Section 5-8
Weskeag River (Friends of Weskeag & Georges River Land Trust)

Weskeag River

The Weskeag River is located in the towns of Thomaston, South Thomaston, Owls Head and city of Rockland in Knox County located in mid-coast Maine. The watershed has a total area of approximately 12.87 mi^2 (33.3 km^2). One headwater tributary begins in a wetland north of Limerock Street in Rockland. This tributary crosses Route 1 and joins another tributary flowing from the west in Thomaston. The stream is referred to at this point as Marsh Brook and continues flowing south, crossing Thomaston Street. It continues flowing south where it crosses Lower Buttermilk Lane- at which point the river is clearly tidal. It flows through the Waldo Tyler Wildlife Management Area in this section of the river. Further down it crosses Route 73, opening up to the Weskeag River estuary. In the upper part of the estuary, BallyHac Creek and Cuddy Creek drain into the estuary from the northeast and Sharkeyville Creek from the southwest.

The upper part of the watershed is largely developed. Potential impacts include residential development, commercial development along the Route 1 corridor, Rockland Industrial Park, and Dragon Cement (plant and mines). Portions of the upper Weskeag have been filled for residential and commercial development (above Thomaston Street). The freshwater marsh between Dragon Cement and the Industrial Park is degraded.

Weskeag River and Marsh is one of the largest tidal marshes in midcoast Maine and is recognized for its abundant resource value by both state and federal agencies. It is recognized as a state focus area by the Beginning with Habitat Program, by the Nature Conservancy as a portfolio site, and by Georges River Land Trust as a conservation focus area because it is a known shorebird zone and it is a saltmarsh in good condition.

Due to pollution, shellfish growing areas in the Weskeag are designated as prohibited, restricted or conditionally approved (closed during summer months).

Monitoring History

• Friends of Weskeag and Georges River Land Trust began a joint effort in partnership with the Volunteer River Monitoring Program in 2015. The goals of monitoring are:

1) Collect baseline information about the Weskeag's health.
2) Raise public awareness about the importance of water quality to all other users of the river

• In 2015, the volunteers collected bacteria samples for either *E.coli* or Enterococci at three freshwater and four marine sites in conjunction with the Maine Department of Environmental Protection's (DEP) Bacteria/TMDL Program.

• In 2016, the volunteer group partnered with the City of Rockland and Town of Thomaston on the bacteria sampling. The waste water treatment plants' staff from the two municipalities jointly analyzed the bacteria samples.

• The Department of Marine Resources (DMR) routinely monitors bacteria six times per year at several estuarine sites. Periodically, DMR also performs shoreline surveys to identify potential sources of bacterial pollution.

Methods and Sampling Sites

The Friends of Weskeag & Georges River Land Trust have eight monitoring sites. Three are freshwater sites on the two tributaries in the upper watershed, one site is brackish, and four sites are estuarine/marine.

Monitoring is conducted 2-3 times per month from May/June through September/October. The freshwater monitoring team monitors water temperature and dissolved oxygen using a YSI meter. Conductivity is measured with either a YSI meter or Oakton EC Testr 11+/11 pen. The marine monitoring team monitors water temperature, dissolved oxygen, and salinity using a YSI meter. Both teams collect grab samples for either *E.coli* or Enterococci bacteria.

In 2015, both teams also monitored pH on their own, as they were able to use equipment lent from the Georges River Tidewater Association. The 2015 pH data was not included in the VRMP database because QA/QC was not assured through the VRMP.

Table 5-8-1: Friends of Weskeag/Georges River Land Trust sampling sites on the Weskeag River.

VRMP Site ID	Organization Site Code	Sample Location	Class
Unnamed Tributary-NWGMRUB08-VRMP	F1	Limerock Street	B
Unnamed Tributary-NWGMRUB02-VRMP	F2	Route 1	B
Unnamed Tributary-NWGMRUA15-VRMP	F3	Upper Buttermilk Lane	B
Marsh Brook-NWGMR23-VRMP	B1	Thomaston Street	B
Marsh Brook-NWGMR-08-VRMP	E1	Lower Buttermilk Lane	SB
Unnamed Tributary-NWGUC-03-VRMP	E2	Dublin Road-Cuddy Cove	SB
Weskeag River-NWG-28-VRMP	E3	Route 73-Town Pier	SB
Unnamed Tributary-NWGUD-18-VRMP	E4	Dublin Road-Bally Hac Creek	SB

