

TENNESSEE VALLEY AUTHORITY  
 RESERVOIR SEDIMENTATION  
 DATA SUMMARY

Apalachia  
 NAME OF RESERVOIR

HYDRAULIC DATA BRANCH  
 20-19a  
 DATA SHEET NO.

DAM	1. OWNER <b>TVA</b>			2. RIVER <b>Hiwassee</b>			3. STATE <b>North Carolina</b>									
	4. SEC. <b>TWP. RANGE</b>			5. NEAREST TOWN <b>Farner, Tenn.</b>			6. COUNTY <b>Cherokee</b>									
	7. STREAM BED ELEV. <b>1164</b>			8. TOP OF DAM ELEV. <b>1288</b>			9. SPILLWAY CREST ELEV. <b>1/1280</b>									
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				2/		2/		2/		2/14/43					
	b. POWER		1,280		1,122		44,962		58,312							
	c. MULTIPLE USE										16. DATE NORMAL OPER. BEGAN					
	d. INACTIVE		1,221		466		13,350		13,350							
											9/22/43					
17. LENGTH OF RESERVOIR <b>9.8</b>				MILES				AV. WIDTH OF RESERVOIR <b>0.2</b>				MILES				
WATERSHED	18. TOTAL DRAINAGE AREA <b>1018</b>				SQ. MI.				22. MEAN ANNUAL PRECIPITATION <b>57.6(24)</b>				INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA <b>48</b>				SQ. MI.				23. MEAN ANNUAL RUNOFF <b>26.7(18)</b>				INCHES			
	20. LENGTH <b>8.1</b>				MILES				AV. WIDTH <b>13</b>				MILES			
	21. MAX. ELEV. <b>4784</b>				MIN. ELEV. <b>1164</b>				25. CLIMATIC CLASSIFICATION <b>Humid</b>							
	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 <sub>w</sub> RATIO AC- FT. PER SQ. MI.	
Feb. 14, 1943		0		0		Range		10		1,122		58,312		-		
Aug. 19, 1950		7.5		7.5		Range		10		1,122		57,979		-		
Sep. 9, 1960		10.1		17.6		Range		10		1,122		57,550		-		
						(D)										
SURVEY DATA	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		a. MEAN ANNUAL		b. TOTAL TO DATE				
	Aug. 19, 1950		60.8		1,540,473		1,959,442	11,553,549		1,540,473		11,553,549				
	Sep. 9, 1960		57.1		1,335,165		1,688,573	13,485,162		1,422,654		25,038,711				
SURVEY DATA	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		a. TOTAL TO DATE		b. AV. ANNUAL		c. PER SQ. MI.-YEAR				
	Aug. 19, 1950		334		45	0.938		334		45		0.938				
Sep. 9, 1960		428		42	0.883		762		43		0.896					
SURVEY DATA	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			
	Aug. 19, 1950		55*		1,124		1,124	0.077		0.573	25		25			
Sep. 9, 1960		55*		1,058		1,073	0.074		0.131	28		27				

1/ Top of Gates.  
 2/ Revised.  
 \* Assumed.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION											
	112-100	100-90	90-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-	Top of Gates
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
Aug. 19, 1950	19	7	23	8	0	14	1	10	10	8	0	
Sept. 9, 1960	27	16	19	10	1	8	2	8	6	4	3/-1	

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														
Aug. 19, 1950	9	5	10	22	13	12	8	7	8	6					
Sept. 9, 1960	16	11	16	19	11	9	5	5	5	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	1280.85	1264.67	1,452,368	1953	1280.05	1270.76	1,228,304
1945	1280.12	1265.55	1,049,365	1954	1280.02	1260.59	1,285,602
1946	1281.23	1264.61	1,866,325	1955	1279.99	1251.73	1,034,399
1947	1280.14	1265.47	1,492,350	1956	1279.99	1267.85	1,415,168
1948	1279.19	1265.67	993,767	1957	1280.16	1272.00	1,446,499
1949	1280.27	1269.89	1,889,052	1958	1279.92	1272.45	1,608,023
1950	1280.39	1269.85	1,959,442	1959	1280.26	1273.27	1,068,769
1951	1280.27	1271.20	1,369,714	1960	1280.03	1270.59	1,276,602
1952	1281.40	1270.25	1,688,573				

