

RESERVOIR SEDIMENTATION
DATA SUMMARY

Prairie du Sac

27-4

NAME OF RESERVOIR

DATA SHEET NO.

1. OWNER Wis. Power & Light Co.		2. RIVER Wisconsin		3. STATE Wisconsin				
4. SEC. 25 TWP. 10 RANGE 6		5. NEAREST TOWN Prairie du Sac		6. COUNTY Sauk				
7. STREAM BED ELEV. 736.0		8. TOP OF DAM ELEV. 780.0		9. SPILLWAY CREST ELEV. 774.0 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							
	b. POWER	774.0		100,000	100,000	1914		
	c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION							
	e. CONSERVATION							
	f. INACTIVE						1914	
17. LENGTH OF RESERVOIR 21 MILES		AV. WIDTH OF RESERVOIR .57 MILES						
WATERSHED	18. TOTAL DRAINAGE AREA 8,900 SQ. MI.		22. MEAN ANNUAL PRECIPITATION 31.25 3/ INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 600 2/ SQ. MI.		23. MEAN ANNUAL RUNOFF 11.70 (33) INCHES					
	20. LENGTH 30 MILES AV. WIDTH 20 MILES		24. MEAN ANNUAL RUNOFF 7670 (33) AC.-FT.					
	21. MAX. ELEV. 825 MIN. ELEV. 736		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.
	1914	19	19	Range & Detailed	15		100,000	
	1933 4/			Range & Detailed	140		91,851	
	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
	1933		30.57 5/	15,250	123,350	289,750	15,250	289,750
	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.
	1933		8,150	429	0.717	8,150	429	0.717
	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
1933		90*	1400	1400	.429	8.15	40,500	40,500

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														
1933	4.0	11.7	6.3	13.3	19.5	25.6	15.0	4.6	0	0					
Notes															
<p>1/ Top of gates in closed position.</p> <p>2/ The total drainage area at the dam is about 8900 square miles, but most of this area is subject to control by 23 power dams on the Wisconsin River at and above Kilbourn, Wisconsin, and 5 power dams on</p>															

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
<p>the Baraboo River leaving an uncontrolled drainage area at Prairie du Sac of about 600 square miles. Therefore it appears that all drainage from the watershed area upstream from the Kilbourn plant and the Baraboo City plan should be considered as passing through effective silt traps.</p> <p>3/ Mean annual precipitation for entire Wisconsin River watershed.</p> <p>4/ The 1933 sounding surveys included about 140 ranges in a distance of 82,000 feet upstream from the dam, an average spacing of about 600 feet. However, original data from the 1906 survey were of such fragmentary</p>							

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
<p>nature that the above estimate had to be based on 12 actual cross sections and 3 more in which some of the data were estimated, these 15 cross sections having an average spacing of about 5,800 feet. Another factor which renders the results doubtful is the possibility of an error in datum in 6 of the 12 measured sections of the 1906 survey. On the whole, therefore, the figures for deposition at Prairie du Sac should be considered only as indicative of the trend.</p> <p>5/ For 5 stations above Prairie du Sac, Wis.</p>								

47. REMARKS AND REFERENCES

Data were taken from House Document No. 259, 71st Congress, 2nd Session and from a report on Silting of Reservoirs, Mississippi River above Wisconsin River by the Corps of Engineers, St. Paul District Office, 9 May 1935. (Unpublished).