

Lower Snake Temperature Management

August 6, 2007

- General Observations
 - Lower Granite Pool
 - Temperature in Snake River at Lower Granite 19.3 °C (66.7 F)
 - Temperature of flow weighted inflow $T_{crit}= 17.0$ °C (62.6 F)
 - Coolest average inflow temperature since June 21
 - Heat gain in LWG pool 0.7-1.5 C
 - Travel time in LWG pool 6.5-7.0 days
 - Density stratified flow / underflow reducing time of travel
 - Snake River at Anatone $Q_{5d}=14.9$ kcf, $T_{5d}=22.9$ °C (73.2 F)
 - HCD maintained low weekend flows (10.5 kcfs)
 - HCD releases are expected to remain low
 - Clearwater River
 - Dworshak $Q_{5d}= 9.9$ kcf, $T_{5d}=6.6$ °C (43.8 F)
 - Orofino $Q_{5d}=1.3$ kcf, $T_{5d}=24.8$ °C (76.6 F)
 - Lewiston $T_{5d}=11.0$ C (51.8. F)
 - Flow ratio $Q_{cr}/Q_{sr@lwg} = 42.9\%$

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- Forecasts

- Weather (NOAA)

- Moderate Temperatures predicted for later this week at Lewiston ID

– Aug	7	8	9	10	11	12	13
–	Tue	Wed	Thu	Fri	Sat	Sun	Mon
– Highs	90	89	90	90	93	92	92
– Lows	62	62	60	59	59	62	62

- Hourly weather data from 2006 for Aug 14-31

- Flows

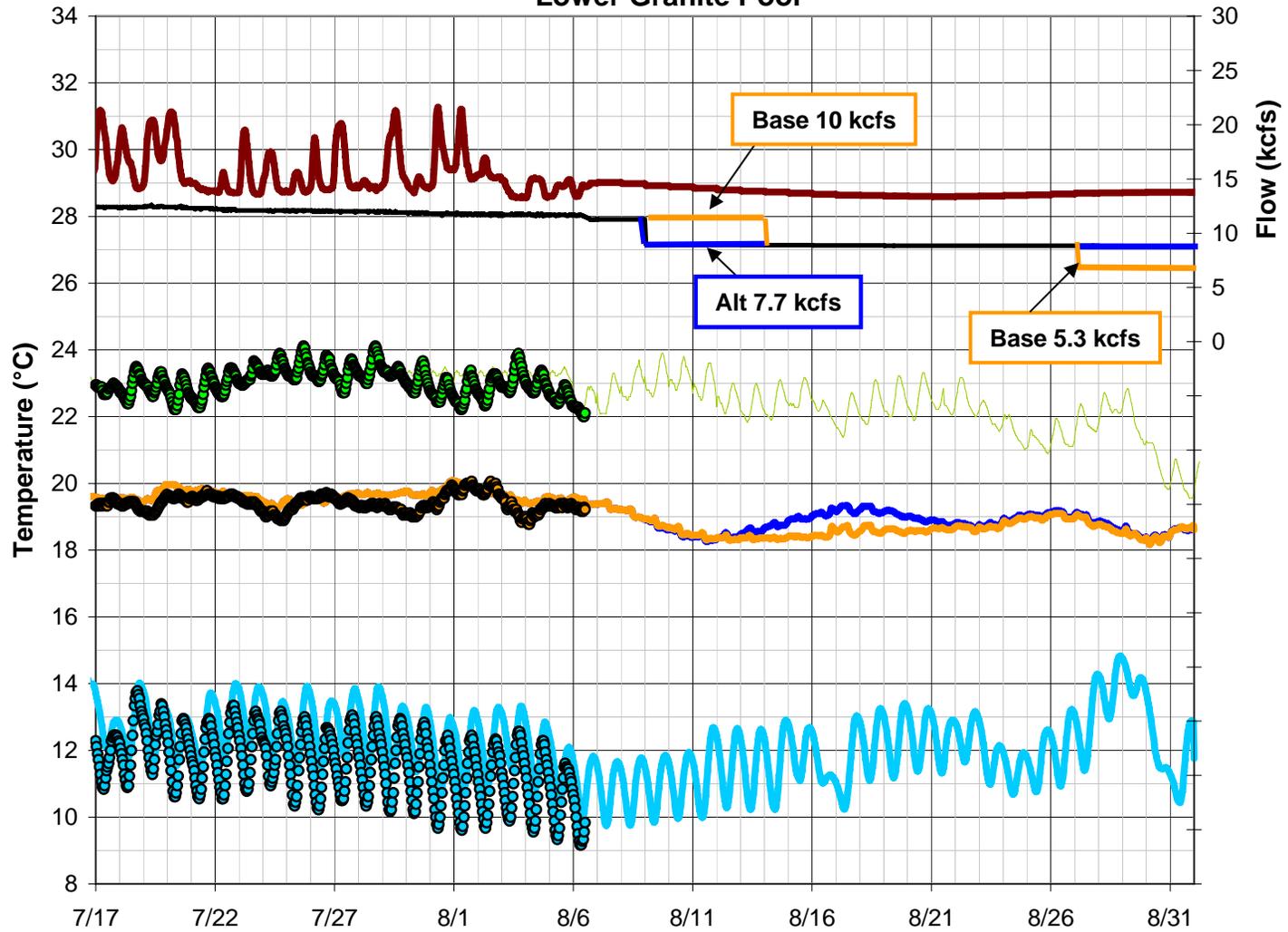
- Clearwater River at Orofino (STP) falling from 1.5 to 1.1 kcfs by Aug 31
 - Snake River at Anatone (STP) constant 13 +/- 1 kcfs through Aug
 - Dworshak Operations (average inflow 0.68 kcfs through Aug 31)
 - Base Plan (8 days @ 10, 13 days @ 7.7, 5 days @ 5.3)
 - » 10.0 kcfs through Aug 13
 - » 7.7 kcfs Aug 14-26
 - » 5.3 kcfs Aug 27-31
 - Alternative Plan (3 days@10+23 days@7.7)
 - » 10.0 kcfs through Aug 8
 - » 7.7 kcfs Aug 9-31
 - Both plans will maintain objective of 1535 ft. on Sept. 1

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- Results of CEQUAL-W2 simulation (June 1-August 31 simulation)
 - Base Plan (continued capacity release Aug 13)
 - SR Temps at LWG gradually decreasing Aug 6-11
 - Temps fall below 18 C
 - SR Temps at LWG gradually increasing Aug 16-26
 - SR Temps remain below 19 C with two unit operation
 - Single unit operation will cause warmer temp in Sept
 - Alternative Plan (conservation policy)
 - Same as Base plan until Aug 13
 - Up to (0.6 C) warmer temperatures during Aug 13-20
 - Conserved water for release later in Aug
 - Cooler temperatures during 1st week in September

Lower Granite Pool



2007

