

Lake Elsinore Replenishment Level Study Alternative Analysis

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Prepared for:

The Elsinore Valley Municipal Water District

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EXECUTIVE SUMMARY

The Elsinore Valley Municipal Water District has a direct interest in the maximum lake replenishment level as specified in the Lake Management Plan. An increase in the lake replenishment level would improve the water quality of the lake. This study was completed in order to determine the impacts of different lake replenishment levels on the 100-year water surface elevation.

The Los Angeles District of the Corps of Engineers (LADCOE) completed a Definite Project Report (DPR) in 1988 recommending an improved Lake Elsinore outlet channel with a sill at elevation 1255. This project was economically justified with a 100-year maximum lake elevation of 1262.0. The City of Elsinore and Elsinore Valley Municipal Water District constructed the Lake Management Plan in 1991-1992, which divided the Lake into a Main Lake and a Back Basin with Back Basin weir having an ultimate elevation of 1262.0. LADCOE published a Supplemental Report to the DPR in 1991 that took into account the Lake Management Plan. This report established a 100-year maximum lake elevation of 1263.3 based on an outlet channel with a sill at 1255 and a lake replenishment level of 1240. The Local Cooperation Agreement (LCA) between LADCOE and Riverside County Flood Control and Water Conservation District (RCFC&WCD) was based on this configuration. The outlet channel improvements were completed in October 1994.

The Lake Management Plan sponsors have a need to establish a more flexible upper limit of lake operating level for water quality and environmental reasons and for operational considerations. Black & Veatch (B&V) completed the *Lake Elsinore Operating Range Report* in 1995. This report stated that a lake replenishment level of 1245 would result in no appreciable difference in computed maximum water surface elevations for extreme events within the historical record. The report also hinted that "make-up" water could be added to elevation 1249 toward the end of the rainy season with no adverse impacts. LADCOE reviewed the B&V report under a Memorandum of Agreement with RCFC&WCD and submitted a report in 1997. The LADCOE report stated that for a replenishment level up to elevation 1245, there would be no impact on the 100-year maximum lake elevation, but there would be an impact of higher 100-year water surface elevations for replenishment levels of 1247 and 1249. The report further stated that there would be downstream impacts for operating levels of 1245 and higher.

Our analysis builds on the previous work utilizing essentially the same basic HEC-5 computer models and routing procedures while extending the period of analysis through year 1999, giving 84 years of record upon which to base probability-elevation estimates for various lake operating levels. Using the latest PC version of HEC-5, which provides evaporation output data for short duration routings, the simulation results for the existing condition lake replenishment level of 1240 were found to be consistent with previous results.

Period of record analyses were performed for maximum lake operating levels from 1241 to 1249 in one-foot increments, plus elevation 1248.5. The 84 annual maximum simulated lake elevations were tabulated and ranked, and then the storage-elevations were plotted in an exceedance probability relationship using median plotting positions.

Previous studies by LADCOE and John M. Tetfimer and Associates (JMTA) have constructed smooth curves and regression equations to estimate the 100-year maximum lake elevations. In this analysis, however, final results are estimated by constructing a best-fit line for the plotted data. This method is deemed the most appropriate because the distribution of the data cannot be defined by a smooth graphical curve or an analytical expression on account of the regulated nature of the data. With 84 years of record, the largest event plots beyond the 100-year exceedance frequency thereby providing a firm value for the 100-year lake elevation estimate. This method has no predictive qualities and cannot be used to estimate values beyond the range of data.

Based on this best-fit analysis, a lake replenishment level of up to elevation 1248.5 will result in an estimated 100-year maximum lake elevation of 1263.3, which is the current accepted 100-year maximum lake elevation. A lake replenishment level of 1249 will result in a 100-year estimated maximum lake elevation of 1263.42.

There are downstream increases in flow magnitude and duration for all alternative operating levels higher than 1240. This report does not address any specific impacts, but provides tables of flow magnitude and duration for lake replenishment levels of 1240, 1245, 1247, and 1249 for the 14 events in the period of record that produce lake outflow.

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1 General

1.1 Authorization

This study was authorized under the memo of understanding entitled "Scope and Fee Proposal, Lake Elsinore Replenishment Level Alternative Analysis" from Tetra Tech ISG, Inc. to Elsinore Valley Water District, dated August 28, 2000.

1.2 Purpose and Scope

The purpose of this report is to document the results of analyses performed to determine the impact on maximum Lake Elsinore water surface elevations for lake replenishment levels (LRL) from elevation 1241 to 1249.

This study incorporates higher lake replenishment levels without actually modeling inflow of "make-up" water or identifying any specific source of water. Likewise, consistent with previous studies, any floodwaters diverted to the back basin are not routed back into the system. The tasks involved include:

1. Adding the years from 1994 to 1999 to the model period of record.
2. Determining the baseline 100-year lake elevation with the longer period of record.
3. Verifying the consistency of results with those reported in previous work by others.
4. Analyzing the alternative lake replenishment levels.
5. Analyzing the outflow peak discharge and duration for selected alternatives.

2 Description of Previous HEC-5 Model

The HEC-5 model of Lake Elsinore is a cumulative work contributed to by a number of different agencies. The goal of the HEC-5 model is to help evaluate the effects of different lake management strategies. The Los Angeles District of the Corps of Engineers constructed the original HEC-5 model with results documented in the 1988 DPR. This was followed by an effort by Black & Veatch Engineers from 1990 to 1995 that was later modified by the Riverside County Flood Control and Water Conservation District and John M. Tetimer and Associates in 1999.

LADCOE constructed a HEC-5 model to simulate the historical period of record from 1916 to 1985. The model was constructed to match historical and recorded lake water surface elevations. To construct the model, lake inflow from United States Geological Survey (USGS) gage station number 11070500, located at San Jacinto River near Elsinore, California, was adjusted so that the model results matched the historical lake

water surface elevations. Precipitation and evaporation were combined to arrive at net evaporation in the model. This model was constructed to simulate natural conditions, i.e., no lake management practices, and to evaluate impacts of outlet channel alternatives. An initial starting water surface elevation of 1245.73 was used. This water surface elevation was the lake elevation on January 1, 1916, as recorded by the USGS.

In 1995, Black & Veatch (B&V) completed an analysis of Lake Elsinore for the Elsinore Valley Municipal Water District (EVMWD) to determine the optimum operating ranges for the lake. This study built on the HEC-5 model that was previously prepared by LADCOE. The model was modified to reflect the Lake Management Plan.

The water years of 1986 to 1993 were added to the model to create a continuous period of record of 78 years as part of the B&V study. The methodology used differed from that used by LADCOE in the original study. Net evaporation in the model was determined from combining the recorded precipitation and pan evaporation for the study area. The precipitation data from the Lake Elsinore rain gage were used. The San Jacinto River gage records were adjusted upward by 1.06 to account for the additional area between the lake and gage. No verification was performed. In order to simulate the effects of the addition of water to keep the lake elevation at a desired lake level, the study used minimum lake replenishment levels of 1240 to 1249.

The B&V HEC-5 model was actually composed of three separate models: A, B, and C. The series of models was necessary since Lake Elsinore was divided into a main lake and a back basin by the Lake Management Plan. Since the back basin received San Jacinto River flow only under extreme conditions, separate models were constructed to account for the different possible scenarios.

Model A was the primary model used in the simulation of the majority of the period of record. The model is valid for lake water surface elevations up to 1262.0 in the main lake. The model uses net evaporation and gaged inflow, while outflow is only through the outlet channel. Once the main lake water surface elevation reaches the overflow weir to the back basin at 1262.0, water would start to flow into the back basin and Model A would no longer be valid.

Once the water surface elevation of the main lake reaches 1262.0, Model B is utilized. Starting modeling parameters are manually transferred from Model A. Model B takes into account the flow over the overflow weir, in addition to the flow in the outlet channel. Model B is used until either (1) the water surface elevation in the main lake decreases to 1262.0 and flows to the back basin stop, at which point Model A again becomes valid, or (2) the water surface in the main lake and back basin equalize, and Model C becomes valid.

Once the main lake and back basin have equalized, Model C takes effect and both basins are modeled as a single storage volume. Starting parameters are manually transferred from Model B. Model C remains valid until the water surface elevation is lowered to below 1262.0, and the hydraulic connection between the main lake and back basin is

severed. Model A becomes valid once again and starting parameters are transferred to Model A.

RCFC&WCD and JMTA subsequently modified the B&V model to determine the effects of the proposed Liberty Project in the back basin. In addition, the capacities of the outlet channel and overflow weir and the storage volumes of both the main lake and back basin were updated during this study. This study resulted in an estimated 100-year lake water surface elevation of 1263.3.

3 Description of the Tetra Tech Model

This report documents the update and revision of the JMTA model for the Elsinore Valley Municipal Water District (EVMWD). For this study, the water years from 1994 to 1999 were added to the period of record and the effects of different lake replenishment level (LRL) alternatives from 1241 to 1249 were analyzed.

3.1 Model Input

The daily evaporation and precipitation data were combined to arrive at a net daily evaporation, which was input into the HEC-5 model. The daily precipitation record was obtained through the RCFC&WCD for National Weather Service station number 04-2805 located at the County Fire Station. The monthly evaporation data was obtained from pan evaporation studies as reported in *The Final Report of the Recommended Lake Operating Range* (ref. a). The monthly evaporation data was divided by the number of days in the month to obtain the daily evaporation data. The daily precipitation data was then subtracted to arrive at the net daily evaporation.

The runoff discharges in the past studies were determined by two methods. For this study, verification tests were done to confirm the applicability of the B&V methodology. The B&V study applied a ratio of 1.06 to the discharges used in the study. This was originally done to account for the watershed area between the gage and the lake, although no verification of its applicability was done. A sensitivity analysis on this ratio applied to the runoff was performed. Runoff data was obtained from USGS gage station number 11070500, located at San Jacinto River near Elsinore, California.

3.2 Verification Tests

The JMTA model was constructed using two different methodologies: the LADCOB 1916 to 1985 and B&V 1986 to 1993. In order to ensure that the methodology used in this study is valid, a verification analysis was run on the 1993 and 1995 events. The model was updated to mirror the conditions that existed at the time of the events. The period of record data used in the verification tests was the daily precipitation data, monthly evaporation data, and daily average runoff discharges.

The 1993 event occurred after the dike completion, but prior to closure of the system breach. The daily net evaporation and runoff for the period of record from January 1, 1993, to August 31, 1993, were input into the model. A starting water surface elevation

of 1229.36 for January 1, 1993, from recorded water surface elevations, was used. The HEC-5 model parameters such as storage volume and outlet capacity from the original LADCOE report were used. Ratios ranging from 0.95 to 1.06 were applied to the daily average discharges for the 1993 event. The model was run and the lake water surface elevations were compared to staff gage readings kept by the RCFC&WCD. The ratio of 1.06 matched the reading from January and February well, though it overestimated the remainder of the storm event. During periods of local runoff, the ratio of 1.06 is appropriate, but a ratio of 1.00 is appropriate during periods of no local runoff. However, the ratio of 1.06 was applied all flows from 1986 to 1993 to be consistent with past studies.

In 1995 the closure of the system breach was completed, and a notch in the levee at 1262 served as the overflow weir. The daily precipitation, evaporation, and runoff for the period of record from January 6, 1995, to June 19, 1995, were input into the model. A starting water surface elevation of 1252.51' for January 6, 1995, from recorded water surface elevations, was used. The current outlet channel was completed in October 1994 and the model parameters for outlet capacity from the JMTA report were used. Ratios ranging from 0.95 to 1.06 were applied the daily average discharges for the 1995 event.

It was found that the best results occurred when a ratio of 1.06 was applied to the peak runoff months, January and February, of the 1995 flood event, and the actual gage data was used for the remainder of the 1994 to 1999 period.

The additional years of record were added using rainfall from the National Weather Service station number 04-2805, located at the County Fire Station. The source of the runoff data was the USGS gage station number 11070500, located at San Jacinto River near Elsinore, California.

4 Comparison With Previous Analysis

A new version of HEC-5, version 8.0, was released between the JMTA and the Tetra Tech studies. This newer version included changes to the way the model displays the evaporation component. The JMTA model was modified for the new version and run to see if there were any changes in the results. Table 1 lists both the JMTA and Tetra Tech results through 1993. As can be seen in Table 1, the maximum difference in water surface elevation is 0.28 feet during water year 1978, which is the tenth largest event and could have minimal impact on the 100-year water surface elevation. The remainder of the water years had a maximum difference of under 0.08 feet with many at zero. The differences are not significant, and the results with version 8.0 are considered to be consistent with previous results.

The present Tetra Tech model, using the historical period of 1916 to 1999, provided simulated results for the existing lake management level of 1240. Table 2 lists the resulting annual maximum water surface elevations using the Tetra Tech model. The addition of the 1994 to 1999 record and updated probability analysis resulted in an estimated 100-year water surface level of 1263.10 feet, a decrease of 0.20 feet from the previously established 100-year elevation of 1263.3. The 100-year water surface elevation was determined using a best-fit graphical analysis. The logic and procedure is described in more detail in Section 5.

5 Simulations and Simulation Results

The Tetra Tech model was run for alternative lake replenishment levels (LRL) from 1240 to 1249 in one-foot increments. The simulated annual maximum lake elevations for the historic period of record were tabulated from the models. The 100-year lake water surface elevations were determined for each alternative by probability analysis of annual maximum elevation.

Tables 2 through 11 list the annual maximum lake water surface elevations for the historic period from 1916 to 1999 for each LRL alternative. The tables list the data in both chronological order and ranked in order of magnitude. For each water year, the annual maximum lake surface elevation, the amount of storage above the LRL, and the total lake storage are presented. The ranked results are in order from the largest to smallest. The ranking, along with the median plotting position and probability percent, are also listed in the tables. The data from the tables was used to create storage-elevation-frequency plots for all of the lake replenishment levels studied. Figures 1 through 10 show the resulting storage-elevation-frequency plots for LRL alternatives 1240 to 1249.

The primary objective of this study was to determine the 100-year water surface elevations for each of the LRL alternatives. Previous work by IMTA determined the 100-year lake water surface using a fifth order regression of the annual maximum water surface elevations. Their approach was a best-fit analytical technique but with the equation parameters having no relationship to the physical situation. This resulted in a 100-year water surface elevation of 1263.3. LADCOE used a smooth best-fit graphical curve to define the storage-elevation-probability relationships in all their studies. The 1991 supplement of the DPR established a 100-year water surface elevation of 1263.3.

It is standard practice to determine discharge-probability relationships by analytical methods where unregulated runoff data distribution can be defined by mean, standard deviation, and skew. This analytical approach has the additional capability of predicting rare values from a small data sample. However, in the case of Lake Elsinore, with 84 years of data, the 100-year value can be determined without a predictive equation. In addition, the simulated annual maximum storage-elevation values for Lake Elsinore are highly regulated by discontinuities in both the storage and outflow relationships. Because of discontinuous storage and outflow relationships plus replenishment levels, the resulting annual maximum data does not fit any defined relationship on which to construct an analytical curve. It is also impossible to construct a smooth graphical curve that recognizes the discontinuities. Therefore, a best-fit graphical line was constructed which essentially passes through all the plotted data points.

6 Study Results

A best-fit graphical method was used to determine the 100-year water surface elevations, since no analytical method was deemed appropriate or possible. The largest event plots beyond the 100-year mark based on a period of record of 84 years. This provides an estimate of the 100-year water surface elevation for each alternative LRL without having to extend a line beyond the range of the data. Figures 1 through 10 show a best-fit line and the plotted data with an inset that displays the results where the line crosses the 1% probability. The inset distorts the slope of the best-fit line because of the expanded storage scale. However, this allows an exact and consistent determination of the 100-year water surface elevation for each LRL alternative. Table 12 lists the estimated 100-year lake water surface elevation for each of the alternative lake replenishment levels.

Table 12. 100-Year Water Surface Elevations for Lake Replenishment Levels	
Lake Replenishment Level	100-Year Water Surface Elevation
1240 Previously Established	1263.30
1240-1245	1263.10
1246	1263.11
1247	1263.14
1248	1263.16
1248.5	1263.30
1249	1263.42

Listed in Table 12 above, the 100-year lake water surface elevation for the 1240 event is 0.20 feet lower than the previously established 100-year lake elevation of 1263.3. This is due to the additional period of record added in this study and the use of a best-fit graphical approach to estimate the 100-year water surface elevation. The smooth graphical COE curve and the analytical curves used by JMTA undercut the second largest event and overrode the largest event in the period of record. Under the current regulated condition there is no hydrologic reason or physical basis for undercutting the second highest data point and overriding the highest data point.

Listed in Table 12, elevation 1263.30 for the LRL alternatives falls between LRL 1248 and LRL 1249. The second ranked event for all LRL alternatives is the 1980 event with a maximum elevation of 1263.03. The 1980 event does not change with LRL because the preceding year of 1979 ends with a lake elevation of approximately 1252 which is higher than all LRLs simulated. With 1980 being consistent for all alternatives, all that was needed to determine the 100-year water surface elevation was the largest ranked event, the 1916 event. The 1916 event was simulated using lake replenishment levels from 1248.1 to 1248.9 in one-tenth of a foot increments. Figure 11 shows the 1916 event maximum, estimated 100-year water surface, and the previously established 100-year water surface of 1263.3. In addition, an inset contains a table with the numeric results. This analysis results in a lake replenishment level of 1248.5, as seen in Table 12, as being the LRL that results in a maximum 100-year lake elevation of 1263.3

7 Downstream Impacts

The effect of changing the lake replenishment levels would not only alter the 100-year water surface elevation, but also would increase the peak flow and duration of the releases in the outlet channel.

Fourteen events in the historical period of record reached the elevation of the outlet channel sill and produced an outflow under the existing LRL of 1240. These same 14 events produce outflow for all LRL alternatives. Tables 13 through 16 list the peak outflow and duration, in days, of selected discharges for the LRL alternatives of 1240, 1245, 1247, and 1249. The difference in the peak flow and duration from the 1240 baseline LRL is also listed in the tables. Table 17 summarizes the increase in peak discharges and duration of indicator discharges from the 1240 baseline LRL. The tables show that maximum change in peak discharge is 174 cfs, 314 cfs, and 507 cfs for LRL 1245, 1247, and 1249, respectively. Figure 12 shows the cumulative discharge exceedance curve for the LRL of 1240, 1245, 1247, and 1249.

