

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 97-7380

Exam Date: 1/20/2009

1. Current Owner: IDAHO WATER RESOURCE BOARD
PO BOX 83720
BOISE ID 83720-0098
(208)287-4800

2. SOURCE

PRIEST RIVER

TRIBUTARY

PEND OREILLE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point of diversion: None*

*The ending of reach point for this right is at the mouth of the Priest River which is tributary to the Pend Oreille River in the reach with a minimum stream flow appropriated under water right no. 96-8730.

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

PRIEST RIVER L5 (NE¼SE¼NE¼) Sec. 28, Twp 58N, Rge 04W, B.M. BONNER County
(Beginning of Reach)

PRIEST RIVER L6 (SW¼NW¼) Sec. 30, Twp 56N, Rge 04W, B.M. BONNER County
(Ending of Reach)

Method of Determination: GIS, Satellite Imagery

2. N/A Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater. (Attachment A)
- X Aerial Photo Attached (required for irrigation of 10+ acres). (Attachment B)
- N/A Photo of Diversion and System Attached

3.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
N/A					

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
N/A						

2. Measurements:

Through September 24, 2008, USGS staff have completed 716 stream flow measurements for the Priest River near Priest River, ID stream gaging station. The gaging station is located approximately 0.4 mile downstream from the confluence with Lower West Branch and approximately 2.7 miles upstream from Priest River, ID. The period of record at this site is from June 1903 to April 1905, November 1910 to April 1911, May to December 1923, and February 1929 to present. Water-Data Report 2007 (Attachment C) describes mean daily discharge data, maximum flows, minimum flows, and historical records. The period of record critical for review of this minimum stream flow permit is from water year 1950 to present, the period of contemporary upstream control conditions due to regulation of Priest Lake.

E. FLOW CALCULATIONS

_____Additional Computation Sheets Attached

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: Minimum Stream Flow, non-consumptive use
No annual volume limitation required

G. NARRATIVE/REMARKS/COMMENTS

Permit no. 97-7380 should be licensed as permitted based on the findings of fact, conclusions of law, and order set forth in the Final Order dated December 3, 1998, and USGS stream flow records in Attachment C. These records show that the minimum stream flow is capable of being maintained and exceeded 100% of the time based on mean monthly flow data from 1950 to present (Attachment D).

The permitted beginning of reach point is described as NE¼SE¼NE¼ Sec. 28, Twp 58N, Rge 04W, the confluence of the East River and the Priest River. Based on available satellite imagery and public land survey system data, this confluence point is more accurately described as Lot 5 (NE¼SE¼NE¼) Sec. 28, Twp 58N, Rge 04W.

The permitted ending of reach point is described as SW¼NW¼ Sec. 30, Twp 56N, Rge 04W, at the confluence of the Priest River and the Pend Oreille River. Based on available satellite imagery and public land survey system data, this confluence point is more accurately described as Lot 6 (SW¼NW¼) Sec. 30, Twp 56N, Rge 04W.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

BENEFICIAL USE	PERIOD OF USE	DIVERSION RATE	ANNUAL VOLUME
MINIMUM STREAM FLOW	04/01 to 06/30	1,500 CFS	N/A
MINIMUM STREAM FLOW	07/01 to 07/31	700 CFS	N/A
MINIMUM STREAM FLOW	08/01 to 10/31	300 CFS	N/A
MINIMUM STREAM FLOW	11/01 to 03/31	700 CFS	N/A