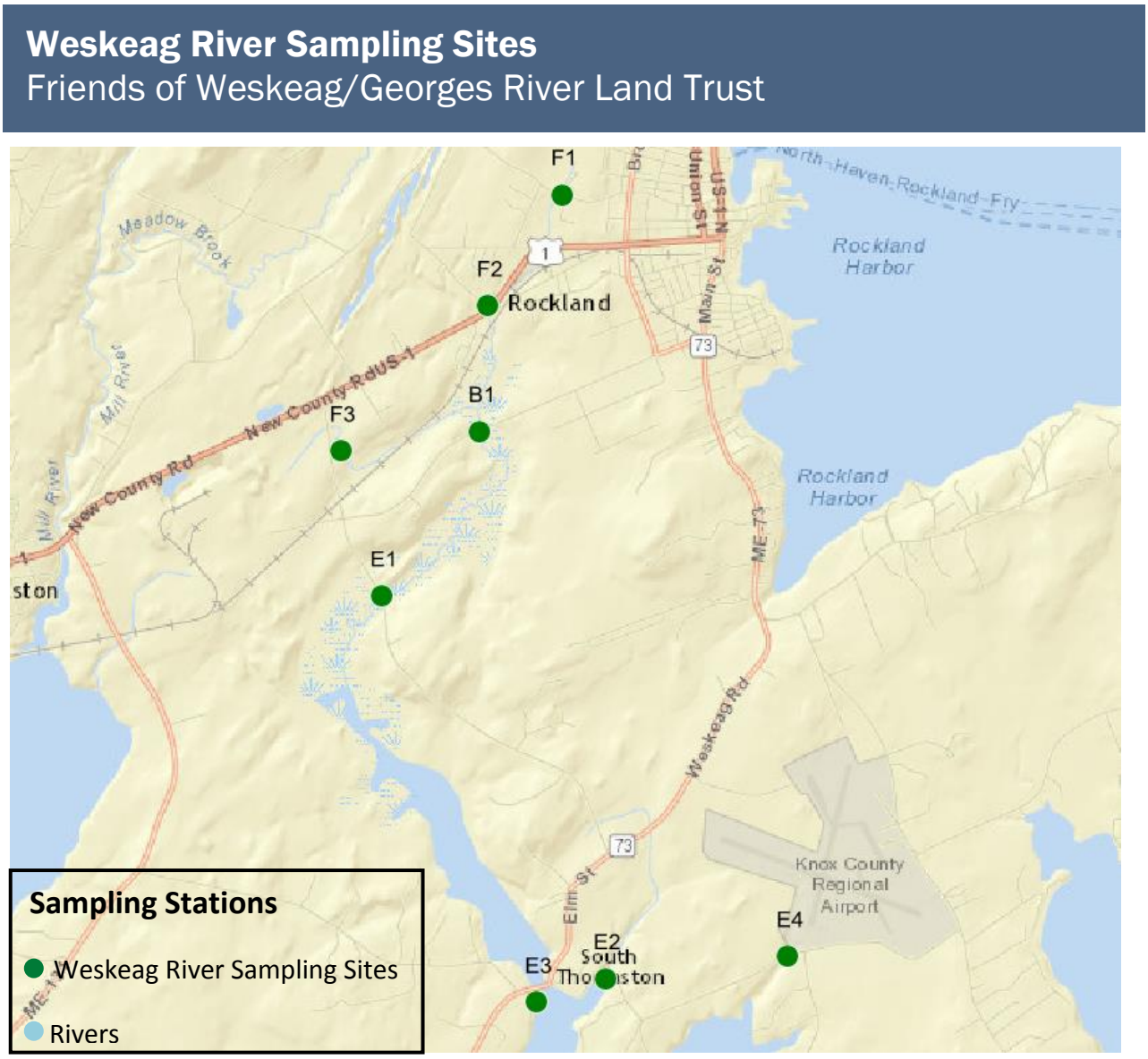


Figure 5-8-1: Map of Friends of Weskeag & Georges River Land Trust sampling sites on the Weskeag River.

Results

Refer to Appendix for discussion of individual site data and trends.

Dissolved Oxygen

Dissolved oxygen (DO) levels are generally lowest early in the morning and then increase during the day, peaking mid to late afternoon. Monitors should try to collect some samples early in the morning. Dissolved oxygen is also affected by flow conditions and temperature. During high flow conditions, more oxygen is added to the river from the atmosphere as the water is more turbulent and there is more opportunity for mixing. If flow during the summer months is higher or lower than normal, dissolved oxygen will be affected.

Class B criteria for dissolved oxygen are a minimum of 7 mg/l (milligrams/liter) or 75% saturation. To meet water quality criteria, both concentration and saturation criterion must be met. Class SB criterion for dissolved oxygen is 85% saturation.

2016 Results

Freshwater Sites:
The freshwater sites F1 and F2 did not meet the dissolved oxygen concentration criterion of 7 mg/l on three and one sampling dates respectively and did not meet the saturation criterion of 75% saturation on three and two sampling dates respectively. Site F1 had very low DO from July-September (<5 mg/l). This site flows out of a wetland so the low values here as well as perhaps at Site F2 may be somewhat natural. Site F3 was much better and met dissolved oxygen concentration and saturation criterion on all dates. Site B1, which is brackish, did not meet dissolved oxygen concentration criterion on five of seven dates or saturation criterion on six of seven dates. This site is very open and slow moving, which likely contributes to slightly low dissolved oxygen. Overall, dissolved oxygen ranged from poor to excellent depending on the site.

Tidal Sites:
The tidal sites were sampled more frequently in 2016. Dissolved oxygen at site E1 was low overall with five of nine values not meeting the dissolved oxygen saturation criterion of 85% saturation. Sites E2 and E4 did not meet this criterion on one date in September. Site E3 met the saturation criterion on all sample dates. Dissolved oxygen was overall good to excellent for all sites except site E1.

Table 5-8-2: A summary of minimum, maximum, and mean dissolved oxygen concentration (mg/l) values at Friends of Weskeag/Georges River Land Trust monitoring sites on the Weskeag River.

Site	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
F1	B	5	5.8	3.9	8.3	7	3
F2	B	7	7.9	6.3	9.8	7	1
F3	B	7	8.2	7.1	8.8	7	0
B1	B	7	6.8	4.7	8.4	7	5
E1	SB	9	6.3	4.3	9.4	n/a	n/a
E2	SB	9	7.7	6.4	9.0	n/a	n/a
E3	SB	9	8.6	7.4	10.6	n/a	n/a
E4	SB	9	7.3	4.3	9.7	n/a	n/a

Table 5-8-3: A summary of minimum, maximum, and mean dissolved oxygen saturation (%) values at Friends of Weskeag/Georges River Land Trust monitoring sites on the Weskeag River.

Site	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
F1	B	5	57.2	37.1	78.2	75	3
F2	B	7	79.6	63.1	92.4	75	2
F3	B	7	84.1	79.1	88.2	75	0
B1	B	7	66.7	51.0	78.7	75	6
E1	SB	9	82.0	55.1	108.1	85	5
E2	SB	9	102.4	80.5	117.4	85	1
E3	SB	9	104.0	93.5	121.6	85	0
E4	SB	9	95.9	51.7	118.2	85	1

Figure 5-8-2: Graph of dissolved oxygen concentrations at freshwater sites.

