

FISH

		Average flk Design 2002-2007 adjustment		Average Entrainmen	Average impingement	Design entrain	design impinge	VSP monthly Reduct	entrain reduc	impin reduct	entrain reduct %	impinge reduct %	entrain reduct %	impinge reduct %
Unit 4	jan	40.1	1.715686	1846668	342	1878351.029	347.8676	0.134	251699.0379	46.61426	0.005020022	0.011882	0.502002	1.188248
	feb	40.8	0	3541033	124	3541033	124	0.134	474498.422	16.616	0.009463654	0.004236	0.946365	0.42356
	mar	34.5	15.44118	2597943	78	2999095.963	90.04412	0.134	401878.8591	12.06591	0.00801529	0.003076	0.801529	0.307573
	aprl	27.7	32.10784	1438432	1458	1900281.49	1926.132	0.134	254637.7197	258.1017	0.005078633	0.065793	0.507863	6.579291
	may	37.4	8.333333	6333016	65	6860767.333	70.41667	0.133	912482.0553	9.365417	0.018199038	0.002387	1.819904	0.238735
	june	40.8	0	15505027	202	15505027	202	0.032	496160.864	6.464	0.009895702	0.001648	0.98957	0.164774
	jul	40.8	0	9086148	49	9086148	49	0	0	0	0	0	0	0
	aug	40.4	0.980392	7436993	24	7509904.696	24.23529	0	0	0	0	0	0	0
	sept	36.3	11.02941	300167	60	333273.6544	66.61765	0.014	4665.831162	0.932647	9.30579E-05	0.000238	0.009306	0.023774
	oct	35.1	13.97059	46676	78	53196.91176	88.89706	0.126	6702.810882	11.20103	0.000133684	0.002855	0.013368	0.285526
	nov	36.6	10.29412	271976	405	299973.5294	446.6912	0.134	40196.45294	59.85662	0.0008017	0.015258	0.08017	1.52581
	dec	39.5	3.186275	166665	472	171975.4044	487.0392	0.134	23044.70419	65.26325	0.000459616	0.016636	0.045962	1.663631
					total	50139028.01	3922.941	total	2865966.757	486.4809			5.71604	12.40092
Unit 5	jan	41.3	1.196172	1891929	92	1914559.73	93.10048	0.112	214430.6897	10.42725	0.004068708	0.008854	0.406871	0.88536
	feb	37.3	10.76555	3627823	32	4018378.108	35.44498	0.112	450058.3481	3.969837	0.008539617	0.003371	0.853962	0.337072
	mar	35.7	14.5933	2846771	71	3262208.873	81.36124	0.112	365367.3938	9.112459	0.006932651	0.007737	0.693265	0.773723
	aprl	37.5	10.28708	1260391	160	1390048.447	176.4593	0.112	155685.4261	19.76344	0.002954048	0.016781	0.295405	1.67808
	may	32.1	23.20574	6488236	48	7993879.282	59.13876	0.107	855345.0832	6.327847	0.016229716	0.005373	1.622972	0.537287
	june	41.2	1.435407	15885052	69	16113067.1	69.99043	0.003	48339.2013	0.209971	0.000917211	0.000178	0.091721	0.017828
	jul	40.9	2.15311	9308848	74	9509277.742	75.5933	0	0	0	0	0	0	0
	aug	41.8	0	7619272	210	7619272	210	0	0	0	0	0	0	0
	sept	38.8	7.177033	214826	117	230244.134	125.3971	0	0	0	0	0	0	0
	oct	39.6	5.263158	78593	106	82729.47368	111.5789	0.063	5211.956842	7.029474	9.88941E-05	0.005969	0.009889	0.59686
	nov	40.1	4.066986	379689	101	395130.8971	105.1077	0.112	44254.66048	11.77206	0.000839709	0.009995	0.083971	0.999545
	dec	41.1	1.674641	170750	34	173609.4498	34.56938	0.112	19444.25837	3.87177	0.000368944	0.003287	0.036894	0.328745
					total	52702405.24	1177.742	total	2158137.018	72.48411			4.09495	6.154501
Unit 6	jan	41.8	0	5630527	343	5630527	343	0.116	653141.132	39.788	0.004304188	0.041932	0.430419	4.193173
	feb	41.8	0	10796680	60	10796680	60	0.116	1252414.88	6.96	0.008253391	0.007335	0.825339	0.7335
	mar	29.7	28.94737	5976711	2	7706811.553	2.578947	0.116	893990.1401	0.299158	0.005891378	0.000315	0.589138	0.031528
	aprl	28.7	31.33971	3620361	155	4754971.744	203.5766	0.116	551576.7223	23.61488	0.00363488	0.024887	0.363488	2.488722
	may	35.9	14.11483	19309488	9	22034989.89	10.27033	0.116	2556058.828	1.191359	0.01684438	0.001256	1.684438	0.125555
	june	41.4	0.956938	47275132	14	47727525.61	14.13397	0.028	1336370.717	0.395751	0.008806658	0.000417	0.880666	0.041707
	jul	41.6	0.478469	27703843	18	27836397.27	18.08612	0	0	0	0	0	0	0
	aug	41.8	0	22675538	0	22675538	0	0	0	0	0	0	0	0
	sept	41.4	0.956938	822516	0	830386.9665	0	0.014	11625.41753	0	7.66113E-05	0	0.007661	0
	oct	40.1	4.066986	203862	104	212153.0383	108.2297	0.116	24609.75244	12.55464	0.000162178	0.013231	0.016218	1.323107
	nov	41.8	0	1031355	170	1031355	170	0.116	119637.18	19.72	0.000788407	0.020782	0.078841	2.078249
	dec	41.8	0	508165	19	508165	19	0.116	58947.14	2.204	0.000388461	0.002323	0.038846	0.232275
					total	151745501.1	948.8756	total	7458371.909	106.7278			4.915053	11.24782
				plant	total	254586934.3	6049.558	Plant total	12482475.68	665.6928				
								%	0.049030308	0.11004				

