

RESERVOIR SEDIMENTATION
DATA SUMMARY

Norfolk

44-7

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER Dept of the Army, C. of E.			2. RIVER North Fork		3. STATE Arkansas		
	4. SEC. TWP. RANGE		5. NEAREST TOWN Norfolk, Ark.			6. COUNTY Baxter		
	7. STREAM BED ELEV. 370			8. TOP OF DAM ELEV. 590		9. SPILLWAY CREST ELEV. 565.0 1/		
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	565 1/	25,700	284,700	1,560,500	June 18, 1943		
	b. POWER	552	22,000	1,251,000	1,251,000			
	c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION					June 1944		
	e. CONSERVATION							
	f. INACTIVE							
17. LENGTH OF RESERVOIR 38			MILES		17. AV. WIDTH OF RESERVOIR 0.9 MILES			
WATERSHED	18. TOTAL DRAINAGE AREA 1,806		SQ. MI.		22. MEAN ANNUAL PRECIPITATION 45.0 (35) INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA 1,772		SQ. MI.		23. MEAN ANNUAL RUNOFF 14.2 (25) INCHES			
	20. LENGTH 63		MILES		24. MEAN ANNUAL RUNOFF 1,371,000 (25) AC.-FT.			
	21. MAX. ELEV. 1,150		MIN. ELEV. 370		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.
	June 18, 1943					25,700	1,560,500	864
	May 8, 1950	6.9	6.9	Range	72		See note below	
	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 8, 1950	47.0	1,590,000	2,762,000	10,960,000	1,590,000	10,960,000	
	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.-YR.	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YR.	
	May 8, 1950	Sediment deposits during period were too small to determine by range sounding. From deposits which were measurable, mostly in small channels of tributary channels, the estimate of 1,100 acre-feet was obtained by use of the end area method. The sediment inflow volume based on suspended-load measurements was computed to be 2,350 acre-feet inflow based on a unit						
	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. TO DATE	a. PERIOD	b. TO DATE	
	weight of 60 lb. per cubic feet.	It was concluded that much of the fine material carried as suspended load probably settled out over a large area in deposits too thin to be measured accurately by echo-depth sounders.						

44-7

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.
1943 <u>2/</u>	474.4	402.3	211,500	1950 <u>3/</u>	556.2	549.2	1,533,700
1944	530.0	474.4	705,700				
1945	570.0	530.0	2,762,600				
1946	558.3	546.0	1,641,300				
1947	553.0	542.8	1,214,300				
1948	552.3	538.0	1,047,300				
1949	560.0	549.7	1,843,600				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
380	60	200	450	3,640	94,020	530	16,450	830,600
390	185	1,230	460	4,770	135,900	540	18,820	1,006,700
400	490	4,510	470	5,970	189,600	550	21,440	1,207,800
410	885	11,270	480	7,250	255,700	560	24,230	1,435,900
420	1,450	22,930	490	8,650	335,000	570	27,310	1,693,100
430	1,950	39,830	500	10,450	430,300	580	30,700	1,983,000
440	2,670	62,700	510	12,320	544,200			
			520	14,250	677,100			

47. REMARKS AND REFERENCES

1/ Top of temporary concrete bulkheads which were in place during the period. Top of crest gates will be elevation 580.0.

2/ Data for period June 18- Sept. 30, 1943.

3/ Data for period Oct 1, 1949 - May 8, 1950.

Reference: Sedimentation Survey of Norfolk Reservoir, Arkansas and Missouri, April-May 1950, Little Rock District, 1951.

48. AGENCY SUPPLYING DATA Dept of the Army
Corps of Engineers, Little Rock District

49. DATE January 1951