

# **Appendix D**

## **Area Weighted Suitability**

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**Wilder Reach 1 AWS**

Flow (cfs)	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning
700	30.37	34.85	107.56	13.62	90.89	100.09	282.25	45.75	302.2	171.24	6.01
1000	21.48	32.02	91.35	16.01	87	104.21	297.45	46.19	278.86	173.97	6.65
2000	12.15	23.22	60.33	24.47	60.21	101.24	307.15	39.02	191.28	141.03	6.44
3000	10.89	18.95	53.52	32.52	44.91	84.93	284.93	28.1	142.74	104.56	3.47
4000	11.78	16.82	51.31	36.76	36.59	73.11	257.54	22.2	112.35	82.17	4.96
5000	13.55	15.57	51.35	39.99	29.73	60.24	231.18	17.82	95.18	66.74	3.94
6000	13.56	15.31	51.2	39.94	24.2	49.01	207.54	13.56	87.47	57.47	2.52
7000	12.85	15.15	50.47	36.04	20.17	41.62	187.88	10.11	83.56	52.38	1.65
8000	12.14	14.77	50.5	31.11	16.73	35.98	171.36	7.98	81.05	49.13	1.03
9000	11.67	14.29	51.06	26.99	14.28	30.31	157.59	6.19	78.98	46.59	0.67
10000	11.28	13.79	50.96	23.68	11.93	25.9	146.86	4.97	77.34	44.58	0.52
11000	10.48	13.44	49.4	19.6	10.52	23.08	138.09	4.09	76.28	43.22	0.51
12000	9.62	13.14	47.92	14.47	9.54	21.05	130.69	3.51	75.33	42.55	0.71
13000	8.47	12.89	46.17	11.11	9.08	19.76	124.57	3.04	74.82	42.02	0.88
14000	7.23	12.43	44.59	8.88	8.32	18.52	119.46	2.65	73.98	41.55	1.16
15000	6.17	11.94	43.02	7.02	7.87	17.54	115.12	2.26	73.45	41.13	1.27
16000	5.25	11.42	41.8	5.24	7.21	16.48	111.35	2.05	73.29	40.5	1.36
17000	4.44	10.87	40.66	3.86	7.11	15.85	108.52	1.88	73.78	40.13	1.41
18000	3.75	10.31	39.22	3.21	6.95	15.38	106.51	1.74	74.25	40.15	1.54
19000	3.12	9.78	37.91	2.96	6.75	15.1	105.22	1.56	74.54	40.45	1.7
20000	2.77	9.27	36.7	2.8	6.25	14.63	104.45	1.4	74.03	40.6	1.83
21000	2.46	8.8	35.55	2.75	5.91	14.15	104.06	1.31	73.5	40.8	1.69
22000	2.15	8.37	34.49	2.8	5.72	13.65	103.83	1.22	73.23	40.95	1.61
23000	1.86	7.99	33.54	2.87	5.57	13.07	103.7	1.35	73.01	41.18	1.6
24000	1.6	7.65	32.63	2.94	5.64	12.94	103.83	1.42	72.49	41.47	1.59
25000	1.37	7.31	31.8	3.03	5.5	12.72	104.03	1.44	72.06	41.55	1.68

**Wilder Reach 1 AWS**

Flow (cfs)	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning
700	44.72	11.64	19.55	21.49	43.69	10.26	50.85	105.05	94.41	73.33
1000	43.49	12.99	22.19	23.16	53.30	18.17	45.77	116.25	103.98	65.22
2000	33.33	11.82	23.92	23.72	66.09	40.76	36.59	132.49	102.21	41.5
3000	23.64	7.37	14.61	17.41	65.74	52.59	31.89	133.15	91.88	33.12
4000	19.54	7.89	11.22	14.2	59.30	58.43	25.76	125.66	82.2	26.1
5000	13.93	5.3	10.32	10.47	51.84	60.37	21.24	115.84	72.83	22.96
6000	10.56	3.38	7.4	7.89	45.56	59.51	18.36	104.27	65.47	20.75
7000	8.19	2.41	4.95	5.59	39.19	56.72	16.21	92.84	59.28	18.92
8000	6.67	1.66	3.69	4.05	32.71	53.09	14.3	82.46	53.59	17.23
9000	5.58	1.08	2.69	2.99	26.89	49.33	12.51	73.71	48.84	15.71
10000	4.9	0.69	2.1	2.46	21.85	45.84	10.71	66.43	44.95	14.49
11000	4.36	0.62	1.65	2.11	17.89	42.66	9.21	60.41	41.83	13.65
12000	4.29	0.62	1.59	2.2	14.68	39.72	8.15	55.47	39.27	12.3
13000	4.23	0.63	1.59	2.37	12.12	37.15	7.44	51.42	37.17	10.69
14000	4.48	0.68	1.84	2.59	9.95	34.88	7.04	48.21	35.51	9.15
15000	4.55	0.67	2.01	2.79	8.31	32.88	6.7	45.64	34.28	8.07
16000	4.62	0.68	2.13	2.88	6.94	31.1	6.53	43.58	33.31	7.29
17000	4.71	0.74	2.27	3.02	5.82	29.62	6.39	41.99	32.56	6.61
18000	5.01	0.83	2.29	3.11	5.04	28.38	6.41	40.68	31.9	6.09
19000	5.29	0.86	2.51	3.35	4.58	27.36	6.42	39.58	31.36	5.64
20000	5.29	0.84	2.53	3.44	4.12	26.47	6.54	38.66	30.96	5.31
21000	5.2	0.77	2.52	3.38	3.66	25.68	6.51	37.93	30.66	5.03
22000	4.94	0.81	2.52	3.15	3.27	24.94	6.44	37.28	30.41	4.78
23000	4.7	1	2.63	3.19	3.03	24.32	6.39	36.68	30.2	4.56
24000	4.65	1.1	2.62	3.16	2.89	23.69	6.27	36.21	30.03	4.29
25000	4.66	1.36	2.66	3.25	2.88	23.16	6.26	35.76	29.86	4.12

**Wilder Reach 1 AWS**

Flow (cfs)	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	DWM	Co-Occurring Mussels
700	0	95.84	18.19	278.22	96.20	168.73
1000	1.75	91.07	30.83	284.78	101.22	177.09
2000	7.44	61.71	101.48	259.94	93.55	184.25
3000	3.85	48.94	191.19	206.33	80.06	178.43
4000	5.29	38.38	252.27	162.61	63.23	168.95
5000	8.37	27.06	306.26	122.81	45.86	157.50
6000	5.84	20.82	340.21	103.13	32.50	143.27
7000	4.34	17.23	353.86	97.73	25.30	129.07
8000	2.88	15.65	364.95	92.15	21.16	115.31
9000	1.91	15.54	374.01	86.71	18.31	102.35
10000	0.45	15.32	377.74	87.11	16.59	90.91
11000	0.41	14.57	381.61	87.3	15.35	80.62
12000	0.18	15.31	383.46	88.27	14.41	71.66
13000	0.18	16.7	385.41	87.88	13.81	63.86
14000	0.26	16.09	389.4	86.44	13.30	57.19
15000	1.31	16.52	392.41	84.67	12.98	51.52
16000	2.01	20.53	397.31	80.94	12.73	46.63
17000	1.88	20.98	399.9	81.12	12.48	42.45
18000	2.49	21.53	401.86	81.35	12.21	38.85
19000	2.28	21.53	403.43	82.59	12.05	35.92
20000	1.9	20.71	406.82	82.61	11.79	33.36
21000	3.82	19.82	409.18	81.94	11.55	31.24
22000	2.64	22.05	412.76	80.06	11.40	29.41
23000	3.15	19.94	413.85	82.56	11.25	27.90
24000	3.02	17.5	415.67	85.42	11.13	26.63
25000	2.59	17.87	418.08	85.81	10.95	25.22

**Wilder Reach 2 AWS**

Flow (cfs)	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning
700	10.84	15.7	60.74	20.08	58.2	86.59	197.37	26.15	180.42	106.17	8.42
1000	10.13	14.56	49.51	24.82	52.84	84.96	205.7	23.55	156.19	94.76	6.85
2000	8.6	12.72	38.31	33.58	44.01	77.78	197.21	18.91	99.21	59.75	9.7
3000	7.76	11.3	36.48	42.01	39	65.45	171.83	16.44	75.76	44.78	11.01
4000	7.3	10.14	34.96	47.18	34.39	56.12	151.1	16.09	64.65	38.39	13.91
5000	6.44	9.39	33.62	49.24	26.34	49.13	134.65	14.7	57.54	34.66	9.77
6000	6.02	8.73	31.72	51.45	22.28	40.77	120.39	10.08	54.11	31.82	5.09
7000	5.76	8.12	29.19	50.22	18.95	33.33	107.81	6.57	50.8	30.54	3.24
8000	5.77	7.7	26.75	46.02	16.68	27.5	97.94	4.64	47.14	29.78	2.94
9000	5.46	7.57	24.39	42.46	14.5	23.24	90.07	3.44	44.01	28.85	3.16
10000	4.79	7.5	22.4	38.72	12.29	19.96	83.82	2.6	41.67	27.65	2.67
11000	4.19	7.33	21.12	34.24	10.9	17.39	78.81	1.93	39.63	26.31	2.28
12000	3.54	7.07	20.32	29.09	9.7	14.9	74.62	1.45	37.54	24.78	1.99
13000	3.03	6.69	19.66	24.24	8.84	12.75	71.02	1.23	35.72	23.38	1.81
14000	2.61	6.35	19.04	20.15	8	11.17	67.97	1.19	34.19	22.11	1.53
15000	2.25	6.02	18.3	16.82	7.07	10.36	65.35	1.21	33.02	20.83	1.2
16000	1.96	5.68	17.59	14.08	6.11	9.88	63.21	1.15	31.91	19.73	0.98
17000	1.73	5.37	17.05	11.75	5.45	9.35	61.27	1.09	30.99	18.74	0.77
18000	1.53	5.1	16.51	9.8	5.18	8.8	59.45	1.03	29.95	17.94	0.62
19000	1.32	4.84	15.97	8.18	4.83	8.31	57.78	1.04	29.15	17.23	0.47
20000	1.13	4.59	15.43	6.82	4.62	7.92	56.31	1.07	28.65	16.63	0.36
21000	1.01	4.35	14.91	5.77	4.29	7.69	54.98	1.09	28.13	16.2	0.28
22000	0.88	4.12	14.47	5	4.19	7.45	53.82	1.13	27.59	15.88	0.27
23000	0.74	3.92	14.06	4.42	4.49	7.25	52.67	1.11	27.25	15.55	0.29
24000	0.62	3.73	13.69	4.01	5.56	6.95	51.55	1.17	27.17	15.27	0.36
25000	0.51	3.55	13.35	3.68	6.57	6.77	50.52	1.44	27.31	15.05	0.47

**Wilder Reach 2 AWS**

Flow (cfs)	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning
700	34.17	15.62	31.53	26.93	43.44	28.23	42.69	97.63	80.16	45.6
1000	31.33	11.7	25.66	23.73	48.18	36.75	33.33	104.75	84.13	38.02
2000	27.05	13.87	24.37	22.32	52.99	57.44	18.45	108.28	76.19	19.84
3000	24.65	13.08	24.89	21.97	51.69	64.03	14.36	101.74	66.03	14.35
4000	23.94	13.95	26.7	23.04	49.92	67.5	11.54	91.15	57.47	11.28
5000	18.9	10.3	22.39	20.11	46.98	67.97	9.08	79.63	50	9.17
6000	14.18	5.42	15.41	14.1	42.40	65.61	7.68	69.25	43.79	7.27
7000	11.85	3.75	10.83	10.29	38.16	63	6.71	60.29	38.9	6.03
8000	9.83	3.82	8.77	8.41	34.10	60.92	5.9	53.43	35.28	5.13
9000	7.91	3.27	7.59	7.18	29.91	58.48	5.2	47.93	32.49	4.51
10000	6.4	2.27	6.09	5.79	25.07	54.13	4.64	43.35	30.23	3.92
11000	5.53	2.11	5.22	4.88	20.45	50.08	4.24	39.55	28.31	3.33
12000	4.82	1.82	4.83	4.35	16.59	46.23	3.82	36.34	26.56	2.94
13000	4.54	1.53	4.42	3.91	13.72	42.7	3.4	33.72	24.99	2.63
14000	4.44	1.57	3.85	3.64	11.57	39.58	3.02	31.38	23.49	2.41
15000	4.19	1.51	3.29	3.35	9.79	36.4	2.77	29.41	22.14	2.21
16000	3.87	1.37	2.81	3.01	8.13	33.42	2.57	27.73	20.93	1.99
17000	3.62	1.03	2.45	2.72	6.73	30.7	2.41	26.28	19.85	1.81
18000	3.3	0.75	2.15	2.36	5.58	28.29	2.27	24.98	18.9	1.71
19000	2.98	0.58	1.78	2.05	4.66	26.21	2.2	23.78	17.99	1.65
20000	2.76	0.5	1.49	1.81	3.97	24.34	2.18	22.7	17.15	1.54
21000	2.54	0.45	1.2	1.64	3.48	22.68	2.19	21.74	16.39	1.49
22000	2.43	0.44	1	1.51	3.11	21.2	2.2	20.86	15.68	1.47
23000	2.44	0.43	0.89	1.41	2.83	19.87	2.23	20.08	15.06	1.44
24000	2.67	0.49	0.92	1.42	2.68	18.67	2.27	19.39	14.54	1.44
25000	3.04	0.6	1.01	1.47	2.58	17.61	2.38	18.77	14.08	1.52

**Wilder Reach 2 AWS**

Flow (cfs)	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	DWM	Co-Occurring Mussels
700	12.23	57.75	24.97	193.49	84.58	108.73
1000	12.54	48.69	47.59	192.56	87.93	113.40
2000	15.92	40.77	138.93	137.85	71.52	119.42
3000	21.91	35.05	204.06	94.91	42.73	119.69
4000	24.55	29.98	239.3	78.98	28.87	115.46
5000	21.6	22.79	267.31	69.43	22.09	104.27
6000	18.29	20.33	285.01	63.36	18.26	90.36
7000	12.73	19.97	301.35	58.41	15.89	76.81
8000	11.12	15.21	315.66	56.08	14.05	65.16
9000	10.4	11.61	324.77	54.03	12.53	55.90
10000	9.52	9.11	331.4	53.2	11.17	48.50
11000	9.94	8.87	337.14	50.56	10.07	42.83
12000	8.69	8.71	342.26	49.11	8.85	38.35
13000	6.89	9.58	348.35	46.59	7.76	34.66
14000	6.46	9.09	351.55	46.09	6.79	31.46
15000	5.19	8.3	357.28	43.34	6.12	28.90
16000	4.29	7.44	361.76	41.38	5.51	26.61
17000	3.77	7.17	364.27	40.78	4.95	24.69
18000	2.69	7.36	367.01	39.75	4.51	23.02
19000	1.87	8.07	369.79	38.69	4.16	21.59
20000	0.99	7.49	373.59	36.95	3.91	20.31
21000	0.54	7.7	376.37	35.27	3.68	19.13
22000	0.26	8.01	377.88	34.79	3.59	18.09
23000	0.51	9.24	379.96	33.5	3.51	17.22
24000	0.52	9.95	381.6	32.75	3.46	16.47
25000	0.42	11.16	382.26	33.01	3.45	15.81



