

BC Hydro Puntledge River Hydroelectric Operations And Capital Projects

Comox Valley Regional District: Board of Directors

October 17, 2017

Stephen Watson

The Puntledge River System



Photo Of The Comox Dam – October 13 (131.7 m)

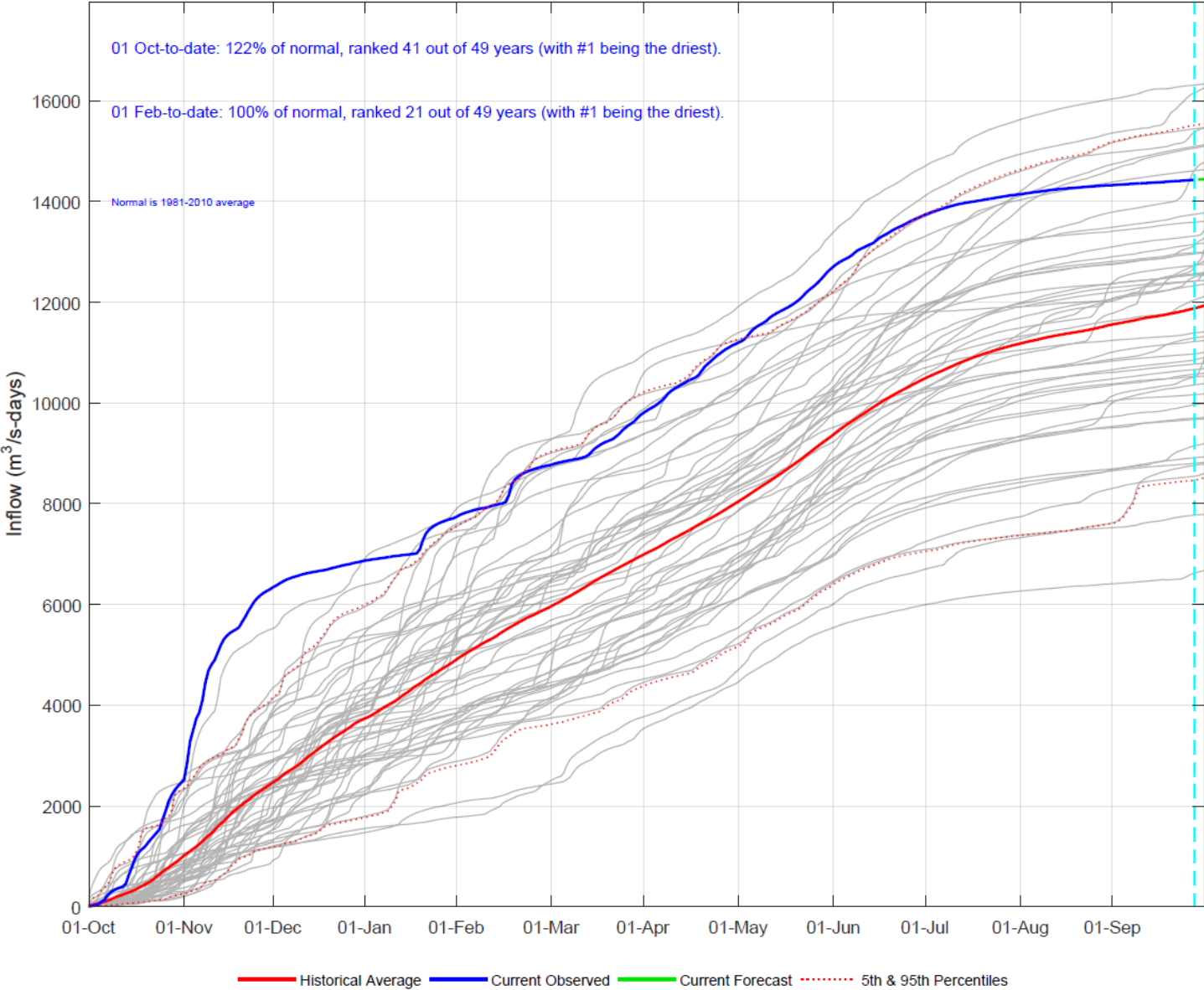


