ASSOCIATED ATTACHMENTS/ENCLOSURES:

Attachment 02.04.03-09E: Calc CDQ000020080051_Reservoir_Storage_Rev_1

Calculation **CDQ000020080051, Rev. 1**

Title **Reservoir Storage Tables**

EDMS Number: **L58 090911 001**

(177 Pages including Cover Sheet)

TVAN CALCULATION COVERSHEET/CCRIS UPDATE

REV 0 EDMS/RIMS NO.	EDMS TYPE:	EDMS ACCESSION NO (N/A for REV. 0)
L58090406004	Calculations (nuclear)	N/A L58 090911 001

Calc Title: Reservoir Storage Tables

CALC ID	TYPE	ORG	PLANT	BRANCH	NUMBER	CUR REV	NEW REV	REVISION APPLICABILITY
CURRENT	CN	NUC	GEN	CEB	CDQ000020080051	0	1	Entire calc ☒ Selected pages ☐
NEW	CN	NUC						

ACTION	NEW ☐ REVISION ☒	DELETE ☐ RENAME ☐	SUPERSEDE ☐ DUPLICATE ☐	CCRIS UPDATE ONLY ☐ (Verifier Approval Signatures Not Required)	No CCRIS Changes ☐ (For calc revision, CCRIS been reviewed and no CCRIS changes required)

UNITS	SYSTEMS	UNIDS
N/A	N/A	N/A

DCN,EDC,N/A	APPLICABLE DESIGN DOCUMENT(S)	CLASSIFICATION
See** Below	N/A	E

QUALITY RELATED?	SAFETY RELATED? (If yes, QR = yes)	UNVERIFIED ASSUMPTION	SPECIAL REQUIREMENTS AND/OR LIMITING CONDITIONS?	DESIGN OUTPUT ATTACHMENT?	SAR/TS and/or ISFSI SAR/CoC AFFECTED
Yes ☒ No ☐	Yes ☒ No ☐	Yes ☒ No ☐	Yes ☐ No ☒	Yes ☐ No ☒	Yes ☐ No ☒

PREPARER ID		PREPARING ORG (BRANCH)	VERIFICATION METHOD	NEW METHOD OF ANALYSIS
HSSawyer	615.252.4362	BWSC (CEB)	Design Review	☐ Yes ☒ No

PREPARER SIGNATURE	DATE	CHECKER SIGNATURE	DATE
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VERIFIER SIGNATURE	DATE	APPROVAL SIGNATURE	DATE
Bill Hamilton	8/28/09	9/2/09 K.R. Spates	9-8-09

STATEMENT OF PROBLEM/ABSTRACT 8/31/09

Provide data and methods of analysis used in the determination of storage volumes for reservoirs upstream of Wheeler Dam for input into TVA's SOCH and TRBROUTE computer codes for calculation of PMF for TVA Nuclear Plants. Research and document historic data sources used in the past for this purpose.

Correct errors identified in PER 175924.
Address errors identified in PER 173921.

**22404 (SQN), 54018 (WBN), Later (BFN)

MICROFICHE/EFICHE Yes ☐ No ☒ FICHE NUMBER(S)

☐ LOAD INTO EDMS AND DESTROY
☒ LOAD INTO EDMS AND RETURN CALCULATION TO CALCULATION LIBRARY. ADDRESS: LP4D-C
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REV 0 EDMS/RIMS NO.	EDMS TYPE:	EDMS ACCESSION NO (N/A for REV. 0)
L58 090406 004	Calculations (nuclear)	N/A

Calc Title: Reservoir Storage Tables

CALC ID	TYPE	ORG	PLANT	BRANCH	NUMBER	CUR REV	NEW REV	REVISION APPLICABILITY
CURRENT	CN	NUC						Entire calc ☐ Selected pages ☐
NEW	CN	NUC	GEN	CEB	CDQ000020080051	N/A	0	

ACTION	NEW ☒ REVISION ☐	DELETE ☐ RENAME ☐	SUPERSEDE ☐ DUPLICATE ☐	CCRIS UPDATE ONLY ☐ (Verifier Approval Signatures Not Required)	No CCRIS Changes ☐ (For calc revision, CCRIS been reviewed and no CCRIS changes required)

UNITS	SYSTEMS	UNIDS
N/A	N/A	N/A

DCN,EDC,N/A	APPLICABLE DESIGN DOCUMENT(S)	CLASSIFICATION
N/A	N/A	E

QUALITY RELATED?	SAFETY RELATED? (If yes, QR = yes)	UNVERIFIED ASSUMPTION	SPECIAL REQUIREMENTS AND/OR LIMITING CONDITIONS?	DESIGN OUTPUT ATTACHMENT?	SAR/TS and/or ISFSI SAR/CoC AFFECTED
Yes ☒ No ☐	Yes ☒ No ☐	Yes ☐ No ☒	Yes ☐ No ☒	Yes ☐ No ☒	Yes ☐ No ☒

PREPARER ID	PREPARER PHONE NO	PREPARING ORG (BRANCH)	VERIFICATION METHOD	NEW METHOD OF ANALYSIS
L. Keith Grayson		CEB	Design Review	☐ Yes ☒ No

PREPARER SIGNATURE	DATE	CHECKER SIGNATURE	DATE
L. Keith Grayson	3/17/09	William W. Clark	3/17/09
VERIFIER SIGNATURE	**DATE**	**APPROVAL SIGNATURE**	**DATE**
William W. Clark	3/17/09	K. R. Spates (for)	4/7/09

STATEMENT OF PROBLEM/ABSTRACT

Provide data and methods of analysis used in the determination of storage volumes for reservoirs upstream of Guntersville Dam for input into TVA's SOCH and TRBROUTE computer codes for calculation of PMF for TVA Nuclear Plants. Research and document historic data sources used in the past for this purpose.

MICROFICHE/EFICHE Yes ☐ No ☐ FICHE NUMBER(S)

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CALC ID	TYPE	ORG	PLANT	BRANCH	NUMBER	REV
NEW	CN	NUC	GEN	CEB	CDQ000020080051	1

ALTERNATE CALCULATION IDENTIFICATION

BLDG	ROOM	ELEV	COORD/AZIM	FIRM BWSC	Print Report Yes ☐

CATEGORIES NA

KEY NOUNS (A-add, D-delete)

ACTION (A/D)	KEY NOUN	A/D	KEY NOUN

CROSS-REFERENCES (A-add, C-change, D-delete)

ACTION (A/C/D)	XREF CODE	XREF TYPE	XREF PLANT	XREF BRANCH	XREF NUMBER	XREF REV
A	P	EN	WBN	CEB	54018	1
A	P	EN	SQN	CEB	22404	1

CCRIS ONLY UPDATES:
Following are required only when making keyword/cross reference CCRIS updates and page 1 of form NEDP-2-1 is not included:

PREPARER SIGNATURE	DATE	CHECKER SIGNATURE	DATE
PREPARER PHONE NO.	EDMS ACCESSION NO.		

TVAN CALCULATION RECORD OF REVISION

CALCULATION IDENTIFIER CDQ000020080051

Title Reservoir Storage Tables

Revision No.	DESCRIPTION OF REVISION
0	Initial issue (Total Pages 165)
1	This calculation was revised to include reservoir storage tables for Wheeler and Tims Ford Reservoirs. PER 175924 was generated to address data errors in the final reservoir storage tables in R0. These errors include interpolation errors, transposition errors, and the lack of attention to detail when preparing the calculation. These errors have been addressed in R1. PER 173921 was generated to address GIS process differences in R0 of this calculation and the SOCH Geometry Calculations. Significant changes to the text are marked with a right hand margin revision bar. Changes and Additions: Content on pages 1-8,15, 70 & 86 R0 was modified as indicated on pages 1-8, 15, 70, 86 & 87 R1. These modifications caused items to roll over to the next page and resulted in a total hardcopy number of pages in R1 is 167. Page 1a and 166 were added. Appendix A was added. Electronic Attachment 1, Reservoir Storage Table Worksheets, was Revised. Attachments A-1 and A-2 were added. Content on pages 71, 72, 77, 79, and 80 R0 was modified as detailed in PER 175924 and indicated on pages 71, 72, 77, 79, and 80 R1. Content on page 15 was modified to address PER 173921. Content on page 58 was modified to correct a formula error in the Extended GIS Volumes table.

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TVAN COMPUTER INPUT FILE
STORAGE INFORMATION SHEET

Document CDQ000020080051	Rev. 1	Plant: GEN	

Subject:
Reservoir Storage Tables

☐ Electronic storage of the input files for this calculation is not required. Comments:

☒ Input files for this calculation have been stored electronically and sufficient identifying information is provided below for each input file. (Any retrieved file requires re-verification of its contents before use.)

The file listed below is electronically attached to the parent Adobe .pdf calculation file. The file is, therefore, stored in an unalterable medium and is retrievable through the EDMS number for this calculation. Click on the "Attachments" tab with Adobe to view the attachment listing and to access and view the file.

Appendix A Wheeler & Tims Ford Reservoir Storage Tables

Attachment 1 Reservoir Storage Table Worksheets

☐ Microfiche/eFiche

1.0 Purpose

The purpose for this calculation package is to describe in detail the methods of gathering data, procedures, and analysis used to generate reservoir storage tables for applicable reservoirs, to compare historical sources for consistency and to develop additional storage information as needed for reservoir storage tables used in the TVA Nuclear PMF analysis. Storage table sources such as TVA Water Control Project Blue Books (WCPBB) and reservoir level storage tables referenced within the document shall be compared for consistency. Storage Tables for reservoirs geographically located within the Tennessee River watershed upstream of the Guntersville Dam are required to develop SOCH input data for the determination of the probable maximum flood (PMF) and elevations at the TVA nuclear plant sites and to provide TRBROUTE storage table data used to route flood hydrographs to SOCH input points. Storage Tables for Wheeler and Tims Ford Reservoirs, downstream of Guntersville Dam are also required for input to SOCH and have been included in Appendix A. Volume check tables and graphs for modeled reservoirs are included within this document.

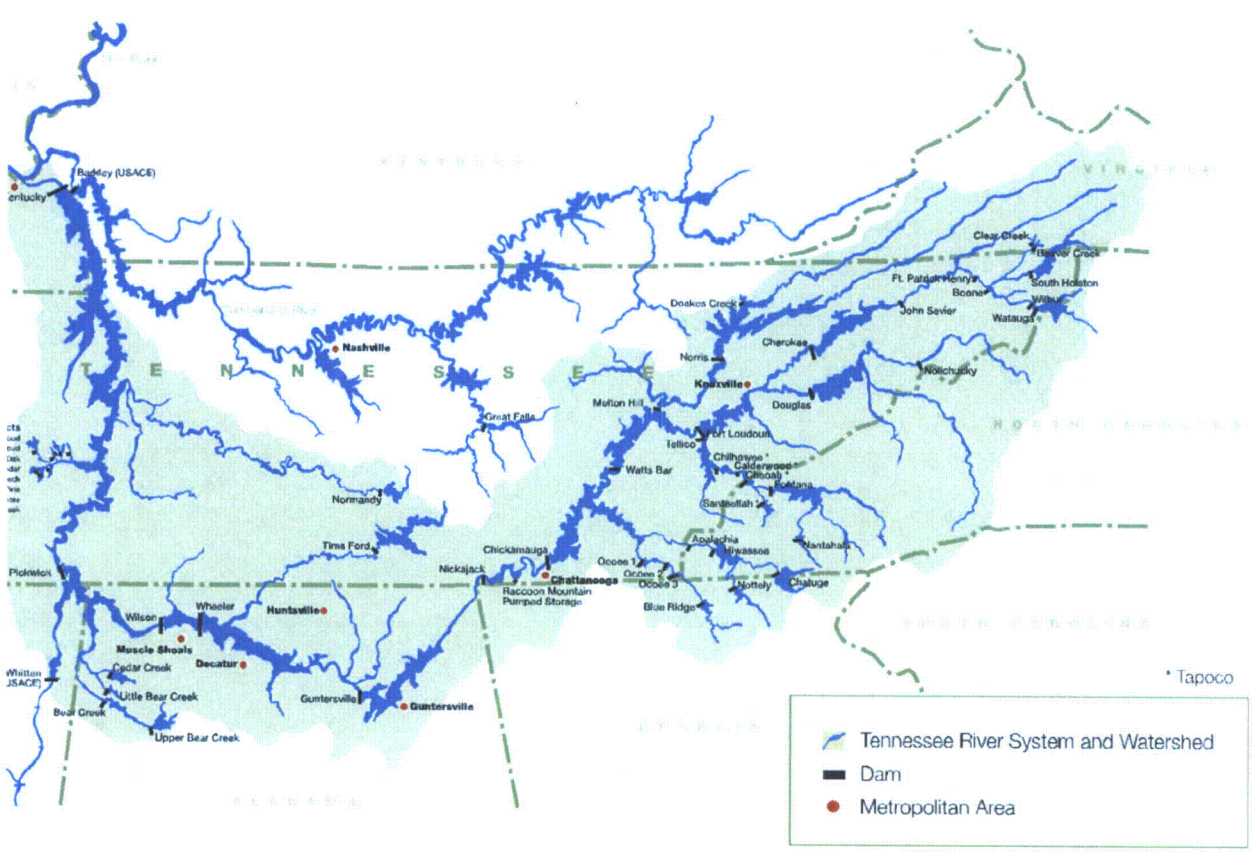


Figure 1. TVA Reservoirs Upstream of Wheeler Dam

2.0 References

1. Tennessee Valley Authority (TVA) Water Control Projects (Blue Book) – Technical Monograph No.55 Volume One (Parts One & Two – March 1980)
2. 1986 Total Level Storage Tables & EXCEL Total Level Storage Tables - RFI-25447-000-GRI-GEX-0053 (EDMS# L58 081126 800)
3. Bellefonte Nuclear Plant White Paper (EDMS No. L58 081219800) – Hydrologic Analysis (Rev. 1 July 25, 2008)
4. Sedimentation in TVA Reservoirs, TVA Division of Water Control Planning, Report No. 0-6693, Knoxville, TN Feb 1968.
5. Reservoir Sedimentation Data for Reservoirs in the Tennessee Valley, TVA Division of Water Control Planning, Knoxville, TN Jan 1970
6. TVA, WWIDTH-CONVEY User's Manual Version 1.0 (EDMS No. L58 090213001)
7. TVA GIS Chickamauga Surface Area Map (Dwg# 7 GIE 311 E 200801 R2 D)
8. TVA GIS Nickajack Surface Area Map (Dwg# 69 GIE 311 E 200801 R1 D)
9. TVA GIS Fort Loudoun Surface Area Map (Dwg# 10 GIE 311 E 200801 R1 D)
10. TVA GIS French Broad River Surface Area Map (Dwg# 10 GIE 311 E 200811 R0 D)
11. TVA GIS Holston River Surface Area Map (Dwg# 10 GIE 311 E 200821 R0 D)
12. TVA GIS Watts Bar Surface Area Map (Dwg# 9 GIE 311 E 200801 R1 D)
13. TVA GIS Guntersville Surface Area Map (Dwg# 6 GIE 311 E 200801 R1 D)
14. TVA GIS Tellico Surface Area Map (Dwg# 65 GIE 311 E 200801 R2 D)
15. TVA GIS Melton Hill Surface Area Map (Dwg# 43 GIE 311 E 200801 R3 D)
16. Problem Evaluation Report 175924, Reservoir Storage Table Data Errors Found in Calculation CDQ00020080051 Rev 0, 9 July 2009.
17. Problem Evaluation Report 173921, GIS Data Precision and Inaccuracies Found in Calculation CDQ000020080051 Rev 0, 11 June 2009.

3.0 Assumptions

3.1 General Assumptions

The following assumption was made:

1. Assumption: Reservoir volume information at levels above those listed on the WCPBB or Level Storage Table documents can be provided with sufficient accuracy by GIS-based surface area data (References 9-17).

Technical Justification: In Section 6.0, the GIS-based surface area data are demonstrated to be consistent with historical TVA reservoir storage data sources by the volume-elevation relationship curve continuity and fit between the historical sources and the GIS-based data source.

3.2 Unverified Assumptions

None.

4.0 Background

4.1 Reservoir Description Table

The following is a listing and brief description of all reservoirs, lakes and small dam impoundments upstream of BLN. Data was taken from www.tva.gov/sites.

	RESERVOIR	Flood-Storage Capacity as of January 1st (ac-ft)	Uses	Operated & Maintained By
1	**South Holston**	252,757	Power production, flood control, Navigation	TVA
2	**Watauga**	152,829	Power production, flood control, Navigation	TVA
3	**Boone**	75,829	Power production, flood control, Navigation	TVA
4	**Fort Patrick Henry**	Not Published	Power production	TVA
5	**Cherokee**	749,406	Power production, flood control, Navigation	TVA
6	**Douglas**	1,081,880	Power production, flood control, Navigation	TVA

	RESERVOIR	Flood-Storage Capacity *(a)* as of January 1st [ac-ft]	Uses	Operated & Maintained By
7	**Fort Loudoun**	111,000	Power production, flood control	TVA
8	**Fontana**	513,965	Power production, flood control, Navigation	TVA
9	**Norris**	1,112,982	Power production, flood control, Navigation	TVA
10	**Tellico**	120,000	Flood control, Tributary Area Development, Navigation	TVA
11	**Watts Bar**	379,000	Power production, Flood control, Navigation	TVA
12	**Chatuge**	62,619	Power production, Flood control, Navigation	TVA
13	**Nottely**	61,588	Power production, Flood control, Navigation	TVA
14	**Hiwasse**	205,590	Power production, Flood control, Navigation	TVA
15	**Blue Ridge**	68,550	Power production, flood control	TVA
16	**Chickamauga**	345,000	Power production, Flood control, Navigation	TVA
17	**Nickajack**	Not Published	Power production, Navigation	TVA
18	**Melton Hill**	Not Published	Power production, Navigation	TVA
19	**Ocoee #1**	Not Published	Power production	TVA
20	**Apalachia**	Not Published	Power production	TVA
21	**Guntersville**	162,000	Power production, flood control, Navigation	TVA
22	**Nantahala**	69,200	Power production	Duke Power Company
23	**Santeetlah**	Not Published	Power production	ALCOA

	RESERVOIR	Flood-Storage Capacity as of January 1st (ac-ft)	Uses	Operated & Maintained By
24	**Cheoah**	Not Published	Power production	ALCOA
25	**Calderwood**	Not Published	Power production	ALCOA
26	**Chilhowee**	Not Published	Power production	ALCOA
27	**Davy Crockett (Nolichucky)** *(b)*	Not Published	Power production (retired)	TVA
28	**Beaver Creek** *(b)*	5,020	Local Flood protection	TVA
29	**Wilbur** *(b)*	Not Published	Power production	TVA
30	**Doakes Creek** *(b)*	Not Published	Recreation	TVA
31	**John Sevier** *(b)*	Not Published	Power production	TVA
32	**Clear Creek** *(b)*	2,511	Local flood protection	TVA
33	**Ocoee#2** *(b)*	Not Published	Power production	TVA
34	**Ocoee#3** *(b)*	Not Published	Power production	TVA

a) Flood storage capacity values tabulated here were taken from www.tva.gov/sites . These values do not reflect PMF conditions and are included for background information only.
b) These reservoirs are ignored during the SOCH computations for conservatism and due to insignificant storage volumes.

4.2 Recorded Documentation

Documented historic data compiled from the following sources provide the basis for the reservoir storage tables used in the TVA PMF analysis:

- *TVA Water Control Project Blue Books(WCPBB) (Ref.1)*
- *1986 Total Level Storage Tables (Ref.2)*
- *TVA Sediment Survey Data (Ref.4)*
- *More recent Total Level Storage Tables prepared in Excel format (Attachments 1c-26c)*

4.2.1 TVA Water Control Project Blue Books (WCPBB's)

WCPBB's for specific TVA reservoirs are available and when compared to other resources, provides storage table data used for the runoff and stream course (SOCH) models. Figures are included within these WCPBB's entitled, **Reservoir Areas and Volumes**, that graphically depict reservoir stage elevations *(feet above mean sea level (MSL))* vs. reservoir volumes *(thousands of acre-feet*

(Ac-Ft)) for all TVA reservoirs except Blue Ridge. These figures (see Attachments 1a through 21a) also include tabulated data for reservoirs taken from various sediment range surveys conducted in the early history of TVA. Reservoir areas were measured on composite maps consisting of U.S. Army Corps of Engineers Tennessee River survey maps, TVA land maps, USGS topographic maps and TVA navigation maps. Contours were then made to conform to elevations on TVA sediment range cross sections located at certain intervals depending on the reservoir in question.

Volume information for Blue Ridge Reservoir was tabulated in the WCPBB's **Reservoir & Power Data Table** (see Attachment 15a). WCPBB information for the Chilhowee ALCOA reservoir lists storage data for the top of gates only (see Attachment 26a).

4.2.2 Total Level Storage Tables

Total Level Storage Tables for specific TVA and ALCOA reservoirs are available (see Attachments 1b through 26b) and when compared to other documentation, confirm consistency with the existing storage table data in WCPBB. These tables are developed by a computer program which converts volumes in acre-feet, shown on the **Reservoir Areas and Volumes** figures found within each reservoir's WCPBB, to day-second-feet and uses a cubic spline interpolation method to determine volumes at intermediate elevations. Area-volume curves were extended to PMF levels based on topographical mapping available at the time. Level storage tables give level-storage volumes for each 0.1 foot below the level of zero generation and for every 0.01 foot from this level to the height above the top of gates. Volumes are given to the nearest 10 day-second-feet.

1 acre-foot / 1.9835 = 1 DSF (day-second-foot)

1986 level storage table data (Ref.2) is available as well as a more current Excel spreadsheet version.

4.2.3 Sediment Survey Data

Sediment volume calculations are also available that confirm the validity of storage data. Data has been found recorded in *Reservoir Sedimentation Data for Reservoirs in the Tennessee Valley* prepared by the TVA Division of Water Control Planning in 1970 that is consistent with storage table values documented in blue books and level storage tables.

4.3 Methods of Computing Volumes

4.3.1 Initial Volume Calculations

While TVA reservoirs were still new and the bottom contours relatively unchanged, baseline or initial locations for ranges were determined along the reservoirs main and tributary channels. Ranges were defined as cross sections at right angles to the channel. An attempt was made to locate ranges at the head of backwater, in dead spaces, near bends, and at locations where the channel section changed abruptly. Where major tributaries enter, ranges were located at or near their mouths. They were located so that the volume computed by the average end-area method using the cross-sectional field measurements of each adjacent range reasonably represented the

volume between ranges. Reservoirs were then represented by a series of segments, with each segment bounded by two or more ranges, as shown on Figure 2. Monuments were set on the left and right bank at each range location. Distance/elevation data were measured at each range across the channel along a straight line between the two monuments using a boat equipped with hydrographic survey equipment. Initial area data was then calculated for each of the ranges. Initial volume data for each segment was computed next by the contour method using available USGS 7.5 Minute Quadrangle topographic maps. This method estimates the initial volume of vertical increment between ranges by averaging the contour areas of that increment.

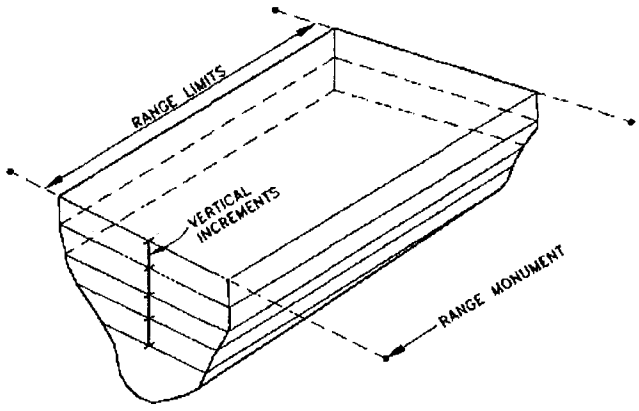


Figure 2. Schematic Segment of Reservoir Range

4.3.2 Sedimentation In TVA Reservoirs

Early in TVA's existence, engineers realized that provision would have to be made for a loss of storage in the reservoirs due to the accumulation of sediment. In 1934, TVA set up a sediment investigations program to determine the length of time it would take to fill the dead-storage volume of all reservoirs proposed by TVA. As the reservoirs were filled and put to use, periodic investigations of sedimentation were begun for each reservoir. Suspended sediment sampling stations were established on the Tennessee River and on many tributaries at or near stream gages of the U. S. Geological Survey. About 48 stations were sampled two or three times each week and more intensively during flood periods. Reductions in the number of stations occurred in December 1937 and again in June 1938. At least three years of suspended sediment data were collected at each location. Sampling was done from a bridge where distances could be easily marked for subsequent sampling at the same points. Samples were taken at various depths and locations across a stream. A cross section was divided into three to five segments with substantially equal discharges, and in each segment a sample was taken 0.5 feet from the bottom, at mid-depth, and 0.5 feet from the surface. These early investigations proved that TVA reservoirs would not be affected by silt within normal operating range for several hundred years.

Silt range investigations were used to determine the quantity of silt deposited in TVA reservoirs. TVA used the range method for locating sediment surfaces in its reservoirs. As previously discussed, the range method consisted of "profiling" across each established range line using standard land surveying techniques while utilizing sonic sounders to survey submerged areas and define channel bottoms. Permanent range monuments, with their locations documented by the former TVA *Maps and Surveys Division* (currently known as *Geographic Information & Engineering*),

allowed the same points of measurement to be resurveyed on numerous occasions for a progression development of sediment deposits. The general purpose for measuring reservoir sediment was to define silt ranges at constant intervals across reservoirs so that representative cross sections could be plotted that graphically depicted accumulated silt and provided a means with which to determine a change in volume.

Resurveying reservoirs for determination of sediment deposition involved land and hydrographic surveying. Complete profiles showing sediment accumulation of the existing predetermined ranges extending between monuments were prepared (see Figure 3) and the related data was documented on TVA Reservoir Sedimentation Data Summary sheets (Ref 5). The range line of land from either end monument to the water's edge was profiled with a surveyor's level and the elevations were measured to the nearest tenth of a foot. Field measurements of submerged areas within ranges were found using sonic sounders. A change in reservoir volume was then obtained by subtracting the volume of sediment calculated at identified ranges during the resurvey from the original reservoir capacity.

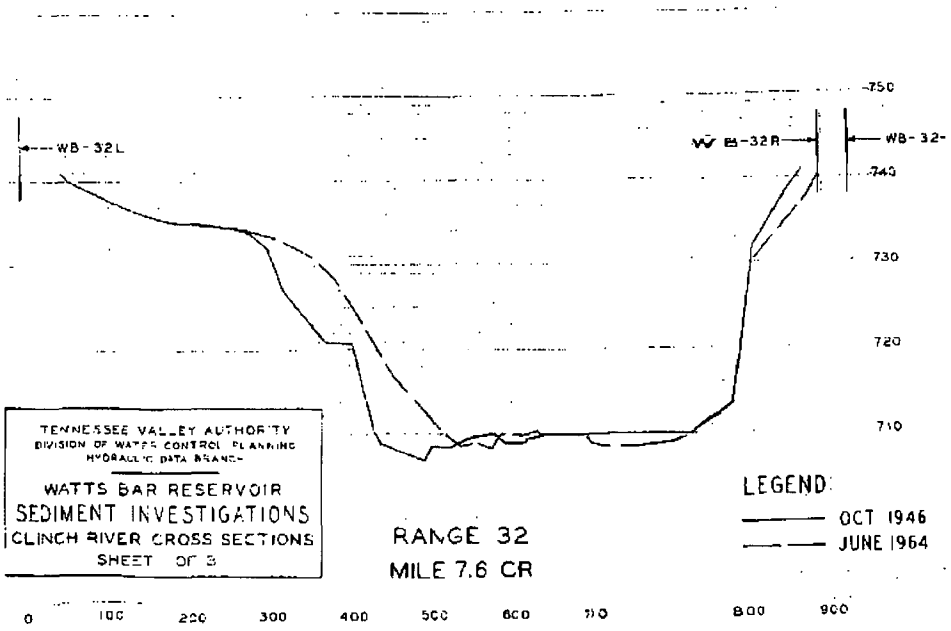


Figure 3. Typical Range Investigation Cross-Section

Constant Factor Method - TVA used the constant factor method to determine reservoir capacity. This method uses both contour and range surveys to compute sediment volume directly. Portions of the reservoir are bounded by one or more ranges and the contour at the elevation at the crest of the dam considered as segments for convenient determination of the sediment volume. A "Constant Factor" was computed for each elevation increment within each segment. The "Constant Factor" for the vertical gradient remains the same throughout the life of the reservoir. Therefore, for all subsequent surveys, the "Constant Factor" is multiplied by the sum of the sediment end areas to determine the updated volume of sediment in the increment. Parts of a segment situated between contour planes are termed subsegments. The volume V_s, of sediment accumulated in a segment is given by:

$$V_s = [V_o / (A'_o + A''_o)] * (A'_s + A''_s)$$

in which Vo = volume of the segment before any sediment accumulated; A'_o and A''_o = the area of the downstream and upstream cross section before any sediment accumulated; respectively; and A'_s, and A''_s, = the areas of the sediment deposit at the downstream and upstream ends of the segment, respectively. A factor, f, is defined which is a constant for each segment:

$$f = V_o / (A'_o + A''_o)$$

Substitution in the first equation gives:

$$V_s = f * (A'_s + A''_s)$$

Because f is a constant for each segment and subsegment, this method is called the constant factor method. Once determined for each subsegment, the factor is applied in computations for all sediment surveys. This method is well suited for large reservoirs such as Watts Bar.

4.3.3 Reservoir Storage Tables and the TRBROUTE Code

TRBROUTE performs the tributary channel and reservoir routings necessary to route flood hydrographs downstream to selected points for input to the SOCH model. Elevation versus storage data are needed in TRBROUTE in order to perform the flat pool reservoir routing used for the TVA's tributary reservoirs.

4.3.4 GIS-Based Surface Areas for Main Stem Reservoirs

GIS-based surface areas were used to compare historic data to more current data for main stem reservoirs. Areas were taken from GIS maps (Ref.'s 7 through 15) and entered into an average-end area spreadsheet to plot comparative volume check graphs included in Section 6. Initial base elevations *(or the lowest contour elevation)* used in these spreadsheets were taken from WCPBB's.

As outlined in PER 173921, the surface areas produced in this calculation above the water surface elevation and those produced by GIS in the SOCH Geometry Calculations, are slightly different due to the processes used in GIS to produce the surface areas.

5.0 Data

RESERVOIR	DATA SOURCE			
	WCPBB *Reservoir Areas & Volumes*	**WCPBB *Reservoir & Power Data***	**1986 Level Storage Table***	**Excel Level Storage Table***
South Holston	Attachment 1a Dwg# 21-DA-1-321N799	*Not Attached*	Attachment 1b	Attachment 1c
Watauga	Attachment 2a Dwg# 22-DA-1-321N800	*Not Attached*	Attachment 2b	Attachment 2c
Boone	Attachment 3a Dwg# 31-DA-1-321G801	*Not Attached*	Attachment 3b	Attachment 3c
Fort Patrick Henry	Attachment 4a Dwg# 32-DA-1-321N802	*Not Attached*	Attachment 4b	Attachment 4c
Cherokee	Attachment 5a Dwg# 12-DA-1-321K792	*Not Attached*	Attachment 5b	Attachment 5c
Douglas	x	Attachment 6a	Attachment 6b	Attachment 6c
Fort Loudoun	Attachment 7a Dwg# 10-DA-1-321G790	*Not Attached*	Attachment 7b	Attachment 7c
Fontana	Attachment 8a Dwg# 19-DA-1-321G797	*Not Attached*	Attachment 8b	Attachment 8c
Norris	Attachment 9a Dwg# 2-DA-1-321G783	*Not Attached*	Attachment 9b	Attachment 9c
Tellico	x	Attachment 10a	Attachment 10b	Attachment 10c
Watts Bar	Attachment 11a Dwg# 9-DA-1-321G789	*Not Attached*	Attachment 11b	Attachment 11c
Chatuge	Attachment 12a Dwg# 17-DA-1-321N795	*Not Attached*	Attachment 12b	Attachment 12c
Nottely	Attachment 13a Dwg# 18-DA-1-321N796	*Not Attached*	Attachment 13b	Attachment 13c
Hiwassee	Attachment 14a Dwg# 5-DA-1-321N786	*Not Attached*	Attachment 14b	Attachment 14c
Blue Ridge	x	Attachment 15a	Attachment 15b	Attachment 15c
Chickamauga	Attachment 16a Dwg# 7-DA-1-321G806	*Not Attached*	Attachment 16b	Attachment 16c
Nickajack	Attachment 17a Dwg# 69-DA-1-321G867	*Not Attached*	Attachment 17b	Attachment 17c
Melton Hill	Attachment 18a Dwg# 43-PP-1-321G828	*Not Attached*	Attachment 18b	Attachment 18c
Ocoee #1	x	Attachment 20a	Attachment 19b	Attachment 19c
Apalachia	Attachment 21a Dwg# 15-DA-1-321G794	*Not Attached*	Attachment 20b	Attachment 20c
Guntersville	Attachment 22a Dwg# 6-DA-1-321G787	*Not Attached*	Attachment 21b	Attachment 21c
Nantahala	x	Attachment 22a	Attachment 22b	Attachment 22c
Santeetlah	x	Attachment 23a	Attachment 23b	Attachment 23c
Cheoah	x	Attachment 24a	Attachment 24b	Attachment 24c
Calderwood	x	Attachment 25a	Attachment 25b	Attachment 25c
Chilhowee	x	Attachment 26a	Attachment 26b	Attachment 26c

*** ONLY ONE PAGE HAS BEEN INCLUDED FOR SPACE LIMITATIONS**

6.0 Calculations

Excel spreadsheets for reservoirs were developed that plots the curve of each reservoir storage table for available data sets.

Data sets for tributary reservoirs may include the following:

1. WCPBB data
2. 1986 Level Storage Tables
3. TRBROUTE Input Data

Data sets for main stem reservoirs (Watts Bar, Tellico, Chickamauga, Guntersville, Nickajack, Melton Hill and Fort Loudoun) may include the following:

1. WCPBB data
2. 1986 Level Storage Tables
3. GIS-based surface area data

As seen on the curve plots, the values for the compared data sets are consistent, therefore, the data are considered verified.

The following tables and plots depict the results:

Table 1 - South Holston Volume Curve Check Table (Based on 1964 Survey)

WCPBB		Level Storage Tables	
Elevation	Ac-Ft	DSF*1000	Ac-Ft
1770	No Data	536.35	1063834.1
1765	No Data	505.14	1001930.0
1760	No Data	476.20	944528.4
1758	No Data	465.17	922650.7
1756	No Data	454.41	901308.6
1754	No Data	443.89	880442.5
1752	No Data	433.58	859992.9
1750	No Data	423.44	839880.5
1748	No Data	413.53	820224.3
1746	No Data	403.81	800945.0
1744	No Data	394.36	782201.2
1743	No Data	389.74	773037.6
1742	764040.0	385.20	764032.6
1740	No Data	376.33	746439.3
1738	No Data	367.75	729421.1
1736	No Data	359.41	712879.0
1734	No Data	351.29	696773.2
1732	No Data	343.35	681024.4
1730	665590.0	335.56	665573.2
1728	No Data	327.90	650379.8
1726	No Data	320.36	635424.4
1724	No Data	312.94	620707.1
1722	No Data	305.64	606227.8
1720	591980.0	298.45	591966.6
1715	No Data	281.01	557374.9
1710	524180.0	264.27	524171.6
1705	No Data	248.20	492297.3
1700	461690.0	232.77	461692.3
1695	No Data	217.92	432237.8
1690	403910.0	203.64	403913.8
1685	No Data	189.90	376661.0
1680	350560.0	176.74	350558.5
1675	No Data	164.18	325646.1
1670	302020.0	152.27	302023.0
1665	No Data	141.02	279708.9
1660	258720.0	130.44	258723.8
1650	220540.0	111.19	220542.0
1640	187130.0	94.34	187120.6
1630	157500.0	79.41	157507.4
1620	130930.0	66.01	130928.9
1610	107190.0	54.04	107186.7
1600	86120.0		
1590	67740.0		

TRBROUTE Table		
Elevation	DSF*1000	Ac-Ft
1770	536.35	1063834.1
1765	505.14	1001930.0
1760	476.20	944528.4
1758	465.17	922650.7
1756	454.41	901308.6
1754	443.89	880442.5
1752	433.58	859992.9
1750	423.44	839880.5
1748	413.51	820184.7
1746	403.81	800945.0
1744	394.36	782201.2
1743	389.74	773037.6
1742	385.20	764032.6
1740	376.33	746439.3
1738	367.21	728350.0
1736	359.41	712879.0
1734	351.29	696773.2
1732	343.35	681024.4
1730	335.56	665573.2
1728	327.90	650379.8
1726	320.36	635424.4
1724	312.94	620707.1
1722	305.64	606227.8
1720	298.35	591768.3
1715	281.01	557374.9
1710	264.27	524171.6
1705	248.20	492297.3
1700	232.77	461692.3
1695	217.92	432237.8
1690	203.64	403913.8
1685	189.90	376661.0
1680	176.74	350558.5
1675	164.18	325646.1
1670	152.27	302023.0
1665	141.02	279708.9

WCPBB	
1580	51900.0
1570	38430.0
1560	27140.0
1550	18290.0
1540	11450.0
1530	6430.0
1520	2710.0
1510	974.0
1500	180.0
1490	0.0
1485	0.0

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 1 – South Holston Reservoir Volume Check

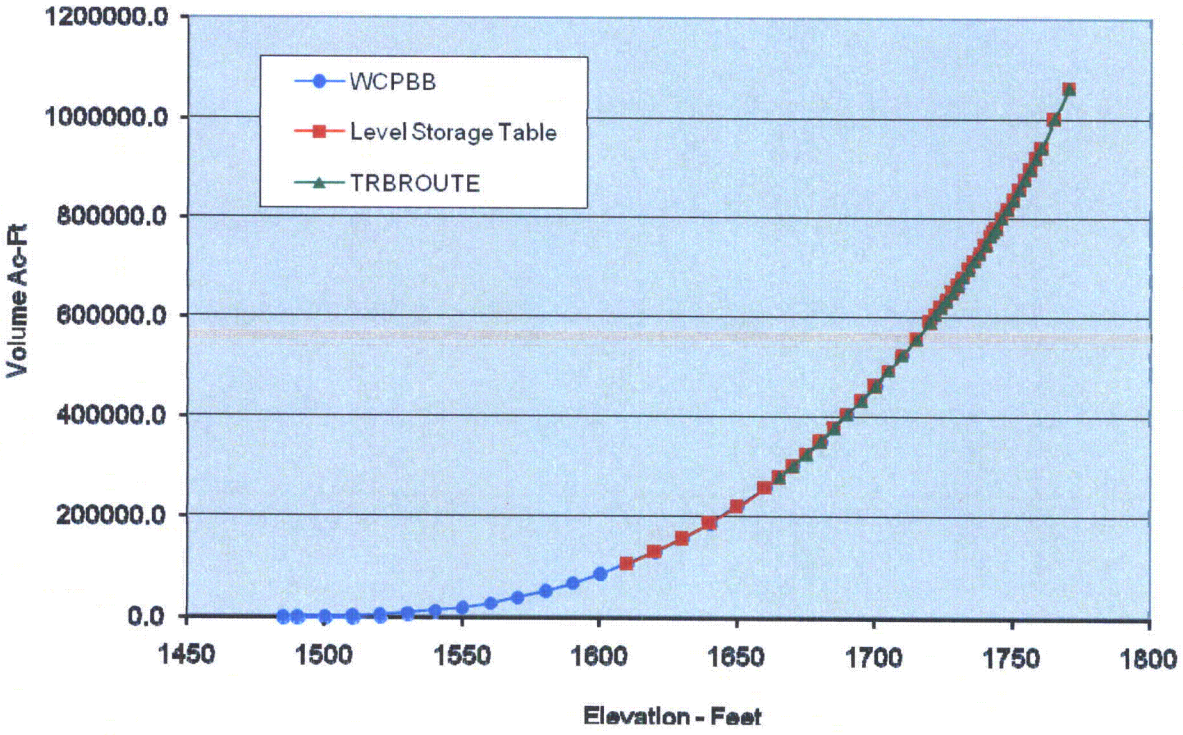


Table 2 – Watauga Reservoir Volume Curve Check Table (Based on 1964 Survey)

WCPBB		Level Storage Tables		Tribroute Table		
Elevation	Ac-Ft	DSF*1000	Ac-Ft	Elevation	DSF*1000	Ac-Ft
2010	No Data	488.60	969123.4	2010	488.60	969123.4
2008	No Data	477.44	946987.9	2008	477.44	946987.9
2006	No Data	466.92	926121.8	2006	466.92	926121.8
2004	No Data	456.99	906426.0	2004	456.99	906426.0
2002	No Data	447.57	887741.7	2002	447.57	887741.7
2000	No Data	438.62	869989.6	2000	438.62	869989.6
1998	No Data	430.06	853011.1	1998	430.06	853011.1
1996	No Data	421.83	836687.2	1996	421.83	836687.2
1994	No Data	413.84	820839.2	1994	413.84	820839.2
1992	No Data	406.02	805328.5	1992	406.02	805328.5
1990	No Data	398.29	789996.3	1990	398.29	789996.3
1988	No Data	390.58	774703.7	1988	390.58	774703.7
1986	No Data	382.89	759450.8	1986	382.89	759450.8
1984	No Data	375.22	744237.6	1984	375.22	744237.6
1982	No Data	367.58	729083.9	1982	367.58	729083.9
1980	714000.0	359.97	713989.7	1980	359.97	713989.7
1978	No Data	352.42	699014.5	1978	352.42	699014.5
1976	No Data	344.97	684237.6	1976	344.97	684237.6
1975	677000.0	341.32	676998.0	1975	341.32	676998.0
1974	No Data	337.71	669837.7	1974	337.71	669837.7
1972	No Data	330.63	655794.7	1972	330.63	655794.7
1970	642000.0	323.67	641989.7	1970	323.67	641989.7
1968	No Data	316.78	628323.6	1968	316.78	628323.6
1966	No Data	309.96	614792.1	1966	309.96	614796.4
1964	No Data	303.20	601386.2	1964	303.20	601388.1
1962	No Data	296.51	588117.3	1962	296.51	588118.7
1960	575000.0	289.89	574988.1	1960	289.89	574988.1
1958	No Data	283.35	562017.1	1958	283.35	562016.2
1956	No Data	276.89	549211.0	1956	276.89	549203.0
1954	No Data	270.53	536592.1	1954	270.53	536588.1
1952	No Data	264.27	524179.6	1952	264.27	524171.6
1950	512000.0	258.13	511993.1	1950	258.13	511993.1
1948	No Data	252.10	500040.5	1948	252.10	500032.8
1946	No Data	246.18	488298.8	1946	246.18	488290.6
1944	No Data	240.35	476733.2	1944	240.35	476727.0
1942	No Data	234.59	465309.4	1942	234.59	465302.2
1940	454000.0	228.89	453996.4	1940	228.89	453996.4
1935	No Data	214.82	426095.2	1935	214.82	426089.0
1930	399000.0	201.16	398994.8	1930	201.16	398994.8
1925	No Data	188.03	372959.7	1925	188.03	372951.9
1920	348000.0	175.45	347999.8	1920	175.45	347999.8
1915	No Data	163.37	324031.9	1915	163.37	324039.5
1910	301000.0	151.75	300991.6	1910	151.75	300991.6

