Appendix C

Data Tables

Merrimack River Watershed Study
Phase III Sampling Data Tables

Sample Date	Event	Station Nu	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
						ug/L	Ratio	mg/l	mg/l	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/l	%	ug/L	ug/L	ug/L	ug/L	su	ppt	us/cm @25C	C	mg/l	mg/l	mg/l	ug/L	ug/L	mg/l	feet	ntu	mg/l
6/25/2014	EVENT1	3	M001	D/S Hooksett Dam	F						98						8.7	99.8					8.35		103	22.3							11.0		
					G	122	4.2		2.0	9.1		360	350	10		10			238	17	482	135					0.61	0.71	0.84	485	53	1.0			8.87
		4	O001U	Stormwater Outfall (U/S)	F						87						8.7	99.7					7.82		93	21.8							10.0		
					G	24	7.5		2.0	9.1		231	350	1		1			208	6	478	74					0.45	0.58	0.66	425	19	1.0			8.68
		5	O001D	Stormwater Outfall (D/S)	F						87						8.8	100.0					7.63		92	21.9							10.0		
					G	25	8.1		2.0	8.7		232	330	3		4			208	3	532	77					0.43	0.56	0.64	407	23	1.0			
		6	M002	U/S Amoskeag Dam	F						87						8.9	101.7					7.48		92	22.0							13.5		
					G	45	7.6		2.0	11.0		250	281	4		3			205	5	567	87					0.41	0.53	0.62	368	27	1.0			
		7	O002U	Stormwater Outfall (U/S)	F						105						8.9	100.7					7.41	0.05	113	21.3							1.2		
					G	36	8.2		2.0	5.4		261	437	12		19			225	10	499	71					0.54	0.70	0.77	508	23	9.0			
		8	O002D	Stormwater Outfall (D/S)	F						107						9.0	101.5					7.37	0.05	115	21.3							1.7		
					G	33	7.9		2.0	6.1		260	372	12		8			227	10	387	57					0.46	0.63	0.69	429	18	1.0			
		9	M003	D/S Amoskeag Dam	F						91						8.9	102.5					7.91		95	22.4							2.0		
					G	33	9.5		2.0	8.0		245	282	38		46			211	5	497	61					0.38	0.53	0.59	344	26	2.0			
		10	T001	Piscataquog River	F						146						8.5	94.9					7.38	0.075	160	20.6							0.8		
					G	14	9.1		2.0	2.6		206	364	196		157			192	8	346	44					0.42	0.57	0.61	409	26	1.0			
		11	O003U	Stormwater Outfall (U/S)	F						90						9.0	103.6					7.79		95	22.6							11.0		
					G	33	8.3		2.0	7.6		250	271	56		54			217	4	507	71					0.38	0.52	0.59	343	26	2.0			
		12	O003D	Stormwater Outfall (D/S)	F						90						9.0	104.2					7.57		94	22.7							16.0		
					G	29	8.2		2.0	8.0		247	250	61		84			218	6	524	75					0.35	0.50	0.57	324	34	2.0			
		13	M004	D/S Manchester	F						96						9.5	110.6					8.17		100	23.2							9.5		
					G	29	8.5		2.0	6.9		249	414	59		55			219	3	551	75					0.52	0.66	0.74	490	28	1.0			9.09
			M104	Blank	B	54	25.2		2.0	0.5		54	170	1		1			1	3	26	1					0.22	0.22	0.23	171	2	1.0			
			M204	Dup	D	25	9.0		2.0	6.2		248	294	70		55			223	2	534	69					0.39	0.54	0.61	363	26	2.0			8.59
			M304	Rinse	R	21	1.9		2.0	0.5		22	97	1		1			1	2	34	21					0.14	0.12	0.14	118	4	1.0			
		14	M005U	U/S Manchester WWTP	F						214						8.7	97.4					7.27	0.11	233	20.7							0.7		
					G	34	8.1		2.0	5.4		377	372	55		59			342	14	465	67					0.47	0.75	0.82	439	33	1.0			
		15	M005D	D/S Manchester WWTP	C	567	8.1	4.0	2.0	4.7		803	587	51		27			236	69	760	110					1.26	1.39	1.50	696	112	2.0			
					F						105						9.1	101.7					7.39	0.05	113	22.3							2.0		
		16	T002	Cohas Brook	F						419						8.6	100.3					7.32	0.21	440	22.6							1.0		
					G	21	1.8		2.0	3.3		312	592	6		3			291	9	297	191					0.80	0.90	1.10	784	19	1.0			
		17	M006U	U/S Derry WWTP outfall	F						169						9.4	108.0					8.24	0.08	160	22.3							2.0	0.90	
		18	M006D	D/S Derry WWTP outfall	C	239	8.3	3.0	2.0	4.7		538	390	63		58			299	33	580	81					0.71	0.93	1.01	471	70	2.0			
					F						129						9.1	107.6					8.15		133	23.5							3.0		
		19	T003	Souhegan River	F						197						9.0	107.4					7.94	0.09	202	23.9							2.0	0.30	
					G	22	8.6		2.0	3.3		519	576	70		53			497	25	547	74					0.67	1.09	1.17	650	66	3.0			
		20	M007U	U/S Merrimack WWTP	F						123						8.3	94.5					8.64	0.06	132	21.5							6.0	0.05	
					G	135	7.3		2.0	6.9		454	435	38		39			319	16	492	78					0.65	0.89	0.97	513	46	1.0			
		21	M007D	D/S Merrimack WWTP	C	126	7.8	3.0	2.0	7.9		448	499	48		52			323	14	560	84					0.71	0.95	1.03	582	45	2.0			
					F						122						8.6	97.3					8.07	0.06	130	21.5							8.0	0.05	
		22	M008	U/S Nashua	F						125						8.7	99.9					8.15	0.06	136	21.9							8.0	0.05	
					G	98	8.2		2.0	8.6		490	453	29		33			391	25	1917	272					0.82	0.94	1.21	725	58	1.0			8.43
		23	T004	Nashua River	F						270						8.9	103.5					8.14	0.13	280	23.1							2.0	0.00	
					G	8	6.3		2.0	9.1		654	588	96		111			646	9	615	114					0.71	1.24	1.36	702	30	1.0			
		24	O004U	Stormwater Outfall (U/S)	F						276						9.1	106.7					7.85	0.14	286	23.2							3.0	1638.70	
					G	76	10.4		2.0	13.0		895	549	770		727			820	11	1427	160					0.78	1.44	1.60	709	53	12.0			
		25	O004D	Stormwater Outfall (D/S)	F						277						9.1	107.5					7.35	0.13	284	23.6								1646.90	
					G	33	7.8		3.0	8.7		707	527	26		26			674	15	593	88					0.65	1.23	1.32	615	33	2.0			
		26	T005	Salmon Brook	F						392						8.6	100.1					7.93	0.2	410	22.7							2.0	2.10	
					G	21	9.6		2.0	6.1		294	496	82		81			273	12	788	96					0.61	0.79	0.89	592	32	2.0			

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Phase III Sampling Data Tables

Sample Date	Event	Station Nu	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
						ug/L	Ratio	mg/l	mg/l	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/l	%	ug/L	ug/L	ug/L	ug/L	su	ppt	us/cm @25C	C	mg/l	mg/l	mg/l	ug/L	ug/L	mg/l	feet	ntu	mg/l
6/25/2014	EVENT1	27	M009U	U/S Nashua WWTP	F						144						9.4	104.7					8.13	0.07	149	23.0							12.0	0.00	
					G	126	6.6		2.0	13.0		531	482	23		19			406	24	711	126					0.73	1.01	1.14	607	61	2.0			
		28	M009D	D/S Nashua WWTP	C	126	6.8	3.0	2.0	13.0		562	567	27		17			436	28	760	131					0.82	1.13	1.26	698	75	3.0			
					F						149						9.5	109.9					8.07	0.075	156	22.7							14.0	0.10	
		29	M210	Dup	D	116	4.0		2.0	19.0		668	337	31		26			551	16	936	273					0.73	1.01	1.28	610	70	2.0			
			M110	Blank	B	32	14.8		2.0	0.5		32	122	1		1			1	3	28	2					0.16	0.15	0.16	124	2	1.0			
			M010	D/S Nashua	F						178						9.6	111.8					8.15	0.09	186	22.8							13.0	0.30	
					G	110	6.9		2.0	17.0		653	461	38		33			543	11	974	164					0.73	1.11	1.28	625	66	2.0			9.62
			M310	Rinse	R	17	11.8		2.0	0.5		20	119	1		1			3	3	35	3					0.14	0.14	0.14	123	4	1.0			
		30	M011	U/S Lowell	F						163						9.7	112.5					7.95		155	22.6							14.0		
					G	25	6.7		2.0	25.0		534	444	16		4			509	12	841	146					0.61	0.98	1.12	590	51	2.0			
		31	T006	Stony Brook	F						276						9.1	106.7					7.85	0.14	286	23.2								1638.70	
					G	25	3.1		2.0	3.3		228	625	59		66			204	9	573	213					0.86	0.85	1.07	838	15	2.0			
		32	O005U	Stormwater Outfall (U/S)	F						174						9.7	112.3					7.79		166	22.5							13.6		
					G	12	6.7		2.0	28.0		473	254	5		7			461	5	887	155					0.42	0.73	0.88	409	48	2.0			
		33	O005D	Stormwater Outfall (D/S)	F						172						9.6	110.8					7.59		164	22.4							15.6	1.30	
					G	25	6.6		2.0	29.0		483	316	11		9			459	9	905	161					0.50	0.80	0.96	477	47	2.0			
		34	M012	Lowell Public Beach	F						170						9.3	106.7					7.58		161	22.3							20.2	1.25	
					G	8	6.7		2.0	23.0		452	561	3		5			444	9	777	135					0.70	1.01	1.15	696	50	2.0			
		35	M013	U/S Pawtucket Dam	F						169						9.2	105.9					7.50		160	22.3							18.0	1.25	
					G	5	6.9		2.0	22.0		434	614	4		3			430	9	782	133					0.75	1.05	1.18	746	50	2.0			
		36	O006U	Stormwater Outfall (U/S)	F						169						9.4	107.8					8.24	0.08	160	22.3							2.0	0.90	
					G	17	6.9		2.0	19.0		443	294	10		9			426	7	722	122					0.43	0.74	0.86	416	51	2.0			
		37	O006D	Stormwater Outfall (D/S)	F						160						9.2	106.4					7.73	0.08	169	22.3							1.0	3.80	
					G	11	6.8		2.0	21.0		426	307	16		17			415	7	773	132					0.45	0.73	0.87	439	49	2.0			
		38	T007	Beaver Brook	F						403						8.8	104.5					7.56	0.2	413	23.7							1.5	1646.10	
					G	55	11.0		2.0	1.8		507	824	77		78			452	9	721	76					0.96	1.33	1.41	901	40	2.0			
		39	M014	D/S Pawtucket Dam	F						160						9.3	106.9					7.80	0.08	169	22.2							3.0	1.10	
					G	33	7.6		2.0	22.0		437	564	19		22			404	10	956	146					0.74	1.00	1.15	710	46	3.0			
		40	T008	Concord River	F						620						8.7	109.2					7.76	0.29	600	26.7								1684.90	
					G	50	6.9		3.0	32.0		642	1027	248		326			592	5	601	102					1.18	1.67	1.77	1129	60	7.0			
		41	M015	D/S Lowell	F						159						9.0	104.4					7.47	0.08	167	22.5							16.0	0.80	
					G	51	7.2		2.0	19.0		472	463	39		42			422	3	706	114					0.63	0.94	1.05	577	47	5.0			8.5
		42	M016U	U/S Lowell WWTP	F						185						8.9	102.9					7.31		177	22.7							4.5	1.20	
					G	17	6.9		2.0	19.0		440	413	96		102			423	2	746	125					0.56	0.85	0.98	539	51	2.0			
		43	M016D	D/S Lowell WWTP	C	113	6.8	3.0	2.0	17.0		755	537	108		102			642	71	892	153					0.80	1.29	1.45	690	108	2.0			
					F						201						9.1	105.5					7.30		193	22.9							6.5	1.10	
		44	O007U	Stormwater Outfall (U/S)	F						239						8.8	101.6					6.63		229	22.9							10.7	1.45	
					G	18	7.4		2.0	17.0		498	333	276		276			480	14	996	156					0.51	0.83	0.99	489	47	2.0			
		45	O007D	Stormwater Outfall (D/S)	F						221						8.7	101.7					7.20		213	23.1							8.6	1.25	
					G	18	7.3		2.0	16.0		483	367	387		285			465	6	884	142					0.53	0.85	0.99	509	50	2.0			
		46	M017	U/S Lawrence	F						189						9.0	105.9					6.94		183	23.3							20.7	1.15	
					G	31	6.9		2.0	21.0		518	452	99		105			488	9	881	148					0.63	0.97	1.12	600	69	2.0			9.23
		47	M018	U/S Essex Dam	F						215						9.9	117.2					7.57		211	23.9							23.5	1.35	
					G	4	6.8		2.0	30.0		514	541	14		11			510	6	1505	260					0.81	1.06	1.32	801	73	3.0			
		48	M019	D/S Essex Dam	F						205						10.6	124.7					7.64	0.1	212	23.4							13.0	1.30	
					G	35	7.1		2.0	24.0		551	489	26		29			516	5	1031	169					0.69	1.04	1.21	658	66	3.0			
		49	T009	Spicket River	F						452						8.8	99.5					7.32	0.23	484	21.5							6.0	3.50	
					G	17	9.5		2.0	2.6		331	510	435		365			315	3	361	44					0.57	0.84	0.89	555	53	1.0			
		50	O008U	Stormwater Outfall (U/S)	F						679						8.8	106.0					7.26	0.33	682	24.8							2.0	2.30	

