

TENNESSEE VALLEY AUTHORITY  
RESERVOIR SEDIMENTATION  
DATA SUMMARY

Hiwassee

HYDRAULIC DATA BRANCH

20-18

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER TVA			2. RIVER Hiwassee			3. STATE North Carolina									
	4. SEC. TWP. RANGE			5. NEAREST TOWN Murphy			6. COUNTY Cherokee									
	7. STREAM BED ELEV. 1269			8. TOP OF DAM ELEV. 1537.5			9. SPILLWAY CREST ELEV. 1/1526.5									
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										2/8/40					
	b. POWER															
	c. MULTIPLE USE		1526.5		2/ 6,230		2/ 436,570		2/ 437,569		16. DATE NORMAL OPER. BEGAN					
	d. INACTIVE		1305.0		-		1,000		1,000		5/21/40					
WATERSHED	17. LENGTH OF RESERVOIR 22 MILES				AV. WIDTH OF RESERVOIR 0.44 MILES											
	18. TOTAL DRAINAGE AREA 968 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 58.7(15) INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA 3/ 539 SQ. MI.				23. MEAN ANNUAL RUNOFF 26.6(18) INCHES											
	20. LENGTH 71 MILES AV. WIDTH 14 MILES				24. MEAN ANNUAL RUNOFF 1,376,000 AC.-FT.											
	21. MAX. ELEV. 1784 MIN. ELEV. 1269				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.	
	Feb. 8, 1940		0		0		Range		53		6,231		437,569		-	
	Aug. 1, 1947		7.5		7.5		Range (D)		51		6,231		433,105		-	
	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			
	Feb. 8, 1940		57.0		1,259,555		1,867,723		9,446,662		1,259,555		9,446,662			
	Aug. 1, 1947															
	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			
	Feb. 8, 1940		0		0		0		0		0		0			
Aug. 1, 1947		4464		595		-		4464		595		-				
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. 1, 1947		55*		-		-		0.136		1.020		417		417		

1/ Top of gates. (1929 Datum)

2/ Areas and volumes do not include Persimmon Creek Lake.

\* Assumed.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION												
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
	Not Computed												

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														
Feb. 8, 1940	0	0	0	0	0	0	0	0	0	0					
Aug. 1, 1947	3	8	4	8	10	20	27	13	7	0					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AG.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AG.-FT.
1941	1511.37	1420.48	741,954	1946	1526.17	1454.00	1,813,466
1942	1524.59	1425.56	747,702	1947	1524.13	1429.90	1,274,508
1943	1526.00	1450.56	1,867,723	1948	1523.58	1413.41	1,081,912
1944	1526.48	1448.95	1,377,513	1949	1525.67	1455.00	1,756,522
1945	1523.15	1435.78	994,102	1950	1524.85	1452.17	1,850,677
				1951	1523.54	1442.51	1,314,196

46. ELEVATION-AREA-CAPACITY DATA (1940)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1270	0	0	1470	2,950	186,900	1526.5	6,231	437,569
1320	230	4,600	1480	3,390	218,600			
1360	610	20,900	1490	3,890	255,000			
1400	1,110	54,700	1500	4,460	296,700			
1420	1,470	80,400	1510	5,020	344,380			
1440	1,950	114,400	1520	5,750	398,520			
1460	2,570	159,400						

47. REMARKS AND REFERENCES  
3/ Nottely Dam closed Jan. 24, 1942. Chatuge Dam closed Feb. 12, 1942.

48. AGENCY SUPPLYING DATA  
 TENNESSEE VALLEY AUTHORITY  
 HYDRAULIC DATA BRANCH

49. DATE March 1, 1952

TENNESSEE VALLEY AUTHORITY  
RESERVOIR SEDIMENTATION  
DATA SUMMARY

Hiwassee  
NAME OF RESERVOIR

HYDRAULIC DATA BRANCH  
20-18a  
DATA SHEET NO.