WCPBB	
1905	*No Data*
1900	258000.0
1890	220000.0
1875	168000.0
1860	126000.0
1850	103000.0
1840	85900.0
1830	71300.0
1820	58200.0
1810	46300.0
1795	31000.0
1780	18800.0
1770	12700.0
1760	7980.0
1750	4580.0
1740	2390.0
1730	990.0
1720	300.0
1710	76.0
1685	0.0

Level Storage Tables	
140.60	278883.5
130.07	257989.9
110.92	220006.5
84.70	167999.9
63.52	125990.0
51.93	103001.6
43.31	85904.1
35.95	71305.7
29.34	58195.0
23.34	46294.2

Tribroute Table		
1905	140.60	278875.9
1900	130.07	257989.9

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 2 – Watauga Reservoir Volume Check

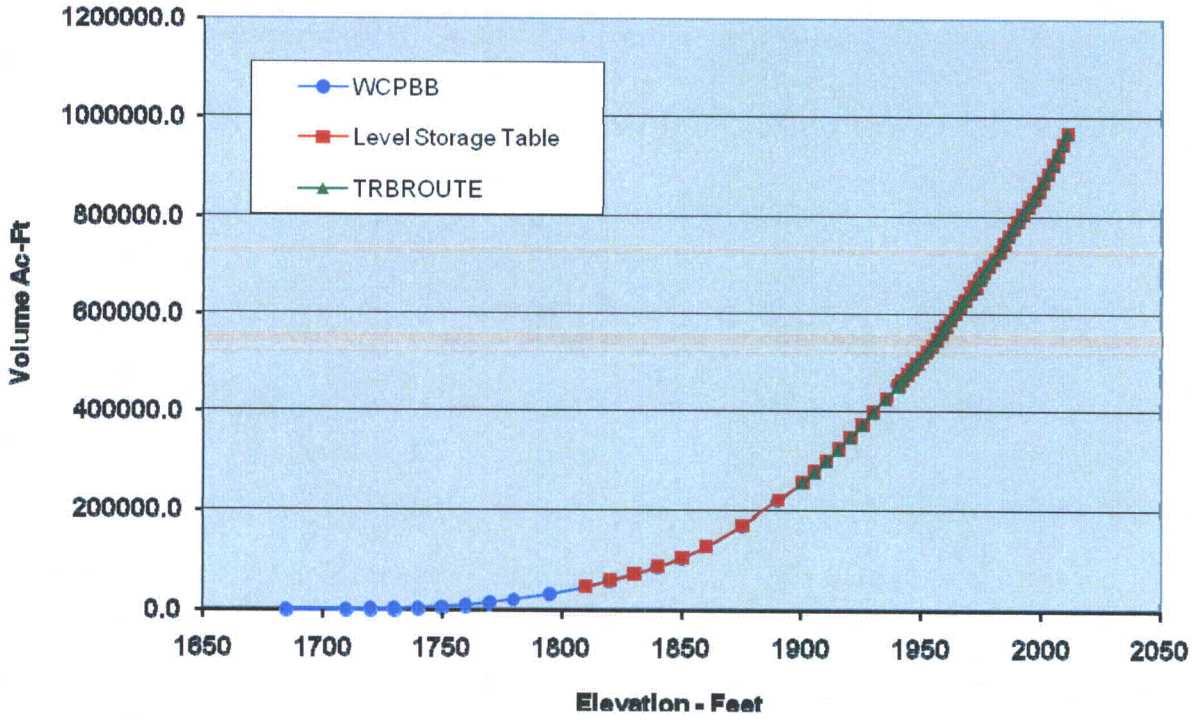


Table 3 - Boone Reservoir Volume Curve Check Table (Based on 1964 Survey)

WCPBB	
Elevation	Ac-Ft
1408	No Data
1405	No Data
1400	No Data
1396	No Data
1392	No Data
1390	No Data
1388	No Data
1386	No Data
1385	193446.0
1384	No Data
1382	No Data
1380	172318.0
1378	No Data
1376	No Data
1374	No Data
1372	No Data
1370	136260.0
1368	No Data
1366	No Data
1364	No Data
1362	No Data
1360	106346.0
1358	No Data
1356	No Data
1354	No Data
1352	No Data
1350	81987.0
1348	No Data
1346	No Data
1340	61778.0
1330	44998.0
1320	31352.0
1310	20569.0
1300	12305.0
1290	6382.0
1280	2561.0
1270	561.0
1260	24.0
1254.9	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
154.70	306842.8
146.82	291213.1
133.84	265467.6
123.68	245315.6
113.83	225778.4
109.03	216257.7
104.34	206955.3
99.77	197887.7
97.53	193447.8
95.32	189063.7
91.01	180523.3
86.88	172323.9
82.92	164475.5
79.15	156983.6
75.53	149805.9
72.05	142908.6
68.70	136264.4
65.45	129826.7
62.32	123614.0
59.30	117625.6
56.40	111867.2
53.62	106353.7
50.95	101059.2
48.40	95998.1
45.95	91143.7
43.60	86478.7
41.33	81976.8
39.15	77649.8
37.04	73464.7
31.15	61785.1
22.69	45004.9
15.81	31358.7

DSF x 1000 = 1000 Day Second Feet

DSF x 1000 x 1.98347 = AC-FT

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1408	154.70	306842.8
1405	146.82	291213.1
1400	133.84	265467.6
1396	123.68	245315.6
1392	113.83	225778.4
1390	109.03	216257.7
1388	104.34	206955.3
1386	99.77	197890.8
1385	97.53	193447.8
1384	95.32	189064.4
1382	91.01	180515.6
1380	86.88	172323.9
1378	82.92	164469.3
1376	79.15	156991.7
1374	75.53	149811.5
1372	72.05	142909.0
1370	68.70	136264.4
1368	65.35	129619.8
1366	62.32	123609.9
1364	59.30	117619.8
1362	56.40	111867.7
1360	53.62	106353.7
1358	50.95	101057.8
1356	48.40	95999.9
1354	45.95	91140.4
1352	43.60	86479.3
1350	41.33	81976.8
1348	39.15	77652.9
1346	37.04	73467.7

Graph 3 – Boone Reservoir Volume Check

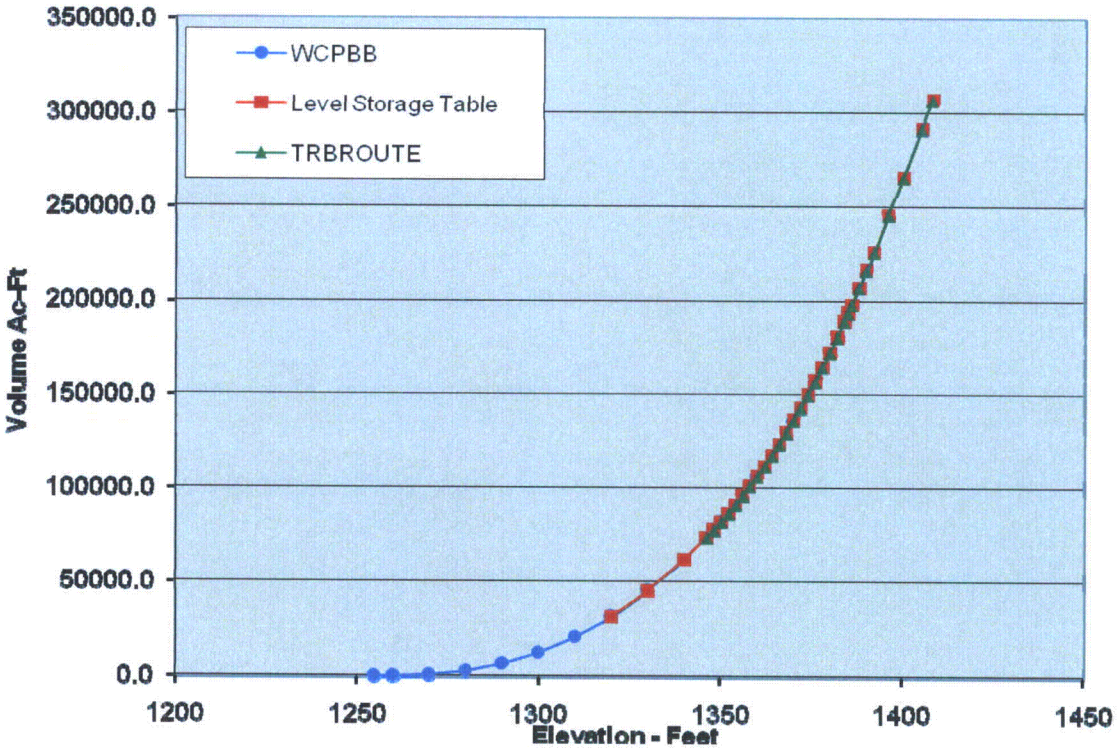


Table 4 - Fort Patrick Henry Reservoir Volume Curve Check Table (Based on 1964 Survey)

WCPBB	
Elevation	Ac-Ft
1275	No Data
1274.5	No Data
1270	No Data
1268	31500.0
1266	No Data
1264	No Data
1263	26900.0
1262	No Data
1261	No Data
1260	No Data
1259	No Data
1258	No Data
1257	No Data
1256	No Data
1255	No Data
1254	No Data
1253	No Data
1252	No Data
1250	16700.0
1240	11100.0
1230	6670.0
1220	3410.0
1210	1250.0
1200	290.0
1190	30.0
1180	2.0
1173	0.0

Level Storage Tables	
DSF*(1000)	Ac-Ft
19.71	39099.4
19.41	38499.2
16.89	33500.8
15.88	31497.5
14.92	29601.0
14.01	27785.4
13.56	26895.9
13.12	26024.3
12.68	25159.8
12.25	24307.3
11.83	23468.1
11.42	22643.2
11.01	21833.8
10.61	21041.0
10.22	20266.1
9.84	19510.2
9.47	18774.5
9.11	18060.0
8.42	16700.8
5.60	11107.4
3.36	6664.5
1.72	3411.6

Tribroute Table		
Elevation	DSF	Ac-Ft
1275	19.71	39094.2
1274.5	19.41	38499.8
1270	16.89	33500.8
1268	15.88	31499.5
1266	14.92	29593.4
1264	14.01	27788.4
1263	13.56	26895.9
1262	13.12	26023.1
1261	12.69	25170.2
1260	12.27	24337.2
1259	11.85	23504.1
1258	11.44	22690.9
1257	11.04	21897.5
1256	10.64	21104.1
1255	10.25	20330.6
1254	9.86	19557.0
1253	9.48	18803.3
1252	9.12	18089.2

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 4 – Fort Patrick Henry Reservoir Volume Check

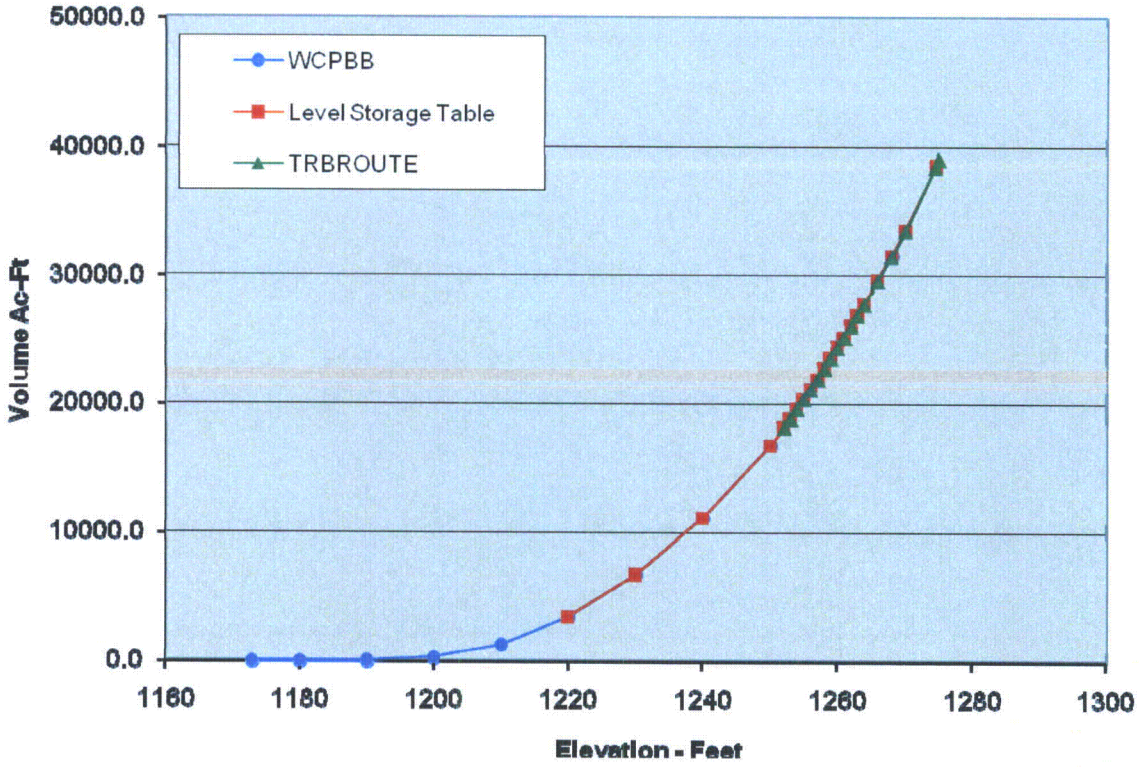


Table 5 – Cherokee Reservoir Volume Curve Check Table (Based on 1964 Survey)

WCPBB	
Elevation	Ac-Ft
1092	No Data
1090	No Data
1088	No Data
1086	No Data
1084	No Data
1082	No Data
1080	No Data
1078	No Data
1076	No Data
1075	1541000.0
1074	No Data
1072	No Data
1070	No Data
1068	No Data
1066	No Data
1064	No Data
1062	No Data
1060	1128000.0
1058	No Data
1056	No Data
1054	No Data
1052	No Data
1050	No Data
1048	No Data
1046	No Data
1044	No Data
1042	No Data
1040	696000.0
1038	No Data
1036	No Data
1034	No Data
1032	No Data
1030	No Data
1028	No Data
1026	No Data
1024	No Data
1022	No Data
1020	393000.0
1000	199000.0
990	132000.0
980	83600.0
970	50000.0
960	27400.0

Level Storage Tables	
DSF*1000	Ac-Ft
1115.20	2211965.7
1062.94	2108309.6
1014.86	2012944.4
970.63	1925215.5
929.87	1844369.2
892.16	1769572.6
857.00	1699833.8
823.87	1634121.4
792.29	1571475.7
776.91	1540977.7
761.74	1510882.8
731.97	1451834.5
702.95	1394282.6
674.68	1338198.9
647.13	1283555.3
620.29	1230323.5
594.15	1178475.5
568.69	1127979.6
543.91	1078822.6
519.79	1030988.9
496.34	984481.1
473.56	939298.4
451.45	895440.2
430.01	852905.7
409.23	811694.1
389.12	771804.7
369.67	733236.8
350.89	695979.8
332.78	660059.1
315.32	625430.0
298.51	592083.4
282.33	560000.5
266.79	529162.7
251.86	499551.2
237.54	471147.4
223.82	443932.3
210.69	417887.5
198.13	392984.9
100.33	199001.5
66.55	131999.9
42.15	83603.3

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1092	1115.20	2211965.7
1090	1062.94	2108309.6
1088	1014.86	2012944.4
1086	970.63	1925215.5
1084	929.87	1844369.2
1082	892.16	1769572.6
1080	857.00	1699833.8
1078	823.87	1634121.4
1076	792.29	1571483.4
1075	776.91	1540977.7
1074	761.74	1510888.4
1072	731.97	1451840.5
1070	702.95	1394280.2
1068	674.68	1338207.5
1066	647.13	1283562.9
1064	620.29	1230326.6
1062	594.15	1178478.7
1060	568.69	1127979.6
1058	543.91	1078829.2
1056	519.79	1030987.9
1054	496.34	984475.5
1052	473.56	939292.1
1050	451.07	894683.8
1048	430.01	852911.9
1046	409.23	811695.4
1044	389.12	771807.8
1042	369.67	733229.4
1040	350.89	695979.8
1038	332.78	660059.1
1036	315.32	625427.8
1034	298.51	592085.6
1032	282.33	559993.1
1030	266.79	529170.0
1028	251.86	499556.8
1026	237.54	471153.5
1024	223.82	443940.3
1022	210.69	417897.3
1020	198.13	392984.9

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

WCPBB	
950	12600.0
940	4780.0
930	1190.0
920	13.0
910	0.0

Graph 5 – Cherokee Reservoir Volume Check

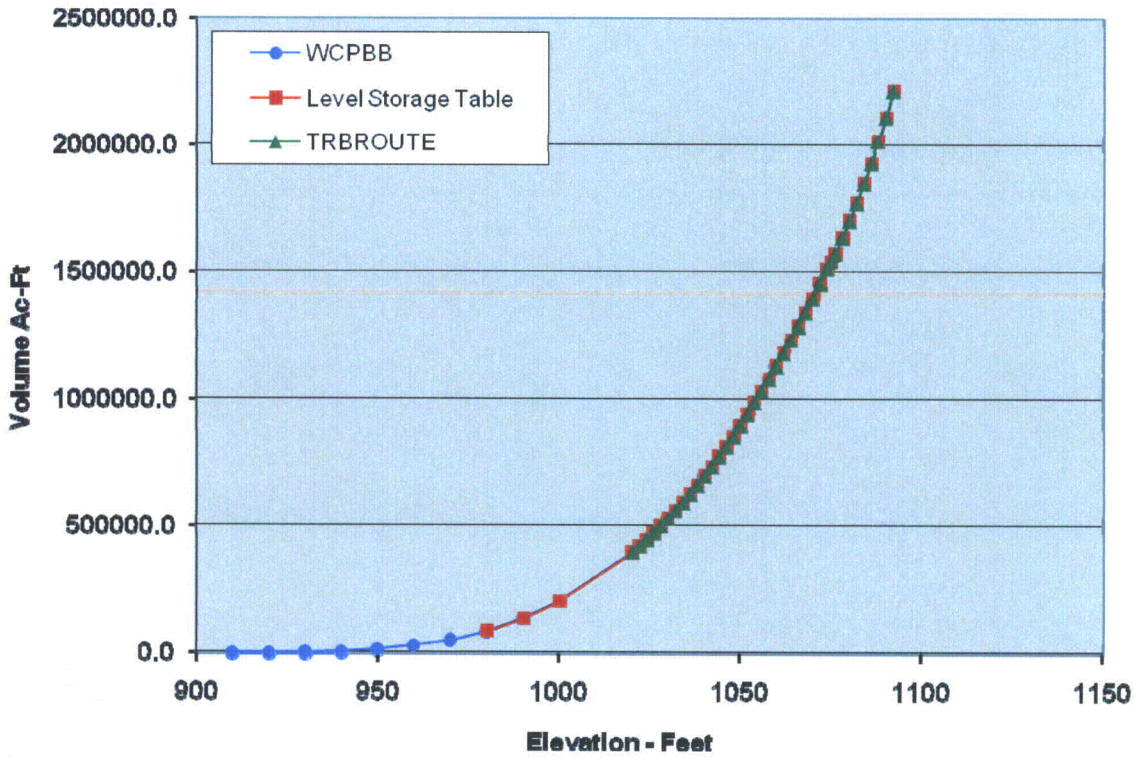


Table 6 – Douglas Reservoir Volume Curve Check Table (Based on 1981 Survey)

WCPBB	
Elevation	Ac-Ft*
1020	No Data
1018	No Data
1016	No Data
1014	No Data
1012	No Data
1010	No Data
1008	No Data
1006	No Data
1004	No Data
1002	1461000.0
1000	No Data
995	No Data
990	1113000.0
985	No Data
980	866000.0
975	No Data
970	654000.0
965	No Data
960	472000.0
955	No Data
950	324000.0
945	No Data
940	210000.0
930	131000.0
920	76100.0
910	39800.0

Level Storage Tables	
DSF*1000	Ac-Ft
1132.15	2245585.6
1077.72	2137626.7
1024.92	2032899.9
974.11	1932125.3
925.78	1836261.9
880.53	1746504.8
838.97	1664071.8
801.66	1590068.0
768.07	1523443.5
736.58	1460984.3
705.80	1399936.1
631.25	1252074.3
561.13	1112984.5
496.36	984519.4
436.60	865983.0
381.21	756128.2
329.72	653989.7
281.84	559023.8
237.96	471986.5
198.50	393725.4
163.35	323999.8
132.36	262538.2
105.87	209990.0
66.04	130988.4
38.37	76105.7
20.07	39808.2

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1020	1132.15	2245585.6
1018	1077.72	2137625.3
1016	1024.92	2032898.1
1014	974.11	1932118.0
1012	925.78	1836256.9
1010	880.53	1746504.8
1008	838.97	1664071.8
1006	801.66	1590068.6
1004	768.07	1523443.8
1002	736.58	1460984.3
1000	705.8	1399933.1
995	631.25	1252065.4
990	561.13	1112984.5
985	496.36	984515.2
980	436.6	865983.0
975	381.21	756118.6
970	329.72	653989.7
965	281.84	559021.2
960	237.96	471986.5
955	198.5	393718.8
950	163.35	323999.8
945	132.36	262532.1
940	105.87	209990.0

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 6 – Douglas Reservoir Volume Check

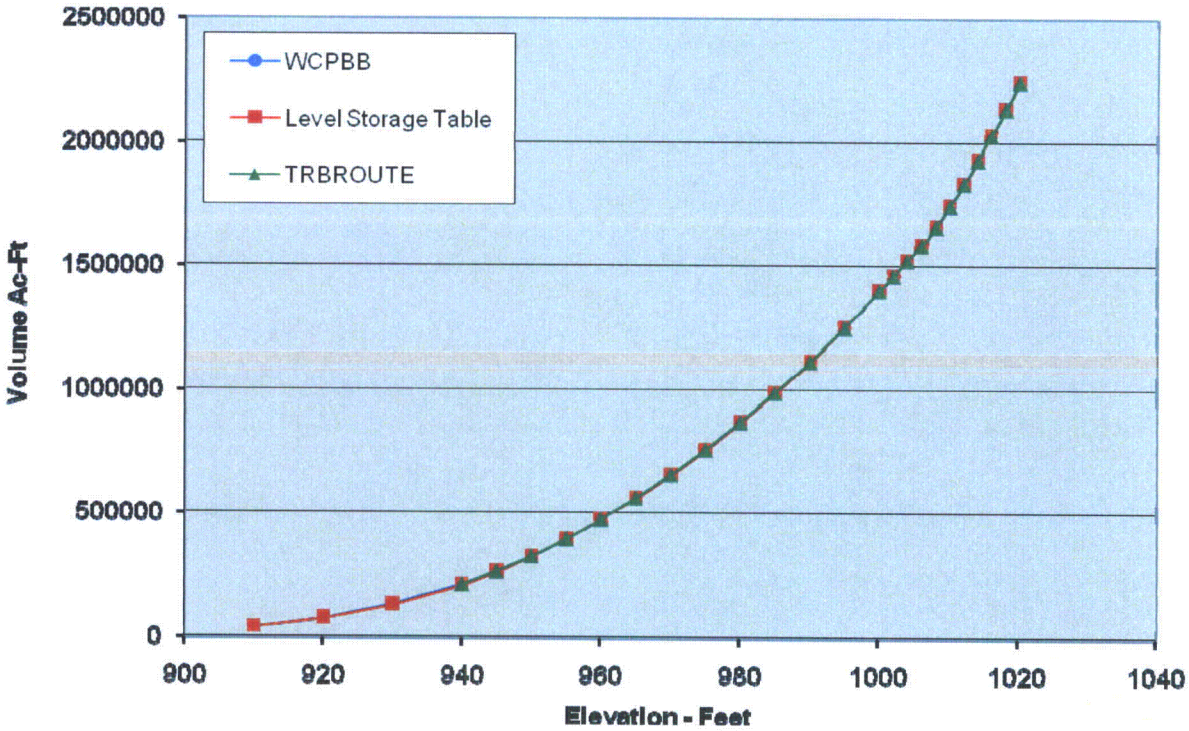


Table 7 - Fort Loudoun Reservoir Volume Curve Check Table (Based on 1981 Survey)

WCPBB	
Elevation	Ac-Ft
900	*No Data*
880	*No Data*
860	*No Data*
840	*No Data*
820	477000.0
815	393000.0
813	363000.0
807	282000.0
802	227000.0
796	172000.0
790	128000.0
780	75700.0
770	41600.0
760	19600.0
750	7450.0
740	1690.0
730	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
No Data	*No Data*
No Data	*No Data*
No Data	*No Data*
478.95	949985.7
240.48	476984.9
198.13	392984.9
183.01	362994.8
142.17	281989.9
114.44	226988.3

DSF x 1000 = 1000 Day Second Feet

DSF x 1000 x 1.98347 = AC-FT

Extended GIS Volumes		
Elevation	DSF*1000	Ac-Ft
900	2494.16	4947090.0
880	1653.04	3278760.0
860	955.60	1895400.0
840	506.98	1005580.0
820	240.15	476330.0
813	183.01	363000.0

Graph 7 – Fort Loudoun Reservoir Volume Check

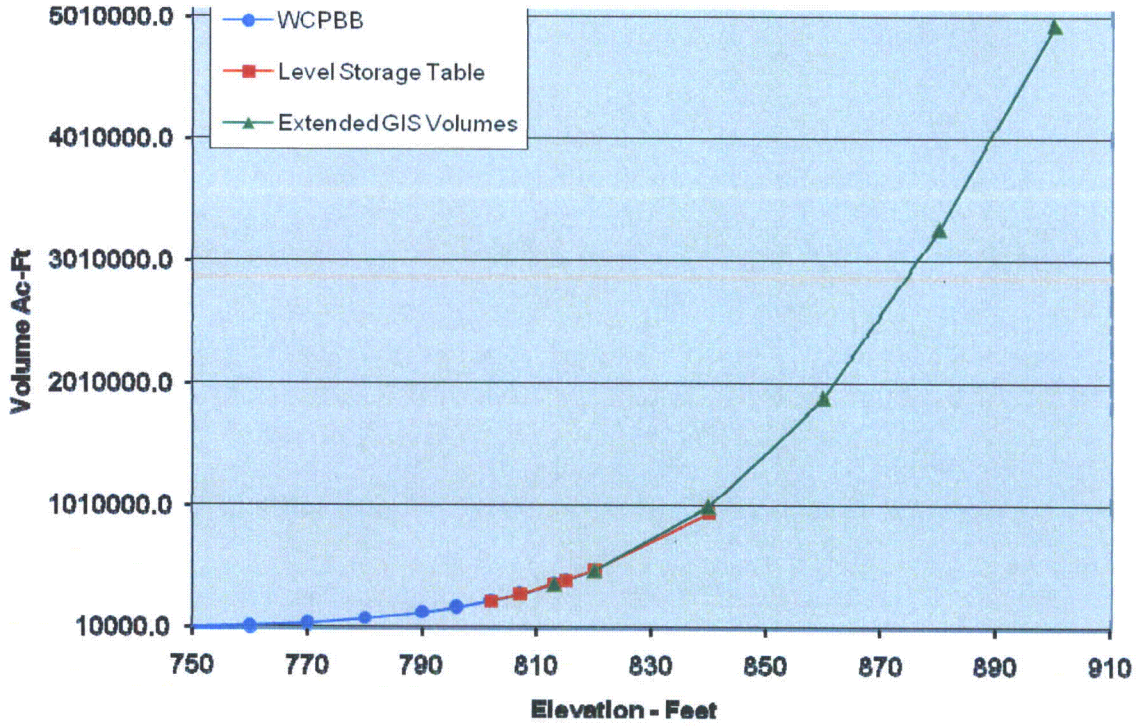


Table 8 – Fontana Reservoir Volume Curve Check Table (Based on 1967 Survey)

WCPBB	
Elevation	Ac-Ft
1737	No Data
1735	No Data
1730	No Data
1725	No Data
1720	No Data
1715	No Data
1710	1443000.0
1705	No Data
1700	1339000.0
1695	No Data
1690	No Data
1688	No Data
1686	No Data
1684	No Data
1682	No Data
1680	1150000.0
1678	No Data
1676	No Data
1674	No Data
1672	No Data
1670	No Data
1668	No Data
1666	No Data
1664	No Data
1662	No Data
1660	983000.0
1655	No Data
1650	No Data
1645	No Data
1640	835000.0
1635	No Data
1630	No Data
1625	No Data
1620	706000.0
1600	593000.0
1580	497000.0
1560	415000.0
1540	343000.0
1520	282000.0
1500	226000.0

Level Storage Tables	
DSF*1000	Ac-Ft
894.17	1773559.4
879.54	1744541.2
844.97	1675972.6
812.91	1612384.8
782.96	1552977.7
754.68	1496889.6
727.50	1442974.4
700.94	1390296.8
675.07	1338981.1
650.05	1289346.2
625.86	1241374.0
616.41	1222626.2
607.08	1204120.0
597.87	1185848.7
588.77	1167805.2
579.78	1149976.2
570.91	1132375.1
562.14	1114978.2
553.47	1097788.6
544.91	1080803.0
536.44	1064018.1
528.08	1047430.4
519.81	1031036.7
511.65	1014833.5
503.57	998817.5
495.59	982987.9
476.04	944201.9
457.07	906583.1
438.71	870166.0
420.97	834981.4
403.87	801062.4
387.36	768317.8
371.40	736658.5
355.94	705996.3
298.97	592998.0
250.57	496998.1
209.23	415001.4
172.93	343001.5
142.17	281989.9
113.94	225996.6

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1737	894.17	1773559.4
1735	879.54	1744541.2
1730	844.97	1675972.6
1725	812.91	1612382.6
1720	782.96	1552977.7
1715	754.68	1496885.1
1710	727.5	1442974.4
1705	700.94	1390293.5
1700	675.07	1338981.1
1695	650.05	1289354.7
1690	625.86	1241374.5
1688	616.41	1222630.7
1686	607.08	1204125.0
1684	597.87	1185857.2
1682	588.77	1167807.6
1680	579.78	1149976.2
1678	570.91	1132382.9
1676	562.14	1114987.8
1674	553.47	1097791.1
1672	544.91	1080812.6
1670	536.44	1064012.6
1668	528.08	1047430.8
1666	519.81	1031027.5
1664	511.65	1014842.4
1662	503.57	998816.0
1660	495.59	982987.9
1655	476.04	944211.1
1650	457.07	906584.6
1645	438.71	870168.1
1640	420.97	834981.4
1635	403.87	801064.0
1630	387.36	768316.9
1625	371.4	736660.8
1620	355.94	705996.3

WCPBB	
1480	178000.0
1460	136000.0
1440	100000.0
1420	70800.0
1400	46900.0
1380	28700.0
1360	16100.0
1340	8030.0
1320	2770.0
1300	210.0
1291	0.0

Level Storage Tables	
89.74	177996.6
68.57	136006.5

DSF x 1000 = 1000 Day Second Feet

DSF x 1000 x 1.98347 = AC-FT

Graph 8 – Fontana Reservoir Volume Check

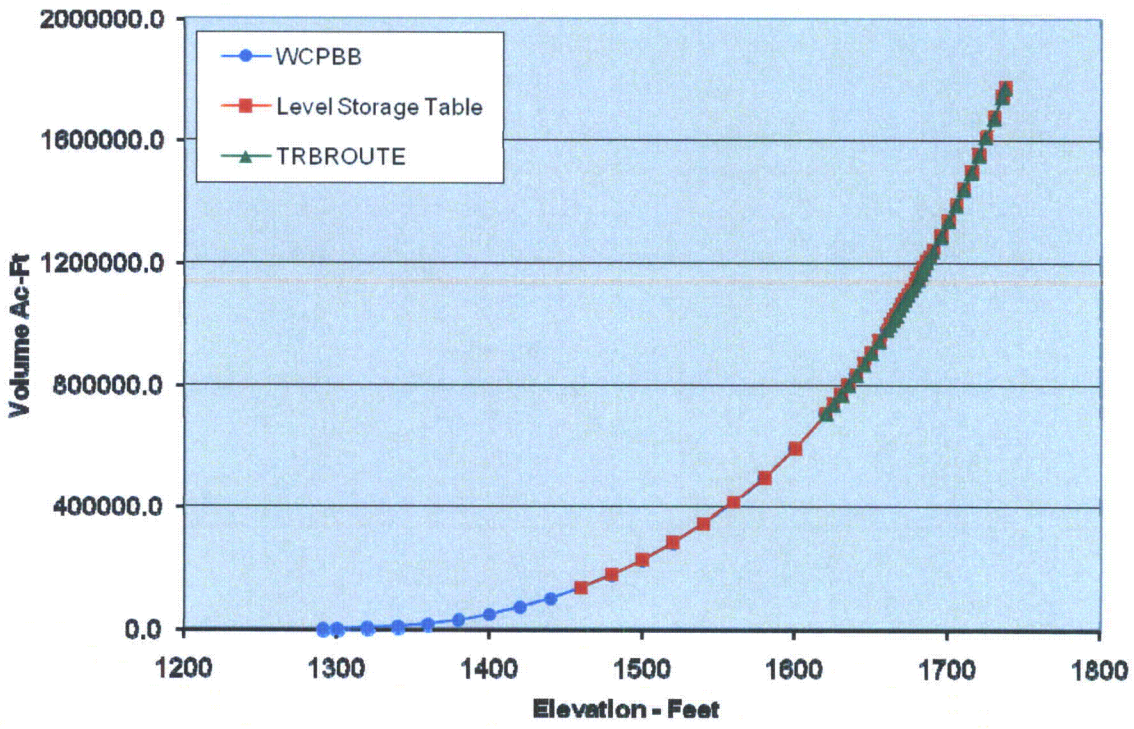


Table 9 – Norris Reservoir Volume Curve Check Table (Based on 1970 Survey)

WCPBB	
Elevation	Ac-Ft
1060	No Data
1055	No Data
1050	No Data
1048	No Data
1046	No Data
1044	No Data
1042	No Data
1040	No Data
1038	No Data
1036	No Data
1034	2552000.0
1032	No Data
1030	2398000.0
1028	No Data
1026	No Data
1024	No Data
1022	No Data
1020	2040000.0
1018	No Data
1016	No Data
1014	No Data
1012	No Data
1010	1721000.0
1008	No Data
1006	No Data
1004	No Data
1002	No Data
1000	1439000.0
995	No Data
990	1191000.0
985	No Data
980	975000.0
975	No Data
970	789000.0
960	630000.0
950	494000.0
940	382000.0
930	290000.0
920	217000.0
910	159000.0
900	113000.0
890	78600.0
880	52600.0

Level Storage Tables	
DSF*1000	Ac-Ft
1903.44	3775416.1
1772.41	3515522.1
1645.07	3262947.0
1595.60	3164830.0
1547.20	3068823.0
1500.04	2975277.3
1454.29	2884540.1
1410.13	2796950.6
1367.66	2712707.0
1326.60	2631270.7
1286.61	2551952.3
1247.42	2474216.6
1208.97	2397955.7
1171.30	2323246.9
1134.42	2250081.3
1098.31	2178474.6
1063.00	2108434.6
1028.49	2039979.1
994.76	1973081.6
961.83	1907757.2
929.67	1843977.1
898.29	1781722.4
867.66	1720977.6
837.78	1661712.3
808.64	1603909.6
780.22	1547538.4
752.50	1492570.7
725.49	1438987.7
660.90	1310871.0
600.45	1190974.6
544.05	1079101.6
491.56	974994.5
442.85	878375.4
397.78	788984.7
317.62	629989.7
249.05	493983.2
192.59	381996.5
146.21	290003.1
109.40	216991.6
80.16	158995.0
56.97	112998.3
39.63	78604.9
26.52	52601.6

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1060	1903.44	3775416.14
1055	1772.41	3515522.06
1050	1645.07	3262946.99
1048	1595.60	3164824.73
1046	1547.20	3068824.78
1044	1500.04	2975284.34
1042	1454.29	2884540.59
1040	1410.13	2796950.55
1038	1367.66	2712712.58
1036	1326.60	2631271.3
1034	1286.61	2551952.34
1032	1247.42	2474220.15
1030	1208.97	2397955.73
1028	1171.32	2323278.08
1026	1134.42	2250088.04
1024	1098.33	2178504.61
1022	1063.01	2108448.44
1020	1028.49	2039979.06
1018	994.76	1973076.62
1016	961.84	1907780.78
1014	929.67	1843972.55
1012	898.29	1781731.27
1010	867.66	1720977.58
1008	837.78	1661711.5
1006	808.64	1603913.18
1004	780.22	1547542.96
1002	752.50	1492561.18
1000	725.49	1438987.65
995	660.90	1310875.32
990	600.45	1190974.56
985	544.05	1079106.85
980	491.56	974994.513
975	442.85	878379.69
970	397.78	788984.697

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

WCPBB	
870	33300.0
860	19900.0
850	10600.0
840	4650.0
830	1320.0

Level Storage Tables	
16.79	33302.5
10.03	19894.2
5.34	10591.7
2.34	4641.3
0.67	1328.9

Graph 9 – Norris Reservoir Volume Check

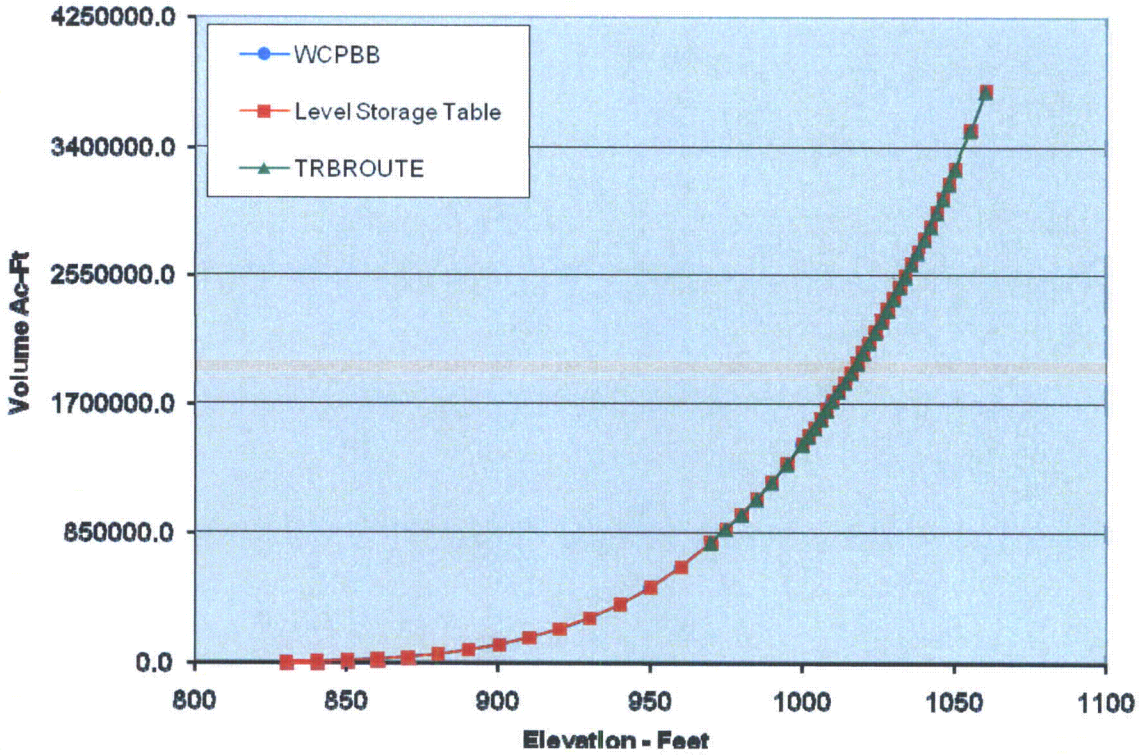


Table 10 - Tellico Reservoir Volume Curve Check Table (Based on 1999 Blue Book)

WCPBB	
Elevation	Ac-Ft
900	No Data
880	No Data
860	No Data
840	No Data
820	538600.0
815	424000.0
813	392000.0
810	346600.0
809	332000.0
790	133100.0
780	71000.0
770	37100.0
760	18000.0
750	7200.0
740	1700.0
730	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
No Data	No Data
No Data	No Data
No Data	No Data
473.91	939985.9
259.14	513996.4
213.77	424006.4
197.63	391993.2
174.72	346551.9
167.39	332013.0

Extended GIS Volumes		
Elevation	DSF*1000	Ac-Ft
900	2142.10	4248783.5
880	1438.11	2852453.5
860	906.31	1797643.5
840	527.06	1045413.5
820	271.71	538923.5
813	209.03	414600.0

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 10 – Tellico Reservoir Volume Check

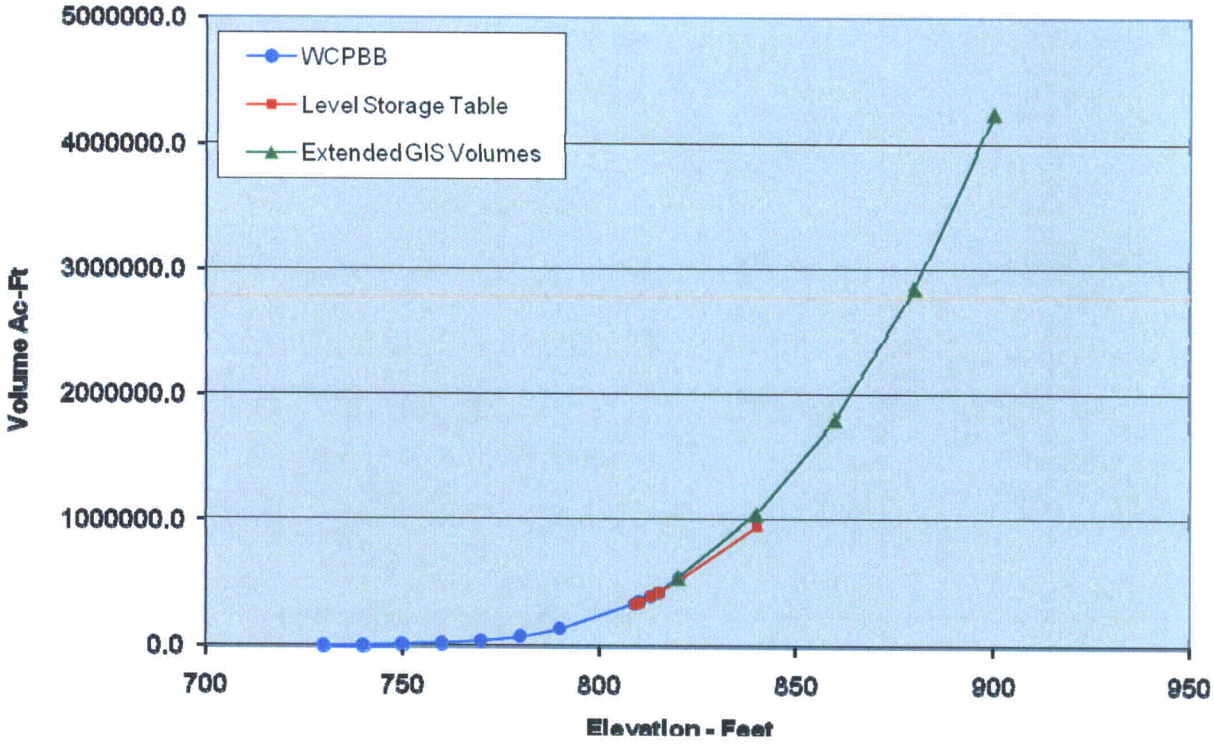


Table 11 - Watts Bar Reservoir Volume Curve Check Table (Based on 1961 Survey)

