

B-15

RESERVOIR SEDIMENTATION DATA SUMMARY

Tionesta Creek

21-21

NAME OF RESERVOIR

DATA SHEET NO.

1. OWNER Dept of the Army, C of E		2. RIVER Tionesta Creek		3. STATE Pennsylvania			
4. SEC. - TWP. Tionesta Range -		5. NEAREST TOWN Tionesta, Pa.		6. COUNTY Forest			
7. STREAM BED ELEV. 1043		8. TOP OF DAM ELEV. 1197		9. SPILLWAY CREST ELEV. 1168			
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	1168	2,700	120,160	127,960	Feb. 1941	
	b. POWER	-					
	c. WATER SUPPLY	-					
	d. IRRIGATION	-				16. DATE NORMAL OPER. BEGAN	
	e. CONSERVATION	1085	480	7,800	7,800	Feb. 1941	
f. INACTIVE	-						
17. LENGTH OF RESERVOIR 18.0		MILES		AV. WIDTH OF RESERVOIR 0.234		MILES	
18. TOTAL DRAINAGE AREA 478		SQ. MI.		22. MEAN ANNUAL PRECIPITATION (28 yrs) 43.5		INCHES	
19. NET SEDIMENT CONTRIBUTING AREA 474		SQ. MI.		23. MEAN ANNUAL RUNOFF (17 yrs.) 24.9		INCHES	
20. LENGTH 34.1		MILES		AV. WIDTH 13.9		MILES	
21. MAX. ELEV. 2137		MIN. ELEV. 1043		24. MEAN ANNUAL RUNOFF 635,000		AC.-FT.	
25. CLIMATIC CLASSIFICATION humid							
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. ML.
Feb. 1941			Contour(D)		2,700	127,960	268
Sept. 1949	8.6	8.6	Range(D)	20 Ranges 1/		127,131	266
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	
Sept. 1949	41.9	606,000	876,000 (1945)	5,454,400	606,000	5,454,400	
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.	
Sept. 1949	829	96.62	0.204	829	96.62	0.204	
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
Sept. 1949	100*	444	444	.076	.65	244	244

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION											
	24-108	108-98	98-88	88-83								
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
Sept. 1949	16	29	35	20								

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															
Sept. 1949	29	43	23	5											

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC-FT.
1941 (Jan.-Sept)	1092.54	1069.30	276,200	1947	1141.78	1085.78	687,100
1942	1099.69	1085.09	556,400	1948	1144.72	1085.74	605,100
1943	1147.02	1084.82	902,000	1949	1144.81	1085.54	468,600
1944	1115.90	1084.20	490,700	Oct 49-Dec 49	1125.70	1087.53	55,800
1945	1148.87	1085.44	699,800	1950			
1946	1144.07	1084.66	712,700				

46. ELEVATION-AREA-CAPACITY DATA 2/								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1045	0	0	1140	1,730	65,970			
1060	85	520	1144	1,910	73,250			
1070	260	2,080	1145	1,930	75,160			
1073	340	2,930	1150	2,050	85,150			
1081	420	5,960	1160	2,420	107,520			
1090	575	10,430	1168	2,700	127,960			
1100	780	17,140	1170	2,770	133,420			
1110	990	25,970	1180	3,350	162,950			
1120	1,205	36,970	1190	3,600	196,680			
1130	1,440	50,120	1200	4,100	235,000			

47. REMARKS AND REFERENCES Letter report dated 13 March 1950, subject: "Report Upon Sedimentation of Tionesta Creek Reservoir, Allegheny River Basin, Pa.", by District Engineer, Corps of Engineers, US Army, Pittsburgh, Pa. to Chief of Engineers, Department of the Army, Washington 25, DC.

1/Ranges cover the reach of the conservation pool. No deposits were observed above elev. 1090.

2/Total capacity reduction of 829 ac-ft. is so small compared to total capacity of 127,960 ac-ft to spillway crest elevation 1168 that it is believed inadvisable to adjust capacity curve at this time.

48. AGENCY SUPPLYING DATA Dept of the Army, CE, Pittsburgh District

49. DATE 15 March 1950

RESERVOIR SEDIMENT  
DATA SUMMARY

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS

Tionesta Lake

NAME OF RESERVOIR

21-216

DATA SHEET NO.

