APPENDIX C

Rainfall Frequency Analysis

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RAINFALL ANALYSIS

A primary goal of the LWC Water Supply Plan is to identify areas of expected water supply shortage and the frequency with which those shortages may occur. Rainfall is responsible for nearly all surface water inflows and outflows in the planning area and is the single most important source of recharge to the Surficial Aquifer. Rainfall is also the single most important variable controlling the occurrence of water shortages in the planning area.

RAINFALL DISTRIBUTION

Rainfall is variable from county to county within the LWC Planning Area. To provide more precise input into the county-level ground water models, the rainfall data was broken down for Collier, Hendry, and Lee counties. The 52-year average annual rainfall for these counties ranges from 51.77 inches in Hendry County to 54.50 inches in Collier County. There is a wet period from May through October, and a dry period from November through April (Figure C-1). Both the maximum monthly average rainfall (9.34 inches in June) and the minimum monthly average rainfall (1.49 inches in December) occur in Collier County (tables C-2 to C-4).

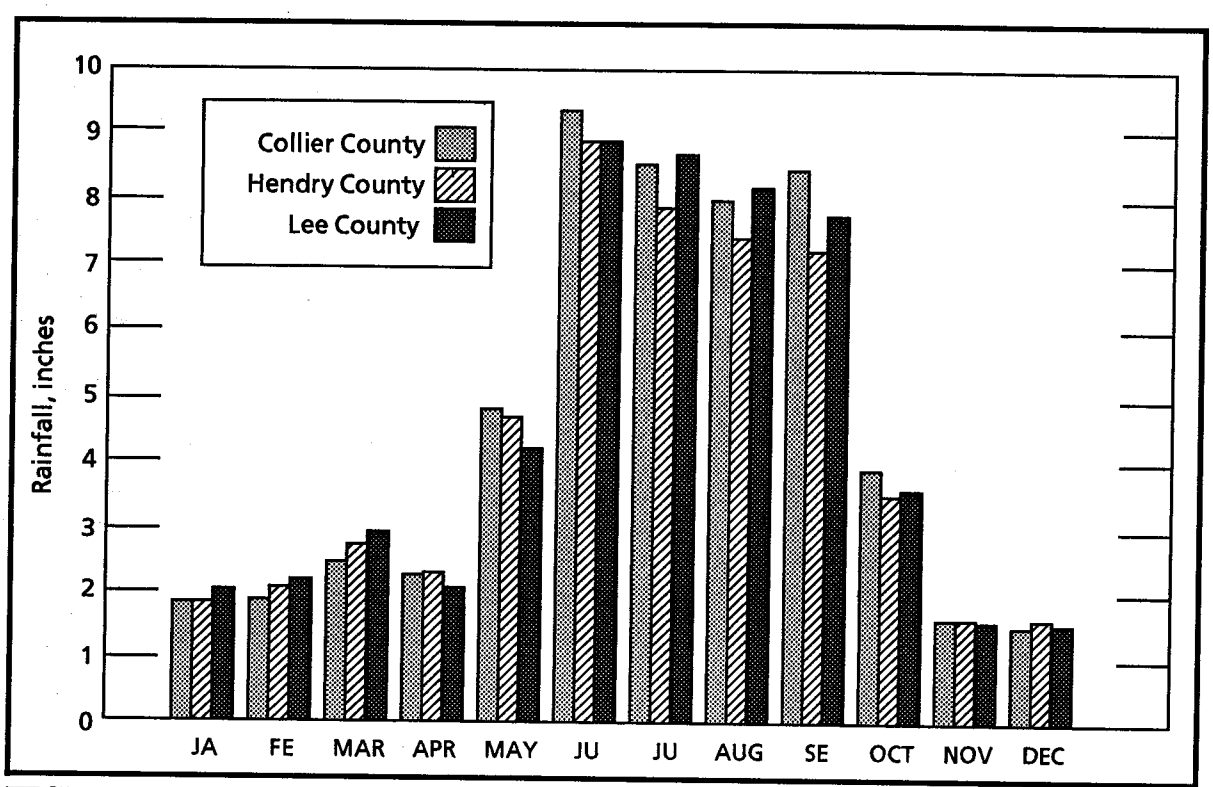

FIGURE C-1. Average Monthly Distribution of Rainfall in Collier, Hendry and Lee Counties, 1940-1991.

RAINFALL DATA PREPARATION

The District has a network of rainfall gaging stations which provide historical rainfall data. Long-term data for the county-level ground water models were obtained from 37 gaging stations with relatively long and reliable records. These rainfall gaging stations are identified in Table C-1 and are plotted in Figure C-2.

TABLE C-1. Monitoring Rainfall (MRF) Gaging Stations by County.

Map No.	Collier	Map No.	Glades	Map No.	Hendry	Map No.	Lee
18	MRF 6098	10	MRF 64/7043*	9	MRF 5001	1	MRF 5004
19	MRF 242	11	MRF 240	10	MRF 64/7043	2	MRF 227
20	MRF 6046			11	MRF 240	3	MRF 336
21	MRF 243			12	MRF 6044	4	MRF 250
22	MRF 5005			13	MRF 6039/7039**	5	MRF 232
23	MRF 375			14	MRF 63	6	MRF 6093
24	MRF 6047			15	MRF 247	7	MRF 206
25	MRF 6121			16	MRF 5006	8	MRF 5003
26	MRF 5010			17	MRF 5002/6118*	9	MRF 5001
27	MRF 5009			18	MRF 6098	12	MRF 6044
28	MRF 5014			20	MRF 6046	18	MRF 6098
29	MRF 6048			26	MRF 5010	20	MRF 6046
31	MRF 145			30	MRF 182	21	MRF 243
32	MRF 6054			31	MRF 145		

* Monitored by more than one agency.
** Monitored by more than one agency with hourly and daily readings.

The ordinary Kriging method for spatial analysis of monthly rainfall in South Florida was used to calculate the average rainfall for Collier, Hendry and Lee counties. Tables C-2 through C-4 list the resulting monthly rainfall between 1940 and 1991 for Collier, Hendry, and Lee counties. The monthly rainfall data verified by the daily value were used, and the stations with missing data were not included in the spatial analysis. The rainfall data prior to 1943 was not analyzed due to limited available data and rainfall stations. The rainfall data for 1940 through 1942 were based on the original Lower West Coast rainfall data which was published in Technical Publication 86-6, Frequency Analysis of SFWMD Rainfall (Sculley, 1986).