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						ug/L	Ratio	mg/l	mg/l	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/l	%	ug/L	ug/L	ug/L	ug/L	su	ppt	us/cm @25C	C	mg/l	mg/l	mg/l	mg/l	ug/L	mg/l	feet	ntu	mg/l
6/25/2014	EVENT1	50	O008U	Stormwater Outfall (U/S)	G	12	4.1		2.0	1.8		468	409	166		162			456	14	494	140					0.56	0.88	1.02	549	41	2.0			
		51	O008D	Stormwater Outfall (D/S)	F						672						9.3	110.5					7.58	0.33	682	24.2							2.5	2.15	
					G	12	10.2		2.0	1.5		468	424	157		166			456	15	460	53					0.49	0.89	0.95	477	39	2.0			
		52	T210	Dup	D	46	5.1		2.0	1.7		526	479	186		201			480	5	561	129					0.65	1.01	1.13	608	40	4.0			
			T110	Blank	B	1	30.3		2.0	0.5		2	41	1		1			1	3	17	1					0.04	0.04	0.04	42	3	1.0			
			T010	Shawsheen River	F						676						8.1	92.6					7.15	0.35	717	22.0							3.0	2.30	
					G	36	10.8		2.0	1.8		512	571	248		236			476	6	552	60					0.67	1.08	1.14	631	41	3.0			
			T310	Rinse	R	6	20.1		2.0	0.5		7	102	1		1			1	4	23	1					0.11	0.11	0.11	103	5	1.0			
		53	M020	D/S Lawrence	F						209						9.3	108.8					7.71		202	23.2							8.0	1.10	
					G	21	7.1		2.0	24.0		546	553	33		22			525	5	991	162					0.74	1.10	1.26	715	67	3.0			9.23
		54	M021U	U/S GLSD WWTP	F						215						9.7	113.9					7.35		208	23.1							9.0	1.20	
					G	20	7.2	4.0	2.0	22.0		538	514	24		41			518	7	1133	184					0.72	1.05	1.24	697	70	4.0			
		55	M021D	D/S GLSD WWTP	F						221						9.5	111.4					7.46		214	23.2							10.0	1.15	
					G	33	6.4		2.0	29.0		558	727	58		50			525	7	1099	199					0.96	1.28	1.48	926	62	4.0			
		56	M022	D/S Methuen	F						230						9.9	115.6					7.48		223	23.4							8.0	1.15	
					G	351	7.8		6.0	30.0		910	869	28		30			559	4	1277	192					1.41	1.78	1.97	1061	65	4.0			9.71
		57	O009U	Stormwater Outfall (U/S)	F						229						10.2	120.9					7.58		223	23.7							5.0	1.15	
					G	354	7.5		4.0	26.0		949	477	21		22			595	13	1266	196					1.03	1.43	1.62	674	54	5.0			
		58	O009D	Stormwater Outfall (D/S)	F						227						10.3	122.2					7.65		222	23.9							5.0	1.25	
					G	154	7.2		6.0	26.0		739	569	31		19			586	16	1377	222					0.94	1.31	1.53	791	66	4.0			
		59	M023U	U/S Haverhill	F						220						9.5	111.9					7.44		213	21.8							12.0	1.15	
					G	151	7.8		4.0	25.0		758	709	25		15			607	2	1173	177					1.04	1.47	1.64	886	72	4.0			
		60	T012	Little River	F						466						9.6	110.2					7.25	0.24	493	22.2							1.0	3.70	
					G	48	8.7		2.0	5.1		572	614	488		1046			523	9	562	75					0.74	1.19	1.26	689	53	2.0			
		61	O010U	Stormwater Outfall (U/S)	F						221						9.8	116.3					7.61		217	24.0							14.0	1.20	
					G	115	7.5		5.0	30.0		742	512	112		166			627	11	1554	243					0.87	1.25	1.50	754	68	9.0			
		62	O010D	Stormwater Outfall (D/S)	F						221						9.9	116.8					7.56		216	23.9							11.0	1.35	
					G	101	7.0		5.0	29.0		729	439	108		105			628	8	1476	245					0.79	1.17	1.41	684	65	4.0			
		63	M023D	D/S Haverhill	F						227						9.3	110.7					7.70		222	23.9							10.0	1.50	
					G	115	7.7		5.0	18.0		749	765	32		69			633	6	1411	215					1.10	1.51	1.73	981	74	5.0			9.73
		64	M024U	U/S Haverhill WWTP	F						225						9.6	114.6					7.99	0.11	222	24.2							10.0	1.50	
					G	103	7.6		3.0	11.0		735	779	33	10	64			632	6	1588	245					1.13	1.51	1.76	1023	65	5.0			
		65	M124D	Blank	B	5	6.0	3.0	2.0	0.5		5	73	1	10	1			1	3	45	9					0.09	0.08	0.09	82	2	1.0			
			M324D	Rinse	R	22	11.2	6.0	3.0	0.5		22	112	1	10	1			1	2	67	7					0.14	0.13	0.14	119	11	1.0			
			M224D	Dup	D	77	7.5	6.0	3.0	35.0		693	487	53	10	53			616	7	1551	240					0.80	1.18	1.42	727	60	5.0			
			M024D	D/S Haverhill WWTP	C	60	7.5	6.0	3.0	6.8		679	618	34	10	46			619	6	1599	248					0.93	1.30	1.54	866	67	7.0			
					F						237						9.8	116.5					8.21	0.11	234	24.4							9.0	1.60	
		66	M025U	U/S Merrimac WWTP	F						239						9.5	110.9					7.34	0.12	248	23.1							18.0		
					G	41	6.8		2.0	29.0		801	519	25	27	24			760	9	1371	237					0.80	1.32	1.56	756	58	6.0			
		67	M025D	D/S Merrimac WWTP	C	12	7.0	4.0	2.0	33.0		826	513	17	17	12			813	6	1672	279					0.80	1.34	1.62	792	64	6.0			
					F						239						9.6	113.1					7.48	0.12	247	23.3							17.0		
		68	M026U	U/S Amesbury WWTP	F						1045						10.1	119.6					8.19	0.55	1076	23.5							25.0		
					G	10	6.8		2.0	19.0		590	551	19	6	25			580	2	1712	294					0.85	1.14	1.44	845	64	9.0			
		69	M026D	D/S Amesbury WWTP	C	8	6.9	4.0	2.0	27.0		580	476	26	6	26			572	2	1765	297					0.78	1.06	1.35	772	65	9.0			
					F						1916						10.2	120.1					8.36	1.02	1964	23.3							22.0		
		70	T011	Powwow River (Amesbury)	F						1955						10.2	120.7					8.21	1.02	2005	23.4							5.0		
					G	9	7.0		2.0	16.0		577	416	21	10	23			568	4	1883	315					0.74	0.99	1.31	732	61	9.0			
		71	M028U	U/S Salisbury WWTP	F						23447						10.2	621.2					8.23	15.75	25801	19.0							14.0		
					G	5	7.5		2.0	24.0		248	361	61	10	50			243	7	1086	170					0.54	0.61	0.78	531	39	9.0			
		72	M028D	D/S Salisbury WWTP	C	12	7.9	3.0	2.0	21.0		208	319	10	10	17			196	9	1195	176					0.51	0.53	0.70	495	50	8.0			

Merrimack River Watershed Study
Phase III Sampling Data Tables

Sample Date	Event	Station Nu	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
						ug/L	Ratio	mg/l	mg/l	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/l	%	ug/L	ug/L	ug/L	ug/L	su	ppt	us/cm @25C	C	mg/l	mg/l	mg/l	ug/L	ug/L	mg/l	feet	ntu	mg/l
6/25/2014	EVENT1	72	M028D	D/S Salisbury WWTP	F						30364						9.6	112.2					8.09	23.37	36854	15.8							18.0		
		73	M029U	U/S Newburyport WWTP	F						25236						10.3	121.3					8.29	18.015	29642	18.0							17.0		
					G	5	7.9		2.0	30.0		221	356	78	10	51			217	8	1230	183					0.54	0.58	0.76	539	62	10.0			
		74	M029D	D/S Newburyport WWTP	C	6	10.1	3.0	2.0	27.0		143	217	47	20	34			137	9	1527	177					0.40	0.36	0.54	393	42	10.0			
					F						27722						10.2	118.7					8.26	20.555	32929	16.7							7.0		
		75	M027	Shellfish Bed/Newburyport boat ramp	F						35468						9.3	105.3					8.05	30.505	47077	12.2							4.0		
					G	16	10.1		2.0	4.0		61	322	10	20	10			45	20	750	87					0.43	0.38	0.47	409	40	5.0			9.2
		76	M030	Shellfish Bed (Newburyport)	F						30539						10.0	115.7					8.21	23.555	37123	15.7							2.0		
					G	5	8.8		2.0	17.0		157	289	30	10	52			152	11	1008	134					0.43	0.45	0.58	423	42	9.0			9.64

