

TENNESSEE VALLEY AUTHORITY
 RESERVOIR SEDIMENTATION
 DATA SUMMARY

Nolichucky
 NAME OF RESERVOIR

HYDRAULIC DATA BRANCH
 20-6b
 DATA SHEET NO.

DAM	1. OWNER TVA			2. RIVER Nolichucky			3. STATE Tennessee				
	4. SEC. TWP. RANGE			5. NEAREST TOWN Greenville			6. COUNTY Greene				
	7. STREAM BED ELEV. 1170±			8. TOP OF DAM ELEV. 1260.9			9. SPILLWAY CREST ELEV. 1/1245.9				
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/	Fall 1913					
	b. POWER	1245.9			21,750						
	c. MULTIPLE USE					16. DATE NORMAL OPER. BEGAN					
	d. INACTIVE	1211									
	17. LENGTH OF RESERVOIR 11 MILES AV. WIDTH OF RESERVOIR 0.11 MILES										
WATERSHED	18. TOTAL DRAINAGE AREA 1183 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 48.6(48) INCHES							
	19. NET SEDIMENT CONTRIBUTING AREA 1182 SQ. MI.			23. MEAN ANNUAL RUNOFF 20.5(39) INCHES							
	20. LENGTH 133 MILES		AV. WIDTH 9 MILES		24. MEAN ANNUAL RUNOFF 1,290,000 AC.-FT.						
	21. MAX. ELEV. 6,684		MIN. ELEV. 1170±		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. C/I			
	Fall of 1913	0	0	-	-	-	3,100	30			
	1925	12	12	-	-	-	3/21,750	017 18			
	Feb. 25, 1938	12.5	24.5	Range (D)	28	797	14,450	011 12			
	Apr. 25, 1947	9.2	33.7	Range	27	797	12,010	005 10			
	May 23, 1953	6.1	39.8	Range	27	797	9,850	005 8			
	Oct. 17, 1958	5.4	45.2	Range	26	797	7,760	001 7			
	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				
	Feb. 25, 1938	50.0	1,370,494	1,766,511	33,577,103	1,370,494	33,577,103				
	Apr. 25, 1947	45.2	1,099,002	1,407,779	10,110,818	1,296,377	43,687,921				
	May 23, 1953	49.1	1,262,621	1,627,507	7,701,988	1,291,204	51,389,909				
	Oct. 17, 1958	49.2	1,203,883	1,608,258	6,500,969	1,280,772	57,890,878				
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					
Feb. 25, 1938	7,300	298	0.252	7,300	298	0.252					
Apr. 25, 1947	2,442	265	0.224	9,742	289	0.245					
May 23, 1953	2,158	354	0.299	11,900	299	0.253					
Oct. 17, 1958	2,090	387	0.327	13,990	310	0.262					
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				
Feb. 25, 1938	50(10)	274	274	1.37	33.6	174	174				
Apr. 25, 1947	50*	245	267	1.33	44.8	194	179				
May 23, 1953	50*	326	276	1.38	54.7	214	186				
Oct. 17, 1958	50*	357	285	1.43	64.3	258	194				

1/ Top of 5-foot flashboards. Prior to 1925 dam was 35 feet lower.

2/ Original volume computed from probings obtained February 1938. Sediment deposits and water inflow computed from dam closure in 1913.

* Assumed.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION									
	60-50	50-40	40-30	30-20	20-10	10-Flashboards	Top of -5.1			
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION										
Feb. 25, 1938	Not available									
Apr. 25, 1947	1	6	13	21	30	29				3/
May 23, 1953	1	4	12	21	30	32				3/
Oct. 17, 1958	1	4	12	22	30	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															
Feb. 25, 1938	Not available														
Apr. 25, 1947	12	14	9	20	31	12	2	0	0	0					
May 23, 1953	9	13	16	25	24	9	2	1	1	0					
Oct. 17, 1958	10	21	19	19	16	7	3	2	2	1					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1946	1272.4	1239.2	1,357,745	1953	1251.3	1235.9	972,292
1947	1250.8	1238.9	1,016,732	1954	1253.7	1235.9	1,017,426
1948	1249.8	1239.3	1,193,002	1955	1249.8	1231.8	1,030,323
1949	1250.7	1238.1	1,627,505	1956	1252.3	1235.7	1,072,421
1950	1249.6	1239.7	1,582,940	1957	1254.3	1234.8	1,574,399
1951	1250.9	1237.3	1,179,738	1958	1251.3	1237.1	1,608,258
1952	1248.7	1238.9	1,039,443				

