Notes

The table below was produced using flow data provided by H20.

Head duration has been estimated - see yellow

The fish pass has a design flow of 5% of the turbines peak flow

Is is assumed that there is no upsteam increase in head as CRT gates should be able to discharge a Q5 event of 42m3/s.

Not modleing flood evetns above Q5 is a weakness of this model

Base flow index (Q95/Qmean) is 0.25 this makes the river a high base flow river, as per the EA good practice guidlines, the HOF will be set at Q95

The Lock Flow is represented as an average flow, in reality the lock sees an average of 7 uses per day. Each lock usage discharges ~2230.8m3. This results in a avera
m3/s

1x Screw Turbine installed next to Dutton Sluices, with a Fish & Eel pass								
			Flow Split					
Duration	Total Flow (m3/s)	Available Flow (m3/s)	Turbine Flow (m3/s)	Fishpass Flow (m3/s)	Eelpass flow (m3/s)	Lock Flow (m3/s)	Sluice flow (m3/s)	Head (m)
5%	42.0	39.2	12.000	0.600	0.003	0.181	29.171	1.80
10%	29.4	26.6	12.000	0.600	0.003	0.181	16.609	2.10
15%	22.8	20.0	12.000	0.600	0.003	0.181	10.006	2.40
20%	18.7	15.9	12.000	0.600	0.003	0.181	5.934	2.70
25%	15.8	13.0	12.000	0.600	0.003	0.181	3.011	3
30%	13.4	10.6	10.590	0.600	0.003	0.181	2.012	3
35%	11.7	8.9	8.912	0.600	0.003	0.181	2.012	3
40%	10.4	7.6	7.570	0.600	0.003	0.181	2.012	3
45%	9.2	6.4	6.439	0.600	0.003	0.181	2.012	3
50%	8.2	5.4	5.431	0.600	0.003	0.181	2.012	3
55%	7.4	4.6	4.580	0.600	0.003	0.181	2.012	3
60%	6.7	3.9	3.910	0.600	0.003	0.181	2.012	3
65%	6.0	3.2	3.250	0.600	0.003	0.181	2.012	3
70%	5.4	2.6	2.641	0.600	0.003	0.181	2.012	3
75%	4.9	2.1	2.124	0.600	0.003	0.181	2.012	3
80%	4.4	1.6	1.555	0.600	0.003	0.181	2.012	3
85%	3.9	1.1	1.070	0.600	0.003	0.181	2.012	3
90%	3.3	0.5	0.531	0.600	0.003	0.181	2.012	3
95%	2.8	0.0	0.000	0.600	0.003	0.181	2.012	3
100%	0.9	0	0.000	0.600	0.003	0.181	0.083	3

Mean	**11.4**
Base Flow Index	0.25

ge lock discharge flow of 0.181

Power (kW)	Enegry Capture (kWh/year)
140	61495
164	71744
187	81994
211	92243
234	102492
207	90447
174	76118
148	64658
126	54998
106	46389
89	39114
76	33393
63	27755
51	22555
41	18138
30	13279
21	9139
10	4533
0	0
0	0