DAM	1. OWNER Corps of Engrs, U.S. Army		2. STREAM Tionesta Cr.		3. STATE Pennsylvania			
	4. SEC. TWPTionesta RANGE		5. NEAREST P of Tionesta, PA 16353		6. COUNTY Forest			
	7. LAT 41° 28' 36" LONG 79° 26' 48"		8. TOP OF DAM ELEVATION 1197		9. SPILLWAY CREST ELEV. 1168.0			
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	1170 <sup>1/</sup>	2,770	125,600	133,400		Dec 1940	
	b. MULTIPLE USE							
	c. POWER							
	d. WATER SUPPLY						16. DATE NOR-MAL OPER. BEGAN	
	e. IRRIGATION						Dec 1940	
	f. CONSERVATION							
	g. INACTIVE	1085	480	7,800	7,800			
WATERSHED	17. LENGTH OF RESERVOIR 18.0 MILES		AV. WIDTH OF RESERVOIR 0.24 MILES					
	18. TOTAL DRAINAGE AREA 478 SQ. MI.		22. MEAN ANNUAL PRECIPITATION (30 yr) 43.35 INCHES					
	19. NET SEDIMENT CONTRIBUTING AREA 474 SQ. MI.		23. MEAN ANNUAL RUNOFF (30.25 yr) 24.31 INCHES					
	20. LENGTH 34.4 MILES		AV. WIDTH 13.9 MILES		24. MEAN ANNUAL RUNOFF (30.25 yr) 619,800 AC.-FT.			
	21. MAX. ELEV. 2137		MIN. ELEV. 1043		25. ANNUAL TEMP MEAN 47.2° RANGE 25° to 69°			
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.
	Feb 1941	-	-	Contour (Detailed)	5 feet	2,770	133,400 <sup>2/</sup>	
	Sep 1949	8.6	8.6	Range (Detailed)	20 Ranges	2,770 <sup>2/</sup>	132,571 <sup>2/</sup>	0.21
	May 1971	21.7	30.25	Range (Detailed)	20 Ranges	2,770 <sup>2/</sup>	132,365	0.21
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW, ACRE-FEET		36. WATER INFL. TO DATE, AC.-FT.		
	May 1971	43.6		612,700		938,806 (CY 1956)		13,295,500
		619,800		18,749,900				
	26. DATE OF SURVEY	37. PERIOD CAPACITY LOSS, ACRE-FEET			38. TOTAL SED. DEPOSITS TO DATE, ACRE-FEET			
	May 1971	206			9.49			0.020
		9.49			0.020			1035
	34.21			0.072				
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	
May 1971	66.3		31.2		0.026		0.78	
	66.3		31.2		104		17.76	
	66.3		31.2		0.026		58.65	

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION													
	124-108	108-98	98-88	88-83										
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
Sep 1949	16	29	35	20										
May 1971	127-120	120-110	110-100	100-90	90-80	80-70	70-64							
	2	12	30	38	15	2	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
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION														
Sep 1949	29	43	23	5										
May 1971	25	36	31	8	0	0	0	0	0	0				
45. RANGE IN RESERVOIR OPERATION														
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.							
(See Sheet No. 3)														
46. (1940) ELEVATION-AREA-CAPACITY DATA														
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY						
1043	0	0	1140	1,730	65,970									
1060	85	520	1144	1,910	73,250									
1070	260	2,080	1145	1,930	75,160									
1073	340	2,930	1150	2,050	85,150									
1081	420	5,960	1160	2,420	107,520									
1090	575	10,430	1168	2,700	127,960									
1100	780	17,140	1170	2,770	133,420									
1110	990	25,970	1180	3,350	162,950									
1120	1,205	36,970	1190	3,600	196,680									
1130	1,440	50,120	1200	4,100	235,000									
47. REMARKS AND REFERENCES														
1/ Full pool elevation considered to be 2 feet above spillway crest.														
2/ Area for flood control pool which is considered to be 2 feet above spillway crest.														
3/ For full pool elevation of 1170														
Note: Previous report, "Report Upon Sedimentation of Tionesta Creek Reservoir Allegheny River Basin, Pa." submitted to Chief of Engineers thru CRD bylet dated 13 March 1950 this office.														
48. AGENCY MAKING SURVEY U.S. Army Engineer District, Pittsburgh														
49. AGENCY SUPPLYING DATA Corps of Engineers, Pittsburgh, Pa. 50. DATE June 1973														

RANGE IN RESERVOIR OPERATION

<u>WATER YEAR</u>	<u>MAX ELEV</u>	<u>MIN ELEV</u>	<u>INFLOW AC-FT</u>
1941 (Jan-Sept)	1092.54	1069.30	276,200
1942	1099.69	1085.09	556,400
1943	1147.02	1084.82	902,000
1944	1115.90	1084.20	490,700
1945	1148.87	1085.44	699,800
1946	1144.07	1084.66	712,700
1947	1141.78	1085.78	687,100
1948	1144.72	1085.74	605,100
1949	1114.81	1085.54	468,600
1950	1135.11	1086.49	704,100
1951	1128.38	1086.29	813,600
1952	1151.60	1085.40	724,900
1953	1121.74	1085.40	566,300
1954	1114.53	1076.00	448,200
1955	1141.02	1084.75	631,100
1956	1156.04	1079.22	932,700
1957	1122.82	1085.26	553,400
1958	1122.72	1085.24	578,800
1959	1148.29	1085.37	639,300
1960	1138.77	1084.86	648,200
1961	1137.56	1085.12	536,400
1962	1115.97	1085.52	448,800
1963	1134.65	1079.21	442,500
1964	1161.55	1085.40	541,800
1965	1122.33	1085.05	522,100
1966	1126.50	1079.78	598,300
1967	1128.54	1085.20	581,900
1968	1127.05	1082.39	585,000
1969	1124.16	1084.78	586,000
1970	1126.80	1075.79	590,400
1971	1125.60	1074.02	