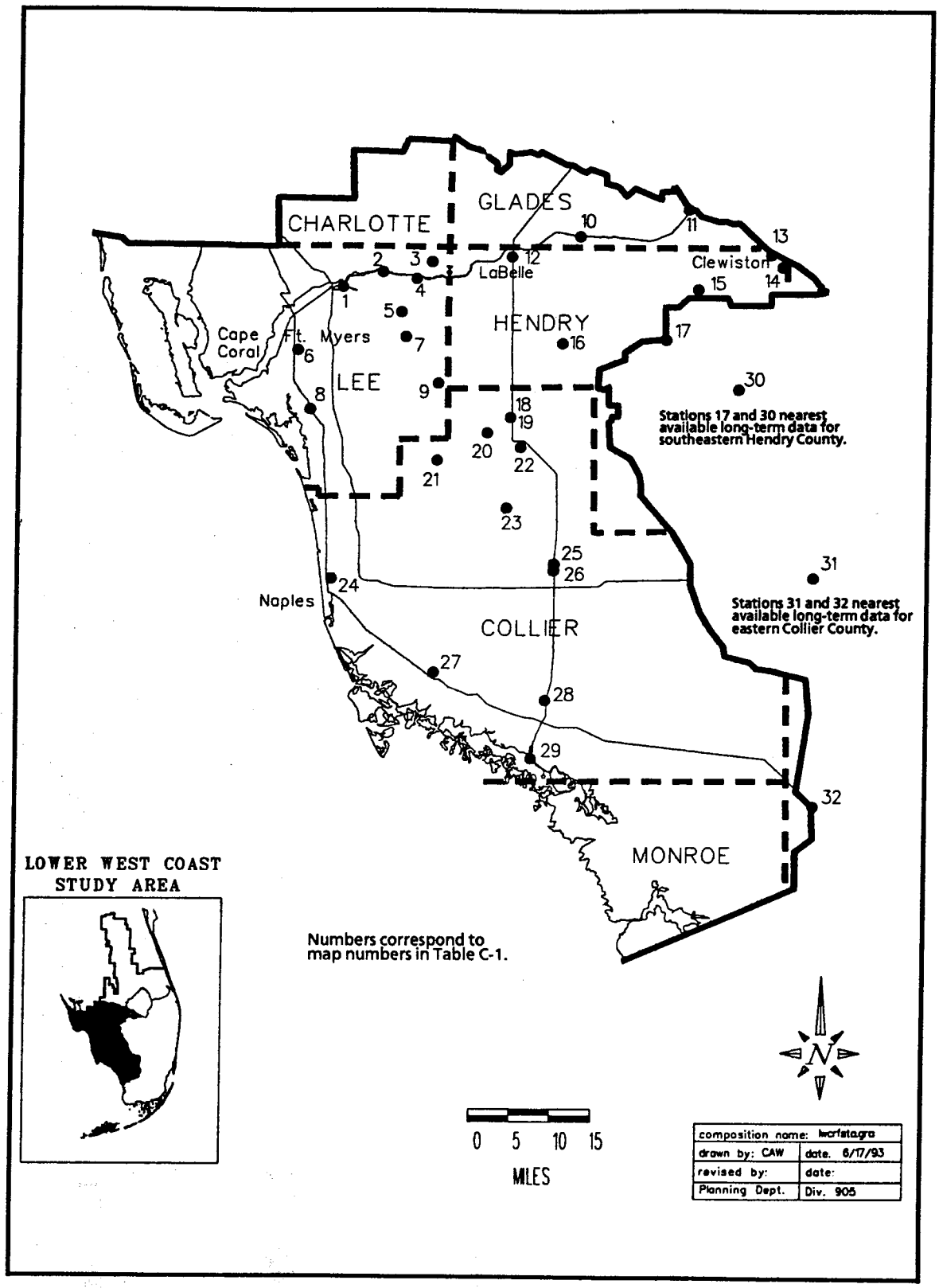

FIGURE C-2. Long-Term Rainfall Gaging Stations in the LWC Planning Area.

