (R)	.593	-17.98	.642	-7.63	.605	-16.32	.585	-19.06
06-00187 Danfa (R)	1.945	-13.25	1.873	+3.80	1.992	-11.15	1.845	-17.71
<b>COLLIER COUNTY</b>								
11-00015 The Glades (T)	.306	-17.07	.322	-4.97	.301	-18.43	.298	-19.24
Naples:								
11-00017								
11-00018 Coastal ridge Golden Gate (R)	16.386	-16.09	16.278	+0.66	16.137	-17.36	15.435	-20.96
11-00080 Marco Island (R)	4.979	-14.73	4.178	+19.17	4.952	-15.19	4.741	-18.80
<b>DADE COUNTY</b>								
13-00005 FKAA (T)	11.385	-3.26	10.131	+12.38	11.315	-3.86	11.101	-5.68

SUMMARY OF WATER USE

UTILITY	1		2		3		4	
	MGD MARCH 15-28 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-28 1984	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 3 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 18 1985	PER CENT INCREASE OR DECREASE
DADE COUNTY CONTINUED								
M.D.W.A.S.A.:								
13-00017 (Alexander Orr) (T)	129.714	-4.27	119.571	+8.50	129.200	-4.65	128.457	-5.20
13-00018 (Hialeah/Miami Springs) (Preston/Northwest) (T)	138.443	-9.21	131.036	+5.70	138.265	-9.33	136.360	-10.58
13-00059 North Miami (Winson) (R)	7.632	-3.92	6.398	+19.30	7.648	-3.71	7.631	-3.93
13-00060 North Miami Beach (Sunny Isles) (Oeffler (Norwood)) (R)	22.091	-6.96	24.716	-10.62	22.048	-7.14	21.606	-9.00
13-00068 Homestead AFB (R)	2.624	-19.4	2.861	-8.30	2.582	-20.7	2.507	-23.00
GLADES COUNTY								
22-00045 Moorehaven (T)	.234	-13.65	.231	+1.30	.234	-13.65	.225	-16.97
HENRY COUNTY								
26-00105 Labelle (R)	.371	-1.33	.365	+1.60	.380	+1.10	.378	+0.50
The following is Labelle's average day pumpage minus the water they sold to Port Labelle starting on 3/22/85.								
Labelle (R)	.336	-10.64	N/A	N/A	.346	-7.98	.306	-18.62

SUMMARY OF WATER USE

4

UTILITY	1		2		3		4	
	MGD MARCH 15-28 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-28 1984	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 3 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 18 1985	PER CENT INCREASE OR DECREASE

LEE COUNTY

36-00003 Lee County (R)	6.584	-15.83	8.638	-23.78	6.516	-16.71	6.428	-17.83
36-00035 Ft. Myers (R)	5.924	-8.95	5.705	+3.89	5.880	-9.62	5.829	-10.41
36-00045 Greater Pine Island (R)	.966	-19.70	.706	+36.83	.918	-23.69	.858	-28.68
36-00046 Cape Coral (T)	6.548	-12.3	5.241	+24.9	6.333	-15.2	6.137	-17.8
Florida Cities:								
36-00150 Green Meadows (R)	4.353	-7.44	4.550	-4.33	4.407	-6.3	4.280	-9.00
36-00150 Cypress Lakes (R)	.704	+3.38	.742	-5.12	.747	+9.66	0.757	+11.20
36-00152 N. Cape Coral (R)	.433	+0.93	.398	+8.79	.474	+10.49	0.438	+2.10
36-00152 Waterway Estates (R)	.608	-14.25	.624	-2.56	.582	-17.9	0.594	-16.22

MARTIN COUNTY

43-00053 City of Stuart (R)	3.24	-10.52	3.079	+5.23	3.30	-8.86	3.275	-9.56
43-00066 Hydratech (T)	.603	-11.45	.416	+44.95	.618	-9.25	.608	-10.72
43-00086 Miles Grant (R)	.180	-3.23	.164	+9.76	.179	-3.77	.177	-4.84

SUMMARY OF WATER USE

UTILITY	1		2		3		4	
	MGD MARCH 15-28 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-28 1984	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 3 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 18 1985	PER CENT INCREASE OR DECREASE
<b>MARTIN COUNTY CONTINUED</b>								
43-00089 Intracoastal (T)	.834	-14.98	.601	+38.77	.880	-10.30	.862	-12.13
43-00102 Martin County (R)	1.401	-15.70	1.217	+15.12	1.402	-15.64	1.331	-19.92
43-00169 Martin Downs (R)	.244	+4.27	.161	+51.55	.240	+2.57	.225	-3.85
<b>OKEECHOBEE COUNTY</b>								
47-00004 Okeechobee (R)	2.044	-14.7	1.836	+11.3	2.064	-13.8	1.985	-17.15
<b>PALM BEACH COUNTY</b>								
50-00010 Jupiter (R)	5.570	-17.5	4.948	+12.6	5.733	-15.2	5.560	-17.78
50-00046 Tequesta (R)	2.464	-18.1	1.988	+23.9	2.453	-18.5	2.433	-19.14
<b>Palm Beach County:</b>								
50-00135 50-00584 System 1,2,8 (R)	9.449	-10.30	7.116	+32.80	9.339	-11.34	9.075	-13.84
50-00511 System 3 (R)	2.387	-2.41	2.124	+12.40	2.416	-1.23	2.437	-0.37
50-00401 System 9 (R)	6.789	-11.83	5.606	+21.10	7.026	-8.75	6.987	-9.26

SUMMARY OF WATER USE

UTILITY	1		2		3		4	
	MGD MARCH 15-28 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-28 1984	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 3 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 18 1985	PER CENT INCREASE OR DECREASE
PALM BEACH COUNTY CONTINUED								
50-00177 Delray Beach (R)	9.774	-24.07	11.298	-13.49	11.393	-11.50	10.885	-15.44
50-00234 Lake Worth Utilities (R)	6.473	-17.26	6.295	+2.83	6.497	-16.95	6.330	-19.08
50-00346 Highland Beach (R)	1.382	-6.56	1.203	+14.88	1.392	-5.88	1.365	-7.71
50-00365 Seacoast (R)	11.438	-10.8	9.719	+17.7	11.354	-11.4	11.145	-13.07
50-00367 Boca Raton (R)	33.021	-10.2	27.414	+20.5	32.908	-10.6	31.965	-13.12
50-00460 Riviera Beach (R)	6.889	-4.910	6.752	+2.00	6.938	-4.24	6.918	-4.51
50-00449 Boynton Beach (R)	9.181	-12.5	7.959	+15.0	9.181	-10.2	9.021	-13.99
50-00506 Manalapan (T)	.797	-14.85	.796	+0.13	.858	-8.33	.846	-9.62
50-00615 West Palm Beach (R)	23.255	-11.13	21.577	+7.80	23.478	-10.27	22.883	-12.55

**SUMMARY OF WATER USE**

UTILITY	1		2		3		4	
	MGD MARCH 15-28 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-28 1984	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 3 1985	PER CENT INCREASE OR DECREASE	MGD MARCH 15-APRIL 18 1985	PER CENT INCREASE OR DECREASE
ST. LUCIE COUNTY								
56-00085 Fort Pierce (R)	7.675	-20.75	8.078	-5.00	7.761	-19.86	7.737	-20.11
56-00142 Port St. Lucie (R)	<u>2.213</u>	-16.68	<u>2.048</u>	+8.06	<u>2.219</u>	-16.43	<u>2.284</u>	-14.01
TOTAL OF ALL THE UTILITIES AVERAGE DAY SURVEYED (MGD)	653.914		620.345		658.933		647.327	

- 1 MARCH 15-28, 1985 AVERAGE DAY DIVIDED BY MARCH 1-14, 1985 AVERAGE DAY, QUOTIENT SUBTRACTED FROM 100% TO GET PERCENT INCREASED OR DECREASED.
- 2 MARCH 15-28, 1985 AVERAGE DAY DIVIDED BY MARCH 15-28, 1984 AVERAGE DAY, QUOTIENT SUBTRACTED FROM 100% TO GET PERCENT INCREASED OR DECREASED.
- 3 MARCH 15-APRIL 3, 1985 AVERAGE DAY DIVIDED BY MARCH 1-14, 1985 AVERAGE DAY, QUOTIENT SUBTRACTED FROM 100% TO GET PERCENT INCREASED OR DECREASED.
- 4 MARCH 15-APRIL 18, 1985 AVERAGE DAY DIVIDED BY MARCH 1-14, 1985 AVERAGE DAY, QUOTIENT SUBTRACTED FROM 100% TO GET PERCENT INCREASED OR DECREASED.

(R) = RAW (T) = TREATED

**B. Golf Course Irrigation Monitoring Program**

During the period of March 22 through April 18, the nine major golf courses drawing water from the Coastal Ridge Aquifer achieved a 33% reduction in usage compared to the March 1-14 base period. In the week subsequent to the lifting of the water shortage declaration, the average daily water use for the nine permits returned to a level on a par with the base period.

Staff visited the area on May 2 in an attempt to ascertain the cause of lowered water levels in coastal monitor wells. Staff also contacted the area golf courses and agricultural operations and examined water use practices and schedules. Those golf courses that had greatly increased irrigation since the lifting of restrictions were admonished to attempt compliance with Phase I use requirements in order to protect the aquifer.

Pumpage reports received since those contacts have demonstrated a cooperative response and subsequent reduction of 36% to 67% of the higher post-restriction usage.

Staff will remain present in the area in order to assure continued water conservation efforts.

**C. Agricultural Water Use**

Staff contacted Reggie Brown, Collier County Extension Director, concerning agricultural well water use in the Coastal Ridge Aquifer monitoring area, with the following results:

Water use by agricultural users had been reduced 40-50% by May 3, 1985 compared to water usage in April and prior to April.

Some crops had been completely harvested, and harvesting for most of the crops is to be completed by the end of May. By the end of May water demands should be reduced by 75% from the April demands.

Citrus and nurseries will continue to be irrigated.

A quick survey of the area indicates that crops are being harvested or have been harvested.

A trip is planned to Collier County to survey the well pumpage which may have an influence in monitoring well 424.

**D. Water Shortage Enforcement**

Office of Counsel is continuing to pursue adoption of the model water shortage ordinance by counties and municipalities throughout the District. A follow-up letter is planned to counties and municipalities which have not yet adopted the model ordinance, urging them to do so in anticipation of future water shortages. The model ordinance is also to be revised to include a provision authorizing county and city managers to declare water restrictions when water is unavailable due to a system failure, but still applying the same restrictions as the District. The ordinance would then be complete as to all contingencies which might arise and more capable of acting as a complete substitute for existing ordinances, some of which deal with system based shortages. Office of Counsel will also be preparing a set of recommendations as to revisions of the Water Shortage plan, Chapter 40E-21, Fla. Admin. Code, based upon experience gained during the current water shortage. The goal will be to achieve better implementation and administration.

In terms of local enforcement efforts, the following table summarizes tickets and warnings issued by local agencies in the Phase 1 area during the water shortage:

<u>Local Government</u>	<u>Warnings</u>	<u>Tickets</u>
Naples	93	142
Collier County	35	-
Ft. Myers	25	-
Cape Coral	161	83
Lee County	47	uncounted; excessive number
	<u>361</u>	<u>225+</u>

#### E. Variance Requests

Subsequent to the last report, eleven additional variance requests were received. They consisted of five individual residences requesting different watering hours, two golf courses requesting front nine/back nine variations, three condominiums requesting extended hours or odd/even variations, and one landscape contractor requesting temporary "new landscape" rules for verticut lawns.

Prior to completion of review, the mandatory water shortage restrictions were lifted; therefore no recommendations were made.

Overall, the primary complaints with the water shortage restrictions based on received variance requests were with the hours during which individual lawn watering was permitted, the inability of some residential developments irrigation systems to complete the watering cycle during the allotted hours, and the inability of some golf courses to comply specifically with a front nine/back nine irrigation regime.

#### F. External Coordination

Public, Media, and Other Interest Group Communication. The public and the media have been provided with frequent updates on water shortage conditions. When the water restriction measures were rescinded on April 24, a media briefing was held at District headquarters and a press release was issued (see Appendix III). The media maintains an active interest in the situation and press coverage has been good.

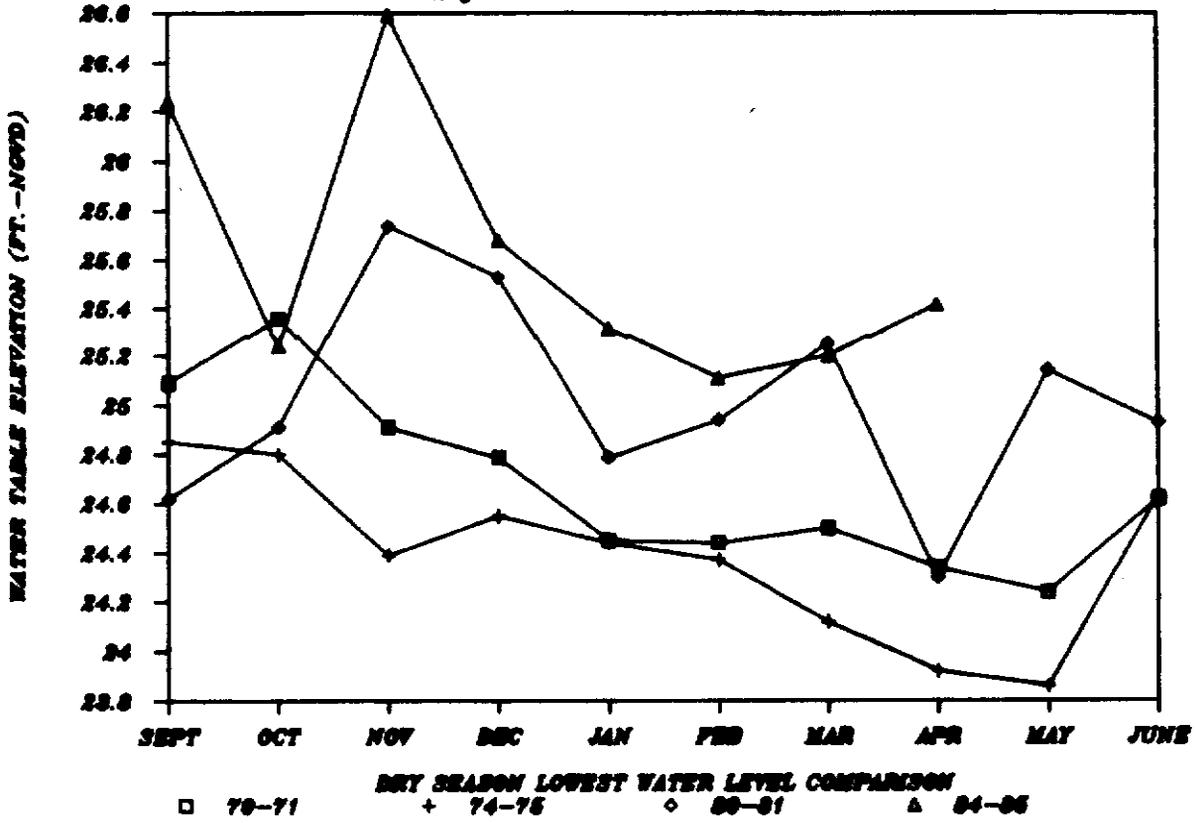
Another press release was issued on May 2 alerting the media to sharp increases in water consumption in Lee and Collier Counties (see Appendix III). Key media personnel were contacted to enlist their aid in helping to increase public awareness quickly. Major feature articles appeared emphasizing the need for renewed water conservation efforts. The staff continues to distribute an in-house summary of the district's water shortage meetings which are now held on an as-needed basis.

Local Government/Utility Customers Coordination. Water shortage "teams", specifically organized to meet the critical issues faced by local governments, proved their usefulness recently in Lee and Collier Counties. In conjunction with the District's May 2 media alert, a water shortage team was dispatched to Fort Myers to give radio and television interviews. Meanwhile, in Naples, staff conferred with major water users (golf courses). This effort resulted in wide media coverage on the same day and significantly boosted the District's water conservation message in the area.

