12105800 HOWARD A. HANSON RESERVOIR NEAR PALMER, WA

Puget Sound Basin
Duwamish Subbasin

LOCATION.--Lat 47°16′38″, long 121°47′03″ referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.28, T.21 N., R.8 E., King County, WA, Hydrologic Unit 17110013, near left bank on outlet gate structure, just upstream from Howard A. Hanson Dam on Green River, 1.4 mi upstream from Bear Creek, 5.1 mi southeast of Palmer, and at mile 64.5.

DRAINAGE AREA.--220 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1961 to current year.

REVISED RECORDS.--WDR WA-96-1: 1985-1995 maximum and minimum contents.

GAGE.--Water-stage recorder. Prior to Oct. 1, 1999, non-recording gage at same site and datum. Datum of gage is NGVD of 1929, supplementary adjustment of 1947.

COOPERATION.--Elevations and capacity table furnished by Corps of Engineers.

REMARKS.--Reservoir is formed by earth-fill dam; completed Mar. 31, 1962; storage began Dec. 5, 1961. Capacity, 105,463 acre-ft between elevations 1,035 ft, invert of outlet tunnel, and 1,206 ft, top of spillway gates. Retained during initial flood conditions, storage is released as soon as possible after a flood to attenuate flows downstream and to maintain reservoir capacity for possible future floods. Storage is used during summer months to augment the natural river flow.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 78,759 acre-ft, Jan. 9, 2009, elevation, 1,189.2 ft; minimum contents observed, 34 acre-ft, Nov. 2, 1962, elevation, 1,037.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,908 acre-ft, June 23, elevation, 1,167.4 ft; minimum contents, 1,493 acre-ft, Dec. 1, elevation, 1,072.6 ft.

CAPACITY TABLE (Based on conic method by Corps of Engineers in 1984)

Elevation (feet)	Contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Elevation (feet)	Contents (acre-feet)
1,045	13	1,080	2,422	1,140	24,622
1,050	64	1,090	4,081	1,150	32,982
1,055	201	1,100	6,313	1,160	42,804
1,060	439	1,110	9,271	1,170	53,902
1,065	777	1,120	13,140	1,180	66,186
1,070	1,220	1,130	18,126	1,190	79,912

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 12105800, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/12105800.2011.pdf

12105800 HOWARD A. HANSON RESERVOIR NEAR PALMER, WA—Continued

RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY OBSERVATION AT 0800 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	22,276	2,551	1,651	2,228	2,082	1,675	24,848	31,097	46,234	50,228	40,725	35,972
2	21,408	4,257	1,879	2,134	1,941	1,891	26,942	30,834	46,671	50,228	40,623	35,685
3	20,505	3,707	2,017	1,967	1,904	2,174	28,006	31,097	46,671	50,003	40,522	35,402
4	19,642	2,494	2,069	1,904	2,017	2,366	26,072	31,453	47,219	49,890	40,420	35,118
5	18,812	2,310	2,030	1,867	3,221	2,565	25,074	31,720	47,659	49,553	40,318	34,834
6	17,904	2,380	1,916	1,916	2,790	2,699	24,622	32,167	48,213	49,440	40,115	34,554
7	16,925	2,465	1,867	2,654	2,479	2,836	24,622	32,710	48,435	49,328	39,911	34,181
8	15,885	2,684	1,979	3,910	2,082	3,041	24,998	33,717	48,769	49,104	39,810	33,901
9	14,606	2,380	1,916	3,618	2,147	3,321	25,530	33,074	48,658	48,769	39,708	33,625
10	13,585	2,095	2,625	2,241	1,806	3,948	25,917	33,901	48,658	48,324	39,507	33,258
11	13,184	2,017	2,451	1,891	1,954	4,478	26,228	34,368	49,328	47,881	39,407	32,982
12	12,537	1,929	2,394	1,734	1,941	5,009	26,546	34,741	49,665	47,329	39,206	32,620
13	11,670	1,979	3,138	2,394	2,134	5,345	26,942	35,118	49,778	46,890	39,106	32,349
14	10,775	2,121	5,484	2,338	2,121	5,673	27,268	35,685	50,003	46,780	38,906	32,077
15	9,897	2,699	4,644	2,030	2,108	5,938	27,675	38,210	50,454	46,671	38,805	31,720
16	9,037	3,476	2,536	3,338	2,108	6,391	28,090	45,908	50,568	46,343	38,705	31,453
17	8,141	3,041	1,806	25,917	1,979	7,003	28,931	46,343	50,681	46,125	38,507	31,097
18	7,283	1,891	2,422	38,309	2,069	7,600	29,442	44,398	50,454	45,799	38,408	30,746
19	6,546	1,757	2,565	34,554	2,352	8,295	29,874	43,439	50,568	45,366	38,210	30,483
20	5,840	2,380	2,366	26,625	2,465	8,807	30,047	42,910	50,681	44,827	38,013	30,134
21	5,164	2,522	1,806	19,763	2,436	9,171	30,307	43,016	50,568	44,398	37,914	29,702
22	4,398	2,380	1,879	17,572	2,338	9,512	30,483	43,227	50,795	43,864	37,716	29,186
23	3,618	1,916	1,781	14,370	1,954	9,756	30,570	43,121	50,908	43,333	37,619	28,507
24	2,899	1,954	1,867	9,271	1,954	9,897	30,746	43,227	50,681	42,804	37,521	27,756
25	2,494	2,134	2,056	6,365	1,793	10,476	31,009	43,439	50,681	42,176	37,326	27,023
26	2,836	2,282	2,174	4,965	1,722	10,775	30,922	43,864	50,568	41,654	37,131	26,308
27	3,910	2,338	2,214	3,271	1,954	11,003	31,274	44,291	50,228	41,344	37,034	25,762
28	4,603	2,352	2,160	2,669	1,686	11,235	31,363	44,720	50,228	41,138	36,838	24,998
29	4,159	2,255	1,992	2,640	---	11,510	31,274	44,827	50,454	41,035	36,645	24,182
30	3,407	1,992	1,967	3,171	---	12,283	31,185	45,150	50,568	40,931	36,453	23,460
31	2,806	---	2,174	3,155	---	18,183	---	45,474	---	40,828	36,260	---
Mean	10,218	2,425	2,317	8,090	2,126	6,931	28,227	38,943	49,502	45,883	38,625	30,969
Max	22,276	4,257	5,484	38,309	3,221	18,183	31,363	46,343	50,908	50,228	40,725	35,972
Min	2,494	1,757	1,651	1,734	1,686	1,675	24,622	30,834	46,234	40,828	36,260	23,460
Monthend elevation, in feet, at 2400 hours												
	1,081.40	1,074.80	1,078.60	1,080.90	1,074.50	1,139.10	1,148.00	1,162.90	1,166.90	1,158.10	1,153.30	1,137.70
Monthend contents, in acre-feet												
	2,625	1,745	2,228	2,551	1,710	23,961	31,185	45,908	50,341	40,828	36,068	22,965
Change in Contents, in acre-feet												
	-19,923	-880	+483	+323	-841	+22,251	+7,224	+14,723	+4,433	-9,513	-4,760	-13,103

	Calendar Year 2010	Water Year 2011
Mean	22,944	22,122
Max	54,253	50,908
Min	1,281	1,651
Change in Contents, in acre-feet	+471	+417