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #2 (October 2015)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					ug/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	SU	ppt	us/cm @25C	°C	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	ft	ntu	mg/L
10/1/2015	Event 2	M001	D/S Hooksett Dam	F						86						9.135	88.55					7.94		109	14.22							13	13.35	
				G	68.3	10.1		2	11		187	321	1120		980.4			118.9	7.9	1611	186					0.58	0.51	0.69	507	65	17			1.93
		M002	U/S Amoskeag Dam	F						91						11.75	116					7.03		113.5	14.48							12.5	8.1	
				G	105.7	10.3		2	7.2		221	367	727		920.8			115.2	22.5	776	88.2					0.56	0.59	0.68	455	97	11			
		M003	D/S Amoskeag Dam	F						88						10.95	107					7.20		110	14.42								9	
				G	68.9	10.4		2	12		191	268	365.4		648.8			122.1	14.3	1110	124					0.46	0.46	0.58	393	84	18			
		M004	D/S Manchester	F						88						10.8	106					7.11		110	14.44								8.4	
				G	39.1	10.5		2	11		150	283	686.7		686.7			110.6	9.5	1498	166					0.49	0.43	0.60	449	65	16			8.94
				B	22.6	22.5		2	0.5		25.3	66.6	1		1			2.65	3.10	48.3	9.80					0.092	0.092	0.094	69.1	6.17	1			
				D	54.4	9.9		2	13		152	302	579.4		920.8			98.1	9.47	1125	133					0.490	0.455	0.588	435	62.7	22			
				R	29.0	20.9		2	0.5		31.2	87.3	1		1			2.19	3.10	53.7	9.80					0.119	0.118	0.121	90.3	3.10	1			
		M005D	D/S Manchester WWTP	C	101.3	10.2	3	2	9.3		201	263						99.7	17.8	749	86.2					0.45	0.46	0.55	349	54	15			
				F						101						9.205	95.6					7.13	0.05	118	17.44							5	6.575	
				G									435.2		365.4																			
		M005U	U/S Manchester WWTP	F						103.5						9.38	101					7.18	0.06	119	18.32							2	7.57	
				G	97.6	10.7		2	7.9		206	319	613.1		920.8			108.8	14.3	1390	151					0.57	0.53	0.68	470	56	11			
		M006D	D/S Derry WWTP outfall	C			3	2																							12			
				F						92.5						11.01	108					7.01		115.5	14.54								8.85	
				G	88.9	10.2			9		211	295	816.4		816.4			122	15.9	856	97.8					0.48	0.51	0.60	393	60				
		M007D	D/S Merrimack WWTP	C	70.2	10.1	3	2	11		203	221						133	14.3	1067	123					0.41	0.42	0.55	344	75	19			
				F						109						9.08	96					7.03	0.06	125.5	18.1							20.7	7.2	
				G									1553		1046																			
		M007U	U/S Merrimack WWTP	F						117.5						9.245	97.55					7.62	0.065	135	18.48							11.9	7.8	
				G	81.4	11.7		2	12		236	316	980.4		866.4			155	17.8	2107	210					0.61	0.55	0.76	526	75	17			
		M008	U/S Nashua	F						109.5						8.835	93.6					7.02	0.06	126	18.12							14.7	8.7	
				G	75.1	10.2		2	11		234	331	816.4		648.8			158.7	14.3	974	112					0.52	0.57	0.68	443	81	22			8.39
		M009D	D/S Nashua WWTP	C	80.1	9.5	3	2	11		303	386						222.5	20.2	609	74.6					0.54	0.69	0.76	461	64	14			
				F						112.5						8.925	94.55					7.07	0.06	130	18.26							16	6.1	
				G									770.1		1046																			
		M009U	U/S Nashua WWTP	F						112						9.005	95.55					7.06	0.06	128	18.24							18.5	7.2	
				G	83.9	11.5		2	9		256	309	816.4		1046			172.3	15.9	1373	140					0.53	0.57	0.70	449	62	14			
		M010	D/S Nashua	F						128						9.065	96.15					7.10	0.07	147.5	18.26							20	5.7	
				G	73.9	10.0		2	11		263	307	579.4		1203			188.6	15.9	800	93					0.47	0.57	0.66	401	52	10			8.48
		M011	U/S Lowell	F						195						8.055	87.8					7.20		174	19.52							16	5.2	
				G	216.7	9.3		2	9.7		540	375	2420		2420			322.9	39.5	963	121					0.71	0.91	1.04	495	98	9			7.81
		M012	Lowell Public Beach	F						215						8.235	89.7					7.21		192.5	19.48							19.6	4.3	
				G	306.5	8.7		2	12		701	659	2420		2420			394.8	40.3	1218	163					1.13	1.36	1.52	821	100	7			
		M013	U/S Pawtucket Dam	F						216						8.2	89.35					7.16		193	19.46							19	3.95	
				G	181.4	9.2		2	13		580	740	2420		2420			398.9	42.6	1240	158					1.08	1.32	1.48	898	94	5			
		M014	D/S Pawtucket Dam	F						179.5						7.66	82.2					6.73	0.1	203.5	18.69								6	
				G	232.5	9.6		2	17		633	635	307.6		224.7			400.3	36.4	1345	163					1.03	1.27	1.43	798	100	8			
		M015	D/S Lowell	F						180.5						6.815	73					6.85	0.1	205	18.61								3	
				G	234.9	10.5		2	6.8		642	643	162.4		161.6			407.1	37.9	1595	178					1.06	1.29	1.46	821	78	4			8.66

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #2 (October 2015)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					ug/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	SU	ppt	us/cm @25C	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ft	ntu	mg/L
10/1/2015	Event 2	M016D	D/S Lowell WWTP	C	287.7	8.6	3	2	15		696	722						408.4	39.5	1019	138					1.15	1.42	1.56	859	111	11			
				F						214.5						9.095	99.1					7.30		191.5	19.5							6	6.5	
				G									1986		2420																			
				B	30.3	16.9	3	2			32.7	26.4						2.40	3.10	43	9.8					0.060	0.059	0.062	29.4	4.114	1			
				D	299	8.2	3	2			676	688						377.2	39.5	990	142					1.129	1.365	1.506	830	110	11			
				R	35.3	15.6	3	2			44.3	45.0						9.00	3.10	93	9.80					0.087	0.089	0.096	52.0	3.10	1			
		M016U	U/S Lowell WWTP	F						215.5						9.16	99.8					7.33		193	19.51							8	6.55	
				G	278.6	9.0		2	14		660	643	1986		2420			381.3	37.2	1621	209					1.13	1.30	1.51	852	119	13			
		M017	U/S Lawrence	F						233.5						9.55	104.2					7.36		209	19.53							19	6.1	
				G	288.3	8.9		2	9.4		687	621	1203		2420			398.2	38.7	1051	138					1.05	1.31	1.45	759	88	12			8.67
		M018	U/S Essex Dam	F						230						8.96	97.35					7.29		206	19.37							17.5	4	
				G	148.8	7.5		2	10		564	615	648.8		816.4			415.2	39.5	823	128					0.89	1.18	1.31	743	85	6			
		M019	D/S Essex Dam	F						196.5						8.54	93.8					6.49	0.1	219	19.88								7.5	
				G	265.3	7.0		4	14		640	451	2420		2420			374.5	49.5	1312	217					0.93	1.09	1.31	668	142	11			
		M020	D/S Lawrence	F						224						8.1	89.55					7.68	0.12	246.5	20.27								3.5	
				G	477.5	9.0		2	12		891	557	517.2		435.2			413.8	60.3	1021	133					1.17	1.45	1.58	690	136	6			8.03
		M021D	D/S GLSD WWTP	C	490.9	8.1	3	2	10		908	631						417.2	61.1	1275	184					1.31	1.54	1.72	815	123	7			
				F						228.5						7.935	88.35					7.37	0.12	251.5	20.31							2	3.85	
				G									2420		2420																			
		M021U	U/S GLSD WWTP	F						229.5						7.765	86.35					7.44	0.12	253	20.23								3.95	
				G	510.9	7.6		2	15		932	588	816.4		1986			420.6	68.1	948	146					1.24	1.52	1.67	734	148	8			
		M022	D/S Methuen	F						227.5						7.73	85.45					7.41	0.12	250	20.19							2	4.15	
				G	482.4	8.3		2	16		893	617	410.6		435.2			411.1	66.5	1635	229					1.33	1.51	1.74	846	148	7			7.49
		M023D	D/S Haverhill	F						227.5						7.625	84.1					7.13	0.12	251	20.05							9.2	8.55	
				G	332.0	7.7		2	17		765	609	410.6		517.2			432.8	58.8	1219	184					1.12	1.37	1.56	793	161	16			
		M023U	U/S Haverhill	F						233						7.775	85.95					7.22	0.12	257.5	20.13							11.2	7.65	
				G	455.7	8.5		2	17		903	616	1733		1986			447.8	67.3	2303	316					1.39	1.52	1.84	932	174	14			
		M024D	D/S Haverhill WWTP	C	345.3	8.0	3	2	25		774	573						428.8	58.8	1525	224					1.14	1.35	1.57	797	117	6			
				F						224.5						7.675	84.65					7.28	0.12	248	20								4	
				G									365.4	42.8	488.4																			
				B	32.8	21.2	3	2	0.5		36.4	22.7	1	1	1			3.58	3.10	45	9.80					0.058	0.059	0.062	25.1	4.114	1			
				D	280	8.5	3	2	22		686	648	461.1	32.8	461.1			405.7	54.2	1644	227					1.155	1.334	1.561	875	122	5			
				R	43.6	23.2	3	2	0.5		50.1	111	1	1	1			6.48	3.10	126	10.73					0.161	0.161	0.167	117	6.170	1			
		M024U	U/S Haverhill WWTP	F						226						7.62	84.2					7.19	0.12	249.5	20.04							10.8	6.65	
				G	332.0	7.4		2	18		769	671	325.5	55.6	261.3			436.9	58.0	975	153					1.16	1.44	1.59	824	137	8			
		M025D	D/S Merrimac WWTP	C	527.9	8.0	3	2	21		1003	781						474.9	73.5	1335	195					1.50	1.78	1.98	976	170	10			
				F						235.5						7.25	82.35					7.94	0.11	214	20.22							24	3.45	
				G									2420	183	2420																			
		M025U	U/S Merrimac WWTP	F						236.5						7.045	78.25					7.53	0.11	215	20.26							26	5.65	
				G	538.2	7.8		2	22		994	625	1986	173	2420			455.9	75.0	1339	201					1.36	1.62	1.82	825	169	10			
		M026D	D/S Amesbury WWTP	C	158.5	8.2	3	2	21		684	787						525.1	65.8	1351	192					1.14	1.47	1.66	979	142	8			
				F						314						7.545	85.85					7.79	0.15	287	20.51							20	2.75	
				G									2420	84	2420																			
		M026U	U/S Amesbury WWTP	F						386						8.025	89.6					8.12	0.185	351.5	20.43							25	3	
				G	121.7	8.2		2	20		572	607	2420	121	2420			450.5	50.3	1185	169					0.90	1.18	1.35	776	132	7			