2016/2017 Water Supply Year

Comox Cumulative Inflow Hydrograph

Water Year 2017

Updated 28-Sep-2017 12:19:42

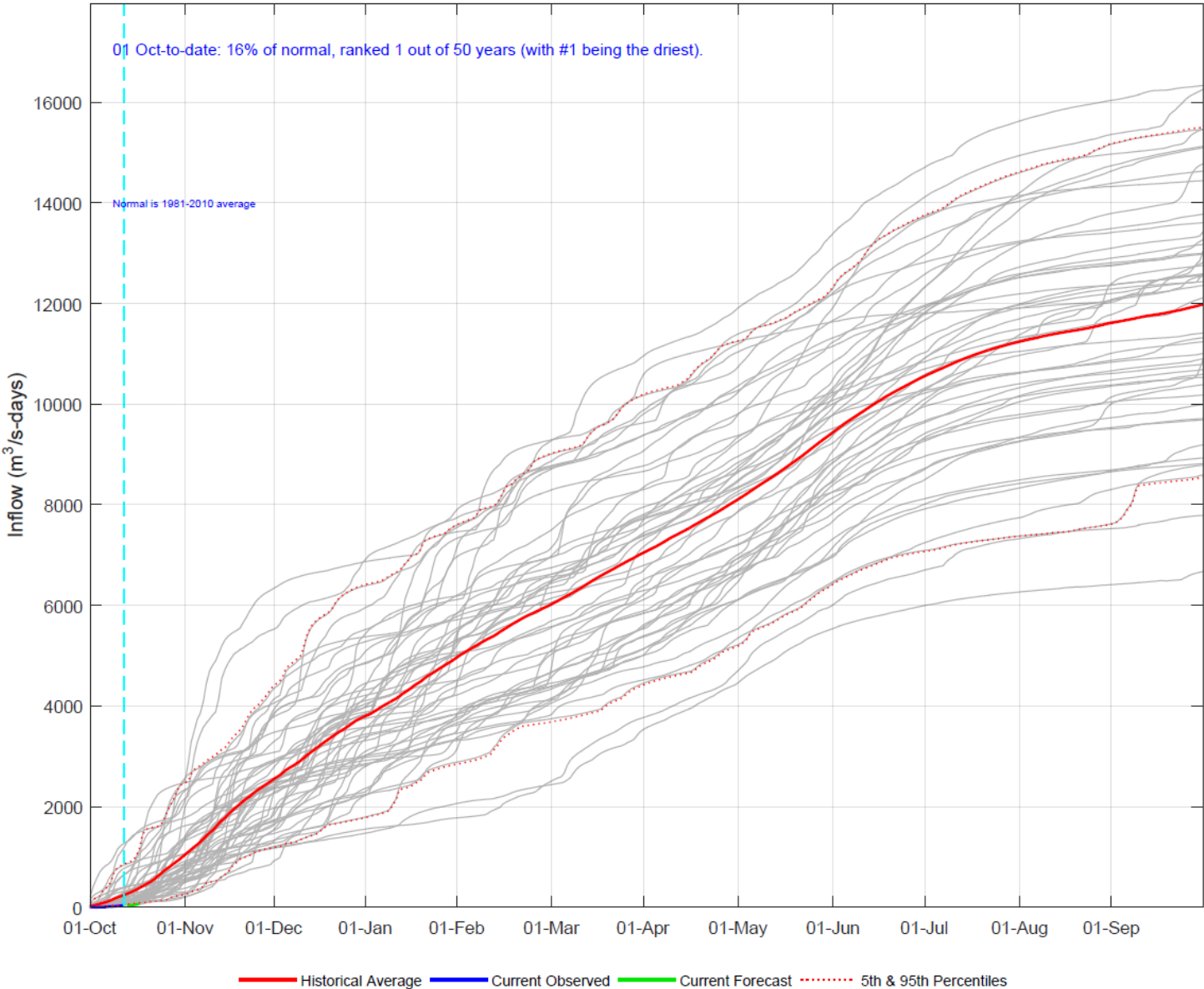


2017/2018 Water Supply Year – To Date

Comox Cumulative Inflow Hydrograph

Water Year 2018

