

RESERVOIR SEDIMENTATION
DATA SUMMARY

Gibson Reservoir
NAME OF RESERVOIR

41-4
DATA SHEET NO.

DAM	1. OWNER Bureau of Reclamation			2. RIVER Sun River		3. STATE Montana		
	4. SEC. 4 TWP. 21 N RANGE 9 W			5. NEAREST TOWN Augusta		6. COUNTY Teton-Lewis&Clark		
	7. STREAM BED ELEV. 4545.6'			8. TOP OF DAM ELEV. 4725.5		9. SPILLWAY CREST ELEV. 4724.0 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					1929		
	c. WATER SUPPLY					16. DATE NORMAL OPER. BEGAN		
	d. IRRIGATION							
	e. CONSERVATION	4724.0	1357	104,784	104,784			
	f. INACTIVE					1929		
WATERSHED	17. LENGTH OF RESERVOIR 5.2 MILES			AV. WIDTH OF RESERVOIR .40 MILES				
	18. TOTAL DRAINAGE AREA 575 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 17.62 (44) INCHES				
	19. NET SEDIMENT CONTRIBUTING AREA 573 SQ. MI.			23. MEAN ANNUAL RUNOFF 8.91 3/ INCHES				
	20. LENGTH 45 MILES			AV. WIDTH 13 MILES		24. MEAN ANNUAL RUNOFF 289,143 AC.-FT.		
	21. MAX. ELEV. 8800		MIN. ELEV. 4545.6		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 AC.-FT. PER SQ. MI.
	1930					1357	104,784	.36
	Aug. 1973	44	44	Range Detailed	10 feet	1296	99,059	.34
	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	
	Aug. 1973	17.62	625,830 2/	984,500	27,536,700	625,830	27,536,700	
	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	
	Aug. 1973	5725	130	.23	5725	130	.23	
	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	
Aug. 1973	70*	350	350	.12	5.46	236	236	

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION																		
	below crest				above crest														
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION																		
Aug. 1973			99										1						
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.												
SEE ATTACHED SHEET																			
46. ELEVATION-AREA-CAPACITY DATA 1973 Resurvey																			
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY											
4550	0	0	4620	438	10,090	4690	1016	59,260											
4560	4	20	4630	510	14,830	4700	1109	69,885											
4570	18	130	4640	570	20,230	4710	1214	81,500											
4580	50	470	4650	636	26,260	4720	1272	93,922											
4590	126	1350	4660	710	32,990	4730	1333	106,947											
4600	215	3055	4670	825	40,665	4740	1394	120,581											
4610	377	6015	4680	1025	49,486														
47. REMARKS AND REFERENCES																			
1/ Top of radial gates (movable).																			
2/ Computed from change in storage and flow at Diversion Dam.																			
3/ Average from station at Sun River below Diversion Dam near Augusta.																			
* Assumed																			
48. AGENCY SUPPLYING DATA Bureau of Reclamation												49. DATE May 7, 1976							

#45 RANGE IN RESERVOIR OPERATION

<u>Water Year</u>	<u>Max. Elev.</u>	<u>Min. Elev.</u>	<u>Inflow AF*</u>
1931	-	-	285,500
1932	-	-	487,700
1933	-	-	756,200
1934	-	-	984,200
1935	-	-	514,900
1936	-	-	486,600
1937	-	-	348,800
1938	-	-	558,100
1939	-	-	532,000
1940	-	-	308,500
1941	-	-	274,600
1942	-	-	586,400
1943	-	-	864,100
1944	-	-	387,400
1945	-	-	411,700
1946	-	-	481,400
1947	-	-	764,500
1948	-	-	857,900
1949	-	-	488,400
1950	-	-	795,200
1951	-	-	898,600
1952	-	-	629,500
1953	-	-	818,300
1954	-	-	834,200
1955	-	-	585,900
1956	-	-	760,800
1957	-	-	614,400
1958	-	-	627,800
1959	-	-	877,300
1960	-	-	594,500
1961	4725.3	4643.0	554,500
1962	4724.3	4630.8	703,600
1963	4725.0	4623.5	493,200
1964	4732.2	4607.2	845,000
1965	4721.2	4653.0	798,300
1966	4718.5	4622.7	577,900
1967	4724.0	4604.6	820,700
1968	4724.2	4636.0	535,200
1969	4724.0	4615.7	602,900
1970	4724.0	4607.0	628,000
1971	4723.8	4628.7	855,200
1972	4723.9	4634.3	852,100
1973	4709.7	4569.2	378,100

* Computed from change in storage and outflow at Diversion Dam.