**APPENDIX I**  
**GROUNDWATER MONITORING WELL GRAPHS**

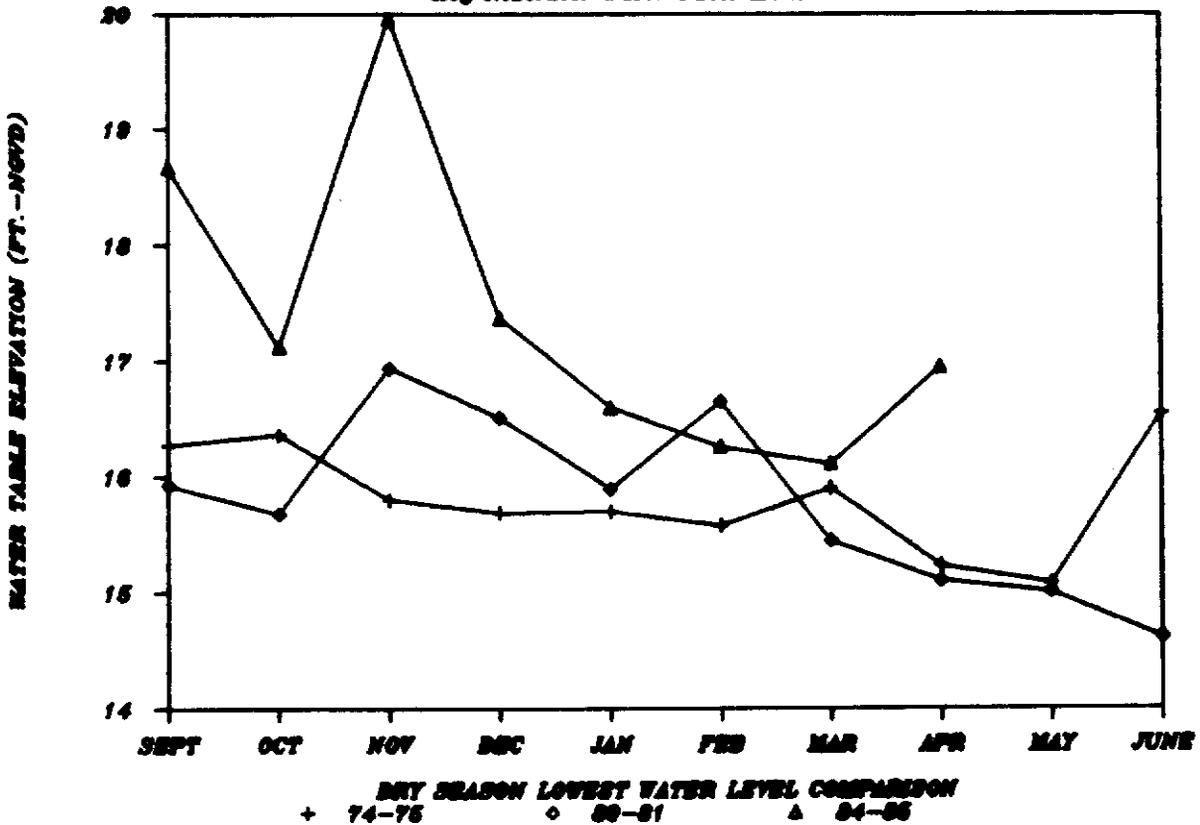
### ST LUCIE COUNTY STL42

*Key Indicator Water Table Monitor Well*



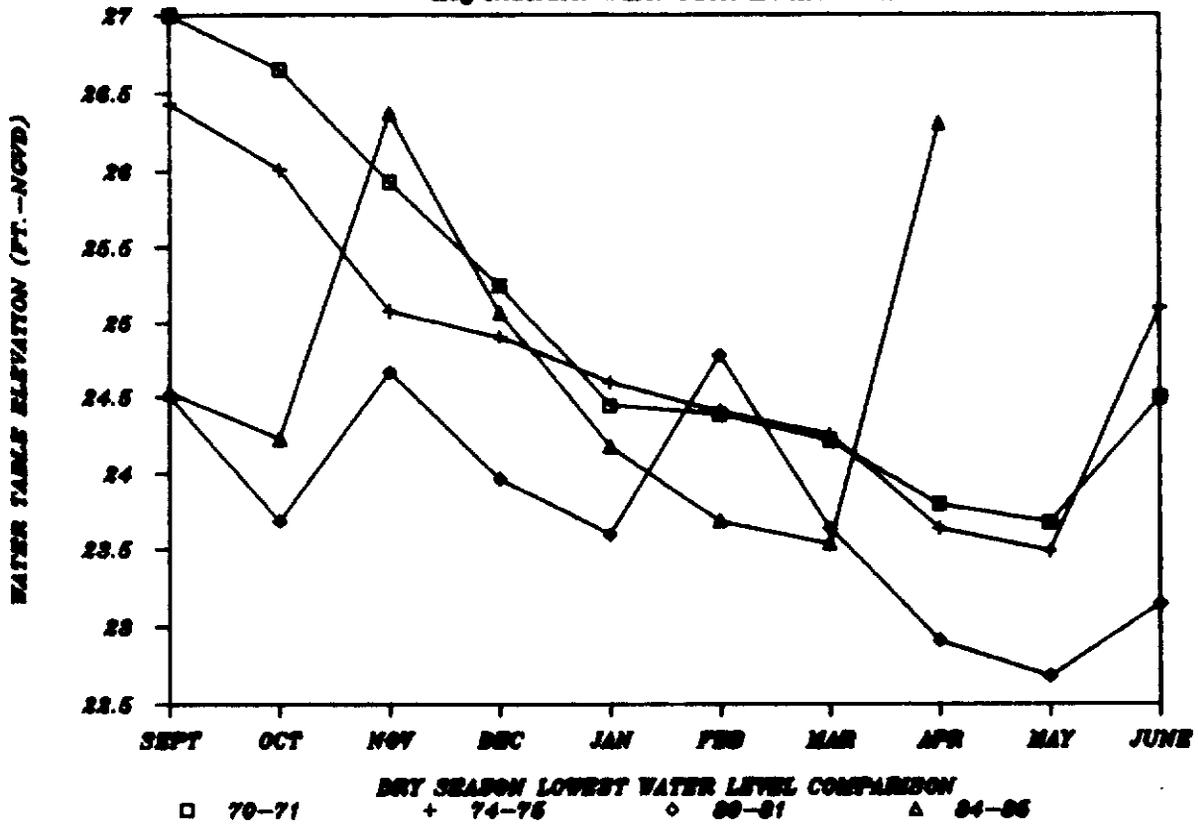
### ST LUCIE COUNTY STL125

*Key Indicator Water Table Monitor Well*



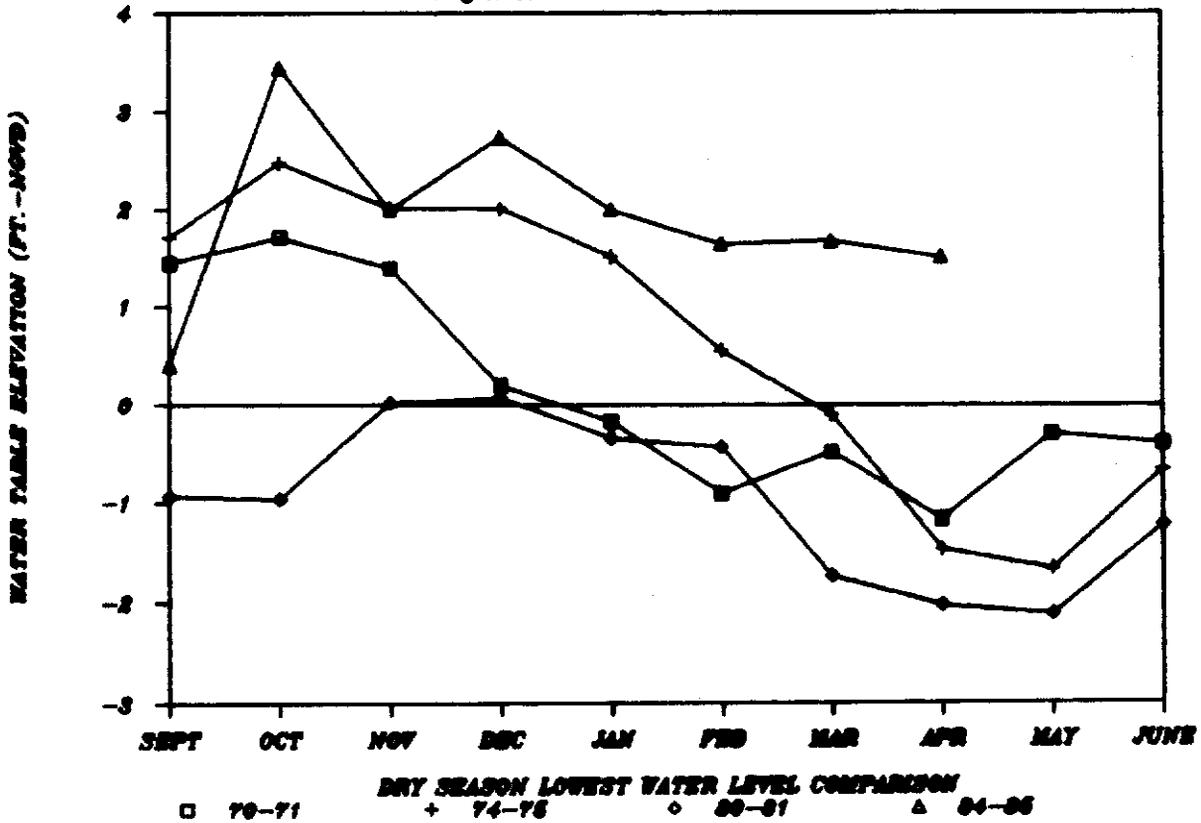
### ST LUCIE COUNTY STL41

Dry Indicator Water Table Monitor Well



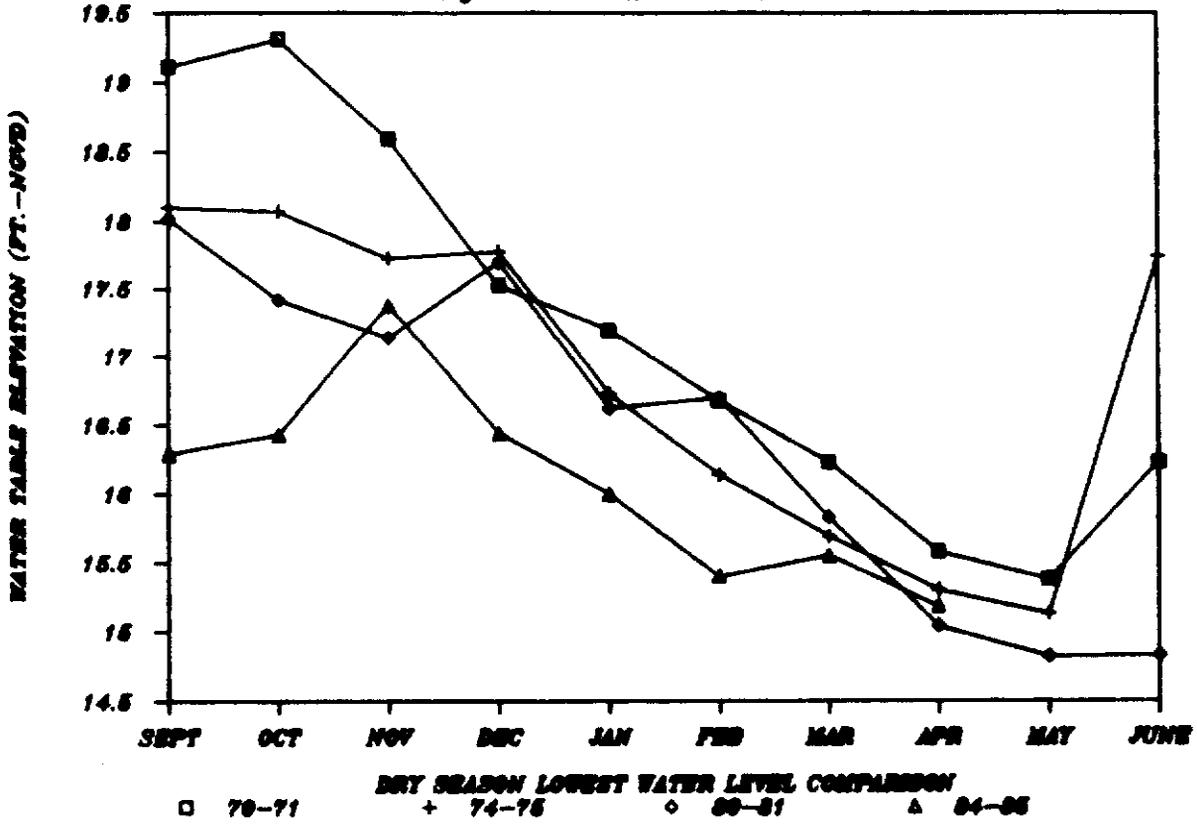
### MARTIN COUNTY M147

Dry Indicator Water Table Monitor Well



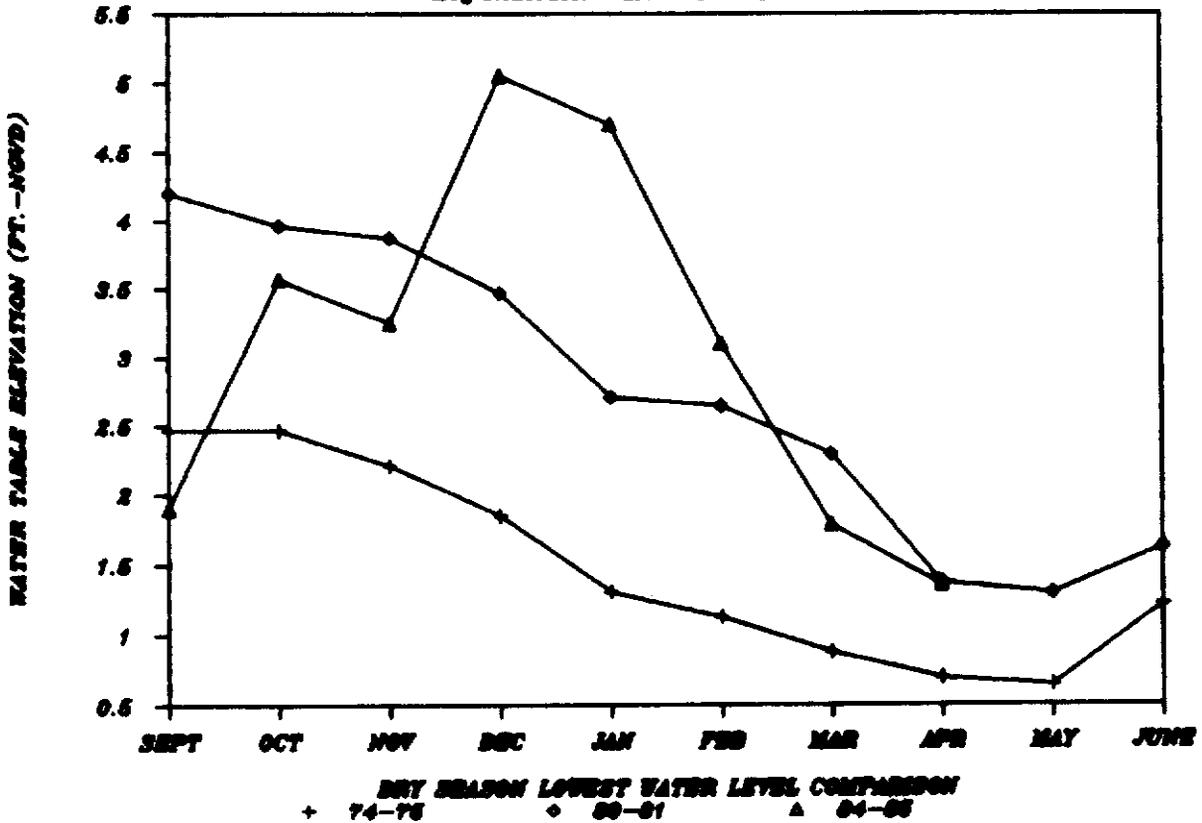
### MARTIN COUNTY M140

Key Indicator Water Table Monitor Well



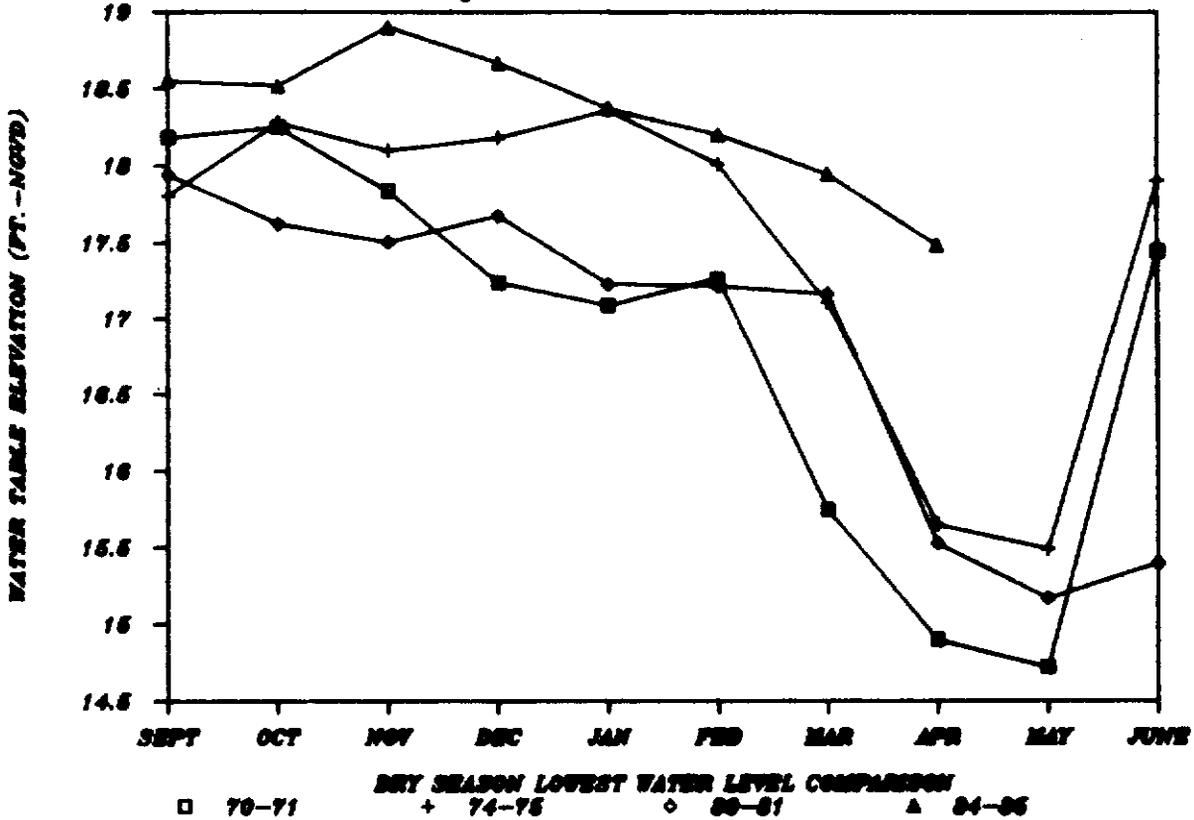
### PALM BEACH COUNTY PB565

Key Indicator Water Table Monitor Well



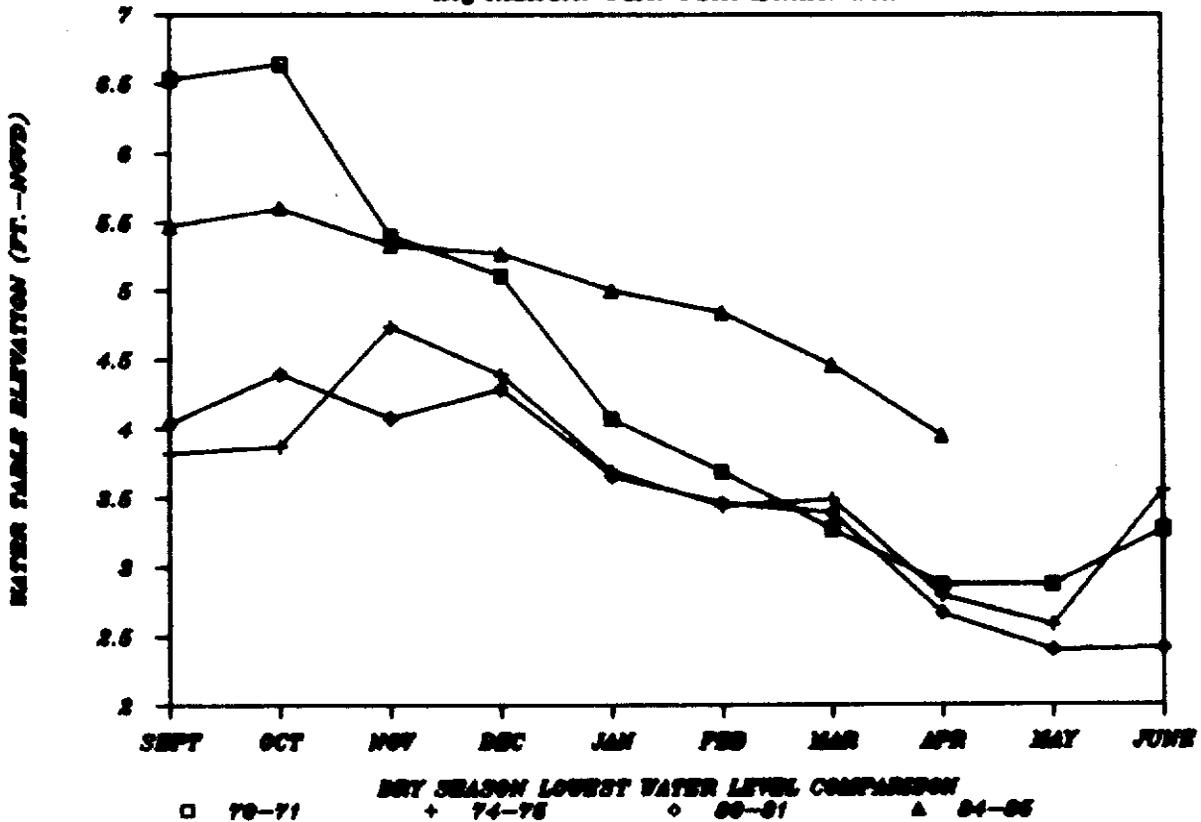
PALM BEACH COUNTY PB109

Dry Indicator Water Table Monitor Well



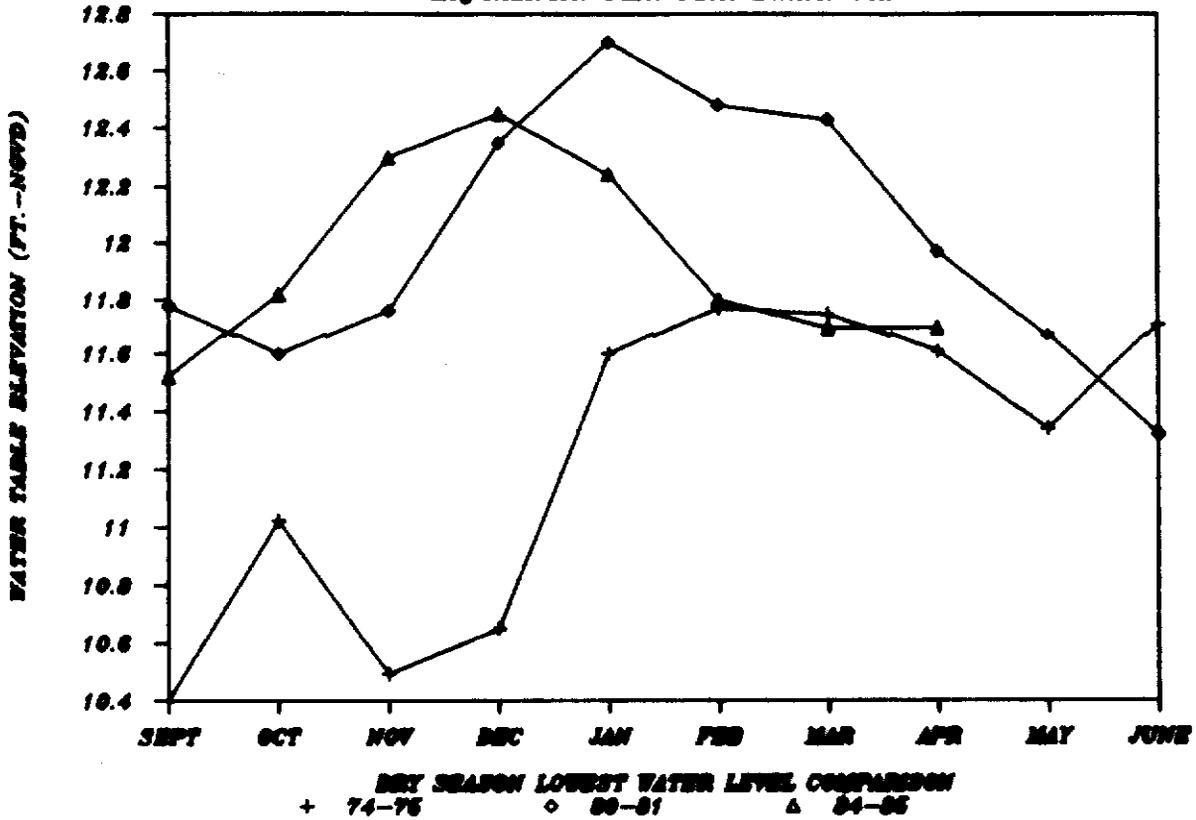
PALM BEACH COUNTY PB88

Dry Indicator Water Table Monitor Well



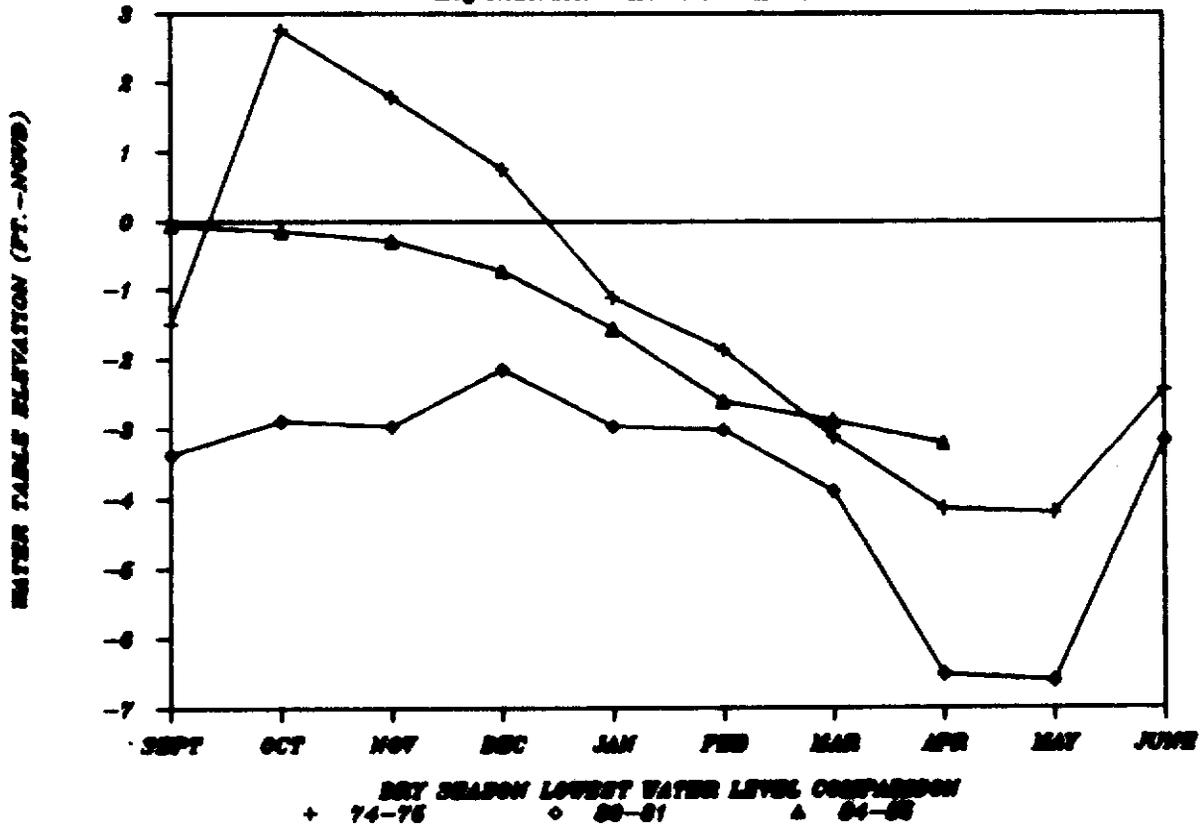
### BROWARD COUNTY G1213

*Key Indicator Water Table Monitor Well*



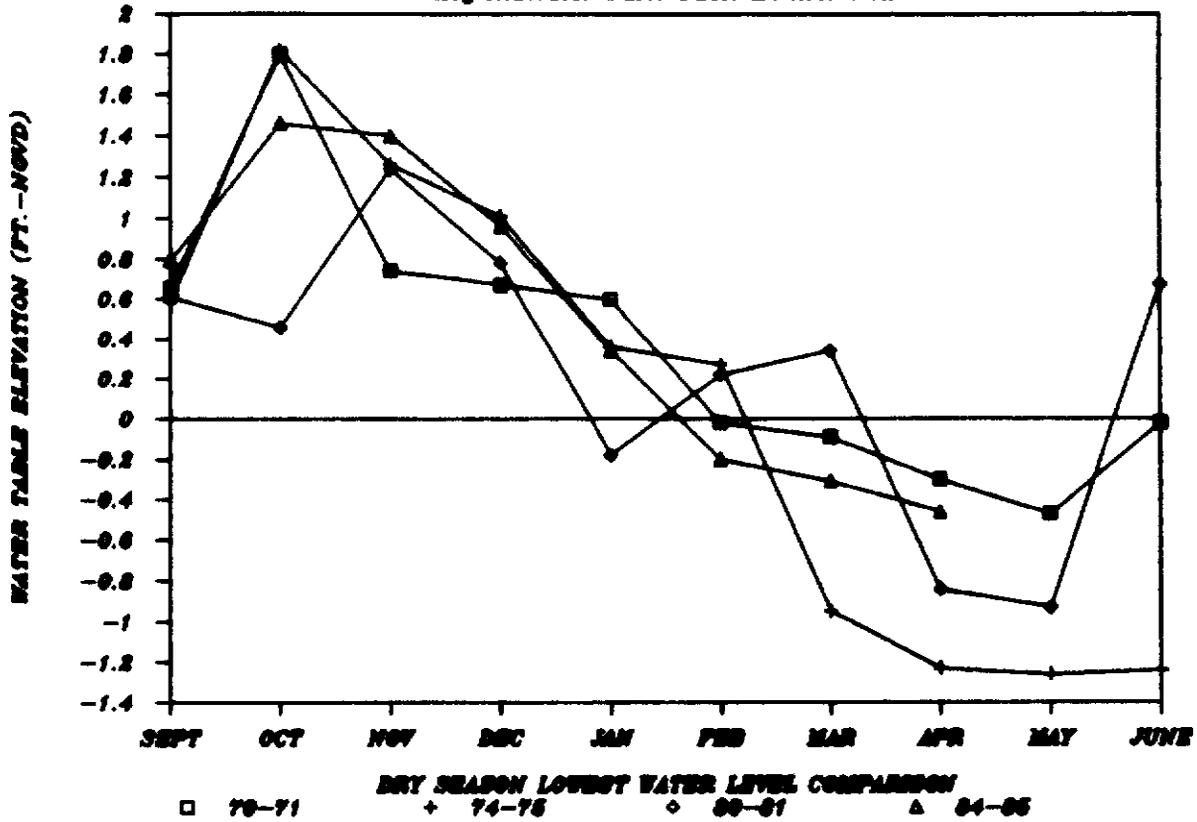
### BROWARD COUNTY G853

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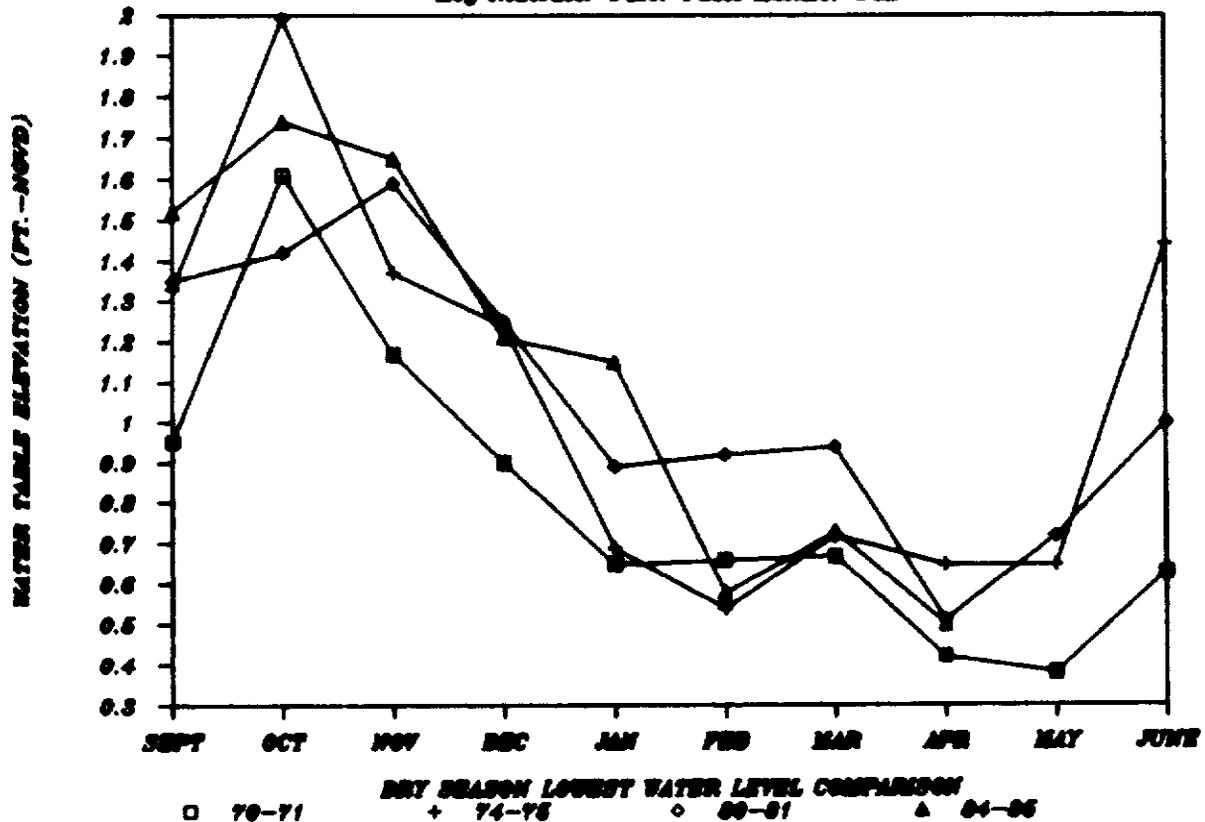
### BROWARD COUNTY S329 (GOLF COURSE)

*Key Indicator Water Table Monitor Well*



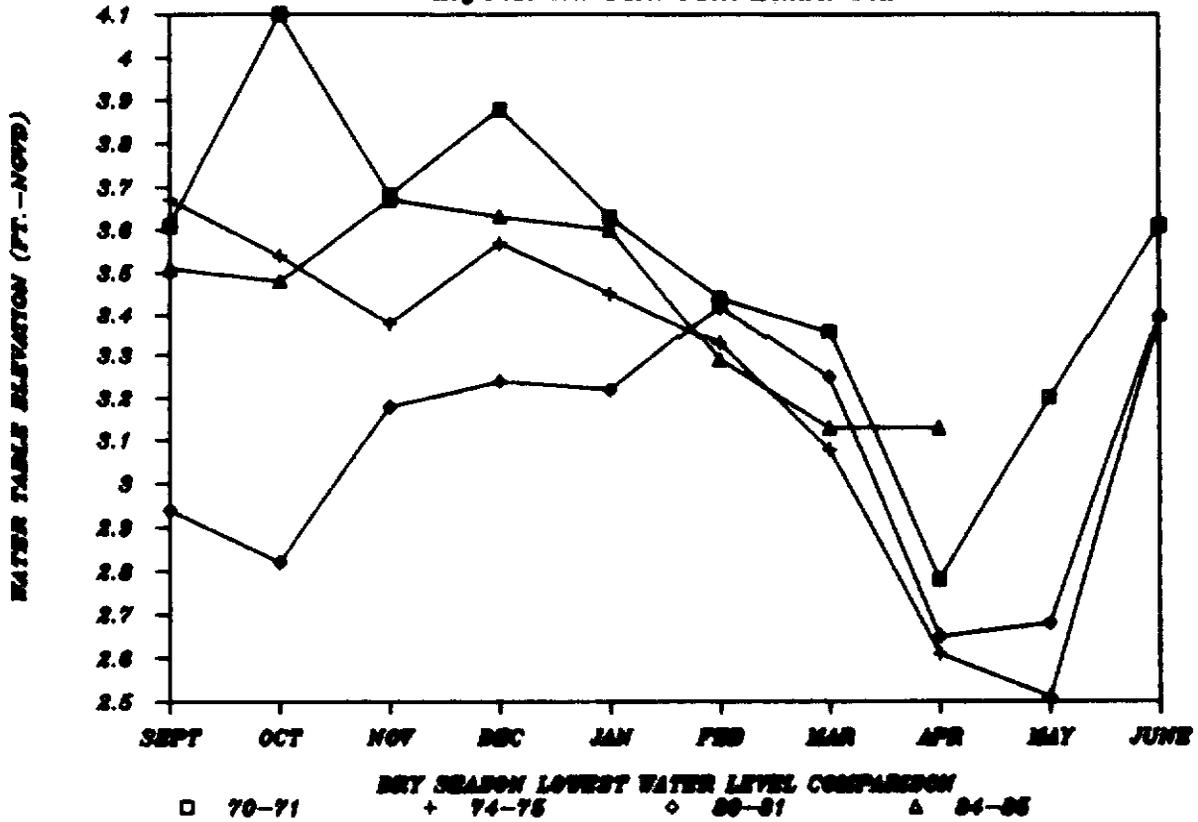
### BROWARD COUNTY G561

*Key Indicator Water Table Monitor Well*



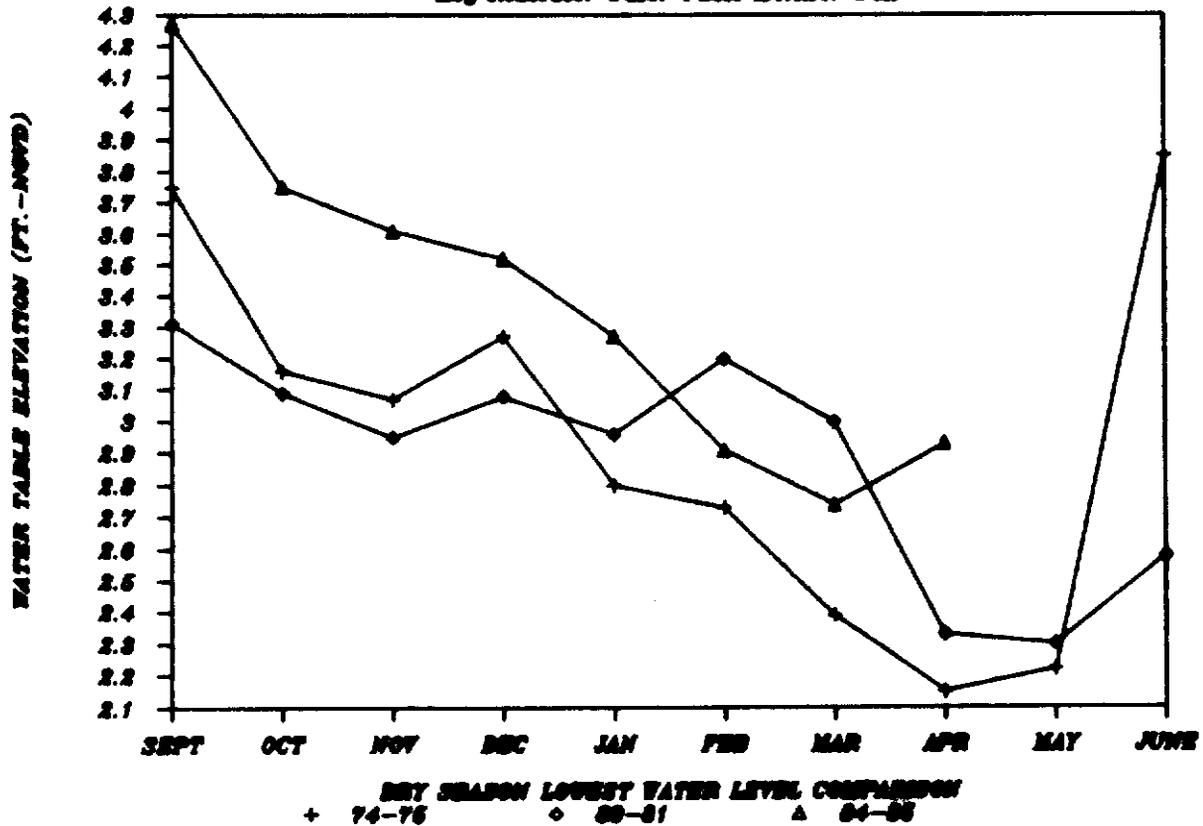
### BROWARD COUNTY G617

*Dry Indicator Water Table Monitor Well*



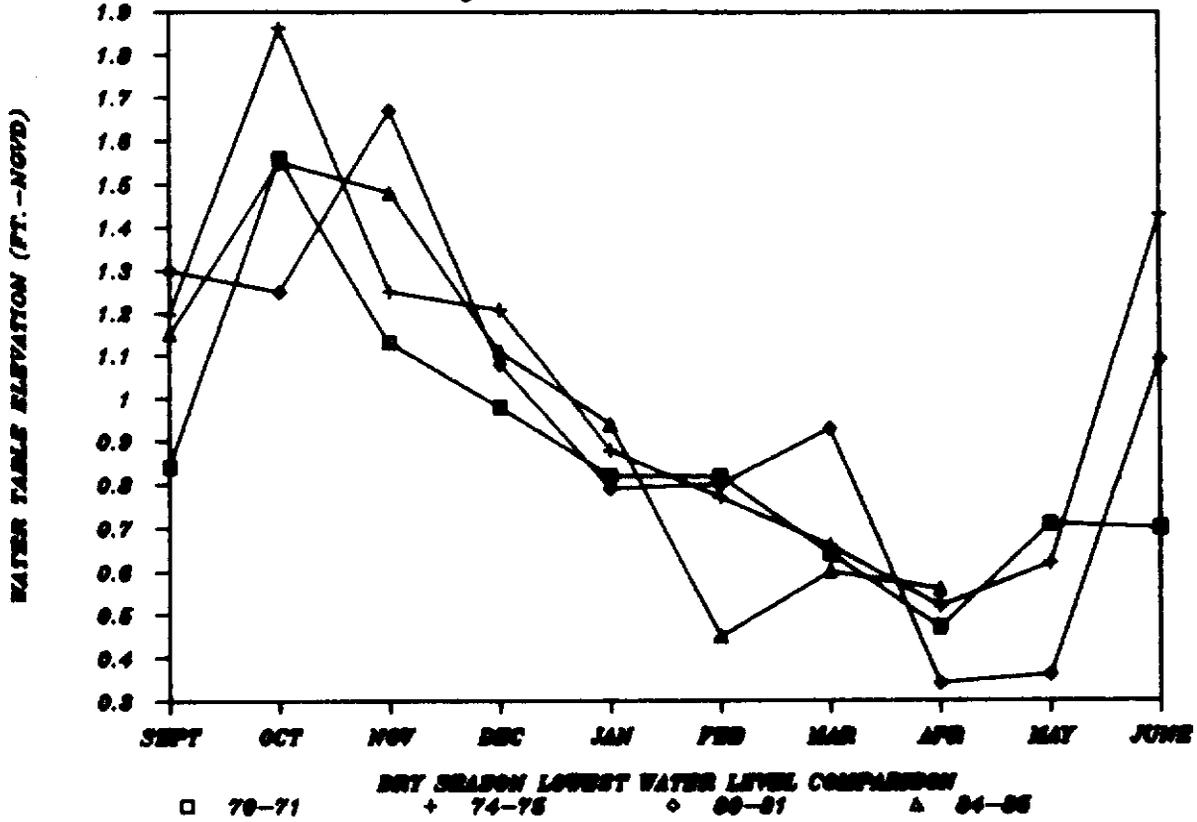
### BROWARD COUNTY G1222

*Dry Indicator Water Table Monitor Well*



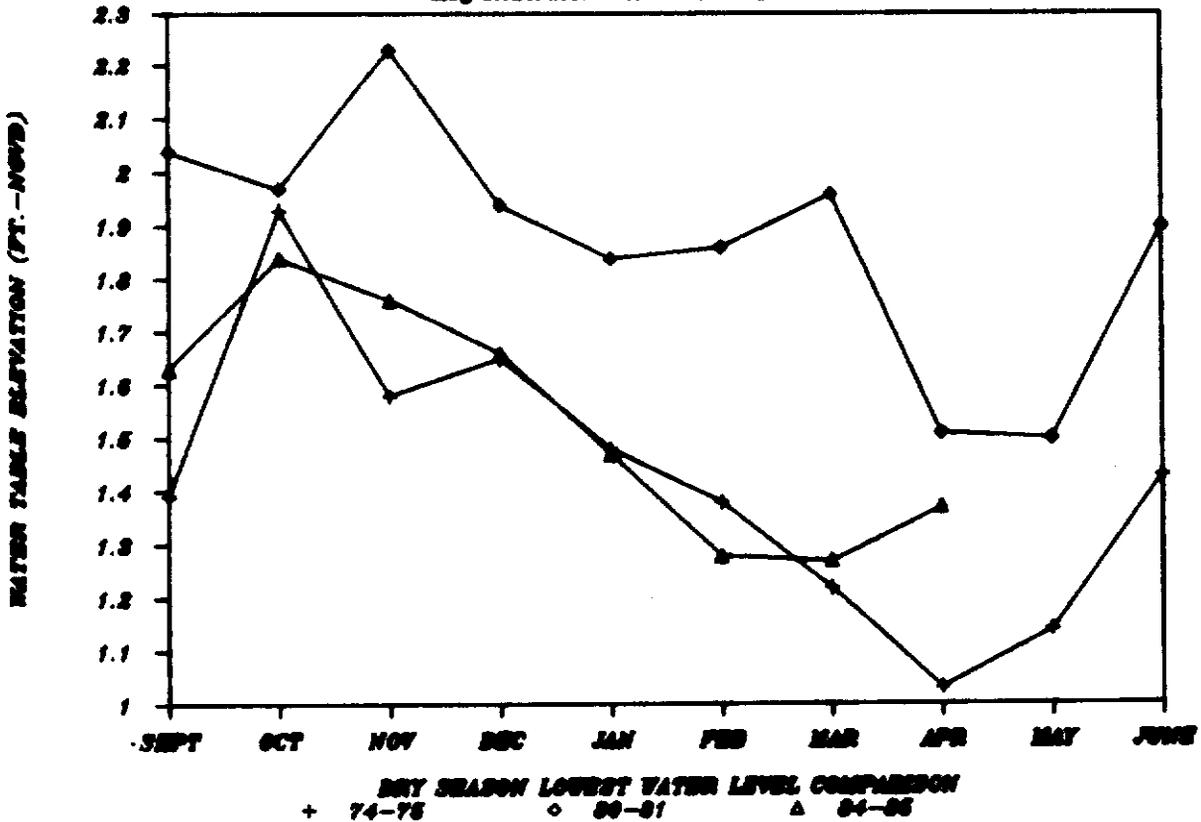
### BROWARD COUNTY F291 (PUMPAGE AFFECTED)

