

Section 5-3 Cold Brook and Whitten Brook (Skowhegan Conservation Commission)

Cold Brook and Whitten Brook

Cold Brook:

Cold Brook originates east of Russell Road, flows into an impounded section (Cold Brook Pond) bordered by three commercial shopping malls, flows under Route 201, meanders adjacent to the North Gate Industrial Park, the retired Town of Skowhegan Landfill, and a forested area before it discharges to the West Branch of Wesserunsett Stream. The brook is 5.89 miles long (mainstem) and its watershed encompasses approximately 4774 acres including residential, commercial, industrial and undeveloped land. The statutory class of Cold Brook is Class B.

Whitten Brook:

Whitten Brook originates in an undeveloped forest located northwest of Coburn Avenue in Skowhegan. It meanders for 0.6 miles parallel to Spring Street before it enters a small impounded area adjacent to an old shoe factory that is currently being used as a warehouse and storage facility. It then flows under Russell Street where it joins its northern branch that originates near Robinson Court. It continues to flow another 0.5 miles in a southerly direction, crossing underneath Spring Street, Summer Street, Bennett Avenue, Pleasant Street and finally Elm Street where it discharges into the Kennebec River upstream from Weston Dam. The brook is 1.11 miles long (mainstem) and its watershed encompasses approximately 304 acres including residential, commercial, industrial and undeveloped land. The statutory class of Whitten Brook is Class B.

Whitten Brook is listed by DEP as impaired due to non-attainment of aquatic life criterion and habitat, as well as nonattainment of bacteria criterion. The cause of impairment is stormwater runoff from impervious surfaces and roads within the watershed. The Town of Skowhegan and Maine DEP conducted a multi-year effort to assess the impacts to the brook's water quality that culminated in the placement of two bioretention cells designed to decrease the water quality impacts of high flow events. In March 2011, a watershed management plan that identifies the problems, priorities and actions needed to improve the water quality was completed.

Monitoring History

- The Maine DEP Biological Monitoring Program has been monitoring Cold Brook since 1997 and Whitten Brook since 2002. This data is available on DEP's website.
- The Maine DEP monitored Whitten Brook in 2006 for bacteria, dissolved oxygen and toxics.

Methods and Sampling Sites

Volunteers monitor Cold Brook at two sites on the mainstem. Volunteers monitor Whitten Brook at three sites on the mainstem and one site on the Northern tributary. All of the sites are VRMP approved sites.

Monitoring is conducted weekly from June to September. Monitors take measurements of water temperature, dissolved oxygen, and conductivity using a YSI meter.

Table 5-3-1: Cold Brook and Whitten Brook sampling sites.

VRMP Site ID	Organization Site Code	Sample Location	Class
Cold Brook-KWSCB27-VRMP	CB-2	Route 201	B
Cold Brook-KWSCB0-VRMP	CB-3	Steward Hill	B
Whitten Brook-KWB06-VRMP	WB-1	Russell Street-above	B
Whitten Brook-KWB05-VRMP	WB-2	Russell Street-below	B
Whitten Brook-North Branch- KWBNB02-VRMP	WB-3	North Branch	B
Whitten Brook-KWB01-VRMP	WB-4	Pleasant Street	B

Cold Brook and Whitten Brook Sampling Sites

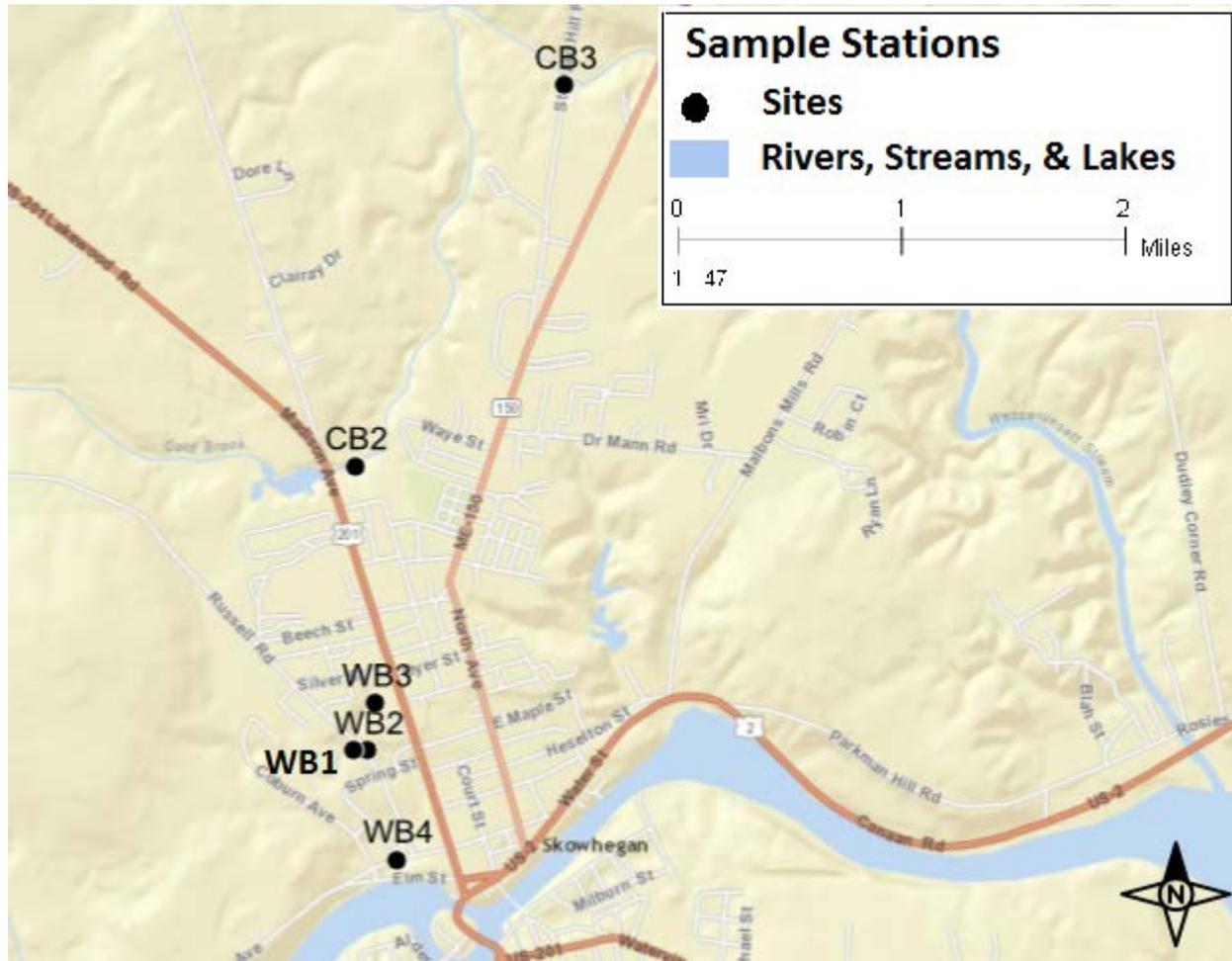


Figure 5-3-1: Map of Cold Brook and Whitten Brook sampling sites.

Results

Refer to Appendices A-1 and A-2 in discussion of individual site data and trends.

Dissolved Oxygen

Dissolved oxygen 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, this will affect the dissolved oxygen.

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 criteria must be met.