Totals: 1,500 CFS

2. Recommended Amendments

___Change P.D. as reflected above ___Add P.D. as reflected above ☒None

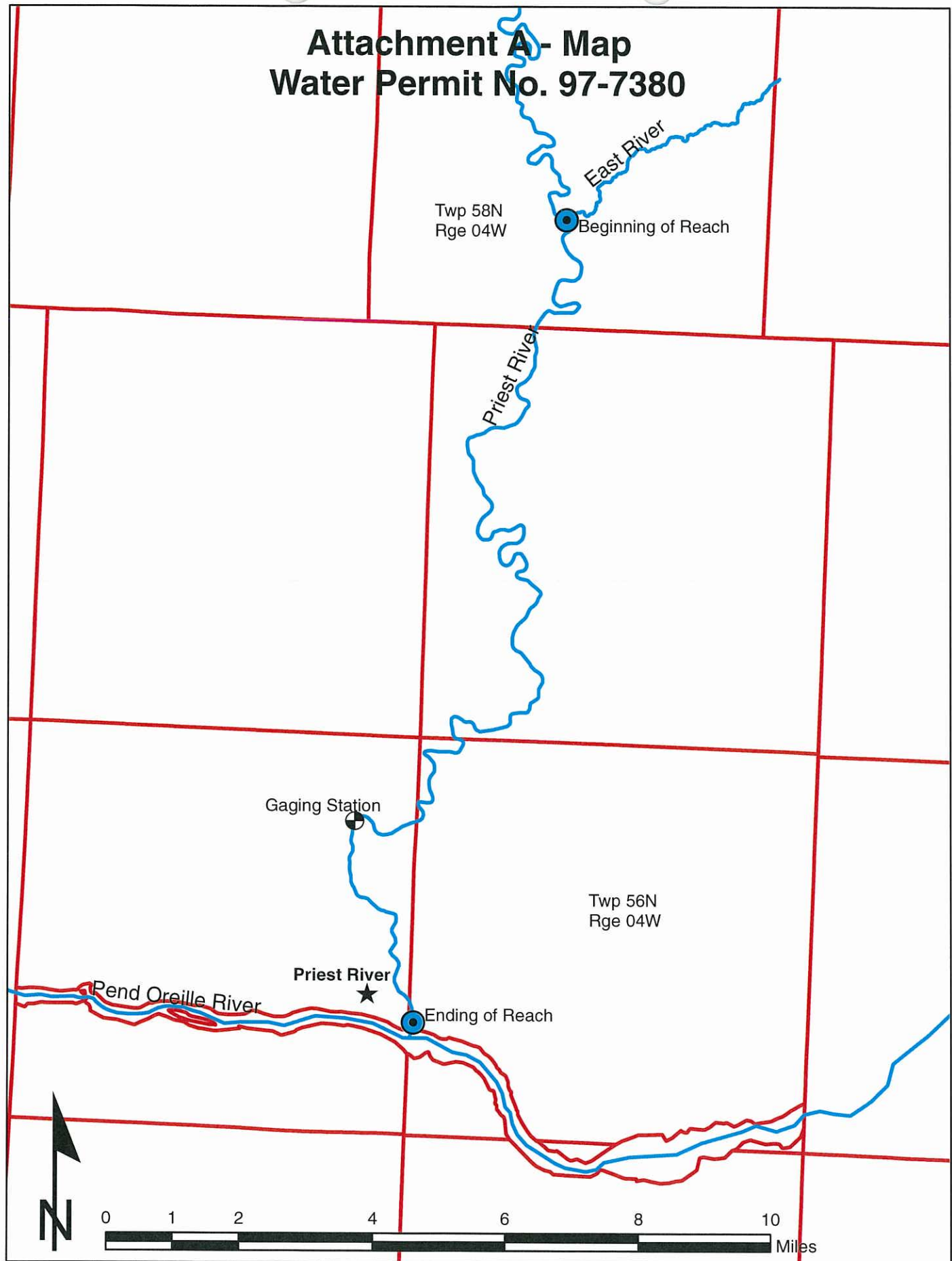
___Change P.U. as reflected above ___Add P.U. as reflected above ___Other