*Key Indicator Water Table Monitor Well*



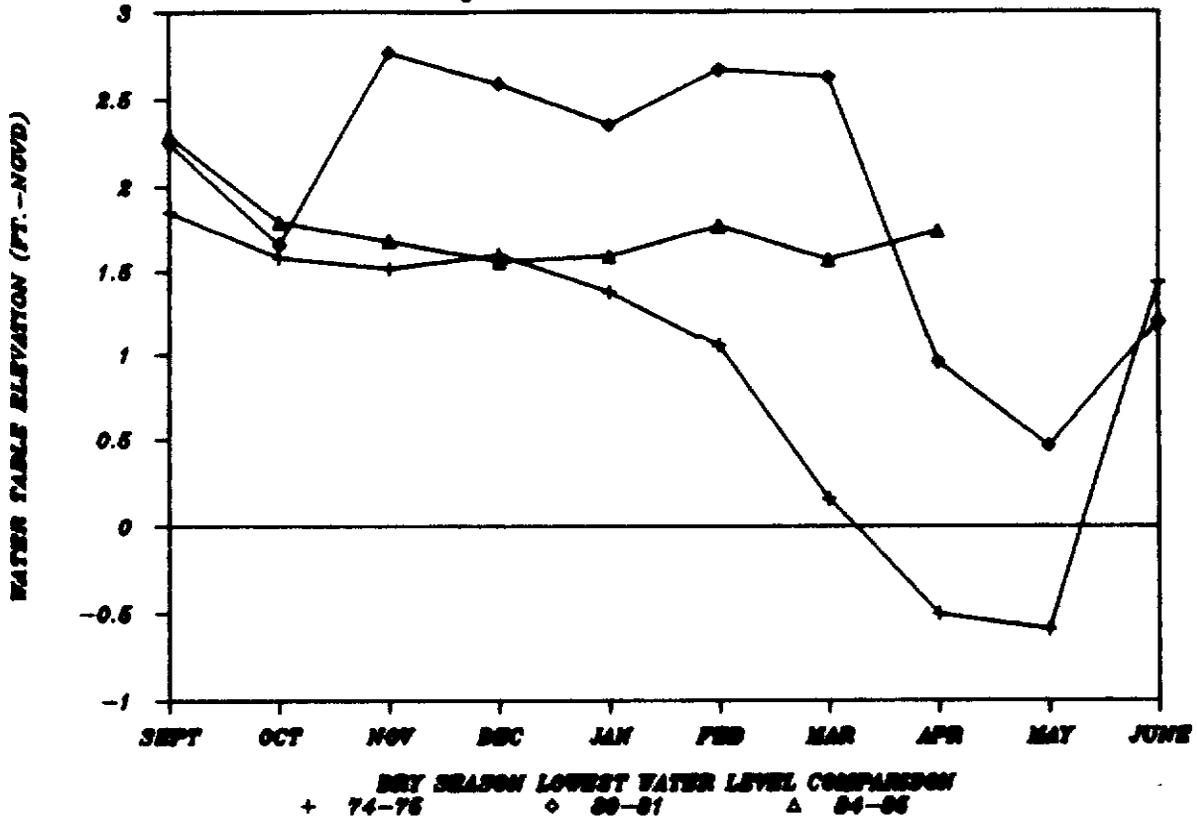
### DADE COUNTY G852

*Key Indicator Water Table Monitor Well*



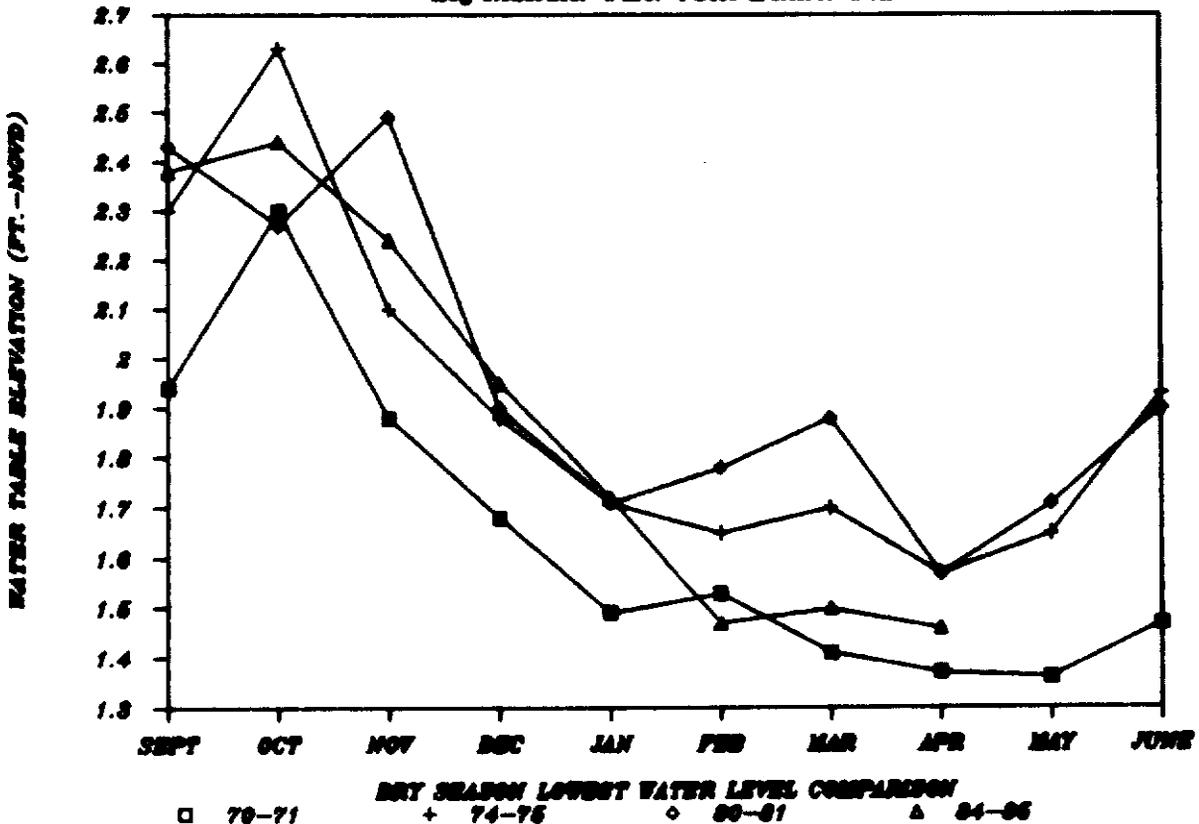
DADE COUNTY G1183 ( HOMESTEAD AIRFORCE BASE )

*Key Indicator Water Table Monitor Well*



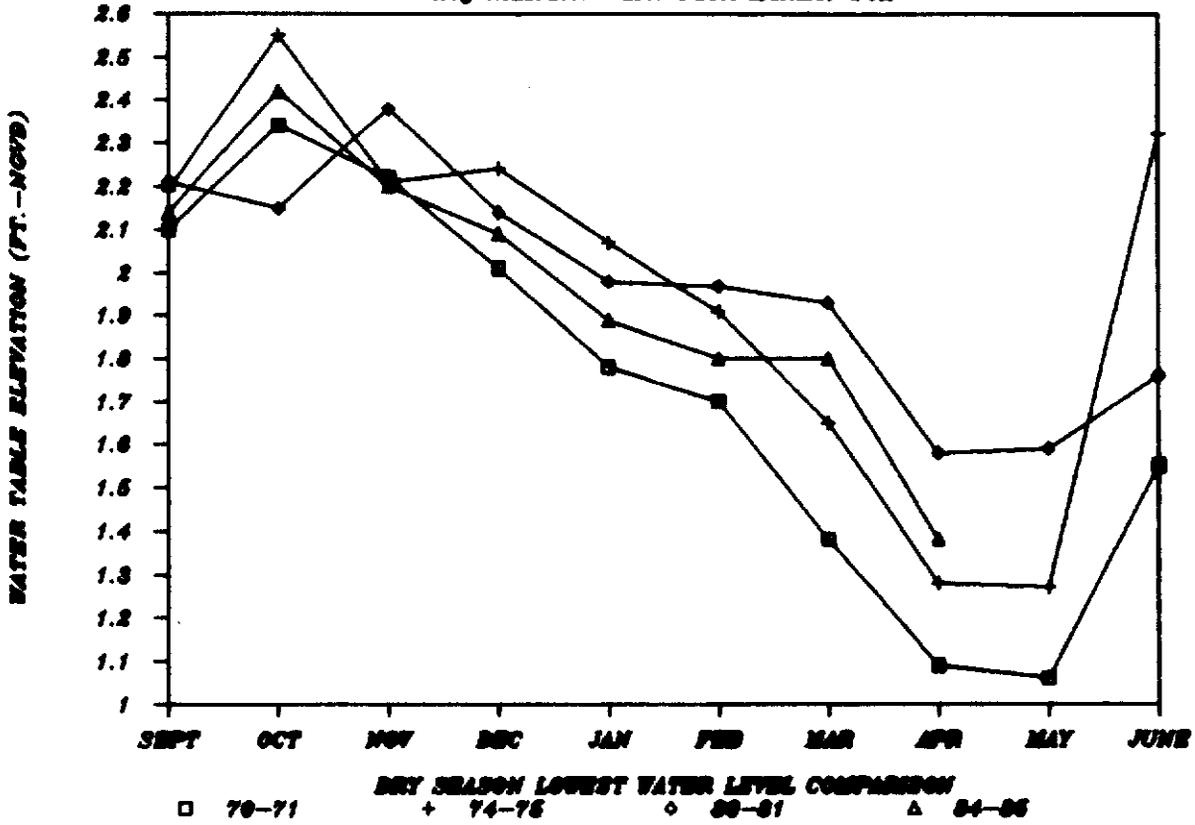
DADE COUNTY F179

*Key Indicator Water Table Monitor Well*



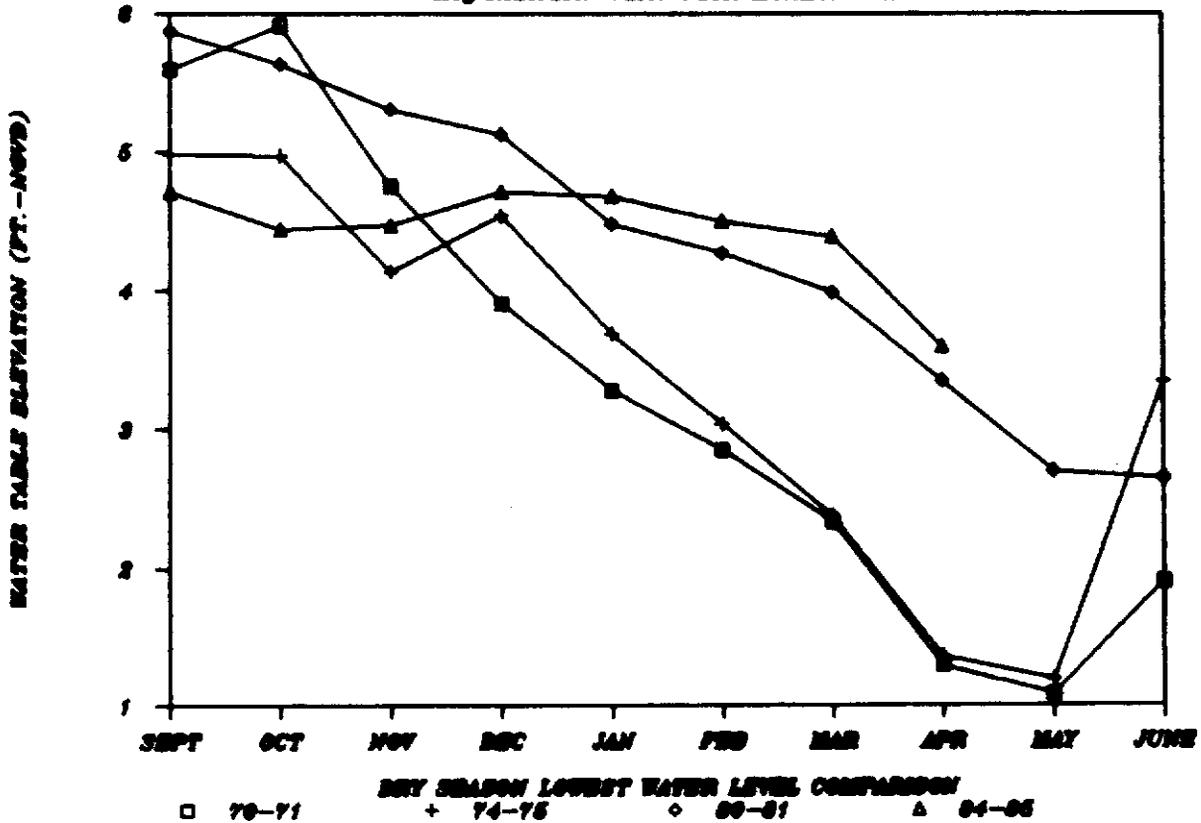
### DADE COUNTY F319

*Key Indicator Water Table Monitor Well*



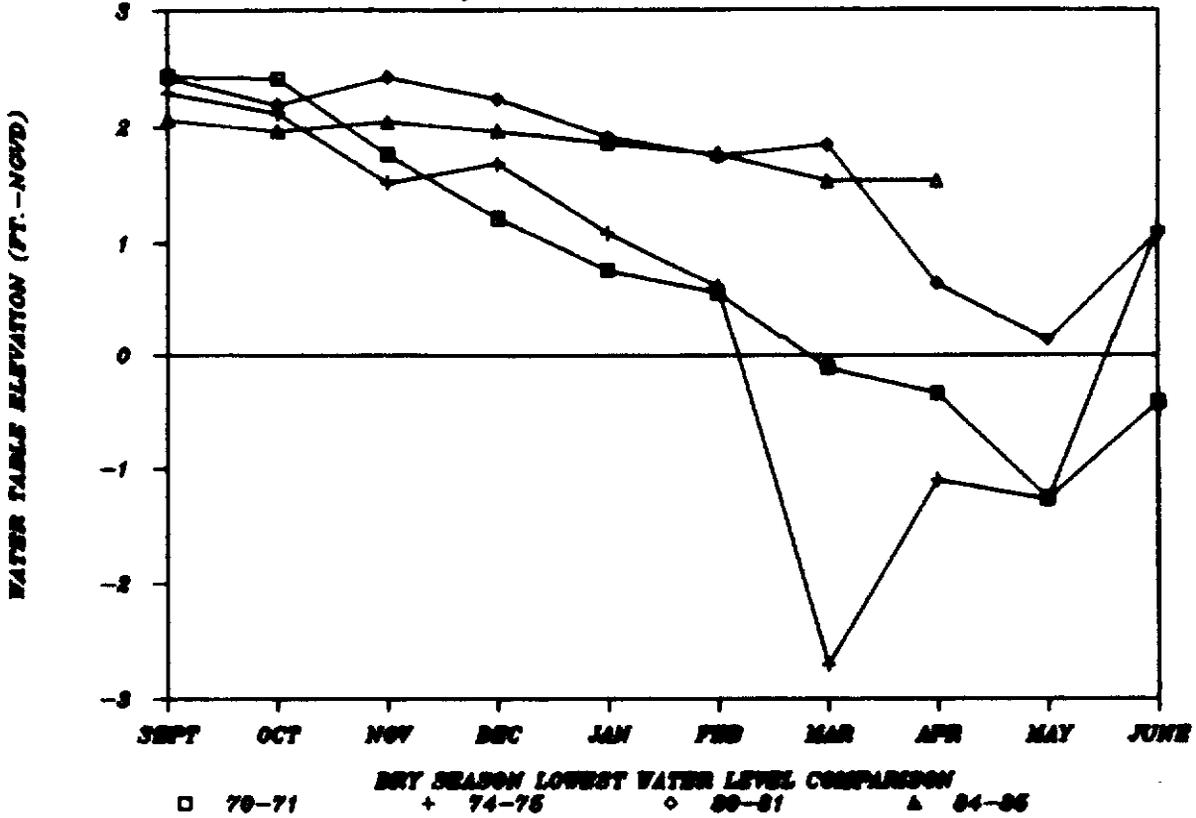
### DADE COUNTY G596

*Key Indicator Water Table Monitor Well*



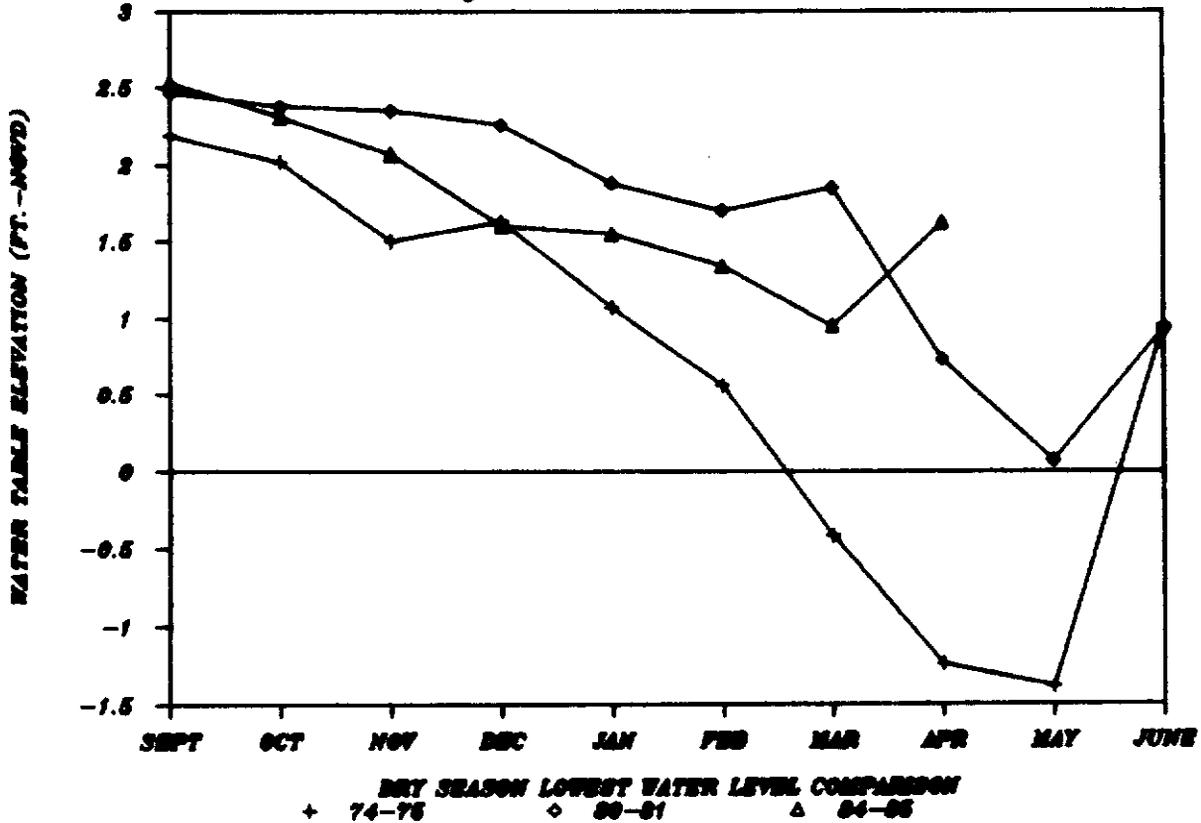
### DADE COUNTY G613

Key Indicator Water Table Monitor Well



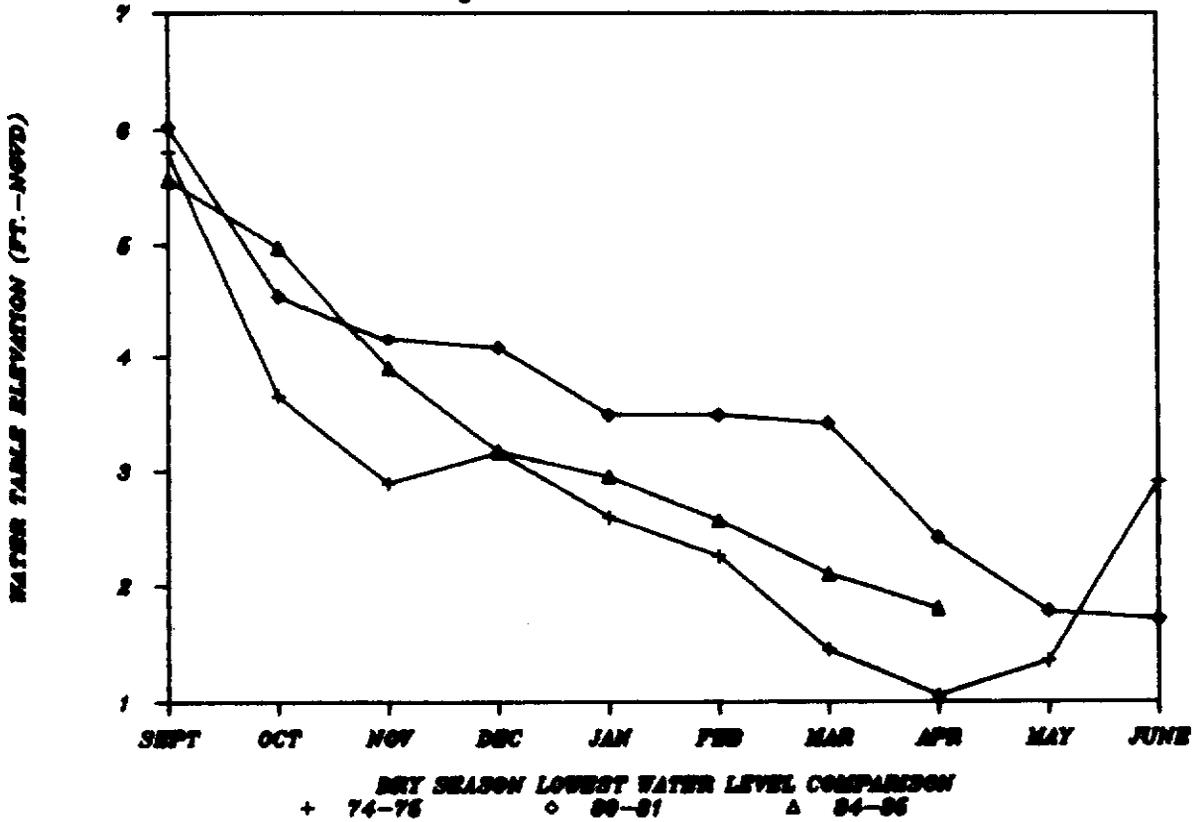
### DADE COUNTY G1251 (SOUTHWEST WELLFIELD)

Key Indicator Water Table Monitor Well



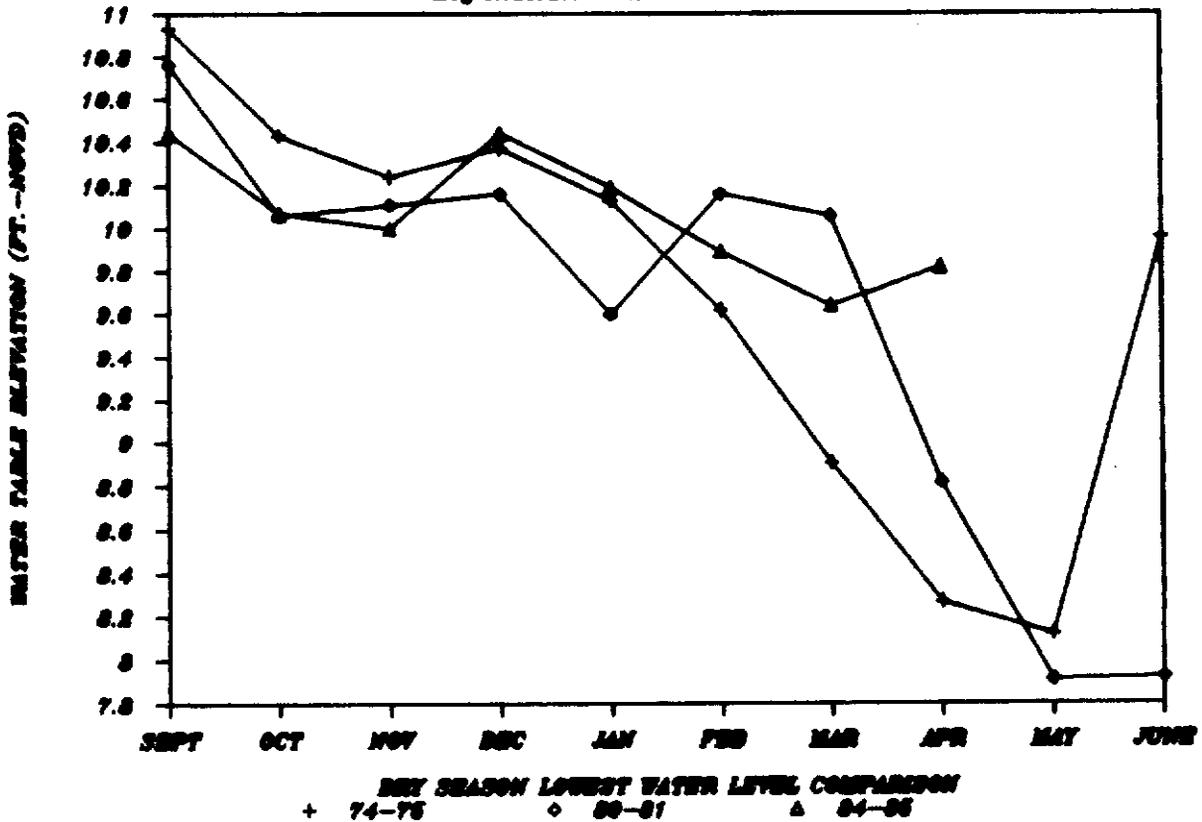
### COLLIER COUNTY C495

Key Indicator Water Table Monitor Well



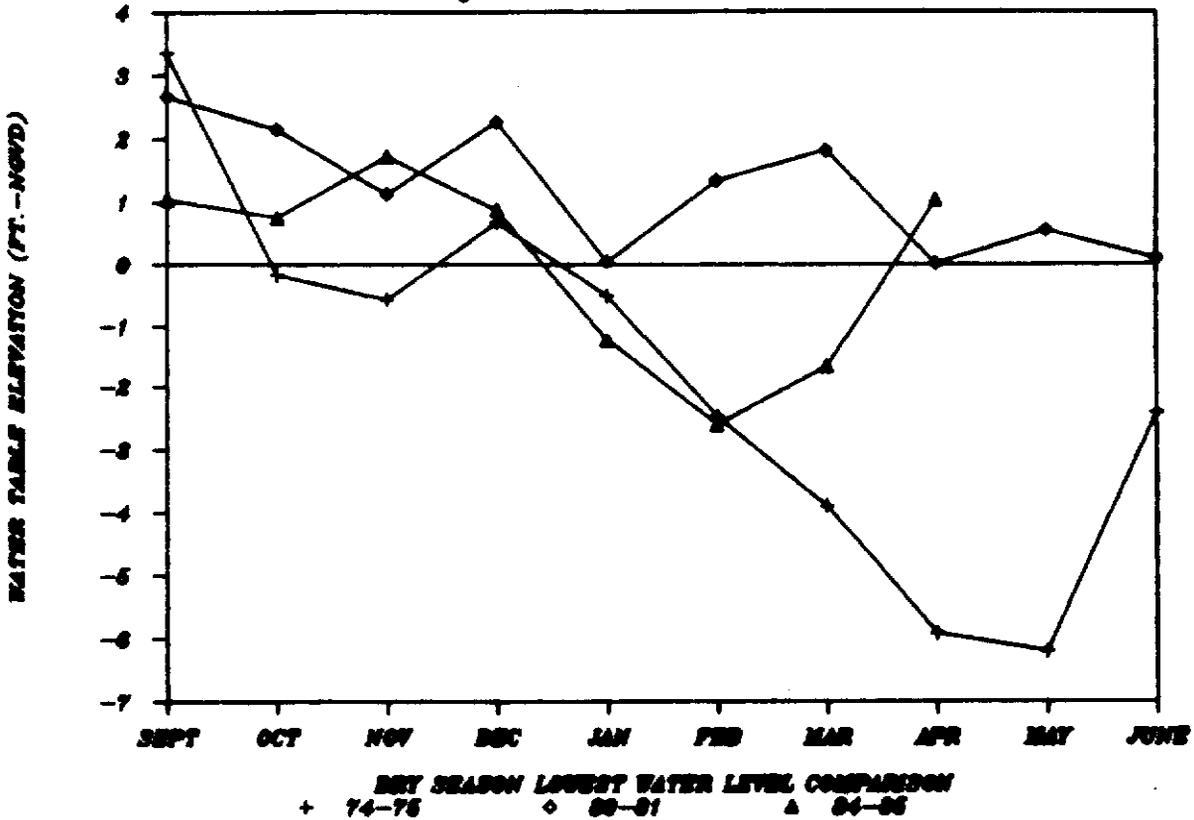
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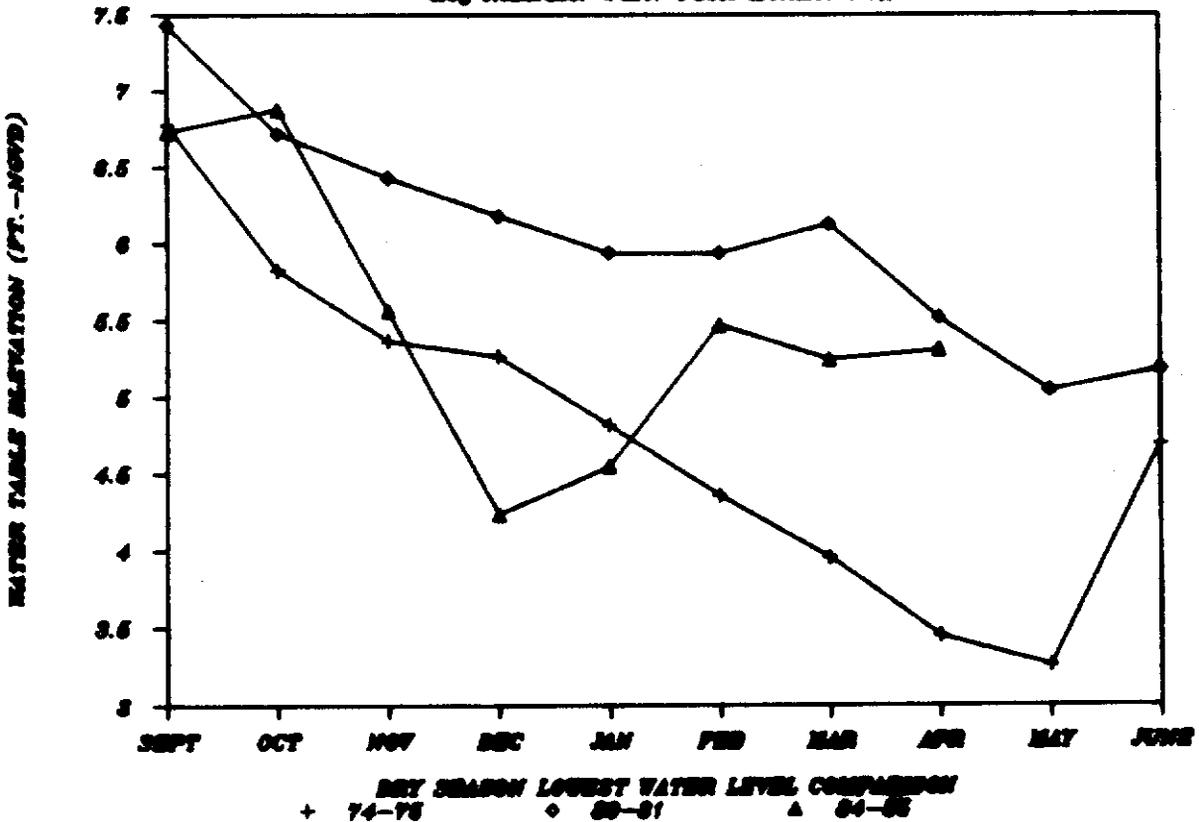
### COLLIER COUNTY C391

*Key Indicator Water Table Monitor Well*



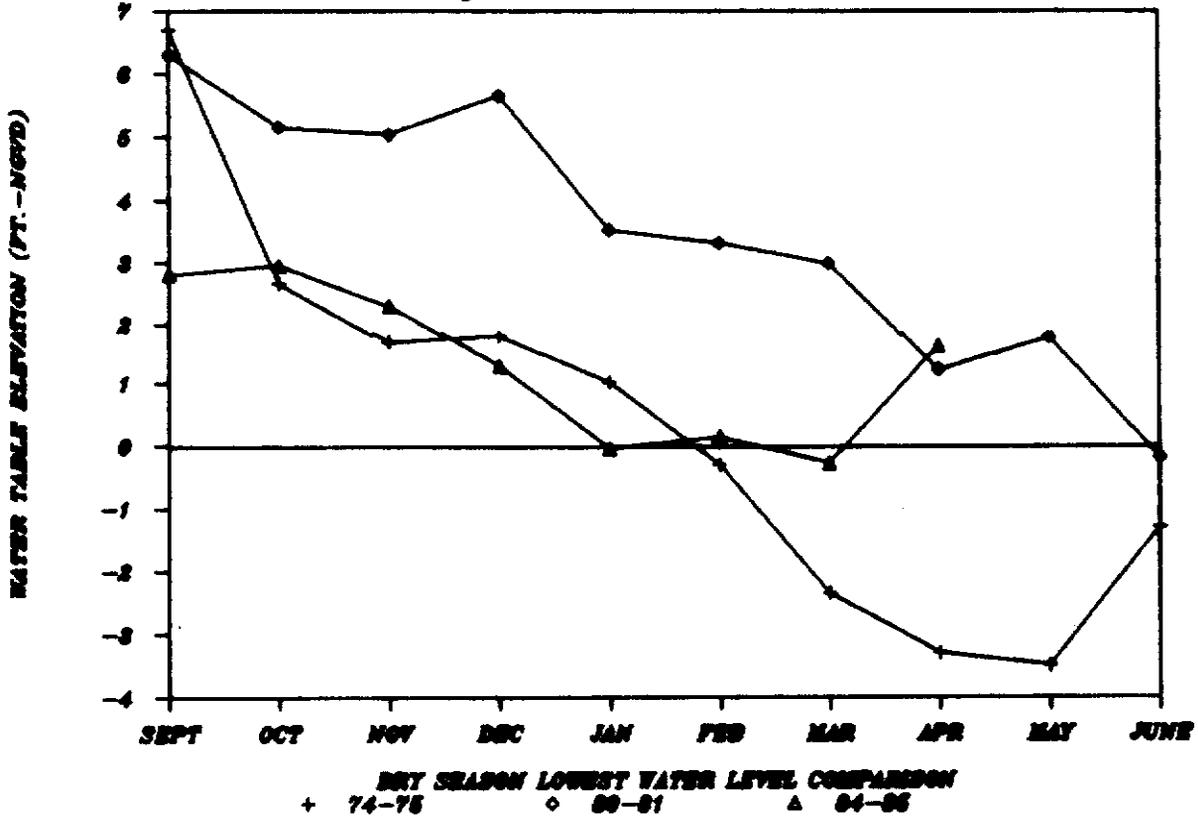
### COLLIER COUNTY C392 (COASTAL RIDGE)