TABLES

Table 1. Comparison of TTISG HEC-5 Version 8.0 and JMTA HEC-5 Version 7.0

Water Year	TTISG - HEC-5 v 8.0			JMTA - HEC-5 v 7.0			Difference between TTISG and JMTA Studies
	Date	Elevation ft	Storage ac-ft	Date	Elevation ft	Storage ac-ft	
1916	1/29/2016	1263.11	120053	1/29/2016	1263.11	120053	0.00
1917	4/1/2017	1254.85	88565	4/1/2017	1254.82	88461	0.03
1918	3/1/2018	1254.08	85820	3/1/2018	1254.05	85719	0.03
1919	10/1/2018	1250.75	74033	10/1/2018	1250.72	73936	0.03
1920	4/1/2020	1249.3	69033	4/1/2020	1249.27	68940	0.03
1921	1/1/2020	1246.18	58444	1/1/2020	1246.15	58354	0.03
1922	3/30/2022	1258.68	102798	3/30/2022	1258.67	102786	0.01
1923	2/1/2023	1253.33	83141	2/1/2023	1253.33	83140	0.00
1924	10/1/2023	1249.78	70678	10/1/2023	1249.78	70678	0.00
1925	10/1/2024	1245.98	57766	10/1/2024	1245.98	57766	0.00
1926	4/1/2026	1245.42	55893	4/1/2026	1245.42	55895	0.00
1927	3/12/2027	1258.72	102964	3/12/2027	1258.72	102965	0.00
1928	10/1/2027	1252.89	81573	10/1/2027	1252.89	81558	0.00
1929	10/1/2028	1249.04	68129	10/1/2028	1249.03	68116	0.01
1930	1/1/1930	1245.1	54822	1/1/1930	1245.09	54810	0.01
1931	2/1/1931	1241.9	44455	2/1/1931	1241.9	44445	0.00
1932	3/1/1932	1243.62	49980	3/1/1932	1243.62	49980	0.00
1933	1/1/1933	1240.55	40225	1/1/1933	1240.55	40225	0.00
1934	1/1/1934	1240.2	39148	1/1/1934	1240.2	39148	0.00
1935	2/1/1935	1240.62	40431	2/1/1935	1240.62	40431	0.00
1936	2/1/1936	1240.49	40029	2/1/1936	1240.49	40029	0.00
1937	4/5/1937	1259.26	105048	4/5/1937	1259.26	105048	0.00
1938	3/19/1938	1261.37	113199	3/19/1938	1261.37	113198	0.00
1939	3/31/1939	1255.5	90946	3/31/1939	1255.5	90946	0.00
1940	2/1/1940	1252.57	80451	2/1/1940	1252.57	80452	0.00
1941	4/22/1941	1258.35	101563	4/22/1941	1258.35	101580	0.00
1942	2/1/1942	1254.15	86071	2/1/1942	1254.13	85996	0.02
1943	3/1/1943	1253.33	83155	3/1/1943	1253.31	83084	0.02
1944	3/1/1944	1251.08	75193	3/1/1944	1251.08	75126	0.02
1945	3/1/1945	1247.98	64534	3/1/1945	1247.96	64468	0.02
1946	12/1/1946	1244.56	53046	12/1/1946	1244.54	52983	0.02
1947	11/1/1946	1241.34	42686	11/1/1946	1241.32	42628	0.02
1948	4/1/1948	1240.36	39625	4/1/1948	1240.36	39625	0.00
1949	1/1/1949	1240.35	39595	1/1/1949	1240.35	39595	0.00
1950	4/1/1950	1240.72	40753	4/1/1950	1240.72	40753	0.00
1951	10/1/1950	1240	38519	10/1/1950	1240	38519	0.00
1952	4/1/1952	1245.65	56662	4/1/1952	1245.65	56663	0.00
1953	12/1/1952	1242.6	46685	12/1/1952	1242.6	46686	0.00
1954	3/1/1954	1240.48	40008	3/1/1954	1240.48	40008	0.00
1955	2/1/1955	1240.4	39746	2/1/1955	1240.4	39746	0.00
1956	1/1/1956	1240.16	39017	1/1/1956	1240.16	39017	0.00
1957	10/1/1956	1240	38519	10/1/1956	1240	38519	0.00
1958	4/1/1958	1242.84	47446	4/1/1958	1242.84	47447	0.00
1959	2/1/1959	1240.1	38833	2/1/1959	1240.1	38833	0.00
1960	2/1/1960	1240.12	38906	2/1/1960	1240.13	38906	-0.01
1961	10/1/1960	1240	38519	10/1/1960	1240	38519	0.00
1962	2/1/1962	1240.31	39466	2/1/1962	1240.31	39467	0.00
1963	10/1/1962	1240	38519	10/1/1962	1240	38519	0.00

Table 1

Table 1. Comparison of TTISG HEC-5 Version 8.0 and JMTA HEC-5 Version 7.0

Water Year	TTISG - HEC-5 v 8.0			JMTA - HEC-5 v 7.0			Difference between TTISG and JMTA Studies
	Date	Elevation ft	Storage ac-ft	Date	Elevation ft	Storage ac-ft	
1964	3/1/1964	1246.04	57965	3/1/1964	1246.04	57965	0.00
1965	10/1/1964	1242.81	47349	10/1/1964	1242.81	47350	0.00
1966	3/1/1966	1244.15	51696	3/1/1966	1244.15	51697	0.00
1967	4/1/1967	1241.64	43622	4/1/1967	1241.64	43623	0.00
1968	3/1/1968	1240.62	40433	3/1/1968	1240.62	40433	0.00
1969	4/11/1969	1256.99	96448	4/11/1969	1256.99	96448	0.00
1970	10/1/1969	1251.84	77859	10/1/1969	1251.84	77859	0.00
1971	12/1/1970	1247.79	63879	12/1/1970	1247.79	63880	0.00
1972	12/1/1971	1243.68	50172	12/1/1971	1243.68	50174	0.00
1973	3/1/1973	1241.61	43543	3/1/1973	1241.61	43543	0.00
1974	4/1/1974	1241.53	43293	4/1/1974	1241.53	43293	0.00
1975	3/1/1975	1240.58	40330	3/1/1975	1240.58	40330	0.00
1976	3/1/1976	1241.21	42294	3/1/1976	1241.21	42294	0.00
1977	2/1/1977	1240.45	39901	2/1/1977	1240.45	39902	0.00
1978	5/24/1978	1255.99	92735	5/24/1978	1255.71	91693	0.28
1979	4/14/1979	1256.66	95223	4/14/1979	1256.58	94908	0.08
1980	2/25/1980	1263.03	119740	2/21/1980	1263.03	119740	0.00
1981	10/1/1980	1253.69	84410	10/1/1980	1253.65	84291	0.04
1982	3/1/1982	1249.83	70873	3/1/1982	1249.8	70761	0.03
1983	3/31/1983	1259.69	106682	3/31/1983	1259.67	106626	0.02
1984	10/1/1983	1254.61	87727	10/1/1983	1254.6	87665	0.01
1985	10/1/1984	1249.18	68627	10/1/1984	1249.16	68567	0.02
1986	3/1/1986	1245.52	56221	3/1/1986	1245.5	56164	0.02
1987	10/1/1986	1241.95	44610	10/1/1986	1241.93	44556	0.02
1988	12/1/1987	1240.07	38722	12/1/1987	1240.07	38722	0.00
1989	2/1/1989	1240.04	38629	2/1/1989	1240.04	38629	0.00
1990	2/1/1990	1240.09	38799	2/1/1990	1240.09	38799	0.00
1991	4/1/1991	1243.1	48289	4/1/1991	1243.1	48289	0.00
1992	3/31/1992	1242.7	47014	3/31/1992	1242.7	47014	0.00
1993	2/22/1993	1262.34	117026	2/22/1993	1262.36	117094	-0.02

Table 1

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1240 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1240 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1916	1/29/2016	1263.11	81534	120053	1	1916	1263.11	81534	120053	0.008	0.83
1917	4/1/2017	1254.85	50046	88565	2	1980	1263.03	81221	119740	0.020	2.01
1918	3/1/2018	1254.08	47301	85820	3	1993	1262.34	78507	117026	0.032	3.20
1919	10/1/2018	1250.75	35514	74033	4	1938	1261.37	74680	113199	0.044	4.38
1920	4/1/2020	1249.3	30514	69033	5	1983	1259.69	68163	106682	0.056	5.57
1921	1/1/2020	1246.18	19925	58444	6	1937	1259.26	66529	105048	0.068	6.75
1922	3/30/2022	1258.68	64279	102798	7	1927	1258.72	64445	102964	0.079	7.94
1923	2/1/2023	1253.33	44622	83141	8	1922	1258.68	64279	102798	0.091	9.12
1924	10/1/2023	1249.78	32159	70678	9	1941	1258.35	63044	101563	0.103	10.31
1925	10/1/2024	1245.98	19247	57766	10	1995	1258.18	62416	100935	0.115	11.49
1926	4/1/2026	1245.42	17374	55893	11	1969	1258.99	57929	96448	0.127	12.68
1927	3/12/2027	1258.72	64445	102964	12	1979	1256.66	56704	95223	0.139	13.88
1928	10/1/2027	1252.89	43054	81573	13	1978	1255.99	54216	92735	0.150	15.05
1929	10/1/2028	1249.04	29610	68129	14	1939	1255.5	52427	90946	0.162	16.23
1930	1/1/1930	1245.1	16303	54822	15	1917	1254.85	50046	88565	0.174	17.42
1931	2/1/1931	1241.9	5836	44455	16	1984	1254.61	49208	87727	0.186	18.60
1932	3/1/1932	1243.62	11461	49980	17	1942	1254.15	47552	86071	0.198	19.79
1933	1/1/1933	1240.55	1706	40225	18	1918	1254.08	47301	85820	0.210	20.97
1934	1/1/1934	1240.2	629	39148	19	1981	1253.68	45891	84410	0.222	22.16
1935	2/1/1935	1240.62	1912	40431	20	1994	1253.62	45651	84170	0.233	23.34
1936	2/1/1936	1240.49	1510	40029	21	1943	1253.33	44636	83155	0.245	24.53
1937	4/5/1937	1259.26	66529	105048	22	1923	1253.33	44622	83141	0.257	25.71
1938	3/19/1938	1261.37	74680	113199	23	1996	1253.21	44209	82728	0.269	26.90
1939	3/31/1939	1255.5	52427	90946	24	1928	1252.89	43054	81573	0.281	28.08
1940	2/1/1940	1252.57	41932	80451	25	1940	1252.57	41932	80451	0.293	29.27
1941	4/22/1941	1258.35	63044	101563	26	1998	1251.92	39619	78138	0.305	30.45
1942	2/1/1942	1254.15	47552	86071	27	1970	1251.84	39340	77859	0.316	31.64
1943	3/1/1943	1253.33	44636	83155	28	1944	1251.08	36874	75193	0.328	32.82
1944	3/1/1944	1251.08	36674	75193	29	1919	1250.75	35514	74033	0.340	34.00
1945	3/1/1945	1247.98	26015	64534	30	1997	1250.18	33541	72060	0.352	35.19
1946	12/1/1946	1244.56	14527	53046	31	1982	1249.83	32354	70873	0.364	36.37
1947	11/1/1946	1241.34	4187	42686	32	1924	1249.78	32159	70678	0.376	37.56
1948	4/1/1948	1240.36	1106	39625	33	1920	1249.3	30514	69033	0.387	38.74
1949	1/1/1949	1240.35	1076	39595	34	1985	1249.18	30108	68627	0.399	39.93
1950	4/1/1950	1240.72	2234	40753	35	1929	1249.04	29610	68129	0.411	41.11
1951	10/1/1950	1240	0	38819	36	1999	1248.62	28177	66696	0.423	42.30
1952	4/1/1952	1245.65	18143	56862	37	1945	1247.98	26015	64534	0.435	43.48
1953	12/1/1952	1242.6	8166	46685	38	1971	1247.79	25360	63879	0.447	44.67
1954	3/1/1954	1240.48	1489	40008	39	1921	1246.18	19925	58444	0.459	45.85
1955	2/1/1955	1240.4	1227	39746	40	1964	1246.04	19446	57965	0.470	47.04
1956	1/1/1956	1240.16	498	39017	41	1925	1245.98	19247	57766	0.482	48.22

Table 2

Table 2. Lake Browne Records for Lake Replenishment Level 1240

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1240 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1240 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1240	0	38519	42	1952	1245.65	18143	58862	0.494	49.41
1958	4/1/1958	1242.84	8927	47446	43	1986	1245.52	17702	56221	0.506	50.59
1959	2/1/1959	1240.1	314	38833	44	1926	1245.42	17374	55893	0.518	51.78
1960	2/1/1960	1240.12	387	38906	45	1930	1245.1	16303	54822	0.530	52.96
1961	10/1/1960	1240	0	38519	46	1946	1244.56	14527	53046	0.541	54.15
1962	2/1/1962	1240.31	947	39466	47	1966	1244.15	13177	51696	0.553	55.33
1963	10/1/1962	1240	0	38519	48	1972	1243.68	11653	50172	0.565	56.52
1964	3/1/1964	1246.04	19446	57965	49	1932	1243.62	11461	49980	0.577	57.70
1965	10/1/1964	1242.81	8830	47349	50	1991	1243.1	9770	48289	0.589	58.89
1966	3/1/1966	1244.15	13177	51696	51	1958	1242.84	8927	47446	0.601	60.07
1967	4/1/1967	1241.64	5103	43622	52	1965	1242.81	8830	47349	0.613	61.26
1968	3/1/1968	1240.62	1914	40433	53	1992	1242.7	8495	47014	0.624	62.44
1969	4/11/1969	1256.99	57929	96448	54	1953	1242.6	8166	46685	0.636	63.63
1970	10/1/1969	1251.84	39340	77859	55	1987	1241.95	6091	44610	0.648	64.81
1971	12/1/1970	1247.79	25360	63879	56	1931	1241.9	5936	44455	0.660	66.00
1972	12/1/1971	1243.68	11653	50172	57	1967	1241.64	5103	43622	0.672	67.18
1973	3/1/1973	1241.61	5024	43543	58	1973	1241.61	5024	43543	0.684	68.36
1974	4/1/1974	1241.53	4774	43293	59	1974	1241.53	4774	43293	0.695	69.55
1975	3/1/1975	1240.58	1811	40330	60	1947	1241.34	4167	42686	0.707	70.73
1976	3/1/1976	1241.21	3775	42294	61	1976	1241.21	3775	42294	0.719	71.92
1977	2/1/1977	1240.45	1382	39901	62	1950	1240.72	2234	40753	0.731	73.10
1978	5/24/1978	1255.99	54216	92735	63	1968	1240.62	1914	40433	0.743	74.29
1979	4/14/1979	1256.66	56704	95223	64	1935	1240.62	1912	40431	0.755	75.47
1980	2/21/1980	1263.03	81221	119740	65	1975	1240.58	1811	40330	0.767	76.66
1981	10/1/1980	1253.69	45891	84410	66	1933	1240.55	1708	40225	0.778	77.84
1982	3/1/1982	1249.83	32354	70873	67	1936	1240.49	1510	40029	0.790	79.03
1983	3/31/1983	1259.69	68163	106682	68	1954	1240.48	1489	40008	0.802	80.21
1984	10/1/1983	1264.61	49208	87727	69	1977	1240.45	1382	39901	0.814	81.40
1985	10/1/1984	1249.18	30108	68627	70	1955	1240.4	1227	39746	0.826	82.58
1986	3/1/1986	1245.52	17702	56221	71	1948	1240.36	1106	39625	0.838	83.77
1987	10/1/1986	1241.95	6091	44610	72	1949	1240.35	1076	39595	0.850	84.95
1988	12/1/1987	1240.07	203	38722	73	1962	1240.31	947	39466	0.861	86.14
1989	2/1/1989	1240.04	110	38629	74	1934	1240.2	629	39148	0.873	87.32
1990	2/1/1990	1240.09	280	38799	75	1956	1240.16	498	39017	0.885	88.51
1991	4/1/1991	1243.1	9770	48289	76	1960	1240.12	387	38906	0.897	89.69
1992	3/31/1992	1242.7	8495	47014	77	1959	1240.1	314	38833	0.909	90.88
1993	2/22/1993	1262.34	78507	117026	78	1990	1240.09	280	38799	0.921	92.06
1994	3/28/1994	1263.62	45651	84170	79	1988	1240.07	203	38722	0.932	93.25
1995	3/29/1995	1258.18	62416	100935	80	1989	1240.04	110	38629	0.944	94.43
1996	10/1/1995	1253.21	44209	82728	81	1951	1240	0	38519	0.956	95.62
1997	2/13/1997	1250.18	33541	72060	82	1957	1240	0	38519	0.968	96.80

Table 2

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1240 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1240 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m. 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1251.92	39619	78138	83	1961	1240	0	38519	0.980	97.99
1999	10/1/1998	1248.62	28177	66696	84	1963	1240	0	38519	0.992	99.17

Table 2

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1241 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1241 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1916	1/29/1916	1263.11	78435	120053	1	1916	1263.11	78435	120053	0.008	0.83
1917	4/1/1917	1254.85	46946	88564	2	1980	1263.03	78122	119740	0.020	2.01
1918	3/1/1918	1254.08	44201	85819	3	1993	1262.5	76016	117634	0.032	3.20
1919	10/1/1919	1250.75	32414	74032	4	1938	1261.37	71590	113208	0.044	4.38
1920	4/1/1920	1249.3	27414	69032	5	1983	1259.69	65064	106682	0.056	5.57
1921	1/1/1920	1246.18	16825	58443	6	1937	1259.68	65010	106628	0.068	6.75
1922	3/22/1922	1258.68	61190	102808	7	1927	1258.72	61346	102964	0.079	7.94
1923	2/1/1923	1253.33	41523	83141	8	1922	1258.68	61190	102808	0.091	9.12
1924	10/1/1923	1249.78	29060	70678	9	1941	1258.35	59962	101580	0.103	10.31
1925	10/1/1924	1245.98	18148	57766	10	1995	1258.18	59317	100935	0.115	11.49
1926	4/1/1926	1245.42	14275	55893	11	1869	1257.37	56259	97877	0.127	12.68
1927	3/12/1927	1258.72	61346	102964	12	1979	1256.76	53957	95575	0.139	13.86
1928	10/1/1927	1252.89	39955	81573	13	1978	1256.54	53159	94777	0.150	15.05
1929	10/1/1928	1249.04	26511	68129	14	1939	1255.5	49328	90946	0.162	16.23
1930	1/1/1930	1245.1	13204	54822	15	1917	1254.85	48946	88564	0.174	17.42
1931	2/1/1931	1241.9	2837	44455	16	1984	1254.61	46109	87727	0.186	18.60
1932	3/1/1932	1244.58	11491	53109	17	1942	1254.15	44453	86071	0.198	19.79
1933	1/1/1933	1241.55	1791	43409	18	1918	1254.08	44201	85819	0.210	20.97
1934	1/1/1934	1241.2	630	42248	19	1981	1253.69	42793	84411	0.222	22.16
1935	2/1/1935	1241.61	1925	43543	20	1994	1253.62	42553	84171	0.233	23.34
1936	2/1/1936	1241.49	1528	43146	21	1943	1253.33	41537	83155	0.245	24.53
1937	4/5/1937	1259.68	65010	106628	22	1923	1253.33	41523	83141	0.257	25.71
1938	3/19/1938	1261.37	71590	113208	23	1996	1253.21	41110	82728	0.269	26.90
1939	3/31/1939	1255.5	49328	90946	24	1928	1252.89	39955	81573	0.281	28.08
1940	2/1/1940	1252.57	38833	80451	25	1940	1252.57	38833	80451	0.293	29.27
1941	4/23/1941	1258.35	59962	101580	26	1998	1251.92	36521	78139	0.305	30.45
1942	2/1/1942	1254.15	44453	86071	27	1970	1251.85	36268	77886	0.316	31.64
1943	3/1/1943	1253.33	41537	83155	28	1944	1251.08	33575	75193	0.328	32.82
1944	3/1/1944	1251.08	33575	75193	29	1919	1250.75	32414	74032	0.340	34.00
1945	3/1/1945	1247.98	22916	64534	30	1997	1250.18	30442	72080	0.352	35.19
1946	12/1/1946	1244.56	11428	53046	31	1982	1249.83	29256	70874	0.364	36.37
1947	11/1/1946	1241.34	1058	42686	32	1924	1249.78	29060	70678	0.376	37.56
1948	4/1/1948	1241.35	1091	42709	33	1920	1249.3	27414	69032	0.387	38.74
1949	1/1/1949	1241.34	1083	42701	34	1985	1249.18	27009	68627	0.399	39.93
1950	4/1/1950	1241.7	2218	43836	35	1929	1249.04	26511	68129	0.411	41.11
1951	10/1/1950	1241	0	41618	36	1999	1248.62	25079	66697	0.423	42.30
1952	4/1/1952	1246.58	18159	59777	37	1945	1247.98	22916	64534	0.435	43.48
1953	12/1/1952	1243.53	8049	49667	38	1971	1247.8	22287	63905	0.447	44.67
1954	3/1/1954	1241.48	1502	43120	39	1984	1246.96	19436	61054	0.459	45.85
1955	2/1/1955	1241.39	1230	42848	40	1952	1246.58	18159	59777	0.470	47.04
1956	1/1/1956	1241.16	504	42122	41	1921	1246.18	16825	58443	0.482	48.22

Table 3

Data Ordered Chronologically						Data Ranked by Event Magnitude					
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1241 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1241 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1241	0	41618	42	1925	1245.98	16148	57768	0.494	49.41
1958	4/1/1958	1243.8	8943	50561	43	1986	1245.52	14603	56221	0.506	50.59
1959	2/1/1959	1241.1	320	41938	44	1928	1245.42	14275	55893	0.518	51.78
1960	2/1/1960	1241.12	393	42011	45	1930	1245.1	13204	54822	0.530	52.96
1961	10/1/1960	1241	0	41618	46	1968	1245.09	13185	54803	0.541	54.15
1962	2/1/1962	1241.31	963	42581	47	1932	1244.58	11491	53109	0.553	55.33
1963	10/1/1962	1241	0	41618	48	1946	1244.56	11428	53046	0.565	56.52
1964	3/1/1964	1246.96	19436	61054	49	1991	1244.05	9760	51378	0.577	57.70
1965	10/1/1964	1243.72	8674	50292	50	1958	1243.8	8943	50561	0.589	58.89
1966	3/1/1966	1245.09	13185	54803	51	1965	1243.72	8674	50292	0.601	60.07
1967	4/1/1967	1242.56	4940	46558	52	1972	1243.69	8579	50197	0.613	61.26
1968	3/1/1968	1241.6	1902	43620	53	1992	1243.67	8510	50128	0.624	62.44
1969	4/1/1969	1257.37	56259	97877	54	1953	1243.53	8049	49667	0.636	63.63
1970	10/1/1969	1251.85	36268	77888	55	1973	1242.58	5014	46632	0.648	64.81
1971	12/1/1970	1247.8	22287	63905	56	1967	1242.56	4940	46558	0.660	66.00
1972	12/1/1971	1243.69	8579	50197	57	1974	1242.5	4757	46375	0.672	67.18
1973	3/1/1973	1242.58	5014	46632	58	1978	1242.2	3784	45402	0.684	68.36
1974	4/1/1974	1242.5	4757	46375	59	1987	1241.95	2992	44610	0.695	69.55
1975	3/1/1975	1241.57	1798	43416	60	1931	1241.9	2837	44455	0.707	70.73
1976	3/1/1976	1242.2	3784	45402	61	1950	1241.7	2218	43836	0.719	71.92
1977	2/1/1977	1241.43	1365	42983	62	1935	1241.61	1925	43543	0.731	73.10
1978	4/12/1978	1256.54	53159	94777	63	1968	1241.6	1902	43520	0.743	74.29
1979	4/13/1979	1256.76	53957	95575	64	1975	1241.57	1798	43416	0.755	75.47
1980	2/22/1980	1263.03	78122	119740	65	1933	1241.55	1791	43409	0.767	76.66
1981	10/1/1980	1253.69	42793	84411	66	1936	1241.49	1528	43146	0.778	77.84
1982	3/1/1982	1249.83	29256	70874	67	1954	1241.48	1502	43120	0.790	79.03
1983	3/31/1983	1259.69	65064	106682	68	1977	1241.43	1365	42983	0.802	80.21
1984	10/1/1983	1254.61	46109	87727	69	1956	1241.39	1230	42848	0.814	81.40
1985	10/1/1984	1249.18	27009	68627	70	1948	1241.35	1091	42709	0.826	82.58
1986	3/1/1986	1245.52	14603	56221	71	1949	1241.34	1083	42701	0.838	83.77
1987	10/1/1986	1241.95	2992	44610	72	1947	1241.34	1068	42686	0.850	84.95
1988	12/1/1987	1241.06	204	41822	73	1962	1241.31	963	42581	0.861	86.14
1989	2/1/1989	1241.03	110	41728	74	1934	1241.2	630	42248	0.873	87.32
1990	2/1/1990	1241.09	282	41900	75	1956	1241.16	504	42122	0.885	88.51
1991	4/1/1991	1244.05	9760	51378	76	1960	1241.12	393	42011	0.897	89.69
1992	3/31/1992	1243.67	8510	50128	77	1959	1241.1	320	41938	0.909	90.88
1993	2/20/1993	1262.5	76016	117634	78	1990	1241.09	282	41900	0.921	92.06
1994	3/28/1994	1253.62	42553	84171	79	1988	1241.06	204	41822	0.932	93.25
1995	3/29/1995	1258.18	59317	100935	80	1989	1241.03	110	41728	0.944	94.43
1996	10/1/1995	1253.21	41110	82728	81	1951	1241	0	41618	0.956	95.62
1997	2/13/1997	1250.18	30442	72060	82	1957	1241	0	41618	0.968	96.80

