

Fish Passage Plan (FPP) Change Request Form

Change Form # & Title: 16BON001 – Spill Values Calculated to Tenths
Date Submitted: December 17, 2015
Project: BON
Requester Name, Agency: Lisa Wright, Corps RCC
Final Action: APPROVED – December 17, 2015

FPP Section: Table BON-16. Spill Patterns.

Justification for Change: Rounds spill values to the tenth for spill rates of 49-110 kcfs. Spill patterns in this range were updated in 2010 (change form [10BON002](#)) to include minimum 2' gate openings and values were calculated with whole numbers, resulting in slight discrepancies between the FPP table and values calculated to the tenth in GDACS.

Proposed Change: See Table BON-16 below with edits in track changes (spill of 49-110 kcfs).

Comments:

12/17/15 Meeting: FPOM appreciates the extra precision.

Record of Final Action: APPROVED at FPOM meeting December 17, 2015.

Table BON-1. Bonneville Dam Spill Patterns in Vertical Gate Opening (ft) per Spillbay (0.5 ft = 1 gate stop).¹

BON Spill Patterns - Vertical Gate Opening (ft) per Spillbay																		Total Open (ft)	Spill ¹ (kcfs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
0.5																	0.5	1	2.3
0.5	0.5																0.5	1.5	3.4
0.5	0.5															0.5	0.5	2	4.6
0.5	0.5														0.5	0.5	0.5	2.5	5.7
0.5	0.5		0.5												0.5	0.5	0.5	3	6.9
0.5	0.5		0.5	0.5											0.5	0.5	0.5	3.5	8
0.5	0.5		0.5	0.5									0.5		0.5	0.5	0.5	4	9.2
0.5	0.5		0.5	0.5						0.5		0.5	0.5		0.5	0.5	0.5	4.5	10.3
0.5	0.5		0.5	0.5					0.5		0.5		0.5		0.5	0.5	0.5	5	11.5
0.5	0.5		0.5	0.5			0.5		0.5		0.5		0.5		0.5	0.5	0.5	5.5	12.6
0.5	0.5	0.5	0.5	0.5			0.5		0.5		0.5		0.5		0.5	0.5	0.5	6	13.8
0.5	0.5	0.5	0.5	0.5			0.5		0.5		0.5		0.5		0.5	1	0.5	6.5	14.9
0.5	1	0.5	0.5	0.5			0.5		0.5		0.5		0.5		0.5	1	0.5	7	16
0.5	1	0.5	0.5	0.5	0.5		0.5		0.5		0.5		0.5		0.5	1	0.5	7.5	17.2
0.5	1	0.5	0.5	0.5	0.5		0.5		0.5		0.5		0.5	0.5	0.5	1	0.5	8	18.3
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5		0.5		0.5		0.5	0.5	0.5	1	0.5	8.5	19.5
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5		0.5		0.5	0.5	0.5	0.5	0.5	1	0.5	9	20.6
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	9.5	21.8
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	10	22.9
0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	10.5	24.1
0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	11	25.2
1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	11.5	26.3
1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	12	27.4
1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	12.5	28.6
1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	13	29.7
1	1	1	1	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	1	1	1	1	13.5	30.8
1	1	1	1	0.5	0.5	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	1	1	1	14	31.9
1	1	1	1	0.5	0.5	1	0.5	1	0.5	0.5	1	0.5	0.5	1	1	1	1	14.5	33.1
1	1	1	1	0.5	1	1	0.5	1	0.5	0.5	1	0.5	0.5	1	1	1	1	15	34.2
1	1	1	1	0.5	1	1	0.5	1	0.5	0.5	1	1	0.5	1	1	1	1	15.5	35.3

¹ This table defines spill patterns in increments of ½ ft total gate opening (1 stop) per row. Spill (kcfs) is calculated as a function of the total gate opening (ft) at forebay elevation 74.0 ft (updated 2007).