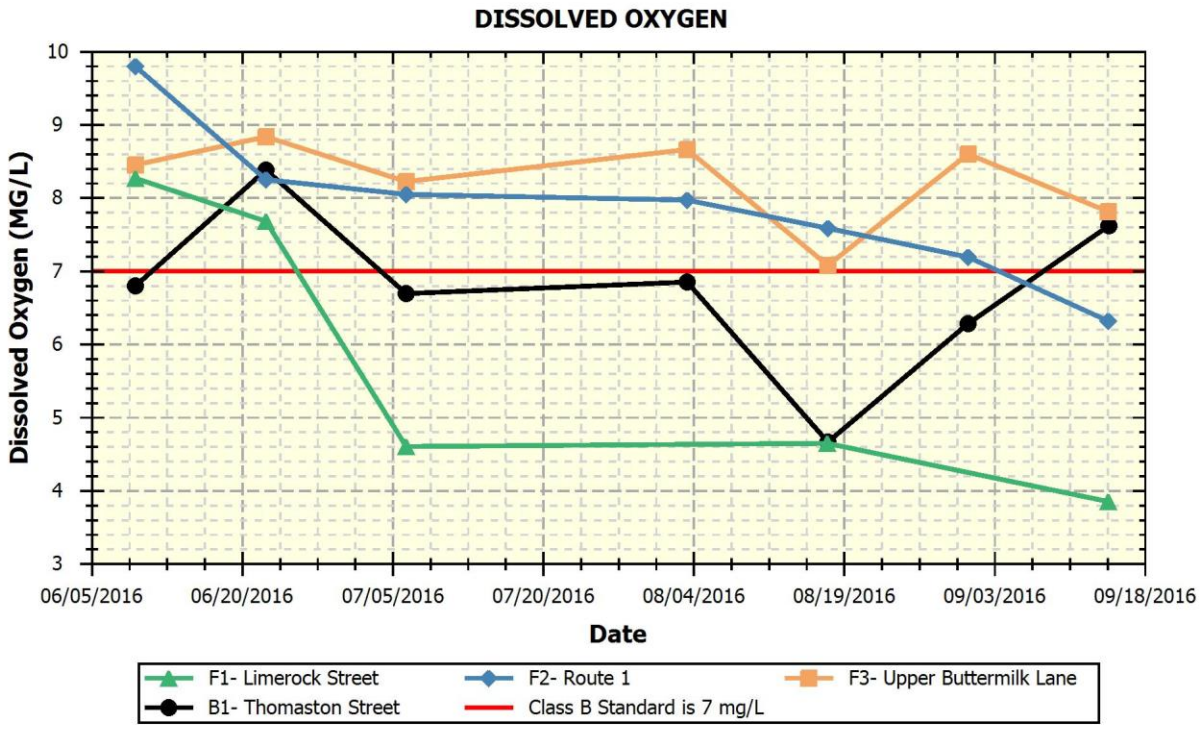


Figure 5-8-3: Graph of dissolved oxygen concentrations at tidal sites.

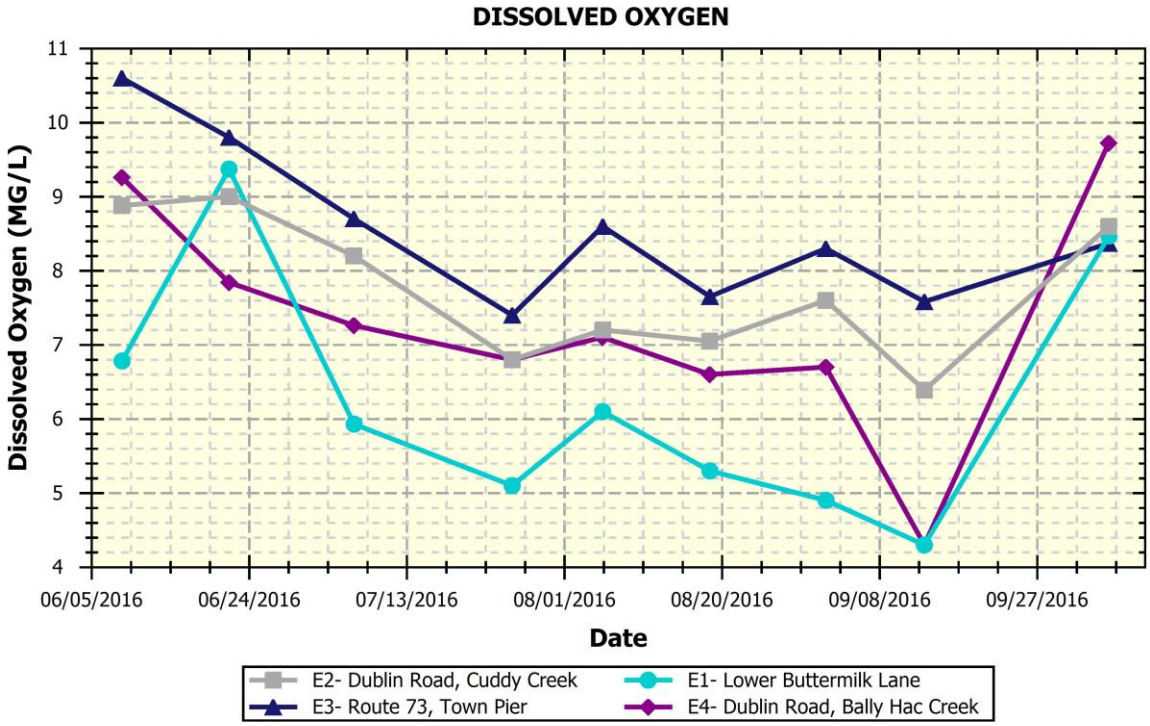


Figure 5-8-4: Graph of dissolved oxygen saturation at freshwater sites.