I. AUTHENTICATION

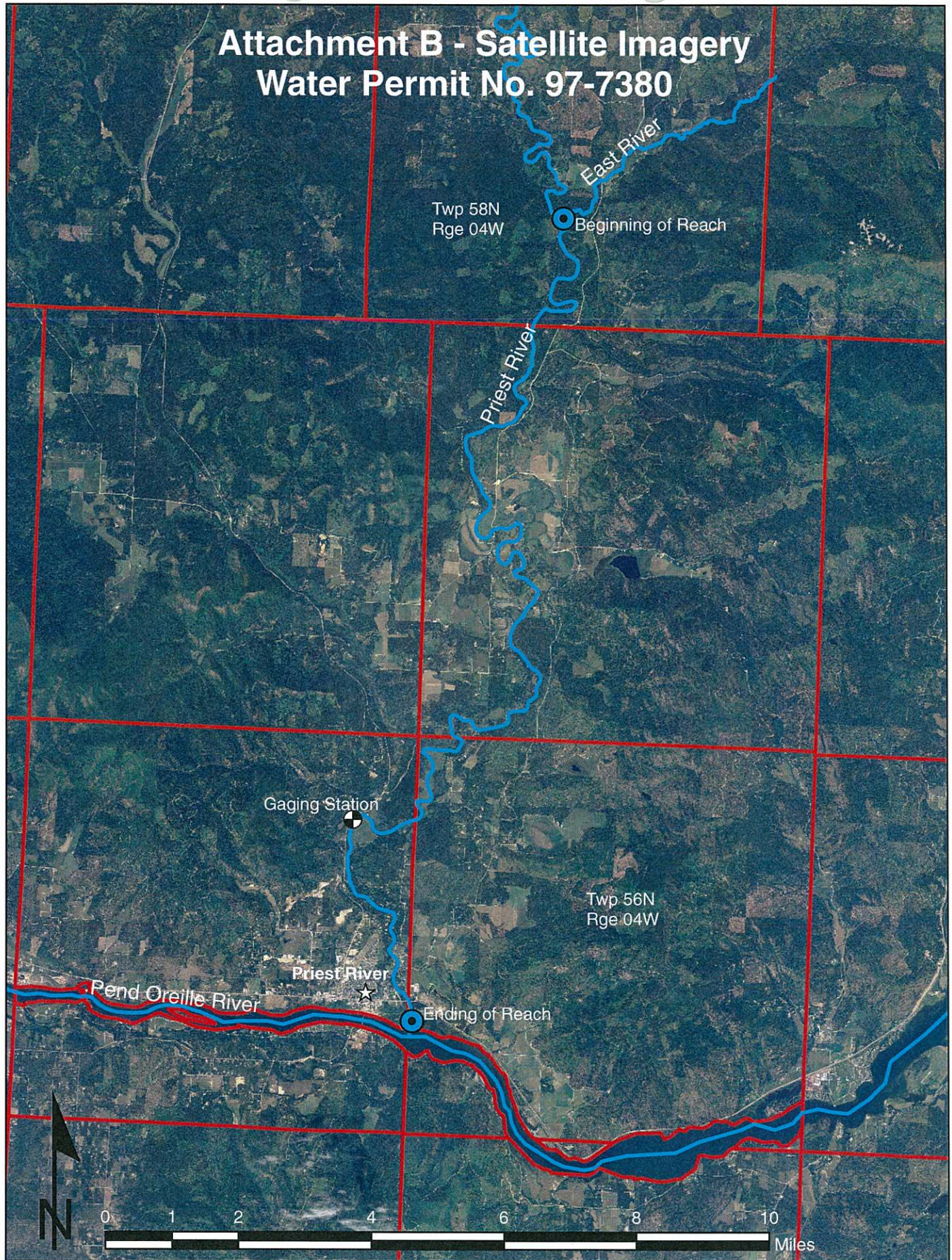
Field Examiner's Name Aaron Marshall Date 01/20/2009

Reviewer _____ Date _____

Attachment A- Map Water Permit No. 97-7380



Attachment B - Satellite Imagery Water Permit No. 97-7380



Water-Data Report 2007

12395000 PRIEST RIVER NEAR PRIEST RIVER, IDPend Oreille Basin
Priest Subbasin

LOCATION.--Lat 48°12'31", long 116°54'49" referenced to North American Datum of 1927, in NW ¼ SW ¼ NW ¼ sec.12, T.56 N., R.5 W., Bonner County, ID, Hydrologic Unit 17010215, Priest River quad., on right bank, 500 ft downstream from Saddler Creek, 0.4 mi downstream from Lower West Branch, 2.7 mi north of Priest River, and at mile 3.8.