WCPBB	
Elevation	Ac-Ft
820	*No Data*
800	*No Data*
780	*No Data*
760	*No Data*
745	1175000.0
741	1010000.0
735	796000.0
730	646000.0
722	445000.0
720	400000.0
710	223000.0
700	114000.0
690	52000.0
680	24800.0
670	10700.0
660	3900.0
650	990.0
640	59.0
636	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
No Data	*No Data*
No Data	*No Data*
No Data	*No Data*
957.90	1899971.5
592.39	1174987.8
509.20	1009982.9
401.31	795986.3
325.69	645996.3

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Extended GIS Volumes		
Elevation	DSF*1000	Ac-Ft
820	3903.12	7741727.5
800	2668.88	5293637.5
780	1697.01	3365967.5
760	976.50	1936867.5
741	509.21	1010000.0

Graph 11 – Watts Bar Reservoir Volume Check

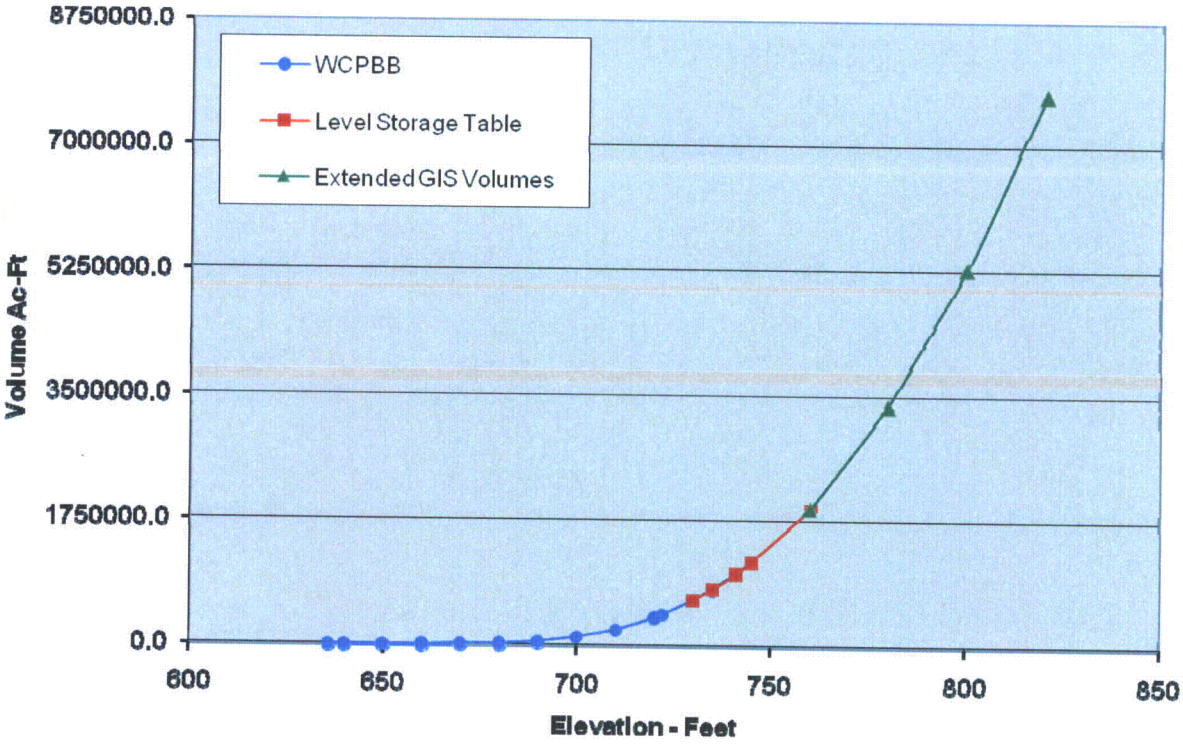


Table 12 - Chatuge Reservoir Volume Curve Check Table (Based on 1965 Survey)

WCPBB	
Elevation	Ac-Ft
1940	No Data
1938	No Data
1936	No Data
1934	No Data
1933	278400.0
1932	No Data
1930	No Data
1928	240500.0
1926	No Data
1924	No Data
1922	No Data
1920	189100.0
1918	No Data
1916	No Data
1914	No Data
1912	No Data
1910	138400.0
1908	No Data
1906	No Data
1904	No Data
1902	No Data
1900	99100.0
1898	No Data
1896	No Data
1894	No Data
1892	No Data
1890	68800.0
1880	46100.0
1870	29900.0
1860	18400.0
1850	10300.0
1840	4900.0
1830	1900.0
1820	500.0
1810	50.0
1804	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
170.00	337189.9
161.25	319832.1
152.71	302895.1
144.41	286433.2
140.36	278399.8
136.38	270496.5
128.64	255154.6
121.25	240495.7
114.24	226589.7
107.60	213415.1
101.30	200931.3
95.34	189104.0
89.68	177872.6
84.31	167223.4
79.21	157116.6
74.37	147519.1
69.78	138406.5
65.40	129722.7
61.24	121473.0
57.29	113630.9
53.53	106178.7
49.96	99094.2
46.57	92373.6
43.35	85992.0
40.30	79942.9
37.42	74215.5
34.69	68806.6
23.24	46095.8

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1940	170.00	337189.9
1938	161.25	319834.5
1936	152.71	302895.7
1934	144.41	286432.9
1933	140.36	278399.8
1932	136.38	270505.6
1930	128.64	255153.6
1928	121.25	240495.7
1926	114.24	226591.6
1924	107.60	213421.4
1922	101.30	200925.5
1920	95.34	189104.0
1918	89.68	177877.6
1916	84.31	167226.4
1914	79.21	157110.7
1912	74.37	147510.7
1910	69.78	138406.5
1908	65.40	129718.9
1906	61.24	121467.7
1904	57.29	113633.0
1902	53.53	106175.1
1900	49.96	99094.2
1898	46.57	92370.2
1896	43.35	85983.4
1894	40.30	79933.8
1892	37.42	74221.4
1890	34.69	68806.6

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 12 – Chatuge Reservoir Volume Check

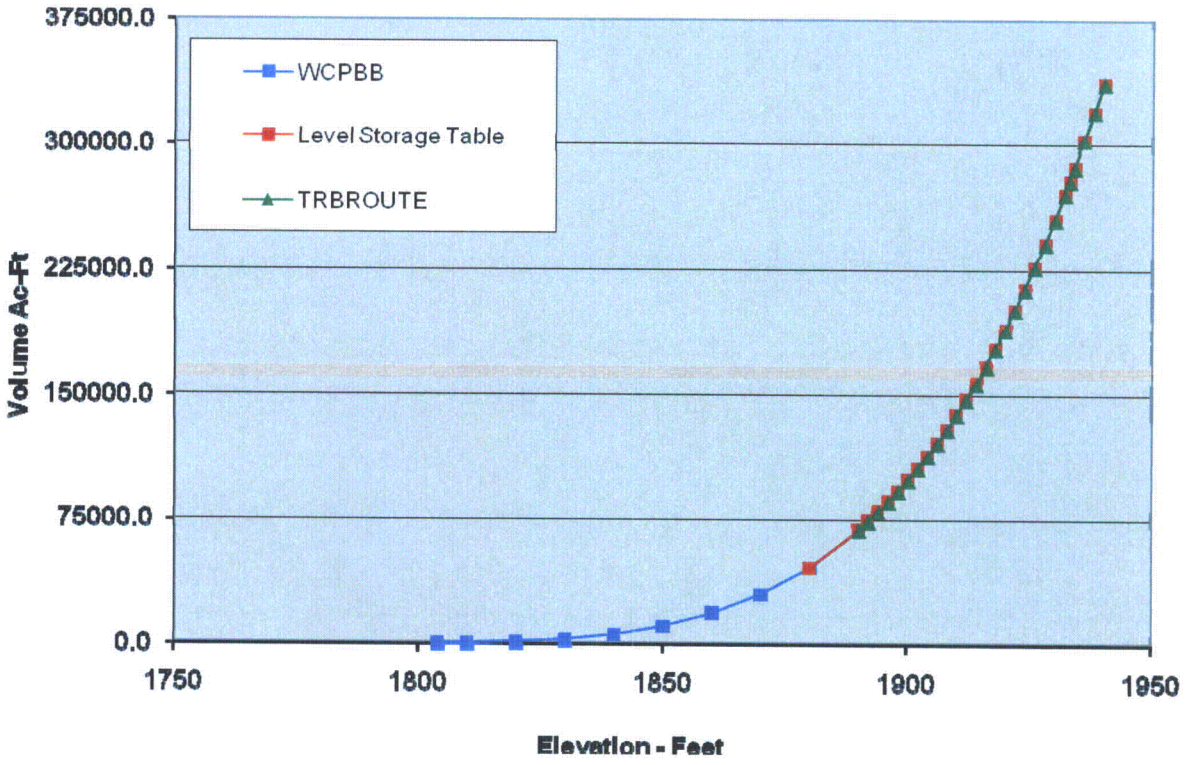


Table 13 - Nottely Reservoir Volume Curve Check Table (Based on 1965 Survey)

WCPBB	
Elevation	Ac-Ft
1807	No Data
1805	No Data
1800	No Data
1795	No Data
1790	No Data
1785	197300.0
1780	174300.0
1775	154300.0
1770	136700.0
1765	No Data
1760	107400.0
1755	No Data
1750	84200.0
1745	No Data
1740	65300.0
1735	No Data
1730	49800.0
1725	No Data
1720	37100.0
1715	No Data
1710	26800.0
1700	19000.0
1690	12700.0
1680	8140.0
1670	4860.0
1660	2530.0
1650	1000.0
1640	306.0
1630	101.0
1620	9.0
1612	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
160.13	317613.1
153.82	305097.4
138.89	275482.2
124.98	247894.1
111.88	221914.7
99.47	197295.8
87.87	174287.5
77.79	154294.1
68.92	136700.8
61.08	121149.1
54.15	107404.9
47.98	95165.0
42.45	84198.3
37.45	74282.1
32.92	65295.8
28.82	57162.3
25.11	49804.9
21.75	43138.5
18.70	37090.9
15.95	31629.6
13.51	26796.7

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1807	160.13	317613.1
1805	153.82	305097.4
1800	138.89	275484.1
1795	124.98	247894.1
1790	111.88	221910.6
1785	99.47	197295.8
1780	87.87	174287.5
1775	77.79	154294.1
1770	68.92	136700.8
1765	61.08	121150.3
1760	54.15	107404.9
1755	47.98	95166.9
1750	42.45	84198.3
1745	37.45	74281.0
1740	32.92	65295.8
1735	28.82	57163.6
1730	25.11	49804.9
1725	21.75	43140.5
1720	18.7	37090.9
1715	15.95	31636.3
1710	13.51	26796.7

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 13 – Nottely Reservoir Volume Check

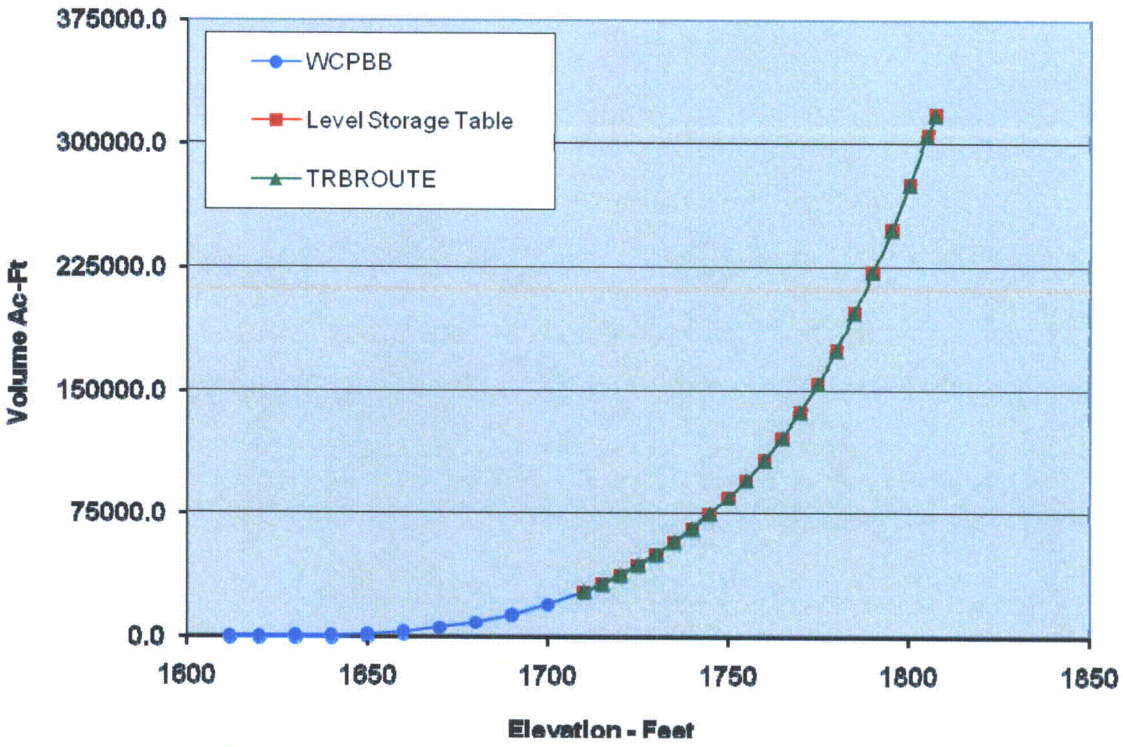


Table 14 - Hiwassee Reservoir Volume Curve Check Table (Based on 1965 Survey)

WCPBB	
Elevation	Ac-Ft
1543	No Data
1540	No Data
1535	No Data
1530	No Data
1526.5	434000.0
1525	No Data
1520	393000.0
1515	No Data
1510	339000.0
1505	No Data
1500	290000.0
1495	No Data
1490	247000.0
1485	No Data
1480	211000.0
1475	No Data
1470	178000.0
1465	No Data
1460	151000.0
1455	No Data
1450	128000.0
1445	No Data
1440	108000.0
1435	No Data
1430	91900.0
1420	77900.0
1410	65600.0
1400	54400.0
1390	44200.0
1380	35100.0
1370	27200.0
1360	20300.0
1350	14800.0
1340	10200.0
1330	6610.0
1320	4000.0
1310	2290.0
1300	1160.0
1290	430.0
1280	90.0
1270	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
278.80	552991.4
266.82	529229.5
248.05	491992.6
230.54	457269.2
218.81	434003.1
213.87	424209.2
198.13	392984.9
183.98	364918.9
170.91	338994.9
158.29	313969.0
146.21	290003.1
134.89	267551.6
124.53	247001.5
115.16	228425.6
106.38	211001.5
97.80	193975.1
89.74	177996.6
82.57	163781.2
76.13	151001.6
70.15	139135.1
64.53	127993.3
59.26	117540.8
54.45	107999.9
50.19	99553.5
46.33	91894.2
39.27	77890.9
33.07	65593.4
27.43	54406.6
22.28	44191.7
17.70	35107.4
13.71	27193.4
10.23	20290.9
7.46	14796.7
5.14	10195.0
3.33	6605.0

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1543	278.80	552991.4
1540	266.82	529229.5
1535	248.05	491999.7
1530	230.54	457269.2
1526.5	218.81	434003.1
1525	214.29	425037.8
1520	198.13	392984.9
1515	183.91	364780.0
1510	170.91	338994.9
1505	158.21	313804.8
1500	146.21	290003.1
1495	134.96	267689.1
1490	124.53	247001.5
1485	115.14	228376.7
1480	106.38	211001.5
1475	97.78	193943.7
1470	89.74	177996.6
1465	82.62	163874.3
1460	76.13	151001.6
1455	70.11	139061.1
1450	64.53	127993.3
1445	59.27	117560.3
1440	54.45	107999.9
1435	50.20	99570.2
1430	46.33	91894.2

Graph 14 – Hiwassee Reservoir Volume Check

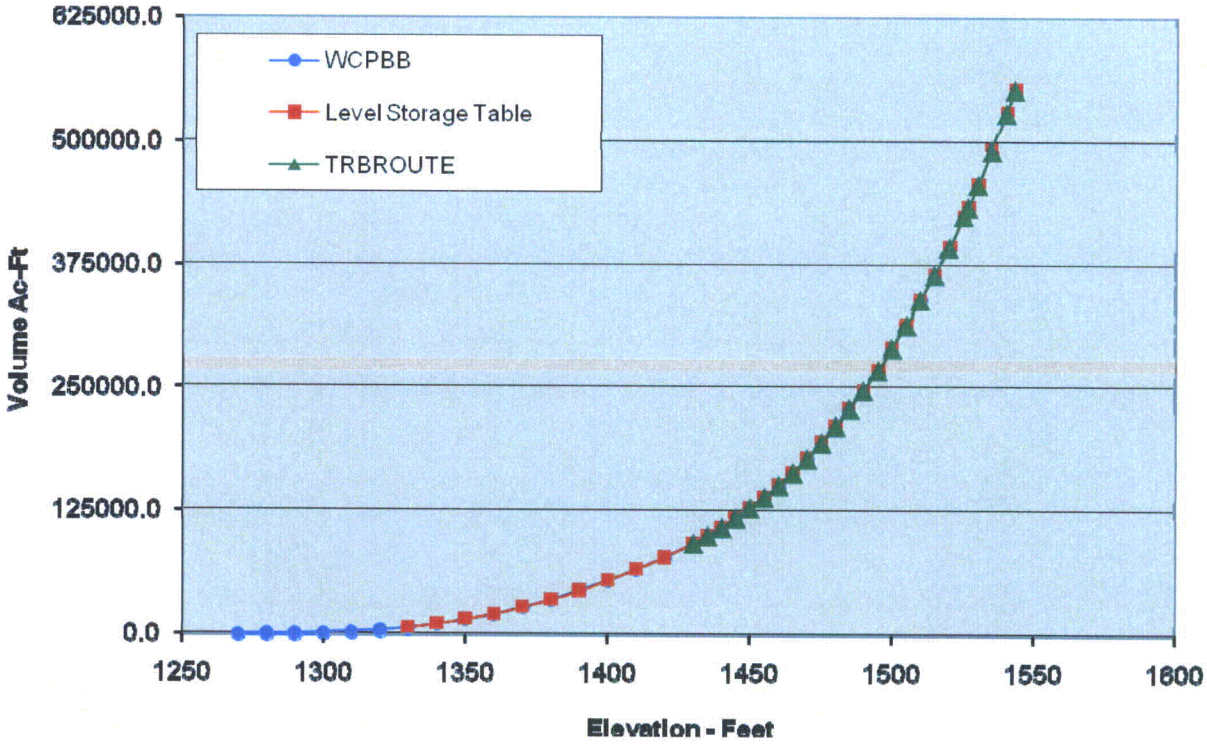


Table 15 - Blue Ridge Reservoir Volume Curve Check Table (Based on 1968 Survey)

WCPBB	
Elevation	Ac-Ft
1720	No Data
1715	No Data
1710	No Data
1705	No Data
1700	No Data
1698	No Data
1696	No Data
1694	No Data
1692	No Data
1690	193000.0
1688	No Data
1686	No Data
1684	No Data
1682	No Data
1680	161000.0
1675	No Data
1670	132600.0
1665	No Data
1660	107800.0
1655	No Data
1650	86400.0
1645	No Data
1640	67500.0
1635	No Data
1630	51800.0
1625	No Data
1620	38700.0
1615	No Data
1610	27800.0
1605	No Data
1600	18800.0
1590	12000.0
1580	6400.0
1570	2600.0

Level Storage Tables	
DSF*1000	Ac-Ft
156.29	309996.5
145.27	288138.7
134.61	266994.9
124.38	246704.0
114.70	227504.0
111.00	220167.1
107.40	213030.3
103.89	206065.6
100.46	199252.9
97.09	192575.1
93.78	186012.9
90.54	179575.7
87.35	173260.4
84.23	167067.6
81.17	160998.3
73.80	146373.9
66.85	132595.0
60.37	119735.3
54.35	107801.6
48.78	96749.0
43.56	86400.0
38.62	76597.5
34.03	67497.5
29.88	59266.6
26.12	51808.2
22.67	44955.8
19.51	38697.5
16.64	33006.0
14.02	27808.2
11.61	23029.5
9.48	18803.3
6.05	12000.0

Tribroute Table		
Elevation	DSF	Ac-Ft
1720	156.29	309996.5
1715	145.27	288138.7
1710	134.61	266994.9
1705	124.38	246704.0
1700	114.70	227504.0
1698	111.00	220165.2
1696	107.40	213024.7
1694	103.89	206062.7
1692	100.46	199259.4
1690	97.09	192575.1
1688	93.78	186009.8
1686	90.54	179583.4
1684	87.35	173256.1
1682	84.23	167067.7
1680	81.17	160998.3
1675	73.80	146380.1
1670	66.85	132595.0
1665	60.37	119742.1
1660	54.35	107801.6
1655	48.78	96753.7
1650	43.56	86400.0
1645	38.62	76601.6
1640	34.03	67497.5
1635	29.88	59266.1
1630	26.12	51808.2
1625	22.67	44965.3
1620	19.51	38697.5
1615	16.64	33004.9
1610	14.02	27808.2
1605	11.61	23028.1
1600	9.48	18803.3

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 15 – Blue Ridge Reservoir Volume Check

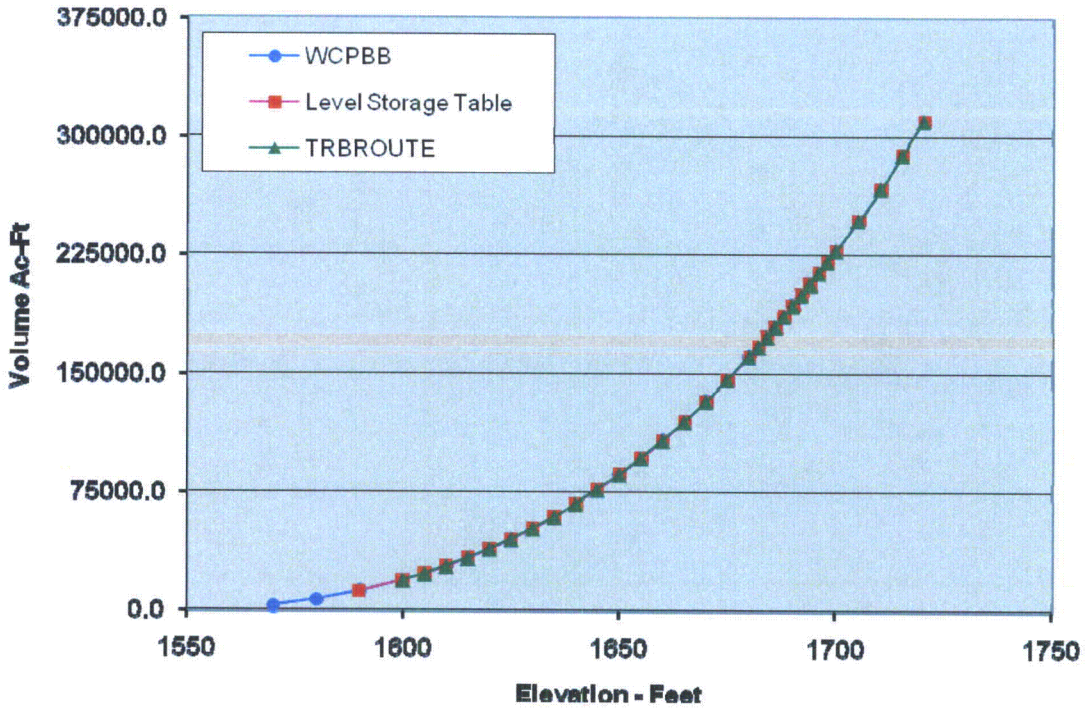


Table 16 - Chickamauga Reservoir Volume Curve Check Table (Based on 1961 Survey)

WCPBB	
Elevation	Ac-Ft
760	*No Data*
720	*No Data*
700	*No Data*
690	944000.0
685.44	739000.0
685	719000.0
683	*No Data*
680	537000.0
675	392000.0
669	261000.0
662	153000.0
660	130000.0
650	52200.0
640	18000.0
630	3660.0
620	88.0
617	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
No Data	*No Data*
1695.99	3363949.3
754.22	1495977.5
475.93	943992.9
371.73	737315.3
362.49	718988.0
323.08	640819.1
270.73	536984.8
197.63	391993.2

Extended GIS Volumes		
Elevation	DSF*1000	Ac-Ft
760	4454.88	8836121.1
720	1626.38	3225881.1
700	766.07	1519481.1
683	323.08	640819.1

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 16 – Chickamauga Reservoir Volume Check

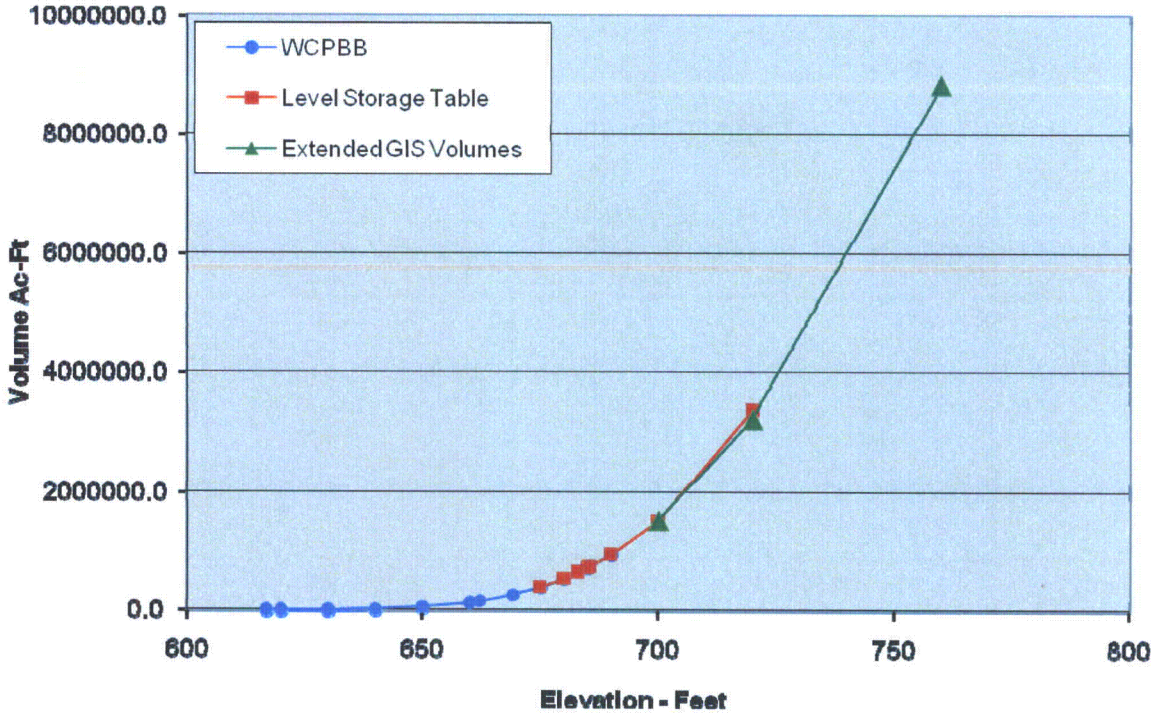


Table 17 - Nickajack Reservoir Volume Curve Check Table (Based on 1969 Survey)

WCPBB	
Elevation	Ac-Ft
740	*No Data*
700	*No Data*
660	*No Data*
640	310600.0
635	252400.0
634	240800.0
632	220100.0
626	164700.0
621	126200.0
610	69570.0
600	41010.0
590	21950.0
580	12060.0
570	3680.0
560	1190.0
550	540.0
540	245.0
530	89.0
520	19.0
510	2.0
505	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
No Data	*No Data*
No Data	*No Data*
341.32	676989.8
156.59	310591.6
126.84	251583.3
121.40	240793.3
110.97	220105.7

Extended GIS Volumes		
Elevation	DSF*1000	Ac-Ft
740	2880.04	5712464.0
700	1279.20	2537264.0
660	355.70	705524.0
634	121.40	240800.0

DSF x 1000 = 1000 Day Second Feet

DSF x 1000 x 1.98347 = AC-FT

Graph 17 – Nickajack Reservoir Volume Check

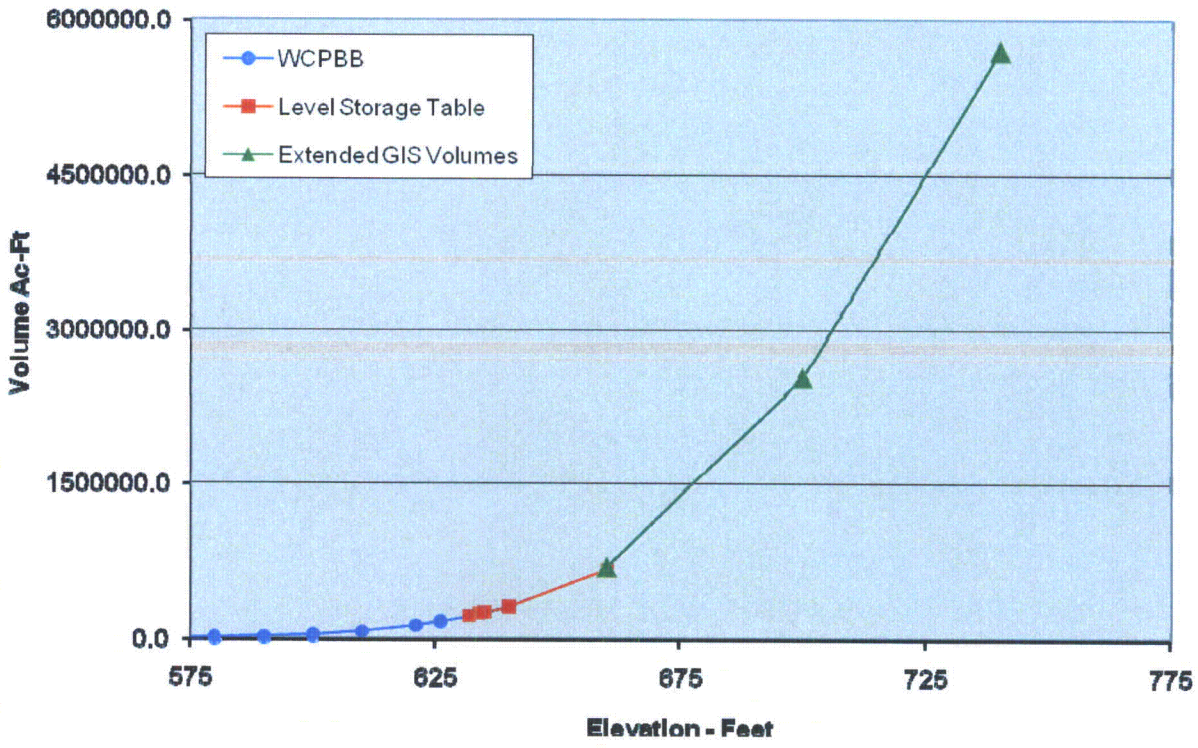


Table 18 - Melton Hill Reservoir Volume Curve Check Table (Based on 1970 Survey)

WCPBB	
Elevation	Ac-Ft
900	No Data
880	No Data
860	No Data
840	No Data
820	No Data
800	151000.0
796	126000.0
795	120000.0
790	94100.0
780	55700.0
770	30400.0
760	15700.0
750	6410.0
740	1390.0
730	50.0
726	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
No Data	No Data
No Data	No Data
No Data	No Data
No Data	No Data
No Data	No Data
76.13	151001.6
63.52	125990.0
60.50	119999.9
47.44	94095.8
28.08	55695.8

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Extended GIS Volumes		
Elevation	DSF*1000	Ac-Ft
900	1321.57	2621287.5
880	905.42	1795877.5
860	581.37	1153127.5
840	340.88	676117.5
820	176.70	350487.5
795	60.50	120000.0

Graph 18 – Melton Hill Reservoir Volume Check

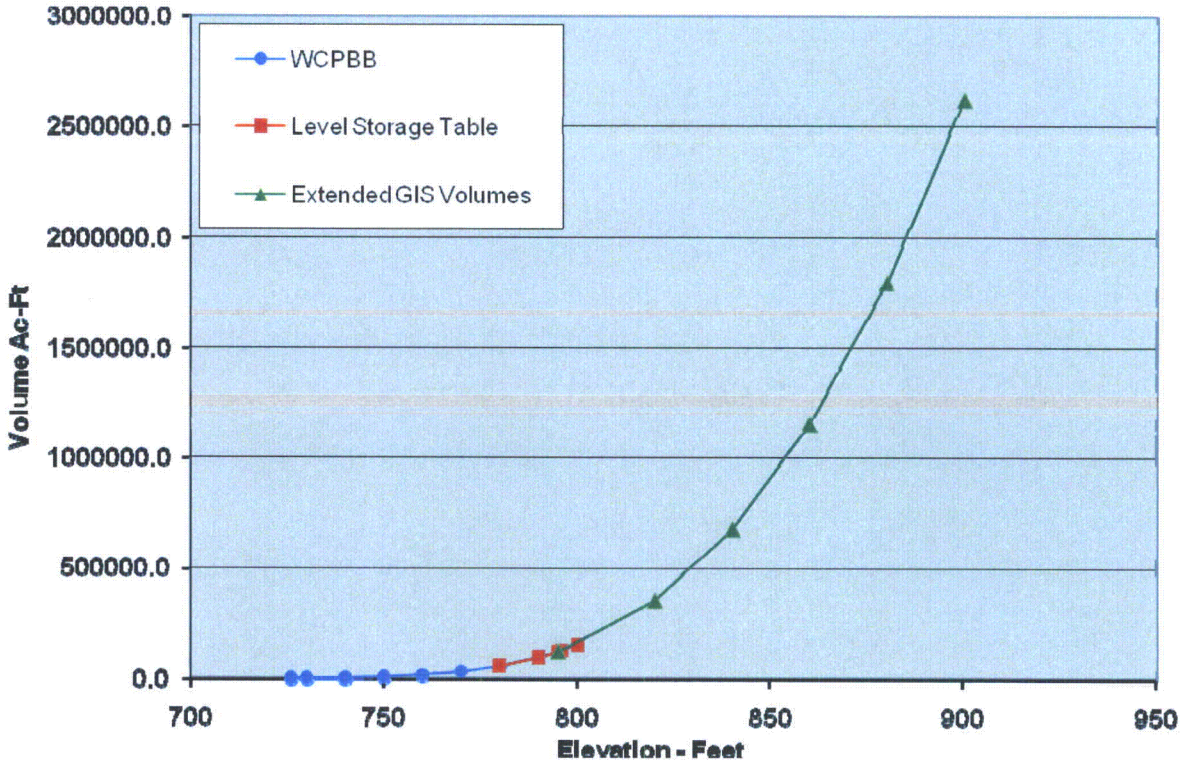


Table 19 - Ocoee#1 Reservoir Volume Curve Check Table (Based on 1982 Survey)

WCPBB	
Elevation	Ac-Ft
837	*No Data*
836	*No Data*
834	*No Data*
832	*No Data*
830	81800.0
828	78000.0
826	74200.0
824	70700.0
822	67400.0
820	64300.0
818	61400.0

Level Storage Tables	
DSF*1000	Ac-Ft
48.35	95898.6
47.32	93852.7
45.27	89782.8
43.24	85759.9
41.24	81798.3
39.30	77950.4
37.43	74241.3
35.65	70710.7
33.98	67398.3
32.42	64304.1
30.96	61408.2

Tribroute Table		
Elevation	DSF	Ac-Ft
837	48.35	95900.8
836	47.32	93857.8
834	45.27	89791.7
832	43.24	85765.2
830	41.24	81798.3
828	39.30	77950.4
826	37.43	74241.3
824	35.65	70710.7
822	33.98	67398.3
820	32.42	64304.1
818	30.96	61408.2
816	29.57	58651.2
814	28.25	56033.0

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Graph 19 – Ocoee #1 Reservoir Volume Check

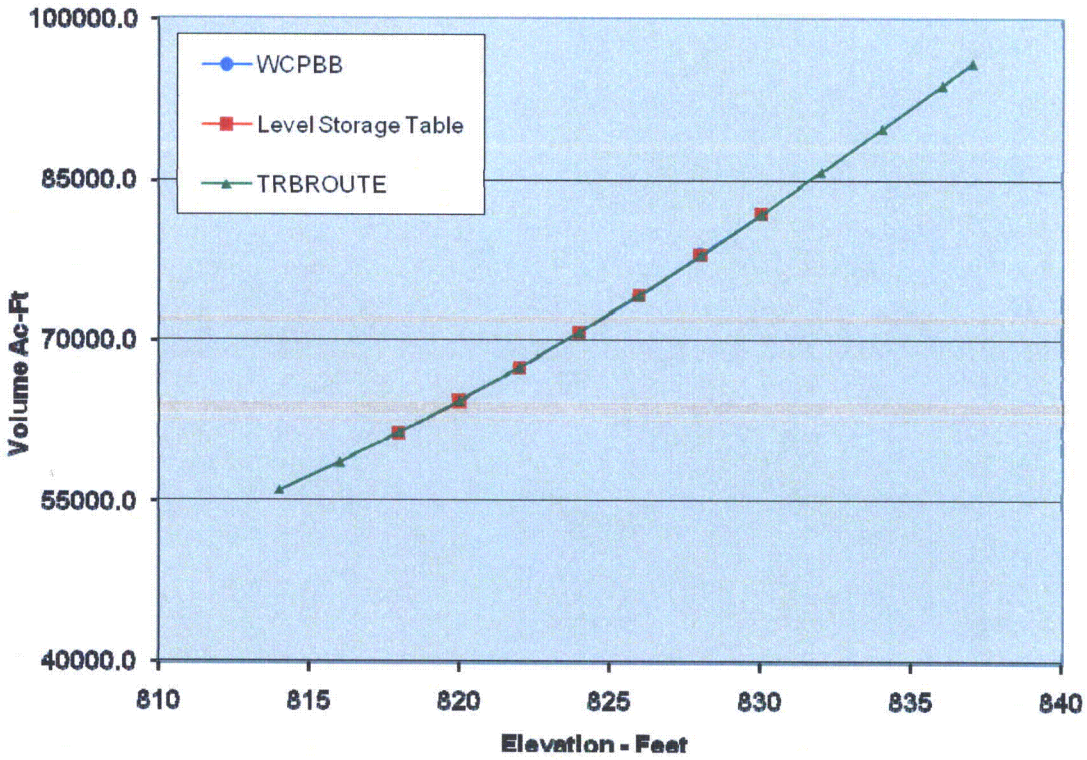


Table 20 - Apalachia Reservoir Volume Curve Check Table (Based on 1965 Survey)

WCPBB *	
Elevation	Ac-Ft
1310	No Data
1305	No Data
1300	No Data
1295	No Data
1292	No Data
1290	69600.0
1288	No Data
1286	No Data
1284	No Data
1282	No Data
1280	57800.0
1278	No Data
1276	No Data
1274	No Data
1272	No Data
1270	47100.0
1257	35100.0
1255	33500.0
1240	22900.0
1230	17200.0
1220	12500.0
1210	8300.0
1200	4900.0
1190	2400.0
1180	600.0
1170	0.0
1168	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
50.42	100006.6
46.01	91259.5
42.03	83365.2
38.40	76165.2
36.38	72162.2
35.09	69600.0
33.84	67115.6
32.62	64703.2
31.44	62352.5
30.28	60054.2
29.14	57798.3
28.02	55580.0
26.92	53397.6
25.84	51254.7
24.78	49154.4
23.75	47107.4
17.70	35107.4
16.89	33500.8

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1310	50.42	99998.5
1305	46.01	91263.4
1300	42.03	83358.0
1295	38.40	76173.0
1292	36.38	72158.6
1290	35.09	69600.0
1288	33.84	67120.6
1286	32.62	64700.8
1284	31.44	62360.3
1282	30.28	60059.5
1280	29.14	57798.3
1278	28.02	55576.8
1276	26.92	53395.0
1274	25.84	51252.9
1272	24.78	49150.4
1270	23.75	47107.4

Graph 20 – Apalachia Reservoir Volume Check

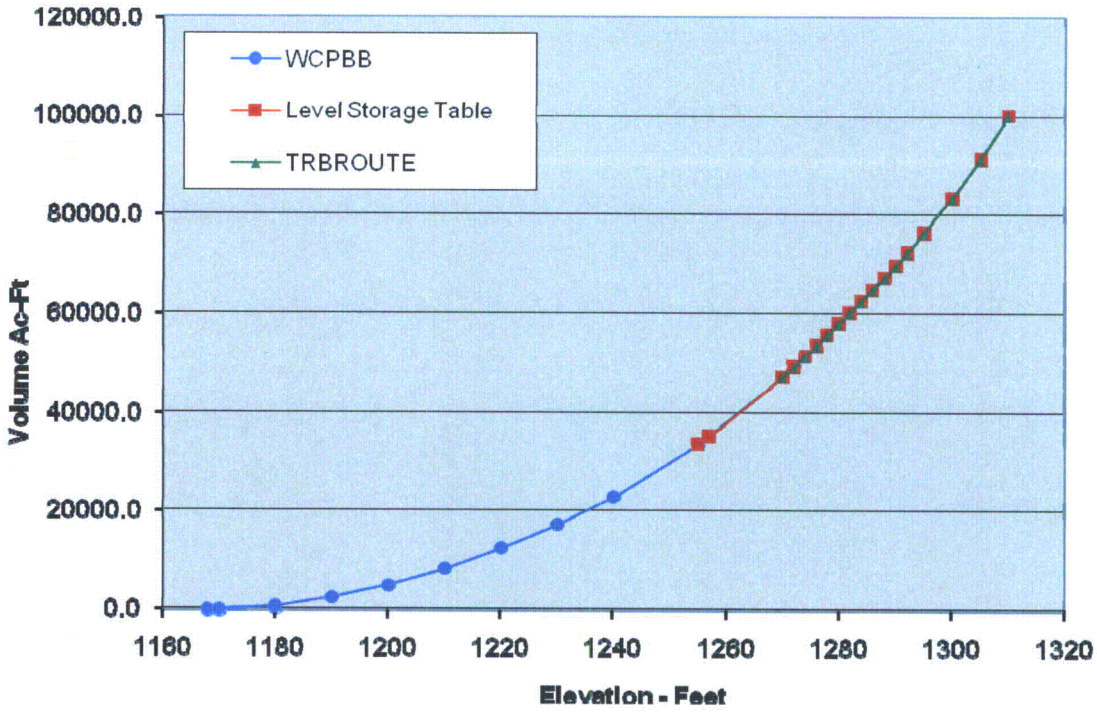


Table 21 - Guntersville Volume Curve Check Table (Based on 1964 Survey)

WCPBB	
Elevation	Ac-Ft
660	*No Data*
640	*No Data*
620	*No Data*
600	1406000.0
595.44	1052000.0
595	1018000.0
590	712000.0
585	474000.0
580	301000.0
570	113000.0
560	39100.0
550	14800.0
540	3910.0
530	0.0
526.6	0.0

Level Storage Tables	
DSF*1000	Ac-Ft
No Data	*No Data*
No Data	*No Data*
No Data	*No Data*
708.85	1405982.7
528.70	1048660.6
513.23	1017976.3
358.96	711986.4

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Extended GIS Volumes		
Elevation	DSF*1000	Ac-Ft
660	6579.31	13049857.5
640	3971.11	7876577.5
620	1956.89	3881437.5
595	513.24	1018000.0

Graph 21 – Guntersville Reservoir Volume Check

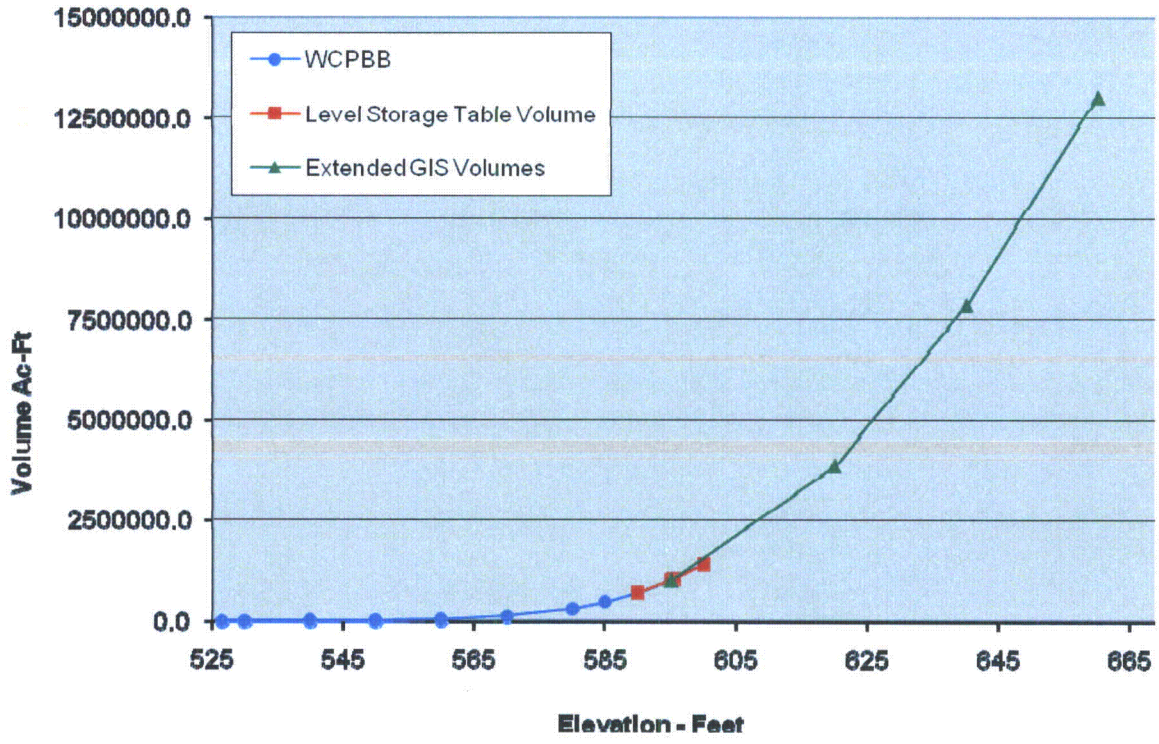


Table 22 - Nantahala Reservoir Volume Curve Check Table (Based on 1969 Survey)

Level Storage Tables		
Elevation	DSF*1000	Ac-Ft
2893	71.53	141877.6
2890	69.17	137196.6
2885	65.29	129500.8
2880	61.51	122003.2
2875	57.86	114763.6
2870	54.35	107801.6
2865	50.99	101137.1
2860	47.74	94690.9
2855	44.59	88442.9
2850	41.49	82294.2
2845	38.46	76284.3
2840	35.59	70591.7

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
2893	71.53	141877.6
2890	69.17	137196.6
2885	65.29	129500.8
2880	61.51	122003.2
2875	57.86	114763.6
2870	54.35	107801.6
2865	50.99	101137.1
2860	47.74	94690.9
2855	44.59	88442.9
2850	41.49	82294.2
2845	38.46	76284.3
2840	35.59	70591.7

WCPBB Data: Detailed volume information NOT AVAILABLE

Note: Reservoir is maintained by Duke Power Company. Detailed bluebook storage information is not available for comparison.