**Wilder Reach 3 AWS**

Flow (cfs)	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning
700	2.07	8.01	22.77	21.65	125.73	158.99	216.67	78.08	174.02	160.66	16.06
1000	1.55	6.29	16.65	27.26	123.04	163.23	216.19	81.71	134.07	131.87	19.47
2000	1.56	4.02	15.96	50.9	117.01	161.56	181.38	88.55	67.9	66.6	31.63
3000	0.57	2.73	18.01	79.59	88.33	159.23	151.48	88.81	36.65	40.76	30.88
4000	0.25	1.97	17.56	101.78	62.24	138.63	123.53	75.15	22.44	26.31	20.42
5000	0.25	1.55	15.81	114.7	49.46	111.44	100.77	60.06	16.45	18.66	13.3
6000	0.25	1.32	13.95	123.17	37.9	86.78	82.54	45.9	12.87	14.35	10.37
7000	0.27	1.14	12.21	126.53	27.86	68.7	67.05	34.06	11.01	11.55	8
8000	0.34	1.01	10.44	126.25	20.66	54.39	53.93	23.63	9.95	9.85	5.68
9000	0.45	0.94	8.81	122.39	15.95	42.25	43.45	15.9	9.44	8.77	3.88
10000	0.45	0.94	7.44	116.07	12.73	32.94	35.51	11.01	9.44	8.1	3.01
11000	0.44	0.96	6.27	108.68	11.67	26.35	30	8.16	9.84	7.87	2.82
12000	0.4	0.98	5.26	99.29	11.79	21.85	26.29	6.86	9.97	7.98	3.51
13000	0.34	1	4.51	88.61	12.25	19.05	23.72	6.51	9.87	8.16	5.12
14000	0.29	0.97	4.03	76.88	11.04	17.39	21.88	6.9	9.5	8.28	6.52
15000	0.26	0.94	3.75	65.35	9.4	16.38	20.68	7.47	9.2	8.32	6.52
16000	0.24	0.92	3.62	54.41	8.31	15.41	19.91	6.96	9.19	8.36	5.34
17000	0.23	0.9	3.53	44.99	7.45	13.75	19.34	5.88	9.45	8.33	3.9
18000	0.23	0.87	3.31	36.85	6.55	12.24	18.81	4.93	9.47	8.27	2.65
19000	0.21	0.84	3.14	30.57	5.73	11.17	18.38	4.27	9.52	8.27	1.73
20000	0.19	0.82	3.01	25.39	5.08	10.39	18.11	3.74	9.54	8.32	1.14
21000	0.16	0.79	2.87	21.56	4.51	9.69	17.89	3.26	9.53	8.36	0.78
22000	0.14	0.77	2.76	18.52	4	8.98	17.69	2.84	9.39	8.42	0.58
23000	0.11	0.75	2.67	16.21	3.61	8.25	17.51	2.49	9.36	8.47	0.49
24000	0.1	0.72	2.6	14.52	3.28	7.56	17.36	2.17	9.32	8.45	0.44
25000	0.07	0.7	2.51	13.07	2.99	7.02	17.23	1.92	9.32	8.48	0.41

**Wilder Reach 3 AWS**

Flow (cfs)	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning
700	66.35	29.13	46.23	42.58	79.21	30.98	62.79	115.47	95.42	79.13
1000	70.85	34.9	53.32	48.62	98.98	49.04	50.09	121.78	92.09	62.46
2000	86.48	52.52	79.05	70.44	132.41	92.74	31.43	121.93	72.58	37.63
3000	76.94	50.24	82.57	74.49	146.23	118.98	18.47	111.75	58.86	25.61
4000	54.35	31.78	66.84	57.82	145.20	131.61	10.97	97.27	49.26	20.41
5000	34	18.86	49.06	41.78	139.20	135.21	6.98	81.3	41.44	16.4
6000	25.4	13.9	34.36	31.42	131.54	133.56	4.77	66.14	34.56	12.99
7000	17.9	10.34	23.63	23.33	121.70	129.16	3.63	53.36	28.83	9.87
8000	12.78	6.79	16.19	16.84	109.76	122.46	3.14	43.12	24.29	7.78
9000	9.69	4.73	11.32	12	97.52	114.96	2.78	35.2	20.88	6.55
10000	7.78	3.6	8.37	8.75	86.35	107.17	2.59	29.07	18.25	5.51
11000	7.14	3.22	6.8	7.01	75.88	99.03	2.59	24.33	16.18	4.85
12000	7.39	3.75	6.51	6.66	65.82	90.88	2.64	20.64	14.57	4.27
13000	8.62	4.98	7.42	7.4	56.71	83.1	2.68	17.84	13.25	3.78
14000	8.9	5.93	8.59	8.5	48.54	76.02	2.59	15.66	12.07	3.46
15000	8	5.55	9.19	8.88	41.17	69.2	2.43	13.91	11.04	3.26
16000	6.8	4.13	8.89	8.21	34.54	62.71	2.31	12.55	10.18	3.17
17000	5.78	2.83	7.81	7.02	28.86	56.82	2.26	11.36	9.4	3.13
18000	4.84	1.91	6.54	5.84	24.19	51.64	2.25	10.36	8.74	3.07
19000	4.1	1.38	5.26	4.8	20.53	47.21	2.23	9.51	8.12	2.99
20000	3.64	1.18	4.04	4.05	17.65	43.28	2.16	8.81	7.5	2.87
21000	3.23	1.04	2.92	3.36	15.47	39.87	2.08	8.23	6.94	2.7
22000	2.88	0.94	2.09	2.8	13.75	36.83	1.98	7.74	6.46	2.5
23000	2.59	0.82	1.59	2.35	12.33	34.08	1.93	7.3	6.07	2.28
24000	2.3	0.72	1.34	2	11.13	31.58	1.86	6.95	5.74	2.1
25000	2.01	0.63	1.27	1.74	10.03	29.33	1.79	6.67	5.43	1.95

**Wilder Reach 3 AWS**

Flow (cfs)	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	DWM (Corrected)	Co-Occurring Mussels
700	15.27	104.21	19.66	199.06	103.19	159.12
1000	14.79	111.13	66.51	169.02	106.84	169.73
2000	27.19	105.99	193.5	78.6	79.33	193.86
3000	45.99	64.86	274.02	33.23	46.29	198.30
4000	56.76	33.82	314.32	21.34	23.29	184.69
5000	42.13	27.14	346.15	18.81	13.86	162.00
6000	33.1	18.61	373.1	14.56	8.91	135.45
7000	21.16	13.29	396.6	10.72	6.29	110.00
8000	15.15	12.71	407.6	8.48	4.48	87.49
9000	14.01	11.24	413.48	7.44	3.25	68.67
10000	10.32	9.05	419.91	9.16	2.48	54.04
11000	8.16	11.24	423.14	8.79	2.19	43.02
12000	6.26	13.99	426.34	9	2.14	34.95
13000	6.34	13.39	429.62	9.56	2.16	29.19
14000	8.15	11.47	431.1	9.63	2.24	24.83
15000	9.02	10.8	433.23	8.91	2.27	21.20
16000	9.71	9.43	435.17	8.59	2.24	18.22
17000	9.51	8.55	436.86	8.72	2.23	15.81
18000	8.82	8.7	438.91	7.89	2.19	13.88
19000	7.46	8.02	441.04	8.49	2.09	12.26
20000	6.21	7.7	442.63	9.12	1.97	10.99
21000	4.04	7.46	445.52	9.3	1.87	9.95
22000	2.88	5.97	448.18	9.89	1.78	9.12
23000	2.2	6.02	449.72	9.59	1.68	8.41
24000	2.32	6.44	450.06	9.37	1.63	7.81
25000	1.79	6.83	450.88	9.34	1.55	7.30

**Wilder All AWS**

Flow (cfs)	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning
700	14.16	19.28	62.83	18.52	92.33	116.15	231.77	50.59	217.93	146.33	10.29
1000	10.85	17.38	51.75	22.8	88.38	118.43	239.28	51.14	188.53	133.5	11.17
2000	7.31	13.12	37.73	36.62	74.66	114.54	227.58	49.66	118.38	88.65	16.26
3000	6.28	10.82	35.62	51.97	58.07	104.39	201.66	45.39	84.03	62.89	15.45
4000	6.31	9.48	34.25	62.75	44.78	90.33	176.25	38.6	65.55	48.48	13.25
5000	6.61	8.68	33.22	68.96	35.48	74.4	154.38	31.47	55.55	39.57	9.09
6000	6.48	8.3	31.9	72.61	28.33	59.44	135.68	23.66	50.67	34.12	6.09
7000	6.17	7.99	30.23	72.1	22.44	48.32	119.78	17.28	47.67	31.07	4.38
8000	5.96	7.68	28.83	69.03	18.08	39.61	106.61	12.33	45.28	29.17	3.27
9000	5.75	7.46	27.68	65.18	14.93	32.15	95.91	8.67	43.41	27.66	2.6
10000	5.4	7.28	26.52	60.68	12.33	26.41	87.61	6.29	42.11	26.39	2.09
11000	4.94	7.11	25.19	55.32	11.04	22.36	81.2	4.8	41.24	25.42	1.89
12000	4.43	6.94	24.1	48.7	10.38	19.32	76.13	4	40.29	24.74	2.1
13000	3.87	6.73	23.05	42.32	10.1	17.23	72.06	3.66	39.5	24.18	2.66
14000	3.31	6.46	22.16	36.18	9.16	15.73	68.76	3.65	38.6	23.65	3.14
15000	2.84	6.19	21.31	30.48	8.14	14.79	66.07	3.73	37.94	23.11	3.07
16000	2.44	5.9	20.64	25.21	7.23	13.95	63.88	3.46	37.52	22.56	2.62
17000	2.09	5.61	20.06	20.72	6.69	13	62.12	3.01	37.47	22.1	2.07
18000	1.8	5.33	19.33	17.05	6.23	12.14	60.69	2.62	37.29	21.82	1.62
19000	1.52	5.06	18.67	14.25	5.77	11.52	59.57	2.33	37.14	21.7	1.31
20000	1.34	4.8	18.05	11.96	5.31	10.97	58.75	2.11	36.82	21.57	1.11
21000	1.19	4.57	17.46	10.27	4.89	10.5	58.11	1.92	36.47	21.5	0.92
22000	1.04	4.34	16.93	8.98	4.62	10.01	57.58	1.75	36.16	21.47	0.82
23000	0.89	4.14	16.46	8.01	4.54	9.49	57.11	1.67	35.97	21.45	0.79
24000	0.76	3.96	16.02	7.31	4.79	9.12	56.73	1.6	35.76	21.45	0.79
25000	0.64	3.79	15.61	6.73	4.98	8.79	56.41	1.61	35.66	21.41	0.84

**Wilder All AWS**

Flow (cfs)	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning
700	48.79	19.01	32.73	30.59	55.99	23.32	52.34	106.25	90.11	66.3
1000	49.03	20.18	34.14	32.19	67.54	34.96	43.21	114.42	93.37	55.39
2000	49.74	26.63	43.22	39.49	84.86	64.26	28.88	120.92	83.43	33.09
3000	42.49	24.13	41.57	38.73	89.13	79.39	21.51	115.46	71.97	24.39
4000	33.07	18.17	35.59	32.24	86.11	86.81	15.98	104.54	62.69	19.29
5000	22.52	11.64	27.72	24.49	80.64	88.85	12.32	92.02	54.48	16.18
6000	16.9	7.7	19.38	18.09	74.49	87.22	10.15	79.6	47.66	13.66
7000	12.76	5.6	13.36	13.29	67.59	83.93	8.74	68.5	42.05	11.57
8000	9.82	4.15	9.69	9.92	59.96	79.74	7.68	59.32	37.44	10
9000	7.77	3.06	7.28	7.49	52.44	75.12	6.75	51.92	33.79	8.87
10000	6.39	2.21	5.58	5.73	45.32	69.85	5.91	45.92	30.87	7.92
11000	5.71	2.01	4.6	4.72	38.87	64.67	5.29	41.07	28.51	7.23
12000	5.54	2.1	4.36	4.45	33.09	59.62	4.82	37.13	26.54	6.46
13000	5.86	2.44	4.54	4.62	28.19	54.92	4.47	33.98	24.89	5.66
14000	6	2.79	4.84	4.99	24.00	50.71	4.18	31.41	23.45	4.98
15000	5.63	2.64	4.92	5.09	20.33	46.65	3.94	29.32	22.24	4.49
16000	5.13	2.1	4.7	4.77	17.02	42.84	3.77	27.63	21.24	4.13
17000	4.73	1.56	4.25	4.31	14.22	39.42	3.66	26.22	20.37	3.83
18000	4.39	1.18	3.72	3.81	11.96	36.43	3.62	25.02	19.61	3.61
19000	4.12	0.95	3.23	3.43	10.23	33.88	3.59	23.98	18.92	3.42
20000	3.89	0.85	2.71	3.12	8.82	31.61	3.6	23.08	18.3	3.23
21000	3.65	0.76	2.23	2.81	7.73	29.63	3.56	22.33	17.76	3.06
22000	3.4	0.74	1.87	2.49	6.85	27.85	3.51	21.66	17.28	2.91
23000	3.23	0.75	1.7	2.32	6.15	26.26	3.48	21.06	16.88	2.75
24000	3.19	0.77	1.62	2.19	5.62	24.79	3.43	20.56	16.54	2.6
25000	3.21	0.86	1.64	2.14	5.20	23.49	3.44	20.11	16.22	2.52

**Wilder All AWS**

Flow (cfs)	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	DWM (Corrected)	Co-Occurring Mussels
700	9.29	86.32	20.91	223.07	94.84	145.81
1000	9.8	84.21	48.69	214.47	98.84	153.75
2000	17.07	70.26	145.67	157.1	81.42	166.44
3000	24.38	49.94	224.17	109.84	56.15	166.17
4000	29.46	34.05	269.59	86.24	38.14	156.97
5000	24.42	25.7	307.41	69.26	26.98	141.70
6000	19.37	19.89	333.63	59.38	19.66	123.29
7000	12.92	16.76	351.58	54.67	15.63	105.39
8000	9.83	14.48	363.69	51.31	13.04	89.28
9000	8.88	12.76	371.65	48.51	11.19	75.49
10000	6.83	11.12	377.27	48.96	9.92	64.26
11000	6.21	11.56	381.53	48.04	9.06	55.22
12000	5.07	12.7	384.91	47.95	8.34	48.04
13000	4.51	13.23	388.68	47.2	7.79	42.28
14000	5.02	12.2	391.54	46.59	7.34	37.55
15000	5.26	11.85	395.13	44.87	7.02	33.61
16000	5.43	12.4	398.86	42.9	6.73	30.23
17000	5.15	12.16	401.11	42.8	6.46	27.40
18000	4.76	12.45	403.36	42.26	6.21	25.01
19000	3.95	12.45	405.52	42.52	6.02	23.02
20000	3.1	11.88	408.42	42.18	5.80	21.33
21000	2.82	11.57	411.1	41.48	5.62	19.89
22000	1.94	11.88	413.68	40.91	5.51	18.67
23000	1.96	11.61	415.25	41.2	5.40	17.64
24000	1.96	11.19	416.5	41.81	5.33	16.77
25000	1.6	11.84	417.79	42.02	5.24	15.92

**Bellows Falls AWS (Corrected was same as Wilder All)**

Flow (cfs)	American Shad juvenile	American Shad adult	American Shad spawning	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1300	320.08	239.391	197.627	28.25	31.97	95.55	33.13	115.66	153.06	289.42	63.87
2300	345.176	289.032	258.499	20.64	29.65	77.70	49.85	91.02	149.36	294.00	61.33
3300	348.063	325.053	298.284	13.13	27.25	76.03	59.78	69.16	126.95	280.62	50.86
4300	341.461	352.217	324.903	12.16	24.29	75.88	69.22	51.13	100.94	260.43	39.64
5300	331.132	372.385	341.332	11.55	21.55	72.24	74.04	37.88	84.41	239.78	30.96
6300	318.659	386.306	351.701	10.27	19.88	68.74	74.59	29.48	72.49	220.76	24.89
7300	305.901	394.652	357.881	8.42	18.74	65.97	72.67	24.92	59.10	204.25	19.20
8300	292.398	399.433	360.549	6.91	17.63	63.93	68.80	19.81	49.59	189.84	15.21
9300	279.18	401.786	360.969	5.48	16.41	62.15	63.29	17.57	41.62	177.09	11.23
10300	266.643	401.874	360.089	4.40	15.28	59.97	55.37	14.78	35.60	165.98	9.12
11300	254.182	399.941	358.173	3.86	14.20	57.56	48.00	12.74	31.60	156.08	7.85
12300	241.845	395.92	355.479	3.85	13.24	54.68	42.15	10.75	27.34	147.29	6.44
13300	229.715	389.886	351.896	3.70	12.48	52.06	37.21	9.64	23.80	139.67	5.40
14300	217.894	382.416	347.546	3.40	11.86	49.51	32.46	8.54	20.72	133.03	4.40
15300	206.598	373.71	342.658	3.05	11.40	47.31	27.78	7.94	18.55	127.69	3.87
16300	195.864	364.181	336.788	2.73	11.00	45.39	22.93	7.39	16.97	123.13	3.37
17300	185.625	354.23	329.784	2.48	10.59	43.62	19.01	6.73	15.66	119.03	2.95
18300	175.868	343.903	321.847	2.23	10.17	42.13	16.15	6.20	14.51	115.32	2.56
19300	166.68	333.485	313.276	2.00	9.74	40.82	13.73	5.87	13.39	112.01	2.18
20300	158.146	322.982	303.895	1.74	9.33	39.78	11.83	5.48	12.39	109.19	1.91
21300	150.203	312.486	293.982	1.50	8.95	38.79	10.30	4.83	11.73	106.72	1.78
22300	142.84	302.213	283.711	1.29	8.61	37.81	9.08	4.38	11.19	104.48	1.64
23300	136.048	292.244	273.355	1.17	8.32	36.82	8.07	4.15	10.52	102.36	1.37
24300	129.863	282.566	263.004	1.10	8.04	35.93	7.27	3.84	9.91	100.39	1.16
25300	124.199	273.389	252.751	1.05	7.77	35.09	6.49	3.67	9.46	98.61	1.03

