

RESERVOIR SEDIMENT  
DATA SUMMARY

PAONIA RESERVOIR  
NAME OF RESERVOIR

63-27  
DATA SHEET NO.

DAM	1. OWNER <b>Bureau of Reclamation</b>			2. STREAM <b>Muddy Creek</b>			3. STATE <b>Colorado</b>									
	4. SEC. TWP. RANGE			5. NEAREST P.O. <b>Somerset, Colorado</b>			6. COUNTY <b>Gunnison</b>									
	7. LAT <b>38° 57'</b> " LONG <b>107° 20'</b> "			8. TOP-OF DAM ELEVATION <b>6,469.0</b>			9. SPILLWAY CREST ELEV. <b>6,447.50</b>									
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA, ACRES		13. ORIGINAL CAPACITY, ACRE-FEET		14. GROSS STORAGE, ACRE-FEET		15. DATE STORAGE BEGAN					
	a. FLOOD CONTROL										12/5/61					
	b. MULTIPLE USE															
	c. POWER															
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN					
	e. IRRIGATION		6,447.50		334		18,150		20,950							
	f. CONSERVATION															
	g. INACTIVE		6,360.00		91		2,800		2,800							
WATERSHED	17. LENGTH OF RESERVOIR				3.4 MILES		AV. WIDTH OF RESERVOIR				.15 MILES					
	18. TOTAL DRAINAGE AREA				246 SQ. MI.		22. MEAN ANNUAL PRECIPITATION				16.73 1/ INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA				236 SQ. MI.		23. MEAN ANNUAL RUNOFF				8.15 INCHES					
	20. LENGTH		MILES		AV. WIDTH		MILES		24. MEAN ANNUAL RUNOFF 2/		99,800 AC.-FT.					
	21. MAX. ELEV.		12,721		MIN. ELEV.		6,360		25. ANNUAL TEMP: MEAN 42 RANGE -33 to 98							
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/I. RATIO, AC.-FT. PER AC.-FT.	
	12/5/61		0				Range (D)		11		334		20,950		0.21	
	2/19/69		7		7		Range (R)		11		3/		20,214			
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW, ACRE-FEET				36. WATER INFL. TO DATE, AC.-FT.							
			15.54		99,800		128,900		699,000		99,800		699,000			
	26. DATE OF SURVEY		37. PERIOD CAPACITY LOSS, 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			
			736		105		.427		736		105		.427			
	26. DATE OF SURVEY		39. AV. DRY WGT., LBS. PER CU. FT.		40. SED. DEP., TONS PERSQ. MI.-YR.		41. STORAGE LOSS, PCT.		42. SED. INFLOW, PPM							
			Undetermined		a. PERIOD b. TOTAL TO DATE		a. AV. ANN. b. TOT. TO DATE		a. PERIOD b. TOT. TO DATE							

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION													
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION													
	Undetermined													

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														
	Undetermined														

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1962	6,447.50	6,360.0					
1963	"	"					
1964	"	"					
1965	"	"					
1966	"	"					
1967	"	"					
1968	"	"					

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

47. REMARKS AND REFERENCES

1/ Average of Cedaredge, Crested Butte, and Pitkin precipitation stations operating average 64.3 years.

2/ Average reservoir inflow calendar years 1962-1968 (includes estimates for a few months when inflow was not reported.)

3/ Undetermined

48. AGENCY MAKING SURVEY Bureau of Reclamation

49. AGENCY SUPPLYING DATA Bureau of Reclamation

50. DATE 10/13/69

RESERVOIR SEDIMENT  
DATA SUMMARY

Paonia Reservoir  
NAME OF RESERVOIR

63-27a

DATA SHEET NO.