DAM	1. OWNER TVA			2. RIVER Hiwassee			3. STATE North Carolina			
	4. SEC. TWP. RANGE			5. NEAREST TOWN Murphy			6. COUNTY Cherokee			
	7. STREAM BED ELEV. 1265			8. TOP OF DAM ELEV. 1536.88			9. SPILLWAY CREST ELEV. 1/1525.88			
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		2/ 3/	2/ 3/	2/ 3/	2/8/40				
	b. POWER									
	c. MULTIPLE USE	1525.88	6,378	427,921	439,741	16. DATE NORMAL OPER. BEGAN				
	d. INACTIVE	1305.0	123	1,820	1,820	5/21/40				
WATERSHED	17. LENGTH OF RESERVOIR 22 MILES			AV. WIDTH OF RESERVOIR 0.44 MILES						
	18. TOTAL DRAINAGE AREA 968 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 58.1(24) INCHES						
	19. NET SEDIMENT CONTRIBUTING AREA 4/ 539 SQ. MI.			23. MEAN ANNUAL RUNOFF 26.6(18) INCHES						
	20. LENGTH 71 MILES		AV. WIDTH 14 MILES		24. MEAN ANNUAL RUNOFF 1,376,000 AC.-FT.					
	21. MAX. ELEV. 4,784		MIN. ELEV. 1265		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.		
	Feb. 8, 1940	0	0	Range	53	6,378	439,741	-		
	Aug. 1, 1947	7.5	7.5	Range	51	6,378	436,009	-		
	May 31, 1953	5.8	13.3	Range	50	6,378	435,686	-		
	Jun. 20, 1958	5.0	18.3	Range	50	6,378	434,243	-		
	(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			
	Aug. 1, 1947	57.0	1,259,555	1,867,723	9,446,662	1,259,555	9,446,662			
	May 31, 1953	61.2	1,467,358	1,850,677	8,510,677	1,350,176	17,957,339			
	Jun. 20, 1958	58.5	1,287,582	1,433,991	6,437,911	1,333,074	24,395,250			
	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			
	Aug. 1, 1947	3,732	498	4/	3,732	498	4/			
	May 31, 1953	323	56	0.104	4,055	305				
Jun. 20, 1958	1,443	289	0.536	5,498	300					
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			
Aug. 1, 1947	55*	4/	4/	0.113	0.849	348	348			
May 31, 1953	55*	125	678	0.069	0.922	33	199			
Jun. 20, 1958	55*	642	667	0.068	1.250	198	199			

- 1/ Top of Gates.
- 2/ Revised.
- 3/ Areas and Volumes do not include Persimmon Creek Lake.
- 4/ Nottely Dam closed Jan. 24, 1942, Chatuge Dam closed Feb. 12, 1942.
- \* Assumed.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION												Top of Gates
	20-9-20	20-20	20-180	180-160	160-140	140-120	120-100	100-80	80-60	60-40	40-20	20-	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
Aug. 1, 1947	4	4	6	5	5	4	10	23	13	11	11	4	
May 31, 1953	1	5/-1	5	5	5	8	21	30	16	11	5	5/-6	
Jun. 20, 1958	1	1	5	5	4	7	28	24	13	9	5	5/-2	

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. 1, 1947	6	7	6	10	10	18	18	6/17	8	0					
May 31, 1953	0	3	5	8	19	26	22	13	5	5/-1					
Jun. 20, 1958	2	6	5	7	22	27	16	11	5	5/-1					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1941	1511.37	1420.48	741,954	1950	1524.85	1452.17	1,850,677
1942	1524.59	1425.56	747,702	1951	1523.54	1442.51	1,314,196
1943	1526.00	1450.56	1,867,723	1952	1521.95	1453.28	1,514,690
1944	1526.48	1448.95	1,377,513	1953	1521.95	1438.62	1,150,811
1945	1523.15	1435.78	944,102	1954	1522.49	1435.38	1,170,939
1946	1526.17	1454.00	1,813,466	1955	1523.29	1430.65	1,055,468
1947	1524.13	1429.90	1,274,508	1956	1521.38	1415.86	1,332,273
1948	1523.58	1413.41	1,081,912	1957	1521.03	1428.40	1,433,991
1949	1525.67	1455.00	1,756,522	1958	1522.75	1440.51	1,581,179

46. ELEVATION-AREA-CAPACITY DATA 2/ (1940)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1270	0	0	1360	643	21,507	1450	2,196	134,896
1280	24	119	1370	767	28,546	1460	2,554	158,577
1290	54	500	1380	876	36,744	1470	3,009	186,390
1300	96	1,253	1390	984	46,022	1480	3,492	218,868
1310	153	2,475	1400	1,105	56,462	1490	4,020	256,413
1320	228	4,336	1410	1,252	68,209	1500	4,579	299,343
1330	327	7,058	1420	1,420	81,523	1510	5,180	348,074
1340	431	10,877	1430	1,650	96,830	1520	5,932	403,552
1350	533	15,689	1440	1,889	114,495	1525.88	6,378	439,741

47. REMARKS AND REFERENCES  
5/ (-) Minus indicates scour. Considered as negative sediment.  
6/ Nottely River tributary.