Graph 22 – Nantahala Reservoir Volume Check

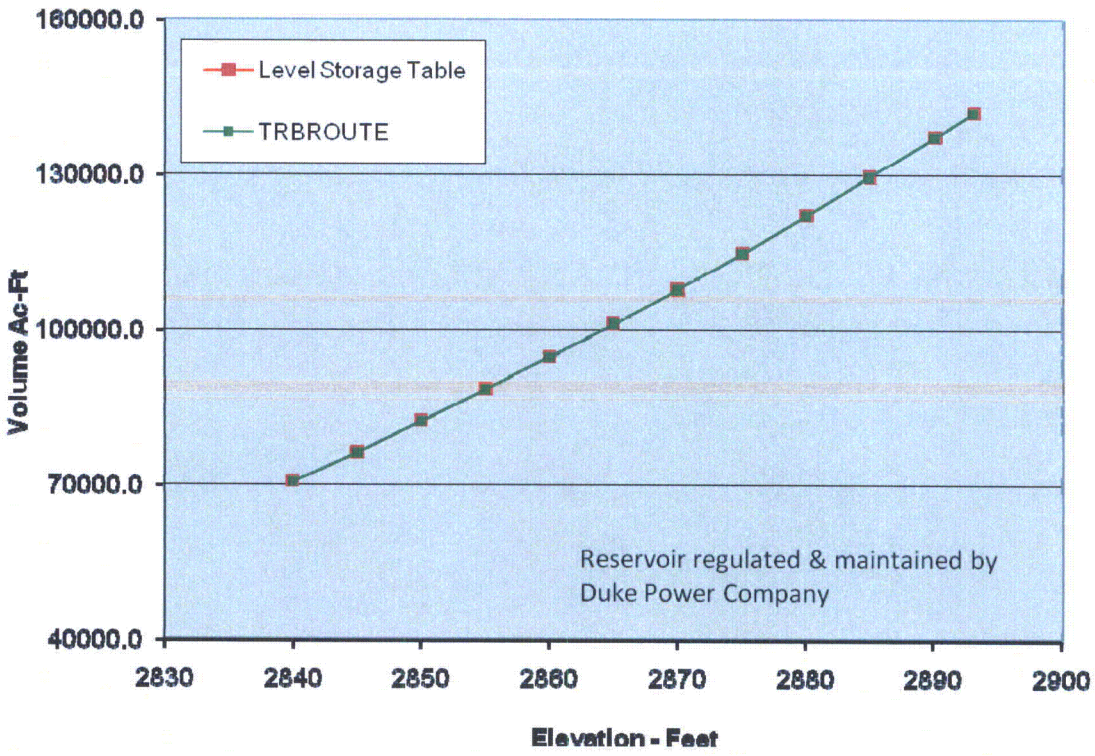


Table 23 - Santeetlah Reservoir Volume Curve Check Table (Based on 1935 Survey)

Level Storage Tables		
Elevation	DSF*1000	Ac-Ft
1818	80.22	159114.0
1817	78.80	156297.4
1816	77.39	153500.7
1814	74.59	147947.0
1812	71.85	142512.3
1810	69.17	137196.6
1805	62.83	124621.4
1800	56.92	112899.1
1795	51.36	101871.0
1790	46.18	91596.6

Tribroute Table		
Elevation	DSF*1000	Ac-Ft
1818	80.22	159114.0
1817	78.80	156297.4
1816	77.39	153500.7
1814	74.59	147947.0
1812	71.85	142512.3
1810	69.17	137196.6
1805	62.83	124621.4
1800	56.92	112899.1
1795	51.36	101871.0
1790	46.18	91596.6

WCPBB Data: Detailed volume information NOT AVAILABLE

Note: Reservoir is maintained by ALCOA. Detailed bluebook storage information is not available for comparison.

Graph 23 – Santeetlah Reservoir Volume Check

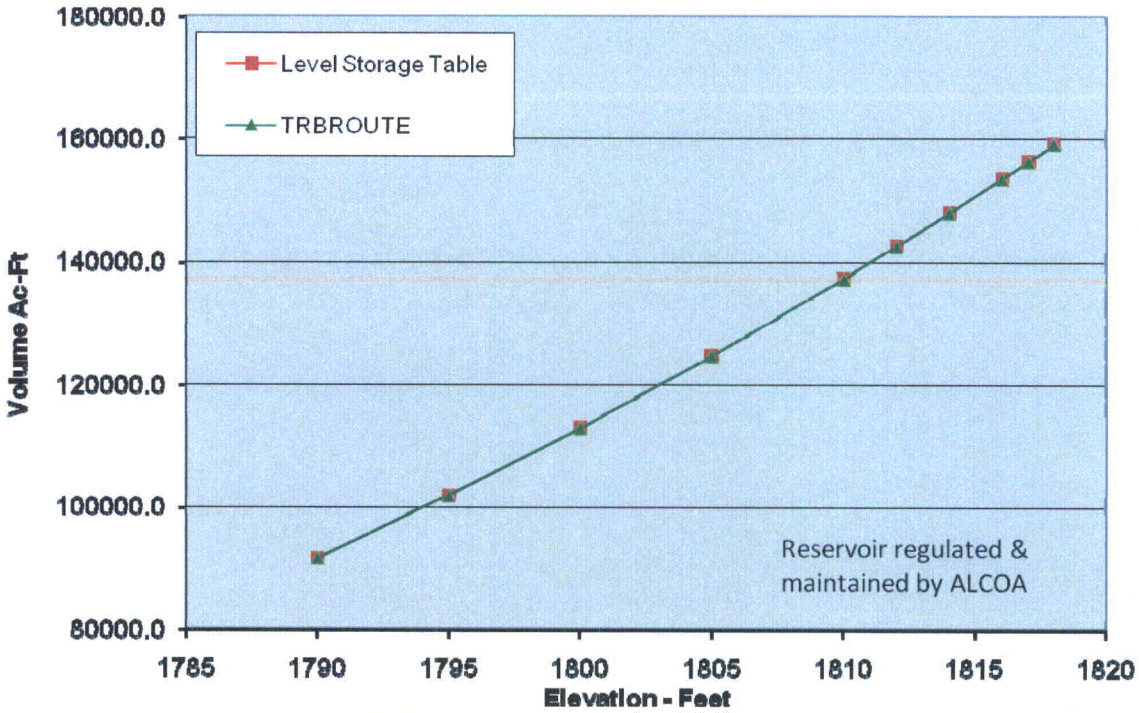


Table 24 - Cheoah Reservoir Volume Curve Table (Based on 1941 Survey)

Level Storage Tables		
Elevation	DSF*1000	Ac-Ft
1160	19.81	39292.5
1155	18.00	35702.5
1150	16.43	32588.4
1145	15.02	29791.7
1140	13.76	27292.5
1138	13.31	26400.0
1136	12.89	25566.9
1134	12.49	24773.5
1132	12.11	24019.8
1130	11.75	23305.8

WCPBB Data: NOT AVAILABLE

Tribroute Data not necessary since storage volumes are only needed for dam failure scenarios.

Note: Reservoir is maintained by ALCOA. Detailed bluebook storage information is not available for comparison.

Graph 24 – Cheoah Reservoir Volume Check

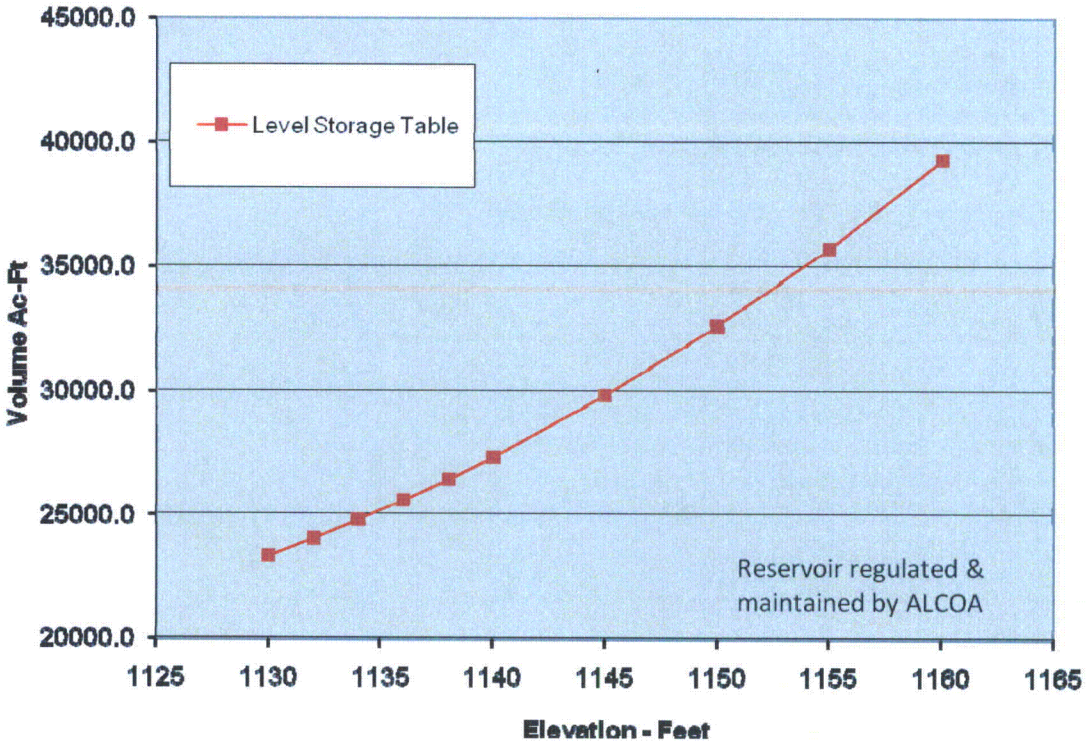


Table 25 - Calderwood Reservoir Volume Curve Table (Based on 1945 Survey)

Level Storage Tables		
Elevation	DSF*1000	Ac-Ft
970	22.17	43973.5
965	20.75	41157.0
960	19.45	38578.5
958	18.94	37566.9
956	18.43	36555.4
954	17.93	35563.6
952	17.43	34571.9
950	16.94	33600.0

WCPBB Data: NOT AVAILABLE
Tribroute Data not necessary since storage volumes are only needed for dam failure scenarios.

Note: Reservoir is maintained by ALCOA. Detailed bluebook storage information is not available for comparison.

Graph 25 – Calderwood Reservoir Volume Check

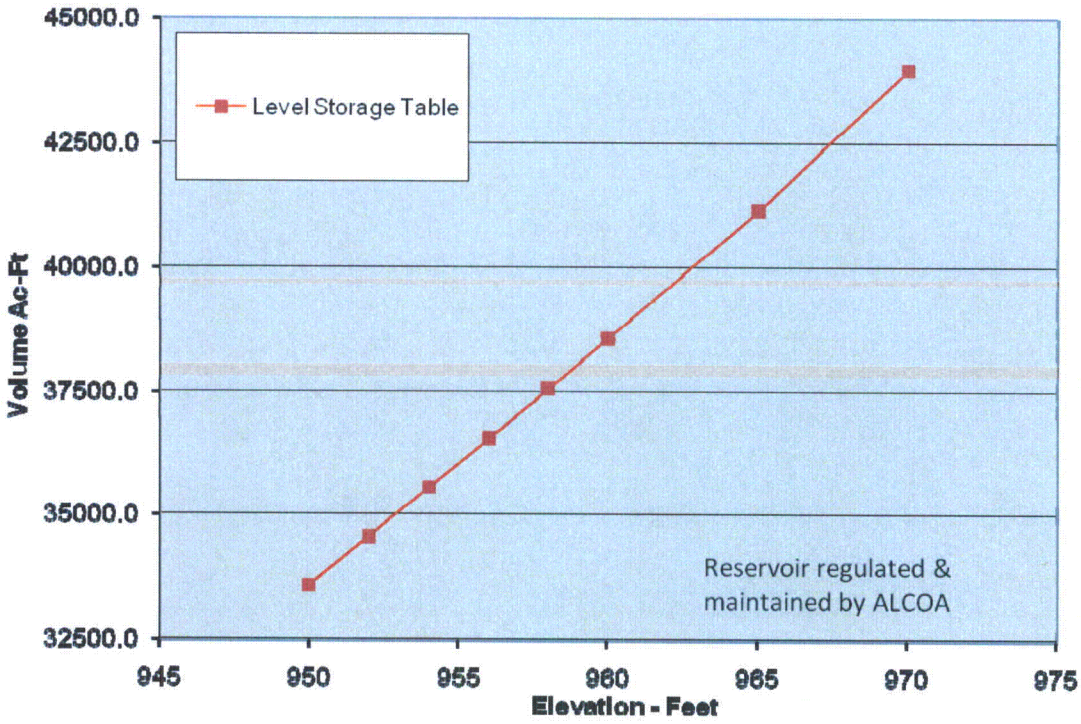


Table 26 - Chilhowee Reservoir Volume Curve Check Table (Based on 1959 Survey)

WCPBB	
Elevation	Ac-Ft
877	*No Data*
876	*No Data*
874	49250.0
872	*No Data*
870	*No Data*

Level Storage Tables	
DSF*1000	Ac-Ft
27.58	54704.1
26.63	52819.8
24.83	49249.6
23.09	45798.3
21.40	42446.3

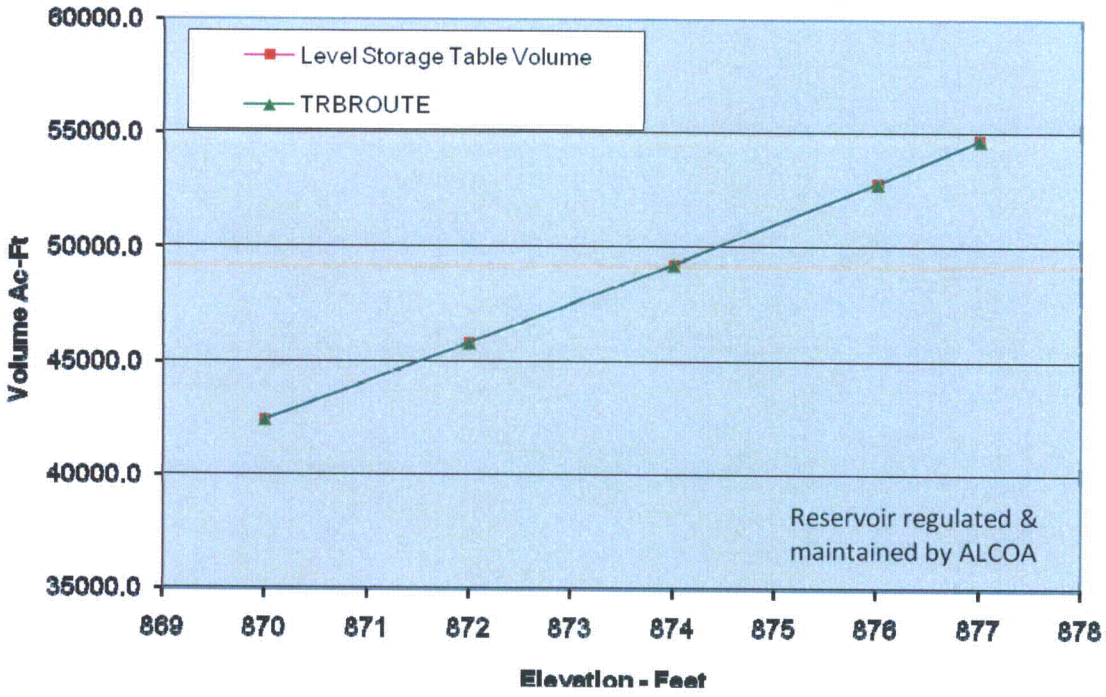
Tribroute Table		
Elevation	DSF*1000	Ac-Ft
877	27.58	54704.1
876	26.63	52819.8
874	24.83	49249.6
872	23.09	45798.3
870	21.40	42446.3

WCPBB value: Elev. 874 Vol.49,250 Ac-Ft (matches Level Storage value (lkg 11-14-08)

DSF x 1000 = 1000 Day Second Feet
DSF x 1000 x 1.98347 = AC-FT

Note: Reservoir is maintained by ALCOA. Detailed bluebook storage information is not available for comparison.

Graph 26 – Chilhowee Reservoir Volume Check



7. Summary & Conclusions

The methodology used by TVA in the development of historic reservoir storage data has been reviewed in this calculation upstream of Guntersville Dam. Appendix A of this calculation reviewed the development of historic reservoir storage data for Wheeler and Tims Ford Reservoirs. The TVA methodology employed is considered representative of typical industry standards and methods. The reservoir storage volume and stage elevation relationships developed by TVA and provided in historical references WCPBB, Level Storage tables and TRIBROUTE input data were compared in this calculation. This comparison demonstrated data consistency across the three sources. In addition, the GIS-based volume-elevation stage relationship data, used to extend the WCPBB/Level Storage table relationships up to the expected PMF level for main stem reservoirs, were reviewed for continuity and consistency with the historical data. As shown in Section 6.0 of the calculation, the comparison demonstrated good agreement between the historic WCPFF/Level Storage Table data and the GIS-based data.

Based on this review, the reservoir storage-elevation relationships provided below are considered acceptable for use for the reservoirs modeled in the TVA PMF analysis.

The following are final reservoir storage tables:

1. South Holston Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1770	536.35	1700	232.77
1765	505.14	1695	217.92
1760	476.20	1690	203.64
1758	465.17	1685	189.90
1756	454.41	1680	176.74
1754	443.89	1675	164.18
1752	433.58	1670	152.27
1750	423.44	1665	141.02
1748	413.51	1660	130.44
1746	403.81	1650	111.19
1744	394.36	1640	94.34
1743	389.74	1630	79.41
1742	385.20	1620	66.01
1740	376.33	1610	54.04
1738	367.21	1600	43.42
1736	359.41	1590	34.15
1734	351.29	1580	26.17
1732	343.35	1570	19.38
1730	335.57	1560	13.68
1728	327.90	1550	9.22
1726	320.36	1540	5.77
1724	312.94	1530	3.24
1722	305.64	1520	1.37
1720	298.46	1510	0.49
1715	281.01	1500	0.09
1710	264.27	1490	0.00
1705	248.20	1485	0.00

2. Watauga Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
2010	488.60	1950	258.13
2008	477.44	1948	252.10
2006	466.92	1946	246.18
2004	456.99	1944	240.35
2002	447.57	1942	234.59
2000	438.62	1940	228.89
1998	430.06	1935	214.82
1996	421.83	1930	201.16
1994	413.84	1925	188.03
1992	406.02	1920	175.45
1990	398.29	1925	163.37
1988	390.58	1910	151.75
1986	382.89	1905	140.60
1984	375.22	1900	130.08
1982	367.58	1890	110.92
1980	359.98	1875	84.70
1978	352.42	1860	63.53
1976	344.97	1850	51.93
1975	341.32	1840	43.31
1974	337.71	1830	35.95
1972	330.63	1820	29.34
1970	323.68	1810	23.34
1968	316.78	1795	15.63
1966	309.96	1780	9.48
1964	303.20	1770	6.40
1962	296.51	1760	4.02
1960	289.90	1750	2.31
1958	283.35	1740	1.20
1956	276.89	1730	0.50
1954	270.53	1720	0.15
1952	264.27	1710	0.04
1950	258.13	1685	0.00

3. Boone Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1408	154.70	1362	56.40
1405	146.82	1360	53.62
1400	133.84	1358	50.95
1396	123.68	1356	48.40
1392	113.83	1354	45.95
1390	109.03	1352	43.60
1388	104.34	1350	41.34
1386	99.77	1348	39.15
1385	97.53	1346	37.19
1384	95.32	1340	31.15
1382	91.01	1330	22.69
1380	86.88	1320	15.81
1378	82.92	1310	10.37
1376	79.15	1300	6.20
1374	75.53	1290	3.22
1372	72.05	1280	1.29
1370	68.70	1270	0.28
1368	65.35	1260	0.01
1366	62.32	1254.9	0.00
1364	59.30		

4. Fort Patrick Henry Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1290	32.50	1256	10.64
1285	27.00	1255	10.25
1280	23.00	1254	9.86
1275	19.71	1253	9.48
1270	16.89	1252	9.12
1268	15.88	1250	8.42
1266	14.92	1240	5.60
1264	14.01	1230	3.36
1263	13.56	1220	1.72
1262	13.12	1210	0.63
1261	12.69	1200	0.15
1260	12.27	1190	0.02
1259	11.85	1180	0.00
1258	11.44	1173	0.00
1257	11.04		
1256	10.64		

5. Cherokee Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1092	1115.20	1046	409.23
1090	1062.94	1044	389.12
1088	1014.86	1042	369.67
1086	970.63	1040	350.90
1084	929.87	1038	332.78
1082	892.16	1036	315.32
1080	857.00	1034	298.51
1078	823.87	1032	282.33
1076	792.29	1030	266.79
1075	776.92	1028	251.86
1074	761.74	1026	237.54
1072	731.97	1024	223.82
1070	702.95	1022	210.69
1068	674.68	1020	198.14
1066	647.13	1000	100.33
1064	620.29	990	66.55
1062	594.15	980	42.15
1060	568.70	970	25.21
1058	543.91	960	13.81
1056	519.79	950	6.35
1054	496.34	940	2.41
1052	473.56	930	0.60
1050	451.07	920	0.01
1048	430.01	910	0.00

6. Douglas Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1020	1132.15	975	381.21
1018	1077.72	970	329.73
1016	1024.92	965	281.84
1014	974.11	960	237.97
1012	925.78	955	198.50
1010	880.53	950	163.35
1008	838.97	945	132.36
1007	819.76	940	105.88
1002	736.59	930	66.05
990	561.14	920	38.37
985	496.36	910	20.07
980	436.61		

7. Fort Loudoun Reservoir Storage Table

Elevation	DSF*1000
900	2494.16
880	1653.04
860	955.60
840	506.98
820	240.15
815	198.14
813	183.01
807	142.18
802	114.45
796	86.72
790	64.53
780	38.17
770	20.97
760	9.88
750	3.76
740	0.85
730	0.00

8. Fontana Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1737	894.17	1655	476.04
1735	879.54	1650	457.07
1730	844.97	1645	438.71
1725	812.91	1640	420.98
1720	782.96	1635	403.87
1715	754.68	1630	387.36
1710	727.51	1625	371.40
1705	700.94	1620	355.94
1700	675.08	1600	298.97
1695	650.05	1580	250.57
1690	625.86	1560	209.23
1688	616.41	1540	172.93
1686	607.08	1520	142.18
1684	597.87	1500	113.94
1682	588.77	1480	89.74
1680	579.79	1460	68.57
1678	570.91	1440	50.42
1676	562.14	1420	35.70
1674	553.47	1400	23.65
1672	544.91	1380	14.47
1670	536.44	1360	8.12
1668	528.08	1340	4.05
1666	519.81	1320	1.40
1664	511.65	1300	0.11
1662	503.57	1291	0.00
1660	495.60		

9. Norris Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1060	1903.44	1006	808.64
1055	1772.41	1004	780.22
1050	1645.07	1002	752.50
1048	1595.60	1000	725.50
1046	1547.20	995	660.90
1044	1500.04	985	544.05
1042	1454.29	980	491.56
1040	1410.13	975	442.85
1038	1367.66	970	397.79
1036	1326.60	960	317.63
1034	1286.63	950	249.06
1032	1247.42	940	192.59
1030	1208.99	930	146.21
1028	1171.32	920	109.40
1026	1134.42	910	80.16
1024	1098.33	900	56.97
1022	1063.01	890	39.63
1020	1028.50	880	26.52
1018	994.76	870	16.79
1016	961.84	860	10.03
1014	929.67	850	5.34
1012	898.29	840	2.34
1010	867.67	830	0.67
1008	837.78		

10. Tellico Reservoir Storage Table

Elevation	DSF*1000
900	2142.10
880	1438.11
860	906.31
840	527.06
820	271.71
815	213.77
813	209.03
810	174.72
809	167.39
790	67.10
780	35.80
770	18.70
760	9.08
750	3.63
740	0.86
730	0.00

11. Watts Bar Reservoir Storage Table

Elevation	DSF*1000
820	3903.12
800	2668.88
780	1697.01
760	976.50
745	592.40
741	509.21
735	401.32
730	325.69
722	224.35
720	201.67
710	112.43
700	57.48
690	26.22
680	12.50
670	5.39
660	1.97
650	0.50
640	0.03
636	0.00

12. Chatuge Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1946	197.45	1910	69.78
1944	188.10	1908	65.40
1942	178.95	1906	61.24
1940	170.00	1904	57.29
1938	161.25	1902	53.53
1936	152.71	1900	49.96
1934	144.41	1896	43.35
1933	140.36	1894	40.30
1932	136.38	1892	37.42
1930	128.64	1890	34.69
1928	121.25	1880	23.24
1926	114.24	1870	15.07
1924	107.60	1860	9.28
1922	101.30	1850	5.19
1920	95.34	1840	2.47
1918	89.68	1830	0.96
1916	84.31	1820	0.25
1914	79.21	1810	0.03
1912	74.37	1804	0.00

13. Nottely Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1807	160.13	1730	25.11
1805	153.82	1725	21.75
1800	138.89	1720	18.70
1795	124.98	1710	13.51
1790	111.88	1710	13.51
1785	99.47	1700	9.58
1780	87.88	1690	6.40
1775	77.79	1680	4.10
1770	68.92	1670	2.45
1765	61.08	1660	1.28
1760	54.15	1650	0.50
1755	47.98	1640	0.15
1750	42.45	1630	0.05
1745	37.45	1620	0.00
1740	32.92	1612	0.00
1735	28.82		

14. Hiwassee Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1550	308.90	1450	64.53
1545	287.10	1445	59.27
1543	278.80	1440	54.45
1540	266.82	1435	50.20
1535	248.05	1430	46.33
1530	230.54	1420	39.27
1526.5	218.81	1410	33.07
1525	214.29	1400	27.43
1520	198.14	1390	22.28
1515	183.91	1380	17.70
1510	170.91	1370	13.71
1505	158.21	1360	10.23
1500	146.21	1350	7.46
1495	134.96	1340	5.14
1490	124.53	1330	3.33
1485	115.14	1320	2.02
1480	106.38	1310	1.15
1475	97.78	1300	0.58
1470	89.74	1290	0.22
1465	82.62	1280	0.05
1460	76.13	1270	0.00
1455	70.11		

15. Blue Ridge Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1720	156.29	1665	60.37
1715	145.27	1660	54.35
1710	134.61	1655	48.78
1705	124.38	1650	43.56
1700	114.70	1645	38.62
1698	111.00	1640	34.03
1696	107.40	1635	29.88
1694	103.89	1630	26.12
1692	100.46	1625	22.67
1690	97.30	1620	19.51
1688	93.78	1615	16.64
1686	90.54	1610	14.02
1684	87.35	1605	11.61
1682	84.23	1600	9.48
1680	81.17	1590	6.05
1675	73.80	1580	3.23
1670	66.85	1570	1.31

16. Chickamauga Reservoir Storage Table

Elevation	DSF*1000
760	4454.88
720	1626.38
700	766.07
690	475.93
685.44	372.58
685	362.50
680	270.74
675	197.63
669	131.59
662	77.14
660	65.54
650	26.32
640	9.08
630	1.85
620	0.04
617	0.00

17. Nickajack Reservoir Storage Table

Elevation	DSF*1000
740	2880.04
700	1279.20
660	355.70
640	156.59
635	126.84
634	121.40
632	110.97
626	83.04
621	63.63
610	35.07
600	20.68
590	11.07
580	6.08
570	1.86
560	0.60
550	0.27
540	0.12
530	0.04
520	0.01
510	0.00
505	0.00

18. Melton Hill Reservoir Storage Table

Elevation	DSF*1000
900	1321.57
880	905.42
860	581.37
840	340.88
820	176.70
800	76.13
796	63.52
795	60.50
790	47.44
780	28.08
770	15.33
760	7.92
750	3.23
740	0.70
730	0.03
726	0.00

19. Ocoee#1 Reservoir Storage Table

Elevation	DSF*1000
837	48.35
836	47.32
834	45.27
832	43.24
831	42.00
830	41.24
828	39.33
826	37.41
824	35.64
822	33.98
820	32.42
818	30.96
816	29.57
814	28.25

20. Apalachia Reservoir Storage Table

Elevation	DSF*1000	Elevation	DSF*1000
1310	50.42	1272	24.78
1305	46.01	1270	23.75
1300	42.03	1257	17.70
1295	38.40	1255	16.89
1292	36.38	1240	11.55
1290	35.09	1230	8.67
1288	33.84	1220	6.30
1286	32.62	1210	4.18
1284	31.44	1200	2.47
1282	30.28	1190	1.21
1280	29.14	1180	0.30
1278	28.02	1170	0.00
1276	26.92	1168	0.00
1274	25.84		

21. Guntersville Reservoir Storage Table

Elevation	DSF*1000
660	6579.31
640	3971.11
620	1956.89
600	708.85
595.44	528.70
595	513.24
590	358.96
585	238.98
580	151.75
570	56.97
560	19.71
550	7.46
540	1.97
530	0.00
526.6	0.00

22. Nantahala Reservoir Storage Table

Elevation	DSF*1000
2893	71.53
2890	69.17
2885	65.29
2880	61.51
2875	57.86
2870	54.35
2865	50.99
2860	47.74
2855	44.59
2850	41.49
2845	38.46
2840	35.59

23. Santeetlah Reservoir Storage Table

Elevation	DSF*1000
1818	80.22
1817	78.80
1816	77.39
1814	74.59
1812	71.85
1810	69.17
1805	62.83
1800	56.92
1795	51.36
1790	46.18

24. Cheoah Reservoir Storage Table

Elevation	DSF*1000
1160	19.81
1155	18.00
1150	16.43
1145	15.02
1140	13.76
1138	13.31
1136	12.89
1134	12.49
1132	12.11
1130	11.75

25. Calderwood Reservoir Storage Table

Elevation	DSF*1000
970	22.17
965	20.75
960	19.45
958	18.94
956	18.43
954	17.93
952	17.43
950	16.94

26. Chilhowee Reservoir Storage Table

Elevation	DSF*1000
877	27.58
876	26.63
874	24.83
872	23.09
870	21.40

27. Wheeler Reservoir Storage Table

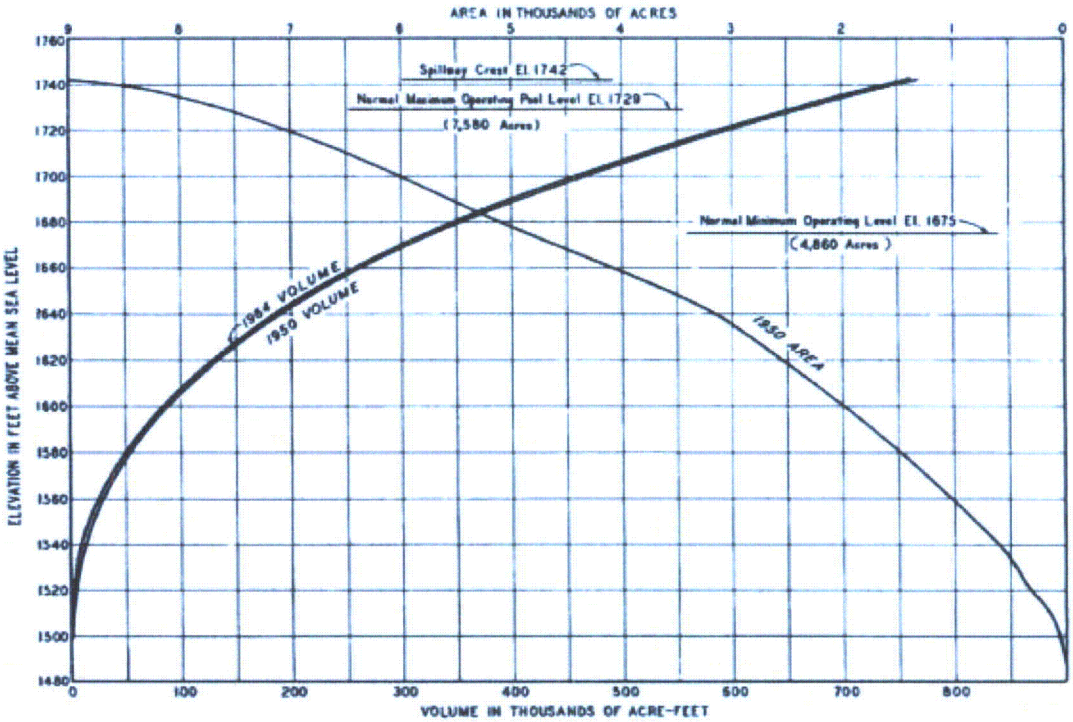
Elevation	DSF*1000
630	12834.1
620	9952.9
600	5288.6
590	3551.5
580	2234.5
578	1846.4
576	1675.3
574	1515.5
572	1366.7
570	1228.6
568	1100.9
566	982.9
564	874.6
562	775.3
560	684.6
558	602.4
556.28	539.0
556	529.4
554	465.9
552	410.9
550	362.9

28. Tims Ford Reservoir Storage Table

Elevation	DSF*1000
920	506.2
910	403.8
908	389.0
906	374.9
904	361.4
902	348.5
900	336.1
898	324.1
896	312.3
895	306.5
894	300.8
892	289.3
890	278.1
888	267.2
886	256.6
884	246.4
882	236.4
880	226.9
878	217.6
876	208.7
874	200.1
872	191.7
870	183.5
868	175.6
864	160.4
862	153.2
860	146.2
858	139.5
856	132.9
854	126.6
852	120.5
850	114.4

8. Attachments

Attachment 1a: South Holston Bluebook Figure



ELEVATION FT	1950 AREA AC	VOLUME AC - FT		
		1950	1958	1984
1742	9,010	767,970	766,640	764,040
1730	7,660	669,520	668,190	665,590
1720	7,060	595,920	594,600	591,980
1710	6,500	528,140	526,850	524,180
1700	6,000	465,870	464,450	461,690
1690	5,550	407,900	406,720	403,910
1680	5,120	354,510	353,380	350,560
1670	4,630	305,770	304,750	302,020
1660	4,100	262,150	261,240	258,720
1650	3,590	223,720	222,880	220,540
1640	3,160	190,010	189,350	187,130
1630	2,820	160,150	159,660	157,500
1620	2,540	133,380	132,990	130,930
1610	2,260	109,410	109,130	107,190
1600	1,990	88,170	87,970	86,120
1590	1,730	69,580	69,430	67,740
1580	1,470	53,570	53,460	51,900
1570	1,250	39,990	39,860	38,430
1560	1,020	28,860	28,520	27,140
1550	800	19,580	19,470	18,290
1540	600	12,610	12,500	11,450
1530	450	7,450	7,390	6,430
1520	310	3,670	3,600	2,710
1510	140	1,390	1,340	974
1500	60	390	390	180
1490	10	30	30	0
1485	0	0	0	0

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

NOTES:

Reservoir areas were measured on TVA land maps, scale 1" = 500', at elevations 1640, 1730, & 1742, and on TVA topographic maps, scale 1"=2,000', at elevations 1500, 1520, 1540, & 1560. The TVA maps were prepared by the Maps & Surveys Branch. Contours were made to conform to elevations on TVA sediment range cross sections which are at one-half to ten mile intervals within the reservoir.

Elevations are referred to the 1936 Supplementary Adjustment of the USC & GS.

Area of the original river within reservoir = 710 acres.

Drainage area above dam = 703 square miles.

The 1958 and subsequent volumes were determined by the constant factor method for computing sediment.

Dam closure November 20, 1950.