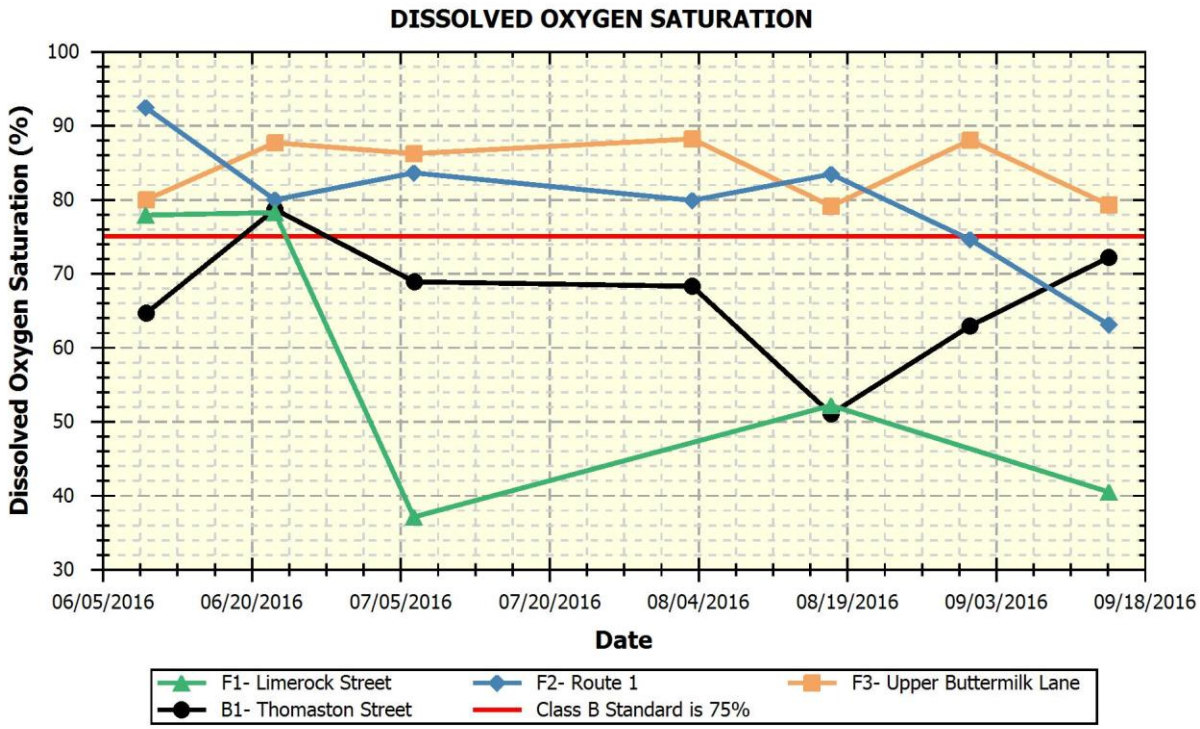
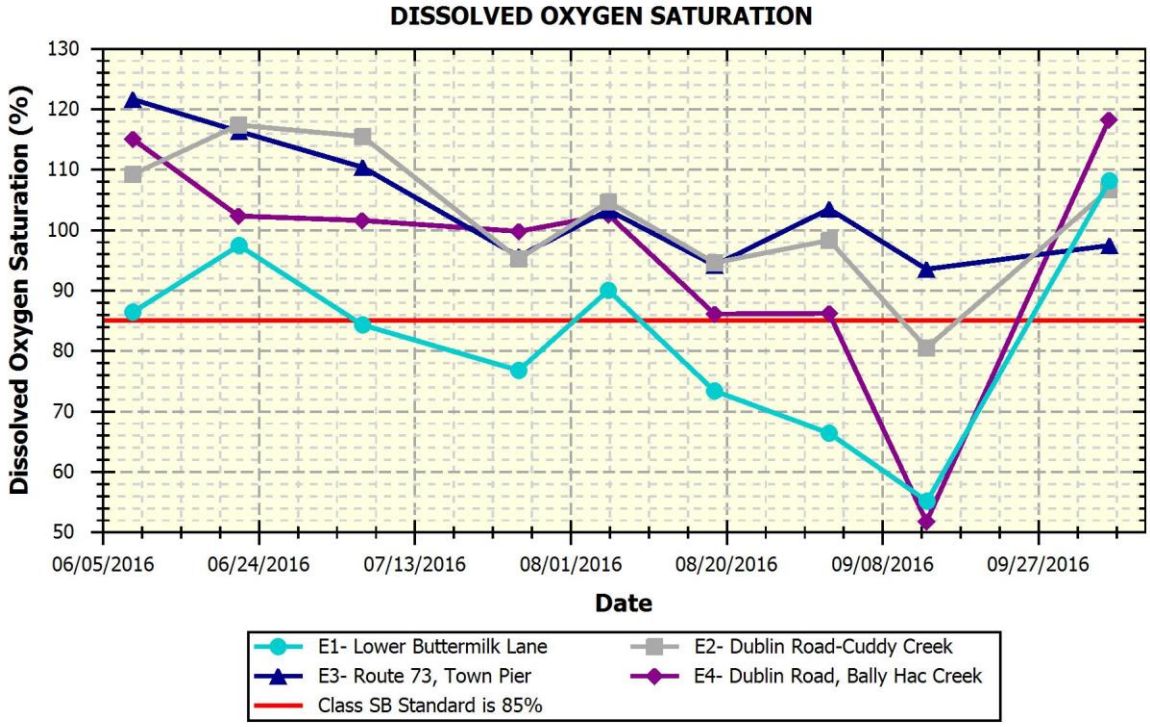


Figure 5-8-5: Graph of dissolved oxygen saturation at tidal sites.



Water Temperature

Maine's Regulations Relating to Temperature (06-096 CMR Chapter 582) require that discharge of pollutants not raise the temperature of any river and stream above the EPA criteria for indigenous species (23 °C maximum and 19 °C weekly average) or 0.3 °C (0.5 °F) above the temperature that would naturally occur outside a mixing zone established by the Board of Environmental Protection. Pollutant is defined in statute as many things including dirt and heat. For tidal waters, discharge of pollutants may not raise the temperature more than 4 °F (2.2 °C) or more than 1.5 °F (0.8 °C) from June 1 to September 1, and may not cause the temperature of any tidal waters to exceed 85 °F (29 °C) at any point outside a mixing zone established by the Board of Environmental Protection.

2016 Results

Freshwater sites:
Temperatures at the four freshwater/brackish sites were all very similar and ranged from 12.4-20.7 °C over the period from June-September. The highest temperatures occurred in mid-August. Overall temperature was good to excellent.

Tidal sites:
Temperature was overall low at site E3 (town pier). The other tidal sites were several degrees higher ranging from 14.5-28.4 °C and remained high through the summer.

Table 5-8-4: A summary of minimum, maximum, and mean water temperature (°C) values at Friends of Weskeag/Georges River Land Trust monitoring sites on the Weskeag River.

Site	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Exceeding Criterion
F1	B	5	15.8	12.4	20.5	n/a	n/a
F2	B	7	16.3	12.6	20.3	n/a	n/a
F3	B	7	16.4	12.9	20.7	n/a	n/a
B1	B	7	15.5	13.2	19.8	n/a	n/a
E1	SB	9	22.8	17.2	28.4	n/a	n/a
E2	SB	9	20.2	15.4	23.7	n/a	n/a
E3	SB	9	16.2	13.0	18.1	n/a	n/a
E4	SB	9	20.3	14.5	26.4	n/a	n/a

Figure 5-8-6: Graph of water temperature at freshwater sites.

