

Section 5-6 No Name Brook & Tributaries (No Name Pond Watershed Assoc.)

Refer to Chapter 4 of this document for information about sampling methods, sampling sites, and quality assurance.

Overview

No Name Brook is listed on the MeDEP “2010 Integrated Water Quality Monitoring and Assessment Report” as an impaired stream. It is listed in Category 5-A: “Rivers and Streams Impaired by Pollutants Other Than Those Listed in 5-B through 5-D (TMDL Required)”. The parameters causing impairment are *E. coli* bacteria and dissolved oxygen. Because of the listing, and because there was little water quality data available, the City of Lewiston was interested in obtaining further information about the brook; they contacted the VRMP Program in 2009 and enlisted the assistance of the No Name Pond Watershed Association to help with the monitoring.

No Name Brook begins at the outlet of No Name Pond in the City of Lewiston. From there, it meanders through a large wetland area to the east of Golder Road, crosses under Golder Road, continues in a westerly direction through wooded land toward Grove Street, turns to the south and crosses under Grove Street, then follows a southerly path through wooded land, passing under I-95 and continuing in a meandering path south-westerly parallel to Lisbon Street until discharging into the Sabattus River. Sucker Brook is an inlet stream to No Name Pond.

The overall purpose of monitoring is to assess water quality as it pertains towards meeting water quality classification standards. The No Name Brook Sampling and Analysis Plan states that the objectives of monitoring are to gather baseline data with which to monitor the water quality and provide the basis for the development of the TMDL (Total Maximum Daily Load). The Clean Water Act requires that a TMDL, which is an assessment of impairments and pollutant loading reductions needed to meet water quality standards, be developed for impaired waters. Also, DEP is interested in obtaining further water quality data because of limited historical data.

Methods

The volunteers monitored No Name Brook in 2011 at five sites and Sucker Brook at one site (Table 5-6-1 and Figure 5-6-1). All of the sites are VRMP approved sites.

Table 5-6-1: No Name Pond Watershed Association sampling sites.

VRMP Site ID	Organization Site Code	Sample Location	Class
NO NAME BROOK-ASANN33-VRMP	NN02	Crowley Road	B
NO NAME BROOK-ASANN40-VRMP	NNO3	Old Webster Road	B
NO NAME BROOK-ASANN56-VRMP	NNO4	Randall Street	B
NO NAME BROOK-ASANN62-VRMP	NN05	Grove Street	B
NO NAME BROOK-ASANN72-VRMP	NN06	Sabattus Street	B
SUCKER BROOK-ASANN94-VRMP	SB01	Sucker Brook Tributary	B

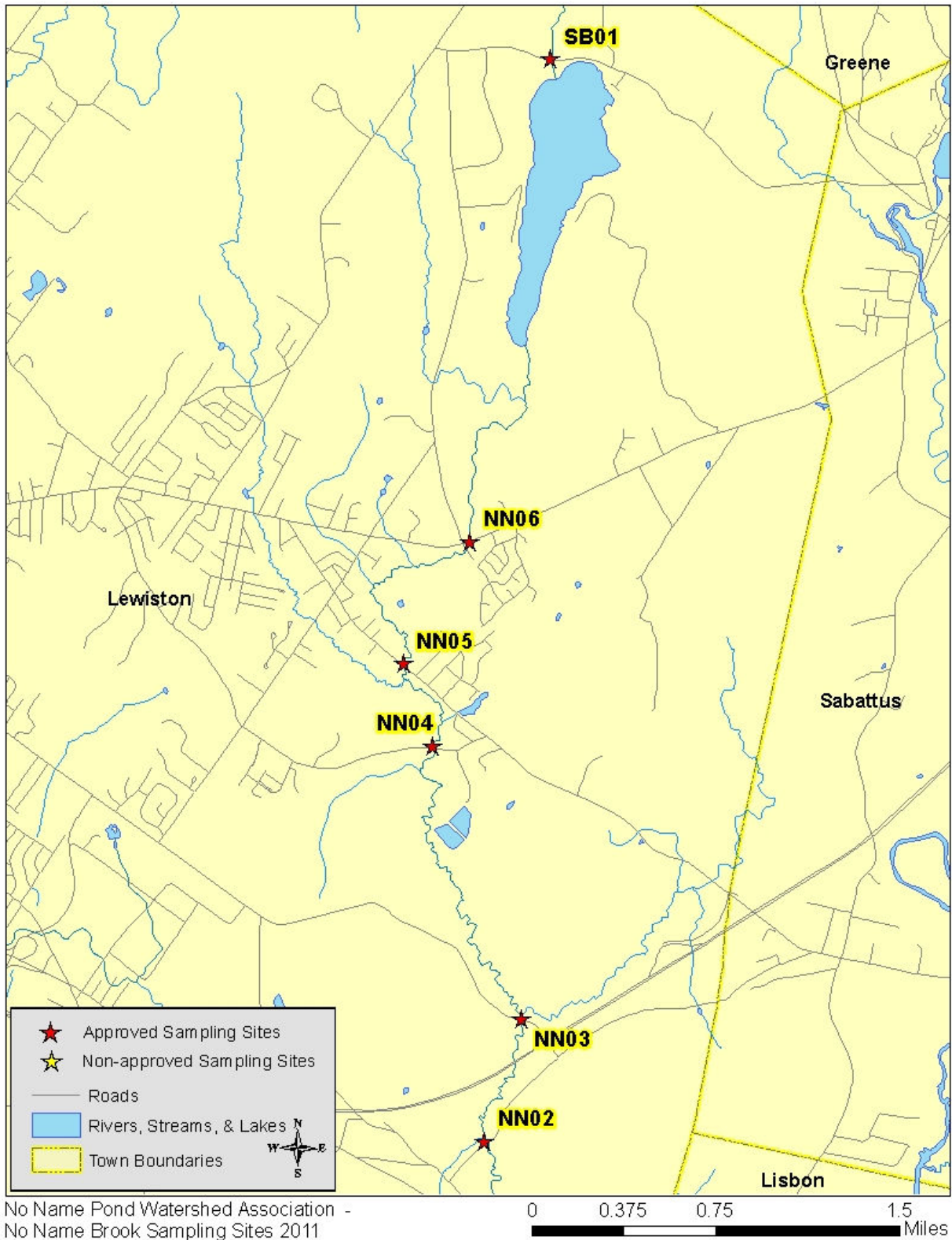


Figure 5-6-1: Map of No Name Pond Watershed Association sampling sites at No Name Brook.

Monitoring was conducted from June through September 1-2 times per month. At each site, the monitors made direct measurements for water temperature and dissolved oxygen using a handheld YSI 550A meter. Conductivity was measured using an Oakton EC 11+ Testr conductivity pen. Grab samples were collected for *E. coli* bacteria and delivered to the Lewiston-Auburn Wastewater Pollution Control Facility for analysis.

