



Water-Data Report 2006

06038000 HEBGEN LAKE NEAR WEST YELLOWSTONE, MT

Missouri Headwaters Basin
Madison Subbasin

LOCATION.--Lat 44°51'51", long 111°20'09" referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.23, T.11 S., R.3 E., Gallatin County, Hydrologic Unit 10020007, at Hebgen Dam on Madison River, 18 mi northwest of West Yellowstone, and at river mile 103.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1936 to current year. Records prior to October 1939, published only in WSP 1309. Figures of contents published in Water Supply Paper (WSP) 1629, 1709, and 1729 have been found to be in error and should not be used. Prior to Oct. 1, 1949, published as Hebgen Reservoir near West Yellowstone. Records of daily elevations are in files of the USGS Water Science Center located in Helena, Montana.

REVISED RECORDS.--WSP 1916: 1959-60.

COOPERATION.--Records furnished by PPL EnergyPlus, LLC.

REMARKS.--Elevation of gage is at sea level (levels by The Montana Power Co.). Prior to earthquake of Aug. 17, 1959, elevation of gage was 9.74 ft higher, also at sea level. Reservoir is formed by earthfill dam with concrete core and spillway completed in 1915, repaired in 1960 following severe earthquake of Aug. 17, 1959, that lowered dam 9.74 ft and deformed reservoir area. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Subsequent usable capacity is 377,500 acre-ft, between elevation 6,473.00 ft, bottom of outlet tower, and 6,534.87 ft, spillway crest. Dead storage is 7,340 acre-ft below elevation 6,473.00 ft. Prior to Aug. 17, 1959, usable capacity, 344,700 acre-ft between 6,483.11 ft, bottom of outlet tower, and 6,544.61 ft, spillway crest. Observations of reservoir level prior and subsequent to earthquake indicate smaller increases in capacity than indicated by new capacity table. Figures given herein represent usable contents. Water is used for power and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 380,500 acre-ft, July 21, 1987, elevation, 6,535.0 ft; minimum monthend, 670 acre-ft, Dec. 31, 1936, by capacity table used prior to August 1959.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 376,900 acre-ft, July 8, 9, elevation, 6,534.72 ft; minimum observed, 258,000 acre-ft, Apr. 12, elevation, 6,524.50 ft.

**MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS,
SEPTEMBER 2005 TO SEPTEMBER 2006**

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	6,531.55	336,700	--
October 31	6,530.87	328,500	-8,200
November 30	6,530.48	324,000	-4,500
December 31	6,529.42	311,800	-12,200
Calendar Year 2005	--	--	-3,700
January 31	6,528.10	297,000	-14,800
February 28	6,526.58	280,400	-16,600
March 31	6,524.84	261,700	-18,700
April 30	6,525.48	268,500	+6,800
May 31	6,532.20	344,600	+76,100
June 30	6,534.63	375,700	+31,000
July 31	6,533.16	356,700	-19,000
August 31	6,531.76	339,200	-17,500
September 30	6,530.89	328,800	-10,400
Water Year 2006	--	--	-7,900