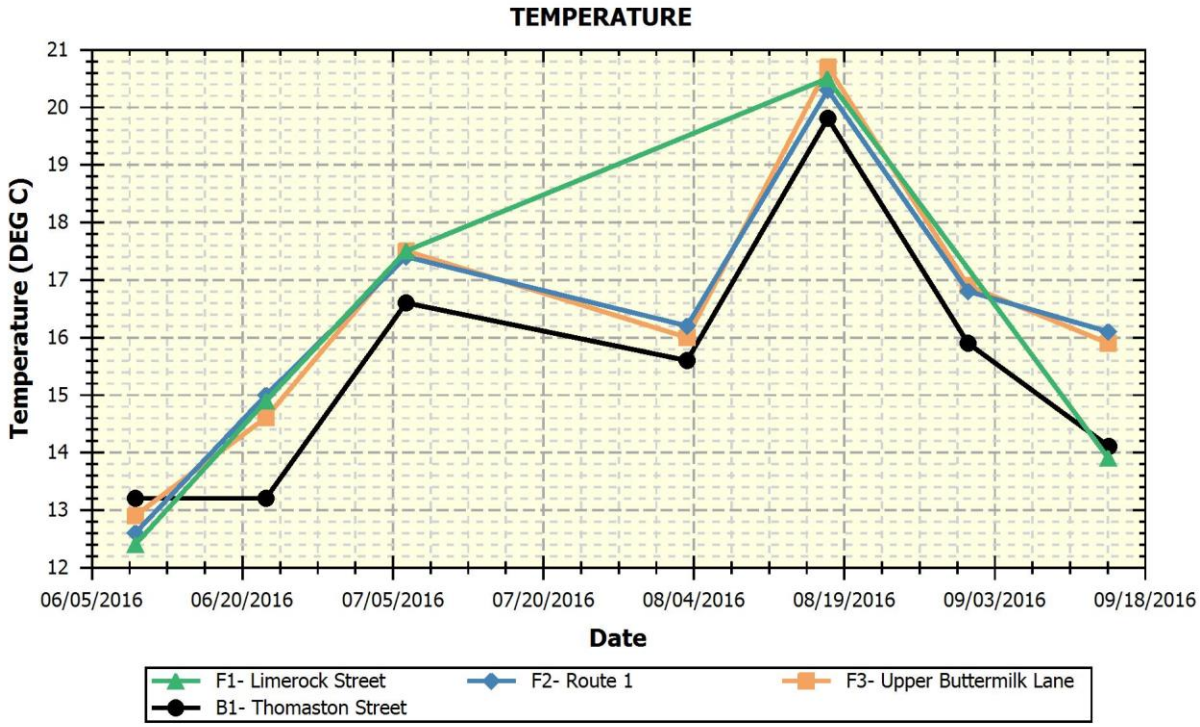
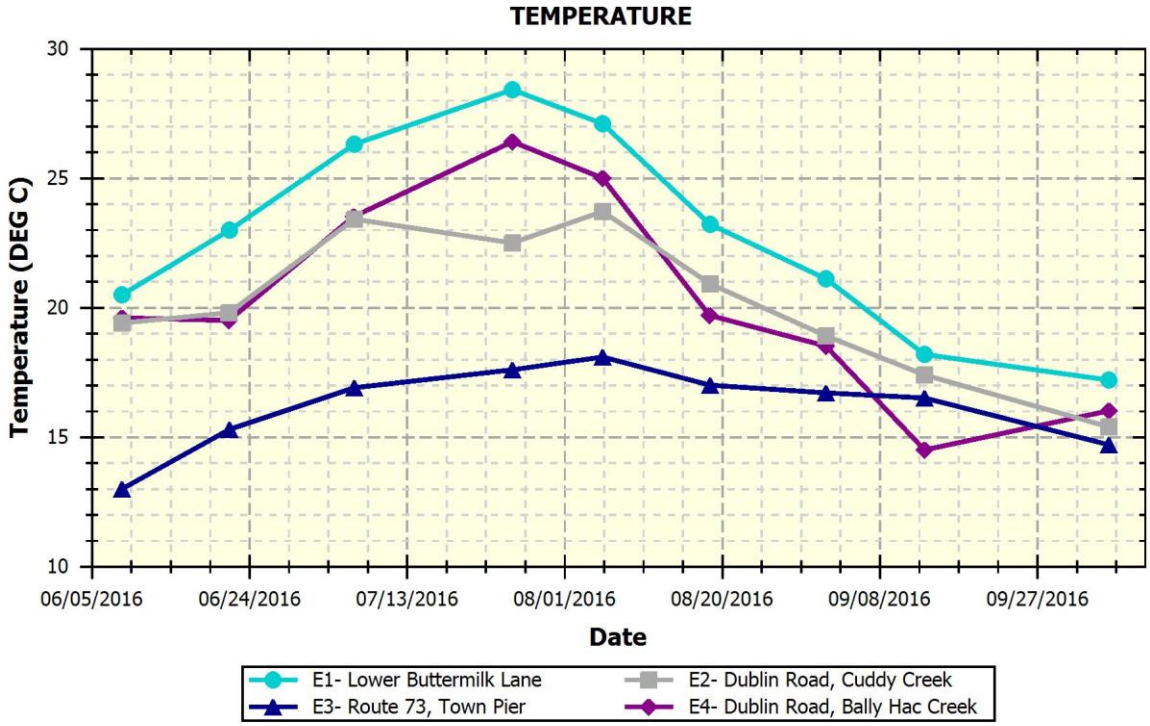


Figure 5-8-7: Graph of water temperature at tidal sites.



Specific Conductance

Specific conductance is related to the amount of dissolved materials in the water. While there are no numerical standards, a relationship exists between conductivity and chloride which has numerical criteria. In general, streams located in urban areas tend to have high specific conductance due to polluted urban stormwater runoff. This may also in large part be due to salt buildup in surface and groundwater from road maintenance practices.