**Bellows Falls AWS**

Flow (cfs)	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates
1300	245.55	162.55	13.88	62.11	30.28	52.40	49.47	82.09	52.23
2300	182.77	137.63	13.58	50.73	29.62	46.49	45.56	100.49	78.79
3300	143.64	109.84	10.48	34.35	20.88	36.68	37.02	105.35	93.14
4300	116.39	89.85	7.45	23.45	14.59	24.19	27.33	100.90	98.46
5300	101.23	74.27	8.11	17.78	12.95	19.24	21.53	93.05	100.22
6300	91.56	63.42	7.60	13.09	11.08	17.42	17.46	82.96	98.72
7300	84.97	56.01	7.51	10.99	9.47	16.56	15.20	73.42	94.51
8300	79.81	50.59	5.68	8.65	8.05	13.91	12.95	64.52	88.33
9300	75.93	46.15	4.55	7.47	6.77	11.20	10.61	56.57	81.87
10300	71.88	42.59	4.80	7.16	6.43	10.55	9.79	49.59	77.80
11300	68.61	39.53	4.07	5.89	5.12	9.50	8.74	43.41	73.13
12300	65.68	36.94	3.01	4.81	3.89	8.00	7.35	37.58	69.07
13300	63.50	34.74	2.02	3.69	2.79	6.47	5.84	32.18	64.24
14300	61.80	32.89	1.31	3.14	2.39	4.63	4.61	27.13	59.54
15300	60.27	31.44	1.20	2.88	2.43	3.67	3.90	22.85	55.39
16300	58.94	30.07	1.22	2.55	2.42	3.30	3.55	19.29	51.77
17300	57.36	28.92	1.19	2.22	2.30	3.16	3.32	16.45	48.55
18300	56.03	27.83	1.02	1.88	1.86	2.90	3.04	14.04	45.62
19300	54.71	26.73	0.89	1.75	1.58	2.58	2.74	11.96	42.98
20300	53.41	25.70	0.87	1.78	1.59	2.42	2.60	10.24	40.89
21300	52.27	24.67	0.86	1.62	1.61	2.31	2.46	8.82	39.15
22300	51.17	23.65	0.78	1.31	1.48	2.11	2.26	7.62	37.38
23300	50.15	22.68	0.71	1.14	1.22	1.83	2.00	6.63	35.78
24300	49.37	21.75	0.65	1.03	1.10	1.65	1.77	5.90	34.46
25300	48.78	20.94	0.59	0.90	1.02	1.53	1.58	5.24	33.20



**Bellows Falls AWS**

Flow (cfs)	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow
1300	44.538	125.519	93.567	58.056	14.412	119.039	80.749	252.627
2300	31.888	132.034	93.152	41.498	19.113	77.646	170.474	227.967
3300	22.63	129.103	87.62	33.143	17.031	60.66	245.719	187.074
4300	13.972	121.134	79.514	23.427	15.534	40.918	305.002	160.046
5300	9.897	111.153	71.755	18.498	14.758	29.38	355.32	131.182
6300	7.78	101.591	65.029	15.179	15.442	24.5	382.116	117.802
7300	6.466	92.48	59.052	12.139	17.118	19.401	396.304	112.522
8300	5.694	84.185	53.927	9.854	15.752	16.342	412.088	105.219
9300	5.14	76.515	49.438	8.217	12.018	18.848	425.731	98.927
10300	4.542	69.935	45.626	6.931	13.756	14.923	434.61	96.175
11300	3.999	64.34	42.425	5.907	12.021	15.212	444.783	91.392
12300	3.602	59.385	39.662	5.248	12.236	11.826	451.715	89.813
13300	3.252	55.194	37.325	4.757	11.362	11.774	456.831	87.709
14300	3.1	51.527	35.323	4.297	9.163	11.01	463.866	85.597
15300	3.024	48.308	33.578	3.875	7.286	11.264	471.083	82.314
16300	2.979	45.52	32.069	3.415	5.857	11.065	477.621	79.323
17300	2.886	43.129	30.737	3.03	4.646	11.38	484.062	75.539
18300	2.716	41.023	29.547	2.763	3.175	11.27	487.983	74.745
19300	2.571	39.174	28.507	2.59	2.815	12.19	490.859	73.194
20300	2.443	37.516	27.587	2.417	4.32	10.229	494.32	71.255
21300	2.318	36.037	26.749	2.243	3.216	9.19	500.497	68.301
22300	2.212	34.707	25.947	2.128	3.848	8.37	502.28	67.978
23300	2.091	33.512	25.219	2.019	3.281	9.199	505.426	65.894
24300	1.983	32.411	24.531	1.934	3.391	8.23	507.937	65.433
25300	1.903	31.429	23.873	1.852	3.828	7.85	509.338	65.089

**Bellows Falls AWS**

Flow (cfs)	DWM	Co-Occurring Mussels
1300	118.16	186.32
2000	110.60	192.28
3000	90.86	190.60
4000	75.61	182.37
5000	59.18	171.79
6000	45.69	160.57
7000	37.58	148.49
8000	32.37	135.41
9000	28.72	122.59
10000	26.02	110.91
11000	23.75	100.29
12000	21.75	90.91
13000	20.43	82.33
14000	19.39	74.88
15000	18.50	68.39
16000	17.57	62.65
17000	16.70	57.53
18000	15.98	52.99
19000	15.51	48.96
20000	15.11	45.52
21000	14.62	42.46
22000	14.19	39.71
23000	13.85	37.34
24000	13.45	35.19
25000	13.02	33.25

**Bellows Falls Bypassed Reach AWS (Low Velocity Calibration)**

Flow (cfs)	American Shad juvenile	American Shad adult	American Shad spawning	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
100	29.49	4.28	14.12	0.05	0	0	1.01	5.89	19.01	23.34	2.86
200	33.58	8.49	20.58	0.33	0	0	3.63	6.41	20.31	25.22	3.89
300	34.25	11.93	24.99	0.48	0.01	0.01	5.95	6.3	19.99	25.23	4.27
400	34.94	14.43	28.31	0.51	0.06	0.02	7.33	6.47	19.27	25.46	4.44
500	35.58	16.16	30.38	0.48	0.15	0.04	8.24	6.52	18.48	24.99	4.46
600	36.16	17.61	31.93	0.45	0.21	0.08	8.69	6.48	18.24	24.5	4.36
700	36.63	18.82	33.16	0.43	0.26	0.13	8.93	6.37	18.04	24.25	4.1
800	37	19.79	34.15	0.41	0.3	0.2	9.01	6.14	18.09	24.1	3.88
900	37.38	20.53	34.99	0.38	0.33	0.35	9.3	6.21	18.37	23.92	3.68
1000	37.75	21.05	35.65	0.36	0.33	0.62	9.67	6.28	18.32	23.77	3.52
1100	38.23	21.32	36.21	0.34	0.34	0.88	9.9	6.19	17.94	23.76	3.36
1200	38.68	21.55	36.79	0.33	0.34	1.11	10.29	6.01	17.6	23.86	3.24
1300	38.96	21.7	37.25	0.32	0.34	1.3	10.76	5.81	17.46	23.85	3.23
1400	39.15	21.76	37.61	0.31	0.34	1.51	11.35	5.61	17.6	23.86	3.19
1500	39.3	21.87	37.97	0.3	0.34	1.72	12.16	5.39	17.61	23.94	3.13
1600	39.32	21.92	38.2	0.29	0.34	1.88	12.86	5.15	17.43	24	3.02
1700	39.25	21.93	38.36	0.28	0.34	2.01	13.47	4.96	17.14	24.04	2.88
1800	39.14	21.91	38.51	0.27	0.33	2.09	14.15	4.86	16.81	24.07	2.75
1900	39.03	21.97	38.73	0.27	0.33	2.12	14.8	4.78	16.59	24.15	2.59
2000	38.87	22.07	38.86	0.26	0.33	2.11	15.41	4.66	16.37	24.2	2.44
2100	38.66	22.2	38.91	0.25	0.32	2.11	15.93	4.5	16.08	24.27	2.3
2200	38.4	22.32	38.93	0.23	0.32	2.1	16.31	4.32	15.79	24.3	2.23
2300	38.12	22.47	38.96	0.22	0.31	2.08	16.62	4.16	15.48	24.36	2.19
2400	37.85	22.64	39.04	0.22	0.31	2.07	16.87	4.04	15.17	24.48	2.19
2500	37.58	22.78	39.14	0.21	0.31	2.05	17.02	3.96	14.89	24.59	2.2

**Bellows Falls Bypassed Reach AWS (Low Velocity Calibration)**

Flow (cfs)	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates
100	30.57	17.11	0.94	23.66	3.29	27.9	16.47	4.17	23.21
200	25.79	15.58	1.06	20.25	3.06	25.32	15.22	6.26	38.55
300	23.06	14.65	0.84	17.19	2.55	20.94	13.61	7.55	46.62
400	22.37	14.11	0.67	16.15	2.46	18.79	12.23	8.69	50.3
500	21.65	13.61	0.71	16.4	2.81	18.93	11.9	9.60	52.87
600	20.77	13.27	0.83	16.82	3.38	20.16	12.51	10.21	55.47
700	20.42	12.96	0.99	17.19	3.97	21.63	13.2	10.73	57.41
800	20.5	12.77	1.15	17.12	4.43	23.22	13.89	11.17	58.69
900	20.74	12.72	1.33	16.73	4.79	24.66	14.5	11.53	59.78
1000	21	12.77	1.57	16.47	4.96	25.97	15.12	11.80	60.61
1100	21.28	12.81	1.78	17.09	5.02	27.16	15.78	12.06	61.28
1200	21.7	12.83	1.94	17.34	5.06	28.14	16.22	12.28	61.89
1300	22.06	12.87	2.05	16.95	5.05	28.66	16.47	12.42	62.4
1400	22.35	12.96	2.1	16.6	4.83	28.99	16.45	12.51	62.67
1500	22.55	13.07	2.1	16.12	4.57	29.11	16.29	12.57	62.72
1600	22.69	13.23	2.07	15.87	4.2	28.96	15.99	12.56	62.62
1700	22.76	13.41	2	15.54	3.85	28.49	15.56	12.49	62.42
1800	22.79	13.63	1.91	15.16	3.55	27.93	15.05	12.40	62.19
1900	22.77	13.87	1.85	14.7	3.33	27.24	14.53	12.31	61.99
2000	22.78	14.14	1.83	14.17	3.14	26.44	14	12.21	61.69
2100	22.79	14.46	1.83	13.72	2.98	25.52	13.46	12.08	61.32
2200	22.73	14.7	1.86	13.31	2.82	24.5	12.92	11.95	60.91
2300	22.63	14.89	1.88	12.97	2.7	23.51	12.42	11.82	60.42
2400	22.46	15.04	1.9	12.61	2.6	22.56	11.97	11.71	59.89
2500	22.29	15.17	1.93	12.26	2.51	21.58	11.56	11.61	59.4

**Bellows Falls Bypassed Reach AWS (Low Velocity Calibration)**

Flow (cfs)	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow
100	27.41	33.43	14.53	1.13	12.9	46.41	10.36	9.64
200	22.15	36.88	17.43	2.42	17.11	34.64	24.75	13.07
300	19.62	35.92	18.34	3.69	14.4	31.23	38.94	10.86
400	18.29	34.55	18.59	4.1	13.61	31.79	46.83	13.51
500	17.6	32.85	18.09	4.06	13.91	32.75	51.98	14.24
600	16.81	31.53	17.79	4	18.11	31.26	55.82	13.75
700	16.13	30.57	17.59	3.96	21.91	31.27	57.75	13.68
800	15.79	29.88	17.43	3.93	26.11	28.97	60.19	14.64
900	15.71	29.3	17.23	3.9	24.51	31.43	63.74	14.55
1000	15.69	28.9	17	3.91	24.83	31.35	67.63	14.69
1100	15.68	28.6	16.77	3.93	27.83	29.91	69.56	14.62
1200	15.81	28.4	16.62	3.92	28.48	29	72.56	14.49
1300	15.94	28.22	16.45	3.9	29.94	27.09	74.57	14.85
1400	16.06	28.09	16.32	3.89	31.71	26.6	75.4	14.48
1500	16.19	28.11	16.28	3.9	33.25	26.21	75.58	14.77
1600	16.33	28.16	16.25	3.95	35.07	25	76.25	14.92
1700	16.51	28.27	16.31	4.02	36.54	24.39	77.32	14.59
1800	16.72	28.35	16.34	4.09	36.94	23.62	78.62	14.82
1900	16.89	28.49	16.42	4.14	37.51	22.9	79.54	15.14
2000	16.98	28.67	16.55	4.16	38.24	22.1	80.93	14.9
2100	17.13	28.85	16.7	4.18	36.88	22.28	83.31	14.84
2200	17.27	28.97	16.83	4.17	36.53	22.52	84.27	14.95
2300	17.41	29.11	16.99	4.15	36.46	20.83	85.8	16.06
2400	17.56	29.27	17.17	4.13	36.27	20.79	87.06	15.88
2500	1.15	33.11	23.71	1.92	2.4	7.83	480.49	63.72

**Bellows Falls Bypassed Reach AWS (Middle Flow Velocity Calibration)**

Flow (cfs)	American Shad juvenile	American Shad adult	American Shad spawning	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
100	29.78	4.77	14.75	0.18	0	0	0.99	5.24	18.47	25.62	2.41
200	34.11	9.04	21.69	0.64	0.01	0.01	2.94	5.66	21.05	25.65	3.5
300	34.77	13.17	25.96	0.84	0.03	0.02	5.17	5.61	19.94	23.95	3.72
400	34.68	16.65	29.35	0.84	0.16	0.04	7.42	5.91	18.04	22.17	3.78
500	34.64	19.14	32.3	0.8	0.28	0.09	9.04	6.54	16.2	20.91	3.69
600	34.59	20.64	34.79	0.77	0.38	0.16	9.97	6.74	15.48	20.33	3.54
700	34.39	21.41	36.45	0.74	0.47	0.26	10.27	6.87	15.44	20.07	3.47
800	34.13	21.41	37.37	0.72	0.52	0.43	10.27	6.84	15.81	20.11	3.48
900	33.54	20.58	37.28	0.7	0.55	0.73	10.13	6.77	15.96	19.96	3.43
1000	34.17	20.35	37.48	0.68	0.56	1.1	9.99	6.88	17.03	20.59	3.5
1100	34.41	19.86	37.12	0.66	0.57	1.48	9.65	6.89	17.54	21.18	3.51
1200	34.47	19.33	36.44	0.64	0.57	1.83	9.23	6.77	18.11	21.7	3.52
1300	34.58	18.77	35.84	0.63	0.57	2.19	8.77	6.64	18.61	22.3	3.59
1400	34.66	18.1	35.21	0.6	0.58	2.52	8.18	6.44	18.83	22.9	3.59
1500	34.8	17.62	34.43	0.59	0.58	2.83	7.73	6.2	18.77	23.47	3.51
1600	35.04	17.27	33.57	0.57	0.58	3.07	7.38	5.97	18.7	24.03	3.4
1700	35.26	17.02	32.65	0.56	0.58	3.25	7.29	5.78	18.66	24.56	3.24
1800	35.47	16.94	31.85	0.56	0.57	3.33	7.56	5.65	18.69	25.09	3.08
1900	35.71	17.02	31.23	0.55	0.57	3.34	8.08	5.53	18.7	25.56	2.9
2000	35.95	17.24	30.71	0.54	0.56	3.33	8.66	5.39	18.74	25.98	2.72
2100	36.11	17.51	30.34	0.53	0.56	3.31	9.28	5.21	18.73	26.35	2.56
2200	36.24	17.83	30.19	0.52	0.55	3.31	9.84	5.01	18.69	26.7	2.45
2300	36.35	18.21	30.21	0.51	0.55	3.31	10.41	4.8	18.58	27.07	2.39
2400	36.43	18.58	30.31	0.49	0.54	3.32	10.94	4.64	18.42	27.45	2.36
2500	36.49	18.93	30.44	0.48	0.54	3.33	11.39	4.54	18.27	27.8	2.37

