

# PacifiCorp Energy

Hydro Resources Department

Discharge Measurements Summary - Water Year 2011

Measurements for Station: Rainbow Inlet Canal near Dingle, ID (10046000)

No.	Date	Made by: (Initials)	Width (feet)	Area (sq. ft.)	Mean velocity (feet per second)	Gage height (feet)	Discharge (cfs)	Shift adj. (feet)	Black Otter Slough Flow (CFS)*	Method	# Meas. Sect.	Gage height chg. (feet)	Time (hr)	Remarks
	8/21/2010	JJ	68	78		1.72	81	-0.54	5	0.6	18			wading measurement below dam
	10/16/2010	JJ				1.53	94	-0.29	10					wading measurement below dam
	10/29/2010	JJ				1.77	146	-0.37	10					wading measurement below dam
	12/4/2010	SP				1.94	141	-0.56	10					wading measurement below dam
	1/19/2011	SP				2.08	136	-0.70	15					wading measurement ICE-AFFECTED
	3/10/2011	JJ				1.75	172	-0.25	15					wading measurement below dam
	4/5/2011	SP				4.05	1322	-0.38	0					cableway measurement
	4/13/2011	SP				4.93	1968	-0.60	0					cableway measurement
	4/20/2011	JJ				5.43	2092	-0.99	0					cableway measurement
	5/5/2011	JJ				4.78	1727	-0.66	0					cableway measurement
	5/16/2011	JJ				5.86	2582	-1.05	0					cableway measurement
	5/28/2011	JJ				6.36	2989	-1.27	0					cableway measurement
	6/5/2011	SP				6.07	2819	-1.10	0					cableway measurement
	6/20/2011	SP				6.44	3180	-1.23	0					cableway measurement
	6/26/2011	JJ				6.82	3586	-1.41	0					cableway measurement
	7/12/2011	JJ				6.8	3654	-1.36	0					cableway measurement
	7/19/2011	SP				6.34	3194	-1.12	0					cableway measurement
	8/8/2011	JJ				3.6	801	-0.68	0					cableway measurement
	9/4/2011	JJ				2.65	376	-0.59	10					wading measurement below dam
	10/5/2011	SP				2.42	212	-0.82	5					wading measurement below dam

Notes: \* Record the Black Otter Slough flow ONLY when wading measurements are taken. Left as ZERO when measurement is from Cableway.

## RAINBOW INLET CANAL NEAR DINGLE, ID (10046000)

### STREAMFLOW RECORDS FOR WATER YEAR 2011

LOCATION.--Lat 42°13'48", long 111°17'43" referenced to North American Datum of 1927, in NW ¼ SW ¼ SE ¼ sec.3, T.14 S., R.44 E., BEAR LAKE County, Hydrologic Unit 16010201, on right bank 1.5 mi west of Dingle and 1.8 mi downstream from headworks at Stewart Dam.

PERIOD OF RECORD.--October 2006 to current year published by PacifiCorp. January 1922 to September 2006 published in United States Geological Survey Water-Data Reports. Monthly discharge only prior to October 1945, published in United States Geological Survey WSP 1314.

GAGE.--Water-stage recorder. Elevation of gage datum is 5,922.0 ft above NGVD of 1929, (by topographic survey). Prior to October 1, 1923, at site 300 ft downstream at different datum; October 1, 1923 to October 27, 1944, at site 0.5 mi downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Canal diverts from Bear River at Stewart Dam in NE¼ sec. 34, T.013 S., R.0 44 E., for storage in Bear Lake. At times flow in canal is augmented by surplus water from Black Otter Slough entering at the station and by seepage and surplus water from irrigation. Flow contributions from Black Otter Slough is included in the values below.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,950 ft³/s, May 27, 1984; no flow Apr 28, 1977 and Oct 1, 1979.

DISCHARGE MEASUREMENT DATES.-- 8-21-10, 10-16-10, 10-29-10, 12-4-10, 1-19-11, 3-10-11, 4-5-11, 4-13-11, 4-20-11, 5-5-11, 5-16-11, 5-28-11, 6-5-11, 6-20-11, 6-26-11, 7-12-11, 7-19-11, 8-8-11, 9-4-11, 10-5-11.