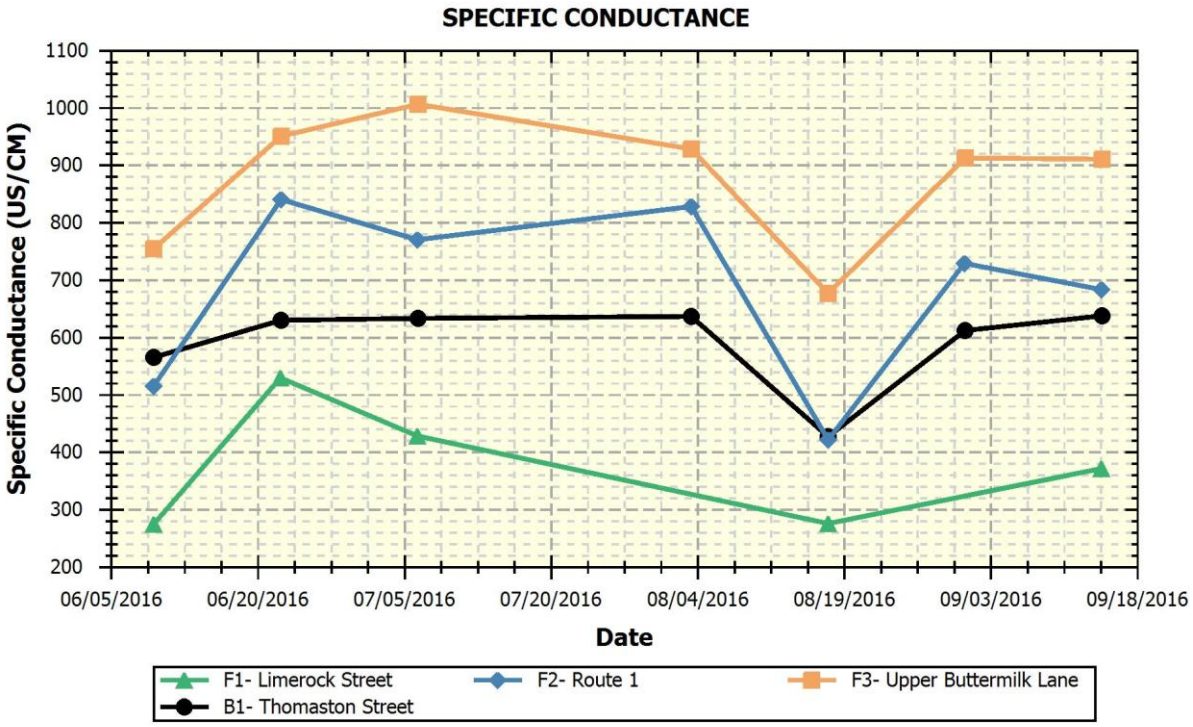
2016 Results

Specific conductance at the four freshwater/brackish sites followed similar patterns through the season. Sites F2 and F3 were highest overall and very similar. Site B1 was generally always lower, but high also. It this site is brackish, it may be affected by low salinity values. Site F1 was the lowest overall, but values are somewhat elevated. Overall, specific conductance at the freshwater sites is high. It is not unexpected to see high conductivity in more developed streams, although values at sites F2 and F3 are very high even for developed areas.

Table 5-8-5: A summary of minimum, maximum, and mean specific conductance (µS/cm) values at Friends of Weskeag/Georges River Land Trust monitoring sites on the Weskeag River.

Site	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Exceeding Criterion
F1	B	5	376	274	530	n/a	n/a
F2	B	7	684	421	840	n/a	n/a
F3	B	7	877	676	1006	n/a	n/a
B1	B	7	591	427	637	n/a	n/a

Figure 5-8-8: Graph of specific conductance at freshwater sites.



Bacteria

Enterococci bacteria are used as the indicator organism for marine waters and *E. coli* bacteria are used for freshwaters. While these types of bacteria are not pathogens, their presence in the water may indicate the presence of other organisms including bacteria and viruses that can cause gastrointestinal illnesses. Monitoring should include at least six samples and include a mix of dry and storm event sampling.

Class B criteria for bacteria are as follows: "Between May 15th and Sept 30th, *E. coli* of human and domestic origin shall not exceed a geometric mean of 64/100 ml (milliliters) or an instantaneous level of 236/100 ml." Class SB criteria are as follows: "Between May 15th and September 30th, the numbers of enterococcus bacteria of human and domestic animal origin in these waters may not exceed a geometric mean of 8 per 100 milliliters or an instantaneous level of 54 per 100 milliliters." Geometric means are calculated instead of averages because it is more appropriate to use this calculation for something like bacteria where there may be one or more very high or low values that can skew the mean.

2016 Results

Freshwater sites: Site F1 was only sampled one time due to low flow and was very high for that one sample date, exceeding the instantaneous criterion of 236 MPN/100ml. It is possible that this site may be affected by wildlife. Sites F2 and F3 were both very high, exceeding the instantaneous criterion for almost all sample dates. Both sites also exceeded the geometric mean criterion of 64 MPN/100 ml. Site B1 was somewhat lower, but exceeded the instantaneous criterion on four of seven sample dates and also exceeded the geometric mean criterion. None of the sample dates coincided with any significant rain events.

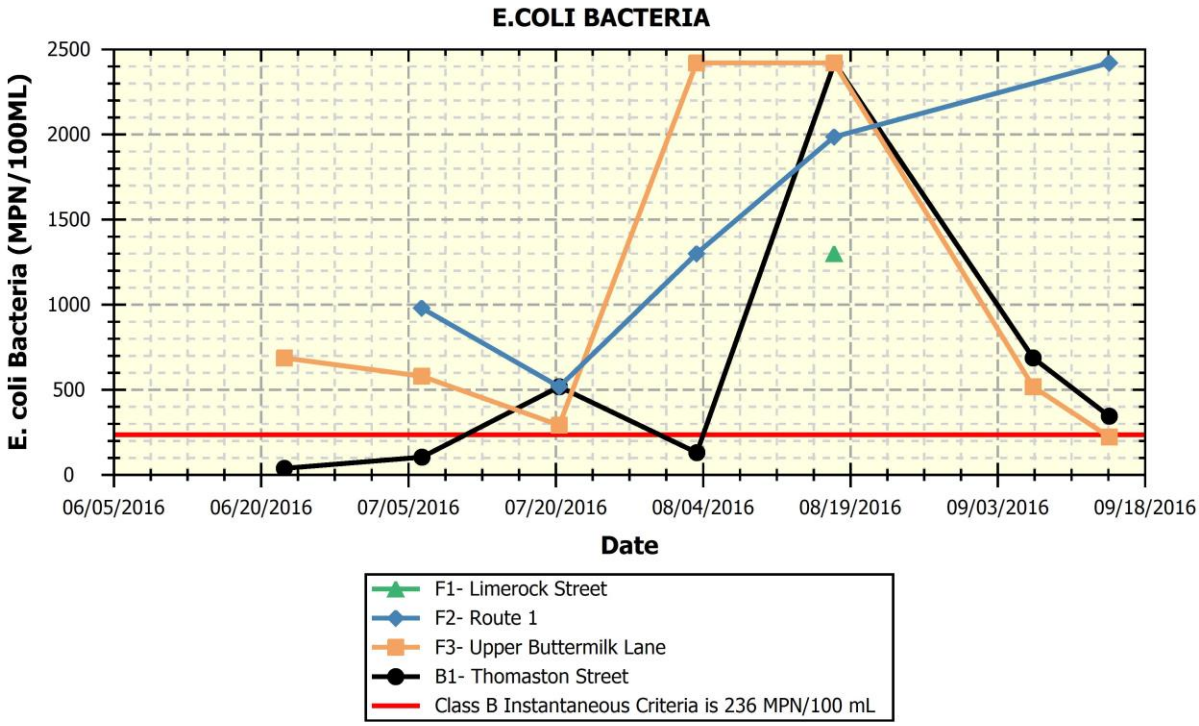
Tidal sites: The Enterococci bacteria samples were analyzed incorrectly in 2016, so results were discarded.

