



Water-Data Report 2009

06357000 SHADEHILL RESERVOIR AT SHADEHILL, SD

Grand and Moreau Basin
South Fork Grand Subbasin

LOCATION.--Lat 45°45'12", long 102°12'12" referenced to North American Datum of 1927, in SE ¼ SE ¼ SW ¼ sec.27, T.22 N., R.18 E., Perkins County, SD, Hydrologic Unit 10130302, at dam on Grand River, 1.3 mi southwest of Shadehill.

DRAINAGE AREA.--3,120 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1950 to current year (monthend contents only).

GAGE.--Water-stage recorder. Elevations listed to NGVD of 1929. Prior to Apr. 3, 1952, occasional elevations obtained by level circuits and Apr. 3, 1952, to Apr. 28, 1970, nonrecording gage at same site and datum.

COOPERATION.--Records of elevation and contents provided by Bureau of Reclamation. . Data available from Bureau of Reclamation at: http://www.usbr.gov/gp-bin/arcweb_shr.pl; elevation and end of month content data at: http://www.usbr.gov/gp-bin/res070_form.pl?SHR

REMARKS.--Reservoir formed by earthfill dam. Storage began July 1, 1950; dam completed August 1951. Conservation storage, 76,303 acre-ft between elevations 2,250.8 ft (invert of canal and river outlet) and elevation 2,272.0 ft (crest of morning-glory spillway). Dead storage, 43,869 acre-ft below elevation 2,250.8 ft. Flood control, 230,004 acre-ft between elevations 2,272.0 ft and 2,302.0 ft (crest of emergency spillway). Surcharge, 119,560 acre-ft at elevation 2,312.0 ft (maximum pool elevation). Total reservoir capacity is 469,736 acre-ft at elevation 2,312.0 ft. The reservoir provides flood control and water for irrigation purposes. Figures given herein represent usable contents above elevation 2,250.8 ft. Prior to Oct. 1, 1968, reservoir contents published as total contents and included dead storage. Capacities adjusted from sediment survey by the United States Bureau of Reclamation in 2004.

EXTREMES FOR PERIOD OF RECORD.--Maximum usable contents observed, 260,207 acre-ft, Apr. 10, 1952, elevation, 2,297.90 ft; minimum usable observed since first filling to spillway level, 14,357 acre-ft, Feb. 18, 2004.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 200,500 acre-ft, Apr. 17, elevation, 2,290.83 ft; minimum, 34,500 acre-ft, Oct. 9, elevation 2,262.44 ft.

**MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Date	Elevation	Contents (acre feet)	Change in contents (acre-feet)
Sept. 30.....	2,262.56	35,000	--
Oct. 31.....	2,262.56	35,000	0
Nov. 30.....	2,262.94	36,400	1,400
Dec. 31.....	2,262.99	36,600	200
CAL YR 2008	--	--	16,300
Jan. 31.....	2,262.70	35,500	-1,100
Feb. 28.....	2,263.74	39,500	4,000
Mar. 31.....	2,279.11	116,000	76,500
Apr. 30.....	2,279.34	117,400	1,400
May 31.....	2,271.60	74,300	-43,100
June 30.....	2,271.09	71,800	-2,500
July 31.....	2,270.53	69,100	-2,700
Aug. 31.....	2,269.62	64,700	-4,400
Sept. 30.....	2,268.67	60,300	-4,400
WTR YR 2009	--	--	25,300