S.F. HOLSTON RIVER MILE 49.8

RESERVOIR AREAS AND VOLUMES

SOUTH HOLSTON PROJECT
TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

SUBMITTED	RECOMMENDED	APPROVED

KNOXVILLE	12-28-82	21	DA	1	321N799A

THIS DRAWING SUPERSEDES 21-DA-1 321C 670

TVA

Calculation No. CDQ00002008051	Rev: 0	Plant: GEN	Page: 90
Subject: Reservoir Storage Tables		Prepped LKG	
		Checked WWC	

Attachment 1b: South Holston 1986 Level Storage Table

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

SOUTH HOLSTON

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1690.0	203.64	203.66	203.69	203.72	203.75	203.78	203.80	203.83	203.86	203.89
.1	203.92	203.94	203.97	204.00	204.03	204.06	204.08	204.11	204.14	204.17
.2	204.20	204.22	204.25	204.28	204.31	204.34	204.36	204.39	204.42	204.45
.3	204.48	204.50	204.53	204.56	204.59	204.62	204.65	204.67	204.70	204.73
.4	204.76	204.79	204.81	204.84	204.87	204.90	204.93	204.95	204.98	205.01
1690.5	205.04	205.07	205.10	205.12	205.15	205.18	205.21	205.24	205.26	205.29
.6	205.32	205.35	205.38	205.40	205.43	205.46	205.49	205.52	205.55	205.57
.7	205.60	205.63	205.66	205.69	205.71	205.74	205.77	205.80	205.83	205.86
.8	205.88	205.91	205.94	205.97	206.00	206.02	206.05	206.08	206.11	206.14
.9	206.17	206.19	206.22	206.25	206.28	206.31	206.33	206.36	206.39	206.42
1691.0	206.45	206.48	206.50	206.53	206.56	206.59	206.62	206.65	206.67	206.70
1.1	206.73	206.76	206.79	206.82	206.84	206.87	206.90	206.93	206.96	206.99
1.2	207.01	207.04	207.07	207.10	207.13	207.15	207.18	207.21	207.24	207.27
1.3	207.30	207.32	207.35	207.38	207.41	207.44	207.47	207.49	207.52	207.55
1.4	207.58	207.61	207.64	207.66	207.69	207.72	207.75	207.78	207.81	207.83
1691.5	207.86	207.89	207.92	207.95	207.98	208.00	208.03	208.06	208.09	208.12
1.6	208.15	208.17	208.20	208.23	208.26	208.29	208.32	208.34	208.37	208.40
1.7	208.43	208.46	208.49	208.51	208.54	208.57	208.60	208.63	208.66	208.69
1.8	208.71	208.74	208.77	208.80	208.83	208.86	208.88	208.91	208.94	208.97
1.9	209.00	209.03	209.05	209.08	209.11	209.14	209.17	209.20	209.23	209.25
1692.0	209.28	209.31	209.34	209.37	209.40	209.42	209.45	209.48	209.51	209.54
2.1	209.57	209.60	209.62	209.65	209.68	209.71	209.74	209.77	209.80	209.82
2.2	209.85	209.88	209.91	209.94	209.97	209.99	210.02	210.05	210.08	210.11
2.3	210.14	210.17	210.19	210.22	210.25	210.28	210.31	210.34	210.37	210.39
2.4	210.42	210.45	210.48	210.51	210.54	210.56	210.59	210.62	210.65	210.68
1692.5	210.71	210.74	210.76	210.79	210.82	210.85	210.88	210.91	210.94	210.97
2.6	210.99	211.02	211.05	211.08	211.11	211.14	211.17	211.19	211.22	211.25
2.7	211.28	211.31	211.34	211.37	211.39	211.42	211.45	211.48	211.51	211.54
2.8	211.57	211.59	211.62	211.65	211.68	211.71	211.74	211.77	211.80	211.82
2.9	211.85	211.88	211.91	211.94	211.97	212.00	212.02	212.05	212.08	212.11
1693.0	212.14	212.17	212.20	212.22	212.25	212.28	212.31	212.34	212.37	212.40
3.1	212.43	212.45	212.48	212.51	212.54	212.57	212.60	212.63	212.66	212.68
3.2	212.71	212.74	212.77	212.80	212.83	212.86	212.89	212.91	212.94	212.97
3.3	213.00	213.03	213.06	213.09	213.12	213.14	213.17	213.20	213.23	213.26
3.4	213.29	213.32	213.34	213.37	213.40	213.43	213.46	213.49	213.52	213.55
1693.5	213.58	213.60	213.63	213.66	213.69	213.72	213.75	213.78	213.81	213.83
3.6	213.86	213.89	213.92	213.95	213.98	214.01	214.04	214.07	214.09	214.12
3.7	214.15	214.18	214.21	214.24	214.27	214.30	214.32	214.35	214.38	214.41
3.8	214.44	214.47	214.50	214.53	214.56	214.58	214.61	214.64	214.67	214.70
3.9	214.73	214.76	214.79	214.81	214.84	214.87	214.90	214.93	214.96	214.99
1694.0	215.02	215.05	215.08	215.10	215.13	215.16	215.19	215.22	215.25	215.28
4.1	215.31	215.34	215.36	215.39	215.42	215.45	215.48	215.51	215.54	215.57
4.2	215.60	215.62	215.65	215.68	215.71	215.74	215.77	215.80	215.83	215.86
4.3	215.89	215.91	215.94	215.97	216.00	216.03	216.06	216.09	216.12	216.15
4.4	216.17	216.20	216.23	216.26	216.29	216.32	216.35	216.38	216.41	216.44
1694.5	216.47	216.49	216.52	216.55	216.58	216.61	216.64	216.67	216.70	216.73
4.6	216.76	216.78	216.81	216.84	216.87	216.90	216.93	216.96	216.99	217.02
4.7	217.05	217.07	217.10	217.13	217.16	217.19	217.22	217.25	217.28	217.31
4.8	217.34	217.37	217.39	217.42	217.45	217.48	217.51	217.54	217.57	217.60
4.9	217.63	217.66	217.69	217.71	217.74	217.77	217.80	217.83	217.86	217.89

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1695.0	217.92	217.95	217.98	218.01	218.04	218.06	218.09	218.12	218.15	218.18
5.1	218.21	218.24	218.27	218.30	218.33	218.36	218.39	218.41	218.44	218.47
5.2	218.50	218.53	218.56	218.59	218.62	218.65	218.68	218.71	218.73	218.76
5.3	218.79	218.82	218.85	218.88	218.91	218.94	218.97	219.00	219.03	219.06
5.4	219.08	219.11	219.14	219.17	219.20	219.23	219.26	219.29	219.32	219.35
1695.5	219.38	219.41	219.44	219.47	219.49	219.52	219.55	219.58	219.61	219.64
5.6	219.67	219.70	219.73	219.76	219.79	219.82	219.85	219.88	219.90	219.93
5.7	219.96	219.99	220.02	220.05	220.08	220.11	220.14	220.17	220.20	220.23
5.8	220.26	220.28	220.31	220.34	220.37	220.40	220.43	220.46	220.49	220.52
5.9	220.55	220.58	220.61	220.64	220.67	220.70	220.72	220.75	220.78	220.81
1696.0	220.84	220.87	220.90	220.93	220.96	220.99	221.02	221.05	221.08	221.11
6.1	221.14	221.17	221.19	221.22	221.25	221.28	221.31	221.34	221.37	221.40
6.2	221.43	221.46	221.49	221.52	221.55	221.58	221.61	221.64	221.66	221.69
6.3	221.72	221.75	221.78	221.81	221.84	221.87	221.90	221.93	221.96	221.99
6.4	222.02	222.05	222.08	222.11	222.14	222.16	222.19	222.22	222.25	222.28
1696.5	222.31	222.34	222.37	222.40	222.43	222.46	222.49	222.52	222.55	222.58
6.6	222.61	222.64	222.67	222.70	222.73	222.75	222.78	222.81	222.84	222.87
6.7	222.90	222.93	222.96	222.99	223.02	223.05	223.08	223.11	223.14	223.17
6.8	223.20	223.23	223.26	223.29	223.32	223.35	223.37	223.40	223.43	223.46
6.9	223.49	223.52	223.55	223.58	223.61	223.64	223.67	223.70	223.73	223.76
1697.0	223.79	223.82	223.85	223.88	223.91	223.94	223.97	224.00	224.03	224.05
7.1	224.08	224.11	224.14	224.17	224.20	224.23	224.26	224.29	224.32	224.35
7.2	224.38	224.41	224.44	224.47	224.50	224.53	224.56	224.59	224.62	224.65
7.3	224.68	224.71	224.74	224.77	224.80	224.83	224.85	224.88	224.91	224.94
7.4	224.97	225.00	225.03	225.06	225.09	225.12	225.15	225.18	225.21	225.24
1697.5	225.27	225.30	225.33	225.36	225.39	225.42	225.45	225.48	225.51	225.54
7.6	225.57	225.60	225.63	225.66	225.69	225.72	225.75	225.78	225.81	225.84
7.7	225.86	225.89	225.92	225.95	225.98	226.01	226.04	226.07	226.10	226.13
7.8	226.16	226.19	226.22	226.25	226.28	226.31	226.34	226.37	226.40	226.43
7.9	226.46	226.49	226.52	226.55	226.58	226.61	226.64	226.67	226.70	226.73
1698.0	226.76	226.79	226.82	226.85	226.88	226.91	226.94	226.97	227.00	227.03
8.1	227.06	227.09	227.12	227.15	227.18	227.21	227.24	227.26	227.29	227.32
8.2	227.35	227.38	227.41	227.44	227.47	227.50	227.53	227.56	227.59	227.62
8.3	227.65	227.68	227.71	227.74	227.77	227.80	227.83	227.86	227.89	227.92
8.4	227.95	227.98	228.01	228.04	228.07	228.10	228.13	228.16	228.19	228.22
1698.5	228.25	228.28	228.31	228.34	228.37	228.40	228.43	228.46	228.49	228.52
8.6	228.55	228.58	228.61	228.64	228.67	228.70	228.73	228.76	228.79	228.82
8.7	228.85	228.88	228.91	228.94	228.97	229.00	229.03	229.06	229.09	229.12
8.8	229.15	229.18	229.21	229.24	229.27	229.30	229.33	229.36	229.39	229.42
8.9	229.45	229.48	229.51	229.54	229.57	229.60	229.63	229.66	229.69	229.72
1699.0	229.75	229.78	229.81	229.84	229.87	229.90	229.93	229.96	229.99	230.02
9.1	230.05	230.08	230.11	230.14	230.17	230.20	230.23	230.26	230.29	230.32
9.2	230.35	230.38	230.41	230.44	230.47	230.50	230.53	230.56	230.59	230.62
9.3	230.65	230.68	230.71	230.74	230.77	230.80	230.83	230.86	230.89	230.92
9.4	230.95	230.98	231.01	231.04	231.07	231.10	231.13	231.16	231.19	231.22
1699.5	231.25	231.28	231.31	231.35	231.38	231.41	231.44	231.47	231.50	231.53
9.6	231.56	231.59	231.62	231.65	231.68	231.71	231.74	231.77	231.80	231.83
9.7	231.86	231.89	231.92	231.95	231.98	232.01	232.04	232.07	232.10	232.13
9.8	232.16	232.19	232.22	232.25	232.28	232.31	232.34	232.37	232.40	232.43
9.9	232.46	232.49	232.52	232.55	232.58	232.61	232.64	232.67	232.70	232.74
1700.0	232.77									

1986 EDITION/ROB

VOLUMES BASED ON 1964 SURVEY.

HEADWATER 1690-1700

Attachment 1c: South Holston Excel Level Storage Table

SOUTH HOLSTON

Quick Lookup

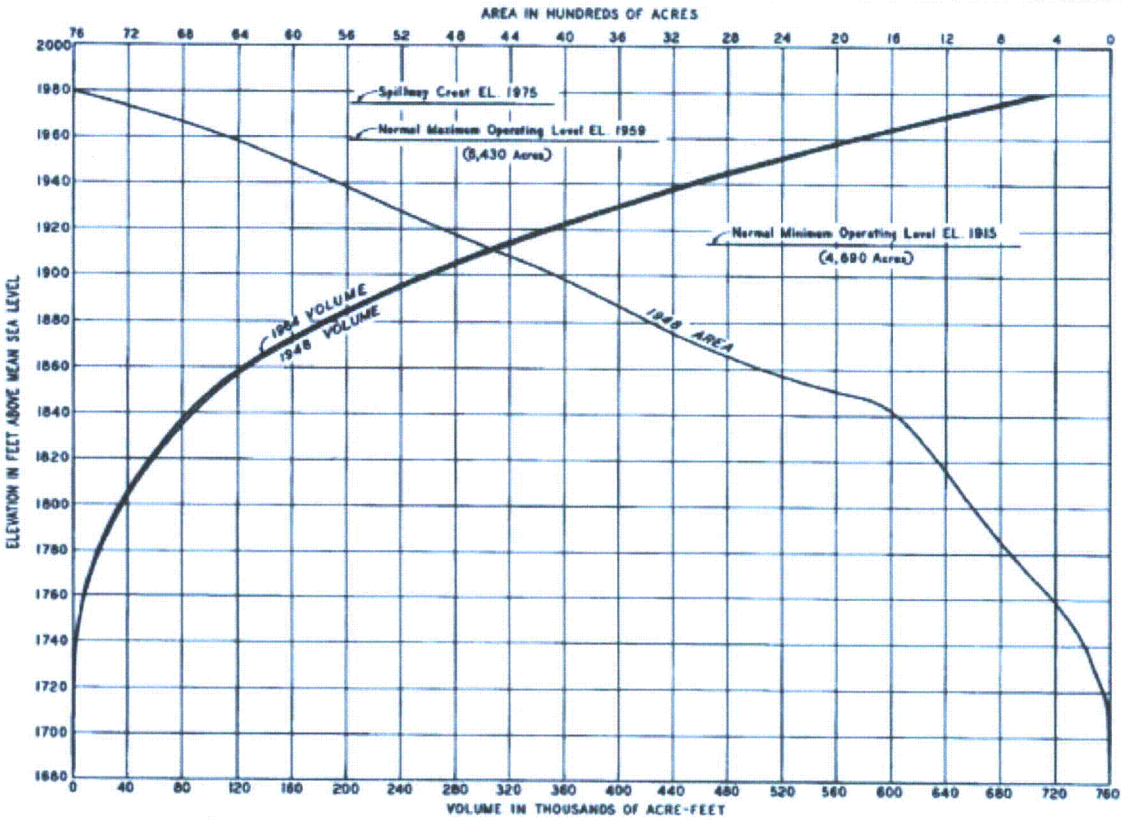
Storage	Enter known HW in green box. Corresponding storage is in yellow box.			
	Elevation		Volume	
	1700.00		232.765	

HW	Enter known storage in green box. Adjust value in gray box until value in blue box matches or closely approximates value in green box. Corresponding HW is in yellow box.			
	Volume			Elevation
	205.000	0.485	204.996	1690.49

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1680.00	176.738	176.764	176.790	176.815	176.841	176.867	176.893	176.918	176.944	176.970
1680.10	176.996	177.021	177.047	177.073	177.099	177.124	177.150	177.176	177.202	177.227
1680.20	177.253	177.279	177.305	177.331	177.356	177.382	177.408	177.434	177.460	177.485
1680.30	177.511	177.537	177.563	177.589	177.614	177.640	177.666	177.692	177.718	177.743
1680.40	177.769	177.795	177.821	177.847	177.873	177.898	177.924	177.950	177.976	178.002
1680.50	178.028	178.054	178.079	178.105	178.131	178.157	178.183	178.209	178.235	178.260
1680.60	178.286	178.312	178.338	178.364	178.390	178.416	178.442	178.467	178.493	178.519
1680.70	178.545	178.571	178.597	178.623	178.649	178.675	178.701	178.727	178.752	178.778
1680.80	178.804	178.830	178.856	178.882	178.908	178.934	178.960	178.986	179.012	179.038
1680.90	179.064	179.090	179.116	179.142	179.167	179.193	179.219	179.245	179.271	179.297
1681.00	179.323	179.349	179.375	179.401	179.427	179.453	179.479	179.505	179.531	179.557
1681.10	179.583	179.609	179.635	179.661	179.687	179.713	179.739	179.765	179.791	179.817
1681.20	179.843	179.869	179.895	179.921	179.947	179.973	179.999	180.025	180.051	180.077
1681.30	180.103	180.130	180.156	180.182	180.208	180.234	180.260	180.286	180.312	180.338
1681.40	180.364	180.390	180.416	180.442	180.468	180.494	180.520	180.547	180.573	180.599
1681.50	180.625	180.651	180.677	180.703	180.729	180.755	180.781	180.808	180.834	180.860
1681.60	180.886	180.912	180.938	180.964	180.990	181.016	181.043	181.069	181.095	181.121
1681.70	181.147	181.173	181.199	181.226	181.252	181.278	181.304	181.330	181.356	181.382
1681.80	181.409	181.435	181.461	181.487	181.513	181.539	181.566	181.592	181.618	181.644
1681.90	181.670	181.697	181.723	181.749	181.775	181.801	181.828	181.854	181.880	181.906
1682.00	181.932	181.959	181.985	182.011	182.037	182.063	182.090	182.116	182.142	182.168

Attachment 2a: Watauga Bluebook Figure



ELEV FT	1948 AREA AC	VOLUME 1948 AC-FT	1953 AC-FT	1958 AC-FT	1984 AC-FT
1,980	7,600	718,000	717,000	716,000	714,000
1,975	7,300	681,000	680,000	679,000	677,000
1,970	6,930	646,000	645,000	643,000	642,000
1,960	6,480	579,000	578,000	576,000	575,000
1,950	6,070	516,000	515,000	514,000	512,000
1,940	5,680	457,000	456,000	455,000	454,000
1,930	5,310	402,000	401,000	400,000	399,000
1,920	4,900	351,000	350,000	349,000	348,000
1,910	4,500	304,000	303,000	302,000	301,000
1,900	4,070	262,000	261,000	260,000	258,000
1,890	3,710	223,000	222,000	221,000	220,000
1,875	3,200	171,000	170,000	169,000	168,000
1,860	2,560	128,000	127,000	127,000	126,000
1,850	2,000	105,000	104,000	104,000	103,000
1,840	1,550	87,200	86,800	86,600	85,900
1,830	1,390	72,500	72,100	72,000	71,300
1,820	1,250	59,300	59,000	58,900	58,200
1,810	1,130	47,400	47,100	47,000	46,300
1,795	929	32,100	31,800	31,700	31,000
1,780	715	19,800	19,500	19,500	18,800
1,770	572	13,300	13,200	13,200	12,700
1,760	411	8,440	8,370	8,380	7,980
1,750	285	4,950	4,940	4,920	4,580
1,740	183	2,610	2,610	2,600	2,390
1,730	113	1,140	1,120	1,120	990
1,720	38	379	374	378	300
1,710	11	134	128	134	76
1,685	0	0	0	0	0

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

NOTES:

Reservoir areas were measured on TVA land maps, scale 1:6,000, at elevations 1795, 1875, 1960, 1975 & 1980, and TVA topographic maps, scale 1:24,000, at elevations 1720, 1760, 1840 & 1920. Contours were made to conform to elevations on TVA sediment range cross sections which are located at one to three mile intervals within the reservoir.

The 1953 and subsequent volumes were determined by the constant factor method for computing sediment.

Elevations are referred to the 1936 Supplementary Adjustment of the U.S.C. & G.S.

Area of original river within the reservoir = 313 acres.

Drainage area above dam = 468 square miles.

Dam closure December 1, 1948.

THIS DRAWING SUPERSEDES 22-DA-1-32163Bm1

WATAUGA RIVER - MILE 36.7

RESERVOIR AREAS AND VOLUMES

WATAUGA PROJECT
TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

SUBMITTED	RECOMMENDED	APPROVED

KNOXVILLE	12-28-82	22	DA	1	321N800R2

Attachment 2b: Watauga 1986 Level Storage Table

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

WATAUGA

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1950.0	258.13	258.16	258.19	258.22	258.25	258.28	258.31	258.34	258.37	258.40
.1	258.43	258.46	258.50	258.53	258.56	258.59	258.62	258.65	258.68	258.71
.2	258.74	258.77	258.80	258.83	258.86	258.89	258.92	258.95	258.98	259.01
.3	259.04	259.07	259.10	259.14	259.17	259.20	259.23	259.26	259.29	259.32
.4	259.35	259.38	259.41	259.44	259.47	259.50	259.53	259.56	259.59	259.62
1950.5	259.65	259.69	259.72	259.75	259.78	259.81	259.84	259.87	259.90	259.93
.6	259.96	259.99	260.02	260.05	260.08	260.11	260.14	260.18	260.21	260.24
.7	260.27	260.30	260.33	260.36	260.39	260.42	260.45	260.48	260.51	260.54
.8	260.57	260.60	260.63	260.67	260.70	260.73	260.76	260.79	260.82	260.85
.9	260.88	260.91	260.94	260.97	261.00	261.03	261.06	261.09	261.13	261.16
1951.0	261.19	261.22	261.25	261.28	261.31	261.34	261.37	261.40	261.43	261.46
1.1	261.49	261.53	261.56	261.59	261.62	261.65	261.68	261.71	261.74	261.77
1.2	261.80	261.83	261.86	261.89	261.93	261.96	261.99	262.02	262.05	262.08
1.3	262.11	262.14	262.17	262.20	262.23	262.26	262.30	262.33	262.36	262.39
1.4	262.42	262.45	262.48	262.51	262.54	262.57	262.60	262.63	262.67	262.70
1951.5	262.73	262.76	262.79	262.82	262.85	262.88	262.91	262.94	262.97	263.01
1.6	263.04	263.07	263.10	263.13	263.16	263.19	263.22	263.25	263.28	263.31
1.7	263.34	263.38	263.41	263.44	263.47	263.50	263.53	263.56	263.59	263.62
1.8	263.65	263.69	263.72	263.75	263.78	263.81	263.84	263.87	263.90	263.93
1.9	263.96	263.99	264.03	264.06	264.09	264.12	264.15	264.18	264.21	264.24
1952.0	264.27	264.31	264.34	264.37	264.40	264.43	264.46	264.49	264.52	264.55
2.1	264.58	264.62	264.65	264.68	264.71	264.74	264.77	264.80	264.83	264.86
2.2	264.89	264.93	264.96	264.99	265.02	265.05	265.08	265.11	265.14	265.17
2.3	265.21	265.24	265.27	265.30	265.33	265.36	265.39	265.42	265.45	265.49
2.4	265.52	265.55	265.58	265.61	265.64	265.67	265.70	265.73	265.77	265.80
1952.5	265.83	265.86	265.89	265.92	265.95	265.98	266.02	266.05	266.08	266.11
2.6	266.14	266.17	266.20	266.23	266.27	266.30	266.33	266.36	266.39	266.42
2.7	266.45	266.48	266.51	266.55	266.58	266.61	266.64	266.67	266.70	266.73
2.8	266.76	266.80	266.83	266.86	266.89	266.92	266.95	266.98	267.01	267.05
2.9	267.08	267.11	267.14	267.17	267.20	267.23	267.26	267.30	267.33	267.36
1953.0	267.39	267.42	267.45	267.48	267.51	267.55	267.58	267.61	267.64	267.67
3.1	267.70	267.73	267.77	267.80	267.83	267.86	267.89	267.92	267.95	267.98
3.2	268.02	268.05	268.08	268.11	268.14	268.17	268.20	268.24	268.27	268.30
3.3	268.33	268.36	268.39	268.42	268.46	268.49	268.52	268.55	268.58	268.61
3.4	268.64	268.67	268.71	268.74	268.77	268.80	268.83	268.86	268.89	268.93
1953.5	268.96	268.99	269.02	269.05	269.08	269.11	269.15	269.18	269.21	269.24
3.6	269.27	269.30	269.34	269.37	269.40	269.43	269.46	269.49	269.52	269.56
3.7	269.59	269.62	269.65	269.68	269.71	269.74	269.78	269.81	269.84	269.87
3.8	269.90	269.93	269.96	270.00	270.03	270.06	270.09	270.12	270.15	270.19
3.9	270.22	270.25	270.28	270.31	270.34	270.37	270.41	270.44	270.47	270.50
1954.0	270.53	270.56	270.60	270.63	270.66	270.69	270.72	270.75	270.78	270.82
4.1	270.85	270.88	270.91	270.94	270.97	271.01	271.04	271.07	271.10	271.13
4.2	271.16	271.20	271.23	271.26	271.29	271.32	271.35	271.39	271.42	271.45
4.3	271.48	271.51	271.54	271.58	271.61	271.64	271.67	271.70	271.73	271.77
4.4	271.80	271.83	271.86	271.89	271.92	271.95	271.99	272.02	272.05	272.08
1954.5	272.11	272.14	272.18	272.21	272.24	272.27	272.30	272.34	272.37	272.40
4.6	272.43	272.46	272.49	272.53	272.56	272.59	272.62	272.65	272.68	272.72
4.7	272.75	272.78	272.81	272.84	272.87	272.91	272.94	272.97	273.00	273.03
4.8	273.07	273.10	273.13	273.16	273.19	273.22	273.26	273.29	273.32	273.35
4.9	273.38	273.41	273.45	273.48	273.51	273.54	273.57	273.61	273.64	273.67

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1955.0	273.70	273.73	273.76	273.80	273.83	273.86	273.89	273.92	273.96	273.99
5.1	274.02	274.05	274.08	274.11	274.15	274.18	274.21	274.24	274.27	274.31
5.2	274.34	274.37	274.40	274.43	274.46	274.50	274.53	274.56	274.59	274.62
5.3	274.66	274.69	274.72	274.75	274.78	274.82	274.85	274.88	274.91	274.94
5.4	274.97	275.01	275.04	275.07	275.10	275.13	275.17	275.20	275.23	275.26
1955.5	275.29	275.33	275.36	275.39	275.42	275.45	275.49	275.52	275.55	275.58
5.6	275.61	275.65	275.68	275.71	275.74	275.77	275.81	275.84	275.87	275.90
5.7	275.93	275.97	276.00	276.03	276.06	276.09	276.13	276.16	276.19	276.22
5.8	276.25	276.29	276.32	276.35	276.38	276.41	276.45	276.48	276.51	276.54
5.9	276.57	276.61	276.64	276.67	276.70	276.73	276.77	276.80	276.83	276.86
1956.0	276.89	276.93	276.96	276.99	277.02	277.05	277.09	277.12	277.15	277.18
6.1	277.21	277.25	277.28	277.31	277.34	277.38	277.41	277.44	277.47	277.50
6.2	277.54	277.57	277.60	277.63	277.66	277.70	277.73	277.76	277.79	277.82
6.3	277.86	277.89	277.92	277.95	277.99	278.02	278.05	278.08	278.11	278.15
6.4	278.18	278.21	278.24	278.27	278.31	278.34	278.37	278.40	278.44	278.47
1956.5	278.50	278.53	278.56	278.60	278.63	278.66	278.69	278.73	278.76	278.79
6.6	278.82	278.85	278.89	278.92	278.95	278.98	279.02	279.05	279.08	279.11
6.7	279.14	279.18	279.21	279.24	279.27	279.30	279.34	279.37	279.40	279.43
6.8	279.47	279.50	279.53	279.56	279.60	279.63	279.66	279.69	279.72	279.76
6.9	279.79	279.82	279.85	279.88	279.92	279.95	279.98	280.01	280.05	280.08
1957.0	280.11	280.14	280.18	280.21	280.24	280.27	280.30	280.34	280.37	280.40
7.1	280.43	280.47	280.50	280.53	280.56	280.60	280.63	280.66	280.69	280.73
7.2	280.76	280.79	280.82	280.85	280.89	280.92	280.95	280.98	281.02	281.05
7.3	281.08	281.11	281.15	281.18	281.21	281.24	281.28	281.31	281.34	281.37
7.4	281.40	281.44	281.47	281.50	281.53	281.57	281.60	281.63	281.66	281.70
1957.5	281.73	281.76	281.79	281.83	281.86	281.89	281.92	281.96	281.99	282.02
7.6	282.05	282.08	282.12	282.15	282.18	282.21	282.25	282.28	282.31	282.34
7.7	282.38	282.41	282.44	282.47	282.51	282.54	282.57	282.60	282.64	282.67
7.8	282.70	282.73	282.77	282.80	282.83	282.86	282.90	282.93	282.96	282.99
7.9	283.03	283.06	283.09	283.12	283.16	283.19	283.22	283.25	283.29	283.32
1958.0	283.35	283.38	283.42	283.45	283.48	283.51	283.55	283.58	283.61	283.64
8.1	283.68	283.71	283.74	283.77	283.81	283.84	283.87	283.90	283.94	283.97
8.2	284.00	284.03	284.07	284.10	284.13	284.16	284.20	284.23	284.26	284.29
8.3	284.33	284.36	284.39	284.42	284.46	284.49	284.52	284.55	284.59	284.62
8.4	284.65	284.68	284.72	284.75	284.78	284.82	284.85	284.88	284.91	284.95
1958.5	284.98	285.01	285.04	285.08	285.11	285.14	285.17	285.21	285.24	285.27
8.6	285.30	285.34	285.37	285.40	285.44	285.47	285.50	285.53	285.57	285.60
8.7	285.63	285.66	285.70	285.73	285.76	285.79	285.83	285.86	285.89	285.92
8.8	285.96	285.99	286.02	286.06	286.09	286.12	286.15	286.19	286.22	286.25
8.9	286.28	286.32	286.35	286.38	286.41	286.45	286.48	286.51	286.55	286.58
1959.0	286.61	286.64	286.68	286.71	286.74	286.77	286.81	286.84	286.87	286.91
9.1	286.94	286.97	287.00	287.04	287.07	287.10	287.14	287.17	287.20	287.23
9.2	287.27	287.30	287.33	287.36	287.40	287.43	287.46	287.49	287.53	287.56
9.3	287.59	287.63	287.66	287.69	287.72	287.76	287.79	287.82	287.86	287.89
9.4	287.92	287.95	287.99	288.02	288.05	288.08	288.12	288.15	288.18	288.22
1959.5	288.25	288.28	288.31	288.35	288.38	288.41	288.45	288.48	288.51	288.54
9.6	288.58	288.61	288.64	288.68	288.71	288.74	288.77	288.81	288.84	288.87
9.7	288.91	288.94	288.97	289.00	289.04	289.07	289.10	289.14	289.17	289.20
9.8	289.23	289.27	289.30	289.33	289.37	289.40	289.43	289.46	289.50	289.53
9.9	289.56	289.60	289.63	289.66	289.69	289.73	289.76	289.79	289.83	289.86
1960.0	289.89									

1986 EDITION/RDB

VOLUMES BASED ON 1964 SURVEY.

HEADWATER 1950-1960

Attachment 2c: Watauga Excel Level Storage Table

WATAUGA

Quick Lookup

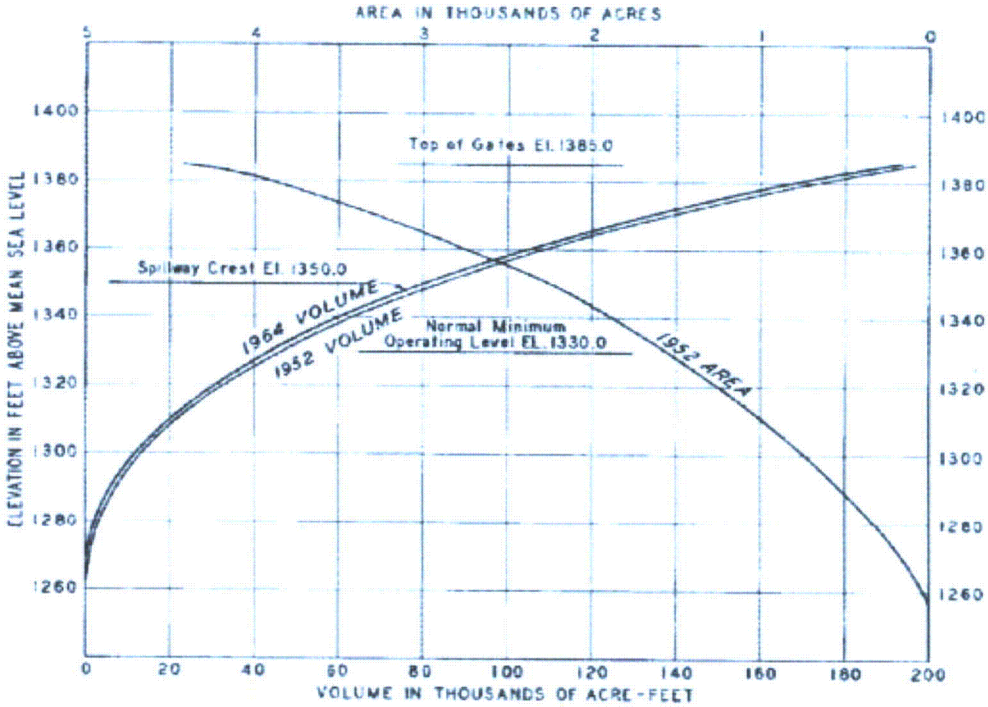
Storage	Enter known HW in green box Corresponding storage is in yellow box	
	Elevation	Volume
	1960.00	289.892

HW	Enter known storage in green box Adjust value in gray box until value in blue box matches or closely approximates value in green box Corresponding HW is in yellow box			
	Volume			Elevation
	207.300	2.269	207.299	1932.27

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1910.00	151.752	151.775	151.798	151.820	151.843	151.866	151.889	151.912	151.934	151.957
1910.10	151.980	152.003	152.026	152.048	152.071	152.094	152.117	152.140	152.162	152.185
1910.20	152.208	152.231	152.254	152.277	152.299	152.322	152.345	152.368	152.391	152.414
1910.30	152.436	152.459	152.482	152.505	152.528	152.551	152.573	152.596	152.619	152.642
1910.40	152.665	152.688	152.711	152.733	152.756	152.779	152.802	152.825	152.848	152.871
1910.50	152.894	152.916	152.939	152.962	152.985	153.008	153.031	153.054	153.077	153.099
1910.60	153.122	153.145	153.168	153.191	153.214	153.237	153.260	153.283	153.306	153.328
1910.70	153.351	153.374	153.397	153.420	153.443	153.466	153.489	153.512	153.535	153.558
1910.80	153.580	153.603	153.626	153.649	153.672	153.695	153.718	153.741	153.764	153.787
1910.90	153.810	153.833	153.856	153.879	153.902	153.925	153.948	153.970	153.993	154.016
1911.00	154.039	154.062	154.085	154.108	154.131	154.154	154.177	154.200	154.223	154.246
1911.10	154.269	154.292	154.315	154.338	154.361	154.384	154.407	154.430	154.453	154.476
1911.20	154.499	154.522	154.545	154.568	154.591	154.614	154.637	154.660	154.683	154.706
1911.30	154.729	154.752	154.775	154.798	154.821	154.844	154.867	154.890	154.913	154.936
1911.40	154.959	154.982	155.005	155.028	155.051	155.074	155.097	155.120	155.143	155.166
1911.50	155.190	155.213	155.236	155.259	155.282	155.305	155.328	155.351	155.374	155.397
1911.60	155.420	155.443	155.466	155.489	155.512	155.535	155.559	155.582	155.605	155.628
1911.70	155.651	155.674	155.697	155.720	155.743	155.766	155.789	155.812	155.836	155.859
1911.80	155.882	155.905	155.928	155.951	155.974	155.997	156.020	156.044	156.067	156.090
1911.90	156.113	156.136	156.159	156.182	156.205	156.228	156.252	156.275	156.298	156.321
1912.00	156.344	156.367	156.390	156.414	156.437	156.460	156.483	156.506	156.529	156.552

Attachment 3a: Boone Bluebook Figure



ELEV FT	1952 AREA AC	VOLUME 1952 AC-FT	VOLUME 1958 AC-FT	VOLUME 1964 AC-FT
1,385	4,400	195,666	195,633	193,446
1,380	3,948	175,501	174,487	172,318
1,370	3,347	139,215	138,219	136,280
1,360	2,742	108,998	108,065	106,348
1,350	2,229	84,309	83,484	81,887
1,340	1,885	63,779	63,033	61,778
1,330	1,547	46,661	46,083	44,998
1,320	1,252	32,590	32,175	31,357
1,310	974	21,889	21,354	20,569
1,300	738	13,142	12,937	12,305
1,289	513	8,957	8,887	8,342
1,280	309	2,938	2,832	2,361
1,270	156	705	675	581
1,260	19	49	38	24
1,254.9	0	0	0	0

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

NOTES

Reservoir areas were measured on a composite map prepared by the Hydraulic Data Branch with contours drawn at 10' intervals and scale 1" = 500'. The map was prepared from TVA land maps with contours at elevations 1,350, 1,385 & 1,390 and TVA topographic maps with contours at 20' intervals. Contours were made to conform to elevations on TVA sediment range cross sections located at one-half to one-mile intervals. The 1952 volume was computed by the contour method. Volumes of sediment on succeeding dates were computed by the constant factor method.

Elevations are referred to the USC & GS 1936 Supplementary Adjustment.

Area of original river within reservoir = 719 acres.

Drainage area at dam = 1,840 square miles

Dam closure December 16, 1952

THIS DRAWING SUPERSEDES 31 D4 / 321A893

SOUTH FORK HOLSTON RIVER-MILE 18.8

RESERVOIR AREAS AND VOLUMES

BOONE PROJECT

TENNESSEE VALLEY AUTHORITY

DIVISION OF WATER CONTROL PLANNING

SUBMITTED	RECOMMENDED	APPROVED

KNOXVILLE	12-20-62	31	D4	1	321G801(A)

Attachment 3b: Boone 1986 Level Storage Table

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

BOONE

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1340.0	31.15	31.16	31.16	31.17	31.18	31.19	31.20	31.21	31.22	31.23
.1	31.24	31.25	31.26	31.27	31.28	31.29	31.30	31.30	31.31	31.32
.2	31.33	31.34	31.35	31.36	31.37	31.38	31.39	31.40	31.41	31.42
.3	31.43	31.43	31.44	31.45	31.46	31.47	31.48	31.49	31.50	31.51
.4	31.52	31.53	31.54	31.55	31.56	31.57	31.58	31.58	31.59	31.60
1340.5	31.61	31.62	31.63	31.64	31.65	31.66	31.67	31.68	31.69	31.70
.6	31.71	31.72	31.73	31.73	31.74	31.75	31.76	31.77	31.78	31.79
.7	31.80	31.81	31.82	31.83	31.84	31.85	31.86	31.87	31.88	31.89
.8	31.89	31.90	31.91	31.92	31.93	31.94	31.95	31.96	31.97	31.98
.9	31.99	32.00	32.01	32.02	32.03	32.04	32.05	32.06	32.06	32.07
1341.0	32.08	32.09	32.10	32.11	32.12	32.13	32.14	32.15	32.16	32.17
1.1	32.18	32.19	32.20	32.21	32.22	32.23	32.24	32.25	32.25	32.26
1.2	32.27	32.28	32.29	32.30	32.31	32.32	32.33	32.34	32.35	32.36
1.3	32.37	32.38	32.39	32.40	32.41	32.42	32.43	32.44	32.44	32.45
1.4	32.46	32.47	32.48	32.49	32.50	32.51	32.52	32.53	32.54	32.55
1341.5	32.56	32.57	32.58	32.59	32.60	32.61	32.62	32.63	32.64	32.65
1.6	32.66	32.66	32.67	32.68	32.69	32.70	32.71	32.72	32.73	32.74
1.7	32.75	32.76	32.77	32.78	32.79	32.80	32.81	32.82	32.83	32.84
1.8	32.85	32.86	32.87	32.88	32.89	32.89	32.90	32.91	32.92	32.93
1.9	32.94	32.95	32.96	32.97	32.98	32.99	33.00	33.01	33.02	33.03
1342.0	33.04	33.05	33.06	33.07	33.08	33.09	33.10	33.11	33.12	33.13
2.1	33.14	33.15	33.16	33.16	33.17	33.18	33.19	33.20	33.21	33.22
2.2	33.23	33.24	33.25	33.26	33.27	33.28	33.29	33.30	33.31	33.32
2.3	33.33	33.34	33.35	33.36	33.37	33.38	33.39	33.40	33.41	33.42
2.4	33.43	33.44	33.45	33.46	33.46	33.47	33.48	33.49	33.50	33.51
1342.5	33.52	33.53	33.54	33.55	33.56	33.57	33.58	33.59	33.60	33.61
2.6	33.62	33.63	33.64	33.65	33.66	33.67	33.68	33.69	33.70	33.71
2.7	33.72	33.73	33.74	33.75	33.76	33.77	33.78	33.79	33.80	33.81
2.8	33.82	33.83	33.84	33.85	33.86	33.87	33.87	33.88	33.89	33.90
2.9	33.91	33.92	33.93	33.94	33.95	33.96	33.97	33.98	33.99	34.00
1343.0	34.01	34.02	34.03	34.04	34.05	34.06	34.07	34.08	34.09	34.10
3.1	34.11	34.12	34.13	34.14	34.15	34.16	34.17	34.18	34.19	34.20
3.2	34.21	34.22	34.23	34.24	34.25	34.26	34.27	34.28	34.29	34.30
3.3	34.31	34.32	34.33	34.34	34.35	34.36	34.37	34.38	34.39	34.40
3.4	34.41	34.42	34.43	34.44	34.45	34.46	34.47	34.48	34.49	34.50
1343.5	34.51	34.51	34.52	34.53	34.54	34.55	34.56	34.57	34.58	34.59
3.6	34.60	34.61	34.62	34.63	34.64	34.65	34.66	34.67	34.68	34.69
3.7	34.70	34.71	34.72	34.73	34.74	34.75	34.76	34.77	34.78	34.79
3.8	34.80	34.81	34.82	34.83	34.84	34.85	34.86	34.87	34.88	34.89
3.9	34.90	34.91	34.92	34.93	34.94	34.95	34.96	34.97	34.98	34.99
1344.0	35.00	35.01	35.02	35.03	35.04	35.05	35.06	35.07	35.08	35.09
4.1	35.10	35.11	35.12	35.13	35.14	35.15	35.16	35.17	35.18	35.19
4.2	35.20	35.21	35.22	35.23	35.24	35.25	35.26	35.27	35.28	35.29
4.3	35.30	35.31	35.32	35.33	35.34	35.35	35.36	35.37	35.38	35.39
4.4	35.40	35.41	35.42	35.43	35.44	35.45	35.46	35.47	35.48	35.49
1344.5	35.50	35.51	35.52	35.54	35.55	35.56	35.57	35.58	35.59	35.60
4.6	35.61	35.62	35.63	35.64	35.65	35.66	35.67	35.68	35.69	35.70
4.7	35.71	35.72	35.73	35.74	35.75	35.76	35.77	35.78	35.79	35.80
4.8	35.81	35.82	35.83	35.84	35.85	35.86	35.87	35.88	35.89	35.90
4.9	35.91	35.92	35.93	35.94	35.95	35.96	35.97	35.98	35.99	36.00

ELEV	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1345.0	36.01	36.02	36.03	36.04	36.05	36.06	36.07	36.08	36.09	36.10
5.1	36.11	36.12	36.13	36.14	36.15	36.16	36.17	36.18	36.20	36.21
5.2	36.22	36.23	36.24	36.25	36.26	36.27	36.28	36.29	36.30	36.31
5.3	36.32	36.33	36.34	36.35	36.36	36.37	36.38	36.39	36.40	36.41
5.4	36.42	36.43	36.44	36.45	36.46	36.47	36.48	36.49	36.50	36.51
1345.5	36.52	36.53	36.54	36.55	36.56	36.57	36.58	36.59	36.60	36.62
5.6	36.63	36.64	36.65	36.66	36.67	36.68	36.69	36.70	36.71	36.72
5.7	36.73	36.74	36.75	36.76	36.77	36.78	36.79	36.80	36.81	36.82
5.8	36.83	36.84	36.85	36.86	36.87	36.88	36.89	36.90	36.91	36.92
5.9	36.93	36.95	36.96	36.97	36.98	36.99	37.00	37.01	37.02	37.03
1346.0	37.04	37.05	37.06	37.07	37.08	37.09	37.10	37.11	37.12	37.13
6.1	37.14	37.15	37.16	37.17	37.18	37.19	37.20	37.22	37.23	37.24
6.2	37.25	37.26	37.27	37.28	37.29	37.30	37.31	37.32	37.33	37.34
6.3	37.35	37.36	37.37	37.38	37.39	37.40	37.41	37.42	37.43	37.44
6.4	37.45	37.46	37.48	37.49	37.50	37.51	37.52	37.53	37.54	37.55
1346.5	37.56	37.57	37.58	37.59	37.60	37.61	37.62	37.63	37.64	37.65
6.6	37.66	37.67	37.68	37.70	37.71	37.72	37.73	37.74	37.75	37.76
6.7	37.77	37.78	37.79	37.80	37.81	37.82	37.83	37.84	37.85	37.86
6.8	37.87	37.88	37.89	37.91	37.92	37.93	37.94	37.95	37.96	37.97
6.9	37.98	37.99	38.00	38.01	38.02	38.03	38.04	38.05	38.06	38.07
1347.0	38.08	38.09	38.11	38.12	38.13	38.14	38.15	38.16	38.17	38.18
7.1	38.19	38.20	38.21	38.22	38.23	38.24	38.25	38.26	38.27	38.29
7.2	38.30	38.31	38.32	38.33	38.34	38.35	38.36	38.37	38.38	38.39
7.3	38.40	38.41	38.42	38.43	38.44	38.45	38.47	38.48	38.49	38.50
7.4	38.51	38.52	38.53	38.54	38.55	38.56	38.57	38.58	38.59	38.60
1347.5	38.61	38.62	38.64	38.65	38.66	38.67	38.68	38.69	38.70	38.71
7.6	38.72	38.73	38.74	38.75	38.76	38.77	38.78	38.80	38.81	38.82
7.7	38.83	38.84	38.85	38.86	38.87	38.88	38.89	38.90	38.91	38.92
7.8	38.93	38.94	38.96	38.97	38.98	38.99	39.00	39.01	39.02	39.03
7.9	39.04	39.05	39.06	39.07	39.08	39.09	39.11	39.12	39.13	39.14
1348.0	39.15	39.16	39.17	39.18	39.19	39.20	39.21	39.22	39.23	39.25
8.1	39.26	39.27	39.28	39.29	39.30	39.31	39.32	39.33	39.34	39.35
8.2	39.36	39.37	39.39	39.40	39.41	39.42	39.43	39.44	39.45	39.46
8.3	39.47	39.48	39.49	39.50	39.51	39.53	39.54	39.55	39.56	39.57
8.4	39.58	39.59	39.60	39.61	39.62	39.63	39.64	39.66	39.67	39.68
1348.5	39.69	39.70	39.71	39.72	39.73	39.74	39.75	39.76	39.77	39.79
8.6	39.80	39.81	39.82	39.83	39.84	39.85	39.86	39.87	39.88	39.89
8.7	39.90	39.92	39.93	39.94	39.95	39.96	39.97	39.98	39.99	40.00
8.8	40.01	40.02	40.04	40.05	40.06	40.07	40.08	40.09	40.10	40.11
8.9	40.12	40.13	40.14	40.16	40.17	40.18	40.19	40.20	40.21	40.22
1349.0	40.23	40.24	40.25	40.26	40.28	40.29	40.30	40.31	40.32	40.33
9.1	40.34	40.35	40.36	40.37	40.39	40.40	40.41	40.42	40.43	40.44
9.2	40.45	40.46	40.47	40.48	40.49	40.51	40.52	40.53	40.54	40.55
9.3	40.56	40.57	40.58	40.59	40.60	40.62	40.63	40.64	40.65	40.66
9.4	40.67	40.68	40.69	40.70	40.71	40.73	40.74	40.75	40.76	40.77
1349.5	40.78	40.79	40.80	40.81	40.82	40.84	40.85	40.86	40.87	40.88
9.6	40.89	40.90	40.91	40.92	40.94	40.95	40.96	40.97	40.98	40.99
9.7	41.00	41.01	41.02	41.03	41.05	41.06	41.07	41.08	41.09	41.10
9.8	41.11	41.12	41.13	41.15	41.16	41.17	41.18	41.19	41.20	41.21
9.9	41.22	41.23	41.25	41.26	41.27	41.28	41.29	41.30	41.31	41.32
1350.0	41.33									

1986 EDITION/RDB

VOLUMES BASED ON 1964 SURVEY.