Table 3

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1241 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1241 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m-0.3)/(n+0.4)	Probability %
1998	4/2/1998	1251.92	36521	78139	83	1961	1241	0	41618	0.980	97.99
1999	10/1/1998	1248.62	25079	66697	84	1963	1241	0	41618	0.992	99.17

Table 3

Table 4. Lake Eriore Results for Lake Replenishment Level 1242

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1242 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1242 ac-ft	Total Storage ac-ft	Exceedance Prob Median Position (m. 0.3)/(n+0.4)	Probability %
1916	1/29/1916	1263.11	75286	120053	1	1916	1263.11	75286	120053	0.008	0.83
1917	4/1/1917	1254.85	43798	88565	2	1980	1263.03	74973	119740	0.020	2.01
1918	3/1/1918	1254.08	41053	85820	3	1993	1262.64	73413	118180	0.032	3.20
1919	10/1/1918	1250.75	29266	74033	4	1938	1261.37	68448	113215	0.044	4.38
1920	4/1/1920	1249.3	24266	69033	5	1937	1260.09	63442	108209	0.056	5.57
1921	10/1/1920	1246.18	13677	58444	6	1983	1259.69	61915	106682	0.068	6.75
1922	3/31/1922	1258.68	58041	102808	7	1927	1258.83	58635	103402	0.079	7.94
1923	2/1/1923	1253.33	38374	83141	8	1922	1258.68	58041	102808	0.091	9.12
1924	10/1/1923	1249.78	25911	70878	9	1941	1258.35	56813	101580	0.103	10.31
1925	10/1/1924	1245.98	12999	57766	10	1995	1258.18	56168	100935	0.115	11.49
1926	4/1/1926	1245.74	12211	56878	11	1969	1257.71	54394	99161	0.127	12.68
1927	3/12/1927	1258.83	58635	103402	12	1978	1257.12	52159	96926	0.139	13.86
1928	10/1/1927	1252.9	36830	81597	13	1979	1256.83	51088	95855	0.150	15.05
1929	10/1/1928	1249.04	23386	68153	14	1939	1255.5	46179	90946	0.162	16.23
1930	1/1/1930	1245.1	10078	54845	15	1917	1254.85	43798	88565	0.174	17.42
1931	2/1/1931	1242.45	1442	46209	16	1984	1254.61	42960	87727	0.186	18.60
1932	3/1/1932	1245.53	11517	56284	17	1942	1254.15	41304	86071	0.198	19.79
1933	1/1/1933	1242.54	1731	46498	18	1918	1254.08	41053	85820	0.210	20.97
1934	1/1/1934	1242.2	631	45398	19	1981	1253.69	39644	84411	0.222	22.16
1935	2/1/1935	1242.61	1938	46705	20	1994	1253.62	39403	84170	0.233	23.34
1936	2/1/1936	1242.48	1546	46313	21	1943	1253.33	38388	83155	0.245	24.53
1937	3/31/1937	1260.09	63442	108209	22	1923	1253.33	38374	83141	0.257	25.71
1938	3/19/1938	1261.37	68448	113215	23	1996	1253.21	37960	82727	0.269	26.90
1939	3/31/1939	1255.5	46179	90946	24	1928	1252.9	36830	81597	0.281	28.08
1940	2/1/1940	1252.57	35684	80451	25	1940	1252.57	35684	80451	0.293	29.27
1941	4/23/1941	1258.35	56813	101580	26	1998	1251.92	33371	78138	0.305	30.45
1942	2/1/1942	1254.15	41304	86071	27	1970	1251.86	33141	77908	0.316	31.64
1943	3/1/1943	1253.33	38388	83155	28	1944	1251.08	30426	75193	0.328	32.82
1944	3/1/1944	1251.08	30426	75193	29	1919	1250.75	29266	74033	0.340	34.00
1945	3/1/1945	1247.98	19767	64534	30	1997	1250.18	27293	72060	0.352	35.19
1946	12/1/1945	1244.56	8279	53046	31	1982	1249.83	26107	70874	0.364	36.37
1947	11/1/1946	1242.29	922	45689	32	1924	1249.78	25911	70678	0.376	37.56
1948	4/1/1948	1242.34	1075	45842	33	1920	1249.3	24266	69033	0.387	38.74
1949	1/1/1949	1242.34	1090	45857	34	1985	1249.18	23860	68627	0.399	39.93
1950	4/1/1950	1242.69	2202	46969	35	1929	1249.04	23386	68153	0.411	41.11
1951	10/1/1951	1242	0	44767	36	1999	1248.62	21929	66696	0.423	42.30
1952	4/1/1952	1247.51	18176	62943	37	1945	1247.98	19767	64534	0.435	43.48
1953	12/1/1952	1244.46	7947	52714	38	1964	1247.88	19428	64195	0.447	44.67
1954	3/1/1954	1242.47	1515	46282	39	1971	1247.8	19159	63926	0.459	45.85
1955	2/1/1955	1242.39	1234	46001	40	1952	1247.51	18176	62943	0.470	47.04
1956	1/1/1956	1242.18	509	45276	41	1921	1246.18	13677	58444	0.482	48.22

Table 4

Table 4. Lake Elsinore Results for Lake Replenishment Level 1242

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1242 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1242 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1242	0	44767	42	1966	1246.04	13192	57959	0.494	49.41
1958	4/1/1958	1244.76	8959	53726	43	1925	1245.98	12999	57766	0.506	50.59
1959	2/1/1959	1242.1	325	45092	44	1926	1245.74	12211	56978	0.518	51.78
1960	2/1/1960	1242.13	400	45167	45	1932	1245.53	11517	56284	0.530	52.96
1961	10/1/1960	1242	0	44767	46	1986	1245.52	11454	56221	0.541	54.15
1962	2/1/1962	1242.31	978	45745	47	1930	1245.1	10078	54845	0.553	55.33
1963	10/1/1962	1242	0	44767	48	1991	1245	9752	54519	0.565	56.52
1964	3/1/1964	1247.88	19428	64195	49	1958	1244.76	8959	53726	0.577	57.70
1965	10/1/1964	1244.64	8543	53310	50	1965	1244.64	8543	53310	0.589	58.89
1966	3/1/1966	1246.04	13192	57959	51	1992	1244.63	8524	53291	0.601	60.07
1967	1/1/1967	1243.49	4799	49566	52	1946	1244.56	8279	53046	0.613	61.26
1968	3/1/1968	1242.59	1890	46657	53	1953	1244.46	7947	52714	0.624	62.44
1969	3/24/1969	1257.71	54394	99161	54	1972	1243.69	5450	50217	0.636	63.63
1970	10/1/1969	1251.86	33141	77908	55	1973	1243.56	5004	49771	0.648	64.81
1971	12/1/1970	1247.8	19159	63926	56	1967	1243.49	4799	49566	0.660	66.00
1972	12/1/1971	1243.69	5450	50217	57	1974	1243.48	4741	49508	0.672	67.18
1973	3/1/1973	1243.56	5004	49771	58	1976	1243.18	3792	48559	0.684	68.36
1974	4/1/1974	1243.48	4741	49508	59	1950	1242.69	2202	46969	0.695	69.55
1975	3/1/1975	1242.56	1793	46560	60	1936	1242.61	1938	46705	0.707	70.73
1976	3/1/1976	1243.18	3792	48559	61	1968	1242.59	1890	46657	0.719	71.92
1977	2/1/1977	1242.42	1347	46114	62	1975	1242.56	1793	46560	0.731	73.10
1978	3/31/1978	1257.12	52159	96926	63	1933	1242.54	1731	46498	0.743	74.29
1979	4/13/1979	1256.83	51088	95855	64	1936	1242.48	1546	46313	0.755	75.47
1980	2/22/1980	1263.03	74973	119740	65	1954	1242.47	1515	46282	0.767	76.66
1981	10/1/1980	1253.69	39644	84411	66	1931	1242.45	1442	46209	0.778	77.84
1982	3/1/1982	1249.83	26107	70874	67	1977	1242.42	1347	46114	0.790	79.03
1983	3/31/1983	1259.69	61915	106682	68	1955	1242.39	1234	46001	0.802	80.21
1984	10/1/1983	1254.61	42960	87727	69	1949	1242.34	1090	45857	0.814	81.40
1985	10/1/1984	1249.18	23860	68627	70	1948	1242.34	1075	45842	0.826	82.58
1986	3/1/1986	1245.52	11454	56221	71	1962	1242.31	978	45745	0.838	83.77
1987	10/1/1986	1242	0	44767	72	1947	1242.29	922	45689	0.850	84.95
1988	12/1/1987	1242.06	206	44973	73	1934	1242.2	631	45398	0.861	86.14
1989	2/1/1989	1242.03	111	44878	74	1966	1242.16	509	45276	0.873	87.32
1990	2/1/1990	1242.09	284	45051	75	1980	1242.13	400	45167	0.885	88.51
1991	4/1/1991	1245	9752	54519	76	1959	1242.1	325	45092	0.897	89.69
1992	3/3/1992	1244.63	8524	53291	77	1990	1242.09	284	45051	0.909	90.88
1993	2/20/1993	1262.64	73413	118180	78	1988	1242.06	206	44973	0.921	92.06
1994	3/28/1994	1253.62	39403	84170	79	1989	1242.03	111	44878	0.932	93.25
1995	3/29/1995	1258.18	56168	100935	80	1951	1242	0	44767	0.944	94.43
1996	10/1/1995	1253.21	37960	82727	81	1957	1242	0	44767	0.956	95.62
1997	2/13/1997	1250.18	27293	72060	82	1961	1242	0	44767	0.968	96.80

Table 4

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1242 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1242 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1251.92	33371	78138	83	1963	1242	0	44767	0.980	97.99
1999	10/1/1999	1248.52	21929	66696	84	1987	1242	0	44767	0.992	99.17

Table 4

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1243 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1243 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m. 0.3)/(n+0.4)	Probability %
1916	1/29/2016	1263.11	72090	120053	1	1916	1263.11	72090	120053	0.008	0.83
1917	4/1/2017	1254.82	40508	88471	2	1980	1263.03	71777	119740	0.020	2.01
1918	3/1/2018	1254.06	37765	85728	3	1993	1262.66	70297	118260	0.032	3.20
1919	10/1/2018	1250.72	25981	73944	4	1938	1261.37	65255	113218	0.044	4.38
1920	4/1/2020	1249.27	20984	68947	5	1937	1260.32	61157	109120	0.056	5.57
1921	10/1/2020	1246.16	10397	58360	6	1983	1259.69	58719	106682	0.068	6.75
1922	3/25/2022	1258.84	55446	103409	7	1927	1259.17	56709	104672	0.079	7.94
1923	2/1/2023	1253.31	35091	83054	8	1922	1258.84	55446	103409	0.091	9.12
1924	10/1/2023	1249.75	22632	70595	9	1941	1258.35	53608	101571	0.103	10.31
1925	10/1/2024	1245.95	9721	57684	10	1995	1258.18	52972	100935	0.115	11.49
1926	4/1/2026	1246.7	12212	60175	11	1969	1258.13	52765	100728	0.127	12.68
1927	2/28/2027	1259.17	56709	104672	12	1978	1257.67	51019	98982	0.139	13.86
1928	10/1/2027	1252.91	33682	81645	13	1979	1256.87	48042	96005	0.150	15.05
1929	10/1/2028	1249.06	20236	68199	14	1939	1255.5	42983	90946	0.162	16.23
1930	1/1/1930	1245.12	6926	54889	15	1917	1254.82	40508	88471	0.174	17.42
1931	2/1/1931	1243.45	1458	49421	16	1984	1254.81	39764	87727	0.186	18.60
1932	3/1/1932	1246.5	11549	59512	17	1942	1254.12	37991	85954	0.198	19.79
1933	1/1/1933	1243.54	1743	49706	18	1918	1254.06	37765	85728	0.210	20.97
1934	1/1/1934	1243.19	632	48595	19	1981	1253.69	36447	84410	0.222	22.16
1935	2/1/1935	1243.8	1950	49913	20	1994	1253.62	36207	84170	0.233	23.34
1936	2/1/1936	1243.48	1562	49525	21	1923	1253.31	35091	83054	0.245	24.53
1937	3/31/1937	1250.32	61157	109120	22	1943	1253.3	35079	83042	0.257	25.71
1938	3/19/1938	1261.37	65255	113218	23	1996	1253.21	34764	82727	0.269	26.90
1939	3/31/1939	1255.5	42983	90946	24	1928	1252.91	33682	81645	0.281	28.08
1940	2/1/1940	1252.57	32470	80433	25	1940	1252.57	32470	80433	0.293	29.27
1941	4/23/1941	1258.35	53608	101571	26	1998	1251.92	30175	78138	0.305	30.45
1942	2/1/1942	1254.12	37991	85954	27	1970	1251.86	29969	77932	0.316	31.64
1943	3/1/1943	1253.3	35079	83042	28	1944	1251.05	27122	75085	0.328	32.82
1944	3/1/1944	1251.05	27122	75085	29	1919	1250.72	25981	73944	0.340	34.00
1945	3/1/1945	1247.95	16464	64427	30	1997	1250.18	24097	72060	0.352	35.19
1946	12/1/1945	1244.53	4980	52943	31	1982	1249.83	22911	70874	0.364	36.37
1947	11/1/1946	1243.29	925	48888	32	1924	1249.75	22632	70595	0.376	37.56
1948	4/1/1948	1243.33	1061	49024	33	1920	1249.27	20984	68947	0.387	38.74
1949	1/1/1949	1243.34	1096	49059	34	1985	1249.81	20664	68627	0.399	39.93
1950	4/1/1950	1243.67	2187	50150	35	1929	1249.06	20236	68199	0.411	41.11
1951	10/1/1950	1243	0	47963	36	1964	1248.82	19419	67382	0.423	42.30
1952	4/1/1952	1248.46	18199	68162	37	1999	1248.62	18733	66696	0.435	43.48
1953	12/1/1952	1245.4	7872	55835	38	1952	1248.46	18199	66162	0.447	44.67
1954	3/1/1954	1243.47	1527	49490	39	1945	1247.95	16464	64427	0.459	45.85
1955	2/1/1955	1243.38	1236	49199	40	1971	1247.81	15986	63949	0.470	47.04
1956	1/1/1956	1243.16	514	48477	41	1966	1246.98	13202	61165	0.482	48.22

Table 5 -

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1243 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1243 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1243	0	47963	42	1926	1246.7	12212	60175	0.494	49.41
1958	4/1/1958	1245.73	8974	56937	43	1932	1246.5	11549	59512	0.506	50.59
1959	2/1/1959	1243.1	330	48293	44	1921	1246.16	10397	58360	0.518	51.78
1960	2/1/1960	1243.12	405	48368	45	1991	1245.96	9742	57705	0.530	52.96
1961	10/1/1960	1243	0	47963	46	1925	1245.95	9721	57684	0.541	54.15
1962	2/1/1962	1243.31	992	48855	47	1958	1245.73	8974	56937	0.553	55.33
1963	10/1/1962	1243	0	47963	48	1992	1245.6	8539	56502	0.565	56.52
1964	3/1/1964	1248.82	19419	67382	49	1965	1245.57	8434	56397	0.577	57.70
1965	10/1/1964	1245.57	8434	56397	50	1986	1245.52	8258	56221	0.589	58.89
1966	3/1/1966	1246.99	13202	61165	51	1953	1245.4	7872	55835	0.601	60.07
1967	1/1/1967	1244.44	4686	52649	52	1930	1245.12	6926	54889	0.613	61.26
1968	3/1/1968	1243.58	1879	49842	53	1973	1244.53	4996	52959	0.624	62.44
1969	3/6/1969	1258.13	52765	100728	54	1946	1244.53	4980	52943	0.636	63.63
1970	10/1/1969	1251.86	29969	77932	55	1974	1244.45	4722	52685	0.648	64.81
1971	12/1/1970	1247.81	15986	63949	56	1967	1244.44	4686	52649	0.660	66.00
1972	12/1/1971	1243.7	2276	50239	57	1976	1244.17	3801	51764	0.672	67.18
1973	3/1/1973	1244.53	4996	52959	58	1972	1243.7	2276	50239	0.684	68.36
1974	4/1/1974	1244.45	4722	52685	59	1950	1243.67	2187	50150	0.695	69.55
1975	3/1/1975	1243.56	1793	49756	60	1935	1243.6	1950	49913	0.707	70.73
1976	3/1/1976	1244.17	3801	51764	61	1968	1243.58	1879	49842	0.719	71.92
1977	2/1/1977	1243.41	1332	49295	62	1975	1243.55	1793	49756	0.731	73.10
1978	3/31/1978	1257.67	51019	98982	63	1933	1243.54	1743	49706	0.743	74.29
1979	4/18/1979	1256.87	48042	96005	64	1936	1243.48	1562	49525	0.755	75.47
1980	2/22/1980	1263.03	71777	119740	65	1954	1243.47	1527	49490	0.767	76.66
1981	10/1/1980	1253.69	36447	84410	66	1931	1243.45	1458	49421	0.778	77.84
1982	3/1/1982	1249.83	22911	70874	67	1977	1243.41	1332	49295	0.790	79.03
1983	3/31/1983	1259.69	58719	106682	68	1955	1243.38	1236	49199	0.802	80.21
1984	10/1/1983	1254.61	39764	87727	69	1949	1243.34	1096	49059	0.814	81.40
1985	10/1/1984	1249.81	20664	68627	70	1948	1243.33	1061	49024	0.826	82.58
1986	3/1/1986	1245.52	8258	56221	71	1962	1243.31	992	48955	0.838	83.77
1987	10/1/1986	1243	0	47963	72	1947	1243.29	925	48888	0.850	84.95
1988	12/1/1987	1243.06	207	48170	73	1934	1243.19	632	48595	0.861	86.14
1989	2/1/1989	1243.03	111	48074	74	1956	1243.16	514	48477	0.873	87.32
1990	2/1/1990	1243.09	286	48249	75	1960	1243.12	405	48368	0.885	88.51
1991	4/1/1991	1245.96	9742	57705	76	1959	1243.1	330	48293	0.897	89.69
1992	3/31/1992	1245.6	8539	56502	77	1990	1243.09	286	48249	0.909	90.88
1993	2/20/1993	1262.66	70297	118260	78	1988	1243.06	207	48170	0.921	92.06
1994	3/28/1994	1253.62	36207	84170	79	1989	1243.03	111	48074	0.932	93.25
1995	3/29/1995	1258.18	52972	100935	80	1951	1243	0	47963	0.944	94.43
1996	10/1/1995	1253.21	34764	82727	81	1957	1243	0	47963	0.956	95.62
1997	2/13/1997	1250.18	24097	72060	82	1961	1243	0	47963	0.968	96.80

Table 5.