*Key Indicator Water Table Monitor Well*



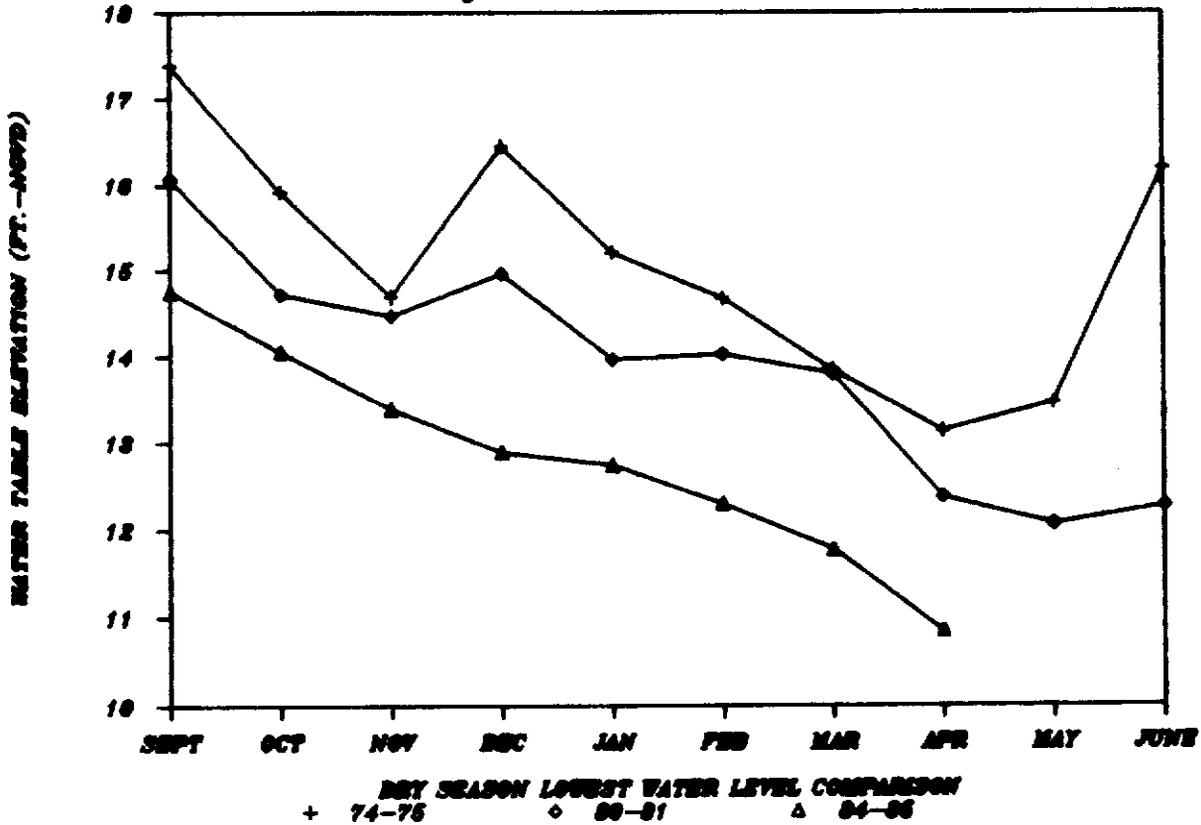
### COLLIER COUNTY C489

*Key Indicator Water Table Monitor Well*



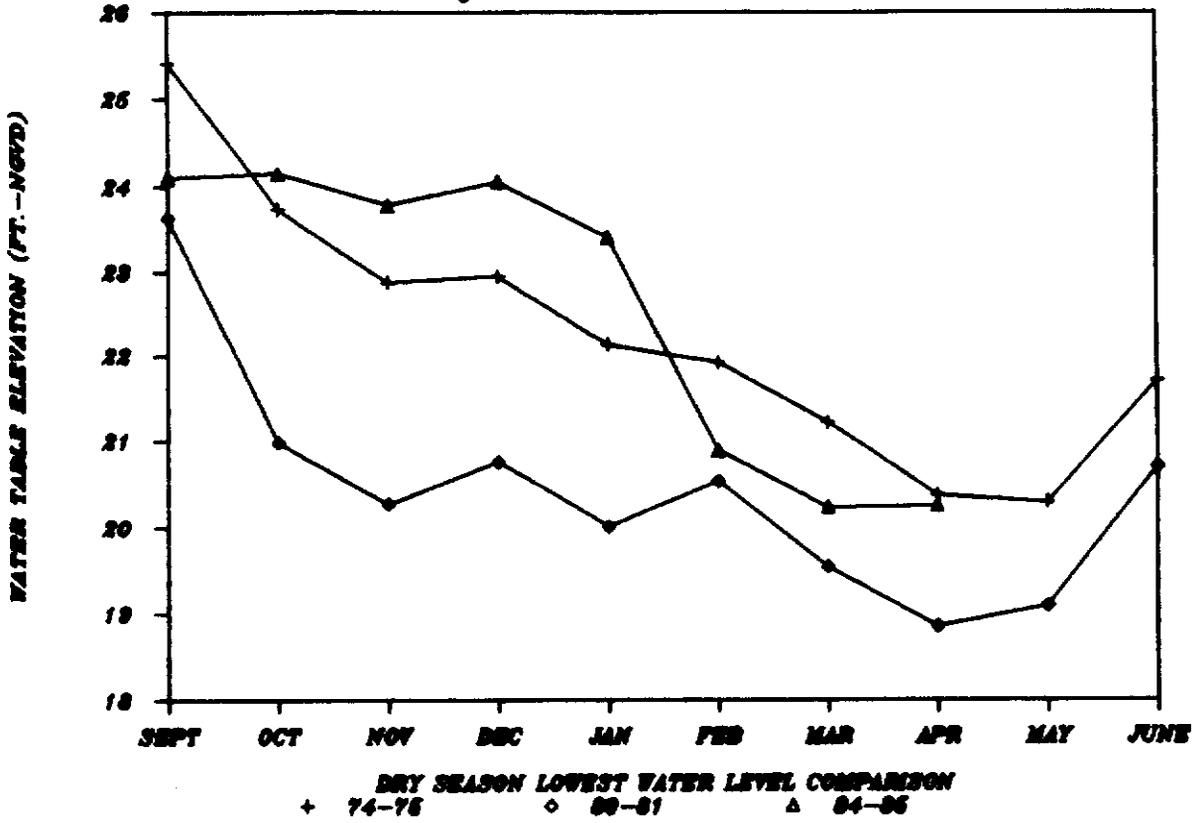
### COLLIER COUNTY C503

*Key Indicator Water Table Monitor Well*



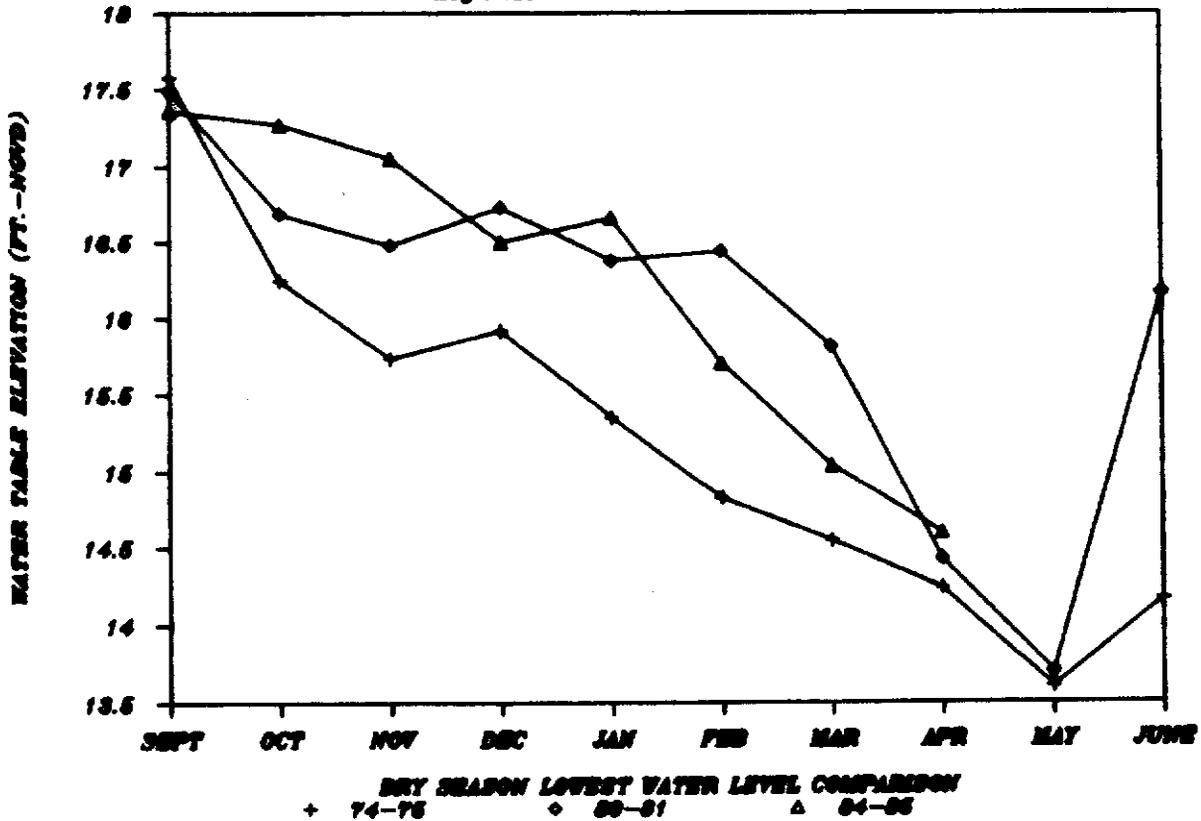
### COLLIER COUNTY C131

*Dry Indicator Water Table Monitor Well*



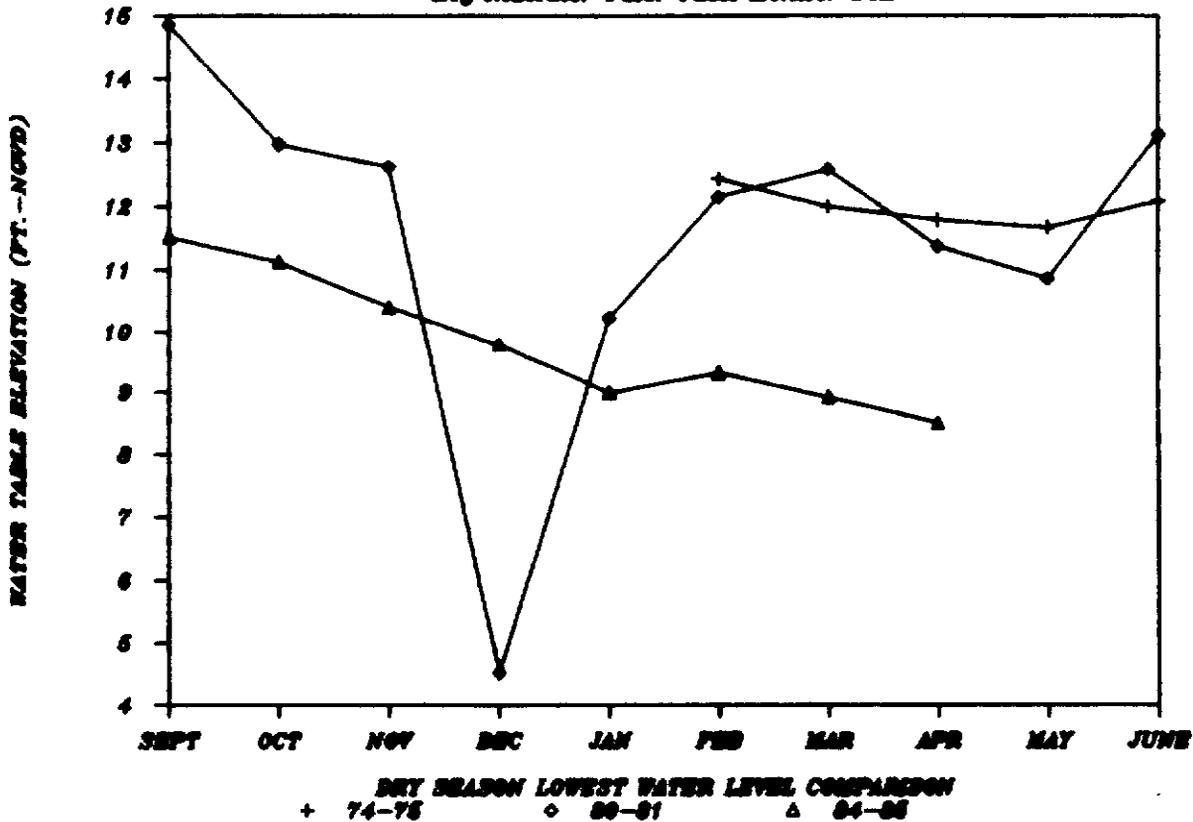
### COLLIER COUNTY C492 (WATER TABLE)

*Dry Indicator Water Table Monitor Well*



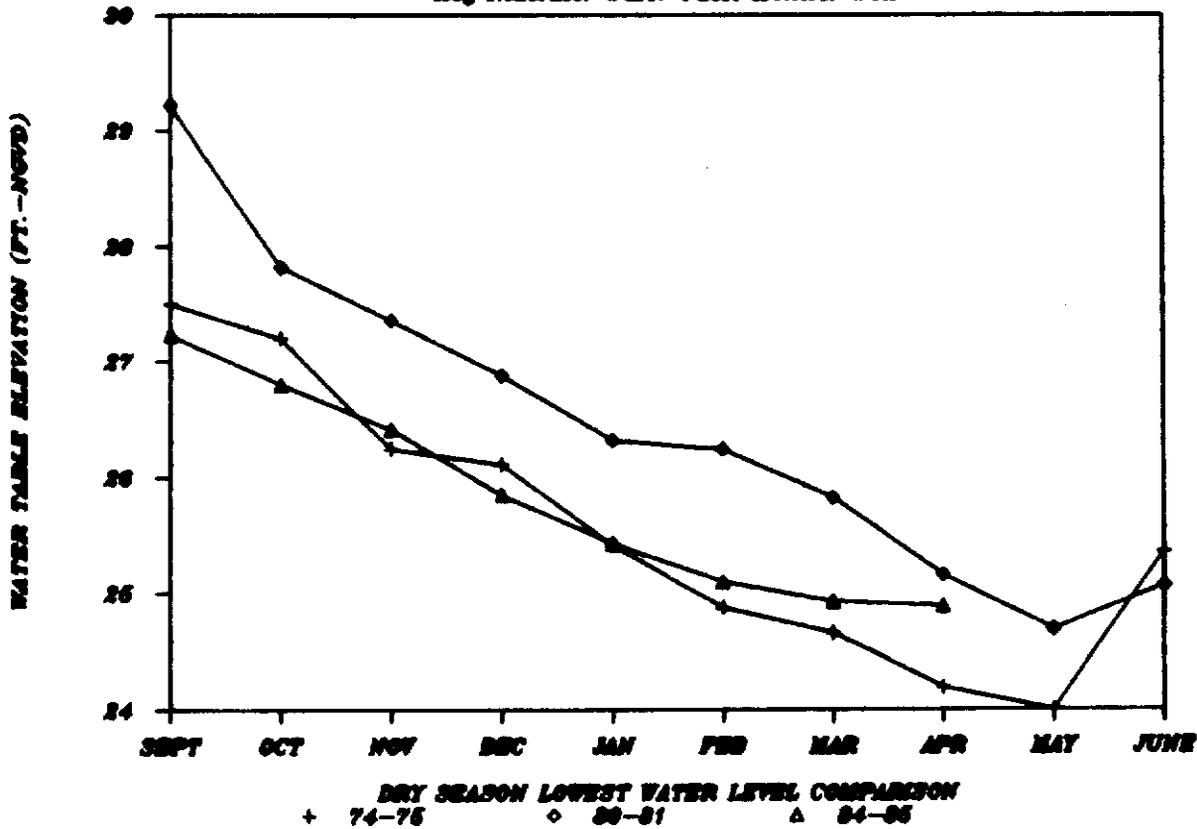
### LEE COUNTY L1997

*Key Indicator Water Table Monitor Well*



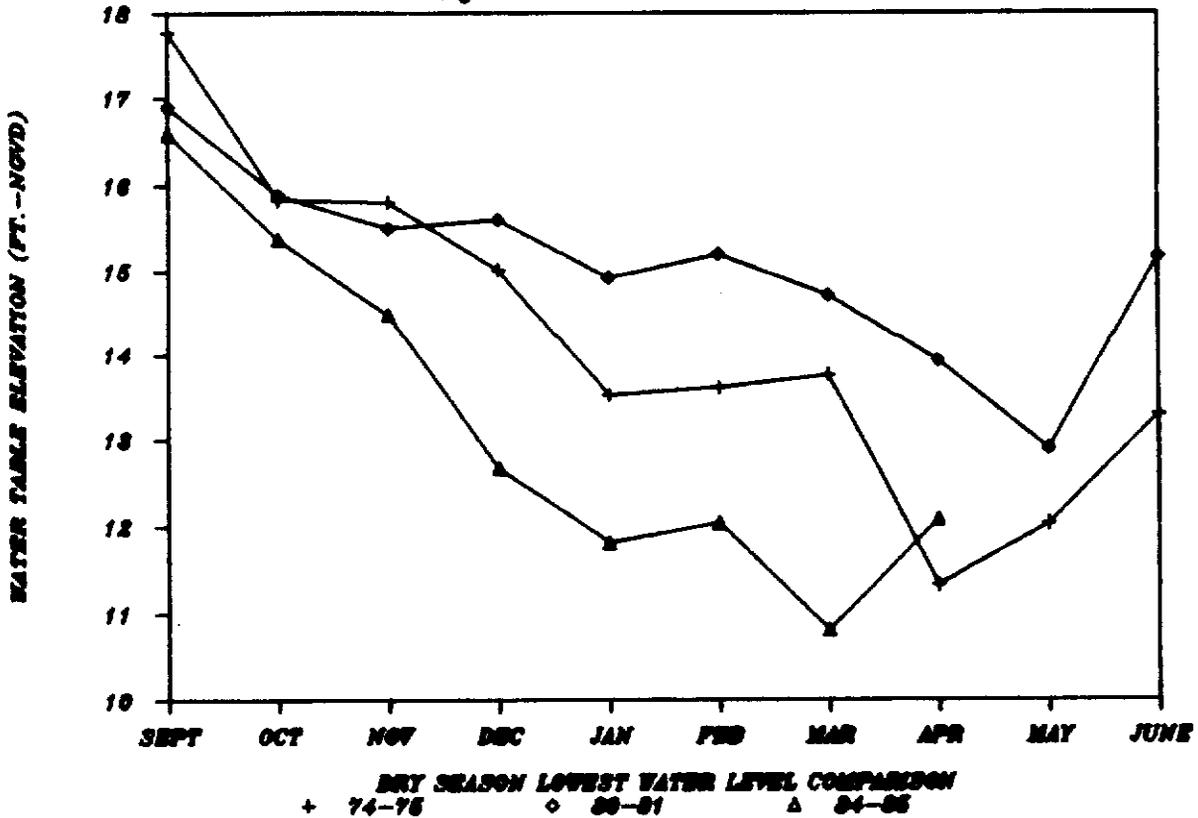
### LEE COUNTY L730 (WATER TABLE)

*Key Indicator Water Table Monitor Well*



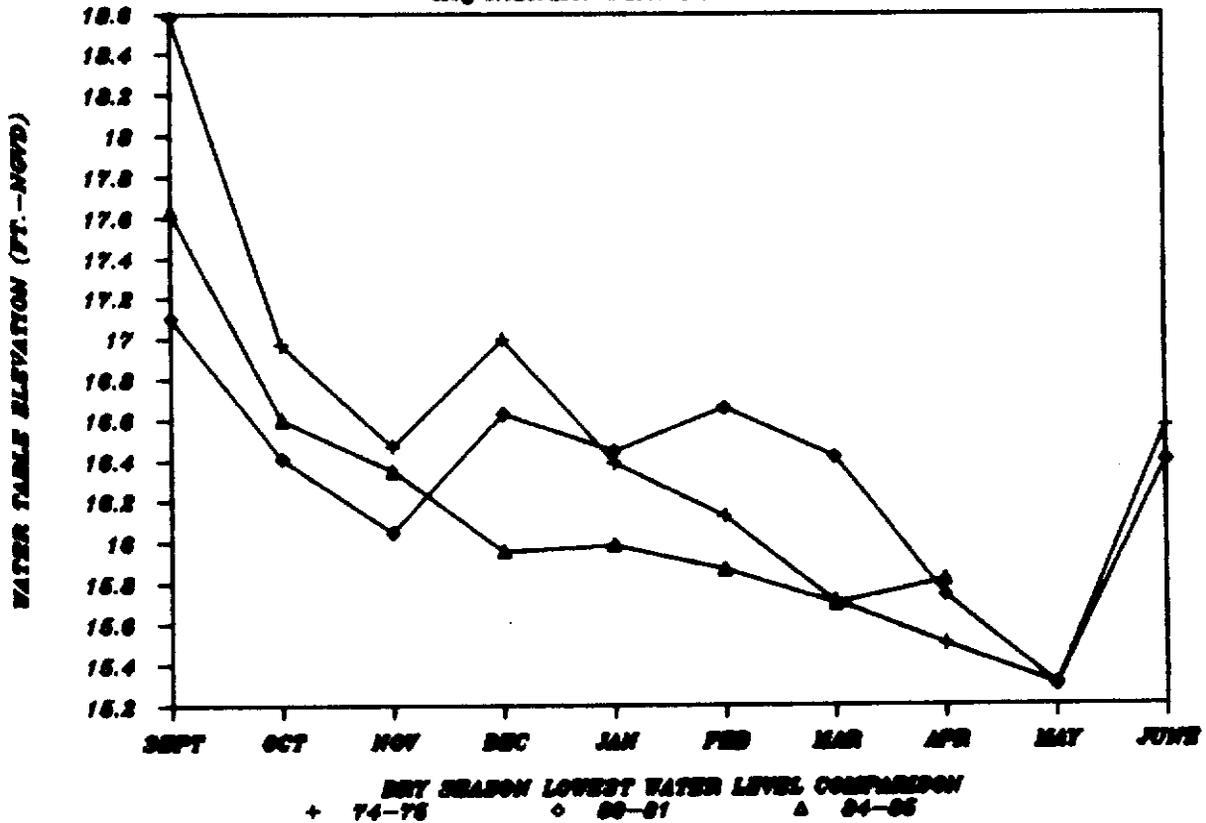
### LEE COUNTY L1418

Key Indicator Water Table Monitor Well



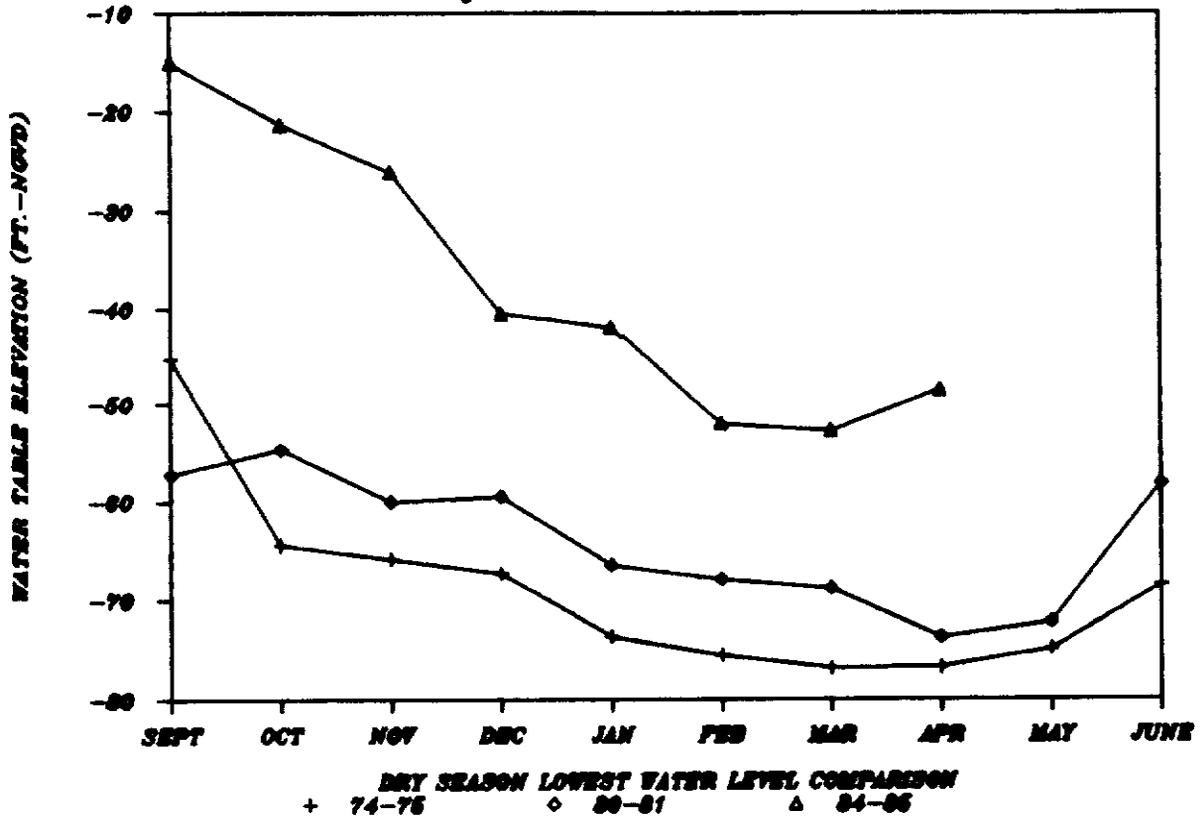
### LEE COUNTY L246 (WATER TABLE)

Key Indicator Water Table Monitor Well



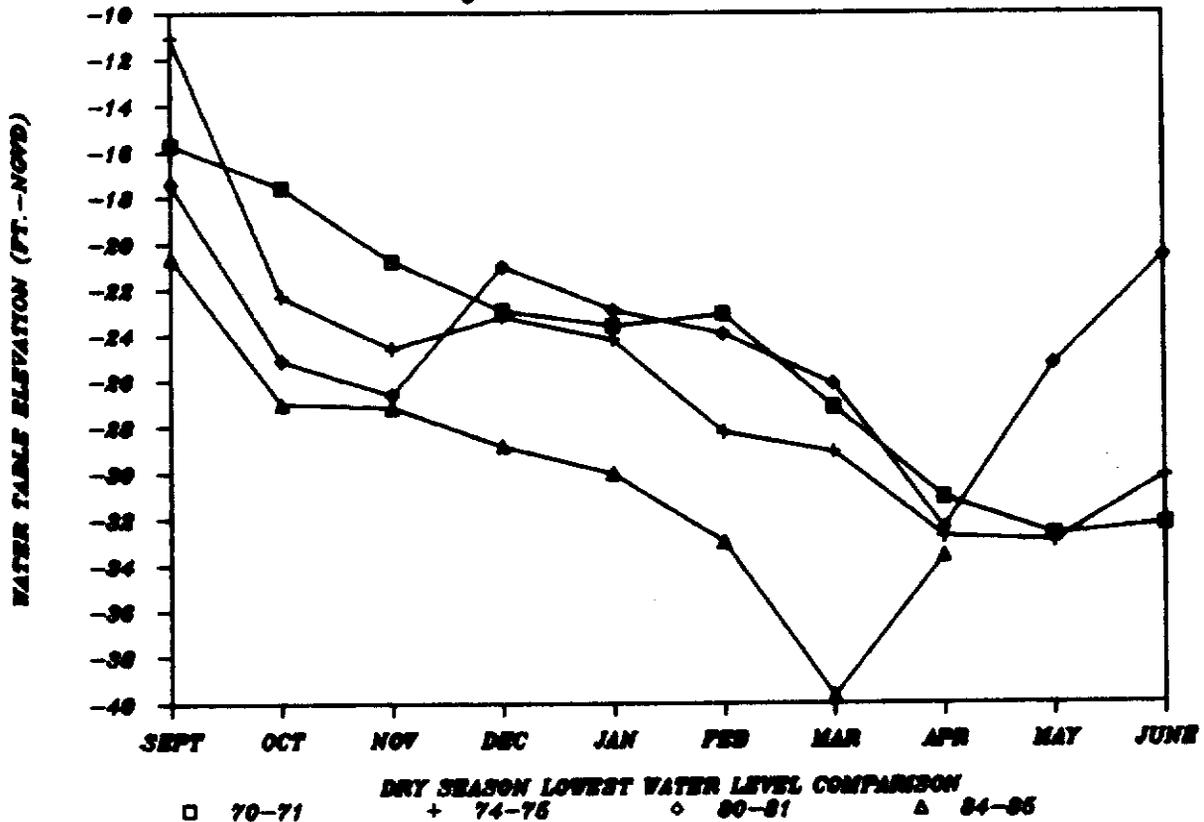
### LEE COUNTY L742 (MID-HAWTHORN AQUIFER)

Key Indicator Water Table Monitor Well



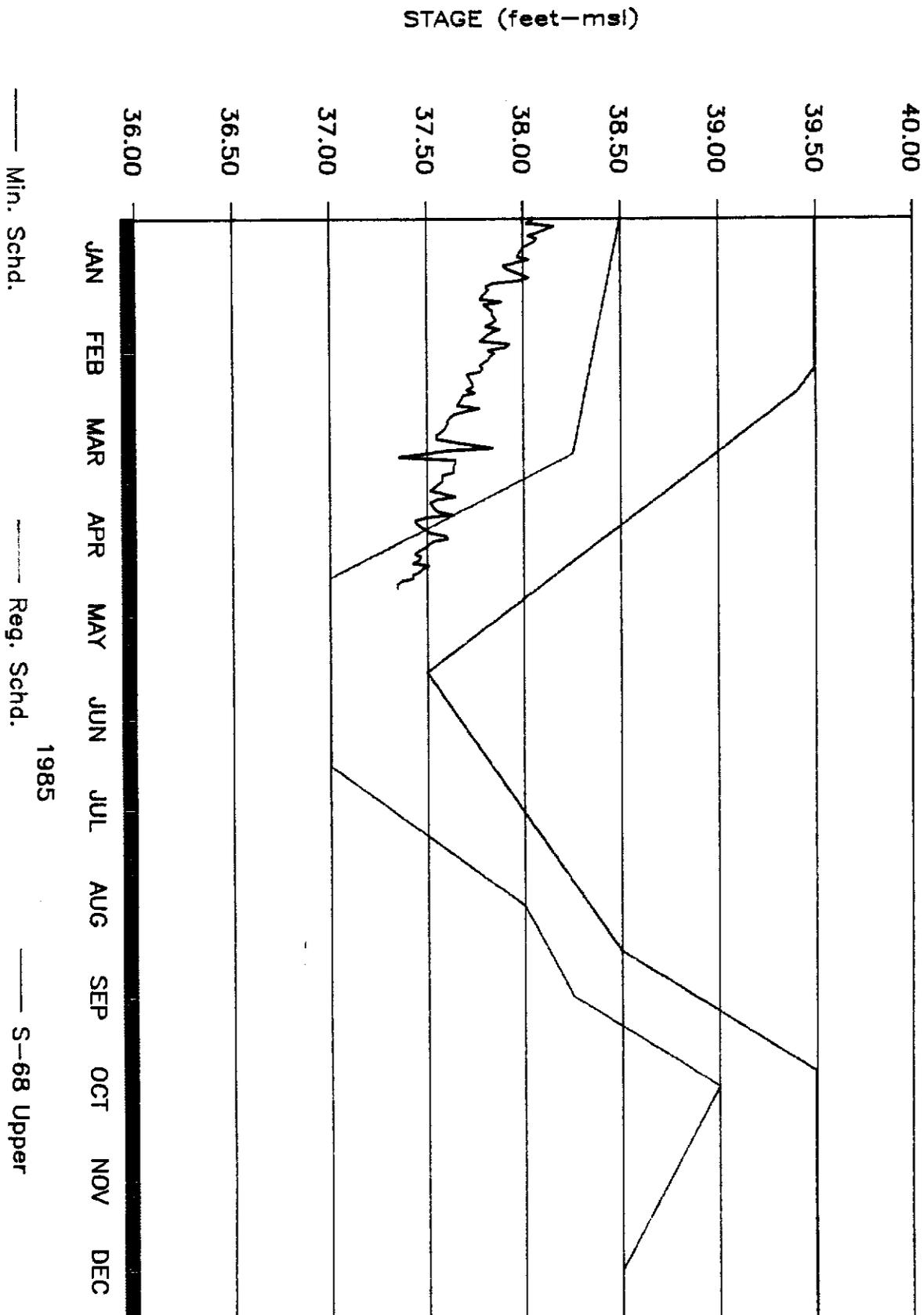
### LEE COUNTY L581 CAPE CORAL (MID-HAWTHORN AQUIFER)