Table 5-8-6: A summary of minimum, maximum, and geometric means for bacteria (MPN/100 mL) values at Friends of Weskeag/Georges River Land Trust monitoring sites on the Weskeag River.

Site	Class	Type	# Sample Points	Geometric Mean	Minimum	Maximum	Criterion Inst/Geo	# Exceeding Criterion
F1	B	*E. coli*	1	1300	1300	1300	236/64	1
F2	B	*E. coli*	5	1259*	517	>2419.6	236/64	5
F3	B	*E. coli*	7	694*	222	>2420	236/64	6
B1	B	*E. coli***	7	523*	37	>2419.6	236/64	4
E1	SB	Entero	n/a	-	-	-	54/8	-
E2	SB	Entero	n/a	-	-	-	54/8	-
E3	SB	Entero	n/a	-	-	-	54/8	-
E4	SB	Entero	n/a	-	-	-	54/8	-

***F2, F3, and B1 geometric means include one sample point where bacteria was over the maximum reporting level (>2419.6). 2419.6 was used as the value.**
****E. coli* bacteria were sampled at this Class B site (brackish).**

Figure 5-8-9: Graph of *E. coli* (MPN/ml) at freshwater sites.



Discussion and Recommendations

There are numerous sources of pollution and other stresses to the Weskeag River sites monitored by the Friends of Weskeag/Georges River Land Trust that could potentially have an impact on water quality. Some of those sources of pollution and stress may include:

- Non-point source pollution (e.g. septic systems, eroded soil, fertilizers, pesticides, heavy metals, petroleum residues, road salt, wildlife and pet feces) and polluted stormwater originating from urban impervious surfaces (e.g. streets, parking lots, driveways, roofs), agriculture, and forestry.
- Ponds and impoundments (which often create more pond-like aquatic habitat conditions that may have higher water temperatures and lower dissolved oxygen concentrations than free-flowing waters).
- Natural effects of wetlands (such as contributing waters to a stream/river that have low dissolved oxygen levels due to the decomposition of large amounts of organic matter, respiration of abundant plant matter, and low re-aeration rates that is characteristic of many wetlands).

The following are recommendations for future monitoring:

- **The monitors at the freshwater sites should try to include some early morning measurements for dissolved oxygen. It is important to get some values early in the morning (before 8:00 am), particularly during the warmer summer months. Over a 24 hour period, the lowest readings occur in the early morning and highest readings in mid to late afternoon. This occurs because oxygen is used up during the night due to plant respiration and during the day plant life is photosynthesizing, producing oxygen.**
- **Bacteria monitoring should include sampling at least one to two times after a significant rainfall-runoff event.**
- **Investigation of the high bacteria at the freshwater sites should be completed. This may be done by moving upstream and bracket sampling to attempt to isolate potential sources.**
- **Continue monitoring at all stations to develop a long-term trend database.**

Appendix A-1
* Sampling depths are only reported for Tier 1 VRMP sites.
** "NA" = normal environmental sample ; "D" = field duplicate; "D.O." = dissolved oxygen; "Spec. Cond" = specific conductance; "TSS" = total suspended solids

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	* Sample Depth	Depth Unit	Water Temp (DEG C)	** D.O. Sat. (%)	** D.O. (MG/L)	** Spec. Cond. (US/CM)	Salinity (PPTH)	Turb-idity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E. coli Bacteria (MPN/ 100ML)	Entero-cocci (MPN/ 100ML)
Weskeag River- Friends of Weskeag & Georges River Land Trust: Approved Sites																
F1	UNNAMED TRIBUTARY-NWGMRUB08-VRMP	6/9/2016	8:00 AM	NA			12.4	77.9	8.3	274						
F1	UNNAMED TRIBUTARY-NWGMRUB08-VRMP	6/22/2016	8:10 AM	NA			14.9	78.2	7.7	530						
F1	UNNAMED TRIBUTARY-NWGMRUB08-VRMP	7/6/2016	8:00 AM	NA			17.5	37.1	4.6	428						
F1	UNNAMED TRIBUTARY-NWGMRUB08-VRMP	8/17/2016	8:10 AM	NA											1300	
F1	UNNAMED TRIBUTARY-NWGMRUB08-VRMP	8/17/2016	8:19 AM	NA			20.5	52.2	4.7	276						
F1	UNNAMED TRIBUTARY-NWGMRUB08-VRMP	9/14/2016	8:00 AM	NA			13.9	40.5	3.9	371						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	6/9/2016	8:15 AM	NA			12.6	92.4	9.8	515						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	6/22/2016	8:20 AM	NA			15.0	80.0	8.3	840						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	7/6/2016	8:15 AM	NA			17.4	83.6	8.1	770						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	7/6/2016	8:26 AM	NA											980	
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	7/20/2016	8:18 AM	NA											517	
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	8/3/2016	8:10 AM	NA											1300	
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	8/3/2016	8:20 AM	NA			16.2	79.9	8.0	828						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	8/17/2016	8:20 AM	NA											1986	
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	8/17/2016	8:28 AM	NA			20.3	83.4	7.6	421						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	8/31/2016	8:00 AM	NA			16.8	74.6	7.2	729						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	9/14/2016	8:15 AM	NA			16.1	63.1	6.3	683						
F2	UNNAMED TRIBUTARY-NWGMRUB02-VRMP	9/14/2016	8:30 AM	NA											>2419.6	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	6/9/2016	8:30 AM	NA			12.9	80.0	8.5	754						
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	6/22/2016	8:30 AM	NA			14.6	87.7	8.8	950						
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	6/22/2016	8:44 AM	NA											687	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	7/6/2016	8:30 AM	NA			17.5	86.2	8.2	1006						
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	7/6/2016	8:39 AM	NA											579	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	7/20/2016	8:28 AM	NA											291	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	8/3/2016	8:17 AM	NA											>2419.6	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	8/3/2016	8:30 AM	NA			16.0	88.2	8.7	928						
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	8/17/2016	8:31 AM	NA											2420	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	8/17/2016	8:39 AM	NA			20.7	79.1	7.1	676						
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	8/31/2016	8:15 AM	NA			16.9	88.0	8.6	913						
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	9/6/2016	2:30 PM	NA											517	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	9/6/2016	2:30 PM	D											517	
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	9/14/2016	8:30 AM	NA			15.9	79.3	7.8	910						
F3	UNNAMED TRIBUTARY-NWGMRUA15-VRMP	9/14/2016	8:45 AM	NA											222	