**Bellows Falls Bypassed Reach AWS (Middle Flow Velocity Calibration)**

Flow (cfs)	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates
100	28.63	17.9	0.65	24.99	2.85	28.7	17.17	4.17	22.29
200	21.99	11.74	0.68	20.41	2.58	25.3	15.38	6.09	41.62
300	20.9	10.03	0.46	15.94	1.9	21.2	13.15	7.21	51.91
400	21.59	10.39	0.35	13.74	1.49	17.75	10.87	7.95	55.89
500	22.83	10.91	0.41	13.6	1.66	16.23	9.74	8.43	57.82
600	24.16	11.25	0.52	14.12	2.18	16.4	9.66	8.86	58.74
700	25.26	11.71	0.7	15.03	2.74	17.26	10.09	9.29	59.09
800	26.22	12.16	0.88	15.95	3.15	18.17	10.67	9.64	58.93
900	26.86	12.58	0.99	16.32	3.47	18.77	11.11	9.84	58.61
1000	28.32	13.29	1.22	17.48	4.07	20.26	12.13	10.25	58.63
1100	29.23	13.84	1.42	18.33	4.55	21.44	12.82	10.47	57.99
1200	29.83	14.31	1.6	18.65	4.87	22.58	13.39	10.59	57.24
1300	30.11	14.81	1.76	18.72	5.02	23.63	13.86	10.69	56.29
1400	30.19	15.24	1.83	18.63	4.86	24.46	14.16	10.69	55.2
1500	30.25	15.7	1.85	18.47	4.54	25.08	14.39	10.65	54.04
1600	30.25	16.17	1.83	18.37	4.18	25.59	14.47	10.61	52.99
1700	30.12	16.61	1.76	18.02	3.85	25.86	14.39	10.59	52.15
1800	29.95	17.05	1.7	17.52	3.59	25.87	14.26	10.61	51.39
1900	29.77	17.5	1.65	16.9	3.37	25.6	13.99	10.65	50.81
2000	29.64	17.91	1.63	16.3	3.18	25.17	13.63	10.71	50.25
2100	29.48	18.25	1.63	15.81	3	24.57	13.28	10.76	49.63
2200	29.35	18.54	1.65	15.36	2.81	23.83	12.88	10.80	49.05
2300	29.18	18.8	1.67	14.89	2.64	23.01	12.49	10.83	48.48
2400	29.01	19.06	1.69	14.4	2.45	22.16	12.07	10.86	47.95
2500	28.84	19.3	1.72	13.88	2.3	21.25	11.68	10.87	47.44

**Bellows Falls Bypassed Reach AWS (Middle Flow Velocity Calibration)**

Flow (cfs)	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow
100	26.75	36.06	16.71	1.24	12.37	47.5	11	9.53
200	16.22	39.83	17.77	2.89	18.56	34.39	29.22	7.64
300	14.79	36.64	16.7	5.09	17.32	28.74	43.39	7.04
400	14.68	32.61	15.58	5.66	14.79	28.91	50.1	12.09
500	15.36	28.73	14.75	5.87	14.49	32.61	54.47	11.96
600	16.32	26.08	14.22	5.96	14.54	35.42	58.28	11.72
700	17.29	24.36	13.94	5.88	17.15	34.47	60.25	13.54
800	18.14	23.37	13.74	5.74	18.73	34.47	62.72	14.84
900	18.72	22.41	13.41	5.64	20.93	33.23	64.29	15.7
1000	20.04	22.6	13.4	5.55	21.13	35.74	67.09	15.57
1100	20.87	22.77	13.48	5.5	21.74	36.09	69.62	15.48
1200	21.56	22.94	13.56	5.49	22.33	35.7	71.71	15.38
1300	22.16	23.35	13.68	5.49	22.85	34.98	73.64	15.45
1400	22.6	23.86	13.78	5.54	25.21	33.91	74.39	15.29
1500	22.93	24.42	13.98	5.59	27.18	32.23	74.96	15.99
1600	23.22	25.06	14.23	5.66	27.48	31.95	76.66	15.68
1700	23.24	25.7	14.53	5.75	28.37	31.97	77.49	15.27
1800	23.11	26.37	14.9	5.84	29.31	31.82	78.03	15.09
1900	22.94	27.08	15.36	5.89	29.96	31.12	79.17	15.23
2000	22.77	27.79	15.83	5.93	31.73	29.49	79.53	15.88
2100	22.6	28.44	16.28	5.97	32.11	27.6	80.39	17.57
2200	22.46	29.07	16.74	6	32.91	26.71	80.96	17.99
2300	22.33	29.63	17.22	6.02	32.15	24.72	83.5	18.94
2400	22.18	30.16	17.7	6.04	32.38	24.96	83.75	18.91
2500	22.04	30.62	18.17	6.04	30.85	23.61	86.92	19.26



**Vernon AWS (Turners Falls Impoundment Elevation 180.6 ft)**

Flow (cfs)	American Shad juvenile	American Shad adult	American Shad spawning	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	210.41	183.03	113.8	18.17	35.55	104.01	11.97	93.11	87.47	307.97	49.81
2000	226.47	198.58	145.83	16.51	28.35	76.5	18.55	95.76	91.23	308.32	57.65
3000	235.71	211.71	176.57	15.37	23.95	59.76	28.92	83.43	100.4	292.91	68.51
4000	236.14	222.44	194.52	15.38	21.88	51.77	39.4	71.8	104.14	270.16	67.53
5000	233.62	232.37	207.35	15.83	20.6	48.21	50.14	62.67	94.6	249.95	61.08
6000	229.18	243.48	217.73	16.14	19.45	46.61	60.67	55.47	84.84	232.13	51.56
7000	224.97	255.04	226.75	15.65	19.34	46.03	67.37	49.28	76.28	216.8	44.03
8000	222.6	266.23	235.03	14.12	19.38	45.2	70.63	46.57	71.34	205.69	38.99
9000	219.66	276.41	242.7	12.08	19.49	43.93	70.88	42.67	66.84	195.68	34.4
10000	216.21	285.03	249.45	10.49	19.3	43.32	70.01	38.11	62.66	186.62	30.09
11000	212.18	292.31	254.98	8.88	19.01	43.36	67.7	32.93	56.67	178.46	26.14
12000	207.86	297.92	259.15	7.4	18.48	44.17	64.32	27.93	49.71	171.2	22.29
13000	203.48	302.78	262.21	6.31	17.72	44.83	59.57	23.65	42.31	164.57	17.94
14000	199.29	306.84	264.18	5.34	17.01	45.54	54.44	19.55	35.99	158.64	13.85
15000	195.17	310.07	265.03	4.46	16.2	44.77	49.48	15.8	32.24	153.42	10.1
16000	191.04	312.25	265.04	3.8	15.47	43.72	44.24	12.44	28.99	148.67	7.32
17000	187.05	313.24	264.39	3.37	14.77	42.63	39.88	10.41	25.87	144.27	5.45
18000	183.01	312.77	263.06	2.95	14.05	41.43	34.96	8.63	22.85	139.98	3.89
19000	179.11	311.4	261.36	2.48	13.32	40.25	29.29	7.37	20.14	136.09	2.66
20000	175.37	309.41	259.3	2.09	12.66	39.23	24.11	6.11	17.71	132.57	1.71
21000	171.73	307.05	257.14	1.87	12.04	38.27	18.45	5.07	16.11	129.54	0.97
22000	168.07	304.55	254.93	1.65	11.4	37.34	13.18	4.37	14.97	126.88	0.47
23000	164.4	301.98	252.46	1.42	10.7	36.26	10.04	3.76	14.07	124.28	0.18
24000	160.64	299.26	249.7	1.2	10	35.28	7.5	3.26	13.21	121.74	0.05
25000	156.86	296.33	246.74	1.03	9.37	34.49	5.42	2.89	12.18	119.48	0.03

**Vernon AWS (Turners Falls Impoundment Elevation 180.6 ft)**

Flow (cfs)	White Sucker fry	White Sucker juvenile/adult	White Sucker spawning	Longnose Dace fry	Longnose Dace juvenile	Longnose Dace adult	Tessellated Darter adult	Sea Lamprey spawning	Macro-invertebrates
1200	323.5	185.52	12.96	52.47	20.8	28.05	27.19	2.39	12.85
2000	251.87	159.53	26.42	65.86	35.68	44.14	43.48	6.57	31.6
3000	182.29	118.53	35.73	71.28	44.41	58.21	56.63	13.25	56.34
4000	143.03	89.35	34.15	63.2	41.39	62.16	57.48	18.22	76.51
5000	117.99	71.89	26.52	52.39	28.41	57.66	50.86	18.91	87.14
6000	100.99	61.89	17.73	43.07	17.59	44.96	41.4	16.52	92.21
7000	91.89	56.03	11.58	36.03	12.76	32.15	32.67	11.4	94.11
8000	86.74	53.37	9.4	30.55	10.83	22.57	26.39	7.34	94.04
9000	82.12	51.3	8.35	25.77	9.75	17.21	21.95	5.31	92.74
10000	78.3	50.15	7.39	21.82	8.58	14.66	18.11	3.76	90.04
11000	74.75	49.31	6.24	18.78	7.38	12.93	15.55	2.97	85.95
12000	70.98	48.65	4.64	15.78	5.68	11.08	13.23	2.23	81.17
13000	68.19	47.71	2.9	12.66	3.76	8.61	10.55	1.63	75.97
14000	65.96	46.4	1.73	9.96	2.16	6.24	8.33	0.93	70.8
15000	63.93	45.02	1.07	7.68	1.36	3.91	6.62	0.49	65.89
16000	61.77	43.45	0.7	5.87	0.97	2.33	5.01	0.23	61.17
17000	59.48	41.77	0.59	4.46	0.53	1.43	3.66	0.05	56.8
18000	57.53	40.19	0.52	3.72	0.3	1.11	2.89	0.03	52.81
19000	55.79	38.7	0.45	3.37	0.19	0.86	2.52	0.03	49.16
20000	54.28	37.16	0.52	3.23	0.18	0.65	2.38	0	45.93
21000	52.77	35.69	0.55	3.1	0.15	0.63	2.29	0	43.09
22000	51.27	34.24	0.49	2.75	0.13	0.61	2.22	0	40.7
23000	49.96	32.89	0.42	2.56	0.11	0.6	2.06	0	38.59
24000	48.85	31.62	0.36	2.48	0.09	0.56	1.88	0	36.76
25000	47.9	30.41	0.29	2.28	0.09	0.48	1.66	0	35.2

**Vernon AWS (Turners Falls Impoundment Elevation 180.6 ft)**

Flow (cfs)	Smallmouth Bass fry	Smallmouth Bass juvenile	Smallmouth Bass adult	Smallmouth Bass spawning	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	33.91	81.47	72.83	60.41	2.04	121.71	24.43	306.17	1200	144.38
2000	27.74	86.84	71.55	41.78	13.15	111.68	50.46	297.73	2000	143.95
3000	20.64	86.33	61.68	24.83	35.68	91.76	117.84	242.98	4000	139.58
4000	16.85	84.07	54.05	18.9	51.9	70.78	184.84	188.69	6000	125.51
5000	14.53	80.24	49.41	16.93	51.86	61.31	238.34	152.11	8000	108.87
6000	13.01	75.24	45.86	17	48.72	50.09	280.15	131.02	10000	95.85
7000	12.28	69.92	42.9	18.53	29.59	42.58	337.95	106.61	12000	85.24
8000	12.16	65.28	40.65	18.16	22.61	31.72	365.55	103.19	14000	76.12
9000	11.46	61.29	38.97	17.06	15.7	28.61	385.28	97.8	16000	68.49
10000	10.44	57.9	37.33	15.92	11.4	24.35	402.04	92.86	18000	62.67
11000	9.83	55.11	35.77	15.35	10.5	21.08	412.21	88.72	20000	58.25
12000	9.14	52.93	34.53	15.01	9.91	17.54	420.95	86.03	22000	54.98
13000	8.33	50.95	33.54	14.64	8.28	15.21	431.81	81.12	24000	52.50
14000	7.49	49.13	32.7	14.22	5	12.54	439.58	80.63	25000	51.56
15000	6.68	47.35	31.9	13.74	3.53	10.66	446.02	79.16		
16000	5.87	45.64	31.14	13.1	1.27	10.4	450.26	79.18		
17000	5.01	43.9	30.37	12.24	0.66	11.02	453.36	77.75		
18000	4.24	42.25	29.57	10.71	1.46	11.5	455.16	76.85		
19000	3.62	40.76	28.68	8.53	0.65	10.65	458.18	77.09		
20000	3.13	39.34	27.83	6.84	0.78	9.53	461.95	75.62		
21000	2.7	38.04	27.06	5.47	0.64	10.42	466.39	71.99		
22000	2.3	36.92	26.33	4.41	1.5	9.77	469.02	70.53		
23000	1.93	35.91	25.64	3.53	1.09	9.5	472.04	69.64		
24000	1.71	34.97	25.05	2.76	1.14	9.23	476.24	66.89		
25000	1.55	34.1	24.52	2.09	1.22	9.1	477.77	66.66		

**Vernon AWS - Turners Falls Impoundment Elevation 175.6 ft (NAVD88)**

Flow (cfs)	American Shad juvenile	American Shad adult	American Shad spawning	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	138.44	125.77	93.87	10.47	23.43	69.45	21.13	51.54	60.72	161.44	34.82
2000	144.23	138.12	116.41	10.46	20.12	57.39	29.99	45.41	61.7	164.98	34.36
3000	146.83	149.27	132.15	11.15	17.13	46.26	34	38.98	60.01	164.67	31.49
4000	150.95	161.18	143.3	11.76	15.88	41.19	37.75	40.55	53.16	161.67	28.08
5000	158.85	173.38	156.46	11.67	15.46	39	44.25	46.31	50.48	159.28	26.18
6000	166.57	185.8	170.67	11.8	15.46	37.8	52.71	46.5	50.89	156.23	28.39
7000	170.89	198.32	184.49	12.32	15.45	37.12	62.76	41.45	55.07	152.53	31.35
8000	173.09	210.56	196.98	12.14	15.35	36.74	71.02	38.45	54.16	148.27	28.98
9000	175.18	222.38	208.02	10.77	15.77	36.05	75.24	37.23	52.71	146.2	27.82
10000	175.69	233.2	217.54	9.51	15.89	35.19	74.27	37.04	50.06	143.77	26.01
11000	175.98	242.4	225.57	8.35	15.96	34.4	70.7	33.88	47.37	141.22	24.54
12000	175.26	249.59	232.06	7.1	15.8	34.08	66.66	30.2	46.24	138.93	22.46
13000	173.87	255.6	237.15	5.94	15.46	34	63.21	25.82	43.54	136.69	19.53
14000	171.83	260.79	240.82	5.01	15.05	34.64	60.25	22.24	37.37	133.81	15.67
15000	169.49	265.46	243.06	4.3	14.54	35.5	56.96	18.92	31.29	130.51	11.67
16000	167.07	269.5	244.31	3.63	14.04	36.56	53.61	15.61	26.06	127.41	8.3
17000	164.48	272.87	244.6	3.08	13.44	36.7	49.95	12.44	22.64	124.32	5.31
18000	161.7	275.14	244.36	2.61	12.83	35.88	45	9.69	20.38	121.17	2.97
19000	158.95	276.78	243.73	2.33	12.2	35.01	40.58	7.78	18.31	118.06	1.79
20000	156.08	277.18	242.52	2.15	11.59	34.09	36.61	6.37	16.39	115.06	1.12
21000	153.06	276.37	240.88	1.98	10.97	33.22	31.99	5.51	14.9	112.31	0.68
22000	150.14	274.87	239.01	1.77	10.39	32.32	27.28	4.74	13.64	109.66	0.39
23000	147.18	273.05	236.88	1.58	9.88	31.44	22.65	4.12	12.8	107.26	0.22
24000	144.15	270.92	234.58	1.39	9.37	30.56	17.63	3.54	12.21	105	0.12
25000	141.13	268.49	232.17	1.21	8.84	29.73	13.45	3.2	11.57	102.87	0.08

