

Lower Snake Temperature Management

July 16, 2007

- General Observations
 - Lower Granite Pool
 - Temperature in Snake River at Lower Granite 19.2 °C (66.6 F)
 - Temperature of flow weighted inflow $T_{crit} = 18.4$ °C
 - Heat gain in LWG pool 0.9-1.5 C
 - Travel time in LWG pool 5.0 days
 - Density stratified flow / underflow reducing time of travel
 - Snake River at Anatone $Q_{5d} = 19.4$ kcf, $T_{5d} = 22.8$ °C (73.0 F)
 - Clearwater River
 - Dworshak $Q_{5d} = 11.4$ kcf, $T_{5d} = 6.5$ °C (43.7 F)
 - Orofino $Q_{5d} = 2.6$ kcf, $T_{5d} = 25.5$ °C (77.9 F)
 - Lewiston $T_{5d} = 12.3$ C (54.3 F)
 - Flow ratio $Q_{cr} / Q_{sr@lwg} = 42\%$

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- Forecasts

- Weather (NOAA)

- Very Hot Temperatures predicted for later this week at Lewiston ID

– July	17	18	19	20	21	22	23
–	Tue	Wed	Thu	Fri	Sat	Sun	Mon
– Highs	99	98	86	97	102	107	107
– Lows		69	66	62	67	69	70

- Hourly weather data from 2006 for July 20-31

- Flows

- Clearwater River at Orofino (STP) falling from 2.3 to 2.0 kcfs by July 22
 - Snake River at Anatone (STP) constant 16 kcfs through July 22
 - Dworshak Operations (STP inflow 1.2 kcfs average through July 22)
 - 47 days before Sept 1 – 4 days @ 7.3 kcfs and 43 days @ 9.5 kcfs = 1535 ft
 - Base Plan 9.5 kcfs through July 31

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- Results of CEQUAL-W2 simulation (June 1-July 31 simulation)
 - Base Condition
 - SR Temps at LWG near 20 C through July 25
 - Chance for short periods above 20 C at LWG
 - Second Heat Wave on July 21 (hypothetical)

Lower Granite Pool



