



COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

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TO: Technical Management Team (TMT)
 FROM: Kyle Martin, *Senior Hydrologist*, CRITFC Hydro Program
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SUBJECT: Impact of Pool Fluctuations on the 2003 Autumn Treaty Fishery

CRITFC submitted five System Operation Requests (2003-C6 through 2003-C10) via the TMT forum in support of this autumn's treaty fishing. The CRITFC requests asked for (1) specific elevations, and (2) stable pool elevations.

Criterion #1 asked to operate the pools within a one-foot specified elevation range. The Corps replied with a commitment to a 1.5 foot range, and then only in Bonneville pool, as they have done so since 1996, although the Corps showed more flexibility this season. CRITFC agreed to the Corps' claim of the top operating limit at the Bonneville pool of 76.5 feet.

The table below shows the hourly compliance of CRITFC's elevation range criteria during the treaty fisheries. On average, the Bonneville pool complied 73% of the time. On average, the Celilo (The Dalles) pool complied 84% of the time. On average, the John Day pool complied 39% of the time.

2003	Bonneville Pool	The Dalles Pool	John Day pool
1 foot range (CRITFC):	75.5 - 76.5 feet	158.5 -159.5 feet	263.5 - 264.5 feet
AUG 26 - 30	83%	59%	19%
SEP 2 - 5	86%	41%	2%
SEP 9 - 12	100%	100%	36%
SEP 16 - 20	100%	100%	14%
SEP 24 - 27	99%	93%	1%
OCT 1 - 4	16%	99%	100%
OCT 8 - 11	24%	93%	100%
Average:	73%	84%	39%
1.5 foot range (COE):	75 - 76.5 ft	158 -159.5 ft	263 - 264.5 ft
AUG 26 - 30	100%	92%	77%
SEP 2 - 5	100%	78%	22%
SEP 9 - 12	100%	100%	100%
SEP 16 - 20	100%	100%	95%
SEP 24 - 27	100%	100%	98%
OCT 1 - 4	75%	100%	100%
OCT 8 - 11	69%	100%	100%
Average:	92%	96%	85%

Pool elevation data is a good measure as to the absolute pool fluctuations (Criterion #2). If the criterion was to limit fluctuations to one foot or less, irrespective to any absolute elevation criteria, then the pools stayed near 0.25 - 0.5 foot and complied most of the time. The Corps is reducing the absolute pool fluctuations, even if they are not in full compliance with the elevation criteria.

This spring, Rudd Turner of the Corps pointed out that two forebay gages exist at Bonneville dam. The Corps uses the "HS" (spillway) gage as their official gauging station. The Bonneville pool data that CRITFC has downloaded over the last few years has been updated with the "HS" data and compliance statistics for 2002 back to 1999 have been re-calculated and given below.

2002	Bonneville Pool	The Dalles Pool	John Day pool
1 foot range (CRITFC):	76 - 77 ft	158.5 -159.5 ft	263.5 - 264.5 ft
AUG 28 - 31	25%	38%	51%
SEP 4 - 7	32%	58%	88%
SEP 11 - 14	33%	55%	62%
SEP 16 - 20	25%	77%	50%
SEP 25 - 28	20%	78%	68%
Average:	27%	61%	64%
1 foot range (COE):	75.5 - 76.5 ft	158.5 -159.5 ft	263.5 - 264.5 ft
AUG 28 - 31	98%	38%	51%
SEP 4 - 7	82%	58%	88%
SEP 11 - 14	94%	55%	62%
SEP 16 - 20	90%	77%	50%
SEP 25 - 28	92%	78%	68%
Average:	91%	61%	64%
1.5 foot range (COE):	75 - 76.5 ft	158 -159.5 ft	263 - 264.5 ft
AUG 28 - 31	100%	60%	100%
SEP 4 - 7	100%	79%	100%
SEP 11 - 14	100%	99%	100%
SEP 16 - 20	100%	100%	98%
SEP 25 - 28	100%	100%	98%
Average:	100%	88%	99%

2001		Bonneville Pool	The Dalles Pool	John Day pool
1 foot range (CRITFC):		76 - 77 feet	158.5 -159.5 feet	263.5 - 264.5 feet
AUG 28 - SEP 1		6%	75%	95%
SEP 4 - 8		13%	73%	100%
	Average:	10%	74%	98%
1 foot range (COE):		75.5 - 76.5 ft	158.5 -159.5 ft	263.5 - 264.5 ft
AUG 28 - SEP 1		60%	75%	95%
SEP 4 - 8		99%	73%	100%
	Average:	80%	74%	98%
1.5 foot range (COE):		75 - 76.5 ft	158.5 -159.5 ft	263.5 - 264.5 ft
AUG 28 - SEP 1		100%	100%	100%
SEP 4 - 8		100%	90%	100%
	Average:	100%	95%	100%

2000		Bonneville Pool	The Dalles Pool	John Day pool
1 foot range (CRITFC):		76 - 77 feet	158.5 -159.5 feet	263.5 - 264.5 feet
AUG 30 - SEP 2		0%	75%	100%
SEP 5 - 9		14%	56%	83%
SEP 12 - 16		15%	34%	97%
SEP 19 - 23		7%	56%	88%
	Average:	9%	55%	92%
1 foot range (COE):		75.5 - 76.5 ft	158.5 -159.5 ft	263.5 - 264.5 ft
AUG 30 - SEP 2		0%	75%	100%
SEP 5 - 9		83%	56%	83%
SEP 12 - 16		66%	34%	97%
SEP 19 - 23		75%	56%	88%
	Average:	56%	55%	92%
1.5 foot range (COE):		75 - 76.5 ft	158 -159.5 ft	263 - 264.5 ft
AUG 30 - SEP 2		0%	82%	100%
SEP 5 - 9		100%	89%	100%
SEP 12 - 16		83%	67%	100%
SEP 19 - 23		97%	79%	100%
	Average:	70%	79%	100%

1999	Bonneville Pool	The Dalles Pool	John Day pool
1 foot range (CRITFC):	76 - 77 feet	158.5 -159.5 feet	263.5 - 264.5 feet
AUG 31-SEP 4	8%	50%	100%
SEP 7 - 11	10%	47%	100%
SEP 15 - 18	4%	74%	100%
SEP 22 - 25	2%	33%	100%
SEP 29 - OCT 2	0%	36%	100%
Average:	5%	48%	100%
1 foot range (COE):	75.5 - 76.5 ft	158.5 -159.5 ft	263.5 - 264.5 ft
AUG 31-SEP 4	31%	50%	100%
SEP 7 - 11	28%	47%	100%
SEP 15 - 18	79%	74%	100%
SEP 22 - 25	55%	33%	100%
SEP 29 - OCT 2	42%	36%	100%
Average:	47%	48%	100%
1.5 foot range (COE):	75 - 76.5 ft	158 -159.5 ft	263 - 264.5 ft
AUG 31-SEP 4	87%	78%	100%
SEP 7 - 11	70%	78%	100%
SEP 15 - 18	100%	92%	100%
SEP 22 - 25	88%	47%	100%
SEP 29 - OCT 2	87%	95%	100%
Average:	86%	78%	100%