Results

Refer to Appendices A-1 and A-2 in discussion of individual site data and trends, as well as graphed data (Figures 5-6-3 through 5-6-7), at the end of this section of the report.

Dissolved Oxygen

Dissolved oxygen was measured 4-7 times at each of the six sampling sites (Table 5-6-2 and Table 5-6-3). Monitoring occurred from June to September. 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 standards must be met.

Table 5-6-2: A summary of minimum, maximum, and average dissolved oxygen concentration values (mg/l) values at No Name Pond Watershed Association monitoring sites on No Name Brook.

Site	Approved Site	# of Samples	Minimum Value	Maximum Value	Average Value
NN02	Y	6	4.9	7.6	6.4
NN03	Y	6	4.5	7.7	6.1
NN04	Y	4	4.7	7.5	5.7
NN05	Y	6	2.0	5.5	3.4
NN06	Y	6	1.8	9.7	4.0
SB01	Y	7	7.4	11.2	8.8

Table 5-6-3: A summary of minimum, maximum, and average dissolved oxygen saturation (%) values at No Name Pond Watershed Association monitoring sites on No Name Brook.

Site	Approved Site	# of Samples	Minimum Value	Maximum Value	Average Value
NN02	Y	6	54.3	78.0	66.9
NN03	Y	6	52.8	75.1	65.0
NN04	Y	4	48.5	73.0	57.7
NN05	Y	6	22.0	52.0	35.8
NN06	Y	6	20.5	105.0	42.2
SB01	Y	7	78.0	102.5	87.5

Dissolved oxygen concentrations measured at No Name Brook and Sucker Brook ranged from 1.8 to 11.2 mg/l. Sites NN02 and NN03 were below the Class B standard of 7.0 mg/l on three of six sampling dates. Site NN04 was below the Class B standard on three of four sampling dates. Values ranged from 4.5 mg/l to 5.4 mg/l on the dates when they were below standard. Percent saturation was below standard on four dates for sites NN02 and NN04, and three dates for site

NN03. Values for the dates that were below standard ranged from 48.5% to 74%. These three sites had very similar values and followed the same pattern with lowest values occurring in early June, July, and August. Sites NN05 and NN06 had very low readings (with the exception of one date for NN06) with values at these two sites ranging from 1.8 to 5.5 mg/l. At site NN06 on 8/6/11, the value was 9.7 mg/l, which does not seem to follow the overall pattern for these two sites that had low values for all the other sample dates. The reason for the high value on this date is unknown. The percent saturation for these two sites were below standard for all dates (except for site NN06 on 8/6/11 that had a value of 105%) and ranged from 22% to 42.2%. Site SB01 overall had much higher values than the other sites. All values were above the Class B standard for both concentration and % saturation.

Overall, dissolved oxygen was very low to low at all of the No Name Brook sites in early summer and July through August. Sites NN05 and NN06 were lower than Sites NN02, NN03 and NN04. However, dissolved oxygen was generally better overall in 2011 compared to 2010. This may be due to differences in weather and stream flow between the two years. It is suspected that low dissolved oxygen in No Name Brook may in large part be due to natural conditions as well as seasonal flow. Wetlands are common in the watershed, and they border the stream in many places. The largest wetlands occur in the upper part of the brook. Also, in most places, No Name Brook is a fairly low gradient stream, which tends to aerate and dissolve oxygen gas from the atmosphere less quickly and readily than shallow, turbulent, fast-flowing streams. Flow conditions in streams are generally lowest during the mid-later part of the summer. If flows were very low, then that could also affect dissolved oxygen.

Water Temperature

Temperature was measured 4-7 times at each of the six sampling sites (Table 5-6-4). Monitoring occurred from June to September. 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.

Table 5-6-4: A summary of minimum, maximum, and average water temperature (°C) at No Name Pond Watershed Association monitoring sites on No Name Brook.

Site	Approved Site	# of Samples	Minimum Value	Maximum Value	Average Value
NN02	Y	6	14.0	20.3	17.6
NN03	Y	6	14.0	20.1	18.1
NN04	Y	4	14.2	20.4	18.1
NN05	Y	6	14.6	22.2	19.6
NN06	Y	6	17.3	21.7	19.0
SB01	Y	7	12.2	18.0	15.9

Temperature measured at No Name Brook and Sucker Brook ranged from 12.2 to 22.2°C (Celsius). Sites NN02, NN03 and NN04 had similar values through the sampling season. With

the exception of the late June sampling date that had the lowest values (14-14.2°C), the other dates were moderate with temperatures ranging from 18.1 to 20.4°C for the summer months. Site NN05 had the highest values ranging from 21.1 to 22.2°C for June through August dates (except for late June). At Site NN06, temperatures during the summer months ranged from 19.1 to 21.7°C – again not including the late June value. Site SB01 had the lowest temperatures – being at least a couple of degrees lower than the other sites with the exception of the last sampling date in September. Through the summer months, temperatures at SB01 ranged from 14.7 to 17.3°C, not including the late June reading (when all the sites were low).

Specific Conductance

Specific conductance was measured 4-6 times at each of the six sampling sites (Table 5-6-5). Monitoring occurred from June to September. 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.

Table 5-6-5: A summary of minimum, maximum, and average specific conductance values (µS/cm) at No Name Pond Watershed Association monitoring sites on No Name Brook.

Site	Approved Site	# of Samples	Minimum Value	Maximum Value	Average Value
NN02	Y	6	149	317	211
NN03	Y	6	165	317	266
NN04	Y	4	138	264	188
NN05	Y	6	105	217	150
NN06	Y	5	87	394	173
SB01	Y	6	102	180	131

Most Maine streams and rivers in undeveloped watersheds have specific conductance values that are much lower (20-40 µS/cm range), than what we see in developed, and in particular more urbanized, streams. Overall, the highest values in No Name Brook occurred at the lower sites in the watershed. Sites NNO2 and NNO3 are lower in the watershed and below more development and roads which likely explains the higher values here. Site NNO3 had the highest values throughout the sampling season, with the exception of one high value at site NN06. Sites NN02 and NN04 were fairly similar, with NN02 always slightly to somewhat higher. Sites NN05 and NN06 were very similar, with the exception of the sampling date in late August when site NN06 had the highest value for the season. Site SB01 had the lowest maximum and mean values. However, the values here are still moderately high and somewhat similar to the upper No Name Brook sites.

Bacteria

Escherichia coli bacteria were sampled 4-7 times at each of the six sampling sites (Table 5-6-6). Monitoring occurred from June to September. Enterococcus 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.

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.” Geometric means are calculated instead of average 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.

Table 5-6-6: A summary of minimum, maximum, and geometric means for bacteria values (MPN/100 mL) at No Name Pond Watershed Association monitoring sites on No Name Pond.

