

NISQUALLY RIVER BASIN

12085000 ALDER RESERVOIR AT ALDER, WA

LOCATION.--Lat 46°48'09", long 122°18'37", in SE 1/4 NW 1/4 sec.9, T.15 N., R.4 E., Thurston County, Hydrologic Unit 17110015, near left end of Alder Dam on Nisqually River, 1.0 mi west of Alder, 1.7 mi upstream from La Grande Dam, 4.6 mi upstream from Mashel River, and at mile 44.2.

DRAINAGE AREA.--286 mi².

PERIOD OF RECORD.--November 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7.61 ft above sea level (levels by Tacoma Public Utilities). Prior to July 8, 1946, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-arch dam; storage began Nov. 7, 1944; dam completed in 1945. Usable capacity, 161,457 acre-ft (based on 1985 resurvey) between gage heights 1,114 ft, lower limit of operating range, and 1,207 ft, top of spillway gates. Unused storage below gage height 1,114 ft, 52,110 acre-ft. Crest of spillway is at gage height 1,177 ft. Figures given herein represent total contents. Water is used by City of Tacoma for power generation. Chemical analyses December 1973 to September 1983 (samples were taken near the dam).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 233,848 acre-ft Dec. 4, 1975, gage height, 1,207.68 ft; minimum contents since reservoir first filled, 74,200 acre-ft Nov. 26, 2000, gage height, 1,137.36 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 211,600 acre-ft June 30, July 2, gage height, 1,206.38 ft; minimum contents 74,200 acre-ft Nov. 26, gage height, 1,137.36 ft.

Capacity table (gage height, in feet, and total contents, in acre-feet)
(Based on project resurvey and maps provided by Tacoma Public Utilities in 1985)

1,143	80,474	1,170	120,736	1,200	192,544
1,150	89,003	1,180	141,570	1,207	213,570
1,160	103,084	1,190	164,970		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134600	96800	78200	84100	88400	98000	117200	148300	196900	211200	188800	163700
2	134700	95300	78600	84400	88500	98100	119000	151900	197700	211000	188000	162700
3	134000	93900	79000	84600	88600	98100	120500	154500	198400	210800	187200	161500
4	132900	92500	79300	85200	91600	97900	121500	156400	198600	211000	186100	160400
5	131800	91000	79200	86700	95000	97500	122200	158300	198900	210800	185200	159200
6	130400	90000	79400	88100	96900	97300	123200	159700	199300	210400	184200	157900
7	129000	89000	79100	89100	98200	97100	123700	161000	199600	209900	183500	156600
8	127500	88500	79000	89700	99200	97100	124300	162200	199800	209700	182700	155500
9	126100	88100	78700	90200	99800	97200	124600	163200	200400	209400	181900	154300
10	124500	87500	78400	90600	100200	97100	125200	164200	200900	209200	181200	153200
11	122900	86500	77700	90800	100400	97000	126100	165100	202200	208800	180400	152200
12	121100	85400	77400	90900	100500	96800	126700	166200	204000	208500	179700	151300
13	119400	84400	76800	91000	100600	96600	127100	167700	205600	208100	179000	150400
14	117700	83200	76600	91000	100300	96600	127400	169400	207000	207600	178400	149500
15	115900	82200	76800	90700	100300	96500	127700	172200	208000	206900	177800	148700
16	114300	81300	77400	90500	100800	96500	128100	175900	208700	206200	177200	147700
17	113200	80300	78800	90200	101000	96300	128800	178500	209400	204900	176600	146800
18	112300	79000	79100	90000	101100	96600	129500	180400	209700	203700	175800	145800
19	111200	77900	78700	89700	101100	99300	130400	181800	209500	202600	174500	144600
20	111700	76900	78800	89600	101000	101200	131000	183000	209500	201300	173400	143400
21	111600	76200	78600	89700	100800	102400	131400	184000	209900	200400	172000	142300
22	110800	75500	78800	90100	100600	103300	131800	185300	210000	199400	171700	141100
23	109700	74900	79600	90200	100200	104000	132300	187200	210300	198400	171800	140100
24	108500	74600	80800	90200	99900	104500	132700	189200	210300	197500	171000	138900
25	107000	74200	81500	90100	99500	106300	133400	191000	210200	196500	169900	138100
26	105400	74500	81700	89900	99200	108300	134600	192400	209900	195400	169000	137100
27	103800	76500	82200	89600	98700	109900	136400	193600	210600	194400	168100	136000
28	102800	77200	82600	89300	98200	111600	137900	194800	211000	193600	167100	134600
29	101400	77400	82900	89100	---	112900	139500	195500	211200	192400	166400	133400
30	99800	77800	83300	88800	---	113900	143700	195900	211200	191200	165600	132000
31	98200	---	83800	88700	---	115300	---	196100	---	189800	164600	---
MAX	134700	96800	83800	91000	101100	115300	143700	196100	211200	211200	188800	163700
MIN	98200	74200	76600	84100	88400	96300	117200	148300	196900	189800	164600	132000
†	1156.94	1140.76	1145.66	1149.74	1156.89	1167.17	1180.98	1202.20	1206.26	1199.09	1189.86	1175.58
‡	-33500	-20400	+6000	+4900	+9500	+17100	+28400	+52400	+15100	-21400	-25200	-32600

CAL YR 2000 MAX 212600 MIN 74200 ‡ -95900
WTR YR 2001 MAX 211200 MIN 74200 ‡ +300

† Gage Height, in feet, at end of month.
‡ Change in contents, in acre-feet.