

RESERVOIR SEDIMENTATION
DATA SUMMARY

Jones Creek

NAME OF RESERVOIR

35-11

DATA SHEET NO.

DAM	1. OWNER O. W. Jones			2. RIVER Jones Creek			3. STATE Iowa			
	4. SEC. 35, 36 TWP. 82N RANGE 44W			5. NEAREST TOWN Pisgah			6. COUNTY Monona			
	7. STREAM BED ELEV.			8. TOP OF DAM ELEV.			9. SPILLWAY CREST ELEV.			
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		17.8	159.2	234.8	Feb. 1942				
	b. POWER									
	c. WATER SUPPLY		8.8	75.6	75.6	16. DATE NORMAL OPER. BEGAN				
	d. IRRIGATION									
	e. CONSERVATION									
	f. INACTIVE					Feb. 1942				
17. LENGTH OF RESERVOIR			MILES	AV. WIDTH OF RESERVOIR			MILES			
WATERSHED	18. TOTAL DRAINAGE AREA 2.26			SQ. MI.	22. MEAN ANNUAL PRECIPITATION 28 (34)			INCHES		
	19. NET SEDIMENT CONTRIBUTING AREA 2.25			SQ. MI.	23. MEAN ANNUAL RUNOFF 3.9*			INCHES		
	20. LENGTH		MILES	AV. WIDTH		MILES	24. MEAN ANNUAL RUNOFF		AC- FT.	
	21. MAX. ELEV.		MIN. ELEV.		25. CLIMATIC CLASSIFICATION Sub-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. 1942	-	-	-	-	8.8	75.6	33.5		
	Jan. 1949	6.9	6.9	Range Detailed	32	8.6	43.2	19.1		
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW			36. WATER INFL. TO DATE			
				a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	d. MEAN ANNUAL b. TOTAL TO DATE			
				(inches)			(inches)			
	Jan. 1949			6.1*			6.1*			
	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			
	Jan. 1949	32.4	4.70	2.09	32.4	4.70	2.09			
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			
Jan. 1949	47.8 (3)	2,170	2,170	2.00 (6.22) ^{1/}	13.8 (42.9) ^{1/}	4,900 ^{2/}	4,900 ^{2/}			

* Estimated

^{1/} Based on water supply pool.

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.

46. ELEVATION--AREA--CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY

47. REMARKS AND REFERENCES: 1. Gottschalk, L.C., and Brune, G.M. Sediment design criteria for the Missouri Basin Loess Hills. Soil Cons. Serv SCS-TP-97, 21 pp., illus., processed. Milwaukee, Wis., 1950.
 2. U.S.D.A. Yearbook of Agriculture, Washington, D.C., 1941. Watershed treatment program estimated to have reduced rate of sediment production from watershed by 88 percent.
 For 340 ft. downstream from dam, gradient decreased from 0% (level) to -2.00% (uphill). From 340 to 1,640 ft. downstream from dam, gradient increased from 0.52 to 0.62%.

2/ 42 = $\frac{37b \times 39 \times 1,000,000}{35a \times 18 \times 640 \times 62.4}$

48. AGENCY SUPPLYING DATA: 12 Region 3, Soil Conservation Service

49. DATE: January 9, 1950

U. S. Dept. of Agriculture, Milwaukee, Wis.

RESERVOIR SEDIMENTATION
DATA SUMMARY

Jones Creek

NAME OF RESERVOIR

35-11b

DATA SHEET NO.

DAM	1. OWNER O. W. Jones			2. RIVER Jones Creek			3. STATE Iowa					
	4. SEC. 35 TWP. 82N RANGE 44W			5. NEAREST TOWN Pisgah			6. COUNTY Monona					
	7. STREAM BED ELEV.			8. TOP OF DAM ELEV.			9. SPILLWAY CREST ELEV. 1,108.4					
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	1,119.6		176.0	254.2	Feb. 1942						
	b. POWER											
	c. WATER SUPPLY						16. DATE NORMAL OPER. BEGAN					
	d. IRRIGATION											
	e. CONSERVATION	1,108.4			78.2	78.2	Feb. 1942					
	f. INACTIVE											
17. LENGTH OF RESERVOIR			MILES			AV. WIDTH OF RESERVOIR			MILES			
WATERSHED	18. TOTAL DRAINAGE AREA			2.26			SQ. MI.			22. MEAN ANNUAL PRECIPITATION 29.67 (40 yr) INCHES		
	19. NET SEDIMENT CONTRIBUTING AREA			2.23			SQ. MI.			23. MEAN ANNUAL RUNOFF 4.0 est. INCHES		
	20. LENGTH			MILES			AV. WIDTH			MILES		
	21. MAX. ELEV.			MIN. ELEV.			25. CLIMATIC CLASSIFICATION Sub-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 ^{1/} AC-FT. PER SQ. MI.				
	Feb. 1942	-	-	Detailed	32 ranges	21.2 (7.7)	254.2 (78.2)	113 (34.6)				
	Jan. 1, 1949	6.9	6.9	"	"	21.2 (7.7)	221.8 (45.8)	98 (20.3)				
	Sep. 18, 1950	1.72	8.6	"	"	21.2 (7.7)	211.5 (40.0)	94 (17.7)				
	Jan. 1953	2.3	10.9	"	contour (2 ft)	21.2 (7.7)	199.2 (27.7)	88 (12.3)				
	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					
28. 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						
Jan. 1, 1949	32.4 (32.4)	4.70 (4.70)	2.11 (2.11)	32.4 (32.4)	4.70 (4.70)	2.11 (2.11)						
Sep. 18, 1950	10.3 (5.8)	5.98 (3.37)	2.68 (1.51)	42.7 (38.2)	4.97 (4.44)	2.23 (1.99)						
Jan. 1953	12.3 (12.3)	5.35 (5.35)	2.40 (2.40)	55.0 (50.5)	5.05 (4.63)	2.26 (2.08)						
28. 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	c. PERIOD	d. TOT. TO DATE					
Jan. 1, 1949	47.8 (3)	2,197	2,197 (2,197)	1.84 (6.02)	12.7 (41.5)	-	-					
Sep. 18, 1950	61.8 (assumed)	3,620	3,000 (2,679)	1.94 (6.36)	16.7 (54.7)	-	-					
Jan. 1953	61.8 (5)	3,230	3,060 (2,800)	1.97 (6.46)	21.5 (70.4)	-	-					

Figures in parentheses are for below crest (e.l. 1,108.4)

26. DATE OF SURVEY 2/	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION														
	Below Crest				Above Crest										
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
Jan. 1, 1949	100					0									
Sep. 18, 1950	89					11									
Jan. 1953	92					8									
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.								
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
47. REMARKS AND REFERENCES															
1/ Capacity inflow ratio estimated to be 0.53 in 1942, 0.46 in 1949, 0.44 in 1950 and 0.41 in 1953. Trap efficiency estimated to be 95% up to 1953.															
2/ These figures are for total sediment to date of survey.															
Total land adjusted for trap efficiency 3,220 tons/sq./mi./yr.															
In 1953 the method of survey was changed from range to contour. Both methods were used in the 1953 survey, in order that a factor could be obtained to adjust the older records. Total capacity in 1953, using the range method, was 181.6 A.F., and capacity below crest 25.1 A.F.															
48. AGENCY SUPPLYING DATA S.C.S., Milwaukee, Wis.										49. DATE June 10, 1953					