D A M	1. OWNER Bureau of Reclamation			2. STREAM Muddy Creek			3. STATE Colorado							
	4. SEC 9 T 13 S R 89 W			5. NEAREST PO Somerset, CO			6. COUNTY Gunnison							
	7. LAT 38° 57' LONG 107° 20'			8. TOP OF DAM 6,469.0			9. SPILLWAY CREST 6,447.5							
R E S E R V O I R	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA, Ac		13. ORIGINAL CAPACITY, AF		14. GROSS STORAGE ACRE FEET		15. DATE STORAGE BEGAN			
	a. FLOOD CONTROL										12/5/61			
	b. MULTIPLE USE													
	c. POWER													
	d. WATER SUPPLY										16. DATE NORMAL OPERATION BEGAN			
	e. IRRIGATION		6,447.5		334		18,150		20,950					
	f. CONSERVATION													
	g. INACTIVE		6,360.0		91		2,800		2,800					
17. LENGTH OF RESERVOIR 3.4 MILES						AVG. WIDTH OF RESERVOIR 0.15 MILES								
B A S I N	18. TOTAL DRAINAGE AREA 246 SQ. MI.						22. MEAN ANNUAL PRECIPITATION 17.44 IN. <sup>1</sup>							
	19. NET SEDIMENT CONTRIBUTING AREA 236 SQ. MI.						23. MEAN ANNUAL RUNOFF 8.4 IN.							
	20. LENGTH 22.9 MI.			AV. WIDTH 10.7 MI.			24. MEAN ANNUAL RUNOFF 110,000 AC.-FT. <sup>2</sup>							
	21. MAX. ELEV. 12,721 FT.			MIN. ELEV. 6,360 FT.			25. ANNUAL TEMP. MEAN 48° RANGE -28 to 102							
S U R V E Y  D A T A	26. DATE OF SURVEY		27. PER. YRS.	28. ACCL. YRS.	29. TYPE OF SURVEY		30. NO. OF RANGES OR INTERVAL		31. SURFACE AREA, AC.		32. CAPACITY ACRE-FEET		33. C/I RATIO AF/AF	
	12/5/61		0		Range(D)		11		334		20,950		0.21	
	2/19/69		7.21	7.21	Range(D)		11				20,214		0.20	
	6/29/88		19.36	26.57	Range(D)		11		332		17,461		0.14	
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIP.		35. PERIOD WATER INFLOW, ACRE FEET				38. TOTAL SEDIMENT DEPOSITS TO DATE, AF					
					a. MEAN ANN.		b. MAX. ANN.		c. TOTAL		a. MEAN ANN.		b. TOTAL	
	2/19/69		17.77		99,800 <sup>4</sup>		128,900 <sup>4</sup>		699,000 <sup>4</sup>		99,800 <sup>4</sup>		699,400 <sup>4</sup>	
	6/29/88		18.18		124,800 <sup>5</sup>		242,200 <sup>5</sup>		2,270,000 <sup>6</sup>		110,000 <sup>2</sup>		2,969,000 <sup>2</sup>	
	26. DATE OF SURVEY		37. PERIOD CAPACITY LOSS, ACRE-FEET				38. TOTAL SEDIMENT DEPOSITS TO DATE, AF							
			a. TOTAL		b. AV. ANN.		c. /MI. <sup>2</sup> -YR.		a. TOTAL		b. AV. ANNUAL		c. /MI. <sup>2</sup> -YR.	
2/19/69		736		105		0.43		736		105		0.43		
6/29/88		2,753		142		0.60		3,489		131		0.56		
26. DATE OF SURVEY		39. AV. DRY WT. (#/FT <sup>3</sup> )		40. SED. DEP. TONS/MI. <sup>2</sup> -YR.			41. STORAGE LOSS, PCT.			SED. INFLOW, PPM				
				a. PERIOD		b. TOTAL TO DATE		a. AV. ANNUAL		b. TOTAL TO DATE		a. PER.	b. TOT.	
2/19/69		N/A												
6/29/88		N/A												

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW AND ABOVE CREST ELEVATION													
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														

N/A

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	100-105	105-110	110-115	115-120	120-125
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION															

N/A

45. RANGE IN RESERVOIR OPERATION

WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AF	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AF
1962	6,447.5	6,360.0		1977	6,417.4	6,368.7	15,800
1963	6,447.5	6,360.0		1978	6,447.7	6,373.7	107,900
1964	6,449.5	6,370.5	64,100 <sup>7</sup>	1979	6,448.4	6,391.0	79,100 <sup>7</sup>
1965	6,448.5	6,404.7	128,900 <sup>7</sup>	1980	6,416.0	6,405.0	107,600 <sup>7</sup>
1966	6,448.0	6,364.0	87,600	1981	6,435.7	6,380.7	18,700 <sup>7</sup>
1967	6,448.5	6,387.5	84,600 <sup>7</sup>	1982	6,448.2	6,383.4	114,800
1968	6,448.2	6,376.2	125,900	1983	6,448.9	6,373.8	203,700
1969	6,448.5	6,373.5	140,600	1984	6,449.0	6,376.5	193,000
1970	6,448.2	6,378.9	123,900 <sup>7</sup>	1985	6,448.8	6,379.5	242,200 <sup>7</sup>
1971	6,448.3	6,382.2	122,600	1986	6,448.6	6,385.4	209,400 <sup>7</sup>
1972	6,448.1	6,375.2	59,100	1987	6,447.7	6,370.5	104,600
1973	6,448.8	6,385.0	146,900	1988	6,447.7	6,386.4	54,500
1974	6,447.5	6,372.3	67,800 <sup>7</sup>				
1975	6,448.3	6,387.0	105,200				
1976	6,448.5	6,378.0	52,700				

46. ELEVATION - AREA - CAPACITY DATA FOR 1988

ELEV.	AREA	CAP.	ELEV.	AREA	CAP.	ELEV.	AREA	CAP.
6,320			6,370	57	1,346	6,420	258	9,319
6,330	12	9	6,380	89	2,071	6,430	289	12,053
6,340	23	184	6,390	148	3,253	6,440	311	15,052
6,350	32	462	6,400	177	4,877	6,450	338	18,298
6,360	44	843	6,410	227	6,896	6,460	366	21,821

47. REMARKS AND REFERENCES

- <sup>1</sup> Average of Cedaredge (1948-1986), Crested Butte (1909-1986), Pitkin (1948-1986), and Taylor Park (1948-1986) precipitation stations.
- <sup>2</sup> Based on average reservoir inflow calendar years 1962-1968 including estimates for a few months when inflow was not reported, and summation of average monthly flows for 1969-1988. This latter period includes 16 months with no records.
- <sup>3</sup> Temperature data from Reclamation Project Data Book (1981).
- <sup>4</sup> Previously computed estimate for period (1961-1969) inflow based on inflow records for calendar years 1962-1968 (including estimates for a few months when inflow was not reported).
- <sup>5</sup> Estimated based on summation of average monthly inflows (including 16 missing monthly values).
- <sup>6</sup> Summation of all measured monthly flows for period.
- <sup>7</sup> incomplete records - partial year reservoir inflow and elevation records only.

48. AGENCY MAKING SURVEY Bureau of Reclamation  
 49. AGENCY SUPPLYING DATA Bureau of Reclamation | DATE 2/91