TABLE C-2. Monthly Mean Rainfall in Collier County.*

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	SUM
1940	3.19	3.32	3.24	1.46	2.21	9.72	4.41	8.00	14.54	0.46	0.10	4.91	55.56
1941	4.32	3.74	5.03	6.87	1.50	6.74	10.76	5.61	7.04	3.09	2.15	0.86	57.71
1942	2.27	2.93	2.77	3.80	2.62	11.66	6.54	6.80	5.29	0.28	0.55	1.78	47.29
1943	1.23	0.71	0.45	3.10	7.11	12.07	7.68	5.18	6.54	3.15	1.26	0.31	48.79
1944	0.93	0.25	0.98	3.43	4.61	5.02	7.06	8.54	4.50	4.64	0.19	0.85	41.00
1945	2.34	0.71	0.33	3.36	1.25	5.95	10.87	8.98	11.16	4.71	1.04	1.51	52.21
1946	0.89	0.95	0.94	0.77	8.14	8.48	8.19	7.80	8.24	1.28	3.61	2.15	51.44
1947	0.75	1.83	5.44	3.63	2.56	13.87	9.73	9.33	13.03	8.77	4.98	1.48	75.40
1948	2.34	0.20	0.30	2.75	3.60	4.29	9.25	6.25	16.44	4.24	0.59	0.47	50.72
1949	0.04	0.33	0.12	1.69	4.12	9.54	13.03	8.60	12.59	3.92	0.79	2.25	57.02
1950	0.05	1.12	0.58	1.45	2.95	4.21	9.48	7.24	6.60	3.98	1.17	2.24	41.07
1951	0.49	1.12	0.51	3.98	2.10	4.84	7.79	6.51	6.14	9.29	0.48	0.26	43.51
1952	0.89	5.22	2.26	0.90	3.45	5.79	7.93	4.21	9.51	8.52	0.96	0.66	50.30
1953	2.71	1.75	4.10	6.16	1.85	6.59	8.36	9.23	13.53	5.07	0.73	1.53	61.61
1954	0.29	1.58	3.82	5.91	7.44	8.30	7.66	7.23	9.41	2.14	1.63	1.08	56.49
1955	1.04	0.55	0.72	1.90	5.39	10.15	9.35	5.58	8.88	2.21	1.06	1.84	48.67
1956	1.52	0.76	0.71	3.31	6.43	3.69	5.23	6.52	5.72	6.28	0.78	0.38	41.33
1957	0.52	4.50	3.18	2.88	7.12	6.54	7.42	8.62	9.47	4.74	0.37	3.45	58.81
1958	7.05	1.46	5.33	1.26	10.54	7.79	8.08	7.77	6.07	4.29	0.47	3.69	63.80
1959	1.89	0.75	4.35	1.29	8.38	14.21	9.41	9.12	8.63	10.10	2.65	0.69	71.47
1960	0.33	1.44	2.54	4.77	3.77	8.48	15.07	7.45	14.41	5.59	2.85	0.83	67.53
1961	2.51	0.45	1.14	0.35	5.18	6.68	8.57	7.05	4.02	2.51	0.71	0.25	39.42
1962	1.03	0.45	2.81	0.83	3.20	14.50	6.12	8.26	13.77	3.23	1.81	0.38	56.39
1963	1.04	4.57	0.54	0.49	6.17	6.01	4.14	7.04	12.17	2.20	2.48	2.62	49.47
1964	1.92	1.99	1.89	2.44	3.50	9.91	6.77	9.06	6.68	4.68	0.98	0.87	50.69
1965	0.82	3.07	1.21	1.69	1.57	7.94	9.90	8.48	6.33	6.11	1.17	0.73	49.02
1966	3.83	2.02	0.65	3.17	4.47	15.39	9.39	6.74	7.29	3.42	0.40	0.67	57.44
1967	1.97	2.80	0.97	0.02	1.63	12.47	7.03	6.44	8.89	4.91	1.02	2.18	50.33
1968	0.75	2.94	1.49	0.26	9.34	15.22	9.25	6.10	9.13	7.09	2.26	0.57	64.40
1969	2.16	1.81	3.12	2.29	5.16	17.35	8.40	9.95	6.69	8.28	1.81	1.68	68.70
1970	2.94	2.52	15.21	0.03	6.10	8.82	8.59	7.50	7.65	4.21	0.18	0.09	63.84
1971	0.88	1.40	0.38	0.19	4.13	9.28	6.92	11.09	13.07	6.63	1.50	0.66	56.13
1972	1.84	3.97	3.87	2.21	6.64	13.05	5.27	9.29	5.96	1.89	5.36	1.66	61.01
1973	2.89	2.04	3.29	0.72	1.25	11.35	11.32	12.19	7.42	2.45	0.54	2.74	58.20
1974	0.17	0.33	0.32	1.06	5.68	17.45	11.01	8.78	6.28	0.57	3.11	1.39	56.15
1975	0.69	0.79	1.44	2.39	6.94	10.26	11.25	7.05	11.74	2.14	0.33	0.22	55.24
1976	0.57	1.80	1.04	2.90	11.04	10.97	6.33	8.17	10.38	3.17	1.52	2.20	60.09
1977	3.44	1.08	0.08	0.90	5.84	11.51	8.34	7.49	7.43	0.38	2.37	3.19	52.05
1978	2.61	2.93	3.58	2.58	4.15	9.38	9.23	7.36	6.88	2.64	1.27	3.26	55.87
1979	3.29	0.64	1.25	1.20	6.46	4.07	5.89	11.35	11.57	1.98	1.88	3.79	53.37
1980	3.29	1.20	1.93	4.39	4.88	3.10	7.58	9.69	6.62	0.91	3.76	0.71	48.06
1981	0.69	2.89	1.33	0.21	1.45	6.56	8.13	14.44	5.57	1.75	1.75	0.26	45.03
1982	0.68	1.46	3.38	6.14	7.14	19.90	9.54	8.12	7.06	3.97	1.19	1.22	69.80
1983	4.64	8.42	5.18	1.48	0.75	11.26	9.48	8.30	11.06	5.89	2.66	3.54	72.66
1984	0.30	2.15	3.82	0.69	6.17	4.50	7.96	6.81	9.08	1.51	1.70	0.22	44.91
1985	0.88	0.35	1.38	3.08	3.93	8.26	14.02	4.51	5.91	3.63	2.05	1.19	49.19
1986	2.42	1.94	3.76	0.94	1.88	14.35	4.98	9.09	3.78	4.52	0.96	4.56	53.18
1987	1.64	2.19	7.41	0.78	5.33	6.07	5.44	6.99	7.30	3.22	5.35	0.32	52.04
1988	1.50	1.62	2.09	1.03	3.76	6.58	10.01	9.16	4.44	0.91	2.31	0.58	43.99
1989	0.86	0.24	1.48	3.81	3.28	9.44	8.95	7.38	5.77	2.60	1.04	1.94	46.79
1990	1.36	1.81	1.31	1.44	5.89	7.08	8.13	9.58	5.85	3.89	0.72	0.14	47.20
1991	6.09	2.09	1.73	3.19	7.20	8.98	13.06	6.33	5.73	5.20	1.62	0.55	61.77
Sum	94.8	99.2	126.8	117.6	247.2	485.6	444.3	416.4	439.3	203.2	84.2	77.6	2,834
Mean	1.84	1.91	2.44	2.26	4.75	9.34	8.54	7.97	8.45	3.91	1.62	1.49	54.50