Key Indicator Water Table Monitor Well



# LAKE ISTOKPOGA

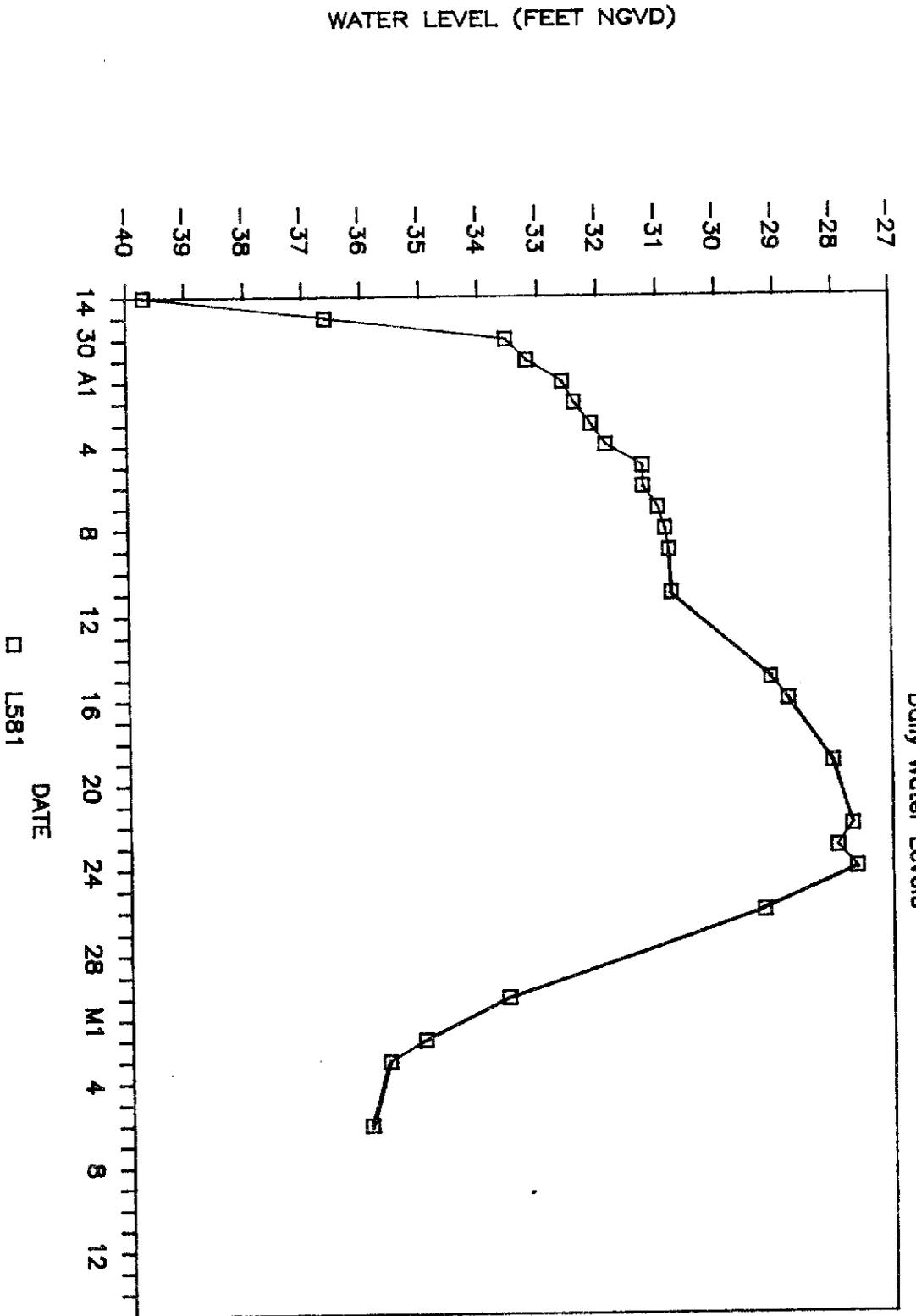
Source=Daily Water Readings



**APPENDIX II**  
**PUBLIC WATER SUPPLY UTILITY PUMPAGE GRAPHS**

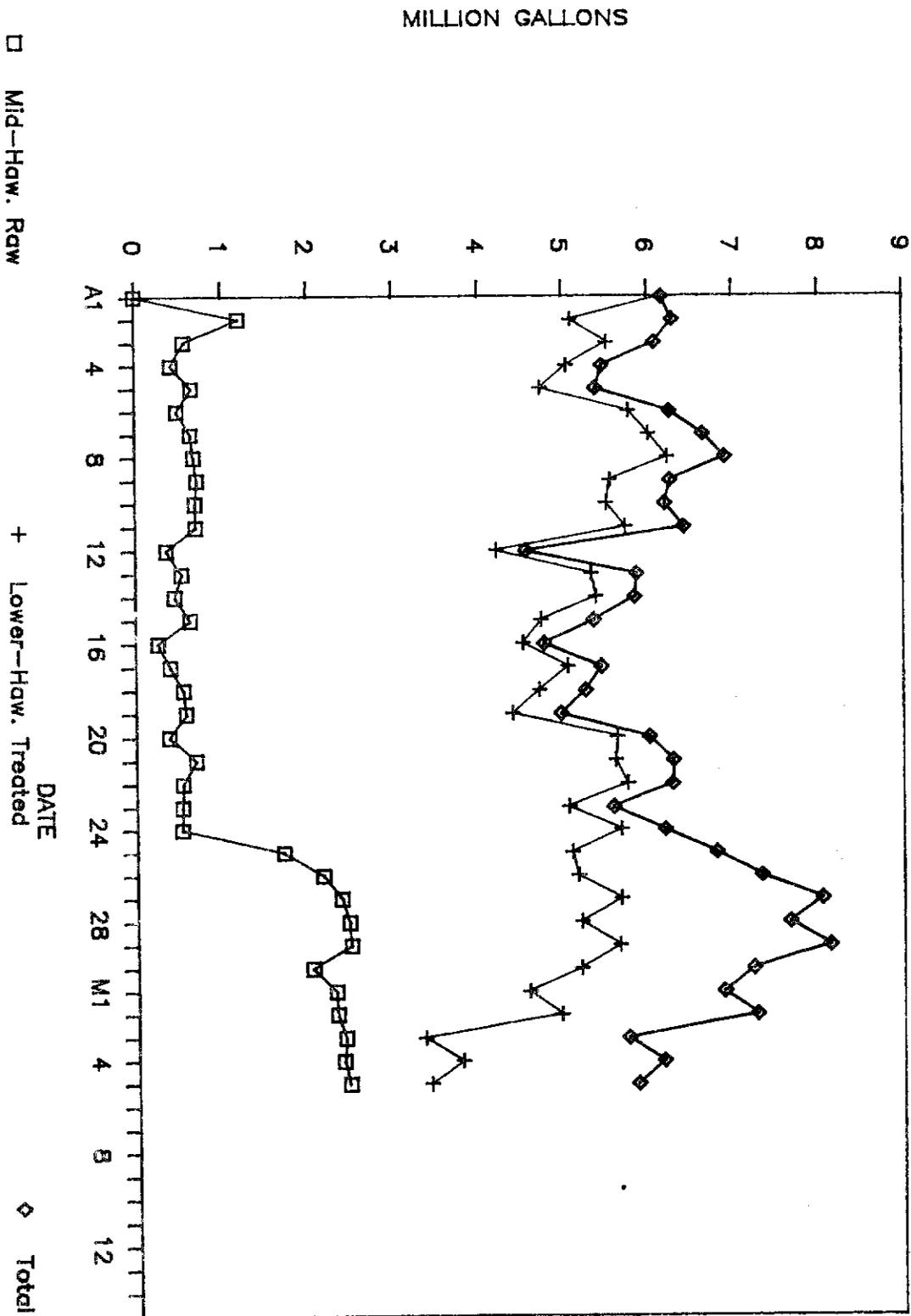
# City of Cape Coral

Daily Water Levels



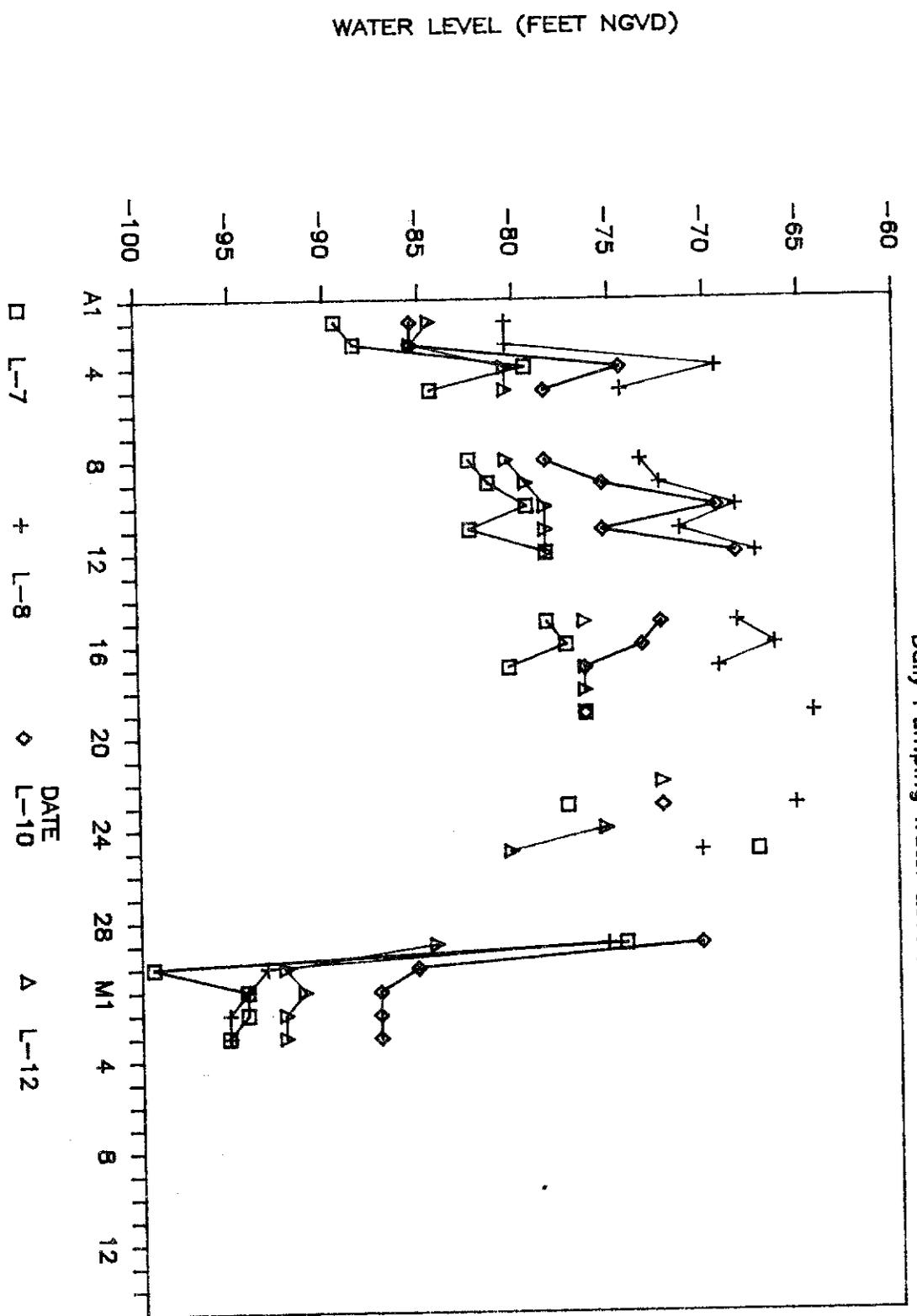
# City of Cape Coral

## Daily Pumpage



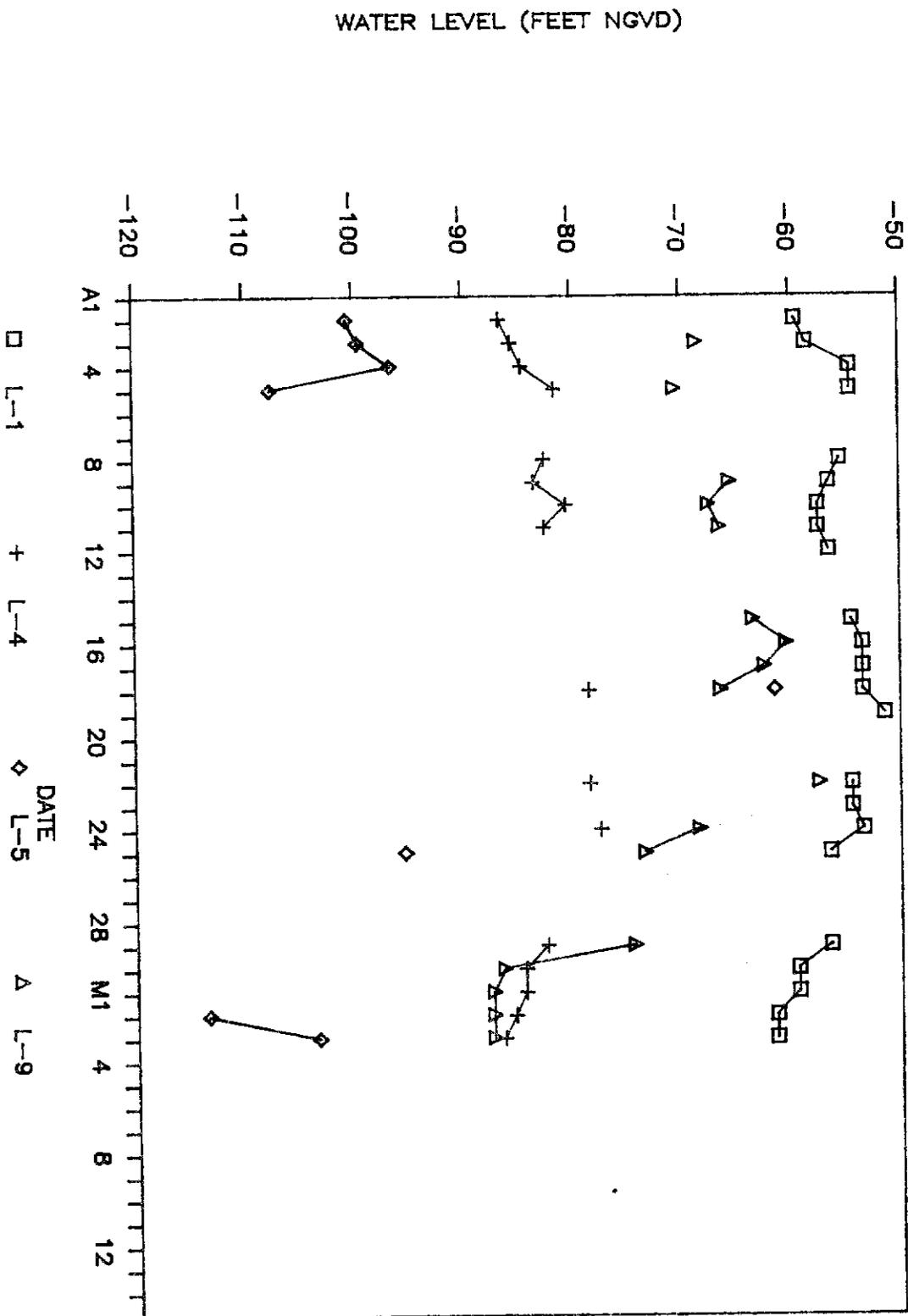
# Cape Coral Mid-Hawthorn

Daily Pumping Water Levels



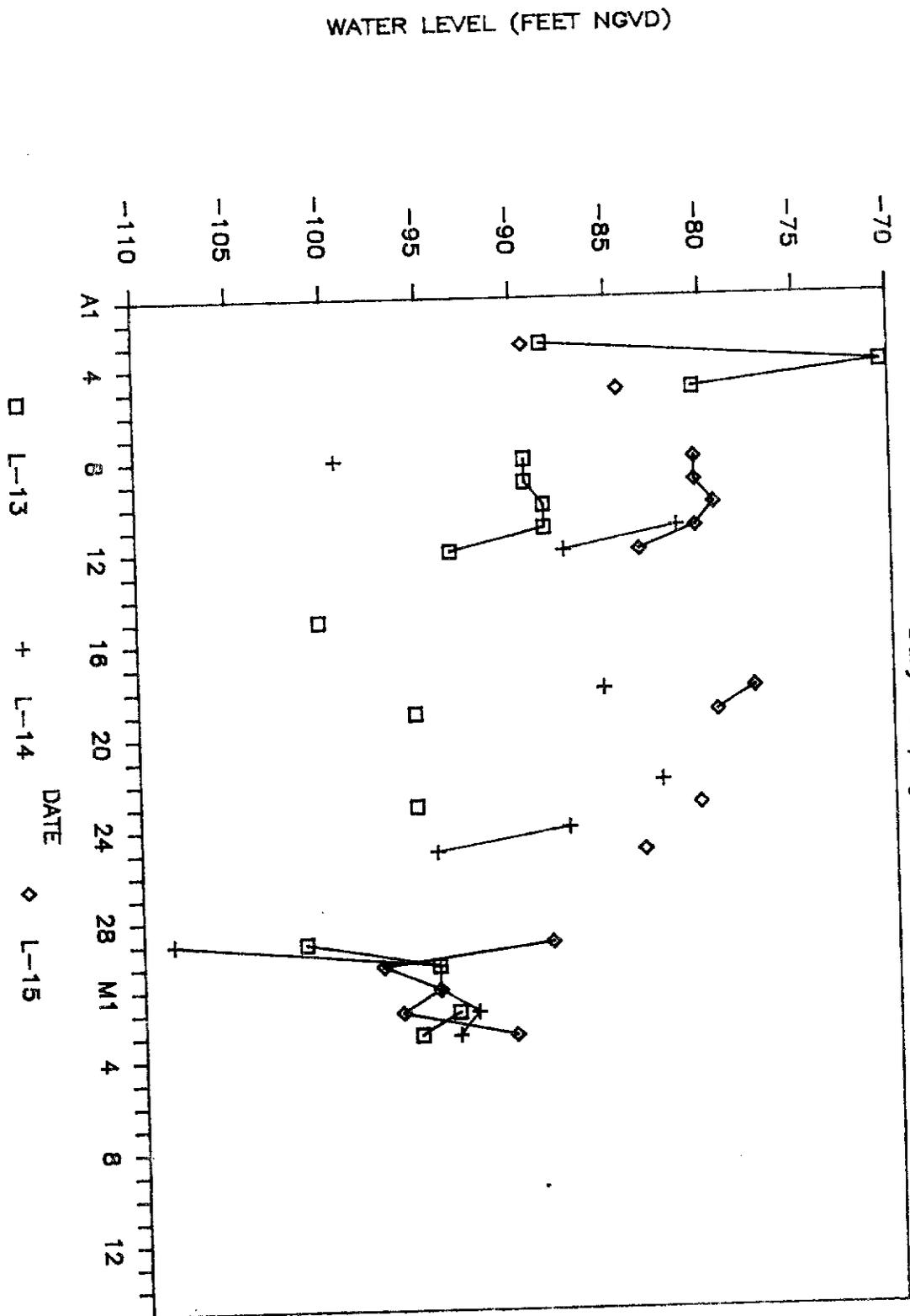
# Cape Coral Mid-Hawthorn

Daily Pumping Water Levels



# Cape Coral Mid-Hawthorn

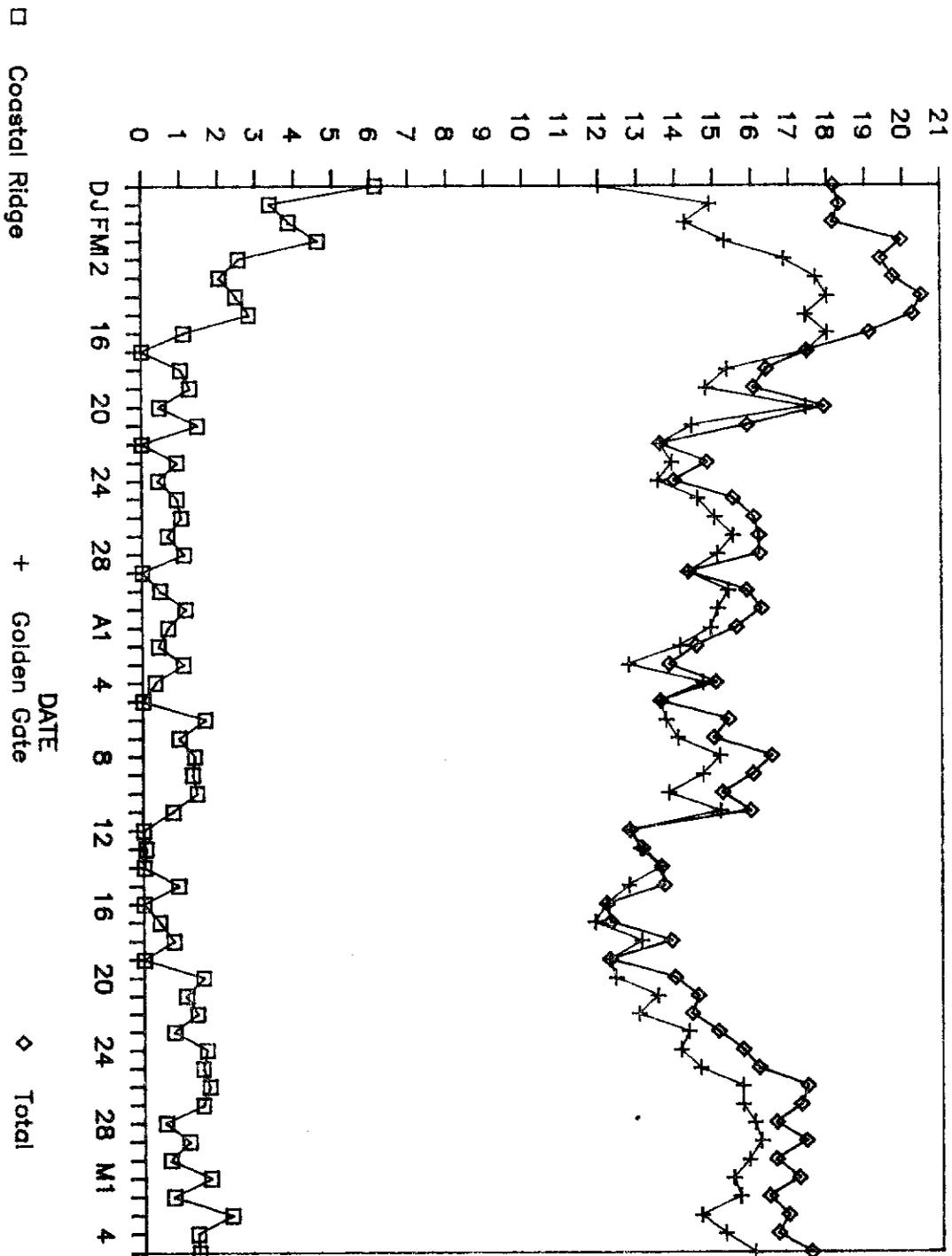
Daily Pumping Water Levels



# CITY OF NAPLES

## PUMPAGE

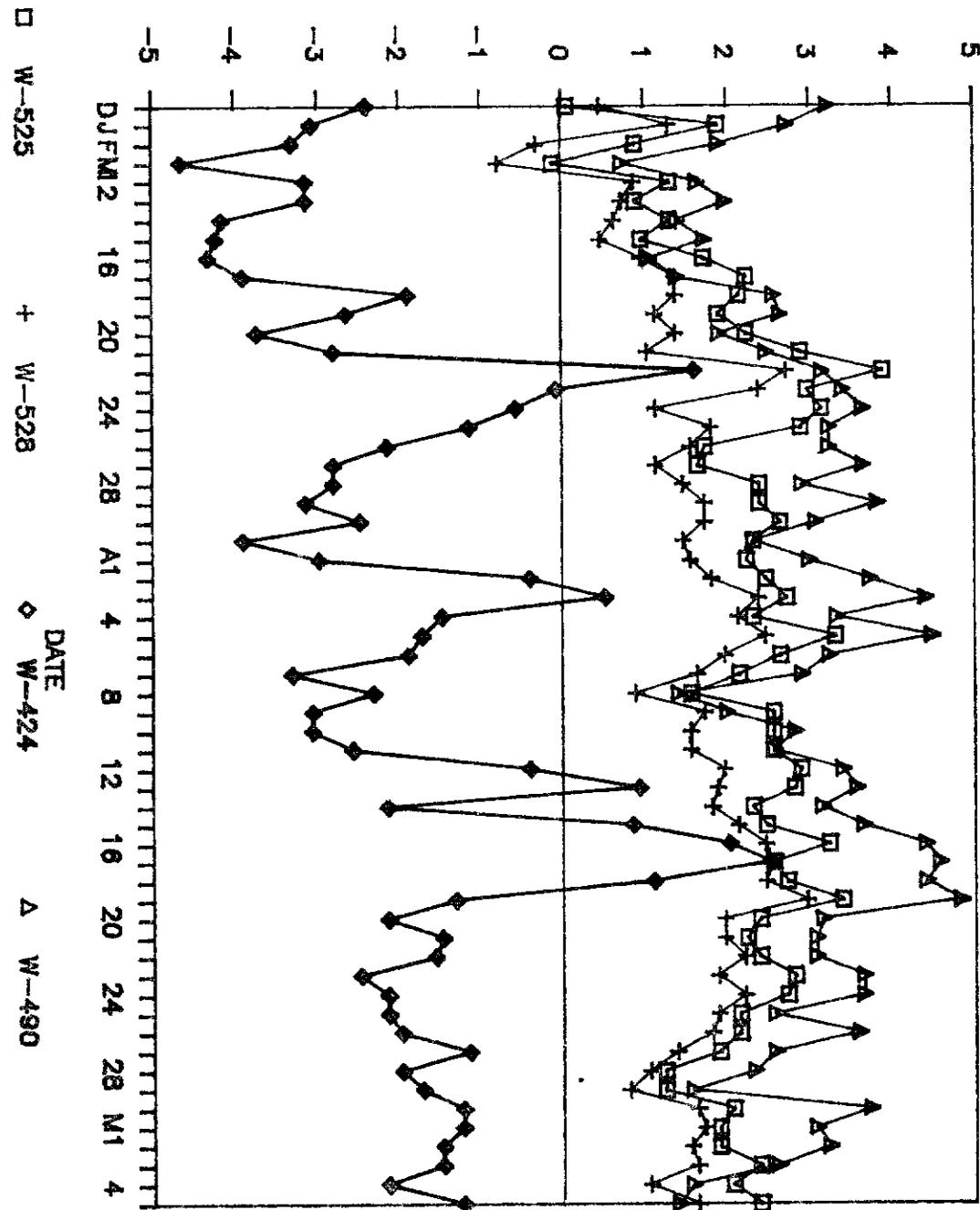
MILLION GALLONS



# CITY OF NAPLES WELL DATA

## MONITORING WELL WATER LEVELS

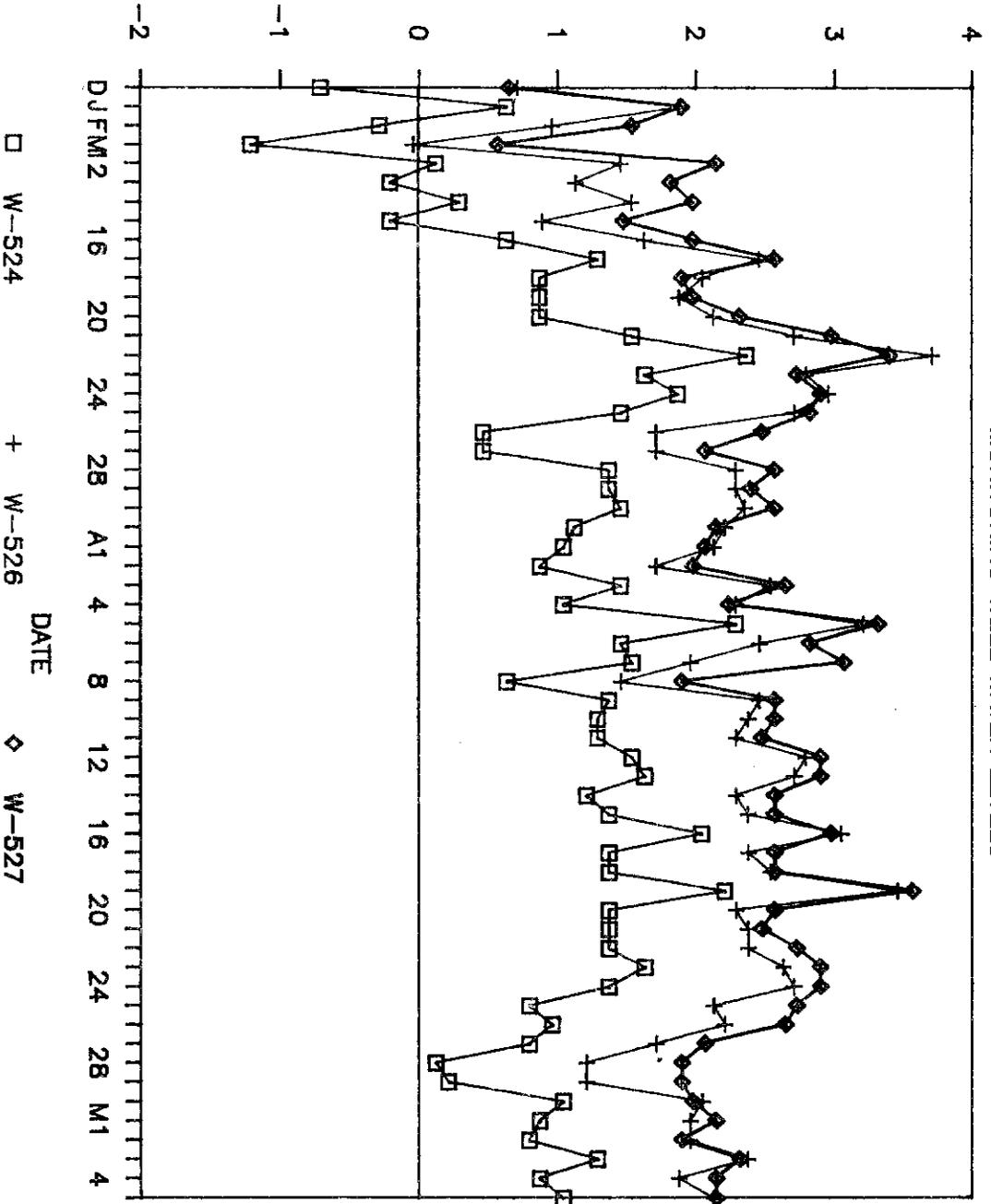