2014 Results:

Both Cold Brook and Whitten Brook were sampled weekly (16-17 times) through the sampling season. At sampling site CB-2, the dissolved oxygen (DO) concentration criterion of 7 mg/l was not met for 2 sampling dates (in July and early September). This site did not meet the DO percent saturation criterion on 2 dates (September). Site CB-3 did not meet criterion for DO concentration on 8 of 17 sampling dates and did not meet criterion for DO percent saturation on 9 of 17 sampling dates. DO at Site CB-2 is good and CB-3 is fair. Dissolved oxygen at these sites may in part be natural since site CB-2 is below a large impounded area and above site CB-3 is a wetland area.

All of the Whitten Brook sample sites met DO criterion for dissolved oxygen concentration of 7 mg/l. Whitten Brook sites also met criterion for DO percent saturation for all dates except 1 date at site WB-3. Overall dissolved oxygen was excellent at Whitten Brook. It is surprising that this small urban stream maintained good DO through the season. The 2014 season had did have higher than normal flows which likely contributed to the high dissolved oxygen. The monitors did an excellent job of obtaining early morning measurements.

Table 5-3-2: A summary of minimum, maximum, and average dissolved oxygen concentration (mg/l) values at Cold Brook and Whitten Brook monitoring sites.

Site	Class	# of Observations	Average	Minimum	Maximum	Criterion	# Exceeding
CB-2	B	17	7.7	6.2	8.7	7	2
CB-3	B	17	7.3	5.9	9.0	7	8
WB-1	B	17	8.9	8.0	10.2	7	0
WB-2	B	17	9.0	8.3	10.3	7	0
WB-3	B	17	8.9	7.8	10.5	7	0
WB-4	B	16	9.6	8.9	10.9	7	0

Table 5-5-3: A summary of minimum, maximum, and average dissolved oxygen saturation (%) values at Cold Brook and Whitten Brook monitoring sites.

Site	Class	# of Observations	Average	Minimum	Maximum	Criterion	# Exceeding
CB-2	B	17	81.1	68.5	89.9	75	2
CB-3	B	17	75.6	60.1	89.8	75	9
WB-1	B	17	85.0	76.1	94.1	75	0
WB-2	B	17	86.2	80.2	94.8	75	0
WB-3	B	17	84.1	74.3	96.3	75	1
WB-4	B	16	92.5	87.9	99.7	75	0

Figure 5-3-2: Graph of dissolved oxygen concentrations for Cold Brook sites.

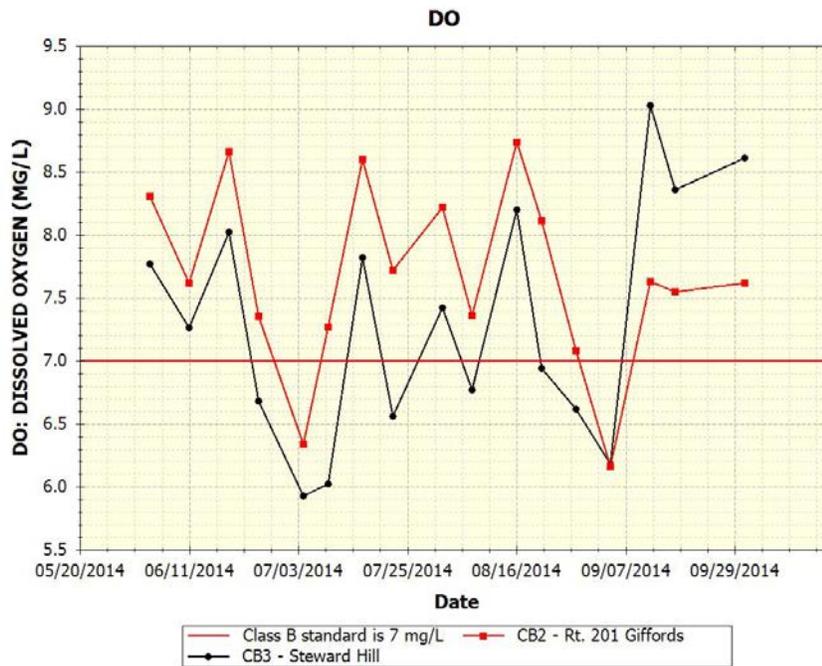


Figure 5-3-3: Graph of dissolved oxygen concentrations for Whitten Brook sites.

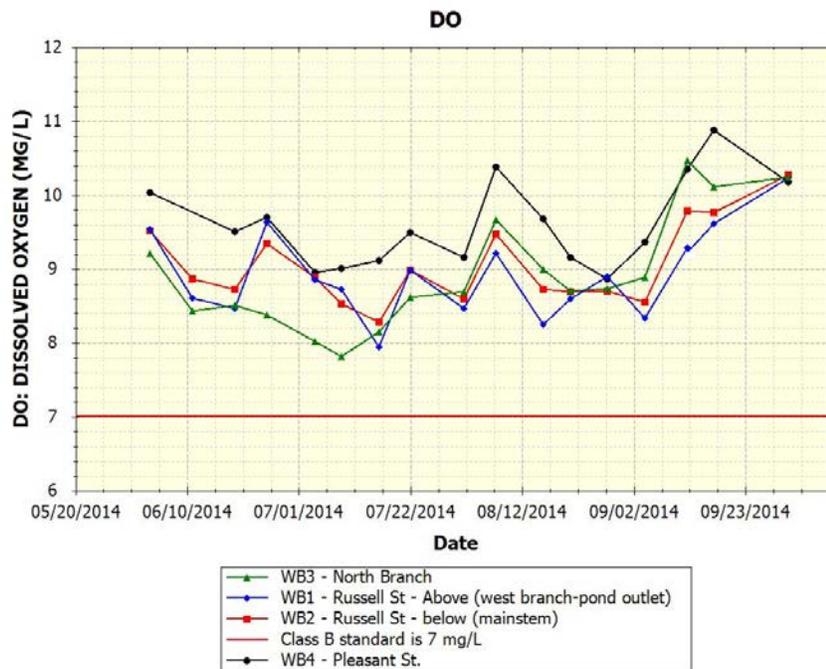


Figure 5-3-4: Graph of dissolved oxygen saturation for Cold Brook sites.