HEADWATER 1340-1350

Attachment 3c: Boone Excel Level Storage Table

BOONE

Quick Lookup

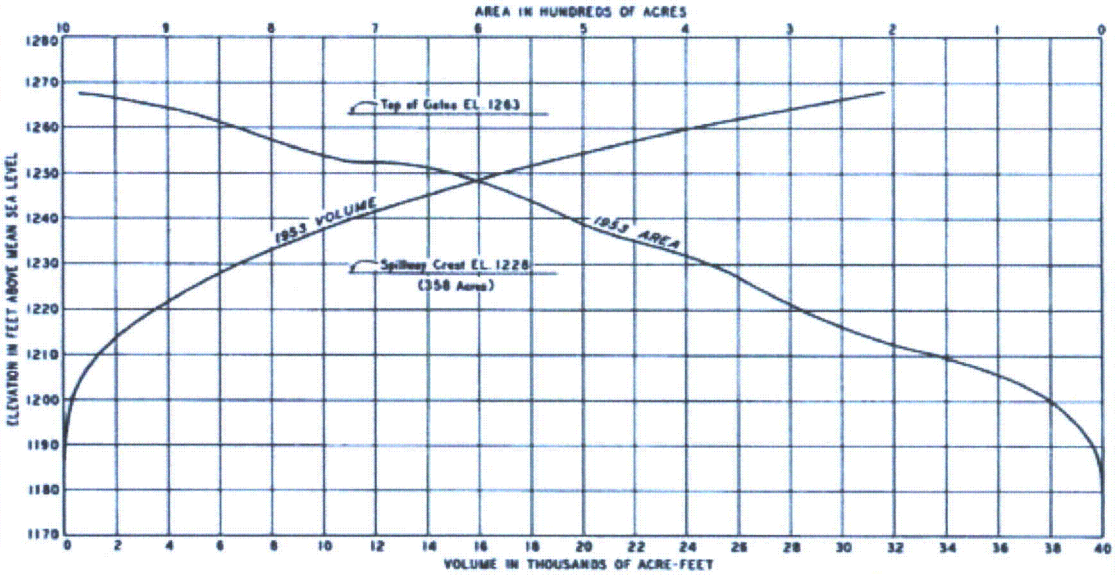
Storage	Enter known HW in green box. Corresponding storage is in yellow box	
	Elevation	Volume
	1350.00	41.335

HW	Enter known storage in green box. Adjust value in gray box until value in blue box matches or closely approximates value in green box. Corresponding HW is in yellow box			
	Volume			Elevation
	84.000	8.555	84.002	1378.56

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1330.00	22.686	22.694	22.701	22.709	22.717	22.724	22.732	22.740	22.747	22.755
1330.10	22.763	22.770	22.778	22.786	22.793	22.801	22.809	22.816	22.824	22.832
1330.20	22.839	22.847	22.855	22.863	22.870	22.878	22.886	22.893	22.901	22.909
1330.30	22.916	22.924	22.932	22.939	22.947	22.955	22.963	22.970	22.978	22.986
1330.40	22.993	23.001	23.009	23.017	23.024	23.032	23.040	23.047	23.055	23.063
1330.50	23.071	23.078	23.086	23.094	23.102	23.109	23.117	23.125	23.132	23.140
1330.60	23.148	23.156	23.163	23.171	23.179	23.187	23.194	23.202	23.210	23.218
1330.70	23.225	23.233	23.241	23.249	23.257	23.264	23.272	23.280	23.288	23.295
1330.80	23.303	23.311	23.319	23.326	23.334	23.342	23.350	23.358	23.365	23.373
1330.90	23.381	23.389	23.397	23.404	23.412	23.420	23.428	23.436	23.443	23.451
1331.00	23.459	23.467	23.475	23.482	23.490	23.498	23.506	23.514	23.521	23.529
1331.10	23.537	23.545	23.553	23.561	23.568	23.576	23.584	23.592	23.600	23.608
1331.20	23.615	23.623	23.631	23.639	23.647	23.655	23.662	23.670	23.678	23.686
1331.30	23.694	23.702	23.710	23.717	23.725	23.733	23.741	23.749	23.757	23.765
1331.40	23.773	23.780	23.788	23.796	23.804	23.812	23.820	23.828	23.836	23.843
1331.50	23.851	23.859	23.867	23.875	23.883	23.891	23.899	23.907	23.914	23.922
1331.60	23.930	23.938	23.946	23.954	23.962	23.970	23.978	23.986	23.994	24.001
1331.70	24.009	24.017	24.025	24.033	24.041	24.049	24.057	24.065	24.073	24.081
1331.80	24.089	24.097	24.105	24.112	24.120	24.128	24.136	24.144	24.152	24.160
1331.90	24.168	24.176	24.184	24.192	24.200	24.208	24.216	24.224	24.232	24.240
1332.00	24.248	24.256	24.264	24.272	24.280	24.288	24.295	24.303	24.311	24.319

Attachment 4a: Fort Patrick Henry Bluebook Figure



NOTES:

Reservoir areas were measured on a composite map prepared by the Hydraulic Data Branch with contours drawn at 10' intervals and scale 1" = 500'. The map was prepared from TVA land maps with contours at elevations 1253, 1263, and 1268 and TVA topographic maps with contours at 20' intervals. Contours were made to conform to elevations on TVA sediment range cross sections which are located at one half to one mile intervals in the reservoir.

The original areas and volumes were computed by the contour method and volumes on succeeding dates were determinated by correcting the original volume by the volumes of sediment found on these dates. The volumes of sediment were determined by the constant factor method.

Elevations are referred to the 1936 Supplementary Adjustment of the U.S.C. & G.S.

Area of original river within reservoir = 339 acres.
Drainage area of dam = 1,903 square miles.

Dam closure October 27, 1953.

ELEV FT	1953 AREA AC	VOLUME 1953 AC-FT	VOLUME 1959 AC-FT	VOLUME 1964 AC-FT
1268	990	31,700	31,500	31,500
1263	872	27,100	26,900	26,900
1250	628	16,900	16,700	16,700
1240	511	11,200	11,100	11,100
1230	377	6,820	6,710	6,670
1220	288	3,540	3,450	3,410
1210	180	1,320	1,250	1,250
1200	49	300	290	290
1190	9	30	30	30
1180	1	2	2	2
1173	0	0	0	0

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

S.F. HOLSTON RIVER MILE 8.2

RESERVOIR AREAS AND VOLUMES

FORT PATRICK HENRY PROJECT
TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

SUBMITTED	RECOMMENDED	APPROVED

KNOXVILLE	12-28-62	32	DA	1	321N802 R1

THIS DRAWING SUPERSEDES 32-DA-1-30017

Attachment 4b: Fort Patrick Henry 1986 Level Storage Table

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

FORT PATRICK HENRY

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1260.0	12.25	12.26	12.26	12.27	12.27	12.28	12.28	12.28	12.29	12.29
1	12.30	12.30	12.31	12.31	12.31	12.32	12.32	12.33	12.33	12.34
2	12.34	12.34	12.35	12.35	12.36	12.36	12.37	12.37	12.37	12.38
3	12.38	12.39	12.39	12.40	12.40	12.40	12.41	12.41	12.42	12.42
4	12.43	12.43	12.43	12.44	12.44	12.45	12.45	12.46	12.46	12.46
1260.5	12.47	12.47	12.48	12.48	12.49	12.49	12.49	12.50	12.50	12.51
6	12.51	12.52	12.52	12.53	12.53	12.53	12.54	12.54	12.55	12.55
7	12.56	12.56	12.56	12.57	12.57	12.58	12.58	12.59	12.59	12.59
8	12.60	12.60	12.61	12.61	12.62	12.62	12.62	12.63	12.63	12.64
9	12.64	12.65	12.65	12.65	12.66	12.66	12.67	12.67	12.68	12.68
1261.0	12.68	12.69	12.69	12.70	12.70	12.71	12.71	12.72	12.72	12.72
1.1	12.73	12.73	12.74	12.74	12.75	12.75	12.75	12.76	12.76	12.77
1.2	12.77	12.78	12.78	12.78	12.79	12.79	12.80	12.80	12.81	12.81
1.3	12.81	12.82	12.82	12.83	12.83	12.84	12.84	12.85	12.85	12.85
1.4	12.86	12.86	12.87	12.87	12.88	12.88	12.88	12.89	12.89	12.90
1261.5	12.90	12.91	12.91	12.92	12.92	12.92	12.93	12.93	12.94	12.94
1.6	12.95	12.95	12.95	12.96	12.96	12.97	12.97	12.98	12.98	12.98
1.7	12.99	12.99	13.00	13.00	13.01	13.01	13.02	13.02	13.02	13.03
1.8	13.03	13.04	13.04	13.05	13.05	13.05	13.06	13.06	13.07	13.07
1.9	13.08	13.08	13.09	13.09	13.09	13.10	13.10	13.11	13.11	13.12
1262.0	13.12	13.12	13.13	13.13	13.14	13.14	13.15	13.15	13.16	13.16
2.1	13.16	13.17	13.17	13.18	13.18	13.19	13.19	13.20	13.20	13.20
2.2	13.21	13.21	13.22	13.22	13.23	13.23	13.23	13.24	13.24	13.25
2.3	13.25	13.26	13.26	13.27	13.27	13.27	13.28	13.28	13.29	13.29
2.4	13.30	13.30	13.31	13.31	13.31	13.32	13.32	13.33	13.33	13.34
1262.5	13.34	13.35	13.35	13.35	13.36	13.36	13.37	13.37	13.38	13.38
2.6	13.38	13.39	13.39	13.40	13.40	13.41	13.41	13.42	13.42	13.42
2.7	13.43	13.43	13.44	13.44	13.45	13.45	13.46	13.46	13.46	13.47
2.8	13.47	13.48	13.48	13.49	13.49	13.50	13.50	13.50	13.51	13.51
2.9	13.52	13.52	13.53	13.53	13.54	13.54	13.54	13.55	13.55	13.56
1263.0	13.56	13.57	13.57	13.58	13.58	13.58	13.59	13.59	13.60	13.60
3.1	13.61	13.61	13.62	13.62	13.62	13.63	13.63	13.64	13.64	13.65
3.2	13.65	13.66	13.66	13.66	13.67	13.67	13.68	13.68	13.69	13.69
3.3	13.70	13.70	13.70	13.71	13.71	13.72	13.72	13.73	13.73	13.74
3.4	13.74	13.74	13.75	13.75	13.76	13.76	13.77	13.77	13.78	13.78
1263.5	13.78	13.79	13.79	13.80	13.80	13.81	13.81	13.82	13.82	13.82
3.6	13.83	13.83	13.84	13.84	13.85	13.85	13.86	13.86	13.87	13.87
3.7	13.87	13.88	13.88	13.89	13.89	13.90	13.90	13.91	13.91	13.91
3.8	13.92	13.92	13.93	13.93	13.94	13.94	13.95	13.95	13.95	13.96
3.9	13.96	13.97	13.97	13.98	13.98	13.99	13.99	14.00	14.00	14.00
1264.0	14.01	14.01	14.02	14.02	14.03	14.03	14.04	14.04	14.04	14.05
4.1	14.05	14.06	14.06	14.07	14.07	14.08	14.08	14.09	14.09	14.09
4.2	14.10	14.10	14.11	14.11	14.12	14.12	14.13	14.13	14.13	14.14
4.3	14.14	14.15	14.15	14.16	14.16	14.17	14.17	14.18	14.18	14.18
4.4	14.19	14.19	14.20	14.20	14.21	14.21	14.22	14.22	14.23	14.23
1264.5	14.23	14.24	14.24	14.25	14.25	14.26	14.26	14.27	14.27	14.28
4.6	14.28	14.28	14.29	14.29	14.30	14.30	14.31	14.31	14.32	14.32
4.7	14.33	14.33	14.33	14.34	14.34	14.35	14.35	14.36	14.36	14.37
4.8	14.37	14.38	14.38	14.38	14.39	14.39	14.40	14.40	14.41	14.41
4.9	14.42	14.42	14.43	14.43	14.43	14.44	14.44	14.45	14.45	14.46

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1265.0	14.46	14.47	14.47	14.48	14.48	14.48	14.49	14.49	14.50	14.50
5.1	14.51	14.51	14.52	14.52	14.53	14.53	14.54	14.54	14.54	14.55
5.2	14.55	14.56	14.56	14.57	14.57	14.58	14.58	14.59	14.59	14.59
5.3	14.60	14.60	14.61	14.61	14.62	14.62	14.63	14.63	14.64	14.64
5.4	14.65	14.65	14.65	14.66	14.66	14.67	14.67	14.68	14.68	14.69
1265.5	14.69	14.70	14.70	14.71	14.71	14.71	14.72	14.72	14.73	14.73
5.6	14.74	14.74	14.75	14.75	14.76	14.76	14.77	14.77	14.78	14.78
5.7	14.78	14.79	14.79	14.80	14.80	14.81	14.81	14.82	14.82	14.83
5.8	14.83	14.84	14.84	14.84	14.85	14.85	14.86	14.86	14.87	14.87
5.9	14.88	14.88	14.89	14.89	14.90	14.90	14.91	14.91	14.91	14.92
1266.0	14.92	14.93	14.93	14.94	14.94	14.95	14.95	14.96	14.96	14.97
6.1	14.97	14.98	14.98	14.98	14.99	14.99	15.00	15.00	15.01	15.01
6.2	15.02	15.02	15.03	15.03	15.04	15.04	15.05	15.05	15.05	15.06
6.3	15.06	15.07	15.07	15.08	15.08	15.09	15.09	15.10	15.10	15.11
6.4	15.11	15.12	15.12	15.13	15.13	15.14	15.14	15.14	15.15	15.15
1266.5	15.16	15.16	15.17	15.17	15.18	15.18	15.19	15.19	15.20	15.20
6.6	15.21	15.21	15.22	15.22	15.22	15.23	15.23	15.24	15.24	15.25
6.7	15.25	15.26	15.26	15.27	15.27	15.28	15.28	15.29	15.29	15.30
6.8	15.30	15.31	15.31	15.32	15.32	15.32	15.33	15.33	15.34	15.34
6.9	15.35	15.35	15.36	15.36	15.37	15.37	15.38	15.38	15.39	15.39
1267.0	15.40	15.40	15.41	15.41	15.42	15.42	15.43	15.43	15.43	15.44
7.1	15.44	15.45	15.45	15.46	15.46	15.47	15.47	15.48	15.48	15.49
7.2	15.49	15.50	15.50	15.51	15.51	15.52	15.52	15.53	15.53	15.54
7.3	15.54	15.55	15.55	15.55	15.56	15.56	15.57	15.57	15.58	15.58
7.4	15.59	15.59	15.60	15.60	15.61	15.61	15.62	15.62	15.63	15.63
1267.5	15.64	15.64	15.65	15.65	15.66	15.66	15.67	15.67	15.68	15.68
7.6	15.69	15.69	15.70	15.70	15.71	15.71	15.71	15.72	15.72	15.73
7.7	15.73	15.74	15.74	15.75	15.75	15.76	15.76	15.77	15.77	15.78
7.8	15.78	15.79	15.79	15.80	15.80	15.81	15.81	15.82	15.82	15.83
7.9	15.83	15.84	15.84	15.85	15.85	15.86	15.86	15.87	15.87	15.88
1268.0	15.88	15.89	15.89	15.90	15.90	15.91	15.91	15.92	15.92	15.93
8.1	15.93	15.94	15.94	15.95	15.95	15.95	15.96	15.96	15.97	15.97
8.2	15.98	15.98	15.99	15.99	16.00	16.00	16.01	16.01	16.02	16.02
8.3	16.03	16.03	16.04	16.04	16.05	16.05	16.06	16.06	16.07	16.07
8.4	16.08	16.08	16.09	16.09	16.10	16.10	16.11	16.11	16.12	16.12
1268.5	16.13	16.13	16.14	16.14	16.15	16.15	16.16	16.16	16.17	16.17
8.6	16.18	16.18	16.19	16.19	16.20	16.20	16.21	16.21	16.22	16.22
8.7	16.23	16.23	16.24	16.24	16.25	16.25	16.26	16.26	16.27	16.27
8.8	16.28	16.28	16.29	16.29	16.30	16.30	16.31	16.31	16.32	16.32
8.9	16.33	16.33	16.34	16.34	16.35	16.35	16.36	16.36	16.37	16.37
1269.0	16.38	16.38	16.39	16.39	16.40	16.41	16.41	16.42	16.42	16.43
9.1	16.43	16.44	16.44	16.45	16.45	16.46	16.46	16.47	16.47	16.48
9.2	16.48	16.49	16.49	16.50	16.50	16.51	16.51	16.52	16.52	16.53
9.3	16.53	16.54	16.54	16.55	16.55	16.56	16.56	16.57	16.57	16.58
9.4	16.58	16.59	16.59	16.60	16.60	16.61	16.61	16.62	16.62	16.63
1269.5	16.63	16.64	16.64	16.65	16.66	16.66	16.67	16.67	16.68	16.68
9.6	16.69	16.69	16.70	16.70	16.71	16.71	16.72	16.72	16.73	16.73
9.7	16.74	16.74	16.75	16.75	16.76	16.76	16.77	16.77	16.78	16.78
9.8	16.79	16.79	16.80	16.81	16.81	16.82	16.82	16.83	16.83	16.84
9.9	16.84	16.85	16.85	16.86	16.86	16.87	16.87	16.88	16.88	16.89
1270.0	16.89									

1986 EDITION/ROB

VOLUMES BASED ON 1964 SURVEY.

HEADWATER 1260-1270

Attachment 4c: Fort Patrick Henry Excel Level Storage Table

FORT PATRICK HENRY

Quick Lookup

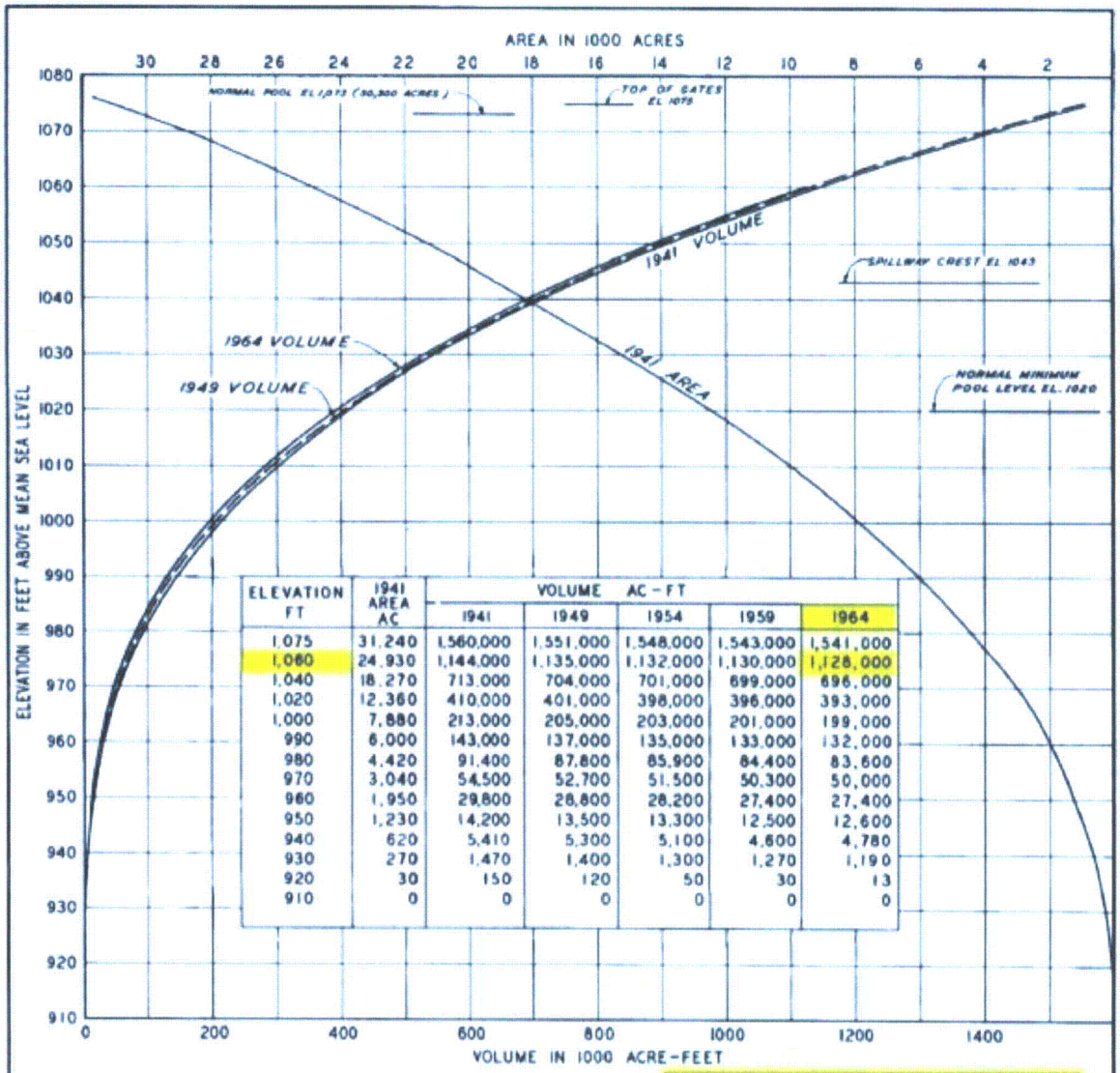
Storage	Enter known HW in green box. Corresponding storage is in yellow box	
	Elevation	Volume
	1263.00	13.562

HW	Enter known storage in green box. Adjust value in gray box until value in blue box matches or closely approximates value in green box. Corresponding HW is in yellow box.			
	Volume			Elevation
	13.000	11.745	13.009	1261.75

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1220.00	1.719	1.721	1.722	1.723	1.725	1.726	1.727	1.729	1.730	1.732
1220.10	1.733	1.734	1.736	1.737	1.738	1.740	1.741	1.743	1.744	1.745
1220.20	1.747	1.748	1.749	1.751	1.752	1.754	1.755	1.756	1.758	1.759
1220.30	1.760	1.762	1.763	1.765	1.766	1.767	1.769	1.770	1.772	1.773
1220.40	1.774	1.776	1.777	1.779	1.780	1.781	1.783	1.784	1.785	1.787
1220.50	1.788	1.790	1.791	1.792	1.794	1.795	1.797	1.798	1.799	1.801
1220.60	1.802	1.804	1.805	1.806	1.808	1.809	1.811	1.812	1.813	1.815
1220.70	1.816	1.818	1.819	1.820	1.822	1.823	1.825	1.826	1.828	1.829
1220.80	1.830	1.832	1.833	1.835	1.836	1.837	1.839	1.840	1.842	1.843
1220.90	1.844	1.846	1.847	1.849	1.850	1.852	1.853	1.854	1.856	1.857
1221.00	1.859	1.860	1.861	1.863	1.864	1.866	1.867	1.869	1.870	1.871
1221.10	1.873	1.874	1.876	1.877	1.879	1.880	1.881	1.883	1.884	1.886
1221.20	1.887	1.889	1.890	1.891	1.893	1.894	1.896	1.897	1.899	1.900
1221.30	1.901	1.903	1.904	1.906	1.907	1.909	1.910	1.912	1.913	1.914
1221.40	1.916	1.917	1.919	1.920	1.922	1.923	1.924	1.926	1.927	1.929
1221.50	1.930	1.932	1.933	1.935	1.936	1.938	1.939	1.940	1.942	1.943
1221.60	1.945	1.946	1.948	1.949	1.951	1.952	1.953	1.955	1.956	1.958
1221.70	1.959	1.961	1.962	1.964	1.965	1.967	1.968	1.969	1.971	1.972
1221.80	1.974	1.975	1.977	1.978	1.980	1.981	1.983	1.984	1.986	1.987
1221.90	1.988	1.990	1.991	1.993	1.994	1.996	1.997	1.999	2.000	2.002
1222.00	2.003	2.005	2.006	2.008	2.009	2.011	2.012	2.013	2.015	2.016

Attachment 5a: Cherokee Bluebook Figure



ELEVATION FT	1941 AREA AC	VOLUME AC-FT 1941	1949	1954	1959	1964
1,075	31,240	1,560,000	1,551,000	1,548,000	1,543,000	1,541,000
1,060	24,930	1,144,000	1,135,000	1,132,000	1,130,000	1,128,000
1,040	18,270	713,000	704,000	701,000	699,000	696,000
1,020	12,360	410,000	401,000	398,000	396,000	393,000
1,000	7,880	213,000	205,000	203,000	201,000	199,000
990	6,000	143,000	137,000	135,000	133,000	132,000
980	4,420	91,400	87,800	85,900	84,400	83,600
970	3,040	54,500	52,700	51,500	50,300	50,000
960	1,950	29,800	28,800	28,200	27,400	27,400
950	1,230	14,200	13,500	13,300	12,500	12,600
940	620	5,410	5,300	5,100	4,600	4,780
930	270	1,470	1,400	1,300	1,270	1,190
920	30	150	120	50	30	13
910	0	0	0	0	0	0

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

All areas were determined from Corps of Engineers topographic map of the Holston River Valley Dwg Nos. 189-174 at a contour interval of 10 feet, with the exception of a few areas at the higher elevations which were taken from TVA topographic maps at a contour interval of 20 feet, and the area at the 1075 contour which was determined from TVA navigation maps of Cherokee Reservoir.
All elevations are referred to the 1936 Supplementary Adjustment of the USC & GS.
Area of original river within reservoir = 2,426 acres.
Drainage area at dam = 3,428 square miles.
This drawing was prepared by the Hydraulic Data Branch.
The 1949 and subsequent volumes were determined by the constant factor method for computing sediment.
1959 and 1964 volumes and area at normal pool elevation 1073 exclude John Sevier Detention Pool

Dam closure December 5, 1941.

THIS DRAWING SUPERSEDES 12-PP-1-321G187

HOLSTON RIVER MILE 52.3

RESERVOIR AREAS AND VOLUMES

CHEROKEE PROJECT
TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

KNOXVILLE 6-22-53 12 DA 1 321K792

TVA				
Calculation No. CDQ0000200800 51	Rev: 0	Plant: GEN	Page: 102	
Subject: Reservoir Storage Tables		Prepped	LKG	
		Checked	WWC	

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

CHEROKEE

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1050.0	451.45	451.56	451.67	451.78	451.89	452.00	452.11	452.21	452.32	452.43
.1	452.54	452.65	452.76	452.87	452.98	453.09	453.20	453.31	453.42	453.53
.2	453.63	453.74	453.85	453.96	454.07	454.18	454.29	454.40	454.51	454.62
.3	454.73	454.84	454.95	455.05	455.16	455.27	455.38	455.49	455.60	455.71
.4	455.82	455.93	456.04	456.15	456.26	456.37	456.48	456.59	456.70	456.81
1050.5	456.92	457.03	457.14	457.25	457.36	457.47	457.58	457.69	457.80	457.91
.6	458.02	458.13	458.24	458.35	458.46	458.57	458.68	458.79	458.90	459.01
.7	459.11	459.22	459.33	459.44	459.55	459.67	459.78	459.89	460.00	460.11
.8	460.22	460.33	460.44	460.55	460.66	460.77	460.88	460.99	461.10	461.21
.9	461.32	461.43	461.54	461.65	461.76	461.87	461.98	462.09	462.20	462.31
1051.0	462.42	462.53	462.65	462.76	462.87	462.98	463.09	463.20	463.31	463.42
1.1	463.53	463.64	463.75	463.86	463.97	464.09	464.20	464.31	464.42	464.53
1.2	464.64	464.75	464.86	464.97	465.08	465.19	465.30	465.42	465.53	465.64
1.3	465.75	465.86	465.97	466.08	466.19	466.30	466.42	466.53	466.64	466.75
1.4	466.86	466.97	467.08	467.19	467.30	467.42	467.53	467.64	467.75	467.86
1051.5	467.97	468.08	468.20	468.31	468.42	468.53	468.64	468.75	468.87	468.98
1.6	469.09	469.20	469.31	469.42	469.54	469.65	469.76	469.87	469.98	470.09
1.7	470.20	470.32	470.43	470.54	470.65	470.76	470.87	470.99	471.10	471.21
1.8	471.32	471.43	471.55	471.66	471.77	471.88	471.99	472.11	472.22	472.33
1.9	472.44	472.55	472.67	472.78	472.89	473.00	473.11	473.23	473.34	473.45
1052.0	473.56	473.68	473.79	473.90	474.01	474.13	474.24	474.35	474.46	474.57
2.1	474.69	474.80	474.91	475.03	475.14	475.25	475.36	475.48	475.59	475.70
2.2	475.81	475.92	476.04	476.15	476.26	476.37	476.49	476.60	476.71	476.83
2.3	476.94	477.05	477.16	477.28	477.39	477.50	477.62	477.73	477.84	477.95
2.4	478.06	478.18	478.29	478.40	478.52	478.63	478.74	478.86	478.97	479.08
1052.5	479.20	479.31	479.42	479.54	479.65	479.76	479.87	479.99	480.10	480.21
2.6	480.33	480.44	480.55	480.67	480.78	480.90	481.01	481.12	481.24	481.35
2.7	481.46	481.57	481.69	481.80	481.91	482.03	482.14	482.25	482.37	482.48
2.8	482.60	482.71	482.82	482.94	483.05	483.16	483.28	483.39	483.51	483.62
2.9	483.73	483.84	483.96	484.07	484.19	484.30	484.41	484.53	484.64	484.76
1053.0	484.87	484.98	485.10	485.21	485.33	485.44	485.55	485.67	485.78	485.90
3.1	486.01	486.12	486.24	486.35	486.47	486.58	486.70	486.81	486.92	487.04
3.2	487.15	487.26	487.38	487.49	487.61	487.72	487.84	487.95	488.07	488.18
3.3	488.29	488.41	488.52	488.64	488.75	488.87	488.98	489.10	489.21	489.33
3.4	489.44	489.55	489.67	489.78	489.90	490.01	490.13	490.24	490.36	490.47
1053.5	490.59	490.70	490.82	490.93	491.04	491.16	491.27	491.39	491.50	491.62
3.6	491.73	491.85	491.96	492.08	492.19	492.31	492.42	492.54	492.66	492.77
3.7	492.88	493.00	493.11	493.23	493.34	493.46	493.57	493.69	493.80	493.92
3.8	494.04	494.15	494.27	494.38	494.50	494.61	494.73	494.84	494.96	495.07
3.9	495.19	495.30	495.42	495.53	495.65	495.76	495.88	496.00	496.11	496.23
1054.0	496.34	496.46	496.57	496.69	496.81	496.92	497.04	497.15	497.27	497.38
4.1	497.50	497.62	497.73	497.85	497.96	498.08	498.20	498.31	498.43	498.54
4.2	498.66	498.77	498.89	499.01	499.12	499.24	499.35	499.47	499.59	499.70
4.3	499.82	499.93	500.05	500.17	500.28	500.40	500.52	500.63	500.75	500.86
4.4	500.98	501.09	501.21	501.33	501.44	501.56	501.68	501.79	501.91	502.03
1054.5	502.14	502.26	502.38	502.49	502.61	502.72	502.84	502.96	503.07	503.19
4.6	503.31	503.42	503.54	503.66	503.77	503.89	504.01	504.13	504.24	504.36
4.7	504.47	504.59	504.71	504.82	504.94	505.06	505.17	505.29	505.41	505.53
4.8	505.64	505.76	505.88	505.99	506.11	506.23	506.34	506.46	506.58	506.70
4.9	506.81	506.93	507.04	507.16	507.28	507.40	507.51	507.63	507.75	507.87

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1055.0	507.98	508.10	508.22	508.34	508.45	508.57	508.69	508.80	508.92	509.04
5.1	509.16	509.28	509.39	509.51	509.63	509.75	509.86	509.98	510.10	510.22
5.2	510.33	510.45	510.57	510.68	510.80	510.92	511.04	511.15	511.27	511.39
5.3	511.51	511.63	511.74	511.86	511.98	512.10	512.22	512.33	512.45	512.57
5.4	512.68	512.80	512.92	513.04	513.16	513.28	513.39	513.51	513.63	513.75
1055.5	513.87	513.98	514.10	514.22	514.34	514.46	514.58	514.69	514.81	514.93
5.6	515.05	515.17	515.29	515.40	515.52	515.64	515.76	515.88	516.00	516.11
5.7	516.23	516.35	516.47	516.59	516.70	516.82	516.94	517.06	517.18	517.30
5.8	517.42	517.53	517.65	517.77	517.89	518.01	518.13	518.25	518.37	518.49
5.9	518.60	518.72	518.84	518.96	519.08	519.20	519.31	519.43	519.55	519.67
1056.0	519.79	519.91	520.03	520.15	520.27	520.39	520.51	520.62	520.74	520.86
6.1	520.98	521.10	521.22	521.34	521.46	521.58	521.70	521.82	521.94	522.06
6.2	522.17	522.29	522.41	522.53	522.65	522.77	522.89	523.01	523.13	523.25
6.3	523.37	523.49	523.60	523.72	523.84	523.96	524.08	524.20	524.32	524.44
6.4	524.56	524.68	524.80	524.92	525.04	525.16	525.28	525.40	525.52	525.64
1056.5	525.76	525.88	526.00	526.12	526.24	526.36	526.48	526.60	526.72	526.84
6.6	526.96	527.08	527.20	527.32	527.44	527.56	527.68	527.80	527.92	528.04
6.7	528.15	528.27	528.40	528.52	528.64	528.76	528.88	529.00	529.12	529.24
6.8	529.36	529.48	529.60	529.72	529.84	529.96	530.08	530.20	530.32	530.44
6.9	530.56	530.68	530.80	530.92	531.04	531.16	531.28	531.40	531.52	531.64
1057.0	531.77	531.89	532.01	532.13	532.25	532.37	532.49	532.61	532.73	532.85
7.1	532.97	533.09	533.21	533.34	533.46	533.58	533.70	533.82	533.94	534.06
7.2	534.18	534.30	534.42	534.54	534.66	534.78	534.91	535.03	535.15	535.27
7.3	535.39	535.51	535.63	535.75	535.88	536.00	536.12	536.24	536.36	536.48
7.4	536.60	536.72	536.84	536.96	537.09	537.21	537.33	537.45	537.57	537.69
1057.5	537.81	537.94	538.06	538.18	538.30	538.42	538.54	538.67	538.79	538.91
7.6	539.03	539.15	539.27	539.40	539.52	539.64	539.76	539.88	540.01	540.13
7.7	540.25	540.37	540.49	540.61	540.73	540.86	540.98	541.10	541.22	541.34
7.8	541.47	541.59	541.71	541.83	541.95	542.08	542.20	542.32	542.44	542.56
7.9	542.68	542.81	542.93	543.05	543.17	543.30	543.42	543.54	543.66	543.78
1058.0	543.91	544.03	544.15	544.27	544.40	544.52	544.64	544.76	544.89	545.01
8.1	545.13	545.25	545.38	545.50	545.62	545.74	545.87	545.99	546.11	546.23
8.2	546.35	546.48	546.60	546.72	546.85	546.97	547.09	547.21	547.34	547.46
8.3	547.58	547.71	547.83	547.95	548.07	548.20	548.32	548.44	548.57	548.69
8.4	548.81	548.93	549.06	549.18	549.30	549.42	549.55	549.67	549.79	549.92
1058.5	550.04	550.16	550.29	550.41	550.53	550.66	550.78	550.90	551.03	551.15
8.6	551.27	551.40	551.52	551.64	551.77	551.89	552.01	552.14	552.26	552.38
8.7	552.50	552.63	552.75	552.88	553.00	553.12	553.25	553.37	553.49	553.62
8.8	553.74	553.86	553.99	554.11	554.24	554.36	554.48	554.61	554.73	554.86
8.9	554.98	555.10	555.22	555.35	555.47	555.60	555.72	555.84	555.97	556.09
1059.0	556.22	556.34	556.46	556.59	556.71	556.84	556.96	557.08	557.21	557.33
9.1	557.46	557.58	557.71	557.83	557.95	558.08	558.20	558.33	558.45	558.58
9.2	558.70	558.82	558.95	559.07	559.19	559.32	559.44	559.57	559.69	559.82
9.3	559.94	560.07	560.19	560.32	560.44	560.56	560.69	560.81	560.94	561.06
9.4	561.18	561.31	561.43	561.56	561.68	561.81	561.93	562.06	562.18	562.31
1059.5	562.43	562.56	562.68	562.81	562.93	563.06	563.18	563.31	563.43	563.56
9.6	563.68	563.81	563.93	564.06	564.18	564.31	564.43	564.56	564.68	564.81
9.7	564.93	565.06	565.18	565.31	565.43	565.56	565.68	565.81	565.93	566.06
9.8	566.18	566.31	566.43	566.56	566.69	566.81	566.94	567.06	567.19	567.31
9.9	567.44	567.56	567.69	567.81	567.94	568.06	568.19	568.31	568.44	568.57
1060.0	568.69									

1986 EDITION/RDB

VOLUMES BASED ON 1964 SURVEY.