Table 4. Lake Elevation Results for Lake Replenishment Level 1243

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1243 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1243 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position ($m = 0.3Y/(n+0.4)$)	Probability %
1998	4/2/1998	1251.92	30175	78138	83	1963	1243	0	47963	0.980	97.99
1999	10/1/1998	1248.82	18733	66696	84	1987	1243	0	47963	0.992	99.17

Table 5

Table of Lake Superior Floods for Lake Superior Level 12.1

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1244 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1244 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1916	1/26/1916	1263.11	68845	120053	1	1916	1263.11	68845	120053	0.008	0.83
1917	4/1/1917	1254.82	37263	88471	2	1980	1263.03	68532	119740	0.020	2.01
1918	3/1/1918	1254.06	34520	85728	3	1993	1262.66	67078	118286	0.032	3.20
1919	10/1/1918	1250.72	22736	73944	4	1938	1261.37	62015	113223	0.044	4.38
1920	4/1/1920	1249.27	17739	68947	5	1937	1260.68	59306	110514	0.056	5.57
1921	10/1/1920	1246.16	7152	58360	6	1983	1259.69	55474	106682	0.068	6.75
1922	3/27/1922	1259.01	52872	104080	7	1927	1259.56	54966	106174	0.079	7.94
1923	2/1/1923	1253.31	31861	83069	8	1922	1259.01	52872	104080	0.091	9.12
1924	10/1/1923	1249.76	19402	70610	9	1969	1258.58	51234	102442	0.103	10.31
1925	10/1/1924	1245.98	6491	57699	10	1941	1258.35	50363	101571	0.115	11.49
1926	4/1/1926	1247.65	12210	63418	11	1995	1258.18	49727	100935	0.127	12.68
1927	3/6/1927	1259.56	54966	106174	12	1978	1258.1	49404	100612	0.139	13.86
1928	10/1/1927	1252.93	30512	81720	13	1979	1256.9	44883	96091	0.150	15.05
1929	10/1/1928	1249.08	17064	68272	14	1939	1255.5	39738	90946	0.162	16.23
1930	1/1/1930	1245.14	3752	54960	15	1917	1254.82	37263	88471	0.174	17.42
1931	2/1/1931	1244.45	1476	52684	16	1984	1254.61	36519	87727	0.186	18.60
1932	3/1/1932	1247.47	11582	62790	17	1942	1254.12	34746	85954	0.198	19.79
1933	1/1/1933	1244.53	1756	52964	18	1918	1254.06	34520	85728	0.210	20.97
1934	1/1/1934	1244.19	633	51841	19	1981	1253.69	33202	84410	0.222	22.16
1935	2/1/1935	1244.6	1964	53172	20	1994	1253.62	32962	84170	0.233	23.34
1936	2/1/1936	1244.48	1581	52789	21	1923	1253.31	31861	83069	0.245	24.53
1937	3/31/1937	1260.68	59306	110514	22	1943	1253.3	31834	83042	0.257	25.71
1938	3/19/1938	1261.37	62015	113223	23	1996	1253.21	31519	82727	0.269	26.90
1939	3/31/1939	1255.5	39738	90946	24	1928	1252.93	30512	81720	0.281	28.08
1940	2/1/1940	1252.57	29225	80433	25	1940	1252.57	29225	80433	0.293	29.27
1941	4/23/1941	1258.35	50363	101571	26	1998	1251.92	26930	78136	0.305	30.45
1942	2/1/1942	1254.12	34746	85954	27	1970	1251.88	26791	77999	0.316	31.64
1943	3/1/1943	1253.3	31834	83042	28	1944	1251.05	23877	75085	0.328	32.82
1944	3/1/1944	1251.05	23877	75085	29	1919	1250.72	22736	73944	0.340	34.00
1945	3/1/1945	1247.95	13219	64427	30	1997	1250.18	20852	72060	0.352	35.19
1946	12/1/1945	1244.53	1735	52943	31	1982	1249.83	19666	70874	0.364	36.37
1947	11/1/1946	1244.28	929	52137	32	1964	1249.76	19411	70619	0.376	37.56
1948	4/1/1948	1244.32	1044	52252	33	1924	1249.76	19402	70610	0.387	38.74
1949	1/1/1949	1244.33	1103	52311	34	1952	1249.41	18213	69421	0.399	39.93
1950	4/1/1950	1244.66	2171	53379	35	1920	1249.27	17739	68947	0.411	41.11
1951	10/1/1950	1244	0	51208	36	1985	1249.18	17419	68627	0.423	42.30
1952	4/1/1952	1249.41	18213	69421	37	1929	1249.08	17064	68272	0.435	43.48
1953	12/1/1952	1246.35	7810	59018	38	1999	1248.62	15488	66696	0.447	44.67
1954	3/1/1954	1244.47	1541	52749	39	1945	1247.95	13219	64427	0.459	45.85
1955	2/1/1955	1244.38	1240	52448	40	1966	1247.95	13213	64421	0.470	47.04
1956	1/1/1956	1244.16	520	51728	41	1971	1247.83	12806	64014	0.482	48.22

Table 6

Table 6. Lake Elishore Results for Lake Replenishment Level 1244

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1244 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1244 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1244	0	51208	42	1926	1247.65	12210	63418	0.494	49.41
1958	4/1/1958	1246.7	8990	60198	43	1932	1247.47	11582	62790	0.506	50.59
1959	2/1/1959	1244.1	335	51543	44	1991	1246.92	9734	60942	0.518	51.78
1960	2/1/1960	1244.12	412	51620	45	1958	1246.7	8990	60198	0.530	52.96
1961	10/1/1960	1244	0	51208	46	1992	1246.57	8553	59761	0.541	54.15
1962	2/1/1962	1244.31	1008	52216	47	1965	1246.51	8334	59542	0.553	55.33
1963	10/1/1962	1244	0	51208	48	1953	1246.35	7810	59018	0.565	56.52
1964	3/1/1964	1249.76	19411	70619	49	1921	1246.16	7152	58360	0.577	57.70
1965	10/1/1964	1246.51	8334	59542	50	1925	1245.96	6491	57699	0.589	58.89
1966	3/1/1966	1247.95	13213	64421	51	1986	1245.52	5013	56221	0.601	60.07
1967	1/1/1967	1245.39	4590	55798	52	1973	1245.51	4986	56194	0.613	61.26
1968	3/1/1968	1244.57	1867	53075	53	1974	1245.42	4708	55916	0.624	62.44
1969	3/6/1969	1258.58	51234	102442	54	1967	1245.39	4590	55798	0.636	63.63
1970	10/1/1969	1251.88	26791	77909	55	1976	1245.15	3811	55019	0.648	64.81
1971	12/1/1970	1247.83	12806	64014	56	1930	1245.14	3752	54960	0.660	66.00
1972	12/1/1971	1244.29	947	52155	57	1950	1244.66	2171	53379	0.672	67.18
1973	3/1/1973	1245.51	4966	56194	58	1935	1244.6	1964	53172	0.684	68.36
1974	4/1/1974	1245.42	4708	55916	59	1968	1244.57	1867	53075	0.695	69.55
1975	3/1/1975	1244.54	1793	53001	60	1975	1244.54	1793	53001	0.707	70.73
1976	3/1/1976	1245.16	3811	55019	61	1933	1244.53	1756	52964	0.719	71.92
1977	2/1/1977	1244.4	1321	52528	62	1946	1244.53	1735	52943	0.731	73.10
1978	3/31/1978	1258.1	49404	100612	63	1936	1244.48	1681	52789	0.743	74.29
1979	4/13/1979	1266.9	44883	96091	64	1954	1244.47	1541	52749	0.755	75.47
1980	2/22/1980	1263.03	68532	119740	65	1931	1244.46	1476	52684	0.767	76.66
1981	10/1/1980	1253.69	33202	84410	66	1977	1244.4	1321	52529	0.778	77.84
1982	3/1/1982	1249.63	19566	70874	67	1955	1244.38	1240	52448	0.790	79.03
1983	3/31/1983	1259.69	55474	106682	68	1949	1244.33	1103	52311	0.802	80.21
1984	10/1/1983	1254.61	36519	87727	69	1948	1244.32	1044	52262	0.814	81.40
1985	10/1/1984	1249.18	17419	68527	70	1962	1244.31	1008	52216	0.826	82.58
1986	4/1/1986	1245.52	5013	56221	71	1972	1244.28	947	52155	0.838	83.77
1987	10/1/1986	1244	0	51208	72	1947	1244.28	929	52137	0.850	84.95
1988	12/1/1987	1244.06	209	51417	73	1934	1244.19	633	51841	0.861	86.14
1989	2/1/1989	1244.03	112	51320	74	1956	1244.16	520	51728	0.873	87.32
1990	2/1/1990	1244.09	288	51496	75	1960	1244.12	412	51620	0.885	88.51
1991	4/1/1991	1246.92	9734	60942	76	1959	1244.1	335	51543	0.897	89.69
1992	3/31/1982	1246.57	8553	59761	77	1990	1244.09	288	51496	0.909	90.88
1993	2/20/1993	1262.66	67078	118286	78	1988	1244.06	209	51417	0.921	92.06
1994	3/28/1994	1253.62	32962	84170	79	1989	1244.03	112	51320	0.932	93.25
1995	3/29/1995	1258.18	49727	100935	80	1951	1244	0	51208	0.944	94.43
1996	10/1/1995	1253.21	31519	82727	81	1957	1244	0	51208	0.956	95.62
1997	2/13/1997	1250.18	20852	72060	82	1961	1244	0	51208	0.968	96.80

Table 6

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1244 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1244 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1251.92	26930	78138	83	1963	1244	0	51208	0.980	97.99
1999	10/1/1998	1248.62	15488	66696	84	1987	1244	0	51208	0.992	99.17

Table 6

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1245 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1245 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1916	1/29/2016	1263.11	65549	120053	1	1916	1263.11	65549	120053	0.008	0.83
1917	4/1/2017	1254.85	34057	88561	2	1980	1263.03	65236	119740	0.020	2.01
1918	3/1/2018	1254.08	31312	85816	3	1993	1262.67	63801	118305	0.032	3.20
1919	10/1/2018	1250.75	19525	74029	4	1938	1261.37	58722	113226	0.044	4.38
1920	4/1/2020	1249.3	14525	69029	5	1937	1261.07	57522	112026	0.056	5.57
1921	10/1/2020	1246.18	3937	58441	6	1927	1260.05	53559	108063	0.068	6.75
1922	3/25/2022	1259.16	50130	104634	7	1983	1259.69	52178	106682	0.079	7.94
1923	2/1/2023	1253.36	28703	83207	8	1969	1259.22	50370	104874	0.091	9.12
1924	10/1/2023	1249.8	16238	70742	9	1922	1259.16	50130	104634	0.103	10.31
1925	10/1/2024	1246	3324	57828	10	1978	1258.42	47307	101811	0.115	11.49
1926	4/1/2026	1248.62	12211	66715	11	1941	1258.35	47076	101580	0.127	12.68
1927	2/28/2027	1260.05	53559	108063	12	1995	1258.18	46431	100935	0.139	13.86
1928	10/1/2027	1252.95	27269	81773	13	1979	1258.91	41637	96141	0.150	15.06
1929	10/1/2028	1249.09	13819	68323	14	1930	1255.5	36442	90946	0.162	16.23
1930	1/1/1930	1245.81	2699	57203	15	1917	1254.85	34057	88561	0.174	17.42
1931	2/1/1931	1245.46	1491	55995	16	1984	1254.61	33223	87727	0.186	18.60
1932	3/1/1932	1248.44	11600	66104	17	1942	1254.15	31567	86071	0.198	19.79
1933	1/1/1933	1245.53	1787	56271	18	1918	1254.08	31312	85816	0.210	20.97
1934	1/1/1934	1245.19	634	55138	19	1981	1253.69	29907	84411	0.222	22.16
1936	2/1/1935	1245.59	1974	58478	20	1994	1253.62	29667	84171	0.233	23.34
1936	2/1/1936	1245.48	1596	56100	21	1923	1253.35	28703	83207	0.245	24.53
1937	3/31/1937	1261.07	57522	112026	22	1943	1253.33	28651	83155	0.257	25.71
1938	3/19/1938	1261.37	58722	113226	23	1996	1253.21	28224	82728	0.269	26.90
1939	3/31/1939	1255.5	36442	90946	24	1928	1252.96	27269	81773	0.281	28.08
1940	2/1/1940	1252.57	25947	80451	25	1940	1252.57	25947	80451	0.293	29.27
1941	4/23/1941	1258.35	47076	101580	26	1970	1251.96	23782	78286	0.305	30.45
1942	2/1/1942	1254.15	31567	86071	27	1998	1251.92	23635	78139	0.316	31.64
1943	3/1/1943	1253.33	28651	83155	28	1944	1251.08	20689	75193	0.328	32.82
1944	3/1/1944	1251.08	20689	75193	29	1919	1250.75	19525	74029	0.340	34.00
1945	3/1/1945	1247.98	10030	64534	30	1964	1250.71	19407	73911	0.352	35.18
1946	12/1/1945	1245.24	815	55319	31	1952	1250.37	18222	72726	0.364	36.37
1947	11/1/1946	1245.28	932	55436	32	1997	1250.18	17556	72060	0.376	37.56
1948	4/1/1948	1245.31	1030	55634	33	1982	1249.83	16370	70874	0.387	38.74
1949	1/1/1949	1245.33	1109	55813	34	1924	1249.8	16238	70742	0.399	39.93
1950	4/1/1950	1245.65	2158	56662	35	1920	1249.3	14525	69029	0.411	41.11
1951	10/1/1950	1245	0	54504	36	1985	1249.18	14123	68627	0.423	42.30
1952	4/1/1952	1250.37	18222	72726	37	1929	1249.09	13819	68323	0.435	43.48
1953	12/1/1952	1247.31	7742	62246	38	1966	1248.92	13223	67727	0.447	44.67
1954	3/1/1954	1245.47	1553	56057	39	1926	1248.62	12211	66715	0.459	45.85
1955	2/1/1955	1245.37	1243	55747	40	1999	1248.62	12193	66697	0.470	47.04
1956	1/1/1956	1245.16	525	55029	41	1932	1248.44	11600	66104	0.482	48.22

Table 7

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1245 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1245 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1245	0	54504	42	1945	1247.98	10030	64534	0.494	49.41
1958	4/1/1958	1247.68	9004	63508	43	1971	1247.91	9789	64293	0.506	50.59
1959	2/1/1959	1245.1	340	54844	44	1991	1247.89	9729	64233	0.518	51.78
1960	2/1/1960	1245.13	418	54922	45	1958	1247.68	9004	63508	0.530	52.96
1961	10/1/1960	1245	0	54504	46	1992	1247.55	8565	63069	0.541	54.15
1962	2/1/1962	1245.31	1022	55526	47	1965	1247.46	8255	62759	0.553	55.33
1963	10/1/1962	1245	0	54504	48	1953	1247.31	7742	62246	0.565	56.52
1964	3/1/1964	1250.71	19407	73911	49	1973	1246.49	4975	59479	0.577	57.70
1965	10/1/1964	1247.46	8255	62759	50	1974	1246.41	4698	59202	0.589	58.89
1966	3/1/1966	1248.92	13223	67727	51	1967	1246.35	4514	59018	0.601	60.07
1967	1/1/1967	1246.35	4514	59018	52	1921	1246.18	3937	58441	0.613	61.26
1968	3/1/1968	1245.56	1857	56361	53	1976	1246.14	3817	58321	0.624	62.44
1969	3/6/1969	1259.22	50370	104874	54	1925	1246	3324	57828	0.636	63.63
1970	10/1/1969	1251.86	23782	78286	55	1930	1245.81	2699	57203	0.648	64.81
1971	12/1/1970	1247.91	9789	64293	56	1950	1245.65	2158	56862	0.660	66.00
1972	12/1/1971	1245.29	957	55461	57	1986	1245.84	2137	56641	0.672	67.18
1973	3/1/1973	1246.49	4975	59479	58	1935	1245.59	1974	56478	0.684	68.36
1974	4/1/1974	1246.41	4698	59202	59	1968	1245.56	1857	56361	0.695	69.55
1975	3/1/1975	1245.54	1794	56298	60	1975	1245.54	1794	56298	0.707	70.73
1976	3/1/1976	1246.14	3817	58321	61	1933	1245.53	1767	56271	0.719	71.92
1977	2/1/1977	1245.4	1316	55820	62	1936	1245.48	1596	56100	0.731	73.10
1978	3/31/1978	1258.42	47307	101811	63	1954	1245.47	1553	56057	0.743	74.29
1979	4/18/1979	1256.91	41637	96141	64	1931	1245.45	1491	55985	0.755	75.47
1980	2/22/1980	1263.03	65236	119740	65	1977	1245.4	1316	55820	0.767	76.66
1981	10/1/1980	1253.69	29907	84411	66	1955	1245.37	1243	55747	0.778	77.84
1982	3/1/1982	1249.83	16370	70874	67	1949	1245.33	1109	55613	0.790	79.03
1983	3/31/1983	1259.69	52178	106682	68	1948	1245.31	1030	55534	0.802	80.21
1984	10/1/1983	1254.61	33223	87727	69	1962	1245.31	1022	55526	0.814	81.40
1985	10/1/1984	1249.18	14123	68627	70	1972	1245.29	957	55451	0.826	82.58
1986	3/1/1986	1245.64	2137	56641	71	1947	1245.28	932	55436	0.838	83.77
1987	10/1/1986	1245	0	54504	72	1946	1245.24	815	55319	0.850	84.95
1988	12/1/1987	1245.06	210	54714	73	1934	1245.19	634	55138	0.861	86.14
1989	2/1/1989	1245.03	112	54616	74	1956	1245.16	525	55028	0.873	87.32
1990	2/1/1990	1245.09	290	54794	75	1960	1245.13	418	54922	0.885	88.51
1991	4/1/1991	1247.89	9729	64233	76	1959	1245.1	340	54844	0.897	89.69
1992	3/31/1992	1247.55	8565	63069	77	1990	1245.09	290	54794	0.909	90.88
1993	2/20/1993	1262.67	63801	118305	78	1988	1245.06	210	54714	0.921	92.06
1994	3/28/1994	1253.62	29667	84171	79	1989	1245.03	112	54616	0.932	93.25
1995	3/29/1995	1258.18	46431	100935	80	1951	1245	0	54504	0.944	94.43
1996	10/1/1995	1253.21	28224	82728	81	1957	1245	0	54504	0.956	95.62
1997	2/13/1997	1250.18	17556	72060	82	1961	1245	0	54504	0.968	96.80

Table 7

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1245 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1245 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m. 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1251.92	23635	78139	83	1963	1245	0	54504	0.980	97.99
1999	10/1/1998	1248.62	12193	66697	84	1987	1245	0	54504	0.992	99.17

Table 7

Table 8. Lake Elevation Results for Lake Replenishment Level 1246

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1246 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1246 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1916	1/29/1916	1263.13	62288	120123	1	1916	1263.13	62288	120123	0.008	0.83
1917	4/1/1917	1254.85	30730	88565	2	1980	1263.03	61906	119740	0.020	2.01
1918	3/1/1918	1254.08	27985	85820	3	1993	1262.37	60488	118323	0.032	3.20
1919	10/1/1918	1250.75	16198	74033	4	1938	1261.37	55391	113226	0.044	4.38
1920	4/1/1920	1249.3	11198	69033	5	1937	1261.28	55073	112908	0.056	5.57
1921	10/1/1920	1246.18	609	58444	6	1927	1260.56	52225	110060	0.068	6.75
1922	3/23/1922	1259.28	47283	105118	7	1969	1259.85	49480	107315	0.079	7.94
1923	2/1/1923	1253.35	25386	83221	8	1983	1259.69	48847	106682	0.091	9.12
1924	10/1/1923	1249.8	12921	70756	9	1922	1259.28	47283	105118	0.103	10.31
1925	2/1/1925	1246.06	217	58052	10	1978	1259.01	46217	104052	0.115	11.49
1926	4/1/1926	1249.59	12210	70045	11	1941	1258.35	43745	101580	0.127	12.68
1927	2/26/1927	1260.56	52225	110060	12	1995	1258.18	43100	100935	0.139	13.86
1928	10/1/1927	1252.96	23974	81809	13	1979	1256.92	38340	96175	0.150	15.05
1929	10/1/1928	1249.1	10522	68357	14	1939	1255.5	33111	90946	0.162	16.23
1930	1/1/1930	1246.81	2712	60547	15	1917	1254.85	30730	88565	0.174	17.42
1931	2/1/1931	1246.45	1502	59337	16	1984	1254.61	29892	87727	0.186	18.60
1932	3/1/1932	1249.42	11628	69463	17	1942	1254.15	28236	86071	0.198	19.79
1933	1/1/1933	1246.53	1775	59610	18	1918	1254.08	27985	85820	0.210	20.97
1934	1/1/1934	1246.19	635	58470	19	1981	1253.69	26576	84411	0.222	22.16
1935	2/1/1935	1246.59	1983	59818	20	1994	1253.62	26336	84171	0.233	23.34
1936	2/1/1936	1246.48	1607	59442	21	1923	1253.36	25386	83221	0.245	24.53
1937	3/31/1937	1261.28	112908	170743	22	1943	1253.33	25320	83155	0.257	25.71
1938	3/19/1938	1261.37	55391	113226	23	1996	1253.21	24893	82728	0.269	26.90
1939	3/31/1939	1255.5	33111	90946	24	1928	1252.96	23974	81809	0.281	28.08
1940	2/1/1940	1252.57	22616	80451	25	1940	1252.57	22616	80451	0.293	29.27
1941	4/22/1941	1258.35	43745	101580	26	1970	1251.99	20530	78365	0.305	30.46
1942	2/1/1942	1254.15	28236	86071	27	1998	1251.92	20304	78139	0.316	31.64
1943	3/1/1943	1253.33	25320	83155	28	1964	1251.66	19399	77234	0.328	32.82
1944	3/1/1944	1251.08	17358	75193	29	1952	1251.33	18235	76070	0.340	34.00
1945	3/1/1945	1247.98	8699	64534	30	1944	1251.08	17358	75193	0.352	35.19
1946	12/1/1945	1246.24	817	58652	31	1919	1250.75	16198	74033	0.364	36.37
1947	11/1/1946	1246.28	934	58769	32	1997	1250.18	14225	72060	0.376	37.56
1948	4/1/1948	1246.3	1021	58856	33	1986	1249.89	13231	71066	0.387	38.74
1949	1/1/1949	1246.33	1116	58951	34	1982	1249.83	13039	70874	0.399	39.93
1950	4/1/1950	1246.64	2148	59983	35	1924	1249.8	12921	70756	0.411	41.11
1951	10/1/1950	1246	0	57835	36	1926	1249.59	12210	70045	0.423	42.30
1952	4/1/1952	1251.33	18235	76070	37	1932	1249.42	11628	69463	0.435	43.48
1953	12/1/1952	1248.27	7683	65518	38	1920	1249.3	11198	69033	0.447	44.67
1954	3/1/1954	1246.46	1561	59396	39	1985	1249.81	10792	68627	0.459	45.85
1955	2/1/1955	1246.37	1245	59080	40	1929	1249.1	10522	68357	0.470	47.04
1956	1/1/1956	1246.16	528	58363	41	1991	1248.87	9723	67558	0.482	48.22