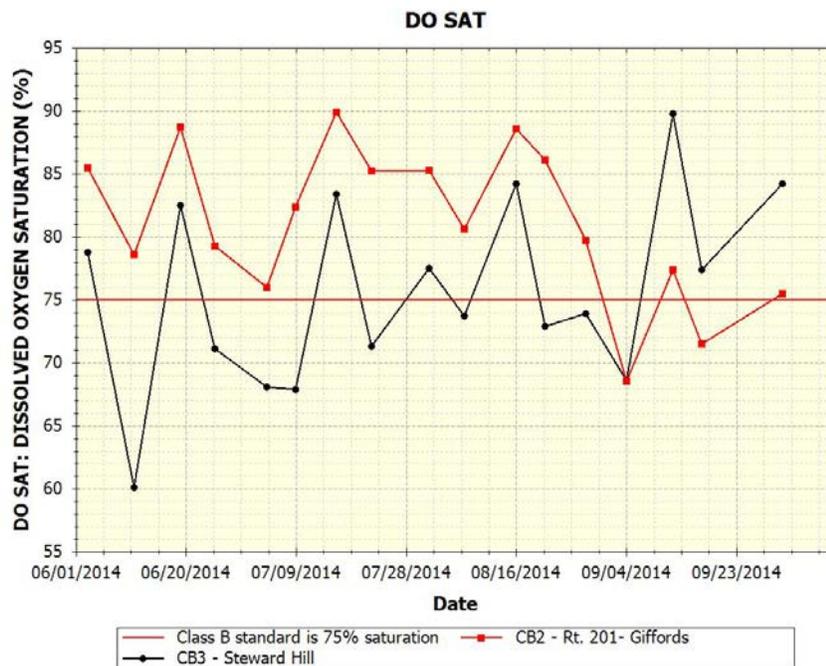
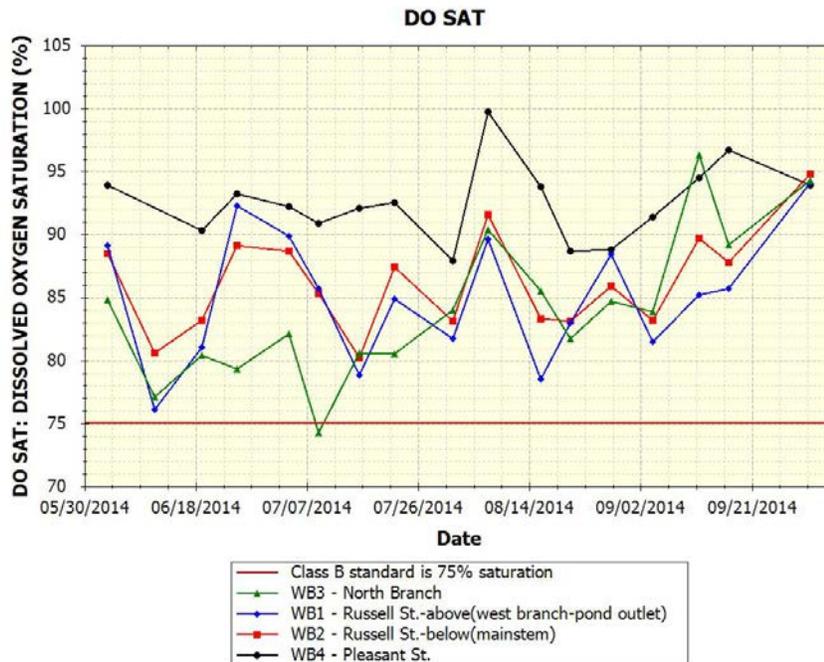


Figure 5-3-5: Graph of dissolved oxygen saturation for Whitten Brook sites.

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.

2014 Results:

Temperature at the Cold Brook sampling sites was overall fairly cold with the exception of early July and late August. Overall temperature at Cold Brook is good. Temperature at Whitten Brook was cold at all the sites throughout the season with maximum temperatures 15° to 16°C (Celsius). Overall temperature at Whitten Brook was excellent. The 2014 season had flows above normal which likely helped moderate temperatures.

Table 5-3-4: A summary of minimum, maximum, and water temperature (°C) values at Cold Brook and Whitten Brook monitoring sites.

Site	Class	# of Observations	Average	Minimum	Maximum	Criterion	# Exceeding
CB-2	B	17	18.0	12.6	24.0	n/a	n/a
CB-3	B	17	17.7	12.2	22.7	n/a	n/a
WB-1	B	17	13.3	9.9	15.4	n/a	n/a
WB-2	B	17	13.2	10.0	15.3	n/a	n/a
WB-3	B	17	12.7	9.3	15.7	n/a	n/a
WB-4	B	15	13.8	9.9	16.4	n/a	n/a

Figure 5-3-6: Graph of water temperature for Cold Brook sites.

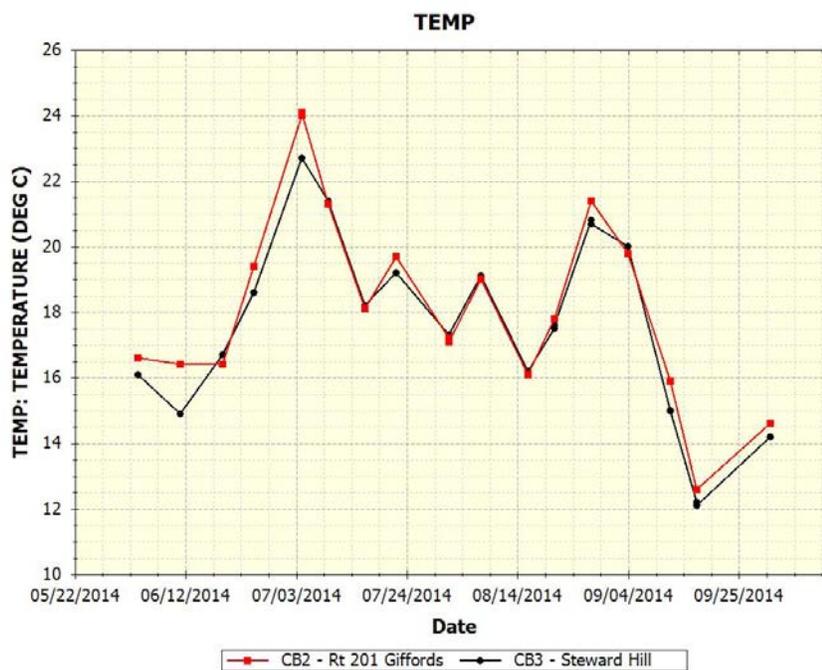
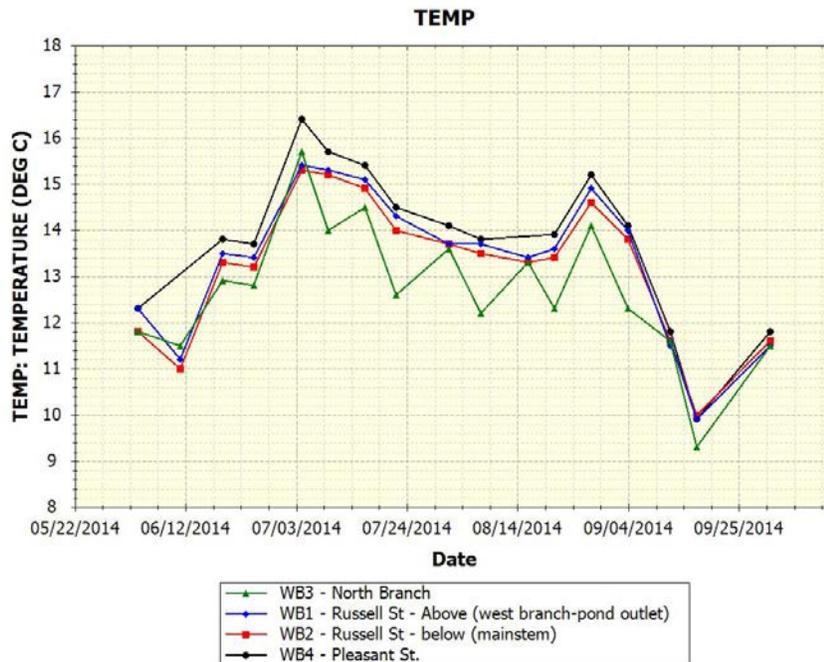


Figure 5-3-7: Graph of water temperature for Whitten Brook sites.

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.