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #2 (October 2015)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					ug/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	SU	ppt	us/cm @25C	°C	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	ft	ntu	mg/L
10/1/2015	Event 2	M027	Shellfish Bed/ Newburyport	F						23354						7.665	88.55					7.89	12.78	27410	17.22							4	3.4	
			boat ramp	G	38.5	9.1		2	12		192	393	47.3	121	198.9			153.3	17.8	911	117					0.55	0.59	0.70	511	62.7	9			7.38
		M028D	D/S Salisbury WWTP	C	88.2	8.9	3	2	18		635	818						546.8	46.5	1710	225					1.13	1.45	1.68	1043	117	9			
				F						550.5						8.28	91.6					7.81	0.27	500	20.2							10	3.7	
				G									1046	260	920.8																			
		M028U	U/S Salisbury WWTP	F						371						7.965	88.8					8.25	0.18	338.2	20.43							4	1.95	
				G	133.7	8.0		2	25		695	806	2420	134	2420			561.7	64.4	1192	173					1.11	1.50	1.67	979	134	6			
		M029D	D/S Newburyport WWTP	C	75.1	10.1	3	2	13		427	518						352.1	24.0	1285	148					0.74	0.95	1.09	666	157	11			
				F						10721						7.94	89.3					7.67	6.655	11294	19.11							5	3.85	
				G									261.3	648	488.4																			
		M029U	U/S Newburyport WWTP	F						4910						8.095	90.05					7.73	2.835	4836	19.57							10	6.05	
				G	68.4	8.3		2	14		513	697	260.3	246	344.8			445.0	27.1	1213	171					0.94	1.21	1.38	868	86.7	12			
		M030	Shellfish Bed (Newburyport)	F						6967						7.635	84.7					7.82	3.78	6200	19.27								4.5	
				G	60.7	8.7		2	15		382	497	344.1	323	686.7			321.6	22.5	1531	206					0.76	0.88	1.09	703	84.7	13			8.46
		O001D	Stormwater Outfall (D/S)	F						88.5						11.34	111.5					7.43		112	14.43							11.3	7.75	
				G	74.5	10.7		2	7.2		198	305	579.4		547.5			123.7	20.9	1103	120					0.50	0.50	0.62	425	60.6	14			
		O001U	Stormwater Outfall (U/S)	F						90						11.01	107.8					7.44		113	14.48							11.6	6.1	
				G	90.1	9.6		2	4.9		208	278	727		648.8			118.2	20.9	571	69.3					0.44	0.49	0.56	347	69.0	13			
		O002D	Stormwater Outfall (D/S)	F						107.5						9.92	105.6					7.30	0.06	118	18.31							3.5	4.13	
				G	115.1	11.1		2	7.6		249	299	410.6		410.6			134.3	15.9	929	97.8					0.51	0.55	0.65	396	63.8	10			9.07
				B	18.8	18.4		2	0.7		27.0	25.9	1		1			8.22	3.10	34	9.80					0.047	0.053	0.055	28	4.11	1			
				D	97.6	11.3		2	7.2		198	261	488.4		325.5			100.8	13.5	920	94.8					0.453	0.459	0.554	356	51.2	10			9.12
				R	16.3	74.4		2	0.7		17.4	161	1		1			1.09	3.10	31	9.800					0.178	0.179	0.179	162	4.11	1			
		O002U	Stormwater Outfall (U/S)	F						103						9.985	106.1					7.20	0.055	118	18.26								5.835	
				G	95.1	10.6		2	7.6		223	155	613.1		770.1			127.8	14.3	678	74.8					0.32	0.38	0.45	230	62.7	10			
		O003D	Stormwater Outfall (D/S)	F						88						10.91	107.1					7.00		111	14.41								8.6	
				G	58.2	10.9		2	11		176	305	648.8		325.5			118.0	12.7	1235	132.7					0.50	0.48	0.61	438	70.0	20			
		O003U	Stormwater Outfall (U/S)	F						88.5						10.93	107					7.18		111	14.43								8.2	
				G	63.9	10.2		2	13		181	428	547.5		547.5			117.1	14.3	724	83.2					0.58	0.61	0.69	512	58.5	16			
		O004D	Stormwater Outfall (D/S)	F						321.5						8.5	89.25					7.18	0.18	373.5	17.67							5	2.32	
				G	46.8	8.5		2	12		450	712	65		65			403.0	3.9	604	83.0					0.84	1.16	1.24	795	27.2	7			
		O004U	Stormwater Outfall (U/S)	F						325						7.47	78.4					7.32	0.18	378.5	17.62							4	1.5	
				G	41.0	8.1		2	4.7		449	664	67.6		75.4			408.4	3.9	460	66.6					0.77	1.11	1.18	730	27.2	1			
		O005D	Stormwater Outfall (D/S)	F						215						8.2	89.2					7.18		192	19.43							17	4.25	
				G	323	8.8		2	11		705	519	2420		2420			381.3	38.7	835	111.1					0.95	1.22	1.33	630	95.1	6			
		O005U	Stormwater Outfall (U/S)	F						215						8.205	89.3					7.19		192	19.44							17	3.6	
				G	332	7.3		2	12		708	473	2420		2420			376.5	37.9	678	107.7					0.91	1.18	1.29	581	91.0	5			
		O006D	Stormwater Outfall (D/S)	F						186						8.445	91.6					6.32	0.1	208.5	19.29								4	
				G	225	8.3		2	13		612	532	98.7		155			386.7	34.8	724	102.4					0.86	1.14	1.25	634	74.2	4			
		O006U	Stormwater Outfall (U/S)	F						186						8.46	91.95					7.54	0.1	208	19.35								5	
				G	223	7.6		2	16		604	531	160.7		165			381.3	35.6	558	86.3					0.84	1.14	1.22	617	79.5	5			

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #2 (October 2015)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					ug/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	SU	ppt	us/cm @25C	°C	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	ft	ntu	mg/L
10/1/2015	Event 2	O007D	Stormwater Outfall (D/S)	F						278						9.57	104.2					7.34		249	19.43							8.6	5.6	
				G	272	8.7		2	10		709	570	1733		2420			436.9	35.9	1223	163.9					1.01	1.28	1.44	734	102	11			
		O007U	Stormwater Outfall (U/S)	F						267						9.585	104.4					7.34		237.5	19.45							10	5.2	
				G	294	9.3		2	16		714	531	1733		2420			420.6	36.8	1606	201.1					1.03	1.25	1.45	732	98.3	11			
		O008D	Stormwater Outfall (D/S)	F						401						9.175	97.95					6.79	0.22	457.5	18.42							4	8	
				G	533	8.6		2	6.1		760	463	2420		2420			226.6	23.3	1127	153.4					1.15	1.22	1.38	617	83.6	7			
		O008U	Stormwater Outfall (U/S)	F						397						9.195	98.1					6.90	0.22	454	18.43								8.5	
				G	499	8.0		2	6.5		721	779	2420		2420			221.2	18.6	1167	170.9					1.45	1.50	1.67	950	94.1	8			
		O009D	Stormwater Outfall (D/S)	F						225						8.135	89.7					7.40	0.12	249	20							2	5.5	
				G	421	7.8		2	14		809	521	686.7		488.4			388.1	59.6	1207	181.5					1.12	1.33	1.51	702	142	13			
		O009U	Stormwater Outfall (U/S)	F						227						8.1	89.3					7.27	0.12	250.5	20.01							2	5.75	
				G	434	8.2		2	15		825	668	648.8		770.1			390.8	60.3	1636	233.6					1.34	1.49	1.73	901	153	11			
		O010D	Stormwater Outfall (D/S)	F						231						7.725	85.05					7.14	0.12	255	19.94							7	8.7	
				G	323	8.6		2	22		733	693	613.1		1046			409.8	55.7	1717	232.5					1.25	1.43	1.66	926	180	18			
		O010U	Stormwater Outfall (U/S)	F						229						7.78	85.65					7.22	0.12	253.5	19.93							6.8	8.85	
				G	335	7.7		2	19		747	820	547.5		727			412.5	55.7	1082	163.4					1.32	1.57	1.73	984	148	16			
		T001	Piscataquog River	F						106						9.595	102.3					7.86	0.06	120.5	18.46							3.25	2.845	
				G	57.6	9.1		2	6.5		92	273	1733		1203			34.5	3.9	509	65.2					0.40	0.36	0.43	338	29.3	5			
		T002	Cohas Brook	F						496						9.645	103.6					7.05	0.27	563	18.75							3	3.67	
				G	8.0	7.6		2	11		32	309	248.1		365.4			23.5	3.1	714	109.1					0.43	0.34	0.45	419	25.1	4			
		T003	Souhegan River	F						107						10.16	105.2					7.51	0.06	126.5	17.05							3	7.69	
				G	22.6	8.9		2	8.6		85	449	2420		2420			62.4	9.5	937	123.3					0.60	0.53	0.66	573	56.5	10			
		T004	Nashua River	F						345						7.725	80.7					7.33	0.19	402	17.56								1.815	
				G	17.6	7.9		2	2.8		446	845	344.8		344.8			428.8	4.7	462	68.6					0.93	1.29	1.36	914	23.0	1			
		T005	Salmon Brook	F						205.5						10.17	106.8					7.14	0.11	237.5	17.8							6	2.1	
				G	25.2	8.6		2	5.4		155	534	2420		2420			129.6	14.3	905	123.3					0.68	0.69	0.81	658	52.3	8			
		T006	Stony Brook	G		8.2		2	4		143	480	1553		1733			114.1	4.7	557	79.1					0.59	0.62	0.70	559	27.2	1			
				F						383						8.97	93.95					6.91	0.22	447	17.5								3	
		T007	Beaver Brook	G	7.4	8.0		2	4.3		96	376	2420		2420			88.7	6.3	631	91.5					0.48	0.47	0.56	468	33.5	2			
		T008	Concord River	F						651						8.745	94.9					7.33	0.36	731.5	19.2								10	
				G	134.8	7.6		2	18		794	1265	1414		1986			659.4	4.7	1867	287					1.69	2.06	2.35	1552	75.3	16			
		T009	Spicket River	F						522						8.92	93					6.61	0.3	612	17.29							2.1	4.5	
				G	62.6	9.3		2	6.4		204	401	1733		2420			141.1	6.3	774	96.9					0.56	0.61	0.70	498	45.0	3			
		T010	Shawsheen River	F						436						8.64	91.35					6.90	0.24	503	18								7	
				G	68.4	11.5		4	11		261	521	2420		2420			192.7	9.5	1343	137					0.73	0.78	0.92	657	70.0	8			
				B	27.7	18.1		2	0.5		34.2	54.8	1		1			6.45	3.10	38.1	9.80					0.085	0.089	0.091	57.3	6.17	1			
				D	77.6	11.6		2	9.4		272	514	1986		1986			194.0	10.27	1706	172					0.764	0.786	0.958	686	62.7	9			
				R	15.0	26.7		2	0.5		16.9	34.4	1		1			1.88	3.1	50.2	9.8					0.052	0.051	0.053	36.6	4.11	1			
		T011	Powwow River (Amesbury)	F						286						8.78	89.3					7.69	0.14	278	20.29							4	2.4	
				G	169	7.7		2	23		658	828	2420	437	2420			489.8	64.2	1105	167					1.16	1.49	1.65	995	144	6			
		T012	Little River	F						318						8.605	91.3					6.50	0.18	365.5	18.17							2.5	8	
				G	58.2	8.0		2	3.9		247	545	2420		2420			188.6	11.1	889	130					0.73	0.79	0.92	675	59	5			