WATER LEVELS IN FT. NGVD



# CITY OF NAPLES WELL DATA

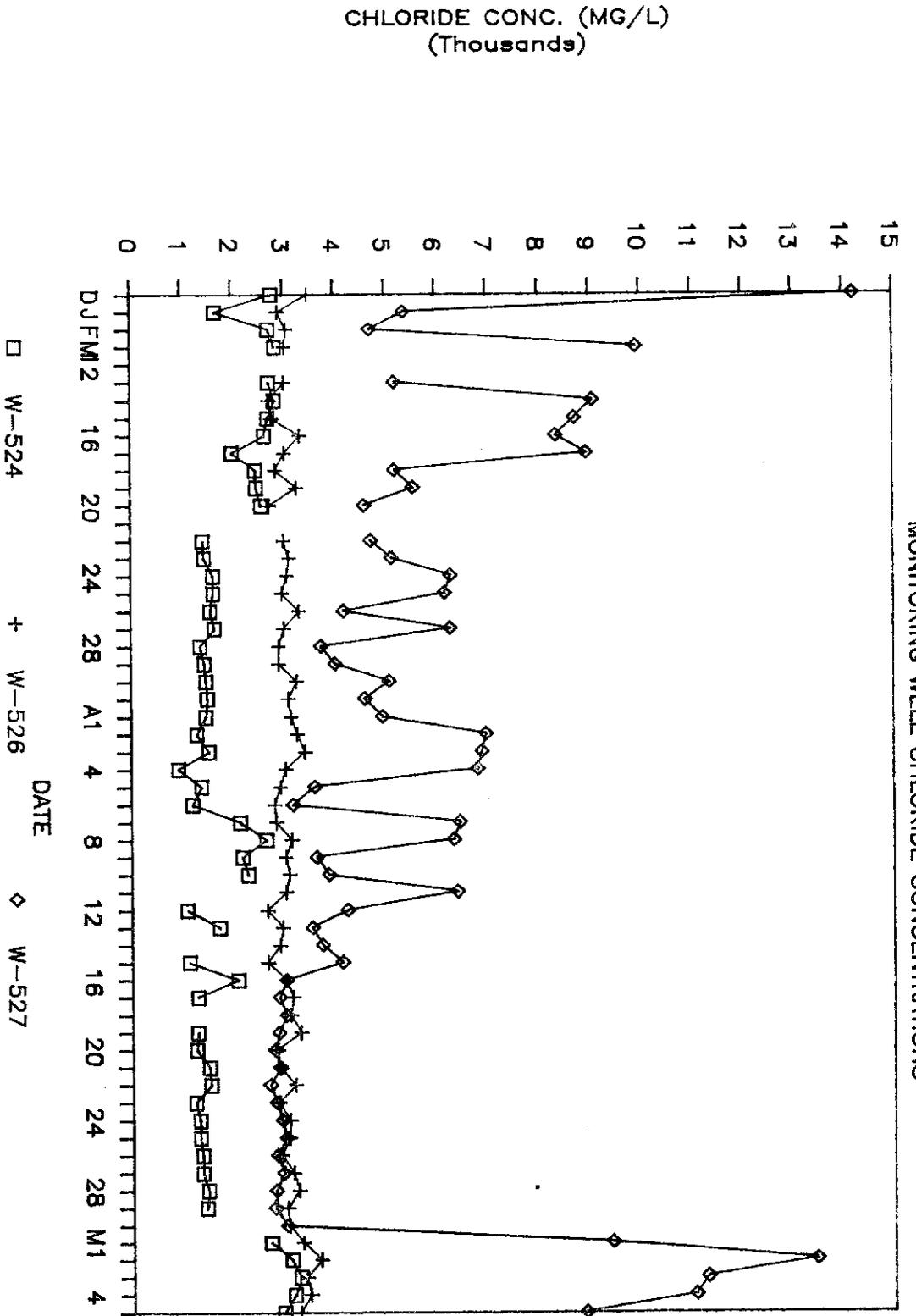
## MONITORING WELL WATER LEVELS

WATER LEVELS IN FT. NGVD



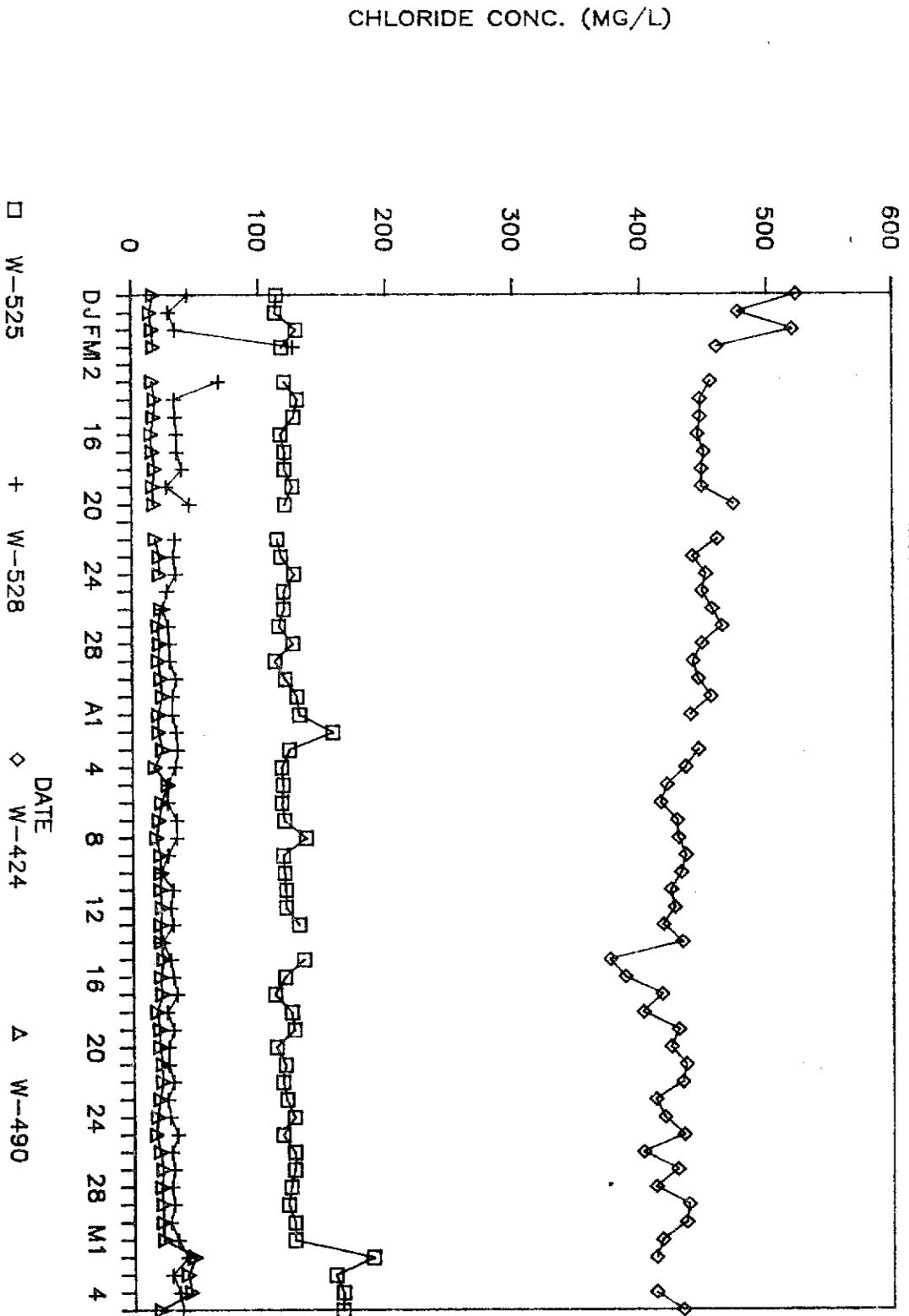
# CITY OF NAPLES WELL DATA

## MONITORING WELL CHLORIDE CONCENTRATIONS



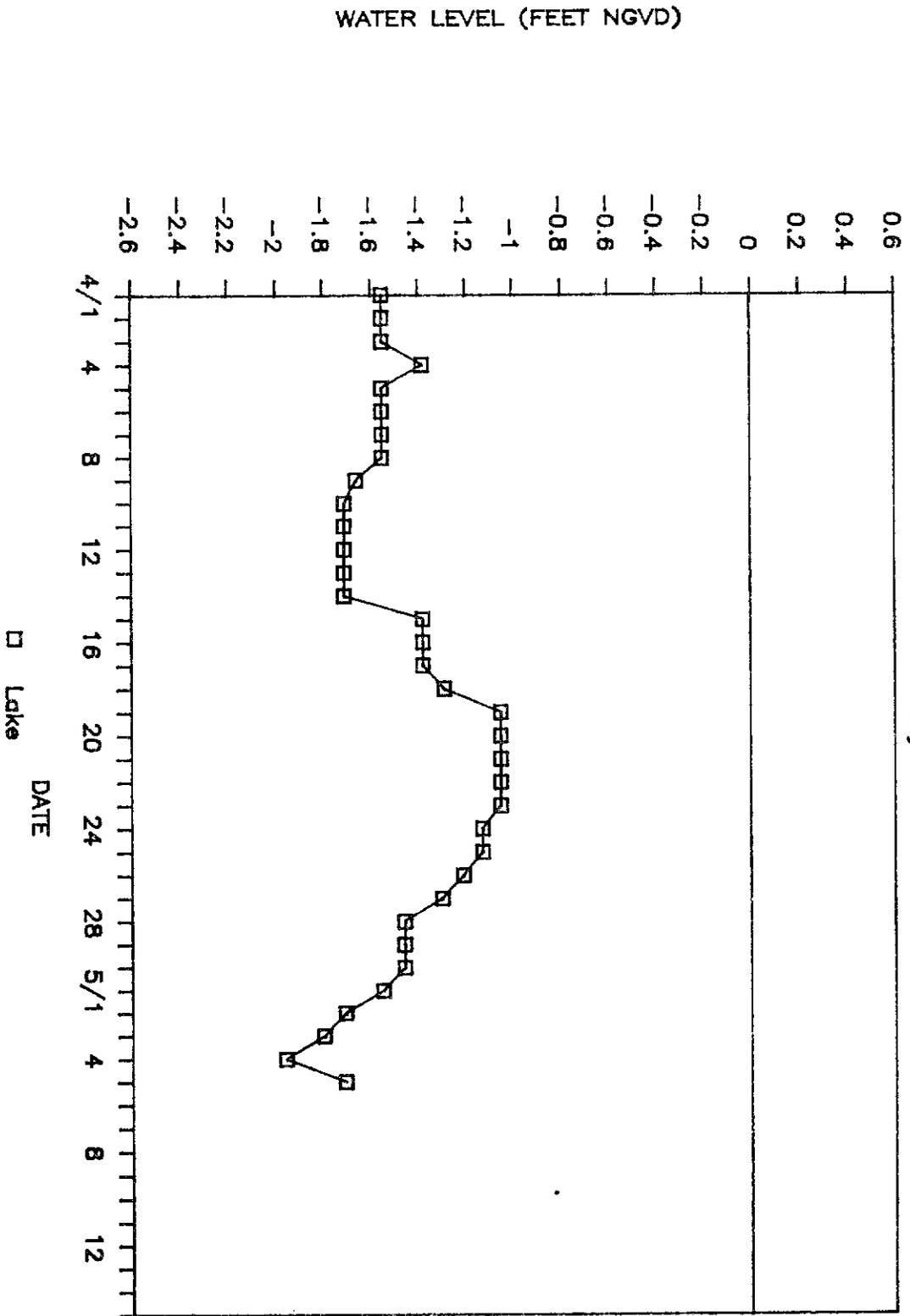
# CITY OF NAPLES WELL DATA

## MONITORING WELL CHLORIDE CONCENTRATIONS



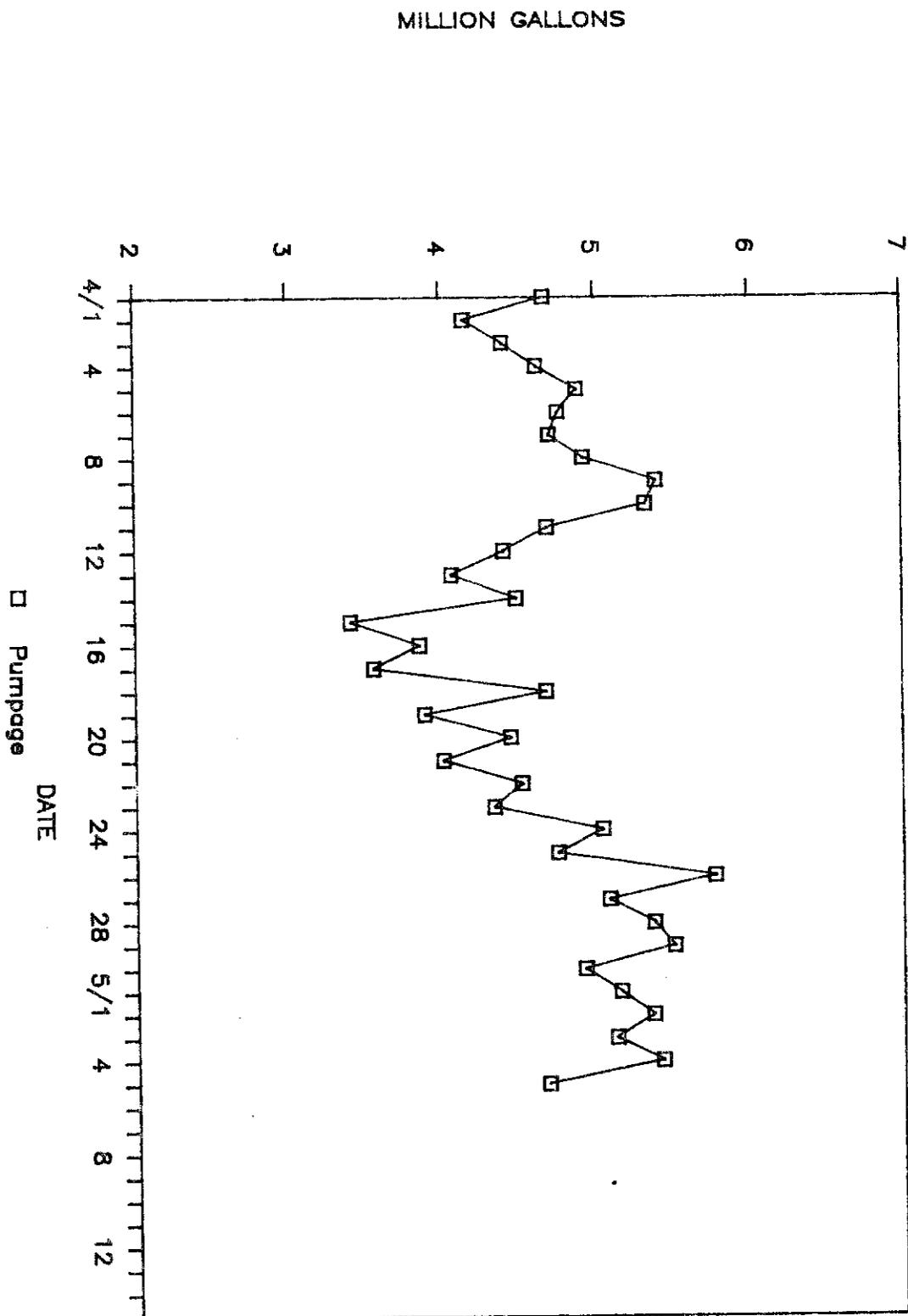
# Marco Island

Daily Water Levels



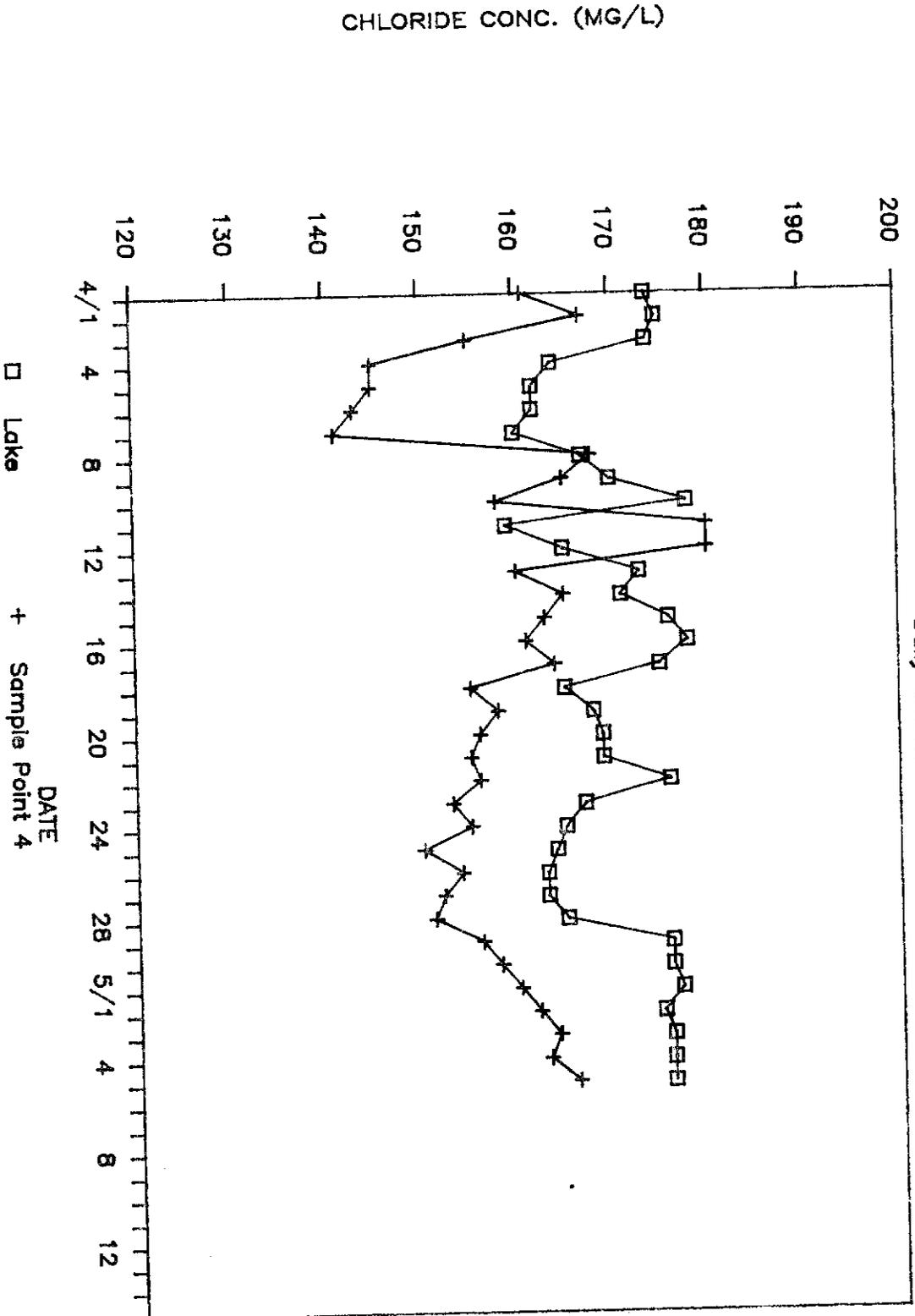
# Marco Island

Daily Pumpage



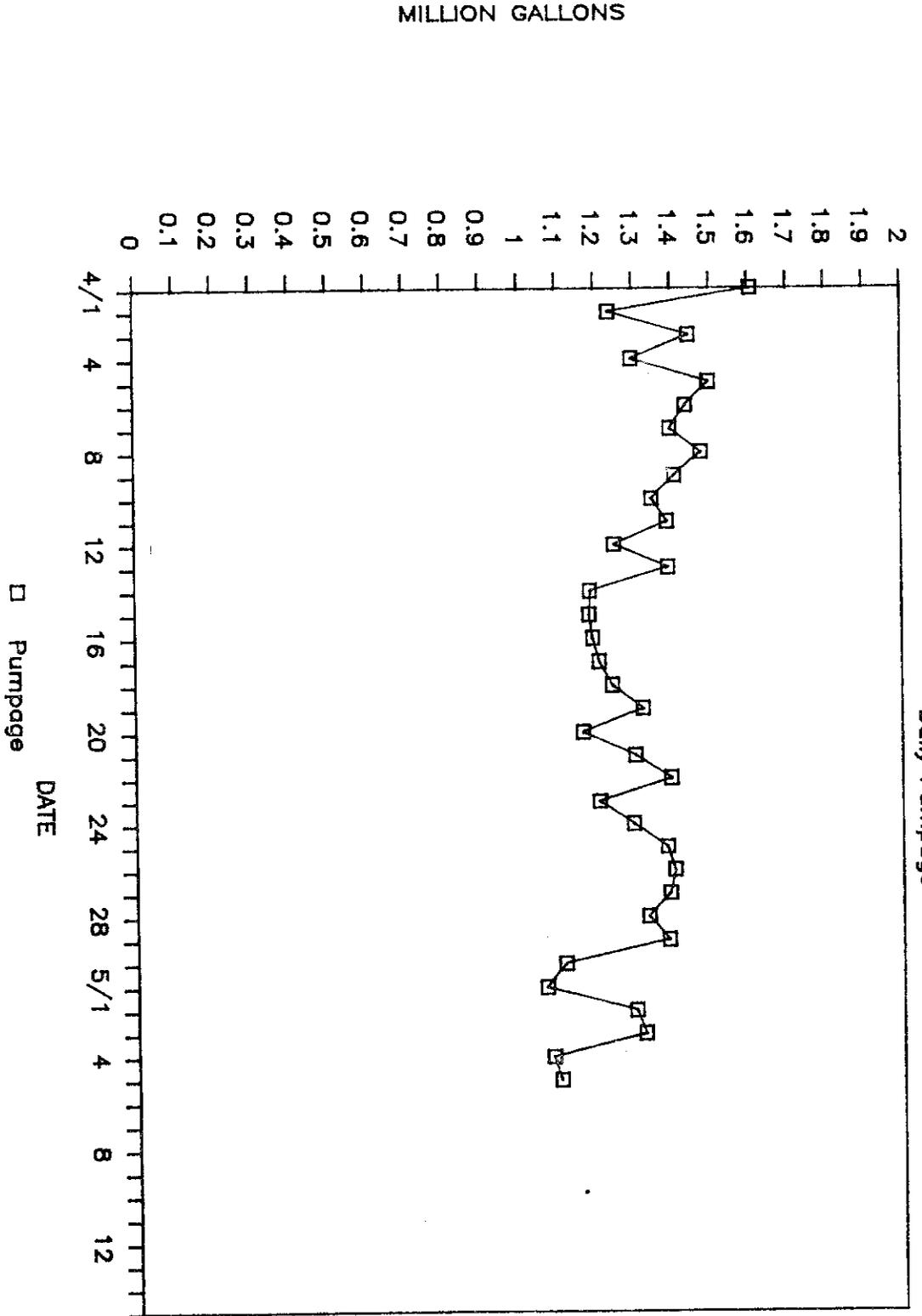
# Marco Island

## Daily Chloride Concentrations



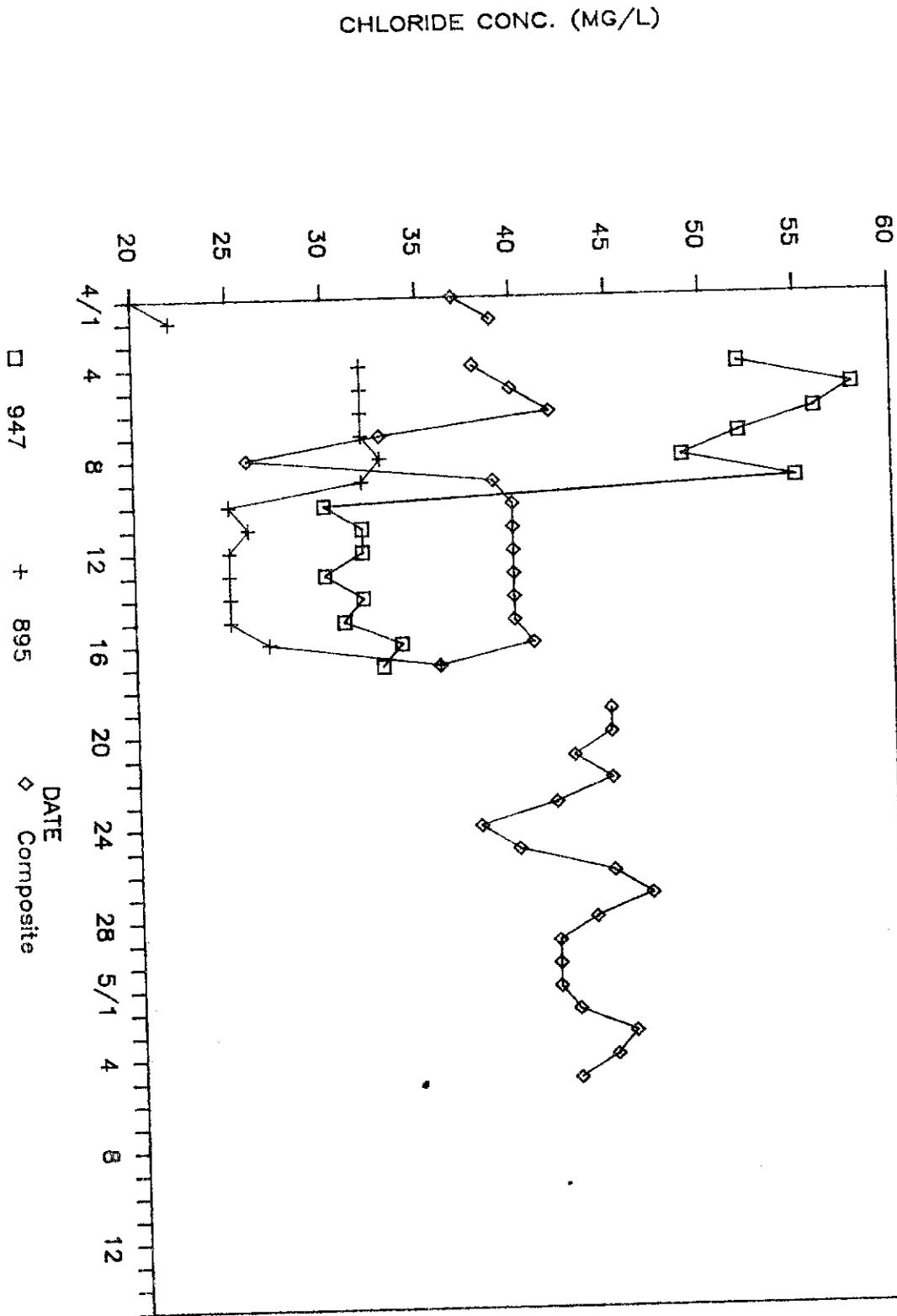
# Highland Beach

Daily Pumpage



# Highland Beach

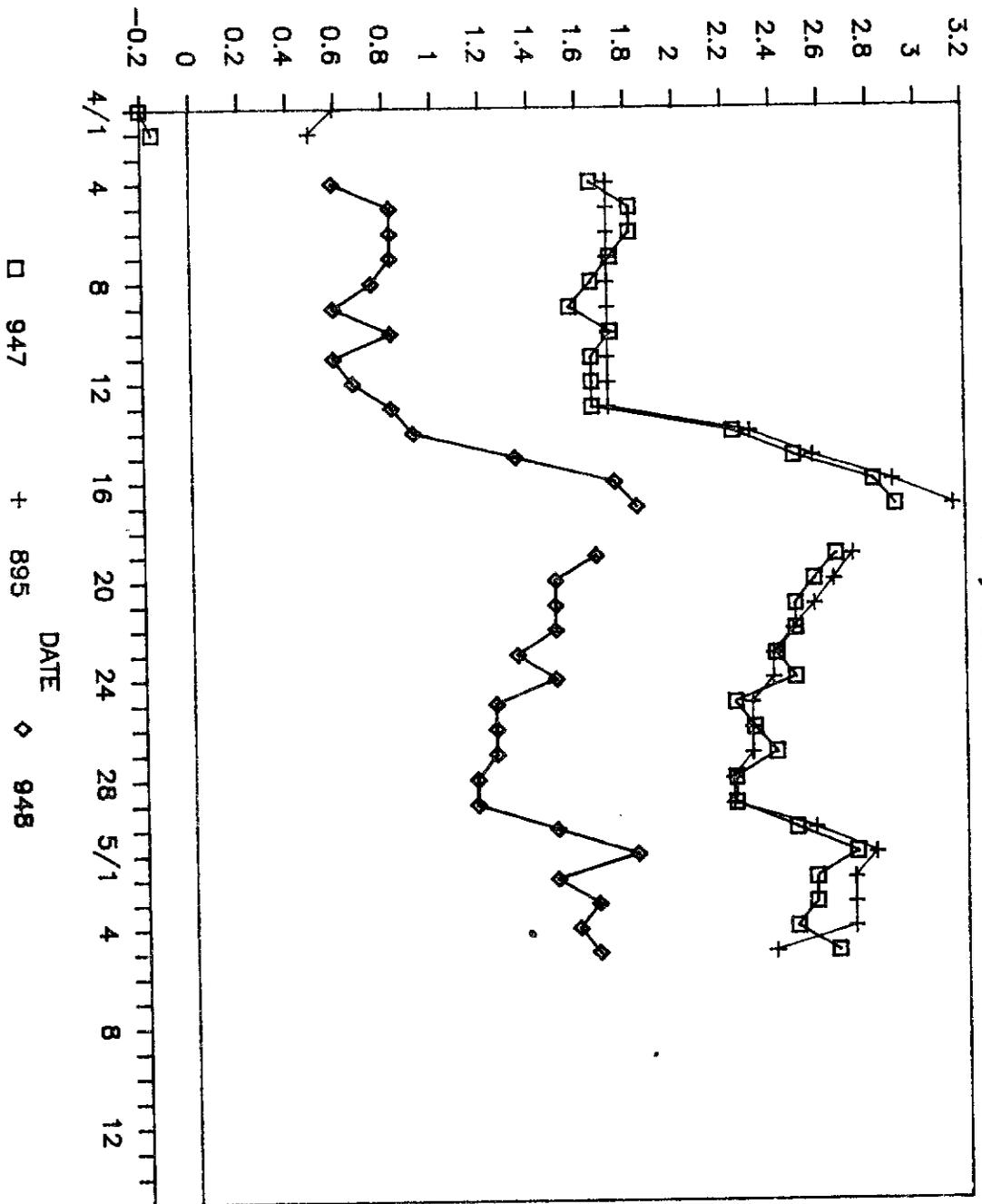
Daily Chloride Concentrations



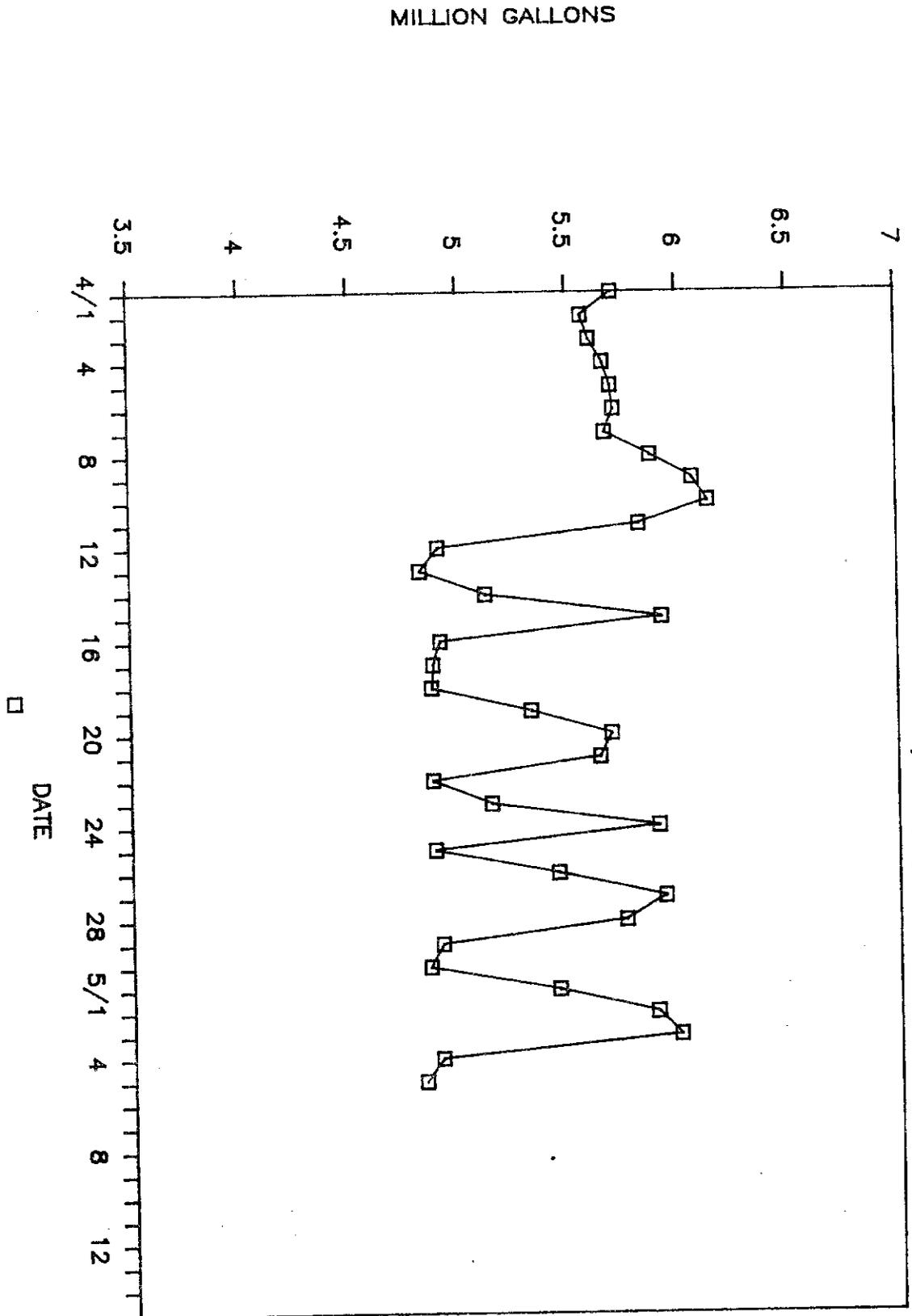
WATER LEVEL (FEET NGVD)