HEADWATER 1050-106

Attachment 5b: Cherokee 1986 Level Storage Table

Attachment 5c: Cherokee Excel Level Storage Table

CHEROKEE

Quick Lookup

Storage	Enter known HW in green box. Corresponding storage is in yellow box	
	Elevation	Volume
	1060.00	568.692

HW	Enter known storage in green box. Adjust value in gray box until value in blue box matches or closely approximates value in green box. Corresponding HW is in yellow box			
	Volume			Elevation
	250.000	7.746	250.005	1027.75

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1000.00	100.328	100.366	100.404	100.443	100.481	100.520	100.558	100.596	100.635	100.673
1000.10	100.712	100.750	100.789	100.827	100.866	100.904	100.942	100.981	101.019	101.058
1000.20	101.097	101.135	101.174	101.212	101.251	101.289	101.328	101.366	101.405	101.444
1000.30	101.482	101.521	101.559	101.598	101.637	101.675	101.714	101.753	101.791	101.830
1000.40	101.869	101.908	101.946	101.985	102.024	102.062	102.101	102.140	102.179	102.218
1000.50	102.256	102.295	102.334	102.373	102.412	102.450	102.489	102.528	102.567	102.606
1000.60	102.645	102.684	102.722	102.761	102.800	102.839	102.878	102.917	102.956	102.995
1000.70	103.034	103.073	103.112	103.151	103.190	103.229	103.268	103.307	103.346	103.385
1000.80	103.424	103.463	103.502	103.541	103.580	103.619	103.659	103.698	103.737	103.776
1000.90	103.815	103.854	103.893	103.933	103.972	104.011	104.050	104.089	104.129	104.168
1001.00	104.207	104.246	104.285	104.325	104.364	104.403	104.443	104.482	104.521	104.560
1001.10	104.600	104.639	104.678	104.718	104.757	104.797	104.836	104.875	104.915	104.954
1001.20	104.993	105.033	105.072	105.112	105.151	105.191	105.230	105.270	105.309	105.349
1001.30	105.388	105.428	105.467	105.507	105.546	105.586	105.625	105.665	105.704	105.744
1001.40	105.784	105.823	105.863	105.902	105.942	105.982	106.021	106.061	106.101	106.140
1001.50	106.180	106.220	106.259	106.299	106.339	106.379	106.418	106.458	106.498	106.538
1001.60	106.577	106.617	106.657	106.697	106.737	106.776	106.816	106.856	106.896	106.936
1001.70	106.976	107.016	107.055	107.095	107.135	107.175	107.215	107.255	107.295	107.335
1001.80	107.375	107.415	107.455	107.495	107.535	107.575	107.615	107.655	107.695	107.735
1001.90	107.775	107.815	107.855	107.895	107.935	107.975	108.015	108.055	108.096	108.136
1002.00	108.176	108.216	108.256	108.296	108.337	108.377	108.417	108.457	108.497	108.538

Attachment 6a: Douglas Bluebook Figure

RESERVOIR AND POWER DATA - DOUGLAS

					BEST EFFICIENCY			MAXIMUM SUSTAINABLE		
Pool Elevation (feet)	Area (acre *1000)	Volume (ac-ft *1000)	Potential KIS* (gWh)	Gross Head (feet)	Plant Output (MW)	Turbine Discharge (cfs)	kW/cfs	Plant Output (MW)	Turbine Discharge (cfs)	kW/cfs
1002	30.75	1461.0	710.9	126.7	116.9	12,660	9.24	144.7	16,600	8.72
1001	30.52	1430.3	694.7	125.7	117.0	12,750	9.18	144.7	16,690	8.66
1000	30.28	1399.9	678.7	124.7	117.0	12,830	9.13	144.8	16,780	8.63
999	30.02	1369.6	662.6	123.6	117.1	12,910	9.07	144.8	16,870	8.58
998	29.74	1339.9	647.1	122.6	117.1	12,990	9.02	144.8	16,970	8.54
997	29.44	1310.3	631.6	121.6	117.1	13,070	8.96	144.8	17,060	8.49
996	29.12	1281.0	616.3	120.6	117.2	13,150	8.91	144.8	17,150	8.44
995	28.78	1252.1	601.1	119.5	117.2	13,260	8.84	144.5	17,240	8.38
994	28.42	1223.5	585.6	118.5	117.2	13,390	8.76	143.9	17,330	8.31
993	28.04	1195.2	570.6	117.5	117.2	13,520	8.68	143.3	17,420	8.23
992	27.64	1167.4	555.9	116.5	117.2	13,660	8.60	142.7	17,520	8.15
991	27.22	1140.0	541.4	115.5	117.2	13,790	8.52	142.1	17,610	8.06
990	26.77	1113.0	527.0	114.4	117.2	13,920	8.44	141.5	17,700	8.00
989	26.33	1086.4	513.0	113.4	117.2	14,050	8.35	140.9	17,790	7.92
988	25.89	1060.3	499.2	112.4	117.2	14,190	8.27	140.2	17,880	7.85
987	25.47	1034.6	485.7	111.4	117.2	14,320	8.19	139.6	17,980	7.77
986	25.06	1009.4	472.4	110.4	117.2	14,450	8.11	139.0	18,070	7.69
985	24.66	984.5	459.4	109.3	117.0	14,560	8.04	138.4	18,170	7.62
984	24.26	960.1	446.7	108.3	116.6	14,640	7.97	137.8	18,290	7.54
983	23.88	936.0	434.2	107.3	116.3	14,730	7.90	137.2	18,400	7.46
982	23.51	912.3	422.0	106.3	115.9	14,820	7.83	136.6	18,510	7.39
981	23.15	889.0	410.0	105.2	115.6	14,900	7.77	135.9	18,620	7.31
980	22.80	866.0	398.2	104.2	115.2	14,990	7.70	135.3	18,740	7.23
979	22.46	843.4	386.5	103.2	114.9	15,080	7.63	134.7	18,850	7.16
978	22.13	821.1	375.1	102.2	114.5	15,160	7.56	134.1	18,960	7.08
977	21.80	799.1	363.9	101.1	114.2	15,250	7.49	133.5	19,070	7.00
976	21.48	777.5	352.9	100.1	113.8	15,340	7.42	132.9	19,190	6.93
975	21.17	756.1	342.0	99.1	112.9	15,390	7.34	131.1	19,170	6.84
974	20.87	735.1	331.2	98.1	111.9	15,450	7.25	129.1	19,130	6.75
973	20.57	714.4	320.6	97.1	110.9	15,500	7.17	127.1	19,090	6.65
972	20.28	694.0	310.2	96.2	110.0	15,550	7.08	125.1	19,050	6.56
971	19.99	673.8	300.0	95.2	109.0	15,600	6.99	123.1	19,010	6.47
970	19.71	654.0	289.9	94.2	108.0	15,650	6.91	121.1	18,970	6.38
969	19.44	634.4	280.0	93.2	107.0	15,700	6.82	119.2	18,930	6.29
968	19.15	615.1	270.3	92.2	106.0	15,750	6.73	117.2	18,890	6.20
967	18.85	596.1	260.6	91.2	105.0	15,810	6.65	115.2	18,850	6.11
966	18.55	577.4	251.4	90.2	104.0	15,860	6.56	113.2	18,810	6.02
965	18.24	559.0	242.3	89.2	102.0	15,830	6.44	111.3	18,710	5.95
964	17.91	540.9	233.3	88.3	99.8	15,770	6.32	109.4	18,590	5.88
963	17.58	523.2	224.5	87.3	97.5	15,720	6.20	107.5	18,470	5.82
962	17.24	505.8	215.9	86.3	95.3	15,670	6.08	105.6	18,360	5.75

Attachment 6b: Douglas 1986 Level Storage Table

TVA			
Calculation No. CDQ000020080051	Rev: 0	Plant: GEN	Page: 105
Subject: Reservoir Storage Tables		Prepped LKG	
		Checked WWC	

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

DOUGLAS

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1000.0	705.80	705.95	706.11	706.26	706.41	706.57	706.72	706.87	707.02	707.18
.1	707.33	707.48	707.63	707.79	707.94	708.09	708.25	708.40	708.55	708.70
.2	708.86	709.01	709.16	709.32	709.47	709.62	709.78	709.93	710.08	710.23
.3	710.39	710.54	710.69	710.85	711.00	711.15	711.31	711.46	711.61	711.77
.4	711.92	712.07	712.23	712.38	712.53	712.69	712.84	712.99	713.14	713.30
1000.5	713.45	713.60	713.76	713.91	714.06	714.22	714.37	714.52	714.68	714.83
.6	714.98	715.14	715.29	715.44	715.60	715.75	715.91	716.06	716.21	716.36
.7	716.52	716.67	716.83	716.98	717.13	717.29	717.44	717.59	717.75	717.90
.8	718.06	718.21	718.36	718.52	718.67	718.83	718.98	719.13	719.29	719.44
.9	719.59	719.75	719.90	720.05	720.21	720.36	720.52	720.67	720.82	720.98
1001.0	721.13	721.28	721.44	721.59	721.75	721.90	722.06	722.21	722.36	722.52
1.1	722.67	722.82	722.98	723.13	723.29	723.44	723.60	723.75	723.90	724.06
1.2	724.21	724.36	724.52	724.67	724.83	724.98	725.14	725.29	725.44	725.60
1.3	725.75	725.91	726.06	726.22	726.37	726.53	726.68	726.83	726.99	727.14
1.4	727.30	727.45	727.61	727.76	727.91	728.07	728.22	728.38	728.53	728.69
1001.5	728.84	728.99	729.15	729.30	729.46	729.61	729.77	729.92	730.08	730.23
1.6	730.38	730.54	730.69	730.85	731.00	731.16	731.31	731.47	731.62	731.78
1.7	731.93	732.09	732.24	732.40	732.55	732.70	732.86	733.01	733.17	733.32
1.8	733.48	733.63	733.79	733.94	734.10	734.25	734.41	734.56	734.72	734.87
1.9	735.03	735.18	735.34	735.49	735.65	735.80	735.96	736.11	736.27	736.42
1002.0	736.58	736.73	736.89	737.04	737.20	737.35	737.51	737.66	737.82	737.97
2.1	738.13	738.28	738.44	738.59	738.75	738.90	739.06	739.21	739.37	739.52
2.2	739.68	739.83	739.99	740.14	740.30	740.46	740.61	740.77	740.92	741.08
2.3	741.23	741.39	741.54	741.70	741.86	742.01	742.17	742.32	742.48	742.63
2.4	742.79	742.94	743.10	743.26	743.41	743.57	743.72	743.88	744.03	744.19
1002.5	744.34	744.50	744.66	744.81	744.97	745.12	745.28	745.44	745.59	745.75
2.6	745.90	746.06	746.22	746.37	746.53	746.68	746.84	747.00	747.15	747.31
2.7	747.46	747.62	747.78	747.93	748.09	748.25	748.40	748.56	748.71	748.87
2.8	749.03	749.19	749.34	749.50	749.66	749.81	749.97	750.13	750.28	750.44
2.9	750.60	750.75	750.91	751.07	751.22	751.38	751.54	751.69	751.85	752.01
1003.0	752.17	752.32	752.48	752.64	752.79	752.95	753.11	753.27	753.42	753.58
3.1	753.74	753.90	754.05	754.21	754.37	754.53	754.68	754.84	755.00	755.16
3.2	755.31	755.47	755.63	755.79	755.95	756.10	756.26	756.42	756.58	756.73
3.3	756.90	757.05	757.21	757.37	757.53	757.69	757.85	758.00	758.16	758.32
3.4	758.48	758.64	758.80	758.95	759.11	759.27	759.43	759.59	759.75	759.91
1003.5	760.07	760.22	760.38	760.54	760.70	760.86	761.02	761.18	761.34	761.50
3.6	761.66	761.82	761.98	762.14	762.30	762.45	762.61	762.77	762.93	763.09
3.7	763.25	763.41	763.57	763.73	763.89	764.05	764.21	764.37	764.53	764.69
3.8	764.85	765.02	765.18	765.34	765.50	765.66	765.82	765.98	766.14	766.30
3.9	766.46	766.62	766.78	766.94	767.10	767.27	767.43	767.59	767.75	767.91
1004.0	768.07	768.23	768.39	768.55	768.72	768.88	769.04	769.20	769.36	769.52
4.1	769.69	769.85	770.01	770.17	770.33	770.50	770.66	770.82	770.98	771.14
4.2	771.31	771.47	771.63	771.79	771.96	772.12	772.28	772.44	772.61	772.77
4.3	772.93	773.10	773.26	773.42	773.59	773.75	773.91	774.08	774.24	774.40
4.4	774.57	774.73	774.89	775.06	775.22	775.39	775.55	775.71	775.88	776.04
1004.5	776.21	776.37	776.53	776.70	776.86	777.03	777.19	777.36	777.52	777.69
4.6	777.85	778.02	778.18	778.35	778.51	778.68	778.84	779.00	779.17	779.34
4.7	779.50	779.67	779.83	780.00	780.16	780.33	780.50	780.66	780.83	780.99
4.8	781.16	781.33	781.49	781.66	781.83	781.99	782.16	782.33	782.49	782.66
4.9	782.83	782.99	783.16	783.33	783.49	783.66	783.83	784.00	784.16	784.33

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1005.0	784.50	784.67	784.83	785.00	785.17	785.34	785.51	785.67	785.84	786.01
5.1	786.18	786.35	786.51	786.68	786.85	787.02	787.19	787.36	787.53	787.70
5.2	787.86	788.03	788.20	788.37	788.54	788.71	788.88	789.05	789.22	789.39
5.3	789.56	789.73	789.90	790.07	790.24	790.41	790.58	790.75	790.92	791.09
5.4	791.26	791.43	791.61	791.78	791.95	792.12	792.29	792.46	792.63	792.80
1005.5	792.97	793.15	793.32	793.49	793.66	793.83	794.01	794.18	794.35	794.52
5.6	794.69	794.87	795.04	795.21	795.38	795.56	795.73	795.90	796.07	796.25
5.7	796.42	796.59	796.77	796.94	797.12	797.29	797.46	797.64	797.81	797.98
5.8	798.16	798.33	798.51	798.68	798.86	799.03	799.21	799.38	799.55	799.73
5.9	799.91	800.08	800.26	800.43	800.61	800.78	800.96	801.13	801.31	801.48
1006.0	801.66	801.84	802.01	802.19	802.37	802.54	802.72	802.89	803.07	803.25
6.1	803.42	803.60	803.78	803.96	804.13	804.31	804.49	804.66	804.84	805.02
6.2	805.20	805.38	805.55	805.73	805.91	806.09	806.27	806.44	806.62	806.80
6.3	806.98	807.16	807.34	807.52	807.70	807.88	808.06	808.24	808.42	808.60
6.4	808.78	808.96	809.14	809.32	809.50	809.68	809.86	810.04	810.22	810.40
1006.5	810.58	810.76	810.94	811.12	811.31	811.49	811.67	811.85	812.03	812.21
6.6	812.40	812.58	812.76	812.94	813.12	813.31	813.49	813.67	813.85	814.04
6.7	814.22	814.40	814.59	814.77	814.95	815.14	815.32	815.50	815.69	815.87
6.8	816.06	816.24	816.43	816.61	816.80	816.98	817.17	817.35	817.53	817.72
6.9	817.90	818.09	818.28	818.46	818.65	818.83	819.02	819.20	819.39	819.58
1007.0	819.76	819.95	820.14	820.32	820.51	820.70	820.89	821.07	821.26	821.45
7.1	821.63	821.82	822.01	822.20	822.38	822.57	822.76	822.95	823.14	823.33
7.2	823.51	823.70	823.89	824.08	824.27	824.46	824.65	824.84	825.03	825.22
7.3	825.41	825.60	825.79	825.98	826.17	826.36	826.55	826.74	826.93	827.12
7.4	827.31	827.50	827.70	827.89	828.08	828.27	828.46	828.65	828.84	829.04
1007.5	829.23	829.42	829.61	829.80	830.00	830.19	830.38	830.57	830.77	830.96
7.6	831.15	831.35	831.54	831.73	831.93	832.12	832.32	832.51	832.70	832.90
7.7	833.09	833.29	833.48	833.67	833.87	834.06	834.26	834.45	834.65	834.84
7.8	835.04	835.24	835.43	835.63	835.82	836.02	836.22	836.41	836.61	836.80
7.9	837.00	837.20	837.39	837.59	837.79	837.98	838.18	838.38	838.57	838.77
1008.0	838.97	839.17	839.37	839.56	839.76	839.96	840.16	840.35	840.55	840.75
8.1	840.95	841.15	841.35	841.55	841.75	841.95	842.15	842.34	842.54	842.74
8.2	842.94	843.14	843.34	843.54	843.74	843.94	844.14	844.34	844.54	844.74
8.3	844.95	845.15	845.35	845.55	845.75	845.95	846.15	846.35	846.55	846.76
8.4	846.96	847.16	847.36	847.56	847.77	847.97	848.17	848.37	848.58	848.78
1008.5	848.98	849.18	849.39	849.59	849.79	850.00	850.20	850.40	850.61	850.81
8.6	851.01	851.22	851.42	851.63	851.83	852.04	852.24	852.44	852.65	852.85
8.7	853.06	853.26	853.47	853.67	853.88	854.08	854.29	854.49	854.70	854.91
8.8	855.11	855.32	855.53	855.73	855.94	856.15	856.35	856.56	856.76	856.97
8.9	857.18	857.38	857.59	857.80	858.01	858.21	858.42	858.63	858.84	859.04
1009.0	859.25	859.46	859.67	859.88	860.08	860.29	860.50	860.71	860.92	861.13
9.1	861.34	861.54	861.75	861.96	862.17	862.38	862.59	862.80	863.01	863.22
9.2	863.43	863.64	863.85	864.06	864.27	864.48	864.69	864.90	865.11	865.32
9.3	865.54	865.75	865.96	866.17	866.38	866.59	866.80	867.01	867.22	867.44
9.4	867.65	867.86	868.07	868.29	868.50	868.71	868.92	869.13	869.35	869.56
1009.5	869.77	869.98	870.20	870.41	870.62	870.84	871.05	871.26	871.48	871.69
9.6	871.90	872.12	872.33	872.55	872.76	872.98	873.19	873.40	873.62	873.83
9.7	874.05	874.26	874.48	874.69	874.91	875.12	875.34	875.55	875.77	875.98
9.8	876.20	876.42	876.63	876.85	877.06	877.28	877.50	877.71	877.93	878.14
9.9	878.36	878.58	878.80	879.01	879.23	879.45	879.66	879.88	880.10	880.31
1010.0	880.53									

1986 EDITION/ROB

VOLUMES BASED ON 1981 SURVEY.

HEADWATER 1000-1010

Attachment 6c: Douglas Excel Level Storage Table

DOUGLAS

Quick Lookup

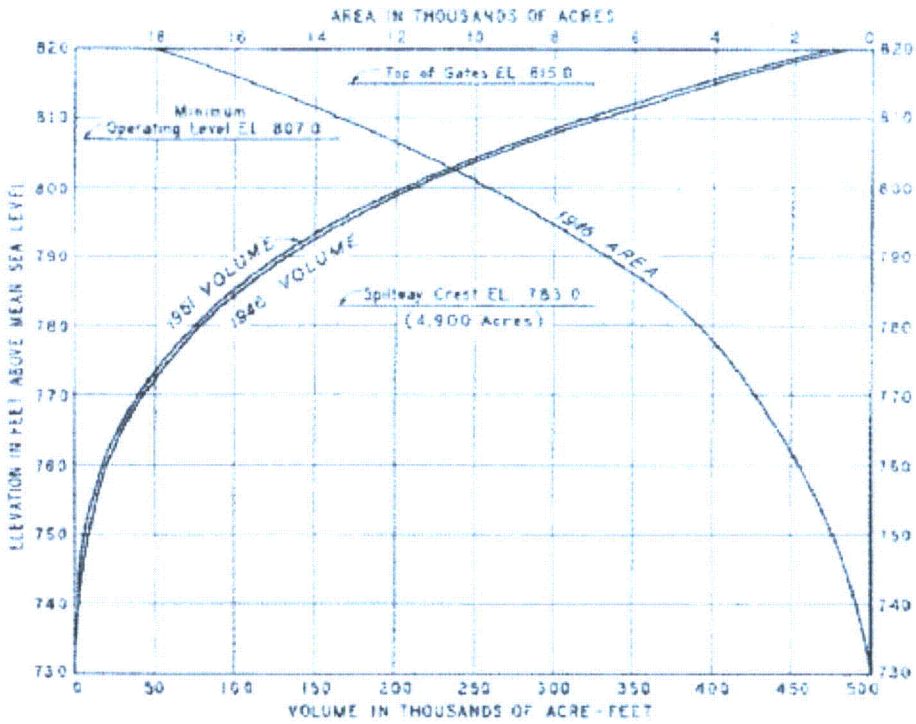
Storage	Enter known HW in green box Corresponding storage is in yellow box	
	Elevation	Volume
	1002.00	736.577

HW	Enter known storage in green box Adjust value in gray box until value in blue box matches or closely approximates value in green box Corresponding HW is in yellow box			
	Volume			Elevation
	250.000	1.422	250.003	961.42

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
930.00	66.045	66.078	66.111	66.144	66.177	66.210	66.243	66.276	66.309	66.342
930.10	66.375	66.408	66.441	66.474	66.507	66.541	66.574	66.607	66.640	66.673
930.20	66.706	66.740	66.773	66.806	66.839	66.872	66.906	66.939	66.972	67.005
930.30	67.039	67.072	67.105	67.139	67.172	67.205	67.239	67.272	67.305	67.339
930.40	67.372	67.406	67.439	67.473	67.506	67.539	67.573	67.606	67.640	67.673
930.50	67.707	67.740	67.774	67.807	67.841	67.875	67.908	67.942	67.975	68.009
930.60	68.043	68.076	68.110	68.143	68.177	68.211	68.244	68.278	68.312	68.346
930.70	68.379	68.413	68.447	68.481	68.514	68.548	68.582	68.616	68.650	68.683
930.80	68.717	68.751	68.785	68.819	68.853	68.887	68.921	68.955	68.989	69.022
930.90	69.056	69.090	69.124	69.158	69.192	69.226	69.260	69.294	69.329	69.363
931.00	69.397	69.431	69.465	69.499	69.533	69.567	69.601	69.636	69.670	69.704
931.10	69.738	69.772	69.807	69.841	69.875	69.909	69.944	69.978	70.012	70.046
931.20	70.081	70.115	70.149	70.184	70.218	70.252	70.287	70.321	70.356	70.390
931.30	70.424	70.459	70.493	70.528	70.562	70.597	70.631	70.666	70.700	70.735
931.40	70.769	70.804	70.839	70.873	70.908	70.942	70.977	71.012	71.046	71.081
931.50	71.116	71.150	71.185	71.220	71.254	71.289	71.324	71.359	71.393	71.428
931.60	71.463	71.498	71.533	71.567	71.602	71.637	71.672	71.707	71.742	71.777
931.70	71.812	71.846	71.881	71.916	71.951	71.986	72.021	72.056	72.091	72.126
931.80	72.161	72.196	72.231	72.267	72.302	72.337	72.372	72.407	72.442	72.477
931.90	72.512	72.548	72.583	72.618	72.653	72.688	72.724	72.759	72.794	72.829
932.00	72.865	72.900	72.935	72.971	73.006	73.041	73.077	73.112	73.147	73.183

Attachment 7a: Fort Loudoun Bluebook Figure



ELEV FT	1946 AREA AC	VOLUME 1946 AC-FT	VOLUME 1951 AC-FT	VOLUME 1956 AC-FT	VOLUME 1961 AC-FT
820	18,900	485,900	483,500	481,500	477,000
815	15,500	400,000	399,200	398,300	382,000
810	14,600	311,900	309,300	355,000	283,000
807	12,200	295,000	289,000	287,000	282,000
802	10,200	234,000	233,300	232,000	227,000
795	8,740	179,000	178,300	177,000	172,000
790	6,680	133,000	131,500	130,000	128,000
785	4,230	78,200	74,500	75,500	75,700
770	2,850	43,500	43,700	43,600	41,000
760	1,740	20,700	20,400	20,200	18,500
750	666	7,930	8,590	8,950	3,650
740	324	1,620	1,350	810	1,630
730	0	0	0	0	0

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

NOTES:

Reservoir areas were measured on a composite map prepared by Hydraulic Data Branch with contours drawn at 10' intervals and scale 1"=500'. The map was prepared from TVA land maps with contours at elevations 790, 796, 802, 807, 813, 815 and 820. Contours were made to conform to elevations on TVA sediment range cross sections located at one-half to two-mile intervals. The 1968 volume was computed by the contour method. Volumes of sediment for succeeding dates were computed by the constant factor method.

Elevations are referred to the USC & GS 1936 Supplementary Adjustment.

Area of original river within reservoir = 4,420 acres.

Drainage area at dam = 9,550 square miles.

Dam closure August 2, 1948.

TENNESSEE RIVER MILE 602.3

RESERVOIR AREAS AND VOLUMES

FORT LOUDOUN PROJECT
TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

SUBMITTED | RECOMMENDED | APPROVED

KNOXVILLE | 12-28-62 | G | DA | 321G790

THIS DRAWING SUPERSEDES 16-DA-1-321G424A

Attachment 7b: Fort Loudoun 1986 Level Storage Table

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

FORT LOUDOUN

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
810.0	161.66	161.73	161.80	161.87	161.93	162.00	162.07	162.14	162.21	162.28
1	162.35	162.41	162.48	162.55	162.62	162.69	162.76	162.83	162.89	162.96
2	163.03	163.10	163.17	163.24	163.31	163.38	163.45	163.51	163.58	163.65
3	163.72	163.79	163.86	163.93	164.00	164.07	164.14	164.20	164.27	164.34
4	164.41	164.48	164.55	164.62	164.69	164.76	164.83	164.90	164.97	165.04
810.5	165.11	165.17	165.24	165.31	165.38	165.45	165.52	165.59	165.66	165.73
6	165.80	165.87	165.94	166.01	166.08	166.15	166.22	166.29	166.36	166.43
7	166.50	166.57	166.64	166.71	166.78	166.85	166.92	166.99	167.06	167.13
8	167.20	167.27	167.34	167.41	167.48	167.55	167.62	167.69	167.76	167.83
9	167.90	167.97	168.04	168.11	168.18	168.25	168.32	168.39	168.46	168.53
811.0	168.60	168.67	168.74	168.81	168.88	168.95	169.02	169.09	169.16	169.23
1.1	169.30	169.37	169.44	169.51	169.59	169.66	169.73	169.80	169.87	169.94
1.2	170.01	170.08	170.15	170.22	170.29	170.36	170.43	170.50	170.58	170.65
1.3	170.72	170.79	170.86	170.93	171.00	171.07	171.14	171.21	171.29	171.36
1.4	171.43	171.50	171.57	171.64	171.71	171.78	171.85	171.93	172.00	172.07
811.5	172.14	172.21	172.28	172.35	172.42	172.50	172.57	172.64	172.71	172.78
1.6	172.85	172.92	173.00	173.07	173.14	173.21	173.28	173.35	173.42	173.50
1.7	173.57	173.64	173.71	173.78	173.85	173.93	174.00	174.07	174.14	174.21
1.8	174.28	174.36	174.43	174.50	174.57	174.64	174.72	174.79	174.86	174.93
1.9	175.00	175.07	175.15	175.22	175.29	175.36	175.43	175.51	175.58	175.65
812.0	175.72	175.79	175.87	175.94	176.01	176.08	176.16	176.23	176.30	176.37
2.1	176.44	176.52	176.59	176.66	176.73	176.81	176.88	176.95	177.02	177.09
2.2	177.17	177.24	177.31	177.38	177.46	177.53	177.60	177.67	177.75	177.82
2.3	177.89	177.97	178.04	178.11	178.18	178.26	178.33	178.40	178.47	178.55
2.4	178.62	178.69	178.76	178.84	178.91	178.98	179.06	179.13	179.20	179.27
812.5	179.35	179.42	179.49	179.57	179.64	179.71	179.79	179.86	179.93	180.00
2.6	180.08	180.15	180.22	180.30	180.37	180.44	180.52	180.59	180.66	180.73
2.7	180.81	180.88	180.95	181.03	181.10	181.17	181.25	181.32	181.39	181.47
2.8	181.54	181.61	181.69	181.76	181.83	181.91	181.98	182.05	182.13	182.20
2.9	182.27	182.35	182.42	182.50	182.57	182.64	182.72	182.79	182.86	182.94
813.0	183.01	183.08	183.16	183.23	183.30	183.38	183.45	183.53	183.60	183.67
3.1	183.75	183.82	183.89	183.97	184.04	184.12	184.19	184.26	184.34	184.41
3.2	184.48	184.56	184.63	184.71	184.78	184.86	184.93	185.00	185.08	185.15
3.3	185.23	185.30	185.37	185.45	185.52	185.60	185.67	185.74	185.82	185.89
3.4	185.97	186.04	186.12	186.19	186.26	186.34	186.41	186.49	186.56	186.64
813.5	186.71	186.78	186.86	186.93	187.01	187.08	187.16	187.23	187.31	187.38
3.6	187.46	187.53	187.61	187.68	187.75	187.83	187.90	187.98	188.05	188.13
3.7	188.20	188.28	188.35	188.43	188.50	188.58	188.65	188.73	188.80	188.88
3.8	188.95	189.03	189.10	189.18	189.25	189.33	189.40	189.48	189.55	189.63
3.9	189.70	189.78	189.85	189.93	190.01	190.08	190.16	190.23	190.31	190.38
814.0	190.46	190.53	190.61	190.68	190.76	190.84	190.91	190.99	191.06	191.14
4.1	191.21	191.29	191.36	191.44	191.52	191.59	191.67	191.74	191.82	191.90
4.2	191.97	192.05	192.12	192.20	192.28	192.35	192.43	192.50	192.58	192.66
4.3	192.73	192.81	192.89	192.96	193.04	193.11	193.19	193.27	193.34	193.42
4.4	193.50	193.57	193.65	193.73	193.80	193.88	193.96	194.03	194.11	194.19
814.5	194.26	194.34	194.42	194.49	194.57	194.65	194.72	194.80	194.88	194.95
4.6	195.03	195.11	195.18	195.26	195.34	195.42	195.49	195.57	195.65	195.72
4.7	195.80	195.88	195.96	196.03	196.11	196.19	196.27	196.34	196.42	196.50
4.8	196.58	196.65	196.73	196.81	196.89	196.97	197.04	197.12	197.20	197.28
4.9	197.35	197.43	197.51	197.59	197.67	197.74	197.82	197.90	197.98	198.06

ELEV	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
815.0	198.13	198.21	198.29	198.37	198.45	198.53	198.60	198.68	198.76	198.84
5.1	198.92	199.00	199.08	199.15	199.23	199.31	199.39	199.47	199.55	199.63
5.2	199.70	199.78	199.86	199.94	200.02	200.10	200.18	200.26	200.34	200.42
5.3	200.50	200.57	200.65	200.73	200.81	200.89	200.97	201.05	201.13	201.21
5.4	201.29	201.37	201.45	201.53	201.61	201.69	201.77	201.84	201.92	202.00
815.5	202.08	202.16	202.24	202.32	202.40	202.48	202.56	202.64	202.72	202.80
5.6	202.88	202.96	203.04	203.12	203.20	203.28	203.36	203.44	203.52	203.60
5.7	203.68	203.77	203.85	203.93	204.01	204.09	204.17	204.25	204.33	204.41
5.8	204.49	204.57	204.65	204.73	204.81	204.89	204.98	205.06	205.14	205.22
5.9	205.30	205.38	205.46	205.54	205.62	205.70	205.78	205.86	205.95	206.03
816.0	206.11	206.19	206.27	206.35	206.43	206.52	206.60	206.68	206.76	206.84
6.1	206.92	207.00	207.08	207.17	207.25	207.33	207.41	207.49	207.57	207.66
6.2	207.74	207.82	207.90	207.98	208.07	208.15	208.23	208.31	208.39	208.47
6.3	208.56	208.64	208.72	208.80	208.89	208.97	209.05	209.13	209.21	209.30
6.4	209.38	209.46	209.54	209.63	209.71	209.79	209.87	209.96	210.04	210.12
816.5	210.20	210.29	210.37	210.45	210.53	210.62	210.70	210.78	210.86	210.95
6.6	211.03	211.11	211.20	211.28	211.36	211.45	211.53	211.61	211.69	211.78
6.7	211.86	211.94	212.03	212.11	212.19	212.28	212.36	212.44	212.53	212.61
6.8	212.69	212.78	212.86	212.94	213.03	213.11	213.19	213.28	213.36	213.44
6.9	213.53	213.61	213.70	213.78	213.86	213.95	214.03	214.11	214.20	214.28
817.0	214.36	214.45	214.53	214.62	214.70	214.78	214.87	214.95	215.04	215.12
7.1	215.20	215.29	215.37	215.46	215.54	215.63	215.71	215.79	215.88	215.96
7.2	216.05	216.13	216.22	216.30	216.38	216.47	216.55	216.64	216.72	216.81
7.3	216.89	216.98	217.06	217.15	217.23	217.32	217.40	217.48	217.57	217.65
7.4	217.74	217.82	217.91	217.99	218.08	218.16	218.25	218.33	218.42	218.50
817.5	218.59	218.67	218.76	218.84	218.93	219.01	219.10	219.18	219.27	219.35
7.6	219.44	219.53	219.61	219.70	219.78	219.87	219.95	220.04	220.12	220.21
7.7	220.29	220.38	220.46	220.55	220.64	220.72	220.81	220.89	220.98	221.06
7.8	221.15	221.24	221.32	221.41	221.49	221.58	221.67	221.75	221.84	221.92
7.9	222.01	222.09	222.18	222.27	222.35	222.44	222.53	222.61	222.70	222.78
818.0	222.87	222.96	223.04	223.13	223.21	223.30	223.39	223.47	223.56	223.65
8.1	223.73	223.82	223.90	223.99	224.08	224.16	224.25	224.34	224.42	224.51
8.2	224.60	224.68	224.77	224.86	224.94	225.03	225.12	225.20	225.29	225.38
8.3	225.46	225.55	225.64	225.72	225.81	225.90	225.99	226.07	226.16	226.25
8.4	226.33	226.42	226.51	226.59	226.68	226.77	226.86	226.94	227.03	227.12
818.5	227.20	227.29	227.38	227.47	227.55	227.64	227.73	227.81	227.90	227.99
8.6	228.08	228.16	228.25	228.34	228.43	228.51	228.60	228.69	228.78	228.86
8.7	228.95	229.04	229.13	229.21	229.30	229.39	229.48	229.56	229.65	229.74
8.8	229.83	229.92	230.00	230.09	230.18	230.27	230.36	230.44	230.53	230.62
8.9	230.71	230.79	230.88	230.97	231.06	231.15	231.24	231.32	231.41	231.50
819.0	231.59	231.68	231.76	231.85	231.94	232.03	232.12	232.20	232.29	232.38
9.1	232.47	232.56	232.65	232.73	232.82	232.91	233.00	233.09	233.18	233.26
9.2	233.35	233.44	233.53	233.62	233.71	233.80	233.88	233.97	234.06	234.15
9.3	234.24	234.33	234.42	234.51	234.59	234.68	234.77	234.86	234.95	235.04
9.4	235.13	235.22	235.30	235.39	235.48	235.57	235.66	235.75	235.84	235.93
819.5	236.02	236.10	236.19	236.28	236.37	236.46	236.55	236.64	236.73	236.82
9.6	236.91	236.99	237.08	237.17	237.26	237.35	237.44	237.53	237.62	237.71
9.7	237.80	237.89	237.98	238.07	238.16	238.24	238.33	238.42	238.51	238.60
9.8	238.69	238.78	238.87	238.96	239.05	239.14	239.23	239.32	239.41	239.50
9.9	239.59	239.68	239.77	239.86	239.95	240.04	240.13	240.21	240.30	240.39
820.0	240.48									

1986 EDITION/ROD

VOLUMES BASED ON 1961 SURVEY

HEADWATER 810- 820

Attachment 7c: Fort Loudon Excel Level Storage Table

FORT LOUDOUN

Quick Lookup

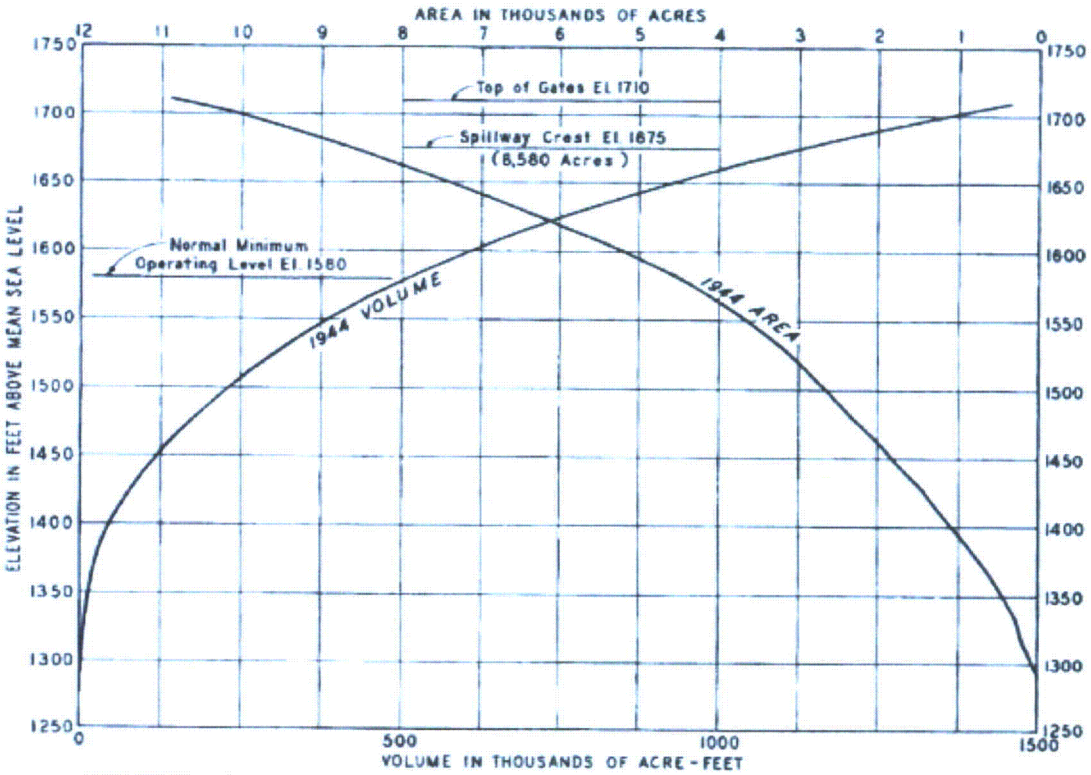
Storage	Enter known HW in green box Corresponding storage is in yellow/blue box		
	Elevation	Volume TDSF	Volume Ac-Ft
	820.00	240.484	476,993

HW	Enter known storage in green box Adjust value in gray box until value in blue box matches or closely approximates value in green box Corresponding HW is in yellow box			
	Volume			Elevation
	207.300	1.147	207.305	816.15

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
806.00	136.184	136.242	136.301	136.360	136.418	136.477	136.536	136.595	136.653	136.712
806.10	136.771	136.830	136.889	136.948	137.007	137.066	137.125	137.184	137.243	137.302
806.20	137.361	137.420	137.479	137.538	137.598	137.657	137.716	137.775	137.835	137.894
806.30	137.953	138.013	138.072	138.132	138.191	138.251	138.310	138.370	138.429	138.489
806.40	138.548	138.608	138.668	138.727	138.787	138.847	138.907	138.966	139.026	139.086
806.50	139.146	139.206	139.266	139.326	139.386	139.446	139.506	139.566	139.626	139.686
806.60	139.746	139.806	139.866	139.927	139.987	140.047	140.107	140.168	140.228	140.288
806.70	140.349	140.409	140.470	140.530	140.591	140.651	140.712	140.772	140.833	140.894
806.80	140.954	141.015	141.076	141.136	141.197	141.258	141.319	141.380	141.440	141.501
806.90	141.562	141.623	141.684	141.745	141.806	141.867	141.928	141.989	142.051	142.112
807.00	142.173	142.234	142.295	142.357	142.418	142.479	142.541	142.602	142.663	142.725
807.10	142.786	142.848	142.909	142.971	143.032	143.094	143.156	143.217	143.279	143.341
807.20	143.402	143.464	143.526	143.588	143.650	143.712	143.773	143.835	143.897	143.959
807.30	144.021	144.083	144.145	144.207	144.270	144.332	144.394	144.456	144.518	144.580
807.40	144.643	144.705	144.767	144.830	144.892	144.954	145.017	145.079	145.142	145.204
807.50	145.267	145.329	145.392	145.455	145.517	145.580	145.643	145.705	145.768	145.831
807.60	145.894	145.956	146.019	146.082	146.145	146.208	146.271	146.334	146.397	146.460
807.70	146.523	146.586	146.649	146.712	146.775	146.838	146.902	146.965	147.028	147.091
807.80	147.155	147.218	147.281	147.345	147.408	147.472	147.535	147.598	147.662	147.726
807.90	147.789	147.853	147.916	147.980	148.044	148.107	148.171	148.235	148.298	148.362

Attachment 8a: Fontana Bluebook Figure



ELEV FT	1944 AREA AC	VOLUME 1944 AC-FT	1950 AC-FT	1954 AC-FT	1959 AC-FT	1987 AC-FT
1710	10,870	1,455,000	1,452,000	1,451,000	1,448,000	1,443,000
1700	10,040	1,351,000	1,349,000	1,347,000	1,344,000	1,339,000
1680	8,900	1,162,000	1,160,000	1,158,000	1,155,000	1,150,000
1660	7,870	995,000	992,000	991,000	988,000	983,000
1640	6,940	847,000	844,000	843,000	840,000	835,000
1620	6,050	717,000	714,000	713,000	710,000	706,000
1600	5,240	604,000	602,000	600,000	598,000	593,000
1580	4,480	507,000	505,000	503,000	501,000	497,000
1560	3,690	424,000	422,000	420,000	418,000	415,000
1540	3,380	351,000	350,000	348,000	346,000	343,000
1520	2,890	288,000	287,000	286,000	284,000	282,000
1500	2,650	231,000	230,000	229,000	228,000	226,000
1480	2,310	182,000	181,000	180,000	178,000	176,000
1460	1,970	139,000	138,000	138,000	137,000	136,000
1440	1,670	102,000	101,000	101,000	101,000	100,000
1420	1,350	72,000	72,000	71,800	71,000	70,000
1400	1,070	48,400	47,900	47,700	47,500	46,900
1380	790	29,900	29,500	29,400	29,400	28,700
1360	530	16,800	16,600	16,400	16,400	16,100
1340	330	8,370	8,380	8,180	8,180	8,330
1320	210	3,010	3,010	2,850	2,850	2,770
1300	80	275	275	209	209	210
1291	0	0	0	0	0	0

NOTES:

Reservoir areas were measured on a composite map prepared by the Hydraulic Data Branch with contours drawn at 10' intervals and scale 1"=500'. The map was prepared from TVA land maps with contours at 1540 & 1710, and from TVA topographic maps with contours at elevations 1320, 1400, 1480, 1560, 1600 & 1680. Contours were made to conform to elevations on TVA sediment range cross sections which are located at two mile intervals. The 1944 volume was computed by the contour method. Volumes of sediment on succeeding dates were computed by the constant factor method.

Elevations are referred to the USC & GS 1936 supplementary adjustment.

Drainage area at dam = 1,571 square miles.

Dam closure November 7, 1944.