Table 8

Table 6. Lake Elishore Results for Lake Replenishment Level 1246

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1246 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1246 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m. 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1246	0	57835	42	1958	1248.66	9014	66849	0.494	49.41
1958	4/1/1958	1248.66	9014	66849	43	1999	1248.62	8882	66697	0.506	50.59
1959	2/1/1959	1246.1	343	58178	44	1992	1248.53	8574	66409	0.518	51.78
1960	2/1/1960	1246.13	421	58268	45	1965	1248.41	8170	66005	0.530	52.96
1961	10/1/1960	1246	0	57835	46	1953	1248.27	7683	65518	0.541	54.15
1962	2/1/1962	1246.31	1030	58865	47	1945	1247.98	8699	64534	0.553	55.33
1963	10/1/1962	1246	0	57835	48	1971	1247.93	6535	64370	0.565	56.52
1964	3/1/1964	1251.66	19399	77234	49	1973	1247.47	4972	62807	0.577	57.70
1965	10/1/1964	1248.41	8170	66005	50	1974	1247.39	4685	62520	0.589	58.89
1966	3/1/1966	1249.89	13231	71066	51	1967	1247.32	4451	62286	0.601	60.07
1967	1/1/1967	1247.32	4451	62286	52	1976	1247.13	3823	61658	0.613	61.26
1968	3/1/1968	1246.55	1849	59684	53	1930	1246.81	2712	60547	0.624	62.44
1969	3/5/1969	1259.85	49480	107315	54	1950	1246.64	2148	59983	0.636	63.63
1970	10/1/1969	1251.99	20530	78365	55	1986	1246.63	2129	59964	0.648	64.81
1971	12/1/1970	1247.93	6535	64370	56	1935	1246.59	1983	59818	0.660	66.00
1972	12/1/1971	1246.29	962	58797	57	1968	1246.55	1849	59684	0.672	67.18
1973	3/1/1973	1247.47	4972	62807	58	1975	1246.53	1794	59629	0.684	68.36
1974	4/1/1974	1247.39	4685	62520	59	1933	1246.53	1775	59610	0.695	69.55
1975	3/1/1975	1246.53	1794	59629	60	1936	1246.48	1607	59442	0.707	70.73
1976	3/1/1976	1247.13	3823	61658	61	1954	1246.46	1561	59396	0.719	71.92
1977	2/1/1977	1246.39	1313	59148	62	1931	1246.45	1502	59337	0.731	73.10
1978	3/10/1978	1259.01	46217	104052	63	1977	1246.39	1313	59148	0.743	74.29
1979	4/13/1979	1256.92	38340	96175	64	1956	1246.37	1245	59080	0.755	75.47
1980	2/22/1980	1263.03	61905	119740	65	1949	1246.33	1116	58951	0.767	76.66
1981	10/1/1980	1253.69	26576	84411	66	1962	1246.31	1030	58865	0.778	77.84
1982	3/1/1982	1249.83	13039	70874	67	1948	1246.3	1021	58856	0.790	79.03
1983	3/31/1983	1259.69	48847	106682	68	1972	1246.29	962	58797	0.802	80.21
1984	10/1/1983	1254.61	29892	87727	69	1947	1246.28	934	58769	0.814	81.40
1985	10/1/1984	1249.81	10792	68627	70	1946	1246.24	817	58652	0.826	82.58
1986	3/1/1986	1246.63	2129	59964	71	1934	1246.19	835	58470	0.838	83.77
1987	10/1/1986	1246	0	57835	72	1921	1246.18	809	58444	0.850	84.95
1988	12/1/1987	1246.06	211	58046	73	1958	1246.16	528	58363	0.861	86.14
1989	2/1/1989	1246.03	112	57947	74	1960	1246.13	421	58256	0.873	87.32
1990	2/1/1990	1246.09	291	58126	75	1959	1246.1	343	58178	0.885	88.51
1991	4/1/1991	1248.87	9723	67558	76	1990	1246.09	291	58126	0.897	89.69
1992	3/31/1992	1248.53	8574	66409	77	1925	1246.06	217	58052	0.909	90.88
1993	2/20/1993	1262.37	60488	118323	78	1988	1246.06	211	58046	0.921	92.06
1994	3/28/1994	1253.62	26336	84171	79	1989	1246.03	112	57947	0.932	93.25
1995	3/29/1995	1258.18	43100	100935	80	1951	1246	0	57835	0.944	94.43
1996	10/1/1995	1253.21	24893	82728	81	1957	1246	0	57835	0.956	95.62
1997	2/13/1997	1250.18	14225	72060	82	1961	1246	0	57835	0.968	96.80

Table 8

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1246 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1246 ac-ft	Total Storage ac-ft	Exceedance Prob Median Position (m 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1251.92	20304	78139	83	1963	1246	0	57835	0.980	97.99
1999	10/1/1998	1248.62	8862	66697	84	1987	1246	0	57835	0.992	99.17

Table 8.

Table 9. Lake Elinore Results for Lake Replenishment Level 1247

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1247 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1247 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1916	1/29/1916	1263.17	59080	120281	1	1916	1263.17	59080	120281	0.008	0.83
1917	4/1/1917	1254.85	27364	88565	2	1980	1263.03	58539	119740	0.020	2.01
1918	3/1/1918	1254.08	24619	85820	3	1993	1262.67	57118	118319	0.032	3.20
1919	10/1/1918	1250.75	12832	74033	4	1937	1261.45	52318	113519	0.044	4.36
1920	4/1/1920	1249.3	7832	69033	5	1938	1261.37	52025	113226	0.056	5.57
1921	2/1/1921	1247.11	390	61591	6	1927	1261.08	50893	112094	0.068	6.75
1922	3/23/1922	1259.39	44317	105518	7	1989	1260.48	48538	109739	0.079	7.94
1923	2/1/1923	1253.36	22031	83232	8	1983	1259.84	46076	107277	0.091	9.12
1924	10/1/1923	1249.8	9565	70766	9	1978	1259.68	45453	106654	0.103	10.31
1925	2/1/1925	1247.06	206	61407	10	1922	1259.39	44317	105518	0.115	11.49
1926	4/1/1926	1250.57	12207	73408	11	1941	1258.35	40379	101580	0.127	12.68
1927	2/25/1927	1261.08	50893	112094	12	1995	1258.18	39734	100935	0.139	13.86
1928	10/1/1927	1252.96	20636	81837	13	1979	1256.93	35001	96202	0.150	15.05
1929	10/1/1928	1249.11	7184	68385	14	1939	1255.5	29745	90946	0.162	16.23
1930	1/1/1930	1247.8	2724	63925	15	1917	1254.85	27364	88565	0.174	17.42
1931	2/1/1931	1247.45	1514	62715	16	1984	1254.62	26534	87735	0.186	18.60
1932	3/1/1932	1250.4	11643	72844	17	1942	1254.15	24870	86071	0.198	19.79
1933	1/1/1933	1247.53	1784	62985	18	1918	1254.08	24619	85820	0.210	20.97
1934	1/1/1934	1247.19	636	61837	19	1981	1253.69	23210	84411	0.222	22.16
1935	2/1/1935	1247.59	1992	63193	20	1994	1253.62	22970	84171	0.233	23.34
1936	2/1/1936	1247.48	1620	62821	21	1923	1253.36	22031	83232	0.245	24.53
1937	3/31/1937	1261.45	52318	113519	22	1943	1253.33	21954	83155	0.257	25.71
1938	3/19/1938	1261.37	52025	113226	23	1996	1253.21	21527	82728	0.269	26.90
1939	3/31/1939	1256.5	29745	90946	24	1928	1252.96	20636	81837	0.281	28.08
1940	2/1/1940	1252.57	19250	80451	25	1988	1252.73	19803	81004	0.293	29.27
1941	4/23/1941	1258.35	40379	101580	26	1964	1252.61	19395	80596	0.305	30.45
1942	2/1/1942	1254.15	24870	86071	27	1940	1252.57	19250	80451	0.316	31.64
1943	3/1/1943	1253.33	21954	83155	28	1952	1252.29	18229	79430	0.328	32.82
1944	3/1/1944	1251.08	13992	75193	29	1970	1252.01	17231	78432	0.340	34.00
1945	3/1/1945	1247.98	3333	64534	30	1944	1251.08	13992	75193	0.352	35.19
1946	12/1/1945	1247.24	820	62021	31	1966	1250.86	13235	74436	0.364	36.37
1947	11/1/1946	1247.28	936	62137	32	1919	1250.75	12832	74033	0.376	37.56
1948	4/1/1948	1247.3	1009	62210	33	1926	1250.57	12207	73408	0.387	38.74
1949	1/1/1949	1247.33	1118	62319	34	1932	1250.4	11643	72844	0.399	39.93
1950	4/1/1950	1247.63	2137	63338	35	1997	1250.18	10859	72080	0.411	41.11
1951	10/1/1950	1247	0	61201	36	1991	1249.85	9719	70920	0.423	42.30
1952	4/1/1952	1252.29	18229	79430	37	1982	1249.83	9673	70874	0.435	43.48
1953	12/1/1952	1249.22	7569	68770	38	1924	1249.8	9565	70766	0.447	44.67
1954	3/1/1954	1247.46	1671	62772	39	1958	1249.65	9025	70226	0.459	45.85
1955	2/1/1955	1247.37	1247	62448	40	1992	1249.52	8582	69783	0.470	47.04
1956	1/1/1956	1247.16	532	61733	41	1999	1249.42	8253	69454	0.482	48.22

Table 9

Table 9. Lake Elishmore Results for Lake Replenishment Level 1247

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1247 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1247 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1247	0	61201	42	1965	1249.36	8036	69237	0.494	49.41
1958	4/1/1958	1249.65	9025	70226	43	1920	1249.3	7832	69033	0.506	50.59
1959	2/1/1959	1247.1	347	61548	44	1953	1249.22	7569	68770	0.518	51.78
1960	2/1/1960	1247.13	426	61627	45	1985	1249.18	7434	68635	0.530	52.96
1961	10/1/1960	1247	0	61201	46	1929	1249.11	7184	68385	0.541	54.15
1962	2/1/1962	1247.31	1042	62243	47	1973	1248.46	4962	66163	0.553	55.33
1963	10/1/1962	1247	0	61201	48	1974	1248.38	4680	65861	0.565	56.52
1964	3/1/1964	1252.61	19395	80596	49	1967	1248.29	4374	65575	0.577	57.70
1965	10/1/1964	1249.36	8036	69237	50	1976	1248.13	3829	65030	0.589	58.89
1966	3/1/1966	1250.86	13235	74436	51	1945	1247.98	3333	64534	0.601	60.07
1967	1/1/1967	1248.29	4374	65575	52	1971	1247.95	3234	64435	0.613	61.26
1968	3/1/1968	1247.54	1841	63042	53	1930	1247.8	2724	63925	0.624	62.44
1969	3/4/1969	1260.48	48538	109739	54	1950	1247.63	2137	63338	0.636	63.63
1970	10/1/1969	1252.01	17231	78432	55	1986	1247.62	2119	63320	0.648	64.81
1971	12/1/1970	1247.95	3234	64435	56	1935	1247.59	1992	63193	0.660	66.00
1972	12/1/1971	1247.29	970	62171	57	1968	1247.54	1841	63042	0.672	67.18
1973	3/1/1973	1248.46	4962	66163	58	1975	1247.53	1795	62996	0.684	68.36
1974	4/1/1974	1248.38	4680	65861	59	1933	1247.53	1784	62985	0.695	69.55
1975	3/1/1975	1247.53	1795	62996	60	1936	1247.48	1620	62821	0.707	70.73
1976	3/1/1976	1248.13	3829	65030	61	1954	1247.46	1571	62772	0.719	71.92
1977	2/1/1977	1247.39	1308	62509	62	1931	1247.45	1514	62715	0.731	73.10
1978	3/10/1978	1259.68	45453	106654	63	1977	1247.39	1308	62509	0.743	74.29
1979	4/13/1979	1256.93	35001	96202	64	1955	1247.37	1247	62448	0.755	75.47
1980	2/22/1980	1263.03	58539	119740	65	1949	1247.33	1118	62319	0.767	76.66
1981	10/1/1980	1253.69	23210	84411	66	1962	1247.31	1042	62243	0.778	77.84
1982	3/1/1982	1249.83	9673	70874	67	1948	1247.3	1009	62210	0.790	79.03
1983	3/31/1983	1259.84	46076	107277	68	1972	1247.29	970	62171	0.802	80.21
1984	10/1/1983	1254.62	26534	87735	69	1947	1247.28	936	62137	0.814	81.40
1985	10/1/1984	1249.18	7434	68635	70	1946	1247.24	820	62021	0.826	82.58
1986	3/1/1986	1247.62	2119	63320	71	1934	1247.19	636	61837	0.838	83.77
1987	10/1/1986	1247	0	61201	72	1956	1247.16	532	61733	0.850	84.95
1988	12/1/1987	1247.06	212	61413	73	1960	1247.13	426	61627	0.861	86.14
1989	2/1/1989	1247.03	113	61314	74	1921	1247.11	390	61581	0.873	87.32
1990	2/1/1990	1247.09	292	61493	75	1959	1247.1	347	61548	0.885	88.51
1991	4/1/1991	1249.85	9719	70920	76	1990	1247.09	292	61493	0.897	89.69
1992	3/31/1992	1249.52	8582	69783	77	1988	1247.06	212	61413	0.909	90.88
1993	2/20/1993	1262.67	57118	118319	78	1925	1247.06	206	61407	0.921	92.06
1994	3/28/1994	1253.52	22970	84171	79	1989	1247.03	113	61314	0.932	93.25
1995	3/29/1995	1258.18	39734	100935	80	1951	1247	0	61201	0.944	94.43
1996	10/1/1995	1253.21	21527	82728	81	1957	1247	0	61201	0.956	95.62
1997	2/13/1997	1250.18	10859	72060	82	1961	1247	0	61201	0.968	96.80

Table 9

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1247 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1247 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1252.73	19803	81004	83	1963	1247	0	61201	0.980	97.99
1999	10/1/1998	1249.42	8253	69454	84	1987	1247	0	61201	0.992	99.17

Table 9

Table 10. Lake Elnore Results for Lake Replenishment Level 1248

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1248 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1248 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m) 0.3Y/(n+0.4)	Probability %
1916	1/29/1916	1263.19	55765	120361	1	1916	1263.19	55765	120361	0.008	0.83
1917	4/1/1917	1254.85	23969	88565	2	1980	1263.03	55144	119740	0.020	2.01
1918	3/1/1918	1254.08	21224	85820	3	1993	1262.67	53723	118319	0.032	3.20
1919	10/1/1918	1250.75	9437	74033	4	1927	1261.62	49592	114188	0.044	4.38
1920	4/1/1920	1250.22	7620	72216	5	1937	1261.57	49411	114007	0.056	5.57
1921	2/1/1921	1248.11	392	64988	6	1938	1261.37	48630	113226	0.068	6.75
1922	2/28/1922	1259.58	41652	106248	7	1969	1261.09	47515	112111	0.079	7.94
1923	2/1/1923	1253.36	18645	83241	8	1978	1260.32	44538	109134	0.091	9.12
1924	10/1/1923	1249.81	6179	70775	9	1983	1260.09	43624	108220	0.103	10.31
1925	2/1/1925	1248.06	201	64797	10	1922	1259.58	41652	106248	0.115	11.49
1926	4/1/1926	1251.54	12212	76808	11	1941	1258.35	36984	101580	0.127	12.68
1927	2/24/1927	1261.62	49592	114188	12	1995	1258.18	36339	100935	0.139	13.86
1928	10/1/1927	1252.97	17265	81861	13	1979	1256.93	31628	96225	0.150	15.05
1929	10/1/1928	1249.12	3811	68407	14	1939	1255.5	26350	90946	0.162	16.23
1930	1/1/1930	1248.8	2730	67326	15	1917	1254.85	23969	88565	0.174	17.42
1931	2/1/1931	1248.45	1520	66116	16	1984	1254.62	23150	87746	0.186	18.60
1932	3/1/1932	1251.38	11643	76239	17	1942	1254.15	21475	86071	0.198	19.79
1933	1/1/1933	1248.52	1787	66383	18	1918	1254.08	21224	85820	0.210	20.97
1934	1/1/1934	1248.19	636	65232	19	1998	1253.69	19836	84432	0.222	22.16
1935	2/1/1935	1248.59	1996	66592	20	1981	1253.69	19815	84411	0.233	23.34
1936	2/1/1936	1248.48	1626	66222	21	1994	1253.82	19575	84171	0.245	24.53
1937	3/31/1937	1261.57	49411	114007	22	1964	1253.57	19389	83985	0.257	25.71
1938	3/19/1938	1261.37	48630	113226	23	1923	1253.36	18645	83241	0.269	26.90
1939	3/31/1939	1255.5	26350	90946	24	1943	1253.33	18559	83155	0.281	28.08
1940	2/1/1940	1252.57	15855	80451	25	1952	1253.25	18244	82840	0.293	29.27
1941	4/23/1941	1258.35	36984	101580	26	1996	1253.21	18132	82728	0.305	30.45
1942	2/1/1942	1254.15	21475	86071	27	1928	1252.97	17265	81861	0.316	31.64
1943	3/1/1943	1253.33	18559	83155	28	1940	1252.67	15855	80451	0.328	32.82
1944	3/1/1944	1251.08	10597	75193	29	1970	1252.02	13889	78485	0.340	34.00
1945	3/1/1945	1248.15	517	65113	30	1966	1251.83	13234	77830	0.352	35.19
1946	12/1/1945	1248.24	821	65417	31	1926	1251.54	12212	76808	0.364	36.37
1947	11/1/1946	1248.28	938	65534	32	1932	1251.38	11643	76239	0.376	37.56
1948	4/1/1948	1248.29	1004	65600	33	1944	1251.08	10597	75193	0.387	38.74
1949	1/1/1949	1248.33	1120	65716	34	1991	1250.83	9716	74312	0.399	39.93
1950	4/1/1950	1248.63	2132	66728	35	1919	1250.75	9437	74033	0.411	41.11
1951	10/1/1950	1248	0	64596	36	1958	1250.63	9030	73626	0.423	42.30
1952	4/1/1952	1253.25	18244	82840	37	1992	1250.5	8588	73184	0.435	43.48
1953	12/1/1952	1250.18	7472	72068	38	1999	1250.39	8184	72780	0.447	44.67
1954	3/1/1954	1248.46	1575	66171	39	1965	1250.31	7928	72524	0.459	45.85
1955	2/1/1955	1248.37	1249	65845	40	1920	1250.22	7620	72216	0.470	47.04
1956	1/1/1956	1248.16	535	65131	41	1953	1250.18	7472	72068	0.482	48.22