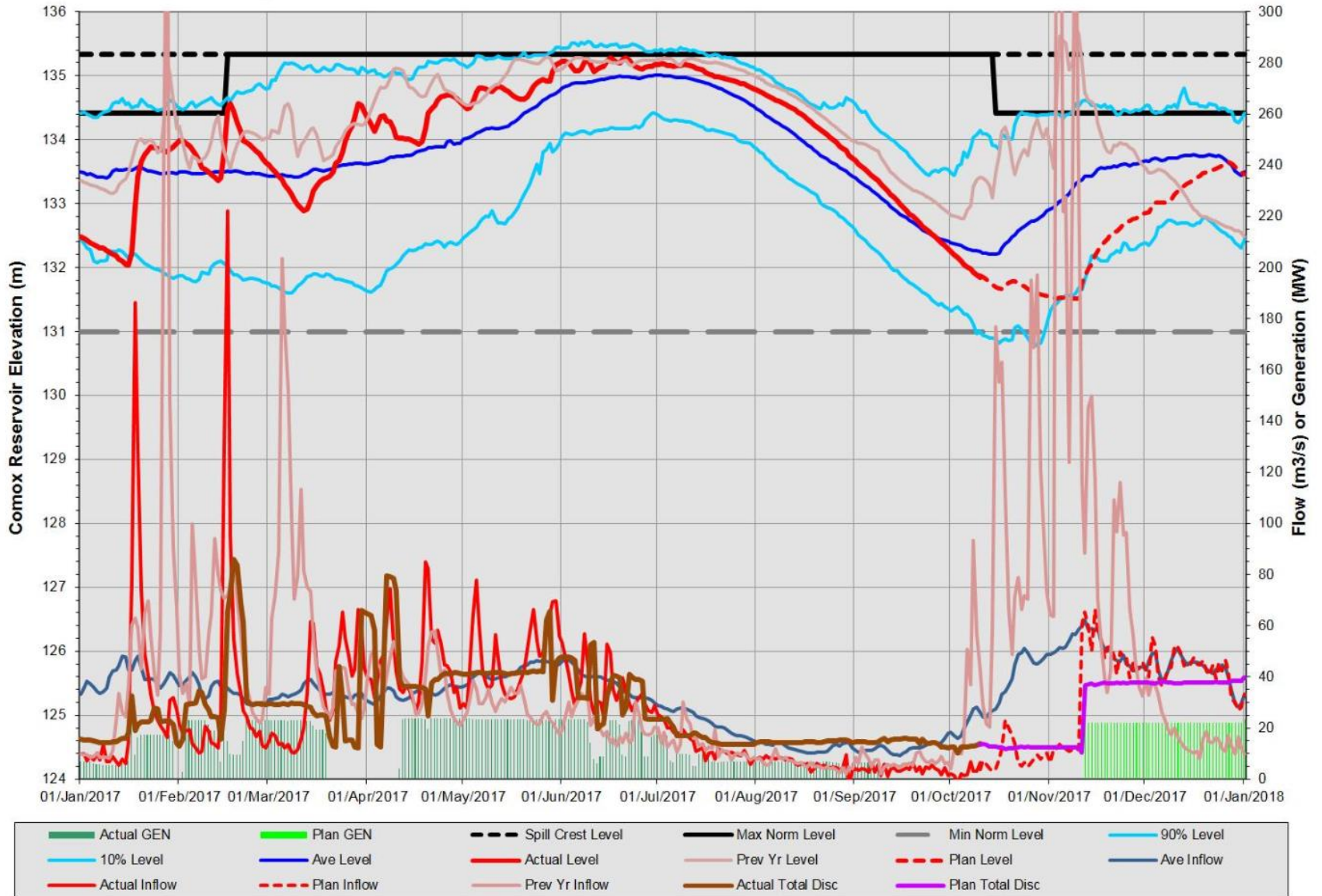
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2016/2017 Water Supply Year – To Date

COMOX-PUNTLLEDGE OPERATION SYNOPSIS

Operation Period from 01/Jan/2017 to 01/Jan/2018 and Historical Data from 1963 - 2016