**Vernon AWS - Turners Falls Impoundment Elevation 175.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	162.69	59.27	17.35	42.92	16.91	33.82	32.37	46.95	29.48
2000	133.72	49.59	19.85	41.17	18.65	32.27	32.26	52.47	45.92
3000	105.35	41.47	20.43	34.72	17.54	30.25	28.08	55.37	64.41
4000	91.96	36.53	24.88	32.33	18.69	32.32	28.26	60.16	81.01
5000	84.98	34.43	32.93	35.16	23.07	39.28	33.88	67.87	98.49
6000	80.46	33.35	33.77	38.65	23.88	43.97	38.85	73.20	107.31
7000	77.78	34.28	28.22	38.35	22.8	42.39	39.14	74.99	111.64
8000	75.06	35.86	19.49	33.64	17.7	36.8	33.99	74.64	110.6
9000	72.41	38.97	13.26	28.51	11.35	30.86	28.21	73.84	107.14
10000	69.45	40.81	9.29	24.77	8.6	22.88	23.19	72.90	102.57
11000	67.08	41.95	9.32	21.67	7.73	16.73	19.87	71.15	98.46
12000	64.41	42.56	8.72	18.09	7.25	13.49	17.24	68.38	93.85
13000	61.7	42.64	7.54	13.72	5.61	12.08	14.16	65.01	88.9
14000	59.35	42.13	5.21	10.74	2.8	9.81	11.25	60.59	82.45
15000	57.03	40.99	2.87	8.92	1.51	7.24	8.74	55.34	76.22
16000	54.93	39.62	1.73	7.39	1.1	5.1	7	50.20	70.45
17000	52.83	38.07	1.33	6.17	0.88	3.16	5.74	44.71	65.23
18000	50.64	36.44	1.16	4.99	0.66	2.11	4.53	38.71	60.56
19000	48.71	34.75	0.94	4.03	0.37	1.56	3.38	32.63	56.22
20000	47.19	33.11	0.8	3.46	0.24	1.31	2.76	27.01	52.41
21000	46.17	31.73	0.71	3.15	0.19	0.99	2.51	22.32	48.93
22000	45.12	30.49	0.77	3	0.19	0.76	2.36	18.81	45.86
23000	44.05	29.33	0.85	2.89	0.18	0.72	2.26	16.15	43.07
24000	43.13	28.18	0.77	2.65	0.16	0.73	2.09	14.13	40.6
25000	42.29	27.19	0.66	2.45	0.13	0.69	1.95	12.48	38.54

**Vernon AWS - Turners Falls Impoundment Elevation 175.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	15.61	56.35	46.49	19.85	25.64	102.82	50.59	144.85	1200	91.54
2000	12.31	59.64	44.21	14.06	33.62	108.47	85.6	131.1	2000	84.91
3000	9.89	59.7	39.4	11.72	57.01	75.22	146.69	108.77	4000	81.80
4000	9.22	57.77	36.41	10.43	63.54	70.53	199.73	94.27	6000	77.90
5000	8.9	54.62	34.21	9.33	78.17	59.74	234.8	94.23	8000	71.87
6000	9.4	51.43	32.15	8.86	82.2	51.63	264.59	87.36	10000	67.65
7000	10.11	48.83	30.31	8.67	86.4	39.83	292.23	78.91	12000	62.31
8000	10.58	47.03	29.08	8.97	71.11	36.13	322.31	76.12	14000	55.98
9000	10.54	46.21	28.79	10.27	56.35	32.53	347.61	75.28	16000	50.78
10000	9.58	45.68	28.88	12.17	36.37	30.04	377.48	76.8	18000	46.95
11000	8.95	44.59	28.79	12.1	27.43	20.34	398.24	80.02	20000	44.13
12000	8.56	43.33	28.64	11.9	20.19	18.54	416.28	75.32	22000	41.92
13000	8.23	42.19	28.35	11.82	18.04	14.67	426.98	72.68	24000	40.17
14000	7.49	41.06	27.88	11.66	14.72	12.84	434.28	72.58	25000	39.43
15000	6.68	39.81	27.45	11.46	12.15	12.24	440.31	71.7		
16000	5.87	38.58	27	11	8.67	9.21	446.6	73.34		
17000	5.06	37.34	26.41	10.48	6.1	8.9	452.86	71.45		
18000	4.28	36.04	25.74	9.78	3.96	8.72	457.27	70.97		
19000	3.53	34.78	25.03	9.18	2.99	9.12	463.06	67.77		
20000	2.97	33.63	24.34	8.31	3.54	8.61	465.83	66.44		
21000	2.55	32.58	23.64	6.79	3.05	8.35	470.8	63.86		
22000	2.19	31.59	22.96	5.29	2.17	8.11	473.79	63.46		
23000	1.91	30.68	22.37	4.17	2.64	8.06	476.97	61.15		
24000	1.68	29.89	21.86	3.24	2.86	8.67	478.9	60		
25000	1.44	29.15	21.39	2.55	3.1	9.02	479.86	59.73		

**Vernon AWS - Turners Falls Impoundment Elevation 176.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	136.45	124.47	92.84	10.29	23.17	68.38	20.62	49.75	59.18	161.69	32.68
2000	143.28	137.24	115.43	10.38	19.98	56.94	28.29	44.94	61.37	166.02	33.29
3000	146.9	149.4	131.64	11.01	17.08	46.07	32.93	38.58	61.04	166.33	31.71
4000	151.93	162.18	143.68	11.71	15.85	41.25	37.05	40.38	53.97	163.94	28.3
5000	160.6	175.1	157.54	11.76	15.45	39.19	43.87	47.09	51.38	161.77	26.7
6000	169.08	188.12	172.55	12.07	15.48	38.11	52.92	47.1	52.01	158.99	29.59
7000	173.7	201.21	186.98	12.58	15.56	37.43	63.39	41.93	56.88	155.38	32.24
8000	176.24	213.95	199.97	12.29	15.57	37.15	71.99	38.85	55.28	151.13	29.73
9000	178.51	226.44	211.27	10.86	16.01	36.57	76.13	38	53.96	149.06	28.62
10000	179.42	237.77	221.17	9.6	16.1	35.73	75.03	37.99	51.24	146.59	26.75
11000	179.72	247.18	229.36	8.38	16.17	35.08	71.61	34.13	48.83	144.01	25.41
12000	178.82	254.59	235.88	7.1	16.02	34.69	67.54	30.57	47.74	141.69	23.05
13000	177.35	260.6	240.87	5.9	15.67	34.73	64.13	25.95	44.56	139.23	20.15
14000	175.1	265.77	244.25	5.01	15.22	35.51	60.75	22.37	37.99	136.06	16.17
15000	172.63	270.41	246.25	4.27	14.69	36.55	56.82	18.87	31.08	132.63	12.04
16000	170.03	274.35	247.22	3.6	14.19	37.54	53.46	15.46	26.04	129.42	8.47
17000	167.21	277.4	247.28	3.05	13.54	37.26	49.82	12.17	23.06	126.21	5.31
18000	164.26	279.35	246.82	2.58	12.94	36.39	45.17	9.45	20.78	122.98	3.05
19000	161.27	280.41	245.91	2.3	12.3	35.46	40.74	7.76	18.64	119.74	1.95
20000	158.11	280.1	244.42	2.15	11.68	34.51	36.53	6.38	16.74	116.65	1.25
21000	154.87	278.76	242.57	1.95	11.06	33.63	31.69	5.59	15.18	113.78	0.77
22000	151.72	276.88	240.46	1.76	10.5	32.74	26.97	4.85	13.85	111.05	0.46
23000	148.59	274.72	238.11	1.57	9.98	31.84	22.2	4.16	12.98	108.57	0.26
24000	145.41	272.3	235.63	1.4	9.46	30.9	17.18	3.62	12.38	106.3	0.14
25000	142.2	269.65	233	1.21	8.92	30.04	13.4	3.23	11.73	104.06	0.08

**Vernon AWS - Turners Falls Impoundment Elevation 176.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	162.28	61.01	15.58	40.56	15.09	31.52	30.2	45.13	28.87
2000	133.85	50.78	18.6	40.26	17.76	30.33	30.7	51.26	45
3000	105.65	42.59	19.65	34.07	16.93	29.24	27.4	54.93	63.59
4000	92.33	37.45	24.43	32.25	18.36	31.8	27.93	60.18	80.33
5000	85.59	35.27	32.51	35.37	23	39.17	33.87	68.34	97.81
6000	80.99	34.09	33.8	39.3	24.47	44.53	39.58	74.30	106.97
7000	78.44	34.94	27.76	38.62	22.9	42.59	39.44	76.09	111.2
8000	75.7	36.49	19.03	33.81	17.08	36.93	33.99	76.06	110.35
9000	73.11	39.6	12.57	28.55	11.1	30.28	27.97	75.47	106.7
10000	70.24	41.47	9.44	25.07	8.89	22.25	23.11	74.80	102.43
11000	67.77	42.56	9.49	21.96	8.06	16.41	20.01	72.82	98.19
12000	65.07	43.05	8.62	18.2	7.61	13.64	17.17	69.85	93.46
13000	62.3	43.14	7.18	13.67	6.22	12.2	14.14	66.15	88.26
14000	60	42.57	5.21	10.94	3.35	10.22	11.44	61.29	81.71
15000	57.7	41.38	3.13	8.94	1.66	7.62	9	55.97	75.5
16000	55.58	40.01	1.86	7.24	1.12	5.31	7.19	50.73	69.79
17000	53.46	38.5	1.3	6.02	0.87	3.23	5.79	44.87	64.65
18000	51.32	36.87	1.06	4.74	0.65	2.09	4.43	38.52	60.03
19000	49.39	35.18	0.88	3.92	0.38	1.5	3.29	32.32	55.85
20000	47.92	33.55	0.76	3.4	0.25	1.26	2.7	26.81	52.11
21000	46.87	32.2	0.65	3.09	0.19	0.97	2.42	22.43	48.74
22000	45.9	30.95	0.72	2.99	0.19	0.77	2.3	19.15	45.69
23000	44.83	29.76	0.79	2.89	0.18	0.72	2.21	16.74	42.93
24000	43.87	28.63	0.71	2.61	0.16	0.74	2.1	14.78	40.52
25000	42.95	27.66	0.61	2.48	0.13	0.69	1.97	13.12	38.51



**Vernon AWS - Turners Falls Impoundment Elevation 176.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	16.03	56.01	46.13	20.17	25.88	102.56	49.61	144.18	1200	89.46
2000	12.62	59.7	43.96	14.17	32.84	108.95	87.02	128.6	2000	84.47
3000	10.01	60.02	39.47	11.94	55.17	74.72	145.34	111.86	4000	82.74
4000	9.27	58.21	36.64	10.68	61.14	68.82	201.67	93.94	6000	79.48
5000	9.02	55.17	34.52	9.6	73.44	61.13	238.15	95.2	8000	73.82
6000	9.53	52.12	32.52	9.17	81.19	51.15	265.86	88.61	10000	69.68
7000	10.25	49.7	30.75	8.98	84.02	40.47	294.56	79.4	12000	64.57
8000	10.69	47.96	29.61	9.34	68.55	34.83	325.03	78.14	14000	58.24
9000	10.62	47.18	29.39	10.85	52.91	33.64	351.16	75.89	16000	52.76
10000	9.68	46.62	29.49	12.62	31.53	29.61	382.26	78.84	18000	48.55
11000	9.04	45.42	29.35	12.38	25.49	21.06	399.97	80.49	20000	45.41
12000	8.65	44.18	29.19	12.18	17.92	18.97	418.03	75.84	22000	42.86
13000	8.31	43.02	28.8	12.11	15.59	14.64	428.93	73.63	24000	40.85
14000	7.53	41.88	28.33	11.95	13.82	13.17	434.18	73.67	25000	39.98
15000	6.69	40.6	27.88	11.73	10.97	12.51	440.67	72.55		
16000	5.87	39.3	27.41	11.27	7.14	9.43	447.64	73.9		
17000	5.04	37.96	26.79	10.74	5.34	8.63	452.92	72.76		
18000	4.29	36.62	26.11	10.04	3.37	8.87	457.66	71.36		
19000	3.59	35.3	25.36	9.35	3.21	9.04	462	68.97		
20000	3.03	34.1	24.63	8.23	3.08	9.31	465.48	66.98		
21000	2.6	33.01	23.9	6.47	2.99	8.57	470.42	64.38		
22000	2.26	31.98	23.21	5.09	1.98	8.34	473.19	64.18		
23000	1.98	31.02	22.59	3.98	2.17	8.8	475.87	62.13		
24000	1.72	30.18	22.06	3.12	2.86	8.56	478.22	60.7		
25000	1.49	29.41	21.56	2.46	2.9	8.89	479.88	60.06		

**Vernon AWS - Turners Falls Impoundment Elevation 177.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	141.52	128.14	94.66	10.26	23.63	68.77	20.17	51.68	61.92	175.96	32.7
2000	148.04	140.97	118.15	10.31	20.46	57.34	27.69	46.6	63.24	181.01	32.66
3000	151.41	153.34	134.62	11.03	17.46	46.57	31.7	39.42	62.51	178.62	31.67
4000	156.7	166.18	146.77	11.79	16.12	41.91	35.47	42.65	54.98	173.92	28.26
5000	166.2	179.13	161.06	11.8	15.67	39.78	42.37	50.49	52.62	169.64	28.08
6000	174.63	192.15	176.49	12.09	15.7	38.71	52.31	48.25	55.05	165.82	32.82
7000	178.83	205.26	190.87	12.67	15.79	38.09	63.77	42.54	59.56	161.21	33.53
8000	180.99	218.39	203.63	12.45	15.82	37.86	72.6	39.38	56.99	156.4	30.77
9000	182.97	231.28	214.75	11.05	16.2	37.42	76.15	38.71	55.4	153.87	29.49
10000	184	242.97	224.65	9.74	16.41	36.62	74.62	38.53	52.57	151.15	27.6
11000	184.12	252.47	232.75	8.47	16.5	36.01	71.28	34.31	50.57	148.44	26.04
12000	183.03	260.04	239.22	7.14	16.35	35.64	67.51	30.62	49.15	145.89	23.41
13000	181.38	266.26	244.15	5.91	15.96	35.95	64.29	25.75	45.08	142.93	20.49
14000	178.92	271.61	247.37	5.06	15.46	36.77	60.48	22.1	38.53	139.36	16.37
15000	176.32	276.38	249.27	4.28	14.91	37.97	56.09	18.65	30.93	135.75	12.26
16000	173.54	280.49	250.1	3.6	14.35	38.62	52.47	15.18	26.01	132.37	8.63
17000	170.51	283.44	250.1	3.06	13.7	38.02	48.52	11.9	23.44	129.03	5.45
18000	167.45	285.24	249.51	2.62	13.07	37.1	44.03	9.33	21.13	125.68	3.4
19000	164.28	285.92	248.44	2.33	12.43	36.13	40.02	7.69	18.92	122.36	2.22
20000	160.97	285.16	246.84	2.15	11.78	35.16	35.54	6.37	17.04	119.17	1.41
21000	157.65	283.64	244.88	1.91	11.16	34.34	30.53	5.51	15.45	116.19	0.86
22000	154.42	281.65	242.7	1.73	10.61	33.46	25.79	4.78	14.07	113.42	0.52
23000	151.18	279.42	240.29	1.55	10.07	32.53	20.73	4.03	13.21	110.86	0.28
24000	147.9	276.95	237.79	1.37	9.53	31.55	15.9	3.53	12.54	108.52	0.14
25000	144.56	274.29	235.12	1.18	8.95	30.67	12.66	3.11	11.85	106.19	0.08

**Vernon AWS - Turners Falls Impoundment Elevation 177.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	179.78	76.86	13.13	38.31	13.04	27.36	26.8	44.76	26.8
2000	141.88	62.76	16.8	38.18	16.57	27.42	27.7	51.66	42.9
3000	109.27	49.53	19.21	33	16.88	28.33	26.29	55.40	61.77
4000	94.32	41.67	25.28	32.54	19.05	31.94	27.83	61.04	79.06
5000	87.27	38.08	34.5	37.27	24.68	41.36	35.78	69.78	97.05
6000	82.32	36.16	34.63	41.47	26.23	46.73	41.86	75.62	105.79
7000	79.56	36.43	26.95	39.37	22.82	43.56	40.23	77.18	109.45
8000	76.47	37.69	17.77	33.82	15.73	36.99	33.76	77.52	108.62
9000	74.06	40.72	11.39	28.43	10.58	28.89	27.4	77.20	105.11
10000	71.22	42.53	9.49	24.98	8.98	20.95	22.72	76.65	101.21
11000	68.6	43.43	9.41	21.86	8.31	15.68	19.78	74.33	96.91
12000	65.82	43.72	8.4	18.01	7.8	13.57	16.82	71.07	92.21
13000	63.02	43.79	6.68	13.89	6.32	12.11	14	66.93	86.71
14000	60.77	43.14	4.44	10.79	3.71	10.1	11.17	61.55	80.36
15000	58.58	41.81	2.68	8.69	1.77	7.5	8.69	56.13	74.18
16000	56.48	40.47	1.66	7.04	1.13	5.04	7.03	50.65	68.55
17000	54.29	38.97	1.08	5.76	0.86	3	5.53	44.52	63.5
18000	52.07	37.32	0.87	4.52	0.58	1.93	4.09	38.00	58.9
19000	50.15	35.63	0.74	3.7	0.33	1.4	3.04	31.72	54.84
20000	48.71	33.98	0.66	3.27	0.23	1.16	2.56	26.33	51.18
21000	47.66	32.6	0.63	2.97	0.19	0.87	2.31	22.24	47.93
22000	46.61	31.33	0.68	2.88	0.18	0.69	2.2	19.08	44.97
23000	45.55	30.12	0.69	2.69	0.16	0.69	2.05	16.76	42.3
24000	44.58	29.02	0.62	2.4	0.14	0.69	1.99	14.74	40.09
25000	43.68	28.07	0.52	2.31	0.11	0.64	1.9	13.05	38.1