Table 10

Table 10. Lake Evinore Results for Lake Replenishment Level 1248

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1248 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1248 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1957	10/1/1956	1248	0	64596	42	1997	1250.18	7464	72060	0.494	49.41
1958	4/1/1958	1250.63	9030	73626	43	1982	1249.83	6278	70874	0.506	50.59
1959	2/1/1959	1248.1	349	64945	44	1924	1249.81	6179	70775	0.518	51.78
1960	2/1/1960	1248.13	428	65024	45	1973	1249.45	4957	69653	0.530	52.96
1961	10/1/1960	1248	0	64596	46	1974	1249.37	4874	69270	0.541	54.15
1962	2/1/1962	1248.31	1047	65643	47	1967	1249.25	4284	68880	0.553	55.33
1963	10/1/1962	1248	0	64596	48	1985	1249.19	4050	68646	0.565	56.52
1964	3/1/1964	1253.57	19389	83985	49	1976	1249.12	3832	68428	0.577	57.70
1965	10/1/1964	1250.31	7928	72524	50	1929	1249.12	3811	68407	0.589	58.89
1966	3/1/1966	1251.83	13234	77830	51	1930	1248.8	2730	67326	0.601	60.07
1967	1/1/1967	1249.25	4284	68880	52	1950	1248.63	2132	66728	0.613	61.26
1968	3/1/1968	1248.54	1837	66433	53	1986	1248.62	2115	66711	0.624	62.44
1969	3/2/1969	1261.09	47515	112111	54	1935	1248.59	1996	66592	0.636	63.63
1970	10/1/1969	1252.02	13889	78485	55	1968	1248.54	1837	66433	0.648	64.81
1971	12/1/1970	1248.3	1018	65614	56	1975	1248.53	1796	66392	0.660	66.00
1972	12/1/1971	1248.29	974	65570	57	1932	1248.52	1787	66383	0.672	67.18
1973	3/1/1973	1249.45	4957	69553	58	1938	1248.48	1626	66222	0.684	68.36
1974	4/1/1974	1249.37	4674	69270	59	1954	1248.46	1575	66171	0.695	69.55
1975	3/1/1975	1248.53	1796	66392	60	1931	1248.45	1520	66116	0.707	70.73
1976	3/1/1976	1249.12	3832	68428	61	1977	1248.38	1306	65902	0.719	71.92
1977	2/1/1977	1248.38	1306	65902	62	1955	1248.37	1249	65845	0.731	73.10
1978	3/9/1978	1260.32	44538	109134	63	1949	1248.33	1120	65716	0.743	74.29
1979	4/13/1979	1256.93	31629	96225	64	1962	1248.31	1047	65643	0.755	75.47
1980	2/22/1980	1263.03	55144	119740	65	1971	1248.3	1018	65614	0.767	76.66
1981	10/1/1980	1253.69	19815	84411	66	1948	1248.29	1004	65600	0.778	77.84
1982	3/1/1982	1249.83	6278	70874	67	1972	1248.29	974	65570	0.790	79.03
1983	3/30/1983	1260.09	43624	108220	68	1947	1248.28	938	65534	0.802	80.21
1984	10/1/1983	1254.62	23150	87746	69	1946	1248.24	821	65417	0.814	81.40
1985	10/1/1984	1249.19	4050	68646	70	1934	1248.19	636	65232	0.826	82.58
1986	3/1/1986	1248.62	2115	66711	71	1956	1248.16	535	65131	0.838	83.77
1987	10/1/1986	1248	0	64596	72	1945	1248.15	517	65113	0.850	84.95
1988	12/1/1987	1248.06	213	64809	73	1960	1248.13	428	65024	0.861	86.14
1989	2/1/1989	1248.03	113	64709	74	1921	1248.11	392	64988	0.873	87.32
1990	2/1/1990	1248.09	293	64889	75	1959	1248.1	349	64945	0.885	88.51
1991	4/1/1991	1250.83	9718	74312	76	1990	1248.09	293	64889	0.897	89.69
1992	3/31/1992	1250.6	8588	73184	77	1988	1248.06	213	64809	0.909	90.88
1993	2/20/1993	1262.67	53723	118319	78	1925	1248.06	201	64797	0.921	92.06
1994	3/28/1994	1253.62	19575	84171	79	1989	1248.03	113	64709	0.932	93.25
1995	3/20/1995	1258.18	36339	100935	80	1951	1248	0	64596	0.944	94.43
1996	10/1/1995	1253.21	18132	82728	81	1957	1248	0	64596	0.956	95.62
1997	2/13/1997	1250.18	7464	72060	82	1961	1248	0	64596	0.968	96.80

Table 10

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1248 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1248 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1253.69	19836	84432	83	1963	1248	0	64596	0.980	97.99
1999	10/1/1998	1250.39	8184	72780	84	1987	1248	0	64596	0.992	99.17

Table 10

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1249 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1249 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1916	1/28/1916	1263.51	53622	121628	1	1916	1263.51	53622	121628	0.008	0.83
1917	4/1/1917	1254.85	20559	88565	2	1980	1263.03	51734	119740	0.020	2.01
1918	3/1/1918	1254.08	17814	85820	3	1993	1262.67	50313	118319	0.032	3.20
1919	10/1/1918	1250.75	6027	74033	4	1927	1262.07	47946	115952	0.044	4.38
1920	4/1/1920	1251.21	7627	75633	5	1969	1261.74	46658	114664	0.056	5.57
1921	2/1/1921	1249.11	392	68398	6	1937	1261.67	46372	114378	0.068	6.75
1922	2/25/1922	1259.84	39254	107260	7	1938	1261.37	45220	113226	0.079	7.94
1923	2/1/1923	1253.36	15243	83249	8	1978	1260.93	43487	111493	0.091	9.12
1924	10/1/1923	1249.81	2777	70783	9	1983	1260.32	41128	109134	0.103	10.31
1925	2/1/1925	1249.06	199	68205	10	1922	1259.84	39254	107260	0.115	11.40
1926	4/1/1926	1252.51	12212	80218	11	1941	1258.56	34362	102368	0.127	12.68
1927	2/22/1927	1262.07	47946	115952	12	1995	1258.18	32928	100935	0.139	13.86
1928	10/1/1927	1252.98	13870	81876	13	1979	1258.94	28237	96243	0.150	15.05
1929	10/1/1928	1249.12	416	68422	14	1939	1256.5	22940	90946	0.162	16.23
1930	1/1/1930	1249.8	2739	70745	15	1917	1254.86	20559	88565	0.174	17.42
1931	2/1/1931	1249.44	1526	69532	16	1998	1254.65	19860	87866	0.186	18.60
1932	3/1/1932	1252.36	11670	79676	17	1984	1254.62	19749	87756	0.198	19.79
1933	1/1/1933	1249.52	1793	69799	18	1964	1254.52	19381	87387	0.210	20.97
1934	1/1/1934	1249.19	836	68642	19	1952	1254.2	18249	86255	0.222	22.16
1935	2/1/1935	1249.58	2001	70007	20	1942	1254.17	18132	86138	0.233	23.34
1936	2/1/1936	1249.47	1632	69638	21	1918	1254.08	17814	85820	0.245	24.53
1937	3/31/1937	1261.67	46372	114378	22	1981	1253.69	16405	84411	0.257	25.71
1938	3/19/1938	1261.37	45220	113226	23	1994	1253.62	16166	84171	0.269	26.90
1939	3/31/1939	1255.5	22940	90946	24	1923	1253.36	15243	83249	0.281	28.08
1940	2/1/1940	1252.57	12445	80451	25	1943	1253.35	15214	83220	0.293	29.27
1941	4/22/1941	1258.56	34362	102368	26	1996	1253.21	14722	82728	0.305	30.45
1942	2/1/1942	1254.17	18132	86138	27	1928	1252.98	13870	81876	0.316	31.64
1943	3/1/1943	1253.35	15214	83220	28	1966	1252.8	13230	81236	0.328	32.82
1944	3/1/1944	1251.11	7282	75288	29	1940	1252.57	12445	80451	0.340	34.00
1945	3/1/1945	1249.15	516	68522	30	1926	1252.51	12212	80218	0.352	35.19
1946	12/1/1945	1249.24	822	68828	31	1932	1252.36	11670	79676	0.364	36.37
1947	11/1/1946	1249.27	939	68945	32	1970	1252.03	10522	78528	0.376	37.56
1948	4/1/1948	1249.29	1000	69006	33	1991	1251.8	9706	77712	0.387	38.74
1949	1/1/1949	1249.33	1123	69129	34	1958	1251.61	9036	77042	0.399	39.93
1950	4/1/1950	1249.62	2126	70132	35	1992	1251.48	8595	76601	0.411	41.11
1951	10/1/1950	1249	0	68006	36	1999	1251.34	8100	76106	0.423	42.30
1952	4/1/1952	1254.2	18249	86255	37	1965	1251.25	7778	75784	0.435	43.48
1953	12/1/1952	1251.13	7373	75378	38	1920	1251.21	7627	75633	0.447	44.67
1954	3/1/1954	1249.46	1579	69585	39	1953	1251.13	7373	75378	0.459	45.85
1955	2/1/1955	1249.36	1249	69255	40	1944	1251.11	7282	75288	0.470	47.04
1956	1/1/1956	1249.16	536	68542	41	1919	1250.75	6027	74033	0.482	48.22

Table 11.

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1249 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1249 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m. 0.3)/(n+0.4)	Probability %
1957	10/1/1958	1249	0	68006	42	1973	1250.44	4960	72966	0.494	49.41
1958	4/1/1958	1251.61	9036	77042	43	1974	1250.35	4659	72665	0.506	50.59
1959	2/1/1959	1249.1	350	68356	44	1967	1250.21	4161	72167	0.518	51.78
1960	2/1/1960	1249.13	430	68436	45	1997	1250.18	4054	72060	0.530	52.96
1961	10/1/1960	1249	0	68006	46	1976	1250.12	3937	71843	0.541	54.15
1962	2/1/1962	1249.31	1051	69057	47	1982	1250.11	3825	71831	0.553	55.33
1963	10/1/1962	1249	0	68006	48	1924	1249.81	2777	70783	0.565	56.52
1964	3/1/1964	1254.52	19381	87387	49	1930	1249.8	2739	70745	0.577	57.70
1965	10/1/1964	1251.25	7778	75784	50	1950	1249.62	2126	70132	0.589	58.89
1966	3/1/1966	1252.8	13230	81236	51	1886	1249.61	2111	70117	0.601	60.07
1967	1/1/1967	1250.21	4161	72167	52	1935	1249.58	2001	70007	0.613	61.26
1968	3/1/1968	1249.53	1833	69839	53	1968	1249.53	1833	69839	0.624	62.44
1969	3/2/1969	1261.74	46658	114664	54	1975	1249.52	1795	69801	0.636	63.63
1970	10/1/1969	1262.03	10522	78528	55	1933	1249.52	1793	69799	0.648	64.81
1971	12/1/1970	1249.3	1020	69026	56	1936	1249.47	1632	69638	0.660	66.00
1972	12/1/1971	1249.28	977	68983	57	1954	1249.46	1579	69585	0.672	67.18
1973	3/1/1973	1250.44	4960	72966	58	1931	1249.44	1526	69532	0.684	68.36
1974	4/1/1974	1250.35	4659	72665	59	1977	1249.38	1305	69311	0.696	69.55
1975	3/1/1975	1249.52	1795	69801	60	1955	1249.36	1249	69255	0.707	70.73
1976	3/1/1976	1250.12	3837	71843	61	1949	1249.33	1123	69129	0.719	71.92
1977	2/1/1977	1249.38	1305	69311	62	1962	1249.31	1051	69057	0.731	73.10
1978	3/9/1978	1260.93	43487	111493	63	1971	1249.3	1020	69026	0.743	74.29
1979	4/13/1979	1266.94	28237	96243	64	1948	1249.29	1000	69006	0.755	75.47
1980	2/22/1980	1263.03	51734	119740	65	1972	1249.28	977	68983	0.767	76.66
1981	10/1/1980	1263.69	16406	84411	66	1947	1249.27	939	68945	0.778	77.84
1982	3/1/1982	1250.11	3825	71831	67	1946	1249.24	822	68828	0.790	79.03
1983	3/29/1983	1260.32	41128	109134	68	1985	1249.19	649	68655	0.802	80.21
1984	10/1/1983	1254.62	19749	87755	69	1934	1249.19	636	68642	0.814	81.40
1985	10/1/1984	1249.19	649	68655	70	1966	1249.16	536	68542	0.826	82.58
1986	3/1/1986	1249.61	2111	70117	71	1945	1249.15	516	68522	0.838	83.77
1987	10/1/1986	1249	0	68006	72	1960	1249.13	430	68436	0.850	84.95
1988	12/1/1987	1249.06	213	68219	73	1929	1249.12	416	68422	0.861	86.14
1989	2/1/1989	1249.03	113	68119	74	1921	1249.11	392	68398	0.873	87.32
1990	2/1/1990	1249.09	294	68300	75	1959	1249.1	350	68356	0.885	88.51
1991	4/1/1991	1251.8	9706	77712	76	1990	1249.09	294	68300	0.897	89.69
1992	3/31/1992	1251.48	8595	76601	77	1988	1249.06	213	68219	0.909	90.88
1993	2/20/1993	1262.67	50313	118319	78	1925	1249.06	199	68205	0.921	92.06
1994	3/28/1994	1253.62	16165	84171	79	1989	1249.03	113	68119	0.932	93.25
1995	3/29/1995	1258.18	32929	100935	80	1951	1249	0	68006	0.944	94.43
1996	10/1/1995	1253.21	14722	82728	81	1957	1249	0	68006	0.956	95.62
1997	2/13/1997	1250.18	4054	72060	82	1961	1249	0	68006	0.968	96.80

Table 11

Table 11. Lake Elsinore Results for Lake Replenishment Level 1249

Data Ordered Chronologically					Data Ranked by Event Magnitude						
Water Year	Date	Annual Maximum Lake Elevation ft	Storage above 1249 ac-ft	Total Storage ac-ft	Rank	Water Year	Annual Maximum Lake Elevation ft	Storage above 1249 ac-ft	Total Storage ac-ft	Exceedence Prob Median Position (m 0.3)/(n+0.4)	Probability %
1998	4/2/1998	1254.65	19860	87866	83	1963	1249	0	68006	0.960	97.99
1999	10/1/1998	1251.34	8100	76106	84	1967	1249	0	68006	0.992	99.17

Table 11

Table 12
may be found
within the report text (page 6)

Table 13. Peak Flow and Duration of Selected Discharges for Lake Replenishment Level 1240																			
Year	LRL 1240																		
	Max WSE	Peak Outflow/C change from 1240	Total Duration/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240
	ft	cfs		60 cfs	260 cfs	300 cfs	400 cfs	500 cfs	600 cfs	700 cfs	800 cfs	900 cfs							
1916	1263.11	823	-	175	-	107	-	83	-	47	-	25	-	19	-	11	-	2	-
1980	1263.03	808	-	170	-	97	-	56	-	51	-	42	-	35	-	31	-	27	-
1993	1262.34	666	-	174	-	84	-	34	-	24	-	18	-	14	-	9	-	-	-
1927	1258.72	179	-	130	-	71	-	-	-	-	-	-	-	-	-	-	-	-	-
1969	1256.99	51	-	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1938	1261.37	489	-	208	-	84	-	32	-	28	-	18	-	-	-	-	-	-	-
1937	1259.26	295	-	141	-	59	-	-	-	-	-	-	-	-	-	-	-	-	-
1978	1255.99	25	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	1259.69	268	-	178	-	91	-	5	-	-	-	-	-	-	-	-	-	-	-
1922	1259.68	174	-	165	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-
1941	1258.35	144	-	120	-	47	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	1258.18	129	-	136	-	48	-	-	-	-	-	-	-	-	-	-	-	-	-
1979	1256.68	42	-	196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1939	1255.5	12	-	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 14. Peak Flow and Duration of Selected Discharges for Lake Replenishment Level 1249 and Differences from Lake Replenishment Level 1240																			
Year	LRL 1249																		
	Max WSE	Peak Outflow/C change from 1240	Total Duration/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240
	ft	cfs		60 cfs	260 cfs	300 cfs	400 cfs	500 cfs	600 cfs	700 cfs	800 cfs	900 cfs							
1916	1263.51	903	80	181	0	109	2	83	0	49	2	25	0	19	0	13	2	2	0
1980	1263.03	808	0	170	0	97	0	56	0	51	0	42	0	35	0	31	0	27	0
1993	1262.67	709	43	185	11	105	21	59	25	54	30	48	30	24	10	19	10	3	3
1927	1262.07	616	439	133	3	80	9	32	32	27	27	18	18	10	10	3	3	-	-
1969	1261.74	558	507	125	37	69	69	24	24	18	18	10	10	6	6	-	-	-	-
1938	1261.37	499	0	210	2	84	0	32	0	28	0	18	0	-	-	-	-	-	-
1937	1261.67	546	251	176	35	97	38	38	32	20	20	7	7	-	-	-	-	-	-
1978	1260.93	425	400	122	42	75	75	20	20	11	11	3	3	-	-	-	-	-	-
1983	1260.32	342	74	180	2	94	3	16	11	10	10	-	-	-	-	-	-	-	-
1922	1259.84	283	109	210	45	119	35	20	20	-	-	-	-	-	-	-	-	-	-
1941	1258.56	164	20	150	30	51	4	-	-	-	-	-	-	-	-	-	-	-	-
1995	1258.18	129	0	136	0	48	0	-	-	-	-	-	-	-	-	-	-	-	-
1979	1256.94	49	7	162	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1939	1255.5	12	0	106	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 13-16

Table 15. Peak Flow and Duration of Selected Discharges for Lake Replenishment Level 1245 and Differences from Lake Replenishment Level 1240																							
Year	Max WSE	LRL 1245																					
		Peak Outflow/C hange from 1240	Total Duration/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240		
ft	cfs	60 cfs	260 cfs	300 cfs	400 cfs	500 cfs	600 cfs	700 cfs	800 cfs	900 cfs													
1916	1263.11	823	0	175	0	107	0	83	0	47	0	25	0	19	0	11	0	2	0	1	0	-	-
1980	1263.03	808	0	170	0	97	0	56	0	51	0	42	0	35	0	31	0	27	0	2	0	-	-
1993	1262.67	699	33	184	10	103	19	39	5	34	10	28	10	22	8	10	1	-	-	-	-	-	-
1927	1260.05	304	125	132	2	77	8	22	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1969	1259.22	225	174	124	36	62	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1938	1261.37	499	0	210	2	84	0	32	0	28	0	18	0	-	-	-	-	-	-	-	-	-	-
1937	1261.07	448	151	167	26	76	17	29	29	21	21	8	8	-	-	-	-	-	-	-	-	-	-
1978	1258.42	147	122	116	36	64	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	1259.69	268	0	178	0	91	0	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1922	1259.16	220	46	171	8	103	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1941	1258.35	144	0	120	0	47	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	1258.18	129	0	136	0	48	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1979	1258.91	49	7	162	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1939	1255.5	12	0	106	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 16. Peak Flow and Duration of Selected Discharges for Lake Replenishment Level 1247 and Differences from Lake Replenishment Level 1240																							
Year	Max WSE	LRL 1247																					
		Peak Outflow/C hange from 1240	Total Duration/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240	Outflow duration greater than/ Change from 1240		
	ft	cfs			60 cfs	260 cfs	300 cfs	400 cfs	500 cfs	600 cfs	700 cfs	800 cfs	900 cfs										
1916	1263.17	837	14	178	3	107	0	63	0	48	1	25	0	19	0	11	0	2	0	1	0	-	-
1980	1263.03	808	0	170	0	97	0	56	0	51	0	42	0	35	0	31	0	27	0	2	0	-	-
1993	1262.67	710	44	185	11	104	20	56	22	50	26	29	11	21	7	16	7	3	3	-	-	-	-
1927	1261.08	451	272	192	2	79	8	29	29	22	22	10	10	-	-	-	-	-	-	-	-	-	-
1969	1260.48	365	314	124	36	67	67	16	16	9	9	-	-	-	-	-	-	-	-	-	-	-	-
1938	1261.37	499	0	210	2	84	0	32	0	28	0	18	0	-	-	-	-	-	-	-	-	-	-
1937	1261.45	508	213	175	34	90	31	35	35	29	29	15	15	3	3	-	-	-	-	-	-	-	-
1978	1259.68	266	241	119	39	70	70	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1983	1259.84	283	15	179	1	92	1	9	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1922	1257.39	241	67	210	45	108	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1941	1258.35	144	0	150	30	47	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	1258.16	129	0	136	0	48	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1979	1256.63	49	7	182	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1939	1255.5	12	0	106	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 13-16

Table 17. Changes in Peak Flow and Selected Duration from Lake Replenishment Level 1240 for Selected Lake Replenishment Level Alternatives												
Events Ordered by Rank for Lake Replenishment Level 1249												
Year	LPL 1245				LPL 1247				LPL 1249			
	Increase in Peak Flow	Increase in Total Duration	Increase in Duration >260 cfs	Increase in Duration >60 cfs	Increase in Peak Flow	Increase in Total Duration	Increase in Duration >260 cfs	Increase in Duration >60 cfs	Increase in Peak Flow	Increase in Total Duration	Increase in Duration >260 cfs	Increase in Duration >60 cfs
	cfs	days	days	days	cfs	days	days	days	cfs	days	days	days
1916	0	0	0	0	14	3	0	0	80	6	0	2
1960	0	0	0	0	0	0	0	0	0	0	0	0
1993	33	10	5	19	44	11	22	20	43	11	25	21
1927	125	2	22	6	272	2	29	8	439	3	32	9
1969	174	38	0	62	314	36	16	67	507	37	24	69
1938	1	2	0	0	1	2	0	0	1	2	0	0
1937	151	26	29	17	213	34	35	31	251	35	38	38
1978	122	36	0	64	241	39	2	70	400	42	20	75
1983	0	0	0	0	15	1	4	1	74	2	11	3
1922	46	6	0	19	67	45	0	24	109	45	20	36
1941	0	0	0	0	0	30	0	0	20	30	0	4
1995	0	0	0	0	0	0	0	0	0	0	0	0
1979	7	6	0	0	7	6	0	0	7	6	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0

