

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

RESERVOIR SEDIMENTATION
DATA SUMMARY

ARROWROCK - Boise Project

78-4

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER <u>Bureau of Reclamation</u>			2. RIVER <u>Boise</u>		3. STATE <u>Idaho</u>		
	4. SEC. <u>13</u> TWP. <u>3N</u> RANGE <u>4E</u>			5. NEAREST TOWN <u>Boise</u>		6. COUNTY <u>Elmore</u>		
	7. STREAM BED ELEV. <u>2954.9</u>			8. TOP OF DAM ELEV. <u>3219.75</u>		9. SPILLWAY CREST ELEV. <u>3216.0</u>		
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. SURFACE AREA ACRES		13. STORAGE ACRE- FEET	
	a. FLOOD CONTROL						14. ACCUMULATED ACRE- FEET	
	b. POWER						15. DATE STORAGE BEGAN	
	c. WATER SUPPLY						16. DATE NORMAL OPER. BEGAN	
	d. IRRIGATION		<u>3216</u>		<u>3089</u>			
	e. CONSERVATION							
	f. INACTIVE						Feb. 23, 1915	
17. LENGTH OF RESERVOIR <u>23.49</u> ^{2/} MILES				AV. WIDTH OF RESERVOIR <u>0.25</u> MILES				
WATERSHED	18. TOTAL DRAINAGE AREA <u>2,211</u> SQ. MI.				22. MEAN ANNUAL PRECIPITATION <u>(31 yrs.) 18.3</u> INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA <u>2,170</u> ^{6/} SQ. MI.				23. MEAN ANNUAL RUNOFF <u>(33 yrs.) 13.60</u> INCHES			
	20. LENGTH <u>66</u> MILES		AV. WIDTH <u>33</u> MILES		24. MEAN ANNUAL RUNOFF <u>1,502,276</u> AC.- FT.			
	21. MAX. ELEV. <u>10,000</u>		MIN. ELEV. <u>3216</u>		25. CLIMATIC CLASSIFICATION <u>Semi-arid</u>			
	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
Feb. 1915		0	0	Topo	20 feet	3089	279,250 ^{5/}	
<p>1935 Note: Data obtained as a result of this survey was studied during the preparation of the report for the 1947 survey and the data was determined to be of no value in preparation of sediment disposition figures.</p>								
Oct. 1947		32.6 ^{4/}	32.6 ^{4/}	Range	71 ranges	3089	271,550	
26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION	35. ^{1/} 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	
Oct. 1947		18.53	1,572,509	3,006,000	51,892,823	1,572,509	51,892,823	
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	
Oct. 1947		7,700	235.91	0.109	7,700	235.91	0.109	
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	
Oct. 1947		73	173.3	173.3	0.0869	2.835	173.5	

1/ Top of parapet wall 3219.75, of roadway 3216.0

2/ Top of gates (closed), spillway sill = 3210

3/ Length main arm = 12.76 miles and length of South Fork arm = 10.73 miles

Based on project history record supplemented by Water Supply Paper record at Dowling Springs, Idaho. Capacity is the actual volume of reservoir and does not include the bank storage figure. Net drainage area does not include the drainage area above Little Camas Reservoir.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION														
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
New area capacity curve was not made, as operation is based on Volumetric capacity plus bank storage, which was adjusted by inflow-outflow records.															
28. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR 5/														
	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														
<div style="display: flex; justify-content: space-between;"> <div> <u>5a/</u> 18.03 13.43 8.97 13.10 15.23 15.66 7.12 3.07 2.78 2.59 <u>5b/</u> 19.47 15.30 11.89 16.40 10.87 9.44 8.64 3.68 2.16 2.13 </div> </div>															
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 for required data, Item 45.															
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
2964.5	0	0	3060	525	16,500	3150	1,875	126,500							
2970	10	200	3070	660	22,500	3160	2,000	146,000							
2980	30	500	3080	780	30,000	3170	2,155	168,000							
2990	50	700	3090	910	39,000	3180	2,320	190,000							
3000	80	1,000	3100	1,120	50,000	3190	2,500	216,000							
3010	125	2,000	3110	1,290	61,000	3200	2,700	240,000							
3020	185	3,500	3120	1,455	75,000	3210	2,920	268,500							
3030	215	5,500	3130	1,610	91,000	3216	3,089	286,500							
3040	265	8,500	3140	1,740	108,000										
3050	425	12,000													
47. REMARKS AND REFERENCES															
Sedimentation Study of Arrowrock Reservoir, L.M. Seavy, Hydrology Div., Bureau of Reclamation, Denver, Colorado 5/ Reservoir has two arms; one extends toward north, the other toward the south a/ Arm to north, extends from Dam to upper reach of reservoir b/ Arm to south, extends from Dam to upper reach of reservoir Area-capacity curve based on 1947 survey is not available. Area-capacity data (Item 46) based on the 1935 sediment survey adjusted by the inflow-outflow records															
48. AGENCY SUPPLYING DATA Bureau of Reclamation										49. DATE 9/29/50					