TABLE C-3. Monthly Mean Rainfall in Hendry County.*

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	SUM
1940	3.19	3.32	3.24	1.46	2.21	9.72	4.41	8.00	14.54	0.46	0.10	4.91	55.56
1941	4.32	3.74	5.03	6.87	1.50	6.74	10.76	5.61	7.04	3.09	2.15	0.86	57.71
1942	2.27	2.93	2.77	3.80	2.62	11.66	6.54	6.80	5.29	0.28	0.55	1.78	47.29
1943	0.61	0.39	1.23	2.84	7.73	9.75	7.36	5.91	5.18	2.25	0.97	0.56	44.78
1944	0.90	0.13	1.64	5.25	3.07	6.01	9.54	8.39	5.19	3.98	0.27	0.20	44.57
1945	1.81	0.79	0.31	1.82	1.24	8.10	11.50	8.35	8.70	5.19	0.30	1.13	49.24
1946	0.61	1.35	0.76	1.14	6.96	8.37	5.47	8.14	7.01	1.05	2.48	1.53	44.87
1947	0.76	1.79	7.64	2.04	4.22	13.87	6.64	10.28	15.80	3.36	2.10	1.00	69.50
1948	3.27	0.01	0.38	2.32	2.42	5.43	6.14	4.68	18.76	2.06	0.40	0.53	46.40
1949	0.08	0.26	0.43	2.14	2.85	10.51	10.51	10.06	9.19	0.78	1.08	1.88	49.77
1950	0.04	0.88	0.72	1.35	4.18	4.28	6.76	5.26	4.63	8.27	2.46	4.39	43.22
1951	0.70	1.82	1.04	4.25	3.09	6.50	12.93	8.47	8.08	11.10	1.31	0.17	59.46
1952	1.01	6.40	1.51	1.09	5.34	6.33	8.41	8.33	7.63	9.83	0.78	0.63	57.29
1953	2.28	2.39	2.39	4.07	2.66	11.76	8.46	12.12	12.47	7.26	0.57	1.50	67.93
1954	0.49	2.19	2.68	6.17	5.55	8.47	10.20	5.08	8.56	2.54	2.27	1.78	55.98
1955	2.06	1.26	1.09	1.27	6.26	10.49	7.15	4.74	6.31	1.77	0.69	2.20	45.29
1956	0.88	0.97	1.24	1.69	3.99	4.28	5.75	6.47	5.35	5.55	0.57	0.39	37.13
1957	1.67	4.46	4.99	3.44	8.16	7.52	7.27	6.36	8.99	2.79	0.69	6.23	62.57
1958	6.68	1.26	6.90	2.90	6.59	5.88	7.08	6.22	4.91	3.62	0.73	4.37	57.14
1959	1.61	1.27	5.54	1.44	6.49	11.58	9.00	8.90	9.34	10.39	1.71	0.85	68.12
1960	0.36	2.83	1.90	4.83	4.12	8.13	12.50	8.68	11.82	4.17	2.04	0.74	62.12
1961	2.92	1.45	2.65	1.07	6.99	4.79	5.75	5.95	2.66	1.21	0.67	0.34	36.45
1962	1.02	0.81	3.30	1.17	3.42	12.65	5.22	7.34	11.47	3.06	1.97	0.26	51.69
1963	0.85	3.66	0.40	0.38	6.53	7.17	2.72	6.30	6.28	1.17	2.20	3.28	40.94
1964	2.13	3.02	1.47	3.08	2.38	8.49	5.92	8.45	4.40	3.45	0.59	1.12	44.50
1965	0.58	3.74	3.05	1.47	1.85	12.20	10.00	7.46	5.66	6.30	0.68	1.10	54.09
1966	3.50	2.41	0.66	3.15	4.67	14.00	7.70	7.84	7.14	3.27	0.17	0.70	55.21
1967	1.54	3.58	0.59	0.03	1.86	11.76	7.56	5.35	7.27	3.88	0.32	2.16	45.90
1968	0.32	2.77	1.41	0.52	7.87	12.89	9.99	4.05	5.76	5.02	2.61	0.45	53.66
1969	1.75	1.96	5.20	1.34	3.92	10.56	6.57	7.65	4.96	7.99	1.73	2.38	56.01
1970	3.74	2.07	15.16	0.11	7.33	8.66	8.41	6.10	5.21	3.56	0.27	0.29	60.91
1971	0.83	1.47	0.36	0.32	4.55	9.87	7.70	6.83	9.25	4.75	1.46	0.72	48.11
1972	1.10	2.41	4.26	2.07	3.90	9.68	4.34	7.91	2.30	1.70	4.66	1.40	45.73
1973	2.57	2.66	3.15	0.97	2.79	8.10	10.26	9.13	5.62	2.23	0.35	2.13	49.96
1974	0.39	0.76	0.27	1.19	5.88	18.10	11.46	9.05	5.94	0.69	2.98	1.32	58.03
1975	0.35	0.94	1.16	3.29	7.99	11.01	9.78	5.94	10.05	3.60	0.49	0.40	55.00
1976	0.68	1.61	1.80	2.23	9.02	7.35	5.36	6.61	7.78	1.58	2.03	2.20	48.25
1977	4.04	1.05	0.35	0.39	5.45	6.80	6.21	7.37	6.76	0.86	4.10	2.85	46.23
1978	2.53	2.03	3.01	2.05	4.66	7.34	8.83	8.39	5.16	2.81	1.65	4.00	52.46
1979	4.14	0.44	1.68	2.50	6.42	3.47	4.67	8.78	12.73	1.50	3.06	3.60	52.99
1980	3.98	1.46	2.39	4.34	3.37	2.85	6.54	7.00	5.07	0.94	2.93	0.79	41.66
1981	0.62	2.17	1.47	0.22	1.69	6.07	5.24	11.92	3.46	1.19	3.07	0.20	37.32
1982	0.78	1.77	4.02	4.33	10.11	17.18	8.86	6.00	6.72	3.60	0.75	0.86	64.98
1983	3.90	8.38	5.44	1.59	1.64	12.68	5.76	7.76	7.04	5.40	1.84	3.54	64.97
1984	0.43	2.81	4.50	1.80	7.16	5.50	10.25	5.76	7.43	1.25	3.30	0.13	50.32
1985	0.73	0.36	1.83	5.23	3.30	7.58	11.30	6.47	7.20	2.82	1.58	1.56	49.96
1986	2.61	1.81	5.33	0.52	1.88	13.78	6.84	9.34	4.37	4.51	0.30	3.77	55.06
1987	2.52	2.45	6.64	0.40	4.40	6.02	5.98	4.94	7.76	4.34	7.01	0.23	52.69
1988	1.60	2.14	3.00	1.89	3.45	5.44	9.61	10.64	2.32	0.63	3.90	0.88	45.50
1989	1.14	0.25	3.01	4.09	3.09	7.96	8.04	7.15	5.53	3.00	0.65	2.23	46.14
1990	1.24	2.26	1.22	1.98	4.47	5.86	7.40	8.71	3.79	3.31	0.68	0.18	41.10
1991	7.03	1.87	2.61	3.86	8.07	9.26	9.93	6.85	4.48	3.60	2.32	0.31	60.19
Sum	97.2	107.0	144.8	119.8	241.4	460.4	408.6	385.9	376.4	183.0	84.5	83.0	2,692
Mean	1.87	2.06	2.79	2.30	4.64	8.86	7.86	7.42	7.24	3.52	1.63	1.60	51.77