Site	Bacteria Type	# of Samples	Minimum Value	Maximum Value	Geometric Mean
NN02	<i>E. coli</i>	6	42	1203	264
NN03	<i>E. coli</i>	6	68	>2419	196
NN04	<i>E. coli</i>	4	155	727	387
NN05	<i>E. coli</i>	6	5	146	51
NN06	<i>E. coli</i>	5	75	225	116
SB01	<i>E. coli</i>	7	55	219	110

Site NN02 exceeded the instantaneous criteria on three sampling dates. NN03 exceeded the instantaneous criteria on two dates and site NN04 exceeded on three dates. The geometric mean criterion was exceeded at all sites except for site NN05. The highest bacteria means occurred in the lower sites (sites NN02, NN03 and NN04). These sites all had very high values on the 6/25/11 and 9/24/11 sample dates which at least corresponds to rain/runoff events for the September date (Figure 5-6-2). Site NN04 was also very high on 8/6/11.

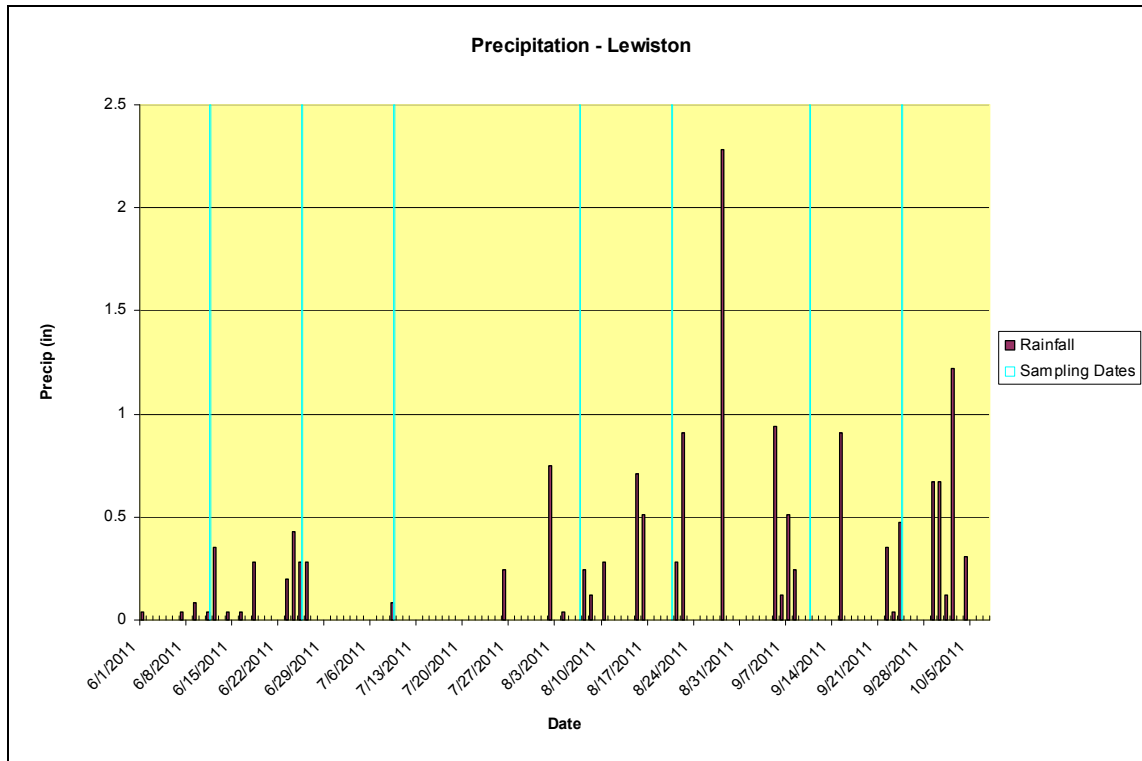


Figure 5-6-2: Seasonal precipitation measured at Lewiston.

Discussion and Recommendations

There are numerous sources of pollution and other stresses to the No Name Brook and Sucker Brook sites monitored by the No Name Pond Watershed Association 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., sewage 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, rooftops) (even though urban development and roads are fairly sparse in the watershed), 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:

- All of the No Name Brook sites have very low to low dissolved oxygen during the summer months. DEP AmeriCorps staff looked at the sites with the volunteers during the summer (2011). Sites NN04 and NN05 were being sampled in areas that were not flowing. It is recommended that the monitors sample downstream at these sites where it is a riffle/run condition and water is flowing. DEP may also want to walk all or part of

the stream to determine potential problems and to what extent natural conditions contribute to these conditions. The lowest values occur at Sites NN05 and NN06 which are close to wetland areas, likely contributing to the low levels here.

- Further study of the high bacteria may be warranted.