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Phase III Sampling Data Tables- Event #2 (October 2015)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					ug/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	SU	ppt	us/cm @25C	°C	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	ft	ntu	mg/L
9/29/2015-9/30/2015	Event 2	Merrimac MA	Merrimac MA WWTP	C	1187	7.4	15	5			8839	7564						7653	5266	7985	1265					10.02	16.40	17.67	8829	6537	15			
				F												9.69						6.98			14.4								
10/1/2015-10/2/2015	Event 2	Amesbury	Amesbury WWTP	C	528	11.5	12	6			6468	3070						5940	74.3	2642	267					3.86	9.54	9.80	3337	186	7			
				F												6.41						7.00			21.11								
		Derry	Derry WWTP	C	1041	10.8	3	2			6194	5905						5153	6022	813	88					7.03	12.10	12.19	5993	6693	1			
				F																		7.20			21.25								
		GLSD	GLSD	C	4933	10.1	11	4			7945	2517						3012	41.8	2345	270					7.72	10.46	10.73	2786	229	5			
				F												8.7	100.7					6.96		447	22.6								
		Haverhill	Haverhill WWTP	C	879	6.0	7	5			1353	1639						473.5	266.3	1898	368					2.89	2.99	3.36	2007	458	3			
				F												5.8						6.65			21.4								
		LRWWU	LRWWU	C	7174	6.5	30	9			9694	3024						2519	1391	8740	1558					11.76	12.72	14.28	4582	2415	12			
				F																													
		Manchester	Manchester WWTP	C	12060	6.6	11	5			12661	366						601	1072	3450	612					13.04	13.03	13.64	978	1111	4			
				F												4.91						6.90			4								43.9
		Merrimack NH	Merrimack NH WWTP	C	1838	5.5	16	9			7659	3745						5821	1361	8397	1767					7.35	11.40	13.17	5512	1517	15			
				F						1435						6.63	77.4					7.66			23.3								4.78
		Nashua	Nashua WWTP	C	6147	7.7	19	6			11832	5268						5685	1128	5604	845					12.26	17.10	17.95	6113	1773	11			
				F												7.56						6.11			21.65								
		Newburyport	Newburyport WWTP	C	71.4	6.0	6	3			6866	905						6794	646	2235	434					1.41	7.77	8.20	1339	713	12			
				F																		6.75			19.9								5
		Salisbury	Salisbury WWTP	C	189	8.0	3	2			5829	6623						5640	3686	151.2	22.0					6.83	12.45	12.47	6645	4100	1			
				F												8.3	92.1					6.70			20								1.2

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #3
(8/10/2016)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia ug/L	Carbon to Nitrogen Ratio Ratio	CBOD 20 mg/L	CBOD 5 mg/L	Chlorophyll-a ug/L	Conductivity us/cm	Dissolved Inorganic Nitrogen ug/L	Dissolved Organic Nitrogen ug/L	E. coli mpn/100ml	Enterococcus mpn/100ml	Fecal Coliform mpn/100ml	Field Dissolved Oxygen mg/L	Field Dissolved Oxygen Percent %	Nitrates ug/L	Orthophosphates ug/L	Particulate Organic Carbon ug/L	Particulate Organic Nitrogen ug/L	pH SU	Salinity ppt	Specific Conductivity us/cm @25C	Temperature °C	TKN mg/L	Total Dissolved Nitrogen mg/L	Total Nitrogen mg/L	Total Organic Nitrogen ug/L	Total Phosphorus ug/L	Total Suspended Solids mg/L	Total Water Depth ft	Turbidity ntu	Winkler Dissolved Oxygen mg/L
8/10/2016	Event #3	Amesbury	Amesbury WWTP	C	0.351	6.457	6	3			15027	3050						14676	467.4	1363	211.1					3.612	18.08	18.29	3261	722.8	2			
				F																		5.50			23							7	
		Derry	Derry WWTP	C	0.183	10.01	3	3			17871	4246						17689	5803	3377	337.4					4.766	22.12	22.45	4583	6483	8			
				F																		6.50			26.2								
		Haverhill	Haverhill WWTP	C	0.173	5.901	9	3			2619	1860						2446	1699	4829	818.4					2.852	4.479	5.298	2679	1848	11			
				F												6.1						6.99			23.1								
		LRWWU	LRWWU	C	6.759	6.735					12385	2160						5626	2758	4311	640.1					9.559	14.54	15.19	2800	2839				
				F												7.015						6.96			23.2								
		M001	D/S Hooksett Dam	F						113						10.47	128.7					7.32		111	25.81						6	0.5	
				G	0.012	6.719		3	6.5		290.5	207.4	1		3.1			278.1	3.1	444.9	77.29					0.297	0.498	0.575	284.7	18.24	1			7.376
		M002	U/S Amoskeag Dam	F						118.5						10.99	133.4					7.28		118	25.27						15	0.65	
				G	0.015	10.53		3	5.4		288.8	204.7	5.2		1			273.8	3.1	622	68.95					0.289	0.494	0.562	273.7	23.13	1			
		M003	D/S Amoskeag Dam	F						121						11.01	133.5					7.25		121	25.13						3	0.55	
				G	0.027	7.956		3	6.9		341.9	208.3	131.7		248.1			315.3	3.1	460.5	67.55					0.302	0.55	0.618	275.8	21.2	1			
		M004	D/S Manchester	F						131.5						10.23	124					7.17		131.5	25.15						11	1	
				G	0.02	7.312		3	5.1		339.8	206	104.6		166.4			319.6	3.1	496.6	79.26					0.305	0.546	0.625	285.3	21.2	2			6.842
				B	0.037	32.13		2.333	0.5		38.48	95.45	1		1			1.644	3.067	34.88	6.94					0.134	0.134	0.135	96.93	3.826	1			
				D	0.032	9.479		2.333	8		259	287.2	258.3		369.6			226.6	4.857	748.9	91.31					0.411	0.546	0.638	378.5	36.65	8.667			8.59
				R	0.029	13.18		2.333	0.5		30.48	106.4	1		1			1.614	2.583	55.02	13.37					0.145	0.137	0.147	116	3.982	1			
		M005D	D/S Manchester WWTP	C	0.115	10.81	3	3	5.1		529.7	255.8						414.2	32.9	637.6	68.86					0.44	0.785	0.854	324.6	55.89	2			
				F						230						4.775	57.05					7.12	0.11	233	24.22						6	2.175	
				G									201.4		160.7																		
		M005U	U/S Manchester	F						236						7.31	87.85					7.10	0.11	242.5	24.88						2	1.88	
				G	0.027	7.375		3	5.5		354.8	252	54.6		35.9			328.2	4.974	443.3	70.16					0.349	0.607	0.677	322.2	23.13	2			
		M006D	D/S Derry WWTP outfall	C	0.107	8.164	3	3	6.6		620.1	267.8						513.1	48.84	522.6	74.71					0.449	0.888	0.963	342.5	79.02	2			
				F						154						10.91	132.7					7.37		153	25.33						8	0.6	
				G									195.6		117.8																		
		M006U	U/S Derry WWTP outfall	F						298.5						4.295	49.5					6.86	0.15	312.5	22.67						3	2.095	
				G	0.09	7.896		3	10		583	267.8	141.4		140.1			493.1	44.65	602.8	89.11					0.447	0.851	0.94	356.9	79.02	2			
		M007D	D/S Merrimack WWTP	C	0.021	9.216	3	3	9.5		577.6	347.4						556.1	89.97	640.3	81.09					0.45	0.925	1.006	428.5	113.7	2			
				F						163.5						8.395	102.8					7.43		161.5	25.66						10.3	0	
				G									39.9		36.4																		
		M007U	U/S Merrimack WWTP	F						161						8.3	101.5					7.66		159	25.49						8	0	
				G	0.026	6.839		3	9.8		535.5	256.6	78.5		60.2			509.5	74.86	544.5	92.93					0.375	0.792	0.885	349.5	100.2	2			
		M008	U/S Nashua	F						167						8.605	105.2					7.43		165.5	25.5						10.6	0	
				G	0.025	9.246		3	9.1		596.5	372	34.1		35			571.9	85.77	540.4	68.22					0.465	0.969	1.037	440.2	107.9	2			7.827
		M009D	D/S Nashua WWTP	C	1.233	7.582	7	3	9.1		2524	589.8						1291	109.3	1959	301.5					2.124	3.114	3.416	891.4	200.2	7			
				F						253						8.235	100.1					7.08		253	25.18						18.7	3.55	
				G									2420		2420																		
		M009U	U/S Nashua WWTP	F						187						8.43	102.6					7.35		186	25.29						12.3	0.05	
				G	0.012	6.494		3	9.2		529.9	299.2	461.1		980.4			517.4	45.49	589.4	105.9					0.418	0.829	0.935	405.1	73.24	2			