TABLE C-4. Monthly Mean Rainfall in Lee County.*

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	SUM
1940	3.19	3.32	3.24	1.46	2.21	9.72	4.41	8.00	14.54	0.46	0.10	4.91	55.56
1941	4.32	3.74	5.03	6.87	1.50	6.74	10.76	5.61	7.04	3.09	2.15	0.86	57.71
1942	2.27	2.93	2.77	3.80	2.62	11.66	6.54	6.80	5.29	0.28	0.55	1.78	47.29
1943	0.93	0.48	1.26	4.00	8.76	10.68	10.80	6.21	5.40	3.08	1.66	0.88	54.14
1944	1.28	0.01	2.30	3.80	3.35	5.66	8.68	8.47	3.70	4.89	0.28	0.22	42.64
1945	2.04	0.72	0.44	1.26	1.33	9.76	13.16	10.70	7.21	5.43	0.19	1.34	53.58
1946	0.59	1.62	0.68	0.93	6.96	9.83	6.53	7.93	6.56	1.45	2.35	1.14	46.57
1947	0.65	2.22	7.97	1.96	4.22	13.87	9.20	10.96	16.63	3.49	2.60	1.21	74.98
1948	3.59	0.02	0.54	2.33	2.42	5.43	8.58	4.73	15.42	2.57	0.54	0.66	46.83
1949	0.01	0.14	0.33	3.70	2.97	7.16	13.14	9.04	10.34	1.62	1.19	1.30	50.94
1950	0.01	0.68	0.58	0.85	2.80	4.01	7.42	5.66	5.24	3.98	0.54	1.28	33.05
1951	0.30	1.52	1.01	3.71	1.77	6.78	10.64	6.11	5.26	12.17	1.09	0.15	50.51
1952	1.16	4.79	1.65	0.85	3.85	5.03	7.84	8.13	8.80	9.39	0.92	0.53	52.94
1953	2.08	1.97	1.36	2.94	0.69	11.12	8.61	9.38	12.13	6.74	0.68	1.90	59.60
1954	0.36	2.21	2.48	4.50	4.60	7.56	9.47	5.41	7.65	2.24	2.30	1.91	50.69
1955	2.48	1.50	0.79	1.02	5.96	9.12	8.21	4.45	7.55	1.97	0.71	1.77	45.53
1956	0.86	1.17	1.43	2.75	5.14	4.00	5.77	7.57	6.37	5.67	0.92	0.46	42.11
1957	0.91	4.38	5.43	2.33	9.08	4.69	9.92	7.37	8.83	3.45	0.85	4.95	62.19
1958	5.72	1.32	7.55	2.53	7.00	6.94	7.59	5.15	6.73	4.00	1.40	3.87	59.80
1959	1.74	1.36	6.36	1.41	4.41	13.90	8.20	6.09	9.37	9.23	1.31	1.33	64.71
1960	0.32	3.25	1.61	3.39	3.45	6.05	14.70	7.41	14.24	3.72	1.64	0.77	60.55
1961	3.44	1.59	2.18	1.77	4.87	5.95	6.43	9.61	3.05	2.76	0.92	0.41	42.98
1962	0.89	0.44	3.27	1.34	1.20	14.64	6.66	10.75	12.74	3.23	3.02	0.49	58.67
1963	0.87	4.00	0.62	0.34	7.53	8.40	4.33	6.12	7.54	0.58	3.15	2.63	46.11
1964	2.72	3.08	1.67	1.76	1.22	7.40	5.35	9.52	6.13	2.14	0.43	0.84	42.26
1965	0.64	2.87	3.33	1.95	1.78	9.22	10.99	9.45	5.45	5.81	0.51	0.92	52.92
1966	3.29	2.17	0.56	3.34	3.70	13.00	7.03	7.35	8.55	2.34	0.23	0.65	52.21
1967	2.23	2.68	0.55	0.02	1.72	11.15	8.73	8.18	6.86	5.09	0.64	2.50	50.35
1968	0.26	2.09	1.23	0.52	7.96	14.66	11.36	6.72	6.06	5.39	3.07	0.25	59.57
1969	2.04	2.14	5.16	1.32	5.46	10.51	5.02	7.92	9.08	9.38	1.16	3.37	62.56
1970	4.91	3.14	18.71	0.16	6.87	9.79	9.34	5.43	7.48	3.15	0.70	0.49	70.17
1971	1.06	1.61	0.38	1.14	3.63	7.83	8.32	8.00	9.71	6.29	0.52	0.82	49.31
1972	1.97	3.13	5.14	1.46	4.03	11.43	5.94	9.86	4.14	1.51	6.63	1.43	56.67
1973	3.15	3.19	4.44	1.64	1.39	7.27	13.99	11.77	7.43	1.89	0.81	1.94	58.91
1974	0.24	1.26	0.52	0.72	5.52	17.18	12.50	9.40	7.06	0.32	2.12	1.39	58.23
1975	0.44	0.63	1.48	2.43	5.62	8.72	9.02	7.35	8.04	4.09	0.54	0.46	48.82
1976	0.30	1.36	1.57	1.82	5.89	8.52	6.84	6.66	7.78	1.80	2.42	1.99	46.95
1977	4.81	0.85	0.15	0.37	4.60	7.47	9.30	9.52	7.06	0.70	1.75	2.36	48.94
1978	2.87	2.57	3.41	1.94	3.85	8.75	10.12	8.16	4.75	1.88	0.90	4.09	53.29
1979	6.56	1.39	1.45	3.33	6.00	5.25	5.14	10.09	14.51	1.17	2.23	4.92	62.04
1980	3.31	1.54	3.08	3.22	4.69	2.08	7.77	10.71	6.50	1.75	3.28	0.60	48.53
1981	0.78	1.88	1.53	0.17	3.64	8.75	6.76	15.48	4.94	0.34	0.93	0.43	45.63
1982	0.78	2.40	3.60	3.47	6.61	14.70	8.15	7.13	7.21	4.18	0.61	0.81	59.65
1983	5.27	10.90	6.68	1.76	0.70	13.74	6.06	8.40	8.03	5.98	2.55	3.62	73.69
1984	0.34	3.42	5.80	1.30	6.18	6.49	11.31	6.72	6.60	0.97	2.80	0.27	52.20
1985	0.68	0.57	1.96	2.68	1.78	6.74	9.78	9.62	8.67	4.50	2.05	1.04	50.07
1986	2.15	2.12	4.15	0.62	2.74	13.77	6.55	10.37	5.17	2.75	0.40	4.55	55.34
1987	2.77	3.69	6.79	0.35	7.42	6.63	11.20	6.72	6.82	6.61	7.63	0.42	67.05
1988	2.01	1.83	3.37	1.46	2.61	5.46	8.22	12.05	3.15	0.98	3.47	0.67	45.28
1989	1.74	0.48	3.36	4.07	2.19	10.02	9.40	8.41	6.01	3.05	0.53	1.75	51.01
1990	0.27	3.05	1.43	1.76	4.37	6.08	7.89	9.13	5.42	2.78	0.52	0.13	42.83
1991	7.35	1.29	1.77	3.46	9.08	9.71	11.59	7.68	6.77	5.54	1.15	0.23	65.62
Sum	104.9	112.7	154.1	108.1	219.9	461.0	451.3	425.5	403.0	187.9	81.6	79.7	2,790
Mean	2.02	2.17	2.96	2.08	4.23	8.87	8.68	8.18	7.75	3.61	1.57	1.53	53.65

FREQUENCY ANALYSIS

The probabilistic distribution of rainfall in duration and seasonal trends is important when predicting areas of expected water supply shortage and the frequency with which those shortages may occur. This section presents the results of the rainfall drought analysis based on normal, two-parameter lognormal, three-parameter lognormal, two-parameter gamma, three-parameter gamma, Weibull, and Log-Pearson Type III distributions (Kite, 1977). The least rainfall amount of 1 through 12 months durations for each water year beginning November through following October were analyzed. The results of the rainfall drought frequency analysis are presented in tables C-5 through C-7 for Collier, Hendry, and Lee counties.

Next, a hypothesis test by Chi-square test method for the goodness of fit at 95 percent level was done for each frequency distribution. Table C-8 provides the acceptance or rejection of the frequency distributions which can be used in the rainfall analysis of the LWC Planning Area. For more information on the statistical frequency distributions used in this analysis, the reader is referred to G.W. Kite's "Frequency and Risk Analysis in Hydrology" (1977).

TABLE C-5. Rainfall Drought Frequency for Collier County.