2014 Results:

Specific conductance at Cold Brook varied through the season with values fluctuating for the period of May to late August from 69-342 $\mu\text{S}/\text{cm}$. From late August to late September, values at CB-2 ranged from 380-803 and at CB-3 from 305-469 $\mu\text{S}/\text{cm}$. It is unknown why values rose during the last month of sampling, especially at Site CB-2. These values are somewhat high.

Specific conductance at Whitten Brook sampling sites WB-1, WB-2, and WB-4 were similar. Values here were overall moderate with most values in the 150-250 $\mu\text{S}/\text{cm}$ range. The exception was one date (July 16) at site WB-2 (460 $\mu\text{S}/\text{cm}$). Specific conductance was generally always high at site WB-3 (north branch) with most values in the 500-600 $\mu\text{S}/\text{cm}$ range. One date was low (July 16) when there was a heavy rain event that likely caused dilution.

Table 5-3-5: A summary of minimum, maximum, and specific conductance ($\mu\text{S}/\text{cm}$) values at Cold Brook and Whitten Brook monitoring sites.

Site	Class	# of Observations	Average	Minimum	Maximum	Criterion	# Exceeding
CB-2	B	16	321	69	803	n/a	n/a
CB-3	B	16	246	75	469	n/a	n/a
WB-1	B	16	164	115	206	n/a	n/a
WB-2	B	16	248	181	460	n/a	n/a
WB-3	B	16	547	164	646	n/a	n/a
WB-4	B	15	245	198	275	n/a	n/a

Figure 5-3-8: Graph of specific conductance for Cold Brook sites.

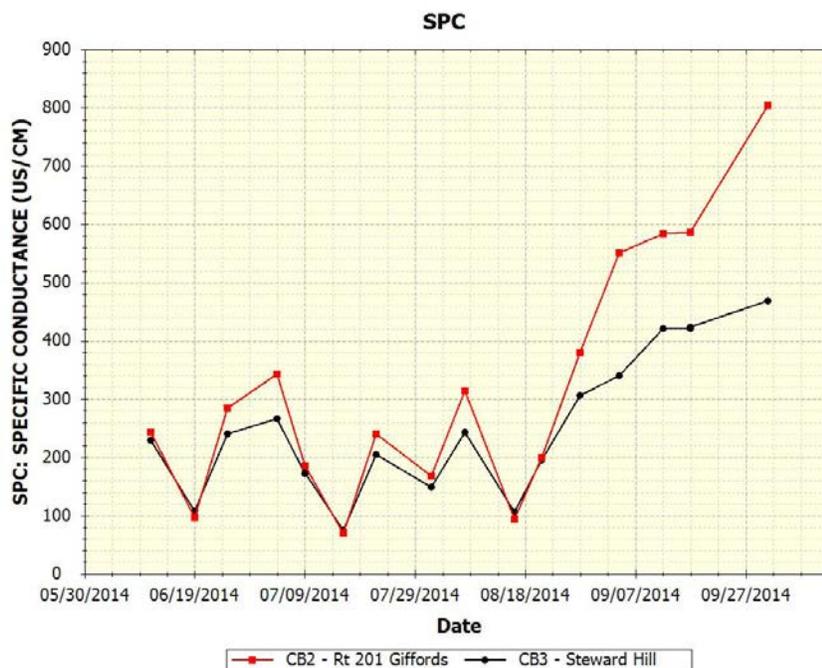
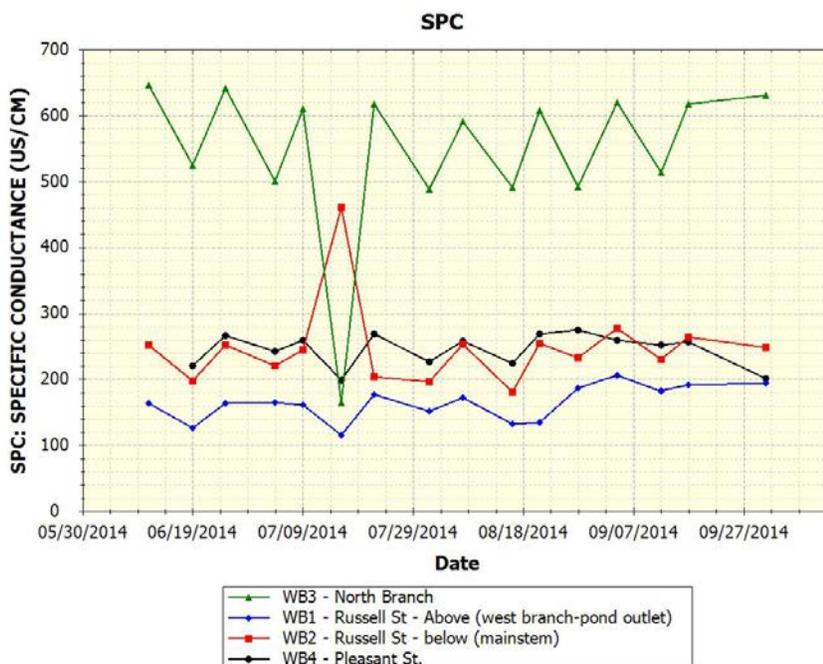


Figure 5-3-9: Graph of specific conductance for Whitten Brook sites.

Discussion and Recommendations

There are numerous sources of pollution and other stresses to the Kennebunk River sites monitored by the Mousam and Kennebunk Rivers Alliance 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 should continue to include 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.**

- **If specific conductance values are high at Cold Brook in 2015, and especially if there is an increasing trend, further assessment of possible pollution sources should be investigated. Further investigation of potential sources in Whitten Brook-north branch may also be warranted.**
- **Continue monitoring at all stations to develop a long term trend database. The monitors may consider doing monitoring biweekly instead of weekly monitoring, especially early and late in the season.**

Appendix A-1. 2014 water quality data for "Approved" and "Non-Approved" sites. Non-Approved sites do not yet meet official VRMP sample location criteria and/or require further inspection and review.

* Sampling depths are only reported for Tier 1 VRMP sites.

** "N" = normal environmental sample ; "D" = field duplicate; "D.O." = dissolved oxygen; "Spec. Cond" = specific conductance; "TSS" = total suspended solids.

Refer to Appendix A-2 for observational data and quality assurance/quality control (QA/QC) notes.

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)	Turbidity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
Cold Brook, Whitten Brook - Skowhegan Conservation Commission: Approved Sites																
CB3	COLD BROOK - KWSCB06 - VRMP	6/3/2014	7:55 AM	N			16.1	78.8	7.77							
CB3	COLD BROOK - KWSB06 - VRMP	6/11/2014	7:56 AM	N			14.9	60.1	7.26	229.6						
CB3	COLD BROOK - KWSCB06 - VRMP	6/19/2014	7:00 AM	N			16.7	82.5	8.02	106.9						
CB3	COLD BROOK - KWSCB06 - VRMP	6/25/2014	5:42 AM	N			18.6	71.1	6.68	239.6						
CB3	COLD BROOK - KWSCB06 - VRMP	7/4/2014	7:16 AM	N			22.7	68.1	5.93	266.4						
CB3	COLD BROOK - KWSCB06 - VRMP	7/9/2014	5:34 AM	N			21.4	67.9	6.02	171.9						
CB3	COLD BROOK - KWSCB06 - VRMP	7/9/2014	5:34 AM	D			21.4	68.2	5.94	172.5						
CB3	COLD BROOK - KWSCB06 - VRMP	7/16/2014	7:40 AM	N			18.2	83.4	7.82	75						
CB3	COLD BROOK - KWSCB06 - VRMP	7/22/2014	5:39 AM	N			19.2	71.3	6.56	205.1						
CB3	COLD BROOK - KWSCB06 - VRMP	8/1/2014	7:20 AM	N			17.3	77.5	7.42	148.4						
CB3	COLD BROOK - KWSCB06 - VRMP	8/7/2014	5:46 AM	N			19.1	73.7	6.77	243						
CB3	COLD BROOK - KWSCB06 - VRMP	8/16/2014	7:25 AM	N			16.2	84.2	8.2	106.1						
CB3	COLD BROOK - KWSCB06 - VRMP	8/16/2014	7:25 AM	D			16.2	83.5	8.18	106.3						
CB3	COLD BROOK - KWSCB06 - VRMP	8/21/2014	5:57 AM	N			17.6	72.9	6.94	194.8						
CB3	COLD BROOK - KWSCB06 - VRMP	8/21/2014	5:57 AM	D			17.5	73.3	6.99	195.7						