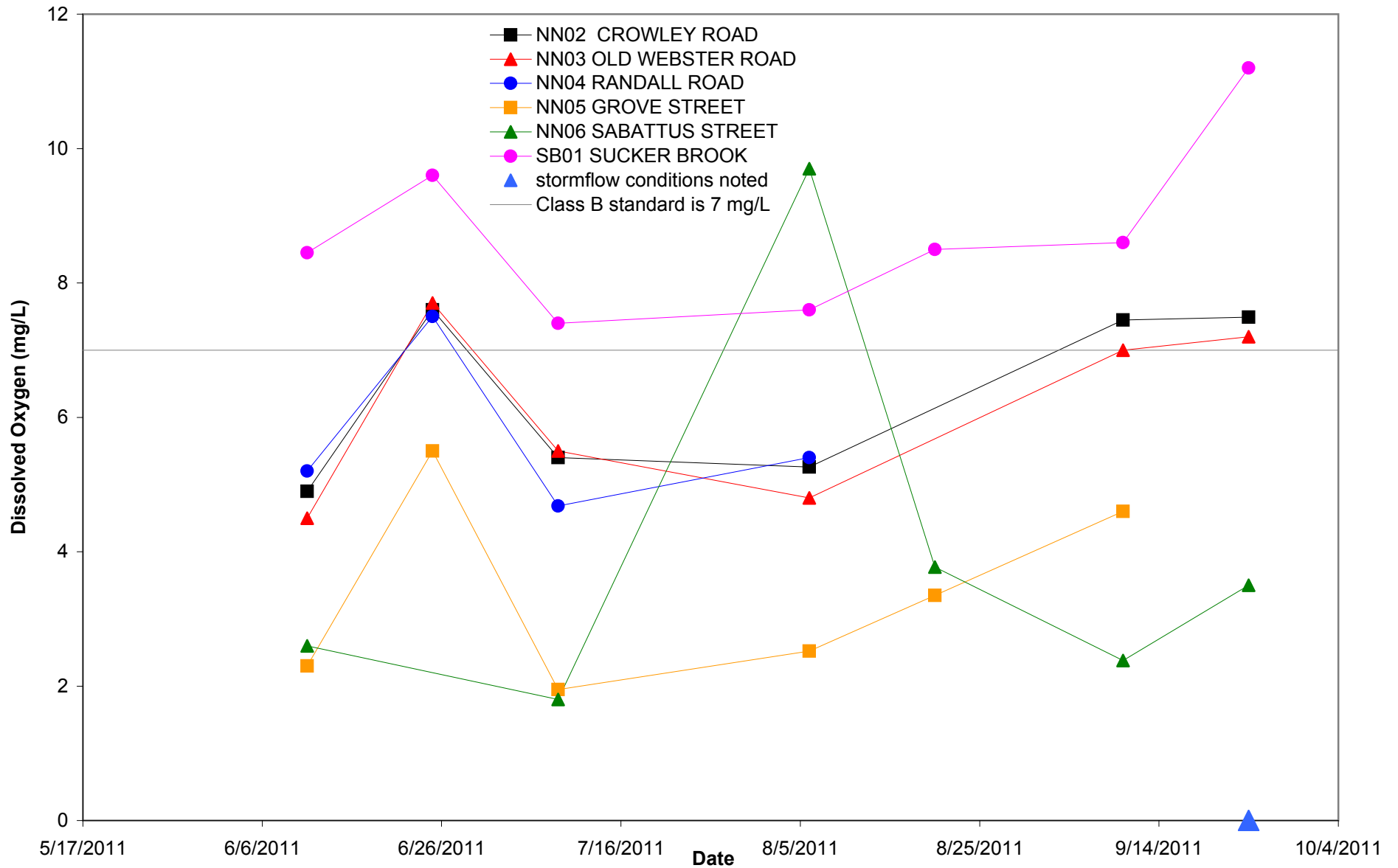


Figure 5-6-3. Dissolved oxygen concentrations at No Name Pond Watershed Association approved monitoring sites at No Name Brook and Sucker Brook in 2011.

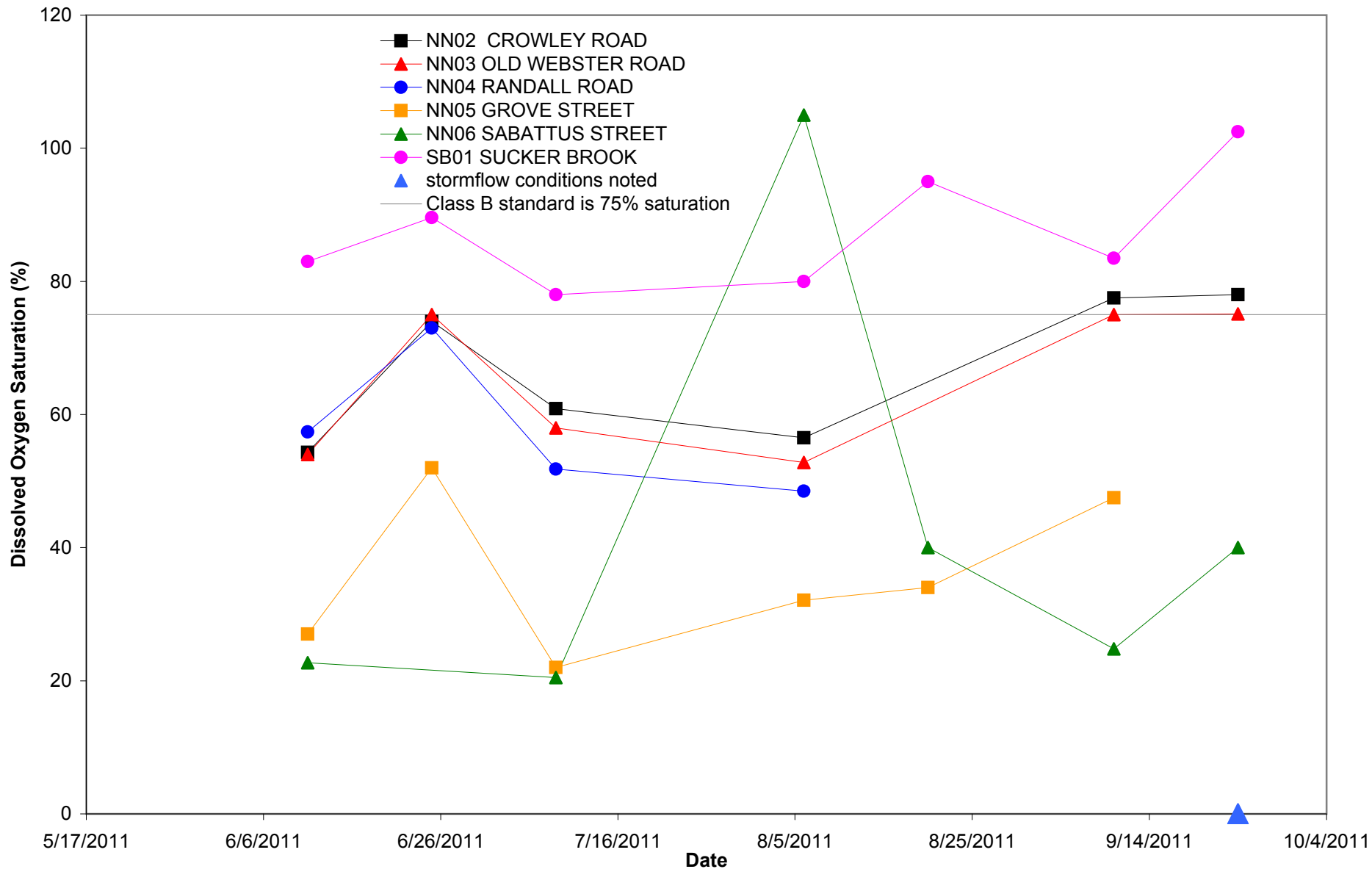


Figure 5-6-4. Dissolved oxygen saturation (%) at No Name Pond Watershed Association approved monitoring sites on No Name Brook and Sucker Brook in 2011.