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #3
(8/10/2016)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia ug/L	Carbon to Nitrogen Ratio Ratio	CBOD 20 mg/L	CBOD 5 mg/L	Chlorophyll-a ug/L	Conductivity us/cm	Dissolved Inorganic Nitrogen ug/L	Dissolved Organic Nitrogen ug/L	E. coli mpn/100ml	Enterococcus mpn/100ml	Fecal Coliform mpn/100ml	Field Dissolved Oxygen mg/L	Field Dissolved Oxygen Percent %	Nitrates ug/L	Orthophosphates ug/L	Particulate Organic Carbon ug/L	Particulate Organic Nitrogen ug/L	pH SU	Salinity ppt	Specific Conductivity us/cm @25C	Temperature °C	TKN mg/L	Total Dissolved Nitrogen mg/L	Total Nitrogen mg/L	Total Organic Nitrogen ug/L	Total Phosphorus ug/L	Total Suspended Solids mg/L	Total Water Depth ft	Turbidity ntu	Winkler Dissolved Oxygen mg/L
8/10/2016	Event #3	M010	D/S Nashua	F						206						8.43	102.8					7.42		204	25.35							25.35	0.1	
				G	0.189	7.793		3	11		859.4	348.8	9.8		6.3			670.8	53.04	647.8	97.03					0.634	1.208	1.305	445.8	86.73	2			7.971
		M011	U/S Lowell	F						201						9.395	115.3					7.70		198	25.86							10	2.065	
				G	0.023	6.635		3	18		605.3	315.3	23.1		18.9			581.9	39.61	950.2	167.2					0.506	0.921	1.088	482.5	84.81	2			8.387
		M012	Lowell Public	F						194						10.25	105.3					7.59		192	25.49							8.3	2.045	
			Beach	G	0.005	5.959		3	28		541.4	305	2		3.1			536.1	18.63	1202	235.5					0.546	0.846	1.082	540.5	65.53	3			
		M013	U/S Pawtucket	F						193						10.31	105.9					7.66		191	25.45							17.2	2.155	
			Dam	G	0.003	6.74		3	31		530.9	293.8	1		4.1			527.5	13.72	1143	197.9					0.495	0.825	1.023	491.7	62.64	3			
		M014	D/S Pawtucket	F						202						5.535	67.85					7.94		199	25.68								2.58	
			Dam	G	0.015	5.819		3	28		506.6	283.2	13.5		19.9			491.6	9.345	1242	249.2					0.547	0.79	1.039	532.3	52.04	3			
		M015	D/S Lowell	F						216.5						6.575	79.8					7.74		215	25.33									
				G	0.038	5.251		3	27		618.6	328.1	107.1		123.6			580.5	13.72	1375	305.8					0.672	0.947	1.252	633.9	63.6	4			7.165
		M016D	D/S Lowell	C	0.791	6.883	12	8	22		1492	518.3						700.9	215.6	4099	695.2					2.004	2.01	2.705	1214	350.3	17			
			WWTP	F						237.5						7.82	95.2					7.64		235.5	25.36							7	6.17	
				G									1733		2420																			
				B	0.031	74.89	3	2.5			33.08	36.21						2.099	3.1	110.4	9.8					0.069	0.069	0.072	38.49	3.607	1			
				D	0.491	8.252	6	3.5			1210	461.9						719.6	116.7	2220	312.1					1.265	1.672	1.984	774	200.2	10.5			
				R	0.034	13.78	3	2.5			40.77	74.84						6.61	3.1	94.52	9.8					0.117	0.116	0.124	83	3.47	1			
		M016U	U/S Lowell	F						203						8.015	97.95					7.79		201.5	25.5							3.5	2.895	
			WWTP	G	0.05	7.404		3	24		596.4	376.5	2420		2420			546.1	15.27	1172	184.8					0.612	0.973	1.158	561.3	59.75	5			
		M017	U/S Lawrence	F						237						8.135	99.8					7.51		233	25.77							12.6	3.24	
				G	0.15	5.525		3	23		860.4	410.9	79.4		98.8			710.9	110.1	1304	275.5					0.836	1.271	1.547	686.4	156.1	5			
		M018	U/S Essex Dam	F						224						10.23	99					8.22		219	26.17							20.5	1.95	
				G	0.011	5.05		3	29		634.7	373.1	21.8		51.2			623.5	63.11	1435	331.7					0.716	1.008	1.339	704.8	109.9	3			
		M019	D/S Essex Dam	F						217						7.46	90.55					7.58		217	25.11								4.75	
				G	0.061	6.897		3	21		696.2	790.9	27.9		45			635	164	987	167					1.019	1.487	1.654	957.9	102.2	7			
		M020	D/S Lawrence	F						221.5						8.735	106.9					7.66	0.1	219.5	25.47							3	0.65	
				G	0.055	5.832		3	22		668.9	365	275.5		727			613.5	72.35	1076	215.3					0.636	1.034	1.249	580.3	107	4			8.256
		M021D	D/S GLSD	C	1.027	7.611	3	3	15		1626	274.8						599.1	99.2	1594	244.4					1.546	1.901	2.145	519.2	148.4	5			
			WWTP	F						250.5						11.52	141.8					7.65		246.5	25.93							7.5	2.9	
				G									2420		2420																			
		M021U	U/S GLSD	F						227.5						12.14	148.8					8.04		222	26.27							7	2.15	
			WWTP	G	0.061	6.694		3	19		674	372.9	1203		1986			613.5	74.02	1117	194.8					0.628	1.047	1.242	567.7	107	4			
		M022	D/S Methuen	F						280.5						7.315	87.9					6.92	0.13	282.5	24.43							9	2.55	
				G	2.588	7.964		3	18		3273	655.6	1414		1553			685.1	117.7	1602	234.7					3.479	3.929	4.164	890.3	175.4	6			6.592
		M023D	D/S Haverhill	F						261.5						6.59	80.8					6.90	0.12	260	25.38							5	1.4	
				G	0.168	6.103		3	13		1673	1.312	2420		2420			1505	55.56	986.4	188.6					0.358	1.674	1.863	190	97.33	3			
		M023U	U/S Haverhill	F						259.5						6.185	75.75					7.08	0.12	258	25.25							9	0.95	
				G	0.237	5.313		3	10		1448	108.3	151.5		59.4			1211	65.63	732.8	161					0.507	1.557	1.718	269.3	95.41	3			

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #3
(8/10/2016)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia ug/L	Carbon to Nitrogen Ratio Ratio	CBOD 20 mg/L	CBOD 5 mg/L	Chlorophyll-a ug/L	Conductivity us/cm	Dissolved Inorganic Nitrogen ug/L	Dissolved Organic Nitrogen ug/L	E. coli mpn/100ml	Enterococcus mpn/100ml	Fecal Coliform mpn/100ml	Field Dissolved Oxygen mg/L	Field Dissolved Oxygen Percent %	Nitrates ug/L	Orthophosphates ug/L	Particulate Organic Carbon ug/L	Particulate Organic Nitrogen ug/L	pH SU	Salinity ppt	Specific Conductivity us/cm @25C	Temperature °C	TKN mg/L	Total Dissolved Nitrogen mg/L	Total Nitrogen mg/L	Total Organic Nitrogen ug/L	Total Phosphorus ug/L	Total Suspended Solids mg/L	Total Water Depth ft	Turbidity ntu	Winkler Dissolved Oxygen mg/L
8/10/2016	Event #3	M024D	D/S Haverhill WWTP	C	0.097	7.478	3	3	18		1544	43.01						1448	52.2	998.2	155.8					0.295	1.587	1.743	198.8	95.41	5			
				F						254						7.685	83.25					6.77	0.12	251.5	25.49							9	2	
				G									11199	84	12997																		
				B	0.022	17.63	3	2.333	0.5		25.36	53.01	4	7	4			3.059	3.067	39.19	9.475					0.08	0.078	0.083	57.19	3.958	1			
				D	0.153	8.212	4	2.667	28		985.4	430.3	4883	42.6	8237			832.7	37.5	1484	212.3					0.795	1.416	1.628	642.6	92.14	5			
				R	0.033	20.75	4	2.667	0.5		38.6	105.8	4	7	4			5.512	2.583	149.7	9.16					0.147	0.144	0.152	113.8	9.042	1			
		M024U	U/S Haverhill WWTP	F						239						7	85.05					6.61	0.11	238.5	25.23							7	1.6	
				G	0.105	7.294		3	16		963.7	558.2	24196	145	24196			858.5	58.08	1049	167.9					0.831	1.522	1.69	726.1	99.26	4			
		M025D	D/S Merrimac WWTP	C	0.059	9.038	3	3	10		1399	131.2						1340	70.67	631.9	81.6					0.272	1.531	1.612	212.8	90.59	3			
				F						395						5.845	72.55					6.42	0.16	381	26.17							14		
				G									86	10	41																		
		M025U	U/S Merrimac WWTP	F						341.5						6.065	74.95					6.44	0.175	423	26.2							14		
				G	0.059	9.062		3	8.8		1417	105.3	108	10	98			1357	63.95	700.6	90.24					0.255	1.522	1.612	195.5	88.66	3			
		M026D	D/S Amesbury WWTP	C	0.051	8.41	3	3	23		1272	114.7						1221	53.04	1060	147.2					0.313	1.387	1.534	261.9	89.62	9			
				F						894.5						6.13	76.45					6.36	0.42	879	26.17							26		
				G									10	10	10																		
		M026U	U/S Amesbury WWTP	F						608						6.085	76.25					6.20	0.29	595	26.2							32		
				G	0.06	8.622		3	17		1427	94.63	10	10	10			1367	70.67	1093	148					0.303	1.522	1.67	242.7	102.2	5			
		M027	Shellfish Bed/Newburyp	F						38288						8.7	106.2					8.17	29.36	45945	16.44							6.3	1.1	
				G	0.036	12.33		3	4.3		89.8	242	85	10	10			53.61	12.84	1163	110.1					0.388	0.332	0.442	352.1	32.77	4			
		M028D	D/S Salisbury WWTP	C	0.021	7.093	3	3	42		440.8	373.1						420	15.27	1622	266.9					0.661	0.814	1.081	639.9	96.37	14			
				F						40589						8.35	112					8.17	28.14	43032	21.96							20	2.7	
													20	10	63																		
		M028U	U/S Salisbury WWTP	F						21075						8.43	108.9					7.78	12.75	21301	24.49							6		
				G	0.024	6.819		3	16		593	462.6	135	10	10			569	10.22	1403	240.1					0.727	1.056	1.296	702.8	79.02	11			
		M029D	D/S Newburyport WWTP	C	0.011	7.202	3	3	14		115.4	215.2						104.2	8.471	881.4	142.8					0.369	0.331	0.473	358	32.77	8			
				F						35208						9.755	120.8					8.32	24.83	40543	18.45							20	1.05	
				G									10	10	10																		
		M029U	U/S Newburyport	F						34803						9.11	113.1					8.30	25.55	39879	18.49							20	0.95	
				G	0.012	7.055		3	14		141.4	220.3	20	10	20			128.9	6.722	818.1	135.4					0.368	0.362	0.497	355.7	38.55	4			
		M030	Shellfish Bed (Newburyport)	F						37993						8.89	108.3					8.27	29.75	46861	16.15							5	0.5	
				G	0.019	7.163		3	6.6		85.37	286.6	31	10	10			66.51	8.471	599.7	97.71					0.403	0.372	0.47	384.3	32.77	9			7.914
		Manchester	Manchester WWTP	C	7.102	7.322	17	5			16886	5028						9784	2575	3230	441.1					12.57	21.91	22.36	5469	2685	5			
				F												6.225	72.7					7.05			23.8							3.805	
		Merrimac MA	Merrimac MA WWTP	C	0.507	7.348	3	3			16139	3665						15632	6034	858.8	116.9					4.289	19.8	19.92	3782	6435	6			
				F												7.44	72.5					7.39			14.4								
		Merrimack NH	Merrimack NH WWTP	C	0.832	6.059	9	4			28599	6098						27767	5793	3066	505.9					7.436	34.7	35.2	6604	5678	7			
				F						1.34						2.01						7.57			26.45							3.64	
		O001D	Stormwater Outfall (D/S)	F						119						11	134.3					7.23		118	25.51							20	0.65	
				G	0.021	7.352		3	6.9		327.9	208.5	7.3		5.2			306.5	3.1	487.2	77.35					0.307	0.536	0.614	285.8	19.27	1			
		O001U	Stormwater Outfall (U/S)	F						119						11.21	137					7.37		118	25.63							11	0.65	
				G	0.023	7.475		3	5.8		294.7	222.7	2		2			271.9	3.1	587.1	91.68					0.337	0.517	0.609	314.4	21.2	1			