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)	Turbidity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
CB3	COLD BROOK - KWSCB06 - VRMP	8/28/2014	6:45 AM	N			20.8	73.9	6.62	305.5						
CB3	COLD BROOK - KWSCB06 - VRMP	8/28/2014	6:45 AM	D			20.7	73.7	6.59	305.8						
CB3	COLD BROOK - KWSCB06 - VRMP	9/4/2014	6:06 AM	N			20	68.6	6.18	339.5						
CB3	COLD BROOK - KWSCB06 - VRMP	9/12/2014	7:00 AM	N			15	89.8	9.03	421.2						
CB3	COLD BROOK - KWSCB06 - VRMP	9/17/2014	6:28 AM	N			12.2	77.4	8.36	421						
CB3	COLD BROOK - KWSCB06 - VRMP	9/17/2014	6:28 AM	D			12.1	77.2	8.28	423						
CB3	COLD BROOK - KWSCB06 - VRMP	10/1/2014	6:38 AM	N			14.2	84.2	8.61	468.9						
CB2	COLD BROOK - KWSCB27 - VRMP	6/3/2014	8:05 AM	N			16.6	85.5	8.31							
CB2	COLD BROOK - KWSCB27 - VRMP	6/11/2014	8:16 AM	N			16.4	78.6	7.62	243.1						
CB2	COLD BROOK - KWSCB27 - VRMP	6/19/2014	6:40 AM	N			16.4	88.7	8.66	96						
CB2	COLD BROOK - KWSCB27 - VRMP	6/25/2014	5:55 AM	N			19.4	79.3	7.35	284.4						
CB2	COLD BROOK - KWSCB27 - VRMP	7/4/2014	7:27 AM	N			24	76	6.34	342.4						
CB2	COLD BROOK - KWSCB27 - VRMP	7/4/2014	7:27 AM	D			24.1	75.8	6.36	342.6						
CB2	COLD BROOK - KWSCB27 - VRMP	7/9/2014	5:54 AM	N			21.3	82.4	7.27	185.2						
CB2	COLD BROOK - KWSCB27 - VRMP	7/16/2014	7:22 AM	N			18.1	89.9	8.6	69.3						
CB2	COLD BROOK - KWSCB27 - VRMP	7/16/2014	7:22 AM	D			18.1	90.1	8.58	69.4						
CB2	COLD BROOK - KWSCB27 - VRMP	7/22/2014	5:56 AM	N			19.7	85.2	7.72	240						
CB2	COLD BROOK - KWSCB27 - VRMP	8/1/2014	7:28 AM	N			17.2	85.3	8.22	167.4						
CB2	COLD BROOK - KWSCB27 - VRMP	8/1/2014	7:28 AM	D			17.1	85.2	8.2	167.6						

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)	Turbidity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
CB2	COLD BROOK - KWSCB27 - VRMP	8/7/2014	5:59 AM	N			19	80.6	7.36	314						
CB2	COLD BROOK - KWSCB27 - VRMP	8/16/2014	7:12 AM	N			16.1	88.6	8.74	94.4						
CB2	COLD BROOK - KWSCB27 - VRMP	8/21/2014	6:12 AM	N			17.8	86.1	8.11	199.5						
CB2	COLD BROOK - KWSCB27 - VRMP	8/28/2014	6:40 AM	N			21.4	79.7	7.08	379.6						
CB2	COLD BROOK - KWSCB27 - VRMP	9/4/2014	6:18 AM	N			19.8	68.5	6.16	550						
CB2	COLD BROOK - KWSCB27 - VRMP	9/12/2014	7:10 AM	N			15.9	77.4	7.63	583						
CB2	COLD BROOK - KWSCB27 - VRMP	9/17/2014	6:46 AM	N			12.6	71.5	7.55	586						
CB2	COLD BROOK - KWSCB27 - VRMP	10/1/2014	6:51 AM	N			14.6	75.5	7.62	803						
WB2	WHITTEN BROOK - KWB05 - VRMP	6/3/2014	8:30 AM	N			11.8	88.5	9.51							
WB2	WHITTEN BROOK - KWB05 - VRMP	6/11/2014	8:41 AM	N			11	80.6	8.87	252.1						
WB2	WHITTEN BROOK - KWB05 - VRMP	6/19/2014	6:25 AM	N			13.3	83.2	8.73	197.5						
WB2	WHITTEN BROOK - KWB05 - VRMP	6/25/2014	6:15 AM	N			13.2	89.1	9.34	251.3						
WB2	WHITTEN BROOK - KWB05 - VRMP	7/4/2014	7:55 AM	N			15.3	88.7	8.89	220.5						
WB2	WHITTEN BROOK - KWB05 - VRMP	7/9/2014	6:13 AM	N			15.2	85.3	8.53	244.8						
WB2	WHITTEN BROOK - KWB05 - VRMP	7/16/2014	7:10 AM	N			14.9	80.2	8.28	460.3						
WB2	WHITTEN BROOK - KWB05 - VRMP	7/22/2014	6:14 AM	N			14	87.4	8.98	202.9						
WB2	WHITTEN BROOK - KWB05 - VRMP	8/1/2014	7:45 AM	N			13.7	83.1	8.6	196.8						
WB2	WHITTEN BROOK - KWB05 - VRMP	8/7/2014	6:16 AM	N			13.5	91.6	9.47	253						
WB2	WHITTEN BROOK - KWB05 - VRMP	8/16/2014	7:48 AM	N			13.3	83.3	8.72	180.9						

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)	Turbidity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
WB2	WHITTEN BROOK - KWB05 - VRMP	8/21/2014	6:29 AM	N			13.4	83.1	8.69	253.9						
WB2	WHITTEN BROOK - KWB05 - VRMP	8/28/2014	7:14 AM	N			14.6	85.9	8.7	233						
WB2	WHITTEN BROOK - KWB05 - VRMP	9/4/2014	6:37 AM	N			13.8	83.2	8.55	277.1						
WB2	WHITTEN BROOK - KWB05 - VRMP	9/12/2014	7:19 AM	N			11.6	89.7	9.79	229.9						
WB2	WHITTEN BROOK - KWB05 - VRMP	9/17/2014	7:03 AM	N			10	87.8	9.76	264						
WB2	WHITTEN BROOK - KWB05 - VRMP	10/1/2014	7:09 AM	N			11.6	94.8	10.27	248.4						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/3/2014	8:25 AM	N			11.8	84.8	9.21							
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/11/2014	8:48 AM	N			11.5	77.1	8.43	646						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/19/2014	6:20 AM	N			12.9	80.4	8.51	525						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/25/2014	6:24 AM	N			12.8	79.3	8.38	642						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/4/2014	7:50 AM	N			15.7	82.1	8.02	500						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/9/2014	6:24 AM	N			14	74.3	7.82	610						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/16/2014	7:08 AM	N			14.5	80.6	8.15	164.4						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/22/2014	6:24 AM	N			12.6	80.5	8.62	617						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/1/2014	7:40 AM	N			13.6	84	8.69	488.8						