Historical Records – Variations

CMX	Max		Min		2nd Max		2nd Min																				AVE														
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	43.6	12.3	63.4	56.0	28.7	20.7	31.1	24.3	80.3	17.0	44.1	53.8	48.1	46.8	72.2	42.4	15.0	31.4	60.5	68.9	55.0	58.5	57.0	48.0	24.2	19.9	88.9	36.4	49.9	13.6	19.5	40.1	55.3	29.8	42.8						
2	47.7	13.8	43.0	55.4	26.4	17.1	20.2	76.1	55.5	23.7	29.5	57.0	44.4	22.0	57.7	38.6	24.6	13.2	17.9	20.7	22.9	16.6	24.0	35.7	16.5	11.5	43.7	35.8	34.4	23.5	12.2	58.2	52.5	34.2	33.1						
3	42.0	21.0	46.7	59.1	28.8	22.4	24.4	12.5	28.1	40.6	55.1	43.5	28.5	41.7	38.1	31.3	21.6	23.3	18.2	57.5	31.3	20.8	27.9	51.8	24.6	23.0	33.3	32.1	26.5	33.4	35.7	42.3	63.7	33.6	34.2						
4	30.1	34.5	21.6	30.9	45.6	50.5	32.0	23.3	33.3	39.5	37.8	27.8	58.1	45.5	16.9	34.8	31.1	28.8	33.8	47.6	32.4	51.5	33.4	32.8	20.3	22.7	37.9	24.3	47.6	37.2	29.5	21.4	39.3	45.5	34.7						
5	35.2	43.3	46.6	46.2	49.2	36.9	29.5	27.5	24.0	57.1	28.7	49.6	25.4	64.0	47.9	51.8	38.1	34.7	33.9	32.9	34.8	49.2	50.4	43.0	61.1	39.8	39.4	49.2	48.1	49.9	35.3	12.6	28.3	47.3	40.9						
6	36.6	26.3	33.4	44.9	39.6	29.4	34.8	20.1	21.0	30.9	25.0	37.6	21.4	51.7	37.2	73.6	46.2	27.8	35.6	37.3	23.4	16.9	48.9	45.8	38.8	21.4	48.2	63.9	51.9	35.6	15.5	6.1	21.5	35.3	34.8						
7	25.6	11.9	15.8	21.2	22.4	18.4	13.7	15.6	11.7	14.2	12.4	22.3	13.6	30.0	23.5	61.1	24.4	16.4	15.1	19.1	13.1	11.4	23.2	34.6	20.7	9.3	29.0	43.8	35.8	15.5	8.9	3.2	13.2	13.6	20.1						
8	12.0	6.9	7.3	9.5	10.9	9.4	7.6	34.9	6.3	10.1	5.8	10.7	5.6	19.2	6.8	32.5	10.7	18.3	6.7	8.4	8.1	6.7	7.4	12.5	13.2	4.8	12.5	20.8	12.7	11.5	4.9	5.2	5.9	6.0	10.9						
9	9.7	8.0	5.0	9.6	8.4	5.0	5.4	12.0	5.5	3.7	6.8	5.0	6.4	31.5	4.0	9.9	7.1	9.5	6.1	7.0	15.3	5.7	6.1	10.8	7.7	8.8	16.3	32.9	6.5	24.8	8.6	16.0	6.8	3.8	9.9						
10	57.2	27.0	21.3	15.1	20.2	27.3	43.6	7.5	40.0	7.9	15.3	33.6	25.0	68.0	19.7	16.5	28.8	17.2	6.5	79.7	25.2	43.1	8.1	51.7	24.7	25.8	40.0	33.8	20.6	18.0	72.9	19.0	79.3	31.5							
11	37.7	15.2	41.7	45.5	58.3	29.3	92.8	51.8	38.2	18.5	27.6	95.9	29.0	58.2	63.9	76.0	21.8	80.4	71.9	14.1	59.3	37.9	70.3	48.9	55.2	101.3	36.9	41.2	55.1	21.0	50.9	36.8	175.4	51.9							
12	22.0	17.9	55.8	38.3	30.2	36.2	40.2	53.8	17.1	46.1	58.5	65.8	19.6	41.5	49.5	41.4	27.4	30.3	47.8	39.7	38.7	64.9	48.3	40.6	13.9	33.0	68.2	24.8	37.4	9.5	84.5	70.9	17.4	40.3							
Fiscal	FY85	FY86	FY87	FY88	FY89	FY90	FY91	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	AVE						
	26.1	28.7	34.9	28.7	28.8	26.5	34.4	34.2	23.2	29.7	31.0	39.1	26.2	48.1	31.8	38.2	25.3	30.0	33.7	32.9	28.9	33.0	36.0	32.2	25.8	36.1	36.1	37.1	32.2	24.2	37.6	30.2	36.6	32.0							
Calendar	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AVE						
	33.3	19.8	33.5	36.0	30.7	25.2	31.3	30.0	30.1	25.8	28.9	41.9	27.1	43.3	36.4	42.5	24.7	27.6	29.5	36.1	30.0	31.9	33.7	38.0	26.7	26.8	41.2	36.6	35.5	24.5	31.5	27.7	42.7	32.1							