Table 17

FIGURES

Figure 1. Storage Volume Frequency Curve for Lake Replenishment Level 1240

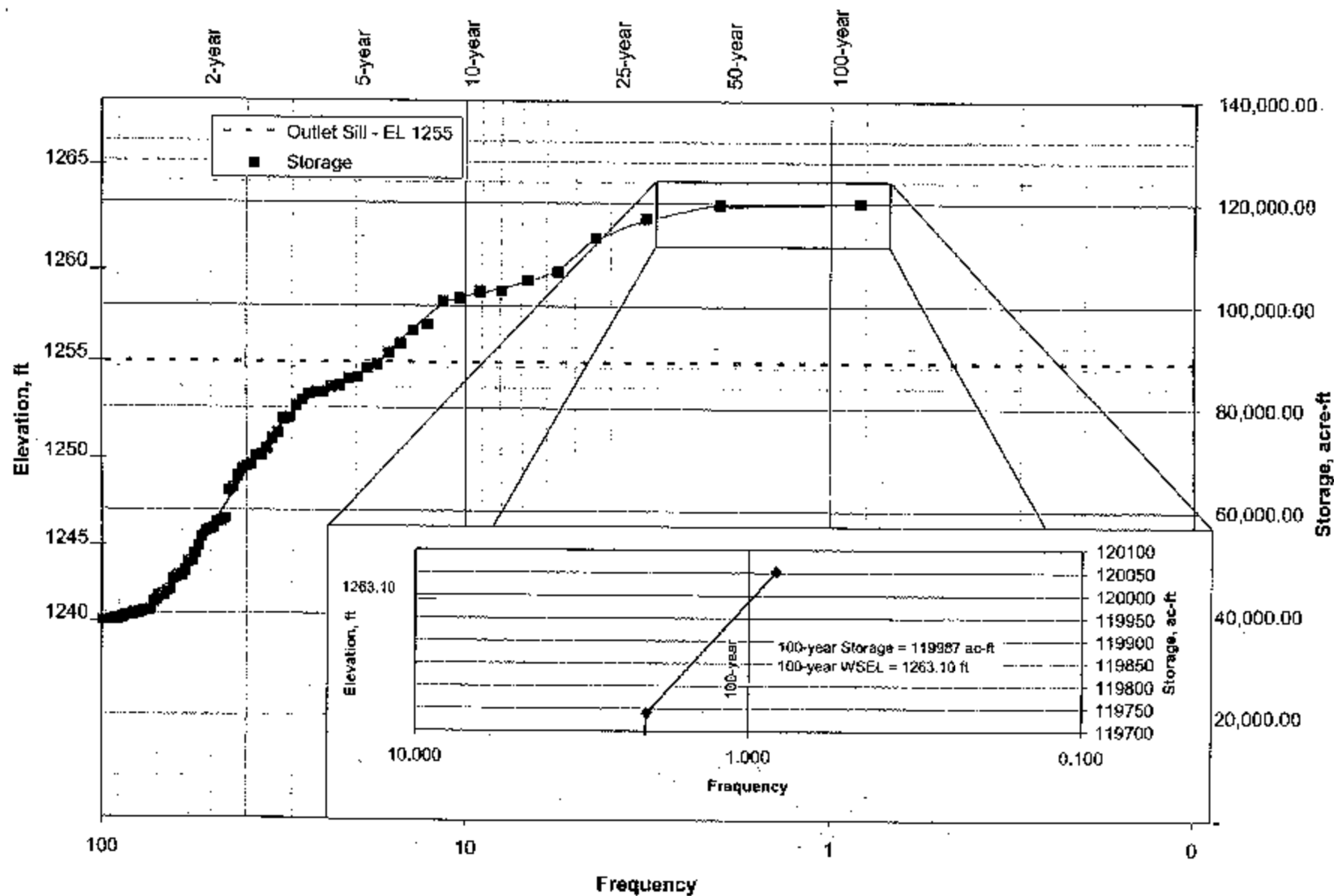


Figure 2. Storage Volume Frequency Curve for Lake Replenishment Level 1241

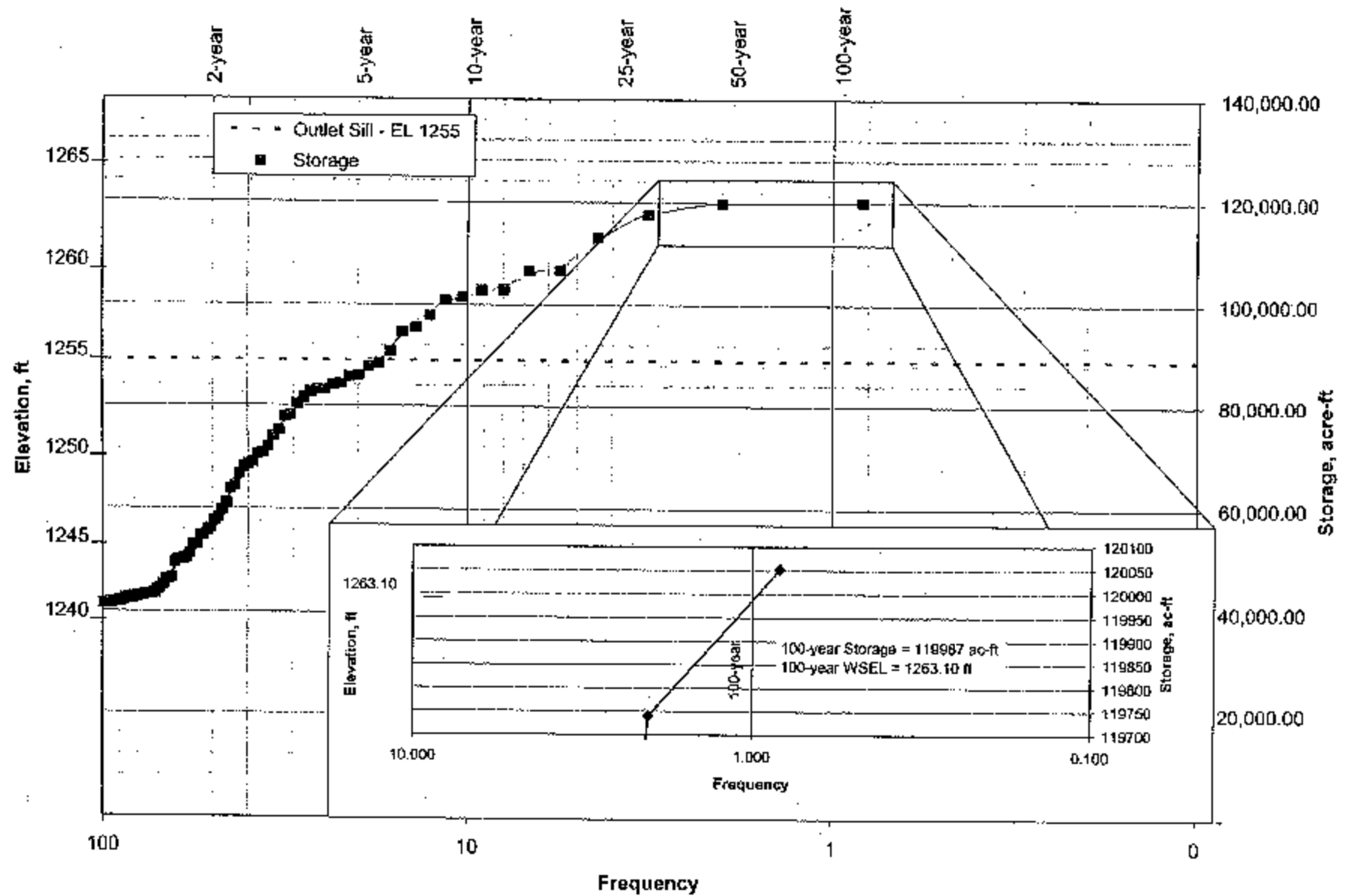


Figure 3. Storage Volume Frequency Curve for Lake Replenishment Level 1242

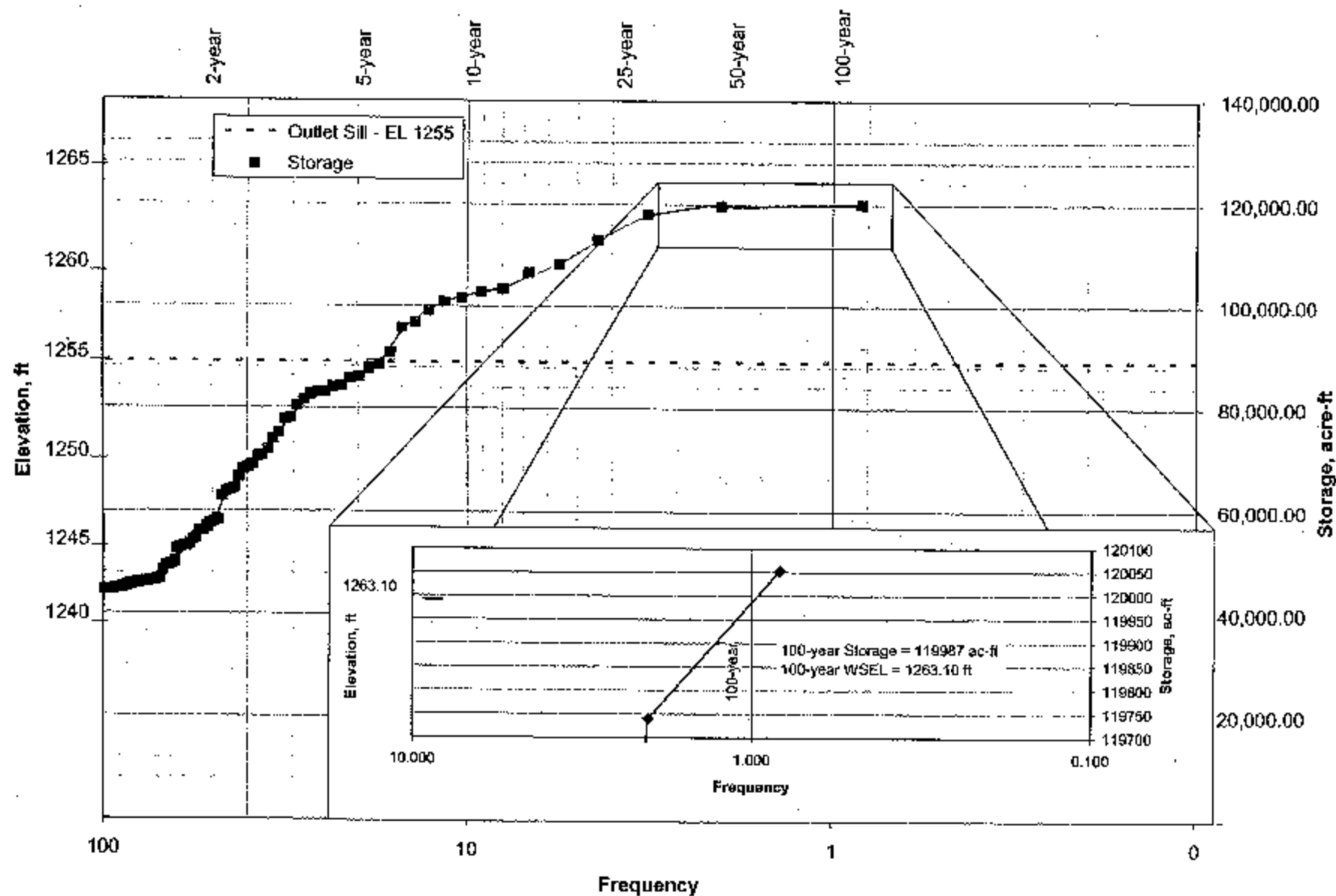


Figure 4. Storage Volume Frequency Curve for Lake Replenishment Level 1243

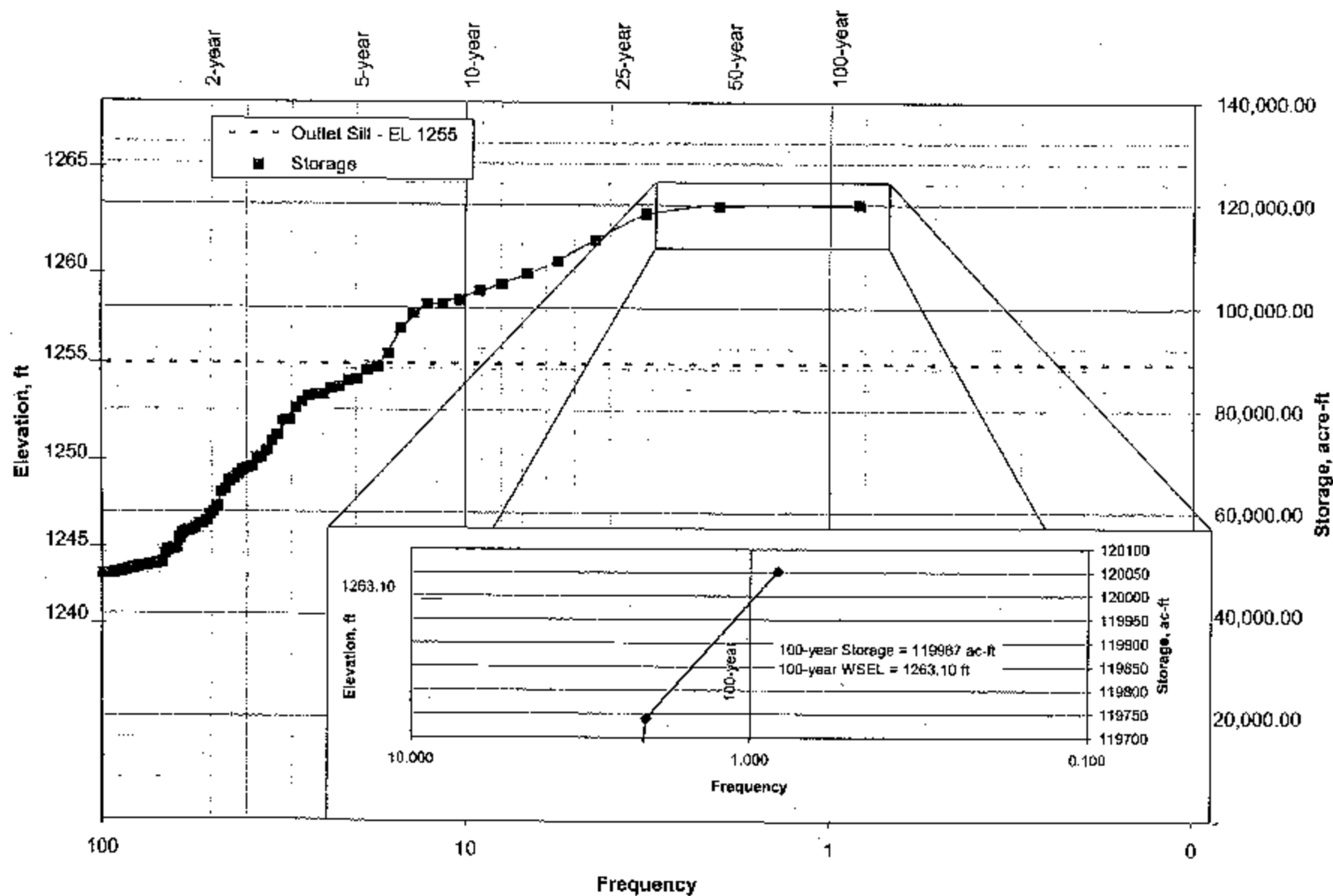


Figure 5. Storage Volume Frequency Curve for Lake Replenishment Level 1244

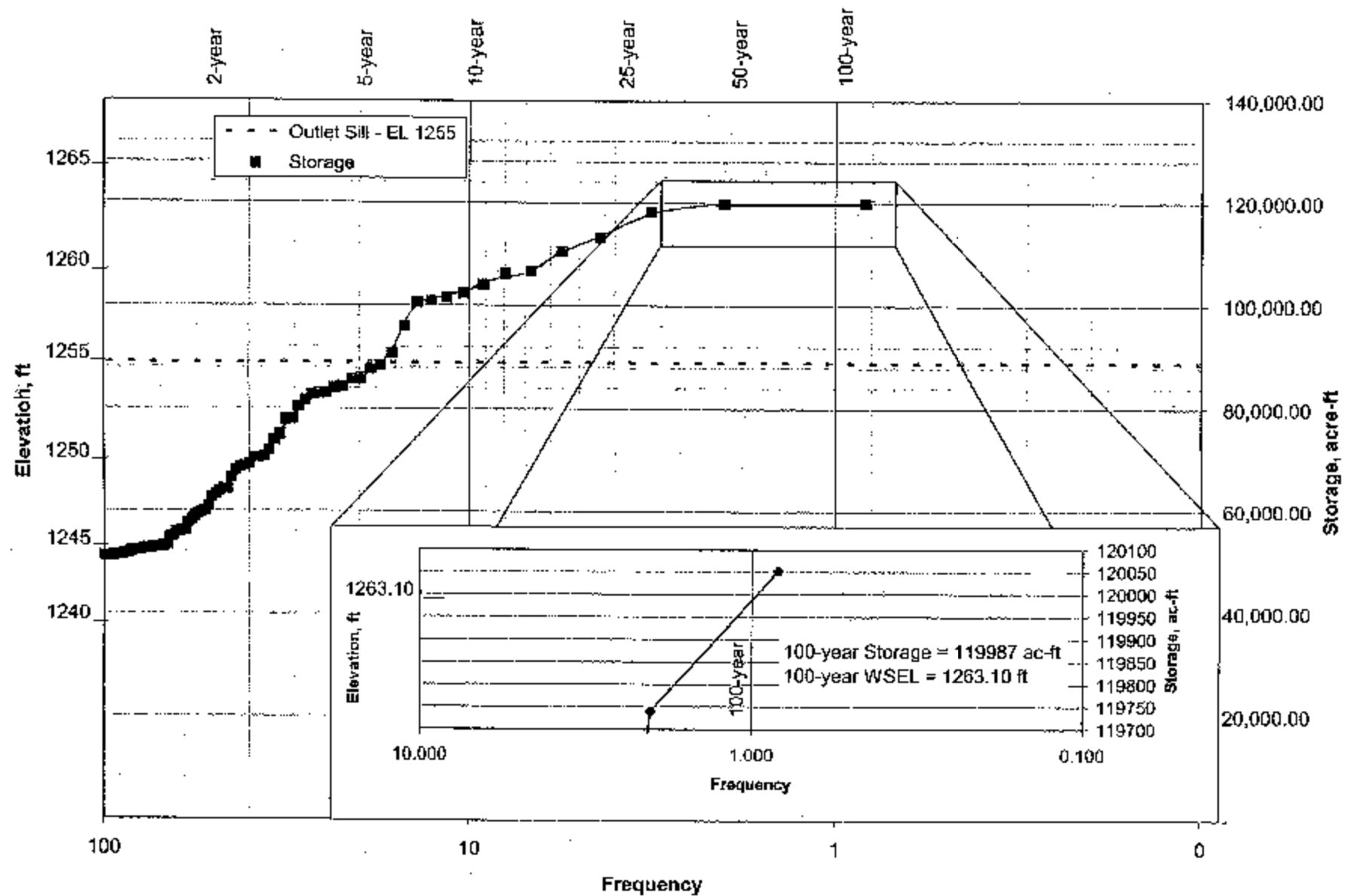


Figure 6. Storage Volume Frequency Curve for Lake Replenishment Level 1245

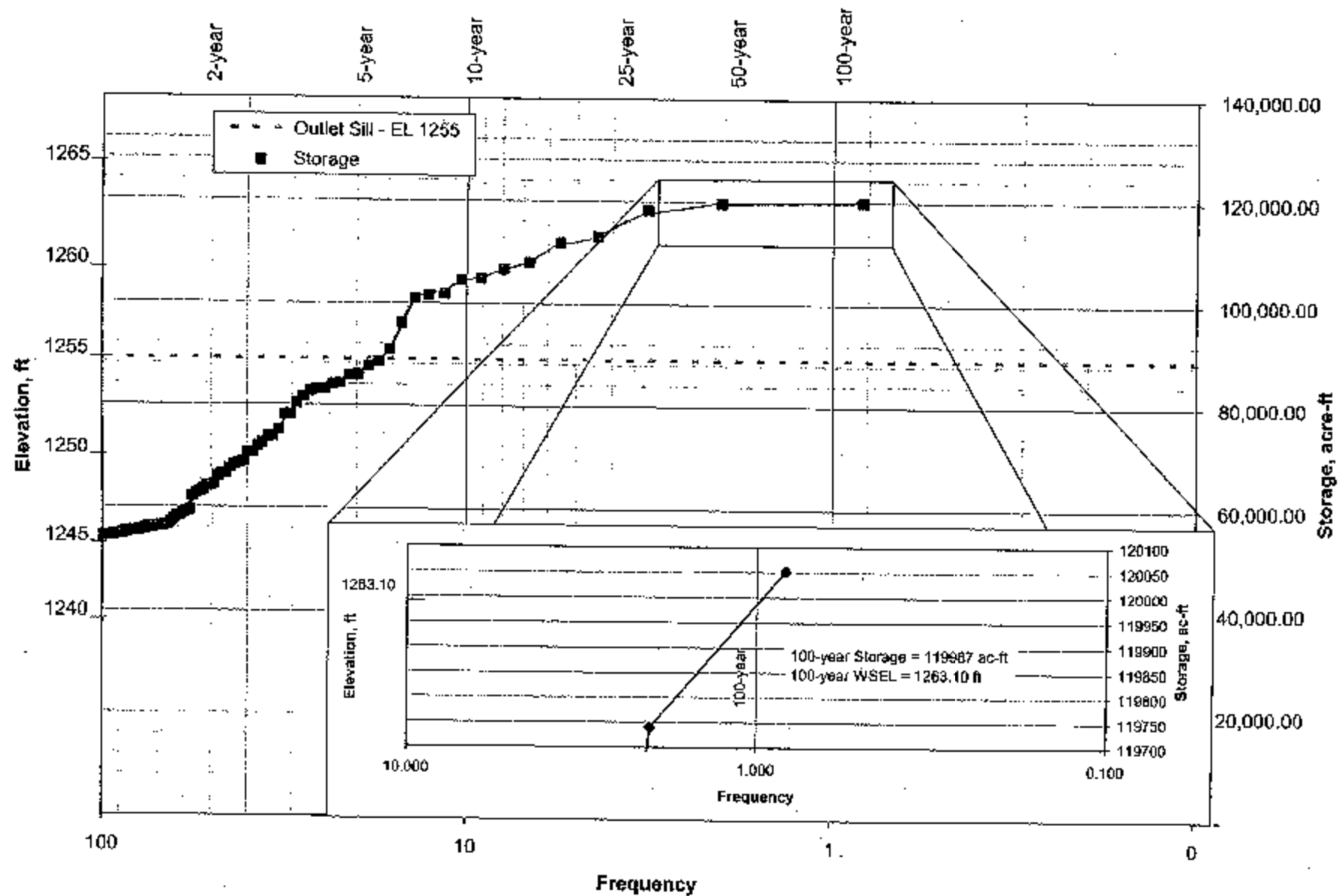