Cold Brook, Whitten Brook - Skowhegan Conservation Commission

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)	Turbidity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/7/2014	6:24 AM	N			12.2	90.4	9.67	591						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/16/2014	7:45 AM	N			13.3	85.5	9	490.8						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/21/2014	6:38 AM	N			12.3	81.7	8.7	608						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/28/2014	7:10 AM	N			14.1	84.7	8.74	491.3						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	9/4/2014	6:46 AM	N			12.3	83.9	8.89	620						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	9/12/2014	7:16 AM	N			11.6	96.3	10.47	514						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	9/17/2014	7:12 AM	N			9.3	89.2	10.11	617						
WB3	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	10/1/2014	7:17 AM	N			11.5	94.3	10.24	631						
WB1	WHITTEN BROOK - KWBO6 - VRMP	6/3/2014	8:20 AM	N			12.3	89.1	9.54							
WB1	WHITTEN BROOK - KWBO6 - VRMP	6/11/2014	8:29 AM	N			11.2	76.1	8.61	163.4						
WB1	WHITTEN BROOK - KWBO6 - VRMP	6/19/2014	6:16 AM	N			13.5	81	8.47	126.2						
WB1	WHITTEN BROOK - KWBO6 - VRMP	6/25/2014	6:08 AM	N			13.4	92.3	9.63	164.1						
WB1	WHITTEN BROOK - KWBO6 - VRMP	7/4/2014	7:45 AM	N			15.4	89.9	8.85	164.7						
WB1	WHITTEN BROOK - KWBO6 - VRMP	7/9/2014	6:08 AM	N			15.3	85.7	8.73	161.7						
WB1	WHITTEN BROOK - KWBO6 - VRMP	7/16/2014	7:05 AM	N			15.1	78.8	7.95	115						

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)	Turbidity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
WB1	WHITTEN BROOK - KWB06 - VRMP	7/22/2014	6:06 AM	N			14.3	84.9	8.98	176.4						
WB1	WHITTEN BROOK - KWB06 - VRMP	8/1/2014	7:35 AM	N			13.7	81.7	8.47	151.6						
WB1	WHITTEN BROOK - KWB06 - VRMP	8/7/2014	6:10 AM	N			13.7	89.6	9.21	172						
WB1	WHITTEN BROOK - KWB06 - VRMP	8/16/2014	7:42 AM	N			13.4	78.5	8.25	132.2						
WB1	WHITTEN BROOK - KWB06 - VRMP	8/21/2014	6:24 AM	N			13.6	83	8.6	134.2						
WB1	WHITTEN BROOK - KWB06 - VRMP	8/28/2014	7:05 AM	N			14.9	88.4	8.9	186.5						
WB1	WHITTEN BROOK - KWB06 - VRMP	9/4/2014	6:30 AM	N			14	81.5	8.33	205.8						
WB1	WHITTEN BROOK - KWB06 - VRMP	9/12/2014	7:22 AM	N			11.6	85.2	9.29	182.3						
WB1	WHITTEN BROOK - KWB06 - VRMP	9/12/2014	7:22 AM	D			11.5	84.7	9.22	182.5						
WB1	WHITTEN BROOK - KWB06 - VRMP	9/17/2014	6:56 AM	N			9.9	85.7	9.61	192						
WB1	WHITTEN BROOK - KWB06 - VRMP	10/1/2014	7:04 AM	N			11.5	94.1	10.23	194.4						
WB4	WHITTEN STREAM - KWB01 - VRMP	6/3/2014	8:35 AM	N			12.3	93.9	10.04							
WB4	WHITTEN STREAM - KWB01 - VRMP	6/19/2014	6:10 AM	N			13.8	90.3	9.5	220.2						
WB4	WHITTEN STREAM - KWB01 - VRMP	6/25/2014	6:36 AM	N			13.7	93.2	9.7	265.8						
WB4	WHITTEN STREAM - KWB01 - VRMP	7/4/2014	7:40 AM	N			16.4	92.2	8.95	242						
WB4	WHITTEN STREAM - KWB01 - VRMP	7/9/2014	6:40 AM	N			15.7	90.9	9.01	258.6						
WB4	WHITTEN STREAM - KWB01 - VRMP	7/16/2014	7:00 AM	N			15.4	92.1	9.11	198.2						
WB4	WHITTEN STREAM - KWB01 - VRMP	7/22/2014	6:40 AM	N			14.5	92.5	9.49	268.7						
WB4	WHITTEN STREAM - KWB01 - VRMP	8/1/2014	7:48 AM	N			14.1	87.9	9.16	226.7						

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)	Turbidity (NTU)	Total Diss. Solids (MG/L)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
WB4	WHITTEN STREAM - KWB01 - VRMP	8/7/2014	6:35 AM	N			13.8	99.7	10.38	258						
WB4	WHITTEN STREAM - KWB01 - VRMP	8/16/2014	7:55 AM	N				93.8	9.68	224.3						
WB4	WHITTEN STREAM - KWB01 - VRMP	8/21/2014	6:50 AM	N			13.9	88.7	9.16	269						
WB4	WHITTEN STREAM - KWB01 - VRMP	8/28/2014	7:20 AM	N			15.2	88.8	8.87	274.6						
WB4	WHITTEN STREAM - KWB01 - VRMP	9/4/2014	6:57 AM	N			14.1	91.4	9.36	258.8						
WB4	WHITTEN STREAM - KWB01 - VRMP	9/12/2014	7:36 AM	N			11.8	94.5	10.35	252.1						
WB4	WHITTEN STREAM - KWB01 - VRMP	9/17/2014	7:25 AM	N			9.9	96.7	10.88	257						
WB4	WHITTEN STREAM - KWB01 - VRMP	10/1/2014	7:29 AM	N			11.8	93.9	10.18	200.5						

Appendix A-2. 2014 observational data and quality assurance/quality control (QA/QC) notes for "approved" and "non-approved" sites.

