

TENNESSEE VALLEY AUTHORITY
 RESERVOIR SEDIMENTATION
 DATA SUMMARY

Fort Loudoun
 NAME OF RESERVOIR

HYDRAULIC DATA BRANCH
 20-8.c
 DATA SHEET NO.

DAM	1. OWNER TVA			2. RIVER Tennessee		3. STATE Tennessee			
	4. SEC. TWP. RANGE		5. NEAREST TOWN Lenoir City		6. COUNTY Loudon				
	7. STREAM BED ELEV. 725		8. TOP OF DAM ELEV. 830		9. SPILLWAY CREST ELEV. 1/815.0				
RESERVOIR	10. STORAGE ALLOCATION	11. ELEVATION TOP OF POOL	12. SURFACE AREA ACRES	13. STORAGE ACRE- FEET	14. ACCUMULATED ACRE- FEET	15. DATE STORAGE BEGAN			
	a. FLOOD CONTROL		3/	3/	3/	8/2/43			
	b. POWER								
	c. MULTIPLE USE	815	15,510	110,502	400,945	16. DATE NORMAL OPER. BEGAN			
	d. INACTIVE 2/	807	12,249	289,633	290,443				
	e. lowest outlet	735	162	810	810				
17. LENGTH OF RESERVOIR 55 MILES			AV. WIDTH OF RESERVOIR 0.44 MILES						
WATERSHED	18. TOTAL DRAINAGE AREA 9550 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 47.2(24) INCHES						
	19. NET SEDIMENT CONTRIBUTING AREA 1556 SQ. MI.		23. MEAN ANNUAL RUNOFF 19.6(45) INCHES						
	20. LENGTH 321 MILES	AV. WIDTH 30 MILES	24. MEAN ANNUAL RUNOFF 9,991,000 AC.-FT.						
	21. MAX. ELEV. 6684		MIN. ELEV. 725		25. CLIMATIC CLASSIFICATION Humid				
SURVEY DATA	26. DATE OF SURVEY	27. PERIOD YEARS	28. ACCL. YEARS	29. TYPE OF SURVEY	30. NO. OF RANGES OR CONTOUR INT.	31. SURFACE AREA ACRES	32. CAPACITY ACRE- FEET	33. C _w RATIO AC.-FT. PER SQ. MI.	
	Nov. 18, 1946	0	0	Range	26	15,510	400,945	-	
	Jun. 25, 1951	4.6	4.6	Range	26	15,510	399,414	-	
	Apr. 20, 1956	4.8	9.4	Range	26	15,510	398,060	-	
	May 17, 1961	5.1	14.5	Range	27	15,510	392,711	-	
	(D)								
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION	35. PERIOD WATER INFLOW ACRE- FEET			36. WATER INFL. TO DATE AC.-FT.			
			a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	d. MEAN ANNUAL	e. TOTAL TO DATE		
	Jun. 25, 1951	49.6	9,837,355	11,586,673	45,251,831	9,639,922	45,251,831		
	Apr. 20, 1956	44.6	7,697,964	8,118,267	36,950,225	8,744,900	82,202,056		
May 17, 1961	49.7	9,585,089	11,583,045	48,883,953	9,040,414	131,086,009			
26. DATE OF SURVEY	37. PERIOD SEDIMENT DEPOSITS ACRE- FEET			38. TOTAL SED. DEPOSITS TO DATE ACRE- FEET.					
	a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	d. TOTAL TO DATE	e. AV. ANNUAL	f. PER SQ. MI.-YEAR			
Jun. 25, 1951	1,531	333	0.214	1,531	333	0.214			
Apr. 20, 1956	1,354	282	0.181	2,885	307	0.197			
May 17, 1961	5,349	1,049	0.674	8,234	568	0.365			
26. DATE OF SURVEY	39. AV. DRY WGT. LBS. PER CU. FT.	40. SED. DEP. TONS PER SQ. MI.-YR.		41. STORAGE LOSS PCT.		42. SED. INFLOW PPM			
		a. PERIOD	b. TOTAL TO DATE	a. AV. ANNUAL	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE		
Jun. 25, 1951	55*	256	256	0.083	0.382	30	30		
Apr. 20, 1956	55*	217	236	0.077	0.720	32	31		
May 17, 1961	55*	807	437	0.142	2.054	96	55		

- 1/ Top of Gates.
- 2/ Lowest elevation for flat pool navigation requirements.
- 3/ From first accurate area-volume curves, 1946 Survey.
- 4/ Does not include sediment deposits before Nov. 18, 1946.
- * Assumed.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION										
	85-70	70-60	60-50	50-40	40-30	30-20	20-10	10- ^{Top of} Gates			
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION										
Jun. 25, 1951	21	0	5/-9	3	21	20	43	1			
Apr. 20, 1956	31	5/-6	5/-15	4	25	26	28	7			
May 17, 1961	5/-1	11	10	14	19	23	21	3			

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR														
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-105	-110	-115	-120	-125
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION														
Jun. 25, 1951	44	7	5/-14	5/-25	1	18	41	24	0	4					
Apr. 20, 1956	46	5	5/-16	5/-20	0	10	35	30	3	7					
May 17, 1961	6	6	8	11	12	15	26	11	2	3					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1944	814.58	805.72	8,544,725	1953	814.71	806.63	8,118,267
1945	815.00	806.68	9,619,804	1954	813.87	805.54	7,194,551
1946	814.41	806.62	10,372,632	1955	814.39	806.58	7,488,308
1947	814.06	805.77	8,134,734	1956	814.62	806.74	7,517,663
1948	813.89	806.90	8,512,444	1957	814.04	806.83	10,748,190
1949	814.85	806.29	10,487,246	1958	814.74	806.70	11,583,045
1950	814.44	806.20	11,586,673	1959	814.07	806.74	7,329,826
1951	814.26	806.16	9,583,615	1960	814.66	806.65	10,398,499
1952	814.48	806.78	8,115,094	1961	814.27	806.83	9,035,438

46. ELEVATION-AREA-CAPACITY DATA (1946)							
ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	CAPACITY (ac-ft)
730	0	0	790	6,685	133,486		
740	324	1,621	796	8,345	178,571		
750	966	7,931	802	10,222	234,265		
760	1,789	20,674	807	12,249	290,443		
770	2,875	43,765	813	14,561	370,874		
780	4,231	79,164	815	15,510	400,945		

47. REMARKS AND REFERENCES
5/ Scour-treated as negative sediment.

48. AGENCY SUPPLYING DATA
 TENNESSEE VALLEY AUTHORITY
 HYDRAULIC DATA BRANCH

49. DATE September 1, 1968