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Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #3
(8/10/2016)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					ug/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	SU	ppt	us/cm @25C	°C	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	ft	ntu	mg/L
8/10/2016	Event #3	O002D	Stormwater	F						206.5						7.635	93.05					6.92	0.095	206	25.15							3	1.84	
			Outfall (D/S)	G	0.023	7.721		3	5.8		339.9	264.8	88.6		68.3			316.6	3.1	462	69.84					0.358	0.605	0.675	334.7	19.27	1			7.078
				B	0.016	18.76		2.5	0.6		20.92	33.97	1		1			4.637	3.1	40.58	9.8					0.053	0.055	0.057	36.49	5.896	1			
				D	0.068	9.559		2.5	6.55		289.9	262.7	278.1		190.1			222.4	8.282	673.5	79.37					0.41	0.553	0.632	342.1	35.25	5.5			8.198
				R	0.061	46.71		2.5	0.6		62.9	124.4	1		1			2.178	3.1	43.49	9.8					0.187	0.187	0.189	126.3	3.976	1			
		O002U	Stormwater	F						205						7.21	87					6.95	0.095	207	25.08							4	2.495	
			Outfall (U/S)	G	0.03	8.163		3	6.2		349.2	236.6	73.8		83			319.4	3.1	437.4	62.54					0.329	0.586	0.648	299.1	19.27	1			
		O003D	Stormwater	F						128						10.54	127.5					7.09		128	25							11	1.8	
			Outfall (D/S)	G	0.114	8.106		3	6.2		420.8	282.7	2420		2420			306.5	11.97	1064	153.2					0.55	0.704	0.857	436	55.89	4			
		O003U	Stormwater	F						124.5						10.64	128.7					7.19		124.5	25.06							8	2.6	
			Outfall (U/S)	G	0.201	8.233		3	5.5		518.6	283.6	2420		2420			318	22.82	1541	218.5					0.703	0.802	1.021	502.1	80.95	3			
		O004D	Stormwater	F						741						5.545	65.25					6.97	0.37	764.5	23.41								4.59	
			Outfall (D/S)	G	0.051	9.119		3	3.3		220.7	357.4	2420		2420			169.8	11.97	580.2	74.26					0.483	0.578	0.652	431.7	42.4	3			
		O004U	Stormwater	F						587.5						5.555	68.25					6.84	0.295	607.5	23.27							4	8.185	
			Outfall (U/S)	G	0.23	11.68		3	0.5		570.5	484.3	2420		2420			341	130.3	1235	123.5					0.837	1.055	1.178	607.8	175.4	6			
		O005D	Stormwater	F						198						10.31	106.4					7.44		195	25.75							8.1	2	
			Outfall (D/S)	G	9E-04	6.35		3	30		577.9	345.9	2		2			577	25.34	1171	215.3					0.562	0.924	1.139	561.2	84.81	3			
		O005U	Stormwater	F						197.5						10.37	104.1					7.28		195	25.78							13.5	1.99	
			Outfall (U/S)	G	0.005	6.447		3	26		558.7	220.8	4.1		1			554	25.34	1243	225					0.451	0.779	1.004	445.8	75.17	3			
		O006D	Stormwater	F						202.7						9.765	120.2					8.47		200	26.1							1.5	2.49	
			Outfall (D/S)	G	0.025	7.039		3	28		553.3	328.7	34.1		26.2			528.1	11.97	1402	232.6					0.587	0.882	1.115	561.2	59.75	3			
		O006U	Stormwater	F						203						9.79	121					7.97		199	26.14							1.5	7.55	
			Outfall (U/S)	G	0.018	7.705		3	57		521.2	262.1	29.9		28.8			503.6	10.22	2113	320.1					0.6	0.783	1.103	582.2	135.9	4			
		O007D	Stormwater	F						218.5						7.295	88.65					7.49		217.5	25.23							8	3.335	
			Outfall (D/S)	G	0.072	7.435		3	23		725.6	376.7	1414		1300			653.2	33.74	1082	169.9					0.619	1.102	1.272	546.7	71.31	4			
		O007U	Stormwater	F						216.5						7.365	89.4					7.63		215.5	25.19							9.1	3.06	
			Outfall (U/S)	G	0.06	7.47		3	24		690.2	351.4	920.8		1733			630.2	28.7	1288	201.2					0.613	1.042	1.243	552.6	69.39	4			
		O008D	Stormwater	F						535.5						7.225	83.15					7.06		565	22.25							1.8	19.7	
			Outfall (D/S)	G	0.168	14.4		5	8.6		568.2	534.1	2420		2420			400	50.52	2173	176.2					0.878	1.102	1.278	710.3	129.1	16			
		O008U	Stormwater	F						412						7.82	90.15					7.06		434	22.34								20.8	
			Outfall (U/S)	G	0.203	13.19		7	7.4		633.3	598.2	2420		2420			430.2	65.63	1957	173.3					0.975	1.231	1.405	771.5	159	20			
		O009D	Stormwater	F						237.5						6.51	78.4					6.98	0.11	240	24.48							8	1.6	
			Outfall (D/S)	G	0.562	8.248		3	15		1504	234.5	579.4		613.1			942.5	85.77	1018	144					0.94	1.739	1.883	378.5	122.4	4			
		O009U	Stormwater	F						256						6.145	74.2					6.70	0.12	258.5	24.46							2	1.6	
			Outfall (U/S)	G	1.351	8.254		3	15		2345	698.6	2420		1986			994.3	100.9	1186	167.8					2.217	3.044	3.211	866.4	144.6	5			
		O010D	Stormwater	F						273.5						6.225	76.2					7.04	0.13	271	25.43							8	1.3	
			Outfall (D/S)	G	0.176	7.79		3	13		1441	295.9	2420		2420			1265	55.56	1141	171					0.643	1.737	1.908	466.9	99.26	4			
		O010U	Stormwater	F						276.5						6.45	78.85					7.80	0.13	274	25.5							11	1.6	
			Outfall (U/S)	G	0.165	7.501		3	14		1433	311.4	2420		2420			1268	55.56	1085	168.8					0.645	1.744	1.913	480.3	100.2	4			
		T001	Piscataquog	F						338						5.47	65.4					6.75	0.16	344.5	24.1							1	3.165	
			River	G	0.022	6.551		3	2.9		189.1	239.1	193.5		193.5			167	3.1	497.4	88.62					0.35	0.428	0.517	327.7	15.36	2			

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Event #3
(8/10/2016)

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Enterococcus	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					ug/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	mpn/ 100ml	mpn/ 100ml	mpn/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	SU	ppt	us/cm @25C	°C	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	ft	ntu	mg/L
8/10/2016	Event #3	T002	Cohas Brook	F						782						6.8	80.8					7.06	0.39	798	23.95							0.3	6.56	
				G	0.148	17.3		3	4.1		308.9	393.8	686.7		1300			160.5	17.79	1877	126.6					0.669	0.703	0.829	520.5	50.98	5			
		T003	Souhegan River	F						259						8.56	99.05					7.42		271	22.62							0.85	1.25	
				G	0.05	7.401		3	3.7		716.2	404.9	579.4		1300			666.5	12.84	555.2	87.57					0.542	1.121	1.209	492.4	30.84	2			
		T004	Nashua River	F						482.5						8.615	101.7					7.55		495.5	23.61							2	0.45	
				G	0.039	8.771		3	4.1		318.9	418.6	1046		2420			279.5	4.974	448.1	59.63					0.518	0.738	0.797	478.3	21.2	1			
		T005	Salmon Brook	F						541						6.295	73.25					7.08		567.5	22.77							3	11.1	
				G	0.157	17.04		3	7.9		530	416.7	2420		2420			372.7	25.34	1726	118.2					0.692	0.947	1.065	534.9	79.02	20			
		T006	Stony Brook	F						814						4.595	53.25					6.71	0.43	879	21.16							0.5	6.7	
				G	0.076	9.385		3	4.6		418.5	419.2	2420		2420			342.6	27.86	849.8	105.7					0.601	0.838	0.943	524.9	53.97	4			
		T007	Beaver Brook	F						838.5						7.69	92.05					7.26	0.42	850.5	24.37							0.5	5.79	
				G	0.061	9.083		3	6.2		243.2	363.6	2420		2420			182	8.471	856.5	110.1					0.535	0.607	0.717	473.6	65.53	6			
		T008	Concord River	F						1402						5.175	59.45					7.30	0.715	1430	23.98								7.475	
				G	0.097	6.617		3	6.6		3938	1028	2420		2420			3841	28.7	1020	180					1.305	4.966	5.146	1208	71.31	5			
		T009	Spicket River	F						269.5						7.355	85.8					6.95		280	23.02							1	113	
				G	0.612	17.93		19	27		1152	798.7	2420		2420			540.4	152.9	41107	2676					4.086	1.951	4.627	3474	564.9	220			
		T010	Shawsheen River	F						73						6.345	74.1					6.82		76	23.09								75	
				G	0.39	13.94		14	16		718.4	764.3	2420		2420			328.2	154.6	10895	912.2					2.067	1.483	2.395	1677	384.9	120			
				B	0.021	20.99		2.333	0.5		34.02	60.32	1		1			13.06	3.108	28.43	6.753					0.083	0.094	0.096	62.16	3.948	1			
				D	0.167	11.28		5.667	9.033		512	622.9	1531		1536			345.5	53.71	7397	551.3					1.341	1.135	1.686	1174	142.7	36			
				R	0.018	21.94		2.333	0.5		20.59	60.33	5.033		11.43			2.752	3.357	41.16	6.972					0.08	0.081	0.083	62.54	4.737	1			
		T011	Powwow River (Amesbury)	F						4085						4.725	58.25					6.55	2.185	4130	24.42							8		
				G	0.068	8.611		3	33		1213	1091	63	75	86			1145	30.38	1538	208.5					1.368	2.305	2.513	1300	86.73	9			
		T012	Little River	F						709.5						6.655	76.76					6.81		732.5	23.35							1	6.85	
				G	0.014	7.471		4	90		24.57	403.6	579.4		920.8			10.84	9.345	3266	510.2					0.928	0.428	0.938	913.8	99.26	12			
		Newburypor t, MA	Newburyport WWTP	C	0.362	6.434	10	6			13732	357.3						13369	5188	6828	1061					1.781	14.09	15.15	1419	5399	13			
				F																		6.72			14							18	
		Nashua, NH	Nashua WWTP	C	9.58	6.598	18	7			14587	831.3						5007	724.2	7855	1190					11.6	15.42	16.61	2022	1318	12			
				F												6.84						6.63			22.5									
		Salisbury, MA	Salisbury WWTP	C	1.666	6.414	5	3			22954	3221						21288	4042	267.9	41.76					4.929	26.18	26.22	3262	4171	1			
				F												7	81.9					6.60			23									

