

TENNESSEE VALLEY AUTHORITY
 RESERVOIR SEDIMENTATION
 DATA SUMMARY

Boone
 NAME OF RESERVOIR

HYDRAULIC DATA BRANCH
 20-3b
 DATA SHEET NO.

DAM	1. OWNER TVA		2. RIVER South Fork Holston		3. STATE Tennessee				
	4. SEC. TWP. RANGE		5. NEAREST TOWN Kingsport		6. COUNTY Sullivan-Washington				
	7. STREAM BED ELEV. 1257		8. TOP OF DAM ELEV. 1400		9. SPILLWAY CREST ELEV. 1/1385				
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			
	d. FLOOD CONTROL								
	b. POWER					12/16/52			
	c. MULTIPLE USE	1,385	4,520	196,368	196,668	16. DATE NORMAL OPER. BEGAN			
	d. INACTIVE	2/ 1,265	80	300	300				
						3/16/53			
WATERSHED	17. LENGTH OF RESERVOIR 17.3 MILES		AV. WIDTH OF RESERVOIR 0.41 MILES						
	18. TOTAL DRAINAGE AREA 1,840 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 45.5(22) INCHES						
	19. NET SEDIMENT CONTRIBUTING AREA 662 SQ. MI.		23. MEAN ANNUAL RUNOFF 18.1(33, 3) INCHES						
	20. LENGTH 110 MILES		AV. WIDTH 17 MILES		24. MEAN ANNUAL RUNOFF 1,776,100 AC.-FT.				
	21. MAX. ELEV. 5964		MIN. ELEV. 1257		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.	
	Dec. 16, 1952	0	0	Range	59	4,520	196,668	-	
	Jun. 13, 1958	5.5	5.5	Range	55	4,520	195,633	-	
	Sept. 24, 1964	6.3	11.8	Range	57	4,520	193,446		
				(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. 13, 1958	46.2	1,678,398	2,217,376	9,231,187	1,678,398	9,231,187		
	Sept. 24, 1964	44.3	1,737,559	2,259,609	10,946,621	1,709,984	20,177,808		
	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. 13, 1958	1,035	188	0.284	1,035	188	0.284		
	Sept. 24, 1964	2,167	344	0.520	3,202	271	0.409		
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	c. AV. ANNUAL	d. TOT. TO DATE	e. PERIOD	f. TOT. TO DATE		
Jun. 13, 1958	55*	340	340	0.095	0.53	99	99		
Sept. 24, 1964	55*	623	490	0.138	1.63	174	140		

1/ Top of Gates.
 2/ Centerline of Sluice.
 * Assumed.

26. DATE OF SURVEY		43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION													
		130-105	105-90	90-75	75-60	60-45	45-30	30-15	15-Top of Gates						
		PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION													
Jun. 13, 1958		10	5	15	18	22	15	11	4						
Sept. 24, 1964		12	10	13	13	15	15	15	7						
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
		PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION ^{4/}													
Jun. 13, 1958		(3	2	1	6	7	7	9	4	3/-2	1	(South Holston)			
		(2	3	7	7	3	9	12	7	7	5	(Watauga)			
Sept. 24, 1964		(3	10	8	6	6	6	5	4	0	1	(South Holston)			
		(5	4	6	4	2	7	9	6	7	1	(Watauga)			
45. RANGE IN RESERVOIR OPERATION															
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.								
1953	1384.52	5/1262.40	1,288,587	1960	1383.64	1351.35	1,863,687								
1954	1383.23	1352.68	1,314,908	1961	1383.89	1353.55	1,490,924								
1955	1381.58	1330.02	1,660,856	1962	1384.80	1356.44	2,259,609								
1956	1382.32	1327.06	1,315,961	1963	1384.84	1352.51	1,807,212								
1957	1382.52	1352.05	2,217,376	1964	1384.99	1350.08	1,323,415								
1958	1384.42	1353.53	2,076,342												
1959	1383.95	1348.27	1,574,197												
46. ELEVATION-AREA-CAPACITY DATA (1952)															
ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	AREA (acres)	CAPACITY (ac-ft)							
1255	0	0	1320	1,260	32,690	1385	4,520	196,670							
1260	20	50	1330	1,550	46,660	1390	5,100	220,720							
1270	160	710	1340	1,880	63,780										
1280	310	2,940	1350	2,230	84,310										
1290	510	6,960	1360	2,740	109,000										
1300	740	13,140	1370	3,320	139,220										
1310	970	21,660	1380	3,950	175,500										
47. REMARKS AND REFERENCES															
3/ (-) Indicates scour. Treated as negative sediment.															
4/ Junction of South Holston and Watauga Rivers occurs in 0-10% reach of South Holston River, length of Watauga River taken from Mouth to Head of Reservoir.															
5/ Min. elevation of Water Year 1953 is elevation at Date of Closure - Dec. 16, 1952.															
48. AGENCY SUPPLYING DATA															
TENNESSEE VALLEY AUTHORITY HYDRAULIC DATA BRANCH															
49. DATE <u>September 1, 1966</u>															