Figure 7. Storage Volume Frequency Curve for Lake Replenishment Level 1246

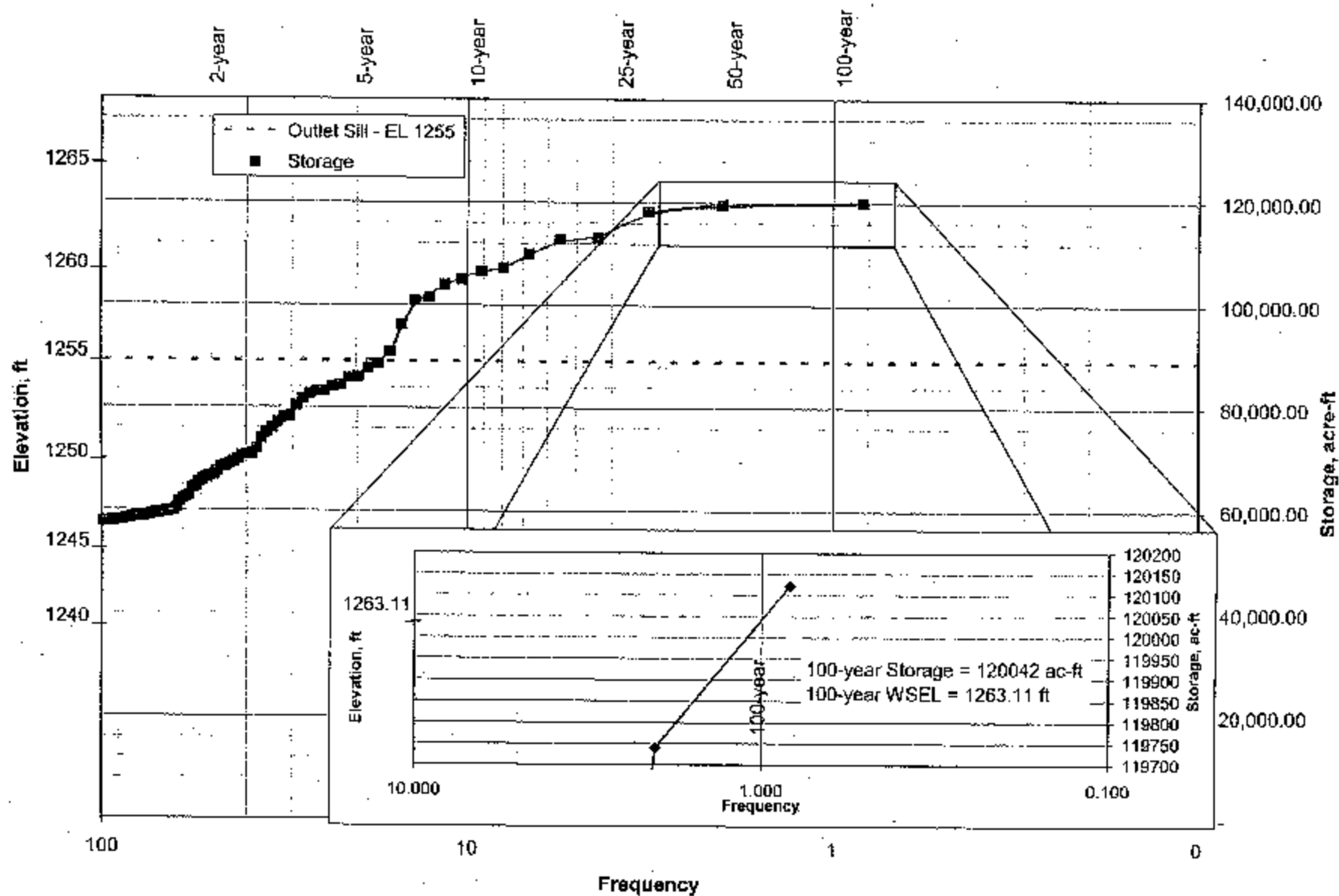


Figure 8. Storage Volume Frequency Curve for Lake Replenishment Level 1247

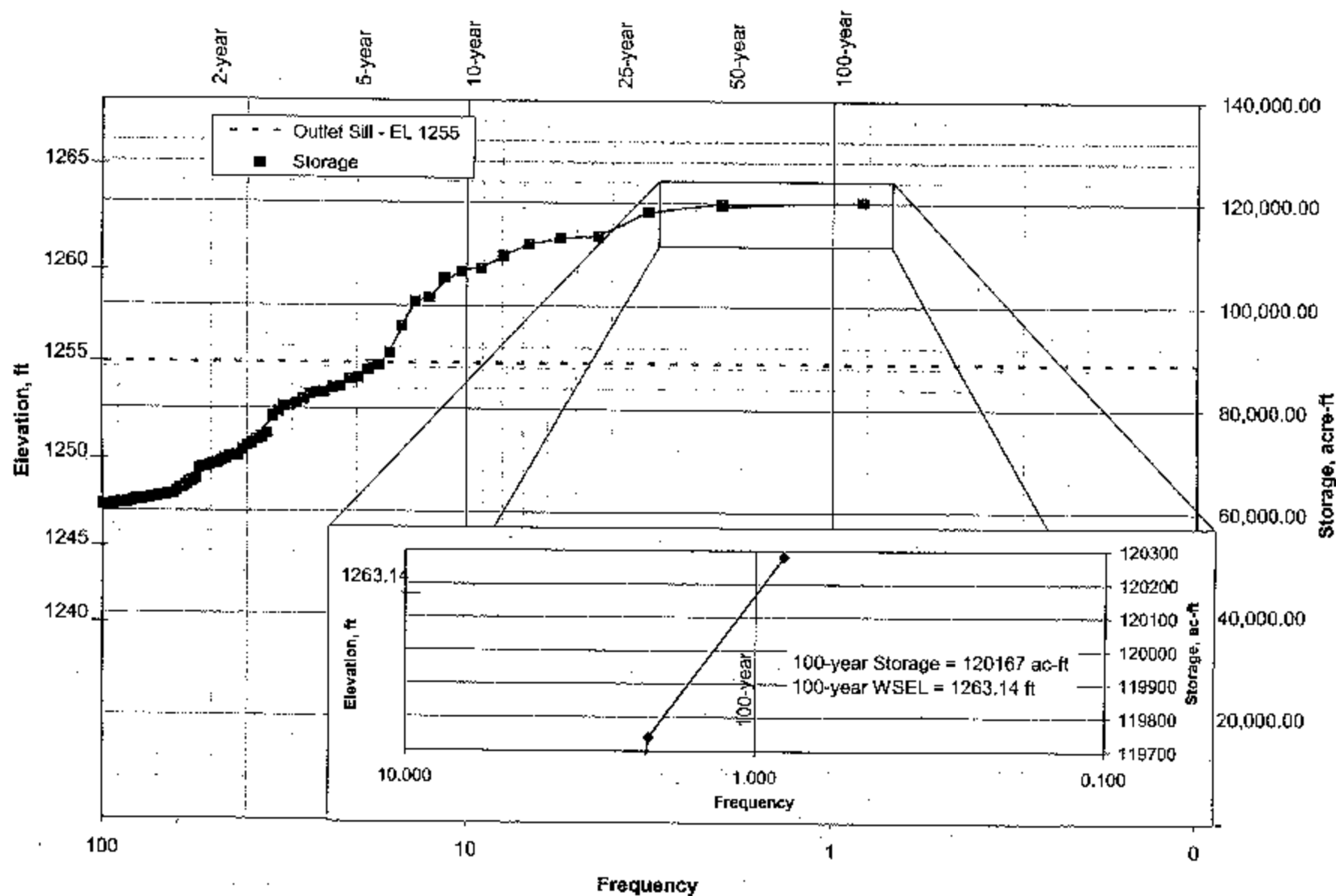


Figure 9. Storage Volume Frequency Curve for Lake Replenishment Level 1248

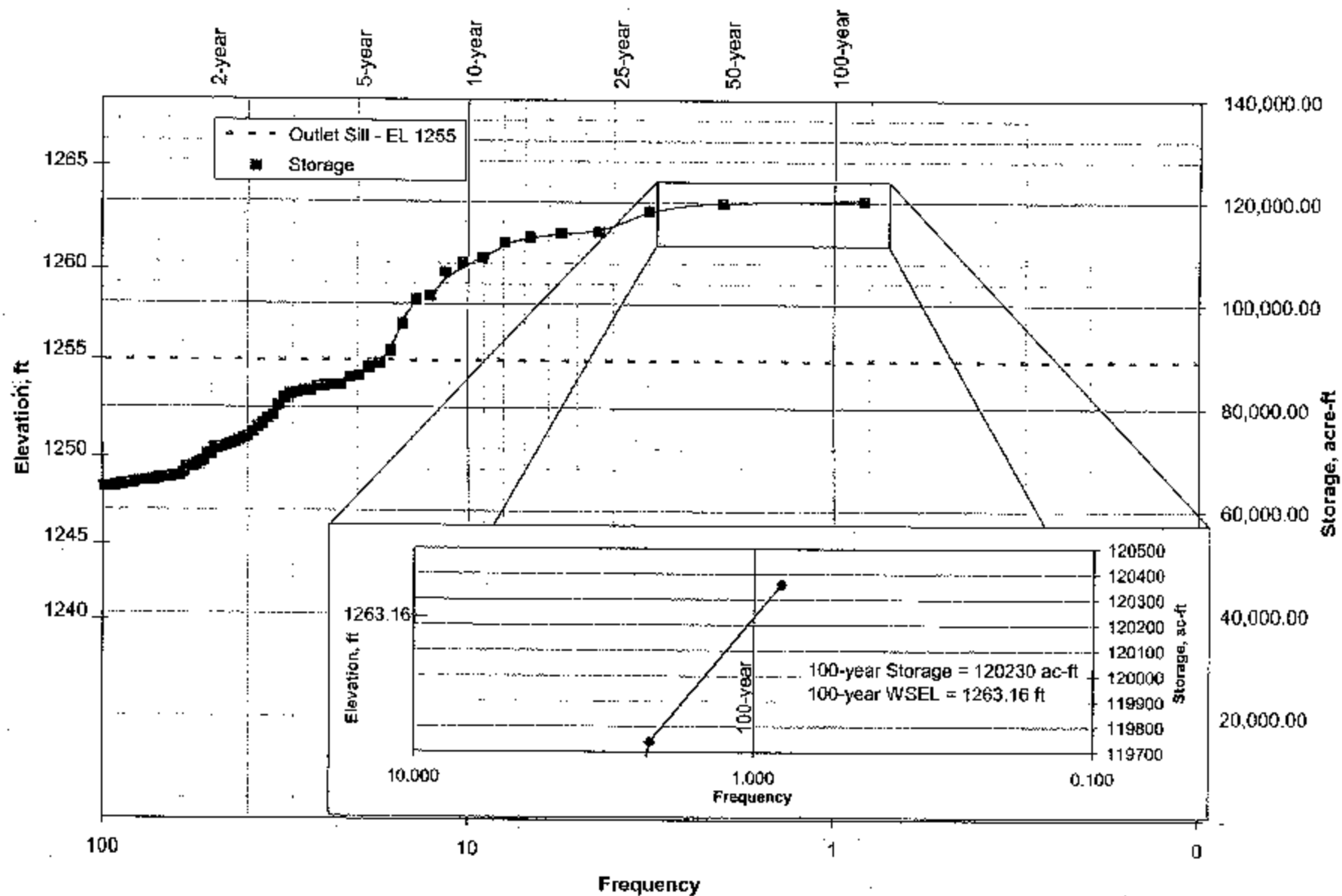


Figure 10. Storage Volume Frequency Curve for Lake Replenishment Level 1249

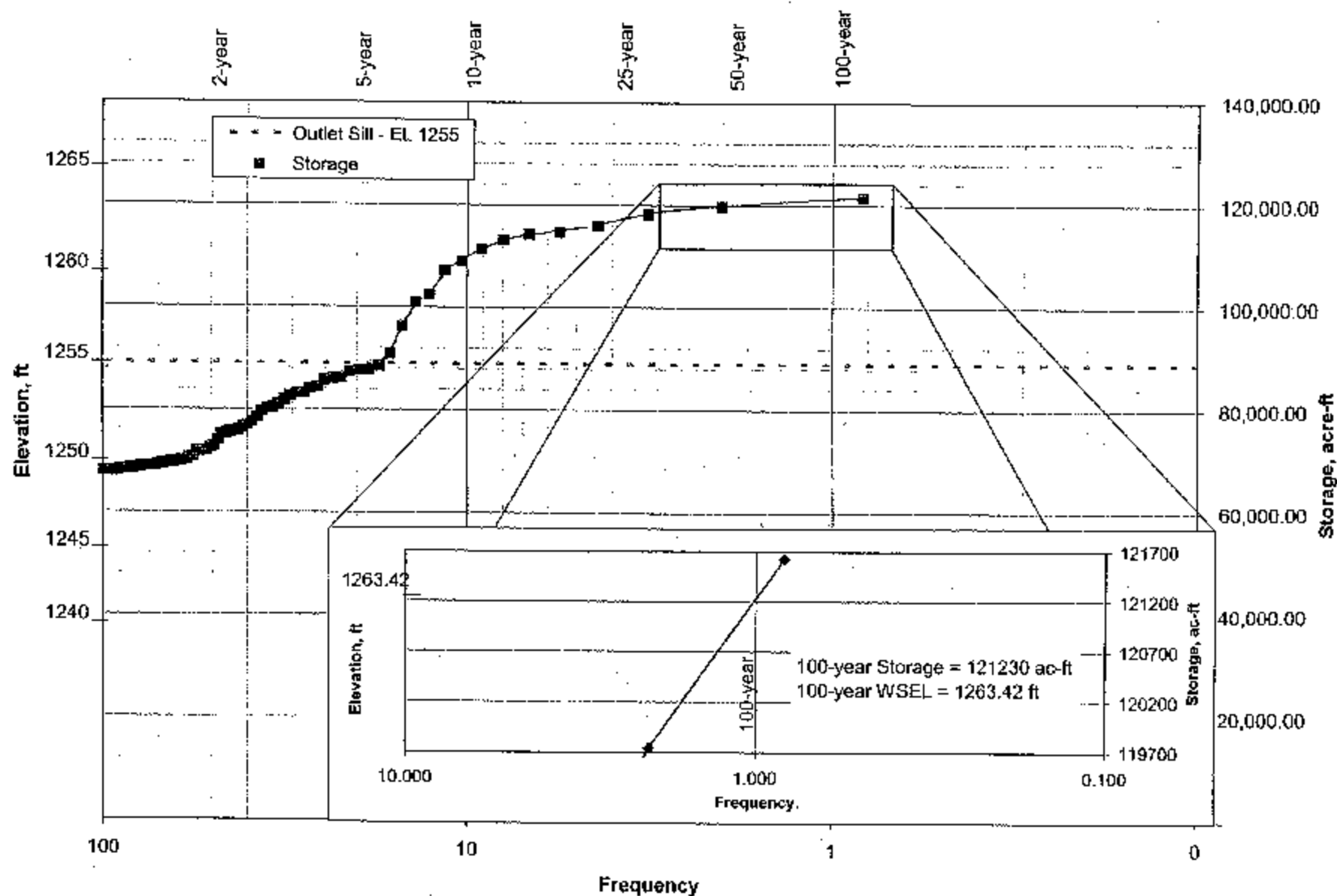


Figure 11. Maximum Lake Elevation vs. Lake Replenishment Level for 100-Year Calculated and 1916 Event

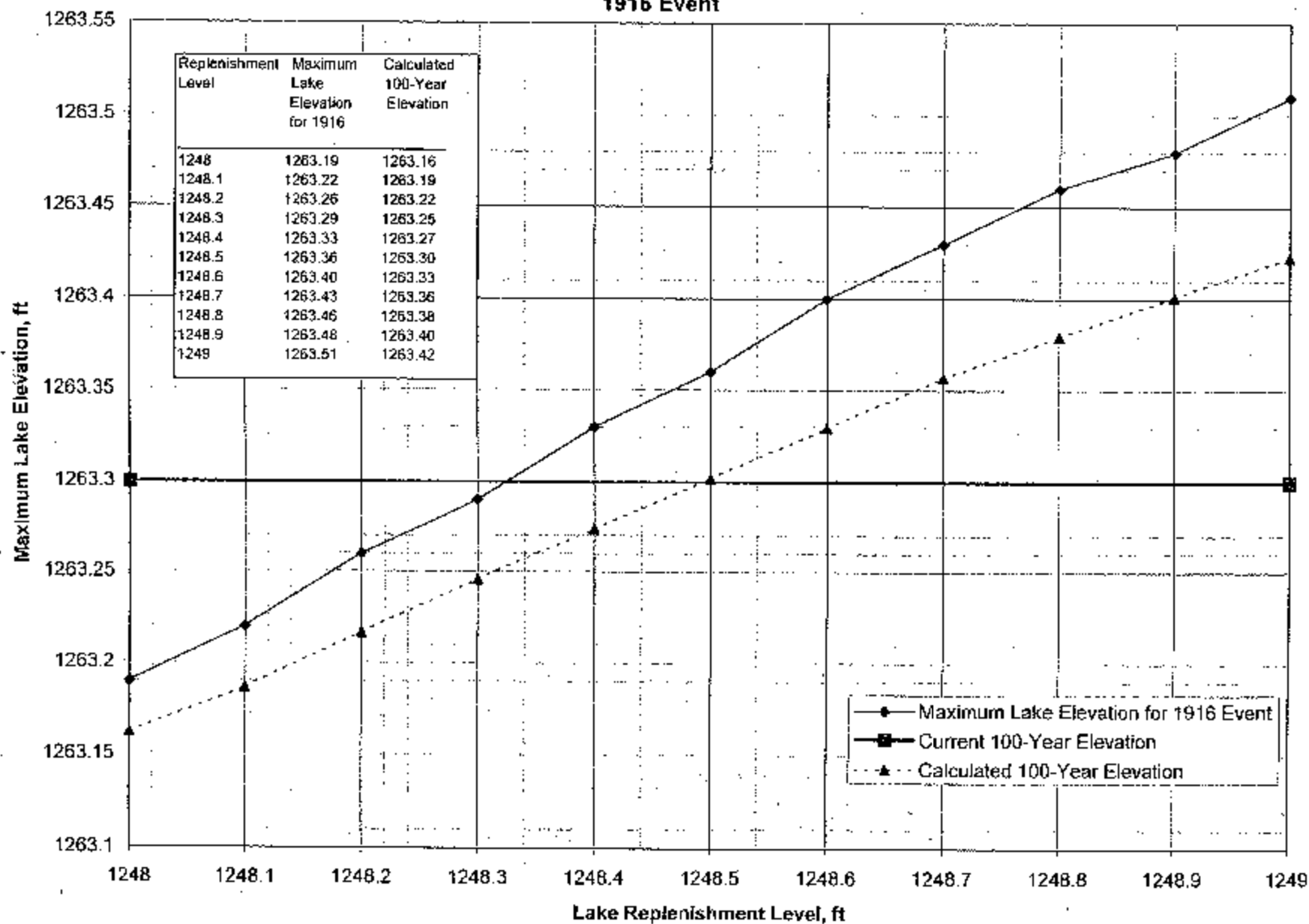


Figure 12. Cumulative Discharge Exceedance Curve for Selected Lake Replenishment Levels