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Tributary Event #1

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia	Carbon to Nitrogen Ratio	CBOD 20	CBOD 5	Chlorophyll-a	Conductivity	Dissolved Inorganic Nitrogen	Dissolved Organic Nitrogen	E. coli	Fecal Coliform	Field Dissolved Oxygen	Field Dissolved Oxygen Percent	Nitrates	Orthophosphates	Particulate Organic Carbon	Particulate Organic Nitrogen	pH	Salinity	Specific Conductivity	Temperature	TKN	Total Dissolved Nitrogen	Total Nitrogen	Total Organic Nitrogen	Total Phosphorus	Total Suspended Solids	Total Water Depth	Turbidity	Winkler Dissolved Oxygen
					mg/L	Ratio	mg/L	mg/L	ug/L	us/cm	ug/L	ug/L	MPN/ 100ml	MPN/ 100ml	mg/L	%	ug/L	ug/L	ug/L	ug/L	su	ppt	us/cm @25C	C	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	feet	ntu	mg/L
7/22/2016	Event #1	Concord 1	Assabet River Contribution, Concord, MA	F						816					7.19	82.5					7.76	0.425	865.5	22.01								0.35	
				G	0.021	6.737		3	5.1		1079	486.9	456.9	816.4			1058	3.1	450	77.96					0.586	1.566	1.643	564.9	22.75	5			6.941
		Concord 2	Sudbury River contribution, Concord, MA	F						682.5					5.66	67.9					7.41	0.34	690.5	24.4							3.5	6.05	
				G	0.008	7.353		3	8.6		8.544	402.8	88.4	98.7			0.7	3.1	1221	193.8					0.605	0.411	0.605	596.6	20.93	6			
		Concord 3	Upstream/ Background, Concord, MA	F						718.5					7.335	86.75					8.06	0.36	740	23.62							1	3.35	
				G	0.021	7.317		3	9.1		455.1	426.3	2420	2420			434.3	3.1	888.7	141.8					0.589	0.881	1.023	568	28.21	4			
		Concord 4U	Upstream from Concord WWTP	F						748					9.85	117.6					7.83	0.37	765.5	23.83							3	3.25	
				G	0.023	6.871		3	9.6		416	456.6	365.4	488.4			392.7	3.1	681.5	115.8					0.596	0.873	0.988	572.4	27.3	6			
		Concord 5D	Downstream of Concord WWTP	B	0.037	22.65	7	3	0.5		38.74	62.58	1	1			1.751	3.1	29.82	9.8					0.101	0.101	0.103	64.12	3.1	1			
				C	0.056	7.142	8	3	12		617.5	455.6	165.8	186			561.9	3.1	939.9	153.6					0.665	1.073	1.227	609.2	34.58	5			
				F						751.5					7.195	85.7					7.52	0.37	766	23.99							5	4.65	
				R	0.153	22.33	3	3	0.5		157.9	116	1	1			5.002	3.1	150.1	9.8					0.277	0.274	0.282	123.8	3.1	1			
				D	0.056	6.863	11	4	11		598.9	417.6	161.6	214.3			543.2	3.1	1105	187.9					0.661	1.016	1.204	605.4	32.76	5			
		Concord 6	Bedford, MA/ Carlisle, MA Boundary	F						811					9.78	120.3					7.84	0.39	797	25.92							9.75	6	
				G	0.006	7.876		3	21		430.1	433.8	4.1	1			424.3	3.1	1292	191.4					0.631	0.864	1.055	625.2	44.59	7			
		Concord 7	Bottom of watershed. Billerica, MA	F						760					7.63	94.45					7.96	0.37	751.5	25.58								328	
				G	0.007	7.803		3	26		237.9	473.5	3.1	7.4			230.8	3.1	1509	225.7					0.706	0.711	0.937	699.2	36.4	8			
		Concord 8	Bottom of watershed. North Billerica, MA	F						730.5					5.31	63.4					7.69	0.36	731.5	24.95								6.6	
				G	0.007	7.509		3	9.6		174.8	449.4	41.4	73.3			167.7	3.1	1376	213.9					0.67	0.624	0.838	663.3	26.39	6			
		Concord 9U	Upstream Billerica WWTP	F						739					4.83	61.65					7.64	0.35	730.5	25.62							2	21.5	
				G	0.039	6.843		3	7.3		209.4	449.7	42.6	50.4			170.6	3.345	1044	178.1					0.667	0.659	0.837	627.8	49.14	6			
		Concord 10D	Downstream of Billerica WWTP	C	0.03	6.82	14	15	14		2738	1705					2709	3.1	1181	202.1					1.936	4.443	4.645	1907	40.04	4			
				F						781.5					7.25	90.9					7.80	0.38	776	25.38							4	5.75	
				G									59.4	45.7																		
		Concord 11	Prior to discharge into Merrimack	D																												9.056
				F						840.5					9.235	116.4					8.27	0.4	815.5	26.58							3	1.65	
				G	0.042	7.006		3	5.5		2593	926.2	98.8	135.4			2551	4.287	623.9	104					1.072	3.519	3.623	1030	35.49	5			9.165
		Shawsheen 1	U/S, background location, D/S of Hanscom, bottom of first watershed	D																												5.331
				F						341.5					5.725	61.55					7.05		387	18.79							0.25	1.25	
				G	0.127	10.47		3	1.1		632.5	261.9	275.5	248.1			506	3.345	433.7	48.36					0.437	0.894	0.943	310.3	18.2	1			5.744
		Shawsheen 2	D/S of residential area, commercial area.	F						7.715					6.71	71.25					7.01		888	18.14							1.5	2.2	
				G	0.067	11.72		3	3		583.5	249.9	648.8	488.4			516	6.172	675.7	67.28					0.385	0.833	0.901	317.2	41.86	5			
		Shawsheen 3	D/S of golf course. Collect u/s of Route 3	F						1037					5.19	58.65					7.24		1119	21.18							1.5	2.47	
				G	0.028	9.927		3	5.2		282.8	302.2	31.3	355.5			255.1	4.287	327.8	38.55					0.368	0.585	0.624	340.8	15.49	2			
		Shawsheen 4	D/S of residential area/ industrial/commercial area, bottom of watershed.	F						1063					10.35	127					7.69	0.52	1051	25.61							1	2.55	
				G	0.017	9.627		3	1		49.6	391.6	727	686.7			32.54	3.1	467.3	56.66					0.465	0.441	0.498	448.3	20.02	1			
		Shawsheen 5	D/S of Jones Brook/ Billerica Country Club. Bottom of watershed.	F						845.5					10.31	125.9					7.57	0.41	840	25.35							0.83	1	
				G	0.051	8.452		3	2.8		237	300.1	73.3	59.1			186.3	3.1	364.7	50.37					0.401	0.537	0.587	350.4	13.76	1			

Appendix C
Merrimack River Watershed Study
Phase III Sampling Data Tables- Tributary Event #1

Sample Date	Event	Station ID	Station Name	Sample Type	Ammonia mg/L	Carbon to Nitrogen Ratio	CBOD 20 mg/L	CBOD 5 mg/L	Chlorophyll-a ug/L	Conductivity us/cm	Dissolved Inorganic Nitrogen ug/L	Dissolved Organic Nitrogen ug/L	E. coli MPN/100ml	Fecal Coliform MPN/100ml	Field Dissolved Oxygen mg/L	Field Dissolved Oxygen Percent %	Nitrates ug/L	Orthophosphates ug/L	Particulate Organic Carbon ug/L	Particulate Organic Nitrogen ug/L	pH su	Salinity ppt	Specific Conductivity us/cm @25C	Temperature C	TKN mg/L	Total Dissolved Nitrogen mg/L	Total Nitrogen mg/L	Total Organic Nitrogen ug/L	Total Phosphorus ug/L	Total Suspended Solids mg/L	Total Water Depth feet	Turbidity ntu	Winkler Dissolved Oxygen mg/L
		Shawsheen 6	D/S of residential area/ recreational area access point. Bottom of watershed.	B	0.033	46.29	6	3	0.5		35.26	48.19	1	1			2.009	3.1	29.69	9.8					0.082	0.083	0.084	48.94	3.441	1			
				D	0.012	8.227	8	3	6.4		77.45	342	90.6	235.9			65.36	3.1	255.2	36.21					0.39	0.419	0.456	378.2	13.76	1			
				G	0.012	9.608	9	3	1.9		79.74	348.4	51.2	61.3			67.65	3.1	323.8	39.33					0.4	0.428	0.467	387.7	13.76	1			
				R	0.033	55.21	6	3	0.5		34.58	45.6	6.1	7.4			1.328	3.1	35.42	9.8					0.08	0.08	0.081	46.35	4.301	1			
				F						761.5					5.13	58.2					7.07		816.5	21.48						0.67	1.92	
		Shawsheen 7	D/S of residential area, Strong Water Brook (Meadow Brook), (golf course)	F						746					7.105	83.6					7.25		769	23.41						1.5	1.855	
				G	0.016	7.673		3	1.5		194.2	342.9	104.6	77.1			177.7	3.1	296.8	45.14					0.405	0.537	0.582	388.1	13.76	1			
		Shawsheen 8	D/S of residential area and 93, bottom of one small and one larger watershed	F						787.5					7.57	92.25					7.40		783.5	25.29						1	2.205	
				G	0.036	8.837		3	3.7		159.2	395.4	13.2	42.2			123.4	6.172	373.6	49.35					0.48	0.555	0.604	444.7	23.66	1			
		Shawsheen 9	D/S of residential area and Indian Ridge Golf Club	G	0.021	8.485		3	1.4		168.4	338.2	83.3	96			147.6	7.114	312.9	43.04					0.402	0.507	0.55	381.2	22.75	1			
				F						743.5					6.65	80.6					7.15		743	25.02						0.5	3.005	
		Shawsheen 10	D/S of residential area, town, fields, dams. Bottom of 2 small, 1 larger watershed.	F						815					8.215	99.6					7.47		815	25						2	2.945	
				G	0.036	10.12		3	2.4		280.1	315.8	185	198.9			244.4	6.172	505.4	58.28					0.41	0.596	0.654	374.1	22.75	1			
		Shawsheen 11	D/S of residential area, 495, & sports fields, prior to discharge into Merrimack.	F						814.5					7.275	85.9					7.30		838	23.57						2.5	3.555	
				G	0.047	8.25		3	2.3		402.4	291.6	307.6	435.2			355.5	6.172	371.1	52.5					0.391	0.694	0.746	344.1	23.66	1			6.976
		Spicket 1	Upstream/background location. Salem, NH	D																													4.963
				F						289.5					5.75	61					7.10	0.16	333.5	18.09						2.08	0.5	
				G	0.067	8.763		3	0.8		310.5	287.6	191.8	206.4			243.7	3.1	432.5	57.61					0.412	0.598	0.656	345.2	13.76	1			4.822
		Spicket 2	D/S of Hog Hill Brook and Atkinson R esort & Country Club. Salem, NH	F						376					4.335	47.05					6.86	0.2	421.5	19.31						0.72	2.75	
				G	0.115	8.558		3	3.2		198.7	388.5	124.6	248.9			83.56	3.1	614.7	83.83					0.587	0.587	0.671	472.4	21.84	2			
		Spicket 3	D/S of residential area/ town/ greenspace.Policy Brook . Salem, NH	F						389					3.275	37.15					6.93	0.2	417	21.51						2.5	3.05	
				G	0.069	8.725		3	6.3		164.7	381.1	185	76.7			95.31	3.1	621.5	83.15					0.534	0.546	0.629	464.3	23.66	2			
		Spicket 4	D/S of residential area/ prior to commercial area. Salem, NH	F						402.5					3.225	35.6					6.86	0.21	445.5	19.96						3	4.4	
				G	0.093	7.242		3	4.7		265.4	341.4	53	73.8			172	4.287	608.2	98.02					0.533	0.607	0.705	439.4	23.66	2			
		Spicket 5	D/S of residential area, Rockingham Park/ Mall, Comm ercial area. Salem, NH	B	0.038	0	7	3	0.5		40.27	58.87	1	1			2.037	3.1	28.68	9.8					0.096	0.099	0.098	58.04	3.441	1			
				D	0.09	7.219	7	3	1.9		342.7	296.8	44.1	29.5			252.3	4.287	281.2	45.46					0.433	0.639	0.685	342.3	20.02	1			
				F						495.5					2.7	29.75					6.83	0.27	548	19.98							1.85	
				G	0.089	6.587	5	3	1.9		348.6	297.4	18.7	16.1			259.4	4.287	308.5	54.66					0.441	0.646	0.701	352.1	21.84	1			
				R	0.041	0	5	3	0.5		44.71	46.58	1	1			3.99	3.1	37.07	9.8					0.087	0.091	0.091	46.54	3.1	1			
		Spicket 6	D/S of residential area, Rockingham Park/Mall, Comme rcial area. Salem, NH	F						731					5.245	65.5					6.86	0.34	703.5	26.89						1.3	1	
				G	0.031	7.726		3	6		35.75	418.5	18.3	21.1			4.988	3.1	663	100.2					0.549	0.454	0.554	518.7	21.84	2			
		Spicket 7	D/S from 93, bird sanctuary, Nevins F arm & Equine Center. Lawerence, MA	F						720.5					9.275	108.9					7.45	0.36	745.5	23.26						0.6	0.9	
				G	0.037	9.647		3	1.8		227.6	370.5	456.9	579.4			190.6	6.172	374.5	45.31					0.453	0.598	0.643	415.8	20.02	1			
		Spicket 8	D/S of city and residential area, prior to discharge in Merrimack . Lawrence, MA	F						783.5					7.205	83.25					7.37	0.405	825	22.38						0.75	0.65	
				G	0.099	9.942		3	0.9		583.3	372.1	365.4	488.4			484.5	9.941	298.7	35.07					0.506	0.955	0.99	407.2	23.66	1			5.187