DRAINAGE AREA.--902 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1903 to April 1905, November 1910 to April 1911, May to December 1923, February 1929 to current year. Prior to October 1930, published as "at Priest River."

REVISED RECORDS.--WSP 572: 1903-5.

GAGE.--Water-stage recorder. Elevation of gage is 2,090 ft above NGVD of 1929, from river-profile map. Prior to May 15, 1929, and Sept. 18, 1929 to Apr. 28, 1930, nonrecording gages at site 3 mi downstream at elevation of about 40 ft lower. June 4 to Sept. 17, 1929, and Apr. 29 to Sept. 11, 1930, nonrecording gages at or near present site at present datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Station equipment includes satellite telemetry. Some regulation on tributaries and, since Aug. 9, 1950, flow partly regulated by Priest Lake (see sta 12393000).

EXTREMES FOR PERIOD OF RECORD.--

UNREGULATED PERIOD (1913-49): Maximum discharge prior to regulation by Priest Lake, 10,500 ft³/s May 29, 30, 1948; maximum gage height, 8.97 ft, May 29, 1948; minimum daily, 191 ft³/s Jan 7, 1937.

REGULATED PERIOD (1950 to current year): Maximum discharge since regulation began, 10,800 ft³/s May 18, 1997, gage height, 9.13 ft; minimum, 150 ft³/s Nov. 29, 1979, gage height, 0.38 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,260 ft³/s Mar. 26, 27, gage height, 5.65 ft; minimum daily, 176 ft³/s Sept. 14-18.

12395000 PRIEST RIVER NEAR PRIEST RIVER, ID—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	182	1,110	1,310	838	e680	854	4,680	3,620	2,960	1,040	308	205
2	180	1,050	1,270	856	449	820	4,590	3,740	3,580	1,030	306	197
3	180	1,060	1,220	976	e340	836	4,440	3,920	3,570	1,020	306	191
4	181	1,090	1,180	1,010	358	835	4,270	3,960	3,560	1,000	306	191
5	184	1,210	1,150	961	356	842	4,120	4,020	3,700	996	306	190
6	184	1,330	1,110	964	355	868	3,980	3,970	3,690	993	306	186
7	182	1,900	1,090	955	340	901	3,900	3,900	3,640	988	272	182
8	180	2,190	1,060	970	308	930	3,850	3,880	3,590	980	231	179
9	182	1,940	1,030	959	316	954	3,940	3,950	3,310	663	209	179
10	456	1,870	1,020	957	321	969	4,120	4,100	2,520	553	205	180
11	810	2,020	998	e880	332	1,320	4,120	4,240	2,500	403	203	180
12	1,160	1,890	1,090	e800	388	2,190	4,060	4,360	2,450	372	202	181
13	1,340	1,900	1,140	e780	431	2,670	3,970	4,490	2,430	362	197	178
14	1,340	1,830	1,140	e800	424	2,720	3,930	4,580	2,410	360	196	176
15	1,430	1,720	1,300	e800	442	2,460	3,950	4,620	2,390	356	194	176
16	2,090	1,770	1,210	e820	472	2,330	3,890	4,630	2,300	350	194	176
17	2,150	1,720	1,080	e820	604	2,260	3,850	4,670	1,860	344	192	176
18	2,470	1,620	e1,020	e820	652	2,310	3,800	4,720	1,840	343	191	176
19	2,460	1,550	1,000	e840	672	2,410	3,720	4,800	1,770	354	198	183
20	2,340	1,670	978	e840	742	2,930	3,640	4,820	1,460	343	225	186
21	2,230	1,700	965	e840	746	3,250	3,560	4,770	1,440	341	218	191
22	2,090	1,640	959	840	906	3,130	3,500	4,700	1,420	335	209	191
23	1,980	1,700	934	845	905	3,090	3,450	4,560	1,410	328	205	192
24	1,850	1,660	920	840	881	3,360	3,400	4,290	1,400	323	200	200
25	1,740	1,580	926	814	892	4,500	3,400	3,690	1,350	323	195	192
26	1,620	1,520	921	773	880	5,210	3,420	2,920	1,070	323	191	191
27	1,520	1,510	947	747	867	5,220	3,420	2,880	1,050	321	194	188
28	1,420	1,450	951	e720	872	5,050	3,430	2,990	1,040	319	193	189
29	1,350	1,350	907	e720	---	4,860	3,480	2,940	1,040	316	191	193
30	1,270	1,330	869	e700	---	4,730	3,540	2,910	1,050	314	191	195
31	1,190	---	842	e690	---	4,670	---	2,890	---	311	199	---
Total	37,941	47,880	32,537	26,175	15,931	79,479	115,420	124,530	67,800	16,404	6,933	5,590
Mean	1,224	1,596	1,050	844	569	2,564	3,847	4,017	2,260	529	224	186
Max	2,470	2,190	1,310	1,010	906	5,220	4,680	4,820	3,700	1,040	308	205
Min	180	1,050	842	690	308	820	3,400	2,880	1,040	311	191	176
Ac-ft	75,260	94,970	64,540	51,920	31,600	157,600	228,900	247,000	134,500	32,540	13,750	11,090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1949, BY WATER YEAR (WY) (UNREGULATED)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	448	642	812	806	734	1,006	2,486	4,737	3,632	1,448	619	424
Max	1,230	1,785	2,574	2,742	1,884	2,008	4,452	7,422	6,635	2,503	1,117	721
(WY)	(1948)	(1948)	(1942)	(1934)	(1934)	(1934)	(1934)	(1946)	(1948)	(1933)	(1948)	(1941)
Min	253	227	293	284	360	459	958	2,712	1,611	751	372	266
(WY)	(1937)	(1937)	(1937)	(1937)	(1936)	(1937)	(1929)	(1930)	(1930)	(1940)	(1940)	(1931)