Schiller Design Flow 2 of 6

			cooling towers		Ristroph		Wedgewire 1.0 mm		0.8		0.69		0.6		VFD	
	entrain	impinge	entrain	impinge	entrain	impinge	entrain	impinge	entrain	impinge	entrain	impinge	entrain	impinge	entrain	impinge
Fish	254586934	6049.558					29277497.45		201632852		216398894.2		240330066			
Macro	1342160645	13827.62					1342160645		1342160645		1342160645		1342160645			
total	1596747579	19877.18	1548845152	19280.867	0	14907.887	1371438142	16895.6	1543793497	16895.6	1558559539	16895.6	1582490711	16895.6	235200918.4	5923.4

Impingement outage			Entrainment outage			% Reduction	
	June	March		June	March		
Fish	52.5	60.75	Fish	16113067	3262209	12850858	0.008048146
Macro	139.5	18	Macro	131595694	0	131595694	0.082414839
	192	78.75		147708761	3262209	144446552	
	0.00608744			0.090463			

Schiller Design Flow 3 of 6

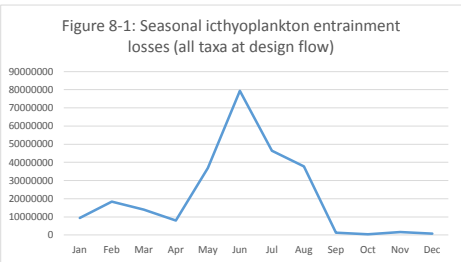
Fish

		Design entrain	Design impinge
Unit 4	jan	1878351	347.8676
	feb	3541033	124
	mar	2999096	90.04412
	aprl	1900281	1926.132
	may	6860767	70.41667
	june	15505027	202
	jul	9086148	49
	aug	7509905	24.23529
	sept	333273.7	66.61765
	oct	53196.91	88.89706
	nov	299973.5	446.6912
	dec	171975.4	487.0392