#### Rainbow Inlet Canal near Dingle, ID (10046000) Water Year 2011 (October 2010 to September 2011) Daily Mean Values

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
1	4.34	157	189	166	194	184	385	1610	3030	3530	969	350	
2	3.84	159	181	168	207	178	540	1620	2920	3440	957	350	
3	4.46	162	167	164	201	168	776	1640	2830	3380	922	340	
4	5.03	172	148	155	162	163	1170	1660	2760	3280	886	376	
5	6.6	173	138	149	119	182	1310	1710	2800	3240	849	392	
6	9.94	167	137	146	100	179	1390	1700	2810	3310	819	408	
7	73.9	170	138	143	93.9	178	1480	1730	2820	3490	794	441	
8	81.5	167	139	137	116	185	1540	1860	2880	3570	775	458	
9	66.3	155	144	133	117	183	1590	2070	3030	3580	745	458	
10	62.1	142	144	139	108	185	1630	2240	3260	3690	711	458	
11	63.3	131	137	145	104	186	1690	2350	3350	3690	675	458	
12	68.6	118	129	141	104	188	1840	2400	3330	3640	643	458	
13	75.5	105	122	140	106	191	1970	2380	3280	3710	617	288	
14	90.1	115	117	135	107	192	1940	2380	3160	3690	586	278	
15	99.4	114	123	130	119	194	1850	2460	3070	3580	554	268	
16	95.9	109	140	114	119	200	1800	2560	3020	3500	484	268	
17	94	112	137	96	183	242	1830	2850	2960	3390	460	268	
18	92.3	114	120	87.5	169	287	1960	2870	2960	3270	442	278	
19	91.4	110	115	91.2	144	283	2140	2760	3060	3190	426	288	
20	91.6	120	131	139	127	273	2080	2710	3180	3090	410	290	
21	91.4	120	144	138	127	264	2020	2630	3220	2970	398	290	
22	93.8	114	147	120	150	255	2000	2580	3280	2870	390	290	
23	95.3	126	140	151	150	289	2020	2640	3390	2770	382	240	
24	105	166	147	151	142	297	1950	2770	3470	2700	368	250	
25	124	119	179	132	173	321	1850	2900	3510	2580	362	250	
26	134	139	189	116	203	359	1660	2920	3580	2400	352	250	
27	151	156	166	111	193	359	1530	3000	3690	2020	343	190	
28	155	159	144	125	191	346	1520	2990	3730	1510	335	225	
29	158	154	147	119		337	1520	3060	3730	1250	332	220	
30	153	160	155	107		329	1560	3120	3670	1110	335	210	
31	154		160	110		332		3100		1020	350		
Monthly Statistics													
Total	2,595	4,185	4,514	4,099	4,029	7,509	48,541	75,270	95,780	92,460	17,671	9,588	<b>366,240</b>
Mean	84	140	146	132	144	242	1,620	2,430	3,190	2,980	570	320	<b>1,000</b>
Min	4	105	115	88	94	163	385	1,610	2,760	1,020	332	190	<b>4</b>
Max	158	173	189	168	207	359	2,140	3,120	3,730	3,710	969	458	<b>3,730</b>
Ins. Min	4	101	109	86	88	159	356	1,600	2,730	975	331	190	<b>4</b>
Ins. Max	159	185	196	173	235	365	2,180	3,940	3,760	3,780	989	467	<b>3,940</b>
Ac-ft	5,150	8,300	8,950	8,130	7,990	14,890	96,280	149,300	189,980	183,390	35,050	19,020	<b>726,430</b>

# PacifiCorp Energy

Rainbow Inlet Canal near Dingle, ID (10046000)

