

The Montana-Tennant Method specifies that flows greater than 20% of the mean annual flow (MAF) from October to March and 40% MAF from April to September represent “good” habitat conditions. Additional habitat conditions correspond to MAF as follows:

Description of Flows	Recommended Base Flow Regimes (% of MAF)	
	October-March	April-September
Flushing or Maximum	200	
Optimum	60-100	
Outstanding	40	60
Excellent	30	50
Good	20	40
Fair or Degrading	10	30
Poor or Minimum	10	10
Severe Degradation	0-10	

Based on available U.S. Geological Survey (USGS) Surface-Water Annual Statistics for Pennsylvania, USGS Gage 01562000, Raystown Branch Juniata River at Saxton (near the upstream end of Raystown Lake) for water years 1912-2004 (attached), the MAF is 929.9 cubic feet per second (cfs) and “good” habitat conditions are as follows:

October to March:  $929.9 \times 0.2 = 185.8$  cfs  
 April to September:  $929.9 \times 0.4 = 372.0$  cfs

The Raystown Hydroelectric Facility operates in compliance with minimum flows contained in the Operating Agreement between the U.S. Army Corps of Engineers and Allegheny Electric Cooperative. This agreement specifies the following minimum flows:

May to November: 200 cfs  
 December to April: 480 cfs.

Raystown Hydroelectric Facility minimum flows correspond to Montana-Tennant habitat conditions as follows:

December to March: 51.5% MAF (Outstanding to Optimum)  
 April: 51.6% MAF (Excellent to Outstanding)  
 May to September: 21.5% MAF (Poor to Fair)  
 October and November: 21.5% MAF (Good to Excellent)

The hydroelectric facility is operated in close cooperation with the U.S. Army Corps of Engineers. The Corps and Commonwealth of Pennsylvania have agreed that the specified minimum flows are sufficient to ensure adequate habitat for aquatic species.



Water Resources

National Water Information System: Web Interface

Data Category: Surface Water

Geographic Area: Pennsylvania

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# USGS Surface-Water Annual Statistics for Pennsylvania

The statistics generated from this site are based on approved daily-mean data and may not match those published by the USGS in official publications. The user is responsible for assessment and use of statistics from this site. For more details on why the statistics may not match, [click here](#).

## USGS 01562000 Raystown Branch Juniata River at Saxton, PA

Available data for this site

Time-series: Annual statistics

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Bedford County, Pennsylvania Hydrologic Unit Code 02050303 Latitude 40°12'57", Longitude 78°15'56" NAD27 Drainage area 756.00 square miles Gage datum 795.77 feet above sea level NGVD29	<b>Output formats</b> <input type="button" value="HTML table of all data"/> <input type="button" value="Tab-separated data"/> <input type="button" value="Reselect output format"/>
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Water Year	00060, Discharge, cubic feet per second (Calculation Period From: 1911-10-01 To: 2005-09-30)
1912	1,306
1913	755.6
1914	1,139
1915	969.4
1916	1,161
1917	904.3
1918	927.2
1919	820.0
1920	1,162
1921	872.0
1922	943.2
1923	616.2
1924	1,505

1925	560.7
1926	758.5
1927	1,293
1928	1,362
1929	823.9
1930	703.8
1931	572.4
1932	645.5
1933	1,047
1934	469.4
1935	864.1
1936	1,174
1937	1,258
1938	721.5
1939	835.3
1940	898.9
1941	627.0
1942	738.4
1943	1,173
1944	701.8
1945	901.3
1946	987.5
1947	576.2
1948	776.4
1949	912.5
1950	785.5
1951	1,387
1952	967.7
1953	1,067
1954	421.4
1955	1,115
1956	878.6
1957	762.1
1958	881.6
1959	553.6
1960	1,154
1961	861.2
1962	762.1

1963	557.9
1964	742.9
1965	615.6
1966	415.8
1967	754.3
1968	774.5
1969	402.0
1970	1,056
1971	1,300.
1972	1,517
1973	1,213
1974	985.2
1975	1,161
1976	866.0
1977	1,104
1978	1,318
1979	1,402
1980	1,131
1981	716.7
1982	930.4
1983	882.5
1984	1,123
1985	831.0
1986	869.6
1987	809.7
1988	735.5
1989	1,114
1990	695.6
1991	1,037
1992	459.3
1993	1,320.
1994	1,258
1995	672.2
1996	1,575
1997	1,104
1998	1,445
1999	579.4
2000	730.1

2001	591.3
2002	438.3
2003	1,549
2004	1,637
** No Incomplete Data is used for Statistics Calculation	

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Surface Water data for Pennsylvania: USGS Surface-Water Annual Statistics

<http://waterdata.usgs.gov/pa/nwis/annual/>

[Top](#)

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Department of the Interior, U.S. Geological Survey

USGS Water Resources of Pennsylvania

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