46. ELEVATION-AREA-CAPACITY DATA 2/ (1943)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1168	0	0	1230	524	17,708			
1170	11	11	1240	614	23,379			
1180	149	760	1255	820	33,988			
1190	215	2,582	1257	846	35,653			
1200	312	5,215	1270	1,004	47,681			
1210	385	8,702	1280	1,122	58,312			
1220	449	12,872						

47. REMARKS AND REFERENCES  
 3/ (-) Minus indicates scour. Considered as negative sediment.

48. AGENCY SUPPLYING DATA  
 TENNESSEE VALLEY AUTHORITY  
 HYDRAULIC DATA BRANCH

49. DATE September 1, 1962

RESERVOIR SEDIMENT DATA SUMMARY

Apalachia  
NAME OF RESERVOIR

20-19c  
DATA SHEET NO.

DAM	1. OWNER TVA			2. STREAM Hiwassee			3. STATE North Carolina								
	4. SEC. TWP. RANGE			5. NEAREST POST OFF. Fanner, Tn.			6. COUNTY Cherokee								
	7. LAT. LONG.			8. TOP OF DAM ELEVATION 1288			9. SPILLWAY CREST ELEV. 1/1280								
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA ACRES		13. ORIGINAL CAPACITY ACRE-Feet		14. GROSS STORAGE ACRE-Feet		15. DATE STORAGE BEGAN				
	a. FLOOD CONTROL										2/14/43				
	b. MULTIPLE USE										16. DATE NORMAL OPER. BEGAN				
	c. POWER		1,280		1,122		44,962		58,312		9/22/43				
	d. WATER SUPPLY														
	e. IRRIGATION														
	f. CONSERVATION														
g. INACTIVE		1,221		456		13,350		13,350							
WATERSHED	17. LENGTH OF RESERVOIR				9.8 MILES				AV. WIDTH OF RESERVOIR MILES						
	18. TOTAL DRAINAGE AREA				1018 SQ. MI.				22. MEAN ANNUAL PRECIPITATION INCHES						
	19. NET SEDIMENT CONTRIBUTING AREA				48 SQ. MI.				23. MEAN ANNUAL RUNOFF INCHES						
	20. LENGTH		81 MILES		AV. WIDTH		13 MILES		24. MEAN ANNUAL RUNOFF AC.-FT.						
	21. MAX. ELEV.		4784		MIN. ELEV.		1164		25. ANNUAL TEMP.; MEAN 57 RANGE 58						
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/I: RATIO AC.-FT. PER AC.-FT.		
	Feb. 14, 1943		0	0	Range		10		1,122		58,312				
	May 7, 1965		4.7	22.3	Range		10				57,753				
					(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		a. MEAN ANNUAL		b. TOTAL TO DATE		
	May 7, 1965		63.3		1,636,149		1,862,818		7,689,899		1,467,651		32,728,610		
	26. DATE OF SURVEY		37. PERIOD CAPACITY LOSS ACRE-Feet				38. TOTAL SED. DEPOSITS TO DATE ACRE-Feet								
			a. PERIOD TOTAL		b. AV. ANNUAL		c. PER SQ. MI.-YEAR		a. TOTAL TO DATE		b. AV. ANNUAL		c. PER SQ. MI.-YEAR		
	May 7, 1965		2/ -203		-		-		559		25		0.522		
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. TOTAL TO DATE		b. PERIOD		a. AV. AN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE	
May 7, 1965		55*		625		-		0.043		0.959		-		15	

\*Assumed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION											
	12-100	100-90	90-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-Top of Gates	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
May 7, 1965	25	12	23	10	2	11	4	3	5	6	2/-1'	

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														
May 7, 1965	15	10	13	21	14	11	6	4	4	2					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1961	1280.46	1273.66	1,319,154				
1962	1280.04	1266.31	1,862,818				
1963	1279.99	1274.64	1,367,429				
1964	1279.95	1272.73	1,852,835				
1965	1280.25	1272.81	1,802,992				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1168	0	1943 0			1965 0			
1180	149	760			622			
1190	215	2,582			2,378			
1200	312	5,215			4,882			
1220	449	12,872			12,472			
1240	614	23,379			22,896			
1255	820	33,988			33,477			
1270	1,004	47,681			47,118			
1280	1,122	58,312			57,753			

47. REMARKS AND REFERENCES

1/ Top of gates.

2/ (-) Minus indicates scour. Considered as negative sediment.