Duration*	Probability of Drought Frequency (Rainfall in inches)						
	.005	.01	.02	.04	0.10	0.20	0.50
1 month							
NO2	0.00	0.00	0.00	0.00	0.00	0.12	0.48
LN2	0.03	0.03	0.04	0.06	0.09	0.14	0.33
LN3	0.00	0.00	0.01	0.04	0.10	0.17	0.38
GM2	0.00	0.01	0.02	0.04	0.09	0.16	0.38
GM3	0.15	0.16	0.17	0.17	0.17	0.19	0.32
WB2	0.01	0.02	0.04	0.07	0.16	0.30	0.81
LP3	0.05	0.06	0.07	0.09	0.13	0.19	0.36
2 months							
NO2	0.00	0.00	0.00	0.00	0.36	0.87	1.85
LN2	0.29	0.34	0.40	0.49	0.66	0.88	1.53
LN3	0.00	0.07	0.20	0.35	0.63	0.93	1.66
GM2	0.16	0.22	0.30	0.42	0.64	0.91	1.63
GM3	0.25	0.29	0.35	0.44	0.64	0.89	1.60
WB2	0.08	0.12	0.18	0.28	0.51	0.80	1.60
LP3	0.22	0.28	0.35	0.45	0.65	0.90	1.60
3 months							
NO2	0.00	0.00	0.00	0.00	0.97	1.93	3.75
LN2	0.60	0.71	0.84	1.02	1.38	1.83	3.13
LN3	0.00	0.00	0.15	0.56	1.25	1.96	3.52
GM2	0.36	0.49	0.66	0.90	1.35	1.90	3.34
GM3	0.45	0.56	0.71	0.92	1.35	1.88	3.30
WB2	0.22	0.32	0.47	0.70	1.19	1.80	3.40
LP3	0.43	0.54	0.70	0.91	1.34	1.87	3.32
4 months							
NO2	0.00	0.00	0.00	0.88	2.26	3.57	6.05
LN2	1.39	1.58	1.82	2.14	2.73	3.44	5.35
LN3	0.74	1.06	1.45	1.92	2.73	3.61	5.64
GM2	1.04	1.29	1.59	1.99	2.72	3.56	5.59
GM3	1.44	1.62	1.86	2.18	2.81	3.56	5.51
WB2	0.59	0.81	1.12	1.55	2.40	3.40	5.75
LP3	0.95	1.19	1.49	1.89	2.66	3.55	5.72
5 months							
NO2	0.00	0.00	0.00	0.83	2.94	4.92	8.70
LN2	2.03	2.31	2.66	3.11	3.96	4.97	7.67
LN3	1.28	1.69	2.19	2.81	3.90	5.10	7.98
GM2	1.46	1.81	2.25	2.82	3.87	5.07	8.02
GM3	1.65	1.96	2.35	2.88	3.87	5.04	7.96
WB2	0.71	1.00	1.42	2.01	3.21	4.65	8.13
LP3	1.71	2.02	2.42	2.92	3.90	5.03	7.91
6 months							
NO2	0.00	0.08	1.39	2.85	5.11	7.23	11.29
LN2	3.32	3.70	4.18	4.77	5.87	7.12	10.31
LN3	2.42	2.98	3.64	4.44	5.82	7.29	10.65
GM2	2.71	3.19	3.77	4.51	5.82	7.26	10.64
GM3	3.45	3.79	4.23	4.81	5.92	7.21	10.46
WB2	1.54	2.03	2.69	3.56	5.19	7.01	11.01
LP3	2.72	3.18	3.75	4.46	5.77	7.22	10.68

TABLE C-5. Rainfall Drought Frequency for Collier County (Continued).

Duration*	Probability of Drought Frequency (Rainfall in inches)						
	.005	.01	.02	.04	0.10	0.20	0.50
7 months							
NO2	2.83	4.13	5.56	7.14	9.60	11.90	16.30
LN2	6.55	7.12	7.79	8.62	10.08	11.68	15.46
LN3	5.13	5.99	6.96	8.10	9.97	11.86	15.88
GM2	5.91	6.59	7.40	8.38	10.06	11.82	15.74
GM3	5.87	6.57	7.38	8.37	10.06	11.83	15.75
WB2	3.94	4.82	5.89	7.23	9.51	11.81	16.40
LP3	5.75	6.44	7.26	8.24	9.97	11.78	15.82
8 months							
NO2	8.53	10.18	11.99	14.01	17.13	20.05	25.64
LN2	12.49	13.35	14.35	15.56	17.63	19.82	24.79
LN3	10.15	11.48	12.96	14.65	17.36	20.01	25.35
GM2	11.72	12.73	13.90	15.28	17.59	19.96	25.07
GM3	12.19	13.10	14.16	15.44	17.62	19.91	24.96
WB2	8.40	9.85	11.56	13.59	16.88	20.05	26.00
LP3	11.71	12.70	13.85	15.20	17.51	19.90	25.07
9 months							
NO2	16.11	17.87	19.79	21.92	25.23	28.34	34.27
LN2	19.70	20.74	21.95	23.37	25.75	28.20	33.56
LN3	17.99	19.37	20.91	22.68	25.52	28.30	33.94
GM2	18.95	20.14	21.50	23.09	25.70	28.31	33.80
GM3	21.35	22.03	22.87	23.94	25.87	28.03	33.19
WB2	14.56	16.48	18.66	21.14	25.03	28.60	35.00
LP3	19.51	20.59	21.83	23.27	25.72	28.21	33.62
10 months							
NO2	23.75	25.53	27.49	29.66	33.03	36.18	42.22
LN2	26.85	28.01	29.34	30.90	33.47	36.07	41.62
LN3	25.56	26.98	28.57	30.39	33.30	36.14	41.90
GM2	26.18	27.49	28.96	30.67	33.43	36.17	41.82
GM3	27.95	28.88	29.98	31.30	33.59	36.01	41.42
WB2	21.19	23.43	25.92	28.69	32.91	36.68	43.21
LP3	26.72	27.91	29.27	30.83	33.45	36.08	41.66
11 months							
NO2	30.35	32.27	34.38	36.72	40.34	43.74	50.24
LN2	32.28	34.59	36.09	37.83	40.69	43.57	49.65
LN3	31.39	33.09	34.98	37.11	40.47	43.69	50.04
GM2	32.65	34.11	35.75	37.64	40.69	43.70	49.85
GM3	32.70	34.15	35.78	37.66	40.69	43.69	49.84
WB2	27.09	29.65	32.46	35.56	40.22	44.33	51.35
LP3	32.46	33.93	35.59	37.47	40.58	43.63	49.87
12 months							
NO2	33.21	35.27	37.53	40.04	43.93	47.57	54.54
LN2	36.81	38.19	39.77	41.60	44.60	47.61	54.94
LN3	37.57	38.82	40.25	41.93	44.73	47.59	53.78
GM2	36.01	37.56	39.30	41.29	44.51	47.68	54.14
GM3	39.87	40.63	41.57	42.77	44.97	47.42	53.30
WB2	29.88	32.66	35.72	39.09	44.14	48.59	56.19
LP3	39.47	40.38	41.47	42.76	45.06	47.52	53.28

TABLE C-6. Rainfall Drought Frequency for Hendry County.