BON Spill Patterns - Vertical Gate Opening (ft) per Spillbay																		Total Open (ft)	Spill ¹ (kcfs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
1	1	1	1	0.5	1	1	0.5	1	1	0.5	1	1	0.5	1	1	1	1	16	36.4
1	1	1	1	1	1	1	0.5	1	1	0.5	1	1	0.5	1	1	1	1	16.5	37.6
1	1	1	1	1	1	1	1	1	1	0.5	1	1	0.5	1	1	1	1	17	38.7
1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1	1	1	17.5	39.8
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	40.9
1	1.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18.5	42
1	1.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	1	19	43.2
1	1.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5	1.5	1	19.5	44.3
1	1.5	1.5	1	1	1	1	1	1	1	1	1	1	1	1	1.5	1.5	1	20	45.4
1.5	1.5	1.5	1	1	1	1	1	1	1	1	1	1	1	1	1.5	1.5	1	20.5	46.5
1.5	1.5	1.5	1	1	1	1	1	1	1	1	1	1	1	1	1.5	1.5	1.5	21	47.6
1.5	1.5	1.5	1	1	1	1	1	1	1	1	1	1	1	1	1.5	2	1.5	21.5	48.6
2	2	2	0	2	0	0	2	0	2	0	0	2	2	0	2	2	2	22	49.0
2	2	2	0	2	0	0	2	0	2	0	0	2	2	0	2	2.5	2	22.5	50.1
2	2.5	2	0	2	0	0	2	0	2	0	0	2	2	0	2	2.5	2	23	51.152
2	2.5	2	0	2	0	0	2	0	2	0	0	2	2	0	2.5	2.5	2	23.5	52.253
2	2	2	0	2	0	2	2	0	2	0	0	2	2	0	2	2	2	24	53.554
2	2	2	0	2	0	2	2	0	2	0	0	2	2	0	2	2.5	2	24.5	54.555
2	2.5	2	0	2	0	2	2	0	2	0	0	2	2	0	2	2.5	2	25	55.656
2	2.5	2	0	2	0	2	2	0	2	0	0	2	2	0	2.5	2.5	2	25.5	56.657
2	2	2	0	2	0	2	2	0	2	2	0	2	2	0	2	2	2	26	57.958
2	2	2	0	2	0	2	2	0	2	2	0	2	2	0	2	2.5	2	26.5	59.0
2	2.5	2	0	2	0	2	2	0	2	2	0	2	2	0	2	2.5	2	27	60.061
2	2.5	2	0	2	0	2	2	0	2	2	0	2	2	0	2.5	2.5	2	27.5	61.162
2	2	2	2	2	0	2	2	0	2	2	0	2	2	0	2	2	2	28	62.463
2	2	2	2	2	0	2	2	0	2	2	0	2	2	0	2	2.5	2	28.5	63.464
2	2.5	2	2	2	0	2	2	0	2	2	0	2	2	0	2	2.5	2	29	64.565
2	2.5	2	2	2	0	2	2	0	2	2	0	2	2	0	2.5	2.5	2	29.5	65.666
2	2	2	2	2	0	2	2	0	2	2	0	2	2	2	2	2	2	30	66.867
2	2	2	2	2	0	2	2	0	2	2	0	2	2	2	2	2.5	2	30.5	67.968
2	2.5	2	2	2	0	2	2	0	2	2	0	2	2	2	2	2.5	2	31	69.070
2	2.5	2	2	2	0	2	2	0	2	2	0	2	2	2	2.5	2.5	2	31.5	70.071
2	2	2	2	2	2	2	2	0	2	2	0	2	2	2	2	2	2	32	71.372
2	2	2	2	2	2	2	2	0	2	2	0	2	2	2	2	2.5	2	32.5	72.473

BON Spill Patterns - Vertical Gate Opening (ft) per Spillbay																		Total Open (ft)	Spill ¹ (kcfs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
2	2.5	2	2	2	2	2	2	0	2	2	0	2	2	2	2	2.5	2	33	73.474
2	2.5	2	2	2	2	2	2	0	2	2	0	2	2	2	2.5	2.5	2	33.5	74.575
2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	34	75.876
2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2.5	2	34.5	76.877
2	2.5	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2.5	2	35	77.978
2	2.5	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2.5	2.5	35.5	78.980
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	36	80.281
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.5	2	36.5	81.382
2	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.5	2	37	82.383
2	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2	2.5	2.5	2	37.5	83.484
2	2.5	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2.5	2.5	2	38	84.485
2	2.5	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2.5	2.5	2.5	38.5	85.586
2.5	2.5	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2.5	2.5	2.5	39	86.687
2.5	2.5	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2.5	3	2.5	39.5	87.688
2.5	3	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2.5	3	2.5	40	88.689
2.5	3	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2.5	3	3	40.5	89.790
3	3	2.5	2	2	2	2	2	2	2	2	2	2	2	2	2.5	3	3	41	90.791
3	3	2.5	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	41.5	91.792
3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	42	92.894
3	3	3	2	2	2	2	2	2	2	2	2	2	2	2.5	3	3	3	42.5	93.895
3	3	3	2.5	2	2	2	2	2	2	2	2	2	2	2.5	3	3	3	43	94.996
3	3	3	2.5	2	2	2	2	2	2	2	2	2	2.5	2.5	3	3	3	43.5	96.097
3	3	3	2.5	2.5	2	2	2	2	2	2	2	2	2.5	2.5	3	3	3	44	97.098
3	3	3	2.5	2.5	2	2	2	2	2	2	2.5	2	2.5	2.5	3	3	3	44.5	98.199
3	3	3	2.5	2.5	2	2	2	2.5	2	2	2.5	2	2.5	2.5	3	3	3	45	99.1100
3	3	3	2.5	2.5	2.5	2	2	2.5	2	2	2.5	2	2.5	2.5	3	3	3	45.5	100.2101
3	3	3	2.5	2.5	2.5	2.5	2.5	2	2	2	2.5	2.5	2.5	2.5	3	3	3	46.5	102.3103
3	3	3	2.5	3	2.5	2.5	2.5	2	2	2	2.5	2.5	2.5	3	3	3	3	47.5	104.4105
3	3	3	3	3	2.5	2.5	2.5	2	2	2	2.5	2.5	2.5	3	3.5	3	3	48.5	106.4107
3	3.5	3	3	3	2.5	2.5	2.5	2	2.5	2	2.5	2.5	2.5	3	3.5	3.5	3	50	109.5110
3	3.5	3.5	3	3	2.5	2.5	2.5	2	2.5	2.5	2.5	2.5	2.5	3	3.5	3.5	3	50.5	110.5
3	3.5	3.5	3	3	2.5	2.5	2.5	2	2.5	2.5	2.5	2.5	2.5	3	3.5	3.5	3	51	111.6
3	3.5	3.5	3	3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3	3.5	3.5	3	51.5	112.6