

12086500 NISQUALLY RIVER AT LA GRANDE, WA

Puget Sound Basin
Nisqually Subbasin

LOCATION.--Lat 46°50'37", long 122°19'46" referenced to North American Datum of 1927, in NW ¼ SE ¼ sec.29, T.16 N., R.4 E., Pierce County, WA, Hydrologic Unit 17110015, on right bank 0.4 mi downstream from Tacoma Public Utilities powerplant, 0.6 mi northwest of La Grande, 0.8 mi upstream from Mashel River, and at mile 40.4.

DRAINAGE AREA.--292 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1906 to October 1911, November to December 1911 (gage heights only), October 1919 to September 1931, October 1943 to current year. Monthly discharge only for some periods, published in WSP 1316. Published as "below Little Nisqually River, near La Grande" September 1906 to October 1911, and as "near La Grande" November to December 1911 and October 1919 to September 1931.

REVISED RECORDS.--WSP 1216: Drainage area. WSP 1316: 1927-28(M), 1949-50. WRD WA-74: 1956(M), 1959-61(M), 1965.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 490 ft above NGVD of 1929, from river-profile map. See WSP 1932 for history of changes prior to Feb. 8, 1945.

REMARKS.--Records good. Flow regulated by Tacoma Public Utilities powerplant at La Grande since December 1943, by Alder Reservoir (station 12085000) since November 1944, and by La Grande Reservoir (station 12085500) since February 1945. All diversions returned to river upstream from gage. U.S. Geological Survey satellite telemeter at station. Chemical analyses October 1972 to September 1985. Water temperatures October 1965 to September 1982.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--81 years (water years 1907-11, 1920-31, 1944-2007), 1,433 ft³/s, 66.64 in/yr, 1,038,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,500 ft³/s, Feb. 8, 1996, gage height, 15.30 ft, from rating curve extended above 5,300 ft³/s, and computed flow over dam as provided by Tacoma Public Utilities; practically no flow on many days at site "near La Grande" (which excluded diversion between 1920 and 1930) as a result of regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,620 ft³/s, Mar. 24, gage height, 8.07 ft; minimum discharge, 495 ft³/s, June 20, gage height, 2.82 ft, minimum daily discharge 629 ft³/s, Sept. 10.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	794	828	2,420	2,720	1,290	1,900	2,510	1,240	1,130	1,050	804	720
2	806	1,020	2,410	4,050	1,290	1,890	2,540	1,190	1,080	1,030	734	726
3	815	1,150	2,410	5,270	1,290	1,890	2,520	1,200	1,100	1,010	739	722
4	811	1,130	2,410	5,590	1,300	1,890	2,520	1,200	1,100	1,060	748	719
5	807	1,190	2,400	6,140	1,300	1,890	2,530	1,190	1,110	1,100	743	715
6	805	1,340	2,400	5,380	1,290	1,880	2,540	1,190	1,110	1,100	751	714
7	811	6,060	2,400	4,170	1,290	2,060	2,530	1,190	1,120	1,090	733	695
8	810	5,870	2,400	3,130	1,290	2,250	2,540	1,190	1,100	1,090	710	635
9	806	4,110	2,400	2,490	1,290	2,610	2,530	1,120	1,110	1,070	706	632
10	807	4,370	2,410	2,480	1,290	3,230	2,530	1,120	1,100	1,070	708	629
11	808	4,780	2,430	2,490	1,290	3,340	2,510	1,110	1,080	1,110	704	633
12	807	4,770	2,450	2,450	1,300	3,690	2,520	1,120	1,090	1,110	711	633
13	807	5,810	2,450	2,450	1,350	3,820	2,530	1,110	1,090	1,090	717	636
14	807	6,950	3,240	2,450	1,330	2,780	2,540	1,120	1,090	1,110	709	633
15	886	5,910	5,710	2,440	1,310	2,490	2,540	1,130	1,100	1,110	705	638
16	949	4,330	4,570	2,430	1,330	2,400	2,540	1,170	1,100	1,110	700	643
17	915	2,590	4,540	2,410	1,320	2,420	2,550	1,160	1,080	1,110	702	635
18	799	2,440	4,120	2,430	1,310	2,420	2,540	1,170	1,070	1,090	709	632
19	931	3,140	2,820	2,460	1,310	2,410	1,880	1,170	1,080	1,080	704	633
20	1,070	3,840	2,550	2,470	1,510	2,420	1,520	1,180	1,070	1,070	708	637
21	1,130	3,290	2,550	2,450	1,690	2,430	1,500	1,180	1,100	1,060	701	639
22	1,020	3,060	2,570	2,430	1,680	2,420	1,500	1,170	1,110	1,070	714	636
23	1,010	2,500	2,550	2,460	1,660	2,410	1,500	1,180	1,120	1,050	712	633
24	878	2,430	2,490	2,440	1,670	4,520	1,490	1,150	1,110	1,080	712	642
25	826	2,440	2,510	2,460	1,670	6,910	1,490	1,150	1,100	1,090	718	634
26	824	2,440	2,560	1,600	1,660	5,220	1,500	1,180	1,070	1,050	719	631
27	825	2,420	2,550	1,310	1,640	3,780	1,490	1,180	1,040	1,000	713	632
28	827	2,410	2,480	1,310	1,760	2,820	1,480	1,190	1,020	1,010	717	640
29	825	2,410	2,480	1,300	---	2,600	1,490	1,190	1,050	1,000	716	639
30	828	2,400	2,490	1,290	---	2,570	1,490	1,200	1,050	997	714	636
31	830	---	2,450	1,290	---	2,540	---	1,210	---	995	724	---
Total	26,674	97,428	86,620	86,240	39,710	87,900	63,890	36,250	32,680	33,062	22,305	19,622
Mean	860	3,248	2,794	2,782	1,418	2,835	2,130	1,169	1,089	1,067	720	654
Max	1,130	6,950	5,710	6,140	1,760	6,910	2,550	1,240	1,130	1,110	804	726
Min	794	828	2,400	1,290	1,290	1,880	1,480	1,110	1,020	995	700	629
Ac-ft	52,910	193,200	171,800	171,100	78,760	174,300	126,700	71,900	64,820	65,580	44,240	38,920
Mean adjusted for change in contents in Alder and La Grande Reservoirs	302	4,618	3,093	2,246	1,687	3,156	1,533	1,204	959	777	458	317
CFSM adjusted for change in contents in Alder and La Grande Reservoirs	1.03	15.82	10.59	7.69	5.78	10.81	5.25	4.12	3.28	2.66	1.57	1.09
In. adjusted for change in contents Alder and La Grande Reservoirs	1.19	17.64	12.21	8.87	6.01	12.46	5.86	4.75	3.66	3.07	1.81	1.21
Ac-ft adjusted for change in contents Alder and La Grande Reservoirs	---	---	---	---	---	---	---	---	---	---	---	---

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	Calendar Year 2006	Water Year 2007
Total	667,549	632,381
Mean	1,829	1,733
Max	12,800	6,950
Min	743	629
Ac-ft	1,324,000	1,254,000
Mean adjusted for change in contents in Alder and La Grande Reservoirs	1,856	1,693
CFSM adjusted for change in contents in Alder and La Grande Reservoirs	6.36	5.80
In. adjusted for change in contents Alder and La Grande Reservoirs	86.30	78.72
Ac-ft adjusted for change in contents Alder and La Grande Reservoirs	1,344,000	1,226,000