Duration*	Probability of Drought Frequency (Rainfall in inches)						
	.005	.01	.02	.04	0.10	0.20	0.50
1 month							
NO2	0.00	0.00	0.00	0.00	0.00	0.15	0.47
LN2	0.03	0.03	0.04	0.06	0.10	0.15	0.33
LN3	0.00	0.00	0.01	0.04	0.11	0.18	0.38
GM2	0.01	0.01	0.03	0.04	0.09	0.16	0.38
GM3	0.00	0.01	0.03	0.05	0.10	0.17	0.38
WB2	0.01	0.02	0.04	0.06	0.13	0.24	0.58
LP3	0.05	0.06	0.08	0.10	0.14	0.19	0.37
2 months							
NO2	0.00	0.00	0.00	0.00	0.24	0.85	2.01
LN2	0.27	0.32	0.39	0.48	0.67	0.90	1.61
LN3	0.00	0.00	0.12	0.29	0.60	0.94	1.78
GM2	0.13	0.19	0.27	0.39	0.63	0.93	1.75
GM3	0.33	0.35	0.38	0.45	0.62	0.86	1.65
WB2	0.06	0.10	0.15	0.25	0.47	0.78	1.67
LP3	0.25	0.30	0.37	0.47	0.66	0.91	1.64
3 months							
NO2	0.00	0.00	0.00	0.00	1.02	2.04	3.99
LN2	0.75	0.87	1.02	1.21	1.60	2.07	3.39
LN3	0.00	0.21	0.50	0.85	1.46	2.12	3.66
GM2	0.46	0.61	0.80	1.05	1.54	2.11	3.59
GM3	0.75	0.84	0.96	1.15	1.54	2.05	3.48
WB2	0.22	0.33	0.49	0.72	1.24	1.89	3.58
LP3	0.70	0.82	0.98	1.18	1.58	2.08	3.43
4 months							
NO2	0.00	0.00	0.32	1.23	2.65	3.98	6.52
LN2	1.59	1.80	2.07	2.41	3.05	3.81	5.82
LN3	0.56	0.98	1.46	2.03	2.99	3.99	6.20
GM2	1.23	1.50	1.83	2.26	3.04	3.93	6.06
GM3	1.03	1.33	1.71	2.18	3.02	3.95	6.11
WB2	0.73	0.99	1.34	1.82	2.75	3.82	6.26
LP3	1.17	1.43	1.75	2.17	2.98	3.91	6.15
5 months							
NO2	0.00	0.00	0.00	1.26	3.45	5.50	9.42
LN2	2.18	2.48	2.86	3.35	4.27	5.37	8.33
LN3	1.15	1.65	2.24	2.97	4.22	5.58	8.75
GM2	1.62	2.00	2.47	3.09	4.23	5.53	8.70
GM3	1.67	2.04	2.50	3.10	4.23	5.51	8.68
WB2	0.87	1.21	1.68	2.34	3.66	5.22	8.91
LP3	1.64	2.00	2.45	3.04	4.18	5.49	8.75
6 months							
NO2	0.00	0.18	1.57	3.11	5.51	7.76	12.05
LN2	3.42	3.83	4.33	4.97	6.15	7.50	10.98
LN3	1.94	2.64	3.46	4.43	6.06	7.76	11.50
GM2	2.79	3.30	3.93	4.71	6.12	7.68	11.34
GM3	2.78	3.30	3.93	4.71	6.12	7.68	11.34
WB2	1.67	2.20	2.90	3.83	5.57	7.50	11.74
LP3	2.70	3.20	3.81	4.58	6.03	7.63	11.44

TABLE C-6. Rainfall Drought Frequency for Hendry County (Continued).

Duration*	Probability of Drought Frequency (Rainfall in inches)						
	.005	.01	.02	.04	0.10	0.20	0.50
7 months							
NO2	2.48	3.87	5.39	7.09	9.71	12.16	16.86
LN2	6.45	7.04	7.74	8.61	10.15	11.85	15.93
LN3	5.04	5.93	6.95	8.14	10.11	12.11	16.39
GM2	5.80	6.51	7.36	8.39	10.16	12.04	16.24
GM3	5.18	6.03	7.02	8.19	10.14	12.13	16.40
WB2	3.83	4.72	5.83	7.20	9.59	12.02	16.91
LP3	5.21	5.98	6.91	8.02	9.99	12.05	16.53
8 months							
NO2	9.64	11.20	12.90	14.80	17.73	20.48	25.73
LN2	13.18	14.02	15.00	16.17	18.17	20.27	24.98
LN3	11.83	12.95	14.22	15.68	18.06	20.42	25.34
GM2	12.49	13.47	14.61	15.94	18.15	20.41	25.23
GM3	12.29	13.32	14.49	15.87	18.14	20.43	25.28
WB2	9.19	10.66	12.37	14.37	17.59	20.64	26.28
LP3	12.16	13.18	14.35	15.72	18.03	20.38	25.34
9 months							
NO2	15.84	17.57	19.45	21.55	24.79	27.84	33.66
LN2	19.19	20.22	21.41	22.82	25.18	27.62	32.95
LN3	**	**	**	**	**	**	**
GM2	18.51	19.68	21.03	22.60	25.17	27.76	33.19
GM3	18.18	19.43	20.85	22.48	25.15	27.79	33.26
WB2	14.31	16.19	18.33	20.78	24.59	28.11	34.39
LP3	18.08	19.31	20.72	22.33	25.04	27.72	33.30
10 months							
NO2	22.91	24.66	26.57	28.69	31.98	35.07	40.96
LN2	25.70	26.85	28.16	29.70	32.24	34.83	40.36
LN3	**	**	**	**	**	**	**
GM2	25.12	26.40	27.86	29.54	32.27	34.97	40.56
GM3	23.55	25.16	26.94	28.93	32.06	35.04	40.85
WB2	20.38	22.56	24.98	27.67	31.78	35.45	41.82
LP3	24.10	25.55	27.19	29.03	32.05	34.98	40.82
11 months							
NO2	27.35	29.33	31.48	33.88	37.60	41.08	47.74
LN2	30.56	31.87	33.36	35.10	37.98	40.89	47.10
LN3	**	**	**	**	**	**	**
GM2	29.88	31.34	32.99	34.89	37.98	41.03	47.31
GM3	29.62	31.14	32.84	34.80	37.95	41.05	47.37
WB2	24.45	26.96	29.74	32.83	37.52	41.70	48.90
LP3	29.33	30.87	32.61	34.58	37.82	40.99	47.44
12 months							
NO2	29.77	31.90	34.22	36.81	40.81	44.57	51.74
LN2	33.47	34.87	36.46	38.32	41.38	44.48	51.06
LN3	**	**	**	**	**	**	**
GM2	32.67	34.23	36.00	38.03	41.33	44.59	51.29
GM3	35.12	36.16	37.41	38.92	41.56	44.38	50.74
WB2	26.65	29.37	32.38	35.73	40.80	45.32	53.11
LP3	33.72	35.07	36.62	38.40	41.42	44.46	51.00

TABLE C-7. Rainfall Drought Frequency for Lee County.