12395000 PRIEST RIVER NEAR PRIEST RIVER, ID—Continued

SUMMARY STATISTICS

Water Years 1913 - 1949		
Annual mean	^a 1,503	
Highest annual mean	2,217	
Lowest annual mean	824	
Highest daily mean	10,400	May 29
Lowest daily mean	191	Jan 7
Annual seven-day minimum	215	Nov 30
Annual runoff (ac-ft)	1,089,000	
10 percent exceeds	3,960	
50 percent exceeds	780	
90 percent exceeds	333	

^a Statistics 1913-1949 are prior to regulation by Priest Lake.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2007, BY WATER YEAR (WY)

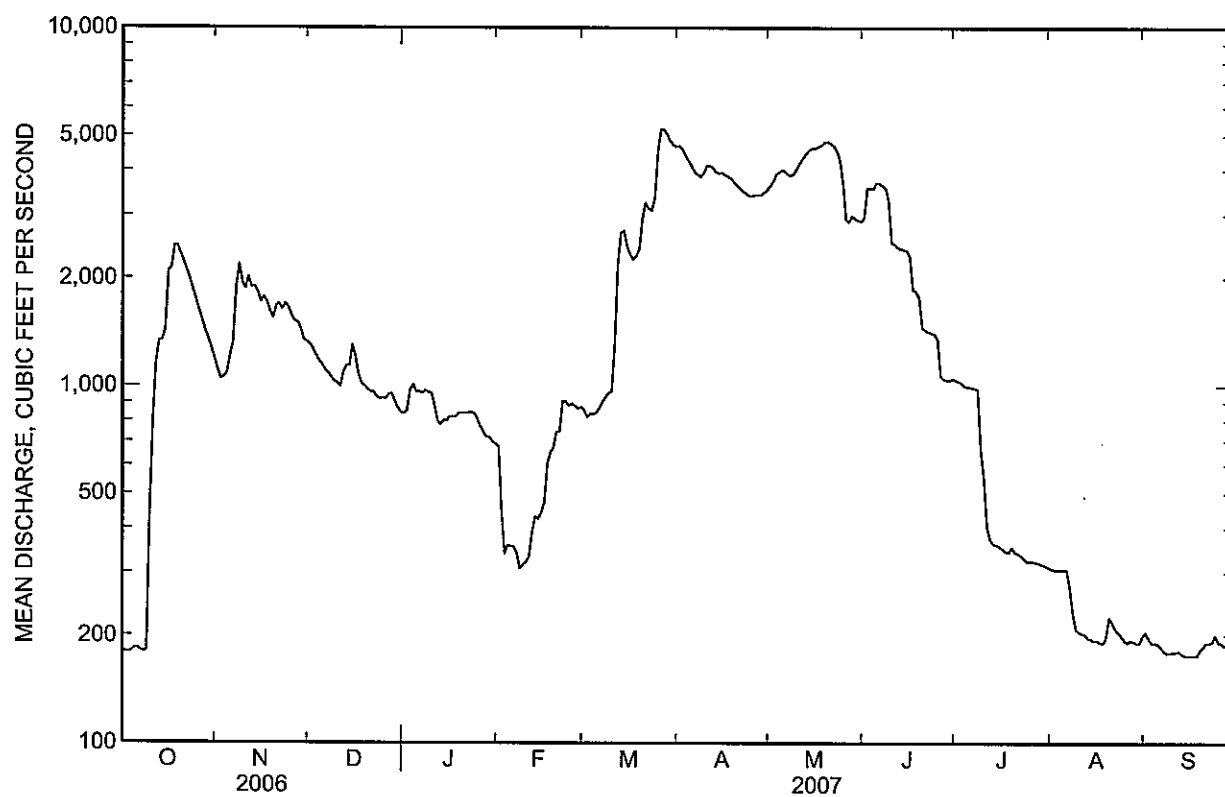
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,118	1,274	1,015	933	1,020	1,418	2,687	4,779	4,123	1,259	462	398
Max	1,768	2,951	2,612	2,960	2,794	3,629	4,250	8,405	8,528	3,144	1,026	1,350
(WY)	(1998)	(1984)	(1996)	(1974)	(1951)	(1982)	(1997)	(1997)	(1974)	(1974)	(1983)	(1959)
Min	426	473	357	310	350	374	810	1,563	1,167	399	206	173
(WY)	(1950)	(2003)	(1993)	(1993)	(1985)	(2001)	(1977)	(1977)	(1992)	(1977)	(1994)	(2001)

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1950 - 2007	
Annual total	735,488		^b 576,620			
Annual mean	2,015		1,580		1,708	
Highest annual mean					2,947	