Highland Beach

Daily Water Levels



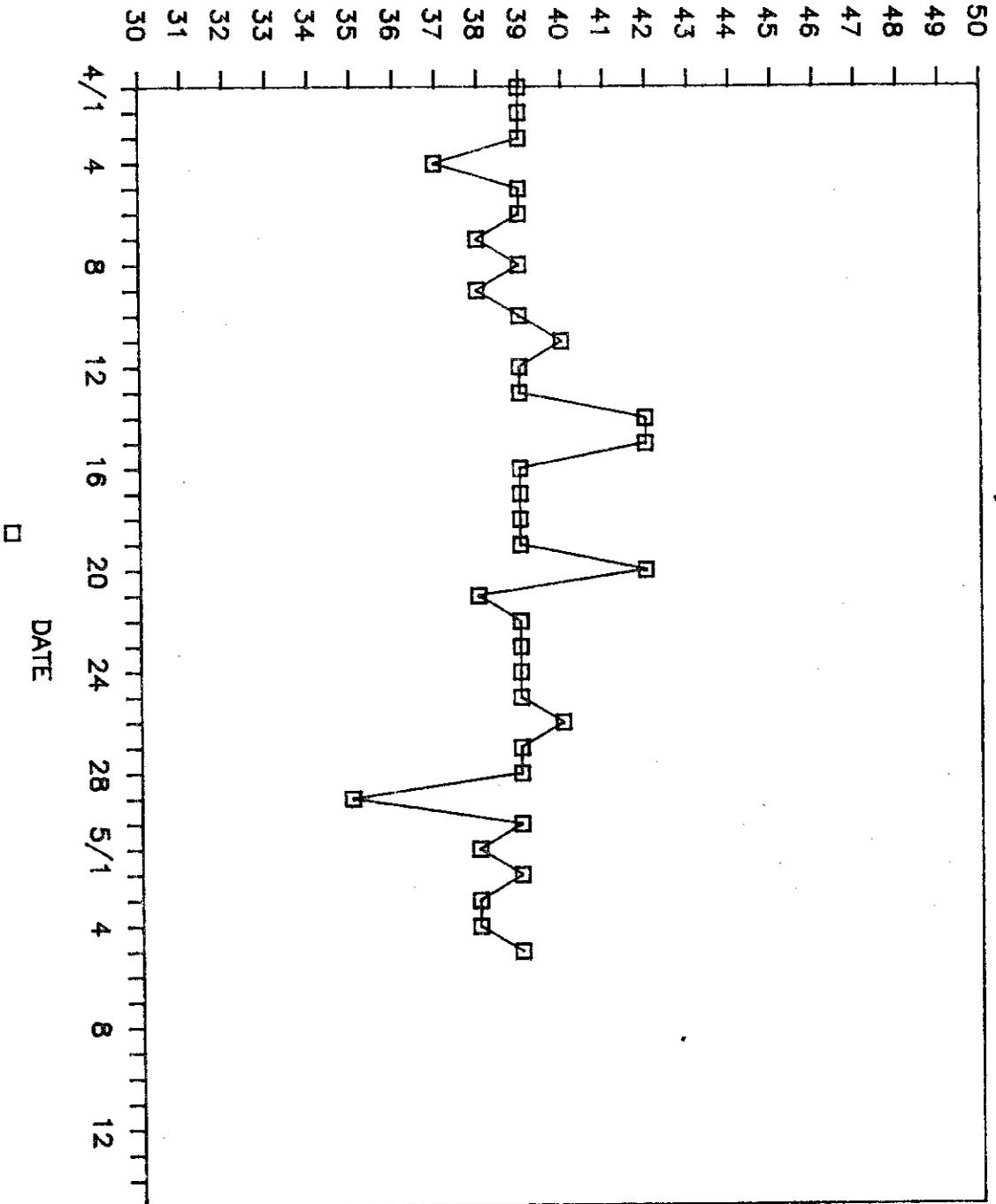
# Hallandale Daily Pumpage



CHLORIDE CONC. (MG/L)

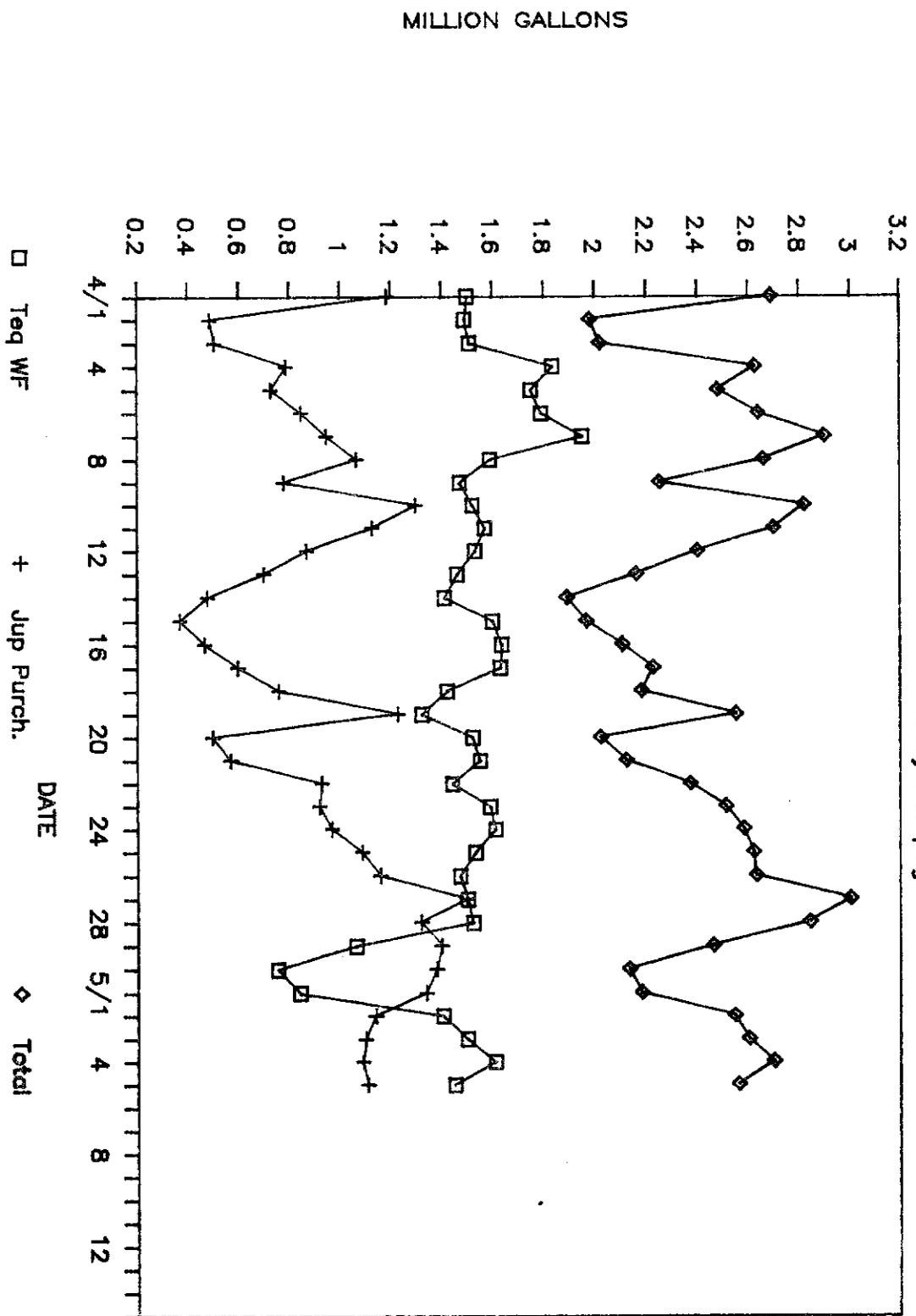
# Hallandale

Daily Chloride Concentrations



# Village of Tequesta

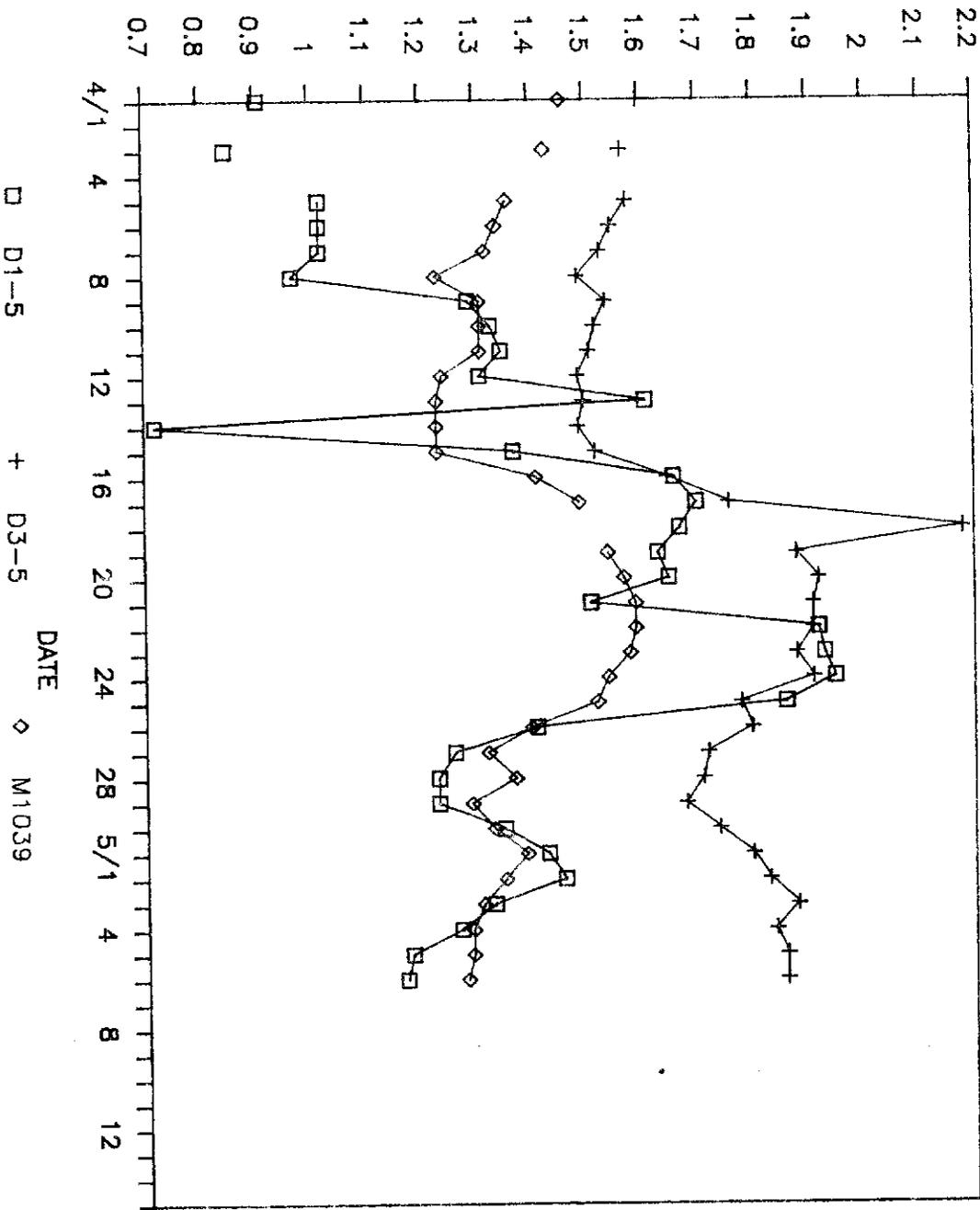
Daily Pumpage



WATER LEVEL (FEET NGVD)

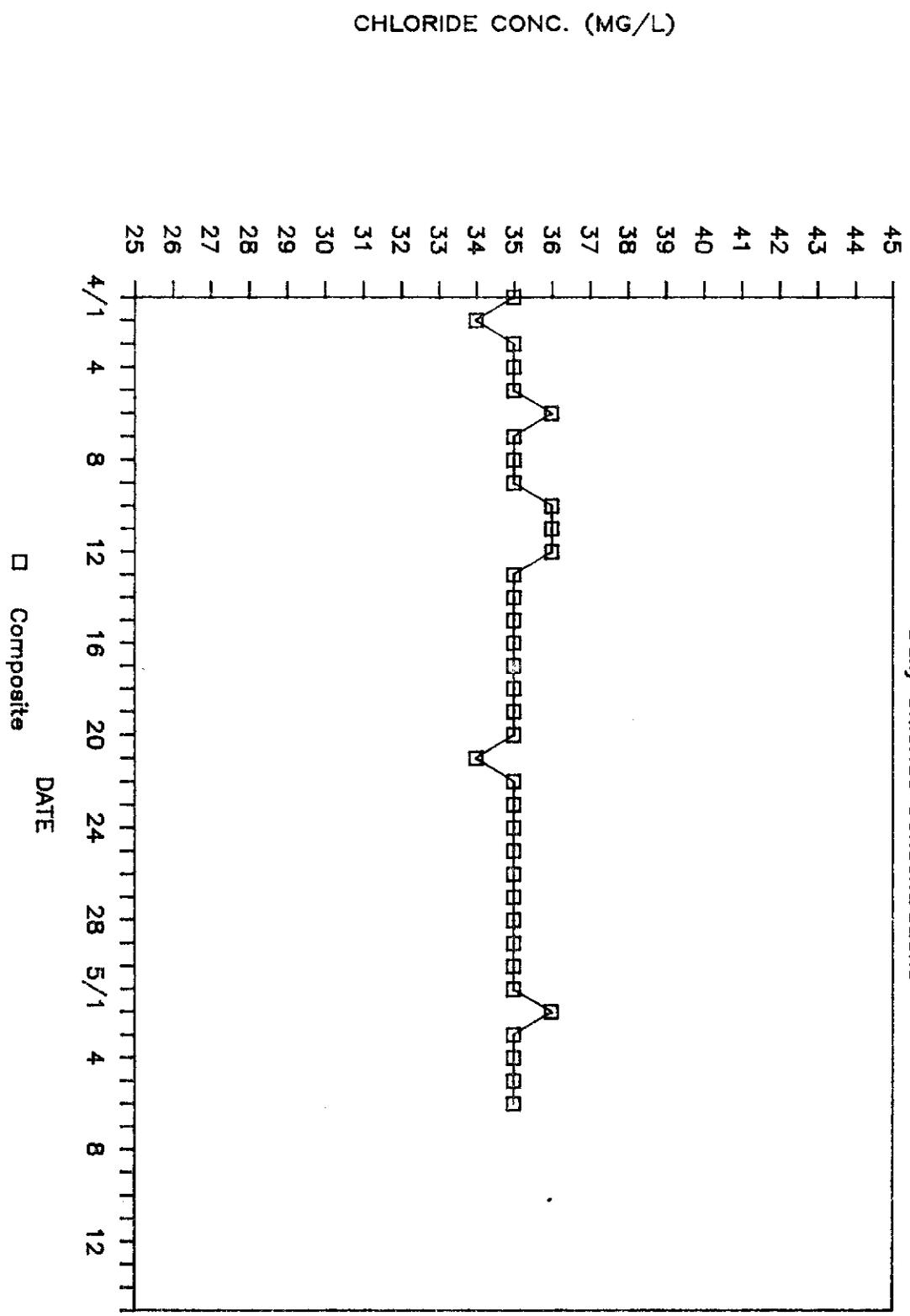
Village of Tequesta

Daily Water Levels

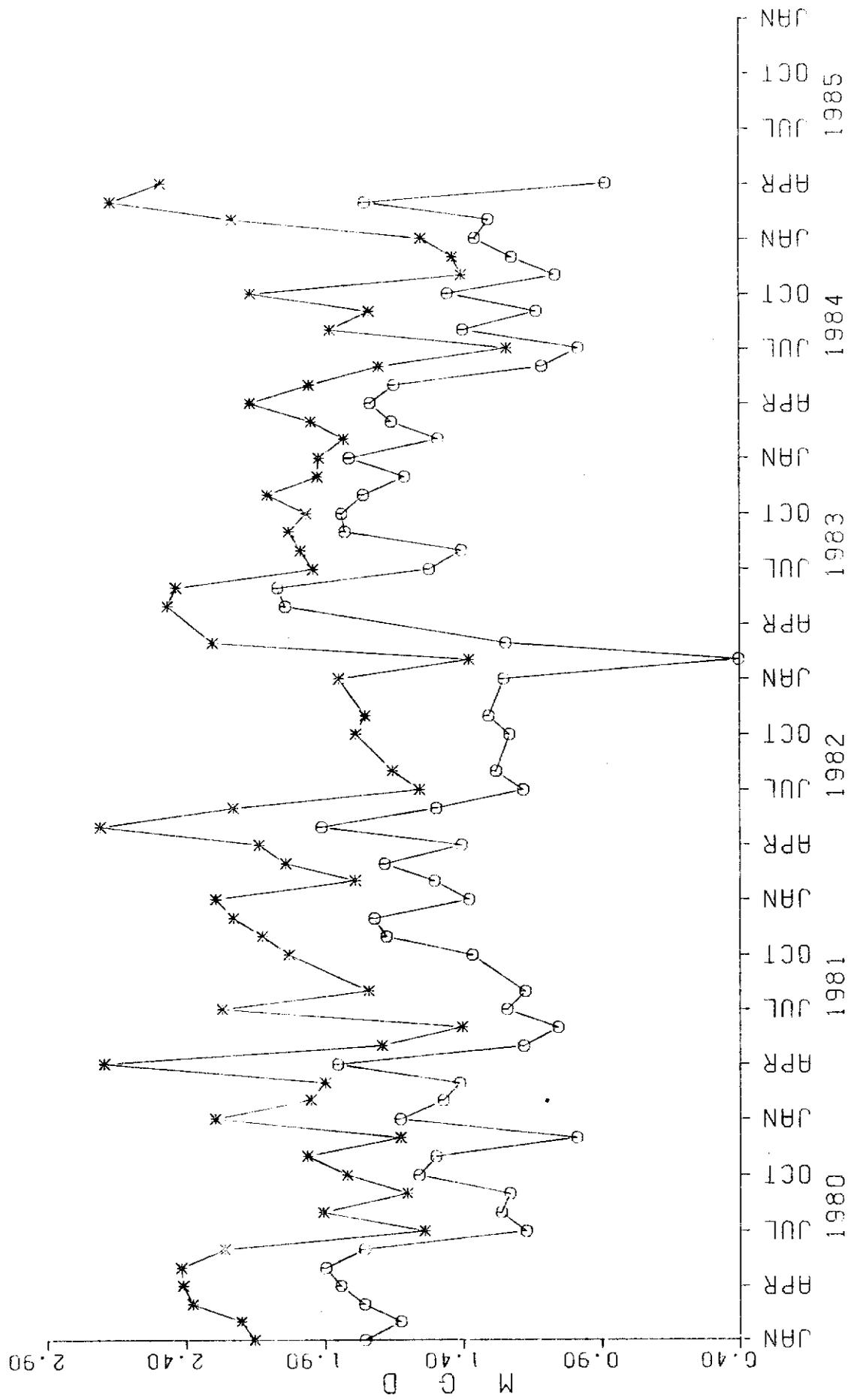


# Village of Tequesta

## Daily Chloride Concentrations

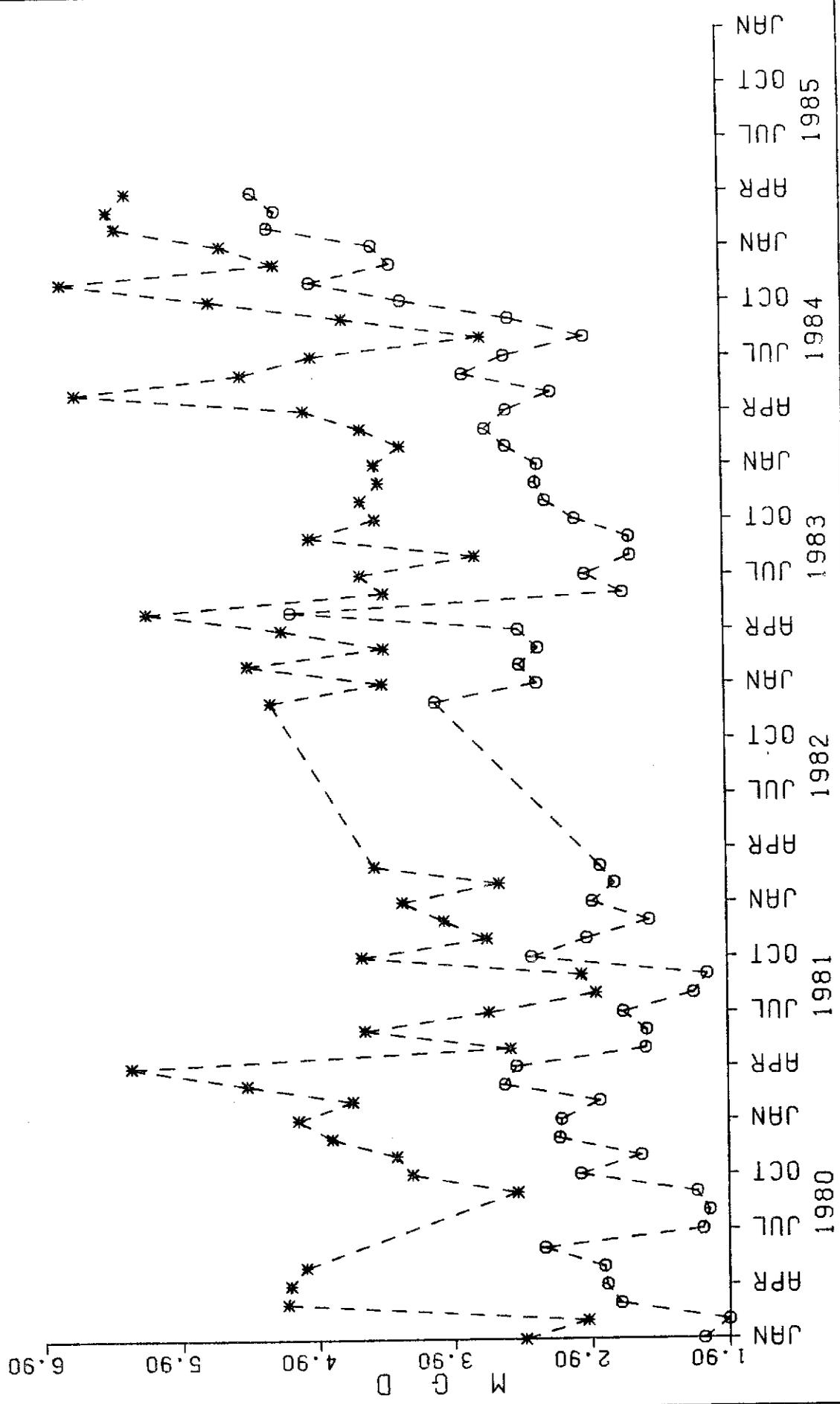


SOLID-LINE = RAW; O = AVG DAY, \* = MAX DAY



CITY OF CAPE CORAL  
PERMIT NO. 36-00046-W, CITY OF CAPE CORAL  
LIME PLANT WELLFIELD

DASHED-LINE = TREATED; O = AVG DAY, \* = MAX DAY

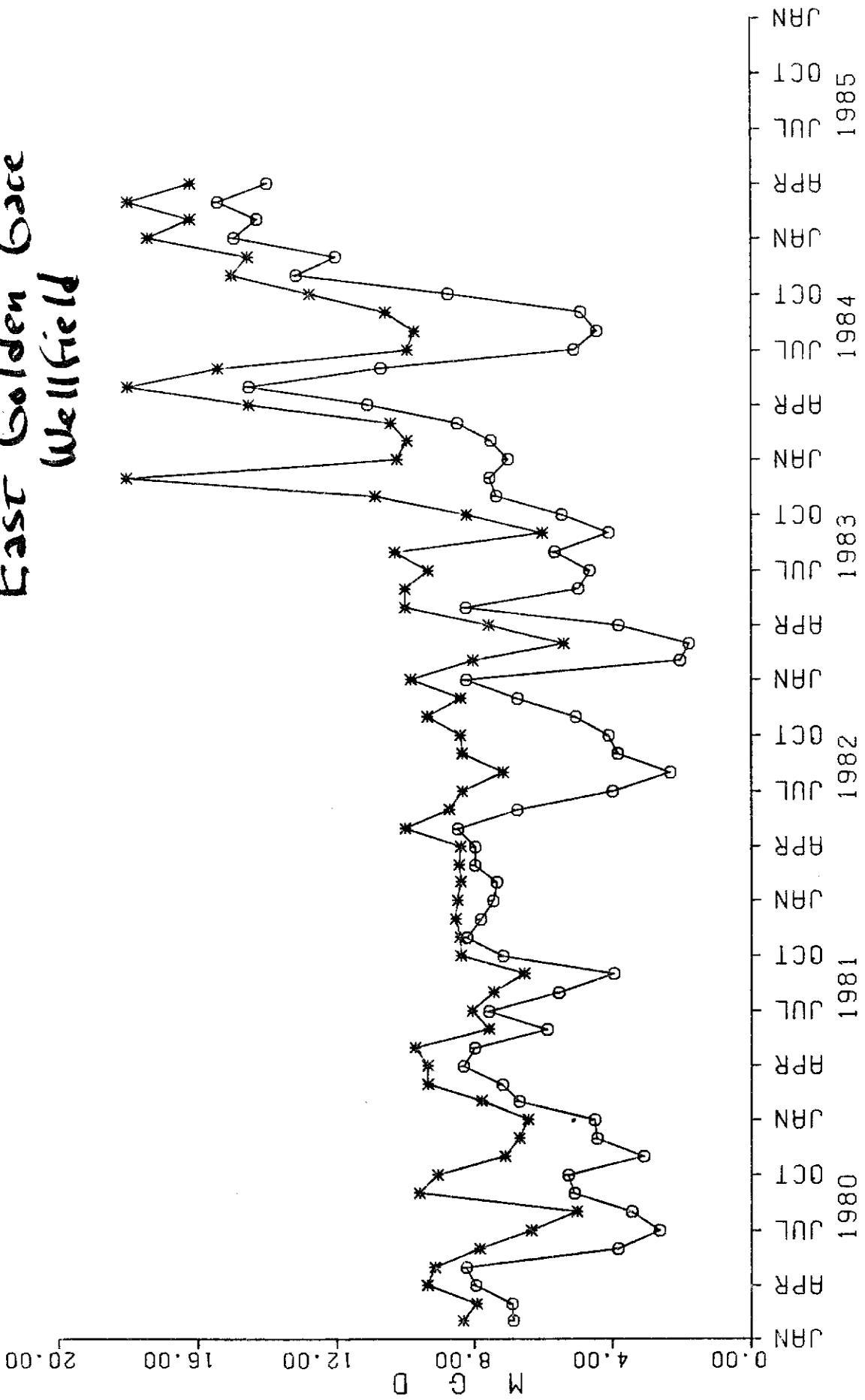


CITY OF CAPE CORAL  
PERMIT NO. 36-00046-W, CITY OF CAPE CORAL  
R.O. PLANT WELLFIELD



# East Golden Gate Wellfield

SOLID-LINE = RAW; O = AVG DAY, \* = MAX DAY



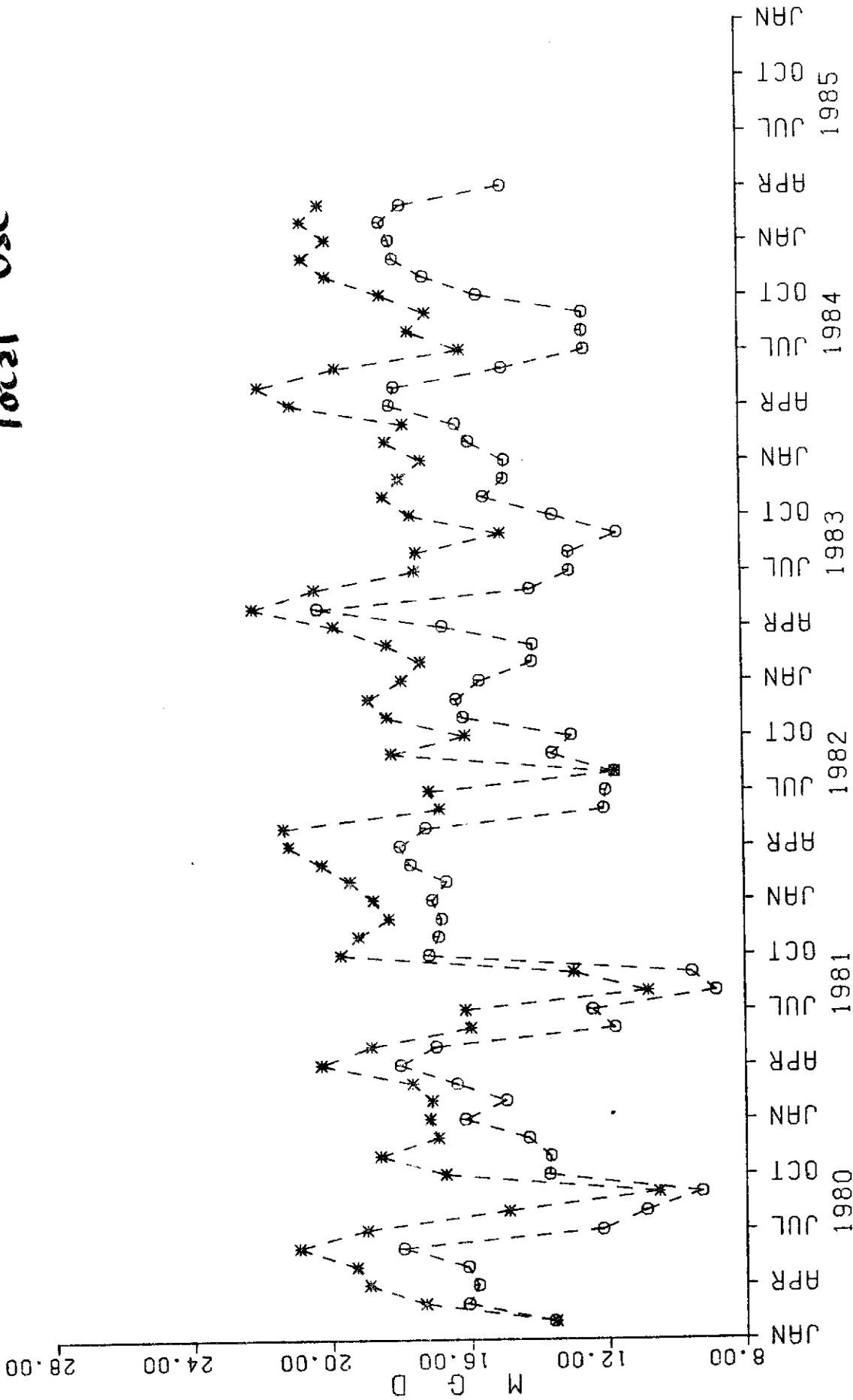
CITY OF NAPLES

PERMIT NO. 11-00018-W, CITY OF NAPLES

SUMMARY - ALL WELL FIELDS UNDER ABOVE PERMIT

# Total Use

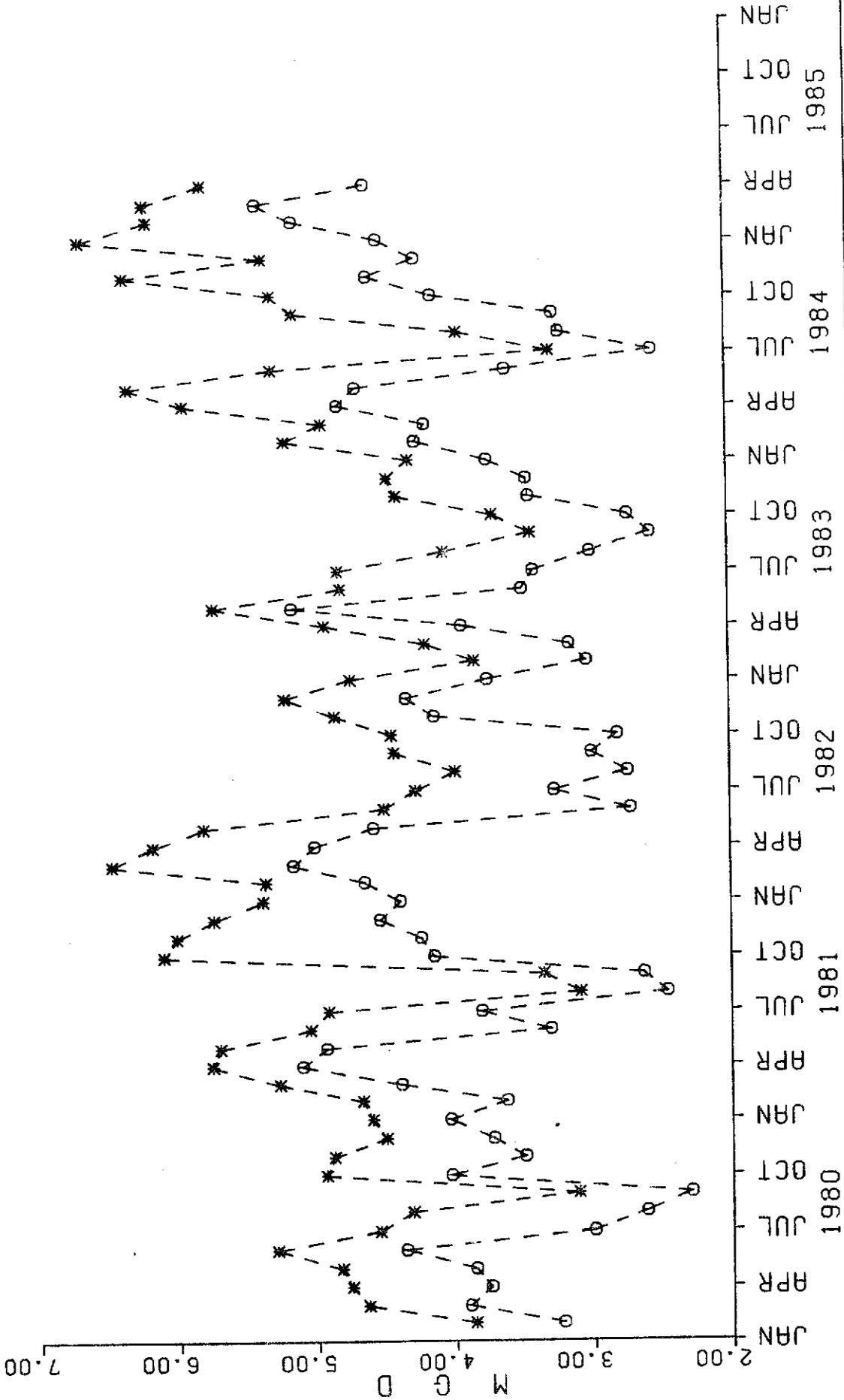
DASHED-LINE = TREATED; O = AVG DAY, \* = MAX DAY