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	* Sample Depth	Depth Unit	Water Temp (DEG C)	** D.O. Sat. (%)	** D.O. (MG/L)	** Spec. Cond. (US/CM)	Salinity (PPTH)	Turb-idity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E. coli Bacteria (MPN/ 100ML)	Entero-cocci (MPN/ 100ML)
B1	MARSH BROOK-NWGMR23-VRMP	6/9/2016	8:45 AM	NA			13.2	64.6	6.8	565						
B1	MARSH BROOK-NWGMR23-VRMP	6/22/2016	8:40 AM	NA			13.2	78.7	8.4	630						
B1	MARSH BROOK-NWGMR23-VRMP	6/22/2016	8:50 AM	NA											37	
B1	MARSH BROOK-NWGMR23-VRMP	7/6/2016	8:45 AM	NA			16.6	68.9	6.7	633						
B1	MARSH BROOK-NWGMR23-VRMP	7/6/2016	8:49 AM	NA											104	
B1	MARSH BROOK-NWGMR23-VRMP	7/6/2016	8:49 AM	D											88	
B1	MARSH BROOK-NWGMR23-VRMP	7/20/2016	8:37 AM	NA											517	
B1	MARSH BROOK-NWGMR23-VRMP	8/3/2016	8:32 AM	NA											130	
B1	MARSH BROOK-NWGMR23-VRMP	8/3/2016	8:40 AM	NA			15.6	68.3	6.9	636						
B1	MARSH BROOK-NWGMR23-VRMP	8/17/2016	8:40 AM	NA											>2419.6	
B1	MARSH BROOK-NWGMR23-VRMP	8/17/2016	8:47 AM	NA			19.8	51.0	4.7	427						
B1	MARSH BROOK-NWGMR23-VRMP	8/31/2016	8:40 AM	NA			15.9	62.9	6.3	612						
B1	MARSH BROOK-NWGMR23-VRMP	9/6/2016	2:35 PM	NA											687	
B1	MARSH BROOK-NWGMR23-VRMP	9/14/2016	8:45 AM	NA			14.1	72.2	7.6	637						
B1	MARSH BROOK-NWGMR23-VRMP	9/14/2016	9:00 AM	NA											345	
E1	MARSH BROOK-NWGMR-08-VRMP	6/8/2016	3:58 PM	NA			20.5	86.4	6.8							
E1	MARSH BROOK-NWGMR-08-VRMP	6/21/2016	2:03 PM	NA			23.0	97.4	9.4							
E1	MARSH BROOK-NWGMR-08-VRMP	7/6/2016	3:21 PM	NA			26.3	84.3	5.9							
E1	MARSH BROOK-NWGMR-08-VRMP	7/25/2016	5:10 PM	NA			28.4	76.8	5.1							
E1	MARSH BROOK-NWGMR-08-VRMP	8/5/2016	3:04 PM	NA			27.1	90.0	6.1							
E1	MARSH BROOK-NWGMR-08-VRMP	8/18/2016	12:55 PM	NA			23.2	73.4	5.3							
E1	MARSH BROOK-NWGMR-08-VRMP	9/1/2016	12:50 PM	NA			21.1	66.4	4.9							
E1	MARSH BROOK-NWGMR-08-VRMP	9/13/2016	9:50 AM	NA			18.2	55.1	4.3							
E1	MARSH BROOK-NWGMR-08-VRMP	10/5/2016	3:22 PM	NA			17.2	108.1	8.5							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	6/8/2016	3:30 PM	NA			19.4	109.2	8.9							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	6/21/2016	1:32 PM	NA			19.8	117.4	9.0							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	7/6/2016	2:53 PM	NA			23.4	115.4	8.2							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	7/25/2016	4:42 PM	NA			22.5	95.2	6.8							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	8/5/2016	2:35 PM	NA			23.7	104.6	7.2							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	8/18/2016	12:36 PM	NA			20.9	94.6	7.1							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	9/1/2016	12:29 PM	NA			18.9	98.3	7.6							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	9/13/2016	9:26 AM	NA			17.4	80.5	6.4							
E3	WESKEAG RIVER-NWG-28-VRMP	6/8/2016	3:42 PM	NA			13.0	121.6	10.6							
E3	WESKEAG RIVER-NWG-28-VRMP	6/21/2016	1:45 PM	NA			15.3	116.3	9.8							
E3	WESKEAG RIVER-NWG-28-VRMP	7/6/2016	3:03 PM	NA			16.9	110.4	8.7							
E3	WESKEAG RIVER-NWG-28-VRMP	7/25/2016	4:54 PM	NA			17.6	95.6	7.4							
E3	WESKEAG RIVER-NWG-28-VRMP	8/5/2016	2:50 PM	NA			18.1	103.2	8.6							
E3	WESKEAG RIVER-NWG-28-VRMP	8/5/2016	2:50 PM	D			18.2	103.2	8.3							
E3	WESKEAG RIVER-NWG-28-VRMP	8/18/2016	12:44 PM	NA			17.0	94.1	7.7							
E3	WESKEAG RIVER-NWG-28-VRMP	9/1/2016	12:40 PM	NA			16.7	103.5	8.3							

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	* Sample Depth	Depth Unit	Water Temp (DEG C)	** D.O. Sat. (%)	** D.O. (MG/L)	** Spec. Cond. (US/CM)	Salinity (PPTH)	Turb-idity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E. coli Bacteria (MPN/ 100ML)	Entero-cocci (MPN/ 100ML)
E3	WESKEAG RIVER-NWG-28-VRMP	9/13/2016	9:37 AM	NA			16.5	93.5	7.6							
E3	WESKEAG RIVER-NWG-28-VRMP	10/5/2016	3:07 PM	NA			14.7	97.4	8.4							
E2	UNNAMED TRIBUTARY-NWGUC-03-VRMP	10/5/2016	2:54 PM	NA			15.4	106.6	8.6							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	6/8/2016	3:14 PM	NA			19.6	115.0	9.3							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	6/21/2016	1:19 PM	NA			19.5	102.3	7.8							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	7/6/2016	2:43 PM	NA			23.5	101.6	7.3							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	7/25/2016	4:29 PM	NA			26.4	99.8	6.8							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	8/5/2016	2:22 PM	NA			25.0	102.5	7.1							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	8/18/2016	12:28 PM	NA			19.7	86.1	6.6							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	9/1/2016	12:20 PM	NA			18.5	86.2	6.7							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	9/13/2016	9:17 AM	NA			14.5	51.7	4.3							
E4	UNNAMED TRIBUTARY-NWGUD-18-VRMP	10/5/2016	2:43 PM	NA			16.0	118.2	9.7							