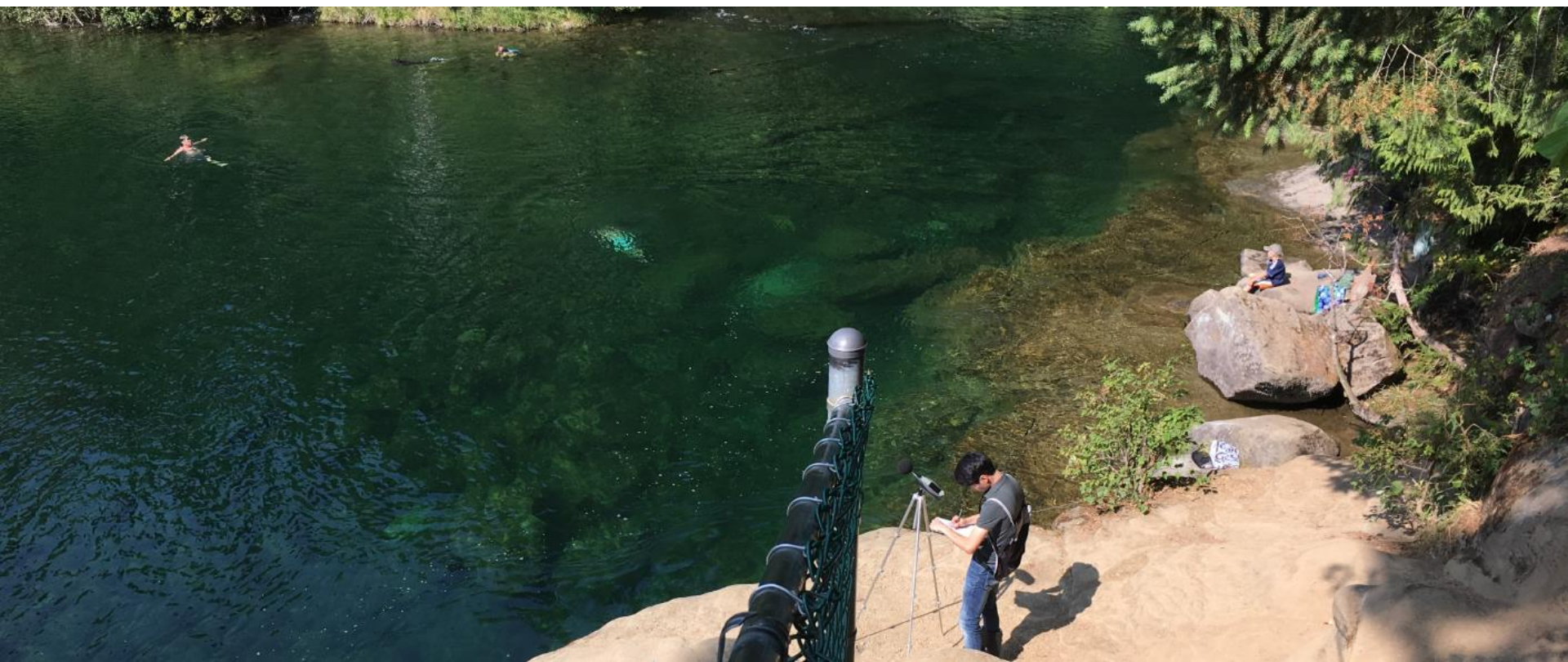
Shows 1984 to current month.

Flood Risk Management Considerations

- Weather related issues that can cause downstream flooding:
 - Rainfall;
 - Snowmelt;
 - How much storage is available behind Comox dam;
 - Browns and Tsolum river peak flows;
 - High ocean tide; and
 - Ocean storm surge from high winds.
- **Most importantly, how the above issues all align...or not.**
- There can also be flooding of areas around the Comox Lake reservoir – cabin owners.
- We consider dam safety, flood risk management, fish habitat, and the last few years, when possible, water turbidity issues with the CVRD domestic water supply. Much to balance.

New Puntledge River Public Warning System

- Updated the CVRD Board in May 2017.
- Individual siren system tests at the end of August.
 - Engaged with City of Courtenay, CVRD, and the Forbidden Plateau Residents Association. Appreciated local media and social media assistance in getting the word out.
- Simulated siren system test in early September.
- Full system test, using water, later this fall. Then the system will be fully operational.



Old Penstock and 25 Cycle Building Removals

- FMI/K'omoks joint venture. On schedule and on budget;
- All old penstock works removed with the exception of about a 230 metre section that has been left in place (too close to operating penstock) and filled with concrete;
- Site restored and woody debris placement;
- Demolition of 25 Cycle Building essentially complete;
- Removing wood/concrete/steel off-site for recycling – complete early November.
 - ABC Recycling (steel), Pacific Woodwaste (brush/wood), and the local landfill (concrete).
- No lost time accidents. Good safety audits; and
- CVRD and DFO staff very good to deal with – good coordination.











Ongoing And Proposed Capital Projects

- Puntledge Penstock Re-Coating Project.
- Puntledge Flow Control Improvement Project.

- BC Hydro continues our coordination work with the CVRD on your Comox Valley Water Treatment Project.



BC Hydro

Power smart