Lowest annual mean					711	
Highest daily mean	8,420	May 24	5,220	Mar 27	10,700	May 18, 1997
Lowest daily mean	180	Oct 2	176	Sep 14	160	Feb 6, 1989
Annual seven-day minimum	182	Oct 2	177	Sep 12	163	Sep 15, 2001
Annual runoff (ac-ft)	1,459,000		1,144,000		1,237,000	
10 percent exceeds	4,970		3,950		4,300	
50 percent exceeds	1,370		1,010		1,080	
90 percent exceeds	289		192		325	

^b Statistics from 1950 to Current Year are since regulation by Priest Lake.

12395000 PRIEST RIVER NEAR PRIEST RIVER, ID—Continued



ATTACHMENT D USGS 12395000 PRIEST RIVER NEAR PRIEST RIVER ID

Discharge, cubic feet per second (Calculation Period: 1949-10-01 -> 2007-09-30)												
	Mean Monthly Discharge for USGS 12395000* and Water Right No. 97-7380 Minimum Stream Flow values											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Discharge	933	1,020	1,418	2,687	4,779	4,123	1,259	462	398	1,118	1,274	1,015
Minimum Stream Flow	700	700	700	1,500	1,500	1,500	700	300	300	300	700	700

*Mean monthly data downloaded from USGS web site for available period of record at gaging station under contemporary control conditions

Mean Monthly Discharge vs. Minimum Stream Flow