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

LITTLE TENNESSEE RIVER-MILE 61.0

RESERVOIR AREAS AND VOLUMES

FONTANA PROJECT
TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

SUBMITTED | RECOMMENDED | APPROVED

KNOXVILLE | 11-23-70 | 18 | DA | 1 | 321G797 R1

THIS DRAWING SUPERSEDES 19-DA-1-321N797

Attachment 8b: Fontana 1986 Level Storage Table

TVA			
Calculation No. CDQ000020080051	Rev: 0	Plant: GEN	Page: 111
Subject: Reservoir Storage Tables		Prepped LKG	
		Checked WWC	

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

FONTANA

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1670.0	536.44	536.48	536.53	536.57	536.61	536.65	536.70	536.74	536.78	536.82
.1	536.86	536.91	536.95	536.99	537.03	537.07	537.12	537.16	537.20	537.24
.2	537.28	537.33	537.37	537.41	537.45	537.49	537.54	537.58	537.62	537.66
.3	537.71	537.75	537.79	537.83	537.87	537.92	537.96	538.00	538.04	538.09
.4	538.13	538.17	538.21	538.25	538.30	538.34	538.38	538.42	538.46	538.51
1670.5	538.55	538.59	538.63	538.68	538.72	538.76	538.80	538.84	538.89	538.93
.6	538.97	539.01	539.06	539.10	539.14	539.18	539.22	539.27	539.31	539.35
.7	539.39	539.44	539.48	539.52	539.56	539.60	539.65	539.69	539.73	539.77
.8	539.82	539.86	539.90	539.94	539.99	540.03	540.07	540.11	540.15	540.20
.9	540.24	540.28	540.32	540.36	540.41	540.45	540.49	540.53	540.58	540.62
1671.0	540.66	540.70	540.75	540.79	540.83	540.87	540.92	540.96	541.00	541.04
1.1	541.09	541.13	541.17	541.21	541.25	541.30	541.34	541.38	541.42	541.47
1.2	541.51	541.55	541.59	541.64	541.68	541.72	541.76	541.80	541.85	541.89
1.3	541.93	541.97	542.02	542.06	542.10	542.14	542.19	542.23	542.27	542.31
1.4	542.36	542.40	542.44	542.49	542.53	542.57	542.61	542.65	542.70	542.74
1671.5	542.78	542.82	542.87	542.91	542.95	542.99	543.04	543.08	543.12	543.16
1.6	543.20	543.25	543.29	543.33	543.38	543.42	543.46	543.50	543.55	543.59
1.7	543.63	543.67	543.71	543.76	543.80	543.84	543.88	543.93	543.97	544.01
1.8	544.05	544.10	544.14	544.18	544.22	544.27	544.31	544.35	544.40	544.44
1.9	544.48	544.52	544.56	544.61	544.65	544.69	544.73	544.78	544.82	544.86
1672.0	544.91	544.95	544.99	545.03	545.08	545.12	545.16	545.20	545.25	545.29
2.1	545.33	545.37	545.42	545.46	545.50	545.54	545.59	545.63	545.67	545.72
2.2	545.76	545.80	545.84	545.88	545.93	545.97	546.01	546.06	546.10	546.14
2.3	546.18	546.23	546.27	546.31	546.35	546.40	546.44	546.48	546.52	546.57
2.4	546.61	546.65	546.69	546.74	546.78	546.82	546.87	546.91	546.95	546.99
1672.5	547.04	547.08	547.12	547.16	547.21	547.25	547.29	547.34	547.38	547.42
2.6	547.46	547.51	547.55	547.59	547.64	547.68	547.72	547.76	547.81	547.85
2.7	547.89	547.93	547.98	548.02	548.06	548.10	548.15	548.19	548.23	548.28
2.8	548.32	548.36	548.40	548.45	548.49	548.53	548.58	548.62	548.66	548.70
2.9	548.75	548.79	548.83	548.87	548.92	548.96	549.00	549.05	549.09	549.13
1673.0	549.17	549.22	549.26	549.30	549.35	549.39	549.43	549.47	549.52	549.56
3.1	549.60	549.65	549.69	549.73	549.77	549.82	549.86	549.90	549.95	549.99
3.2	550.03	550.07	550.12	550.16	550.20	550.25	550.29	550.33	550.37	550.42
3.3	550.46	550.50	550.55	550.59	550.63	550.67	550.72	550.76	550.80	550.85
3.4	550.89	550.93	550.97	551.02	551.06	551.10	551.15	551.19	551.23	551.28
1673.5	551.32	551.36	551.40	551.45	551.49	551.53	551.58	551.62	551.66	551.71
3.6	551.75	551.79	551.83	551.88	551.92	551.96	552.01	552.05	552.09	552.14
3.7	552.18	552.22	552.26	552.31	552.35	552.39	552.44	552.48	552.52	552.56
3.8	552.61	552.65	552.69	552.74	552.78	552.82	552.87	552.91	552.95	553.00
3.9	553.04	553.08	553.12	553.17	553.21	553.25	553.30	553.34	553.38	553.43
1674.0	553.47	553.51	553.55	553.60	553.64	553.68	553.73	553.77	553.81	553.86
4.1	553.90	553.94	553.99	554.03	554.07	554.12	554.16	554.20	554.25	554.29
4.2	554.33	554.37	554.42	554.46	554.50	554.55	554.59	554.63	554.68	554.72
4.3	554.76	554.81	554.85	554.89	554.94	554.98	555.02	555.06	555.11	555.15
4.4	555.19	555.24	555.28	555.32	555.37	555.41	555.45	555.50	555.54	555.58
1674.5	555.63	555.67	555.71	555.76	555.80	555.84	555.89	555.93	555.97	556.01
4.6	556.06	556.10	556.14	556.19	556.23	556.27	556.32	556.36	556.40	556.45
4.7	556.49	556.53	556.58	556.62	556.66	556.71	556.75	556.79	556.84	556.88
4.8	556.92	556.97	557.01	557.05	557.10	557.14	557.18	557.23	557.27	557.31
4.9	557.36	557.40	557.44	557.49	557.53	557.57	557.62	557.66	557.70	557.75

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1675.0	557.79	557.83	557.88	557.92	557.96	558.01	558.05	558.09	558.14	558.18
5.1	558.22	558.27	558.31	558.35	558.40	558.44	558.48	558.53	558.57	558.61
5.2	558.66	558.70	558.74	558.79	558.83	558.87	558.92	558.96	559.00	559.05
5.3	559.09	559.13	559.18	559.22	559.26	559.31	559.35	559.39	559.44	559.48
5.4	559.52	559.57	559.61	559.65	559.70	559.74	559.78	559.83	559.87	559.92
1675.5	559.96	560.00	560.05	560.09	560.13	560.18	560.22	560.26	560.31	560.35
5.6	560.39	560.44	560.48	560.52	560.57	560.61	560.66	560.70	560.74	560.79
5.7	560.83	560.87	560.92	560.96	561.00	561.05	561.09	561.13	561.18	561.22
5.8	561.26	561.31	561.35	561.39	561.44	561.48	561.53	561.57	561.61	561.66
5.9	561.70	561.74	561.79	561.83	561.87	561.92	561.96	562.00	562.05	562.09
1676.0	562.14	562.18	562.22	562.27	562.31	562.35	562.40	562.44	562.48	562.53
6.1	562.57	562.62	562.66	562.70	562.75	562.79	562.83	562.88	562.92	562.96
6.2	563.01	563.05	563.09	563.14	563.18	563.23	563.27	563.31	563.36	563.40
6.3	563.44	563.49	563.53	563.58	563.62	563.66	563.71	563.75	563.79	563.84
6.4	563.88	563.92	563.97	564.01	564.06	564.10	564.14	564.19	564.23	564.27
1676.5	564.32	564.36	564.41	564.45	564.49	564.54	564.58	564.62	564.67	564.71
6.6	564.76	564.80	564.84	564.89	564.93	564.97	565.02	565.06	565.11	565.15
6.7	565.19	565.24	565.28	565.32	565.37	565.41	565.46	565.50	565.54	565.59
6.8	565.63	565.67	565.72	565.76	565.81	565.85	565.89	565.94	565.98	566.03
6.9	566.07	566.11	566.16	566.20	566.24	566.29	566.33	566.38	566.42	566.46
1677.0	566.51	566.55	566.60	566.64	566.68	566.73	566.77	566.81	566.86	566.90
7.1	566.95	566.99	567.03	567.08	567.12	567.17	567.21	567.25	567.30	567.34
7.2	567.38	567.43	567.47	567.52	567.56	567.60	567.65	567.69	567.74	567.78
7.3	567.82	567.87	567.91	567.96	568.00	568.04	568.09	568.13	568.18	568.22
7.4	568.26	568.31	568.35	568.40	568.44	568.48	568.53	568.57	568.62	568.66
1677.5	568.70	568.75	568.79	568.84	568.88	568.92	568.97	569.01	569.06	569.10
7.6	569.14	569.19	569.23	569.28	569.32	569.36	569.41	569.45	569.50	569.54
7.7	569.58	569.63	569.67	569.72	569.76	569.80	569.85	569.89	569.94	569.98
7.8	570.02	570.07	570.11	570.16	570.20	570.24	570.29	570.33	570.38	570.42
7.9	570.46	570.51	570.55	570.60	570.64	570.69	570.73	570.77	570.82	570.86
1678.0	570.91	570.95	570.99	571.04	571.08	571.13	571.17	571.22	571.26	571.30
8.1	571.35	571.39	571.44	571.48	571.52	571.57	571.61	571.66	571.70	571.75
8.2	571.79	571.83	571.88	571.92	571.97	572.01	572.05	572.10	572.14	572.19
8.3	572.23	572.28	572.32	572.36	572.41	572.45	572.50	572.54	572.59	572.63
8.4	572.67	572.72	572.76	572.81	572.85	572.89	572.94	572.98	573.03	573.07
1678.5	573.12	573.16	573.20	573.25	573.29	573.34	573.38	573.43	573.47	573.51
8.6	573.56	573.60	573.65	573.69	573.74	573.78	573.82	573.87	573.91	573.96
8.7	574.00	574.05	574.09	574.13	574.18	574.22	574.27	574.31	574.36	574.40
8.8	574.44	574.49	574.53	574.58	574.62	574.67	574.71	574.76	574.80	574.84
8.9	574.89	574.93	574.98	575.02	575.06	575.11	575.15	575.20	575.24	575.29
1679.0	575.33	575.38	575.42	575.46	575.51	575.55	575.60	575.64	575.69	575.73
9.1	575.78	575.82	575.86	575.91	575.95	576.00	576.04	576.09	576.13	576.18
9.2	576.22	576.26	576.31	576.35	576.40	576.44	576.49	576.53	576.58	576.62
9.3	576.66	576.71	576.75	576.80	576.84	576.89	576.93	576.98	577.02	577.07
9.4	577.11	577.15	577.20	577.24	577.29	577.33	577.38	577.42	577.46	577.51
1679.5	577.55	577.60	577.64	577.69	577.73	577.78	577.82	577.87	577.91	577.96
9.6	578.00	578.04	578.09	578.13	578.18	578.22	578.27	578.31	578.36	578.40
9.7	578.44	578.49	578.53	578.58	578.62	578.67	578.71	578.76	578.80	578.85
9.8	578.89	578.94	578.98	579.02	579.07	579.11	579.16	579.20	579.25	579.29
9.9	579.34	579.38	579.43	579.47	579.52	579.56	579.60	579.65	579.69	579.74
1680.0	579.78									

1986 EDITION/RDB

VOLUMES BASED ON 1967 SURVEY.

HEADWATER 1670-1680

Attachment 8c: Fontana Excel Level Storage Table

FONTANA

Quick Lookup

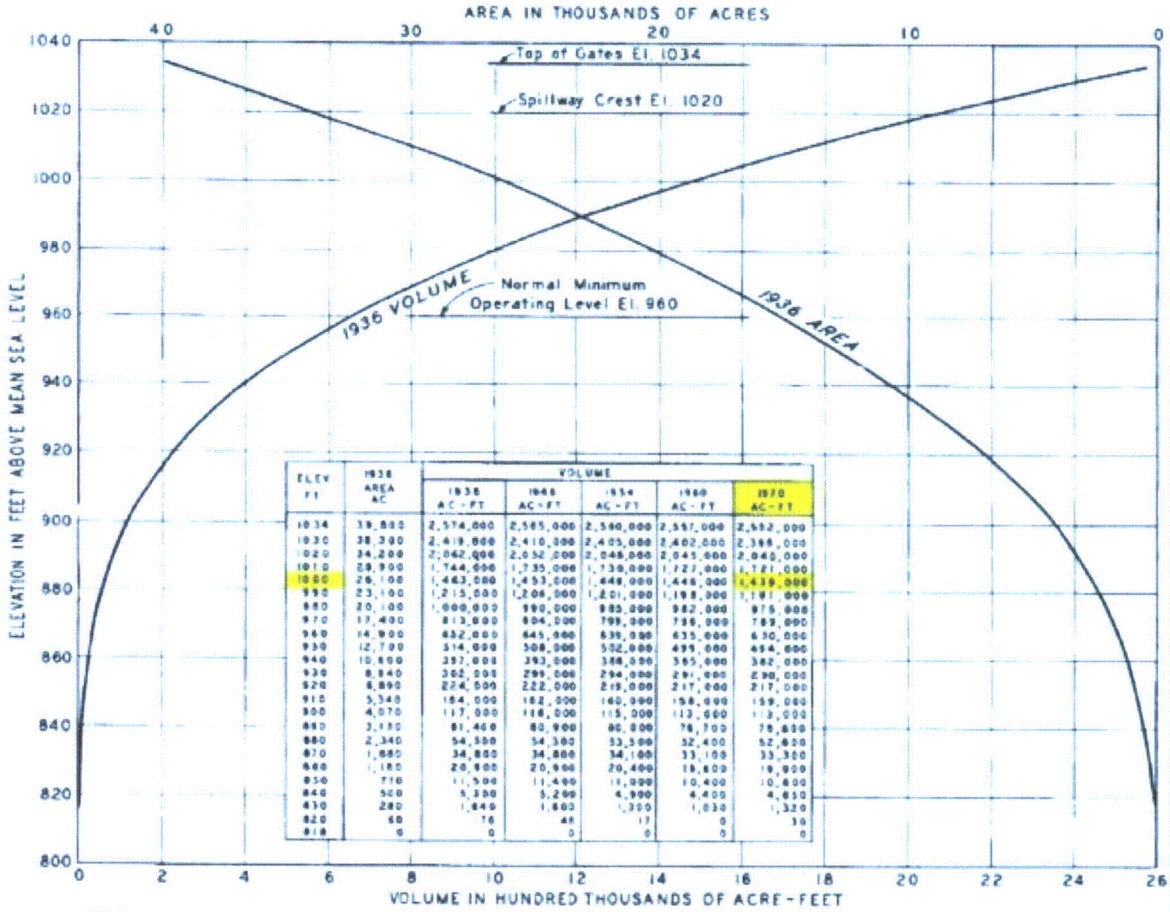
Storage	Enter known HW in green box. Corresponding storage is in yellow box.	
	Elevation	Volume
	1680.00	579.783

HW	Enter known storage in green box. Adjust value in gray box until value in blue box matches or closely approximates value in green box. Corresponding HW is in yellow box.			
	Volume			Elevation
	500.000	1.110	500.007	1661.11

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1550.00	190.382	190.400	190.418	190.437	190.455	190.473	190.491	190.510	190.528	190.546
1550.10	190.564	190.582	190.601	190.619	190.637	190.655	190.674	190.692	190.710	190.728
1550.20	190.747	190.765	190.783	190.801	190.820	190.838	190.856	190.874	190.893	190.911
1550.30	190.929	190.947	190.966	190.984	191.002	191.020	191.039	191.057	191.075	191.093
1550.40	191.112	191.130	191.148	191.167	191.185	191.203	191.221	191.240	191.258	191.276
1550.50	191.295	191.313	191.331	191.349	191.368	191.386	191.404	191.423	191.441	191.459
1550.60	191.477	191.496	191.514	191.532	191.551	191.569	191.587	191.606	191.624	191.642
1550.70	191.661	191.679	191.697	191.715	191.734	191.752	191.770	191.789	191.807	191.825
1550.80	191.844	191.862	191.880	191.899	191.917	191.935	191.954	191.972	191.990	192.009
1550.90	192.027	192.045	192.064	192.082	192.100	192.119	192.137	192.155	192.174	192.192
1551.00	192.211	192.229	192.247	192.266	192.284	192.302	192.321	192.339	192.357	192.376
1551.10	192.394	192.413	192.431	192.449	192.468	192.486	192.504	192.523	192.541	192.559
1551.20	192.578	192.596	192.615	192.633	192.651	192.670	192.688	192.707	192.725	192.743
1551.30	192.762	192.780	192.799	192.817	192.835	192.854	192.872	192.891	192.909	192.927
1551.40	192.946	192.964	192.983	193.001	193.019	193.038	193.056	193.075	193.093	193.111
1551.50	193.130	193.148	193.167	193.185	193.204	193.222	193.240	193.259	193.277	193.296
1551.60	193.314	193.333	193.351	193.369	193.388	193.406	193.425	193.443	193.462	193.480
1551.70	193.499	193.517	193.535	193.554	193.572	193.591	193.609	193.628	193.646	193.665
1551.80	193.683	193.702	193.720	193.738	193.757	193.775	193.794	193.812	193.831	193.849
1551.90	193.868	193.886	193.905	193.923	193.942	193.960	193.979	193.997	194.016	194.034
1552.00	194.053	194.071	194.090	194.108	194.127	194.145	194.164	194.182	194.201	194.219

Attachment 9a: Norris Bluebook Figure



ELEV FT	1936 AREA AC	VOLUME 1936 AC-FT	1946 AC-FT	1954 AC-FT	1960 AC-FT	1970 AC-FT
1034	39,800	2,574,000	2,585,000	2,580,000	2,597,000	2,582,000
1030	38,300	2,419,000	2,410,000	2,405,000	2,402,000	2,388,000
1020	34,200	2,062,000	2,052,000	2,048,000	2,045,000	2,040,000
1010	28,900	1,744,000	1,735,000	1,730,000	1,727,000	1,721,000
1000	26,100	1,463,000	1,453,000	1,448,000	1,446,000	1,439,000
990	23,100	1,215,000	1,206,000	1,201,000	1,198,000	1,191,000
980	20,100	1,000,000	990,000	985,000	982,000	975,000
970	17,400	813,000	804,000	799,000	796,000	789,000
960	14,900	652,000	645,000	639,000	635,000	630,000
950	12,700	514,000	508,000	502,000	499,000	494,000
940	10,800	397,000	393,000	388,000	385,000	382,000
930	8,840	302,000	299,000	294,000	291,000	290,000
920	6,890	224,000	222,000	219,000	217,000	217,000
910	5,340	164,000	162,000	160,000	158,000	159,000
900	4,070	117,000	116,000	115,000	113,000	113,000
890	3,130	81,400	80,900	80,000	78,700	78,600
880	2,340	54,500	54,300	53,300	52,400	52,800
870	1,880	34,800	34,800	34,100	33,100	33,300
860	1,180	20,800	20,900	20,400	19,800	19,900
850	710	11,500	11,400	11,000	10,400	10,800
840	500	5,300	5,200	4,900	4,400	4,610
830	280	1,840	1,800	1,300	1,030	1,320
820	60	76	48	17	0	30
810	0	0	0	0	0	0

NOTES:

Reservoir areas were measured on Tennessee River Survey Maps with contours drawn at 10' intervals and scale 1" = 1,250'. The contours were made to conform to elevations on the TVA sediment range cross-sections located at approximately one-half mile intervals within the reservoir. The areas on these maps were adjusted proportionately to conform to the area of the 1020 contour on the TVA Reservation Map, scale 1" = 1000'.

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

Elevations are referred to the 1912 Fourth General Adjustment of the USC&GS. To correct to the 1936 Supplementary Adjustment, add 0.11 Feet.

Area of original river within the reservoir = 2,930 acres.

Drainage area at the dam = 2,912 square miles.

The 1946 and subsequent volumes were determined by the constant factor method for computing sediment.

Dam closure March 4, 1936.

CLINCH RIVER MILE 79.8

RESERVOIR AREAS AND VOLUMES

NORRIS PROJECT
TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

SUBMITTED | RECOMMENDED | APPROVED

KNOXVILLE | 3-5-71 | 2 | DA | 1 | 321G783B

THIS DRAWING SUPERSEDES 2-DA-1-321N783A

Attachment 9b: Norris 1986 Level Storage Table

TVA			
Calculation No. CDQ0000200800051	Rev: 0	Plant: GEN	Page: 114
Subject: Reservoir Storage Tables		Prepped LKG	
		Checked WWC	

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

NORRIS

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
990.0	600.45	600.57	600.69	600.80	600.92	601.04	601.16	601.27	601.39	601.51
1	601.62	601.74	601.86	601.97	602.09	602.21	602.33	602.44	602.56	602.68
2	602.79	602.91	603.03	603.14	603.26	603.38	603.50	603.61	603.73	603.85
.3	603.97	604.08	604.20	604.32	604.44	604.55	604.67	604.79	604.90	605.02
.4	605.14	605.26	605.37	605.49	605.61	605.73	605.85	605.96	606.08	606.20
990.5	606.31	606.43	606.55	606.67	606.79	606.90	607.02	607.14	607.26	607.37
6	607.49	607.61	607.73	607.85	607.96	608.08	608.20	608.32	608.43	608.55
.7	608.67	608.79	608.91	609.02	609.14	609.26	609.38	609.50	609.61	609.73
.8	609.85	609.97	610.09	610.21	610.32	610.44	610.56	610.68	610.80	610.91
.9	611.03	611.15	611.27	611.39	611.51	611.63	611.74	611.86	611.98	612.10
991.0	612.22	612.33	612.45	612.57	612.69	612.81	612.93	613.04	613.16	613.28
1.1	613.40	613.52	613.64	613.76	613.88	613.99	614.11	614.23	614.35	614.47
1.2	614.59	614.71	614.83	614.94	615.06	615.18	615.30	615.42	615.54	615.66
1.3	615.78	615.90	616.02	616.13	616.25	616.37	616.49	616.61	616.73	616.85
1.4	616.97	617.09	617.21	617.32	617.44	617.56	617.68	617.80	617.92	618.04
991.5	618.16	618.28	618.40	618.52	618.64	618.76	618.87	618.99	619.11	619.23
1.6	619.35	619.47	619.59	619.71	619.83	619.95	620.07	620.19	620.31	620.43
1.7	620.55	620.67	620.79	620.90	621.02	621.14	621.26	621.38	621.50	621.62
1.8	621.74	621.86	621.98	622.10	622.22	622.34	622.46	622.58	622.70	622.82
1.9	622.94	623.06	623.18	623.30	623.42	623.54	623.66	623.78	623.90	624.02
992.0	624.14	624.26	624.38	624.50	624.62	624.74	624.86	624.98	625.10	625.22
2.1	625.34	625.46	625.58	625.70	625.82	625.94	626.06	626.18	626.30	626.42
2.2	626.54	626.67	626.79	626.91	627.03	627.15	627.27	627.39	627.51	627.63
2.3	627.75	627.87	627.99	628.11	628.23	628.35	628.47	628.59	628.71	628.84
2.4	628.96	629.08	629.20	629.32	629.44	629.56	629.68	629.80	629.92	630.04
992.5	630.16	630.29	630.41	630.53	630.65	630.77	630.89	631.01	631.13	631.25
2.6	631.37	631.49	631.62	631.74	631.86	631.98	632.10	632.22	632.34	632.46
2.7	632.58	632.71	632.83	632.95	633.07	633.19	633.31	633.43	633.55	633.68
2.8	633.80	633.92	634.04	634.16	634.28	634.41	634.53	634.65	634.77	634.89
2.9	635.01	635.13	635.26	635.38	635.50	635.62	635.74	635.86	635.99	636.11
993.0	636.23	636.35	636.47	636.59	636.72	636.84	636.96	637.08	637.20	637.32
3.1	637.45	637.57	637.69	637.81	637.93	638.06	638.18	638.30	638.42	638.54
3.2	638.67	638.79	638.91	639.03	639.15	639.28	639.40	639.52	639.64	639.76
3.3	639.89	640.01	640.13	640.25	640.38	640.50	640.62	640.74	640.87	640.99
3.4	641.11	641.23	641.36	641.48	641.60	641.72	641.85	641.97	642.09	642.21
993.5	642.33	642.46	642.58	642.70	642.82	642.95	643.07	643.19	643.31	643.44
3.6	643.56	643.68	643.81	643.93	644.05	644.17	644.30	644.42	644.54	644.66
3.7	644.79	644.91	645.03	645.16	645.28	645.40	645.53	645.65	645.77	645.89
3.8	646.02	646.14	646.26	646.39	646.51	646.63	646.76	646.88	647.00	647.13
3.9	647.25	647.37	647.50	647.62	647.74	647.87	647.99	648.11	648.23	648.36
994.0	648.48	648.60	648.73	648.85	648.97	649.10	649.22	649.34	649.47	649.59
4.1	649.71	649.84	649.96	650.09	650.21	650.33	650.46	650.58	650.70	650.83
4.2	650.95	651.07	651.20	651.32	651.45	651.57	651.69	651.82	651.94	652.06
4.3	652.19	652.31	652.44	652.56	652.69	652.81	652.93	653.06	653.18	653.30
4.4	653.43	653.55	653.68	653.80	653.92	654.05	654.17	654.30	654.42	654.54
994.5	654.67	654.79	654.92	655.04	655.17	655.29	655.41	655.54	655.66	655.79
4.6	655.91	656.04	656.16	656.28	656.41	656.53	656.66	656.78	656.91	657.03
4.7	657.15	657.28	657.40	657.53	657.65	657.78	657.90	658.03	658.15	658.28
4.8	658.40	658.53	658.65	658.78	658.90	659.03	659.15	659.27	659.40	659.52
4.9	659.65	659.77	659.90	660.02	660.15	660.27	660.40	660.52	660.65	660.77

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
995.0	660.90	661.02	661.15	661.27	661.40	661.52	661.65	661.77	661.90	662.02
5.1	662.15	662.27	662.40	662.52	662.65	662.77	662.90	663.02	663.15	663.28
5.2	663.40	663.53	663.65	663.78	663.90	664.03	664.15	664.28	664.40	664.53
5.3	664.66	664.78	664.91	665.03	665.16	665.28	665.41	665.53	665.66	665.79
5.4	665.91	666.04	666.16	666.29	666.41	666.54	666.67	666.79	666.92	667.04
995.5	667.17	667.29	667.42	667.55	667.67	667.80	667.92	668.05	668.17	668.30
5.6	668.43	668.55	668.68	668.81	668.93	669.06	669.18	669.31	669.44	669.56
5.7	669.69	669.81	669.94	670.07	670.19	670.32	670.45	670.57	670.70	670.82
5.8	670.95	671.08	671.20	671.33	671.46	671.58	671.71	671.84	671.96	672.09
5.9	672.22	672.34	672.47	672.59	672.72	672.85	672.98	673.10	673.23	673.35
996.0	673.48	673.61	673.73	673.86	673.99	674.11	674.24	674.37	674.49	674.62
6.1	674.75	674.87	675.00	675.13	675.26	675.38	675.51	675.64	675.76	675.89
6.2	676.02	676.14	676.27	676.40	676.53	676.65	676.78	676.91	677.03	677.16
6.3	677.29	677.42	677.54	677.67	677.80	677.93	678.05	678.18	678.31	678.43
6.4	678.56	678.69	678.82	678.94	679.07	679.20	679.33	679.45	679.58	679.71
996.5	679.83	679.96	680.09	680.22	680.34	680.47	680.60	680.73	680.85	680.98
6.6	681.11	681.24	681.37	681.49	681.62	681.75	681.88	682.00	682.13	682.26
6.7	682.39	682.51	682.64	682.77	682.90	683.03	683.15	683.28	683.41	683.54
6.8	683.67	683.80	683.92	684.05	684.18	684.31	684.44	684.56	684.69	684.82
6.9	684.95	685.08	685.20	685.33	685.46	685.59	685.72	685.84	685.97	686.10
997.0	686.23	686.36	686.49	686.62	686.74	686.87	687.00	687.13	687.26	687.39
7.1	687.51	687.64	687.77	687.90	688.03	688.16	688.29	688.41	688.54	688.67
7.2	688.80	688.93	689.06	689.19	689.31	689.44	689.57	689.70	689.83	689.96
7.3	690.09	690.22	690.35	690.47	690.60	690.73	690.86	690.99	691.12	691.25
7.4	691.38	691.51	691.64	691.76	691.89	692.02	692.15	692.28	692.41	692.54
997.5	692.67	692.80	692.93	693.06	693.18	693.31	693.44	693.57	693.70	693.83
7.6	693.96	694.09	694.22	694.35	694.48	694.61	694.74	694.86	694.99	695.12
7.7	695.25	695.38	695.51	695.64	695.77	695.90	696.03	696.16	696.29	696.42
7.8	696.55	696.68	696.81	696.94	697.07	697.20	697.33	697.46	697.59	697.72
7.9	697.85	697.98	698.11	698.24	698.37	698.50	698.63	698.76	698.89	699.02
998.0	699.15	699.28	699.41	699.54	699.67	699.80	699.93	700.06	700.19	700.32
8.1	700.45	700.58	700.71	700.84	700.97	701.10	701.23	701.36	701.49	701.62
8.2	701.75	701.88	702.01	702.14	702.27	702.40	702.53	702.66	702.79	702.92
8.3	703.05	703.19	703.32	703.45	703.58	703.71	703.84	703.97	704.10	704.23
8.4	704.36	704.49	704.62	704.75	704.88	705.01	705.15	705.28	705.41	705.54
998.5	705.67	705.80	705.93	706.06	706.19	706.32	706.45	706.58	706.71	706.85
8.6	706.98	707.11	707.24	707.37	707.50	707.63	707.76	707.89	708.03	708.16
8.7	708.29	708.42	708.55	708.68	708.81	708.94	709.08	709.21	709.34	709.47
8.8	709.60	709.73	709.86	710.00	710.13	710.26	710.39	710.52	710.65	710.78
8.9	710.92	711.05	711.18	711.31	711.44	711.57	711.71	711.84	711.97	712.10
999.0	712.23	712.36	712.50	712.63	712.76	712.89	713.02	713.15	713.28	713.42
9.1	713.55	713.68	713.81	713.94	714.08	714.21	714.34	714.47	714.60	714.74
9.2	714.87	715.00	715.13	715.26	715.40	715.53	715.66	715.79	715.92	716.06
9.3	716.19	716.32	716.46	716.59	716.72	716.85	716.98	717.12	717.25	717.38
9.4	717.51	717.65	717.78	717.91	718.04	718.18	718.31	718.44	718.57	718.70
999.5	718.84	718.97	719.10	719.24	719.37	719.50	719.63	719.76	719.90	720.03
9.6	720.16	720.30	720.43	720.56	720.69	720.83	720.96	721.09	721.22	721.36
9.7	721.49	721.62	721.76	721.89	722.02	722.16	722.29	722.42	722.55	722.69
9.8	722.82	722.95	723.09	723.22	723.35	723.49	723.62	723.75	723.89	724.02
9.9	724.15	724.29	724.42	724.55	724.69	724.82	724.95	725.08	725.22	725.35
1000.0	725.49									

1986 EDITION/KOB

VOLUMES BASED ON 1970 SURVEY.

HEADWATER 990-1000

Attachment 9c: Norris Excel Level Storage Table

NORRIS

Quick Lookup

Storage	Enter known HW in green box. Corresponding storage is in yellow box	
	Elevation	Volume
	1000.00	725.485

HW	Enter known storage in green box. Adjust value in gray box until value in blue box matches or closely approximates value in green box. Corresponding HW is in yellow box			
	Volume			Elevation
	850.000	8.824	850.000	1008.82

Table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
960.00	317.620	317.695	317.769	317.843	317.918	317.992	318.066	318.141	318.215	318.290
960.10	318.364	318.438	318.513	318.587	318.662	318.736	318.811	318.885	318.959	319.034
960.20	319.108	319.183	319.258	319.332	319.407	319.481	319.556	319.630	319.705	319.779
960.30	319.854	319.929	320.003	320.078	320.153	320.227	320.302	320.377	320.451	320.526
960.40	320.601	320.676	320.750	320.825	320.900	320.975	321.049	321.124	321.199	321.274
960.50	321.349	321.423	321.498	321.573	321.648	321.723	321.798	321.873	321.948	322.022
960.60	322.097	322.172	322.247	322.322	322.397	322.472	322.547	322.622	322.697	322.772
960.70	322.847	322.922	322.997	323.073	323.148	323.223	323.298	323.373	323.448	323.523
960.80	323.598	323.674	323.749	323.824	323.899	323.974	324.049	324.125	324.200	324.275
960.90	324.350	324.426	324.501	324.576	324.652	324.727	324.802	324.878	324.953	325.028
961.00	325.104	325.179	325.254	325.330	325.405	325.481	325.556	325.632	325.707	325.782
961.10	325.858	325.933	326.009	326.084	326.160	326.236	326.311	326.387	326.462	326.538
961.20	326.613	326.689	326.765	326.840	326.916	326.991	327.067	327.143	327.218	327.294
961.30	327.370	327.446	327.521	327.597	327.673	327.748	327.824	327.900	327.976	328.052
961.40	328.127	328.203	328.279	328.355	328.431	328.507	328.582	328.658	328.734	328.810
961.50	328.886	328.962	329.038	329.114	329.190	329.266	329.342	329.418	329.494	329.570
961.60	329.646	329.722	329.798	329.874	329.950	330.026	330.102	330.178	330.255	330.331
961.70	330.407	330.483	330.559	330.635	330.712	330.788	330.864	330.940	331.016	331.093
961.80	331.169	331.245	331.321	331.398	331.474	331.550	331.627	331.703	331.779	331.856
961.90	331.932	332.008	332.085	332.161	332.238	332.314	332.390	332.467	332.543	332.620
962.00	332.696	332.773	332.849	332.926	333.002	333.079	333.155	333.232	333.309	333.385

Attachment 10a: Tellico Bluebook Figure (1999 Tellico Blue Book)

Pool Elevation (feet)	Area (acre *1000)	Volume (ac-ft *1000)	Potential EIS* (gWh)
815	16.62	424.0	47.3
814	15.95	407.7	40.8
813	15.56	392.0	34.5
812	15.30	376.6	28.4
811	15.01	361.4	22.4
810	14.70	346.6	16.6
809	14.37	332.0	10.9
808	14.01	317.8	5.4
807	13.64	304.0	.0

Attachment 10b: Tellico 1986 Level Storage Table

HIGHLIGHTED STAGE ELEVATION & VOLUME VALUES EQUAL STAGE ELEVATION & VOLUME VALUES ON CORRESPONDING REFERENCES INCLUDED ON 2008 RESERVOIR VOLUME CURVE CHECK

TELLICO

TOTAL LEVEL STORAGE IN 1000 DAY-SECOND-FEET

ELEV.	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
810.0	174.72	174.79	174.87	174.94	175.02	175.09	175.17	175.24	175.31	175.39
.1	175.46	175.54	175.61	175.68	175.76	175.83	175.91	175.98	176.06	176.13
.2	176.20	176.28	176.35	176.43	176.50	176.58	176.65	176.73	176.80	176.87
.3	176.95	177.03	177.10	177.17	177.25	177.32	177.40	177.47	177.55	177.62
.4	177.70	177.77	177.85	177.92	178.00	178.07	178.15	178.22	178.30	178.37
810.5	178.45	178.52	178.60	178.67	178.75	178.82	178.90	178.97	179.04	179.12
.6	179.19	179.27	179.34	179.42	179.50	179.57	179.65	179.72	179.80	179.87
.7	179.95	180.02	180.10	180.17	180.25	180.32	180.40	180.47	180.55	180.62
.8	180.70	180.77	180.85	180.93	181.00	181.08	181.15	181.23	181.30	181.38
.9	181.45	181.53	181.60	181.68	181.76	181.83	181.91	181.98	182.06	182.13
811.0	182.21	182.29	182.36	182.44	182.51	182.59	182.66	182.74	182.81	182.89
1.1	182.97	183.04	183.12	183.19	183.27	183.35	183.42	183.50	183.57	183.65
1.2	183.73	183.80	183.88	183.95	184.03	184.11	184.18	184.26	184.33	184.41
1.3	184.49	184.56	184.64	184.72	184.79	184.87	184.94	185.02	185.10	185.17
1.4	185.25	185.32	185.40	185.48	185.55	185.63	185.71	185.78	185.86	185.94
811.5	186.01	186.09	186.16	186.24	186.32	186.39	186.47	186.55	186.62	186.70
1.6	186.78	186.85	186.93	187.01	187.08	187.16	187.24	187.31	187.39	187.47
1.7	187.54	187.62	187.70	187.77	187.85	187.93	188.00	188.08	188.16	188.23
1.8	188.31	188.39	188.46	188.54	188.62	188.70	188.77	188.85	188.93	189.00
1.9	189.08	189.16	189.23	189.31	189.39	189.47	189.54	189.62	189.70	189.77
812.0	189.85	189.93	190.00	190.08	190.16	190.24	190.31	190.39	190.47	190.54
2.1	190.62	190.70	190.78	190.85	190.93	191.01	191.09	191.16	191.24	191.32
2.2	191.39	191.47	191.55	191.63	191.70	191.78	191.86	191.94	192.01	192.09
2.3	192.17	192.25	192.33	192.40	192.48	192.56	192.64	192.71	192.79	192.87
2.4	192.95	193.02	193.10	193.18	193.26	193.34	193.41	193.49	193.57	193.65
812.5	193.72	193.80	193.88	193.96	194.04	194.11	194.19	194.27	194.35	194.42
2.6	194.50	194.58	194.66	194.74	194.81	194.89	194.97	195.05	195.13	195.20
2.7	195.28	195.36	195.44	195.52	195.59	195.67	195.75	195.83	195.91	195.98
2.8	196.06	196.14	196.22	196.30	196.38	196.46	196.53	196.61	196.69	196.77
2.9	196.85	196.93	197.00	197.08	197.16	197.24	197.32	197.39	197.47	197.55
813.0	197.63	197.71	197.79	197.87	197.94	198.02	198.10	198.18	198.26	198.34
3.1	198.42	198.49	198.57	198.65	198.73	198.81	198.89	198.97	199.04	199.12
3.2	199.20	199.28	199.36	199.44	199.52	199.60	199.68	199.75	199.83	199.91
3.3	199.99	200.07	200.15	200.23	200.31	200.39	200.47	200.54	200.62	200.70
3.4	200.78	200.86	200.94	201.02	201.10	201.18	201.26	201.33	201.41	201.49
813.5	201.57	201.65	201.73	201.81	201.89	201.97	202.05	202.13	202.21	202.29
3.6	202.37	202.45	202.53	202.61	202.68	202.76	202.84	202.92	203.00	203.08
3.7	203.16	203.24	203.32	203.40	203.48	203.56	203.64	203.72	203.80	203.88
3.8	203.96	204.04	204.12	204.20	204.28	204.36	204.44	204.52	204.60	204.68
3.9	204.76	204.84	204.92	205.00	205.08	205.16	205.24	205.32	205.40	205.48
814.0	205.56	205.64	205.73	205.81	205.89	205.97	206.05	206.13	206.21	206.29
4.1	206.37	206.45	206.53	206.61	206.69	206.77	206.86	206.94	207.02	207.10
4.2	207.18	207.26	207.34	207.42	207.50	207.58	207.67	207.75	207.83	207.91
4.3	207.99	208.07	208.15	208.23	208.32	208.40	208.48	208.56	208.64	208.72
4.4	208.80	208.89	208.97	209.05	209.13	209.21	209.30	209.38	209.46	209.54
814.5	209.62	209.70	209.79	209.87	209.95	210.03	210.11	210.20	210.28	210.36
4.6	210.44	210.53	210.61	210.69	210.77	210.86	210.94	211.02	211.10	211.18
4.7	211.27	211.35	211.43	211.52	211.60	211.68	211.76	211.85	211.93	212.01
4.8	212.10	212.18	212.26	212.35	212.43	212.51	212.60	212.68	212.76	212.84
4.9	212.93	213.01	213.10	213.18	213.26	213.35	213.43	213.51	213.60	213.68

ELEV	0.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
815.0	213.76	213.85	213.93	214.02	214.10	214.18	214.27	214.35	214.43	214.52
5.1	214.60	214.69	214.77	214.86	214.94	215.02	215.11	215.19	215.28	215.36
5.2	215.45	215.53	215.62	215.70	215.79	215.87	215.96	216.04	216.12	216.21
5.3	216.30	216.38	216.47	216.55	216.64	216.72	216.81	216.89	216.98	217.06
5.4	217.15	217.23	217.32	217.40	217.49	217.57	217.66	217.74	217.83	217.92
815.5	218.00	218.09	218.17	218.26	218.34	218.43	218.52	218.60	218.69	218.77
5.6	218.86	218.95	219.03	219.12	219.20	219.29	219.38	219.46	219.55	219.64
5.7	219.72	219.81	219.89	219.98	220.07	220.15	220.24	220.33	220.41	220.50
5.8	220.59	220.68	220.76	220.85	220.94	221.02	221.11	221.20	221.28	221.37
5.9	221.46	221.54	221.63	221.72	221.81	221.89	221.98	222.07	222.15	222.24
816.0	222.33	222.42	222.50	222.59	222.68	222.77	222.86	222.94	223.03	223.12
6.1	223.21	223.29	223.38	223.47	223.56	223.64	223.73	223.82	223.91	224.00
6.2	224.08	224.17	224.26	224.35	224.44	224.53	224.61	224.70	224.79	224.88
6.3	224.97	225.06	225.14	225.23	225.32	225.41	225.50	225.59	225.67	225.76
6.4	225.85	225.94	226.03	226.12	226.21	226.30	226.39	226.47	226.56	226.65
816.5	226.74	226.83	226.92	227.01	227.10	227.19	227.28	227.36	227.45	227.54
6.6	227.63	227.72	227.81	227.90	227.99	228.08	228.17	228.26	228.35	228.44
6.7	228.53	228.61	228.70	228.79	228.88	228.97	229.06	229.15	229.24	229.33
6.8	229.42	229.51	229.60	229.69	229.78	229.87	229.96	230.05	230.14	230.23
6.9	230.32	230.41	230.50	230.59	230.68	230.77	230.86	230.95	231.04	231.13
817.0	231.22	231.31	231.40	231.50	231.59	231.68	231.77	231.86	231.95	232.04
7.1	232.13	232.22	232.31	232.40	232.49	232.58	232.67	232.76	232.85	232.94
7.2	233.04	233.13	233.22	233.31	233.40	233.49	233.58	233.67	233.76	233.85
7.3	233.95	234.04	234.13	234.22	234.31	234.40	234.49	234.58	234.67	234.77
7.4	234.86	234.95	235.04	235.13	235.22	235.31	235.41	235.50	235.59	235.68
817.5	235.77	235.86	235.95	236.05	236.14	236.23	236.32	236.41	236.50	236.60
7.6	236.69	236.78	236.87	236.96	237.05	237.15	237.24	237.33	237.42	237.51
7.7	237.61	237.70	237.79	237.88	237.97	238.07	238.16	238.25	238.34	238.43
7.8	238.53	238.62	238.71	238.80	238.90	238.99	239.08	239.17	239.26	239.36
7.9	239.45	239.54	239.63	239.73	239.82	239.91	240.00	240.09	240.19	240.28
818.0	240.37	240.47	240.56	240.65	240.74	240.84	240.93	241.02	241.11	241.21
8.1	241.30	241.39	241.48	241.58	241.67	241.76	241.86	241.95	242.04	242.13
8.2	242.23	242.32	242.41	242.50	242.60	242.69	242.78	242.88	242.97	243.06
8.3	243.16	243.25	243.34	243.44	243.53	243.62	243.72	243.81	243.90	243.99
8.4	244.09	244.18	244.27	244.37	244.46	244.55	244.65	244.74	244.83	244.93
818.5	245.02	245.11	245.21	245.30	245.39	245.49	245.58	245.67	245.77	245.86
8.6	245.95	246.05	246.14	246.23	246.33	246.42	246.51	246.61	246.70	246.79
8.7	246.89	246.98	247.08	247.17	247.26	247.36	247.45	247.54	247.64	247.73
8.8	247.83	247.92	248.01	248.11	248.20	248.29	248.39	248.48	248.58	248.67
8.9	248.76	248.86	248.95	249.04	249.14	249.23	249.33	249.42	249.51	249.61
819.0	249.70	249.80	249.89	249.98	250.08	250.17	250.27	250.36	250.45	250.55
9.1	250.64	250.74	250.83	250.92	251.02	251.11	251.21	251.30	251.39	251.49
9.2	251.58	251.68	251.77	251.87	251.96	252.05	252.15	252.24	252.34	252.43
9.3	252.53	252.62	252.71	252.81	252.90	253.00	253.09	253.18	253.28	253.37
9.4	253.47	253.56	253.66	253.75	253.85	253.94	254.03	254.13	254.22	254.32
819.5	254.41	254.51	254.60	254.69	254.79	254.88	254.98	255.07	255.17	255.26
9.6	255.36	255.45	255.54	255.64	255.73	255.83	255.92	256.02	256.11	256.21
9.7	256.30	256.39	256.49	256.58	256.68	256.77	256.87	256.96	257.06	257.15
9.8	257.25	257.34	257.44	257.53	257.62	257.72	257.81	257.91	258.00	258.10
9.9	258.19	258.29	258.38	258.48	258.57	258.67	258.76	258.85	258.95	259.04
820.0	259.14									

1986 EDITION/RMB

VOLUMES BASED ON 1980 SURVEY.

HEADWATER 810- 820

Attachment 10c: Tellico Excel Level Storage Table