** "N" = normal environmental sample; "D" = field duplicate; "L" = lab duplicate

Refer to Appendix A-1 for water quality data

Organiza tion Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	Flow	Stage	Air Temp (°C)	Sample Location	Current Weather	Air Condition	Past 24HR Weather	Habitat	Water Appearance	Comments
Whitten Brook - Skowhegan Conservation Commission - Approved Sites:														
	COLD BROOK - KWSCD06 VRMP	6/3/2014	7:55 AM	N	BASEFLOW	MEDIUM	18.8	CULVERT	CLEAR	CALM	CLEAR	RUN	TURBID	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	6/11/2014	7:56 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	6/19/2014	7:00 AM	N	BASEFLOW	MEDIUM	16.1	CULVERT	CLEAR	CALM	CLOUDY, LIGHT RAIN	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	6/25/2014	5:42 AM	N	BASEFLOW	HIGH		CULVERT	SHOWERS	CALM	PARTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	7/4/2014	7:16 AM	N	BASEFLOW	MEDIUM		CULVERT	CLOUDY, SHOWERS	CALM	CLOUDY, SHOWERS	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	7/9/2014	5:34 AM	N	BASEFLOW	MEDIUM	19.44	CULVERT	CLOUDY	CALM	PARTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	7/9/2014	5:34 AM	D				CULVERT						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	7/16/2014	7:40 AM	N	STORMFLOW	HIGH	18.3	CULVERT	MOSTLY CLOUDY	CALM	HEAVY RAIN, PARTLY CLOUDY	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	7/22/2014	5:39 AM	N	BASEFLOW	MEDIUM	14.44	CULVERT	CLEAR	CALM	CLEAR	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/1/2014	7:20 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	PARTLY CLOUDY, SHOWERS	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/7/2014	5:46 AM	N	BASEFLOW	MEDIUM	11.11	CULVERT	CLEAR	CALM	SHOWERS	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/16/2014	7:25 AM	N	STORMFLOW	MEDIUM	15.56	CULVERT	MOSTLY CLOUDY	CALM	PARTLY CLOUDY, SHOWERS	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/16/2014	7:25 AM	D				CULVERT						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/21/2014	5:57 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	CLEAR	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/21/2014	5:57 AM	D				CULVERT						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/28/2014	6:45 AM	N	BASEFLOW	LOW	17.9	CULVERT	CLEAR	CALM	CLEAR	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	8/28/2014	6:45 AM	D				CULVERT						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	9/4/2014	6:06 AM	N	BASEFLOW	LOW	14.44	CULVERT	CLEAR	CALM	CLEAR	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	9/12/2014	7:00 AM	N	BASEFLOW	LOW	14.2	CULVERT	CLEAR	CALM	LIGHT RAIN, MOSTLY CLOUDY	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	9/17/2014	6:28 AM	N	BASEFLOW	MEDIUM	5	CULVERT	FOGGY	CALM	MOSTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	9/17/2014	6:28 AM	D				CULVERT						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD06 VRMP	10/1/2014	6:38 AM	N	BASEFLOW	MEDIUM	12.22	CULVERT	CLOUDY	CALM	CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27 VRMP	6/3/2014	8:05 AM	N	BASEFLOW	MEDIUM	18.8	BRIDGE	CLEAR	CALM	CLEAR	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27 VRMP	6/11/2014	8:16 AM	N	BASEFLOW	MEDIUM		BRIDGE	CLEAR	CALM	CLOUDY	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27 VRMP	6/19/2014	6:40 AM	N	BASEFLOW	MEDIUM	16.1	BRIDGE	CLEAR	CALM	LIGHT RAIN, PARTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	Flow	Stage	Air Temp (°C)	Sample Location	Current Weather	Air Condition	Past 24HR Weather	Habitat	Water Appearance	Comments
	COLD BROOK - KWSCD27-VRMP	6/25/2014	5:55 AM	N	BASEFLOW	HIGH		BRIDGE	SHOWERS	CALM	PARTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	7/4/2014	7:27 AM	N	BASEFLOW	LOW		BRIDGE	CLOUDY, SHOWERS	CALM	CLOUDY, SHOWERS	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	7/4/2014	7:27 AM	D				BRIDGE						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	7/9/2014	5:54 AM	N	BASEFLOW	MEDIUM	19.44	BRIDGE	CLOUDY	CALM	PARTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	7/16/2014	7:22 AM	N	STORMFLOW	HIGH	18.3	BRIDGE	MOSTLY CLOUDY		HEAVY RAIN, PARTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	7/16/2014	7:22 AM	D				BRIDGE						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	7/22/2014	5:56 AM	N	BASEFLOW	MEDIUM	14.44	BRIDGE	CLEAR	CALM	CLEAR	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	8/1/2014	7:28 AM	N	BASEFLOW	MEDIUM		BRIDGE	CLEAR	CALM	PARTLY CLOUDY, SHOWERS	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	8/1/2014	7:28 AM	D				BRIDGE						NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	8/7/2014	5:59 AM	N	BASEFLOW	MEDIUM	11.11	BRIDGE	CLEAR		SHOWERS	RUN	DARKLY STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	8/16/2014	7:12 AM	N	STORMFLOW	MEDIUM	15.56	BRIDGE	MOSTLY CLOUDY	CALM	PARTLY CLOUDY, SHOWERS	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	8/21/2014	6:12 AM	N	BASEFLOW	LOW		BRIDGE	CLEAR	CALM	CLEAR	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	8/28/2014	6:40 AM	N	BASEFLOW	LOW	17.9	BRIDGE	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	9/4/2014	6:18 AM	N	BASEFLOW	LOW	14.44	BRIDGE	CLEAR	CALM	CLEAR	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	9/12/2014	7:10 AM	N	BASEFLOW	LOW	14.2	BRIDGE	CLEAR	CALM	LIGHT RAIN, MOSTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	9/17/2014	6:46 AM	N	BASEFLOW	MEDIUM	5	BRIDGE	FOGGY	CALM	MOSTLY CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	COLD BROOK - KWSCD27-VRMP	10/1/2014	6:51 AM	N	BASEFLOW	MEDIUM	12.22	BRIDGE	CLOUDY	CALM	CLOUDY	RUN	MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	6/3/2014	8:30 AM	N	BASEFLOW	MEDIUM	18.8	BANK	CLEAR	CALM	CLEAR	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	6/11/2014	8:41 AM	N	BASEFLOW	MEDIUM		BANK	CLEAR	CALM	CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	6/19/2014	6:25 AM	N	BASEFLOW	LOW	16.1	BANK	CLEAR	CALM	LIGHT RAIN, PARTLY CLOUDY	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	6/25/2014	6:15 AM	N	BASEFLOW	HIGH		BANK	SHOWERS	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	7/4/2014	7:55 AM	N	BASEFLOW	LOW		BANK	CLOUDY, SHOWERS	CALM	CLOUDY, SHOWERS	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	7/9/2014	6:13 AM	N	BASEFLOW	MEDIUM	19.44	BANK	CLOUDY	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	7/16/2014	7:10 AM	N	STORMFLOW	MEDIUM	18.3	BANK	MOSTLY CLOUDY	CALM	HEAVY RAIN, PARTLY CLOUDY	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	7/22/2014	6:14 AM	N	BASEFLOW	MEDIUM	14.44	BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	8/1/2014	7:45 AM	N	BASEFLOW	MEDIUM		BANK	CLEAR	CALM	PARTLY CLOUDY, SHOWERS	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	8/7/2014	6:16 AM	N	BASEFLOW	MEDIUM	11.11	BANK	CLEAR	CALM	SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	Flow	Stage	Air Temp (°C)	Sample Location	Current Weather	Air Condition	Past 24HR Weather	Habitat	Water Appearance	Comments
	WHITTEN BROOK - KWB05 - VRMP	8/16/2014	7:48 AM	N	STORMFLOW	MEDIUM	15.56	BANK	MOSTLY CLOUDY	CALM	PARTLY CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	8/21/2014	6:29 AM	N	BASEFLOW	MEDIUM		BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	8/28/2014	7:14 AM	N	BASEFLOW	LOW	17.9	BANK	CLEAR	CALM	CLEAR	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	9/4/2014	6:37 AM	N	BASEFLOW	MEDIUM	14.44	BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	9/12/2014	7:19 AM	N	BASEFLOW	LOW	14.2	BANK	CLEAR	CALM	LIGHT RAIN, MOSTLY CLOUDY	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	9/17/2014	7:03 AM	N	BASEFLOW	MEDIUM	5	BANK	FOGGY	CALM	MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - KWB05 - VRMP	10/1/2014	7:09 AM	N	BASEFLOW	MEDIUM	12.22	BANK	CLOUDY	CALM	CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/3/2014	8:25 AM	N	BASEFLOW	MEDIUM	18.8	BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/11/2014	8:48 AM	N	BASEFLOW	MEDIUM		BANK	CLEAR	CALM	CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/19/2014	6:20 AM	N	BASEFLOW	LOW	16.1	BANK	CLEAR	CALM	LIGHT RAIN, PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	6/25/2014	6:24 AM	N	BASEFLOW	HIGH		BANK	SHOWERS	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/4/2014	7:50 AM	N	BASEFLOW	LOW		BANK	CLOUDY, SHOWERS	CALM	CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/9/2014	6:24 AM	N	BASEFLOW	MEDIUM	19.44	BANK	CLOUDY	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/16/2014	7:08 AM	N	BASEFLOW	LOW	18.3	BANK	MOSTLY CLOUDY	CALM	HEAVY RAIN, MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	7/22/2014	6:24 AM	N	BASEFLOW	MEDIUM	14.44	BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/1/2014	7:40 AM	N	BASEFLOW	MEDIUM		BANK	CLEAR	CALM	PARTLY CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/7/2014	6:24 AM	N	BASEFLOW	MEDIUM	11.11	BANK	CLEAR	CALM	SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/16/2014	7:45 AM	N	BASEFLOW	MEDIUM	15.56	BANK	MOSTLY CLOUDY	CALM	PARTLY CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/21/2014	6:38 AM	N	BASEFLOW	MEDIUM		BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	8/28/2014	7:10 AM	N	BASEFLOW	LOW	17.9	BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	9/4/2014	6:46 AM	N	BASEFLOW	MEDIUM	14.44	BANK	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	Flow	Stage	Air Temp (°C)	Sample Location	Current Weather	Air Condition	Past 24HR Weather	Habitat	Water Appearance	Comments
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	9/12/2014	7:16 AM	N	BASEFLOW	LOW	14.2	BANK	CLEAR	CALM	LIGHT RAIN, MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	9/17/2014	7:12 AM	N	BASEFLOW	MEDIUM	5	BANK	FOGGY	CALM	MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - NORTH BRANCH - KWBNB02 - VRMP	10/1/2014	7:17 AM	N	BASEFLOW	MEDIUM	12.22	BANK	CLOUDY	CALM	CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	6/3/2014	8:20 AM	N	BASEFLOW	MEDIUM	18.8	CULVERT	CLEAR	CALM	CLEAR	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	6/11/2014	8:29 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	6/19/2014	6:16 AM	N	BASEFLOW	LOW	16.1	CULVERT	CLEAR	CALM	LIGHT RAIN, PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	6/25/2014	6:08 AM	N	BASEFLOW	HIGH		CULVERT	SHOWERS	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	7/4/2014	7:45 AM	N	BASEFLOW	MEDIUM		CULVERT	CLOUDY, SHOWERS	CALM	CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	7/9/2014	6:08 AM	N	BASEFLOW	MEDIUM	19.44	CULVERT	CLOUDY	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	7/16/2014	7:05 AM	N	STORMFLOW	MEDIUM	18.3	CULVERT	MOSTLY CLOUDY	CALM	HEAVY RAIN, PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	7/22/2014	6:06 AM	N	BASEFLOW	MEDIUM	14.44	CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	8/1/2014	7:35 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	PARTLY CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	8/7/2014	6:10 AM	N	BASEFLOW	MEDIUM	11.11	CULVERT	CLEAR	CALM	SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	8/16/2014	7:42 AM	N	STORMFLOW	MEDIUM	15.56	CULVERT	MOSTLY CLOUDY	CALM	PARTLY CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	8/21/2014	6:24 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	8/28/2014	7:05 AM	N	BASEFLOW	LOW	17.9	CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	9/4/2014	6:30 AM	N	BASEFLOW	MEDIUM	14.44	CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	9/12/2014	7:22 AM	N	BASEFLOW	LOW	14.2	CULVERT	CLEAR	CALM	LIGHT RAIN, MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	9/12/2014	7:22 AM	D				CULVERT						NON-WADEABLE/MID-DEPTH