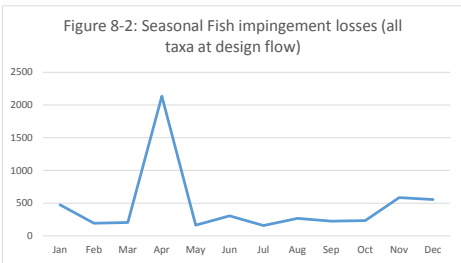
Unit 5	jan	1914560	93.10048
	feb	4018378	35.44498
	mar	3262209	81.36124
	aprl	1390048	176.4593
	may	7993879	59.13876
	june	16113067	69.99043
	jul	9509278	75.5933
	aug	7619272	210
	sept	230244.1	125.3971
	oct	82729.47	111.5789
	nov	395130.9	105.1077
	dec	173609.4	34.56938

Unit 6	jan	5630527	343
	feb	10796680	60
	mar	7706812	2.578947
	aprl	4754972	203.5766
	may	22034990	10.27033
	june	47727526	14.13397
	jul	27836397	18.08612
	aug	22675538	0
	sept	830387	0
	oct	212153	108.2297
	nov	1031355	170
	dec	508165	19
		1.52E+08	948.8756

	Entrain
Combined Jan	9423438
Feb	18356091
Mar	13968116
Apr	8045302
May	36889637
Jun	79345620
Jul	46431823
Aug	37804715
Sep	1393905
Oct	348079.4
Nov	1726459
Dec	853749.9



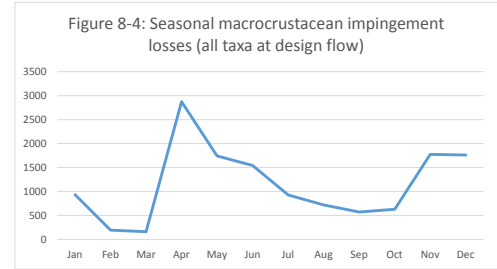
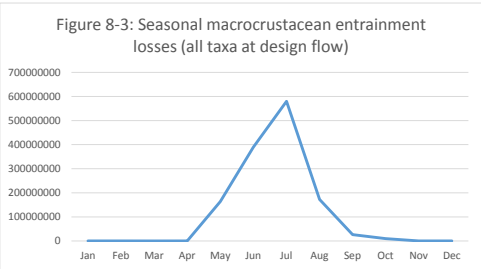
	Impinge
Jan	473.9681
Feb	192.445
Mar	204.4054
Apr	2135.592
May	162.5554
Jun	304.9904
Jul	157.5933
Aug	267.2353
Sep	225.0148
Oct	233.476
Nov	584.7988
Dec	554.6086



