



Water-Data Report 2006

06286400 BIGHORN LAKE NEAR ST. XAVIER, MT

Big Horn Basin
Bighorn 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, 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 in powerhouse control room. Elevation of gage is 3,296.5 ft, referenced to the National Geodetic Vertical Datum of 1929 (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 elevation, 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. 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, 1,090,000 acre-ft, Oct. 16, elevation, 3,636.25 ft; minimum, 720,000 acre-ft, Sept. 2, elevation, 3,598.43 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	3,634.03	984,500	
October 31	3,634.03	996,200	+11,700
November 30	3,634.03	956,600	-39,600
December 31	3,626.41	910,400	-46,200
Calendar Year 2005	--	--	+222,000
January 31	3,321.58	870,000	-40,400
February 28	3,616.26	829,700	-40,300
March 31	3,613.08	807,400	-22,300
April 30	3,606.89	768,100	-39,300
May 31	3,611.38	796,100	+28,100
June 30	3,612.95	806,500	+10,400
July 31	3,604.66	754,900	-51,600
August 31	3,598.50	720,400	-34,500
September 30	3,603.07	745,800	+25,400
Water Year 2006	--	--	-238,700