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	Flow	Stage	Air Temp (°C)	Sample Location	Current Weather	Air Condition	Past 24HR Weather	Habitat	Water Appearance	Comments
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	9/17/2014	6:56 AM	N	BASEFLOW	MEDIUM	5	CULVERT	FOGGY	CALM	MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN BROOK - UNNAMED TRIBUTARY - KWBUA01 - VRMP	10/1/2014	7:04 AM	N	BASEFLOW	MEDIUM	12.22	CULVERT	CLOUDY	CALM	CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	6/3/2014	8:35 AM	N	BASEFLOW	MEDIUM	18.8	CULVERT	CLEAR	CALM	CLEAR	RIFFLE	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	6/19/2014	6:10 AM	N	BASEFLOW	LOW	16.1	CULVERT	CLEAR	CALM	LIGHT RAIN, PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	6/25/2014	6:36 AM	N	BASEFLOW	HIGH		CULVERT	SHOWERS	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	7/4/2014	7:40 AM	N	BASEFLOW	LOW		CULVERT	CLOUDY, SHOWERS	CALM	CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	7/9/2014	6:40 AM	N	BASEFLOW	MEDIUM	19.44	CULVERT	CLOUDY	CALM	PARTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	7/16/2014	7:00 AM	N	STORMFLOW	MEDIUM	18.3	CULVERT	MOSTLY CLOUDY	CALM	HEAVY RAIN, MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	7/22/2014	6:40 AM	N	BASEFLOW	MEDIUM	14.44	CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	8/1/2014	7:48 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	PARTLY CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	8/7/2014	6:35 AM	N	BASEFLOW	MEDIUM	11.11	CULVERT	CLEAR	CALM	SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	8/16/2014	7:55 AM	N	BASEFLOW	MEDIUM	15.56	CULVERT	MOSTLY CLOUDY	CALM	PARTLY CLOUDY, SHOWERS	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	8/21/2014	6:50 AM	N	BASEFLOW	MEDIUM		CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	8/28/2014	7:20 AM	N	BASEFLOW	LOW	17.9	CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	9/4/2014	6:57 AM	N	BASEFLOW	MEDIUM	14.44	CULVERT	CLEAR	CALM	CLEAR	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	9/12/2014	7:36 AM	N	BASEFLOW	LOW	14.2	CULVERT	CLEAR	CALM	LIGHT RAIN, MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	9/17/2014	7:25 AM	N	BASEFLOW	MEDIUM	5	CULVERT	FOGGY	CALM	MOSTLY CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH
	WHITTEN STREAM - KWT01 - VRMP	10/1/2014	7:29 AM	N	BASEFLOW	MEDIUM	12.22	CULVERT	CLOUDY	CALM	CLOUDY	RUN	CLEAR	NON-WADEABLE/MID-DEPTH