## CITY OF NAPLES

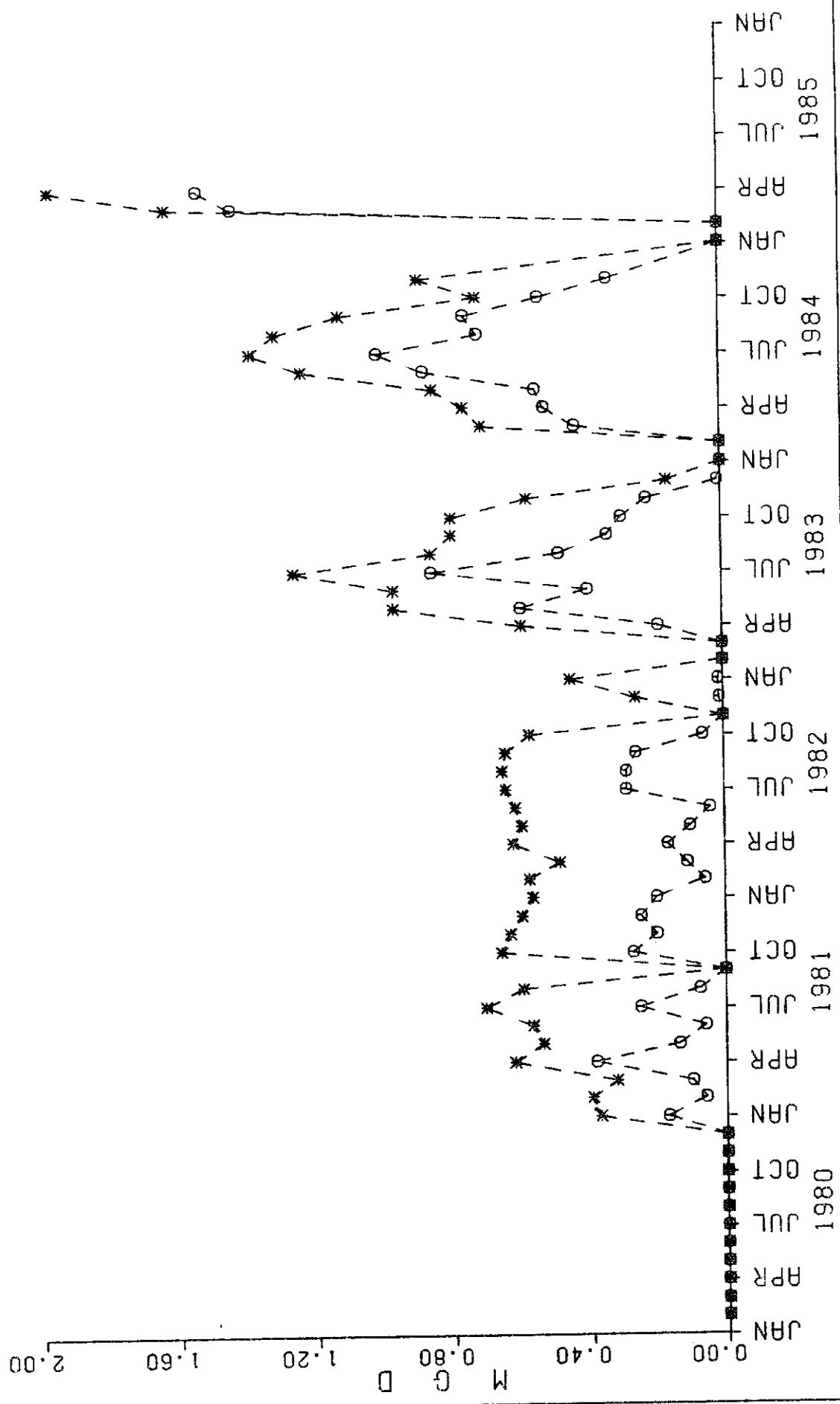
SUMMARY - ALL PERMITS ISSUED TO THIS UTILITY  
 SUMMARY - ALL WELL FIELDS UNDER ABOVE PERMIT

DASHED-LINE = TREATED; O = AVG DAY, \* = MAX DAY



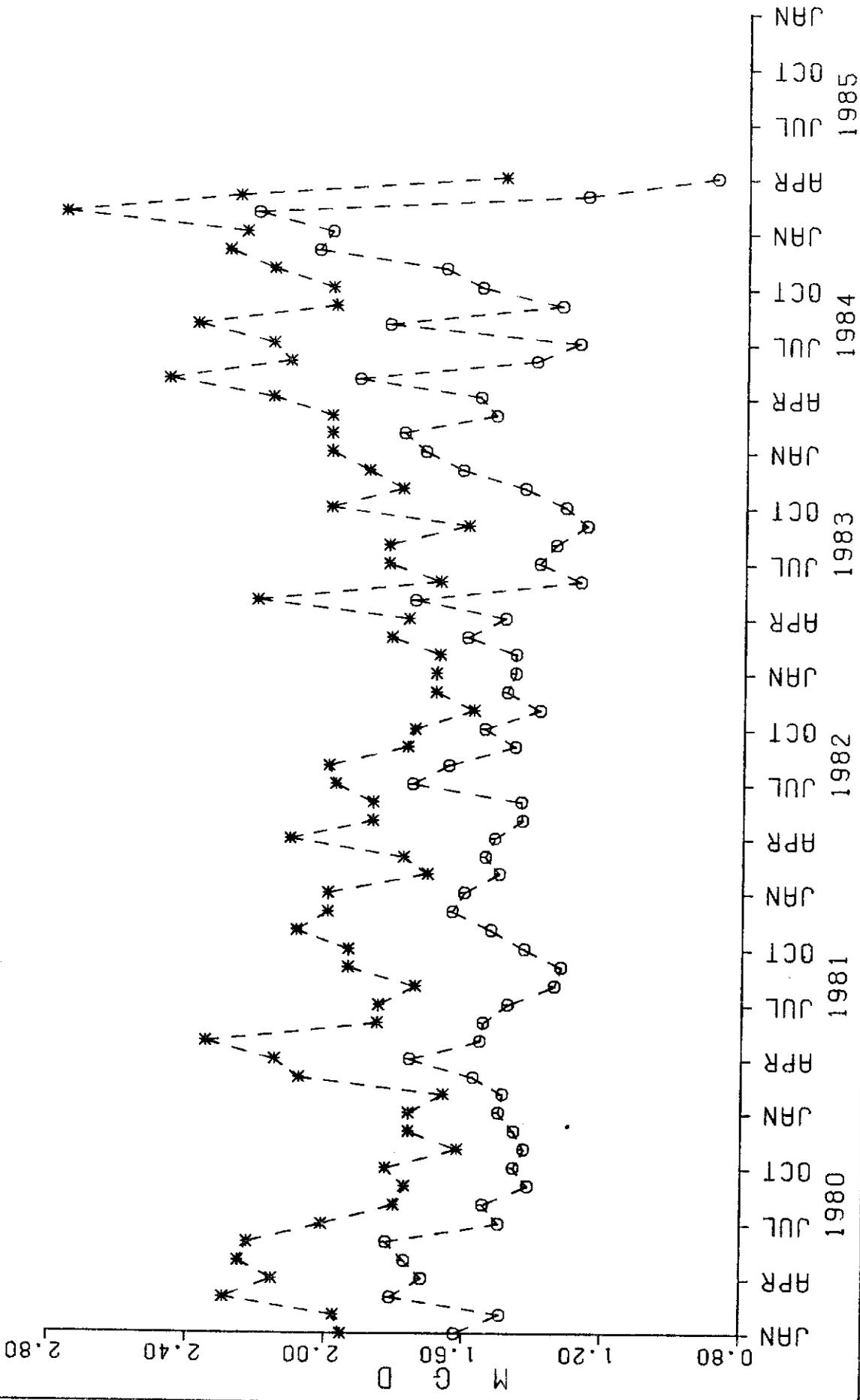
MARCO ISLAND UTILITIES  
PERMIT NO. 11-00080-W, MARCO ISLAND UTILITIES  
MARCO ISLAND WELDFIELD

DASHED-LINE = TREATED; O = AVG DAY, \* = MAX DAY



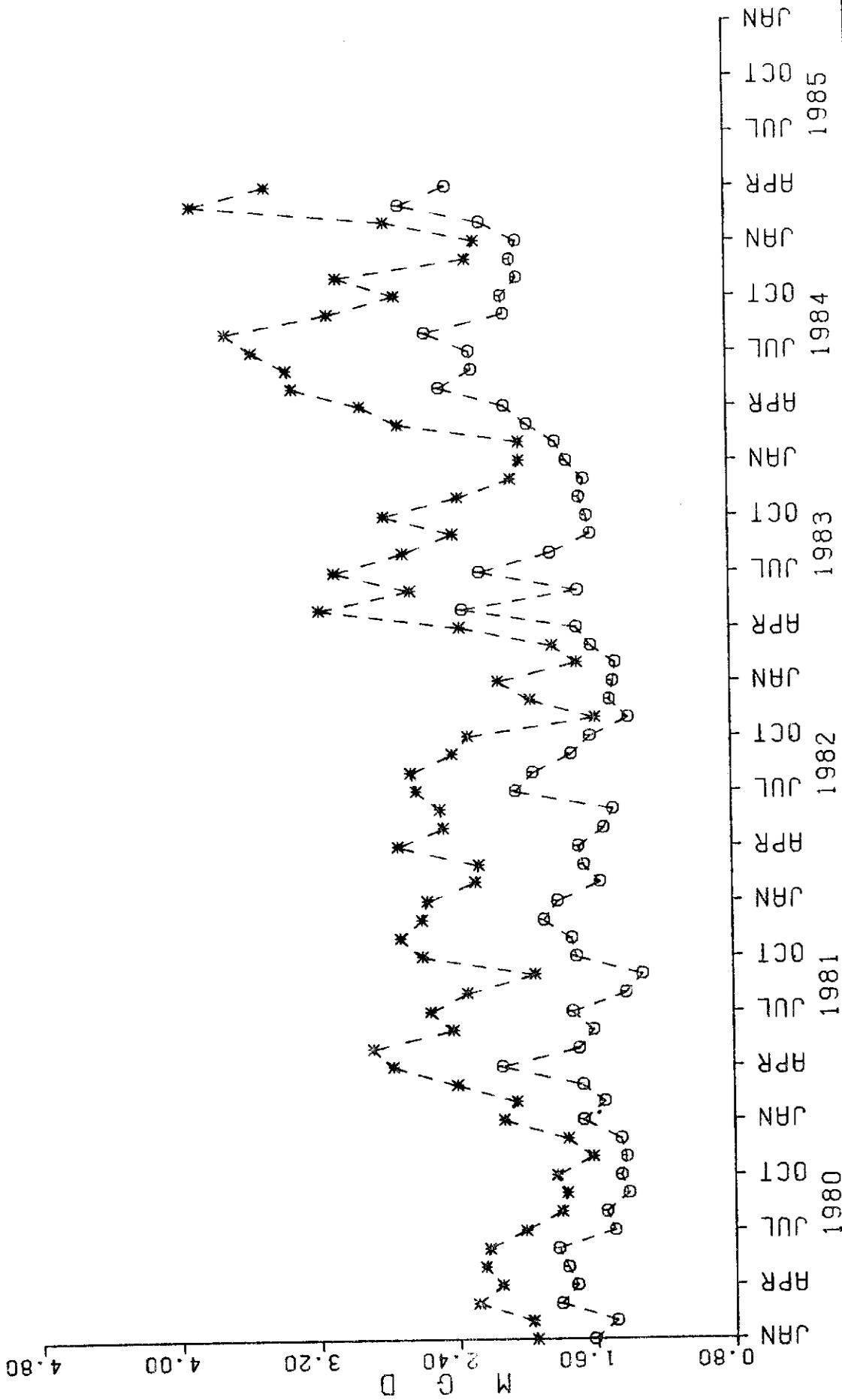
VILLAGE OF TEQUESTA  
 PERMIT NO. 50-00046-W, VILLAGE OF TEQUESTA  
 TEQUESTA WELLFIELD

DASHED-LINE = TREATED; 0 = AVG DAY, \* = MAX DAY



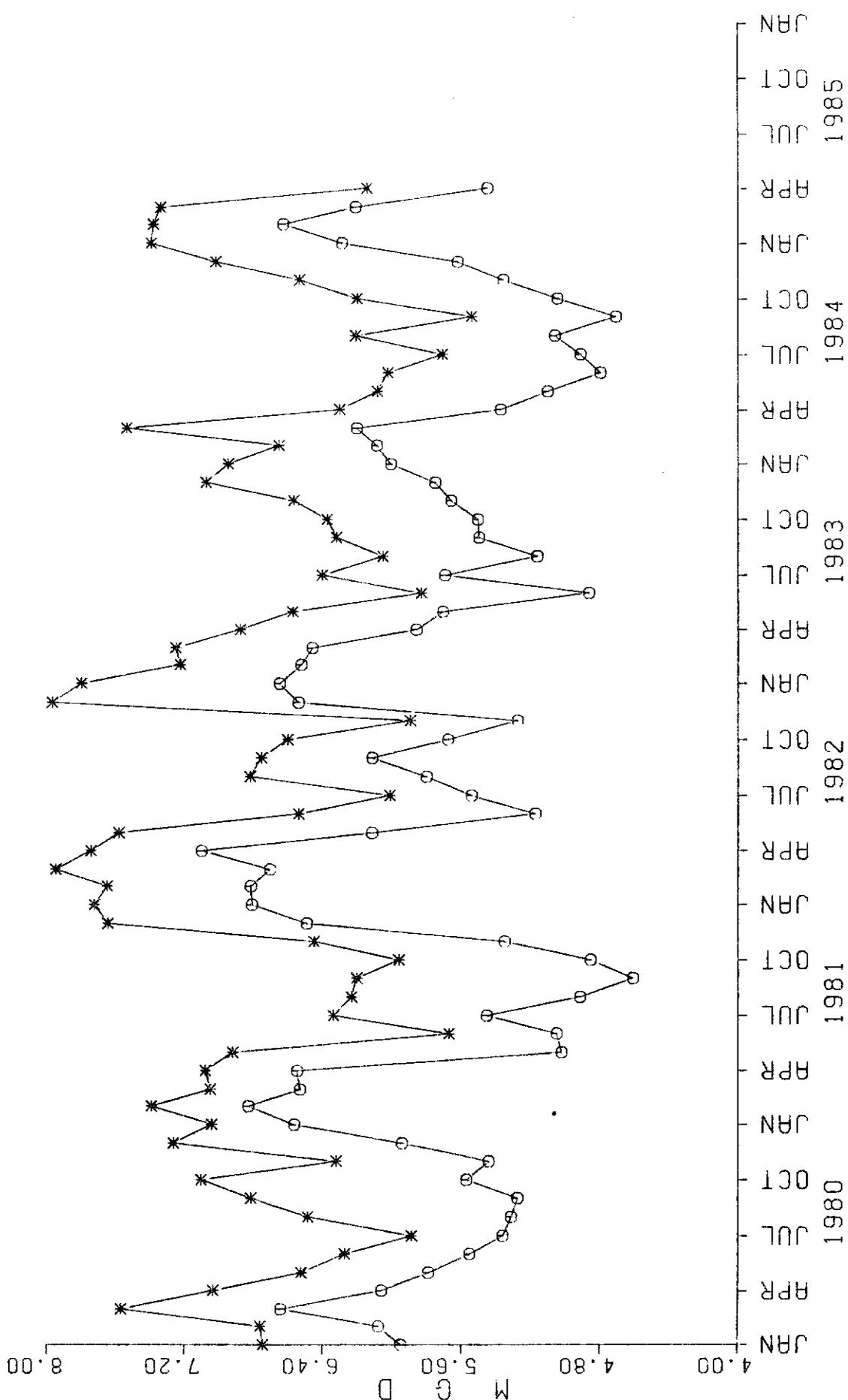
VILLAGE OF TEQUESTA  
PERMIT NO. 50-00046-W, VILLAGE OF TEQUESTA  
FROM JUPITER WELLFIELD

DASHED-LINE = TREATED; 0 = AVG DAY, \* = MAX DAY



VILLAGE OF TEQUESTA  
 SUMMARY - ALL PERMITS ISSUED TO THIS UTILITY  
 SUMMARY - ALL WELL FIELDS UNDER ABOVE PERMIT

SOLID-LINE = RAW; O = AVG DAY, \* = MAX DAY



CITY OF HALLANDALE  
SUMMARY - ALL PERMITS ISSUED TO THIS UTILITY  
SUMMARY - ALL WELL FIELDS UNDER ABOVE PERMIT



**APPENDIX III**  
**EXTERNAL COORDINATION**

## DETAILS OF EXTERNAL COORDINATION

The following summary reflects the action items of the shortage team efforts and other significant meetings.

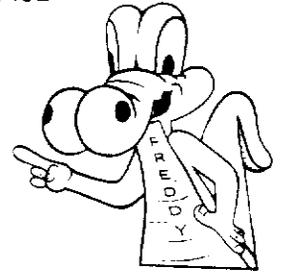
Daily	Utility Monitoring	Gleason
April 11	SFWMD Governing Board Workshop	Creel, Hall, Gleason
April 17	Water Conditions Committee Meeting	Reel, Letro, Hall, Wedderburn, Schweigart, Horvath
April 18	Broward County Water Supply Advisory Board	Butler, Woehlcke
April 22	Water Shortage Team Meeting	Entire staff team
April 23	Palm Beach County Commission	Schwartz, Butler
April 24	Phase 1 and Warning Rescinded	Wodraska
April 26	Big Cypress Basin Board Meeting	Creel, Adams, Tammaro
May 2	Water Shortage Team Meeting	Wodraskal, Reel, Adams, Hall, Gleason, Wedderburn, Horvath, Smith, Clark, Butler
May 2	Media Blitz - Fort Myers	Gleason, Clark
May 2	Media Blitz - Naples	Adams, Burgess
May 3	Southwest Florida Water Shortage Meeting	Burdick, Niego, Adams, Burgess, Shine, A. Miller, Duplaix, Clark

# SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Post Office Box V, West Palm Beach, Florida 33402  
Telephone (305) 686-8800



## News Release



RELEASE DATE: IMMEDIATE

Additional Information Call:

INFORMATION SERVICES

April 24, 1985

Today, the South Florida Water Management District will rescind the mandatory and voluntary water restriction measures currently in force throughout most counties in the District. Mandatory Phase 1 restrictions will be dropped in Lee and Collier counties but a voluntary restriction program will continue until further notice. Counties placed on a precautionary water shortage warning will have the voluntary restrictions lifted.

"South Florida has been able to deal with these dry conditions thanks to local support and moderate rainfall," said John R. Wodraska, Executive Director for the South Florida Water Management District. "Our measurements indicate that conservation efforts by utilities and local governments have been excellent and the recent rains helped alleviate the crisis. Although there has been a net improvement, we are still concerned about our next dry season and strongly encourage people to conserve water on an ongoing basis."

Staff continues to carefully monitor water conditions in the 16 counties under District jurisdiction. Significant changes were recorded during the last two weeks, due both to cutbacks and scattered heavy rainfall.

Lake Okeechobee is the District's main water storage system during the dry season, holding nearly 95% of our water reserves. Periodic discharges are made to replenish the canal system which conveys water all the way down to Dade County. Due to the recent rains which dumped 6 to 7 inches on some areas of the east coast, discharges from the lake were curtailed for 8 days. As a result, the level of the lake yesterday had risen to 13.26 feet, near normal for this time of year. The other major lakes in the system, Lake Kissimmee, Lake Istokopga and Lake Tohopekaliga are also showing signs of recovery and are above the minimum seasonal levels.

To monitor consumer demand trends, the water pumpage reports of 49 major utilities for the period of March 15 to April 18 were compared with those of

March 1-15, before restrictions were imposed. During that month water use was reduced by more than 10%. Some areas achieved greater percentage reductions than others, notably Naples - 21%, Marco Island - 19%, Lee County 18% - and Martin County - 20%.

On the west coast, where mandatory water restrictions had been imposed, pumpage from the mid-Hawthorn and Coastal Ridge aquifers decreased; water levels rose in Fort Myers and Naples, reducing the threat of salt water intrusion in the water supply. The mandatory water restrictions will be lifted today and replaced by voluntary water cutbacks.

Representatives from the District will continue to work closely with county and municipal government officials in other areas to promote water conservation methods particularly with major user groups such as golf courses and agriculture. Several counties have the model ordinance in place; staff is now concentrating on passage of the ordinance by the municipalities. The seasonal exodus of winter residents on both the west and east coast should help reduce municipal water demands in most areas.

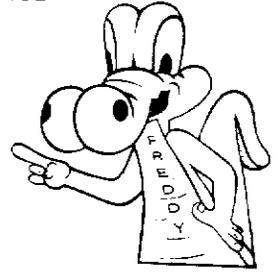
"Our problems are not over yet. We are so dependent upon rainfall levels, that if we don't receive our full quota of rain this summer, we may be in serious trouble again by early 1986," cautioned Tilford C. Creel, Deputy Executive Director of the District. "To avoid recurring water shortage problems, we must recognize the importance of sound water conservation policies and practice them."

# SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Post Office Box V, West Palm Beach, Florida 33402  
Telephone (305) 686-8800



## News Release



RELEASE DATE: IMMEDIATE

Additional Information Call: INFORMATION SERVICES

May 2, 1985

Lee and Collier counties' water supplies continue to hover close to a water shortage condition, a condition that could worsen if rainfall remains light and water consumption continues to increase.

The District upgraded the status of Lee and Collier counties April 24 by replacing the Water Shortage Phase 1 category with a Water Shortage Warning. Under a Water Shortage Warning, Lee and Collier county residents are still to conserve water as they did so effectively under Phase 1. The difference between a warning phase and Phase 1 is that no penalties are enforced for the warning phase.

"Remember, we still need your help," reminds John Wodraska, Executive Director of the South Florida Water Management District. "We were able to rescind our mandatory water use restrictions last week for two reasons - rainfall since mid-March was nearly normal and all water users, (agricultural, recreation and residential) reduced their consumption by the 15% we required. In the last week, however, we have seen consumption start to climb, and the weather has been dry. This combination could quickly put us back in a water shortage again, unless water conservation practices are reestablished immediately."

"Groundwater levels are receding," Wodraska said. "Water conservation is paramount. We are keeping a close watch on these borderline areas: Cape Coral, the City of Naples, and Marco Island. District staff will meet soon with high-volume water consumers such as farmers, golf course superintendents, and water utility directors, to examine recent water use patterns and study means of reducing water demands."

The next water conditions update will be delivered by District staff to the Governing Board meeting in Okeechobee, May 9 and 10.

**APPENDIX IV**  
**WATER SHORTAGE ORDINANCE STATUS**

SFWMD WATER SHORTAGE ORDINANCE STATUS: ADOPTION BY COUNTIES and MUNICIPALITIES

07-May-85

NO.	CITY	COUNTY	EXISTING ORDINANCE	CITY / COUNTY ATTORNEY		SFWMD ATTORNEY	ORDINANCE ADOPTION				REMARKS
			Yes / No	Name	Phone		First Reading	Second Reading	Adoption Date	EMERGENCY Yes / No	
1		Broward	Yes	J. Blagau	(305) 357-7600	Tamayo			04/02/85	Yes	Existing ordinance inadequate
2		Charlotte									No action. Non-warning county
3		Collier	Yes	G. Saunders	(813) 774-8400	Niego, Tamayo			03/15/85	Yes	
4		Dade	Yes	P. Tell	(305) 375-5151	Niego, Burdick	04/02/85		04/16/85		Existing ordinance inadequate
5		Glades		M.A. Rider	(813) 465-1111	Niego					
6		Henry		D.L. Lucky, Jr.	(813) 675-0697	Niego					
7		Highlands		R.P. Dunty	(813) 465-2811	Niego					In SFWMD/SFWMD considering both WMD's
8		Lee		J.G. Yaeger	(813) 335-2236	Tamayo			03/15/85	Yes	
9		Martin	Yes	M.H. Dienick	(305) 283-6760	Niego					Existing ordinance adequate
10		Monroe		L.C. Proby, Jr.	(305) 294-6641	Niego					
11		Okeechobee		K. Van Landingham	(813) 763-6441	Niego					
12		Orange									No action. Non-warning county
13		Osceola									No action. Non-warning county
14		Palm Beach	Yes	C. Schoech		Schwartz, Burdick	04/16/85				Approved on first reading
15		Polk									No action. Non-warning county
16		St. Lucie		S. Woods	(305) 466-1100	Niego					
17	Atlantis	Palm Beach		D. Sasser							
18											
19	Bal Harbour Village			A.S. Bold							
20	Bay Harbor Islands			L. Morwitz							
21	Belle Glade	Palm Beach		J.E. Baker							
22	Biscayne Park			M. Anderson							
23	Boca Raton	Palm Beach	Yes	F. Bartolone	(305) 393-7716	Burdick					Existing ordinance inadequate
24	Boynton Beach	Palm Beach		J.W. Vance	(305) 684-5544	Burdick	04/16/85			No	Approved on first reading
25	Briny Breezes	Palm Beach		J. Skrandel							
26	Clewiston			J.A. Yaun							
27	Cloud Lake	Palm Beach		R.K. Kramer							
28	Coral Gables			R.D. Zahner							
29	Delray Beach	Palm Beach	Yes	H.W.A. Thiele	(305) 278-2841	Burdick	04/09/85	04/23/85		Yes	Modified version
30	El Portal			J.A. Manick							
31	Florida City			J.F. Tomassi							
32	Fort Pierce			J.T. Brennan							
33	Glen Ridge	Palm Beach		J.W. Vance							
34	Golden Beach			M. Colodny							
35	Golf	Palm Beach	Yes	R.D. Chapin		Niego					Existing ordinance inadequate
36	Golfview	Palm Beach		J.L. Watt							
37	Breezeways City	Palm Beach		P. Nighdoll							
38	Gulf Stream			J. Randolph							
39	Haverhill	Palm Beach		R. McK. Foster							
40	Hialeah			R. Niles							
41	Hialeah Gardens			N. Flaxman							
42	Highland Beach			T.E. Sliney	(305) 392-8900						
43	Homestead			M.E. Watkins							
44	Hypoluxo	Palm Beach		M. Caldwell							
45	Islandia			J.A. Sarrow							
46	Juno Beach	Palm Beach		J.M. Adams							
47	Jupiter	Palm Beach	Yes	J.F. Skrandel	(305) 622-7707	Burdick	05/07/85			No	Existing ordinance inadequate
48	Jupiter Inlet Colony	Palm Beach		W. Doney							
49	Jupiter Island		Yes	E. Crary, Jr.		Burdick					Existing ordinance inadequate

SFMMB WATER SHORTAGE ORDINANCE STATUS: ADOPTION BY COUNTIES and MUNICIPALITIES

07-May-85

NO.	CITY	COUNTY	EXISTING	CITY / COUNTY ATTORNEY		SFMMB ATTORNEY	ORDINANCE ADOPTION			REMARKS
			ORDINANCE	Name	Phone		First Reading	Second Reading	Adoption Date	
			Yes / No							
50	Key Colony Beach			R.S. Appleton						
51	Key West			J. Allen, III						
52	Labeile			W.E. Rowlee						
53	Lake Clarke Shores	Palm Beach		Reid and Hecke						
54	Lake Park	Palm Beach		T.J. Yeager						
55	Lake Placid			R.P. Dunty, Jr.						
56	Lake Worth	Palm Beach		P. Nicoletti	(305)659-8686	Burdick	04/15/85		No	Approved on first reading
57	Lantana	Palm Beach		P. Nicoletti	(305)655-8886	Burdick	04/24/85			
58	Layton			H.P. Kravitz						
59	Manalapan	Palm Beach		J.M. Wearn	(305)659-0655	Burdick				
60	Mangonia Park	Palm Beach		A. Bernstein						
61	Medley			M. Gross						
62	Miami			J. Garcia-Pedrosa						
63	Miami Beach	Dade		L. Dougherty		Niego		04/17/85	Yes	
64	Miami Shores Village			W.F. Fann, Jr.						
65	Miami Springs			A.L. Weintraub						
66	Moore Haven			K. Sullivan						
67	North Bay Village									
68	N. Key Largo Beach			J.P. Nutt						
69	North Miami			J. Hurst						
70	North Miami Beach			H.B. Lenard						
71	North Palm Beach			H.L. Gildan		Burdick	04/25/85		Yes	
72	Ocean Breeze Park			W.F. Cray						
73	Ocean Ridge	Palm Beach	Yes	J. Randolph		Niego				Existing ordinance inadequate
74	Okeechobee			D.M. Conlon				04/16/85		
75	Opa-Locka			A. Weintraub						
76	Pahokee			M. Staeder						
77	Palm Beach	Palm Beach		J. Randolph						
78	Palm Beach Gardens	Palm Beach		W. Brant						
79	Palm Beach Shores	Palm Beach	No	A.V. Everard		Burdick	05/13/85		No	
80	Palm Springs	Palm Beach		D.P. Kohl						
81	Pennsoco			C.A. Schulaan						
82	Port St. Lucie			S.B. Gilbert	(305)461-8900					
83	Riviera Beach	Palm Beach		A.V. Everard	(305)845-4049	Burdick				
84	Royal Palm Beach	Palm Beach		H.P. Benn						
85	St. Lucie Village			S. Hoskins						
86	Sewall's Point			M.L. Fox						
87	South Bay	Palm Beach	Yes	J. Gann						Existing ordinance inadequate
88	South Miami			G. Efthimiou, Jr.						
89	South Palm Beach			H.D. Faust						
90	Stuart			J. Weiner	(305)287-4444	Niego	04/08/85			Decided not to adopt
91	Surfside			S.H. Cypen						
92	Sweetwater			J.H. Weil						
93	Tequesta	Palm Beach		J.C. Randolph	(305)655-0108	Burdick, Schwartz				
94	Virginia Gardens			N. Flaxman						
95	West Miami			S. Efthimiou, Jr.						
96	West Palm Beach	Palm Beach	Yes	C.V.M. Coffin	(305)659-8017	Burdick				Existing ordinance inadequate
97	Naples	Collier		D.W. Rynders		Tamara, Niego		03/20/85	Yes	