Shiller Design Flow 4 of 6

Macrocrustaceans

		Design entrain	impinge entrain			Entrain
Unit 4	jan	16206.36	871.7034	Combined	Jan	49047.61
	feb	10438	170		Feb	32977.27
	mar	0	137.375		Mar	0
	aprl	74070.23	2531.186		Apr	212865.5
	may	50413649	1238.25		May	1.64E+08
	june	1.27E+08	1210		Jun	3.89E+08
	jul	1.89E+08	573		Jul	5.8E+08
	aug	56919408	484.7059		Aug	1.72E+08
	sept	10013038	360.8456		Sep	26477286
	oct	2856950	306.5809		Oct	9753497
	nov	82254.04	1334.559		Nov	320357.4
	dec	63940.41	1520.966		Dec	191973.6
Unit 5	jan	16518.25	49.58612			Impinge
	feb	11845.27	7.753589	Jan	935.2896	
	mar	0	24.06459	Feb	191.7536	
	aprl	63351.11	184.1794	Mar	161.4396	
	may	58739885	301.8541	Apr	2872.973	
	june	1.32E+08	185.6268	May	1740.946	
	jul	1.97E+08	178.7679	Jun	1542.014	
	aug	57748331	113	Jul	927.6053	
	sept	7136430	117.8947	Aug	718.7059	
	oct	3467978	227.3684	Sep	571.6207	
	nov	121424.3	246.6388	Oct	628.6503	
	dec	64548.15	149.4617	Nov	1775.198	
			Dec	1761.427		
Unit 6	jan	16323	14			
	feb	10694	14			
	mar	0	0			
	aprl	75444.16	157.6077			
	may	54405680	200.8421			
	june	1.31E+08	146.3876			
	jul	1.94E+08	175.8373			
	aug	57748331	121			
	sept	9327818	92.88038			
	oct	3428569	94.70096			
	nov	116679	194			
	dec	63485	91			



