

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 mi².

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, 68,811 acre-ft, Feb. 10, 1996, elevation, 1,182.0 ft; minimum contents observed, 34 acre-ft, Nov. 2, 1962, elevation, 1,037.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,442 acre-ft, June 22,23,24 elevation, 1,146.0 ft; minimum contents 1,181 acre-ft, Feb. 24, elevation, 1,069.6 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

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

RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY OBSERVATION AT 0800 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	13,859	3,057	1,722	2,654	1,651	1,343	1,628	1,617	23,035	27,268	24,549	19,046
2	10,588	2,640	1,781	2,121	1,281	1,343	2,004	1,605	23,035	26,942	24,475	18,812
3	8,580	1,745	1,640	1,560	1,322	1,461	2,296	1,640	23,174	26,546	24,328	18,581
4	7,717	1,769	1,663	1,302	1,281	1,640	2,121	1,605	23,105	26,308	24,182	18,297
5	7,368	1,745	1,698	1,281	1,343	1,745	2,121	1,842	23,174	26,149	24,108	18,015
6	7,141	2,043	1,722	1,375	1,302	1,757	1,879	2,255	23,317	26,072	23,961	17,738
7	7,113	2,282	1,698	3,442	1,482	1,417	1,571	2,436	23,460	25,994	23,817	17,464
8	7,113	1,879	1,628	4,458	1,396	1,450	1,493	2,930	23,602	25,994	23,674	17,193
9	7,003	1,710	1,560	1,979	1,472	1,617	1,854	3,493	23,745	25,994	23,531	16,925
10	6,811	1,929	1,560	6,948	1,594	1,450	2,422	4,062	23,745	25,917	23,317	16,661
11	6,599	2,228	1,571	12,966	1,745	1,364	1,929	4,665	23,961	25,917	23,174	16,348
12	6,442	1,967	1,571	14,606	1,757	1,515	1,734	5,415	24,255	25,839	23,035	16,089
13	6,288	1,842	1,482	12,368	1,710	1,526	1,686	6,012	24,923	25,839	22,896	15,835
14	6,086	2,004	1,386	9,409	1,663	1,396	1,830	6,339	25,607	25,839	22,757	15,583
15	5,865	1,879	1,322	6,417	1,537	1,396	1,769	6,732	26,387	25,839	22,548	15,482
16	5,625	1,651	1,312	3,493	1,493	1,312	1,686	7,542	27,105	25,839	22,344	15,334
17	5,438	1,745	1,343	1,493	1,493	1,417	1,675	8,549	27,756	25,762	22,208	15,138
18	5,438	1,842	1,364	1,291	1,628	1,663	2,160	9,204	28,423	25,685	22,005	14,942
19	5,232	2,108	1,375	1,461	1,854	1,967	1,916	10,813	28,760	25,607	21,802	14,798
20	5,164	2,069	1,396	1,240	2,030	2,201	1,628	12,452	29,016	25,607	21,605	14,606
21	5,119	1,967	1,354	1,493	1,781	2,408	1,439	13,859	29,101	25,530	21,408	14,606
22	4,965	1,710	1,291	1,548	1,493	2,610	1,617	15,039	29,357	25,452	21,145	14,702
23	4,644	1,710	1,312	1,461	1,450	2,465	1,605	16,451	29,442	25,452	20,953	14,510
24	4,238	1,769	2,188	1,407	1,191	1,967	1,515	17,738	29,357	25,375	20,761	14,416
25	3,910	1,757	2,640	1,386	1,322	1,818	1,560	18,812	29,272	25,300	20,505	14,229
26	3,635	2,004	1,605	1,261	1,450	1,781	1,628	19,763	29,016	25,224	20,319	13,951
27	3,407	1,793	1,941	1,271	1,281	1,675	1,617	20,381	28,760	25,074	20,070	13,676
28	3,090	1,806	1,617	1,291	1,302	1,617	1,916	21,342	28,423	24,998	19,884	13,407
29	2,821	1,769	2,108	1,386	---	1,675	2,069	22,965	27,923	24,848	19,642	13,140
30	2,625	1,734	1,428	1,560	---	1,640	2,188	23,460	27,593	24,773	19,461	12,880
31	2,714	---	2,017	1,333	---	1,571	---	23,245	---	24,697	19,280	---
Mean	5,892	1,938	1,622	3,460	1,511	1,684	1,819	10,138	26,261	25,732	22,185	15,747
Max	13,859	3,057	2,640	14,606	2,030	2,610	2,422	23,460	29,442	27,268	24,549	19,046
Min	2,625	1,651	1,291	1,240	1,191	1,312	1,439	1,605	23,035	24,697	19,280	12,880
Monthend elevation, in feet, at 2400 hours	1,084	1,074.5	1,082.1	1,076.4	1,071.4	1,073.3	1,075.9	1,137.9	1,143.5	1,140	1,131.8	1,119
Monthend contents, in acre-feet	3,025	1,710	2,729	1,941	1,364	1,364	1,879	23,105	27,349	24,622	19,163	12,706
Change in Contents, in acre-feet	-11,676	-1,315	+1,019	-788	-577	+207	+308	+21,226	+4,244	-2,727	-5,459	-6,457

	Calendar Year 2005	Water Year 2006
Mean	15,962	9,883
Max	33,533	29,442
Min	1,291	1,191
AC-FT	+647	-1,995