

Water-Data Report 2011

06286400 BIGHORN LAKE NEAR ST. XAVIER, MT

Big Horn Basin
Big Horn Lake Subbasin

LOCATION.--Lat 45°18'27", long 107°57'26" referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.18, T.6 S., R.30 E., Big Horn County, MT, Hydrologic Unit 10080010, in block 13 of Yellowtail Dam on Bighorn River, 1.3 mi upstream from Grapevine Creek, 15.5 mi southwest of St. Xavier, and at river mile 86.6.

DRAINAGE AREA.--19,626 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1965 to current year (monthend contents only). Prior to October 1969, published as "Yellowtail Reservoir." Records of daily elevations and contents on file at the U.S. Geological Survey, Water Science Center in Helena, Montana.

GAGE.--Water-stage recorder located in powerhouse control room. Elevation of gage is 3,296.5 ft (NGVD 29) (levels by Bureau of Reclamation).

COOPERATION.--Elevations and capacity table furnished by Bureau of Reclamation.

REMARKS.--Reservoir is formed by thin concrete-arch dam; construction began in 1961 and was completed in 1967. Storage began Nov. 3, 1965. Usable capacity is 1,312,000 acre-ft, between elevation 3,296.50 ft, river outlet invert, and 3,657.00 ft, top of flood control. Elevation of spillway crest is 3,593.00 ft. Normal maximum operating level is 1,097,000 acre-ft, between elevations, 3,640.00 ft and 3,657.00 ft. Minimum operating level is 483,400 acre-ft, elevation, 3,547.00 ft. Dead storage is 16,010 acre-ft, below elevation 3,296.50 ft. All elevations are referenced to the National Geodetic Vertical Datum of 1929. Figures given herein represent usable contents. Water is used for power production, flood control, irrigation, and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,346,000 acre-ft, July 6, 1967, elevation, 3,656.43 ft; minimum since first filling, 519,400 acre-ft, Mar. 11, 2003, elevation 3,572.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,229,000 acre-ft, July 24, elevation, 3,655.03 ft; minimum, 728,600 acre-ft, May 19, elevation, 3,606.55 ft.

**MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS,
SEPTEMBER 2010 TO SEPTEMBER 2011**

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	3,630.14	944,900	--
October 31	3,627.72	922,200	-22,700
November 30	3,626.24	908,900	-13,300
December 31	3,624.17	891,100	-17,800
Calendar Year 2010	--	--	-79,700
January 31	3,621.64	825,500	-65,600
February 28	3,619.46	809,300	-16,200
March 31	3,620.91	820,000	+10,700
April 30	3,615.17	779,700	-40,300
May 31	3,631.31	907,600	+127,900
June 30	3,643.48	1,051,000	+143,400
July 31	3,652.86	1,193,000	+142,000
August 31	3,643.20	1,047,000	-146,600
September 30	3,640.35	1,009,000	-38,000
Water Year 2011	--	--	+64,100