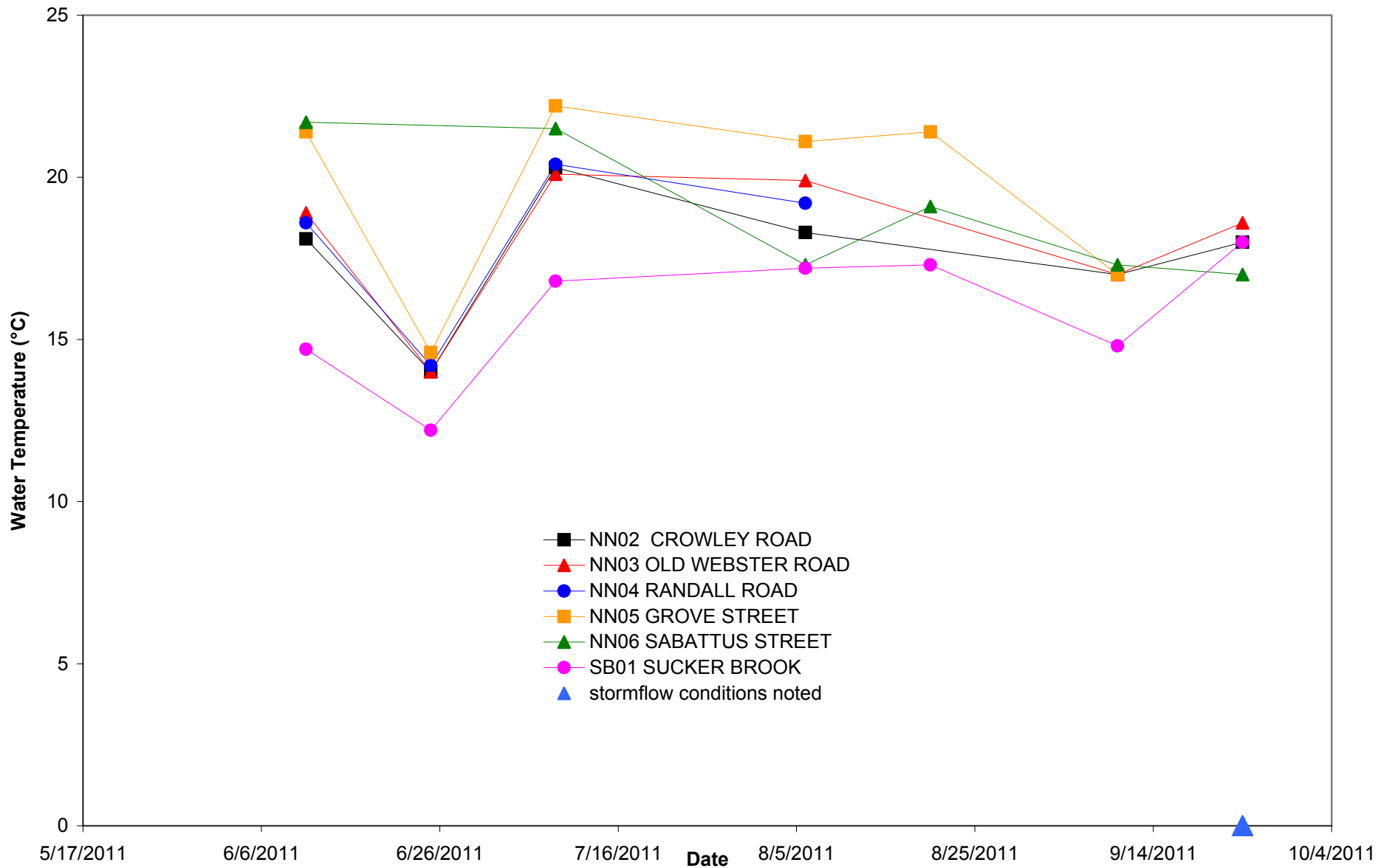


Figure 5-6-5. Water temperatures at No Name Pond Watershed Association approved monitoring sites at No Name Brook and Sucker Brook in 2011.

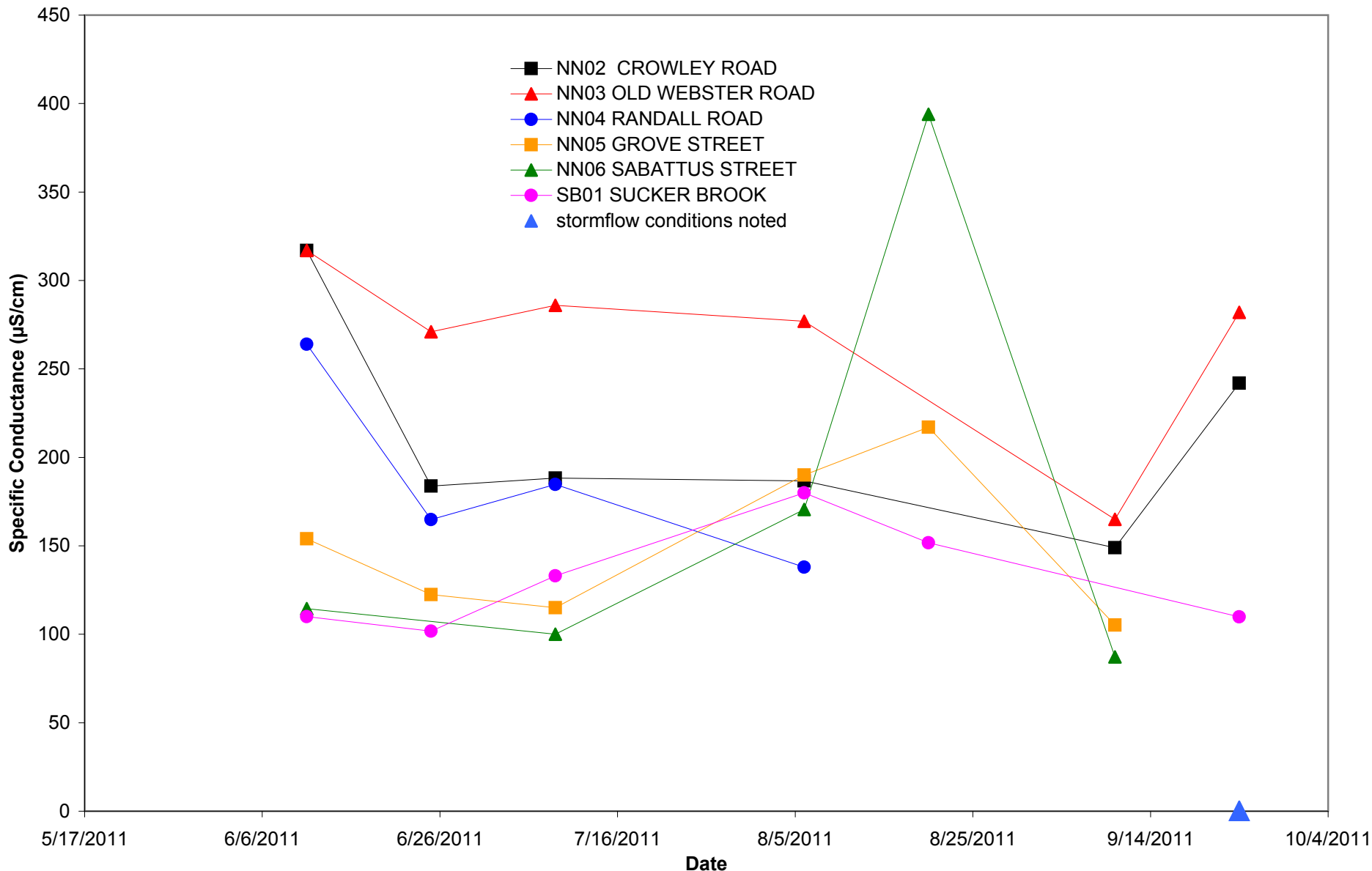


Figure 5-6-6. Specific conductance values at No Name Pond Watershed Association approved monitoring sites at No Name Brook and Sucker Brook in 2011.