46. ELEVATION-AREA-CAPACITY DATA (1938)								
ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	AREA	CAPACITY
1185.4	0	0	1230	375	5,540			
1190	5	10	1240	609	10,270			
1200	26	120	1245.9	797	14,450			
1210	107	720	1247	837	15,340			
1220	281	2,450	1251	938	18,900			

47. REMARKS AND REFERENCES
 3/ In the range top of flashboards to 5.1 feet above, the following amounts of sediment were found:
 66 acre-ft. in 1947
 194 acre-ft. in 1953
 499 acre-ft. in 1958

48. AGENCY SUPPLYING DATA
 TENNESSEE VALLEY AUTHORITY
 HYDRAULIC DATA BRANCH

49. DATE September 1, 1966

TENNESSEE VALLEY AUTHORITY
RESERVOIR SEDIMENTATION
DATA SUMMARY

Nolichucky
NAME OF RESERVOIR

HYDRAULIC DATA BRANCH
20-6'c
DATA SHEET NO.

DAM	1. OWNER TVA			2. RIVER Nolichucky			3. STATE Tennessee			
	4. SEC. TWP. RANGE			5. NEAREST TOWN Greenville			6. COUNTY Greene			
	7. STREAM BED ELEV. 1170±			8. TOP OF DAM ELEV. 1260.9			9. SPILLWAY CREST ELEV. 1/1245.9			
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									
	b. POWER	1245.9			2/ 21,750	Fall 1913				
	c. MULTIPLE USE					16. DATE NORMAL OPER. BEGAN				
	d. INACTIVE	1211								
						Fall 1913				
WATERSHED	17. LENGTH OF RESERVOIR 11 MILES			AV. WIDTH OF RESERVOIR 0.11 MILES						
	18. TOTAL DRAINAGE AREA 1183 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 48.6(48) INCHES						
	19. NET SEDIMENT CONTRIBUTING AREA 1182 SQ. MI.			23. MEAN ANNUAL RUNOFF 20.5(39) INCHES						
	20. LENGTH 133 MILES AV. WIDTH 9 MILES			24. MEAN ANNUAL RUNOFF 1,290,000 AC.-FT.						
	21. MAX. ELEV. 6,684 MIN. ELEV. 1170±			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. 15, 1961	2.3	47.5	Range	26	797	7,470	6		
				(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			
	Feb. 15, 1961	48.9	1,239,270	1,517,709	2,850,321	1,278,762	60,741,199			
	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			
	Feb. 15, 1961	290	126	0.107	14,280	301	0.255			
	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			
Feb. 15, 1961	50*	117	278	1.38	65.7	82	188			

- 1/ Top of 5-foot flashboards. Prior to 1925, dam was 35 feet lower.
 2/ Original volume computed from probings obtained February 1938.
 Sediment deposits and water inflow computed from dam closure in 1913.
 * Assumed.

25. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION																	
	60-50	50-40	40-30	30-20	20-10	10	Top of Flashboards - 5.1											
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION																	
Feb. 15, 1961	0	4	13	23	31	29												

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. 15, 1961	11	25	19	18	16	6	2	1	1	1								

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1959	1251.7	1237.1	1,094,898				
1960	1251.5	1238.3	1,517,709				
1961	1251.3	1238.3	1,202,074				

46. ELEVATION-AREA-CAPACITY DATA (1938)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1185.4	0	0	1245.9	797	14,450			
1190	5	10	1247	837	15,340			
1200	26	120	1251	938	18,900			
1210	107	720						
1220	251	2,450						
1230	375	5,540						
1240	609	10,270						

47. REMARKS AND REFERENCES
3/ In the range - from top of flashboards to 5.1 feet above the following amounts of sediment were found:

486 acre-ft in 1961

48. AGENCY SUPPLYING DATA For preceding data, see sheet 20-6a
TENNESSEE VALLEY AUTHORITY
HYDRAULIC DATA BRANCH

49. DATE September 1, 1966

**RESERVOIR SEDIMENT
DATA SUMMARY**

Nolichucky
NAME OF RESERVOIR

20-6d
DATA SHEET NO.