Duration*	Probability of Drought Frequency (Rainfall in inches)						
	.005	.01	.02	.04	0.10	0.20	0.50
1 month							
NO2	0.00	0.00	0.00	0.00	0.00	0.13	0.47
LN2	0.01	0.03	0.04	0.06	0.09	0.14	0.33
LN3	0.00	0.00	0.01	0.04	0.10	0.17	0.38
GM2	0.00	0.01	0.02	0.04	0.09	0.16	0.38
GM3	0.15	0.16	0.17	0.17	0.17	0.19	0.32
WB2	0.01	0.02	0.04	0.07	0.16	0.30	0.81
LP3	0.05	0.06	0.07	0.09	0.13	0.19	0.36
2 months							
NO2	0.00	0.00	0.00	0.00	0.32	0.90	2.01
LN2	0.26	0.31	0.38	0.47	0.65	0.89	1.62
LN3	0.00	0.00	0.10	0.29	0.61	0.97	1.81
GM2	0.13	0.19	0.28	0.40	0.64	0.94	1.75
GM3	0.15	0.20	0.28	0.40	0.64	0.93	1.74
WB2	0.07	0.11	0.18	0.28	0.51	0.83	1.72
LP3	0.16	0.21	0.29	0.40	0.63	0.93	1.76
3 months							
NO2	0.00	0.00	0.00	0.00	0.93	2.00	4.06
LN2	0.68	0.80	0.94	1.14	1.53	2.01	3.40
LN3	0.00	0.11	0.41	0.78	1.41	2.10	3.71
GM2	0.41	0.55	0.73	0.98	1.48	2.07	3.62
GM3	0.49	0.61	0.78	1.01	1.48	2.05	3.58
WB2	0.20	0.31	0.46	0.69	1.20	1.86	3.61
LP3	0.53	0.66	0.82	1.04	1.49	2.04	3.55
4 months							
NO2	0.00	0.00	0.00	0.72	2.30	3.78	6.62
LN2	1.49	1.70	1.96	2.30	2.95	3.73	5.82
LN3	0.69	1.05	1.47	1.99	2.89	3.86	6.13
GM2	1.08	1.34	1.67	2.10	2.91	3.83	6.09
GM3	1.47	1.66	1.92	2.26	2.95	3.79	5.97
WB2	0.57	0.80	1.12	1.57	2.49	3.59	6.22
LP3	1.16	1.40	1.71	2.11	2.89	3.79	6.08
5 months							
NO2	0.00	0.00	0.00	0.00	2.57	5.00	9.63
LN2	2.06	2.36	2.73	3.22	4.16	5.28	8.35
LN3	1.58	1.96	2.43	3.03	4.12	5.37	8.56
GM2	1.36	1.73	2.21	2.83	4.00	5.37	8.78
GM3	1.75	2.04	2.43	2.96	4.02	5.30	8.65
WB2	0.57	0.84	1.24	1.83	3.09	4.67	8.73
LP3	1.91	2.22	2.62	3.13	4.13	5.31	8.46
6 months							
NO2	0.00	0.00	0.42	2.14	4.79	7.27	12.03
LN2	3.47	3.88	4.38	5.01	6.17	7.50	10.91
LN3	3.09	3.56	4.13	4.84	6.11	7.54	11.04
GM2	2.66	3.17	3.79	4.58	5.99	7.56	11.28
GM3	4.47	4.61	4.85	5.21	6.05	7.21	10.63
WB2	1.30	1.77	2.41	3.29	5.01	6.98	11.54
LP3	3.66	4.04	4.51	5.10	6.21	7.48	10.80

TABLE C-7. Rainfall Drought Frequency for Lee County (Continued).

Duration*	Probability of Drought Frequency (Rainfall in inches)						
	.005	.01	.02	.04	0.10	0.20	0.50
7 months							
NO2	0.23	1.81	3.54	5.46	8.43	11.22	16.55
LN2	5.80	6.38	7.07	7.93	9.48	11.21	15.44
LN3	5.16	5.86	6.68	7.68	9.42	11.29	15.65
GM2	4.93	5.64	6.50	7.54	9.37	11.33	15.81
GM3	6.70	7.08	7.59	8.27	9.61	11.22	15.38
WB2	2.89	3.70	4.73	6.06	8.47	11.03	16.45
LP3	5.52	6.14	6.88	7.79	9.43	11.24	15.57
8 months							
NO2	7.48	9.21	11.12	13.23	16.50	19.58	25.44
LN2	12.08	12.93	13.94	15.15	17.24	19.46	24.53
LN3	11.50	12.47	13.60	14.94	17.19	19.53	24.70
GM2	11.22	12.24	13.42	14.82	17.17	19.59	24.84
GM3	11.61	12.54	13.64	14.95	17.20	19.55	24.74
WB2	7.84	9.29	11.01	13.06	16.45	19.75	26.01
LP3	11.44	12.40	13.53	14.85	17.14	19.52	24.77
9 months							
NO2	15.38	17.21	19.20	21.41	24.84	28.06	34.21
LN2	19.45	20.50	21.71	23.15	25.55	28.03	33.47
LN3	**	**	**	**	**	**	**
GM2	18.62	19.83	21.21	22.82	25.46	28.13	33.72
GM3	19.59	20.60	21.77	23.18	25.56	28.05	33.50
WB2	14.12	16.07	18.29	20.85	24.86	28.57	35.26
LP3	19.63	20.65	21.83	23.21	25.58	28.02	33.42
10 months							
NO2	23.72	25.52	27.48	29.67	33.06	36.23	42.30
LN2	26.72	27.89	29.24	30.81	33.41	36.05	41.70
LN3	**	**	**	**	**	**	**
GM2	26.10	27.42	28.91	30.63	33.42	36.19	41.90
GM3	25.65	27.06	28.65	30.47	33.38	36.23	42.00
WB2	21.23	23.49	26.00	28.80	33.06	36.87	43.48
LP3	25.23	26.69	28.33	30.19	33.23	36.19	42.12
11 months							
NO2	29.00	30.99	33.16	35.58	39.31	42.82	49.52
LN2	32.28	33.61	35.12	36.87	39.77	42.70	48.90
LN3	**	**	**	**	**	**	**
GM2	31.60	33.08	34.74	36.66	39.76	42.82	49.11
GM3	31.57	33.05	34.72	36.64	39.75	42.82	49.12
WB2	26.10	28.69	31.56	34.73	39.52	43.77	51.08
LP3	31.32	32.83	34.53	36.46	39.65	42.77	49.16
12 months							
NO2	32.59	34.63	36.86	39.35	43.19	46.79	53.68
LN2	35.91	37.30	38.87	40.70	43.70	46.72	53.08
LN3	**	**	**	**	**	**	**
GM2	35.21	36.74	38.47	40.46	43.67	46.83	53.28
GM3	35.67	37.11	38.74	40.63	43.72	46.79	53.19
WB2	29.33	32.08	35.09	38.42	43.41	47.81	55.33
LP3	35.75	37.17	38.78	40.61	43.68	46.73	53.13

TABLE C-8. Results of hypothesis test of good fit by Chi-square test at 95% level for each frequency distribution.

Duration*	1	2	3	4	5	6	7	8	9	10	11	12
Collier												
NO2	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LN2	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LN3	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GM2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GM3	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
WB2	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
LP3	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hendry												
NO2	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LN2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LN3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
GM2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GM3	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
WB2	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LP3	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lee												
NO2	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LN2	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LN3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
GM2	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GM3	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
WB2	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
LP3	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

***NOTE FOR TABLES C-5 THROUGH C-8:**

NO2	Normal Distribution
LN2	Two-Parameter Lognormal Distribution
LN3	Three-Parameter Lognormal Distribution
GM2	Two-Parameter Gamma Distribution
GM3	Three-Parameter Gamma Distribution
WB2	Weibull Distribution
LP3	Logpearson Type 3 Distribution