**Vernon AWS - Turners Falls Impoundment Elevation 177.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	18.87	58.46	48.43	23.46	21.84	109.09	41.41	162.17	1200	98.99
2000	14.18	62.29	45.98	15.21	27.8	102.63	88.53	141.54	2000	102.34
3000	10.63	62.34	41.27	12.49	48.38	73.73	147.72	120.98	4000	103.69
4000	9.61	60.27	38.08	11.09	55.7	69.48	203.4	104.97	6000	102.02
5000	9.22	56.88	35.72	10.04	73.57	61.22	239.27	98.17	8000	100.07
6000	9.75	53.81	33.49	9.57	81.55	50.34	267.98	90.39	10000	95.68
7000	10.48	51.4	31.67	9.38	80.95	41.48	297.21	81	12000	90.03
8000	10.82	49.57	30.55	9.94	65.6	35.68	327.63	78.66	14000	83.29
9000	10.74	48.73	30.32	12.07	44.95	35.23	358.74	76.56	16000	76.62
10000	9.85	48	30.37	13.19	29.26	27.48	384.73	81.96	18000	70.89
11000	9.17	46.63	30.19	12.77	23.14	21.55	401.83	81.74	20000	66.11
12000	8.73	45.33	29.94	12.56	16.15	19.17	419.49	76.39	22000	62.24
13000	8.35	44.14	29.44	12.46	15.02	14.43	429.33	74.45	24000	58.95
14000	7.53	42.98	28.93	12.29	13.34	13.52	434.84	73.77	25000	57.43
15000	6.72	41.67	28.47	12.03	9.46	11.57	441.98	74.01		
16000	5.89	40.32	27.97	11.59	5.59	9.96	448.81	74.04		
17000	5.03	38.91	27.34	11.02	3.77	8.54	453.73	73.92		
18000	4.27	37.47	26.63	10.3	2.56	8.81	456.62	73.69		
19000	3.61	36.1	25.87	9.49	2.94	9.33	461.86	69.45		
20000	3.06	34.87	25.1	8.07	2.73	9.58	464.98	67.9		
21000	2.63	33.74	24.34	6.32	2.74	7.98	469.84	66.16		
22000	2.28	32.67	23.63	4.97	2.09	8.46	472.58	64.92		
23000	1.99	31.67	23	3.87	1.95	9.18	475.64	62.74		
24000	1.74	30.81	22.45	3.04	3.16	8.54	477.7	61.37		
25000	1.51	30.02	21.93	2.39	2.57	8.77	479.28	61.5		

**Vernon AWS - Turners Falls Impoundment Elevation 178.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	159.54	141.58	99.86	11.47	26.18	74	20.78	59.67	72.04	215.73	37.8
2000	165.52	155.28	128.05	11.16	22.18	60.54	29.37	50.68	70.14	219.37	37.12
3000	167.56	167.38	146.24	11.94	18.74	49.26	32.52	45.48	64.9	209.28	33.15
4000	173.44	178.88	158.96	12.5	17.1	43.78	36.51	52.21	60.45	196.72	31.39
5000	181.84	190.75	172.88	12.21	16.54	41.34	43.63	54.76	59.28	187.17	35.25
6000	187.02	202.72	187.13	12.77	16.43	40.04	55.09	49.86	63.88	179.63	39.3
7000	189.1	214.96	199.91	13.34	16.36	39.46	66.46	43.91	63.33	172.42	36
8000	189.37	227.8	211.14	12.91	16.48	39.21	73.77	40.12	59.75	165.62	32.59
9000	190.32	240.15	221.18	11.36	16.71	38.77	75.86	40.23	57.59	161.6	30.67
10000	190.7	251.21	230.3	9.9	16.98	37.89	74.25	38.81	54.49	157.81	28.72
11000	189.84	260.16	237.73	8.54	16.98	37.34	71.2	34.69	52.72	154.28	26.55
12000	188.08	267.3	243.65	7.15	16.75	37.07	67.72	30.28	50.31	151	23.62
13000	185.81	273.2	248.13	5.89	16.31	37.58	64.28	25.51	45.33	147.16	20.49
14000	182.95	278.24	251	5.07	15.71	38.27	59.92	21.8	38.72	143.04	16.35
15000	180.09	282.77	252.66	4.24	15.15	39.35	55.29	18.29	31.36	139.15	12.32
16000	177.01	286.66	253.33	3.58	14.5	39.57	51.22	14.76	26.42	135.55	8.67
17000	173.74	289.25	253.18	3.06	13.85	38.8	46.89	11.55	23.61	132.03	5.59
18000	170.53	290.89	252.47	2.64	13.2	37.82	42.58	9.33	21.2	128.53	3.73
19000	167.22	291.21	251.21	2.35	12.53	36.78	38.7	7.67	18.92	125.1	2.5
20000	163.74	290.12	249.54	2.09	11.86	35.85	34.15	6.53	17.12	121.89	1.59
21000	160.36	288.44	247.59	1.89	11.26	35.04	29.31	5.47	15.43	118.93	0.98
22000	157	286.4	245.37	1.71	10.71	34.23	24.56	4.7	14.28	116.24	0.57
23000	153.63	284.12	242.93	1.54	10.15	33.28	19.4	4.04	13.44	113.7	0.29
24000	150.27	281.67	240.37	1.36	9.55	32.31	14.78	3.51	12.67	111.23	0.14
25000	146.84	279.08	237.58	1.17	8.96	31.45	11.83	3.01	11.97	108.89	0.06

**Vernon AWS - Turners Falls Impoundment Elevation 178.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	222.87	118.09	13.74	39.05	15.26	25.74	24.66	47.96	23.56
2000	163.73	94.08	17.52	38.12	17.98	28.97	28.22	56.44	39.8
3000	121.31	66.85	21.07	34.52	19.16	30.74	27.94	61.32	60.39
4000	101.98	51.94	31.13	38.14	24.38	38.31	33.2	68.05	80.37
5000	93.03	44.42	37.75	43.4	29.74	48.56	43.03	76.36	96.46
6000	85.86	41.1	34.09	44.69	28.21	49.89	45.7	80.15	104.39
7000	81.83	39.62	24.22	40.24	21.34	44.23	40.28	80.79	106.55
8000	78.18	40.07	15.43	33.34	13.77	35.69	32.82	80.79	105.93
9000	75.88	42.52	10.17	28.19	10.17	26.33	26.24	80.28	102.97
10000	72.74	44.19	9.57	24.76	9.09	19.26	22.27	78.99	99.47
11000	69.95	44.63	9	21.6	8.44	15.11	19.24	75.94	95.2
12000	66.88	44.65	7.89	17.61	7.68	13.28	16.21	72.14	90.44
13000	64.08	44.65	5.99	14	6.03	11.72	13.54	67.33	84.86
14000	61.82	43.84	3.84	10.56	3.79	9.56	10.78	61.49	78.87
15000	59.7	42.5	2.34	8.52	1.92	7.22	8.55	55.95	72.83
16000	57.59	41.07	1.54	6.9	1.17	4.62	6.92	50.17	67.41
17000	55.32	39.59	1	5.43	0.81	2.8	5.38	43.81	62.51
18000	53.14	37.91	0.79	4.28	0.45	1.76	3.97	37.31	57.95
19000	51.23	36.29	0.66	3.65	0.28	1.28	3.11	31.18	53.97
20000	49.76	34.72	0.58	3.28	0.2	0.96	2.7	25.93	50.4
21000	48.53	33.29	0.66	3.09	0.19	0.72	2.49	21.98	47.23
22000	47.35	31.99	0.72	2.93	0.16	0.68	2.35	18.92	44.37
23000	46.17	30.75	0.62	2.64	0.14	0.67	2.12	16.59	41.8
24000	45.25	29.6	0.54	2.44	0.11	0.64	2.03	14.60	39.64
25000	44.39	28.6	0.48	2.36	0.1	0.62	1.95	12.80	37.72

**Vernon AWS - Turners Falls Impoundment Elevation 178.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	25.83	65.78	56.07	36.02	19.2	103.55	30.37	206.11	1200	110.91
2000	17.77	68.96	52.68	20.15	22.35	87.37	78.47	190.74	2000	112.66
3000	12.57	68.02	46.1	14.29	36.85	68.48	146.63	154.19	4000	114.61
4000	10.63	65.16	41.65	12.45	53.27	71.28	203.08	127.27	6000	112.39
5000	10.11	61.43	38.5	11.4	66.5	61.64	244.28	107.55	8000	107.56
6000	10.42	58.04	35.74	10.65	78.52	48.65	270.48	97.19	10000	101.12
7000	11.07	55.06	33.66	10.45	73.25	41.35	305.87	83.43	12000	94.19
8000	11.05	52.62	32.36	11.29	58.65	35.38	334.56	81.64	14000	87.08
9000	10.92	51.27	31.92	13.77	35.64	35.86	368.81	78.62	16000	79.82
10000	10.09	49.92	31.73	13.85	24.07	27.59	390.41	83.03	18000	73.70
11000	9.33	48.27	31.34	13.26	18.97	21.59	405.65	83.43	20000	68.63
12000	8.87	46.81	30.87	13	15.45	18.67	418.81	78.93	22000	64.54
13000	8.38	45.49	30.24	12.86	13.49	14.56	429.53	76.3	24000	61.15
14000	7.54	44.21	29.68	12.68	12.26	13.66	435.68	74.47	25000	59.60
15000	6.74	42.88	29.18	12.33	8.13	11.17	443.18	75.03		
16000	5.91	41.44	28.61	11.91	4.75	10.34	448.5	75.43		
17000	5.02	39.97	28	11.27	3.03	9.25	453.46	74.86		
18000	4.24	38.47	27.27	10.53	2	9.8	456.53	74.23		
19000	3.62	37.05	26.5	9.55	2.43	9.93	460.98	70.9		
20000	3.05	35.78	25.68	7.9	1.72	9.48	464.63	70.03		
21000	2.6	34.61	24.92	6.21	1.63	8.6	470.34	66.8		
22000	2.26	33.54	24.23	4.9	1.61	8.84	472.61	65.65		
23000	1.93	32.55	23.58	3.81	2.29	9.34	474.96	63.59		
24000	1.64	31.69	23.01	2.98	2.22	8.8	477.85	62.79		
25000	1.44	30.9	22.49	2.33	2.61	8.24	479.5	62.46		

**Vernon AWS - Turners Falls Impoundment Elevation 179.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	180.44	161.04	106.06	14.09	30.24	84.69	16.35	64.48	79.85	261.47	44.24
2000	189.19	176.39	135.68	13.33	24.89	67.76	26.09	61.45	73.83	263.77	40.12
3000	197.03	189.11	161.69	13.88	20.83	53.84	33.62	67.54	72.83	249.47	40.5
4000	204.14	199.86	177.84	13.43	19.07	47.21	39.43	65.82	74.71	230.64	47.51
5000	207.25	210.26	191.12	13.38	18.42	44.15	48.2	59.5	78.44	215.78	51
6000	207.64	220.85	203.07	13.84	17.86	42.55	60.77	52.14	75.73	203.5	46.15
7000	206.28	232.63	213.56	14.37	17.35	42.17	69.69	45.94	69.89	192.35	39.87
8000	205.72	245.08	222.93	13.22	17.55	41.74	73.78	44.41	65.97	184.31	36.2
9000	204.44	256.44	231.73	11.54	17.75	41.05	74.44	42.51	61.75	176.8	33.15
10000	202.77	266.27	239.58	10.08	17.92	40.04	72.94	38.58	58.97	170.46	30.37
11000	200.21	274.24	245.99	8.63	17.8	39.64	70.34	34.46	56.17	165.1	26.95
12000	197.22	280.69	251.06	7.16	17.48	39.85	67.27	29.47	51.15	160.15	23.73
13000	193.8	285.88	254.62	6.02	16.89	40.43	63.19	24.85	44.92	154.88	19.89
14000	190.25	290.29	256.96	5.12	16.23	41.3	58.24	21.17	37.77	149.87	15.78
15000	186.73	294.25	258.18	4.24	15.57	41.89	53.66	17.44	31.89	145.29	11.96
16000	183.04	297.34	258.52	3.56	14.85	41.21	49.08	13.84	28.14	141.11	8.34
17000	179.37	299.29	258.14	3.08	14.16	40.24	44.15	10.85	24.82	137.06	5.74
18000	175.73	300.15	257.14	2.67	13.46	39.14	39.61	8.79	21.77	132.99	4.13
19000	171.96	299.48	255.52	2.35	12.75	37.99	35.08	7.3	19.29	129.27	2.87
20000	168.23	297.79	253.64	2.02	12.06	37.02	30.16	6.22	17.25	125.77	1.93
21000	164.64	295.63	251.56	1.83	11.47	36.14	25.57	5.23	15.61	122.66	1.23
22000	161.02	293.18	249.3	1.65	10.89	35.26	20.67	4.39	14.5	119.89	0.71
23000	157.44	290.55	246.88	1.46	10.24	34.31	15.74	3.75	13.54	117.2	0.36
24000	153.83	287.94	244.19	1.27	9.6	33.42	12.44	3.13	12.75	114.61	0.16
25000	150.09	285.02	241.27	1.07	8.99	32.63	10.09	2.76	12.06	112.21	0.06



**Vernon AWS - Turners Falls Impoundment Elevation 179.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	267.86	156.41	11.37	41.06	16.92	26.44	25.58	48.50	18.83
2000	199.68	128.69	18.46	42.22	20.29	32.32	30.1	60.21	35.46
3000	145.82	91.04	30.2	47.53	29.37	41.07	37.71	71.01	59.97
4000	119.71	68.02	40.25	53.89	37.33	53.83	49.33	80.45	81.03
5000	103.7	56.89	37.71	52.13	35.82	57.58	52.86	85.29	94
6000	92.45	50.18	28.54	46.16	25.69	52.31	46.78	87.12	99.67
7000	85.79	46.64	18.39	39.37	16.22	41.97	38.39	86.88	101.26
8000	81.62	46.36	11.63	32.91	12.1	31.09	30.7	86.14	100.56
9000	77.74	46.42	9.81	28.3	10.45	22.58	25.37	84.98	98.99
10000	74.64	46.49	9.06	24.11	9.37	16.81	21.33	82.04	95.89
11000	71.97	46.44	7.94	20.53	8.39	14.36	17.8	77.92	91.75
12000	68.54	46.38	6.51	17.01	6.99	12.63	15.11	73.00	86.69
13000	65.75	46.06	4.46	13.71	5.03	10.54	12.44	67.18	81.24
14000	63.38	45	2.73	10.55	3.12	8.17	9.9	61.15	75.65
15000	61.13	43.6	1.78	8.19	1.81	5.83	8.03	55.18	70.27
16000	58.92	41.95	1.21	6.61	1.2	3.61	6.43	48.67	65.18
17000	56.65	40.27	0.87	5.06	0.73	2.22	4.72	41.83	60.54
18000	54.6	38.52	0.72	4.1	0.4	1.44	3.57	35.17	56.27
19000	52.84	36.82	0.68	3.47	0.27	1.14	3	29.29	52.46
20000	51.38	35.34	0.65	3.1	0.21	0.82	2.65	24.72	49.04
21000	50.01	33.94	0.75	2.99	0.19	0.73	2.48	21.25	46
22000	48.79	32.56	0.71	2.74	0.15	0.68	2.23	18.57	43.25
23000	47.69	31.31	0.57	2.5	0.13	0.62	2.09	16.27	40.83
24000	46.87	30.17	0.54	2.31	0.11	0.65	2.01	14.25	38.75
25000	45.98	29.23	0.44	2.09	0.1	0.53	1.81	12.27	36.91