DAM	1. OWNER TVA			2. STREAM Nolichucky River		3. STATE Tennessee						
	4. SEC. TWP.		RANGE		5. NEAREST POST OFF. Greenville		6. COUNTY Greene					
	7. LAT. 36° 03' 55"			LONG. 82° 52' 01"		8. TOP OF DAM ELEVATION 1260.9		9. SPILLWAY CREST ELEV. 1240.9				
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										Fall 1913	
	b. MULTIPLE USE											
	c. POWER		1240.9 1/		635				18,150 2/		16. DATE NORMAL OPER. BEGAN	
	d. WATER SUPPLY										Fall 1913	
	e. IRRIGATION											
	f. CONSERVATION											
	g. INACTIVE		1211									
17. LENGTH OF RESERVOIR 11 MILES					AV. WIDTH OF RESERVOIR 0.11 MILES							
WATERSHED	18. TOTAL DRAINAGE AREA 1183 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 48.6 INCHES							
	19. NET SEDIMENT CONTRIBUTING AREA 1182 SQ. MI.				23. MEAN ANNUAL RUNOFF 20.42 INCHES							
	20. LENGTH 133 MILES		AV. WIDTH 9 MILES		24. MEAN ANNUAL RUNOFF 1,289,359 AC.-FT.							
	21. MAX. ELEV. 6,684		MIN. ELEV. 1170⁺		25. ANNUAL TEMP.; MEAN 57^o				RANGE -8 to 94^o			
	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. 25, 1938		12.5	24.5	Range	28	635	10,850	0.008				
Sept. 11, 1970		3.5	57.1	Range	22		2,630	0.002				
				(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			
	Sept. 11, 1970		47.8		1,086,831	1,199,488	3,803,909	1,276,498	72,888,046			
SURVEY DATA	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			
Sept. 11, 1970		695	199	0.168	15,520		272	0.230				
		3/ 16,700	3/ (292)	3/ (0.247)								
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. TOTAL TO DATE	b. PERIOD	a. AV. AN.	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE				
Sept. 11, 1970		50*	250	183	1.50	85.5	146	171				

*Assumed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION										
	5-4-40	40-35	35-30	30-25	25-20	20-15	15-10	10-5	5-0	0-5	
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
Sept. 11, 1970	2	3	4	8	9	14	14	16	17	13	

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															
Sept. 11, 1970	25	29	14	14	11	4	1	1	1	0					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1968	1,246.5	1,234.9	1,199,488				
1969	1,246.3	1,234.5	1,029,302				
1970	1,246.8	1,235.4	971,921				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
		(1938)			(1970)			
1185.4	9	0			0			
1200	26	120			0			
1210	107	720			10			
1220	251	2,450			145			
1230	373	5,540			740			
1240.9	635	10,850			2,630			
1245.9	797	14,450			5,050			
1251	938	18,900			8,927			

47. REMARKS AND REFERENCES

1/ 5-foot flashboards were removed Sept. 28, 1964. Prior to 1925, dam was 35 feet lower.

2/ Original volume computed from probings obtained Feb. 1938. Sediment deposits and water inflow computed from dam closure in 1913.

3/ For volume of sediment 5.0 feet above crest.

In the range from 5.0 feet to 10.1 feet above crest the following amount of sediment was found: 600 acre-feet in 1970.

The reservoir was drawn beginning Aug. 30, 1965, to reach about elev. 1216 by early Sept to aid repair and construction work. It was held near this level until Oct. 22 and then near elev. 1231 until Nov. 1, 1965.

For preceding data, see sheets 20-6b, 6c, and 6d.

48. AGENCY MAKING SURVEY Tennessee Valley Authority

49. AGENCY SUPPLYING DATA Hydraulic Data Branch

50. DATE Sept. 21, 1970