48. AGENCY SUPPLYING DATA  
 TENNESSEE VALLEY AUTHORITY  
 HYDRAULIC DATA BRANCH

49. DATE September 1, 1966

TENNESSEE VALLEY AUTHORITY  
RESERVOIR SEDIMENTATION  
DATA SUMMARY

Hiwassee  
NAME OF RESERVOIR

HYDRAULIC DATA BRANCH  
20-18b  
DATA SHEET NO.

DAM	1. OWNER <b>TVA</b>			2. RIVER <b>Hiwassee</b>			3. STATE <b>North Carolina</b>								
	4. SEC. <b>TWP.</b>		RANGE		5. NEAREST TOWN <b>Murphy</b>			6. COUNTY <b>Cherokee</b>							
	7. STREAM BED ELEV. <b>1265</b>			8. TOP OF DAM ELEV.			9. SPILLWAY CREST ELEV. <b>1/1525.88</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				
	a. FLOOD CONTROL				2/ 3/		2/ 3/		2/ 3/		2/8/40				
	b. POWER										2/8/40				
	c. MULTIPLE USE		1825.88		6,378		427,921		439,741		16. DATE NORMAL OPER. BEGAN				
	d. INACTIVE		1305.0		123		1,820		1,820		5/21/40				
WATERSHED	17. LENGTH OF RESERVOIR <b>22</b>				MILES		AV. WIDTH OF RESERVOIR <b>0.44</b>				MILES				
	18. TOTAL DRAINAGE AREA <b>968</b>				SQ. MI.		22. MEAN ANNUAL PRECIPITATION <b>59.2(28.6)</b>				INCHES				
	19. NET SEDIMENT CONTRIBUTING AREA <b>4/ 539</b>				SQ. MI.		23. MEAN ANNUAL RUNOFF <b>26.9(25.2)</b>				INCHES				
	20. LENGTH <b>71</b>		MILES		AV. WIDTH <b>14</b>		MILES		24. MEAN ANNUAL RUNOFF <b>1,388,700</b>				AC.-FT.		
	21. MAX. ELEV. <b>4,784</b>		MIN. ELEV. <b>1265</b>		25. CLIMATIC CLASSIFICATION <b>Humid</b>										
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.			
	Feb. 8, 1940		0	0	Range	53		6,378		439,741		-			
	May 6, 1965		6.9	25.2	Range	49		6,378		433,568					
					(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		b. TOTAL TO DATE				
	May 6, 1965		61.4		1,420,929		1,805,251		9,804,411		1,357,129		34,199,661		
	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		b. AV. ANNUAL		c. PER SQ. MI.-YEAR			
	May 6, 1965		675		98.3	0.182		6,173		244		4/			
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			
May 6, 1965		55.4		218		543		0.055		1.404		60.7		159	

\* Assumed.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION											
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											

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														

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1959	1520.86	1419.45	1,033,400				
1960	1523.17	1437.33	1,238,583				
1961	1525.32	1437.52	1,315,568				
1962	1521.84	1447.62	1,805,251				
1963	1519.76	1435.68	1,312,252				
1964	1523.17	1434.07	1,629,235				
1965	1523.64	1448.29	1,575,924				

46. ELEVATION-AREA-CAPACITY DATA <u>2/</u> (1940)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1270	0	0	1360	643	21,507	1450	2,196	134,896
1280	24	119	1370	767	28,546	1460	2,554	158,577
1290	54	500	1380	876	36,744	1470	3,009	186,390
1300	96	1,253	1390	984	46,022	1480	3,492	218,868
1310	153	2,475	1400	1,105	56,462	1490	4,020	256,413
1320	228	4,336	1410	1,252	68,209	1500	4,579	299,343
1330	327	7,058	1420	1,420	81,523	1510	5,180	348,074
1340	431	10,877	1430	1,650	96,830	1520	5,932	403,552
1350	533	15,689	1440	1,889	114,495	1525.88	6,378	439,741

47. REMARKS AND REFERENCES  
1/ Top of gates.  
2/ Revised.  
3/ Areas and volumes do not include Persimmon Creek Lake.  
4/ Nottely Dam closed Jan. 24, 1942, Chatuge Dam closed Feb. 12, 1942.  
5/ (-) indicates scour; considered as negative sediment.  
6/ Nottely River tributary.

48. AGENCY SUPPLYING DATA  
 TENNESSEE VALLEY AUTHORITY  
 HYDRAULIC DATA BRANCH

49. DATE September 1, 1966