Appendix A-1. 2011 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)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)
No Name Brook - No Name Pond Watershed Association (Approved Sites)														
NN02 - CROWLEY ROAD	NO NAME BROOK - ASANN33 - VRMP	6/11/2011	7:10 AM	N			18.1	54.3	4.9	317				42
NN02	NO NAME BROOK - ASANN33 - VRMP	6/25/2011	7:05 AM	N			14	74	7.6	183.8				866.4
NN02	NO NAME BROOK - ASANN33 - VRMP	7/9/2011	7:25 AM	N			20.3	60.9	5.4	188.3				142.1
NN02	NO NAME BROOK - ASANN33 - VRMP	8/6/2011	7:10 AM	N			18.3	56.5	5.26	186.7				268.2
NN02	NO NAME BROOK - ASANN33 - VRMP	9/10/2011	7:00 AM	N			17	77.5	7.45	149				204.6
NN02	NO NAME BROOK - ASANN33 - VRMP	9/24/2011	7:40 AM	N			18	78	7.49	242				1203.3
NN03 - OLD WEBSTER RD	NO NAME BROOK - ASANN40 - VRMP	6/11/2011	7:30 AM	N			18.9	54	4.5	317				68.3
NN03	NO NAME BROOK - ASANN40 - VRMP	6/25/2011	7:20 AM	N			14	75	7.7	271				1203.3
NN03	NO NAME BROOK - ASANN40 - VRMP	7/9/2011	7:45 AM	N			20.1	58	5.5	286				166.4
NN03	NO NAME BROOK - ASANN40 - VRMP	8/6/2011	7:35 AM	N			19.9	52.8	4.8	277				146.7
NN03	NO NAME BROOK - ASANN40 - VRMP	8/6/2011	7:35 AM	D			18.5	56.7	5.27	196.5				
NN03	NO NAME BROOK - ASANN40 - VRMP	9/10/2011	7:20 AM	N			17	75	7	165				145
NN03	NO NAME BROOK - ASANN40 - VRMP	9/24/2011	8:00 AM	N			18.6	75.1	7.2	282				>2419.6
NN04 - RANDALL RD	NO NAME BROOK - ASANN56 - VRMP	6/11/2011	7:55 AM	N			18.6	57.4	5.2	264				155.2
NN04	NO NAME BROOK - ASANN56 - VRMP	6/25/2011	8:20 AM	N			14.2	73	7.5	164.8				727
NN04	NO NAME BROOK - ASANN56 - VRMP	7/9/2011	7:46 AM	N			20.4	51.8	4.68	184.7				325.5
NN04	NO NAME BROOK - ASANN56 - VRMP	8/6/2011	7:45 AM	N			19.2	48.5	5.4	138				613.1
NN05 - GROVE ST	NO NAME BROOK - ASANN62 - VRMP	6/11/2011	7:44 AM	N			21.4	27	2.3	154				146.7
NN05	NO NAME BROOK - ASANN62 - VRMP	6/25/2011	8:10 AM	N			14.6	52	5.5	122.5				72.2
NN05	NO NAME BROOK - ASANN62 - VRMP	7/9/2011	7:33 AM	N			22.2	22	1.95	115				72.8
NN05	NO NAME BROOK - ASANN62 - VRMP	8/6/2011	7:35 AM	N			21.1	32.1	2.52	190				84.2
NN05	NO NAME BROOK - ASANN62 - VRMP	8/20/2011	7:40 AM	N			21.4	34	3.35	217				5.2
NN05	NO NAME BROOK - ASANN62 - VRMP	9/10/2011	7:35 AM	N			17	47.5	4.6	105.2				50.4
NN06 - SABATTUS ST	NO NAME BROOK - ASANN72 - VRMP	6/11/2011	7:30 AM	N			21.7	22.7	2.6	114.5				107.6
NN06	NO NAME BROOK - ASANN72 - VRMP	7/9/2011	7:25 AM	N			21.5	20.5	1.8	100.1				116.2

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)	** TSS (MG/L)	E Coli Bacteria (MPN/100ML)
NN06	NO NAME BROOK - ASANN72 - VRMP	8/6/2011	7:24 AM	N			17.3	105	9.7	170.5				98.7
NN06	NO NAME BROOK - ASANN72 - VRMP	8/20/2011	7:25 AM	N			19.1	40	3.77	394				225
NN06	NO NAME BROOK - ASANN72 - VRMP	9/10/2011	7:25 AM	N			17.3	24.8	2.38	87.2				75.4
NN06	NO NAME BROOK - ASANN72 - VRMP	9/24/2011	8:05 AM	N			17	40	3.5					
SB01 - SUCKER BROOK TRIB	SUCKER BROOK - ASANN94 - VRMP	6/11/2011	7:10 AM	N			14.7	83	8.45	110				88.2
SB01	SUCKER BROOK - ASANN94 - VRMP	6/25/2011	7:44 AM	N			12.2	89.6	9.6	101.8				105
SB01	SUCKER BROOK - ASANN94 - VRMP	7/9/2011	7:15 AM	N			16.8	78	7.4	133				218.7
SB01	SUCKER BROOK - ASANN94 - VRMP	8/6/2011	7:11 AM	N			17.2	80	7.6	180				137.4
SB01	SUCKER BROOK - ASANN94 - VRMP	8/20/2011	7:00 AM	N			17.3	95	8.5	151.7				75.4
SB01	SUCKER BROOK - ASANN94 - VRMP	8/20/2011	7:00 AM	D			17.3	95.6	8.7	154.6				
SB01	SUCKER BROOK - ASANN94 - VRMP	9/10/2011	7:10 AM	N			14.8	83.5	8.6					54.8
SB01	SUCKER BROOK - ASANN94 - VRMP	9/24/2011	6:40 AM	N			18	102.5	11.2	109.8				166.4

Appendix A-2. 2011 observational data and quality assurance/quality control (QA/QC) notes for "approved" and "non-approved" sites.
**"N" = normal environmental sample; "D" = field duplicate; "D.O." = dissolved oxygen; "Spec. Cond" = specific conductance; "Turb"= turbidity
Refer to Appendix A-1 for water quality data