**Vernon AWS - Turners Falls Impoundment Elevation 179.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	29.39	73.52	64.55	44.76	10.25	90.54	31.34	257.61	1200	125.86
2000	22.19	76.97	61.94	28.87	14.34	81.4	59.43	252.71	2000	124.46
3000	15.7	75.57	53.29	18.02	36.2	91.06	136.12	195.45	4000	128.88
4000	13.08	72.79	47.09	14.64	52.57	75.67	202.91	148.85	6000	126.21
5000	11.9	69.44	43.07	13.16	67.45	59.4	235.55	131.33	8000	115.45
6000	11.66	65.71	39.95	12.43	67.65	48.17	278.27	108.2	10000	104.16
7000	11.69	61.68	37.58	12.77	60.83	40.86	312.33	94.86	12000	94.73
8000	11.71	58.67	36.12	14.95	36.93	39.9	354.76	85.14	14000	86.78
9000	10.92	56.15	35.12	15.34	25.62	29.12	379.04	89.72	16000	78.94
10000	10.05	53.54	34.23	14.58	19.24	24.07	396.69	88.17	18000	72.22
11000	9.54	51.34	33.4	14.08	14.28	21.8	409.81	85.13	20000	66.50
12000	9.09	49.55	32.49	13.84	11.86	17.92	420.92	82.25	22000	61.99
13000	8.42	47.95	31.68	13.59	11.66	15.02	429.88	78.58	24000	58.49
14000	7.51	46.41	31	13.35	8.61	13.62	437.9	76.68	25000	56.94
15000	6.65	44.89	30.38	12.91	5.35	10.62	445.14	77.1		
16000	5.74	43.35	29.72	12.41	3.43	9.17	448.86	78.38		
17000	4.82	41.73	29.04	11.73	2.16	9.46	454.08	75.9		
18000	4.11	40.09	28.26	10.88	2.93	9.55	455.89	75.22		
19000	3.51	38.6	27.43	9.43	2.35	9.41	460.4	73.04		
20000	2.98	37.19	26.58	7.46	1.45	9.33	464.48	71.53		
21000	2.51	35.91	25.78	5.98	2.15	8.36	468.68	68.98		
22000	2.16	34.74	25.03	4.72	2.27	9.08	471.89	66.5		
23000	1.83	33.67	24.34	3.71	2.87	8.86	473.6	65.92		
24000	1.6	32.73	23.73	2.9	2.49	8.17	477.29	64.46		
25000	1.45	31.88	23.19	2.21	2.41	8.13	478.43	64.63		

**Vernon AWS - Turners Falls Impoundment Elevation 181.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	253.95	209.52	122.38	24.88	45.49	136.14	11.63	106.89	114.65	370.1	72.43
2000	268.13	226.88	157.78	21.16	35.43	92.06	15	103.04	123.14	373.26	77.73
3000	272.51	239.84	191.04	19.95	29.23	70.58	21.81	86.6	124.66	356.18	79.16
4000	268.78	252.09	211.19	20.08	25.63	60.64	31.52	73.76	118.71	327.69	74.87
5000	262.57	263.67	223.34	19.72	23.96	56.21	40.68	65.85	105.8	301	66.01
6000	255.93	274.63	232.78	18.82	23.06	53.15	49.65	58.3	93.38	275.92	55.9
7000	251.21	284.59	240.97	17.24	22.64	51.27	56.6	53.31	85.64	256.28	47.59
8000	245.98	293.92	248.41	14.72	22.32	49.8	61.53	47.41	78.62	239.42	40.04
9000	240.2	302.25	255.1	12.6	21.85	49.19	63.67	41.51	70.66	223.99	33.91
10000	234.21	309.51	260.59	10.91	21.26	49.51	63.36	35.42	62.1	210.17	28.76
11000	228.12	315.51	264.9	9.12	20.62	50.26	61.25	30.01	53.7	198.08	23.7
12000	222.13	320.69	268.17	7.64	19.74	50.8	57.55	25.55	45.27	187.8	18.79
13000	216.58	324.79	270.36	6.47	18.81	50.76	53.22	20.88	39.05	179.2	14.4
14000	211.06	327.8	271.71	5.37	17.93	49.73	48.29	16.74	35.16	172.03	10.65
15000	205.89	329.73	272.05	4.53	17.05	48.48	43.15	13.26	31.79	165.68	8.13
16000	200.97	330.03	271.53	3.99	16.25	47.18	38.76	11.15	28.68	159.99	6.27
17000	196.18	328.93	270.39	3.47	15.41	45.95	33.79	9.28	25.58	154.65	4.69
18000	191.61	327.17	268.72	2.96	14.63	44.61	28.01	7.91	22.86	149.84	3.39
19000	187.28	324.95	266.69	2.45	13.95	43.36	22.38	6.57	20.25	145.6	2.3
20000	183.11	322.61	264.41	2.03	13.25	42.1	16.47	5.52	18.33	142.09	1.43
21000	179.03	320.1	261.89	1.67	12.54	40.89	11.75	4.79	16.8	139	0.77
22000	174.96	317.46	259.14	1.4	11.74	39.79	8.31	4.1	15.56	136.11	0.33
23000	170.83	314.61	256.28	1.2	10.98	38.75	5.96	3.57	14.36	133.64	0.09
24000	166.79	311.68	253.3	1.12	10.29	37.89	4.54	3.16	12.87	131.49	0.03
25000	162.84	308.9	250.21	1.15	9.65	36.9	3.24	2.87	11.44	129.61	0.02

**Vernon AWS - Turners Falls Impoundment Elevation 181.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	422.02	226.68	9.89	68.13	20.54	32.39	30.36	43.17	4.42
2000	328.3	208.37	14.33	73.18	26.78	47.29	44.32	65.67	20.73
3000	232.56	160.95	15.31	68.52	24.42	49.05	47.36	83.10	43.49
4000	174.8	122.15	11.88	54.56	19.96	42.92	42.34	92.06	62.29
5000	139.99	97.35	9.37	43.22	14.9	33.64	35.38	96.09	73.32
6000	117.58	81.12	7.96	35.79	11.94	23.96	28.91	96.66	79.43
7000	103.52	71.5	7.1	30.31	10.36	18.23	23.83	94.11	82.46
8000	94.72	64.95	6.46	25.65	9.25	15.58	19.79	90.49	83.43
9000	88.28	59.66	5.64	21.75	8.02	13.57	16.75	85.80	82.56
10000	83.01	56.34	4.57	18.87	6.51	12	14.49	80.25	80.3
11000	78.4	54.3	3.27	15.78	4.9	9.93	12.16	74.04	77
12000	74.52	52.42	2.08	12.95	3.24	7.62	9.77	67.61	72.84
13000	71.58	50.72	1.32	10.43	1.9	5.45	7.76	60.62	68.49
14000	69.48	49.09	0.82	8.24	1.27	3.46	6.21	53.07	64.12
15000	67.17	47.18	0.52	6.34	0.93	2.04	4.69	45.40	59.89
16000	65.04	45.39	0.43	4.73	0.53	1.26	3.39	37.92	55.9
17000	63.24	43.68	0.37	3.72	0.29	0.93	2.62	31.58	52.18
18000	61.73	42.18	0.31	3.17	0.18	0.72	2.24	26.51	48.73
19000	60.21	40.83	0.36	3	0.15	0.52	2.11	22.78	45.59
20000	58.77	39.38	0.37	2.83	0.12	0.48	1.92	19.81	42.69
21000	57.34	38.04	0.33	2.55	0.1	0.48	1.83	17.43	40.29
22000	56.05	36.88	0.28	2.41	0.08	0.47	1.87	15.18	38.2
23000	54.92	35.75	0.24	2.3	0.07	0.4	1.73	12.74	36.37
24000	53.91	34.61	0.2	2.12	0.08	0.37	1.53	10.00	34.8
25000	52.89	33.51	0.21	1.88	0.07	0.35	1.36	7.12	33.43

**Vernon AWS - Turners Falls Impoundment Elevation 181.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	47.56	93.25	83.2	81.68	0	120.52	2.58	375.45	1200	185.93
2000	38.47	103.39	85.83	60.72	1.47	112.02	37.29	351.12	2000	196.93
3000	26.76	105.26	76.96	42.05	22.07	85.58	102.73	295.87	4000	195.58
4000	20.99	101.73	67.73	34.51	24.84	68.47	180.13	238.07	6000	172.33
5000	17.15	95.97	61.04	30.43	16.43	51.81	245.35	203.78	8000	154.87
6000	14.98	88.28	55.65	26.48	14.72	41	287.76	178.58	10000	137.82
7000	14.11	80.9	51.33	23.64	12.11	35.52	334.9	143.82	12000	122.25
8000	13.25	74.63	47.76	21.4	7.51	30.97	369.17	122.08	14000	108.72
9000	11.97	69.17	44.4	19.37	8.03	26.51	386.66	110.25	16000	98.43
10000	10.95	64.74	41.62	18.11	6.33	22.91	401.84	101.94	18000	90.60
11000	10.05	61.15	39.45	17.26	6.52	19.74	412.22	96.44	20000	88.46
12000	9.06	58.04	37.74	16.53	4.33	17.58	423.25	91.33	22000	79.68
13000	8.16	55.34	36.43	15.87	2.81	13.98	433.52	87.46	24000	76.02
14000	7.28	52.97	35.27	15.27	2.21	11.43	441.13	84.56	25000	75.56
15000	6.53	50.83	34.2	14.52	0.99	10.24	445.88	83.93		
16000	5.73	48.8	33.21	13.41	0.66	11.02	449.04	82.07		
17000	4.95	46.96	32.32	11.46	0.52	12.36	451.18	80.82		
18000	4.21	45.25	31.36	9.28	0.48	10.22	454.36	81.53		
19000	3.64	43.62	30.44	7.46	0.31	10.26	456.31	81.19		
20000	3.18	42.19	29.64	5.95	0.31	10.91	460.05	78.5		
21000	2.75	40.88	28.89	4.82	0.67	11.44	462.44	76.85		
22000	2.39	39.78	28.15	3.87	0.7	9.93	464.87	77.09		
23000	2.16	38.75	27.49	3.05	0.8	9.31	467.48	76.28		
24000	1.98	37.79	26.93	2.33	0.79	9.06	471.49	73.9		
25000	1.86	36.94	26.42	1.79	0.83	8.74	473.95	73.1		

**Vernon AWS - Turners Falls Impoundment Elevation 182.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	268.33	238.7	126.06	39.55	55.5	171.71	12.92	87.58	107.45	415.91	63.2
2000	286.18	260.25	161.58	29.56	44.12	113.72	14.09	87.6	115.58	427.88	65.41
3000	293.73	274.59	198.96	25.94	36.61	83.76	17	78.51	117.93	415.17	65.59
4000	292.09	285.55	222.16	24.2	32.79	70.94	22.02	67.4	116.24	386.46	62.58
5000	288.2	295.81	236.46	22.67	30.62	64.48	28.27	61.58	109.69	356.6	56.83
6000	282.41	305.75	245.88	20.45	28.74	61.42	35.38	55.02	97.53	328.32	48.94
7000	275.52	314.98	253.45	18.08	27.15	60.33	41.67	47.73	84.38	300.92	41.07
8000	268.02	323.28	259.7	15.5	25.83	60.25	46.3	40.73	72.93	276.68	33.99
9000	259.91	330.55	265.01	13.11	24.73	60.76	49.69	34.7	62.91	255.48	27.62
10000	252	336.86	269.6	11.28	23.54	60.82	51.26	29.82	53.68	237.19	22.08
11000	244.45	342.01	273.35	9.49	22.42	60.05	50.58	24.91	46.61	221.39	17.2
12000	236.98	345.72	276.14	7.9	21.3	58.25	47.75	20.47	41.51	207.86	13.09
13000	229.76	347.94	277.81	6.68	20.11	56.22	44.07	16.6	37.55	196.56	10.07
14000	222.66	348.41	278.46	5.73	19.07	54.24	40.27	13.76	34.04	186.94	8.01
15000	215.84	347.08	278.25	4.91	18.06	52.49	36.65	11.71	30.67	178.63	6.27
16000	209.44	344.53	277.17	4.19	17.08	50.88	32.06	9.82	27.41	171.13	4.84
17000	203.57	341.29	275.46	3.61	16.2	49.28	26.88	8.35	24.55	164.48	3.63
18000	198.04	337.54	273.2	3.02	15.43	47.72	21.97	7.05	21.9	158.55	2.58
19000	192.85	333.64	270.6	2.53	14.69	46.1	16.87	5.9	19.83	153.46	1.68
20000	187.79	329.85	267.77	2.11	13.95	44.49	12.39	4.97	18.35	149.19	0.97
21000	182.93	326.21	264.72	1.75	13.14	43.01	9.09	4.38	17.04	145.41	0.48
22000	178.23	322.61	261.44	1.47	12.33	41.64	6.65	3.91	15.89	141.91	0.17
23000	173.6	318.74	258.09	1.27	11.59	40.46	5.01	3.47	14.55	138.88	0.04
24000	169.12	314.88	254.68	1.24	10.91	39.38	3.87	3.17	13.11	136.31	0.02
25000	164.83	311.18	251.28	1.21	10.28	38.14	3.01	2.89	11.81	134.06	0.01

**Vernon AWS - Turners Falls Impoundment Elevation 182.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	471.19	252.23	1.96	39.79	5.41	12.15	13.61	35.53	0.86
2000	384.54	248.16	2.76	41.59	7.59	15.81	19.43	55.52	10.59
3000	279.75	201.39	3.33	39.11	8.46	15.42	21.51	73.63	28.77
4000	212.29	155.31	3.53	33.9	8.22	13.63	19.83	83.58	45.96
5000	169.02	123.95	3.76	28.15	7.68	12.6	17.25	87.48	57.85
6000	139.85	103.17	3.76	24.38	6.99	11.74	15.35	87.94	64.37
7000	119.11	88.29	3.41	21.59	6.09	11.04	13.91	85.93	67.79
8000	105.01	77.77	2.83	18.92	5.09	10.06	12.37	82.23	69.22
9000	95.94	70.32	2.1	15.92	4.01	8.51	10.65	77.47	69.22
10000	88.71	64.54	1.44	13.23	2.89	6.88	8.91	72.06	68.01
11000	83.35	60.29	0.99	10.92	1.87	5.19	7.3	65.72	65.88
12000	79.33	57.19	0.68	8.95	1.31	3.61	6.03	58.63	63.17
13000	76.28	54.67	0.47	7.11	0.97	2.24	4.84	51.31	60.14
14000	73.41	52.19	0.39	5.53	0.7	1.34	3.71	44.05	56.93
15000	70.91	49.9	0.33	4.17	0.4	0.88	2.75	37.46	53.86
16000	68.97	47.74	0.28	3.41	0.23	0.76	2.18	31.84	50.86
17000	67.43	46.07	0.24	2.96	0.15	0.64	1.89	27.39	47.99
18000	65.9	44.58	0.26	2.81	0.13	0.46	1.82	23.87	45.33
19000	64.28	43	0.28	2.69	0.11	0.38	1.72	21.20	42.84
20000	62.74	41.56	0.26	2.4	0.09	0.4	1.63	18.75	40.61
21000	61.1	40.24	0.22	2.23	0.07	0.38	1.68	16.64	38.69
22000	59.72	39.01	0.2	2.15	0.06	0.38	1.62	14.37	36.94
23000	58.66	37.84	0.18	2.05	0.06	0.31	1.51	11.89	35.42
24000	57.71	36.78	0.18	1.94	0.07	0.31	1.4	9.37	34.08
25000	56.72	35.75	0.18	1.77	0.07	0.29	1.27	6.74	32.91

**Vernon AWS - Turners Falls Impoundment Elevation 182.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	47.72	102.28	94.44	117.53	0	63.34	0	454.03	1200	200.41
2000	42.47	114.92	102.56	97.53	0	55.94	12.87	450.89	2000	198.63
3000	30.18	118.29	94.34	65.27	0.34	52.04	82.45	387.79	4000	191.38
4000	23.79	114.76	83.39	49.09	1.4	44.72	164.15	316.37	6000	172.48
5000	20.5	108.78	74.64	40.06	1.41	39.1	229.84	258.78	8000	147.96
6000	18.18	101.41	67.58	33.81	2.82	33	279.56	215.25	10000	126.34
7000	15.95	93.28	61.29	29.11	2.52	30.04	313.63	185.78	12000	107.73
8000	14.06	85.48	55.68	25.62	2.18	26.48	354.38	150.25	14000	92.90
9000	12.51	78.85	51.05	23.21	1.97	23.58	379.79	129.48	16000	81.57
10000	11.04	73.09	47.24	21.33	0.87	20.48	396.81	118.1	18000	73.29
11000	9.86	68.15	44.24	19.84	0.3	17.89	410.62	108.55	20000	67.11
12000	8.84	63.88	41.84	18.57	0.3	13.88	423.01	101.37	22000	62.18
13000	7.98	60.23	39.84	17.42	0.21	12.26	432.4	95.17	24000	58.66
14000	7.21	57.06	38.13	16.12	0.31	10.32	438.01	92.93	25000	57.55
15000	6.42	54.23	36.65	14.61	0.54	11.07	442.5	88.81		
16000	5.69	51.77	35.31	12.4	0.52	12.62	446.22	85.78		
17000	4.99	49.63	34.09	10.32	0.37	10.27	449.42	86.59		
18000	4.34	47.61	32.95	8.53	0.13	10.13	451.42	86.14		
19000	3.76	45.73	31.9	7.02	0.14	11.2	453.78	84.09		
20000	3.35	44.11	30.96	5.85	0.35	11.03	457.43	81.71		
21000	2.96	42.64	30.08	4.85	0.36	11.22	459.21	81.2		
22000	2.63	41.37	29.3	3.95	0.46	10.43	462.55	79.87		
23000	2.41	40.21	28.58	3.17	0.83	9.63	464.66	79.42		
24000	2.26	39.14	27.93	2.51	0.66	8.67	465.7	80.8		
25000	2.12	38.17	27.37	1.98	0.68	8.72	469.2	78.38		



