U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

RESERVOIR SEDIMENTATION DATA SUMMARY

Fairfield No. 3 — NAME OF RESERVOIR

25 - 12 — DATA SHEET NO.

DAM

1. OWNER City of Fairfield	2. RIVER Crow Creek	3. STATE Iowa
4. SEC. 19 TWP. 72N RANGE 9W	5. NEAREST TOWN Fairfield	6. COUNTY Jefferson
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					1925
b. POWER					
c. WATER SUPPLY		40	261	261	16. DATE NORMAL OPER. BEGAN
d. IRRIGATION					
e. CONSERVATION					1925
f. INACTIVE					

17. LENGTH OF RESERVOIR ____ MILES | AV. WIDTH OF RESERVOIR ____ MILES

WATERSHED

18. TOTAL DRAINAGE AREA 2.98 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 36 (34) INCHES	
19. NET SEDIMENT CONTRIBUTING AREA 2.92 SQ. MI.		23. MEAN ANNUAL RUNOFF ____ INCHES	
20. LENGTH ____ MILES	AV. WIDTH ____ MILES	24. MEAN ANNUAL RUNOFF 333 per sq.mi. *AC.-FT.	
21. MAX. ELEV. ____	MIN. ELEV. ____	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.
1925	-	-	-	-	40	261	87.6
1934	9	9	Recon.	-	40	224	75.2

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
1934		336 per * sq. mi.			336 per * sq. mi.	

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
1934	36.8	4.09	1.40	36.8	4.09	1.40

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
1934	50 *	1,530	1,530	1.57	14.1	3,800*	3,800*

* Estimated

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 LENGH 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

Brune, G.M., Rates of sediment production in Midwestern United States, U. S. Soil Conserv. Serv., SCS-TP-65, 40 pp., illus., processed, Milwaukee, Wisconsin, December 1948,

Terracing, tree planting, sod waterways and desilting basins expected to extend life of res. 25-30 years. (Est.)

48. AGENCY SUPPLYING DATA: Region 3, Soil Conservation Service, U. S. Dept. of Agriculture, Milwaukee, Wisconsin

49. DATE January 9, 1950

AGR-SCS-BELTSVILLE, MD. 2392 MAY 1952

U.S. DEPARTMENT OF AGRICULTURE — SOIL CONSERVATION SERVICE

RESERVOIR SEDIMENTATION DATA SUMMARY

Fairfield No. 3 — NAME OF RESERVOIR

25-12a — DATA SHEET NO.

DAM

1. OWNER City of Fairfield	2. RIVER Crow Creek	3. STATE Iowa
4. SEC. 30 TWP. 72N RANGE 9W	5. NEAREST TOWN Fairfield	6. COUNTY Jefferson
7. STREAM BED ELEV.	8. TOP OF DAM ELEV.	9. SPILLWAY CREST ELEV. 100.0 assumed

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					1927
b. POWER					
c. WATER SUPPLY	100.0 assumed	29.7	206.9	206.9	16. DATE NORMAL OPER. BEGAN
d. IRRIGATION					
e. CONSERVATION					1927
f. INACTIVE					

17. LENGTH OF RESERVOIR ____ MILES — AV. WIDTH OF RESERVOIR ____ MILES

WATERSHED

18. TOTAL DRAINAGE AREA 2.05 SQ. MI.		22. MEAN ANNUAL PRECIPITATION	36 (34 INCHES
19. NET SEDIMENT CONTRIBUTING AREA 2.00 SQ. MI.		23. MEAN ANNUAL RUNOFF	INCHES
20. LENGTH ____ MILES	AV. WIDTH ____ MILES	24. MEAN ANNUAL RUNOFF 333 per sq.mi. ~~ac-ft~~	
21. MAX. ELEV.	MIN. ELEV.	25. CLIMATIC CLASSIFICATION	

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.
1927	-	-	-	-	29.7	206.9	101
1934	7	7	Det. Range	-	?	165.6	81
July 9-10 1953	19	26	" "	13 ranges	24.9	135.4	66

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

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
1934	41.3	5.90	2.96	41.3	5.90	2.96
July 9-10 1953	30.2 (48.7	1.59 (2.56)	0.795 (1.28)	71.5 (90.0)	2.75 (3.46)	1.38 (1.73)

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
1934	51.6 est.	3,327	3,327	2.86	20.0	-	-
July 9-10 1953	51.6 (3)	893 1,450	1,551 1,944	1.33	34.6	-	-

1/ C/I ratio 0.30 in 1927, 0.24 in 1934, and 0.20 in 1953. Trap efficiency estimated at 95 percent in 1927, 94 percent in 1934, and 93 percent in 1953.

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 LENGH 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) Brune, G. M., Rates of Sediment Production in Midwestern United States, SCS-TP-65, Soil Conservation Service, December 1948, Milwaukee, Wisconsin.
(2) Reichstein, Amiel, Soil Conservation Helps to Protect Water Supply, Public Works, vol. 72, pp. 33-35, Dec. 1941.
Total rate of sediment production, adjusted for trap efficiency, 2,080 tons/sq.mi./yr. original capacity crest to flashboards (100.0 to 101.5 elev.) 48.0 A.F., of which 7.5 percent gone in 1953.

48. AGENCY SUPPLYING DATA SCS, Milwaukee, Wisconsin

49. DATE August 12, 1953