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	Tide Stage	Water Appearance	Comments
No Name Brook - No Name Pond Watershed Association (Approved Sites)															
NN02 CROWLEY ROAD	NO NAME BROOK - A	6/11/2011	7:10 AM	N	BASE FLOW	LOW	15.6	CULVERT	CLOUDY	CALM	CLEAR, PARTLY CLOUDY	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
NN02	NO NAME BROOK - A	6/25/2011	7:05 AM	N	BASE FLOW	LOW	11.7	CULVERT	CLOUDY	CALM	HEAVY RAIN, LIGHT RAIN, PARTLY CLOUDY	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
NN02	NO NAME BROOK - A	7/9/2011	7:25 AM	N	BASE FLOW	LOW		CULVERT	CLOUDY	CALM	CLOUDY, LIGHT RAIN	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH DATE RECORDED AS 7/11/11 BUT BELIEVE SHOULD BE 7/9/11. DID NOT COMPLETE CHAIN OF CUSTODY FOR LAB SAMPLE.
NN02	NO NAME BROOK - A	8/6/2011	7:10 AM	N	BASE FLOW	LOW	15.6	CULVERT	CLEAR	CALM	CLEAR, CLOUDY	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
NN02	NO NAME BROOK - A	9/10/2011	7:00 AM	N	BASE FLOW	MEDIU M	11.1	CULVERT	CLEAR	CALM	CLEAR, PARTLY CLOUDY	RUN		MEDIUM STAINED	MORE MOVEMENT OF STREAM THAN I HAVE SEEN. NON-WADEABLE/MID-DEPTH
NN02	NO NAME BROOK - A	9/24/2011	7:40 AM	N	BASE FLOW	MEDIU M	18.3	CULVERT	FOGGY, LIGHT RAIN		FOGGY, HEAVY RAIN	RUN		MEDIUM STAINED	MORE MOVEMENT THAN SEEN IN PAST. NON-WADEABLE/MID-DEPTH
NN03 OLD WEBSTER RD	NO NAME BROOK - A	6/11/2011	7:30 AM	N	BASE FLOW	LOW	15.6	CULVERT	CLOUDY	CALM	CLEAR, PARTLY CLOUDY	RIFFLE		CLEAR	NON-WADEABLE/MID-DEPTH
NN03	NO NAME BROOK - A	6/25/2011	7:20 AM	N	BASE FLOW	LOW	11.7	CULVERT	CLOUDY	CALM	HEAVY RAIN, LIGHT RAIN, PARTLY CLOUDY	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
NN03	NO NAME BROOK - A	7/9/2011	7:45 AM	N	BASE FLOW	LOW		BRIDGE	CLOUDY	CALM	CLOUDY, LIGHT RAIN	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH DATE RECORDED AS 7/11/11 BUT BELIEVE SHOULD BE 7/9/11. DID NOT COMPLETE CHAIN OF CUSTODY FOR LAB SAMPLE.
NN03	NO NAME BROOK - A	8/6/2011	7:35 AM	N	BASE FLOW	LOW	15.6	CULVERT	CLEAR	CALM	CLEAR, CLOUDY	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
NN03	NO NAME BROOK - A	8/6/2011	7:35 AM	D				CULVERT							NON-WADEABLE/MID-DEPTH
NN03	NO NAME BROOK - A	9/10/2011	7:20 AM	N	BASE FLOW	MEDIU M	11.1	BRIDGE	CLEAR	CALM	CLEAR, PARTLY CLOUDY	RIFFLE		MEDIUM STAINED	STREAM SLOW AS USUAL. NON-WADEABLE/MID-DEPTH
NN03	NO NAME BROOK - A	9/24/2011	8:00 AM	N	BASE FLOW	MEDIU M	18.3	BRIDGE	FOGGY, LIGHT RAIN		FOGGY, HEAVY RAIN	RIFFLE		MEDIUM STAINED	CONCENTRATION IS ACTUALLY >2419.6. VALUE FOR USE IN GEOMETRIC MEAN. NON-WADEABLE/MID-DEPTH, NON-WADEABLE/MID-DEPTH
NN04 RANDALL RD	NO NAME BROOK - A	6/11/2011	7:55 AM	N	BASE FLOW	LOW	13.9	CULVERT	CLOUDY	CALM	CLEAR, PARTLY CLOUDY	RUN		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
NN04	NO NAME BROOK - A	6/25/2011	8:20 AM	N	BASE FLOW			BRIDGE	CLOUDY, LIGHT RAIN	BREEZE	CLOUDY, HEAVY RAIN, LIGHT RAIN	RIFFLE		MEDIUM STAINED	NON-WADEABLE/MID-DEPTH
NN04	NO NAME BROOK - A	7/9/2011	7:46 AM	N	BASE FLOW	MEDIU M		BRIDGE	CLOUDY, SHOWER S	CALM	CLEAR, CLOUDY, PARTLY CLOUDY	RUN		TURBID	NO VERTICAL DEPTH RECORDED. NO DO SAMPLE COLLECTION METHOD RECORDED. DO CALIBRATION READING APPEARED LOW (94.3%). DID NOT COMPLETE CHAIN OF CUSTODY FOR LAB SAMPLE.
NN04	NO NAME BROOK - A	8/6/2011	7:45 AM	N	BASE FLOW	LOW	13.9		CLEAR		CLEAR	RIFFLE		TURBID	NON-WADEABLE/3 FT BELOW SURFACE DO NOT RECORD SAMPLE LOCATION. DID NOT RECORD DO SAMPLE COLLECTION METHOD.
NN05 GROVE STREET	NO NAME BROOK - A	6/11/2011	7:44 AM	N	BASE FLOW	LOW	13.9	CULVERT	CLOUDY	CALM	CLEAR, 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	Tide Stage	Water Appearance	Comments
NN05	NO NAME BROOK - A	6/25/2011	8:10 AM	N	BASE FLOW				CLOUDY, LIGHT RAIN	BREEZE	CLOUDY, HEAVY RAIN, LIGHT RAIN	RIFFLE		CLEAR	NON-WADEABLE/MID-DEPTH SAMPLE LOCATION NOT RECORDED.
NN05	NO NAME BROOK - A	7/9/2011	7:33 AM	N	BASE FLOW	MEDIUM		CULVERT	CLOUDY, SHOWERS	CALM	CLEAR, CLOUDY, PARTLY CLOUDY	RUN		MEDIUM STAINED	WADEABLE/MID-DEPTH NO DO SAMPLE COLLECTION METHOD RECORDED. DO CALIBRATION READING APPEARED LOW (94.3%). DID NOT COMPLETE CHAIN OF CUSTODY FOR LAB SAMPLE.
NN05	NO NAME BROOK - A	8/6/2011	7:35 AM	N	BASE FLOW	LOW	13.9		CLEAR		CLEAR	RIFFLE		TURBID	WATER LEVEL VERY LOW, ESPECIALLY AT GROVE ST. DO NOT RECORD SAMPLE LOCATION.
NN05	NO NAME BROOK - A	8/20/2011	7:40 AM	N	BASE FLOW	HIGH	15.0	BRIDGE	CLEAR	CALM	CLEAR, CLOUDY, HEAVY RAIN	RIFFLE		MEDIUM STAINED	WADEABLE/MID-DEPTH DO CALIBRATION READING APPEARED HIGH (119.1%). DID NOT RECORD DO SAMPLE COLLECTION METHOD.
NN05	NO NAME BROOK - A	9/10/2011	7:35 AM	N	BASE FLOW	MEDIUM	10.0	BANK	CLEAR		CLEAR	RUN		DARKLY STAINED	CALIBRATION READING APPEARED HIGH (116.3%). DID NOT RECORD DO SAMPLE COLLECTION METHOD.
NN06 SABATTUS STREET	NO NAME BROOK - A	6/11/2011	7:30 AM	N	BASE FLOW	MEDIUM	13.9	WADING	CLOUDY	CALM	CLEAR, PARTLY CLOUDY	RIFFLE		MEDIUM STAINED	WADEABLE/1.5 FT BELOW SURFACE
NN06	NO NAME BROOK - A	7/9/2011	7:25 AM	N	BASE FLOW	LOW		BRIDGE	CLOUDY, SHOWERS	CALM	CLEAR, CLOUDY, PARTLY CLOUDY	RUN		TURBID	WADEABLE/1.5 FT BELOW SURFACE DO CALIBRATION READING APPEARED LOW (94.3%). DID NOT COMPLETE CHAIN OF CUSTODY FOR LAB SAMPLE.
NN06	NO NAME BROOK - A	8/6/2011	7:24 AM	N	BASE FLOW	LOW	13.9	CULVERT	CLEAR		CLEAR	RIFFLE		MEDIUM STAINED	WADEABLE/MID-DEPTH
NN06	NO NAME BROOK - A	8/20/2011	7:25 AM	N	BASE FLOW	LOW	15.0	BRIDGE	CLEAR	CALM	CLEAR, CLOUDY, HEAVY RAIN	RIFFLE		MEDIUM STAINED	WADEABLE/MID-DEPTH DO CALIBRATION READING APPEARED HIGH (119.1%).
NN06	NO NAME BROOK - A	9/10/2011	7:25 AM	N	BASE FLOW	MEDIUM	10.0	BANK	CLEAR		CLEAR	RUN		DARKLY STAINED	WADEABLE/1.5 FT BELOW SURFACE DO CALIBRATION READING APPEARED HIGH (116.3%).
NN06	NO NAME BROOK - A	9/24/2011	8:05 AM	N	STRM FLOW	MEDIUM	18.3	BANK	SHOWERS	BREEZE	LIGHT RAIN	RUN		TURBID	WADEABLE/1.5 FT BELOW SURFACE ONLY ALLOWED DO METER TO WARM UP FOR 15 MINUTES (SHOULD BE 20 MINUTES).
SB01 SUCKER BROOK TRIB	SUCKER BROOK - AS	6/11/2011	7:10 AM	N	BASE FLOW	LOW	13.9	WADING	CLOUDY	CALM	CLEAR, PARTLY CLOUDY	RUN		CLEAR	WADEABLE/1.5 FT BELOW SURFACE
SB01	SUCKER BROOK - AS	6/25/2011	7:44 AM	N	BASE FLOW	MEDIUM		WADING	CLOUDY, LIGHT RAIN	BREEZE	CLOUDY, HEAVY RAIN, LIGHT RAIN	RUN		CLEAR	NO VERTICAL DEPTH RECORDED.
SB01	SUCKER BROOK - AS	7/9/2011	7:15 AM	N	BASE FLOW	LOW		BANK	CLOUDY, SHOWERS	CALM	CLEAR, CLOUDY, PARTLY CLOUDY	RUN		TURBID	WADEABLE/MID-DEPTH DO CALIBRATION READING APPEARED LOW (94.3%). DID NOT COMPLETE CHAIN OF CUSTODY FOR LAB SAMPLE, SAMPLE LOCATION FROM BANK AND NOT CENTER OF FLOW-SHOULD BE BY WADING OR WITH EXTENSION POLE.
SB01	SUCKER BROOK - AS	8/6/2011	7:11 AM	N	BASE FLOW	LOW	13.9	BANK	CLEAR		CLEAR	RIFFLE		TURBID	WADEABLE/1.5 FT BELOW SURFACE SAMPLE LOCATION FROM BANK AND NOT CENTER OF FLOW-SHOULD BE BY WADING OR WITH EXTENSION POLE.
SB01	SUCKER BROOK - AS	8/20/2011	7:00 AM	N	BASE FLOW	LOW	15.0	BANK	CLEAR	CALM	CLEAR, CLOUDY, HEAVY RAIN	RIFFLE		MEDIUM STAINED	WADEABLE/1.5 FT BELOW SURFACE DO CALIBRATION READING APPEARED HIGH (119.1%). TIME SAMPLE WAS NOT WRITTEN DOWN, SO ESTIMATE WAS DERIVED BY LOOKING AT START AND END TIME OF SAMPLING, SAMPLE LOCATION FROM BANK AND NOT CENTER OF FLOW-SHOULD BE BY WADING OR WI