**Vernon AWS - Turners Falls Impoundment Elevation 183.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	271.15	270.51	129.11	50.22	73.87	224.01	11.73	56.06	83.72	450.68	40.22
2000	296.41	294.95	160.98	36.52	58.76	150.9	12.46	58.75	91.83	467.53	41.7
3000	308.14	310.3	199.46	30.07	47.5	107.62	13.51	56.41	92.81	465.1	40.84
4000	310.1	320.14	226.98	27.14	41.03	89.77	15.97	50.78	90.16	440.08	38.33
5000	306.68	328.59	244.06	24.85	36.88	82.28	19.45	44.46	84.09	406.9	34.32
6000	300.65	336.61	254.64	22.33	33.78	79	23.28	38.85	75.49	373.16	29.53
7000	293.41	344.26	261.64	19.49	31.38	77.4	28.01	33.68	67.12	342.89	24.48
8000	285.24	351.52	267.2	16.21	29.36	75.34	31.67	28.82	59.21	314.47	19.58
9000	276.69	358.15	271.79	13.49	27.6	73.02	33.84	24.42	52.61	289.23	15.41
10000	268.1	363.64	275.73	11.54	26.02	70.57	35.22	20.52	47.27	267.56	12.23
11000	259.62	367.56	278.92	9.77	24.51	68	35.68	17.38	42.75	248.68	9.89
12000	251.16	369.04	281.3	8.32	23.09	65.26	35.03	14.81	38.68	232.36	7.98
13000	242.85	368.52	282.84	7.24	21.63	62.71	33.16	12.7	34.9	218.05	6.37
14000	234.68	366.56	283.4	6.25	20.28	60.4	29.77	10.96	31.34	205.66	5.03
15000	226.94	363.69	283	5.32	19.06	58.11	25.48	9.28	28.1	194.96	3.85
16000	219.6	360.05	281.87	4.34	18.06	56.07	20.95	7.96	25.27	185.58	2.83
17000	212.77	355.83	280.15	3.6	17.15	54.05	16.33	6.7	22.84	177.54	1.93
18000	206.44	351.25	277.78	3.04	16.25	51.87	12.15	5.63	20.96	170.58	1.21
19000	200.41	346.48	274.93	2.58	15.39	49.79	9	4.75	19.5	164.49	0.67
20000	194.54	341.69	271.68	2.17	14.45	47.89	6.55	4.21	18.15	158.96	0.31
21000	188.94	337	268.19	1.88	13.58	46.06	4.89	3.73	16.73	154.14	0.1
22000	183.57	332.32	264.58	1.72	12.77	44.56	3.82	3.38	15.15	150.04	0.05
23000	178.44	327.66	260.91	1.62	12.05	43.19	2.87	3.14	13.6	146.48	0.03
24000	173.55	322.98	257.18	1.57	11.37	41.65	2.22	2.88	12.26	143.38	0.02
25000	168.87	318.58	253.39	1.51	10.76	40.25	1.52	2.64	11.33	140.65	0.01

**Vernon AWS - Turners Falls Impoundment Elevation 183.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	506.86	239.53	0.54	15.45	1.29	2.17	3.08	26.46	0.06
2000	437.75	258.36	0.83	16.57	1.94	3.46	4.71	39.72	4.07
3000	334.57	228.27	1.07	16.98	2.46	4.74	6.17	54.24	15.85
4000	254.3	185.77	1.16	16.46	2.65	5.47	6.96	63.67	28.74
5000	200.11	150.02	1.11	15.39	2.61	5.56	7.22	68.57	39.72
6000	162.29	123.79	0.97	13.98	2.35	5.2	7.01	69.80	47.27
7000	136.6	104.64	0.8	12.34	1.93	4.58	6.44	68.63	51.56
8000	118.13	91.06	0.65	10.62	1.47	3.79	5.68	65.43	53.77
9000	105.71	81.14	0.5	9.01	1.12	2.95	4.94	60.92	54.6
10000	97.27	73.64	0.38	7.46	0.89	2.18	4.24	55.46	54.48
11000	90.7	67.51	0.31	6.07	0.73	1.48	3.52	49.43	53.68
12000	85.35	62.56	0.29	4.85	0.56	0.95	2.88	43.20	52.43
13000	81.3	58.71	0.26	3.82	0.35	0.68	2.28	37.50	50.77
14000	78.36	55.59	0.23	3.14	0.2	0.62	1.82	32.54	48.84
15000	76.11	53	0.19	2.8	0.13	0.56	1.57	28.51	46.77
16000	74.28	50.7	0.19	2.64	0.11	0.45	1.51	25.17	44.65
17000	72.41	48.56	0.2	2.55	0.11	0.3	1.48	22.50	42.54
18000	70.62	46.78	0.22	2.37	0.09	0.3	1.43	20.10	40.57
19000	68.76	45.23	0.2	2.12	0.07	0.31	1.37	18.04	38.87
20000	66.93	43.82	0.17	2.04	0.06	0.31	1.44	15.91	37.32
21000	65.36	42.43	0.16	1.99	0.05	0.3	1.45	13.54	35.87
22000	64.03	41.02	0.14	1.91	0.05	0.25	1.36	10.99	34.59
23000	62.93	39.75	0.14	1.8	0.05	0.25	1.26	8.32	33.43
24000	61.85	38.57	0.15	1.67	0.06	0.25	1.18	5.92	32.44
25000	60.76	37.45	0.13	1.54	0.06	0.25	1.08	4.28	31.61

**Vernon AWS - Turners Falls Impoundment Elevation 183.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	40.51	103.02	98.85	114.25	0	33.87	0	497.01	1200	208.12
2000	40.21	117.78	113.1	106.89	0	33	1.57	496.87	2000	209.57
3000	32.02	124.62	108.65	79.16	0	31.14	37.23	463.85	4000	202.75
4000	25.09	123.37	97.15	59.15	0	28.82	123.74	380.44	6000	186.86
5000	21.04	118.97	86.94	48.54	0	26.64	188.52	318.84	8000	163.31
6000	18.14	112.3	78.25	41.37	0.15	23.81	247.72	263.31	10000	140.24
7000	15.75	104.83	70.95	36.08	0.22	19.41	295.38	221.11	12000	119.94
8000	13.68	96.55	64.38	31.81	0.23	17.47	325.55	193.8	14000	102.79
9000	11.94	88.72	58.74	28.29	0.2	15.11	359.92	162.8	16000	89.24
10000	10.56	81.89	54	25.33	0.33	13.04	383.8	141.9	18000	79.32
11000	9.47	75.9	50.02	22.78	0.24	11.35	398.53	130.24	20000	71.83
12000	8.56	70.65	46.73	20.24	0.1	10.47	412.81	118.24	22000	66.15
13000	7.69	66.09	44.03	17.52	0.14	11.41	422.85	108.41	24000	61.94
14000	6.86	62.17	41.73	14.6	0.27	12.91	432.04	99.43	25000	60.24
15000	6.13	58.8	39.73	12.31	0.42	12.07	437.95	95.85		
16000	5.4	55.88	37.97	10.29	0.13	10.37	442.99	93.95		
17000	4.75	53.24	36.45	8.6	0	10.94	444.93	92.77		
18000	4.14	50.87	35.15	7.26	0	10.85	448.55	90.33		
19000	3.64	48.72	33.89	6.11	0.19	11.2	450.39	89.15		
20000	3.24	46.83	32.75	5.1	0.25	10.82	455.28	85.91		
21000	2.94	45.18	31.75	4.15	0.19	10.56	457.31	85.39		
22000	2.69	43.66	30.87	3.35	0.32	9.92	459.81	84.55		
23000	2.49	42.35	30.08	2.71	0.49	9.08	462.42	83.8		
24000	2.36	41.14	29.33	2.12	0.61	8.62	463.87	83.87		
25000	2.22	40.07	28.7	1.68	0.05	9.11	466.79	82.01		

**Vernon AWS - Turners Falls Impoundment Elevation 184.6 ft (NAVD88)**

Flow (cfs)	American Shad	American Shad	American Shad	Walleye fry	Walleye juvenile	Walleye adult	Walleye spawning	Fallfish fry	Fallfish juvenile	Fallfish adult	Fallfish spawning
1200	265.09	296.42	129.89	57.58	85.23	301.9	10.12	25.66	51.5	461.1	16.47
2000	296.25	323.24	158.23	43.67	69.12	210.97	10.55	28.53	59.02	481.18	17.34
3000	311.14	340.9	194.41	34.05	55.91	147.28	10.97	28.38	62.52	487.44	16.36
4000	315.98	350.62	224.3	29.37	47.85	118.14	11.82	26.67	63.1	470.89	14.89
5000	314.99	357.95	244.43	25.78	42.59	103.17	13.28	23.99	62.21	441.39	13.25
6000	310.75	364.37	257.43	22.38	38.56	94.04	15.05	21.39	59.71	408.5	11.69
7000	304.1	370.08	265.34	18.8	35.5	88.88	17.05	19.06	56.07	376.89	10.23
8000	295.9	374.94	270.77	15.75	32.99	85.08	19.32	16.93	51.83	347.28	8.8
9000	287.19	378.84	274.91	13.59	30.69	81.76	20.76	14.96	47.1	319.75	7.42
10000	278.18	381.77	278.22	12.17	28.58	78.54	21.66	13.21	42.43	295.37	6.2
11000	269.19	383.49	280.93	10.85	26.63	75.39	21.86	11.66	38.24	273.84	5.13
12000	260.38	383.6	283.08	9.58	24.85	72.44	21.3	10.24	34.44	255.1	4.13
13000	251.76	382.23	284.62	8.41	23.22	69.61	19.72	8.87	31.18	238.84	3.23
14000	243.29	379.58	285.5	7.31	21.78	67.04	16.82	7.68	28.37	224.45	2.43
15000	235.1	376.12	285.61	6.41	20.51	64.33	13.29	6.6	25.89	212.03	1.73
16000	227.28	372.01	284.68	5.6	19.36	61.68	10.16	5.6	23.86	201.32	1.17
17000	219.66	367.5	282.86	4.84	18.32	59.19	7.97	4.76	22.19	192.04	0.73
18000	212.39	362.54	280.41	4.22	17.26	56.84	6.02	4.21	20.66	183.8	0.4
19000	205.51	357.2	277.43	3.7	16.25	54.47	4.5	3.77	19.09	176.49	0.18
20000	199.07	351.68	274.05	3.26	15.32	52.35	3.54	3.39	17.4	169.95	0.07
21000	192.94	346.14	270.31	2.97	14.47	50.44	2.78	3.14	15.78	164.3	0.04
22000	187.13	340.69	266.36	2.79	13.69	48.51	2.1	2.94	14.23	159.32	0.03
23000	181.64	335.53	262.34	2.66	12.98	46.61	1.61	2.75	12.94	154.89	0.02
24000	176.41	330.59	258.23	2.53	12.34	44.99	1.14	2.53	12	151	0.01
25000	171.43	325.93	254.05	2.41	11.74	43.51	0.79	2.46	11.3	147.55	0.01

**Vernon AWS - Turners Falls Impoundment Elevation 184.6 ft (NAVD88)**

Flow (cfs)	White Sucker	White Sucker	White Sucker	Longnose Dace	Longnose Dace	Longnose Dace	Tessellated Darter	Sea Lamprey	Macroinvertebrates
1200	524.49	208.94	0.1	7.09	0.23	0.58	0.87	18.49	0.01
2000	470.96	244.87	0.14	7.3	0.35	0.88	1.37	25.75	1.38
3000	376.91	232.27	0.19	7.34	0.45	1.13	1.86	34.81	8.22
4000	291.89	199.44	0.21	7.13	0.5	1.23	2.17	41.38	16.86
5000	230.59	166.63	0.21	6.71	0.51	1.23	2.33	44.82	25.39
6000	186.52	138.81	0.21	6.16	0.49	1.13	2.35	45.84	32.16
7000	156.23	117.35	0.21	5.49	0.46	0.95	2.26	44.70	37.03
8000	134.81	101.13	0.21	4.82	0.43	0.75	2.13	42.18	40.13
9000	118.83	89.2	0.21	4.17	0.36	0.58	1.96	39.08	41.96
10000	107.36	80.12	0.21	3.55	0.26	0.51	1.74	35.85	42.91
11000	99.17	72.81	0.2	3.05	0.18	0.51	1.54	32.65	43.22
12000	92.83	66.7	0.19	2.75	0.12	0.48	1.39	29.62	43.02
13000	88.11	61.94	0.18	2.6	0.1	0.43	1.33	26.85	42.46
14000	84.73	58.1	0.18	2.52	0.09	0.34	1.32	24.45	41.59
15000	81.67	54.85	0.18	2.44	0.09	0.25	1.28	22.23	40.5
16000	79.09	52.02	0.19	2.28	0.07	0.26	1.25	20.28	39.35
17000	76.74	49.55	0.18	2.06	0.06	0.28	1.23	18.51	38.24
18000	74.42	47.41	0.15	1.98	0.05	0.27	1.28	16.68	37.1
19000	72.25	45.56	0.14	1.92	0.05	0.27	1.28	14.69	35.98
20000	70.35	43.92	0.13	1.89	0.04	0.24	1.26	12.40	34.94
21000	68.8	42.38	0.12	1.78	0.04	0.21	1.2	10.12	33.98
22000	67.31	40.9	0.12	1.68	0.05	0.21	1.13	7.65	33.08
23000	65.91	39.47	0.13	1.58	0.05	0.22	1.06	5.63	32.31
24000	64.69	38.11	0.13	1.49	0.06	0.23	1.01	4.27	31.68
25000	63.49	36.86	0.11	1.4	0.05	0.22	0.93	3.35	31.12

**Vernon AWS - Turners Falls Impoundment Elevation 184.6 ft (NAVD88)**

Flow (cfs)	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Shallow-Fast	Shallow-Slow	Deep-Fast	Deep-Slow	Flow (cfs)	Co-Occurring Mussels
1200	28.21	101.11	96.53	102.52	0	17.96	0	518.34	1200	209.34
2000	28.93	117.5	115.33	100.12	0	17.88	0	518.81	2000	213.01
3000	25.98	126.78	116.06	85.28	0	17.12	13.05	507.06	4000	207.50
4000	21.61	127.72	106.57	66.12	0	16.17	80.52	441.17	6000	193.32
5000	18.34	124.75	96.42	54.72	0	14.57	150.62	373.37	8000	172.66
6000	15.95	119.61	87.45	46.73	0	13.02	210.31	315.97	10000	150.82
7000	13.98	112.79	79.42	40.22	0.03	11.67	265.55	262.91	12000	130.18
8000	12.37	104.98	72.2	34.82	0	10.32	303.35	227.4	14000	112.17
9000	11.06	97.13	65.82	29.81	0	10.91	333.73	197.49	16000	97.13
10000	9.86	89.74	60.3	25.09	0.03	11.77	364.36	167.06	18000	85.61
11000	8.81	83.19	55.63	20.85	0.11	12.37	385.01	146.94	20000	76.81
12000	7.89	77.35	51.65	17.48	0.11	12.21	399.24	134.39	22000	70.17
13000	7.04	72.24	48.29	14.7	0.05	10.84	412.76	123.52	24000	65.09
14000	6.27	67.74	45.43	12.27	0	10.74	424.78	112.41	25000	63.04
15000	5.56	63.77	42.99	10.27	0	11.03	430.19	107.75		
16000	4.93	60.28	40.9	8.69	0	11.14	437.05	101.7		
17000	4.35	57.22	39.07	7.34	0	11.36	441.22	98.33		
18000	3.85	54.55	37.46	6.18	0.05	11.7	445.13	95.04		
19000	3.42	52.15	36.03	5.11	0.09	10.57	447.05	95.53		
20000	3.05	49.95	34.7	4.2	0.19	10.64	450.79	92.65		
21000	2.75	48	33.53	3.42	0.19	9.9	453.72	91.5		
22000	2.55	46.24	32.49	2.79	0.15	9.3	457.41	89.46		
23000	2.37	44.7	31.55	2.19	0	9	461	87.28		
24000	2.24	43.37	30.7	1.75	0.05	8.98	463.57	85.59		
25000	2.15	42.11	29.91	1.48	0.05	8.56	464.93	85.55		