Shiller Design Flow 5 of 6

Macrocrustaceans

		Average flk Design		Average	Average	Design	design	VSP			entrain	impinge	entrain	impinge
		2002-2007 adjustment		Entrainment	impingement	entrain	impinge	monthly	entrain	impin	reduct	reduct	reduct	reduct
								Reduct	reduc	reduct	%	%	%	%
Unit 4	jan	40.1	1.715686	15933	857	16206.36029	871.7034	0.134	2171.652279	116.8083	4.9852E-06	0.010877	0.000499	1.087684
	feb	40.8	0	10438	170	10438	170	0.134	1398.692	22.78	3.21081E-06	0.002121	0.000321	0.212121
	mar	34.5	15.44118	0	119	0	137.375	0.134	0	18.40825	0	0.001714	0	0.171412
	apr	27.7	32.10784	56068	1916	74070.22549	2531.186	0.134	9925.410216	339.179	2.27845E-05	0.031583	0.002278	3.158335
	may	37.4	8.333333	46535676	1143	50413649	1238.25	0.133	6705015.317	164.6873	0.015391881	0.015335	1.539188	1.535319
	june	40.8	0	126629819	1210	126629819	1210	0.032	4052154.208	38.72	0.009302033	0.003605	0.930203	0.360549
	jul	40.8	0	188540501	573	188540501	573	0	0	0	0	0	0	0
	aug	40.4	0.980392	56366792	480	56919407.61	484.7059	0	0	0	0	0	0	0
	sept	36.3	11.02941	9018365	325	10013037.61	360.8456	0.014	140182.5265	5.051838	0.0003218	0.00047	0.03218	0.047041
	oct	35.1	13.97059	2506743	269	2856949.743	306.5809	0.126	359975.6676	38.62919	0.000826352	0.003597	0.082635	0.359704
	nov	36.6	10.29412	74577	1210	82254.04412	1334.559	0.134	11022.04191	178.8309	2.53019E-05	0.016652	0.00253	1.66522
	dec	39.5	3.186275	61966	1474	63940.40686	1520.966	0.134	8568.01452	203.8094	1.96685E-05	0.018978	0.001967	1.897813
				total		435620273	10739.17	total	11290413.53	1126.904			2.591802	10.4934
Unit 5	jan	41.3	1.196172	16323	49	16518.2512	49.58612	0.112	1850.044134	5.553646	4.05457E-06	0.003109	0.000405	0.31092
	feb	37.3	10.76555	10694	7	11845.26794	7.753589	0.112	1326.67001	0.868402	2.90754E-06	0.000486	0.000291	0.048617
	mar	35.7	14.5933	0	21	0	24.06459	0.112	0	2.695234	0	0.001509	0	0.150892
	apr	37.5	10.28708	57442	167	63351.10526	184.1794	0.112	7095.323789	20.6281	1.55501E-05	0.011549	0.001555	1.154862
	may	32.1	23.20574	47676256	245	58739884.78	301.8541	0.107	6285167.672	32.29839	0.013774606	0.018082	1.377461	1.808222
	june	41.2	1.435407	129733491	183	131595694.2	185.6268	0.003	394787.0827	0.55688	0.000865217	0.000312	0.086522	0.031177
	jul	40.9	2.15311	193161592	175	197320573.6	178.7679	0	0	0	0	0	0	0
	aug	41.8	0	57748331	113	57748331	113	0	0	0	0	0	0	0
	sept	38.8	7.177033	6658544	110	7136429.933	117.8947	0	0	0	0	0	0	0
	oct	39.6	5.263158	3294579	216	3467977.895	227.3684	0.063	218482.6074	14.32421	0.000478828	0.008019	0.047883	0.801939
	nov	40.1	4.066986	116679	237	121424.3182	246.6388	0.112	13599.52364	27.62354	2.98048E-05	0.015465	0.00298	1.546501
	dec	41.1	1.674641	63485	147	64548.14593	149.4617	0.112	7229.392344	16.73971	1.5844E-05	0.009372	0.001584	0.937171
				total		456286578.6	1786.196	total	6929538.316	121.2881			1.518681	6.790302
Unit 6	jan	41.8	0	16323	14	16323	14	0.116	1893.468	1.624	4.20533E-06	0.001247	0.000421	0.124707
	feb	41.8	0	10694	14	10694	14	0.116	1240.504	1.624	2.75512E-06	0.001247	0.000276	0.124707
	mar	29.7	28.94737	0	0	0	0	0.116	0	0	0	0	0	0
	apr	28.7	31.33971	57442	120	75444.15789	157.6077	0.116	8751.522316	18.28249	1.94369E-05	0.014039	0.001944	1.403909
	may	35.9	14.11483	47676256	176	54405679.69	200.8421	0.116	6311058.844	23.29768	0.01401667	0.01789	1.401667	1.789025
	june	41.4	0.956938	129733491	145	130974959.8	146.3876	0.028	3667298.875	4.098852	0.008144959	0.003148	0.814496	0.31475
	jul	41.6	0.478469	193161592	175	194085810.1	175.8373	0	0	0	0	0	0	0
	aug	41.8	0	57748331	121	57748331	121	0	0	0	0	0	0	0
	sept	41.4	0.956938	9239403	92	9327818.34	92.88038	0.014	130589.4568	1.300325	0.000290035	0.000999	0.029004	0.099852
	oct	40.1	4.066986	3294579	91	3428569.055	94.70096	0.116	397714.0104	10.98531	0.000883311	0.008436	0.088331	0.84356
	nov	41.8	0	116679	194	116679	194	0.116	13534.764	22.504	3.00603E-05	0.017281	0.003006	1.728078
	dec	41.8	0	63485	91	63485	91	0.116	7364.26	10.556	1.63558E-05	0.008106	0.001636	0.810593
				total		450253793.2	1302.256	total	10539445.7	94.27266			2.340779	7.23918
						Plant		total	28759397.55	1342.465				
								%	0.021427687	0.097086				

Shiller Design Flow 6 of 6

Entrainment				Wedge wire fish losses				Macro+fish saved			
				1	0.8	0.69	0.6	1	0.8	0.69	0.6
Fish VSP Reductions	12482476			27842012.7	191746731	205788789	228546608	1382485134	1546389852	1560431910	1583189729
Macro VSP Reduction	28759398			12482476	12482476	12482476	12482476				
total	41241874			40324488.7	204229207	218271265	241029084				
				0.15839182	0.8021983	0.85735455	0.9467457				
Impingement											
				Design flow minus VSP	Fish		Macro				
Fish VSP Reductions	666			Fish	4711	10925.25					
Macro VSP Reduction	1342			Macro	666	1342					
total	2008				5377	12267.25	17644.25				
					0.88876033	0.88713118					