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SB01	SUCKER BROOK - AS	8/20/2011	7:00 AM	D				BANK							WADEABLE/1.5 FT BELOW SURFACE DO CALIBRATION READING APPEARED HIGH (119.1%). TIME SAMPLE WAS NOT WRITTEN DOWN, SO ESTIMATE WAS DERIVED BY LOOKING AT START AND END TIME OF SAMPLING, SAMPLE LOCATION FROM BANK AND NOT CENTER OF FLOW-SHOULD BE BY WADING OR WI
SB01	SUCKER BROOK - AS	9/10/2011	7:10 AM	N	BASE FLOW	MEDIU M	10.0	BANK	CLEAR		CLEAR			DARKLY STAINED	WADEABLE/1.5 FT BELOW SURFACE DO CALIBRATION READING APPEARED HIGH (116.3%), SAMPLE LOCATION FROM BANK AND NOT CENTER OF FLOW-SHOULD BE BY WADING OR WITH EXTENSION POLE.
SB01	SUCKER BROOK - AS	9/24/2011	6:40 AM	N	STRM FLOW	MEDIU M	18.3	BANK	SHOWERS	BREEZE	LIGHT RAIN			TURBID	WADEABLE/1.5 FT BELOW SURFACE ONLY ALLOWED DO METER TO WARM UP FOR 15 MINUTES (SHOULD BE 20 MINUTES).