## Rating Table

Gage Height in Feet - Discharge in Cubic Feet Per Second

Gage Height	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.5	0	0	0	0	0	0	0	0	0	1.25
0.6	1.4	1.56	1.74	1.94	2.15	2.38	2.64	2.92	3.22	3.55
0.7	3.91	4.29	4.71	5.17	5.66	6.18	6.75	7.37	8.03	8.74
0.8	9.51	11.2	12.2	13.3	14.5	15.8	17.3	18.8	20.4	22.1
0.9	24	26	28.2	30.5	33	35.6	38.4	41.4	44.6	48
1.0	51.7	49.3	51	52.8	54.6	56.5	58.4	60.3	62.3	64.4
1.1	66.5	68.6	70.8	73.1	75.4	77.7	80.2	82.6	85.1	87.7
1.2	90.3	93	95.7	98.5	101	104	107	110	113	116
1.3	120	123	126	130	133	137	140	144	148	151
1.4	155	159	163	167	171	176	180	184	189	193
1.5	186	189	192	195	198	201	204	207	210	213
1.6	217	220	223	226	229	233	236	239	243	246
1.7	249	253	256	260	263	267	270	274	278	281
1.8	285	289	292	296	300	304	308	311	315	319
1.9	323	327	331	335	339	343	347	352	356	360
2.0	361	365	369	373	377	380	384	388	392	396
2.1	400	404	408	412	416	421	425	429	433	437
2.2	441	446	450	454	458	463	467	471	476	480
2.3	485	489	493	498	502	507	511	516	521	525
2.4	530	535	539	544	549	553	558	563	568	572
2.5	577	582	587	592	597	602	607	612	617	622
2.6	627	632	637	642	647	652	658	663	668	673
2.7	679	684	689	695	700	705	711	716	722	727
2.8	733	738	744	749	755	760	766	772	777	783
2.9	789	794	800	806	812	817	823	829	835	841
3.0	842	848	855	861	867	874	880	886	893	899
3.1	906	912	919	925	932	938	945	952	958	965
3.2	972	979	985	992	999	1010	1010	1020	1030	1030
3.3	1040	1050	1050	1060	1070	1080	1080	1090	1100	1100
3.4	1110	1120	1130	1130	1140	1150	1160	1160	1170	1180
3.5	1190	1190	1200	1210	1220	1220	1230	1240	1250	1250
3.6	1260	1270	1280	1290	1290	1300	1310	1320	1330	1330
3.7	1340	1350	1360	1370	1370	1380	1390	1400	1410	1420
3.8	1420	1430	1440	1450	1460	1470	1470	1480	1490	1500
3.9	1510	1520	1530	1530	1540	1550	1560	1570	1580	1590
4.0	1600	1600	1610	1620	1630	1640	1650	1660	1670	1680
4.1	1700	1710	1720	1730	1740	1750	1760	1770	1780	1800
4.2	1810	1820	1830	1840	1850	1860	1870	1890	1900	1910
4.3	1920	1930	1940	1960	1970	1980	1990	2000	2020	2030
4.4	2040	2050	2060	2080	2090	2100	2110	2130	2140	2150

<b>Gage Height</b>	<b>0.00</b>	<b>0.01</b>	<b>0.02</b>	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>	<b>0.06</b>	<b>0.07</b>	<b>0.08</b>	<b>0.09</b>
4.5	2160	2180	2190	2200	2210	2230	2240	2250	2270	2280
4.6	2290	2300	2320	2330	2340	2360	2370	2380	2400	2410
4.7	2420	2440	2450	2470	2480	2490	2510	2520	2530	2550
4.8	2560	2580	2590	2600	2620	2630	2650	2660	2670	2690
4.9	2700	2720	2730	2750	2760	2780	2790	2810	2820	2840
5.0	2850	2870	2880	2900	2910	2930	2940	2960	2970	2990
5.1	3000	3020	3030	3050	3060	3080	3090	3110	3130	3140
5.2	3160	3170	3190	3210	3220	3240	3250	3270	3290	3300
5.3	3320	3370	3390	3410	3430	3450	3470	3490	3510	3530
5.4	3550	3570	3590	3610	3630	3660	3680	3700	3720	3740
5.5	3760	3780	3800	3830	3850	3870	3890	3910	3930	3960
5.6	3980	4000	4020	4040	4070	4090	4110	4130	4160	4180
5.7	4200	4230	4250	4270	4300	4320	4340	4370	4390	4410
5.8	4440	4460	4480	4510	4530	4560	4580	4610	4630	4650
5.9	4680	4700	4730	4750	4780	4800	4830	4850	4880	4900